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Readers in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease. New Growth, Sarcoma, etc.; Chiland Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, X Ray; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, Society, etc.

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A Clinical Lecture

ON

TEDIOUS RECOVERY FROM ILLNESSES

DELIVERED AT THE LONDON CLINICAL SCHOOL OF MEDICINE, MAY 10TH, 1909.

BY

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GENTLEMEN,—You must all have witnessed cases of disease which have proved unusually rebellious to what has been regarded as appropriate and careful treatment. When we meet with them they always enlist our interest, and give rise to much thought and repeated scrutiny. They tend to sharpen our clinical acumen and heighten our assiduity and endeavours to promote recovery. We shall do well to consider some of them to-day. My subject is large, and I must not be discursive.

I will take first rheumatic fever, and start with the view that a correct diagnosis of this condition has been made. We are accustomed to find that the prevalent method of treatment by salicylate of sodium in appropriate doses is satisfactory for the relief of pyrexia and the pains in a majority of the cases. Occasionally, however, we meet with cases which yield imperfectly to this treatment. It may be that the dosage has been inadequate, or that it has enfeebled the circulation. In the first case, larger doses may succeed, or in the latter we may substitute alkalis and quinine with better success. Our failure may be entirely due to an improper dietary in the meantime. It is certainly found that animal food in the form of any preparations of meat is hurtful, and that milk diluted with soda water and simple farinaceous food are best. Again and again I have seen benefit derived from withholding simple beef-tea, and in languid cases, with profuse sweating, great benefit from the employment of an ounce or two of brandy.

Lingering cases of this kind compel us to reconsider the diagnosis. We may be dealing with an acute form of osteo-arthritis, or of gonorrhoeal or other variety of septic arthritis which is unaffected by salicylate treatment. Again, we have in such cases to regard the particular habit of body of the patient, and may discover that there is a strumous element in the case which well explains the lingering quality of the ailment and its prolonged hold on the particular patient. The strumous habit is a bad soil for all specific infections. Some cases regarded as acute rheumatism, especially in elderly patients, with poly-arthritis, are sometimes found to be examples of generalized gout of a very obstinate character, and these occur in persons who have never had overt gout previously. They yield to treatment for gout after long resisting the ordinary treatment for true rheumatism. In some of these rebellious cases there is a taint of syphilis, and we meet with them in this hospital, where so many patients come to us with imperfectly treated syphilis. We have to be careful that we remember the patient as well as his ailment, and do not allow his general nutrition to fall to too low an ebb.

Let me take next the case of enteric fever, obviously recognized as such by manifest symptoms. Sometimes these cases linger long in a febrile condition, it may be by one or more distinct relapses, or after these have passed off. Convalescence is at a standstill. There may be local abscesses, or venous thrombosis and other conditions regarded as sequels, but which are verily the dregs of the original infection. The retarded improvement may be due to inadequate feeding, to a too prolonged slop diet, which prevents sound healing of the intestinal lesions. Better nourishment often avails to help recovery in such instances. A diligent search for some terminal infection may explain the continued illness, it may be in the abdomen or the thorax. Again, we meet with continued fever much simulating varieties of enteric which owns other causes. Amongst these are cases of infective endocarditis and tuberculosis not suspected. Malta, or undulating, fever, for example, is sometimes mistaken for obscure cases of enteric fever. If we remember these facts we may be put on our way to a correct diagnosis.

I have just mentioned infective endocarditis; and as to this we may be off our guard if we fail to suspect this insidious malady because we find no clear evidence of any cardiac mischief. Some of these cases present no indications of valvular disease for a long time in their course. A careful examination of the blood may, or may not, reveal microbic elements in the system. We are certainly in the presence of a lingering disease here, for it may run on with pyrexia for twelve months.

We meet with cases of influenza which are tardy in proceeding to sound recovery. Sometimes an attack of enteric fever sets in, and attacks a patient already enfeebled by the original infection. Other terminal infections may also supervene. More commonly, as in the recent epidemic, pneumonia and myocardial failure reduce the patient to a very low ebb, and may prove fatal, especially in elderly people. Over-treatment by salicylates may sometimes account for the cardiac depression. Influenza may long prove a source of low health and of bodily and mental incapacity, and full vigour may not be restored in robust persons for a year or two. It appears to attack any part of the body without discrimination, and, not seldom, without any febrile symptoms.

Latent tuberculosis is a malady which sometimes masks the course of what appears for long to be a simple febrile illness. There may be slight pleuritis, not seldom right-sided, which yields slowly, with little cough, no expectoration, but continued pyrexia with evening exacerbations. When a little sputum can be procured, no tubercle bacilli may be found. Wasting proceeds slowly, and some clubbing of the fingers may occur. The pulmonary physical signs are quite insignificant. At last some bacilli are detected in the scanty sputa, and the nature of the case is cleared up.

As I have told you before, a persistent febrility in persons under 30 years of age, without obvious signs of mischief, is always most suspicious of tuberculosis, even in the absence of obvious delicacy and any family history of the disease. Pneumonia of an apex which is slow to resolve, should surely lead to suspicion of tuberculosis, as the enduring element in the case. Non-tuberculous pneumonia is sometimes very slow to resolve, or the associated pyrexia to subside. An interlobar empyema may be the cause of this.

Gout in some of its forms may sometimes prove very rebellious to careful treatment. We notice this occasionally in young men the sons of very gouty parentage. The condition is one of gouty cachexia, with an enfeebled constitution. In older patients the continuance of painful

joints is sometimes found to be grievously persistent, even with every care in diet and treatment. Occasionally we find such patients have been over-careful in their diet, and placed upon an inadequate quantity and inappropriate quality of food. There are too many strange and *doctrinaire* methods of diet enjoined in these days, and some of these, mostly imported from Germany on purely theoretical grounds, are found positively harmful. A better and more natural diet, with some good wine, is materially helpful in some of these cases, and brings relief and renewed health. Some of these polyarticular cases are sometimes regarded as rheumatic, and treated as such without any benefit. A recognition of the true nature of the ailment leads promptly to relief if appropriate treatment is prescribed.

Amongst cases in which recovery is apt to be retarded, and very tedious, are those of neuritis, a disorder which is apparently more frequently met with now than it was wont to be. It is a recognized sequel of influenza, and is one of the ailments that is apt to depend on gouty disturbance. In elderly people it is especially apt to linger, wearing out the powers of the body, and leading to intense suffering, muscular and other trophic (wasting) changes in the part affected. Post-zonal neuritis well illustrates what I refer to, and is a sore calamity sometimes in elderly patients. Many months may elapse before relief comes. Sciatica is another example. Treatment of every kind appears in some of these instances to be quite unavailing, and one hardly knows how these ailments cease at last to vex the patient.

You will have observed that I have not been discussing the course of maladies essentially chronic. These are indeed tedious. I have referred to a continuous and protracted course of acute ailments, so that the point of recovery is not yet reached. An acute disease may sometimes subside, but the patient is left with feeble recuperative power, so that he cannot readily be restored to sound health. He may never subsequently reach the measure of full vigour he once enjoyed.

I have already indicated the importance of occasional recasting of the diagnosis in any protracted case of disease, a point carefully urged by Sir James Paget in his teaching. This procedure will sometimes set us on the right track for successful treatment. There are cases of retarded recovery which can promptly be benefited only by securing a fresh and thorough change of environment. You move such a patient from a sick room in a crowded city and place him in fresh country air, and immediate progress is witnessed. There are many houses everywhere where there are some unwholesome and insanitary influences at work which suffice to retard recovery; influences, perhaps, not readily detectable, but you do well to urge removal of the patient, if possible. In the course of many ailments of children who continue to be languid and feverish when no obvious signs of disease can be found—for example, after an attack of measles—such a change is found to be most valuable, and to act favourably when tonics and good diet have made but little impression. Similar benefit is to be gained in many ailments of a surgical nature, but it is not my business to refer to them. I think, too, that gynaecologists could tell of like advantages to be gained in this way.

In any case of lingering illness we shall do well to try and discover any personal peculiarities in the patient—to bear in mind the personal factor, so often disregarded at the bedside. We shall be wise, too, if we remember the remark of a sagacious physician—to the effect that "each patient convalesces according to the nature of his constitutional diathesis."

At a meeting of the British Balneological and Climatological Society on June 11th the following were appointed officers for the ensuing session: Dr. Leonard Williams, President; Dr. A. F. Street, Chairman of Council; Dr. R. Fortescue Fox, Hon. Treasurer; Dr. Harry Campbell, Librarian; Drs. Septimus Sunderland and F. A. de T. Mouillot, Hon. Secretaries; twelve Vice-Presidents and thirty Members of Council were also elected. On the same occasion it was resolved that next October the Society shall become a section of the Royal Society of Medicine. The annual dinner was held the same evening at the Piccadilly Restaurant, one of the guests being Sir James Barr, who in the afternoon had delivered an address on the peripheral circulation and its treatment.

An Address

ON THE

SURGICAL TREATMENT OF THE RHEUMATOID GROUP OF JOINT AFFECTIONS.

BY

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Of late years our views of the rheumatoid group of diseases have undergone a welcome change. The investigations of Strangeways, Goldthwaite, Painter, Still, Andrews, Hoke, and others, have helped materially our classification, and the terms "rheumatism" and "rheumatoid arthritis" have not their former diagnostic value. The knowledge we now possess enables us to distinguish certain types so different in character as practically to constitute distinct diseases—distinct from the clinical side as well as from that of the pathological.

Although perhaps needing some further revision, the classification of Goldthwaite is distinctly helpful. He recognizes five types:

(*a*) Villous arthritis.
(*b*) Hypertrophic arthritis.
(*c*) Atrophic arthritis.
(*d*) Septic arthritis.
(*e*) Chronic gout.

The medical treatment of these conditions is an ever-discussed problem, and great strides have quite lately been made in our dealings with the atrophic variety by the recognition of its autotoxaemic origin. On this occasion, however, I will refer only to the surgical treatment of the group, because it has been much overlooked by surgeons and bears but a scanty record in our literature. There is no class of disease in which less attempt is made either to prevent or to correct deformity. Knees and hips flexed, wrists in useless postures, elbows of no service to the hands—these are almost a routine result of either the atrophic or hypertrophic attack. Physicians are content if the patient is comparatively free from pain, and the deformities are looked upon as an essential and permanent phase of the disease. In the early stages the practitioner has great opportunities. It is for him to discover whether an infective or toxaemic focus exists in nose, teeth, pharynx or intestinal tract. I have seen it in connexion with middle-ear disease, with chronic abscess of the antrum, and with ozaena, and the general condition has responded to local treatment. Andrews and Hoke, of Atlanta city, have shown the direct relationship of arthritis deformans to albuminous putrefaction in the intestinal tract, and therefore how necessary it is to decrease the supply of albuminoids or to prevent their putrefaction. These are all encouraging lines of research which may ultimately deprive these diseases of their terrors, but for the present there is ample necessity for direct surgical intervention, mainly of an operative type.

Villous Arthritis of the Knee.

We all know well a type of disease in the knee, very commonly associated with flat-foot; it has been called villous arthritis. The range of movement is usually good. There is no general rigidity, but sometimes considerable pain when an attempt is made to flex the limb completely. There is a creaking on movement which differs from that of osteo-arthritis as much as it does from that of tenosynovitis. It is not so coarse as the one nor so fine as the other. There is usually pain on pressure over the internal lateral ligament.

Accompanying this form of trouble there are no constitutional symptoms. It is due to a congested and relaxed condition of the synovial membrane, which becomes thrown into folds, especially at its reflections at the edges of the cartilage. There is nearly always some little fluid found in the joint, which varies in quantity and at times quite disappears. Prolonged friction invariably intensifies symptoms, and pain is complained of, accompanied by stiffness. In a certain variety a marked thickening is

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* Delivered before the Halifax Medical Society.

noted behind the ligament of the patella, and after walking pain is complained of on squeezing this lump. In more advanced cases the contour of the joint is lost and the pouches denote a thickening of the synovial membrane. Sometimes locking of the joint due to synovial fringes occurs. Such a knee has also been called the "chronic rheumatic knee," and at times "recurrent traumatic arthritis." The changes in such a knee are not symptomatic of any general condition and are really due to trauma—a simple sprain, deflection of body weight as in flat-foot, or to a direct blow. It can always be cut short in its early stages by limiting function and giving rest. Its development is always the direct result of friction. If destruction of the membrane has gone far and the villi have become obstructive, then only operative measures will prevail. It is well to take an *x*-ray photograph to see if any bony excrescences have formed or if a fibrous enlargement exists behind the patella. Distension of the joint with oxygen will render the picture on the plate much more instructive, but this must be done with scrupulous care. The sterile needle should be passed behind the patella and its end made to move freely when within the joint to ensure that the oxygen does not enter a vein.

In such a type of case it is often necessary to operate. An incision is made on the more painful side of the joint, generally the inner, and the interior is explored. In the early stages of trouble a slightly oedematous and congested condition of the synovial membrane is found, with reduplication at the cartilaginous edges. In other cases the synovial membrane has been transformed into a mass of short villi, and if traced into the pouches below the vastus, oedematous masses of synovial folds almost gelatinous in appearance present. In other instances long pendulous fringes with fatty extremities float about, and a few loose fibrous bodies are seen. In rarer instances, as soon as the joint is opened, a congested mass of long villi, resembling a fine variety of seaweed, brown or reddish-brown in colour, blocks the wound up. Whatever the variety we meet with, a pair of long curved scissors is introduced into the joint and all synovial excrescences are cut away. This is tedious and difficult, and thorough care should be taken to free the articular surfaces from invasion. An incision should then be made on the outer side of the knee and the clearing process repeated.

The variety to which the term "recurrent traumatic arthritis" is best applied is very interesting. It is that form characterized by a thickening behind the patella tendon. When the joint is explored the adipose mass with which the ligamentum mucosum and alaria are connected is found reddened, thickened, and oedematous. It should be removed in its entirety with any masses which may be encountered. On cutting through this several small haemorrhages will be found, representing separate injuries, probably the cause of the recurrent effusions. Personally, I do not drain the joints, but fix a cage on them, allowing of limited movement in from fourteen to twenty-one days. Such cases often make remarkable recoveries, and do not display the tendency to recur which might be expected.

ATROPHIC ARTHRITIS.

Atrophic arthritis, which used to be called "rheumatoid arthritis," as opposed to hypertrophic or osteo-arthritis, is perhaps the most crippling of all the varieties. It is the least amenable to surgical intervention, but will, doubtless, in future be a more docile disease in the hands of the physician, who should from the first recognize that the deformities of the limbs may be prevented by simple mechanical devices, and this is most important, especially in the knees. The symptoms of this affliction are, briefly, thickening of the periarticular structures and effusion within the joints. It begins usually in the fingers—spindle-shaped swellings affecting the first row of phalanges. The whole of the joints may become affected. A radiograph throws much light on the condition; the bones of the hand are thinned, and sometimes telescopic: the absence of cartilage between the bones, together with a general joint atrophy, are very characteristic.

In certain cases the atrophic variety will apparently remain quiescent, leaving certain joints free, or but slightly affected. I have in my mind one such case, which I will relate:

Sixteen years ago the late Dr. Cameron, of Liverpool, asked me to help in the case of a young lady of 21. Her hands were partially affected; the hips were free, but the knees had for some years been acutely flexed. They were bound down by firm fibrous ankylosis, which resisted for a time all attempts at extension. After three months of very painful traction and straightening with manipulation under anaesthesia, the knees became straight, and walking was painfully persevered with for three years. I then opened the joints, denuded them of cartilage, and brought about a bony ankylosis. I saw her twelve months ago, eleven years after the operation, and she can walk for miles, and there has been no further involvement of joints.

ARTHRITIS OF THE WRIST.

Never let the arthritic wrist, septic or tuberculous, ankylose in a position of flexion. If ankylosis is to take place, see that it does so in the fully extended position. The power of grasp is lost when the wrist is flexed, and it therefore becomes a paramount necessity that no mechanical obstacle should be placed upon rigid fingers.

HYPERTROPHIC ARTHRITIS.

The hypertrophic variety is known to us all, and time will allow me to refer only to its more local manifestations. These we can best study in the knee and hip. The condition often affects one or both knees, and may show no tendency to spread to other joints. There is a limitation of movement, some effusion in the joint, coarse creaking and a fullness around the patella a little later, and any attempt to fully extend the joint is painful.

The *x* ray shows considerable lipping, evident early along the edges of the tibia and on the bony edges of the femoral condyles adjacent to the cartilage. It is also seen along the edges of the patella. Such cases, both at the hip and knee, are generally handed over to the masseur or to an institute for baths and electricity. Clinical evidence, however, is overwhelming that friction of joint surfaces in the hypertrophic form of arthritis is a factor to be scrupulously avoided. Any treatment which ignores this is faulty. When knees or hips become ankylosed in the course of the disease, as sometimes happens, pain disappears; and when this occurs we usually find the deformity so pronounced as to cripple the patient completely. In knee and hip the extremes of flexion and of extension are most harmful. The motion between these extremes is often quite free and painless. The essential element of treatment is to affix a splint so constructed that it will only allow the joint to move in its painless range. In the knee this is often most efficacious, and I generally apply a cage, such as is used for a slipping semilunar cartilage, and have it so locked that it will not allow the knee to straighten within 15° or 20°, nor will it allow of more than 50° or 60° of motion. In many cases it has been possible to restore such cases either to a full or to a more extended range of movement. In extreme cases of osteo-arthritis of the knee, where flexion is pronounced and walking difficult, the joints may with advantage be ankylosed. Exploration of the joints with a view to clipping bony prominences in order to obtain a movable joint is, in my experience, useless.

Perhaps the most generally sad and anxious cases which come before the practitioner are the painful hips of middle life and later. They are due to a hypertrophic form of arthritis, which when it occurs in the old is called "malum coxa senilis." The head of the femur becomes changed in shape, flattened, and at the femoral and acetabular margins masses of bone are segregated. In the same way the edges of the acetabulum are surrounded with irregular heaped up lumps of bony tissue. The lesion is progressive and its rate of progress is largely influenced by the degree of friction imposed. Clinically, I know that if taken early and placed in a splint, many such cases with stiffened hip make excellent recoveries. Such treatment generally involves four months in bed and fixation for three months longer. In the later stages where flexion has become more pronounced there is a distinct risk in even slowly attempting to rectify the deformity mechanically. In a patient who suffers from this type of disease forcible manipulation is quite unjustifiable. I never do more than place him on his back, bandage the limb to a splint and let gravity undo the flexion. The trouble is, however, that in many cases abdominal symptoms supervene. The patients complain of pain, present abdominal distension, hiccough, even become collapsed. I have met with a disaster in the shape of death, and in three other cases patients have been critically ill. In such cases, when the pain has been unendurable, I have removed the head and

neck of the femur, and sometimes the trochanter, with satisfactory results.

PSEUDARTHROSIS WITHOUT DISARTICULATION.

One cannot help, however, being impressed by the shock which a disarticulation produces, and I have long felt that if it were possible to produce a pseudarthrosis without disarticulating the head a great gain would be accomplished. I advised, therefore, and have several times practised, an operation having this end in view. It consists in cutting the great trochanter from the femur with its muscular attachment, removing the neck of the femur and screwing or nailing the trochanter over the acetabulum, which contains the severed femoral head. This is to avoid callus exudation, which might bring about union. It is performed in this way:



Fig. 1.

A longitudinal incision is made about 6 in. in length with the upper border of the trochanter in its centre. An incision is made across the base of the trochanter just below the insertion of the gluteal muscle. A slice of the trochanter from this point to its junction with the neck above is sawn or separated by a very wide osteotome, and retracted upwards. The capsule is now opened and the head separated from the neck with an osteotome (Fig 1). Extension is next put on the femur, and the trochanter with its muscles attached is screwed on to the head of the femur, which remains in the acetabulum (Fig. 2). Deep and superficial sutures complete the operation. If the joint is tender it is better, to avoid impinging, to remove a portion of the neck. In an ankylosed sound joint following sepsis it may be advisable, instead of dividing the neck near the acetabulum, to divide it near the trochanter. I commend this operation as very suitable for those advancing in years. It saves the shock of disarticulation—an all-important consideration.



Fig. 3.

In bony ankylosis, where disarticulation has to be made with a chisel, the time saved is great and the result is more reliable than where a flap of tissue intervenes, unless the piece of bone removed is considerable, while the removal of much bone involves the sacrifice of muscle and of some control of movement. The femur remaining is well supplied with muscles for useful movement, and no stitching of capsule is needed for the prevention of displacement upwards.

The object of the operation is to bring about movement without involving the head of the femur, as we may be sure that function is the factor which produces all the trouble. If the joint should become ankylosed the pain disappears. Recognizing this fact, Albee of New York has devised a simple operation with the object of ankylosing the hip.

He chose for his first operation a big, muscular man weighing 185 lb., with a practical shortening of 2½ in., with marked flexion and adduction. Albee made an incision down the front of the joint along the inner edge of the sartorius. Coming down upon the head of the femur, he removed without disarticulation half the upper hemisphere with a large chisel through a plane nearly parallel to the long axis of the neck of the femur. With the same instrument the acetabulum was transformed into a flat-surfaced roof, against which the bared surface of the femoral head was wedged by keeping the limb well abducted. To procure this abduction it was necessary to divide the adductors (Figs. 3 and 4).

The advantage of this operation is obvious, as it practically involves no shock—an important point in old folk. The difficulty often is to understand how flexion is to be governed. There are many cases, as we quite well know, in which no reasonable amount of mechanical force, even if the adductors be divided, will prove sufficient to extend the limb. In such cases it would be manifestly better to fix the hip without regard to the deformity.



Fig. 2.

SEPTIC ARTHRITIS.

It is, however, when we come to the septic type of joint trouble that so much may be done to mitigate its miseries; so often this condition ends in ankylosis, usually with great deformity. In the case of the knee, we are often asked if movement can be secured without an operation.

If the disease has been severe, and there has been loss of bone, and the ankylosis seems firmly fibrous, no effort should be made to disturb the union. If there is already a little motion, which is easy and smooth within its limits, and the *x* ray confirms our conclusion that the destruction has been but slight, the experiment may be made. Any attempt to anaesthetize such a patient and to move his knee forcibly would be disastrous. Passive movements and massage would be only a degree less hazardous. The safe procedure is based on the clinical knowledge that every attempt at stretching a stiff joint due to arthritis is followed by a varying degree of reaction. In the case of ordinary periarticular adhesions, either capsular or extracapsular, such reaction is of no great account, and we ruthlessly break such adhesions, and follow this up with massage and exercise. If the stiffness is due to changes in the synovial membrane, the cartilage, or the bone, the greatest care is needed. Given a case, then, which has run a non-destructive course, and which possesses, say, 20° of movement, we mould an angular splint of 30°, and lightly bandage the limb to it. In a day or two we shall have increased the flexion of the knee from 20° to 30°, and the knee should be kept for a week or so resting in its new position. The splint should then be removed for certain hours, and if in a few days the patient has made a permanent gain of 10° and possesses a range of 30° instead of that of 20°, we can proceed on similar lines to the acquisition of more. By this experiment we first of all stretch tissues, and by resting the limb we combat the reaction. The recognition of this principle, which is not referred to in textbooks, is of great practical value. So often cases come before us of whose early history we know nothing; the knees are stiff, or nearly so, and the patients clamour for movement. By this graduated scheme we can find out without injury whether a mobile joint is procurable or not.



Fig. 4

In firm fibrous or bony ankylosis of the knee, with or without lateral deviation, the operation of choice is the removal of a wedge so shaped that most of it is derived from the femur, and only enough removed to bring the tibia into correct apposition with the femur, the limb being in a perfectly straight line. If this be accurately done, the subsequent treatment is easy, as the bones remain in excellent apposition with but little extraneous support.

I make a V-shaped incision over the joint. The knife is entered at a point about 4 in. above and 1 in. behind

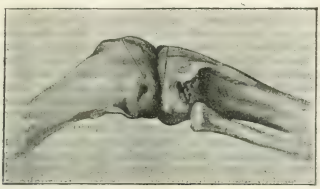


Fig. 5.

the adductor tubercle, and it is prolonged downwards in a straight line till the upper margin of the tubercle of the tibia is reached. The incision is here brought horizontally across the front of the limb, and then curved upwards on the outer side of the joint to a corresponding point to that on the inner side. If one decides to utilize the patella, the original incision is carried straightway through the infrapatellar tendon, and the whole flap, including the patella, is turned up. The articular surface of the patella may be adherent to that of the femur, and in this case it must be detached with a chisel. I now proceed to remove a small wedge, mainly from the femur, extending only four-fifths through the thickness of the bone (Fig. 5). This enables me to flex the joint acutely by fracture, as it is not advisable—indeed, it is exceedingly dangerous—to attempt to saw completely through the bone. Often there is a displacement backwards of the tibia, and if an attempt be made to saw right through the bone the popliteal vessels are in jeopardy. This accident has occurred to very careful surgeons. It can always be avoided by making the apex of the sawn edges converge half an inch or more in front of the posterior surface of the bone. The joint is now completely flexed and the fractured portions of bone are trimmed by saw or chisel (Fig. 6). In removing the wedge it is essential to remove as little bone as possible from the tibia, a thin slice at right angles to the shaft being all that is required.

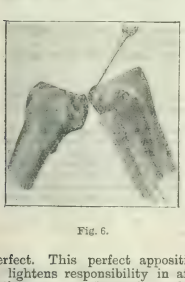


Fig. 6.

It is best not to remove too much bone from the femur at one saw cut, but rather to take away thin slices to enable one to see that the juxtaposition of the two sawn surfaces is perfect. This perfect apposition is very necessary, as it lightens responsibility in after-treatment, there being little or no tendency for malposition to occur. If too much bone is removed anteriorly, genu recurvatum and stretching of the popliteal vessels results; if the apposition is deficient posteriorly, the pedestal of support is weakened and again the vessels are strained.

If there has been acute flexion, it is often well, after removing all the bone necessary to restoration of symmetry, to keep the limb for the first few days slightly flexed in order to avoid strain on the popliteal vessels. Apparently, very slight stretching will produce serious trophic disturbance. If the patella is utilized, a thin section of bone is removed from its articular surface, and a portion of the anterior surfaces of femur and tibia is prepared for its reception. Cases in which both hips are ankylosed, and in addition flexed and adducted, often occur. It may then be necessary on the one side to perform osteotomy, and on the other pseudarthrosis. The favourite operation is known as Gant's osteotomy, which involves section below the lesser trochanter. Although in Gant's operation the section cannot be interfered with by the shortened psoas and iliacus, I have found that in cases of right-angled deformity of the hip the upper part of the femur left fixed after Gant's incision has an ugly way of encroaching upon Scarpa's triangle.



Fig. 7.

With a view of not merely rectifying a flexion angle which has been the generally ascribed object of a femoral osteotomy, but with the intention of lessening or obliterating adduction with pelvic tilting (Fig. 7), I make my incision obliquely through or by the side of the great trochanter. This often involved hard work because of the thickness and sclerosed condition of the bone. The work is much facilitated by having a small knob on the end of the saw, such as one which Weiss has made for me (Fig. 8). One can saw through the bone with much energy when there is no danger of either transfixion or of losing one's place. It is better, where practicable, to saw completely through the bone rather than a certain distance, and I prefer going through the trochanter because of extra callus exudation, as an ununited fracture will frustrate the object of the operation. The adductors are next subcutaneously divided, and, in the case of youth or adult, traction is applied by means of pulleys. Very often 1 in. or 1½ in. may be gained by this traction, and in this way some of the shortening of actual displacement may be combated. The leg, still fully extended, is placed in a position of abduction, which varies with the degree of pelvic tilting (Fig. 7). The greater the tilting the greater the abduction should be. The pelvis on the sound side is fixed and the abduction splint is applied, and extension and abduction are maintained. Seven or eight weeks are allowed to elapse—until, in fact, bony union is completed with the limb in abduction and at an angle with the body (Fig. 7).



Fig. 8.

It is now to be noted that the length of the limbs may be equalized in one of two ways, or by a combination of both ways—either by lessening the practical length of the sound limb, or by increasing that of the short one. By osteotomy and extension the leg is actually lengthened, and by the osseous union of the femur in abduction with the pelvis the elevation of the pelvis on the opposite side is effected. With an outstretched thigh in one piece with the trunk it is clear that the limb can only be adducted at the cost of elevating the pelvis on the sound side, and in this way several inches of shortening may be remedied.



Fig. 9.

Pseudarthrosis by Operative Procedures.

Surgeons have for nearly one hundred years endeavoured to bring about the formation of movable in the place of fixed joints. Barton of Philadelphia first endeavoured to overcome flexion of the hip by means of osteotomy, and tried to avoid union of the fragments by passive movements. Similar efforts were made in the temporo-maxillary joint by division or removal of bone and the interposition of foreign bodies. Gluck of Berlin, over twenty years ago, with great ingenuity introduced various ivory joints after removal of diseased ones, and some patients retained these foreign bodies for many months; ultimately, however, they suffered extrusion. I have on nearly seventy occasions, with varying success, endeavoured to bring about movement in ankylosed hips, mainly by removal of the head, neck, and trochanter, by interposition of foreign bodies between the acetabulum and shaft, and later by the method I described when dealing with rheumatoid arthritis of the hip—malus coxae senile.

In 1895 and following years, after exsection of the neck of the femur and sometimes the neck and trochanter, I surrounded one or both ends of the bone with gold foil, in order to prevent adhesion of the surfaces. Whatever available soft structure I could safely interpose (and this was generally muscle), I did, and in a certain proportion of cases very gratifying results were obtained. In some, however—generally in those cases in which little bone was removed—stiffness resulted. In others the joint remained too flail-like for serious work, but in practically all great improvement on the original condition was obtained. Few cases so operated upon complained of serious pain, but often of an aching which only occurred at intervals. Where much bone was removed, the walk sometimes resembled that of congenital dislocation, but in no instance did I observe the development of lordosis. In later operations I confined myself to removal of the upper part of the femur, sometimes including the trochanter, and added the interposition of muscular tissue alone, such as was described later by Nélaton. Since then my results have been more uniformly reliable.

The idea of interposing hyaline cartilage or imitation of normal joint surfaces originated with Weglowski, and was employed by Lexer, who, in a case of synostosis of the elbow after the removal of superfluous bone, took two pieces of cartilage from the sixth and seventh ribs, and interposed them in such a manner that the perichondrium came in contact with the raw surface of the humerus. The patient died in a few weeks from pneumonia. When the joint was investigated, it was seen that the perichondrial side of the cartilage discs had become firmly attached to the humerus. At the margins the cartilage decreased, to merge without distinct boundaries with the surface of the bone. The functional result was also promising, as the patient could flex and extend his joint 60° without interfering with supination or pronation. This represented the interposition of cartilage after the removal of half, not the whole, joint.

Murphy of Chicago, in a most interesting communication, advocates the interposition of a pad of fat and fascia, and has reported some interesting results. He argues that fat tissue easily changes to connective tissue, and that hygromata or bursae are the result of a degenerative or absorptive process in fatty tissue with hyperplasia of the connective tissue element. The fluid in the centre is the liquefaction of hypertrophied connective tissue. These views he utilizes in his efforts to produce movable joints, and he lays down the law that the aponeurosis used in the construction of artificial joints should have in it a considerable quantity of fatty tissue, which, when subjected to pressure, forms a bursa to take the place of a synovial membrane. We know that in old ununited fractures in the shafts of the long bones the presence of the false joint or interosseous sac is evidence of this pathological condition, and it is still further borne out by a series of experiments performed on animals. One of Murphy's experiments may be related.

The cartilage was removed from the head of the femur of a big dog and the acetabulum gouged down to the bone. A large flap of fascia lata, including fat, was sutured round the neck of the femur so that the muscular surface of the fascia lined the inner surface of the acetabulum. The dog was killed in four months, and passive movement was found to be free in all directions. On dissecting the joint there was revealed, interposed between the upper extremity of the femur and the acetabulum, a small sac with a smooth lining. It contained some slightly turbid sticky fluid. Its total surface was about that of the normal acetabulum cavity. The end of the shaft of the femur where the cartilage had been removed was covered by the newly-formed synovial endothelial lined membrane. Sections from the sac wall showed on the inner surface a well-formed endothelial lining.

Many years ago in an adult I cut down upon a dislocated hip of two years' standing which had given rise to serious inconvenience. My motive was to remove the head and as much of the neck of the femur as possible consistently with the least possible interference with muscular attachment. On separating the head of the femur from its surroundings I found an admirable attempt at a socket and a plentiful smooth hyperplasia of connective tissue which closely resembled a bursa. Murphy, recognizing this fact, experimentally has operated upon several joints with a varying amount of success. Perhaps the most successful is that in which the radiographs show an ankylosed septic hip indirectly due to a gunshot wound. The head has been gouged out of the acetabulum by a curved joiner's chisel so directed as to follow the contour of the acetabulum. After displacing the trochanter a flap of fascia lata was drawn down under the head of the femur, which was chiselled and curetted to make it look as normal as possible, and carefully fitted into the acetabulum cavity to form a complete lining for it. The under surface of the flap, ½ in. from the edge, was sutured to the joint capsule around the acetabular margin with interrupted catgut sutures to secure it and prevent its displacement subsequently. The result of this case was most encouraging, as Dr. Murphy tells us that the motion in the hip is normal and free.

These fascial flap operations are available in the case of the lower jaw, hip, shoulder, elbow, and knee. Although as early as 1895 I had interposed flaps in an endeavour to produce movement in old ankylosed hips, to Murphy undoubtedly belongs the credit of first making an attempt at the restoration of a joint which should approach the normal in appearance and function, and of drawing attention to the value of flap and fascia as a lining to a joint because of its hygromatous transformation. Murphy first performed his operation in 1901. His operation, however, must have only a very limited scope, for it is rare, in cases in which bony ankylosis has resulted, to find hips which can be whittled into shape. The head is usually absorbed and the neck has travelled a varying distance above the acetabulum. The difficulty of bringing such femora, excepting in the case of children, into an approximately normal position, is often quite insurmountable, while to retain them there would be beyond our power. In quite a number of cases the neck is ankylosed to the iliinm two or three inches above the joint, and I know from experience that the application of pulleys will made no appreciable difference in the length of such limbs.

Such cases demand the free removal of bone, as in the following case:

A lady, 36 years old, was afflicted with a shortened, painful, flexed, and adducted hip representing about 6 in. of practical shortening.

The first operation performed was a transtrochanteric osteotomy, and the limb was placed, as I have before explained, in an abducted position. In this way I was able to reduce the practical shortening to 2 in. by correcting the pelvic obliquity.

The second operation took place twelve months later, and consisted in removing part of the trochanter and neck and interposing a muscular flap. She was able to get on to a pony a month after operation, on a hunter in six weeks, and took a jump in the seventh week. She is on her feet most of the day, rides often, and can walk long distances. Such results are possible, provided care be taken to avoid bony union.

I may be allowed to relate a case which should encourage us in a more radical plan of campaign. It belonged to a group of infective disease, often called chronic rheumatism.

A woman, aged 30, presented two acutely flexed hips and knees, and one ankle in bony fixation. The joints stiffened with very acute symptoms following typhoid fever. When I saw he some five years later the left hip lay upon the abdomen bound down by fibrous ankylosis, the right was ankylosed with 90° of flexion. Both knees were badly flexed and fixed, while the left ankle, synostosed in extreme equino-varus, looked glazed. No attempt at walking was made, even by the aid of crutches.

Within four months I operated upon her five times. The bony ankylosed ankle was first straightened by the removal of a large wedge with its base obliquely outwards. Next a wedge was removed from the left knee; then pseudarthrosis of the left hip by removal of trochanter and neck and muscular interposition was performed. The right knee was next straightened by a similar operation to that performed on the other knee, and finally a transtrochanteric osteotomy of the right femur completed the scheme.

All the wounds healed by primary union, and in less than six months after the last operation the patient was walking short distances painlessly, only aided by two sticks.

I mention such cases in order that it may be realized that it is a mistake to strike a minor key. The weakest of such cripples—rejected, helpless, and hopeless—seem to be specially endowed with strength when they see salvation at hand.

There is still another operation to which I would draw attention, and that is the transplantation of whole joints in the place of exsected and diseased ones. Only a few months have passed since this operation was performed, and, as we know in the case of Gluck's ivory joints, some of which remained *in situ* for over twelve months and subsequently become extruded, it is necessary to withhold our judgement. The experiment is extremely interesting, and is an eloquent tribute to surgical ambition. Already this operation has been performed on five or six occasions, and I will describe the transposition by Lexer of a complete knee-joint.

The patient, a girl aged 18 years, was the subject of ankylosis of the knee, the result of a purulent osteomyelitis of the femur. The joint was acutely flexed. An anterior flap incision was adopted with its base above the femoral condyles and its lower border below the tuberosity of the tibia. The flap included all the soft parts—the detached ligament of the patella, the remainder of the joint capsule, and the ligament, as well as the muscular attachments. The patella, which was chiselled from the femur formed also part of the flap. All lateral and posterior attachments were carefully raised from the bone, and remained in their entirety attached to the popliteal structures. Simultaneously an amputation was performed through the thigh in a patient suffering from senile gangrene. The knee-joint, including the semilunar cartilages, the epiphyses, and the crucial ligaments was removed from the amputated limb and transplanted into the gap formed by the exsection of the girl's tibia. Some trimming was necessary to make the parts fit, and the ligament of the patella was fixed to the tubercle of the tibia. The femoral and tibial epiphyseal portions were fixed by nails. Lexer, however, omitted to cover the new patellar surfaces which become united with the femur; months later it was necessary to cut down and remove the patella. This gave an opportunity for the examination of the epiphyses, which were found firmly united. The union was so complete that it did not allow a trace of motion. The semilunar cartilage and crucial ligaments were preserved; the articular cartilages were smooth without fibrillation. Around the joint a connective tissue callus had formed, containing the remains of ligaments and capsule, as well as tendons. The question naturally arose, Had the joint obtained life? A spicule of bone was removed containing a piece of cartilage, the spongy portion of the epiphysis, and the connexion of this with the old tibia, and on the outside the periosteal covering of the transplanted bone. Microscopic examination revealed firm fibrous and bony union, also new vessels and bone lamellae in the medullary spaces.

In another case the upper third of the tibia was exsected for an endosteal sarcoma and a transplantation made to fit the gap. Union occurred here also.

It is premature to discuss the subsequent history at so short a date. It may be mentioned, however, that both limbs could bear the weight of the body during standing and walking.

It will be of interest to watch the later progress of these and similar cases and to study the physiological questions involved. Can a joint transplanted live indefinitely, perform its natural functions, and alter so little in form and structure as to adapt itself to weight and function?

By the death of Miss Mary Hezmalhalch, of Felliscliffe, Yorkshire, certain dispositions in the will of her brother Joseph, who died some thirteen years ago, have now become operative. The Harrogate Bath Hospital, the Yorkshire Deaf and Dumb Institution, the Leeds Deaf and Dumb Institution, and the Harrogate Cottage Hospital each receive a sum of £1,000, and the Leeds Hospital for Women and Children half that sum. The principal beneficiaries, however, are Leeds Infirmary and Leeds Dispensary. The former receives three-fourths of the residue of the estate, and the latter the remainder. Such residue seems likely to amount to a sum of over £25,000.

A Clinical Lecture
ON
ARTHROTOMY OF THE KNEE
FOR THE
REMOVAL OF INFLAMED SYNOVIAL FRINGES AND OF THE PADS OF MALGAIGNE.

DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL.

BY C. B. LOCKWOOD, F.R.C.S.,
SURGEON TO THE HOSPITAL.

My lecture to-day is based upon operations performed for the removal of inflamed synovial fringes from the knee joint and of certain pads of fat, which have hitherto received little attention. Ordinary cases of slipped, dislocated, or broken fibro-cartilages will not be referred to. I cannot help regretting that, owing to the calls upon my time, I have been unable to read the later literature on the subject, and therefore my remarks will be founded upon my own experience, which, after all, is for you the best and most instructive.

I advise you to be very cautious in making statements as to what you think has happened within an injured knee, but this advice, of course, applies to everything you are unable to see. As a rule, inflamed and enlarged synovial fringes are mistaken for some fault in the fibro-cartilages or for a loose body within the joint. The reasons for this are that clinically there is a close resemblance. The enlarged synovial fringes are apt to get between the articular surfaces and trip the patient up, and, moreover, as you are aware, a slipped, dislocated, or broken fibro-cartilage is usually associated with pain at the inner or outer side of the knee, and pressure over the inner or outer fibro-cartilage is accompanied by tenderness. When you remember how close the ligamenta alaria, usually at fault, are to the fibro-cartilages, it is easy to understand that pain or tenderness felt in them is usually attributed to the former, but, as a rule, the situation and extent of the tenderness ought to put you on your guard. The pain and tenderness of inflamed alarial fringes is usually felt close to the edge of the ligamentum patellae. The following is a case in point:

A middle-aged gentleman, who, by-the-by, was very gouty, was sent with the usual history of having dislocated his internal semilunar fibro-cartilage. But pressure on the edge of the fibro-cartilage in front of the internal lateral ligament failed to elicit the usual pain or tenderness. On the other hand, rather acute pain and tenderness were to be found internal to the ligamentum patellae and in the situation of the internal alarial ligament. There was, moreover, a slight swelling at that spot. When the joint was opened by an internal vertical incision, the internal alarial ligament was found to be inflamed, swollen, and elongated, and situated between the internal condyle of the femur and the tibia, so that it could be easily squeezed. This explained the pain which the patient felt when he extended the tibia on the femur, and which entirely disappeared after removal of the inflamed fringes and of some of the fat. One would prefer not to perform arthrotomy upon gouty patients, but in this instance the pain and discomfort were spoiling the patient's life and preventing him from doing many things which he wished to do.

The following is an instance in which inflamed synovial fringes were mistaken for a loose body in the knee joint: A footman was suddenly tripped up by something within the knee-joint. This occurred more than once, and ended in him falling downstairs whilst carrying a tray. When he first came under observation he had synovitis of the knee, with a moderate amount of fluid in the joint. He gave a most graphic account of a loose body which could be felt sometimes at the inner and sometimes at the outer side of the knee, and before the operation this is said to have been felt by the House-Surgeon and others. However, when the joint was opened, some fluid escaped, and although the joint, and all its pouches, was explored over and over again with a bullet scoop, no loose body could be discovered. Whilst making this exploration I could not help being struck by the extraordinary extent of the synovial pouches. Those of the vasti reached at least

one-third up the thigh; those behind the condyles, too, were very extensive, and also the one along the tendon of the popliteus. Although no loose body was discovered, the ligamenta alaria were inflamed and enlarged, so that they could easily have intruded themselves between the articular surfaces. Therefore they were freely removed.

It is not probable that a loose body was overlooked, because the patient came again more than eighteen months after the arthrotomy. His knee had given him no further trouble, and he wished to leave off an apparatus which he had been advised to wear, because we feared that after the synovitis he might have had some relaxation of ligaments.

I propose now to tell you some of the causes of inflammatory enlargements of the synovial fringes, and traumatism should, I think, be put first.

For instance, a young woman wrenched her right knee whilst mounting a horse. This was followed by an attack of synovitis, and afterwards the knee used suddenly to give way. On each occasion the giving way was followed by synovitis. I saw her soon after one of these accidents, and in addition to the swelling of the knee-joint there was distinct bruising at the inner side of the ligamentum patellae. The knee-joint was explored by the usual vertical incision, and the inflamed, enlarged, and elongated ligamentum alaria was pulled out from between the condyle of the femur and the tibia, and removed. The history of this case is clear. Sudden nipping of the alarial fringe between the femur and tibia, an effusion of blood into it, clotting of the blood, and then an attack of inflammation such as is always caused by the presence of a clot in any part of the body. The term "sprain" is to my mind vague and unscientific, but I suppose that this is what happens when a person is said to have sprained a joint. An injury to a part of the synovial membrane, to the capsule of the joint, or to one of its ligaments, causes an effusion of blood, clotting of the blood, and then an attack of inflammation. If in cases of so-called sprain you make a diligent search, you will as a rule discover some bruising. It is to be remembered, however, that the bruise may not appear because the blood may be within the capsule of the joint, or beneath the deep fascia of the limb. In a little while I shall refer to a case in which I could not help suspecting that the inflammatory enlargements of synovial fringes had been caused by the presence of tubercle bacilli. The patient had what I believed to be tuberculous scars upon the neck. There was a strong history of tubercle in his family, but, although the most diligent search was made, we could not obtain scientific evidence of the presence of tubercle bacilli. As you are aware, in slight and very chronic cases of tubercle, it is often most difficult to discover the microbe.

We are on more solid ground when we attribute the inflammatory enlargements of synovial fringes to the presence of loose bodies within the joint. For instance, a man aged 30 came with considerable effusion within his knee-joint. He said that this had come on after a fall. In spite of rest and the usual treatment the effusion persisted, but at last a loose body was discovered slipping about within the joint. When the joint was opened a loose cartilaginous body was removed, and a second one was found attached to the inner side of the patella by a short stalk. The synovial fringes were inflamed and considerably enlarged, so that as a matter of precaution they were excised. The result was entirely satisfactory.

In another patient the clinical symptoms led to the belief that the patient had displaced or broken the external fibro-cartilage of his left knee. The fibro-cartilage was found detached and displaced, and in addition the alarial fringes were inflamed and considerably elongated. They were taken away, because it seemed likely that they could intrude between the articular surfaces. Presently I shall mention cases in which the synovial fringes were inflamed and enlarged in cases of osteo-arthritis, and I should not dismiss from my mind the possibility of them becoming enlarged in sarcoma of the synovial membrane. I have only seen two examples of this very rare disease. Finally, the synovial fringes become gradually enlarged in that curious disease, villous synovitis. I remember opening the knee-joint of a woman by a transverse incision through the ligamentum patellae and clearing it of quantities of fringes, which were enlarged, and looked like mucous polyps of the nose.

I now come to the second part of this lecture, which relates to inflammation and enlargements of the pads of Malgaigne. Eight years ago I began a paper on this subject, but I regret not to have had leisure to finish it or to dip deeper into the subject. I have long been aware of the existence of small adipose pads immediately above the articular surface of the femur and on either side of the upper end of the patella. I suppose they may afford some support to the patella in its highest position during the extension of the leg. I was long in finding any reference in medical literature to these pads of fat, which I had on more than one occasion mistaken for a loose body within the joint; but at last I have found that Tillaux,[1] in his admirable treatise on topographical anatomy said they had been described by that excellent surgeon Malgaigne. Malgaigne[2] gives a very clear description of these pads of fat in his work on surgical anatomy published in 1859, and he speaks of them as "*mon flocon adipeux*," and I venture to suggest that in future they be called the pads of Malgaigne. What he says about them is most interesting. He remarks that for some time Marjolin had noticed a tumour at the inner side of the knee in cases of hydrarthrosis. This tumour was quite distinct, circumscribed, rolled under the finger, and had in fact all the characteristics of a foreign body in the joint, except that it was always found in the same spot in spite of its apparent mobility. Clearly Malgaigne was well aware that this pad of fat might lead to error, and indeed he goes on to say that clever surgeons had thought it was a foreign body, and had wished to open the joint in order to extract it—a dangerous proceeding in those days. Thus Malgaigne came to the conclusion, after palpating his own knees, Marjolin's knees, and the knees of his pupils and patients, that every one possesses these little false tumours, also that their size depended upon the state of the joint. Inflammation caused them to swell, but they shrank again when it subsided.

I see that Mr. Henry Morris[3] in his excellent work on the *Anatomy of the Joints* depicts these pads in one of his plates.

The authors of *Quain's Anatomy* say that folds of synovial membrane containing fat "fill the angular spaces left by the separation of the articular surfaces in different positions of the joints, and similar adipose folds or pads are found within the capsule, corresponding to hollows formed by the bones in the neighbourhood of the articular surfaces." Sir George Humphry, who wrote so admirably upon the human skeleton and joints, seems to have been unaware of the existence of these pads of Malgaigne.

I will now narrate some of the cases in which I have met with an enlargement of the pads of Malgaigne during operations upon the knee.

Some years ago I opened the knee-joint of an elderly lady to remove a number of foreign bodies which could be felt around the patella and around the articular surfaces of the femur. She had advanced osteo-arthritis of the knee, and one would not willingly have performed an operation upon her, but unfortunately these enlarged fringes got between the articular surfaces and tripped her up. Once this accident occurred whilst she was crossing a busy thoroughfare, and she fell down and was nearly run over by an omnibus. Clearly, as apparatuses were of no avail, she was condemned to remain at home unless something was done. And here I may advise you always to try and have a good reason before you perform arthrotomy. These are some of the reasons which have guided me:

A gentleman was crossing the street when his inner fibro-cartilage slipped, and he fell down and was nearly run over. Another was canoeing in the Fraser River when he was turned out and had to swim. The internal fibro-cartilage of his knee slipped out again, locked his knee, and he was nearly drowned. An engineer was walking along a railway bridge when his internal fibro-cartilage slipped out and locked his leg. To his horror he heard a train approaching, and with difficulty he managed to escape.

Now to return to the lady with an enlarged pad of Malgaigne. An incision was made at the inner side of the ligamentum patellae and two cartilaginous fringes were taken away; but, in addition to these, a loose body of considerable size could be felt slipping about above the trochlear surface of the femur, and just above and external

to the patella. This was cut down upon, and was found to be a pedunculated fatty tumour, attached to the front of the femur by a broad pedicle, and which had obviously originated in the external pad of Malgaigne. This polypoid piece of fat had obviously pushed the synovial membrane before it into the joint. It was so movable that it slipped away from the fingers with the characteristic suddenness of an enlarged synovial fringe or of a loose body, and it could be pushed beneath the patella. It was, however, always to be found near the same place. Its pedicle only contained minute vessels, so that no ligatures were required. One of my fears in removing these synovial fringes is lest blood should be effused into the joint. It is hardly necessary for me to repeat that, if this were the case, the blood would of necessity clot, would surely cause an attack of synovitis, and might lead to suppuration. When there is the slightest chance of such an occurrence, I do not hesitate to leave a drainage tube in the joint for forty-eight hours. The ultimate result of this operation was completely satisfactory—at all events the patient was very pleased.

I was deceived by the pad of Malgaigne in the case of a young gentleman, 21 years of age, who said that he had "sprained his right knee on various occasions whilst playing football and tennis." At the time of the accident he suddenly fell down, the knee became fixed in the half-flexed position, and was straightened with difficulty. The accident was followed by synovitis, which kept him in bed for days or weeks. As usual, his internal semilunar fibro-cartilage was supposed to have been damaged. When seen by me the movements of his knee-joint were free, but a slight swelling could be felt near the internal fibro-cartilage, and this area felt hard, and was tender. Enlarged synovial fringes could be felt over the inner condyle, and a loose body above the external condyle of the femur. On one occasion his joint "went wrong" whilst he was in bed. After that he wore a Thomas's knee splint and he moved the joint. This is the case which I have mentioned to you before, and in which there was a suspicion of tubercle, because he had scars upon his neck which were suggestive of suppuration such as occurs in tuberculous glands, and also he had a rather forbidding family history of tubercle. The knee-joint was opened by the usual internal vertical incision, and nothing could be found wrong with the internal semilunar fibro-cartilage. But the alarial fringes were greatly elongated and enlarged, some being as much as ¾ in. long. Eight were removed. Afterwards the loose body felt above the external condyle was explored by another incision, and was found to be a small lipoma projecting into the joint; this, too, was removed. As I have said, every effort was made to ascertain whether this condition was due to tubercle. The ultimate result was quite satisfactory. Perhaps one may venture to surmise that even if the condition had been tuberculous, the arthrotomy may have been as beneficial to the joint as laparotomy is in cases of tuberculous peritonitis with effusion.

Finally, I will mention the case of a young gentleman, aged 21, who on clinical grounds was thought to have displaced the internal fibro-cartilage of his knee at football. But in addition to the ordinary symptoms of an injured internal fibro-cartilage, a loose body could be felt above the external condyle of his femur and outside the patella. When the knee-joint was opened by the internal vertical incision, the internal fibro-cartilage was found to be torn off and dislocated, and was removed. Perhaps I ought to pause and tell you that, although I have made every effort, I have hardly ever succeeded in removing the posterior part of these damaged articular cartilages. I have had special levers and special scissors made and have placed the joint in all sorts of positions, but I have seldom succeeded in removing the whole cartilage. I have often wondered how other surgeons manage when they say they have removed the articular cartilage; but I have never had reason to think that the piece left behind caused the patient any trouble whatever. But to return to the case of this young man. After removal of the internal fibro-cartilage, the loose body above the external condyle was cut down upon by another incision, and was found to be a piece of fat outside the synovial membrane, but projecting into the cavity of the joint. It was taken away.

These three are the cases in which I have been deceived by inflammatory enlargement of the pads of Malgaigne.

In conclusion I wish to advise you never to minimize the dangers of arthrotomy. These dangers are three.

First of all the danger to the knee-joint, for if suppuration occurs, it may lead to destruction of cartilage, and the knee will inevitably become stiff. Next the danger to the limb, for severe and prolonged suppuration in the knee-joint may necessitate amputation. And, finally, a danger to the life of the patient, for who can with certainty guide the course of these dire forms of infection?

In the course of a long series of arthrotomies I have twice had disasters. I once, after a great deal of consideration, removed the internal semilunar fibro-cartilage of a young lady because it tripped her up, and was a source of danger to her. The operation was uncomplicated, and the patient did exceedingly well until she got a sore throat, became covered with a rash, and probably suffered from some form of scarlet fever. At this period the knee-joint became acutely inflamed, and I there and then put in a drainage tube. This was followed by some amount of suppuration within the joint, but without destruction of cartilage, and by dint of continuous massage and repeated movements we ultimately secured a perfectly movable joint, with which she could skate and dance, and, I am thankful to say, walk without a limp. And now, if you will go into Harley Ward, you will see there a man who has suppuration in his knee-joint after the removal of dislocated fibro-cartilage. He had returned from the West Coast of Africa in order to have his fibro-cartilage removed. This was necessary because it locked and prevented him from following his occupation. At the operation nothing but a pair of forceps and a pair of scissors were introduced into the joint. He immediately began to have most severe attacks of malaria, during which his temperature went up to 105° F., and everything became drenched with profuse perspiration. In spite of this his knee-joint appeared to be perfectly well, and for four days after the malaria his temperature and pulse were normal. Then the sutures were removed, and a fresh outburst of malaria occurred with acute synovitis in his knee. A drain was put into the outer side of his knee-joint, which was found to be infected with *Staphylococcus aureus*. I am thankful to say that this acutely septic condition has now subsided, and I hope and trust that he will get off as well as the young lady to whom I have referred. But who can say that his clean operation cases will never be marred by these disasters?

REFERENCES.

1 Pilliet, *Traité d'anatomie topographique*, Paris, 1897, fig. 237, p. 1254. 2 Quain's *Elements of Anatomy*, edited by Allen Thomson, second edition, Paris, 1859, vol. ii, p. 325 et seq. 3 *The Development of the Joints of Man*, by Henry Morris, London, 1879, Plate XXII., p. 550.

THE United States Congress has allocated the sum of £5,000 for the expenses of the Congress of Hygiene and Demography, which is to be held in Washington next year. All the nations of the world have been invited to send delegates.

A REMARKABLE case of poisoning by the common honeysuckle or our hedgerows (*Lonicera periclymenum*) has been reported (*Nordisk medicinisk Arkiv*) by Dr. O. Hanssen of Christiania. A child aged 2 was playing with honeysuckle flowers at 11 one morning. At noon, as he seemed sleepy and tired, he was put to bed. An hour later he awoke with a flushed face, and asked for a drink; immediately after he fell into a comatose condition, with his eyes half open: from time to time his limbs were agitated by clonic spasm. At 4 p.m. his bowels acted, and in the stool two honeysuckle flowers were seen. In the evening he had a sharp attack of diarrhœa; the spasms became stronger and more frequent, affecting all four limbs, and on one occasion there was well-marked opisthotonos. His expression was placid but fixed, his face livid; the pulse and respiration were quickened. At 8 p.m. the spasms diminished, and copious perspiration broke out; the child fell asleep, and remained sleeping all night. The next day he was peevish and depressed, had no appetite, and the stools were irregular, but he made a good recovery. The *Pharmacopée Universelle* states that the stalks, leaves, and flowers of *Lonicera periclymenum* have been used in medicine as a slight astringent and tonic, and that it was formerly used as a constituent of gargles. A formula for a syrup (syrupus caprifolii) is given, made by infusing 4 lb. of fresh petals in 8 lb. of boiling water, to which, after filtering, double the quantity of white sugar is to be added.

SOME ASPECTS OF LIFE INSURANCE FROM THE STANDPOINT OF THE MEDICAL EXAMINER AND THE AGENT.*

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Mr. President and Gentlemen,—To-night we are to consider some aspects of life insurance, and I intend to discuss some of the practical points of the medical examination as they concern the doctor, the agent, and the examinee.

Medical examiners and life agents have one strong link in common. They both come into personal communication with the individual who, as a rule, desires to insure his life; and in this relationship both must use tact and discretion, and both gain an insight into human nature.

As regards the medical examiners, every case ought to be handled with tact, discretion, and intuition. Tact should be used to place the examinee at once at his ease and diminish any nervousness or anxiety; and this is best done by adopting a matter-of-fact style; it is remarkable how a man or woman who has been very nervous in anticipating the ordeal, becomes quite calm when in the doctor's room, and if handled judiciously a complete examination is usually willingly sanctioned. Intuition is required in order, with as little delay as possible, to see the line of weakness in the applicant. The doctor must gauge the constitution and habits of life by a quick inspection aided by a few judicious questions added to those which are usually present in the report. For instance, all medical examiners have met the over-conscientious individual who, though to all appearances is "in the pink of condition," states that he has had rheumatism, a fit fifteen years ago, and a severe attack of the liver. On inquiry the rheumatism resolves itself into muscular stiffness after a long day's shooting or golf, the fit into a faint brought on by some unusually disagreeable sight or an injury, and the attack of the liver into a bilious attack which never confined him to the house. A man of this type recently would not rest satisfied till I had recorded all the list he gave me of most trifling ailments which had left his health unimpaired—rheumatism, faints, and cough, were amongst his list. A short note at the end of the report to the medical referee explained their entry. On the other hand, there is the man who assures the doctor "he has never had a day's illness in his life." He must be tackled more carefully and reminded that most men have had influenza. Has he had pneumonia, typhoid, or bronchitis, or an accident of any kind? and then he generally remembers several weeks of disablement. There are a few occupations—three I may specify—which entail more strict examination.

1. The person who deals in alcohol in any way. A few apparently casual questions as to habits and a careful physical examination will soon confirm or otherwise the statements he makes. As a rule, publicans, hotel keepers, etc., are bad lives; but I have known several very respectable ones—some even teetotalers. Most companies rate them up 10s. to £2 per cent., some refuse them altogether.

2. Commercial travellers too, as a class, are not good lives, though there is no doubt that there is now much less drinking "on the road" than formerly.

3. The third occupation which requires the careful investigation of the examiner is that of the man who replies, "Oh, I'm a gentleman." There is no better or healthier life than that of the country gentleman as we understand it—the man who hunts two or three times a week, looks after his estate, and is a justice of the peace for his county. But these people do not usually speak of themselves as such. The style of "gentleman" is often assumed by a retired innkeeper, "a man about town," or an office boy out of work.[1] Some time ago I examined a "gentleman" who lived in a very healthy district, but was too stout and flabby for a man of his age. When I asked him how he spent his days, he replied that he was very fond of the country and took long walks, to which I remarked that I was surprised he did not reduce his weight. He said all his family were stout and heavy. On investigation this "gentleman" was found to spend his time walking from one inn or hotel to another, occupying the rest of his time in the taproom drinking beer. Needless to say he was not accepted. In contrast to this case I had the greatest difficulty to get a first-class English office to accept a bona-fide gentleman because he lacked an occupation.

Form of Medical Reports.

The forms of the medical reports which the various companies supply differ in length enormously. Some would appear too long and others too short. Personally I do not consider any report too long provided the company pays the regulation fee of £1 1s., and no company could expect a skilled medical man to fill up a long report like those of some of the American companies without paying that fee. In support of my contention that no medical reports are too long, every particular with regard to the applicant is valuable to the company. For instance, one of the longest medical reports contains the question, "Has any member of your household suffered from consumption or tuberculosis during the past year?" When examining a man some little time ago, in answer to that question, he had to admit his wife was suffering from undoubted consumption. Though I do not necessarily object to the length of a medical report, there are many ways in which some of them might be improved, and I would urge a greater degree of uniformity. There is no reason why a board of medical examiners and referees could not be appointed to meet and draft a more uniform set of questions. The improvements I would suggest are:

1. Deleting from all reports requests for the names, dates of death, and places of death, of parents, brothers, and sisters who are dead. If these details are required in any particular case, surely the agent could get them from the family Bible at the leisure of the applicant and himself. They are then far more likely to be correctly answered than when asked for by the doctor and given on the spur of the moment.

2. In some medical reports the questions are framed so that the answers in first-class healthy lives change from the affirmative to the negative, and vice versa, when by a slight difference in the construction of the questions there would be no such change, and thereby the tendency to clerical errors would be greatly diminished. The uniformity of report which I have pleaded would also tend greatly to diminish clerical errors by medical examiners. Of course, clerical errors should never occur, but I understand they do occur.

3. All reports should have a blank space, in which the examiner can insert any special "remarks," or make any comments or explanation that may be necessary in any exceptional case.

Classification of Lives.

The method of grouping lives varies in different companies as much as the medical forms. Here again I would suggest uniformity—excepting, of course, those companies which only accept first-class lives. The grouping I would propose would be as follows:

Class A.

1. *Unexceptional Lives.*—Those with excellent family history, healthy occupation, regular habits, good physique, and normal healthy organs.

2. *First-class Lives.*—Good average lives, presenting unfavourable circumstances, but of so slight a nature as to form no objection to insurance at ordinary rates.

Class B.

1. *Second-class Lives*, where, owing to bad family history or some physical defect, an extra is required, or a short-term endowment policy only can be granted.

2. Cases which require postponement for one, two, or three years.

Class C.

Uninsurable Lives—that is, Bad Lives.—Certain types of heart disease, kidney disease, diabetes, phthisis, etc.

Unexceptional lives, Class A (1), already appear in some companies, and it is remarkable how few lives can be honestly grouped under this heading. Such is the class Sir James Barr recommended should have special terms.[2] I would point out, however, that they are just as liable to death by accident and an acute infectious disease. As regards second-class lives I am confident that there are a number which by judicious rating up can be accepted

* Read before the Insurance Institute of Liverpool on November 11th, 1908.

without any undue risk. I am sure that some cases are refused which might with advantage be placed in this class. I will specify them later.

Certain companies accept lives under certain conditions without medical examination. Such a principle is greatly to be deprecated, for it is placing a premium on fraud. As all insurance men know, as soon as a person is aware that he has anything wrong with himself he immediately wishes to insure his life, and if he knows he is seriously damaged, at once he thinks of the non-medical examination policy. Then one of three things happens:

1. If the applicant be honest he has to answer truthfully a long list of questions, some of which pick out his weak spot, and he goes away grievously disappointed.
2. If dishonest, he may, by answering incorrectly, defraud the company. Consider the temptation to act in this way, for a young man with a wife and family, who is attacked, say, with consumption. He may answer all but one or two questions with absolute truth, and you must remember the public class insurance companies and railway companies together in the same category—that is, rich corporations which may be defrauded without immorality.
3. If the man is diseased in imagination alone, or is only morally afraid of the medical examination, then the insurance company is giving him a good but expensive policy.

Several companies which issue such policies require the applicant "to pass the doctor" if some of the many questions in the proposal are not answered to their satisfaction. In this way I have seen several applicants, and from a healthy or an insurance point of view they have been a sorry crowd. Five cases stand out pre-eminently in my memory: A case of advanced consumption, a man suffering from diabetes mellitus, another case of phthisis, a man with a very bad family history, and a case of uninsurable heart disease.

A schoolmaster, who had previously consulted me for heart disease, once wrote asking whether he should try to insure under a medical or non-medical examination policy. I advised the former, and told him he must expect to be rated up.

With regard to second-class lives, companies reject in many instances some cases which it would pay them to take with an extra added to the premium. Special arrangements might be made for such individuals. The responsibility of advising the acceptance of such lives should not be left with every medical examiner, but each company could have assistant referees in the large centres—that is, physicians who are daily accustomed to seeing such cases in their practice and at their hospitals, and these assistant referees could give a further report after examining the applicant, on which the final decision should rest. The types of case I refer to are some of functional albuminuria, some forms of heart disease with well-marked compensation, applicants who have had syphilis, etc. I could enumerate several instances of men who have been thus affected who have been refused, though recommended as second-class lives, and who are living now, and are apparently going to live, more than ten years after having been rejected.

Medical Examinations from the Agent's Point of View.

The aspect of life insurance from the standpoint of the agent to which I shall chiefly confine myself is that of the medical examination of his client. It is very interesting to observe the different views that life men take of the medical examination. The younger men look on it with trepidation until hardened by usage, some of the older ones as a nuisance, very few cheerfully, and all as a necessary evil.

Now there are certain ways in which the agent can materially assist the medical examiner, and smooth the examination so that his client will appear in the most favourable light. The examinee should, whenever possible, be brought to be examined quietly, and not hurried. If the office is up one or more stories he should use the lift; he should be warned not to pass urine just before being examined, and it is better to have him examined just before rather than after a meal, before Christmas rather than after it, and not too soon after an illness. Some applicants are naturally rather alarmed at the idea of having to be overhauled by a medical man, who may find out something wrong of which they had no suspicion. Most of these fears can easily be allayed, and are allayed every day by insurance men, who probably know these difficulties and the way to overcome them far better than any medical examiner. I am always amused by a sportsman friend, a manager of a life office, who says to his client in a nonchalant sort of way, "Come and pass the vet." and that matter-of-fact casual method is probably the best in most instances.

A very important aspect of the medical examination, both to the agent and often to the applicant, is promptness in obtaining the examination. This can generally be arranged satisfactorily to all concerned, especially if the agent knows the doctor's routine and his most available hours. But extraordinary circumstances do occasionally arise, and I still have lively recollections of, some years ago, going on board a steamer by the last tug, as she was steaming down the Mersey, to report on the captain, who was going abroad for twelve months. It was not till the captain assured me that he would not give his returns until I was aboard the tug again that I began the report. I also had the moral and physical support of the company's manager.

As regards the examinee, provided that he is treated with courtesy, as is invariably the case, he does not require any sympathy or condolence on having to undergo the ordeal. Nothing can be more beneficial for any man than to be overhauled thoroughly by a doctor. If he passes first class, he goes away rejoicing, and has more confidence in his constitution than before. If a flaw is detected, and he is placed in the second class or rejected, it is far better for him to be aware of the fact, and so be able to take steps to remove the defect, or at any rate to prevent its getting worse. Most men who are wise do this, and I have known candidates for insurances who have been rejected for albuminuria and other ailments, which were quite unknown to them prior to their examination, after some months' careful treatment regain normal health, and pass as first-class lives. Incredible as it may seem, other men, though vexed at not obtaining the policy, take no precautionary measures. Thus a robust man, who had had several attacks of gout, was referred for twelve months, with the understanding that, if free during that time, he would be accepted at ordinary rates; and yet, rather than submit to a somewhat restricted diet, he lived as usual, and contracted further attacks, and now is a subject of marked gout and quite uninsurable. Another man who was found to have dietetic glycosuria would not give up the habit of taking large quantities of sugar, and I should not be surprised to hear that he ultimately develops diabetes.

The medical examiner is a most important factor in your work; he is your detective who finds out the ravages of disease in your clients. I remember finding well-marked phthisis in one poor fellow who assured me that it was only a "cold on the chest," and chronic bronchitis in an older man, who told me "it was nothing, and was always present." It is interesting to note, however, that these two cases were examined at an interval of about nine years from each other and for different companies, so that agents need not be alarmed and expect that many of their cases will be rejected or rated up at present; but if modern life in the towns and cities continues in the direction of electric trams rather than walking to business, watching rather than playing football; tea, roll, and cigarettes rather than a good lunch, then we may expect more second-class lives among city men in the future.

If the medical examiner is the detective for the company in life assurance, much more so is he in examining cases for accident or sickness claims. There, instead of finding the defects as terrible as the claimant would have them to be, it is remarkable how frequently they are of a much less serious nature, and in not a few cases are so slight that they are imperceptible. Here we have the picture of the medical man trying to assure the applicant that he is quite well, and the latter endeavouring to teach the doctor that he is suffering from disease and ailments which cannot, however much investigated, be perceived. But this is a long story, and not really germane to this subject.

In conclusion, I would say that I trust this paper will not have the effect of a medical book, and alarm agents as to the state of health of their candidates. Second-class lives and rejected lives are, fortunately for them and for the country at large, few; they are exceptional cases, and they are therefore of interest to us. I am often rung up to state whether a rupture, or a previous operation for piles,

or a previous illness of some kind or other, is a bar to insurance, and it is noteworthy how almost invariably the reply is in the negative. My advice to the agent would be, if in doubt about having a case examined, "Do," and he will often be agreeably surprised.

References.

[1] Dr. Pye-Smith, paper on Insurance, read before Alliance Insurance Company. [2] British Medical Journal, 1907, vol. ii.

TWO CASES OF OSTEITIS DEFORMANS (PAGET'S DISEASE).

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Osteitis deformans is a sufficiently rare disease to make it worth while to report two cases in the same family which have come under my notice:

Case I.

A man aged 56 first came under observation in April, 1907, complaining of headache and "rheumatic" pains in the limbs.

Family History.

He had five children living; one died of convulsions and bronchitis in infancy. His father died at the age of 64 from a cause not known to the patient. His mother died of enlarged liver. The family history, so far as is ascertainable, is otherwise quite good, and presents no rheumatic tendencies. A brother who is suffering from the same disease in an incipient stage constitutes Case II.

Personal History.

The patient, a timber sawyer by occupation, had not indulged to excess in tobacco or alcohol, and had never had syphilis or gonorrhœa. He had always enjoyed good health until the age of 40, that is, fifteen years earlier, when he had a sudden attack of acute pain in the left hip. Since then he has never been really free from pain, especially during the last ten years.

About nine years ago he was confined to bed for one month with pain in both legs; he then returned to his work, though he frequently had to sit down because of the pain. He stopped work about four years ago because of an accident, the fingers of his right hand being caught in the saw; eleven weeks elapsed before healing took place, and the first and second fingers have never been much use to him since, on account of chronic periostitis. About five or six years ago he first noticed the right leg just below the knee to be swollen, and three or four years ago he noticed the same in the left leg.



Present State.

His general health is fairly good; he eats well and is quite intelligent, but at times very depressed. He always has pain in his legs and head. In the head the pain is usually "aching," mostly in the frontal region, but occasionally occipital. In the legs it is usually "aching" also, but at times acute, somewhat like cramp. Fleeting pains occur in other parts of the body; he cannot remain still for any length of time, as rest seems to increase the pains.

He maintains that he is worse on Sundays, as on that day he seldom goes out; on other days he takes walks in the morning and afternoon. His sleep is very disturbed, as he is frequently awakened by pains, which cause him to get out of bed and walk about the room. He has not slept for more than two hours continuously for some years. Usually he gets up at 5 a.m., as he says he cannot remain in bed any longer.

His gait is peculiar. The feet are placed far apart, the knees cannot be approximated, and he "waddles" along, but there is no real unsteadiness in the gait.

Osseous System.

His head is large; as a young man his hat was size 6¾, now size 7⅜ is too small, and he finds difficulty in getting a hat to fit him.

Head.—The measurements are: occipito-mental, chin to the most distant part of occiput, 9 in.; occipito-frontal, point of union of the supraorbital ridges to the most distant part of occiput, 8½ in.; biparietal, 6½ in.; bitemporal, 5½ in.; glabella to occipital protuberance, 16 in.; circumference as a horizontal level immediately above the supraorbital ridges measures 24½ in.; junction of pinna and scalp over the vertex to a similar point on the opposite side, 12½ in.; suboccipito-bregmatic, from the neck immediately below the occipital protuberance to the junction of the parietals and frontal bones, 7 in.; suboccipito-frontal, from the neck immediately below the occipital protuberance to the mid point of the junction of the frontals, 7⅞ in.

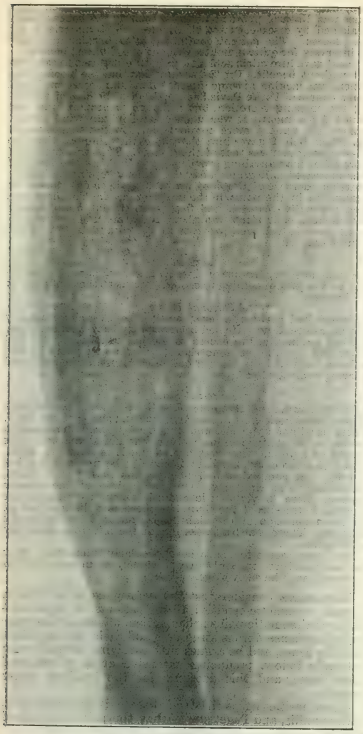
Measurements of the patient's head compared to those of a man wearing a hat of size originally worn by the patient.

	Patient.	Comparative Case.
	Inches.	Inches.
Occipito-mental diameter...	9	9½
Occipito-frontal diameter...	8½	7⅞
Suboccipito-bregmatic diameter ...	7	7
Biparietal diameter...	6½	6
Bitemporal diameter	5½	5
Glabella to occipital protuberance ...	16	13½
Circumference	24½	22
Pinna to pinna	12⅞	10½

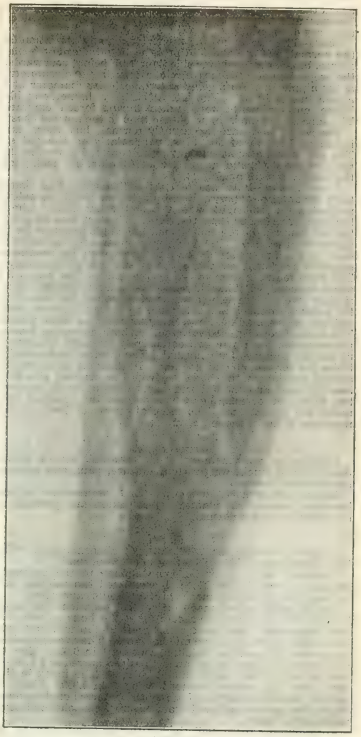
He has a peculiar visage, owing, first, to a slight degree of acne of the nose, and, secondly, to enlargement of the upper jaw, which is not symmetrical, being most marked on the left side; the left malar bone is also involved, giving the appearance at first sight of antral disease.

The Spine.—The curves are those of the normal spine, but greatly exaggerated. This appears to be due in part to the excessive weight of the head; the neck is very short and thick, and there is a kyphosis of the dorsal region, being apparently compensatory to the cervical lordosis. The vertebræ themselves do not appear to be affected by the disease. Thirty years ago his height was 5 ft. 10½ in. At the present time it is 5 ft. 5½ in. This shows the extent of the spinal curves.

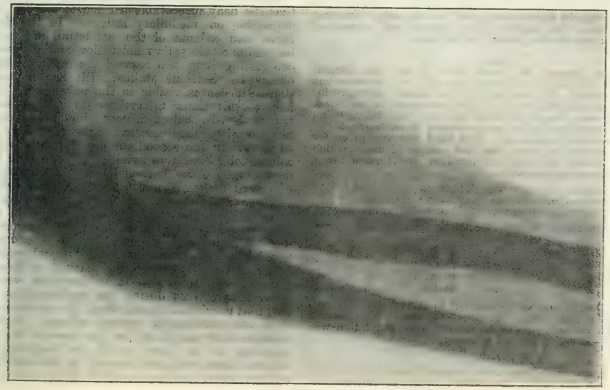
Upper Limbs.—The right clavicle is bowed anteriorly, and at its centre measures 1 in.; the left clavicle measures ⅞ in. The surface is rough and nodular. The arms appear to be quite normal, with the exception of the right ulnar (see x-ray photograph, p. 14) and the injured fingers. The right elbow-joint appears to be a little stiff. It does not seem possible in any of the affected bones to say exactly what amount affected, the normal passing imperceptibly into diseased bone,



Right leg.



Left leg.



Right ulnar.

but in the case of the right ulnar it appears to be 3 in. or 4 in. The part affected is enlarged and nodular, as demonstrated by the *x*-ray photograph.

Chest.—The ribs do not show individually any alteration from the normal, but the chest in cross section (instead of being an ellipse, broader from side to side than from before backwards, in the proportion of 7 to 5) is a circle, measuring in circumference at the nipple line 37 in. The antero-posterior diameter at the nipple line is 10 in. The lateral axillary diameter is 10 in. These measurements were taken during forced expiration. The subcostal angle is more obtuse than in the normal chest.

The pelvic bones are apparently normal, but there is an increased breadth of the hips, particularly on the left side. The left trochanter stands out prominently, due to change of angle of the shaft and neck of the left femur, the neck joining the shaft at a right angle.

Lower Limbs.—Both are markedly diseased. The distance from the anterior superior iliac spine to the tip of the external malleolus is on the right 36 in. and on the left 35¼ in. The left limb is more affected than the right. The fact that the neck of the left femur joins the shaft at a right angle accounts for this difference in length. The joints are apparently free from disease, but a few nodes similar to those seen in rheumatoid arthritis are found on the external surfaces of the condyles. The right femur is comparatively free, except that about 3 in. above the condyles it has the same circumference as the left at a similar level. Both legs show pigmentation of the skin around the external malleoli and extending up the leg. There is slight oedema of both ankles, especially at night or after walking. The veins of both legs are varicose. In both, as seen in the *x*-ray photographs, the tibiae are extensively diseased, whereas the fibulae are comparatively normal. The internal surfaces of the tibiae are very rough and nodular. In the *x*-ray photographs a central portion of the bone suggests the original size of the healthy bone, and the abnormal growth appears to be due to the deposition of lamellae of bone outside the compact tissue under the periosteum. The internal surface of the right tibia measures 2¼ in., of the left 3½ in.

Nervous System.

Intelligence and memory good. Cranial nerves normal. Sensibility to touch, weight, temperature, pain, and muscular sense appear normal.

Reflexes.—Superficial abdominal and cremasteric reflexes, knee-jerk, ankle-jerk, plantar reflex flexion are present, and organic reflexes are normal.

Blood.

Erythrocytes number 4,900,000. No abnormalities. White blood corpuscles, 7,300. Differential count normal.

Thinking there might be some change in the amount of calcium present in the blood, I calculated the calcium index and calcium content by means of Blair Bell's calcimeter.

The calculation was made on several occasions, at varying hours. The results varied according to the hour at which the blood was taken, the index being high in the morning before breakfast and low after the midday meal. The average calcium index was 0.6, and the calcium content 1 in 9,000. The two highest counts recorded, strange to say, occurred at 5 p.m.—an hour at which the count should be low. The index in these cases was 1.2, calcium content being 1 in 5,000. These two counts, made at intervals of a month, occurred on days during which the patient suffered from severe headache and severe pains in the limbs.

According to Blair Bell, in health the calcium index may vary between 1.2 and 0.4, and from a calcium content of 1 in 5,000 to 1 in 15,000, according to the hour at which the blood is taken, being high in the morning and low at night. Judging by these figures, the patient never showed real excess or diminution in the calcium present in the blood.

Urine.

The amount passed in twenty-four hours was almost identical each day, the average being about 32 oz. On occasions it contained urates. Dr. Scott of Liverpool kindly estimated for me the calcium, phosphorus, and nitrogen output in the urine. The patient was given a special diet, all food taken being weighed, the amount of nitrogen contained in such articles of diet being previously estimated. The fixed diet was given for three days previous to taking the first sample of urine, which was from a twenty-four hours' collection. In 32 oz. of urine, which was the average excretion,

The output of nitrogen was 20.7 grams.
The output of phosphorus was 2.20 to 1.53 grams.
The output of calcium was 0.0468 to 0.0108 grams.

Both the calcium and phosphorus figures are about the normal amount:

Ca ...	...	...	0.00425 to 0.00141 per cent.
CaO	...	...	0 00595 to 0 00191 ,,
P_2O_5	...	...	0.2536 to 0.1775 ,,
N ...	...	...	3.53 to 1.3 ,,

The calcium output shows no relation to the phosphorus output, one being high when the other is low. The figures approach the normal, except as regards nitrogen, which was mostly high—generally over 2.3 per cent.

TREATMENT.

Various drugs have been tried without benefit in osteitis deformans. In this case I first tried a course of calcium lactate, with the idea that if the deposition of bone which takes place was Nature's method of strengthening the bones already weakened by disease, excess of calcium might materially aid the process. The patient continued to take calcium lactate at intervals for quite a month without the slightest benefit.

I next gave him citric acid as a natural antithesis to calcium, but without benefit. On the assumption that the blood of the patient was lacking in some internal glandular secretion, I gave him a course of Parke Davis haemimal, with the idea of supplying the missing secretion, but although treatment was continued for a month it was unsuccessful in removing pain or making the patient more comfortable. On the suggestion of Dr. Blair Bell I gave him thyroid extract, hoping that the missing secretion was that of the thyroid. This treatment had more effect than anything previously tried. After the dose had been increased to 15 grains a day the patient slept much better: a further increase of the dose up to 40 grains a day caused no diminution in the pains in the limbs or head. The dose was then gradually reduced, and finally treatment discontinued. Two months later sleep was about the same, and a great deal better than it had been previous to the administration of the thyroid extract.

CASE II.

A man, aged 62, brother of Case I, first came under observation by the patient coming to consult me as to the condition of his brother.

Personal History.

He had had rheumatic fever when a boy, which apparently left no after-effects. He had been a steady hard-working man, and had not indulged to excess in alcohol or tobacco. He had never had syphilis or gonorrhoea. For many years he had suffered from varicose veins of both legs, necessitating continual wearing of elastic bandages.

Present State.

In appearance he resembles his brother to a remarkable degree, most noticeable in the large size and shape of the head. There is slight kyphosis, and the head is held in a position similar to the attitude in his brother, but not so marked. His height as a young man was 5 ft. 8 in.; it is now 5 ft. 6½ in. When 23 years of age his hat was size 6¾; he now wears a hat size 8¾. He complains of frequent pains in his shin bones, particularly the right leg. On examination of the osseous system, there is very little change, except as regards the increase in the size of the skull, but there is a distinct nodule on the inner side of the right tibia, about 2 in. below the tubercle. There is also a thickening of the left tibia above the ankle-joint.

This case seems to me to be particularly interesting, from the fact that there appears to be previously no mention of this disease at such an early stage.

Macnamara considers osteitis deformans to be due to chronic rheumatic osteitis; all the patients, he says, complain of rheumatic pains; rheumatism affects aponeurotic and other dense fibrous structures and their prolongations into the bones, and he argues that rarefying osteitis must naturally follow, producing extensive areas of softened bone tissue, and this accounts for the bending under pressure.

All authorities agree that the disease is not associated with syphilis, and Paget states that the pain complained of is increased by administration of potassium iodide.

Gilles[1] recites two cases with autopsies. He concludes that the bony alterations are due to trophic disturbances depending on medullary lesions. In the first autopsy there was oedema of the cerebrum and cord, and on hardening a pale yellow coloration of the posterior cords, contrasting with the rest of the white substance, was observed. Sections stained with copper acetate made these differences visible to the naked eye. He acknowledges that these alterations do not appear to be a true sclerosis, but considers that they establish connexions with other diseases of the nervous system, such as tabes. In the second autopsy he found paleness of the column of Flechsig, especially in the middle and inferior dorsal region; this he considered to be due to rarefaction of nerve fibres. In the superior and middle lumbar regions there were triangles of healthy substance separated by bands of altered tissue. As regards the significance of these lesions, he does not consider them due to fixing and staining, because the characteristics noted invade the posterior cords everywhere in the dorsal region, being either much less marked or absent in other regions. He states that in neither case were there any nervous symptoms during life, and explains this by the fact that previous to death when the cases were examined there was considerable general oedema. It may be asked whether this might not be the cause of the *post-mortem* condition of the cord which he described. I should suggest that it was most marked in the dorsal and lumbar regions owing to posture of the body, *ante mortem* and

post mortem. In any case I should imagine that such lesions, if present, would have caused some symptoms during life. In Case 1 I have failed to find any such nervous symptoms on careful examination.

Butlin regards osteitis deformans as a chronic inflammatory condition. On microscopic examination sections of the bones showed the Haversian canals wide, with the walls eaten out and rough, the so called Howship's lacunae, which he considers characteristic of bone inflammation; the canals also showed lesions analogous to chronic inflammatory disease.

Lancereaux suggests that the new bone formation is an attempt at reinforcement of the long bones which have been weakened by absorption. Its distribution around the entire circumference, however, differs from other instances of compensatory growth, as seen in rickets, where the reinforcing bone is developed on the concave side of the shaft.

The association of cancer with osteitis deformans is interesting. Of Paget's 5 cases, 3 died from cancer: in two of osseous growths, in the third an epithelioma of the dura mater. Butlin states that sarcomata occurring may be accounted for as follows: The condition of the bones is attended by the formation of a large quantity of material rich in cells which is prone to sarcomatous degeneration, especially when, as in osteitis deformans, this material remains cellular and stored within the bones.

Blair Bell believes that the amount of calcium salts present in the blood is regulated by some internal secretion, and suggests the thyroid. Is it possible that the deposition of such salts is regulated in a like manner, and the derangement of that mechanism causes the trophic changes in the osseous system?

REFERENCE.

[1] *Nouvelle Iconographie de la Salpêtrière.*

A DANGER ARISING FROM THE USE OF PLATED INSTRUMENTS IN OPHTHALMIC OPERATIONS.

BY W. C. ROCKLIFFE, M.A., M.D., M.R.C.S.,
OPHTHALMIC SURGEON, HULL ROYAL INFIRMARY.

HAVING recently had the misfortune to lose an eye from acute panophthalmitis after extraction from a complication I am inclined to think is unique, I trust this report may be of value as a warning to others.

A. B., aged 73, was admitted to the Hull Royal Infirmary on February 15th, 1909, with ordinary senile cataract. He was a perfectly healthy old man, with no trace of catarrh or mucocele. The eye, as is my custom, was cleaned and covered with a carbolic pad the night previous to the operation, every usual aseptic treatment was carried out during and after the operation, which was performed on February 19th, and was uncomplicated throughout.

On the following morning (February 20th) the lids were somewhat puffy, but not more so than is frequently seen as the result of pressure of the speculum; nevertheless, there was a slight mucous discharge, and the cicatrix did not look perfectly healthy.

On February 21st the eye was in a state of acute panophthalmitis. He was ordered leeches and perchloride irrigation every two hours; on February 22nd the galvano-cautery was freely applied to the cicatrix; nevertheless the pain and distension of the eye with pus became intense during the day, and the house-surgeon did paracentesis during the night, with great relief to the patient. On February 23rd the eye was excised.

Early on the morning of February 23rd, before the eye was excised, a bright foreign body was noticed during an irrigation floating away with the lotion, and was fortunately secured by the nurse.

This turned out to be a piece of plating measuring about 1.5 mm. by 1 mm., and clearly came from some instrument. I therefore examined the forceps and de Wecker's scissors, and found a corresponding deficiency of the plating near the hinge of the scissors, and a second larger strip almost detached. On inspecting my other plated instruments, some also showed signs of the plate peeling off.

I assume that during the iridectomy the fragment had dropped unseen into the anterior chamber or cicatrix and caused the panophthalmitis.

The question naturally arose how this septic condition occurred, everything having been thoroughly sterilized and every aseptic precaution having been carried out, especially as it has been stated that a copper foreign body in the anterior chamber never causes suppuration of the vitreous. I might add that all instruments after cleansing are placed in pure alcohol.

Could the carbonate of soda in the boiling sterilizer, the 20 per cent. carbolic in the instrument dish, or the alcohol, have had anything to do with the cause of the separation of the plating?

Being by chance at the Royal London Ophthalmic Hospital, among others I mentioned the case to Mr. Bishop Harman. He suggested that a fault in the copper-nickel plating in the presence of a saline solution might set up galvanic action; this would explain the separation of the plating and also the subsequent inflammation produced in the eye. He therefore kindly undertook to submit the fragment to an expert Cambridge physicist, who reported "that he thought that pieces of double metal like this would very much strengthen the electrolytic action if they got into the saline fluids of the eye, and can quite believe that it would produce much greater inflammation than either metal singly. The strength of the action would depend somewhat upon the electro-magnetic force of a copper-nickel couple in the salt solution, but even if this were small the fact that the two metals are in actual contact would, of course, produce a comparatively strong current."

Since then Mr. Bishop Harman has obtained more such scales of plating and submitted them to Dr. Crocker, of the South-Western Polytechnic Institute, Chelsea, London, who reports:

> The electro-magnetic force of nickel and copper electrodes in normal saline solution is 0.02 volt. When the electrodes are placed in perchloride of mercury solution, and the circuit closed, calomel deposits pretty readily on the nickel and mercury on the copper. It seems probable that the effect was primarily due to the action between the couple itself and the organic fluids of the eye, judging by the ease with which the couple corrodes near the surface of the liquid, in air.

These reports appear somewhat conclusive as to the cause of the peeling off of the plating, and the subsequent acute panophthalmitis, and I am much indebted to these gentlemen for them.

That the peeling off of the plating on steel instruments (although, as far as I am aware, not hitherto commented upon) is not so uncommon as it would appear, is proved by the findings of Mr. Johnson Taylor (Norwich) and my colleague, Mr. Roe. When I mentioned this case to them they inspected their instruments, and in each case parts of the plating on pairs of de Wecker scissors were found either partly or almost completely detached.

In conclusion, as a warning, I will suggest to all using plated ophthalmic or other instruments to examine them thoroughly prior to use, and I much doubt the advisability of ever using such instruments again.

Probably most ophthalmic surgeons of experience can recall cases of acute panophthalmitis following extraction, which they have been absolutely unable to explain. This case may suggest a possible cause of, what would have been in my case, a painful ignorance, had not my nurse detected the foreign body.

The spot in the square is the exact size of the detached piece of plating.

SEVERAL hospitals benefit largely by the will of the late Mrs. Charlotte Sarah Greenhill, of Norfolk Square, W. The Royal Ophthalmic Hospital, City Road, and the Children's Hospital, Paddington Green, are each given one-sixth of the residuary estate, and the Royal Free Hospital two-sixths. As the total residue estate appears to be over £100,000, the amounts which these institutions are likely to receive are very considerable. In addition, the Royal Free Hospital receives a direct bequest of £2,000 and the Children's Hospital one of £1,000. Like sums also go to the Middlesex Hospital and the West London Hospital.

THE VALUE OF EXPERT RADIOGRAPHY AND CYSTOSCOPY IN THE DETECTION OF OBSOLESCED TUBERCLE IN THE KIDNEY.

A DEMONSTRATION GIVEN IN THEATRE 5, ON MARCH 29TH, 1909, AT THE LONDON HOSPITAL.

BY E. HURRY FENWICK, F.R.C.S.,
SURGEON TO, AND A LECTURER ON CLINICAL SURGERY AT, THE LONDON HOSPITAL.

[WITH COLOURED PLATE.]

As my knowledge of the radiography of cascating tubercle of the kidney has increased,[1] I have been encouraged to hope that I might meet with an unequivocal example of the disease in order that I might demonstrate to you, simply and yet impressively, the precision with which expert radiography and cystoscopy reveals to us this form of renal tubercle.

A patient sent to me a fortnight ago by Dr. Marr, of Dunstable, has afforded me the opportunity I have sought. She is a married woman, aged 36, and she complains of pain in the left kidney. It is the *right* kidney, however, which is really diseased, although it is painless, and although I cannot detect it by manipulation. Naturally, she wishes me to operate on her aching large left kidney, but I have persuaded her to allow me to remove the right kidney altogether!

Such divergent views and so strongly expressed an opinion must needs be based on the best of clinical evidence. I propose to adduce this and thus to justify my line of action before the patient is anæsthetized by describing to you the exact condition of her right kidney. I show you a pen and ink sketch (Fig. 1) which I have made of that organ. I want you to understand that this sketch, which I have sent to Dr. Marr, is not a conception, it is no fancy diagram. It is seriously meant to represent the actual fact, the exact size of the right kidney, its contour, and the bulgings on its surface. Indeed, when I have removed the kidney you shall place it on the sketch, and you will then be able to see how precisely it corresponds to it in shape and size.

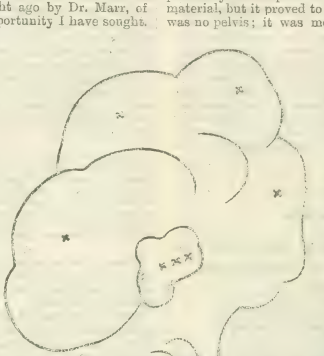


Fig. 1.—Sketch of right kidney made before the operation.

You notice the contour of the upper pole, how it is widely scalloped to represent bulgings. These rounded prominences are due to cysts. Each cyst is marked by a cross (×). I contend that each cyst is filled with caseous material like cream cheese, which is permeated with lime phosphate—the inspissated remains of tuberculous abscesses. The central area has ××× on it. This area marks a small encapsulated caseous mass, but the caseous material is drier, for the cyst is older in formation than the others. It is in close proximity to the renal pelvis, but it does not open on to it. Note also the cyst uncrossed which occupies the lower pole of the kidney. Let me transfer this sketch to the blackboard (Fig. 2). You notice I make no attempt to represent a renal pelvis. There is no pelvis; it is replaced by fibrous tissue. Note also that I make the ureter small and thin, not like the huge thick ureters I have always drawn in other tuberculous kidneys.[2]

No; this ureter is a fibrous cord. The kidney is useless, because the ureter has been closed for years.

Now this sketch and this dogmatic statement concerning a kidney I cannot feel, and which the patient has not felt for years, will be startling if it prove accurate in every detail. Yet there is no difficulty in the diagnosis; the entire matter is "simple to excess," as I hope to show you, for it is based on those modern methods of scientific research—expert radiography and cystoscopy—which have not as yet received the attention they deserve.

The patient was then anæsthetized, and the right kidney was removed by the lumbar incision.

The kidney was unrecognizable as a kidney. It was quite small (Plate, A), and when it was laid on the tissue paper sketch it corresponded with it almost exactly in size and outline.

The upper pole and the middle third was seen to have been transformed into bulging yellow cysts (Plate, A), the septal lines of which ran exactly as marked in outline on the sketch. Each cyst contained lime cream material of obsolesced tuberculous pus (Plate, B).

At the middle of the shrunken gland was, as described, an isolated collection of crude tubercle, hardish and yellow. The lower pole of the organ had also become cystic, but the contents of these cysts was different to that anticipated by the operator. He expected a thin caseous material, but it proved to be a dark urinous fluid. There was no pelvis; it was merely a tough mass of connective tissue. The ureter was an impervious cord.

All the details mentioned before the operation, with the exception of the contents of the lower cysts, were accurate enough to satisfy the most exacting of critics.

The caseous cream-cheese-like material was subsequently examined by Dr. Panton, who reported that it was composed of fat, no cholesterine, considerable inorganic residue. Calcium salts formed 15 per cent. of weight of the total substance. Unluckily the clear fluid of the lower cysts was lost.]

Let us look at the many and varied lessons which this case can teach us.

What were the data at my command which enabled me with so much confidence to remove a painless kidney and leave an aching one? On what grounds did I venture to describe the right kidney as useless and to draw its exact shape and size—to delineate its cysts and to anticipate what the contents of those cysts would be? To affirm it had no pelvis and that its ureter was a cord, not a canal?

First, I knew the patient had had tuberculosis of the urinary tract. Eighteen years ago she was sent to me, when she was a girl of 17, by Dr. Steele of Hemel Hempstead, suffering from cystitis. I examined her with the then new instrument, the cystoscope, and found ulceration of the bladder near the right ureter. I subsequently published the details of the case.[3] I did not know then, as I do now, that this ulcer in the ureteric area generally indicates renal tuberculosis of the same side.

Incidentally I may mention that I treated her with Koch's tuberculin, and she improved, and I lost sight of her. An enthusiast might jump to the conclusion that the obsolesced condition to which this kidney tubercle has passed is due to the treatment by tuberculin. This is not so, I feel sure. Eighteen years' experience of tuberculin has proved to me it rarely "cures" urinary tubercle. It generally reduces the absorptive toxicity of the débris and the caustic destructiveness of the urine. I have never published or taught that tuberculin was a *cure*, but I always use it if I can, because it is the most important therapeutical remedy we possess for allaying the bladder distress of early tubercle.

Reading through these old notes, illuminated by the light of eighteen years' experience of cystoscopy, I realized

(To illustrate Mr. Harry Fenwick's paper.)

A



Advanced "massive tuberculous degeneration" of Right Kidney.

B



W. THORNTON SHIELLS

Hemi-section showing thick white putty substance in sacs of Right Kidney.

C



Radiograph showing oval shadows (white arrowed) of loculated sacs of "massive tuberculous degeneration" of Right Kidney.

that the right kidney had probably been tuberculous when I first saw the patient. But what was its condition now, for it was painless, and the urine contained but little pus. Had the ureter closed and the kidney become useless? This was the most probable explanation of the quiescence.

To solve this problem I cystoscoped the patient last week, and showed the visitors and students a scar on the right side of the posterior wall of the bladder, just where the ulcer had appeared eighteen years ago. I showed pages of notes and drawings of this bladder which I had made eighteen years ago, and together we compared the then and the now. Without cavil the ulcer of 1891 had healed. I then decided to pass a ureteric catheter up to the right ureter, but I could not find an orifice. The ureteric lips were there, but they were sealed. I examined per vaginam in order to feel the ureter as it crosses the back of the bladder. I could hardly feel that tube. The deduction was that the ureter was impervious, and therefore that the kidney was useless.

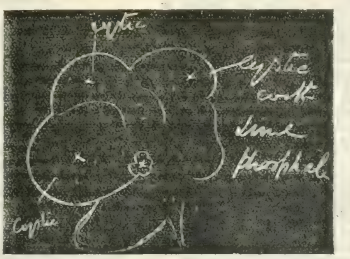


Fig. 2.—Blackboard sketch of kidney made before the operation.

The next question was, If the kidney is functionless, is its presence detrimental? What has happened to the tuberculous deposits of eighteen years ago? Have they obsolesced? The patient was *x*-rayed by Mr. Coldwell (Plate, C), and a dense shadow was found in the right renal region. Careful examination of this under bright light revealed that it was composed of a congeries of curved sharp-edged shadows obviously cast by cysts, and these together assumed the shape of a kidney. Each cyst was clearly defined. Some of the cysts were darker than others. By previous experience—for I have been examining cysts under the *x* rays for some time—I knew that these cysts contained material more or less impregnated with lime phosphate. If the patient had been tuberculous the cyst would contain the usual cream-cheese or putty-like material.

I had now all the facts at command. I was therefore able to designate in the sketch the size of the kidney, its cysts and the contents of the cysts, the atrophic ureter and pelvis.

I should like to say here what a fine series of cyst densities this case reveals. They range from the solid to the semi-solid and the liquid, a valuable series for comparison with those hydatid cyst shadows which project from the dome of the liver.

But, you say naturally, Why operate at all; the other kidney is the painful one? The one you have removed, although useless, is inert.

No, pardon me. I catheterized the left ureter and found rod-shaped bacilli and evidences of tuberculous degeneration in the urine, and these, with the clinical symptoms, satisfy me that the left kidney is in a state of consecutive nephritis (Albarran), induced probably by absorption from the foci in the right kidney. It was wiser, I consider, to remove any possible source of absorption, especially as the right kidney was movable; the operation would therefore be easy and rapid and the shock of no moment.

But how could I tell the kidney was movable without feeling it? The answer contains a point of practical value which is worth noticing and remembering.

The kidney is always radiographed for me in two positions; in one the patient takes a deep breath and holds it while the *x* rays are switched on; the effort thrusts and keeps a mobile kidney down. For the preparation of the next plate the patient breathes easily and naturally; the mobile kidney rises and falls and is radiographed. If the shadow of the kidney corresponds in position in the two plates I have to deal with a dangerously-fixed kidney. If the shadow has moved the kidney is movable and the operation is relatively easy.

Finally, you might ask this question: Having removed this inert kidney, are you content? By no means. The surgeon's task has only just commenced. The attempt must now be made to repair the left kidney by therapeusis.

There are three areas to repair.

The renal pelvis, which is affected by the tubercle bacillus. This is done by graduated minute doses of Koch's new tuberculin. But that is not curative. A coincident attempt is made to wall in the destructive processes by lime, either by administering lime chloride or lactate — what you will, as long as you imitate Nature's method of cure by giving lime, for I hold the profession are blindly chasing bacteria to root them out, and are forgetting to wall them in and render them innocuous.

The structure of the kidney, especially the cortex, is also repaired by giving crushed kidney—a valuable medicine I have had in active employment for fifteen years, and the powers of which I am only just beginning to realize; and lastly, the general health is improved and nutrition aided by fresh air and the addition of sugars and fats to the diet.

The wound healed rapidly, and the patient's last report (June 16th, 1909) showed she was improving.

REFERENCES.

1 E. Hurry Fenwick: *The Value of Radiography in the Diagnosis of Urinary Stone*, Chapter x, p. 118. 2 Pre-operative Demonstration of Tuberculous Foci in the Kidney. BRITISH MEDICAL JOURNAL, January 27th, 1906. 3 *Handbook of Clinical Electric Light Cystoscopy*, p. 177: Mary A., aged 17.

4

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

QUININE DERMATITIS.

THE following instance of acute dermatitis resulting from the smallest doses of quinine may be interesting. A lady who knew that she was most susceptible to quinine, and always had a rash after taking it—for instance, one dose of "a one-day cold cure" caused eruption all over her within twelve hours, and desquamation lasting more than a fortnight—took only two half-doses, that is, one teaspoonful, of bynin amara; this preparation appears to contain less than $\frac{1}{4}$ grain to the drachm. During the day the usual eruption appeared on the hands and arms, and by night had spread over the whole body, with intense irritation. She was advised to continue with even smaller doses in the hope that she might become accustomed to it. During the next two days the condition remained the same; the irritation was worse at night; she had no headache, and practically no eruption on the face. The quinine was stopped. On the fourth day the hands, and particularly the legs and ankles, were very greatly swollen; the palms especially were red and shining, and the feet less so, but the fingers and toes were stiff, feeling numb and distinctly cold to the touch. Baths, with bran, oatmeal, etc., gave no relief. By the seventh day desquamation began on the hands and arms, and extended to the trunk and lower limbs, the epidermis separating in large strips and flakes with almost casts from the toes. During the fourth week this was not completed, and the general appearance was as like scarlet fever as could be. It is somewhat curious that the same patient has most unpleasant symptoms on taking sodium salicylate.

Wallington, Surrey. WALTER GRIPPER.

STRYCHNINE POISONING: RECOVERY.

ALL cases of poisoning should be published, with the treatment adopted.

At midnight, on May 26th, 1909, Mrs. P., aged 39, was noticed to be suffering from twitchings. About fourteen

tablets of Easton's syrup were said to have been swallowed an hour or two beforehand. Each tablet contained the equivalent of 1 drachm of the syrup. The injection of apomorphine hypodermically caused two tablets to be vomited; thereafter all the classical symptoms of strychnine poisoning were horribly evident. With the kind help of Dr. Knox of Maida Vale, the stomach was thoroughly washed out by tube, and about a pint of raw whisky poured down the funnel. The convulsions not ceasing, and death seeming both to the watchers and the patient to be imminent, morphine ⅓ grain was injected under the skin. In ten minutes or so improvement was visible; in half an hour quietness was obtained, and soon after the patient fell asleep. For the following two days stiff neck and limbs were complained of, with general pains. The patient had swallowed probably ⅓ grain of phosphate of strychnine, ¼ grain at least was known not to have been absorbed, so ⅓ grain nearly caused death. The fatal dose is generally considered to be ½ grain as a minimum.

London, W. G. MACLELLAN BLAIR.

AORTIC SYSTOLIC MURMUR: PROGNOSIS AND TREATMENT.

WHAT is the value that should be attached to the heart murmur usually attributed to aortic stenosis, a rough systolic murmur in or about the second right interspace? My own experience, in a country practice, is that it is of comparatively small importance as regards prognosis of life duration. My experience, however, may be exceptional. Most of the cases I have met with have been in old—indeed, aged persons. The heart symptoms have been unimportant, and drugs acting specially on the heart have been of little use. Bromides, however, have invariably been of some service. In the cases of those who died I had been aware of the murmur for four or five years at least before death, so that the final illness did not produce it. It seems to be a commoner condition than books lead us to expect. When I meet with it now I regard it almost as a positively favourable sign of the heart's condition, unless the occupation is very arduous. The cases I have met have not had many symptoms in common. Perhaps the most universal has been a certain excitability of temperament, not necessarily prominent, but easily brought into notice; if the murmur be really due to aortic stenosis this characteristic might be due to some brain anaemia. The patients have, however, been quite as often full-blooded people with rather the appearance of having congested brains, and this has tempted me to believe the murmur may be due to the resistance produced by an overfull condition of the vessels in the upper thorax and cerebrum. I am quite sure I have not seen a case of death in the last seven years at least from heart disease, with this murmur as the initial and prominent symptom, in any patient under 65 years.

I append the last eight cases which have come under my notice with this peculiarity, and their ages will not suggest that the symptom is one of grave omen.

1. Female; married; had large family; lived hard-working life; was tall and strongly built; never had serious illness; later years a little asthmatic; died of bronchitis aged 72.

2. Female; large build, strongly built; married; had family; hard working life, washing, charing; never seriously ill; died of apoplexy aged 80; before death for a year or two mental perversions, suspicions, etc.

3. Female; single; strongly built, short; never serious illness; some oedema of legs and renal insufficiency last two years, but did her housework; died of erysipelas aged 73; great smoker.

4. Female; strongly built; family; hard working; is alive and well, though asthmatic; aged 76.

5. Male; married; strongly built; active life; has had rheumatic fever, so-called, three times, but colchicum relieves and salicylates do not; has often headaches; aged 45.

6. Male; unmarried; was a shepherd; suffered since a lad from severe headaches; was told when 15 he had heart disease; goes about fairly well; aged 75. In this and the last there were very marked rasping murmurs.

7. Male; unmarried; very powerful build; was noted for strength all his life; ditcher, pitman, and any hard work; some asthma; active; aged 78.

8. Female; married; fairly hard-working life; rheumatic fever, so-called, several times, every joint each time being affected; colchicum relieves still and salicylates do not; very well; aged 76.

I could easily cite other instances, but these are illustrative.

Rothbury. C. W. LAWSON.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GARTLOCH HOSPITAL FOR MENTAL DISEASES.

SECONDARY PAROTITIS.

(Reported by J. E. MIDDLEMISS, M.R.C.S., L.R.C.P.)

AFTER reading the interesting article by Drs. H. D. Rolleston and M. W. B. Oliver in the JOURNAL of May 29th, p. 1296, entitled, "Secondary Parotitis due to Oral Starvation in the Medical Treatment of Gastric Ulcer," it occurred to me that an account of a case which came under my observation might not be without interest.

The patient, an epileptic, age 47, had been in the status epilepticus fourteen days before the period with which I am dealing. He had recovered from the attack, and was about to resume work when a second series of fits supervened. On March 26th, 1909, during the evening the patient rapidly assumed the epileptic state for the second time. On this occasion he had 102 fits altogether in the space of about three days and then became comatose—this in spite of the usual eliminative treatment, and the administration of full doses of chloral hydrate combined with tincture of digitalis both by mouth and rectum. For the space of four days, including one day during which he was having fits and three days during which he was comatose, he was fed per rectum, and took nothing whatever by the mouth. During this period an attempt was made to keep the mouth moist and clean by means of antiseptic mouth-washes but it was only partially successful. Both lips and teeth were dry, discoloured, and covered with sordes; the breath was foul, and the tongue dry and parched. On April 2nd (four days after the rectal feeding was resorted to) a swelling was noticed on the right side of the face in the region of the parotid gland. This quickly became larger and more tense, and fomentations were applied. Suppuration ensued shortly after, and two days later pus discharged through the external ear. On April 4th a similar condition developed on the left side, and the gland suppurated and discharged in the same way as before. Both abscess cavities were freely drained and syringed with weak carbolic and boracic acid lotions, and the discharge gradually diminished, and finally ceased on April 26th. During the course of the parotitis a somewhat extensive gangrenous patch appeared over the sacral region, although the patient had been most carefully guarded against bed-sores. At the present time he is improving steadily though slowly, and, except for some limitation in the jaw movements and in the protrusion of the tongue, there are no sequelae as a result of the glandular inflammation.

Remarks.

The points of interest in the case are that, in the first place, the parotitis seems to be directly attributable to oral sepsis due to oral starvation, the infection being most probably conveyed along the gland ducts from the mouth. The fact that no nourishment was given by the mouth for four days, that the latter was admittedly in an unhealthy condition, that the affection was bilateral, and that there was no other obvious cause present, and certainly no one of the conditions which are ordinarily said to be associated with secondary parotitis, such as haematemesis, gastric ulcer, the infectious fevers, etc., serves to accentuate the important part played by oral starvation alone in this disease. Finally, it should be mentioned that for a week or ten days after mouth feeding had been resumed the patient evinced an inordinate thirst.

IT is announced that owing to political reasons the medical profession of Roumania will take no part in the proceedings of the International Medical Congress to be held at Budapest.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNAECOLOGICAL SECTION.

Thursday, June 10th, 1909.

DR. HERBERT SPENCER, President, in the Chair.

Red Degeneration.

MR. J. BLAND-SUTTON described a case of red degeneration of a uterine fibroid associated with *S. pyogenes aureus*. The patient, a primigravida, when two months advanced in pregnancy was seized with an acute and sudden abdominal pain. On operation, twenty-four hours later, a large subserous fibroid and several interstitial ones were found and removed, together with the uterus. The larger fibroid presented an area of softening, and the surface over this area was covered with lymph. From this "infarcted area" a pure culture of *S. pyogenes aureus* was obtained. No micro-organisms were detected in the interstitial fibroids, although they exhibited the red change in streaks.

Solid Tumour of the Ovary.

MR. G. F. DARWALL-SMITH recorded the case of a multiparous woman, aged 36, who was found to have a rounded, solid tumour in the right posterior quarter of the pelvis the size of a man's fist. This was removed, and on examination the tissue of the ovary could be seen to be stretched as a capsule over the substance of the tumour proper. The cut surface of the tumour looked like an ovarian fibroma. On microscopical examination, scattered about in the fibrous stroma were seen strands of cells resembling glandular epithelium. Some of these cells showed degenerative changes. The diagnosis seemed to lie between endothelioma and adeno-fibroma. Dr. W. S. A. GRIFFITH mentioned that he had removed a similar tumour of the right ovary with similar microscopical characters. The tumour showed clinically no signs of malignancy.

Chorion Epithelioma.

DR. J. S. FAIRBURN, in a paper on primary chorion epithelioma of the ovary, described a case in a woman who had had four pregnancies, the last in February, 1905, when the placenta was removed by hand, and the convalescence was protracted.

For some months before admission to St. Thomas's Hospital there had been slight but continuous uterine haemorrhage, and for about six weeks abdominal pain, chiefly on the right side. A tender swelling in the abdomen had been noticed by the patient for about three weeks, and was the reason for her seeking advice. This was thought on examination to be an ovarian cyst with torsion of the pedicle, but at the operation on January 3rd, 1907, it was found to be a haemorrhagic tumour of the left ovary with extensive adhesions, but no twisting of the pedicle. It was removed, and also the right ovary, which was cystic and involved in adhesions. The patient showed no signs of recurrence two years after operation. The tumour was of the size of a small cocoanut. It was covered with a white capsule of tunica albuginea, and on section was found to be made up of a mass of haemorrhagic tissue. Microscopically, the main part of the tumour consisted of blood clot, fibrin, and necrotic tissue, but under the capsule, between the ovarian tissue and the mass of clot, were seen the typical syncytial masses with small polyhedral cells of chorion-epitheliomatous growths. No traces of teratomatous elements were found. There was no history to indicate anything of the nature of a cystic mole or of chorion epithelioma elsewhere, and this was taken as sufficient evidence that the growth was solely and primarily one affecting the left ovary.

He suggested three possible explanations of the origin of chorion epithelioma primary in the ovary: (1) It might arise, as in Pick's cases and as in chorion epithelioma in the testicle, from teratomatous elements; (2) it might arise from a preceding ovarian pregnancy; or (3) be due to transportation of villi from a preceding pregnancy, molar or otherwise.

Uterus Didelphys.

DR. BLAIR BELL read a paper on a case of rudimentary uterus didelphys, with ectopia of each uterine body in an inguinal hernia sac. The patient was a woman, aged 20, who had had a double inguinal hernia all her life. Lately there had been attacks of abdominal pain, which caused her to seek advice. She was well developed and intelligent, but monthly molimina had never occurred. The external genitals were normal in appearance and covered with hair. There was total absence of the vagina, but a circular fringe indicated the formation of a hymen. Per rectum no pelvic genital organs could be detected.

MEDICAL SECTION.

Tuesday, June 22nd, 1909.

DR. S. J. GEE, President, in the Chair.

Gastro-intestinal Crises.

DR. G. A. SUTHERLAND, in a paper on gastro-intestinal crises from effusion into the bowel, said that unexplained haemorrhage from the gastro-intestinal tract was not uncommon at all ages, but occurred most frequently in early life. The effusion might be haemorrhagic or serous, the former being usually associated with purpura haemorrhagica, and the latter with some form of angio-neurotic oedema. The symptoms varied in intensity from slight attacks of colic, with or without melaena, to those of acute intestinal obstruction. The essential lesion in the severe cases would appear to be a paralytic obstruction of the bowel wall from effusion into its substance. The pain was due to over-action of the healthy bowel above the site of the lesion. This type of haemorrhage showed a special predilection for the ileo-caecal region. The resemblance between the symptoms of effusion into the bowel wall and intussusception had frequently led to an erroneous diagnosis of the latter condition. An intussusception might occur during an attack of effusion into the bowel wall and as a direct result of the extravasation. This was probably due to the violent peristaltic movements which were excited in the bowel above the paralysed portion, and caused the former to be invaginated into the latter. Many cases of unexplained intussusception might have their primary cause in effusion into the bowel wall which proves the starting point of an invagination. In fatal cases of intestinal effusion there might be found extensive ulceration of the colon due to sloughing of the mucous membrane at the haemorrhagic areas, which were often diffused widely over the bowel. Haemorrhages or serous effusions in other parts of the body than the abdomen were not infrequently found if looked for. MR. ARTHUR EDMUNDS showed drawings of cases, including one of haemorrhagic infusion limited to the appendix, and brought evidence of the spontaneous reduction of an intussusception. MR. HUGH LETT discussed the difficulties of differentiating the cases from intussusception. DR. SUTHERLAND replied.

UNITED SERVICES MEDICAL SOCIETY.—At a meeting on June 9th, Captain E. B. WAGGETT, R.A.M.C.(T.), in a paper on recruiting, suggested that the standards desirable in a small army of picked men, should be modified for a national defensive force. With regard to the minimum number of defective teeth, the standard should be found not in the mouth, but in the general nutrition of the man under civilian conditions. The army ration for home service should be made to fit all comers. Old syphilitic scars should render a candidate "unfit," recrudescence being likely under circumstances of privation. Septic tonsils by a man bordering upon general unfitness should not exclude, granted that he was willing to undergo operation. The removal of this source of local and general sepsis would lead to a remarkable improvement in a man of recruiting age. In the same category should be placed the young man exhibiting the "adult adenoid facies," with its nasal insufficiency and defective chest development.

DIETETIC PREPARATIONS.

Brusson Jeune Diabetic Bread.

THE London agent for the Brusson Jeune Bread asks us to point out that the comparison made between standard bread and the bread of his firm does not take into account the difference in the amount of moisture present; and that if this is allowed, as it should be, the amount of carbohydrate present in Brusson Jeune Bread is about 30 per cent. less than in standard white bread.

Reviews.

THE STUDY OF INHERITANCE.

To those who realize the importance which attaches to the study of hereditary influences in disease the present state of the question must have seemed a trifle disheartening. It is true that the last ten years have witnessed an unexampled output of experimental and statistical memoirs which, in point of learning and acumen, compare favourably with the work of any previous epoch; but it has at the same time been apparent that many of these productions were dominated by a wish to testify for or against some theory of inheritance, that they have displayed the enthusiasm of the advocate rather than the impartiality of a judge. For the student who desired to examine the facts of inheritance free from unconscious theoretical bias information has been hard to attain. Most of the evidence was scattered, and much of it unreliable, and it was, therefore, very desirable that an attempt should be made to collect and standardize existing material for the study of inheritance in man. The qualifications requisite for the due performance of such a task are possessed by but few. To a competent knowledge of the pathology of the disease investigated (we speak naturally of that side of heredity which is of special interest to the professional reader) must be joined patience in following up slender clues and rare powers of separating good from bad evidence. A reader will therefore begin the examination of a work requiring the union of such qualities with misgiving; a perusal of the first two parts of *The Treasury of Human Inheritance*[1] will go some way to reassure him. The present issue comprises eight sets of pedigrees, and the sections are constructed on a uniform plan. We may take as an illustration the portion devoted to chronic hereditary trophoedema, which has been contributed by Dr. William Bulloch. There is, first, an account of the main features of the disease (illustrated by photographs), composed in a style which would have gratified the author of the precept:

> Quicquid praecipies esto brevis, ut cito dicta
> Percipiant animi dociles tenentque fideles.

It is followed by an accurate bibliography. We then have five pages descriptive of those cases which could be thrown into the form of pedigrees. Finally, there is a page engraving of nine pedigrees, one of which includes five generations and nearly a hundred individuals. The pedigrees are beautifully engraved and the signs used clearly explained. All the other sections of the work approximate to the same high standard of merit. We have nowhere found a statement from which it could be inferred that the writer was committed to any particular theory regarding the mechanism of hereditary transmission. If subsequent issues of this *Treasury* maintain the standard reached by the parts before us, we are sure the book will come to be regarded as a monument of scholarship of which Englishmen may justly be proud. Such a work is unlikely to be a great commercial success, and we fear Charles Lamb would have classed it among the books which are no books; but Lewis and Short's Dictionary and the immortal "Liddell and Scott" are in the same condemnation. We have also little doubt that some enthusiasts, forgetting that the problem of inheritance must be viewed steadily and as a whole, will use detached fragments of the evidence to support this or that theory of heredity. However this may be, we find it difficult to express adequately our admiration of the skill and labour displayed by Professor Karl Pearson and his collaborators in the execution of their task. We will merely remark that only those who have themselves carried out bibliographical researches can form a just idea of the amount of time and thought which has gone to the making of this *Treasury*, and that we shall look forward with great interest to subsequent issues.

[1] *The Treasury of Human Inheritance.* Parts I and II. (The diseases included are diabetes insipidus, split-foot, polydactylism, brachydactylism, pulmonary tuberculosis, deaf-muteism, chronic hereditary trophoedema.) London: Dulau and Co. 1909. (Roy. 4to, pp. 50; 13 plates of pedigrees and 3 plates of illustrations. 14s.)

THE CAUSATION AND TREATMENT OF ASTHMA.

ASTHMA, like gout, with which it is sometimes associated, presents endless clinical problems for solution. In a recent work, Dr. MONCORGÉ of Mont Dore has set himself the task of explaining the disease from the standpoint of its causation, regarding the asthmatic seizure as a syndrome and not as a disease in itself.[2]

He complains that this view has not been sufficiently considered by the host of writers on the subject, who have been content to repeat stereotyped theories, and seem to think that the limits of possible knowledge have been reached. His theory is that the asthmatic paroxysm is the result of a twofold influence—the one centripetal, arising in an internal organ or external part, as the result of some outside influence, and passing to the respiratory centre; the other centrifugal, from the nerve centre to the respiratory organs. The centripetal influence is the important factor in so far as curative or preventive treatment is concerned.

Systematic examination of a large number of cases of asthma—and the author tells us that he has made 4,000 observations in the course of the last twenty years—reveals the fact that almost every kind of intoxication from without and every variety of auto-intoxication from within may give rise to asthmatic attacks. The susceptibility of individuals varies remarkably, but a clear association between liability to asthma and to gouty and arthritic manifestations must always be recognized. While it is at all times difficult to be sure of the underlying cause of the attack, no effort should be spared to remove the obviously possible causes, and only a small proportion of cases should remain to be classed as functional.

The recognition of so many possible points of origin should prevent hasty conclusions as to the direct influence of any special lesion, such as a minor abnormality in the nasal passages. It has been too readily assumed that the correction of such obvious defects must have a beneficial effect upon the asthmatic syndrome, but the futility of so many operations, and the contradictory results that have accrued, have shown only too clearly that the nasal lesions are often only a part of the causal influences.

The author examines very closely the relations found to subsist between asthmatic symptoms and general and special diseases, particularly those of the respiratory tract. The influence of tuberculous disease has been sometimes denied and as frequently affirmed by equally skilled authorities, and Dr. Moncorgé is probably correct in steering a middle course. He shows that there is a marked difference in the incidence of asthmatic symptoms at various stages of tuberculous disease of the lungs, and as a result of his study he maintains that the occurrence of asthmatic attacks may be held to favour a hopeful prognosis. A considerable portion of the book is devoted to the important question of treatment, and as a general rule he counsels an active open-air life, with avoidance of coddling and the maintenance of strict hygienic habits. The benefits derivable from suitable climates, and especially from the climate of Mont Dore, are naturally accorded a prominent place. The value of drugs, and especially of potassium iodide, is closely examined, and many useful, practical, and suggestive hints are given. It must, however, be assumed that the patient is in a position to devote himself entirely to the cure of his malady, and but little is said of the unfortunate sufferer who must needs earn his living at the same time. The whole work will be found interesting and useful as opening up a somewhat wider field of thought than has hitherto been traversed by writers on the subject, but it is still manifest that the goal has not been reached.

[2] *L'Asthme (étiologie, pathogénie, et traitement).* By Dr. Moncorgé, Consulting Physician at Mont Dore. Paris: Vigot Frères. 1909. (Med. 8vo, pp. 256, Fr.4.)

DISEASES OF THE LIVER AND BILE DUCTS.

PROFESSOR PEL'S book on diseases of the liver[3] is a genuine and original contribution to the subject based on his own personal experience. He has evidently paid a good deal of attention to liver diseases, and as the Dutch colonies send

[3] *Die Krankheiten der Leber, der Gallenwege und der Pfortader auf grund eigener Beobachtungen.* Bearbeitet von Professor Dr. P. K. Pel, Director der medicinischen Klinik der Universität Amsterdam. Haarlem: De Erven F. Bohn; Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 389. M. 8.)

home to Amsterdam many sufferers from such affections, and Professor Pel has a reputation in this line of practice, he has had special opportunities, and speaks with no little authority, especially on certain forms of disease. He very frankly says that echinococcus is rare in Holland, and that he has seen very little of it, and that primary diseases of the liver are not common in his country, although those of the bile ducts are often seen. He is of opinion that the tropical liver is to be attributed more to the mode of life and want of exercise, to excessive use of food and alcohol, than to the hot climate. Liver abscess is in his opinion caused only by amœbic dysentery and not by the bacillary form, and his experience indicates that it may occur after a very slight attack. He professes himself unable to explain its greater prevalence in males, but are not the factors which he has already instanced as predisposing to liver diseases in hot climates present to a greater extent in men than in women? He holds that in the diagnosis of liver abscess there are three invariable symptoms: (1) General ill health, (2) enlargement of the liver, and (3) pain either in the liver or elsewhere. He refers to difficulty of swallowing as an occasional symptom which has led to a mistaken diagnosis of cancer of the œsophagus. He objects to any exploratory puncture for diagnostic purposes below the ribs, but he is in the habit of exploring with a trocar through the intercostal spaces, directing the instrument towards the left shoulder, and he does not object to an interval after puncture before operation. This essay on liver abscess is especially good. He has had experience of 46 cases, of which 39 were tropical. He holds that a patient who has once suffered from liver abscess should not return to a hot climate, and he advocates opening the abscess with the thermo-cautery in order to diminish haemorrhage from the liver substance. Cirrhosis of the liver is rare in Holland, while contracting kidney is common, and he attributes its rarity to the fact that the "spirit consumed there is so pure," but he has only been able to recognize abuse of spirits as the cause of a third of his cases, and he points out that experiments made by administering alcohol to dogs have not produced cirrhosis of the liver, while, as has also been pointed out by several writers in this country, the heaviest drinkers escape the disease. In the treatment of ascites he favours drawing off the fluid slowly by means of a fine needle, but he supports early and repeated puncture, and is not well disposed towards the Talma-Morison operation. He thinks that syphilitic affections of the liver are more common than is generally supposed, and that they are confounded with cirrhosis on the one hand and cancer on the other, but his diagnosis seems to be based mainly on the success of treatment with mercury and potassium iodide. He believes that gummata are generally situated in the left lobe, and give rise to pain that is worse at night. He does not think that the existence of high temperature and cachexia should be held to exclude syphilis. He gives potassium iodide in large doses, from 1 to 5 grams daily, divided into three or four doses taken in milk at meals. Inunction with mercurial ointment in any case makes the cure more certain, and should be used if the potassium iodide does not rapidly cause improvement. He also recommends the use of the old-fashioned mixture of potassium iodide and mercury biniodide in decoction of sarsaparilla. The chapter on cancer is excellent. He points out that neither youth nor the presence of fever negative the possibility of cancer. Some cases last for many years and show no marked cachexia, while, on the other hand, syphilis, dead hydatid cysts, and cirrhosis may each produce conditions closely resembling cancer. We have read this book with much pleasure, and warmly commend it to all interested in the subject.

From references made in the text, DR. HALE WHITE'S *Common Affections of the Liver*[4] seems to be one of a projected series intended to deal more or less widely with common diseases; thus we are informed (p. 78) that a certain condition "is quite uncommon and belongs to Mr. Bland-Sutton's book in this series, and need not, therefore, be considered here." This way of dealing with a subject is never satisfactory from the reader's point of view, however it may be from that of the publisher. It is also a disadvantage in a book intended for students and young practitioners that the views expressed should not be those generally accepted: it ought at least to be made quite clear that there are other opinions. Thus we are told that all jaundice is obstructive, and that where it is not caused by obstruction in the large ducts it is due to inflammation of the minute bile passages, and other current explanations of non-obstructive jaundice, commonly so called, are omitted; the ascites of cirrhosis of the liver is ascribed to the action of a "lymphogogue" toxin, and this pathological doctrine is supported by the statements that the supervention of ascites is a late symptom which shortly precedes death, and that the patient rarely survives long enough for a second tapping, that swelling of the feet frequently occurs when there is no ascites, or at an early stage before the ascites has produced any pressure in the abdomen, that pleural effusion is common, that haematemesis is an early symptom, and that very few people die of it. Not one of these statements would be accepted by many physicians of large experience. The mechanical obstruction which occurs in cirrhosis of the liver affords a rational explanation of its symptoms, and such a statement as that patients rarely live long enough to survive a second tapping is inconsistent with daily observation, unless we are prepared unreservedly to accept the author's view that the ascites in the cases that survive is due, not to cirrhosis of the liver, but to chronic peritonitis. The author objects to the Talma-Morison operation, but there seems to be no good grounds for throwing doubts upon the diagnosis in the cases in which it has been successful; he says "probably the patient had no cirrhosis" (p. 168), and, again, "but even if some cases have benefited, we must set against the prolongation of their lives the shortened lives of those in whom death followed the operation." Now, according to Dr. Hale White, a patient with cirrhosis of the liver, in whom ascites has developed, is on the verge of death, "the patient will die within two or three months" (p. 158); and as in none of these cases was the operation performed until the ascites had existed for some time, the charge that it shortened life cannot consistently be made by him. On p. 171 and the few following pages there is a good deal about hypertrophic cirrhosis with which we agree, but as the author heads the section Hanot's cirrhosis, it would have been better if he had given Hanot's title "hypertrophic cirrhosis with chronic jaundice" (cirrhose hypertrophique avec ictère chronique); about this there is no ambiguity, and it is not open to the objection he raises. The opinion expressed that the cases which French writers have described as hypertrophic biliary cirrhosis were "really examples of the early stage of ordinary cirrhosis" (p. 171), is very open to question, and we do not think the identification of Banti's disease with splenic anaemia is justified.

DR. RÉNÉ GAULTIER has written a small book on pancreatitis and its relation to calculi of the biliary passages.[5] He distinguishes four clinical types. First, the cases of biliary calculus in which the calculus passes but leaves behind a proliferative pancreatitis which compresses the common duct and causes icterus. Secondly, the cases in which the calculus is arrested in the ampulla of Vater or formed *in situ*, and suppresses the function of the pancreas by compressing the canal of Wirsung. Thirdly, the cases of subacute pancreatitis with haemorrhages and fat necrosis; and, fourthly, the cases of gangrenous and suppurative pancreatitis associated with biliary calculi. The two last are very fatal. The two first tend to pass into a chronic form which destroys the function of the gland. Intervention should be undertaken before this stage is reached. Dr. Gaultier enumerates the following diagnostic points: Pain at the pancreatic point radiating to between the shoulders; frequent vomiting and jaundice, more intermittent than in calculous obstruction: a tumour. He particularizes, however, the information gained by examination of the faeces, and describes a special method. The change in pancreatic disease is in the direction of steatorrhoea and hypostealolysis. If the diagnosis is established, drainage of the bile ducts is called for, and this is only to be interrupted when examination of the

[4] *Common Affections of the Liver.* By W. Hale White, M.D., F.R.C.P. London: James Nisbet and Co., Ltd. 1908. (Cr. 8vo. pp. 310. 4s. 6d.)

[5] *Calculs des voies biliaires et pancréatites. (Les actualités médicales.)* Par Dr. Rene Gaultier. Paris: Baillière et Fils. 1908. (Cr. 8vo. pp. 36, figs. 16. Fr. 1.50.)

faeces shows that the function of the pancreas is restored. The book is well worth perusal, and the method of faecal examination described appears to be capable of affording important information as to the functional activity of the pancreas.

SURGERY OF THE NERVES.

THE monograph by Mr. JAMES SHERREN, on *Injuries of Nerves and their Treatment*[6] is a model of its kind. It is both a concise account of the work of others on this subject and a record of personal observation and experiment. In the first chapter the author classifies nerve injuries, and enumerates the various methods of their production. He then passes to consider the symptoms resulting from complete and incomplete nerve division. Recent work on the distinction of different forms of sensibility, in which Mr. Sherren himself has had no inconsiderable share, is lucidly explained. The chapters on methods of examination and diagnosis describe how a systematic examination should be conducted, and outline the differential diagnosis between nerve injuries and lesions of the spinal cord and roots, hysterical manifestations, and ischaemic contracture. The whole subject is treated in a practical manner, which will appeal to the clinician. Treatment and recovery occupy the next four chapters, and there are many points in them to attract attention. One of the most important is the record of the failure of the method of using nerves from other animals to bridge gaps in cases of human nerve injury. Auto-transplantation or homo-transplantation the author shows to be the method of choice to restore continuity, the operation being most often necessary in cases of injury to the musculo-spiral nerve, in which case a portion of the radial nerve is resected and sutured into the gap. The subject of regeneration is discussed with admirable clearness, and it is shown how the researches of Langley and Anderson account for the differences between the two schools into which investigators are divided, and support the view that no new axis cylinders are formed in the peripheral end of a divided nerve until it again comes into connexion with the central nervous system. The remainder of the volume is devoted to a detailed description of the effects of injuries to special nerves, cranial and spinal. It is well illustrated by diagrams and photographs, and many clinical histories are recounted. The book has no rival in this country on its subject. It is an addition to medical literature of real importance, and deserves the attention of all who may be called upon to diagnose and treat nerve injuries—in other words, of all practising physicians and surgeons.

[6] *Injuries of Nerves and their Treatment.* By James Sherren, F.R.C.S. London: James Nisbet and Co. 1908. (Cr. 8vo, pp. 310, plates xx, figs. 25. 5s.)

THE STORY OF A "CANCER CURE" AND ITS MORAL.

THE following little history is somewhat instructive. Towards the end of last year we were asked to publish a short paper dealing with a method of treating inoperable cases of cancer. It was a chemical method, which made it attractive, and the author—Mr. Jonathan Becker, M.B.Edin., M.R.C.S., L.R.C.P.—was one of those men engaged in contract and Poor Law practice whose efforts in the way of research it is always pleasant to be able to assist. Moreover, the author's claims were very modest. His results seemed to him promising, but only three cases were deemed by him sufficiently authenticated and of sufficiently long standing to be worthy of report. In addition, he gave the formula by which he prepared his solution, and expressed his readiness to supply fellow practitioners disposed to essay his method with any further details which might seem to them desirable. Hence, after ascertaining that there really was fair ground for assuming that the cases were malignant and that some benefit had followed, even if it did not result from the treatment, we published the cases in the JOURNAL of January 30th, 1909.

In the same issue were published other communications likewise dealing with comparatively novel methods of cancer treatment, and possibly on this account the paper in question was not the subject of either comment or expressed criticism so far as our ordinary readers are concerned.

A few weeks later, however, an account of an interview with the author appeared in the *Westminster Gazette* (February 27th); it was contributed by a correspondent, who stated that he had visited Mr. Becker owing to his interest in "results that hinted a very remarkable advance in a direction in which advance had seemed almost unattainable." The correspondent seems to have found Mr. Becker more communicative on the subject than medical men usually are to representatives of the press in regard to professional matters. Again a few weeks passed, and a further reference to the matter appeared in a French lay paper. In this case the writer spoke of almost miraculous cures of cancer regarded as hopeless, and the reader was invited to believe that the value of the discovery of the "jeune savant" was vouched for by the BRITISH MEDICAL JOURNAL as the outcome of prolonged investigation of its merits, and that its publication had given rise to an immense sensation among medical men in this country. This was a signed article. After a third interval attention was again drawn to the "discovery" in an English lay newspaper, this time in letters signed by the "jeune savant" himself. Formerly modest, he was now boastful. In the short intervening period the only three ostensible cures had multiplied themselves by six, and any failures with the method must be due to ignorance and incompetence.

These remarkable epistles, taken in connexion with their forerunners, and containing as they did distinctly misleading suggestions on the subject of cancer in general, were alone sufficient to give the whole affair a somewhat dubious aspect; but meantime other facts of the same order had come to our knowledge. In how many foreign papers notices of the kind already mentioned had appeared we do not know, but in any case the "discovery" appears to have attracted attention on the Continent; and a letter reached us from a foreign medical man asking for assistance in obtaining the further information promised in the article which had appeared in our columns. He had written to our author several times in vain, and he forwarded the answer finally received. Although this foreign medical man reads and writes English perfectly, the answer was in French, and not written by our author, but by some one apparently acting as his secretary. Instead of giving the information sought, it suggested that the patient should be sent to England to be under our author's own care, and as an alternative hinted broadly that a sufficiently large fee might induce him to go and see it in consultation on the Continent. Strangely enough, the signature to this letter was the same as that at the foot of the article in a French newspaper already mentioned, and turns out to be that of a professional lay journalist. There is something decidedly original in employing such a person to conduct correspondence between medical men about a cancer cure of which one of them is the proud parent.

To complete the tale we have to add that all our endeavours to obtain information required having failed, we had the formula given in our author's paper investigated by an expert chemist, who found that no solution of constant composition could be obtained by means of it. We therefore reluctantly conclude that our author has either been working in ignorance on unscientific lines, or is not prepared to reveal the method of preparing his solution to his professional brethren. In either case we desire it to be perfectly well understood, more especially by foreign medical men, that we in nowise vouch for Mr. Jonathan Becker's "discovery." On the contrary, it seems to us highly probable that the value of the latter, if tested in a scientific fashion, would prove to be *nil*, while it is indubitable that Mr. Becker, by allowing his method to be boomed much after the fashion of an ordinary quack cancer cure, has ill requited the hospitality shown him by this JOURNAL, and gravely lessened the chances of his "discovery" being seriously considered by his colleagues.

We think it our duty to the profession to state clearly that our responsibility in this matter extends no further than the publication of an article by a practitioner whose good faith we had no reason to doubt. This was done in pursuance of the policy we feel bound to adopt of publishing the results of any method of treatment of a deadly disease which seems to offer a reasonable prospect of success.

EPSOM COLLEGE.

SIR HENRY MORRIS, Bart., the Treasurer, presided at the fifty-sixth annual general meeting of the Governors of Epsom College on June 25th. Before proceeding with the business of the day, a cordial vote of congratulation to the Chairman on the well-deserved honour of a baronetcy just conferred upon him by His Majesty the King, was moved by Sir CONSTANTINE HOLMAN, seconded by Sir R. DOUGLAS POWELL, Bart., and carried by acclamation.

The SECRETARY read the following result of the voting for pensionerships and foundation scholarships:

PENSIONERS.

Successful Candidates.	Votes.
1. Devlin, Jane	6,896
2. Slesser, Catharine	6,238
3. Barron, Emily	5,234
4. Mitchell, Joan	4,567

FOUNDATION SCHOLARS.

Successful Candidates.	Votes.
1. Corby, Thomas R. B.... ...	8,864
2. Wreford, Oswald H. V. ...	8,050
3. Hartnett, Laurence J. ...	7,437
4. Fuller, Norman W.	7,115
5. Christie, Donald F.	7,091
6. Corry, Daryll C.	6,816
7. Weatherly, Edward F. C. F. ...	5,397

He further reported that as an additional vacancy for a foundation scholarship had occurred since the voting papers were printed, Selwyn B. G. Simons would be admitted a foundation scholar at the council meeting to be held immediately after the annual general meeting.

In the report of the Council to the Governors attention is drawn to the fact that a sum of £5,498 11s. 9d. was spent last year on extending the buildings at Epsom, including £4,614 15s. 3d. on account of the new Markham Skerritt Science Block. The total assured income of the college (including that from the late Dr. Henry Fearnside's estate, which will shortly be handed over to the endowment fund), after deducting interest on mortgages, is under £2,500 a year, whereas the maintenance of the fifty pensionerships and fifty foundation scholarships requires close upon £7,000 annually. As a consequence the difference between these two amounts—namely, £4,500 a year—has to be made up by voluntary contributions. In an appeal recently issued by the honorary treasurer attention was drawn to the fact that whilst the names of 39,827 persons are contained in the *Medical Register*, under 2,200 medical practitioners—that is to say, only one-eighteenth of the profession—were annual subscribers to the foundation. The Council expressed the hope that the mention of this fact will cause many who have not hitherto supported the institution to realize the importance of its work and give it their support. Under the will of the late Miss Annie Graham Sewell, of Tintoch House, Canterbury, one-fifth of the residue of her estate has been left to the college for the purpose of creating pensionerships, preferentially for the widows and spinster daughters of medical men, and the first presentations to the Brodie Sewell pensionerships will be made by her executors. There are at the present time on the books of the college forty-six ordinary pensioners, nine Pugh pensioners, ten France pensioners, fourteen Da Silva pensioners, three Morgan annuitants, five Highett pensioners, of whom two receive £50 a year and three £10 a year, and one R. R. Cheyne annuitant. The four pensioners elected that day brought the number of ordinary pensioners up to fifty. The new building to provide further class-rooms, better accommodation for teaching science, and a room for day boys, which was referred to in the previous annual report, was opened last March. The laboratories, which are to be called permanently the "Markham Skerritt Laboratories," have been well equipped, and will afford efficient means of instruction in physics and biology. The Council has given careful consideration to a scheme for the provision of further buildings, urgently needed in view of the rapid growth of the school, and have accordingly decided to erect a new gymnasium, new music rooms, and a new workshop, and to provide a central heating plant, having sufficient power to heat all the new buildings, together with Granville House, the large school, and the chemical laboratory. These extensions and improvements will probably cost over £8,000, but the Council feel assured that a consistent and definite scheme of extension is the most economical course, and is confident that the future will prove the wisdom of this policy. That the school is growing in importance and popularity may be seen from the fact that there are now 282 boys in the college, whereas in the same term five years ago there were only 235. The stained glass window erected in the college chapel as a memorial to the late Archdeacon Thornton, the first head master of the college, will be unveiled on Founder's Day. The discipline and general work of the school have been excellent. Games have been played with success, and the usual school institutions are flourishing. The rifle corps has been transferred to the new Territorial Force, as a contingent of the Training Corps for Officers, and consequently all efficient members will now earn the Government grant. Since the last report, H. A. Baylis has won an open classical exhibition at Jesus College, Oxford; J. M. L. Bogle an open studentship at Liverpool University; G. K. Bowes a junior studentship for science at Christchurch, Oxford; and C. A. Mallam a classical exhibition at Keble College, Oxford. Ten boys have passed the whole or a part of the Preliminary Scientific Examination for the degree of M.B., B.S. of the University of London; eighteen boys have passed the matriculation examination of the same university; eleven boys have gained the higher certificate of the Oxford and Cambridge Schools Examination Board; and eighteen have gained the lower certificate.

After the report of the Council and the income and expenditure account had been formally adopted, Dr. F. de Havilland Hall was elected a Vice-President of the college, and formal business was transacted. A vote of thanks to the Chairman, moved by the Rev. E. W. Northey, Deputy Chairman of the Council, brought the proceedings to a close.

RESEARCH DEFENCE SOCIETY.

THE annual meeting of the Research Defence Society was held in the rooms of the Royal Society of Medicine on June 25th. Notwithstanding the inclemency of the weather, there was a good attendance. On the platform were the Earl of Cromer, Sir James Dewar, Sir Arthur Conan Doyle, Mr. Stephen Paget, Count Plunkett, Sir James Crichton-Browne, Sir John Tweedy, Dr. Sandwith, and Mr. Frederick Macmillan. Among those present were Sir James Reid, Colonel Gordon, Lady Scott, Mr. Henry Bonham Carter, Lady Dorothy Nevill, Lady Sutton, Sir Alexander Pedler, Lady Stanley of Alderley, Sir Reginald Talbot, and Mrs. Schomberg Byng. Expressions of regret for inability to attend were received, among others, from Sir L. Alma Tadema, Lord Avebury, Lord Barrymore, Lady Bliss, Lady Brudenell Bruce, Lady Buckley, Lord Robert Cecil, Lord Curzon of Kedleston, Lord Faber, Lord Claud Hamilton, the Bishop of Kingston, Colonel Sir Henry Knollys, Sir Trevor Lawrence, Sir Norman Lockyer, Lord Northbrook, Sir Gilbert Parker, Sir Frederick Pollock, Sir William Ramsay, Mr. Briton Riviere, Miss Roget, the Marquis of Sligo, Sir Frederick Treves, the Duke of Wellington, and Lord Stalbridge.

Report of the Committee.

The report of the Committee presented by the Honorary Secretary, Mr. Stephen Paget, stated that the society had made good progress during the foregoing twelve months. At the time of the inaugural meeting last year there were 1,290 members, of whom 123 were ladies. There were now 2,465 members and 61 associates, making a total of 2,526, of whom 361 were ladies.[1] Branches had been formed at Birmingham, Bournemouth, Brighton, Cambridge (University Branch), Dublin, Edinburgh, Glasgow, Liverpool, Manchester, Newcastle, Shrewsbury, Torquay (Devon Branch), and York. Other branches were in course of formation at Oxford, Ryde, and elsewhere. In the United

[1] On June 25th the exact number was 2,390 members and 61 associates, making a total of 2,621, of whom 374 were ladies.

States a system of research defence had been organized in New York, Boston, and elsewhere, after the example of the society. During the year the educational work of the society had been considerable. Besides a great number of letters and articles in newspapers and magazines, various publications had been issued, and a further series of pamphlets was in preparation. Representatives of the society had attended many debates in London and elsewhere, and the results had been very satisfactory. Many sets of pamphlets had been sent to persons wishing to speak in debates. Many lectures had been given, most of them illustrated with lantern slides by Dr. Morgan Jones, Mr. Armit, Major Elliott, Mr. Hodgson, Dr. Duke Turner, and Mr. Stephen Paget. These lectures, with such titles as "Pasteur's Life and Work" or "Some Modern Ways of Fighting Disease," or "What we Owe to Experiments on Animals," have been given at Cambridge, Oxford, Eton, Radley, Dulwich College, King Edward School, Birmingham, Bedford College for Women, London School of Medicine for Women, Royal Naval Academy, Bognor, Chiswick, Ealing, Croydon, Purley, Ilford, Chelmsford, Bournemouth, Shrewsbury, Exeter, York, and elsewhere.

Speeches.

The Earl of Cromer said that any one who reflected on the methods now commonly adopted by those who carried on the work of political propaganda could not but come to the conclusion that the members of the Research Defence Society laboured under some serious disadvantages. They were not sensationalists. Some few years ago the Lord Chief Justice of England stigmatized a notorious antivivisectionist book as "an hysterical work." The members of their society did not suffer from hysteria. He did not know what the medical antithesis of hysteria was, but if there were an expression which conveyed this idea, he would say that it was a quality possessed in an eminent degree by the members of their society. For want of a better and more scientific expression, he would say that he thought they were eminently sane. They could not attempt to emulate, still less to rival, the proceedings of those who thrilled the minds of the public with the imaginary tortures inflicted on a brown dog. They did not plaster the railway stations of the metropolis with caricatures of Mr. Stephen Coleridge and his allies. On the other hand, surely they might appeal to the healthy imaginations of the greater body of their countrymen and countrywomen in the interests of humanity, for he was very strongly of opinion that it was they and not their opponents who were acting in the true interests both of the human and of the animal race. Consider the lifelong, the unselfish, and often wholly unrewarded, labours of that long roll of illustrious men, from Harvey to Pasteur, who, by patient study, careful observation, and the exercise of supreme intellectual powers, had, sometimes at the risk of their own lives, warned death from the doors of numberless homes and had vetoed the separation of husband and wife, mother and child, brother and sister. Why should all sympathy be reserved for the very few members of the brute creation who had been the necessary victims of science, whilst nothing but obloquy was poured on those who, in reluctantly sacrificing victims, had conferred benefits the nature of which it was impossible to exaggerate, not only on the whole human race, but on the animal kingdom. Whilst, however, condemning the methods of some of their opponents, he believed every member of their society fully sympathized with the general objects which they had in view. For his own part, he was glad that antivivisection societies existed. It might be that in some rare instances physiologists, carried away by the excitement of the struggle in which they were engaged, might lose sight of that aspect of the question to which the more moderate members of the antivivisection societies very rightly and naturally wished to draw attention. It was well, therefore, that the physiologist, in conducting his experiments, should always remember that he was acting in the presence of the enemy, and that a number of critics were on the watch who would be little inclined to show him mercy should he inadvertently pass the narrow border-line which separated the infliction of suffering which was justifiable from that which could not be justified. All that could be said on this subject for the purpose of his present argument was that if it was justifiable to inflict death and pain on animals in any circumstances, surely the justification assumed the form of absolute proof when the death or pain was inflicted in the interests of humanity. If any one would take the trouble to read the voluminous evidence presented to the Royal Commission on Vivisection he would find that there was not a single alleged case of extreme and unnecessary cruelty brought forward by the Antivivisection Society which did not hopelessly break down under cross-examination. They did not pretend that suffering, whether by inoculation or vivisection, was not inflicted on animals. What he said was that suffering was reduced to a minimum, and, moreover, that that irreducible minimum was justified by the results obtained. It could be proved up to the hilt that experiments on living animals had prolonged human life and had relieved human suffering. Even a layman could judge of the extraordinary results achieved in a few important cases. The antiseptic method, which had reduced the mortality in lying-in hospitals from as much as 40 per cent. to 0.2 per cent., was the direct outcome of the experimental method. Were the lives of the rabbits sacrificed by Villemin in 1864 and Koch in 1878 to be weighed for one moment in the balance in comparison with the marvellous discoveries in connexion with tuberculosis made by those eminent physiologists? These discoveries had created nothing less than a revolution in social hygiene, and in this country had reduced the mortality on account of this terrible disease to an enormous extent. Moreover, as a consequence Koch was able to discover the substance now called "tuberculin," by the use of which it was possible to ascertain whether cows were tuberculous or the reverse. It would be difficult to exaggerate the importance of this discovery. But perhaps the most striking instance was that of the application of serumtherapy to diphtheria. One had only to study the figures both in London and in Paris to be assured of the fact that since the introduction of antitoxin the mortality through this terrible disease had been enormously reduced. Take, again, the case of Malta fever. As a direct result of the experimental method it had been extinguished. The naval and military hospitals, Sir David Bruce reports, "are almost empty, and the island has become the healthiest of garrisons." Formerly this severe and dangerous disease accounted annually for 75,000 days of illness. The researches of Dr. Simon Flexner and Dr. J. A. Jobling, had enabled the mortality from that terrible complaint, cerebro-spinal meningitis, to be reduced by more than 50 per cent. Did not these striking results speak for themselves? Bacteriologists were constantly being taunted with the fact that they had not yet discovered a cure for that terrible scourge—cancer. Dr. James Ewing, Professor of Pathology at the Cornell University Medical College, speaking on this subject, asked: "What is the reason why medical science has always branded this field as a barren territory? It is because the method of study by means of animal experimentation was not thought applicable to the subject of cancer. Diphtheria has been cured, because we can reproduce the disease in animals, study its progress under controllable conditions, and test for its cure the antitoxic agents prepared according to the accepted theories of the laboratory. None of these methods was thought applicable to the study of cancer." For the last five years the system of animal experimentation had been introduced into this field. Five years, as Dr. Ewing very truly said, was a short period in medical history. It took nearly ten years to perfect the antitoxic treatment of diphtheria, which was a comparatively simple problem. Yet the results so far obtained were by no means unsatisfactory. Professor Ehrlich, the leader of German Cancer Research, held the opinion that "the beginning of the end of the cancer problem is in sight," and added, "How long that end may be delayed will depend much on the attitude of the public towards the experimental method in medical and biological research." It was almost inconceivable that any body of thinking men and women could hesitate for one moment to sacrifice the lives of a certain number of mice, rabbits, and rats, if the least chance existed of eventually finding a remedy for this terrible scourge—a scourge which not only caused death, but killed the victim under conditions of pain infinitely greater than that inflicted by any experimentalist in his

laboratory. Members of their society appealed not to the lovers of sensation but to the humanity and reasoned judgement of the thinking portion of the community, and they believed that that appeal would not be in vain.

SIR JAMES DEWAR, in moving the adoption of the report, held that experimentation on animals was absolutely necessary for the future extension of knowledge.

SIR ARTHUR CONAN DOYLE remarked that it was not science, but only common sense, that was needed to tell a man that the experiments had to be carried out, and the question was whether they should be done upon human beings or upon animals. He referred to a picture exhibited at railway stations in which a melodramatic dog was represented kneeling in front of a "bloody-minded vivisector." When he saw that picture he felt that he should like to possess the original block from which it had been struck. If he possessed it the last thing he would dream of doing would be to destroy it. What he would like to do would be to get a competent artist to finish it as it was in his mind. He would leave the dog, but he would put in a poor mother leaning over her child, who was dying of diphtheria or some preventable disease, and ask, "Which is it to be?" and under that picture he would put three plain questions: First, Which should perish, the higher or lower organization? Secondly, Which is the better—that one should die or that tens of thousands should find a mode of life? Thirdly, Which is better—that one should perish painlessly under chloroform, or that others should die in the agonies of a long-drawn-out disease?

The Hon. WALTER GUINNESS and Professor STARLING also spoke.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual general meeting of the London and Counties Medical Protection Society was held at 31, Craven Street, Strand, on June 23rd. Dr. G. A. HERON, who was in the chair, in moving the adoption of the annual report of the council, which was unanimously passed, referred to the working of the Midwives Act. He said that from correspondence with members of the society it was evident that the reason why the Midwives Act did not work smoothly in many parts of the country was because medical men had found that though midwives were willing to avail themselves of their services, a fee was not forthcoming. In various parts of the country steps were taken to secure payment of these fees. In one district where that was done effectually the medical men concerned had found that their services were utilized by the midwives without any hesitation, but that it was no one's business to pay; the doctors thereupon gave notice to the local authorities that they would not obey the call of the midwives unless payment was guaranteed. The local authorities applied to the Local Government Board, and were told that that Board had nothing to do with the matter. The end of the dispute was that the doctors' combination did not fail; not one of them withdrew from the contest, as so often happened in other cases, the result being that the local authorities were obliged to guarantee payment of fees to the doctors when called in by midwives. Since that time the Act in that particular district had not only worked smoothly but very well indeed. The ensuring of the smooth working of the Midwives Act rested on the goodwill of the medical men, and, provided the matter was put before the local authorities in the proper way, fees would be paid. The Chairman concluded his remarks by congratulating the members on the favourable financial position of the society.

The annual report of the council contained reports of a number of cases in which members had received assistance and advice from the society. In one instance a member of the society attended a number of people brought to him in a motor 'bus belonging to an omnibus company, which had collided with a van, causing injuries to several passengers. The member sent in his account to the omnibus company, but received no reply beyond an acknowledgement. Later on he wrote again to the company, and received a reply saying that the company declined to entertain his claim, and that he must ask the patients to pay his bill; the omnibus company had settled with them. The member was advised that he might succeed against the company, under the circumstances, if he sued it; but that in future he should require a distinct understanding that the company or its official would pay him, before attending to injured persons, from whom payment in many cases could never be obtained. Tram and omnibus companies were in the habit of disowning liability for services rendered at the request of their officials, and medical men ought to refuse to be imposed upon. In another case advice was given to a member in reference to obtaining payment for medical advice to a wife separated from her husband, who had been in receipt of an allowance from her husband until her death. The member was advised that he had no chance of recovering his fees from the husband unless he could prove that the husband was in arrear with the payment of the maintenance allowance to his wife. So long as the parties agreed to live apart on the condition that the husband paid the wife a settled allowance for her maintenance she could have no authority to pledge his credit, even for necessaries, as long as he kept up his payments and carried out his contract. The expenses of the wife's burial were upon a different footing, and it had been laid down in the case of Jenkins *v.* Tucker that the husband was always liable for the cost of burying his wife, whatever her means, and whether they were living together or apart. Under the heading of negligence or unskilfulness a great many instructive cases were given in the report, and one dealing with radium was dealt with in the following way: Payment of a member's account was refused on the ground that his treatment of a boy's face with radium had caused permanent disfigurement. The patient's mother (a widow) was told that the member wished to deal generously with her, if she gave her assurance that she did not impute to him negligence or want of skill in his treatment of her son, although the result of the treatment had not been as good as could have been wished. The required assurance having been given, the member withdrew his claim for the amount due for medical services, and the matter was brought to a friendly conclusion on that basis.

THE value of the screen in the diagnosis of internal diseases is still doubted by many except when the shadows of internal organs can be intensified by bismuth, when the most sceptical probably cease to doubt. A recent discussion at the Berlin Medical Society revealed a good deal of difference of opinion regarding its value in the diagnosis of tuberculous disease of the lungs, although it found a steady advocate in Dr. Max Wolff, who held it to be as valuable as the older physical methods or the tuberculin test. Where auscultation and percussion gave a negative or doubtful result in the first stage of tuberculosis he had found radioscopic examination to show either diminution of the respiratory movements at the apex, or lowering of the affected apex, or loss of transparency of the pulmonary tissue during inspiration, and as the lesion progressed these radioscopic indications were subsequently confirmed by auscultation and percussion. Dr. Goldscheider said that in his own experience he had always found the ordinary physical signs present where the radiographic signs were even less definite than those described by Dr. Max Wolff, except when the lesion consisted of small disseminated foci in the region of the second and third intercostal spaces. Drs. Vaquez and Bordet (*La Semaine Médicale*, May 12th, 1909) claim for radioscopy definite merit in the differential diagnosis of diseases of the heart, especially in mitral stenosis, as the dilatation of the left auricle can be clearly recognized. The shadow of the heart as seen from the front corresponds closely to the limits defined by percussion; but if the thorax is examined obliquely at an angle of 40° to 50°, with one shoulder of the patient against the screen, in the normal thorax a clear space is seen between the shadow of the spine and the heart. But in mitral stenosis with marked dilatation of the auricle this space disappears, or is more or less diminished in breadth. The advantage over percussion is that if the patient has a well-developed thorax with the heart lying some distance from the posterior wall the dullness between the spine and the scapula produced by a dilated auricle may be absent. When dullness is caused by enlarged lymphatic glands the fact can be detected by radioscopy. Application of the method is not without its own difficulties, such a condition as large mammæ in a woman rendering oblique radioscopy impossible or very difficult, and in any case the correct reading of the shadow requires care and practice.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

AT BELFAST, JULY, 1909.



A Guardian of the Peace.

QUEEN'S COLLEGE, Belfast, will be the centre of the Seventy-seventh Annual Meeting of the Association, and in it most of the meetings will be held, all the Sections will meet, and some of the addresses will be delivered.

The college, which has just become an autonomous university, the Queen's University of Belfast, is a handsome building of red brick and freestone, standing in good grounds on the south side of the city, about a mile from Castle Junction, the centre. The history of the college and medical school and the allied hospitals has already been given in articles in the JOURNAL on December 5th, 1908, and January 2nd, 1909.

Since the Association met in Belfast, twenty-five years ago, eight new laboratories and several class-rooms have been added, so that all the Sections can now be conveniently housed in the college. The Council will meet there also, the addresses in Medicine, Surgery, and Obstetrics will be given there, and there the reception rooms and all offices will be found. Adjoining the college grounds is the Exhibition Hall, where the Annual Exhibition of Instruments and Drugs will be held. Less than a mile from the college, and only five minutes by tram, is the Presbyterian Church House and Assembly Hall, in Fisherwick Place, and in this most commodious building the Representative Meeting will take place, as also the General Meetings, President's Address, and Popular Lecture.

The two large general hospitals, the Royal Victoria and the Mater Infirmorum, are situated respectively in Grosvenor Street and the Crumlin Road, each within a mile of the centre of the city. Sketches of these and of the various special hospitals appeared in the JOURNAL for January 2nd.

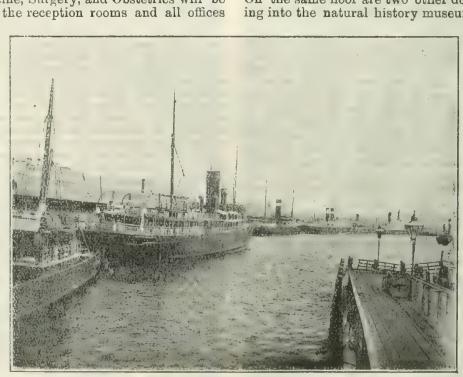
The chief hotels, with the exception of the Station Hotel at the Midland Railway Station, York Road, are close to Castle Junction, within seven minutes of the college by tram, and within five to ten minutes of the railway stations and quays.

GENERAL ARRANGEMENTS.

Every effort has been made to give plenty of room, not only in the Sectional Meetings but outside them also, and specially in the reception, reading, writing, and smoking rooms, and in the rooms for ladies.

On entering the main door of the college, one finds oneself in the entrance-hall, with the bookstall for the sale of daily papers, etc., opposite one, and on each side of it doors into the cloisters. Immediately to the right is the porter's lodge, with telephone, and to the left is the typewriting room. Turning to the right, one passes between the lodge and the stairway to various rooms mentioned later and enters the great hall. In this hall are the counters for registration, the issue of tickets for entertainments, excursions, etc., the post office, and a travel bureau worked by Messrs. Thomas Cook and Sons to aid members in planning tours. Then at the upper end of the hall, under the organ, are tables and chairs where members may await friends or read the daily papers. On one side of the hall is a door opening on to the south cloister, and at the end of this cloister are the rooms where the Sections for Navy and Army and for Diseases of Children will meet, and the back entrance to the ladies' rooms, which also open to the south front of the college.

Coming back to the stairway off the entrance-hall and ascending it, we reach first the Honorary Local Secretaries' office, where some one will always be in waiting to give help where needed; and from this floor there is an entrance to the tower—worth ascending on a fine day, for the sake of the view of the city and surrounding country. On the same floor are two other doors—a large one opening into the natural history museum, and one on the right leading to the biological laboratories. These laboratories are on two floors; the first will be the reading and writing room (where silence is to be observed), and in the second, which is in several sections, various offices will be provided for officials.



Belfast Harbour.

On the north cloister are to be found the Sections of Dermatology, Tropical Diseases, Public Health, Obstetrics and Gynaecology, Psychological Medicine, and Pharmacology, and at the end of the cloister is the smoking-room. Beyond the north cloister a new wing of the main building runs out (housing the engineering department), and in it will be found the Medical Secretary's office and gentlemen's cloak rooms and lavatories.

As one stands on the cloisters and looks out to the east two blocks of buildings are seen, an old and a new. The old is the main medical building, and in it are the Sections of Surgery, Laryngology, and the new Section of Haematology and Vaccine Therapy, and also the Pathological Museum, which will occupy the Medical Museum and the dissecting room. The other building seen to the left of this is the block which houses the chemical, physiological, and pathological departments of

the university. The first door in this block leads to the room for the secretaries of Sections and to the Medical Libraries Association's exhibit, both on the ground floor; while upstairs are various offices. The second door leads to a large lecture room, where the Section of Medicine will meet; the third door leads to the Section of Anatomy and Physiology on the ground floor, and the Section of Pathology upstairs. The fourth door leads to the Section of Ophthalmology.

Between the main building and the block just described is an arched gateway, beyond which, in a separate building, is the University Library, and here the Council will meet in the mornings, and later in the day the addresses will be delivered.

Beyond the library a gate leads out of the college grounds into University Square, which in the last few years has come to be the medical centre of the city. At the north-east corner of the grounds, looking on to University Square, is another detached building, the Students' Union, which will be the centre of the catering department. There will be a luncheon tent beside it, and in the Union tea and light refreshments will be served.

The Annual Exhibition of Instruments and Drugs will be held in the Exhibition Hall, at the south-east corner of the college grounds, and reached from the main building by the path running past the right-hand side of the medical building.



The Keel of a Fifty Thousand Ton Steamer, Messrs. Harland and Wolff's.

The Representative Meetings, the General Meetings, the President's Address, and the Popular Lecture will all be in the Assembly Hall in Fisherwick Place, as already noted. This fine hall has ample accommodation for committees, etc., as well as for large meetings, and is most conveniently situated, close to the Great Northern Railway Station, and within less than five minutes' tram run alike of the centre of the city and of the college. All trams marked "via Great Victoria Street" pass it, as do also Springfield Road trams, and those marked "via Bedford Street" pass within one minute's walk of it. From the college any tram running into town may be taken, and from Castle Junction, the centre of the city, there is a choice of five different trams passing by or close to it.



A Launch at Messrs. Harland and Wolff's.

Club Privileges.

The Committees of the Union and Reform Clubs have kindly arranged to make all members of the Association honorary members during the time of the meeting, with the usual proviso that they reside at least fifteen miles from Belfast.

Boating.

The Belfast Boat Club, which has a commodious club-house on the River Lagan, within a mile of the college, has arranged to make all members of the Association honorary members during the meeting.

ROUTES TO BELFAST.

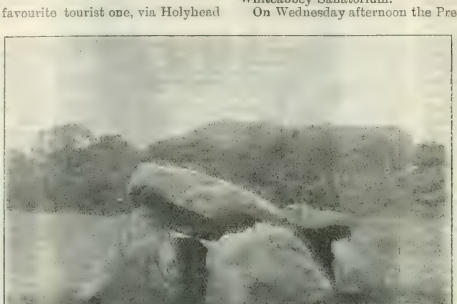
Some information on this head has already been given in the JOURNAL (1908, vol. ii, p. 1690), but it may be useful to recapitulate. There are six different routes commonly used in reaching Belfast from Great Britain, three being direct sailings to Belfast, and three being to other Irish ports, involving a railway journey after landing. The choice will depend on the point from which the start is made, some routes being more convenient for some districts than others, and also on the views of the passenger as regards the sea, for some routes involve a longer sea journey than others. The three direct routes are from Liverpool, Fleetwood, and Heysham, all served by dining-car trains leaving London at 5.30 to 6 o'clock. The boats sail before midnight, and reach Belfast at about 6 a.m. the next morning. The Fleetwood route is served specially by the London and North-Western and by the Lancashire and Yorkshire railways, the Heysham route by the Midland railway, and the Liverpool route by all lines having termini in that city. As regards comfort there is practically nothing to choose between them; all have large, fast boats, and a sea passage of six to eight hours.

Those who dislike the sea, and prefer a land journey, or who like to travel by day, are advised to choose the route by Stranraer and Larne, by which there is a double service each way daily in summer. Leaving Euston at 10 a.m. by dining-car train via Carlisle and Dumfries, a most picturesque run after passing Preston, the boat is taken at Stranraer for the two hours' crossing, half an hour of which is in the sheltered waters of Loch Ryan. On landing at Larne, a small port in County Antrim, there is a run of thirty-five minutes by rail to Belfast, which is reached at 10 p.m.; or, leaving Euston at 8 p.m., and travelling by sleeping car if one chooses, Belfast is reached at 8.35 a.m. The daylight service is particularly suitable for the north of England and the south of Scotland, as by leaving Edinburgh or Glasgow in the afternoon Belfast is reached at 10 p.m.

Another short sea route is via Holyhead and Kingstown, which is the mail route, with very fine boats. The sea passage is about three hours, and the railway journey to Belfast about three more; there is a daylight as well as a night service. This route and the next mentioned are served specially by the London and North-Western railway, which enjoys a monopoly of the Holyhead train service.

The last route is a favourite tourist one, via Holyhead and Greenore; leaving London (Euston) at 7.30 p.m. and travelling by dining car to Holyhead, there is a sea crossing of about four and a half or five hours, and the passenger lands at the picturesque port of Greenore, in County Louth, whence it is a run of an hour and a half to Belfast.

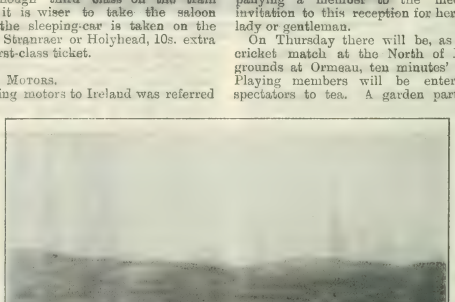
The fares by all three direct routes, and by Greenore, are the same, while by Stranraer and by Kingstown they are a little higher, the difference in a London ticket being about 10s. third class and saloon return and 15s. first class. It may be remarked here that though third class on the train is quite comfortable, it is wiser to take the saloon ticket on the boat. If the sleeping-car is taken on the night journey either to Stranraer or Holyhead, 10s. extra is paid each way on a first-class ticket.



Cromleach or Druid's Altar, Giant's Ring, near Belfast.

Motors.

The question of bringing motors to Ireland was referred to at some length in an article on "Touring and Sport in Ireland" in the Journal for June 12th. Briefly, it may be said that the tariff on the cross-channel steamers is very moderate, and that motors are well cared for and carefully handled on all of them. Through the country generally there is ample supply of petrol, good garage, and facilities for repairs.



Cottage on Cave Hill, Belfast.

Entertainments.

Members attending the Belfast meeting will have no lack of occupation in the afternoons, as a full programme has been arranged from Tuesday to Friday. The details as to hours, etc., are published in the Supplement, and the latest information will be found from day to day in the *Daily Journal*, but a preliminary sketch of what there is for the members to choose from in the way of entertainment may interest some.

Each afternoon there will be visits to various industrial concerns, and members will be able to see in operation the trades that have made Belfast famous and prosperous—linen manufacture and shipbuilding, and others which add to the prosperity of the city, such as rope making, tobacco manufacture, and distilling. On Tuesday afternoon there will be an excursion by steamer to the harbour and docks, and the Chairman of the Harbour Commissioners will give tea on board. The same afternoon there will be a reception at the Mater Infirmorum Hospital, and another at the Whiteabbey Sanatorium.

On Wednesday afternoon the President and Lady Whitla will entertain the members at a garden party at Lennoxvale House, the beautiful grounds of which will accommodate a large number of guests. It is only ten minutes' walk from the college. On Wednesday evening the annual dinner will be held in the Ulster Hall, and during it the local members will give a ladies' reception in the Opera House, when two plays will be performed by the talented members of the Ulster Literary Theatre, and visitors will enjoy a lifelike picture of the farming classes of Ulster. Every lady who is registered as accompanying a member to the meeting will receive an invitation to this reception for herself and a friend, either lady or gentleman.

On Thursday there will be, as already announced, a cricket match at the North of Ireland Cricket Club's grounds at Ormeau, ten minutes' walk from the college. Playing members will be entertained to lunch, and spectators to tea. A garden party will be given that afternoon by Sir Thomas and Lady Dixon at Hillsborough Castle, reached by train from the Great Northern Railway station in twenty-five minutes. Also on Thursday afternoon there will be a reception at the Royal Victoria Hospital, given by the Chairman of the Board of Management, when members will have an opportunity of seeing through this fine building. On the same afternoon there will be a drive through some very picturesque country near Belfast, visiting the Forster Green Hospital and Sanatorium, Belvoir Park, where Mrs. Walter Wilson will entertain the members to tea, and her son will show the model dairy, after which the drive will be continued to the Municipal Fever Hospital at Purdysburn, a fine hospital built on the most recent lines, and thence back to the college.

On Thursday evening the Lord Mayor will give a reception in the City Hall, and members will have the pleasure of seeing this really splendid building at its best, lit with a

blaze of electric light, and filled with guests. It is particularly requested that academic dress or uniform will be worn at this as well as the Friday evening reception.

On Friday there will be the golf match at Newcastle, County Down, for the Belfast Cup presented by the Ulster Medical Society, and described and pictured in the JOURNAL for June 12th, p. 1426. Competing members will be entertained to lunch and tea at the club house. On the same day a garden party will be given by the Royal North of Ireland Yacht Club at their club house at Cultra, on the shore of Belfast Lough, with races for members, as noted below. There will also be a garden party at Cabin Hill, Knock, given by Mr. R. J. McMordie; this is easily reached by tramcar.

On Friday evening the President and members of the Ulster Branch will entertain the Association at a garden party in the botanic gardens adjoining the college. The grounds and beautiful fernery will be illuminated, and there will be ample accommodation in tents and conservatories in case the evening should be wet.

All the golf courses in the neighbourhood will be open to members every day during the meeting, as will also the ground of the Belfast Bowling Club, just beside the college, and members wishing to avail themselves of any of these, or to have a day's trout fishing on some of the numerous streams of Antrim or Down are invited to apply to the Honorary Local Secretaries, who will put them in the way of getting what they want.

The member who has attended the Sectional Meetings and has gone the round of the entertainments will probably agree with us if we prescribe "rest and change of air" for him, and a short account of where these may best be obtained will be useful.



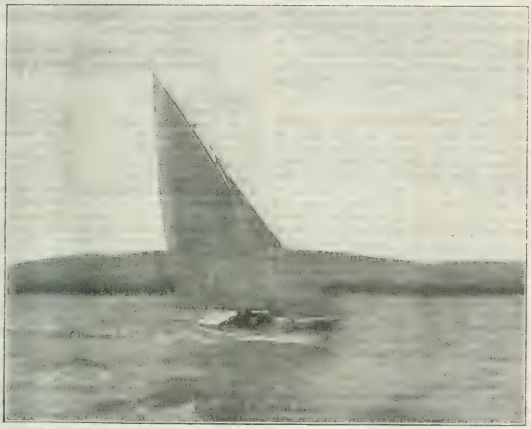
The Cliff Path, the Gobbins, County Antrim.

THE TRAM SERVICE AND SHORT EXCURSIONS.

Belfast is blessed with an excellent service of electric trams—quick, clean, and cheap. The meeting point of all the lines is Castle Junction, where Donegall Place, Castle Place, and Royal Avenue meet, and which is one minute's walk from the Grand Central and Royal Avenue Hotels. From here a penny fare takes one about a mile and a half out, while a twopenny fare takes one in any car from end to end of the line, as far as it goes—in some cases about six miles—but without any transfer to other routes. The cars from the Junction which pass the college are those to Stranmillis and Malone Road, some going via Great Victoria Street and some via Bedford Street, the two lines meeting before they reach the college.

Belfast is situated at the head of Belfast Lough, at the opening of the valley of the River Lagan, between two ranges of hills, so is happy in the possession of very beautiful surroundings, and any visitor who cares for scenery should certainly explore these to some extent. A general idea of the situation of the city may be had from the tower of Queen's College or from the roof of Messrs. Robinson and Cleaver's premises in Donegall Place, which are freely opened to visitors. Almost any tram line will take one to pleasant country, but several runs are to be specially recommended.

Ligoniel is a manufacturing village high on the slopes of the hills to the west of the city, and is reached by a tram which passes the college every ten minutes. After passing through the centre of the city, the line traverses a dull working-class district, then comes out on a well-wooded road, with beautiful views of the hills on the left. When Ligoniel is reached, one may walk through the village up a steep hill, and on attaining the top, about half an hour's stiff pull, one has a fine view of Lough Neagh, the largest fresh-water lake in the United Kingdom. Or one may avoid the village, alighting from the tram at the corner, where it turns up the village street, and walk by the Horse Shoe Road, turning off it to the right after passing the water reservoir, about a mile or less out, and so easily reach the Cave Hill, from the top of which a splendid view of the city and Belfast Lough is enjoyed, and on a clear day the Scottish coast and the Isle of Man are easily seen.



Belfast Lough "One Design" Boat, Class 3.

The *Antrim Road* tram runs out to the base of the Cave Hill, and is continued by the Glengormley tram, running round the base of the hill several miles into the country, with pretty view of the lough.

The *Falls Road* tram runs out to the foot of the hills also, but to the south-west. Any one wanting fresh air cannot do better than take this tram to the Falls Park, and walk up to the top of the park, less than a mile. A fine view of the city and neighbourhood is got, and the Mourne Mountains, the highest hills in Ulster, are seen to the south east.

The *Malone Road* tram, which runs past the college to the left, takes one in a few minutes to a very picturesque stretch of country. Just beyond the end of the tram line one has a fine view over the Lagan Valley, and if one continues up the road for about three-quarters of a mile (taking the left-hand road, marked "Comber" at the fork), one crosses the river into County Down, getting a beautiful view from the bridge, with the river in the foreground and the Cave Hill in the distance. About a mile further on, turning to the right after crossing the bridge, is the Giant's Ring, which should certainly be visited. For those who do not care to walk, an excursion to it by car makes a very pleasant two hours' drive, giving time to explore this interesting place. There is a fine cromleach or Druidical altar, surrounded by a great earthen rampart or ring with several nicks or indentations in its edge, one of which shows just to the left of the stones in the photograph. These indentations were probably connected with observations of the rising and setting of the heavenly bodies, by which the Druidical rites were timed.

Whitehead and the Gobbins.

There are two very delightful seaside walks on the County Antrim coast, at the opening of Belfast Lough, either of which may be taken in a morning or afternoon —Whitehead and the Gobbins. Both are reached by the Midland Railway from York Road Station, the former to Whitehead Station in half an hour, the latter to Ballycarry Station in five minutes more. In both cases the walk is about three miles, but the Gobbins also involves a three miles' drive from the station to the far end of the path, whereas at Whitehead one walks the whole way, beginning and ending at the station. The railway company has smoothed the paths and carried them by light bridges over otherwise impassable chasms in the rocks. It is hard to choose between the two excursions, but Whitehead is a little the easier path and needs less time, while the Gobbins takes one through more beautiful country, is wilder, and more out of the world.

Grey Abbey.

The road to Grey Abbey is a favourite one with cyclists and motorists, being, like other roads in that part of County Down, particularly good. One may also reach it by taking train to Newtownards (County Down Railway), a flourishing little town eight miles from Belfast, at the head of Strangford Lough. It is one of the centres of cottage industries, and many of the inhabitants are engaged in handloom weaving of hospital quilts. Dominating the little town is Scrabo Hill, crowned by a tower, and in the face of the hill are the quarries from which much of the stone used for public buildings in Belfast has been hewn. From Newtownards the road runs six miles down the east shore of Strangford Lough, passing Mountstewart, the fine seat of the Marquis of Londonderry. At Grey Abbey is a picturesque old ruin, much prized in Ulster, where such ruins are rare, though very meagre compared with the ruins of many English abbeys. It was a Cistercian abbey, founded in 1193 by the wife of John de Courci.

Cultra and Belfast Lough.

The shores of Belfast Lough are plentifully sprinkled with villages and small towns, most of which are practically suburbs of the city. Those on the north shore are reached by the Midland Railway from York Road Station, and among them is the historic town of Carrickfergus, which gave the name of Carrickfergus Bay to Belfast Lough long before Belfast was heard of. It still boasts its picturesque old castle, and its church with monuments of the Chichester family, once all-powerful in Ulster. Beyond Carrickfergus are Whitehead and the Gobbins, already referred to.

The south shore of the lough, reached by the County Down Railway from the County Down side of the harbour, is much more thickly populated, and shows a succession of villages, villas, and mansions from the outskirts of the city to Bangor, twelve miles off. About halfway down is Cultra, where is situated the head quarters of the Royal North of Ireland Yacht Club. This is the great centre of small-boat sailing—meaning by small boats those managed entirely by amateur sailors without professional aid. Races are held nearly every Saturday during the season for "one design" classes, all the boats in a class being of similar design, so that the result of the race depends only on the skill of the crew. Among the regular sailing members of the club are a number of medical men, and they have arranged the garden party referred to above, and races for visitors. Members of the Association who would like to sail a boat in one of these races are asked to send their names to the Honorary Local Secretaries before the meeting, and arrangements will be made for their accommodation, as far as numbers will allow. There is a fleet of some fifteen boats in Classes 2 and 3 of the "Belfast Lough One Design" boats, which will be placed at the disposal of visitors on Friday afternoon, and given fine weather the function ought to be both pleasant and picturesque.

It only remains to add that every member of the British Medical Association who comes to the Belfast meeting will receive a hearty Irish welcome.

RAILWAY FACILITIES.

Members wishing to take advantage of the special concessions granted to the Association by the railway companies should be careful to fill up and forward to the address shown the notification of their intention to be present in Belfast, which was published in the JOURNAL of June 19th, p. 1523, and is republished this week in the advertisement sheets (p. 9). The railway voucher or vouchers will then be issued to the applicant from the central office. The special terms arranged this year are unusually favourable, as a return ticket issued at the rate of a single fare and a quarter will be available from Thursday, July 22nd, the day before the Annual Representative Meeting, until the end of August.

THE PATHOLOGICAL MUSEUM.

THE following Committee has been appointed to organize the pathological museum:

President: Professor W. ST. CLAIR SYMMERS.
Honorary Secretaries: THOMAS HOUSTON, M.D.; W. J. WILSON, M.D.

J. S. DICKIE, M.B.
ROWLAND HILL, M.B.
C. G. LOWRY, M.D.
J. E. MACILWAINE, M.D.
JOHN M'LEISH, M.B.
W. J. MAGUIRE, M.D.
J. C. RANKIN, M.D.
FRED. SMYTH, M.D.
ERNEST WALES, M.D.
J. SINGLETON DARLING, M.D. (Lurgan).
C. H. P. D. GRAVES, M.D. (Cookstown).
Professor MCWEENEY (Dublin).
Professor MOORE (Cork).
C. H. NESBITT, M.D. (Randalstown).
Professor O'SULLIVAN (Dublin).
R. T. ROWLETTE, M.D. (Dublin).
Professor WHITE (Dublin).
JOHN WILSON, M.D. (Castlebayney).

EX-OFFICIO MEMBERS.

The President-elect: Sir WILLIAM WHITLA, M.D., LL.D.
The Local Honorary Treasurer: JOSEPH NELSON, M.D.
The Local Honorary Secretaries: H. L. MCKISACK, M.D.; C. E. SHAW, M.D.; HOWARD STEVENSON, F.R.C.S.I.

The Committee propose that the material should be arranged under the following heads:

I. Exhibits bearing on discussions and papers in the various sections.
II. Specimens and illustrations relating to any research work.
III. Instruments relating to clinical diagnosis and pathological investigation.
IV. Individual specimens of special interest, or a series illustrating some special subject.

It is also proposed to make a special effort to gather together a series of exhibits relating to:

(*a*) Tuberculosis.
(*b*) Diseases of warm climates.
(*c*) Cancer of the uterus.
(*d*) X-rays and photography.

THOMAS HOUSTON,
W. J. WILSON,
Honorary Secretaries.

Communications should be addressed to one of the Honorary Secretaries at Queen's University, Belfast.

THE ROYAL COMMISSION ON THE POOR LAW AND THE RELIEF OF DISTRESS.

MEMORANDUMS.

By Dr. Downes.

Of the eighteen members of the Poor Law Commission fourteen signed the Majority Report and four the Minority Report, while five of those who signed the Majority Report have thought it necessary to issue memorandums in which they express special views. One of the most important of these is the memorandum signed by Dr. Downes, Senior Medical Inspector for Poor Law purposes to the Local Government Board for England. He commences by saying:

I have signed the Majority Report because I desire to support the principle that public relief in every form should be administered and controlled by one local authority in each area. The control of assistance from public funds is a foremost function of government, but it is not one which the people of this country would willingly surrender to a regime of officialism, however this may commend itself to the ultimate aims which have inspired the Minority Report.

But I regret that I must dissent from the scheme of administration proposed in the Majority Report. I view with grave misgivings the wholesale and imminent disruption of existing agencies and the transference of the work of relief to a complicated, untried, and, as I venture to think, unworkable system of machinery with manifold and inherent dangers.

Dr. Downes admits that the present elective basis of our local government in some places has neither secured efficiency, nor prevented corruption, nor fairly represented all interests, nor enlisted the services of many well-qualified workers. Still he thinks these defects could be remedied without sweeping away all directly-elected representation, a course contrary to our national instinct, the necessity for which is not proved. He considers that many of the conditions of outdoor paupers are due not so much to faults of the administration of Poor Law relief, as to shortcomings of education, sanitation, and housing. He regrets that there has not been a fuller recognition of the work done by guardians in the reports; for instance, on the subject of classification of inmates, he points out that of the indoor poor in the country, exclusive of lunatics and casuals, 38 per cent. are provided for in specialized institutions apart from workhouses, and in London over 50 per cent., and there may be some danger of hardship if classification is carried too far, as, for instance, unnecessary breaking up of families. Of the children in receipt of relief, not 7 per cent. are housed in workhouses proper. He points to the satisfactory fact that the number of paid nurses for the sick indoor poor has risen from 200 in 1838 to over 6,000 in 1908, while the beds in the Poor Law infirmaries of London nearly equal those of all the general hospitals in the whole country. Moreover, in spite of the statements about the deterrent effect of the Poor Law, he shows that the public highly appreciate the Poor Law infirmaries, as is proved by the fact that the proportion of the total deaths in London that occur in Poor Law institutions has risen from 12·3 per cent. in 1890 to 20·5 per cent. in 1907.

Referring to the defects on which the sweeping changes advocated in the Majority Report are based, he says:

My experience convinces me that there is not one which could not be met, and I venture to say better met, by a revision, a strengthening, and an extension of existing powers on lines already established.

Referring to the proposed adoption of the county or county borough as the future area of local administration for Poor Law purposes. Dr. Downes is convinced that the amount of readjustment necessary would be so great as to make such a change extremely difficult, and even then no finality would be secured, for as urban districts grew into boroughs, and these into county boroughs, further adjustments would be constantly needed, which would become more and more difficult as the county institutional service became more complete. There are even cases where the area would be reduced, and grouping of county or county borough areas would be practically impossible. In place of this Dr. Downes's own proposal is as follows:

From all these objections a policy of grouping or amalgamating existing unions would be largely free. The adjustment of properties and liabilities would be comparatively simple. The plan could look forward to, and automatically provide for, the future; existing machinery would be available, and could be used for all it was worth. And in this connexion the question of existing officers should not be forgotten. The scheme before the Commissioners does not fully deal with this, and no estimate of possible cost of compensation for loss of office is given.

It is pointed out that in the rural districts pauperism is largely an affair of old age, which the Old Age Pensions Act will greatly relieve, leaving no necessity for any radical changes, while in London and urban centres the enormous increase in adult and able-bodied pauperism makes the position so serious that reform should certainly begin there.

There are further reasons for opposing any step which tends to municipalize the administration of public relief under the existing conditions of municipal government in this country, conditions which are devoid of essential safeguards, and are fundamentally different from those of Continental cities, a point which appears to be too often forgotten.

Dr. Downes maintains that a strong control of public relief is a vital necessity, and that it should be in the hands of one authority.

But I hold that that authority should be directly constituted for its special purpose; its functions are too great to warrant its attachment as an appendage to a borough council. . . . The great county or county borough councils are already overburdened with duties. . . . Any idea that the scheme would promote co-operation of departments—public health, education, works, relief—I believe to be illusory and dangerous. . . .

I should favour, then, for London a scheme under which a relief authority should be constituted for its set purpose, partly elected, partly nominated, with an administrative area which could, if and when thought fit, be extended to include the fringe of London. . . . I see no reason why a similar machinery should not in turn be applicable to great urban areas elsewhere, each area being built up of existing units of Poor Law administration, according to their community of social and industrial interests.

It has been calculated that in this way 154 urban unions could be dealt with, containing two-thirds of the population of the country, while the remaining 491 unions which are mostly rural could be left undisturbed, except for some adjustment in numbers of guardians and the adoption of representative nomination or by some grouping. Such an organized administration could then take over the lunatic asylums and fever hospitals, which are essentially instruments of public relief.

As regards medical relief, Dr. Downes thinks that the Majority scheme is too complicated and too dependent on agencies beyond the control of the Poor Law; that much depends on the action of the voluntary hospitals; that Poor Law relief needs settling first, and that the alignment of other agencies should follow. The following remarks are important:

The building-up of the provident dispensaries, their relation to the voluntary hospitals, the reciprocity of each with any system of public medical relief, and the ever-increasing public demands upon the services of the medical profession, involve problems which should, I submit, be considered by some body more representative of the interests concerned and more directly equipped to deal with detailed difficulties than the present Commission. The scheme set out in the report appears to me to offer what amounts to a large measure of free medical relief without adequate safeguard either to the medical profession generally or to the ratepayer. Provident dispensaries established by the enrolment of paupers and subsidized by the rates would, I fear, become provident in name only, and the offer or inducement of free institutional relief to any member of these dispensaries is one which in my judgement could not be met until the available accommodation for the sick has been largely augmented. The margin of spare accommodation at present lies in remote country workhouses, and not in the infirmaries of the urban centres of demand. This offer of free institutional relief implies also, but does not ensure, a settled scheme of reciprocity between the voluntary and the rate-supported hospitals. Unless this is done, the Poor Law, in order to fulfil the obligation incurred, would be compelled to establish a costly system of specialized hospitals parallel to and competing with the voluntary institutions.

The memorandum goes on to say that for that class which is not generally dependent on the rates but cannot afford to pay for costly surgery, though willing to pay according to its means, the difficulty will be solved partly by increased accommodation, partly by insurance, and partly by reciprocity between voluntary and rate-supported hospitals; at present the pauper is really better off than this class. Meanwhile the grouping of existing Poor Law units would give wider choice of institutions and facilitate classification of the sick; at the proper time it would be

easy to co-operate with voluntary agencies. Co-operation with the sanitary service could readily be developed, but it must be remembered that—

The separate functions of the two services are quite definite, and any amalgamation of them, such as is suggested in the Minority Report, would, in my judgement—and I have had experience of both—be detrimental and contrary to the public interest.

Dr. Downes thinks that distranchisement should be reserved for certain cases—for example, persons able to pay but failing to repay for institutional relief. He further thinks that the cost of infirmary construction and administration and the standard of equipment should be inquired into by a Departmental Committee.

Dr. Downes considers want of employment the most pressing subject, and the delay in dealing with it which would result from the breaking up of existing machinery would be most injurious. It needs no great enlargement of present powers to deal with this, but the effectual severance of the idle and vicious from the industrious can only be enforced if relief is in the hands of one authority. Strong dissent is expressed from the proposal that local authorities should provide special work in times of depression, as the machinery of the authority ought to be so constituted as to suffice, with provision for the use of spare accommodation in other localities.

The memorandum concludes with an expression of regret that financial considerations have not been fully dealt with, as the proposals of either report must involve an immediate and unknown outlay of public money.

By Miss Octavia Hill.

Miss Octavia Hill, in a memorandum appended to the Majority Report, says that she signed the Majority Report because she agreed in the main with its proposals, but she differs in the following points:

A statutory committee of the County Council appears to me to be open to the following objections:

1. It tends to the municipalization of the Poor Law.
2. It is comparatively untried machinery.
3. It is, at best, composed mainly of those elected for other duties, and already over-weighted with work.

I should have recommended an *ad hoc* authority elected from an enlarged area, and with a strong nominated or co-opted element. . . .

The scheme for medical relief sketched in the report is not, in my opinion, workable; moreover, it opens the door too widely to free medical relief.

By Mr. C. S. Loch and Mrs. Bosanquet.

Mr. C. S. Loch and Mrs. Bosanquet also signed the Majority Report, but issue a joint memorandum dealing principally with the provisions for exceptional distress; while agreeing with the principle of there being only one relief authority, they "are strongly of opinion that the treatment of distress, exceptional or other, should be entirely dissociated from the municipalities and from municipal employment."

By Mr. T. Hancock Nunn.

Mr. T. Hancock Nunn issues a long memorandum as to the functions and constitution of the new Public Assistance Authority and its local committees. He agrees in the main with the Majority Report, and enters into details of the Hampstead system of co-operation by means of a Council of Social Welfare. The main object of the memorandum is to suggest a method of co-operation between the Public Assistance Authority and all the public, endowed, voluntary, and friendly bodies working in its area for the social betterment of the people.

Infant Mortality in Workhouses.

In view of the statements which have been made with regard to the mortality among infants in workhouses both in the lying-in wards and afterwards, Dr. A. E. Dodson, Medical Officer of the Wandsworth Union, has, in a report to the guardians, abstracted from his records particulars from January 1st, 1892, to December 31st, 1908, relating to the lying-in ward of the workhouse. He finds that during that period 2,414 births took place, of which 615 were legitimate and 1,799 illegitimate. The deaths during the first week were as follows:

Under 1 day old	...	29	Under 5 days old		...	3
,, 2 days old	...	12	,, 6 ,,		...	2
,, 3 ,,	...	9	,, 7 ,,		...	3
,, ,,	...	2				

The total 60 was equivalent to a rate of 24.8 per 1,000. From the return on deaths of infants in Poor Law institutions presented to the House of Commons by the Local Government Board in April last, it appears that of 2,653 children born in metropolitan Poor Law institutions in 1907, 112 died within the first week of life—a death-rate of 42.2 per 1,000 births. Of the 60 deaths in Wandsworth, nearly all of illegitimate children, no fewer than 39, or 65 per cent., were due to premature birth; the percentage from this cause shown in the Local Government Board report is 50.89. Of the other deaths at Wandsworth, all were, in Dr. Dodson's opinion, due to prenatal and maternal conditions, the importance of which Mrs. Sidney Webb, in his opinion, improperly minimizes. After observing that the mothers of these illegitimate children came chiefly from the factory hand, hawker, and domestic servant classes, he makes the following observations about prenatal and maternal conditions:

What are "prenatal and maternal conditions"? It must first be conceded that for healthy offspring it is necessary that the mothers while carrying shall be healthy, well fed, and, most important of all, in my opinion free from worry and anxiety; but what do we find in our workhouse cases?

1. That almost invariably, directly a girl finds out her condition, she doses or is dosed with noxious drugs, patent pills, etc., and an already generally feeble constitution is still further enfeebled.

2. Their position in life prevents the having of anything like appropriate food, etc., for a prospective mother.

3. As regards mental worry, the months of anxious waiting and dread, the prospect of being a social outcast with the burden of a "fatherless" child, must and does have a tremendous effect upon both mother and offspring.

To compare statistics of workhouse cases with those of the "*best maternity hospitals*" or *of the general population*, is manifestly unjust and unfair. We deal with an entirely different class, and with experience of all three classes I claim that we have nothing to be ashamed of in a rate of mortality of 24 per 1,000 in infants during the first week. Bred and born under the conditions I have enumerated, children must lack "backbone and stamina" and a power of resistence practically all through their lives.

Many of our lying-in cases are admitted in labour in a filthy condition, half-starved, from insanitary homes, and often after fruitless attempts at delivery have been made by doctors and midwives outside. Our "operation" cases are much above the average of those among the general population, and yet our results are at least as satisfactory as under better conditions outside.

Dr. Dodson then deals *seriatim* with certain statements made as to workhouse nurseries.

1. As to the statement that babies never get into the open air, he says that at the Wandsworth workhouse they are taken into the open air from a few days old; after a month they are, when the weather is fine, sent out in perambulators on to the common with their mothers in charge of a nurse for several hours daily; at other times they are kept by day in well-ventilated and light day-rooms or covered sheds, and by night care is taken that the dormitories are wholesome and well-ventilated.

2. As to the statement that the babies in workhouse nurseries are still handled in the main by pauper women, many feeble-minded and imbecile, Dr. Dodson says that in the Wandsworth workhouse there are no imbeciles, and no feeble-minded inmate is allowed to handle or look after the children; the children are handled by their mothers, who may be paupers, but are not thereby rendered unfit to handle their own children.

3. As to the statement that in some workhouse nurseries there is not even a trained nurse in charge, Dr. Dodson says that at the Wandsworth workhouse there is a charge nurse with two capable assistants by day, and a properly qualified nurse at night, to look after both mothers and children.

4. With regard to the absence of quarantine of new-comers, Dr. Dodson admits the difficulty, pointing out that it is well known that to provide proper quarantine accommodation each unit should be kept quite separate for at least two or three weeks. He continues:

We admit here, to the workhouse, very often forty, fifty, or even more young children a week, and to talk of providing "proper" quarantine accommodation for such a number is obviously impossible and verging on the ridiculous. We place them under clean and sanitary conditions as far as possible in the receiving wards before they are sent to the nurseries, and, in spite of Mrs. Sidney Webb's concluding statement, "No wonder that measles and whooping-cough are troublesome," I must say that my experience does not coincide with her opinion.

INFANTILE MORTALITY IN WORKHOUSES.

SIR,—Your article of June 26th on the Minority Report of the Poor Law Commission brings five definite charges against the Commissioners—namely: (1) That our statistics were misleading, because they included readmissions, and thus the babies who came in sick; (2) that the comparison of the ten best workhouses with the ten worst was based on an unfair selection of populations; (3) that the comparison with the domiciliary work of the Plaistow Maternity Charity was unfair because this latter sent its difficult cases into institutions; (4) that the statistical assumptions on which the figures were based were fallacious: and, in particular, (5) that they ignored the fact that the workhouse nurseries retained the unhealthy babies and discharged the sound ones.

Let me take these one by one. Your contributor more than once assumes, and founds on this assumption some two hundred words of effective argument, (1) that our statistics include infants readmitted to the workhouse after discharge, and therefore presumably ill or deteriorated by outside conditions. *This is not the case.* The facts relate exclusively to the infant's first sojourn in the workhouse. The tabulated results include no deaths after readmission. Then (2) your contributor assumes (and founds on the assumption an accusation of want of "common fairness") that the ten best workhouses cited were selected from districts having contributory populations differing in kind from those served by the ten worst, which have (taken together) eleven times as high a rate of infantile mortality. But your contributor had no ground for this assumption. You would be convinced if you knew the names of the unions, which I should be glad to give you privately, but which I have refrained from publishing in the bad cases. You will find (*as the Local Government Board is now aware*) that the startling differences between the workhouses — *there are some having literally twenty times as great an infantile mortality-rate as others* —are not explicable on any such hypotheses as your contributor (naturally following on this point the memorandum so hastily prepared by the Poor Law Division of the Board) has put forward. Then your article assumes (3) that the low rate in the domiciliary treatment of the Plaistow Maternity Charity is vitiated by the automatic exclusion of the difficult cases, ignoring the fact that the rate given was expressly stated to *include* all the deaths in all the difficult cases which were sent to an institution.

I pass now to your contributor's complaint (4), which does not impugn the figures for the first fortnight (in themselves sufficient for my case), about the method of tabulation. Now, this is a matter of statistical science. We were quite aware that any statistical statement that we made, whatever it was, would be denounced by those who would do us the honour of criticism, *in the same terms in which similar statistical revelations have always been denounced.* Most of our critics have very naturally presumed on the fact that we were not ourselves expert statisticians. But we took the obvious precaution of consulting, not one alone, but several eminent statistical and actuarial experts; the method adopted was adopted on the advice thus obtained; and the tabulation was done for us by statistical clerks under expert supervision. We could therefore afford to pass over the animadversions of our non-statistical critics. But, as the point is one of interest to the medical profession, let me say that the plan of assuming the mortality of those who go out to be the same as that of those who remain in is to-day a well-known statistical device in dealing with institutional results, of perfect scientific validity within a certain range, and (provided that, as in our report, its employment is openly stated) not open to any reproach of unfairness. For instance, in the comparison with each other of several analogous institutions dealing with identical diseases, the device (which affects them all in the same way) is, given sufficient range of experience in time and space to eliminate chance factors, not only without objection, but actually the only practicable method of bringing the data into comparison. It is, I may point out, the failure to use this device which led the Poor Law Division of the Local Government into the extraordinary statistical fallacy (in which your contributor has unwittingly followed them) of supposing that adverse prenatal conditions could possibly have any bearing on the assertions that we made as to the excessive mortality of some workhouses as compared with others adjacent to them.

But I think the use of the device is sometimes misunderstood by non-statistical readers. There is no assumption made as to the fate of the particular infants who leave the workhouse—whether these actually die at a high rate or a low one, after they have been discharged, does not affect the question. It is obvious that if the statistician permitted this fact to affect his conclusions, he would be debiting or crediting the workhouse with mortality caused by outside conditions. The assumption comes to no more than saying that the comparative mortality-rates over a given period of time, of analogous institutions dealing with the same kinds of cases, would not be affected *otherwise than by the influences of the institutions themselves*, by the inmates in the several institutions remaining, some a little longer and some a little shorter time, provided that the total periods are accurately compared. This brings me to your contributor's further complaint (No. 5) that we ignored the fact that it was the healthy babies who were discharged whilst those who had weak constitutions remained in. *You will notice that this consideration, true of all workhouses if true at all, does not explain why one workhouse has an infantile mortality twenty times as great as another workhouse.* But though the criticism would be warranted if we were dealing with a children's hospital, does any workhouse medical officer believe that the actual mortality among the babies who are discharged is less than that among those who remain under his care? What is said by those in touch with life among the very poor is that the subsequent mortality among the infants taken out, including as they do a large majority of the illegitimates, is appallingly great. As a matter of fact, the decision of the mother to discharge herself and the infant appears to me, so far as my experience extends, to have no relation whatever, in the vast majority of cases, to the strength of the child's constitution, or the momentary state of its health.

Let me remind your readers again that four months' adverse criticism has left unimpugned all the statements of fact that we made. Whatever may be thought of the inferences drawn, not a sentence that we used has been shown to be inaccurately expressed. No one has denied that the infants do die as we stated them to die. As you point out, the partial statistics collected by the Local Government Board for about thirty unions in the metropolitan area corroborate our statements, as far as they go. What the controversy has turned upon is whether or not the admittedly high death-rate is *to any extent whatever* preventable (and therefore is excessive); and if so, whether it can be prevented by any other treatment of the infants, or by any better prenatal protection and help of the mothers.

I am well aware of the disadvantages of all comparative statistics in medical matters; and in the last paragraph of your contributor's article this is the argument used against, not only ours, but *any* mortality statistics of institutions. I doubt whether it is wise for the medical profession to take this line. It is unfair to the workhouses and workhouse infirmaries which have successfully overcome all the difficulties on which your contributor lays such stress; and have actually demonstrated that the infantile mortality can be brought down, if not to the Rotunda Hospital rate, at least to a rate one-tenth, *or even one-twentieth*, of that prevailing in other workhouses. To these institutions all honour should be paid. But it is unfair, also, to the staffs working under greater disadvantages. When I think of the overworked and underpaid workhouse doctor struggling against an ignorant and parsimonious board of guardians, I could wish that the BRITISH MEDICAL JOURNAL would bring to his aid the potent lever of comparative statistics. It is all very well to assert that "the only test of efficiency is careful inspection by competent experts." The harassed workhouse doctor, conscious that things are not what they should be, has not the assistance of expert inspection. He knows, though your contributor seems momentarily to have forgotten it, that the 600 workhouse nurseries and sick wards outside the metropolis *are not subjected to any annual or regular inspection by competent experts.* The only regular inspection, save in

exceptional cases, is by the general inspectors of the Local Government Board—excellent gentlemen, but, as laymen, not competent to form any opinion on nurseries or sick wards. There are only two inspectors for medical purposes, and these, charged as they are with many other duties, can inspect only a small proportion of the seven or eight hundred Poor Law institutions. As you say, "numerous witnesses whose ability to judge is unquestioned, have testified that *the management in some workhouses is lamentably bad both in lying-in wards and nurseries.*" We asserted no more. No more effective weapon can be put into the hand of the zealous workhouse doctor, with which to overcome the resistance of his board, than a statement of the facts in accurate statistical form, with comparisons with other unions known to his board. (If any workhouse medical officer would like to have the calculation made for his own workhouse nursery, I would gladly have the figures confidentially worked out for him, if he would send me the births and deaths for 1903.)

But I am delighted to learn from your article "that Mr. Burns has assured the House of Commons that special investigations were being made by the Medical Department of the Local Government Board, and that a report would be issued." This is good news. I always felt sure that Mr. Burns's well-known enthusiasm for reducing infantile mortality would lead him, at the proper moment, to start an official investigation into the mortality results of lying-in institutions, among which those of the Poor Law constitute so large a proportion. Such a comparative study of workhouse and hospital lying-in wards, with the results for the general populations of the same localities, would do justice to the difficulties under which the Poor Law Medical Service suffers, and lead probably to many valuable improvements for which its members have often asked in vain. In the competent hands of the Chief Medical Officer of the Local Government Board we may well leave the matter, in full confidence that his investigations will not be confined to the bad workhouses or to the good; that his statistics will be beyond cavil by anybody; and that we shall see what light the facts thus ascertained throw on the hypothesis of some hitherto unrecognized endemic influence whenever there is any herding of infants together. We asked only for proper investigation into the workhouse nursery mortality. I am glad to learn from your article that it has now been promised.—I am, etc.,

BEATRICE WEBB.

41, Grosvenor Road, Westminster, S.W. (Mrs. Sidney Webb.)

LITERARY NOTES.

MR. H. K. LEWIS has purchased the remainder of the stock of the New Sydenham Society's publications, comprising the collection of volumes on medicine and surgery, the Pathological Atlas, the Lexicon of Medical Terms, and the Atlas of Clinical Medicine, Surgery, and Pathology, issued by the society during the years 1859–1907. Many of the works were of a pioneer character when issued by the society, and have since acquired a classic and historic importance. The number of copies of each book has been of necessity limited on account of the heavy expense of warehousing a larger stock, and of many of the volumes only a small number remained over. A selection of such volumes as may still remain unsold will be on view at Mr. Lewis's Stand, No. 38 (to left of main entrance), at the Exhibition in connexion with the British Medical Association's Meeting at Belfast in July this year.

Messrs. Baillière, Tindall, and Cox announce that on and after July 1st they will take over the publications of all the books by Sir William Whitla, including *Materia Medica, Practice of Medicine*, and his well-known *Dictionary of Treatment*, a new edition of which will be issued in the autumn. They will also in future publish Green's *Pathology and Morbid Anatomy*, a tenth edition of which is now in circulation. These changes are the result of the retirement from business, after more than forty years' work, of Mr. William Renshaw, the head of the old-established firm of Henry Renshaw, which will now cease to exist. Messrs. Baillière, Tindall, and Cox have also the following new works and new editions in preparation. A translation of Dieulafoy's *Textbook of Medicine*, by Dr. V. E. Collins; a third edition of a *Manual of Massage*, by M. A. Ellison; a second edition of *Practical Microscopy*, by F. Shillington Scales; a second edition of *Aids to Analysis of Food and Drugs*, by C. G. Moor and W. Partridge; *Sanatorium Treatment of Tuberculosis*, by Dr. Rufenacht Walters; *Surgical Anaesthesia*, by Bellamy Gardner; a third edition of *Aids to Mathematics of Hygiene*, by Dr. R. Bruce Ferguson; a second edition of *Chemical Notes and Equations*, by G. H. Gemmell: *Gynaecological Therapeutics*, by Dr. S. J. Aarons; *Incidence of Sex and Age on Disease*, by Dr. J. Grant Andrew; a second edition of *Menstruation and its Disorders*, by Dr. Arthur E. Giles; and a reprint of the second edition of *Minor Maladies*, by Dr. Leonard Williams.

The Oxford University Press announces the publication of a work by Dr. Raymond Crawfurd, Physician to King's College Hospital, which deals with a point of historical as well as medical interest. It is entitled *The Last Days of Charles II*, and the primary object of the author has been to establish the true cause of the monarch's death, which has been ascribed by historians to apoplexy.

The President of the Royal College of Surgeons, Sir Henry Morris, has issued a reprint, with slight additions, from the BRITISH MEDICAL JOURNAL of February 20th, 1909, of the Hunterian Oration on John Hunter as a Philosopher, delivered by him, in the presence of Their Royal Highnesses the Prince and Princess of Wales, on February 15th. The additions, which are in the form of appendices, contain much matter of great interest. Thus, speaking of Hunter's brief experience in cabinet making, Sir Henry Morris says that, had it not been for his ever mastering love of natural science, his manual dexterity might have been the means of his acquiring fame as a designer and worker in the mechanical and decorative arts, equal to, or greater than, that of the Buhl family, or of Caffieri, Gouthière, Riesener, Sheraton, or Chippendale. In another appendix it is stated that there is not a scintilla of evidence to support the assertion that has sometimes been made that Hunter was fond of low company. Like his brother William, he freely conversed with country folk, thus learning their experience of the common things of life; and when he first came to London his position of demonstrator of anatomy under his brother brought him into contact with "resurrection" men and the keepers of menageries. But this was from necessity, not from choice. Hunter, like most men of science, despised the *vox populi*; he once remarked that he would sooner see his collection destroyed than show it to a "democrate." Sir Henry Morris points out that Hunter's faulty spelling was by no means a proof of his want of education. In his day misspelling was not considered a sign of great ignorance. In proof of this he quotes Macaulay's reference to the incorrect spelling of Lord Bute, who was for some months Prime Minister of England; and the description by Charlotte (in Richardson's *Sir Charles Grandison*) of one of her lovers as "spelling pretty well for a Lord." To these proofs of the toleration with which misspelling was regarded in Hunter's day we add one far stronger. Dr. Samuel Johnson, the "great lexicographer," who reduced the chaos of English spelling to order, did not take the trouble to abide by his own rules. In his letters, published by Birkbeck Hill, we find "persuance," "I cannot butt," "council" (where counsel is meant), "happyest," "Fryday," "solicite," "defense," "pamflets," harrassed," "do's" and "dos" (for does), "inventter," "barels," "cloaths" (clothes), "acknowlegement," "distresful," "personale," "Plimouth," "imbecillity," "enervaiting," and "devide." He frequently omitted the possessive apostrophe, writing "bankers book," "doctors prescription." He always spelt the name of his biographer "Boswel," and the name of his friend John Nichols appears variously as "Nichols," "Nicols," "Nichol," and "Nicol." If John Hunter erred in spelling he did so in the very best company.

Dr. G. H. R. Dabbs has revived his periodical, entitled *My Journal*, which, he says, in 1907–8 had a life of seven numbers. For a long time he has written his thoughts in *Fry's Magazine* and elsewhere, but he prefers in future to be his own mouthpiece. The June number is ushered in by a Reveille Song, which Dr. Dabbs was asked to write by Mrs. Watt Smyth, of the Women's Aërial League. This stirring song was read with great effect by Miss Ruskin at a dinner, over which Mrs. Smyth presided, at the Lyceum Club on June 21st in furtherance of the objects of the league.

That these objects are of a practical character is shown by the fact that among the guests was Admiral Sir Percy Scott. The poet hears our fathers, who "conquer'd in Life's battle hard and long," calling to us to awake and be the men they were. The following is the concluding verse :

O, the dead are list'ning for the answer of the brave.
They but slumber lightly in the cold transmuting grave—
Vast their empire—shadow-bound—yet limitless withal,
Where seem to fade the last far notes of England's bugle-call—
They were great though mute they seem,
Warriors of Death's martial dream,
Ye can hear them, so ye list,
Where roars the sea, where broods the mist—
Calling—calling—calling, "O, awake!
Be men as we were men for England's sake."

Medical News.

THE estate of the late Mr. Simeon Snell has been proved at the total value of £30,451 0s. 6d., with £28,883 8s. 9d. net personalty.

AT the annual general meeting of the London Nottinghamshire Society, held on June 24th, Mr. Sydney Stephenson was elected President of the society for 1909-10.

THE London Hospital Medical College Endowment Fund has received a gift of £2,000 through the kindness of Dr. Luther Martin, an old student of the college.

THE King of Spain has given Dr. W. A. Mackay, of Huelva, Andalusia, Spain, a graduate of Edinburgh, the White Cross Eagle of Carlos III for distinguished surgical service rendered to the Guardia Civil.

A NEW law as to marriage and the granting of licenses to marry in the State of Washington, which came into effect on June 10th, provides that applicants must first undergo a medical examination.

THE annual meeting and dinner of the Edinburgh Royal Infirmary Residents' Club, which had been fixed for June 25th, has, on account of the death of Professor Cunningham, been postponed *sine die*.

MR. EDWARD SMYTH CRISPIN, M.R.C.S., Assistant Director of the Soudan Medical Department, Khartoum, has received the Royal permission to accept the Fourth Class of the Imperial Ottoman Order of the Osmanieh conferred upon him by the Khedive of Egypt.

THE late Dr. Bell Taylor, of Nottingham, left estate of the gross value of £160,000, the net personalty being over £95,000. Among his bequests are the following: £5,000 each to the British Union for the Abolition of Vivisection, the London Antivivisection Society, the British Committee of the International Federation for the Abolition of the State Regulation of Vice, the National Anti-vaccination League, and the Royal Society for the Prevention of Cruelty to Animals.

DR. JOHN CONSTABLE, of Leuchars, Fife, was on his retiral from practice the recipient, on June 26th, of a testimonial from patients and old friends, consisting of a silver salver, with suitable inscription, and a purse of sovereigns. Mr. Hodge, chairman of the local school board, as the spokesman of a goodly company of subscribers, made the presentation, and referred to the long period of forty-six years during which Dr. Constable had worked in the north of Fife. Dr. Constable feelingly replied in a speech in which humour and pathos were skilfully blended. Dr. Douglas, Cupar, proposed a vote of thanks to Mr. Hodge, and the proceedings terminated.

THE vacation course of the North-East London Post-Graduate College is to be held this year, from September 6th to September 18th, at the Prince of Wales's General Hospital, Tottenham, N. There will be continuous arrangements for study during the fortnight from 10 a.m. to 6 p.m. each day. They comprise demonstrations on clinical methods, demonstrations of selected clinical cases, pathological demonstrations, clinics, and clinical lectures and discussions. The fee for the course is two guineas. A syllabus, with further information, may be obtained from the Dean of the school at the hospital, or at 142, Harley Street, W.

THE sixty-eighth annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be opened on the morning of Thursday, July 22nd, at the West Riding Asylum, Wakefield, and at 2 p.m. the President-elect, Professor W. Bevan-Lewis, will deliver an address; subsequently Dr. A. Helen Boyle will give an account of an attempt at the early treatment of mental and nervous cases (with special reference to the poor). The annual dinner will take place on the same evening at the Queen's Hotel, Leeds. The meeting will be continued at the Queen's Hotel on Friday, when a series of papers will be read at morning and afternoon meetings. Further particulars can be obtained from the Honorary General Secretary, 11, Chandos Street, Cavendish Square, London, W.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society, was held at 429, Strand, London, W.C., on June 18th, Dr. de Havilland Hall in the chair. The accounts presented showed that the business of the society was growing at a satisfactory rate. Last year was quite exceptional in the number of new entrants, and the figures of the current year were so far well above the average. The financial reserves of the society were also growing. At the beginning of the year the funds amounted to £224,000, and a substantial sum had been added to this during the first half of 1909. The sickness claims had been numerous, but not more than the records of the society rendered probable. For the most part these claims have been of moderate duration, and the total amount of sick pay disbursed compared favourably with the sum paid during the corresponding period of last year. The sickness lists show a steady growth in the number of permanently incapacitated members, of whom there are now over forty; about £4,000 a year is being paid to them. Prospectuses and all further information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

THE half-yearly council meeting of the Cottage Benefit Nursing Association, followed by a general meeting, was held at Denison Hall, London, S.W., on June 10th, the Earl of Ancaster in the chair. Mr. C. S. Loch, of the Charity Organization Society, in a short address on the federation of kindred institutions, said that the inquiry of the Royal Commission on the Poor Law and the Relief of Distress had made it evident that it was most desirable that the arrangements for nursing throughout the country should be greatly extended and strengthened. Year by year advance had been made by the Cottage Benefit Nursing Association, and the chief question now was the means of confirming that advance on really strong and trustworthy lines. There seemed to have been a kind of grading of nurses, according to the degree and kind of training which they had undergone, one division of which was ordinary nursing *plus* midwifery, a matter which was of very great importance at the present time. The success of the movement in the future rested largely upon the intimacy of the association of those concerned in its promotion. Without proper co-ordination there would be wasted effort, and a very serious item in divided efforts was cost of administration. He advocated the establishment of county associations of nurses everywhere. The present great demand for nurses could be met by proper organization; people were quite ready to pay for such help if they were asked in the right way. The Lord Mayor said it was a great pity to multiply associations with the same object. He had always maintained that there was money enough in London to meet all the distress which existed in the metropolis, but so much at present was frittered away in management expenses. Moreover, help was not always given where it was most needed. Dr. J. C. Thresh, speaking on the training in towns of nurses for the country, from actual experience of the very poor and of different classes of nurses, said that there was a great demand for midwives, but not for nurses. There were plenty of institutions for training nurses, but not a sufficiency of engagements for them afterwards. In all the large towns a large amount of sickness occurred which could easily be alleviated if the efforts to do so were properly organized, and if a well-trained nurse, or, often better still, a well-trained mother, could be sent in. For such people as he was speaking of there was wanted, not the woman who had been trained in institutions where everything of the most modern description was ready to hand, but one who had spent a great deal of her time in cottage homes, where she had to do most things for herself. It was not practicable to train more than one probationer for every 10,000 people; in Leyton, with a population of 120,000, twelve nurses were trained. He gave his experiences in the North and in Essex, and the means by which difficulties were overcome. The movement had not been started a twelvemonth in Essex before the medical profession sent a deputation saying that the organization was doing work which should be left to it. The supporters of the organization agreed to the suggestion that some local medical men should be on the working committee, and there had been no friction since. He attributed much of the success to the fact that they had secured the co operation of the medical men.

British Medical Journal.

SATURDAY, JULY 3RD, 1909.

THE POOR LAW COMMISSION AND THE MEDICAL PROFESSION.

In his Presidential address to the Metropolitan Counties Branch, published in the SUPPLEMENT last week, Dr. Ford Anderson rightly laid stress on the importance to the medical profession of the reports of the Poor Law Commission. A full summary of the Majority and Minority reports was given in the JOURNAL for February 20th and 27th, while Dr. McVail's report was summarized on April 3rd. In the present issue memorandums by several signatories to the Majority Report are given. Special importance attaches to that of Dr. Downes, as there are some grounds for regarding it as expressing the views of the Local Government Board; at any rate, it agrees in many particulars with public declarations made by Mr. Burns.

Very briefly stated, the Majority Report recommends that guardians should be replaced by a statutory committee of county and county borough councils, to be called the Public Assistance Authority, which is to appoint at least two committees—one, the Public Assistance Committee, for dealing practically with general relief, and the other, the Medical Assistance Committee, on which the local branch of the British Medical Association would have representatives, for medical relief; and, further, that a system of provident dispensaries should be set up, offering inducements to all persons below a certain wage-limit to become members, the British Medical Association being invited to suggest a wage-limit and other details.

The Minority Report recommends that the present work of guardians should be distributed, the able-bodied being dealt with by a central organization, while the non-able-bodied should be distributed among four existing committees of county and county borough councils, the Health Committee dealing with medical relief, the Education Committee with school children, the Pensions Committee with the aged, and the Asylums Committee with the feeble-minded; also Registrars of Public Assistance are to be appointed, with most important duties in co-ordinating the committees. Preventive measures are to take up most of the time of the medical service, and, though a free medical service for all is disavowed, it is generally felt that the tendency of the recommendations is in that direction.

Dr. McVail's report is, perhaps, the most radical, as it would replace not only the guardians, but the sanitary authorities—at any rate, in rural districts—by a new ideal health authority, which would deal with general sanitation, indoor and outdoor medical relief, and possibly even with general relief. A system of provident dispensaries is advocated, special stress being laid on periodical examination of all members of the dispensaries by the medical officers.

Dr. Downes's scheme is on quite a different footing, as it would retain the guardians, only enlarging the areas where necessary by grouping or amalgamation. He thinks it a fault of the other schemes that they do away with election *ad hoc*, and he would retain this, though with a large nominated or co-opted element added to each board. He objects to municipalization of public relief, and thinks that medical relief and sanitary work ought not to be administered by the same body. He also objects to the provident dispensary schemes as immature.

It will be seen at once, from even this incomplete sketch, that the interests of every section of the medical profession are vitally affected by all these schemes. Without expressing any preference for any one of the schemes as a whole, the following premisses may be accepted: (1) That the present medical service for the poor is in urgent need of reform; (2) That co-ordination of all public and voluntary medical agencies is necessary to prevent the present overlapping and consequent waste of money and energy; (3) that charitable medical institutions are greatly abused by people who are not fit objects for charity, and that every inducement ought to be held forth for the poorer classes to make self-provision against sickness; (4) that preventive as well as curative measures ought to form part of any public medical service.

In all these matters the interests of medical men are concerned, and it is therefore of prime importance that whatever authority is chosen to administer medical relief, it should include a fair representation of the medical profession. This is absolutely necessary, not only to safeguard the interests of the profession, but on the higher ground that the authority ought to have always at its disposal skilled and expert knowledge apart from its paid officials, and the suggestion of the Majority Report that representatives of the local Branch of the British Medical Association should have a seat on the Medical Assistance Committees ought to be a *sine qua non*.

Again, the interests of district medical officers will need most careful watching. If their services are dispensed with altogether proper compensation would of course have to be paid, which would be enormously costly to the country. Except, however, in the unlikely event of a free medical service for all, the district officers will probably be retained under any new authority, but they should be placed in a better position than at present as regards salary and provision of medicines, and the whole system of "orders" for medical attendance will need revision.

Further, if the destitution authorities are to send patients to voluntary hospitals, part of the payment made by the authority to the hospitals ought to go to the medical staffs. No medical man ought to be expected to do work systematically for the community without remuneration from the community. This will raise questions as to appointments to the medical staffs of all hospitals which accept such patients. It will also raise the question of the share the authority should have in the management of the hospitals. Payments by a public authority would probably lessen the amount of charitable subscriptions, and raise in an acute form the whole question of municipalization of hospitals.

Again, in the rural districts medical officers of health may find themselves in a difficulty if the smaller rural health committees are merged under the county councils, as the Minority Report suggests, or if new health authorities with larger areas are formed. Questions, too, will arise as to the relative positions of clinicians and sanitarians in a public medical service.

Whichever scheme be adopted, perhaps the position of general practitioners will be more affected than that of any other section of the profession. Any tendency to a free medical service for all is a tendency to the extinction of the general practitioner. As the Majority Report points out, gratuitous service for all would not only "inevitably tend to kill all existing "voluntary organizations for providing medical "assistance," but "the practice of the majority of "private medical practitioners would be gone; with "the exception of a very limited number of those who "might attend the wealthiest classes, medical practi-"tioners would either be absorbed in the public "service or would be obliged to change their profes-"sion." This may be a remote event, but it must be remembered that there is already a strong party in the country working for a free medical service for all comers. For the friendly societies to give up their medical benefit sections in favour of provident dispensaries might be no bad thing. It would certainly be better for the public, as the service would be under better supervision, and it would probably be better for the profession in the long run; but the numerous medical men who hold large club appointments will need to be considered, as it will be but scant satisfaction to them to find their club patients divided up among all the practitioners in the district.

Strict watch, too, would have to be kept on the management of the provident dispensaries, which ought to be largely in the hands of medical men. The Contract Practice Committee of the Association has already drawn up a scheme for provident dispensaries, and though, of course, it may need supplementing to adapt it to a State service, it ought to be insisted on as the foundation of any system. The question of wage limit is perhaps as important as any. If it be fixed too high—for instance, if any one earning £2 a week might join a provident dispensary—those doctors who did not care to be on the staff of the dispensary would either lose a great number of their private patients or would be practically compelled to join the staffs, and to attend as club patients persons who previously paid them ordinary fees.

Again, the suggestion that prevention of disease should form the chief part of the service would alter the whole character of the medical work, whether it were done through provident dispensaries or not. It is suggested that doctors in the service should not wait till people are actually sick but should periodically visit and examine every person on their list to detect the first symptoms of disease and make the earliest possible diagnosis. This would mean at first, and for a generation or two at any rate, an enormous increase of work for district medical officers and dispensary doctors. At present clubs and other appointments are taken on a rough calculation of the average amount of sickness, and if they are ever profitable, it is only because a fair proportion of the members never trouble the doctor at all. But if every member is to be visited and examined, to make it worth while for any doctor to undertake the work the fee per member would have to be so high as to be almost prohibitive to the poor classes and very costly to any authority that has to pay for the destitute.

Provident dispensaries properly managed will undoubtedly solve all these difficulties, but the dangers need to be fully recognized beforehand, so that a satisfactory scheme may be adopted. Dr. Downes is perfectly correct when he says that "the building up of provident dispensaries . . . and "the ever-increasing public demands on the services "of the medical profession involve problems which "should be considered by some body more repre-"sentative of the interests concerned and more "directly equipped to deal with detailed difficulties "than the present Commission."

There is no body in the country so well equipped as the British Medical Association, but unless the profession shows itself not only alive to its interests, but solidly united, the reform of the Poor Laws may bring disaster to the profession. It is alarming to find that, though the Commission report has now been before the country for some months, many medical men know practically nothing about it. They live in a sort of fool's paradise, under the delusion that nothing will come of it. Meanwhile, the Minority scheme is being advertised and pushed in every way, boards of guardians are temporizing to prevent more radical reforms, and schemes for insurance are being promulgated that consult the interests of the great friendly societies, but ignore the medical profession. The Poor Law Reform Committee appointed by the Council of the British Medical Association to deal with the matter is, perhaps, the most important ever so formed, and it is the bounden duty of every Division of the Association to be ready with suggestions when called on. It is inevitable that what appear to be the selfish interests of the profession will loom largely in our debates, but it is equally true that the success of any scheme for a public medical service depends on the proper public recognition of the just rights of the profession, which will not be properly realized if they are not forcibly declared.

ROENTGEN RAYS IN STOMACH DIAGNOSIS.

THE study of the normal movements of the stomach and intestines by means of bismuth meals has proved so useful that it might be expected the application of the same methods to the examination of gastro-intestinal pathological conditions would also be of service. In any case, it is right that it should have a serious and prolonged trial, for no one can say that the means at the disposal of the physician or surgeon are adequate to solve all the problems presented by the diseases of these organs. It is only after it has been used for the examination of a large number of cases and the results checked by laparotomy or autopsy that we shall be able to estimate its value, so that the report which has been published by Drs. V. Schmieden and F. Hartel[1] on a hundred cases of stomach disease examined by the *x* rays is a valuable contribution towards this desired end. The cases studied consisted chiefly of simple or malignant pyloric obstruction; but there were also examples of cancer in other parts of the stomach, total contraction of the stomach from cancer, hour-glass stomach, and one or two cases of ulcer, but of the last disease the authors say they "have little experience, as few "come to the surgeon"—an interesting observation indicating that in Germany the profession is more conservative in this respect than in England or America.

The authors do not make extravagant claims for the method, which they admit has its difficulties; it is not easy for a beginner to read the signs correctly; the information given is not complete, and must be taken merely as an aid to physical examination, but the method possesses the great advantage of

[1] *Berl. klin. Woch.*, Nos. 15, 16, and 17, 1909.

depending directly upon simple sensory perception. It is, therefore, of special value for teaching purposes. The quantity of bismuth usually employed was 40 grams (1½ oz.), but no toxic effects were observed. The authors consider that observations are best made with the fluorescent screen. An almost instantaneous skiagram of the stomach may be misleading, as during peristalsis it assumes various shapes, so that it may look as if there were hour-glass contraction or contraction of the pylorus, whereas if the observer watches the shadow on the screen he may see the abnormal shape disappear as quickly as it came. The stomach, so far as it is filled with bismuth, gives a deep shadow, and a defect in the normal outline may be due to the presence of a tumour; thus, in cancer of the wall of the pyloric portion the shadow of this part of the stomach may be absent; further, when the movements of the stomach are watched on the screen, it is possible to recognize abnormal peristalsis due to pyloric stenosis, or to observe feeble movements if the walls are weakened, or spastic contraction from irritation giving rise to functional hour-glass stomach. Again, on deep breathing, the normal descent of the stomach is seen, but if there are adhesions to neighbouring organs this does not occur. By kneading the stomach its contents can be displaced and an apparent hour-glass contraction made to disappear. Further, it is possible to determine whether a palpable tumour is connected with the stomach or not. In thin people a depression caused by pressure with the finger upon a normal stomach is easily perceived, and the difference noted when its wall offers undue resistance. By turning the patient round it is sometimes possible to make out whether the tumour is on the anterior or posterior wall of the stomach. Time observations or plates taken at varying intervals after a meal afford useful information. In three hours the stomach should be empty; if it is not there is motor insufficiency, generally due to pyloric stenosis. After the bismuth meal has left the stomach traces of it may remain in diverticula or adhering to ulcers or cancerous growths. The authors believe that distension or palpation with a sound in the stomach is a less satisfactory means of recognizing dilatation or ptosis. A shadow which is abnormally wide and accompanied by increased peristalsis indicates simple pyloric obstruction. In cancerous stenosis there is less dilatation and less displacement of the pylorus to the right than in simple obstruction. An hour-glass stomach is very well seen, but an ulcer may cause a tetanic spasm simulating it.

Cancer of the pylorus, if extensive, produces a defect in the shadow; in other parts of the stomach it may not be readily recognized. Cancer causing general contraction of the stomach is well shown by the *x* rays; the stomach is small and high, the normal peristalsis and pyloric movements are absent, and the food passes straight through it into the duodenum giving a continuous shadow. The authors do not think the method affords help in the early diagnosis of cancer, but they quote the paradoxical remark of Boas, that cases of cancer operated on late do better than those operated on early, which he explained by saying that in the later cases the patient has given proof of a certain power of resistance to the disease.[2]

In cases that have come to the *post-mortem* room, the authors have had plaster casts of the stomach made to compare with the *x*-ray plates. The illustrations published show that although the plaster has distended the stomach more fully, there is a very close correspondence between the two outlines. Reports of a number of cases, illustrated by diagrams showing the shadows seen in each case, are given. It appears that the screen may show a tumour where one cannot be felt; as, for example, in one case in which a movable cancerous tumour was recognized and resected. In most of the cases, however, a palpable tumour was present. In one instance the screen indicated the tumour to be extraventricular, and this was confirmed by an exploratory laparotomy. In some instances the shadows were misleading, as in two cases in both of which the outline suggested pyloric cancer, whereas the tumour was in the great and in the lesser curvature respectively. In another case cancer of the lesser curvature was correctly diagnosed on account of a sharp indentation of the shadow; but in yet another the same outline proved to be due to a kink, no tumour being present. In a case of perforating ulcer, the shadow gave no information beyond slight ptosis and dilatation.

Thus it will be seen that while the method has its limitations there is sufficient evidence of its utility. A good cyanide of platinum screen is evidently the most important portion of an *x*-ray installation for stomach work.

[2] *Deut. med. Woch.*, 1908, No. 1.

"HOSPITALISM" AND LISTERISM.

THE opening of a new surgical block of the Glasgow Infirmary a few days ago recalls the fact that it was within the walls of that institution that Lord Lister laid the foundations of modern surgery. Of the conditions under which his work was done an account is given in the second volume of his *Collected Papers*, recently issued from the Clarendon Press. Writing in 1870 he describes the "New Surgical Hospital" erected nine years before. This was on the whole constructed on hygienic principles; nevertheless, to the great disappointment of all concerned, it proved extremely unhealthy. Pyaemia, erysipelas, and hospital gangrene soon showed themselves, affecting, on the average, most severely those parts of the building nearest to the ground, including his own male accident ward, which was one of those on the ground floor. For several years, he says, he had the opportunity of making an observation of considerable, though melancholy, interest—namely, that in his accident ward, when all, or nearly all, the beds contained patients with open sores, the diseases which resulted from hospital atmosphere were sure to be present in an aggravated form; whereas, when a large proportion of the cases had no external wound, the evils in question were greatly mitigated or entirely absent. At this period he was engaged in a perpetual contest with the managing body, who, anxious to provide hospital accommodation for the increasing population of Glasgow, were disposed to introduce additional beds beyond those contemplated in the original construction. Owing to the firmness of his resistance in this matter, though his patients suffered from the evils mentioned to an extent that made him sometimes feel it a questionable privilege to be connected with the institution, in none of his wards was there seen the frightful condition which sometimes showed itself in other parts of the building, making it necessary to shut them up from time to time. Lord Lister refers to a crisis of this kind which had occurred about two years before in the other male accident ward on the ground floor; that ward was separated

from his own only by a passage 12 ft. broad. The mortality there became so excessive as to lead, not only to closing the ward, but to an investigation into the cause of the evil, which was presumed to be some foul drain. On excavation there was found a few inches below the surface of the ground, on a level with the floors of the two lowest male accident wards, with only the basement area, 4 ft. wide, intervening, the uppermost tier of a multitude of coffins, which had been placed there at the time of the cholera epidemic of 1849. In the meantime there had come to Lord Lister the first conception of antisepsis, and he had at once put the idea in practice. His early methods were crude no doubt, but they were effectual, and conclusively demonstrated the truth of the principle of the method. How much the new treatment could achieve under the worst possible conditions is shown by the fact that, at the very time when the shocking disclosure just referred to was made, Lord Lister was able to state, in an address delivered to the British Medical Association in Dublin in 1867, that during the previous nine months, in which the antiseptic treatment had been fairly in operation in his wards, not a single case of pyaemia, erysipelas, or hospital gangrene had occurred in them.

This is all the more remarkable in view not only of the presence of conditions likely to be harmful, but of the fact that at that very same time the unhealthiness of other parts of the same building was attracting the anxious attention of the managers. Having discovered the evil, the managers at once did all in their power to correct it. But the situation of the Surgical Hospital was still far from satisfactory. Besides having along one of its sides the burial place above alluded to, one end of the building was coterminous with the old cathedral churchyard; this was of large size and much used, and in it the system of "pit burial" of paupers had till then prevailed, Lord Lister saw one of the pits which was standing open for the reception of the next corpse: it emitted a horrid stench on the removal of some loose boards from its mouth. Its walls were formed on three sides of coffins piled one upon another in four tiers, with the lateral interstices between them filled with human bones, the coffins reaching up to within a few inches of the surface of the ground. This was in a place immediately adjoining the patients' airing ground, and a few yards only from the windows of the surgical wards. That pit seems to have been only one of many similar receptacles, for the *Lancet* at the time published a statement, copied from one of the Glasgow newspapers, that "the Dean "of Guild is said to have computed that 5,000 "bodies were lying in pits, holding eighty each, "in a state of decomposition, around the infirmary."

In addition to all these sources of pestilence, the fever hospital, also a long four-storied building, extended at right angles to the new Surgical Hospital, separated from it by only 8 ft. The entire infirmary, containing 584 beds, stood upon an area of two acres, and was almost always full to overflowing. Yet during the two years and a quarter that elapsed between the Dublin meeting and the time when Lister left Glasgow for Edinburgh those wards continued in the main as healthy as they had been during the previous nine months. That this should have occurred in circumstances which, but for the antiseptic treatment, were especially calculated to produce them, is surely one of the most striking proofs of the effect of Listerism in abolishing what used to be known as "hospitalism." To use Lord Lister's own words, "Supposing it justifiable to in-"stitute an experiment on such a subject, it would be "hardly possible to devise one more conclusive."

THE PRESIDENCY OF THE ASSOCIATION.

MR. SINCLAIR WHITE was at the meeting of the Central Council on Wednesday last unanimously elected President of the British Medical Association in the vacancy caused by the lamented death of Mr. Simeon Snell. Mr. Sinclair White is Senior Surgeon to the Royal Infirmary, Sheffield, and the success of the annual meeting last year was largely due to his organizing ability, geniality, and tact. He had long enjoyed the respect, esteem, and warm regard of the members of the profession in Sheffield and the districts influenced by that great centre, and last year many who had previously only known him by reputation as a surgeon learnt to appreciate those qualities which have led the Council, acting in response to the wishes of his colleagues in Sheffield, to elect him to the highest office in the Association.

THE ANNUAL MEETING.

THE annual meeting of the British Medical Association will begin in Belfast in less than three weeks after this issue of the JOURNAL is in the hands of members, for the annual Representative Meeting opens on Friday morning, July 23rd. On Tuesday afternoon, July 27th, Sir William Whitla will be inducted into the office of President by Mr. Sinclair White; on the same evening the new President will deliver his address to the Association. We publish this week, on page 26, a further illustrated article giving additional information with regard to the general arrangements made for the comfort and entertainment of members in Belfast, and as to the routes from England and Scotland to the North of Ireland. Some account also is given of the country in the immediate neighbourhood of Belfast, and of the opportunities it affords for short excursions. In a previous article information was given as to the golf courses available, and particulars of the golf competition for the Belfast Cup, presented by the Ulster Medical Society (SUPPLEMENT, May 29th, p. 321). The announcement that the cricket match for members of the Association visiting Belfast will be held on Thursday, July 29th, on the ground of the North of Ireland Cricket Club, is repeated in the SUPPLEMENT for this week, and we understand that the Secretary, Dr. J. W. Taylor, Dunelin, Malone Road, Belfast, will be glad to receive the names of intending players at the earliest possible date, so that he may be able to make definite arrangements for the match. In the SUPPLEMENT will be found also the extended programme of the Sections, and in most instances we are able to publish synopses of the papers by which the discussions in the various Sections will be introduced.

BIRTHDAY HONOURS.

AMONG the honours which the King was pleased to bestow on the occasion of the official celebration of his birthday are baronetcies to Sir Dyce Duckworth, Treasurer of the Royal College of Physicians of London, Consulting Physician to St. Bartholomew's Hospital and Senior Physician to the Seamen's Hospital, Greenwich, and Mr. Henry Morris, President of the Royal College of Surgeons of England, Treasurer of the Imperial Cancer Research Fund and Epsom College, and Consulting Surgeon to Middlesex Hospital. Sir Henry Morris has been President of the Royal College of Surgeons since 1906. The

honour of knighthood is conferred upon Lieutenant-Colonel W. B. Leishman, R.A.M.C., who joined the Army Medical Service in 1887, and became Brevet Lieutenant-Colonel in 1905; his contributions to tropical pathology are well known to all students of the subject, and he is at present Professor of Pathology in the Royal Army Medical College. Surgeon-General L. D. Spencer, C.B., I.M.S. (ret.), a Honorary Surgeon to the King, has been promoted to be a Knight Commander of the Order of the Bath. The Companionship of the Bath has been conferred on Colonel de Burgh Birch, Administrative Medical Officer of the West Riding Division of the Territorial Force, and Professor of Physiology in the University of Leeds; also upon Surgeon-General H. R. Whitehead, P.M.O. Southern Command. He entered the army as surgeon in 1882, and saw active service with the Tirah expedition, 1897–8, being present at Dargai and at other actions. For these services he was mentioned in dispatches, received the medal with two clasps, and was promoted to be Lieutenant-Colonel. The Companionship of the Order of St. Michael and St. George has been conferred upon Dr. W. J. R. Simpson, Professor of Hygiene at King's College, London, in recognition of his services on various missions in connexion with plague and the promotion of public health in the colonies. A like honour has been received by Dr. P. J. Garland, Deputy P.M.O., Gold Coast, in recognition of services in connexion with the outbreak of plague at Accra. The Companionship of the Order of the Indian Empire is conferred upon Lieutenant-Colonel R. N. Campbell, I.M.S., at present officiating as Inspector-General of Civil Hospitals in Eastern Bengal and Assam: he saw active service during the operations against the Naga Hill tribes in 1879–80, and also with the Akha expedition in 1883–4. Mr. Edgar Thurston, L.R.C.P., Superintendent of the Government Central Museum, and Superintendent of Ethnography in Madras, receives the same honour. The Kaisar-i-Hind gold medal has been conferred upon Dr. Temulji Bhikaji Nariman, L.M., F.R.M.S., of Bombay. The King has also been pleased to appoint the following officers to be Commanders of the Royal Victorian Order: Colonel Charles Edward Harrison, Honorary Surgeon to His Majesty, Brigade Surgeon Lieutenant-Colonel, Grenadier Guards; Colonel Douglas Wardrop, Commandant and Director of Studies, Royal Army Medical College. We may also note that Mr. Francis Galton, who has done so much to advance the study of the science of heredity and to perfect the method of identification by finger-prints, has received the honour of knighthood, as has also Professor T. E. Thorpe, C.B., F.R.S., Director of the Government laboratories.

THE CHILDREN ACT AND UNQUALIFIED PRACTICE.

WE recently drew attention to the fact that under the Children Act, 1908, failure to provide adequate food, clothing, and medical aid is now deemed to be neglect of a child in a manner likely to cause injury to health. Such neglect is made a criminal offence, and it is important to remember that, by an Act passed in 1861, those who aid and abet a criminal act may be held criminally responsible. That a quack who is guilty of aiding and abetting may be held liable is illustrated by a case recently heard at Tynemouth, to which our attention has been called by Dr. Mears. The clothes of a child who had been left alone in a room took fire, with the result that it was seriously burnt. The mother applied a lotion stated to consist of lime-water, calomel, and oyster shells, supplied by a woman named Hannah Forrest, and this person was summoned to attend the child. She so attended for about two months; the child died, and Dr. Holgate, who had been called in about four days before the death, said that the whole of the right arm was one raw mass, and that there was a possibility that the child's life might have been saved if a doctor had been summoned earlier. Medical evidence was given to the effect that the lotion was irritating and improper for the treatment of burns. The mother was prosecuted for neglect, at the instance of the National Society for the Prevention of Cruelty to Children, but, having regard to the loss she had suffered by the death of the child, the magistrates took a lenient view and dismissed the case. Hannah Forrest, however, was summoned for aiding and abetting in the neglect. The Chairman said the Court thought it was owing to Mrs. Forrest's influence upon the mother that a medical man was not called in sooner. They fined the defendant 20s. and costs. The defendant was reputed to have "inherited the gift of "healing from her mother." It is hoped that this case may receive all the publicity it deserves. Quacks like Mrs. Forrest have long preyed upon the simplicity of the poorer classes. The chief interest of the case lies in the fact that this is, so far as we are aware, the first time the Act above referred to—namely, the Accessories and Abettors Act, 1861—has been successfully applied for the purpose of bringing a quack to justice. Section 8 provides that whoever shall aid, abet, counsel, or procure the commission of any misdemeanour, either at common law or by virtue of any Act passed or to be passed, is liable to be tried, indicted, and punished as a principal. An interesting light was thrown upon the meaning of this enactment by a case heard in 1893. There a veterinary surgeon advised that a horse was in a fit condition to work, and the owner worked it. The magistrate found that he knew it would be an act of cruelty to work it in its then state, but as he did not "cause" the act of cruelty, the summons was dismissed. The Queen's Bench Division, however, held that the defendant should have been convicted under the section of cruelly ill-treating the horse, as any one who counsels the commission of an offence may be proceeded against as a principal, although the advice given by him was the remote, and not the proximate, cause of the cruelty. It has been decided, however, that mere negligence on the part of a veterinary surgeon in making an examination and giving a certificate that meat which is in fact unsound is sound and healthy, is not sufficient to justify a conviction for aiding and abetting the exposing of unsound meat for sale. It is not difficult to imagine a number of cases in which the principle upon which the justices at Tynemouth acted may be applied. The bonesetter who ventures to meddle with that which is the business of regular practitioners, the charlatan who advertises a nostrum capable of curing every disease, the exponent of a fancy religion who preaches a doctrine which is contrary to the dictates of science and common sense—all these persons aid and abet poor and ignorant parents who fail to provide their offspring with skilled medical assistance. For such neglect there can be no excuse.

THE PSYCHOLOGICAL BASES OF ORATORY.

IN connexion with the subject of speech fright, which has during the last few weeks been discussed a good deal in the BRITISH MEDICAL JOURNAL and elsewhere, reference may be made to an article in the last issue of the *Revue philosophique*, in which Dr. G. Saint-Paul discusses the psychological bases of oratory. He has analysed the different methods of preparation adopted by speakers, and groups them under the three following heads: The graphic method, visual or

auditory premeditation, and "verbo-motor" premeditation. The graphic method consists in writing out either the whole speech or the parts of it that are meant to tell. Dr. Saint-Paul says that some actors write out their parts. Coquelin *cadet* used to copy out all his parts, as he found that this imprinted them more strongly on his brain. Those who, as Rogers said of Ward in his bitter epigram, prove their possession of a heart by getting their speeches by it, have generally a visual memory which enables them, as it were, to read the manuscript with the mind's eye. Such speakers will tell one that the facility of their delivery is in direct proportion to the clearness of their visual memory. Those who prepare for oratorical efforts by "auditory premeditation" also learn their speeches, and deliver them as they are dictated, so to speak, by an inner voice. Those who prepare by "verbo-motor premeditation" first speak their speech mentally—in the words of Montaigne, they make their words sound to their mental ear before they utter them—then deliver it aloud, generally while walking about. Cicero recommended orators to declaim their speeches beforehand. Nevertheless, he himself took the precaution to write them out afterwards in the form in which he wished them to go down to posterity. It is said that the famous *Oratio pro Milone* as delivered was so different from the revised version that the exiled client, when he read it, exclaimed, "Ah, Cicero! If you had spoken this I should not now be eating figs at Marseilles." There are some who only think in speech; the act of speaking causes an excitement which facilitates psychic activity and its verbal expression. As Alphonse Daudet puts it, "thought "comes to them at the sound of their own words as "lightning comes at the sound of bells." He makes Numa Roumestan—the original of whom we suppose was Gambetta; at any rate, he is intended to portray a typical Southern orator—say, "When I do not speak "I do not think." It will be seen that the psychological bases of oratory vary considerably in different persons. Speech fright has a physiological, and perhaps a pathological, as well as a psychological aspect, which is well worthy of study. How are we to prevent that horrible feeling which a distinguished novelist—a doctor, we regret to say—has described, in a language of his own invention, as *Adhaesit faucibus ora?* How are we to avoid accidents such as befell Addison when he began a speech: "Mr. Speaker, I conceive ——" repeating these words three times without being able to get any farther—whereupon another member said: "Mr. Speaker, "Mr. Addison has conceived three times and brought "forth nothing"? How are we to guard against forgetting all the fine things we thought of in the tub, as Thackeray says? How are we to train ourselves to deal effectively with interruptions? Nothing is more annoying than the thought of a deadly retort when it is too late—*l'esprit de l'escalier*, as the French call it. As Mr. Lyttelton pointed out the other day in distributing the prizes at St. Thomas's Hospital, the art of speaking is helpful to doctors, and they have the best opportunities of learning it. Politicians and lawyers must often speak before impatient audiences as before unsympathetic or irascible judges, but the doctor could always find one deeply attentive and, indeed, enthusiastic listener, especially if his advice was agreeable. In the meantime, we may say that Dr. Saint-Paul is collecting facts that may help to elucidate the psychology of the subject, and he invites speakers to tell him—in confidence, if they wish—their methods of preparation. No detail, he says, is to be considered too trivial to observe—the cultivation of the memory, the influence of diet and tobacco, that of nervousness, errors or difficulties of pronunciation, etc. Should any of our readers feel disposed to give their personal experience, they should send their communication to Dr. Saint-Paul, care of the Editor of the *Revue philosophique*, published by Félix Alcan, 108, Boulevard St. Germain, Paris.

THE READING PATHOLOGICAL SOCIETY.

THE publication of Dr. J. B. Hurry's *History of the Reading Pathological Society*[1] almost coincides with the erection of the memorial cross to Henry the First presented by him to the Corporation of the Borough of Reading, and unveiled by Mr. Birrell, M.P., on June 19th, in Forbury Gardens, close to the ruins of Reading Abbey. At first sight there seems little or no connexion between the two incidents, but a rapid perusal of this interesting volume proves not only that the members of the Pathological Society are worthy and capable of upholding the reputation for scholarship enjoyed by Reading since the days of Henry Beauclerc, but also that they are, in a sense, the successors of the old monks, inasmuch as they are engaged in carrying on a portion of the monks' work. In addition to their numerous other labours the monks of Reading Abbey looked after the sick, and were, in fact, the doctors of the little town. In 1134, long before the completion of the Abbey, the Leper House of St. Mary Magdalen was built, and there was also a herb garden attached to the monastery. For four centuries the town of Reading grew and developed under the shadow of the great Abbey, till the Reformation swept away her patrons. The Abbey was dissolved in 1539, and 300 years later the medical men of Reading banded themselves together and formed the Reading Pathological Society, which still exists in a flourishing condition. The Society was founded on July 13th, 1841, "for the discussion of medical and surgical "subjects, of cases, and of other matters con-"nected with the profession." Two presidents were elected, one to represent medical and the other surgical interests (a custom which prevailed for over forty years), and at each meeting a paper was read and specimens exhibited. The Reading Medico-Chirurgical Society, established in 1824, "for the pur-"pose of maintaining a medical library and diffusing "medical literature," assisted the new body with all the means in its power, and the two societies eventually amalgamated. Its members have accomplished much good work. Not only have many of them contributed considerably to medical literature, but the whole body has been noted equally for its interest in the progress of science and in the philanthropic schemes of the day. Finally, Dr. Hurry says: "It is not too much to say that the society has accom-"plished a great work such as few provincial societies "can rival. It has consistently promoted a lofty "standard of practice, and has helped to banish "'envy, hatred, and malice, and all uncharitable-"'ness.'" After a brief sketch of the founding of the society, Dr. Hurry gives an outline of the work of each session, from 1841 down to 1908, with a list of the papers read and the specimens shown at each. A list of all the presidents, readers of retrospective addresses, orators, honorary secretaries, and members is added in the form of an appendix, together with a description of the library and pathological museum belonging to the society, and also the contents of the latter, and of the portrait gallery. The book is beautifully bound, and contains some very fine illustrations, principally reproductions of portraits of former presidents. It is interesting, not only because it shows the great strides

[1] *A History of the Reading Pathological Society.* By Jamieson B. Hurry, M.A., M.D., President of the Society. London: J. Bale, Sons, and Danielsson, Limited. 1909. (Demy 8vo, pp. 172, with illustrations, 7s. 6d.)

made by medicine during the last seventy years, but also as a proof of what a band of earnest and practical men can accomplish when working together for the good of mankind and the advancement of knowledge.

FATAL POISONING BY GASES GIVEN OFF BY FERRO-SILICON.

A SWEDISH steamer, the *Olaf-Wyk*, having six passengers, left Gothenburg for Antwerp in February, 1907, having on board fifteen tons of ferro-silicon in wooden casks bound with iron, and stowed under the passengers' cabins. On leaving port the sea was rather rough, and two of the passengers became unwell and vomited several times during the night. The following day the steamer encountered a gale, so that it was impossible to remain on deck, and all the passengers suffered from identical symptoms—headache, difficulty in breathing, profuse sweating, nausea, and weakness of the lower limbs, which diminished on going into the open air but increased on returning to the cabins. Throughout the whole of the forepart of the vessel, where the cabins were situated, there was an irritating, insupportable smell, which the sailors attributed to lucifer matches among the cargo. The woman who attended to the cabins, and the captain, whose cabin was near those of the passengers, were also unwell. Towards evening the captain gave up command of the ship to the mate and went to his cabin, but, becoming more and more unwell and not being able to put up with the smell, he returned to the deck, and after talking a little with the mate finally went to sleep in the mate's cabin, which was in another part of the steamer. The passengers complained strongly of the smell in their cabins, but as they attributed this in part to the vomited matter and their symptoms to sea-sickness, and were reassured by the fact that except the captain hardly any one else on board was affected, they tried to sleep. Two luckily did not succeed, and, although very feeble, left their cabins and were saved; one of the others was alive but unconscious in the morning, and died later on, but at 8 a.m. the other three were found by the captain to be dead. *Post-mortem* examinations were made five days later by Drs. Van Bever and Bailleux, police-surgeons at Antwerp. Identical conditions were found in all four bodies; the blood was fluid, of a reddish colour, like gooseberry juice, and the right ventricle was distended with fluid blood; the muscles were also reddened; there was congestion of the brain and its membranes, congestion of the lungs, and internal congestion of the alimentary canal and of the other abdominal organs. Poisoning being suspected, various investigations were made, but the only positive result was that traces of arsenic were found in all four subjects. The examination of the cargo suggested nothing at fault, apart from the matches which for other reasons could be excluded, except the ferro-silicon, with which various experiments were made. This substance occurs in small pieces about the size of a nut, and gives off gas abundantly when pounded in damp air. An analysis made of a large sample obtained directly from the factory showed that a ton gave off 245 grams, or 161 litres, of phosphuretted hydrogen, and 25 grams, or 7 litres, of arseniuretted hydrogen, so that the 15 tons of cargo were capable of emitting 2,415 litres of the first and 108 litres of the second gas. The violent shaking of the steamer caused by the state of the sea, and the damp air of the holds, the casks not being closed hermetically, supplied the needful conditions for the formation of the poisonous gases. The case was related by Drs. G. Bruylants and H. Druyts at a meeting of the Belgian Academy of Medicine (*La semaine médicale*, 1909, No. 24, xcv), and they stated that two cases of poisoning occurred in 1906 at Duisberg on board a boat which was carrying ferro-silicon. In December last the deaths of five Russians on board the steamer *Ashton*, between Antwerp and Grimsby, were at first supposed to be due to cholera, but were finally attributed to the gaseous emanations from the ferro-silicon, and the cases were briefly reported in the JOURNAL (January 9th, 1909, p. 127). Dr. J. F. Robertson, of Elthorpe, also recorded (JOURNAL, May 15th, 1909, p. 1179) two cases seen by him on October 20th, 1905, when he was called to see two children, aged 3 and 4 years respectively, lying ill on a canal boat. Both died, and as he was unable to certify the cause of death, a *post-mortem* examination was made and certain viscera, with samples of the cargo, were sent to an analyst, who reported that no poison could be found in the viscera, but that the cargo proved to be ferro-silicon, which would, under certain conditions, give off poisonous gases. In the Grimsby case it was stated at the inquest that the German manufacturers had assured the Great Central Railway Company, which owned the ship, that the ferro-silicon was now manufactured by a process by which all its dangerous characters were removed. The worthlessness of the assurance was evident, and, unless properly packed in soldered metallic cases, it cannot be considered a safe cargo.

MEDICAL TESTIMONY AS TO CHRISTIAN SCIENCE.

IN the BRITISH MEDICAL JOURNAL of June 5th reference was made to certain statements as to cures by means of Christian Science, made by Mr. Walter Wilding, M.R.C.S., L.R.C.P., sometime medical officer of health for Hindley, Lancashire. These statements were made in the *Onlooker* of March 28th, 1908. Briefly, Mr. Wilding said he had seen a case of valvular disease of the heart complicated with disease in other organs, and getting steadily worse, which was completely cured by the prayers of a Christian Scientist. Another case was that of a young man "whose knee-joint was quite "disorganized by disease to little more than a pulp" on whom "the surgeons of one of our largest hospitals" proposed to do excision of the knee-joint. But the patient "turned to Christian Science and was healed "instantaneously." Mr. Wilding examined the knee the day before and again the day after the healing, with the result, as may be gathered, that he was himself "healed instantaneously" of his belief in surgery as well as medicine. He related other wonders, such as the cure of consumption, tuberculous joints, paralysis, and other diseases, by Christian Science. Mr. Frederick Dixon, in a letter published in the *Outlook* of June 26th, alludes to Mr. Wilding's "evidence," and seems to imply that the fact that we did not dispute that gentleman's "qualifications" proves the genuineness of the cures. Readers have only to turn to the article in question to see that the way in which it is referred to by Mr. Dixon is misleading. We do not dispute Mr. Wilding's legal qualifications, but the fact that a man possesses a medical diploma in medicine and surgery does not in itself prove that he has a sound critical judgement, or that he can appreciate the value of evidence. In regard to the cures spoken of by Mr. Wilding, our point is that there is no evidence whatever except his own testimony. The possession of medical diplomas, unfortunately, does not prevent a man from making mistakes, nor does it safeguard him from the pitfalls of credulity. We asked Mr. Wilding to supply details of the cases, which could not fail to be interesting and instructive to the profession, but so far no further evidence has been forthcoming.

Yet there must be some among our readers who were acquainted with Mr. Wilding in what we suppose he regards as his unregenerate days, and could tell something of the cases. We appeal again to Mr. Wilding himself: we think he owes to humanity, if not to the profession which he has abandoned, a full and properly authenticated report of his cases. In the interest of Christian Science itself the cases should be critically investigated. Mr. Wilding can have no other wish than that the truth should prevail: but if it is to prevail it must be known. He and his brethren of the household of the Christian Science faith have it in their power to silence criticism by bringing their facts to the touch of critical inquiry. So far they have given us nothing but personal "testimonies of healing" which are worthless, and mere assertions which we have no means of verifying. Why do they not report their cases, including failures as well as successes, with all the relevant circumstances, as medical cases are reported? If the evidence is sufficient, *causa finita est*, disease will be conquered in the sign of Mrs. Eddy, whatever that may be, and dethroned medicine will have to find itself a dishonourable grave.

HOSPITALS AND LEGACY DUTIES.

THE Chancellor of the Exchequer on June 25th received a memorial relative to the effect on charitable undertakings, including hospitals, of the increased or new taxes which the Budget now before the House of Commons designs to impose. The request of the memorialists was that Mr. Lloyd George will consider whether the Finance Bill cannot be amended so as to release from legacy duty such bequests as in the opinion of the Commissioners of Inland Revenue are designed for charitable purposes, and so that all land sold or let by charities for their benefit in any sense whatever would be excluded from the operation of the section, which proposes to impose a 20 per cent. duty on the estimated incremental value of land. The application is well entitled to consideration, for even if charitable institutions were exempted from the direct operation of the clauses in question, they will still be sufferers from the operation of the new Finance Bill. It has been calculated that 15 to 25 per cent. of all the bequests they receive are in the form of residues of estates, and the increase in estate and succession duties must greatly diminish the amounts of such residues. This effect will, it is argued, be accentuated by the new method introduced by the bill for the valuation of agricultural land when estate duties have to be paid. Further, the general increase in taxation must inevitably lead to a reduction in the amount received by subscriptions, and donations have already been discontinued or reduced on this ground. The memorial bore the signatures of representatives of the King Edward's Hospital Fund and the Metropolitan Hospital Sunday Fund, of the chairmen of a great number of hospitals in the metropolis and the provinces, and on behalf of benevolent societies of all kinds. Averaging the last five or six years, the amounts annually inherited by charities may be put down as not less than £3,000,000; but, of course, by granting the memorialists' requests, Mr. Lloyd-George would not sacrifice the whole of the death dues on this amount. The sums received by hospitals in this way are not inconsiderable. Thus, the sixty-nine London hospitals whose financial position was discussed in these columns on June 20th last year returned between them a total of £335,962 as having been received by way of legacies in 1907. It is not possible to calculate precisely how much the trustees of the various estates together paid in duty in respect of these sums, because the exact percentage would vary in each case according as whether the bequest was a residue or a definite legacy. In the former case the amount would vary with the gross value of the estate, and also according as whether the gift was absolute or in the form of a trust. Nevertheless it still remains possible to gauge the extent of the demand made, so far as hospitals are concerned. Since only definite legacies seem to be in question, 25 per cent. of the total amount mentioned should be deducted. If, then, 1907 be taken as a fair average year, and a percentage be added in respect of legacies to hospitals other than those which figured in our list, a fair estimate of the amount which Mr. Lloyd George is asked to sacrifice is £35,000, a small sum in comparison with the services which these hospitals render to the State by fighting against disease, by nursing the sick, by saving lives, by lessening the number of widows and orphans, by restoring breadwinners rapidly to the ranks of labour, and by their general civilizing influence.

THE AUSCULTATION OF MOTOR ENGINES.

OUR contemporary, *Motor Traction*, has drawn attention to the uses to which a stethoscope may be put in diagnosing the ailments of a motor car. The idea is not an absolutely new one, inasmuch as mechanics often use a piece of wood as an extemporized stethoscope, and the writer has often made use of an ordinary binaural stethoscope for listening to parts of the mechanism in motion. It is convenient to use rubber tubes of at least twice the ordinary length, as the places to be listened to may be a little inaccessible, and also, in order to hold the end in place, to attach to it a light cane by indiarubber bands; a rubber pad upon the end will also be found advantageous. The writer happened to be possessed of one so modified for a very different purpose, namely, for listening to the hearts of animals in the Zoological Gardens, where it was advisable to refrain from putting one's head into too close proximity to creatures of uncertain temper. When an abnormal sound occurs in a motor it is often very difficult to locate, since it is freely conducted along the metal so that it may appear to come from a place quite distant from its real source, but a stethoscope will enable it to be traced home to its origin. The chief uses to which it may be put are the detection of a broken ball in ball bearings, friction in a bearing whether due to a defect or to deficient lubrication, a broken or leaky piston ring, or imperfect closure of exhaust or inlet valves; the last-named lesion can be diagnosed with as much certainty as a lesion of the heart. Ignition failures, due to a fault in the induction coil, are both common and hard to detect. But as the failure is generally due to a breakdown in the internal insulation, when the coil is auscultated a sharp tick due to the passage of a spark may be heard when the current is switched on or off. If this is heard it is nearly certain that the insulation has broken down, and that the coil is more or less completely incapacitated. But the absence of the tick is not equally diagnostic, for insulation may have failed in such a manner that no spark occurs, as for example when damp having got access to the insulation it has been rendered generally insufficient over a large area. Whilst on the subject, another medical method may be mentioned—namely, palpation, which sometimes comes in usefully: friction or knocks may often be felt by the fingers pressed upon the outside, even where the thickness of metal is considerable.

"THE GLOUCESTER ROYAL INFIRMARY."

ON the occasion of the King's visit to Gloucester on June 23rd it was announced that His Majesty had been graciously pleased to give his permission for the

Gloucester General Infirmary to be known henceforward as the Gloucester Royal Infirmary, "in recognition of the admirable work done by those "responsible for its management, and the devoted "and successful efforts of its staff in the prevention "and alleviation of human suffering." When the infirmary was founded, in 1755, George II presented 9,200 ft. of rough oak timber from the Forest of Dean for use in the new building. The last occasion on which Gloucester received the honour of a royal visit was July 24th, 1788, when George III, with the Queen and the Princesses Augusta and Elizabeth, visited the infirmary, and in its minute books is a statement that Their Majesties "expressed their approbation of the "attention of the Faculty to the health of the "patients and of the cleanliness and good order with "which the house appeared to be conducted."

At the meeting of the Physiological Society held at Oxford on June 26th Professor Gotch, who presided on the occasion, after a sympathetic speech, presented to Dr. Pavy, in commemoration of the eightieth anniversary of his birth, a silver bowl bearing the following inscription: "Frederick William Pavy, M.D., "F.R.S., May 29th, 1909. From the Physiological "Society, in token of affection and admiration."

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The Anaesthetics Bill introduced last week by Mr. Cooper was issued on Tuesday last, and is to take the place of the bill recently withdrawn. This new bill requires a medical practitioner or a dentist applying for registration on or after January 1st, 1912, to submit evidence of having received practical instruction in the administration of anaesthetics, and prohibits any person not a registered medical practitioner or a registered dentist administering an anaesthetic except under certain conditions. It also prohibits any certificate of death being given in the case of any person dying under an anaesthetic. The first clause requires every applicant for registration under the Medical and Dental Acts to produce evidence of instruction in the administration of anaesthetics. The second clause imposes penalties of £10 for a first offence and £20 for a subsequent offence on any person not a registered medical practitioner or a registered dentist who administers any anaesthetic, by inhalation or otherwise, or any drug or mixture of drugs for the purpose of producing unconsciousness during any operation or procedure, or during childbirth. It makes an exception for an assistant in a case of urgency, when acting under the direction of a registered practitioner or dentist. The General Medical Council is empowered by Clause 3 to make orders or regulations to carry out the Act. The second reading is put down for July 19th.

Experiments on Living Animals.—Mr. George Greenwood asked the Secretary of State for the Home Department whether his attention had been called to the statement made by the inspector of experiments on living animals in the return for the year 1908, to the effect that one licensee who held Certificate B, authorizing exposure to x rays and the application of heat to the skin under anaesthetics, carried out these procedures without an anaesthetic; whether he would state the name of the licensee referred to, and the number and nature of the experiments so performed without an anaesthetic; and if he proposed to institute any legal proceedings in respect of the violation of the law in this case. Mr. Gladstone replied that the experiments were 42 in number. Their nature was stated in the report, and was quoted in the question. They were not of a severe character, and might have been performed without an anaesthetic if the licensee had obtained the proper certificate for the purpose. The error of the licensee arose from a misconception as to the extent of his two certificates A. and B., and was not so serious as to call for legal proceedings. The matter was dealt with by admonition.

Nurses' Registration, which is hopeless for this session, is likely to be pushed more energetically next year. With this object an influential conference was held at the House of Commons on Monday last between representatives of the Royal Society for the Registration of Nurses, the Royal British Nurses' Association, the Association for the Registration of Nurses in Scotland, and the similar society for Ireland. Lord Ampthill presided in the first instance, and Mr. Munro Ferguson afterwards acted as chairman. The new bill, which will be, when agreed upon, backed by all the influence of the societies named, is to be drawn up by a committee composed of five members from each association. It is thought that concentration of these forces on a measure accepted by all will facilitate legislation.

Collodion, Ether, and Chloroform.—Last week the President of the Board of Trade, in reply to Mr. Fell, said that the total imports of collodion, ether, and chloroform into the United Kingdom in 1908 were as follows: Collodion, 85 gallons; butyric ether, 341 gallons; sulphuric ether, 397 gallons. The imports of acetic ether and chloroform were recorded by weight and amounted to 3,207 lb. and 936 lb. respectively. There was no official information available with regard to the quantities manufactured in the United Kingdom.

Tuberculosis in Ireland.—Mr. Hugh Barrie asked the Chief Secretary how many deaths occurred in Ireland last year from tuberculosis; what was the rate per 1,000 of the population; and would he give the same figures for the preceding two years? Mr. Birrell said that he was informed by the Registrar-General that the number of deaths in Ireland in 1908 from all forms of tuberculous disease was 11,293, or 2.6 per 1,000 of the estimated population. The numbers in 1906 and 1907 were 11,756 and 11,679 respectively, or 2.7 per 1,000 of the population.

Calves and Glycerinated Calf Lymph.—Mr. Lupton asked whether the calves used for the production of glycerinated calf lymph were slaughtered before the lymph was issued to public vaccinators, or whether they were only hired and were afterwards returned to the owners; and whether, in the latter case, any steps were taken to ascertain if they were suffering from disease or not. Mr. Burns said that the calves were hired, and after the lymph had been collected they were removed by the owners. Each calf was slaughtered as soon as practicable after its removal. A *post-mortem* examination was made, at which a veterinary surgeon—engaged for the purpose—was present. He made a careful examination of the carcass and of the viscera in order to ascertain whether the calf was in perfect health, and immediately afterwards sent in a certificate as to its healthiness or otherwise. The lymph was not issued unless a satisfactory certificate had been received.

Death after Vaccination.—Mr. Lupton called attention to a case of a child, 8 weeks old, who had been vaccinated in four places, notwithstanding that it had a broken thigh, and asked if the vaccination was in accordance with the instructions of the Local Government Board. Mr. Burns answered that he was aware of the inquest on this child, and he had obtained a copy of the depositions taken by the coroner. It appeared from the evidence of Dr. Wainwright, who made the *post-mortem* examination, that there was an old fracture of the thigh, which had set badly, and that the child had been vaccinated. The depositions did not contain the statement attributed to Dr. Wainwright in the question, but he had seen a newspaper report of the proceedings in which the statement appeared. If the public vaccinator had been of opinion that the child was not in a fit and proper state to be successfully vaccinated he should have given a certificate of postponement; but he understood that he found the child's condition at the time of vaccination quite satisfactory, and that the fracture of the thigh was healed many days before the vaccination took place. It did not seem to be necessary to take any special action in the matter.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

GLASGOW ROYAL INFIRMARY.

New Surgical Block.

THE new surgical block of Glasgow Royal Infirmary was opened on June 23rd by Lord Provost M'Innes Shaw. About 700 ladies and gentlemen were present. The Lord Provost, in declaring the new buildings open, congratulated the managers on having so far succeeded in achieving their aims. The next portions of the reconstruction scheme to be undertaken were (1) the third ward wing of the surgical service, (2) the pathological buildings, (3) the isolation house, and (4) the east or special diseases block, containing the wards, theatres, etc., for the treatment of these diseases, and also for accommodating the entire administration of the infirmary. It was only possible to say approximately what the cost of the whole completed scheme would be, but the managers were advised that it would probably reach £500,000. Towards that large estimated cost there was available about £320,000. The new building was then formally declared open.

Medallion of Lord Lister.

The Lord Provost, in calling upon Dr. Barlow to present a medallion portrait of Lord Lister, said it was in the Royal Infirmary that Lord Lister discovered the antiseptic system of wound treatment, by which it was found possible to avoid the deplorable results which formerly followed many serious surgical operations. Glasgow was proud of her connexion with Lord Lister, and they would recall with satisfaction that the Corporation some months ago enrolled his name among the honorary burgesses of the city. The medallion is fixed on the wall opposite the entrance hall of the new block. It is the work of Mr. Johan Keller, and is executed in bronze. The inscription on the framework records that Lord Lister was one of the surgeons of the Royal Infirmary from 1861 till 1869, and that in that institution he organized the antiseptic system of surgical treatment. The medallion is the gift of past and present members of the staff. Dr. Barlow, in presenting the medallion, said that the saving in lives and in suffering as a result of the adoption of the antiseptic system had been enormous. He expressed the hope that the presence of the medallion of Lord Lister, the never-tiring student, the skilful surgeon, the warm-hearted and the gentle man, might ever act as a stimulus to his successors in the infirmary in their efforts to prolong the lives and diminish the suffering of the patients under their charge. Mr. J. D. Hedderwick, on behalf of the managers, accepted the medallion. Mr. J. Rickman Godlee, a nephew of Lord Lister, gave an address on Lord Lister and his connexion with the Royal Infirmary. At the outset he remarked that Lord Lister took a great and lively interest in that ceremony. They would, he was sure, sympathize with Lord Lister in his illness, and they would perhaps desire him to convey to him some expression of that feeling, together with an account of the proceedings. More especially would that be the desire of those to whose memory he was familiar in the form of that admirable medallion. That was how they liked to remember him—full of life, of tireless energy, strong of purpose, wise of judgement, a perennial spring of new thoughts and new ideas, with a kindly smile upon his benevolent countenance, whether of welcome or of sympathy, and a twinkle of the eye that marked his sense of humour. Professor Godlee, having referred to the surgery of the Sixties and to that of the present day, said Glasgow was to be congratulated, and was probably proud to acknowledge, that the great antiseptic gospel was first preached in her midst. What those who saw most of Lord Lister's work were chiefly impressed by was, first, his habit of looking at all problems, old or new, for himself, and taking nothing for granted without applying to it the severest tests and satisfying himself of its truth. In the second place, they were impressed by the intense earnestness of his work; and, thirdly, by the fact that no problem, no experiment, no operation of whatever sort, was ever relinquished until it was finished.

MEDICAL INSPECTION OF SCHOOLS.

A meeting was held in the Medical Club, Carlton Place, Glasgow, on Tuesday, June 29th, of representatives from all the medical societies of Glasgow to consider the question of medical inspection of schools, and more especially the remuneration that it was proposed to give to the medical officers about to be appointed. A number of gentlemen spoke, and while several were of the opinion that no part-time appointments should be made, on the motion of Dr. Caskie it was unanimously resolved that the remuneration to the quarter-time medical officers, whom the school board propose to appoint, be made on the basis of a sum of half a guinea per hour. It was further unanimously agreed that a small committee be appointed to draw up a memorial embodying the views of the meeting as expressed by Dr. Caskie, and that this same committee be empowered to go as a deputation to the school board should they consider it advisable.

PRESENTATION TO PROFESSOR CLELAND.

The medical students of Glasgow University met in the Union on June 25th to make a presentation to Professor John Cleland, whose intention to retire from the Chair of Anatomy, which he has occupied for thirty-two years, has been announced. Mr. R. R. Archibald, President of the Students' Union, presided. Mr. J. B. Galbraith, President of the Students' Representative Council, on behalf of the subscribers, presented Professor Cleland with a handsome carriage clock.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

SCARLET FEVER AND MILK.

AT the meeting of the London County Council on June 29th, the Public Health Committee reported with reference to certain cases of scarlet fever which occurred in Westminster recently. The M.O.H. for that city suspected that the outbreak might be attributed to an infected milk supply. Other local outbreaks were notified in Chelsea and Wandsworth, and also at Kingston-on-Thames and other parts of Surrey. The cases appeared to be traceable to one wholesale supply. The company were communicated with and stopped the supply from the suspected dépôt. Dr. Hamer, Medical Officer for General Purposes to the London County Council, and Dr. T. H. Jones, M.O.H. Surrey, met the head manager in the country on June 20th, and inquiries at a particular farm, the only one from which milk had been supplied to all the localities known to be involved, disclosed the fact that five recent cases of scarlet fever had occurred in a family the members of which had consumed milk from the farm, one of the persons affected being employed at the farm. All possible steps had been taken to prevent further infection. The committee had retained the services of Dr. Mervyn Gordon, of St. Bartholomew's Hospital, to make any bacteriological examinations which might be necessary.

STREET ACCIDENTS.

The Metropolitan Asylums Board adopted on June 19th a report of its Ambulance Committee recommending that the Home Secretary should be informed that the Board was prepared to inaugurate an efficient service of rapid ambulances for accident and emergency cases in the County of London, and also, if considered desirable, in outlying portions of the Metropolitan Police District. The scheme in view provides for some ten additional ambulance stations and the placing of a number of telephone call-boxes in the busiest thoroughfares and at the most awkward crossings. Though entirely under the Board's control, it would be worked in close co-operation with the Metropolitan Police. This renewed and specific consideration of this highly important question by the Metropolitan Asylums Board is the outcome of the report of the Departmental Committee of the Home Office, the main findings of which were recorded at page 803 of our issue for March 27th, 1909. Contrary to expectation, that committee did not recommend that the ambulance

system in view should be provided by the police; or, in other words, that the plan already in action in the City of London and in many other great centres should be adopted for London as a whole. The reason why it rejected that system seems to have been a belief that provision should be made for the rapid transport to hospitals not only of sufferers from street accidents, but also of emergency cases occurring on private premises among the poorer, but not pauper, classes. It advised, however, that the Asylums Board in establishing and conducting its extended service should act in consultation with the Commissioner of Police, and that any board of guardians possessing a rapid ambulance service of its own should be empowered to arrange with the Commissioner of Police for its use on terms to be approved by the Local Government Board. Finally, it recommended that the wheeled litters provided by various bodies and at present used by the police should be kept in commission, and only superseded when the Asylums Board system had proved fully able to take their place. The Home Office Commissioners were unanimous in their recommendations, although one of them, Sir William Collins, M.P., expressed his belief that it would be better that the maintenance and establishment of the proposed service should be left to the London County Council, which a year or more ago framed a scheme and sought powers to carry it out. For this view there is much to be said; but, as we pointed out in the article already mentioned, the recommendations of the Home Office Commissioners were in the nature of a compromise, and the scheme not such as they would have devised had they had a clean slate. Nevertheless, it is a perfectly workable compromise, and this being the case, the acquiescence accorded to the scheme by the London County Council on June 29th is very welcome. It is to be hoped that the Asylums Board will quickly get its scheme into action, for years have passed since the importance of establishing a thoroughly organized system of transporting all persons injured in the streets promptly and safely to hospitals or their homes for treatment was brought forcibly to notice by the Metropolitan Street Ambulance Association, of which the late Mr. Reginald Harrison was president. It is sad that he did not live to see the fruition of his work, in the promotion of which he was ably seconded by Dr. Arthur James. The Local Government Board is to make regulations to ensure complete separation of the new service from the existing service for infectious cases, and the cost is estimated at £10,000, which in the circumstances must be regarded as quite a moderate sum.

LEEDS.

CHANGES ON THE STAFF OF THE GENERAL INFIRMARY.

THE vacancy created on the assistant surgical staff by the promotion of Mr. Walter Thompson to the full staff has been filled by the appointment of Mr. Harold Collinson, M.S.Lond., F.R.C.S. Mr. Collinson was a Leeds student, and has held the resident appointments of house-surgeon, resident casualty and resident surgical officer, and at the time of his appointment he was assistant surgeon in charge of the semiconvalescent hospitals. To the position vacated by Mr. Collinson the special election committee has just appointed Mr. L. R Braithwaite, M.B., Ch.B.Vict. and Leeds, F.R.C.S. Like Mr. Collinson, Mr. Braithwaite was a student of the University of Leeds, where he had a distinguished career. Until recently he has held the position of resident surgical officer at the infirmary. As the resident casualty officer's resignation coincided in time with that of Mr. Braithwaite, the Faculty of the infirmary had the important duty of filling up the two senior surgical resident posts at one time. Out of a very large number of applicants, four were selected, and after careful consideration the following appointments were made: To the position of resident surgical officer, which is the senior post, Mr. S. W. Daw, M B., B.S.Lond., F.R.C.S., was appointed. Mr. Daw was a student at Guy's Hospital, London, and is at present resident surgical officer at that institution. The position of resident casualty officer was conferred on Mr. A. Richardson, M B., B.S.Lond. Mr. Richardson was a student of the Leeds School, and until recently he was one of the house-surgeons at the infirmary.

BIRMINGHAM.

THE CARE OF THE MENTALLY DEFECTIVE.

THE annual report of the Special Schools After-care Subcommittee of the Birmingham Education Committee has just been published. An investigation of statistics showed that out of 307 feeble-minded persons who had left school and were still alive, and whose whereabouts were known, only 34.8 per cent. were earning any wages, and only 5.5 per cent. as much as 10s. per week. If the numbers "lost sight of" had been included in these figures the percentage of wage-earners would certainly be still lower, for a recent investigation of the subcommittee proved that these belonged to a class who rarely become wage-earners. The After-care Subcommittee, therefore, after eight years' experience with mental defectives, repeated the opinion, previously expressed, that for a large percentage of the feeble-minded permanent supervision was necessary, for the following reasons: (1) To enable them to contribute to their own support; (2) to save them from harsh treatment at home and in the streets; (3) to prevent them becoming drunkards, criminals, and prostitutes; (4) to prevent them becoming parents of children who can only grow up to be a burden to the community. The report showed that if the care, control, and education of mentally-defective children were to cease at 16 years of age, the money so spent was wasted, and would be wasted in the future. These persons needed lifelong care and control, although all did not require the same amount of supervision. Some could be sufficiently looked after by the After-care Subcommittee, but the larger majority required treatment in industrial colonies, but to achieve this further legislation was necessary.

YORKSHIRE.

THE MEDICAL OFFICERSHIP AT EASTBY SANATORIUM.

DR. MARGARET C. MACDONALD has been offered, and has accepted, the post of Medical Officer to the Eastby Sanatorium of the Bradford Guardians at a salary of £130 a year. There was an error in the paragraph on this subject published last week; the salary received by Dr. Macdonald as Assistant Medical Officer to the Bradford Workhouse was £100 and not £130 a year.

Special Correspondence.

BERLIN.

Death of Paul Langerhans.—The Old Folks' Home.—A Model Infants' Home.

ONE of the most popular and most respected figures in the Berlin medical world has passed away. Geheimrath Langerhans—"der alte Langerhans," as he was familiarly called—eminent physician, president of the town council, for many years member of the Prussian Diet, honorary citizen of Berlin, has died at the ripe age of 90. He had for some time discontinued his consultations, but it is not too much to say that from the year 1842, when he took his degree, until his death, there was no movement making for medical progress, no stride forward in the path of public or private hygiene that did not owe a share of its success to Langerhans's vigorous and whole-hearted co-operation. Like his illustrious friend, Virchow, he was an advanced Liberal of the staunchest type; in fact, one of the very last public speeches he delivered was in favour of the political emancipation of women. Age had not dimmed Langerhans's faculties nor blunted his physical energy. Until very lately he could be seen walking in the crowded city streets on his way to or from the town council's meetings. Latterly he seemed to bear almost a charmed life, for he twice broke a leg and went through two bladder operations without more than temporary interruption of the strenuous work that filled his days. In the end death came to him almost suddenly. He had a public funeral, with speeches by official personages, including the Chief Burgomaster, Herr Kirschner.

It is years ago now that the Berlin municipality purchased the fine country seat and well-wooded park of Buch, at about three-quarters of an hour's rail from town, as a

site for future charitable institutions. A large lunatic asylum and a sanatorium for consumptives were erected there, and now a third establishment has been built—a huge home for aged and debilitated paupers of both sexes. The word "huge," when applied to a building—especially a charitable one—generally means *hideous:* but this newly-opened Alte-Leute-Stadt (old folks' home), as it is called, which is to provide permanent homes for no less than 1,500 persons, is truly a thing of beauty, in its whole disposition, on an exceptionally advantageous site, as well as in its details. Ludwig Hoffmann, the city architect of whom Berlin is justly proud, to whom it owes the Virchow Hospital, the lovely Infants' Home, and so many other fine and original public buildings, was its planner and designer. Without introducing stately façades or rich ornamentation, he has achieved beauty by effects of light and shade, by harmonious and restful lines, by variety in the shapes of the different erections, by a certain home-like aspect of things, and above all by the amount of air space and greenery, which is a luxury in itself. The buildings are grouped round four large garden courtyards (the kitchen buildings have their separate garden-court), their ground plan is thoroughly practical and simple, and the hygienic arrangements are of the best type. A sight worth seeing are the kitchens, in which meals for as many as 1,800 persons can be cooked. Men and women are separately housed, but the gardens and the four garden courtyards with their flower beds, fountains, and comfortable benches, are common ground for both sexes; and a certain number of the houses contain married quarters. Berlin now possesses no fewer than 2,286 beds for old and debilitated paupers, for the upkeep of which an annual sum of 1,132,000 marks (£56,000) has been set apart in the municipal Budget. The building expenses of the new Buch Home (without reckoning the site) amount to 6,500,000 marks (£325,000). No wonder that the Berlin burgher sighs about his high municipal rates and taxes!

Another important new institute, but State built, though on a much smaller scale, is the Charlottenburg "Kaiserin Augusta-Victoria-Haus zur Bekämpfung der Säuglingssterblichkeit im deutschen Reich." As its name—the length of which is phenomenal, even for Germany—reveals, it is largely to the personal initiative of the German Empress that this new creation owes its existence, and its opening was graced by the presence of Her Majesty and her daughter-in-law Princess Eitel Friedrich. Cabinet Ministers, high Government officials, university and municipal delegates were present at the ceremony, but it was a Court official, Herr v. Behr-Pinow, the Empress's Cabinet Councillor, who delivered the opening address. He explained the objects of the new institute, which is to combine laboratory, hospital, theoretical, and practical work, in the hope that its outcome may be the laying down of firmly-established scientific principles for infantile feeding.

VIENNA.

Manslaughter by an Attendant in an Asylum.—Recreation Grounds.—Erection of an Accident Clinic.

AN occurrence in one of our lunatic asylums has recently caused great indignation, as it has shaken the confidence of the public in the working of the institution. A patient suffering from progressive paralysis became noisy and troublesome at night. Instead of calling one of the physicians, the attendant in charge of the ward tried to quiet the patient by wrapping him in several dry blankets. Several other men came to his help, and in the struggle the patient's hyoid bone, larynx, and some of his ribs were broken. Still the physician was not called, but when he came to make his morning rounds he found the patient moribund. Of course, the matter was brought before a law court, and at the trial some unexpected and inexcusable facts of negligence were brought to light. The scarcity of funds available for the pay of attendants, the pressure of work, and the general discredit of this occupation leads to the position being accepted only by persons of a low class. Their education is often not sufficient to make them understand the gravity and responsibility of their task. There is no doubt that in future there will be a better supervision of the attendants and nurses, as well as a better selection, for the first thing the newly-appointed manager has done has been to increase the sum devoted for the payment of this class of the asylum staff. Another good thing will be that the number of physicians will also be increased, for the present ratio—19 doctors for nearly 3,000 inmates—is hardly satisfactory.

In order to enable all those who are willing to spend their free time in open-air and outdoor occupation, the municipality opened last year a recreation ground covering an area of about half a square mile, with fresh flowing water, plenty of rivers and forest, and opportunity for gymnastic and athletic sports. The place was frequented by more than 150,000 persons last year. Now a new addition will be opened for the public in the shape of hired vegetable gardens. Bordering on the recreation ground a stretch of fertile land has been marked off where areas, each about 500 sq. ft., will be let at a nominal cost of about ½d. per month. There children will be able to stay all day long, whilst the labourer or the clerk can refresh himself with garden work after his day's toil in the shop or the factory. Similar "gardens" have been instituted in various places of Germany, France, and Italy. Not only does the work in these places lessen the expenditure of the family, owing to the vegetables or flowers that can be grown there, but it is a very important factor in promoting better sanitary conditions amongst the poorer classes, for it makes them acquainted with the value of fresh air and keeps them away from alcohol.

A very old desideratum of our surgical clinics has at last been supplied by the establishment of an "accident ward" in our Allgemeines Krankenhaus, the general hospital where nearly the entire teaching of medical art is centralized. Whilst in former years all accidents requiring hospital treatment were brought to the clinics, lately the presence of so many smaller hospitals, distributed all over the city, has robbed the clinics of this kind of case, so very urgently required for the teaching of students. The death of one of our eminent surgeons, who had obtained for his own personal use a special surgical ward in the hospital, has enabled the board of administration to hand over the beds in his ward to the clinics under the name of "accident wards." An agreement has been made with the police and the street ambulance corps that all persons injured in accidents occurring within a radius of 6 kilometres (about 3¾ miles) from the hospital must be brought into this ward. A number of students besides the ordinary resident surgeons will be housed in the ward in order to learn the important methods of first aid; military surgeons, too, will serve there in turn, as the expenses will also be partly borne by the Ministry of War. Altogether about 100 beds will be added to the present number, 40 of which will be for medical and 60 for surgical cases. Cases of fracture, bullet wounds, and similar injuries requiring immediate attendance may be brought at once into the lecture hall, if students are present.

THE will of the late Dame Henrietta Otway, of Eaton Square, which has now been proved, contains the following bequests: St. George's Hospital, London, and the Sussex County Hospital, Brighton, each £500: Hove Dispensary and the Hove Police Convalescent Hospital, each £300: the Cheyne Hospital for Incurable Children and the Grosvenor Hospital for Women and Children, each £200.

A COPY of the *Livingstone College Year Book*, which has just been published, shows that the institution succeeded last year in paying for itself, in spite of the fact that the year began with a debt of £400 on the current account. As usual, the volume contains extracts from a number of interesting letters from old students, and an article dealing with the progress of tropical medicine.

THE second member of the new Tasmanian Cabinet, the Chief Secretary, is Dr. G. H. Butler, who, as a student of Westminster Hospital, became M.R.C.S., L.R.C.P., in 1879. He has been a member of the Tasmanian Legislative Council since 1896, and four years earlier was president of the Inter-Colonial Medical Congress. He is a member of the consulting staff of the Hobart General Hospital, consulting surgeon to the Commonwealth Military Forces, and a member of the Court of Medical Examiners for Tasmania. He is also a member of the Council of the Royal Society of Tasmania, and chairman of the Tasmanian Racing Club.

Correspondence.

HERMAPHRODITISM.

Sir,—Your annotation on hermaphroditism states that it is the opinion of a distinguished French physician that in the large majority of cases it is due to the want of development of the male. I maintained this many years ago, and those cases which I have known or read of since that time have strengthened this opinion; that is, every case, on examination after death, has shown the existence of immature testes. My interest in this subject was very early awakened, when on entering Guy's museum for the first time I saw standing in a corner the plaster figure of a human being called an hermaphrodite. It had been modelled at the order of Dr. Hodgkin, who had examined the subject of it after death. He left an account of it in the museum books, and I suppose from being a Quaker, and therefore very particular in the use of the personal pronoun, he called the subject "*it*." Mary C., between 50 and 60 years of age, was admitted in a delirious state, and having been very dissipated, soon after died. It was said that this individual wore masculine attire in early life, and to have acted as groom, milkman, etc. For the last seven years *it* had passed as a female, and lived at a public-house as barmaid and general servant. The other inmates estranged themselves from her, believing that she was not an ordinary human being. *It* made light work of clearing the tap. In former years *it* had been accustomed to pugilistic encounters and much addicted to drinking. The body after death was robust, the features coarse and apparently intermediate between an old man and old woman, and the lip and chin sparingly covered with hair. Other particulars I need not give, but the most important one was that on each side of the penis-like organ there was a protuberance caused by two bodies which when taken out were found to be testicles, resembling those between six and seven years of age.

I have related this case as a typical one, but sometimes they have more marked feminine characters. For example, some years ago Dr. Oldham published a case the particulars of which he sent to the Royal Society, and in consequence the case was mentioned in the medical journals and in some works on obstetrics, notably that of Dr. Tyler Smith. The patient came to him on account of amenorrhœa. She, as Dr. Oldham called her, was feminine in every respect, so that he never suspected that she was of doubtful sex. On examination he found a small body in each groin, which he took to be a misplaced ovary. He had therefore a case before him in which he could test the question whether the ovary underwent any change at the menstrual period. He inquired of her if she felt any difference in these lumps at particular times. Whether or not "the wish was father to the thought" I do not know, but she told him that every month she felt a tenderness in them. He accordingly requested her to wait upon him at those periods, and then he found the bodies swollen and tender. He therefore had made an important discovery in showing the association of the ovary with menstruation. Some time afterwards the young woman had pulmonary symptoms, and eventually died of consumption. Dr. Oldham, having never lost sight of her, procured the assistance of a Guy's porter to make the *post-mortem* examination, and the organs of generation were to be sent to me for examination. When they arrived, the strange bodies were evidently testes, and Mr. Durham being at the hospital at the time I requested him to look at them. He confirmed my opinion, of which there could be no doubt, for we were able to drag out long tubules without any difficulty. The case is to be found in the records of the Royal Society, but not published in the *Philosophical Transactions*.

As far as my knowledge goes, it is the same in the lower animals. My butcher brought me one day a small body which he found on a leg of mutton which he had cut from a ewe. It turned out to be a testis, and the so-called ewe was an ill-developed ram. All these facts are corroborated in the cases where the testicles are removed soon after birth. In the human subject the appearance during growth becomes more feminine, no hair grows on the face, and the voice is in a higher pitch, like that of a woman.

Gilbert White, whose powers of observation have never been surpassed, says: "Castration has a strange effect; it emasculates both man, beast, and bird, and brings them to a near resemblance of the other sex. Thus, wethers have small horns like ewes and oxen large bent horns like cows, for bulls have short straight horns. Capons have small combs and gills and look pallid about the head like pullets, and walk without any parade." I might add that they become plumper and delicate eating; it is for this reason, I believe, that the operation is performed.

The word "hermaphrodite," meaning the union of Mercury and Venus, implies that this human creature possessed both sexes. However ingeniously the Greek sculptors modelled a form between girl and boy, they never adorned them, as far I am aware, with double organs. I am personally quite unable to think of such a being. We are told that in the fetus there is an organ called the Wolffian body; this is the foundation of the kidney and the most important sexual organs. From it is produced the testis or ovary, the male or female. What determines the impetus to produce one or the other is totally unknown. The belief in hermaphroditism means that it may develop into the two sexes at the same time, the female body producing ova and the male body spermatozoa. There is not the slightest evidence that such a thing has ever been seen, or even possible, in any of the higher animals. When it is seen in the lowest form of animal life, quite different structures exist, and so in most flowers. The word "hermaphrodite" is continually used for various malformations of the sexual organs. The word is misleading and should be eradicated.—I am, etc.,

Hampstead, June 28th. Samuel Wilks.

PNEUMOCOCCUS INVASION OF THE THROAT.

Sir,—I read the interesting papers by Sir Felix Semon and Dr. Elliot on pneumococcus invasion of the throat, etc., and was surprised to know that this condition was considered such a rarity. In 1904 I attended a child aged 8 years who suffered from enlarged and painful cervical glands, enlarged tonsils, and purulent discharge from both ears, the discharge giving a pure culture of pneumococcus.

I sent a report of this case to a medical journal, but, coming from the pen of an obscure member of the profession, it found its abode in an editor's waste-paper basket.

Since that time I have attended seven cases presenting various clinical phenomena, but all showing a primary pneumococcal invasion of the throat. As I write I have notes of several of those cases before me, two of which I shall briefly illustrate.

The first case I attended in June, 1905; the patient was a female, aged 18 years, who was convalescent after an attack of measles. When I saw her she complained of sore throat and stiffness in the neck. The cervical glands were enlarged and tender on each side, the tonsils were both enlarged and covered with a purulent membrane; the temperature was 100.4°. On swabbing the throat the membrane was very easily detached, and was practically a purulent exudate. Examination of the swab revealed diplococci in great numbers, which gave on culture a pure growth of pneumococci. Three days later the patient was attacked with acute lobar pneumonia, both lungs were involved, and I may add that this was the worst case of pneumonia I ever attended. With the occurrence of the pneumonia the throat entirely cleared up. The patient was seriously ill for a month, but made a good recovery. It would take too much space to give this case in detail, but I should like to state that after she was out of doors for about a month she complained of a slight cough and spit. Examination of the chest revealed a small dull area at the right apex, with a few crepitations. I could find no tubercle bacilli in the sputum. As this patient's home was in Sutherlandshire, I advised her to give up her residence in town, and adopt a rigid open-air treatment, which she did with complete success.

The second case was that of a male, aged 28, who presented all the features of a severe ulcerative stomatitis. Both lips, the gums, and the roof of the mouth were affected with ulcerative patches, all of which bled readily. The tonsils were covered with a purulent membrane. This patient informed me that he first felt his throat sore and

stiffness about the neck, and thought he had caught cold. Examination of a swab from the tonsils gave a growth of pneumococci in pure culture. The ulcers gave a growth of pneumococci, staphylococci, and a few other organisms. Beyond the stiffness in the neck there was no involvement of the cervical glands, and little constitutional disturbance. The temperature one evening registered 100.2°, but was practically normal throughout the course of his illness. The tongue was thickly furred, and the breath foul. In treating this case I found, after trying various remedies that 15-grain doses of potassium chlorate thrice daily, and washing the mouth and throat frequently with a saturated solution of the same salt, acted rapidly. All ulcers had disappeared in five weeks.—I am, etc.,

Edinburgh, June 28th. FREDERICK PORTER, M.B.

"FACTS" AND "THEORY" REGARDING THE TREATMENT OF SEVERE ANAEMIAS.

SIR,—Dr. William Hunter's tirade in the issue of June 12th, p. 1458, passed over my head and left me unscathed, since, although I read it carefully and with much enjoyment, I quite failed to realize that the unnamed "writer of a paper" he referred to was myself, and it was only when I found my name mentioned in Mr. Rushton Parker's letter (p. 1514) that I appreciated that it was I that had been waving the red rag in Dr. Hunter's field.

It seems scarcely necessary for me, after Mr. Rushton Parker's vindication of my use of the word "theory" to describe Dr. Hunter's views, to justify further my employment of the expression which has proved so inflammatory; but, with an apology for occupying the pages of this JOURNAL with an explanation of the use of the English language, I should like to quote the definition given in *The Century Dictionary*. "Theory" is there defined as an "intelligible conception or account of how something has been brought about," with a note to the effect that "a theory in this sense will most commonly, though not always, be of the nature of a hypothesis; *but with good writers, a mere conjecture is hardly dignified by the name of a theory.*" The italics are my own.

There are other theories of greater longevity than Dr. Hunter's—such as Dalton's atomic theory, or Darwin's theory of natural selection, which is now celebrating its fiftieth year of very active life, and Dr. Hunter should feel proud, and doubtless does, at being placed on the same pedestal with these two famous men.

Then Dr. Hunter goes on to refer to "the 'facts' about successful treatment with bone marrow," and continues, "both 'successful' cases which he refers to had relapsed, and one of them was dead three or four weeks before he was recorded as cured." Now if any one will turn to my paper they will find that Dr. Hunter's criticism is entirely beside the mark, since in my two cases referred to as having been under treatment with bone marrow, all I stated was that "the more rapid improvement in both dates from the addition of the red marrow to their dietary, and one, the worse of the two, has now kept well for six months on no other treatment, though I cannot say how long the improvement is likely to last." There is certainly no word there of "successful cases" or of being "recorded as cured," and how Dr. Hunter can know anything of the subsequent history of two rather obscure patients of mine, whose names have never been published, I cannot conceive. But things like that are always liable to happen when you put your head down, and shut your eyes, and gore the first person you come across.

Even my advocacy of his special line of treatment, which I described as adequately as I think even he could have done in the limited space at my disposal, Dr. Hunter falls foul of; and, as regards his extremely cautiously worded challenge, I can only reply that I could point to several lines of treatment wholly unconnected in any way with his theories (if I may at this stage use the word again) as to the causation of pernicious anaemia. If I may carry the matter further, I would ask: Can Dr. Hunter point to any series of successful cases of the treatment of pernicious (or, if he will, Addison's) anaemia in which the main reliance has not been upon a drug—namely, arsenic—whose value in the disease was demonstrated long before his work on the subject was begun?

There are other contentious points in his letter that I should have liked to touch upon, but I have dealt with the main ones, and occupied quite enough of your space; it only remains for me to say that I have always thought very highly of Dr. Hunter's endeavours to throw more light upon a very difficult subject, and that an extract from a favourable review by me of his book on *Pernicious Anaemia* long figured as an advertisement of that book.—I am, etc.,

Manchester, June 22nd. CHARLES H. MELLAND.

OPERATIONS ON THE PROSTATE.

SIR,—In your issue of June 19th Mr. H. D. McCulloch states that in the vast majority of cases the enlargement of the prostate is interstitial and fibrotic, due to long-standing chronic prostatitis, and that pre-existing urethral and cystic infection are important etiological factors. My experience, on the other hand, shows that most enlargements are of an adenomatous and fibro-adenomatous nature, in which the normal elements of the gland are reproduced in somewhat varying quantities. The fibrous or diffuse forms, in which there is little or no encapsulation, are decidedly in the minority. As to the statement that chronic prostatitis is a causal agent, it can be said with certainty that it is exceptional to obtain any microscopical evidence of chronic inflammation in sections cut from prostates in various stages of enlargement. There is evidence that an acute inflammation is fairly frequently engrafted on to a pre-existing adenomatous change. With regard to a pre-existing urethral or cystic infection, there is no evidence forthcoming that such exists at the time that the enlargement starts, although various micro-organisms are found in the urine when the enlargement has existed for some time.—I am, etc.,

London, S.E., June 22nd. CUTHBERT WALLACE.

SIR,—Mr. Fullerton (June 19th, p. 1513) traverses the remarks on operative procedure contained in my previous letter in the BRITISH MEDICAL JOURNAL of June 5th. In support of his opposition he submits some general considerations, and also some facts about his case not previously mentioned. These latter are scarcely germane to the argument of my letter, since, as was repeatedly stated in it, it referred to the case as recorded in your issue of May 22nd. These additional facts are of interest in their bearing upon treatment. Examples of these are: the failure to discover the stone on examining the bladder immediately after opening it, and the reason for this; the situation of the vesical orifice; the patient's choice of operation.

Mr. Fullerton now tells us that he did not find the stone before performing prostatectomy, because his finger could not reach the extreme depths of the bladder where the stone lay. This indicates that a more thorough and instrumental examination of the bladder, including its recesses, was not made. There can be no doubt that such an examination in Mr. Fullerton's skilled hands would have discovered the stone. The probable presence of stone was suggested by the history of previous haemorrhage with gravel, and by the existing haemorrhage for which no other cause is stated to have been found.

Mr. Fullerton seems to oppose suprapubic cystotomy on the ground that urethral obstruction would prevent suprapubic closure. Yet he recognizes that a temporary closure with apparently sound healing is not incompatible with some obstruction. I know from personal experience that in a case with enlarged prostate and increased frequency of micturition suprapubic lithotomy was followed by closure for some months at least. In the report (p. 1230) the only definite gauge given of the degree of urethral obstruction formerly present is that the patient passed urine once or twice at night. I still think that there is nothing in this to show that suprapubic cystotomy, followed by a more thorough exploration of the bladder and removal of the stone, would not have restored to the bladder its former degree of efficiency, or inefficiency, if this term be preferred. I do not, of course, refer to the acute obstruction associated with retention, to which, by the way, no cause has been assigned.

The case acquires another aspect in the light of the information now given about the site of the vesical orifice, almost immediately behind the lowest part of the anterior abdominal wall. That this should cause no more urinary inconvenience than it did is both striking and suggestive.

I think that all those of us who entertain what Mr. Fullerton regards as "erroneous views" would agree that such a condition is incompatible with suprapubic closure. But it is a far cry from this to the conclusion that therefore primary prostatectomy was the wisest treatment in this case.

Mr. Fullerton appears to be opposed to suprapubic cystotomy as an alternative to prostatectomy, irrespective of particular conditions. He has made his reply in order to satisfy me and others who hold what he thinks "erroneous views as to the value of suprapubic cystotomy in cases of enlarged prostate." If he means to satisfy us that cystotomy is bad treatment in all cases, his effort fails. If he means to do this with regard to some cases, his effort is superfluous. Were the problem a vesical one only, I think this contention would be a good one. But as the problem is not merely vesical, I think it is not necessarily right. And, in view of such conditions as do exist in some cases, I think it is wrong.

Mortality-rates are quoted in support of the procedure adopted. Toward these I feel very much as I do about the estimation of prostates by weight. That they are based upon a large series of cases of all sorts is at once their value and their weakness. In proportion to the number and variety of the cases from which the figures are drawn, so are they valuable for general statistical purposes, and so are they of little value for prognosis in the individual case. In this the immediate mortality from operation will either be 0 or 100 per cent., and the greater or lesser probability of the one or the other will depend upon the particular circumstances of the case.

Applying these considerations to Mr. Fullerton's case, we find from his original report, in the British Medical Journal, p. 1230, that he considered "the condition of the circulatory system" (by itself) "almost precluded the idea of any operative measures whatever." This being Mr. Fullerton's opinion in relation to an operation expected to last about two or three minutes, what would it have been in relation to a fifteen minutes' tussle, such as actually occurred, leaving his fingers, hands, and arms aching for two or three days (p. 1230)? Would he have proceeded to carry out such an operation? If not, what would he have done?

Mr. Fullerton asks what I would be prepared to do. In view of the information now supplied in his letter, in addition to that in the original report, I think the wisest treatment of his case would have been suprapubic cystotomy; thorough exploration of the bladder for the cause or causes of haemorrhage; removal of the stone; washing and draining the bladder; consideration of secondary prostatectomy. As regards the last, a short interval with its freedom from haemorrhage, retention, repetition of the previous measures for its relief, with the consequent irritation and exhaustion, would, I think, render the patient more, not less, fit to stand the strain of further operative interference; while it would afford the surgeon a valuable opportunity to consider the best way to deal with the tumour, which, as it happened, presented such great difficulty in its removal.

Mr. Fullerton's letter (p. 1513) lets us know that the patient had the alternatives fully explained to him. It seems clear, then, that Mr. Fullerton was prepared to perform cystotomy in this case if the patient so chose. That the patient's choice coincided with Mr. Fullerton's own preference must have been gratifying to him. But all this does not affect the question at issue—namely, the relative values on technical grounds of different operative measures. The surgeon's first consideration must be the patient's life; comfort is secondary.

From the last paragraph of Mr. Fullerton's letter, he seems to prefer prostatectomy, however severe, to suprapubic cystotomy in such cases as this—that is, in cases in which the condition of the circulatory system is so bad as almost to preclude any operation whatever, even a prostatectomy of two or three minutes' duration. Mr. Fullerton's words seem to me so appropriate in this connexion that I cannot do better than repeat them. "I would recommend" him "to reconsider carefully the advisability of performing suprapubic cystotomy in similar cases," and to be "prepared to contemplate the certainty of the persistence of a suprapubic fistula" as possibly preferable to a probably fatal prostatectomy.—I am, etc.,

Middlesbrough, June 21st. Robert K. Howat.

SPEECH FRIGHT.

Sir,—Akin to "speech fright" is the fear which some feel when called upon to do unusual things.

I am devoted to boating, but invariably feel nervous the first few minutes I am on the water. Reason tells me that there is no more danger at the beginning than at the end of a trip, but common sense does not seem to enter into the condition at all.

I was once in considerable danger off the Cornish coast and experienced no fear, the nervousness went as the danger came. When in a rowing boat the nervousness passes off the moment I begin to work, but, if not rowing, lasts much longer.

Common occupation appears to be the best prophylactic. The late Lord Salisbury had a habit of resting his left elbow on some object when speaking. At his official residence a pile of books was usually put ready at his side; on one occasion these were removed before his speech had been delivered; the noble marquis fidgeted and hesitated in his address, then left his place, reached down the missing volumes and went on with his speech as fluently as ever.

I regard the condition as a nervous disease of the "phobia" class, but *dare* not attempt to give it a name.—I am, etc.,

London, S.E., June 21st. John Round.

Sir,—"Speech fright," "stage fright," and kindred nervous phenomena are extremely interesting subjects for observation. The distress occasioned must have been endured by every one, more or less, at times, and is experienced in variations, not merely at after-dinner and public occasions, but also on the fields of sport, and notably at cricket and golf. Many brilliant golfers are unable to play their usual game at critical stages, "nervousness" apparently paralysing them.

On analysing one's own sensations on such opportunities, speech-making, singing before company, *viva voce* examinations, crucial periods in sports, etc., the first thing one observes at the onset of the "nervousness" is an involuntary holding of the breath or a partially suspended respiration, followed by a quickened heart-beat, at once painfully apparent, a sudden acute tension and confusion of mind, throbbing at the temples, uncertainty of utterance, a series of short spasmodic actions like twitches at the moustache, brushing the forehead, swaying from one leg to the other, and the fluky stroke at cricket and fatal snatch at golf, all of which are quite unusual to the ordinary behaviour and conduct of the individual.

In such a condition immense relief is afforded at the very commencement of the distress by taking, quietly and slowly, three or four full and free inspirations. It is essential that they should not be hurried. The relief is extraordinary; a calmness ensues, a feeling of freedom follows, and a sense of time gained is noted; the mind clears, speech returns, one recovers oneself and acts naturally and comfortably. I think the old hand has perhaps unwittingly learnt the trick. The practised after-dinner orator may be observed to stand quietly, unconcerned, with open mouth, breathing easily and sufficiently before venturing on his remarks. The prima donna may be seen to deliberately fill and refill her ample chest while waiting for the introduction to end, and the crack golfer lounges comfortably up to his ball and takes a quiet breather and survey before he settles down to his shot.

It has been noted by a previous correspondent that women are not embarrassed to the same extent as men in this direction, and it is doubtless due to their easier method of respiration.

Many ordinary physiological explanations suggest themselves to account for the benefit which this simple procedure ensures, and that it is of practical value I have experienced proof time after time.—I am, etc.,

Richmond, June 25rd. J. R. Johnson.

Sir,—It is to be hoped that the letter from Dr. Sanderson Mellor will arouse the disapproval of medical practitioners. For there are many of us who look for guidance from an authoritative source in a matter of this kind. Has Dr. Mellor had no experience of the abuse of opium or of cocaine? Here are patients in perfect health

—unless pure nervousness is to be considered a disease—being treated by the most potent of drugs.

I know full well that there are many who favour this treatment. It is not very long since a very senior practitioner opened my eyes to this abuse of drugs when he told me how many public speakers and others "required" a dose containing opium. A lady astonished me when she said she took cocaine lozenges, sometimes as many as twenty a day. Each one contained $\frac{1}{20}$ grain of cocaine—1 grain per diem! Speakers are far too numerous at most gatherings; a breakdown followed by a sit-down would often be most welcome and diverting. Not being a speaker, I can only rely on the dicta of others, so note Mr. Haydn Brown's assertion that "one of the most important factors . . . is a thorough grip of subject." Disraeli wrote in *Endymion* that knowledge is the secret of eloquence.

To aid eloquence and to allay nervousness in healthy people by means of drugs must be wrong. If this be not so, then must Molière be right in his satire when he wrote, "Un cordonnier, en faisant des souliers, ne saurait gâter un morceau de cuir qu'il n'en paye les pots cassés; mais ici l'on peut gâter un homme sans qu'il en coûte rien."—I am, etc.,

London, W., June 29th. BERNARD E. POTTER.

"THE DOCTOR AS A VICARIOUS PHILANTHROPIST."

SIR,—Let Dr. Gwatkin daily and impudently demand of shoopkeepers food for small boys in serious want, force good tradesmen continually to supply their wares before payment to all and sundry, then leave them to collect the cost; if he has any courage left, dare him to extend his efforts to all hours of the night as well.

Dr. Grey, in the JOURNAL of June 12th, writes that street accidents are rare, and are no trouble or expense to medical men. This is not correct, though it may be true for his practice. Those who write in this strain evidently do not know how some of their medical brethren live or, rather, exist, or of the treatment meted out to them by the community.

The oft-recurring and occasionally bitter letters under this or similar headings shows there is something deeply wrong, and, as Dr. Kerr says, it could easily be remedied. The history of the world proves that few rights have been obtained by the methods hitherto adopted by the medical profession. Perhaps Dr. Gwatkin could induce civilized Governments to stop building *Dreadnoughts*, on the ground that such is lowering to humanity. The profession have exercised it by methods opposed to all common sense, daily expecting recompense which fails, laughed at by all sane men, not respected as much as some members think. Is the result satisfactory?

It is not only the ignorant poor that exploit the profession, but so-called cultured people, from Cabinet Ministers, who have the means of obtaining reliable information, downwards. Allow me to call attention to the recent attitude of the Home Secretary with regard to the difference in the amount of the fees paid to medical men and veterinary surgeons for street accidents in London; consider the speeches of clergymen of the Church of England, of ladies who are members of boards of guardians, when parish doctors ask for an increase in salary; yet how these men are paid, how they are worked, at the risk of being called inhuman, outside their contract, is notorious. Some doctors are treated with callous brutality—if in ignorance, let us try to bring the community to sense by ordinary methods.—I am, etc.,

Margate, June 22nd. J. J. HEMMING.

SIR,—This question of "The Doctor as a Philanthropist" is a very serious one for the profession and the public. Would Dr. Owen Gwatkin kindly tell us how much he has suffered by attending accidents "in the interests of humanity"?

I have a small practice—I mean as regards cash receipts—but by attending an accident recently it cost me in cash £11 trying to get paid for it, and I have not got paid for it yet.

On Saturday a child came to me in the middle of my surgery hours and with patients in the waiting-room. The child said, "Ye've to gyne to the harbour." "To whom?" I asked. "I dinna ken." "Who sent you?" "I dinna ken." "Who is hurt?" "I dinna ken." "Is some one badly hurt?" "I dinna ken." I sent the child away to find out more about it or send some one else. Afterwards I found out that a man had been hurt within a mile of five other doctors; he was within twenty yards of another doctor; he was hurt seven miles from my residence. None of the other doctors were sent for. The man was not attended to; he died within six hours of a fractured spine. I did not refuse to attend the man, but I think I was entitled to know where to go and to whom.

I am meanwhile doing the work of a neighbouring brother practitioner for a fortnight, and yesterday I received a message to "come at once" to see one of his patients six miles distant. I went in pouring rain, and supplied medicine and attended to the man. When I returned home one of my own patients had meanwhile sent for me to a confinement; I attended immediately, but was too late, and my patient informed me that the nurse would manage the case now. I learn now that the man I attended never paid any one, that 30s. stands against him in my own books, and he has never paid me anything, so that I have been "done" for all my trouble and I have also lost £1 1s. for the confinement.

I could give daily examples of such work. The day before yesterday I was asked to attend a case "at once." I went immediately, and cycled eight miles to find that unless a poor woman got a medical note for the school board saying her child was unable to attend school she was to be summoned. I asked the woman if she would have sent for me if she had not been compelled to get a medical note, and she said "No." This, of course, was done for nothing.

One Saturday a man called at my surgery with a child and said, "I wish a note for the school board." I said to the child, "Have you been ill?" "No, sir." "Are you ill?" "No, sir." I examined the child and found nothing wrong, and showed them out without a certificate. I had given them nothing, so I got no pay. The school board meeting was held on Monday, when the man and child were interviewed. The man came back next night (Tuesday) and said his child was ill and in bed; would I attend to it? I looked up my ledger, and found a bill of £2 against him, and nothing ever paid. I said I would attend to the child "at once." I cycled one mile, and saw the child in bed. As I entered the house, the first thing that met my eye was a thin piece of blotting paper and a piece of paper, a bottle of ink and pen lying on the table; I said nothing, but examined the child carefully, and found nothing. I asked the child if it was ill, and it said, "No, sir." I was then requested to sign a note for the school board. I said, even although the board did not get the grant for this child, I could not give a note saying the child was unable to attend school, but I told the parent to send to the neighbouring practitioner's house whose work I was doing along with my own, and that I should leave a note there for them. However, I decided, as I was passing the house again in ten minutes, to leave a note of "good health" personally at the people's house. I found the child up, out of bed and dressed, and sitting at tea. This, I maintain, is work for nothing for the school board. Does Dr. Gwatkin blame me if sometimes I say, No?

I should not like to act harshly, but when it comes to be doing work for nothing for school boards, harbour companies, Government (signing old age pension certificates), and police in street accidents, I think it is our duty to say No! sometimes.

Those cases are true, and have happened during the last week in my small practice. What must it be in a large practice?—I am, etc.,

June 22nd. A HARD-UP PHILANTHROPIST.

MEDICAL EMERGENCY SERVICE.

SIR,—One of the most urgent needs in our large towns is the provision for the *first* attendance of a doctor in all cases of accidents and serious sudden illness of persons who have no family doctor, or are unable to command the service of one. I have proposed something on the following lines:

A Medical Emergency Service. All doctors who are willing to render *first* attendance to be on a list. That the doctors take a week's duty in rotation (probably this would

be one week in six to eight weeks). That this list and dates of attendance be supplied to each of the doctors and also kept at the police station, so that all the police would know to whom emergency cases should be sent. That a scale of fees be adopted and *first* attendance paid from a fund, which I suggest should be raised by voluntary subscriptions. I am sure it would be easy to raise the necessary funds, and the medical profession would be glad to subscribe to such a fund and to do their share of medical work to make it a success. If this were done it would meet a felt need, and also save many unnecessary inquests and votes of censure.—I am, etc.,

Bacup, June 28th. JOHN BROWN, M.D.

MEDICAL TREATMENT OF DUODENAL ULCER.

SIR,—I hope that you allow me to endorse Dr. Hort's statement as to the curability of chronic duodenal ulcer, as my experience entirely coincides with his. During the past year I have treated 33 cases in which the diagnosis of duodenal ulcer could legitimately be made, with only 3 failures. The method of treatment which I adopt is one based upon that of Dr. Hort with modifications of my own. I find that the chief difficulty lies in the preparation of the food, it being much easier to order a patient to take pounded meat than for him to procure it in a form which is appetizing and easy to digest. It is therefore necessary to supply the patient with detailed instructions for the preparation of the different dishes, which he can hand to his cook. A method of preparation which I find to be readily taken is the *soufflé*. This, in its simplest form, consists of boiled chicken, minced, pounded, mixed with white of egg, and steamed in a mould for half an hour. I invariably now include from ½ oz. to 1 oz. of gelatine in the daily food, as I am convinced that it has a distinctly beneficial effect, not only in relieving pain, but in expediting the healing of the ulcer. I always give the patient six feeds a day, at 7 a.m., 10 a.m., 1 p.m., 4 p.m., 7 p.m., and 10 p.m. respectively, and I administer the dose of normal horse serum after the meals at 7 a.m., 1 p.m., and 7 p.m., the other ones being followed by a dose of gelatine.—I am, etc.,

London, W., June 27th. GEORGE HERSCHELL.

THE ASSOCIATION.*

SIR,—The Annual Meeting of the Association is now about to be held, and, if it is to be placed in the same category as most of its predecessors, none of us will be a penny the better for its having taken place. This may seem a somewhat sweeping assertion to make, but, if any one is in a position to contradict it, I should like very much to hear his arguments. As secretary of a Division, I have got to know the workings of the Association pretty well, and it seems to me that, in comparison to the small amount of benefit which the profession gets from the Association, the latter with its Branches and Divisions is about the most cumbrous and useless piece of machinery that could well be devised.

Our Division meets and gravely deliberates upon the various subjects that are sent down periodically from head quarters, the secretary sends the result of our incubrations to the Branch or back to head quarters, as the case may be, and that is the very last we hear of the matter. Furthermore, the absolute apathy which is displayed by the large majority of the members (80 per cent. of our Division have never during the six years been present at a meeting) is most disheartening to those of us who do turn up. Even in regard to subjects which one would suppose would appeal to the average country practitioner the same indifference is displayed.

The continual holding of meetings without any tangible result is a perfect farce, besides being a waste of time and money.

The British Medical Association might be one of the most powerful professional bodies in existence, which could dictate its own terms to all comers, whereas now we have not so much cohesion as to make us able to force the clubs to raise their subscriptions by one shilling per annum.

The present system of Divisions and Branches has not fulfilled its purpose in the least, and I think the sooner it is abandoned the better.

I should like to know what is the amount of money spent annually just now in sending the various memoranda and circulars to each secretary of a Division, not to mention the bill for printing the same.

Instead of wasting time on trivial subjects which are of little practical importance to any one, let the Association try to devise some means whereby our power may be increased, and we be thereby enabled to bring about many much-needed reforms and abolish abuses the existence of which is detrimental to the best interests of the profession collectively and individually.—I am, etc.,

W. J. CAIE,
Bury St. Edmunds, June 27th. Secretary West Suffolk Division.

TREATMENT OF SCHOOL CHILDREN.

SIR,—I am sorry I did not know when criticizing Dr. Sidney Phillips's letter that the medical inspectors of elementary school children are, as he states, appointed under the title of "school doctors." It seems to me in any case an inappropriate designation for officers whose work is confined to inspection and does not include treatment. I would therefore suggest that, even if this title is used by laymen, it should be avoided by us in discussing this question. Loose use of terms confuses the issue, even when all concerned are keenly anxious to state their case fairly.

It can only, I think, be due to loose use of terms, or loose understanding of terms, either by Dr. Phillips or by me, that my remark about the impossibility of acting as a consultant to a medical inspector who may not treat the children he inspects, should make Dr. Phillips think that my "doctrine" deserves the consideration of the Ethical Committee, and that I am in danger of inhuman conduct. I am not concerned for my own peril in either of these respects, but it would, I think, be well that, for the sake of clear thinking on this matter, Dr. Phillips and I should try and understand each other's ideas of what is meant by "act as a consultant to" another medical man. If I knew what Dr. Phillips understands by this phrase, I could perhaps perceive wherein lies the inhumanity of my "edict." If Dr. Phillips knew what I mean by the phrase, he would perhaps recognize that the "consultative principle" as applied to out-patient departments is neither impracticable, as he states, nor likely to be manipulated in an offensive manner, as he fears. As I feel sure any general practitioner of Dr. Phillips's acquaintance will be able to explain to him the meaning which would commonly be attached to these words by any one in the professions of medicine or law, I will not trespass on your space by endeavouring to define them. I shall rest in hope that Dr. Phillips will come to see that to be unable to consult when there is no one to consult with is a natural incapacity which offends no code of ethics or humanity.—I am, etc.,

June 25th. LAURISTON E. SHAW.

MEDICAL INSPECTION OF SCHOOLS IN SCOTLAND.

The Position of Female Assistant Inspectors.

SIR,—As several Scottish councils are at present seeking assistant medical inspectors and offering lower terms for women than for men, I ask your permission to draw special attention to the fact. Edinburgh City, Fife and Forfarshire, which have all accepted the recognized minimum of £250 per annum for male assistants, offer £200 and £150 respectively for the corresponding female appointments. Several reasons, whose ingenuousness is doubtful, have been publicly given, such as that the work of the female inspector is to be less important, or that if the female medical inspectors are remunerated on the same scale as males, the female teachers will demand like treatment. The fact is that the councillors believe the supply of women to be cheaper than that of men. From the point of view of the profession, the services performed by the men and women are equally incumbent on the councils, and as the prospect of advancement before the assistant is even less for women than for men, it is desirable that every woman should loyally support the contention that

* Previous letters on this subject were published in the BRITISH MEDICAL JOURNAL of May 29th, p. 1331, June 5th, p. 1391, June 19th, p. 1514, and June 26th, p. 1575.

for women, as for men, a whole-time appointment in a service which is almost a drawback for any other department of medical work requires a minimum salary of £250, and that the councils should be made to realize this by receiving no applications for the female assistant inspectorship until the terms are adequate.—I am, etc.,

Dundee, June 30th. R. COCHRANE BUIST, M.D.

Obituary.

DANIEL JOHN CUNNINGHAM, M.D., F.R.S.,

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF EDINBURGH.

[With Portrait.]

THE University of Edinburgh, the medical profession, and the scientific world have suffered a profound loss by the death, on Wednesday, June 23rd, of Professor Cunningham at the comparatively early age of 59.

In December last, because of what was then hoped to be only a temporary breakdown of health, he obtained leave of absence. By the end of that month he was at Cairo, where he spent a week, and then proceeded up the Nile in search of sunshine and health. At Luxor he became much better, and was able, despite pain, to find great interest in the temple of Luxor and the ruins of Karnak. From Luxor he went to Assouan, where he met his old friend and former colleague, Lord Roberts. They had been President and Secretary of the Dublin Zoological Gardens together. March was spent at Helouan, where the improvement in his health was not continued. He had a week of severe fever there, but again rallied. He spent April on the Riviera, and came home in the beginning of May, not to return to his university duties, which he loved so well, but to die.

An intimate personal friend, the daughter of a former university colleague, writes: "At many places in the East he met old students, and it was touching to note with what affection, as well as reverence, they regarded him. To them he was not only the great master in his own field of science, but the most lovable of friends. His was a captivating personality. He was the most manly as well as the most gentle of men. Through his eyes, 'the windows of his soul,' just because he was truly great, shone the simplicity of the child. Many men in many lands are the better for having known him."

Dan Cunningham, as his intimate friends called him, was born at Crieff on April 15th, 1850. His father, who was then parish minister there, later became the Principal of St. Mary's College of St. Andrews University, and Moderator of the General Assembly of the Church of Scotland. His mother was a descendant of a brother of Captain John Porteous, of the Porteous Riots in the Grass-market of Edinburgh. His early education he received at Crieff Academy. At the age of 20 he began the study of medicine in the University of Edinburgh. After a brilliant course, he gained the degrees of M.B., C.M., with first-class honours, in the year 1874. Two years later he secured the degree of M.D. and a gold medal for his thesis on The Anatomy of the Cetacea. For a time he was one of the junior demonstrators of anatomy, under Professor (now Sir William) Turner, in the University of Edinburgh. In 1876 he became Senior or Chief Demonstrator, a post which he held for six years, during four of which he was also Lecturer on Physiology in the Royal Veterinary College. In March, 1882, he was called to Dublin to fill the Chair of Anatomy at the Royal College of Surgeons, from which in October, 1883, he was transferred to occupy a similar position in Trinity College, Dublin. Of the great and beneficial influence which Professor Cunningham exercised in the Dublin schools Professor Dixon and Dr. Gibson say something further on, and the latter describes the interest he took in the Royal Zoological Society of Ireland.

When, in 1903, Sir William Turner succeeded Sir William Muir as Principal of the University of Edinburgh, and *ipso facto* gave up the Professorship of Anatomy, Professor Cunningham was unanimously invited by the Curators of Patronage to succeed him in that chair. The scientific world was at one with Sir William Turner in recommending this course.

Professor Cunningham was an unwearied and prolific writer. He was the acting editor of *The Journal of Anatomy and Physiology*, and contributed many papers to its pages. He published a report on the Marsupialia brought home by H.M.S. *Challenger*, and the *Student's Guide to Dissection*, which he subsequently replaced by the *Manual of Practical Anatomy*, which is now in its third edition. Two of his papers—On the Lumbar Curve in Man and the Apes (1886), and On the Surface Anatomy of the Cerebral Hemispheres (1892)—were selected for publication in connexion with the Cunningham Fund of the Royal Irish Academy, a fund employed for the publication of works which attain a specially high standard of merit. He contributed also to the *Transactions* of the same Academy a memoir on Cornelius Magrath, the Irish Giant: a Research into the Connexion which exists between Giantism and Acromegaly (1891); and to the *Transactions* of the Royal Dublin Society a memoir on the Microcephalic Idiot (1895). In 1902 he gave the third Huxley memorial lecture before the Anthropological Institute, his subject being Right-Handedness and Left-Brainedness, and for this lecture he was presented with a memorial medal. In conjunction with Professor E. H. Bennet he wrote The Topographical Anatomy of Congenital Inguinal Hernia, which was published in 1888. Of the *Textbook of Anatomy*, published in 1902 by the pupils of Sir William Turner, he acted both as editor and joint author. After his appointment to the Edinburgh Chair of Anatomy, and as Dean of the Medical Faculty (in 1905) he naturally wrote less, but he brought out new editions of several of his works, and contributed short articles to the literature of his subject. In 1904 he published *The Evolution of the Graduation Ceremony*, an address which he had given as promoter at the graduation of that year.

Professor Cunningham was an examiner in London University for ten years, in Edinburgh University for eight years, at Cambridge for three years, at Oxford for one year, and at Victoria University for three years. He was also an examiner for the Royal Army Medical and Indian Medical Services for four years. During his life in Ireland he was for eight years Secretary, and later President of the Royal Zoological Society of Ireland, and for four years Secretary and later Vice-President of the Royal Dublin Society. He was President of the Anthropological Section of the British Association at its meeting in Glasgow in 1901, and was Chairman of its Anthropometric Committee; he was at one time also President of the Anatomical Society. He served on the Viceregal Commission appointed in 1900 to inquire into the condition of the inland fisheries of Ireland; on the Royal Commission appointed in the same year to inquire into the care of the sick and wounded during the South African war; and on a War Office Committee which reported on the physical standards required for candidates for commissions and for recruits. More recently he was convener of the committee which looked after the arrangements for the medical equipment of the Territorial Force in the East of Scotland.

Honours fell thick upon him. He held honorary degrees from the universities of Dublin (M.D. and D.Sc.), Oxford (D.C.L.), St. Andrews and Glasgow (LL.D.). He was a Fellow of the Royal College of Surgeons of Ireland, of the Royal College of Surgeons of Edinburgh, of the Royal Societies of London and Edinburgh.

His recreations were angling and cycling, and to a more limited extent golf. He was passionately fond of animals.

Professor Cunningham is survived by his wife (a daughter of the Rev. Andrew Browne, B.A., Minister of Beith, Ayrshire), three sons, and two daughters. One of his sons is a captain in the Indian Medical Service another is a lieutenant in the navy, and the third is a lieutenant in the field artillery. One of his daughters was married last year to Dr. Edwin Bramwell, and a pathetic touch was the birth of her child (a boy) on the morning of her father's funeral.

The funeral service took place at St. Cuthbert's Parish Church, the body being interred in the Dean Cemetery, on June 26th. Professor Taylor, D.D., Secretary of the University Court, officiated, assisted by the Rev. Mr. Davidson, B.D., a brother-in-law of Professor Cunningham. There was a large concourse of students. The Council of the Royal Society of Edinburgh was represented by Professors Crum Brown, Schäfer, and D'Arcy Thompson, Dr. John Sutherland Black and Dr. Cargill G. Knott.

There were also present representatives from the Senatus of the University, the Councils of the Royal Colleges of Physicians and Surgeons of Edinburgh, the General Council of the University, and the Students' Representative Council, as well as many members of the medical profession in Edinburgh and elsewhere. The service at the grave was conducted by Mr. Davidson. The pall-bearers were Mr. A. B. Cunningham and Mr. A. G. Cunningham (sons), Mr. Francis Cunningham (nephew), Dr. Edwin Bramwell (son-in-law), Dr. Myles (brother-in-law), Mr. Patrick Murray (cousin), Sir William Turner, Sir John Batty Tuke, Dr. George A. Gibson, and Professor James Geikie.

A memorial service, under the auspices of the Students' Representative Council, was held in St. Giles's Cathedral on Sunday, June 27th, at 3 p.m., when the Dean of the Faculty of Divinity, the Rev. Professor Patrick, D.D., officiated.

Sir WILLIAM TURNER, K.C.B., F.R.S., has, at our request, written the following personal appreciation of his pupil, friend, and successor:

The writer of this notice became acquainted in 1870 with Dr. Cunningham, when he began the study of medicine in the University of Edinburgh. The skill and neatness of his dissections, his industry, and intelligent appreciation of his work soon attracted attention, which, conjoined with his happy, unselfish disposition, led to the formation of friendship and sympathy between teacher and pupil which have continued throughout his life. He graduated as M.B. and C.M. in 1874, and for some two years after graduation he acted as a young practitioner; but on the offer of a demonstratorship on the anatomical staff of the university, he gave up thoughts of practice and decided to devote himself to teaching and research. When the anatomical department was moved to the new buildings of the medical school in 1880, Cunningham had become principal demonstrator, and took an important part in the removal and in arranging the rooms for purposes of teaching. The experience which he gained at this time was of great value, as, after his appointment in 1883 to the Chair of Anatomy in Trinity College, Dublin, he was called upon to design a new anatomical institute on modern lines. It was during his period of office as demonstrator in Edinburgh that Cunningham gave evidence of the administrative ability, power of organization, general business qualifications, clearness of expression as a teacher, and the possession of the scientific and practical grasp of his subject which have placed him in the first rank of professors of anatomy in the British Islands. On the return of H.M.S. *Challenger*, Sir Wyville Thomson placed in Cunningham's hands the Marsupial animals collected during the voyage. In 1882 he wrote an elaborate report on their anatomy, and as he met a puzzling modification in the arrangement of the muscles of the hand and foot, he extended his inquiries into the myology of these parts of the limbs in the mammalia generally. This memoir established his reputation both as an able descriptive anatomist and as a capable elucidator of difficult morphological problems. The opportunities which he enjoyed in Dublin of watching the animals in the gardens of the Zoological Society and of studying their anatomy after death enabled him during his residence there to make important additions to our knowledge of their structure, more especially that of the anthropoid apes. This naturally led him to a comparison of their structure with that of man and to the investigation of problems in physical anthropology. His memoirs on the lumbar curve in man and apes, and on the anatomy and development of the brain added so greatly to his reputation that when in 1903 Sir William Turner resigned the professorship of anatomy in Edinburgh, Cunningham received a call from the electors to fill the vacant chair, and the wisdom of the choice was acknowledged by the academic world. It was not without some reluctance that Cunningham left his field of work in Dublin, for his powers as a teacher, administrator and investigator had given him a leading position in Trinity College and in the scientific societies in Dublin; the sterling qualities of his nature had endeared him to his colleagues and friends, and the opportunities for study afforded by the Zoological Gardens were a source of great attraction. The claim that Edinburgh had on his services could not, however, be denied; to fill the historic chair of the Monros and of Goodsir appealed to his ambition, and he decided to return to his Alma Mater and carry on the work of the department in which he had gained his first laurels. His colleagues in the University gave him a warm greeting and he was shortly chosen to be the Dean of the Faculty of Medicine; the Council of the Royal Society elected him one of the secretaries; the Royal College of Surgeons appointed him to be a member of its Council; the students recognized him as a most capable teacher, administrator and a wise adviser, just and patient in his relations to them. All the circumstances pointed to a successful and, it was hoped, a long career in his new sphere of duty, and the work of his department was energetically conducted by himself and his demonstrators, both as regards teaching and research. Something more than a year ago signs of failing health began to be seen, and in December last he obtained leave of absence for some months, in the hope that complete rest and change of climate would conduce to its re-establishment. This, however, was not to be, and he returned home in May with but little hope of recovery. The long procession of students, colleagues, professional brethren, and other friends who accompanied his body to the grave on Saturday testified to the estimation in which he was held by those who knew him. Cunningham possessed qualities not often found in combination. His guiding principle was a sense of duty towards both the subject on which he was engaged and the persons with whom he was associated. He was essentially a strong man, firm in purpose and true to his convictions; but associated with his strong nature was a gentleness of character and a power of persuasiveness which attracted all who were brought into contact with him and assisted in overcoming difficulties. Though men might differ from him in opinion when subjects were under discussion, it was impossible to quarrel with one whose language was always temperate, whose honour was unquestioned, and whose conduct, both public and private, was not influenced by self-seeking or a desire for applause. Few go through a life of activity without making enemies, but of Cunningham it may be truly said that he gained the regard and affection of all men.

Professor A. F. DIXON, who succeeded Professor Cunningham in the Chair of Anatomy in Trinity College, Dublin, writes:

Although the seriousness of his illness was recognized, the news of Professor Cunningham's death was unexpected, and came as a great shock to his very many friends in Dublin. We have, indeed, hardly yet realized that we have lost the man who gave the best twenty years of his strenuous and all too short life to the advancement of medical education and scientific research in Ireland, and to the furtherance of so many movements for the development of the country. It is no exaggeration to say that during the last twenty-five years Dublin has seen no more remarkable or striking personality than Cunningham, nor any man who by his genius, energy, and enthusiasm was able to achieve more success for the numerous institutions and movements in which he was interested. Trinity College and its medical school was ever foremost in his thoughts and affection, and owes much to his labour, insight, and care, but the debt of gratitude which Dublin owes to his memory is also largely shared by the Royal Irish Academy, the Royal Dublin Society, the Royal Zoological Society, the Royal Veterinary College, and other scientific bodies. In the counsels of all these Cunningham's was always a welcome and a leading spirit, and the splendid gifts which helped him to carry out such valuable work for the university enabled him here also to overcome difficulties which to so many others have proved insurmountable. His practical methods and enthusiastic manner were irresistible, and were especially valuable in securing for him the co-operation of the younger men among his colleagues, while his courtesy and willingness to hear and to discuss all sides of questions enabled him to disarm criticism. We believe that the secret of Cunningham's success depended in no small degree upon his desire to make the fullest use of existing societies and institutions and to direct their energies into the channels which he believed to be most fruitful. His diplomatic and

practical nature did not lead him to waste his energies or induce opposition by attempting to create new machinery for the advancement of projects which could in any way be obtained through existing organizations. When, however, the establishment of a new institution was necessary, Cunningham's business instinct and foresight ever brought him to the front, and his advice was keenly appreciated and followed with success. The foundation of the Royal Veterinary College was largely due to Cunningham's energy, and its great success to the valuable assistance and advice which he was able to give at its inception. His scientific knowledge of and interest in matters relating to the welfare of Ireland received recognition by his appointment as member of the Royal Commission on Irish Fisheries. It is a remarkable fact that no one took a deeper interest in the early history of the various Irish bodies to which he belonged than did Cunningham. The origin and early history of the medical school of Trinity College, of the Royal Dublin Society, and of the Royal Zoological Society had a fascination for him, and he was wonderfully well informed regarding the men who in former days occupied prominent positions in all of these. Many Irishmen first learnt from him to be really proud of the history of their school of medicine and of their great scientific societies and institutions. His students and colleagues everywhere regarded him as one of themselves, and they never for one moment doubted that with him Ireland came first, and that her interests were his also.

For Dublin University Cunningham had the deepest affection, and his work in its school of medicine gained the confidence and admiration of his students and colleagues alike. A great and inspiring teacher, no detail was too trivial and no labour too arduous where the interests of his students were concerned. The example of his enthusiasm, industry, and untiring energy is a lasting memory in the minds of many generations of students. His knowledge and advice were ever freely at the disposal of all who desired to consult him, and those who went to him received counsel, encouragement, and assistance for the carrying out of their ideas such as few men have it in their power to give. His approbation and approval were generously given and most highly appreciated. We doubt if any man ever exercised a more powerful influence over his students than Cunningham did, and the keen interest which he took in their work and pleasures was repaid by an admiration, esteem, and affection such as are rarely bestowed upon any teacher.

Cunningham came to Trinity College at a critical time in the history of her school of medicine. Thanks mainly to the energy of the late Dr. Samuel Haughton, the college authorities were waking up to the necessity of providing new lecture rooms, laboratories, and equipment, and Cunningham in his earlier years at Trinity College had the satisfaction of seeing not only his own department practically rebuilt, but also the other departments of the main medical block completed. At this time he was brought into very close association with Haughton, and a warm friendship grew up between them. In later years Cunningham often spoke with the greatest admiration and affection of Haughton and of the services which he rendered to the medical school. On the arts side of the college also Cunningham had many friends, notably, Dr. Salmon, the late Provost; and the trust and sincere regard in which he was held by the Provost and other members of the university was well illustrated in 1892 when Trinity College celebrated its tercentenary. No one who was intimately connected with the arrangements for this festival could fail to recognize how much of its great success was due to the energy, genius, and enthusiasm of Cunningham.

When he was called away from Dublin to Edinburgh his affection for Ireland and Trinity College did not wane, and his interest and regard for Trinity College were most strikingly demonstrated a few years ago by his organization of the remarkable protest which the universities of Scotland presented to the Government against a scheme of Irish university reform put forward by Mr. Bryce. No one recognized more clearly than he did that this scheme if it became law would end in the destruction of Dublin University, and in the hour of its trial Trinity College had no stronger or more active friend than Cunningham.

Naturally Trinity College is immensely proud of Cunningham's original work. The conscientious care which he bestowed upon all that he published was well recognized, and observations and statements made by him were always received with the greatest confidence. To mention but a few of the important memoirs which he published—his papers on the cerebrum, on the lumbar curve, on the microcephalic brain, and on the Irish giant, were recognized as splendid examples of what original memoirs should be. No one could fail to be impressed with the high position which he claimed for anatomical science, and indeed his power of impressing all with whom he had to do, with the importance and dignity of original biological investigation was one of his chief characteristics and charms.

Cunningham's *Manual of Practical Anatomy* is perhaps the work which is most typical of its author. It was written to teach, and every illustration and every sentence was carefully and continually viewed and criticized from the standpoint of the student, for whom it was intended. In his memoirs also a similar care was exercised, and hence his meaning is never vague or uncertain, and the reader feels when he reaches the end that there is little more that can be said on the subject.

His influence will long survive in Trinity College, and his memory will be ever cherished in the old school of medicine for which he so cheerfully laboured and in which he held so honourable a position.

Professor ARTHUR THOMSON, of Oxford, writes:

In attempting to comply with your request, I feel words fail me to do justice to the man; to know him was to love him, for nobler man never lived than Daniel Cunningham. The intensity of our sorrow makes it all the harder to realize our loss; to feel that we shall never see that winning face of his again, never hear his cheery voice, or listen to his kindly words of encouragement and advice, fills those of us who were his friends with a sadness for which I can find no expression. Of his abilities as an anatomist, it is unnecessary for me to speak. Are they not written large in the annals of science? It is rather of the Cunningham as I knew him that I would write—of the brave, good man he was; of the friend ever helpful and kind. I am reminded of an incident which, now that I look back on it, seems to emphasize in a striking way those qualities. A girl, long left an orphan, was staying with us when Cunningham paid us a visit. After he had left and we were talking of him, she said, with a sincerity which came from the heart: "How dearly I would have loved to have had Professor Cunningham for a father!" Could any tribute be more genuine or generous?

It is now some thirty-four years since I first met Cunningham. Then the senior demonstrator in the University of Edinburgh, it was part of his duty to receive the junior students and initiate them into the mysteries of the dissecting room. I remember the occasion well. I was told I would have to be examined on the "bones," and was directed when ready to report myself to another member of the staff. Not altogether impressed with the personality of that assistant, I decided to manœuvre in such a way that Cunningham himself should be my examiner, for somehow it seemed to me he was more likely to be sympathetic than the gentleman I had just interviewed. That meeting was the commencement of a friendship which has lasted ever since. When in after years I joined the anatomical staff it was Cunningham who was ever ready to help, his was the example we all felt we should like to follow, and I can recall now with pleasure the many hours of overtime we spent together in getting the new department ready for occupation.

When in 1885 I left Edinburgh to come to Oxford it was Cunningham who enabled me to make a start; and a happier six weeks I never enjoyed than those I spent with him at Trinity College, Dublin, getting ready a series of lecture specimens for my new department. It was there I learned more of the man and his ways, how he aided the weak and championed the cause of the oppressed. I can remember an instance in which he helped one of his assistants on a piece of research. Again and again the paper was brought to him but failed to satisfy the professor; the substance was good but the facts were presented in an unconvincing way. In the kindness of his

heart Cunningham evidently felt that something must be done; so one night, though overburdened with work of his own, he sat on till the light was in the east, and entirely rewrote the paper. The assistant prospered and achieved success. He, too, is dead, else I feel he would have been the first to have expressed his indebtedness to his old master. These are but a few of the incidents I can recall, but they reveal more of the character of the man than can be expressed in words. I never heard him speak an unkind word of any one. At times there were those who took advantage of his amiability; more than once I have urged him to adopt firmer measures with them, but Dan was always ready with excuses for their behaviour, and never to my knowledge let resentment lurk in his heart. Possibly it was the more excellent way, but this at least I can say, that it was such traits as these that endeared him to his friends, and left him without an enemy.—And now he is gone, and we can but linger on his memory.

Dr. C. J. Patten, Professor of Anatomy in the University of Sheffield, writes:

Those of us who have had the privilege of working with the late Professor Cunningham, and of obtaining thereby his guidance and valuable advice, must indeed deeply mourn our irreparable loss. Acting as his assistant for four years in the Anatomical School of Trinity College, Dublin, opportunities were afforded me of becoming intimately acquainted with his grand and resolute character. In the development of the Anatomy School, which he undoubtedly entirely remodelled, obstacles were constantly cropping up, and the energy and zeal with which these were grappled often led me to wonder how time could be made out for the voluminous literary work which he accomplished. But the outstanding feature in the character of my much revered master and teacher, a character which enabled him to win the hearts of so many of the younger men, was his extraordinarily strong desire to encourage even the weakest and most desultory worker to persevere; but for his kindly aid many workers, not only in the field of anatomy but in many other branches of learning, would have failed to reap the harvests they did. Space does not here allow that I should cite many of the impressive and oft quaint sayings which came from Professor Cunningham at social gatherings; one, however, in conclusion I may give. At the Geneva Anatomical Conference in 1905, during luncheon, the conversation turned on the influence of the older anatomists. Professor Cunningham's love and deep respect for Goodsir and Sir William Turner was expressed in the words: "Both these men seem to permeate my very being, and to exude even through the very tips of my fingers." We his pupils and fellow-workers cannot fail to be strongly imbued by his delightful personality and remarkable influencing power.

A schoolfellow (Dr. Roderick Maclaren of Carlisle) writes:

Some reminiscences of his early days may interest his many friends. His father at the time we were boys was parish minister of Crieff, then a very quiet country town, different from the popular summer resort which it has since become. Education there in the late Fifties was not satisfactory, so six fathers joined together and engaged a teacher. The school consisted of twelve boys and one girl. Dan Cunningham was one of the youngest of these. He was a quiet, rather reserved boy, certainly not the brightest of the class. He gave no special promise of becoming the fine intellectual man into which he developed. Physically he was rather short and sturdy. He had one very marked quality, that is, grit. Most of us wore kilts; it was then a common dress for Scottish schoolboys. Falls on the knees generally resulted in a skin scrape of a very painful kind, which few boys could bear without some show, but Dan never whimpered. It was known among us that nothing could make him cry. His punishments he took silently, whether they were inflicted by authority or by the older boys for the purpose of keeping up due subjection and discipline in the younger. The school lasted three years; it had two teachers, one after the other. It was then discontinued, as the well-known Morrison's Academy, a foundation school, was opened. Some of the oldest boys were fit to learn occupations, and the others were transferred to this academy. It is an evidence of the frugal ways of the men of the place and period that the teacher's salary was £60 per annum. They were both good scholars and men of ability; they not only lived comfortably on this, but were able to afford good holidays. I believe that after his first student year Professor Cunningham supported himself by extra work. The school was a quiet, working little community. Of systematic, organized games we had none, but we had lots of play of a kind, and much open-air exercise. We ran and jumped, played rounders, hockey, and a crude kind of cricket; and, moreover, we went long walks on the hills and moors, and we fished. This has not proved a bad preparation for life. The position Professor Cunningham attained has been the most distinguished, but the others have done well. With him the effects of his early training are traceable through his subsequent career.

Dr. G. A. Gibson, of Edinburgh, writes:

A sad chapter opened in the university annals when it began to be whispered abroad that the beloved Professor of Anatomy was lying sore stricken by a serious malady, and the dark days through which his friends passed were only brightened by constant tokens of the affectionate reverence of his pupils and the unbounded admiration of all who knew him.

It is well nigh forty years since he entered the portals of the university, after three or four years of thorough business training, invaluable to himself and others in later years, and he at once made his mark as an undergraduate. Although we went to college at the same time, it was not until two years later that we first met, for, lingering somewhat longer in the fields of classical learning and physical science, my own medical studies began two years later than his. He had already been marked out as the most distinguished man of his year when we first met in 1872. Upon our contemporaries he wielded unbounded influence; little wonder that it was so. Throwing himself whole-heartedly into the immediate object of our lives—the attainment of knowledge—he showed to every one the example of a strenuous life. Throughout the whole of his student days he was never satisfied until he had got down to the solid rock of fact. Absolute truthfulness and fearless rectitude were the great characteristics of his mind from his earliest years. These essential features were, however, accompanied by a geniality of nature and a graciousness of manner which rendered him the admiration of his fellow-students. To one and all of us he was ever considerate and helpful; the acknowledged leader in our youthful discussions, he held that position almost as much by thoughtful tact and generous sympathy as by intellectual eminence and personal character. In a word, he exhibited a wonderful combination of gifts of heart and head. To myself personally his position was a matter of peculiar pleasure; the son of Glendevon was proud of the distinction which the son of Strathearn had won for our fair county.

In all his work of later years the same characteristics were in evidence. Following, as we all must, the methods of modern scientific philosophy, he would never brook an attempt to deflect, even by a hair's breadth, any fact so as to suit a hypothesis; if any suggested explanation failed to meet the phenomena, it was inexorably put aside. He was in consequence often called upon to stand by and witness, it may have been regretfully, but always unflinchingly, what Huxley terms "the great tragedy of Science—the slaying of a beautiful hypothesis by an ugly fact." In the long series of valuable monographs, articles, and papers which flowed continuously from him for more than thirty years, as well as in the systematic treatises which he published from time to time, his exact methods of work were abundantly manifested. Each one is a model of scientific precision as well as of graceful diction. They all bear the impress of search for truthful interpretations of natural appearances and are examples of the conception:

Nunquam aliud natura, aliud sapientia dicit.

There is no need in this place to dwell upon them; they have been referred to in the preceding sketch of his life. It may, however, be permitted to me to express the hope that his many scattered works will be collected as a permanent memorial of his labours.

As a teacher, it may be said without fear of contradiction that thousands owe their inspiration to him. From

1876, when he became Senior Demonstrator of Anatomy under Sir William Turner, until the end he was one of the most stimulating and interesting instructors. This was not merely by the example of his desire for truth, and of the necessity for strenuous exertion to reach it, but by the never-failing sympathy which he showed with every one who came into his hands. Over the highest type of mind amongst his pupils he exercised a fascinating sway in leading them in their attempts to lift the curtain which so often veils the origin of natural phenomena, while even those who were careless in regard to the great operations of Nature were stimulated to more earnest efforts to attain at least some elements of knowledge. He was fertile in suggestions of original work, and unwearied in assisting other labourers in the most diverse fields of investigation.

His influence was immense in the councils of two great universities. He was but 33 years old when he was elected to the Chair of Anatomy in Trinity College, Dublin, yet in a short space of time he became one of the prime movers in shaping its course, and moulding its destiny. He not merely reorganized his own department, and rendered it one of the most thoroughly equipped in the United Kingdom, but he was the source from which most of the schemes of scientific progress took their origin. In his work for the good of the University of Dublin, he won the boundless admiration of George Salmon and Samuel Haughton, who heartily supported him in his untiring efforts on behalf of the school of his adoption. It was undoubtedly with sincere regret that he felt bound, when the time came, to sever his connexion with Trinity College, and nothing but an overwhelming sense of duty to his old Alma Mater led him to accept the unanimous summons to Edinburgh. It is right to mention that he never ceased to look back lovingly upon the days which he spent in Trinity College, and to recall the readiness with which he was always delighted to place his services at the disposal of Dublin. During the discussions which followed the introduction of Mr. Birrell's first abortive measure he was one of the most influential leaders in the movement against that hapless attempt. After his return to Edinburgh as successor to our old friend and teacher, Sir William Turner, he again showed the same tireless activity and unstinted devotion for the prosperity of the university, and the welfare of all connected with it. Two aims in particular were ever before him—to widen the scope of teaching, and to increase the number of the teachers; striving after these objects he regarded it as his duty to attempt, as far as possible, to bring about an approximation between the spheres of the university professors and the external lecturers. Many difficulties beset him in those enlightened efforts, but with beautiful patience, gentle tactfulness, and sympathetic consideration, he gradually won his way towards the goal he so much desired.

In the learned societies he undertook his full share of the burden of business management, as well as in the pleasure of scientific contribution. Two of these bodies owe more to him than they can tell, although they have already repeatedly testified their appreciation of his services in the most generous fashion. The Royal Zoological Society of Ireland furnished for many years his favourite occupation; for a long period he was its indefatigable Secretary, and latterly its popular President. The care of the beautiful gardens in Dublin was to him a labour of love, and he was able to find scope for that love of animals which throughout his whole life was a passion with him. The Royal Dublin Society, of which he was successively Honorary Secretary and Vice-President, also groans under a debt of obligation to him for the manner in which he conducted its affairs.

After his return to Edinburgh, he became one of the secretaries of the Royal Society of; his city, and not merely contributed papers of great importance to the *Transactions* and *Proceedings*, but took a most important part in the recent negotiations with the authorities when that learned body obtained its new seat.

A great deal of his time was devoted to matters intimately concerned with the public weal. The establishment of the Veterinary College in Dublin owes much to his inspiration and guidance. The inquiry into the Irish Fisheries occupied his energies for a considerable time, while the South African Commission to inquire into the care of the sick and wounded, and the War Office Committee to report on the physical standards required for the army, received much help from his skilful experience. More recently he played a most important part in assisting the establishment of the Territorial Army in Scotland by taking the lead in the formation of the hospital staffs, both as regards medical officers and nursing sisters. It may further be added that the recent development of post-graduate courses again brought his high administrative qualifications into marked relief. In dealing with all public questions his wonderful personality never failed to exert a powerful influence for good. Possessed of undeviating rectitude of intention and unfailing steadfastness of purpose, he could not fail to bring great weight to bear upon the questions with which he was occupied, and it was always felt that the opinions which he expressed were the result of conscientious reflection and deliberate conviction. In the discussions in which he bore so important a part he never made an enemy, for his own honesty of purpose would not allow him, even for a moment, to suspect the motives of any one with whose views he might be in conflict, while the simplicity of his nature and the geniality of his presence averted all that savoured of acerbity or bitterness.

To those who were connected with him by the ties of family and the bonds of friendship the loss we have sustained is irreparable, but we are all enabled, in glancing back through the vista of years, to survey a life of high purpose and of remarkable achievement, unmarred by any departure from the most perfect characteristics of the highest manhood. We fondly looked forward to the gradual ripening of a serene old age in which we should for many years find the help and countenance of the wise counsellor and the faithful friend. There seemed every reason to expect that his life,

> Rooted in duty, and thro' long calm years
> Bearing its load of healthful energies,

would have continued to exercise its beneficent influence for a couple of decades. We know that he had many schemes for original investigation and public service in his mind, but all his intentions and our hopes have been cast to the winds by the sore stroke which has befallen us. The loss which has just been sustained by university circles and by modern science can only be regarded as an unmitigated calamity. To all of us, his friends and colleagues, it has brought a painful sense of desolation; with those who stood to him in a yet nearer and dearer connexion we have the most profound sympathy.

DR. WILLIAM JOSEPH COLLINS, of Wilderspool Causeway and Ryland Road, Warrington, died on June 19th, at the early age of 39; the cause of death was pneumonia. Dr. Collins, who was born in the Curragh Camp in Ireland, received his medical education at Queen's College, Cork, and at the school of the Royal College of Surgeons of Edinburgh, and in 1894 he received the licences of the Royal Colleges of Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow. He had not been very many years in Warrington, but being a genial, active man the time was quite long enough for him to have won for himself a distinct place in the esteem of his colleagues and in social and professional circles. Before settling down in Warrington he had been for some time abroad, and had served as a civil surgeon in the South African war, in the early part of which he was severely wounded. He took much interest in ambulance work, held a commission in the 4th Battalion of the South Lancashire Regiment, and was Honorary Surgeon to the local branch of the St. John Ambulance Brigade. He was also a prominent Mason, and was holding office as Worshipful Master of the Birkenhead Lodge at the time of his death. His funeral was attended by a large number of medical men and by representatives of the Warrington Medico-Ethical Society and the Warrington Division of the British Medical Association, of both of which he was a member. His coffin was borne to the graveside by a detachment of the battalion to which he belonged. Nearly all the officers of the corps were present, as also a large number of Masons and delegates from the St. John Ambulance Brigade and the friendly societies whose medical officer he had been. Dr. Collins was married, and is survived by his wife.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

EASTER TERM EXAMINATION.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., PART I (*Chemistry and Physics*).—M. L. Atkinson, H. Bartlett, P. R. Boswell, C. W. Bower, H. F. Brice-Smith, M. Chadwick, V. M. Coates, G. R. E. Colquhoun, L. P. Costobadie, D. D. Evans, L. H. B. Evans, B. J. L. Fayle, L. A. Graham, G. L. Grant, J. Hardy, R. J. Hararn, J. H. Jordan, W. H. Livens, O. C. McCaw, J. B. McFarland, F. W. Maunsell, S. H. Miles, H. L. Milsom, G. Miskin, H. R. Pollock, G. D. Read, A. P. Saint, C. H. Savory, J. W. Sevill, R. G. Shern, R. H. A. Starkie, J. R. Stoddart, R. Stott, A. B. Uloth, D. C. L. Vey, G. C. Wells-Cole.

FIRST M.B., PART II (*Elementary Biology*).—E. H. R. Altounyan, A. L. Anthony, L. W. Batten, M. W. K. Bird, P. R. Boswell, E. J. Bradley, C. C. Brewis, H. F. Brice-Smith, W. E. H. Ball, B. Burnside, G. D. R. Carr, M. Chadwick, R. H. Clarke, G. B. Colquhoun, L. P. Costobadie, G. M. Cowper, D. Crellin, H. L. Cronk, E. C. Cunningham, C. D. Day, C. S. Dobson, H. Dunkerley, A. T. Edwards, D. D. Evans, L. H. B. Evans, J. M. Evatt, B. J. L. Fayle, L. S. Fry, E. A. Gibb, C. L. Gimblett, G. L. Grant, R. Hargreaves, R. J. Hearn, J. H. Jordan, S. D. Kilner, A. A. Lees, W. H. Livens, W. A. H. Lowry, W. M. Lupton, F. W. Maunsell, S. H. Miles, G. Miskin, C. C. Okell, H. C. Oliver, H. B. Padwick, J. S. Pooley, G. D. Read, J. R. Rees, A. P. Saint, R. P. A. Starkie, R. Stott, M. Tin, E. W. Todd, D. C. C. Vey, T. T. B. Watson, G. H. Wells-Cole, A. M. Wheeler, G. C. Wiltshire.

SECOND M.B. (*Anatomy and Physiology*).—A. B. Appleton, T. E. Banister, G. M. Chapman, S. S. Crosse, J. H. Cumming, H. J. M. Corsetjee, G. E. Dyas, C. M. Forster, T. L. Harvey, C. T. Jameson, M. MacGregor, E. C. Martin, R. W. Mellor, O. G. Morgan, H. J. S. Morton, W. New, F. C. Newman, A. B. Paul, H. S. Reed, L. T. Rutherford, H. J. S. Shields, W. J. D. Smyth, V. F. Southhill, W. J. F. Symons, E. S. Taylor, W. F. Thompson, A. W. Tonks, H. A. Williams.

FINAL M.B., PART I.—F. S. Adams, W. E. G. Aegus, H. W. Barnes, J. D. Barris, A. W. Bourne, K. Chiv, E. L. Forde, J. L. Goise, E. F. W. Grellier, A. E. Herman, W. L. Johnson, J. L. Joyce, J. W. Joynt, H. McLean, A. B. Pavey-Smith, A. C. Roxburgh, W. Shipton, G. Sparrow, W. A. Stokes, F. S. Tinker, J. van Schalkwik, F. H. Watson, A. J. Waugh, Li. M. Weeks, T. A. Weston.

FINAL M.B., PART II (*Surgery, Midwifery, and Medicine*).—F. R. Armitage, Penub.; A. B. Armstrong, Trin.; A. Armstrong, Trin.; A. Barker, Trin.; J. P. Buckley, Trin.; F. G. Calcy, Penb.; A. E. Carver, Cai.; A. F. Comyn, Penb.; K. Comyn, H. Selw.; R. Cox, Cai.; A. J. W. Cunningham, Trin.; H. E. T. Dawes, Joh.; B. Day, Cai.; P. G. Fildes, Trin.; A. H. Habgood, Jes.; R. E. V. Hale, Cai.; A. Hamilton, Christ's; W. Harmens, Trin.; C. B. Heald, Cai.; E. H. V. Hodge, Cla.; C. C. Holman, Cai.; N. W. Jenkin, Christ's; F. H. Lester, Penb.; K. H. Mayhew, Trin.; L. B. Ferry, Queen's; A. V. Poyser, Magd.; F. A. Roper, Trin.; A. L. Sachs, Penb.; F. S. Scales, Jes.; C. F. Searle, Penb.; E. T. Sharpin, Cai.; H. G. Sibson, Trin.; B. C. Trotter, Cla.; G. W. Twigg, Cai.; G. B. Wainwright, Trin.; G. Walker, Trin.; J. Walker, Cla.; B. Wallis, Trin.; J. N. Wheeler, Christ's.

UNIVERSITY OF LONDON.

KING'S COLLEGE.

PROFESSOR ERNEST W. WHITE, M.B.Lond., late Resident Physician and Superintendent, City of London Asylum (1887-1905), has been elected Emeritus Professor on retiring after twenty years' tenure of the Chair of Psychological Medicine.

UNIVERSITY OF SHEFFIELD.

THE Council of the university, at its last meeting, appointed Mr. Arthur Connell, F.R.C.S.E., to the Lectureship in Practical Surgery, in succession to Dr. George Wilkinson.

TRINITY COLLEGE, DUBLIN.

THE following candidates have been approved at the examinations indicated:

INTERMEDIATE MEDICAL, PART I.—J. Colgan, *J. M. S. Gericke, F. B. M'Carter, Eileen Hewitt, H. T. Bates, R. A. Flood, J. N. Armstrong, Georgina Revington, R. G. Ball, Dorothy K. Milne, W. E. Fetherstonhaugh, E. F. Gilmor, J. H. Counihan, J. H. Powell, A. P. Draper, H. G. Trayer, R. H. C. Lyons, C. Rutherford, W. Frier, O. V. Burrows, J. H. Grove-White, R. L. Grandy, A. C. Redclingbuys, H. L. Blackley, H. E. Williams, F. A. Burke.

FINAL, PART II (*Surgery*).—*T. A. Hughes, *R. T. St. J. Brooks, *D. Duff, *F. J. Powell, J. D. Kernan, G. E. Craig, E. B. Hicks, F. R. Sayers, D. J. Miller, T. G. Anderson, C. G. S. Baronsfeather, J. F. S. Dunn, W. R. Allen, D. J. Stokes.

† Passed on high marks.

The *Purser Medal* in Institutes of Medicine has been awarded to J. M. S. Gericke; the Medical *Travelling Prize* and Banks Medal to A. Stals, and the *Banks Prize* to J. L. Phibbs. Mr. J. Singleton Darling has been approved for the Mastership in Surgery, and Mr. E. S. Friel for the Mastership in Dental cience.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†E. W. Archer, *J. Bramley-Moore, J. H. Clarke, *†F. N. Panton, *†H. O. West.

MEDICINE.—*†E. M. Adam, *†E. W. Archer, L. Ettinger, *†J. A. Koch, *S. H. Scott, *†H. O. West.

FORENSIC MEDICINE.—E. M. Adam, E. W. Archer, J. M. Burke, J. H. Clarke, H. O. West.

MIDWIFERY.—E. W. Archer, R. J. Cyriax, G. Holmes, H. O. West.

The diploma of the society has been granted to

E. M. Adam, E. W. Archer, J. Bramley-Moore, J. H. Clarke, L. Ettinger, J. A. Koch, P. N. Panton, and H. O. West.

* Section I. † Section II.

Medico-Legal.

CONDITIONS OF SALE OF PRACTICE.

CTESIPHORE.—We have read the agreement, and do not find anything in the penal clause to prevent the vendor seeing any of his old patients at his new home, provided that it is situated outside the defined limits. The prohibition seems to apply solely to a locality, not to persons.

MEDICAL ATTENDANCE WITHOUT FEES.

AN inquiry was held at Shotley Bridge on June 19th into the circumstances attending the death of a child some few hours after the birth, no medical man being in attendance. The child was shown to have died from congenital heart disease, and a question was raised as to whether a medical man who had been asked to attend the confinement was in any wise to blame for declining to do so. Three or four days before the birth of the child, which was illegitimate, the father sent a note to the medical man asking if he would attend if need be. He replied declining to do so. At the last moment the father sent for another medical man, who turned out to be ill and unable to attend, while his assistant was absent. There had previously been some talk as to the father, who was a miner, joining the club of the medical man whom he first asked to attend the confinement, but he had never done so, although a collector had been sent to receive his subscription. In summing up, the coroner pointed out that the medical man in question was quite justified in the course he had taken; a doctor had a perfect right to be remunerated for his services, and the father was to blame for not making arrangements properly. On any future occasion he must take care to do so. The jury returned a verdict of death through natural causes, and likewise held the medical man blameless.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

SUPERSESSION.

J. F. B. writes: The wife of a coachman near by sought my advice recently for uterine haemorrhage. She totally disregarded my order to remain in bed. She became faint, after visiting me, on her return home, when her husband was ordered by his master to summon the house-doctor, who at once took my patient under his care and has continued his attendance upon her without in any way communicating with me. May I ask whether such behaviour on the part of this house-doctor would be considered strictly in accordance with the ethics of the profession?

*** Our correspondent explains that by "house-doctor" he means the medical man ordinarily in attendance upon the employer's family. With regard to the question submitted to us, we think that the "house-doctor" should not have assumed charge of the case if he was aware that any one else was already in attendance.

Public Health

AND

POOR LAW MEDICAL SERVICES.

REMUNERATION OF DEPUTY ACTING PERIODICALLY.

G. H. W. does not give details as to the conditions on which he would require his deputy to act for him periodically. A sum equal to two-thirds of the aggregate remuneration received by himself may be suggested as a near approach to proper payment for the assistance rendered.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ANCIENT HOSPITALS.

V. J. D. writes that it is sometimes stated in pulpits that the hospital system is the direct outcome of Christianity, and asks if there be not evidence of hospitals in pre-Christian times. Were there not hospitals in the great centres of Greek and Roman civilization?

**** Our correspondent will find a full answer to his question in an article entitled "The Evolution of the Hospital," which appeared in the BRITISH MEDICAL JOURNAL of June 20th, 1908, p. 1486. Long before the Christian era there were hospitals in Mexico and in India. There were also sanctuaries in ancient Greece with medical staffs attached to them, and sometimes maintained by the State, which really deserved the name of hospitals. In ancient Rome, in the later days of the Republic and in the early days of the Empire, there seems to have been a kind of dispensary system, but there is no record of the foundation of hospitals for the sick before the fourth century.

TREATMENT OF INHERITED SYPHILIS.

CHIRURGEON writes: The erupting permanent incisors in a boy of 8 show unmistakably the notched characteristics of syphilis. Will the administration of mercury have a good effect? What is the best mode of treatment so as to conceal the real reason for the drugging from the mother?

**** "Chirurgeon's" first query is somewhat indefinite. The administration of mercury could have no effect upon either the erupting or later teeth. It is well known, indeed, that an acknowledged authority ascribes the condition of the permanent teeth to mercury administered during infancy. On the point as to whether it should be administered for the condition of which the teeth are an indication authorities would differ. Whilst some would consider the condition of the teeth alone sufficient justification for the drug, others would withhold it until the appearance of other syphilitic manifestations, such as interstitial keratitis, etc. Some guidance might be found in a knowledge of the length and thoroughness of the mercurial treatment undergone during infancy. With regard to his second query, we know of no one mode of administration that has any advantages over others in the way of concealing matters from the mother. The shortest course of mercurial treatment is that by muscular injection; but, before permitting it, most mothers would require very definite information as to why it was given. If "Chirurgeon" should decide on a mercurial course for his patient, it might possibly satisfy the mother to tell her that experience teaches that such a condition of the teeth is often followed by temporary eye and other troubles which might be warded off or modified by timely and prolonged treatment, without necessarily entering into the subject of the nature of the complaint, or that of the drug administered. There is, we believe, a growing preference for atoxyl over mercury in the treatment of interstitial keratitis.

SPIROCHAETE asks to be recommended the best authority upon the inheritance of syphilis, and adds: I wish to know what is the period during which a woman may retain the poison of syphilis in a transmissible state. If untreated, there being no manifestations but occasional laryngitis for a period of nine years, would the disease be transmitted to offspring?

**** The best book on the inheritance of syphilis is Matzenauer's *Die Vererbung der Syphilis*, reviewed in the BRITISH MEDICAL JOURNAL a few years ago. It is a most exhaustive and critical review of the whole subject; and, though written before the discovery of the parasite originally named *Spirochaeta pallida*, but now called *Treponema pallidum*, subsequent work has helped to confirm views expressed—namely, that syphilis in the fetus and newborn (so-called hereditary or congenital syphilis) is of maternal origin. Women giving birth to syphilitic children, though presenting no symptoms of syphilis at the time, have been found in many cases to react to the recently-devised Wassermann test, a further proof of the well-known fact that tertiary syphilitic symptoms may develop in women in whom no history of syphilis can be obtained and confirming Colles's law. The evidence points to the fact that syphilis is not, strictly speaking, hereditary, that is, in the biological sense. It is possible that the woman referred to may give birth to a syphilitic child, by infecting it *in utero*, and it would be well in order to try to avoid this to submit her to a course of *mercurial* treatment before impregnation takes place, followed up by a *mercurial* course during pregnancy. As the patient suffers from laryngitis at times, potassium iodide should *not* be exhibited. Mercury is the only specific remedy for syphilis in all its stages. Our correspondent will also find references to this matter in vol. viii, 1908, of *Reports of the Society for the Study of Disease in Children*: page 62, Inherited Syphilis, by R. Clement Lucas; and page 74, Inherited Syphilis, by G. Pernet, the latter with references to some of the literature, English and foreign.

AMBULANCE LECTURES.

A. C. B. R. writes: In a small town a committee was formed to organize a course of lectures on ambulance work, the county council through the school board promising a grant of £10 towards the expenses of the objects in view. The committee asked me if I would, for a fee of £5, give this course of lectures to a class of young men and young women, nominally ten lectures, but practically twelve, as the young women had to get two lectures on sick nursing apart from the men, who were to get ten lectures. The district nurse was to be asked to give one course of lectures on sick nursing, for which she was to be paid at the rate of 10s. a lecture. I expressed the opinion to the committee that if public lectures on sick nursing were to be given at the public expense they should be given by a qualified physician and not by the district nurse, who is not allowed by the rules of her engagement to attend on patients independently of the medical practitioners in the town. My expression of this view caused considerable friction between the committee and myself. I shall be obliged if you will give your opinion on the point raised, and say if I were right or wrong in the view I took and communicated to the committee.

**** Our correspondent is quite right in his contention that the lectures referred to in his letter should not be given by the district nurse, and it becomes a question whether he should be associated with what is, to all intents and purposes, an unqualified lecturer. Did the nurse in question hold a diploma or certificate in sanitation or public health, as given by the Royal Sanitary Institute, the case might be somewhat different, as these diplomates are recognized as lecturers by the educational authorities. Our correspondent might communicate with the central authority, for if the nurse is one of the Queen's Nurses, possibly the committee might take action.

ANSWERS.

ELECTROLYSIS FOR HYPERTRICHOSIS.

B. A. Z.—The treatment of superfluous hairs by electrolysis is part of a dermatologist's work. As to cost, all depends on the kind of case. The best way is to consult a competent dermatologist, who will be able to judge *de visu* of time required and approximate cost.

SOME SECRET REMEDIES.

J. H. W. L.—Lantyne powders manufactured at Leith, and described as an "effective cure for rheumatism," have been examined qualitatively; they appear to contain guaiacum resin and sulphur, with a vegetable powder showing no characteristic properties. No evidence of the presence of salicylic acid, aspirin, or iodide was found.

D. G. J.—Esfon is described on the label as "The essence and foundation of health and strength. The new powder food. Containing in food form the minerals (or nutritive salts) necessary for the maintenance of perfect health." The specimen forwarded has been examined and was found to contain 7.3 per cent. of mineral matter, consisting principally of calcium phosphate, which, however, appeared to be present in the substance as calcium glycerophosphate. Nitrogenous matter was present in small quantity and also a substance which reduced Fehling's solution and appeared to belong to the sugar group.

DISTURBED NIGHTS.

DR. WALTER H. DODD (Wimborne) writes: When in practice I used to be troubled much the same way as "Night Bird," and discovered the cause was due to empty stomach. The simplest remedy was a piece of bread, cake, or biscuit. Stimulants of all kinds or gaseous fluids I found were detrimental to sleep; so also was milk.

DR. DAN MCKENZIE (London, W.) writes: The best stimulant for such conditions is 5 or 7 minims of tinc. nuc. vomic., which in the insomnia of exhaustion acts as a soporific, as I myself have often experienced.

DR. GEORGE CRICHTON (London) writes: It is probably not a stimulant that "Night Bird" requires. During slumber

the circulation is relaxed and slow. When the night bell rings and the summons is obeyed the circulation is stimulated and full and vigorous, especially the cerebral circulation. On retiring to bed again, while the physical system is relaxed, this is not so, sometimes, with the cerebral circulation. The increased flow of blood to the brain caused by active thought calls forth some degree of arterial tension, causing in many cases of sleeplessness headache as well as wakefulness. If this statement be fairly correct, then some drug which relaxes arterial tension is indicated. "Night Bird" would, I think, feel benefit from acetanilide and sodium bromide with caffeine, but it is the vasodilator that is the important ingredient. After using three or four times there will probably be established the habit of falling asleep as soon as he gets into bed. My own experience is invariably to fall fast asleep the moment I lie down after being called out, although at other times I may have long spells of sleeplessness.

LETTERS. NOTES. ETC.

DR. J. WREFORD wishes to thank most cordially all friends who have helped him to get his nephew elected to Epsom College

A WARNING.

DR. A. GEORGE BATEMAN, General Secretary, Medical Defence Union, 4, Trafalgar Square, W.C., writes: Should any of your readers receive a call from a person representing himself to be John Douglas Milne, M.R.C.S.Ed. (*sic*) and L.R.C.P., it would be advisable to communicate with me before entering into any transactions, professional or otherwise, with him.

FLIES AND MILK.

WE have received from Sumner and Co. (Liverpool) a small pamphlet which they are issuing to medical officers of health throughout the country. The pamphlet deals with the question of the causation of infantile diarrhœa through the contamination of milk by flies. Accompanying it is a sample of a medium-sized cover, designed with a view to protect milk from flies and other insects. The cover consists of a piece of soft gauze, 8 in. square, weighted at each corner by a small detachable pellet of lead. That the "Covers" might serve a useful purpose in the intended direction is undoubted. Except in the case where the rim of the jug, or other containing vessel, was a level surface, we would not, however, have considered the leads sufficiently weighty to have secured efficient exclusion of insects. The "Covers" are sold in three different sizes at a reasonable cost, and the same firm supply covers of the same material for infantile cots.

DR. ALEXANDER BRYCE (Birmingham) writes: In the excellent review of Sir James Crichton-Browne's *Parcimony in Nutrition*, which appeared in the JOURNAL of June 19th, your contributor makes this observation: "Like Fletcher Carrington, Dewey, Kellogg, and other members of the great army of faddists." Now, I have always thought that a faddist was a man of one idea, and the dictionary definition lends some support to this view when it describes the faddist as "one who urges any unimportant belief or practice inappropriately." I have no doubt this description would fit with some accuracy men like Fletcher, Carrington, and Dewey; but it is quite incomprehensible to me that Dr. J. H. Kellogg, of Battle Creek, Michigan, U.S.A., could by any possible chance be included in the same category. I have known him personally for many years, and, although I am at variance with him on many points, both of practice and belief, I am glad to include him amongst my friends. I have just returned from a visit to the scene of his many activities in America, and have been impressed in visiting his sanitarium, which keeps a whole army of scientific workers ever on the alert to elucidate knotty problems in every branch of medical research. He has lived to see many of his so-called heterodox views quietly appropriated by others and take their rightful place in the pages of orthodox books of medicine. He has urged—perhaps intemperately—the claims of electricity, hydropathy, and dietotherapy as branches of the healing art for nearly forty years, and it is greatly to his credit that, in the face of much medical opposition and public obloquy, he has stuck to his guns till their worth was recognized. He is an unwearied student of every branch of medicine, sparing neither pains nor expense to perfect himself in all its details. At the beginning of his career, for over a year he acted as assistant to Dr. George M. Beard, and imbibed from him much of his extensive knowledge of electricity. Twenty years ago, during that much abdominal surgery was likely to fall in his way, he became a pupil of Lawson Tait, and was rewarded by being able to put on record in America the first consecutive series of 167 abdominal sections without a death. He has no reason to be ashamed of his work either in electricity, hydropathy, or surgery. As for his dietetic views, with which I do not agree, I am impressed by the fact that nowhere have I seen such careful research work nor any better-equipped laboratories for proving or disproving his various theories. The various journals for which he is responsible are remarkably free from bias, and record the results of research, giving as much emphasis to the views of his opponents as to his own.

ANIMAL PARASITES.

DR. R. T. LEIPER, Helminthologist to the London School of Tropical Medicine, writes to express the opinion that the volume on the investigation of animal parasites published by Professor M. Braun and Dr. M. Lühe (Königsberg), referred to at page 1580 of the JOURNAL of June 26th, is invaluable to those desirous of gaining a knowledge of the structure and development of parasitic worms, not from mere book work, but from practical study, the handbook being full of the best and most recent methods of research. He considers that, so far as concerns the half-volume dealing with helminthes, the text is not a synopsis of Braun's *Tierischen Parasiten des Menschen*: it covers different ground, dealing almost entirely with methods of collecting, preserving, and examining material, and has, in his opinion, been obviously specially written. Though the illustrations are familiar, they represent the actual specimens so excellently that he thinks it questionable if they could have been replaced with advantage.

LADY DISPENSERS.

A CORRESPONDENT has taken exception to the information given at page 1216 on May 15th, in answer to an inquiry as to how a lady might qualify herself for dispensing work. His view would seem to be that it should have been stated that the assistant's certificate of the Society of Apothecaries of London is of an inferior character, and that those who employ persons holding it expose themselves to some risk.

As regards the relative value of these two qualifications as a proof of knowledge, the particulars given clearly showed that to obtain the assistant's certificate does not necessarily require more than six months' work; whereas to qualify for the more valuable certificate of the Pharmaceutical Society entails an apprenticeship of not less than three years, attendance at stated lectures, and the passage of examinations both in theory and in practice. This made it clear that the one is in a sense higher than the other, but does not prove any inferiority in the assistant's certificate so far as its immediate purpose is concerned. As for the risks supposed to be run by the employers of those who hold this certificate, they do not seem to exist. The precise distribution of legal responsibility between a dispenser, whatever his qualification, and a prescriber, is a matter of some doubt; but in any case, since the assistant's certificate is a statutory qualification, established by Section XVII of the Apothecaries Act, 1815, it seems improbable that any court would hold that a medical man had failed to exercise due care if he could show that the person to whom he entrusted the duty of making up his prescriptions held this certificate. Nor would there seem to be any practical risk. As for the value of this certificate to its holder, this is without doubt very considerable. It is not every one who wishes to open a chemist's shop, nor every medical man or medical institution who can afford to employ a holder of the minor certificate, and a very large number of public institutions think it right to employ persons who have no other qualification than the one in question. In particular, the regulations of the Metropolitan Asylums Board definitely contemplate their habitual employment in sole charge of its dispensaries.

THE MODERN TREATMENT OF FRACTURES.

DR. J. REID (London) writes: With reference to the treatment of fractures recommended by Dr. Lucas-Championnière, in my student days at Aberdeen I was taught that the first requisite was to obtain apposition, the second to maintain this until callus had formed, a splint on the twelfth day, and thereafter to use reasonable care and obtain movement by placing the affected limb in hot water about the twenty-first day. I was surprised at the rigid splints for three months used by the leading London surgeons. However, I already notice the tendency to use massage in the case of fractures regardless of pain, and with the production of considerable swelling and inflammatory action, especially in fractures near joints. I have seen a surgeon whose bandages and splinting were perfect to look at induce a worm-eaten, *non-absorbed* callus! The *new treatment* of fractures was, I think, called for, and the method I used of being satisfied with an efficient splint only may not have satisfied many examiners in 1882, but I think it answered its function. Over-splinting has been a curse—let us hope that over-massaging will not also prove a curse!

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restantes* addressed either in initials or numbers.

An Address

ON THE

TREATMENT OF CHRONIC DEGENERATIVE LESIONS OF THE HEART AND AORTA.

DELIVERED AT A MEETING OF THE SHROPSHIRE AND MID-WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

BY

SIR JAMES BARR, M.D., LL.D., F.R.C.P., F.R.S.E.,

SENIOR PHYSICIAN, LIVERPOOL ROYAL INFIRMARY.

MR. PRESIDENT AND GENTLEMEN,—I wish this address to be considered a continuation of one which I delivered at Huddersfield on "General Principles in the Treatment of Diseases of the Heart," and which was published in the BRITISH MEDICAL JOURNAL, April 24th, 1909. As I now include the aorta in my purview, the address will also have some direct bearing on my work on arterio-sclerosis.

I must at once decry any narrow or specialistic handling of this important subject, as I hold that a knowledge of the circulation, to be of any therapeutic value, must include every part of the circuit. Diseases of the heart most frequently arise from causes acting on the periphery, and this is more especially true of chronic degenerative lesions, and hence there is here no room for specialism. We must first have some knowledge of the nature and origin of those degenerative changes which we propose to treat in order that we may prevent their occurrence or mitigate their effects.

Myocardial changes are extremely common after numerous acute diseases such as rheumatism, diphtheria, typhoid and typhus fevers, pneumonia, influenza, scarlet fever, malaria, pernicious anaemia, infective endocarditis, pericarditis, etc., but, as a rule, with the convalescence of the patient the heart returns to its pristine vigour, unless there be some involvement of the nutritive vessels of the heart.

Pericardial adhesions might be looked upon as an exception to this rule, as they are usually associated with permanent dilatation of the heart, especially of the right side, and severe cases are, as a rule, complicated with endocardial lesions, which further disturb the hydrostatic balance. Any increase in the intermuscular fibrous tissue does not add much to the mischief, and the patient generally succumbs before any fatty or fibroid changes have taken place in the muscle fibres. I know that some authorities trace back all myocardial lesions to some antecedent infection, but there is too much of the *post hoc propter hoc* style of argument about this, and it is seldom that the intermediate life-history of the individual warrants such an inference. These chronic lesions can, and do, arise independently of any previous infection; in fact, you very commonly meet with them in men in their sixties who tell you that they have never been ill a day in their lives. For all practical purposes chronic myocarditis is due to disturbance in the nutrition of the heart associated with chronic changes in the coronary vessels.

The wonderful nervous mechanism of the heart is chiefly of use for lessening the work of the organ, but any demand on the part of the system for increased work on the part of the heart is met by an equally wonderful adaptation of the cardiac muscle to cope with any strain which is thrown upon it; the great reserve energy which in a state of health enables the heart to do three or four times its usual amount of work at once meets any acute strain, and a permanent increase in the amount of work is met by hypertrophy of the cardiac muscle. As a rule, the greater the hypertrophy the sooner do degenerative lesions, followed by cardiac failure, set in, because the stress of the hypertrophied heart in its turn subjects the conduit pipe, the aorta, and its main branches which regulate the supply of blood to the heart and other parts of the body, to a constant strain, which impairs their elasticity and sets up degenerative lesions in these vessels. We thus get a vicious circle established, which soon works permanent mischief. As a healthy aorta is necessary for the maintenance of a healthy heart, we will first consider the lesions of the conduit pipe.

DEGENERATION OF THE AORTA.

The aorta is well supplied with small nutrient arteries—the vasa vasorum—which divide on the surface of the vessel into small branches, which enter the external coat, where they form a network, and some penetrate into the middle coat. The internal coat is quite devoid of blood vessels, but owing to the regular variation in the size and distension of the elastic aorta it is readily nourished by imbibition of nutritive fluid exuding from the vasa vasorum. The want of direct blood supply to the inner coat renders it less liable to acute inflammation, but makes it more prone to degenerative changes of a low chronic inflammatory character. The degenerative changes first start as a hyperplasia of the cell elements in the subendothelial layer of the intima. This cell proliferation first appears as small white or yellowish-white patches, which gradually increase in size and run together, forming large patches, and these, from want of proper blood supply, soon undergo retrograde metamorphosis, and become more yellow from fatty degeneration. The corpuscles quickly break up, and then you have semi-solid masses, composed in great part of oil globules and cholesterine crystals, and known as atheroma. This atheroma may go on softening and increasing in quantity, and may give rise to a solution of the inner coat from pressure, leading to molecular changes, and so finally be discharged into the vessel, leaving a wound or ulcer, through which the blood pressure can directly act on the middle coat separating its fibres, and so lead to aneurysm. On the other hand, the atheroma may become hard and firm from the deposition of calcareous soaps, the fatty portion of which eventually gets absorbed and leaves calcareous plates in the subendothelial layer. This calcification also leads to loss of elasticity, localized destruction of the intima, with wasting of the media and consequent lessening of the strength and firmness of the vessel, and so is a frequent source of aneurysm.

The ultimate causes of these degenerative lesions are frequently set down to toxins in the blood, and Dr. Hunter and myself have shown that at least in a large number of these cases there is an increase in the effete material in the blood as evidenced by the lower freezing point. Dr. Hay, acting under my instructions, investigated the agglutinating power of the blood on the *Bacillus coli*, and found that a larger percentage of cases of arterio-sclerosis gave a positive reaction than that obtained from those who were not thus affected. Of all toxic conditions perhaps syphilis is the disease most frequently associated with these changes, and Dr. Byrom Bramwell thinks that it acts through the vasa vasorum thus impairing the nutrition of the vessel. Among other toxic agents may be mentioned typhoid fever, intestinal toxins, septicaemia, influenza, gout, myxoedema, diabetes, lead, ergot, and such pressor agents as caffeine, theobromine, digitalis, adrenalin, purin bodies. Recently there has been much experimental evidence to show the causative relation of adrenalin to these degenerative changes, but it has not been definitely settled whether this is a direct effect or due to increased tension. Dr. W. H. Harvey has pointed out a difference between the action of pituitary extract and adrenalin in that the former drug contracts the coronary arteries and the latter does not, and he has experimentally shown that pituitary extract induces coronary sclerosis; this again may be due to high arterial tension, as Dr. Blair Bell and others have shown the great increase in blood pressure which can be long maintained by the use of pituitary gland. The lime salts raise the blood pressure by increasing the viscosity of the blood, and strengthening the force of the cardiac contraction. Any excess of lime salts in the blood is readily deposited in the atheromatous plaques. The late Dr. J. H. Bryant[1] and Dr. W. Hale White recorded a case of calcification of the arteries, and obliterative endarteritis, associated with congenital hydronephrosis, in a child aged 6 months. The right foot was gangrenous, and the changes in the anterior tibial artery extreme. The child was fed at the breast for the first two months, and on cow's milk for the last four.

The general opinion would seem to be that these toxic agents act directly on the walls of the aorta, producing the degenerative lesions, but my own opinion is that they act indirectly by raising and maintaining the blood

pressure at a high level, thus destroying the elasticity and impairing the nutrition of the vessel walls. Were it otherwise the pulmonary artery would be affected as often as the aorta, whereas it usually escapes except in cases of pulmonary emphysema and in mitral stenosis, and in the latter affection the pulmonary veins are as much affected as the pulmonic artery. Moreover, Oskar Klotz has recently shown that he could produce extensive degenerative changes in the aortas of rabbits by swinging them round by the hind legs, and even by the "periodic suspension of rabbits for a few minutes daily by their hind legs most advanced lesions can be produced."[2]

Both these experiments raise the blood pressure in the aorta. The dependent arteries of the lower extremities have a higher blood pressure than that in the upper extremities, and the former are usually much more affected with sclerotic changes than the latter. We must now consider how this high blood pressure in the aorta is maintained, in order that we may be able to counteract its dire effects.

The aorta is merely a conduit pipe which, on account of its great elasticity, stores up the greater part of the energy of the heart during the cardiac systole, and pays it out during diastole, so that the blood is distributed all over the body in a more or less uniform stream. The pressure in the aorta is maintained by the peripheral resistance in the arterioles and capillaries to the outflow of the blood, and the greater the resistance the greater the energy called forth from the adaptable force pump. With any increase in the resistance the reserve force in the heart is at once called forth, and when this increased resistance is long maintained the heart hypertrophies in order to meet the demand for extra work. The high pressure in the aorta must under all circumstances be maintained by the heart, and when there is cardiac failure the pressure must fall, no matter what may be the resistance.

The Work of the Heart.

Some may wonder what all this has got to do with the degenerative lesions of the heart and aorta, but in my opinion it is of much more value than a knowledge of the *Pharmacopœia*. If you wish to set back the hands of time or keep the clock from running down, you must know something about the mechanism of your ticker. Professor Starling[3] uses the following formula to explain the work of the heart:

$$W = wR + \frac{wv^2}{2G}$$

Where W represents the work of the left ventricle, *w* the weight of the blood, and R the resistance.

He sets down the weight of the blood expelled at each contraction as 50 grams, the resistance at 150 mm. of mercury, and the velocity at the root of the aorta as 500 mm. in the second. On this basis of calculation he reckons the first part of the formula at 102 gram-metres, and the second at 0.64 gram-metre. Although I am not prepared to accept his estimate of either the weight of the blood, the resistance, or the velocity as normal standards, the whole of these factors are constantly varying in different individuals, and even in the same individual, yet they fairly represent the relative distribution of the work of the ventricle. We thus see how in health nearly the whole of the work of the ventricle expended in its systole is stored up as potential in the elastic walls of the aorta, and paid out during the ventricular diastole as kinetic energy.

It is exceedingly important to understand how stress and strain produce atheromatous and sclerotic changes in the blood vessels, because after the age of 50 arteriosclerosis, directly or indirectly, kills more patients than any other disease.

Professor Starling, in my opinion, places too high a value on the work of an ordinary healthy heart when he sets down the resistance at 150 mm. of mercury. He might raise the weight of the blood from 50 to 60 grams, but I think he should knock the resistance down from 150 to 100 mm. of mercury, and for many healthy aortas even lower than that. We know that the resistance must be always less, and as a matter of fact it is usually considerably less, than the diastolic pressure, otherwise the blood would come to a standstill in all the large arteries during the second half of the ventricular diastole.

In my opinion the difference between the resistance and the diastolic pressure is almost as great as that between the diastolic and systolic pressures. As the source of the resistance is situated at the periphery, the systolic and diastolic pressures in any of the large arteries, such as the brachial, are almost as great as those pressures in the aorta at the same level. In a healthy heart and aorta with a systolic pressure of 150 mm., a diastolic of 120 mm., and a resistance of 100 mm. of mercury, if mercury be reckoned as thirteen times heavier than blood, the resistance with 60 grams of blood would only give an energy of 78 gram-metres of blood at each stroke of the heart. This was probably the kind of heart possessed by Methuselah. In those days there was not much struggle for existence, there were fewer invisible foes, and he could easily subsist on the fruits of the earth, but nowadays he would have been hustled out of existence long before he reached the end of his first century. All we can do nowadays is to try and keep our circulations as perfect as circumstances will permit, and the most perfect circulation is one with a moderately low systolic and a relatively high diastolic pressure and resistance—a gentle slope in the pressure gradient from the root of the aorta to the small arteries and arterioles. This does not impair the elasticity of the aorta and its main branches, and the nutrition of the heart can be maintained to a very old age.

Loss of Elasticity in the Aorta.

With a very high diastolic pressure—say of 150 or 200 mm. of mercury in the aorta and its main branches—there is no period of repose for the vessels, but merely periods of greater or less distension; there is interference with the circulation in the nutritive vessels, the vasa vasorum; irritative and proliferative changes occur in the subendothelial layer of the intima, atheromatous and perhaps calcareous degeneration follow, and the elasticity of the aorta becomes impaired. Oskar Klotz says that all the aortas examined by him from persons over 25 years of age showed more or less calcareous change in the aortic wall. The coronary arteries, especially the first portions of them which are not imbedded in the cardiac muscles, are subjected to this high diastolic strain, and consequently early undergo degenerative changes. In proportion to the loss of elasticity in the aorta the energy of the heart is not stored up, and with this loss in the conservation of energy the heart has got more work to do in order to carry on the circulation, the diastolic pressure and the quantity of blood in the heart increase, there is a greater amount thrown out at each stroke, a great disparity arises between the systolic and diastolic pressures, the pressure gradient becomes more steep, there is a longitudinal straining of the aorta, the greater curvature of the arch is stretched, and you may get an aneurysmally dilated aorta. This question of storage is an important element not only in treatment but also in prognosis, and for this reason aortic regurgitation occurring early in life from a rheumatic lesion when the aorta is fairly healthy is, *caeteris paribus*, very much less serious than a similar lesion secondary to degeneration of the aorta.

The Velocity of the Blood in the Aorta.

In my opinion physiologists place too low an estimate on the velocity of the blood in the aorta, though no doubt their conclusions are based on many careful experiments, but experiments very difficult to carry out, and very liable to great fallacies. Chauveau found that the velocity in the carotid artery of the horse reached 520 mm. a second during systole, while at the time of the dicrotic wave the velocity sank to 220 mm. a second, and in diastole to 150 mm. a second. In the human aorta the mean velocity has been set down at 320 mm. a second, and we have seen that Professor Starling sets down the velocity at the root of the aorta as 500 mm. a second, which would be the maximum, as there is a gradual fall in the velocity with the fall in the pressure gradient. It is no doubt very difficult or impossible to estimate accurately the velocity of the blood in the human or any other aorta, as the velocity is directly as the cardiac energy, and inversely as the resistance to the outflow and the sectional area and viscosity of the blood. No doubt the sectional areas of different aortas vary, but so also does the size of the heart and the amount expelled at each stroke, so that the aorta is always distended by each systole and kept full between

the beats. In a large vessel like the aorta the viscosity can be left out of account. In free aortic regurgitation and in inelastic aortas the onward velocity chiefly occurs during ventricular systole, but physiologists in determining a normal standard deal with healthy hearts and aortas.

My method of estimating the velocity of the blood in the aorta and large arteries depends on the fall in the pressure gradient, can be applied in the case of any individual, and I think is more accurate than any physiological method. I have said that the velocity is directly as the energy of the heart and inversely as the resistance. Now the energy is fairly represented by the height of the systolic pressure, while we have seen that the resistance is considerably less than the diastolic pressure. As the semilunar valves open, the blood has acquired its velocity head, and then the actual velocity depends on the energy or effective head *minus* the resistance to the outflow. The velocity between any two points depends not on the pressure but on the difference in the pressures. In a healthy aorta the energy is rapidly stored up in the elastic walls during systole, and paid out during diastole, thus making the pressure and velocity more or less uniform; the pressure gradient is a gentle slope and the velocity is not great. We know that the diastolic pressure must always be greater than the resistance if the blood is moving on, and therefore if we take the diastolic pressure as the lower end of the gradient, and the systolic pressure as the upper end we must be underestimating the velocity.

In the following formula h represents the height of the systolic pressure, and h^1 the diastolic or resistance; and 13 cm. of blood are reckoned as equivalent to 1 cm. of mercury.

$$\text{Velocity, } V = \sqrt{2\,Gh} - \sqrt{2\,Gh^1}$$

Therefore, in the example where you have a systolic pressure of 150 and a diastolic pressure of 120, you get

$$\sqrt{2 \times 980 \times (15 \times 13)} - \sqrt{2 \times 980 \times (12 \times 13)} = 65 \text{ cm., or } 650 \text{ mm.}$$

per second.

On the other hand, if the systolic pressure be taken as 150, and the resistance at 100 mm. of mercury, the velocity is 1,140 mm. a second. I need not labour this question any further, as I think I have said enough to show you the great necessity of maintaining a healthy elastic aorta, which is best accomplished by keeping a low systolic and a relatively high diastolic pressure, and a moderate velocity. A healthy elastic aorta will stand a good deal of intermittent stretching and be nothing the worse for it; it is the long-continued strain which works the mischief. In the long-continued strain from high systolic and diastolic pressures, such as occurs in chronic granular kidneys, the aorta becomes very atheromatous and calcareous, but not necessarily dilated, whereas in those large dilated and hypertrophied hearts in which there is a great quantity of blood discharged at each systole and a rapid fall in the pressure gradient the aorta becomes dilated and elongated. In some of these big hearts and aortas there is no conservation of energy, and the waste of force is enormous; the output is increased, the velocity is increased, and longitudinal straining—especially along the greater curvature of the arch of the aorta—takes place. In response to this great demand for work, the heart goes on hypertrophying so long as its nutrition is maintained, but the coronary arteries are usually more or less involved, and, with the loss of elasticity in the aorta, the blood supply is not sufficiently maintained in the coronaries, and failure rapidly takes place. When the aortic valves are intact the velocity may be very great, a systolic pressure of 250 mm. of mercury and a resistance of 120 mm. gives you an estimated velocity of 2,450 mm. in the second, and this is chiefly expended during the systole. This gives rise to a marked recoil of the heart at the end of systole and to negative and positive waves in the circulation which obstruct one another. When failure begins to set in you may find the force of the big powerful organ which shakes the whole chest only poorly represented at the periphery. In these cases the storage is defective, the pressure and the velocity are more or less intermittent, and there is an enormous waste of energy.

The Early Stages of Degeneration.

When you are dealing with a case of degenerative changes in the heart and aorta, do not ransack the *Pharmacopoeia* like a professor of therapeutics, but just make judicious use of a little common sense. If the *systolic and diastolic pressures be both high* with a gentle gradient you can depend upon it the cardiac muscle is still fairly healthy and the aorta fairly elastic. You should therefore lessen their work by devoting your attention to the periphery. Vasomotor relaxants, such as the nitrites, are here of not much value except as temporary expedients. If the patient have gouty kidneys the purin bodies and other nitrogenous elements of food should be cut down, and the free administration of the benzoates proves useful; the bowels should be well cleared out with a good cholegogue cathartic or a brisk saline; if there be great cardiac distress with urgent dyspnoea, a dose of morphine or morphine and atropine is the most effective remedy. If there be too much lime in the system, as is highly probable, all milk foods and jellies should be eliminated from the diet, and decalcifying agents, such as phosphoric and citric acids and their soluble salts, should be freely used and the amount of sodium chloride cut down. The action of the skin should be encouraged and the patient should take plenty of outdoor exercise in a warm, dry atmosphere. Graduated exercise in the form of skipping, as advocated by Dr. Francis T. Bond,[4] is highly beneficial. If corpulent, the caloric value of the food should be kept low and the amount of nitrogen regulated by the capacity of the kidneys.

With *high systolic and moderate or low diastolic pressures* the elasticity of the aorta is becoming impaired. I have previously said that when the difference exceeds 40 mm. of mercury it is high time to think of effecting repairs. In many of these cases, even when the aorta is much dilated, the second sound clear and ringing, and the heart's action irregular or intermittent, it is really marvellous to see what improvements can be brought about by careful management. The patient should be kept on a light dry non-stimulating diet, little or no salt, and he is much better without alcohol in any form. Decalcifying agents in such cases are, as a rule, useful unless there be a sacculated aneurysm, and then it may be necessary to give lime salts. When an aneurysm occurs the systolic and diastolic pressures will fall and then the cardiac hypertrophy may disappear. Rest, dry diet, lime salts, and moderate catharsis may effect a cure.

When there is *high systolic and low diastolic pressures, a dilated heart, and high intraventricular diastolic pressure*, such as occurs in cases of large beer hearts, the diet should be *dry*, and nitrogenous if the kidneys be healthy; the bowels should be kept open, and a course of digitalis, squills, and nux vomica or strychnine is beneficial. These are not the cases for mountain climbing—at least, not until the hydrostatic balance is restored—but a moderate amount of exercise on the level, such as walking or skipping, is useful.

Aortic Regurgitation.

When there is *high systolic and low diastolic pressures with aortic regurgitation*, the result is largely influenced by the amount of elasticity left in the aorta. If that vessel be very rigid and there be free regurgitation, there is an enormous waste of energy, the heart dilates and hypertrophies and eventually degenerates. The diet should be light, dry, and nitrogenous, the exercise moderate. A course of phosphoric acid and strychnine often answers well. If there be any elasticity left in the aorta, as shown by a not too abrupt fall in the pressure gradient, then it is well to maintain a moderately high diastolic pressure, because you thus make the circulation more uniform, and do not necessarily raise the systolic pressure or increase the work of the heart. For this reason a well-regulated course of digitalis and squills often does an enormous amount of good in this disease. While a combination of these drugs increases the peripheral resistance—which is an advantage if moderate in amount—they lessen the size of the ventricle, increase the length and completeness of its contraction, diminish the residual blood, and thus lower the diastolic pressure in the ventricles. If there be any appreciable delay in the transmission of the pulse wave, the aorta is still moderately elastic.

Chronic Myocarditis.

When the *systolic pressure is failing with a relatively high diastolic pressure* the cardiac muscle is getting much

impaired, and if the pulse be irregular in force and rhythm the coronary arteries are much involved. In these cases the question of the free calcium ions in the blood must be considered, as you must not run any risk of sudden cardiac failure. There may be plenty of lime salts in the arteries, but the blood may be defective in free calcium ions. In such cases I find a valuable combination to be small doses of the glycerophosphate of calcium and large doses of phosphoric acid. The former drug supplies present needs, and the latter sets the lime in the vessels free. A long course of decalcifying agents has often a wonderful effect in clearing the lime out of the vessels. In these cases, especially if the pulse be infrequent, the iodine preparations are valuable, and small doses of thyroid increase metabolism and lessen the viscosity of the blood.

When the *systolic and diastolic pressures are failing and there is oedema of the extremities*, a temporary rest to restore the *status quo ante* is highly beneficial. The diet should be dry, light, and nutritious, and nitrogenous if the kidneys be fairly healthy, sodium chloride should be eliminated, massage is useful, a course of cardiac tonics is necessary, alcohol is as a rule injurious. When the cardiac balance is restored there should be a course of graduated walking exercise, and skipping can also be commended.

In many cases of myocarditis the *right coronary artery is much more affected than the left*. In such cases the heart's action may be very irregular, and during any strain there is marked dyspnoea and palpitation of the heart. There may be no oedema of the extremities, but when the heart begins to fail you get congestion and oedema of the lungs and portal congestion. There is often marked orthopnoea, and in such cases it is often an advantage to wear an abdominal belt so as to assist the respiratory pump in supplying the right heart with blood. A good cardiac tonic in such cases consists of glycerophosphate of calcium, strychnine, and phosphoric acid. For restlessness and insomnia the patient should get morphine and atropine. The preparations of iodine are often beneficial, and if there be much flatulence the tincture is the best. All laxatives should be gentle. The diet should be dry and largely nitrogenous, and carbohydrates are perhaps best supplied in forms of glucose or malt. Exercise should be on the level.

In many cases of myocarditis, either right or left, *the irritability of the heart becomes impaired*, and in order to maintain a continuation of its contractions a certain diastolic pressure in the ventricles must be kept up. An abdominal support and an active respiratory pump assists the right heart, and for the left heart you must not reduce the arterial pressure too low—there must be some effective resistance in the aorta in order that the contraction of the left heart be not wasted, and that the heart itself be supplied with blood through its coronaries. If the costal cartilages are rigid a long course of phosphoric acid is useful, and for emphysema the citrate and iodide of sodium can be commended. The diet should be light and nutritious; for all forms of heart disease corpulence is a disadvantage.

Stokes-Adams Disease.

The treatment of *Stokes-Adams disease* has hitherto not been very satisfactory or successful. There seems to have been a block against any progress in treatment as well as against the transmission of the contraction waves. The very slow pulse is supposed to be due to degeneration of the bundle of His, and so only every second, third, or fourth wave is able to jump the barrier, and reach the ventricles. There is no drug yet known which will either get rid of this block or enable every stimulus to travel along this Stannius bridge. Fortunately in these cases life does not hang by so rotten a thread. The apex of a frog's heart when cut off remains at eternal rest, but if you tie a cannula in it and supply it with nutritious fluid *under pressure*, its rhythmical contraction starts again. This affords a better indication for treatment than any idea which you may hold about the function of the auriculo-ventricular bundle. Maintain a fair diastolic pressure in both ventricles, wear a tight abdominal belt, or when in bed a heavy shot-bag over the abdomen. I am inclined to think that in these cases frequent shallow breathing is better than long and deep. The degenerative changes in these cases are not confined to the bundle of His, though you may occasionally hear it stated in *post-mortem* records that every other part of the heart was healthy. Personally, I have never seen one of these hearts quite healthy, and my reply to such a statement would be that the treatment must have been bad to have allowed such a heart to stop.

The effective force of the right ventricle is often more impaired than that of the left, and in such cases it does not keep up sufficient diastolic tension in the left side. If the patient have a large vital capacity a deep breath may so lower the pressure in the pulmonic circuit that there may be two or three beats of the right ventricle before there is any response of the left. If I were suffering from this disease I would rather be treated according to the principles of Stokes than by any one of the modern school, and I might even take very kindly to his alcoholic prescription. I am inclined to think that a moderate allowance of beer, stout, or claret might do good in these cases by increasing the diastolic tension in the ventricles. The irritability and metabolic activity of the cardiac muscle can be improved by thyroid and iodine, and the sodium salts. There is usually an excess of lime, probably in a stable state, and for this condition I recommend large doses of sodium citrate with small doses of sodium iodide. This sets free the calcium ions, hastens the elimination of the excess of lime, and lessens the viscosity of the blood. Strychnine is useful, and to a less extent atropine, but I think nitroglycerine and the nitrites are injurious.

Although cases of chronic heart disease afford a fruitful field to the Bad-Aerzt, I have not touched on the question of bath treatment, as I felt it would carry me too far afield, and the subject could well afford to wait till I was dealing with the periphery. The fruits are as a rule more freely gathered by the bath physicians than by their patients, so there is no particular hurry for me to say anything which might in any way upset their apple-cart, especially as I think the judicious use of baths often does good and very seldom harm. I hope, gentlemen, that anything which I have said will not cause you to lose heart, but stimulate you to renewed exertions.

References

[1] *Guy's Hospital Reports*, vol. lx. [2] British Medical Journal, May 1st, 1909. [3] *Lancet*, vol. i, 1897. [4] *A Plea for the More General Practice of Skipping.*

An Address on BLOOD PRESSURE IN MAN:

ITS ESTIMATION AND INDICATIONS FOR TREATMENT.

Delivered before the Westminster Division of the British Medical Association.

By SIR LAUDER BRUNTON, Bart., M.D., F.R.C.P., F.R.S., Etc., CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

Mr. President and Gentlemen.—The measurement of blood pressure in man is a subject in which I have taken a great interest for more than forty years, partly on its own account and partly because I have been fortunate enough to reckon amongst my personal friends many of the pioneers of this kind of research: Ludwig, Marey, von Basch, Burdon-Sanderson, Gamgee, Kronecker, Mosso, and Oliver. The circulation of the blood is kept up by the pumping action of the heart, but during the intervals between each stroke of the ventricle, intervals which amount to about thirteen hours out of the twenty-four, the circulation is maintained by the arterial tension, which depends on the difference between the amount of the blood pumped into the aorta and that leaving the arterial system through the capillaries in a given time. Its height will necessarily vary with the increased or diminished action of the heart and with the increased or diminished resistance presented by the arterioles or capillaries to the outflow of blood into the veins.

The ordinary method of ascertaining blood pressure is to put three fingers upon the radial pulse. The finger nearest the hand prevents the recurrent pulse through the palmar arch, the middle finger feels the pulse, and the finger nearest the heart compresses the artery until the middle finger can no longer feel the pulse. The tension is estimated by the greater or less amount of pressure

required to extinguish the pulse. Much information can be gained in this way, but the chances of error are considerable, even to an experienced observer, and no definite information as to the exact tension can be conveyed from one person to another; in other words, no record of the tension can be kept. The difference between estimating the tension by merely feeling with the finger and by an exact instrument is about the same as that between estimating the temperature by feeling the skin and using a thermometer.

The simplest instrument for measuring blood pressure was a modified spring balance with a little knob, by which the artery could be compressed, and the tension was then read off on a scale. This, however, proved unsatisfactory, and a great improvement upon it was the replacement of the solid knob by an elastic pad filled either with air or fluid. Although very useful conclusions regarding blood pressure in man could be drawn from observations with Marey's sphygmograph, and such observations enabled me in 1867 to use nitrite of amyl with success in lowering the tension, yet the first actual measurement of blood pressure in practice was made by von Basch. At a meeting of the Physiological Society in Berlin he showed that when an elastic pad was connected with a mercurial manometer and placed upon one femoral artery in a dog it stopped the circulation in it when the pressure was equal to that indicated by another mercurial manometer connected with the interior of the other femoral.

The apparatus which he used clinically consisted of a mercurial manometer, the bulb of which was surrounded by water and rested like a pad upon the artery. This could be pressed down by means of a screw until the circulation in the distal part of the artery was obliterated, as was shown by the movements of a small sphygmograph placed upon it. The difficulty of using a mercurial manometer induced him to replace it by an aneroid. To this an india-rubber ball filled with air was attached, and it was used by pressing the india-rubber ball upon the radial artery until the pulse was obliterated. The pressure was then read off on the dial of the aneroid. This instrument is often described as Potain's, but the only difference between the two is that while the latest form of von Basch's bulb consisted of a metallic ring, the openings of which were covered by india-rubber of different thicknesses, the metal ring was replaced in Potain's by thicker rubber, so that the whole bulb was made of rubber of different thicknesses.[1] This still forms one of the most convenient instruments for measuring blood pressure, but in order to get satisfactory results certain precautions require to be adopted. The first of these is to have the bulb over the lower end of the radius, so that the artery can be compressed between the bulb and the bone. If the bulb is placed higher up, the resistance afforded by the underlying tissues is insufficient, and too high a reading is obtained. The second precaution is to apply the pressure on the bulb perpendicularly to the face of the radius. If the pressure is applied obliquely, too high a reading is again obtained. The third is to prevent recurrent pulsation through the palmar arch. If the vessels are much dilated the blood from the ulnar artery flows so freely through the palmar arch that pulsation may be readily felt in the distal end of the radial, although the part lying over the radius has been completely obliterated by pressure. In order to prevent this error, the palpating finger should be placed over the distal end of the artery with its tip towards the bulb. The recurrent pulsation from the ulnar artery is prevented by the pressure of the pulp of the finger, while the direct pulsation from the radial artery is perceived by the tip. In Oliver's instrument the artery is also compressed by a bulb containing fluid, but the pressure is transmitted by a rod to a spring, which indicates the pressure on a dial instead of being transmitted by a tube containing air to an aneroid barometer. In Hill and Barnard's small instrument the pressure is also made by an india-rubber bag containing air, but this bag is larger, and the pressure is indicated by a column of fluid working against the compressed air. Each of these has its own advantages, but the one that I personally prefer is Potain's modification of von Basch's instrument.

Besides the risk of mistake from imperfect application, however, this instrument possesses another disadvantage, namely, that by use it may cease to give correct measurements. It is, therefore, almost necessary to have at home a mercurial manometer with which the aneroid may be compared from time to time. This, however, is very easily done by simply connecting both of them at the same time with a bulb which can be squeezed so as to raise the pressure equally in both. The deviation of the aneroid from the true pressure can thus be readily ascertained and noted down, and the correction made as required. This is no more trouble than using a thermometer with a Kew correction.

A second class of instruments for taking blood pressure consists of those in which a finger or arm is compressed by a distensible india-rubber bag outside of which lies an unyielding ring or band. Mosso's sphygmomanometer is an example.[2] Gaertner's tonometer is also one of this class, and it has the advantage of being easily applied to the finger. Rings of various sizes are supplied, and a finger is passed into one which fits it fairly. The blood is then pressed back from the end of the finger by winding a strip of elastic round it, or by pushing over it a small, strong india-rubber ring. By means of a bulb which communicates both with the ring and with a manometer, air is blown in until the pressure is sufficiently high to stop the circulation in the finger. The elastic band, or the india-rubber ring by which the blood was driven out, is then removed, the pressure is then gradually relaxed until the finger flushes, and the height at which the mercury stands in the manometer is then noted. This gives the tension at which the blood within the vessel can overcome external pressure. The objections to this instrument are the trouble it takes to empty the finger of blood and the difficulty there sometimes is of being quite sure of the moment when the blood returns to it.

In another subdivision of band apparatus the pressure is applied to the forearm or arm by an india-rubber bag encircled by a broad unyielding band. The air is blown into this until the pulse at the wrist can no longer be distinguished, and the pressure is then read off either from a mercurial or aneroid manometer, which is also connected with the bulb by which air is pumped into the armlet. Two of the most convenient forms of this apparatus are Martin's and Lockhart Mummery's. In Martin's the manometer is formed by a U tube containing mercury; in Lockhart Mummery's by a somewhat wide cistern from which a graduated tube rises. In Martin's the mercury descends in one leg of the tube as it rises in the other, and the actual height of the mercurial column depends on its rise above the zero point in the ascending column *plus* its fall below the zero point in the descending one. If both tubes are of equal calibre the height of the column will be exactly given by doubling the rise above the zero point; but if the two tubes are of unequal size, doubling the rise above zero may give a very inaccurate reading indeed, and each manometer ought to have a scale made expressly for itself. We can see the effect of inequality between the size of the two limbs in Lockhart Mummery's, where the cistern which constitutes the descending limb is so wide that the fall in it is almost negligible, and if we were to double the rise above zero in the ascending limb as we did in Martin's we would get very nearly twice the true measure. The disadvantage of the band apparatus is that, although it may be used above the dress, yet it is better to have the arm exposed, and this is troublesome. It also causes discomfort in the hand and arm, and sometimes even pain, which makes nervous and sensitive ladies dislike it. The advantage is that it is less liable to give a wrong reading through imperfect application, and its indications are therefore generally much more trustworthy than those obtained by simple pressure bulbs. Instead of a mercurial manometer the pressure may be estimated by a column of coloured liquid working against the compressed air, as in Oliver's apparatus, or by an aneroid. The latter, I find, is the most convenient form.

The band apparatus is often known by the name of the Riva-Rocci, as he first introduced the method, although it has been considerably modified by others—Hill and Barnard, Martin, Mummery, and many others. Its indications are upon the whole, as I have said, more trust-

[1] In the latest form supplied by Messrs. Down Bros. the bulb is of rubber having the same thickness throughout.

[2] It was by means of Mosso's instrument that Tunnicliffe and I showed that the blood pressure in man is raised during exertion, but falls after exertion is over (BRITISH MEDICAL JOURNAL, October 16th, 1897).

worthy than those of von Basch's, but the latter apparatus is so easy to use that if we employ half a minute to count the pulse we can ascertain the tension easily in half a minute more without any trouble to the patient. We can therefore use it in every case and reserve the band apparatus for those cases in which special accuracy is required. The indications given by the band and by the bulb are, as a rule, fairly alike, but it has seemed to me that in very stout patients the band apparatus sometimes gives a higher reading than the bulb. Stiffness of the arteries from atheroma is said to be a serious drawback to the accuracy of the indication either to bands or by bulbs. I think that if either the band or the bulb is placed over a bit of stiff artery an error very probably does result, but this can be got over to a considerable extent by using the bulb on both wrists and the band on both arms in all doubtful cases and taking the lowest reading if there is any difference. It is not likely that all the arteries will be so stiffened as to prevent a fairly approximative reading being obtained. A short time ago, on feeling the pulse of a man aged 76, I was struck with the rigidity of the left radial. The tension in it with von Basch's apparatus was 170, and the right radial was only 150, but in both arms with the band apparatus I got a reading of 155.

According to my own observations the average tension is from 100 to 120 in young men, in middle age 125 to 135, and above 60 it may rise to about 145 or 150, but even in men between 60 and 70 the tension may remain at 125 or 130. In women I think the tension is usually 10 to 20 mm. lower.

The cases in which I find a low tension below 100 in men and 80 or 90 in women, are generally (1) weakness after some illness, and more especially after influenza; (2) in cases of commencing phthisis; and (3) in heavy smokers.

High tension is apt to come on with advancing years and thickened arteries, more especially in gouty people, and where the kidneys are contracted the tension may rise very high. The common indications of this condition usually are (1) rising in the night to pass water, (2) the urine being of low specific gravity and often containing a very minute trace of albumen, so small that it is apt to escape notice unless the urine be acidulated with acetic acid and only the top of the test tube boiled so that the lower part remains for comparison. On then looking at the top against a dark background a faint haze may often be observed. This usually becomes still more distinct on the subsequent addition of picric acid.

The feelings of a patient which accompany high or low tension vary considerably in different individuals. Some appear to work easily and well with a tension of 100, while others are depressed, languid, and easily fatigued. On the other hand, a tension of 160 to 170 may be unaccompanied by discomfort of any kind and some patients appear perfectly well, while in others this tension may be accompanied by palpitation, precordial pain, or dyspnoea on exertion. Tension of 180 or 190 is, I think, of very serious import, but I have known one patient continue for several years with a tension which was rarely below 180, and sometimes rose to 200, or even higher. She had occasionally small cerebral haemorrhages, but died in the end apparently of cardiac failure after an accidental fall. In all the cases I have seen, excepting one, tension approaching 300 has been quickly followed by a fatal issue. As a general rule I look upon any tension over 150 as indicating the advisability of limiting proteids in the patient's dietary. In regard to the indications for treatment, I consider that when the tension is down to 80 or 90 absolute rest in bed is usually required with nutritious diet, beef-tea, and cardiac tonics and stimulants, such as strophanthus caffeine, nux vomica or strychnine; gentle massage and graduated exercises in bed may also be employed. As the cardiac muscle is feeble, iron in some form should be given if it can be tolerated. Occasionally complete rest may be absolutely necessary with a tension of 100 to 110 mm., because even with this tension one occasionally meets with symptoms of syncope in the upright position, and, on the other hand, the tension may be as low as 90 in cases of commencing phthisis without any indication of anything being wrong with the circulation. Low tension is therefore not to be regarded as an absolute indication for treatment any more than a very quick or a very slow pulse, but it must be taken along with other factors in determining the patient's condition and the necessary treatment. Low tension after influenza requires, I think, great care, because influenza and diphtheria seem to have a power of weakening the cardiac muscle almost more than any other disease. Cardiac weakness after enteric fever is very common, but there is less risk of damage to the heart from it, because the convalescence is long and the heart has time to recover. In influenza the patient often resumes work after the acute symptoms are over, and I frequently have patients complaining of symptoms of cardiac weakness for some years after influenza, in one case as much as eight years. It is, I think, more especially in slight cases of influenza that the risk of cardiac overstrain occurs, and great care is therefore necessary not to overlook such cases. In them tonics, open air, and exercise without strain are what are generally indicated.

But it is in cases of high tension that the sphygmomanometer is especially useful. Like the storm signal at a seaside port, it gives timely warning of dangers to come. In many men above middle age high tension is associated with extraordinarily great and untiring energy, and it is curious to note how often cases are recorded of sudden death where the patient has remarked a few hours before that he never felt so well in his life. In many cases of men above 55 or 60 we find a systolic murmur over the aorta indicating atheroma, with an accentuated second sound indicating high tension. In some the mitral valve begins to yield, and a systolic murmur becomes audible at the apex. When this is the case the tension does not rise so high, and I think that a leaking mitral in such cases, like a leaking tricuspid, is really a safety valve for the high tension, which tends to prevent either cardiac failure or cerebral haemorrhage and adds considerably to the life of the patient. In such cases where the tension is over 150 the proteid diet should be much limited, and the use of tea, coffee, and alcohol restricted, although it may not be necessary to interdict them completely. The great things to avoid are *hurry* and *worry*. Both of these are specially difficult to avoid, because patients with high tension are frequently—perhaps I may say generally—very energetic, and if anything is to be done they wish it carried through with the least possible delay, and are apt to do it themselves rather than wait for any one else. They often ask whether they may take exercise, and it is well to explain to them that it is not the length of time during which they take exercise that is dangerous, but the amount of strain at any one moment. They may often walk ten miles with advantage, but they must not run twenty yards to catch a train. They may play golf all day if they like; but it is often advisable for them, instead of taking a long drive, in which every muscle of their body is put on the strain, to take two shorter drives, and make up for the loss in driving by fewer strokes at putting. Above all things they ought to avoid getting angry. Emotion, and especially angry emotions, raises the tension very greatly, and poor John Hunter's death was a sad example of the fatal consequences of anger.

Ten grains of potassium nitrate, with a like amount of bicarbonate and half a grain to two grains of sodium nitrite, as a powder, to be taken every morning in hot water or an aperient water, such as Apenta, tends to keep pressure down, and may be continued daily for a good many years. If this is insufficient, a quarter of a grain or half a grain of nitro-erythrol in the form of a tablet, in addition to this morning powder, may serve the purpose, and is more convenient for most people than a repetition of the morning dose at other times in the day. Nitroglycerine tablets should be carried about, and if any pain in the chest comes on should be taken *immediately*, as they not only relieve pain but lessen the dangerous condition of which the pain is only a symptom. When the heart begins to fail in face of rising tension, it is frequently necessary to give strophanthus or digitalis with strychnine to steady it. In some cases, though these are exceptional, strophanthus or digitalis does better without strychnine, as the latter drug seems to cause palpitation and discomfort.

In all cases it must be borne constantly in mind that the nutrition of the cardiac muscle depends upon the quality of the blood going to it, and if the blood be laden with waste products its nutrition will be impaired. The closest watch must therefore be kept upon the intestinal canal, and the liver and bowels carefully attended to.

A dose of blue pill or calomel twice a week, or even on alternate nights, followed by a saline in the morning, is one of the best methods of keeping the tension down. In many cases where the vessels are considerably thickened iodide of potassium in 5 or 10 grain doses three times a day, if the patient stands it, is very useful. Where the iodide of potassium and sodium are not well borne a good result may be obtained from organic combinations such as iodipine and others. High-frequency currents appear to have a great power of lowering blood pressure; I have many cases in which they have been of much service. I have heard of similar good effects of static electricity, but I have had no personal experience of its use.

In this paper I have said very little about the diastolic pressure, which is now generally reckoned to be that at which the oscillations of the artery are greatest. My reason for this is that I find it very much less easy to estimate the diastolic pressure accurately than the systolic with the ordinary instruments for clinical use. It is fairly easy to do this accurately with Gibson's sphygmomanometer, but this is not well adapted for bedside use. For clinical use I think Oliver's is the best for this purpose, and I have had one made by Boulitte, which may perhaps be ultimately useful. For ordinary purposes I think Martin's or Lockhart Mummery's and von Basch's sphygmomanometers and Dudgeon's sphygmograph are the most convenient instruments.[1]

THE DIAGNOSIS AND OPERATIVE TREATMENT OF CHRONIC GASTRIC AND DUODENAL ULCER:

AN EXPERIENCE OF THREE AND A HALF YEARS.

BY

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THE co-operation of physician and surgeon is never more desirable than in the consideration of cases of gastro-duodenal disturbance. The pitfalls in diagnosis are so many, and the temptation so natural for the physician on the one hand to regard the majority of cases as medical, and for his surgical colleague on the other to view them as cases requiring operation, that when either works alone there is considerable risk of his being led to one-sided conclusions.

We feel, therefore, that a combined statement of the work we have done and the results we have obtained during the whole time we have been associated as colleagues in the infirmary requires no excuse. This co-operation of ours covers a period of three and a half years, from January, 1905, to June, 1908, during which 123 cases in which a diagnosis of chronic gastric and duodenal ulcer was made were treated by gastro-enterostomy.

Of these cases, 72 were gastric, 28 were duodenal, and 23 were not classified. The usual history in all was one of long-continued "indigestion." There had been pain after taking food, and generally occasional vomiting, which relieved the pain. Often the first warning to the patient of serious trouble impending was the appearance of blood in the vomited matter. With or without a variety of treatments there had been periods of health so good as to give hopes of a cure, hopes sooner or later, however, to be disappointed by a relapse. The truth is that the healing of a chronic gastric or duodenal ulcer is often difficult, and occurs much less frequently than has been supposed. It is certain, too, that after the healing of one ulcer others are likely to form. We have also learnt by observation that an active ulcer may, for some reason unknown to us, lose its sensibility and an apparent "cure" be thus brought about. During the painless time, small dietetic restrictions and general care of the health suffice to keep the patient comfortable; but after a time, these restrictions have to be more rigidly practised, the intervals of ease tend to become shorter, and eventually a condition of invalidism is established.

It is also an increasingly common belief, especially amongst surgeons, that cancer of the stomach is frequently if not usually sequential to a chronic gastric ulcer, but our experience, clinical and pathological, does not confirm this view. Setting it aside, the arguments in favour of operation in cases of chronic gastric and duodenal ulcer are strong enough. That these ulcers seldom heal, that the dangers of perforation or haemorrhage are very real, and that the interference with many of the pleasures and much of the usefulness of life is undoubted, are facts which suffice to justify the risk when the good results of operation are borne in mind.

DIAGNOSIS.

If asked, "In what class of patients is gastric ulcer most prevalent?" the majority of physicians and practitioners answer without hesitation in favour of the claim of the young stout anaemic servant girl. The answer is not correct. A fair number of perforating ulcers occur amongst such young women, but they are of the acute variety which probably own a distinct pathology. (For our views as to this see *Lancet*, 1906, vol. i, p. 961.)

Chronic gastric and duodenal ulcers occur at a later age. Like similar chronic ulcers elsewhere, they probably depend on septic inflammation. They select by choice the stomach or duodenal wall of the thin neurotic.

Our statistics show that chronic gastric ulcer affecting the cardiac portion of the stomach is a disease almost special to women, and chronic duodenal ulcer almost special to men (more than 80 per cent. in both cases), and that for both the largest number of operations were done in the decade from 35 to 45, though each decade after the age of 15 is represented in the series. The pyloric area is that most frequently attacked (70 per cent.), and, on the stomach side, the lesser curvature.

Ulcers of the duodenum we have found, contrary to the general statement, occur with rather greater frequency on the inner wall than on the outer (55 per cent. and 45 per cent.), and occasionally involve the whole lumen. They are rare except in the first part.

SYMPTOMS.

There are three symptoms common to chronic gastric and duodenal ulcers—pain, vomiting, and the discharge of blood—but that all of these may be present without any ulcer we have had abundantly proved. A diagnosis upon these three symptoms alone, especially in the case of women, has led to frequent mistakes. A careful and detailed consideration of these symptoms will, however, lead to correct diagnosis in an overwhelming majority of cases.

Pain.

This is the most important, may, indeed, be the only, symptom of a gastric or of a duodenal ulcer, but to take the high rank we give it must have quite a definite history. Unless it has occurred after the ingestion of food, and was absent when the stomach was empty, no serious diagnostic importance attaches to it. Our practical rule, based on these considerations, is that a pain occurring after 4 o'clock in the morning—that is, before breakfast—is not likely to be associated with either chronic gastric or chronic duodenal ulcer. In cases of old standing large indurated ulcers, when the period of chronic invalidism has been reached, the present complaint may be of pain only, but it is of a pain so persistent as to make life a misery, a pain which neither rest nor diet removes, and which opiates can only alleviate. In these cases, moreover, there is generally a previous history of vomiting and haematemesis, and frequently of the recovery from a perforation.

If there is an ulcer and the pain is continuous, such pain is more likely to be due to cancer than to a simple ulcer. In cancer the pain is attended by loss of appetite, but in ulcer the patient would willingly eat if he dare. Excepting in the case of cancerous ulceration, if the pain is not relieved at once by vomiting the contents of the stomach, it is not likely to be due either to a gastric or a duodenal ulcer. The time at which the pain appears has some value in localization, but not all that has been claimed for it. Beginning soon after a meal, it suggests an ulcer towards the cardiac end of the stomach, one hour later an ulcer at or near the pylorus, and from two to three hours after an ulcer of the duodenum. The explanation in each instance is that the pain is produced by food contact. The pain of

[1] These instruments can be obtained from Mr. Hawksley, 357, Oxford Street.

a gastric ulcer is rarely relieved by taking food. When, on the other hand, the ulcer is in the duodenum, the pain is, as a rule, so relieved. The explanation of this relief from pain in duodenal ulcer is that the introduction of fresh food causes closure of the pylorus and prevents food from passing over the ulcer for a time. Night pain occurring in the early hours (1 to 2 in the morning) has almost invariably in our experience been associated in gastric cases with an ulcer adherent to the pancreas, and though we have no explanation to offer, we have, before operation, more than once made a correct diagnosis of this condition, based on night pain. The pain of a duodenal ulcer is also frequently worse at night, and is often relieved by sipping hot milk or taking a little food. It is generally relieved by flexion of the trunk, consequently the patient either lies curled up on one or other side, or on the back with the legs drawn up, or sits leaning forward in bed.

Paroxysmal pain, closely resembling that of biliary colic, is associated with an ulcer close to, or involving, the pylorus, either on its gastric or duodenal side. It is probably due to forcible irregular contraction of the unstriated muscle fibre of the pyloric end of the stomach.

Vomiting.

This may be a most misleading symptom, and requires particular attention. It may be an important symptom of gastric but *not* of duodenal ulcer. It should bear a definite relationship to the pain and to the ingestion of food. Vomiting without severe pain, or occurring at other than fixed periods after food, is not a symptom of any value in the diagnosis of chronic gastric ulcer. The vomited matter is most likely to be nothing but ingested food, and after the stomach has been emptied by the act of vomiting the patient should feel entire relief. The sickness is comparatively easily controlled by limiting the quality and quantity of food, and by rest. Vomiting which is not controlled by rest in bed or by fluid diet is quite unlikely to be due to ulcer. Uncontrollable vomiting is not due to chronic gastric ulcer. Vomiting is rare in cases of duodenal ulcer. When it occurs patients will often tell how, having discovered that relief followed emptying of the stomach, they had purposely induced vomiting in order to remove a severe pain.

Blood.

The presence, repeated at intervals, of relatively small quantities of blood in the vomited matter is an important symptom of chronic gastric ulcer. Other forms of blood loss in this relation do not possess the same significance. Blood, especially when only discoverable microscopically in the stomach contents or in the stools, suggests a cancerous rather than a simple ulcer. Profuse, painless, sudden haemorrhage in a young woman is quite unlikely to be due to chronic ulcer, and, in an elderly patient, suggests rather cirrhosis of the liver. Bleeding from a duodenal ulcer, if moderate in amount, is usually indicated by a black or dark stool, and, if free, gives rise to sudden and profuse vomiting, accompanied by faintness and a cold sweat, and followed by a profuse black liquid stool, and by feebleness and anaemia if the patient recovers. Slow bleeding from a duodenal ulcer may easily escape recognition as a cause of profound anaemia unless careful examination of the faeces be made.

PHYSICAL SIGNS.

The physical signs on which we place most reliance are:

A Tender Spot.

Over the ulcer, whether in stomach or duodenum, a deep, well localized, tender spot is generally discoverable which serves as an aid to diagnosis.

Rigidity of the Overlying Muscles.

The abdominal muscles covering an active gastric or duodenal ulcer will be found to be rigid, and this rigidity is quite localized. The hardness of the upper part of the right rectus overlying an active pyloric or duodenal ulcer is therefore an important sign.

A Tumour.

A tender nodule or an indefinite induration, especially in the neighbourhood of the pylorus, with a history of long-standing stomach trouble, are characteristic of chronic ulcer, and furnish its most important sign. A considerable tumour may be caused by inflammatory exudation and induration round a chronic ulcer, but this is rare. A definite movable tumour suggests a cancerous rather than a chronic ulcer.

HISTORY.

Healing of a pyloric ulcer, whether on the gastric or duodenal side, is followed by more or less contraction and stricture of the pylorus, with resulting response of the stomach to the changed conditions. In the early stages, hypertrophy of the stomach walls and diminution in the size of its cavity compensate for the diminished lumen of the pylorus, and with ordinary dietetic care no trouble results. At a later stage the gastric mucous membrane is red, swollen, and irritable from inflammation—a fact we have observed with Rovsing's gastroscope—and fresh ulceration increases the damage to and the contraction at the outlet. It is at this stage and under the conditions described that the attacks resembling gall-stone colic, which not infrequently cause insuperable diagnostic difficulties, arise. These we attribute, as we do gall-stone and other colics, to forcible contractions of the unstriated muscle fibre in walls stimulated by inflammation of the mucous membrane beneath, contractions which serve to obstruct still further a free discharge from the cavity involved.

Finally, dilatation of the stomach follows increasing contraction of its outlet, and all the symptoms change. Thus, pain ceases to be an important symptom, severe pain is rarely complained of, and the character and quantity of vomited matter become of the greatest importance. When dilatation has fully developed, the vomited matter is frothy and has a yeasty smell. It contains particles of food which should have been digested hours or days before; it occurs towards evening from the gradual filling of the stomach during the day; and the quantity is in excess of that eaten, sometimes sufficient to fill a basin of considerable size.

With the history of an ulcer years before, and this type of vomiting present, the probabilities of a cicatricial stricture near the pylorus and of a dilated stomach are very strong. They are converted into certainties if inspection shows, through the thin parietes, the outline of a dilated stomach, which exposure to the cold air or friction may stimulate to well-marked peristalsis, the contraction passing from left to right; if continued splashing of the stomach can be demonstrated on succussion; if auscultation and percussion offer evidence of the presence of dilatation; if a nodule freely movable on respiration can be palpated in the neighbourhood of the pylorus; and if, failing all these signs, the outline of the dilated stomach is made apparent by distension with air or gas. Furthermore, these patients are always strikingly emaciated, whereas those with chronic ulcer of the body of the stomach may be surprisingly well nourished. Another secondary effect of gastric ulcer is seen in the hour-glass stomach, but, as the diagnosis of this can only exceptionally be guessed at, we merely mention it here since the treatment may require an addition to the ordinary operative measures.

SUMMARY.

To recapitulate shortly. The symptoms which distinguish a chronic gastric from a chronic duodenal ulcer relate chiefly:

1. *To Pain.*

To the time at which pain occurs after taking food, that is, soon in gastric, later in duodenal ulcer. The influence of food upon the pain; solid food increasing gastric, but relieving duodenal pain. The effect of rest in bed on the pain; rest relieving gastric, but producing no good effect on duodenal pain.

2. *To the Character of the Vomiting.*

Its close relationship to food and pain; its involuntary character in gastric, and its voluntary appearance in cases of duodenal ulcer.

3. *To the Form of Haematemesis.*

Recurrent, and in relatively small quantities in gastric, overwhelming and followed by melaena in duodenal cases.

PYLORIC STRICTURE.

The diagnosis of stricture in the neighbourhood of the pylorus is so easy that no excuse can be offered for

mistakes. With the history of a chronic gastric or duodenal ulcer some years back, and periods of remission of the symptoms, each remission being followed by a less perfect recovery until the evidences of stomach dilatation are complete—with such history the diagnosis of cicatricial stricture as a consequence of the ulcer is unmistakable. This is fortunate, as these cases demand operation and are the most satisfactory of all in results.

With proper care it is possible in most cases to form a definite diagnosis of gastric from duodenal ulcer, but occasionally this is difficult. We have observed certain gastric ulcers situated on the lesser curvature, about the junction of the middle with the pyloric third of it, to cause symptoms which have misled us. Notes of the two following cases will serve as examples:

CASE I.

B. A., aged 39, miner, was admitted for stomach trouble of a year's duration. About nine years ago he was laid up for three months with pain in the right side below the costal margin. The pain came on one and a half to two hours after food and was relieved by vomiting, which was frequent and occurred soon after the pain had commenced. The pain was also relieved by taking hot food or by sipping hot milk. After three months of treatment with medicine and light diet he recovered.

After this attack nine years ago he had frequent return of pain once a month or so, coming on one and a half to two hours after food, with occasional attacks of vomiting. These attacks usually lasted for a week. He had never vomited blood, but had passed black motions. He had lost weight and become thin and pale.

On admission there was rigidity of the upper part of both abdominal recti muscles, with deep tenderness on pressure under each. The operation showed adhesions between the stomach and liver and the parietes, and an indurated ulcer, the size of a shilling, on the lesser curvature of the stomach at the junction of the middle with the pyloric third. The duodenum was normal.

CASE II.

J. C., aged 37, a platelayer, admitted complaining of pain after food and weakness. Nine years' history of fairly frequent attacks, lasting a month, of pain at a definite spot beneath the junction of the sternum and the left costal cartilages, coming on from two to three and a half hours after food, and relieved by taking food. Never had pain in the night or before breakfast. He had carried biscuits and sweets about with him, as he had found that by taking these pain would be relieved. Occasional vomiting, sometimes involuntary but usually voluntary, would also relieve him for a time. No haematemesis, no melaena, but had lost much blood from bleeding piles; lost some weight lately; medicine had given him only temporary relief.

No physical signs in abdomen. Operation: Median supra-umbilical incision. Big, thick-walled stomach found. The duodenum was examined, along with the pylorus, and was found to be normal. On the lesser curvature of the stomach, at the junction of the middle with the pyloric third, there was a hard cicatricial area, the size of a florin. Examination of the interior of the stomach showed in the centre of this area a typical chronic gastric ulcer.

The fact that vomiting was a marked early symptom in these cases might have helped us to a more complete diagnosis. As it was, no mistake, so far as the patient's interests were concerned, was made. It is, however, a fact that serious and damaging mistakes are possible, and of this we have abundant proof in the visits of patients on whom gastro-enterostomy has been performed for the gastric crisis of locomotor ataxia and for other forms of "indigestion," which have not been improved, but frequently made worse, by surgical interference.

The greatest safeguard is to detain cases in which there is any doubt for a period of observation and treatment and for consultation between physician and surgeon before operation is decided upon.

Though we have not neglected examination of the stomach contents, it is not our intention to consider this matter in our present paper, partly because we have nothing to add to what has become common property, but chiefly because we have learnt to attach less importance to any of the known laboratory tests than to ordinary clinical methods.

THE OPERATION.

(By Mr. Rutherford Morison.)

The operation performed in all of these cases was gastro-enterostomy. I have always had, and have still, a prejudice against any operation which alters so materially the anatomy and physiology of important viscera as this does. It is, however, of greater importance to recognize that such a prejudice must not be pitted against the results of careful experiments. These have proved that, after gastro-enterostomy in the great majority of cases, gastric or duodenal ulcers heal, that the health of patients for several years after at least has appeared to be quite satisfactory, and that no other known stomach operation holds out equal promise of success. Excision of the ulcer appears so reasonable a proposition that it probably deserves a fair trial in suitable cases, but, if the opinions I hold now are correct, there is no place for it. The same objection would apply to Finney's operation, and to pyloroplasty when the pyloric stricture is the result of ulceration. It is upon the experience derived from a large number of cases in which I had performed pyloroplasty that my present practice is based. The immediate effects of cicatricial stricture of the pylorus treated by pyloroplasty were excellent, and in many the permanent results have never been equalled by any gastro-enterostomy case I have seen: but in about 20 per cent. of cases, after an interval of relief extending in some instances over several years, there was a return of the pain and vomiting, necessitating a second operation. After gastro-enterostomy, on the other hand, the relief was immediate, and mostly permanent. In all of the cases that relapsed after pyloroplasty I found that the cause of the symptoms was fresh ulceration in the neighbourhood of the pylorus, and that there was never any return of the contraction of the orifice. The pylorus, indeed, has generally been described in the notes as fixed by a mass of adhesions, and so patent as easily to admit two fingers. The lesson clearly was that gastro-enterostomy not only allowed existing ulcers to heal, but prevented the formation of fresh ones, and for some years now I have taught that this effect is chiefly the result of neutralization of the acid in the gastric juice, and this opinion is also expressed by H. J. Paterson.[1] That the acid contents of the stomach have largely to do with ulcer is proved by the following facts: That ulcers are practically only found in those parts of the digestive tract which have acid contents—namely, the stomach and first part of the duodenum; that ulcers of the duodenum can be cured by gastro-enterostomy as certainly as ulcers of the stomach; and that, so far as my experience allows me to dogmatize, those not cured by gastro-enterostomy alone heal after a second operation undertaken for occlusion of the pylorus. The experiments of Bolton[2] on gastro-toxic serum are of great importance in this connexion. They show that an animal can elaborate in its blood, as the result of absorption of the tissues of a similar animal, and therefore presumably of its own, a poison which is potentially able to cause necrosis of the mucous membrane of its own stomach.

His experiments also proved that a dose of gastro-toxic serum sufficient to produce ulceration in healthy animals would not produce it in those to which sodium bicarbonate had been administered in sufficient quantities to neutralize the gastric juice, and the extent of the ulceration was more pronounced in those to which a solution of hydrochloric acid (0.5, 1 or 2 per cent.) had been administered previous to the injection of the gastro-toxic serum. Those who accept the experimental proof of passage of food through the pylorus after gastro-enterostomy cannot explain the usual curative effects of this operation except by adopting the view of modification of the acid contents of the stomach.

In respect to gastric ulcers, another element aiding recovery is that with a gastro-enterostomy opening it is unlikely that the stomach should become dilated, and recurring dilatation of the stomach is, I believe, a much more common condition than is generally admitted. Nothing would be more likely to aggravate an existing ulcer than attacks of dilatation, and the operation obviates this liability. It may be also that the operation has, by altering metabolism, some inhibitory effect on the production of the toxin which, as suggested by Bolton's researches previously referred to, is the cause of gastric ulceration. This point will, I hope, be considered in further experiments.

Since the introduction of the posterior operation I have adopted that for choice, as leaving less anatomical disturbance than the anterior one. If there was any difficulty in the way of its performance, I did not hesitate to perform the anterior operation, and have found no difference in the results.

When the ulcer is at the pylorus or in the duodenum, I make the opening between the jejunum and stomach as

near the pylorus as possible. When the ulcer is in the body of the stomach I endeavour to get the opening placed as nearly opposite to it as I can. Mayo Robson and Moynihan in this country, and Mayo in America, to whom surgeons all the world over are indebted for the present position of stomach surgery, are agreed that the opening in the jejunum should be as close to the duodeno-jejunal junction as possible (the no-loop operation), but I cannot accept their teaching on this point, which, so far as I know, is based upon mechanical considerations concerning the diminished chance of vicious circle vomiting, the greatest terror of the operation.

Sixteen years ago I expressed the opinion, and showed specimens which I believed supported it, that vicious circle vomiting depended more upon the capacity for contraction of the stomach wall than on any other factor. I still believe that vicious circle vomiting is due to what is now called acute dilatation of the stomach, and that mechanical obstructions are as much a factor in the one as in the other. Whether this is true or not, there is no doubt that when once vicious circle vomiting is fairly established, the best, probably the only, chance for the patient is to make an anastomosis between the jejunum proximal to the opening and a portion distal to it. With the no-loop operation this would be difficult, might indeed be impossible, so I have always left a loop of from 4 in. to 8 in. between the commencement of the jejunum and the stomach opening, to be utilized if necessary.

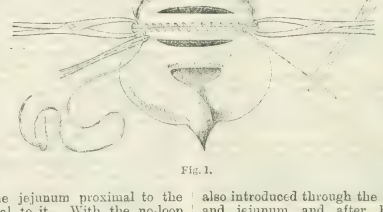


Fig. 1.

Shortly, the steps of the operation I perform may be described as follows:

The abdomen is opened in the middle line, from the ensiform cartilage above to the umbilicus below.

The stomach and duodenum are drawn forward out of the abdomen as far as convenient, are thoroughly examined, and the pathology determined as far as possible from the outside (the gastroscope of Rovsing may be introduced at this stage through a small hole in the anterior wall). After tearing a hole through a non-vascular part of the meso-colon and elaborate gauze packing, 3 in. of the first part of the jejunum are temporarily fixed to the posterior wall by my catch forceps in such a direction that the proximal part of the intestinal loop points to the cardiac end and lesser curvature, the distal to the pylorus, and extending to the greater curvature. The first posterior row of sutures is then introduced, extending from one catch forceps to the other (Fig. 1), and an incision is made through the peritoneal and muscular coats, not less than 2 in. long, but not through the mucous membrane, $\frac{1}{2}$ in. anterior to the first row of sutures.

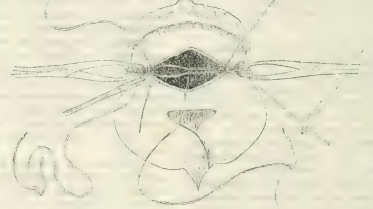


Fig. 2.

An opening large enough to admit the forefinger is next made in the mucous membrane of the stomach, through which its cavity as well as the pylorus and duodenum are explored. On removing the finger, a strip of gauze is packed into the gastric opening, and the mucous membrane of the stomach and jejunum are divided for the full length of the incision. All spouting vessels, in either stomach or jejunum, are tied at this stage.

The angles of the jejunum and stomach incision are next brought together, each with a suture including all the coats, one for the upper, another for the lower angle (Fig. 2), and the accurate approximation of stomach to jejunal opening posteriorly is made easily by an ordinary continuous overhand suture through all the coats (Fig. 2).

Until I discovered that the pouting of the cut mucous membrane could be infolded by a special suture, anteriorly, this always made a difficulty, and tempted me for a time to use buttons; now, however, by using a suture which begins on the mucous surface and goes through the peritoneal coat on one side and back through the mucous to the peritoneal surface of the other side, this difficulty has been surmounted (Fig. 3). (I may say that here, as in many other ways, I am indebted to the *post-mortem* room. The form of suture described corresponds with that usually employed by the *post-mortem* room porters for closing the skin.) Over the anterior suture comes a second layer of Lembert sutures, and the opening is closed (Fig. 4).

At each end a purse-string suture is made to surround the portions of bowel and stomach damaged by the catch forceps, and after tying this the edge of the opening in the meso-colon caught in clip forceps is tied into it. One or two interrupted sutures anteriorly and posteriorly are also introduced through the opposed surfaces of stomach and jejunum, and after being tied the edge of the mesocolon is similarly fixed to them, thus occluding that opening.

By the use of this method the transfixion of vessels by the needle and troublesome bleeding may be avoided.

Before replacing the stomach the distal jejunal loop is drawn over to the right side parallel to the pylorus. The abdominal wound is closed in the ordinary way with tier sutures.

In the case of hour-glass contraction I have done three types of operation:

1. If the contraction is moderate, by making a long anastomosis immediately under and through the contracted stomach area.

2. With pronounced stricture, by a longitudinal incision through the stricture and opening this transversely (thus widening the anterior wall of the stomach), followed by gastro-enterostomy at the pyloric end.

3. When the stricture is specially narrow, by a long incision through the centre of it and spreading the stomach walls form a new posterior wall, leaving the spread out hour-glass as the centre of it and making an entirely new anterior one, followed by gastro-enterostomy at the pyloric end.

When occlusion of the pylorus is necessary this has been accomplished by clamping it with sufficiently strong forceps to destroy the mucous coat, then tying a thick silk ligature round it in the groove made by the forceps tightly enough to maintain the occlusion, and over this placing a row of Lembert sutures to bury the silk.

Statistics.

Of the total number of patients in whom gastro-enterostomy was performed, 118 recovered, and 5 died. In several of these other operations in addition to gastro-enterostomy were done at the same time.

After-history.

For purposes of classification we have called our cases gastric ulcers, pyloric ulcers, and duodenal ulcers.

We have divided the gastric ulcers into two classes—namely, ordinary and those causing hour-glass stomach. The pyloric into those with and those without stenosis.

Gastric Ulcers.—The cases numbered 14, all women; 8 of these report themselves as perfectly cured at periods of from four years to eighteen months since the operation. Two are very much improved, but still have some symptoms. One of these, operated upon twenty months ago, has no vomiting now, and only occasional gastric discomfort, but has had two attacks of melaena. She had an ulcer on the lesser curvature of the stomach. The other, operated on two years and ten months ago, has to be careful of what she eats. Three cannot be traced. One patient died, and her history is worthy of record.

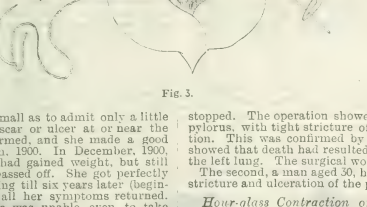


Fig. 3.

Miss R., aged 35, admitted to a private hospital on August 27th, 1900. For five years she had been troubled with symptoms of chronic gastric ulcer and had been unable to take solid food. On August 29th, 1900, her abdomen was opened and the stomach was seen to be thick-walled and dilated. There were signs of old ulceration of the lesser curvature, which was scarred, thickened, and adherent to the pancreas. The stomach was opened, and the pylorus was found to be so small as to admit only a little finger. There were no signs of scar or ulcer at or near the pylorus. Pyloroplasty was performed, and she made a good recovery and left on October 8th, 1900. In December, 1900, she could take ordinary food and had gained weight, but still had some pain. This gradually passed off. She got perfectly well, and was able to eat anything till six years later (beginning of November, 1906), when all her symptoms returned. The pain was so severe that she was unable even to take milk, and lost flesh and strength rapidly. For twelve days she was fed on nutrient enemata only, and during that time gained 2lb. 5oz. Previous to operation she looked very ill; her hands and face were livid, and pulse quick and feeble. Posterior gastro-enterostomy was done on November 11th, 1906. She appeared to be no worse the day after the operation, but on the second night, after 10 grains of chloral, she drifted into coma, and died forty-eight hours after the operation. The *post-mortem* examination showed an indurated ulcer 2 in. in diameter on the posterior wall and lesser curvature of the stomach adherent to the pancreas, part of which was exposed in the floor. There was an opening between the stomach and duodenum, where pyloroplasty had been performed, wide enough to admit three fingers. The surgery of the gastro-jejunal anastomosis was good; the kidneys were healthy. (Urine withdrawn by catheter during the comatose state was loaded with albumen, and contained numerous casts; there was no acetone.) The liver showed nutmeg changes with pigmentation. There was some fatty change, but not marked. Our opinion is that she died of starvation from too long postponement of operation.

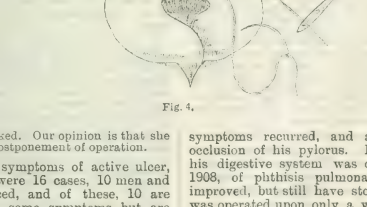


Fig. 4.

Ulcers of the pylorus, with symptoms of active ulcer, but without stenosis. There were 16 cases, 10 men and 6 women; 12 have been traced, and of these, 10 are completely cured, 2 still have some symptoms but are greatly improved; 4 cannot be traced.

Cicatricial stricture of the pylorus, the result of ulceration. There were 36 cases, 20 men and 16 women; of these, 3 cannot be traced, 29 report themselves quite cured, 2 report that they are no better.

The first is a woman of 26 years of age. Her history was that for ten years she had pain after food, even with a milk diet. She vomited frequently, and vomiting relieved the pain. On several occasions she had vomited coffee-ground material, the last time one year before operation. She was much troubled by flatulence and pain in her stomach when not taking food. Exploration of the stomach showed a definite adhesion between the pylorus and omentum, and on opening the stomach the pylorus appeared to be tighter than normal. There was no definite scar or ulcer.

The second case was a man aged 49, who stated that he had never been well since the operation. His appetite had never been good, but he has ceased to work on account of "catarrh of the stomach and physical weakness." In this case operation showed adhesions between the pyloric end of the stomach and gall bladder, and some stenosis of the pylorus, though there was no visible scar or palpable ulcer.

In one of the cured cases in this series the patient, a man aged 58, had gastro-enterostomy performed in 1904 with the Morison bone button for stenosis of the pylorus with active ulceration. In 1906 his symptoms recurred. On opening the anterior wall of the stomach and drawing forward through it the anastomotic opening, this was found to have contracted to such an extent as to admit only the tip of the index finger. He has been quite well since the gastro-jejunal opening was enlarged.

Two patients died, each five days after the operation, from pneumonia.

The first, a man aged 44, had the history and signs of pyloric ulcer, stricture, and much dilated stomach. He was very feeble and thin. Whilst his stomach was being washed out on the day after operation, and after much foul matter had been got out, he was seized with tetany and the washing had to be stopped. The operation showed an inflammatory mass at the pylorus, with tight stricture of the pylorus and active ulceration. This was confirmed by *post-mortem* examination, which showed that death had resulted from acute lobar pneumonia of the left lung. The surgical wounds were quite healthy.

The second, a man aged 30, had a much dilated stomach, with stricture and ulceration of the pylorus.

Hour-glass Contraction of the Stomach.—There were 6 cases, 5 women and 1 man. Five report themselves cured; 1 states that she is greatly improved, but still has occasional pain after food. In 4 of these cases, on account of the amount of contraction present, gastroplasty was performed in addition to gastro-enterostomy; 1 had cholecystotomy (for gall stones), gastroplasty, and gastro-enterostomy done. Of these 4, 3 are cured. The fourth is the patient who reports improvement.

Duodenal Ulcers.—There were 28 cases, 25 men, 3 women. Five of these had stenosis of the duodenum, in addition to active ulceration; 20 report themselves perfectly cured, able to take any kind of solid or liquid food without trouble, and in good health. One patient, a man aged 36, had gastro-enterostomy performed in 1904 for duodenal ulcer. He remained well until 1906, when his symptoms recurred, and an operation was done for occlusion of his pylorus. He remained well as far as his digestive system was concerned, but died in July, 1908, of phthisis pulmonalis. Two report themselves improved, but still have stomach symptoms; 1 of these was operated upon only a year ago, and still continues to improve, his old symptoms, though present, being less marked. In the other, on looking up the notes, the only evidence of organic mischief was adhesions round the first part of the duodenum, but no ulcer could be felt from the inside. It is certain from the notes and the history that at the present time we would not recommend surgical treatment in a similar case. One is not improved, a man aged 28. Dr. Steele, of Middlesbrough, reports "that he was free from symptoms for three months after leaving

hospital, but later has all the symptoms as before." On looking up the notes of this case we find that the history and operative findings throw grave doubts on the clinical diagnosis of duodenal ulcer, and to-day, on his history alone, he would have been rejected as unsuitable for surgical treatment. Two patients cannot be traced.

Two died.

The first was a woman aged 59. For twenty years she had "indigestion." Pain came on two hours after food, and was relieved by vomiting or by taking more food. Sometimes melæna had been noticed. She was very thin and feeble, had a definite tumour in the pyloric region, and the signs of a much dilated stomach. Operation, January 28th, 1908, showed the "pyloric tumour" to be a Reidel lobe. The stomach was not so much dilated as proptosed. On opening the stomach a small ulcer was found on the inner wall of the duodenum, and there were adhesions round the first part. Posterior gastro-enterostomy. Vomiting began soon after the operation, and, in spite of frequent stomach lavage, changes in posture, and a second operation by Mr. Richardson, who rearranged the position of the jejunum, continued till her death on February 7th. The *post-mortem* examination confirmed the operative findings, and showed only a thin dilated stomach, the intestines quite empty, and proptosis of all the viscera.

The second was a man aged 50, admitted April 9th, 1907. For four years he had at times pain coming on two hours after food. The pain was very severe and only eased by vomiting; this would go on for several weeks, then he would get quite well again. Recently he had vomited large quantities, more than he took as food. After a course of medical treatment he went out, and was brought in again on October 4th, 1907, with severe haematemesis, when it was estimated that he had vomited nearly two quarts of blood. As soon as he had picked up from this attack he was sent to the surgical ward, and operation was performed on October 10th, 1907. This showed the stomach much dilated, and a scar on the duodenum. On introducing a finger through the pylorus from the stomach opening an ulcer was felt surrounding and constricting the duodenum near the junction of its first and second parts. Posterior gastro-enterostomy. The patient appeared to be doing well till four days later, when he vomited a large quantity of brownish-green bile-stained fluid. The stomach was washed out morning and evening after this, and though he complained of feeling sick he vomited no more. Six days after the operation, as it was evident he was not improving, and a large quantity could always be washed out of his stomach, the abdominal wound was reopened and the anastomosis was examined. It looked quite normal. The stomach was large and distended, but there was no distension of the visible duodenum or of the proximal loop of jejunum to suggest mechanical obstruction. A lateral anastomosis was, however, made between the loop of jejunum proximal and that distal to the anastomosis, as it was thought that possibly these were temporarily empty. On the following day he looked better than he had done since the operation, said he felt well, and there had been no vomiting, though lavage had been omitted. On the evening of the next day he took "a sudden bad turn," and, without vomiting again, quickly died. The *post-mortem* examination showed intense anaemia of all the viscera, but nothing more than had been discovered already.

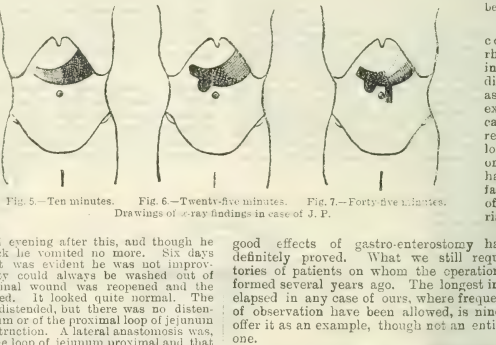


Fig. 5.—Ten minutes. Fig. 6.—Twenty-five minutes. Fig. 7.—Forty-five minutes.

Drawings of x-ray findings in case of J. P.

Various.—There were 23 cases under this heading; 3 had both gastric and duodenal ulcers. Posterior gastro-enterostomy was performed in all. They are all now quite well. Three cases were operated upon, but no certain evidence of ulcer was obtainable. (This was before the introduction of the gastroscope.)

The first, a man aged 26, had symptoms strongly suggestive of ulcer, and his pylorus was contracted, but without sign of ulcer or scar. He had gastro-enterostomy performed one year ago. He writes that he is greatly improved and has no vomiting, but still has some "indigestion." He can eat any kind of food, and works regularly as a shipwright.

The second, a woman aged 37, operated upon eighteen months ago for stomach pain, vomiting, and haematemesis of five years' duration, still has her old symptoms. During the last month she frequently has had attacks of blood vomiting and vomited her food.

The third, a woman aged 30, operated upon for pain, vomiting, and haematemesis, is improved, but not entirely free from stomach trouble.

Seven cases had a tumour at the pylorus which was thought to be an inflammatory mass round an ulcerated area. Of the 7, 4 cannot be traced (suggestive of malignant disease and death).

One of the remaining three, a man aged 42, operated on in 1905, had a big tumour at the pylorus, a stricture, and a very large stomach. He reports himself perfectly well.

A second man, aged 62, operated upon two years ago, had a big tumour at the pylorus, a stricture, and a dilated stomach. On exploring the pylorus with the finger a brass ring was discovered impacted there, and removed. He is quite well.

The third, a man aged 47, was operated upon nearly two years ago. A tumour, supposed to be inoperable cancer, was found surrounding his duodenum. He made a good recovery, soon resumed his work as a striker, and has never lost a day's work since. He does not restrict his diet in any way and is quite well.

In 2 cases strictures of the jejunum, one tuberculous, one malignant, less than a foot from its origin, led to stomach dilatation, and caused pain and vomiting. They were mistaken for gastric ulcers and operated upon by posterior gastro-enterostomy, the junction being effected beyond the stricture. Both recovered.

In one case, a girl aged 23, a perforated stomach ulcer had been sutured one year previously. A return of the symptoms led to posterior gastro-enterostomy. She is now quite well.

In one case gastro-enterostomy was done as an emergency operation for profuse haemorrhage, probably from the duodenum. The pylorus was occluded at the same time. The patient, a woman, has since been quite well.

In 6 cases other conditions—cirrhosis of the liver in 1, pancreatic disease in 1, neurasthenia in 4—existed as complications, and the remote results following operation on the stomach have been unsatisfactory, for none of them are materially benefited.

The immediate good effects of gastro-enterostomy have now been definitely proved. What we still require is the histories of patients on whom the operation has been performed several years ago. The longest interval that has elapsed in any case of ours, where frequent opportunities of observation have been allowed, is nine years, and we offer it as an example, though not an entirely satisfactory one.

J. P., aged 36, was admitted to private hospital on November 3rd, 1900. He had a history of stomach trouble, pyloric ulcer with stricture and stomach dilatation, extending back six years. During this time his stomach had been washed out by his wife daily. For the last year he had vomited large quantities of fermented dirty matter towards night if by any chance the lavage was neglected. His general condition was fair, but he was thin (8 st. 12 lb.), and looked worn. Posterior gastro-enterostomy was performed on November 5th, 1900, by simple suture, an inner row through all the coats of stomach and intestine, watertight and haemostatic, and an outer row of Lembert sutures (interrupted)—the Morison method of closing stomach and intestinal wounds now almost universally adopted.

There was a tight cicatricial stricture of the pylorus, which was bound down to the pancreas, and a much-dilated stomach. After the operation all of his old troubles disappeared, and from the time of his recovery he has been able to eat or drink anything, and has gained more than 3 st. in weight, weighing now over 12 st. For more than six years after the operation he enjoyed uninterrupted health. On January 3rd, 1907, he complained of being cold after getting in from business, and his wife noticed that he was pale. Shortly afterwards he complained of being sick, and vomited, his wife thinks, 5 or 6 pints of blood. He was in bed three weeks after this and had melæna. After a holiday in the country he got quite well again, and remained so till November,

2907, when he had another attack of haematemesis, but not so severe, and he soon resumed work. A third attack occurred in February, 1908, a fourth in April, 1908, and the last in November, 1908. Between these attacks he has been absolutely free from all stomach trouble. His wife says that these attacks have always been brought on by overwork, but admits that he drinks more than an ordinary amount of alcohol.

Examination of his stomach contents after a test meal (toast and tea) shows the presence of free HCl. Lactic acid or other abnormal constituents are not present. Four hours after a test meal of beef, potatoes, and pudding a small amount of meat fibre was washed out of the stomach.

Roentgen-ray Examination.—His stomach was first washed clean with water and the bowel emptied by an enema, which acted well. Eight ounces of hot bread and milk thoroughly mixed with 1 oz. of bismuth carbonate was then given him to eat. Ten minutes after the food had been taken, with the *x*-ray screen a distinct shadow was seen. The lower outline was definite, and the lowest point was 1½ in. above the umbilicus. The thickest part of the shadow was towards the cardiac end of the stomach, and it gradually tapered towards the pyloric end (see Fig. 5); twenty-five minutes after food the upper outline, which was never as clear as the lower, showed less clearly, and the whole mass looked narrower. In addition to the projection to the right of the midline and some increased darkening towards the pyloric end, there was a definite shadow leading vertically downwards from the lower border of the stomach shadow (see Figs. 6 and 7). That this was not the spinal column was proved by the facts that it was not seen earlier and did not appear above the stomach shadow. The patient was standing up during each examination.

Our interpretation of the findings is that the projection to the right represents the pyloric antrum, and the vertical shadow food escaping through the artificial opening into the jejunum.

For the laborious work of tracing these cases and collecting the notes we are indebted to Mr. Hamilton Drummond.

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PAIN IN MUCOUS COLITIS AND IN IRRITABLE STATES OF THE COLON IN GENERAL.

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UNDER the term "mucous colitis" I include all cases in which there is excess of mucus in the stools, without evidence of ulceration or any definite organic disease; and I do not distinguish between mucous colic, muco-membranous colitis, and simple catarrhal colitis, for I feel convinced that all these complaints have underlying them one pathological condition—namely, an irritable state of the bowel wall, to which the term "catarrh" is fully applicable. The agency producing catarrh of the colon may not always be the same, just as is the case with other mucous membranes. For instance, a bronchial catarrh may be due to an ordinary cold or to the influenza bacillus, or to rheumatism or some other agency.

The secretion of mucus, whether as a liquid, a semi-solid, or as membranes or membranous casts, is, I feel certain, the result of an irritation of the mucous membrane of the bowel. This undue irritability of the bowel may also express itself by pain, the result of abnormal muscular irritability. In very many cases the muscular irritability and the pain which results occur unaccompanied by any mucus or signs of irritation of the mucous membrane. In such a case, while the motor symptoms show irritability of the colon, the condition cannot rightly be called one of mucous colitis. I find this type of colon affection an extremely common one, and I would like to see the term "catarrh of the colon" used to embrace all cases in which there are symptoms due to the irritability of the colon, whether of its mucous membrane or of its muscles.

Pain, although usually present, is not, however, a necessary accompaniment of mucous colitis, and therefore what I have to say is more generally applicable to the larger class of case in which pain in the colon is a prominent symptom, and the appearance of mucus in the stools, while often present occasionally, is by no means a prominent symptom. The pain of which I am speaking seems to be usually due to a peculiar and hitherto little recognized form of muscular activity, which is associated with varying degrees of hardness of the bowel, combined with a varying amount of increase in its transverse diameter. This peculiar change in the bowel wall is due, I am convinced, to the development of abnormal tonic activity in the muscular coat.

By the careful palpation of the colon in a long series of cases it is comparatively easy to train the hand to distinguish between the presence of normal and of this abnormal muscular tone in the bowel.

PALPATION OF THE COLON.

Where the tone is normal, the colon can be felt in the left iliac fossa as a single fleshy cord, of some ¾ in. or ½ in. in diameter, which can be rolled under the finger without any material discomfort to the patient, unless he be very sensitive; sometimes, in addition, a sense of the presence of air and liquid in the nearly empty bowel can be felt on either side of the muscular cord, showing that this cord is not the whole of the gut, but only one of the longitudinal muscular bands. Sometimes, on the other hand, it is impossible to believe otherwise than that the fleshy cord felt is the whole of the gut completely contracted to the size sometimes of the little finger or less.

In the case of the caecum in the right iliac fossa a similar sensation of a fleshy cord with some crepitus, due to air and liquid, on either side of it may also sometimes be felt, and, in addition, a somewhat firmer and smaller fleshy cord may be palpable external to it, which is the vermiform appendix. Often the presence of the appendix cannot be made out, but sometimes it is quite distinct and clearly to be felt. Where the intestinal wall is found to be of this normal degree of hardness there is, in my experience, very little probability that the colon is the source of any abdominal pain from which the patient may be suffering, and some other cause will be found for it.

In very many patients, on the other hand, a greater or less degree of abnormal hardening may be felt in the wall of the colon, varying in degree and extent from the well-known hard tumour of some 2 in. or more in diameter, which occupies the situation of the caecum in most cases of moderately severe acute appendicitis, and which is shown by careful examination to be the caecum distended with gas and with its walls of board-like hardness, down to a degree of hardness and distension which is very little removed from the normal.

The same is true of the sigmoid flexure. It may sometimes be felt, in cases of well-marked mucous colitis, to be a tube with rigid walls of 1½ in. in diameter, and sometimes with localized irregularities suggestive of contained scybala, but which continued palpation shows to be true muscular hardenings which disappear under the fingers in a way which no scybalous mass could. This condition of hardness and increase in size may vary from this somewhat extreme degree down to one but slightly removed from normal, according to the severity of the agency which is producing the abnormal tone.

The same may also be said of the rectum above Houston's valve; I have felt this portion of the bowel harden up under my finger until it formed a cylindrical tumour of almost cartilaginous hardness and then soften again during examination. Localized hardenings of this or of a lesser degree I find to be of much more frequent occurrence in the rectum of patients suffering from mucous colitis and irritable colon than I imagined before I examined the rectum as frequently as I now do in such cases. As it is only within the last few years that I have detected this hardening of the upper part of the rectum, I cannot speak of a long series of cases of the extreme degree here described, though it is unmistakable in those I have observed. I have met, as yet, only one or two cases of cartilaginous hardening of the valve as described, and only a few of the complete annular hardening of the gut above the valve, but I have seen many cases of partial localized hardening of its wall, and in cases suffering from painful spasmodic contraction of the colon, whether the symptoms be typical of mucous colitis or not, I have frequently found some degree of transient muscular hardening causing the bowel to be palpable as a softish, flattened, fleshy tube of the size of the thumb, or less, instead of being thin walled, as in the normal rectum.

It is evident that the series of phenomena I have just described cannot be explained by means of the acknow-

ledged theory of muscular action and muscular tone. Contraction of muscular fibres surrounding a thin-walled tube cannot convert that tube into one with rigid walls and a well-marked lumen.

Transverse Contraction of Muscular Fibres.

It is at last beginning to be acknowledged that muscular fibres have two forms of activity instead of only the one which most physiologists recognize, and before long it will be generally recognized that a muscular fibre has not only the power of shortening itself by its longitudinal contraction, but also the reverse power as well, and that by a transverse contraction of its protoplasm it can lengthen itself.

The phenomena which I have been describing are the result of some abnormal stimulus causing the involuntary fibres of the bowel wall to hold themselves rigid in the extended position by an act probably of transverse contraction.

Expansile Tone.

We must in the light of this theory reconsider the question of muscular tone in the bowel, and consider that instead of there being only tonic contraction or contractile tone, there are two opposing types of tonic activity—namely, contractile tone and expansile tone. In the normal bowel, whatever part may be played by the expansile tone, that part is not very evident.

In the case, however, of some pathological irritants a certain proportion of the muscular fibres seem to be stimulated to expand rather than contract (unless it be conceivable that the combined action may take place in each individual fibre), and, if this abnormal activity be sufficiently marked, a condition of what may be called expansile tone will result. Instead of the bowel being hard and small, it will be hard, but with a well marked lumen, or, at all events, with a diameter larger than that which results from contraction alone.

I believe that the rigid arched abdomen so characteristic of peritonitis is an instance of a similar state of tonic expansion on the part of the striped muscular fibres of the abdominal wall. I have always found it difficult to understand how a rigid arch could be formed by contractile activity of the muscles, for contraction would make a straight line, not a curve. The possibility of the fibres being in active expansion is a most welcome solution of this problem. If it be acknowledged that tonic activity in the bowel is of two kinds, which are opposed to one another, it is quite easy to understand the *rationale* of many abdominal pains which would otherwise be difficult of explanation. For the explanation of pain by suggestions of flatulence, colicky action or neuralgia is not adequate for many of the continuous dull aching pains to which the colon is subject.

In the normal bowel contractile tone is paramount, and the normal condition of the empty bowel is probably one of almost complete obliteration of its lumen by a full, but not forcible, contraction of the circular fibres of its muscular coat.

Pain caused by Expansile Tone.

When, however, some pathological irritation induces the expansile activity in some (or all) of the muscular fibres a conflict between the two tendencies occurs, the stronger overpowers the weaker, and the result is pain, as is always the case when a muscle is attempting a load beyond its power.

In a section of the bowel where there is this conflict between fibres trying to maintain expansile tone and those trying to maintain contractile tone there will be a dull, aching muscular pain. Again, supposing that the pathological stimulus to expansion has so far superseded the normal one to contraction that the bowel is held tonically expanded to a greater or less extent (and it is not common to find the colon expanded to more than three-quarters of an inch to 1 in. in diameter, although it may occasionally be as much as 2 in., or even more), there may be little or no continuous pain in the bowel. In such a case as this, although there is no pain when at rest, there is certain to be pain, and perhaps severe pain, as soon as any peristaltic activity commences in this part of the bowel.

The powerful contractile activity which accompanies peristalsis will overmaster the fibres which are in a condition of expansion and crush them together, giving rise to an amount of pain proportional to the strength of the abnormal expansile stimulus. In this way a pain which is one of the varieties of colic may be produced by a very different mechanism. In colic a part of the bowel is occluded by an excessive amount of contractile action, and the peristalsis of the neighbouring part is endeavouring to force the intestinal contents through the spasmodic stricture. In the case I have been describing the bowel is held open, to some extent, owing to the presence of some expansile spasm and the initial contraction of the peristaltic wave causes its forcible occlusion.

Having thus given my theory of bowel tone, which seems the only feasible explanation of the phenomena with which I am dealing, it will be more easy to understand the etiology of the cases of bowel pain with which I wish to deal.

Referred Pain of Colon Origin.

Pain arising in the colon obeys the law which governs the relationships of the abdominal viscera to the sensory mechanism. The relation of the colon to the spinal cord and its sensory mechanism resembles that of most of the other abdominal viscera, in that painful impressions seem as a rule to travel along afferent channels which are not regularly used for common sensation; therefore, when the painful impulses reach the spinal cord and cause disturbance of the segment which they enter, the origin of that disturbance is not localizable by the patient, but is simply appreciated as segmental pain, and is interpreted as coming from some place in the skin area from which that segment usually receives ordinary sensory impulses. In other words, pain arising in any particular part of the colon is not, as a rule, felt as pain where it arises, but is felt as referred pain in the skin area which corresponds to the segment of the cord which receives the painful impulses from the colon. The presence of hyperaesthesia of the skin area to which the pain is referred is often of considerable value in cases in which it is not easy to decide whether the pain is a referred one or not.

As the colon from its start to its termination is in correspondence with some twelve different segments of the cord, there is a very wide choice of situations to which pains may be referred. It is this fact of the reference of colon pain to such widely distant skin areas that makes the diagnosis of the source of these pains so difficult until this fact be realized. Thus, within the month before writing this, I saw one patient in whom pressure on the colon caused a severe pain in the backs of the legs and toes, which lasted five minutes or so (first and second sacral segmental areas), and one in whom pressure on another part of the colon caused pain at the xyphoid cartilage and under the right scapula (seventh dorsal segment area); yet both might be cured by similar treatment.

I am not able to do more in the compass of this paper than name some of the most frequent or striking areas to which pain is referred, without giving details of the individual cases concerned. Perhaps the commonest site in colitis is the lower abdomen below the umbilicus, especially on the right or left, according to the part of the colon mainly involved, the segmental area being, as a rule, the tenth, eleventh, or twelfth dorsal. Where the transverse colon is mainly involved the pain is most apt to be felt across the epigastrium above or at the level of the umbilicus—that is, directly over the bowel itself. A very common situation for the reference of colon pain is in the hips over the twelfth dorsal or the first four lumbar segment areas, and the commonest points are 1½ in. below the centre of the iliac crest in the twelfth dorsal area and in the region of the posterior superior spine of the ilium. Pain is also very often referred to the sacrum over the situation commonly associated with uterine disturbance.

It is very common for colon pain to be referred to the flanks or to the gastric area, or sometimes below the scapulae and to the lower dorsal segment areas. Sometimes colon pain is all referred to one spot, 1½ to 2 in. across, just above the pubes (right and left twelfth dorsal areas), sometimes it is referred to a spot within the pelvis, between the base of the bladder and the obturator region. Sometimes the pain is referred to the region of the sciatic notch—that is, the third sacral area—sometimes down the legs even to the feet (first and second sacral).

Sometimes all the pain is referred to a fixed spot over the upper lumbar vertebrae (ninth, tenth, or eleventh dorsal areas). The pain arising in any part of the colon may therefore be all referred to some single skin area. In such a case no matter whether the ascending, transverse or descending colon be pressed on, so as to cause pain, it will be found that the pain occasioned will always be referred to the one spot, either above the pubes, over the upper lumbar vertebrae, midway between the umbilicus and Poupart's ligament on the left side, or at the xyphoid cartilage, or wherever else the one spot of reference may be. It is, however, more common in any particular patient for pain produced in the ascending colon to be referred to some one spot (not necessarily on the same side of the body), that produced in the descending colon to some other spot, and so on. Sometimes pressure on the lower part of the sigmoid will give pain in one place, and that on its upper part in another, and the same is often true of the caecum.

Reference of Rectal Pain.

When the upper part of the rectum is specially involved the pain is apt to be felt in the sacral region and it may be felt down the backs of the legs and even into the feet. A very interesting case of this description was sent to consult me by Dr. Christopher Martin, who recognized that the pain in the back from which the patient suffered was not due to the pelvic organs, but was part of a general colitis.

Mrs. R., aged 45, complained of pain at the bottom of the back and over the lower abdomen and also right down the legs to the feet, especially in the back of the legs and heels. She could not walk more than two miles, and some days not a mile, because of a dragging sensation in the abdomen and a constant pain in the back. She had no leg pains on walking. Sometimes on walking there was the sense of a tight cord in the right groin (iliac fossa) which was too tight to allow her to bring her legs forward. This came on quite suddenly sometimes, and then she had hard work to walk home. There was often some numbness and tingling over the back of the thighs and the calves. She had also a sense of weight across the lower abdomen which was apt to be worse in bed, and she was unable to lie on her back because of sacral pain when she did so. She had a good deal of epigastric pain, but it was not, as a rule, worse after meals. The tongue was clean, the appetite poor, and the bowels only open after large doses of medicine.

The colon was tender throughout, and the caecum especially so. The transverse colon was hardened enough to be palpable across the abdomen, but neither the caecum nor the sigmoid flexure was especially enlarged or hard; the sigmoid was slightly hard and contracted, rather less than ¾ in. in diameter. On examining the rectum Houston's valve was found to harden abnormally, but not to an extreme degree, but the bowel above it was felt as a moderately hard fleshy cord of the size of the thumb (say some ¾ in. in diameter). This was extremely tender, and moderate pressure upon it with the finger caused severe sacral pain, which shot down the backs of both thighs and legs to the soles of the feet, and was especially bad in the great toes. The pain remained in the legs and feet for five minutes or so after the examination. In this case, without any leading questions, the patient indicated with considerable exactness the usual sites of reference for the fourth, third, second, and first sacral segments as shown in Dr. Head's diagrams.

Pain in Relation to Meal Times.

The pain is very apt to occur in relation to the taking of food. It seems certain that the physiological activity of the stomach which occurs at meal times does spread to the intestines and does involve the transverse colon (whether because of the proximity of the two organs or through the nervous system I am not prepared to say); consequently, especially in the case of irritability of the transverse colon, pain after meals is a very common symptom, due probably, as was suggested earlier in this paper, to the conflict between peristaltic contraction and the abnormal expansile tone present in the bowel. In a well-marked case of this sort the transverse colon may be so hardened by its abnormal tone that it is clearly palpable all the way from the hepatic flexure across the abdomen to the sigmoid flexure. In some cases the whole colon is continuously palpable; in others portions only are hard for a time and then relax again; and therefore the whole transverse and descending colon are not palpable at one and the same time.

It is not very uncommon for the pain to come on before the meal is commenced. Thus some ladies have an "afternoon tea" pain, which comes on as soon as the tea-tray comes into the room and renders them very uncomfortable; or it may come on before the midday meal, as was the case with a young man aged 24, who said that pain used to come on just before dinner. He would sit down to dinner thinking "Well, I could do with it now," and then the pain would come on across the abdomen and "draw him double," and thus deprive him of his anticipated enjoyment: or, as in the case of a young woman of about 24, who said the pain used to come on as soon as she got home and saw the dinner on the table.

Again, the pain may come on in relation to defecation, but this is far less common than that after food, except in well-marked cases of mucous colitis.

Or the pain may come on at irregular intervals without any definite relationship to the functional activity of the colon being traceable. This is usually the case with the severe types of colic pain due to mucous colitis. These pains seem in some cases to be purely spasmodic and purposeless, in others they seem to be purposeful, and caused by the increased muscular action needed to detach adherent membranous mucous casts from the lumen of the bowel.

Pain on Exertion, etc.

Another characteristic of the pains resulting from irritability of the colon is the fact of its occurrence as the result of mechanical stimulation.

The shaking of the colon which occurs in the act of walking or from the vibration of a jolting conveyance, such as an omnibus or tram car, is very apt to precipitate painful contractions in an over-sensitive colon, and of this I could cite many instances. The transverse colon with its somewhat loose attachment is much more likely to be affected than other parts by mechanical vibration, and it is therefore in cases of irritability of this portion of the colon that pain is most apt to occur on exertion, as in the case already cited. As we have already seen, the transverse colon, when over-sensitive and subject to the abnormal expansile tone, is very apt to become painful after meals. Now it is not infrequently noticeable that though the colon is not sufficiently irritable to be subject to attacks of pain after meals, or on exertion alone, yet when the two factors are at work together pain is the result, and I have met with many patients in whom pain on exertion only occurred if it were taken within a couple of hours or so of a meal. I need only give one example, and that one I am certain of, for I myself was the subject of it. I shall not easily forget the annoyance and humiliation of a walk one Sunday afternoon on a Scottish moor. I walked a couple of miles or so with little discomfort, but had to rest every hundred yards or so on my return, owing to the onset of a severe aching pain in the lower epigastrium. I had had the pain occasionally for some weeks, and it would occasionally come on during the 300 yards walk which I had to take daily on returning after lunch at my club. My then explanation was that it was due to gastric atonicity and the over-taxing of the gastric muscles, although it did not yield to acids and strychnine. This erroneous diagnosis was not corrected as the pain was cured by the Scottish holiday. It was not till the following year, when I had a return of the same pain, that I recognized its colon origin, and was able to cure it by medicine in a few days.

Again, pain in an over-sensitive colon may be brought on by mechanical pressure exerted upon the abdominal viscera in such exercises as rowing. This is of course especially the case when the bowel is tender. In such cases of tenderness a woman cannot walk about in corsets or with anything tight round the waist because of the pain which such pressure produces. In such a case the patient will complain of pain on stooping to fasten her boots, as with gastric tenderness; or the pain will be severe after any form of exertion which causes much tightening of the abdominal muscles.

As a very good illustration of the types of pain occurring on exertion, I give the notes of a case under the care of Dr. Alexander Bryce of Moseley. As the patient is himself a medical man, and the notes are in his own words, the record is a valuable one.

For twenty-five years quite I have had pain after meals if in the erect posture. As this was in the epigastrium I used to think it was gastric; a few minutes' rest after meals in a reclining position caused it to disappear. I seldom feel it now unless when rushed after a meal.

Much standing causes pain, but this is mainly in the sigmoid and caecum.

Attendance at an instrumental delivery, at any rate if of a

prolonged character, causes fairly severe pain in the transverse colon.

Cycling at times induces pain in the transverse colon, but often in the sigmoid and caecum.

Contraction of the abdominal muscles in physical culture exercises induces very severe pain in the transverse colon.

The most severe pain I ever had, however, was some four years ago, brought about by half an hour's rowing in a petty-fogging little pleasure boat on the canal. The pains lasted five days in the transverse colon, and were followed by the passage of much mucus. I was much annoyed at this, for I, for one year at least, took honours for oarsmanship in respectable gigs, and to be let down by a poky little bumboat was rather humiliating.

Another severe attack of pain in the transverse colon was induced by supporting my wife in an effort to teach her to swim. As this occurred whilst I was in bathing costume, and in the open sea, perhaps the exposure (prolonged for only fifteen minutes, however) may have had something to do with it.

Croquet, unless in the erect posture, and lawn bowls, produce slight attacks.

My latest discomfort has been during my apprenticeship in motor driving; the changing of gears caused decided pain, but I am pleased to say this was not severe, and appears to be passing away.

PATHOLOGY.

The main clinical feature of this condition is undue irritability of the muscular coat of the bowel. This, in the case of mucous colitis, is associated with a discharge of altered mucus, which suggests undue irritation of the mucous membrane as well. In, however, very many cases in which pain is of colon origin, the irritation appears only to involve the muscular coat and not the mucous membrane to any perceptible extent.

Irritability of the muscular coat may arise in one of two ways—either by undue irritability of the general nervous mechanism, or by local irritation of the muscles themselves; and it is probable that this irritability of local origin may be due either to the absorption of some toxin from the bowel, or by the circulation of some muscular irritant in the blood.

My own belief as to the pathology of this condition is as follows: This abnormal expansile tone is the result of the presence in the colon of an abnormal amount of some irritating toxin or other substance which normally is present in a small amount, or not at all, and is due to bacterial activity. The correctness of this theory is suggested by the fact that intestinal antiseptics are of great value in treating this condition.

The toxin, if such it be, is probably due to abnormal activity of the *Bacillus coli*, or some other of the many denizens of the colon. When sufficient in amount the irritant will induce symptoms, but when insufficient its action may be aided and symptoms produced by any one of the many ways in which the irritability of the bowel may be heightened. Thus it is not at all infrequent for colon pains to come on at about 4 o'clock in the morning, at the time when "gouty" pains are apt to occur. Moreover, there is no doubt that patients are more apt to get colon pain when there is an excess of uric acid and its congeners in the blood. Dr. Haig gives some convincing experience as to the power of uric acid in inducing an attack similar to appendicitis, and certain it is that many attacks of what is apparently mild appendicitis, with expansile spasm of the caecum, yield rapidly to sodium salicylate.

Influence of Nervous Instability.

An important factor in all cases is the degree of stability of the nervous system. It is extremely frequent to find that a patient is quite well so long as his nerve tone is good, but as soon as worry or overwork causes nervous instability then colon pain comes on. My own experience, where a holiday quite sufficed to cure an undiagnosed attack of colon pain, is, I have no doubt, the experience of many others also.

It is not the nerve instability which causes the colon pain, but it is often the determining factor which enables the otherwise ineffective irritant to become effective and produce symptoms. This fact—for such I have confidence in calling it—gives the key to the relationship which exists between colitis, or colon pain, and nephroptosis and other causes of lowered nerve tone.

Menstruation as a Cause of Colon Pain.

A good illustration of what I have just said is to be found in the influence of menstruation in eliciting or increasing colon pains. It is extremely common to find that these pains are greatly aggravated at the menstrual period, and I have seen a few cases in which pain, undoubtedly of colon origin, occurred only at the time of the menstrual period, sometimes commencing a day or two before, and lasting a day or two after it. Cases of this nature would not, as a rule, come to a general physician, and I have no doubt that in many cases treated in the past for dysmenorrhoea, of the slighter degrees, the pain was in reality of colon origin. I also suspect that careful palpation would show that many cases in which there is pain and tenderness in the iliac fossa, greatly aggravated at the menstrual period and considered to be of ovarian origin, are in reality cases of mild mucous colitis or of simple bowel irritability such as I am speaking of. The fact that colon pains of this nature are usually also referred to the sacral region may aid in the deception, for pains in the back in the female are supposed to be a special prerogative of the gynaecologist. In this connexion I may perhaps quote an aphorism by one of our leading gynaecologists to the following effect:

"It is more important for the gynaecologist to remember that a woman has a colon than to remember that she possesses a uterus and ovaries."

Irritable Colon and Retroversion of the Uterus.

While speaking of the relationship of colon pain to gynaecology, I may also refer to the fact that the symptoms of retroversion or retroflexion of the uterus may be greatly aggravated by the presence of tenderness such as I have described in the upper part of the rectum. I have seen several cases in which severe pain on exertion, greatly aggravated at the menstrual period, was due to the pressure of the misplaced fundus uteri upon the tender bowel. We know that a retroverted uterus may cause few if any symptoms, but it is far otherwise if the bowel is at times exquisitely sensitive, owing to the presence of expansile tone in it. Some such cases I have in the past markedly relieved by medicinal and dietetic treatment alone, in ignorance of their true nature, and without having recourse to gynaecological aid, for it is only a few years since I first discovered the important part which a sensitive rectum can play in conjunction with uterine displacements. I am now more keenly alive to the presence of a gynaecological complication in these cases, just as possibly may be the case with some gynaecologists, who after what I have now said may realize the possibility of a medical complication in some of their more painful cases of uterine retroversion. I would here once again say that the presence of mucus or membranes in the stools is not at all essential in these cases, and often does not occur. The irritability may involve the muscular coat alone, and not the mucous membrane.

After what has just been said as to the increase of colon pain due to the nerve strain and nerve instability associated with menstruation, it will be quite easy to understand how powerful such a condition as nephroptosis may sometimes be in favouring the occurrence of pain in mucous colitis and irritable states of the colon in general.

Perhaps the best way of emphasizing what I have just been saying as to the part played by the different agencies in the production of colon pain is to give a concrete illustration.

For instance, a patient with a nephroptosis, which gives him very little trouble, gets overworked and run down, and then develops colitis with severe pain and mental depression, and gets into a neurasthenic condition.

There are three distinct ways in which this patient can be cured. The colon may be freed from irritability by appropriate diet and treatment, and the improvement in the general health which will result from the cessation of the pain and misery will restore the tone of the nervous system, and the kidney will not be able to cause any more disturbance than it did before the onset of the colitis. Or, again, the neurasthenic condition may be cured by Weir Mitchell or other treatment, and then the irritability of the colon nerves will be so far lessened that its spasmodic action will cease and the abdominal pain will disappear, and the nephroptosis will also cease to cause symptoms; or, thirdly, the kidney may be fixed up in place by surgical means (the abdominal tenderness would probably prevent the use of belt or truss), and with the removal of this cause of enhanced irritability of the nervous system the colitis and the neurasthenia will subside.

This, then, is a brief outline of a subject about which very much more might be written, and also in connexion with which very much more work remains to be done. I expect that in the near future we shall be able to distinguish different forms of catarrhal irritability of the colon, separating those of rheumatic or uric acid origin from those of influenzal origin, and both again from those due to intestinal micro-organisms.

A CASE OF INTUSSUSCEPTION ACCOMPANIED BY POLYPUS AND STRICTURE: PERFORATION: RESECTION: RECOVERY.

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In the following case the history, taken together with the condition found, leads me to conclude that acute ensued upon chronic intussusception.

An unhealthy, neurotic, anaemic woman, aged 37, married, with five children, and living in a two-roomed house, had complained of indefinite abdominal pain for about six months. She often allowed her bowels to remain unopened for a week; her meals were most irregular, and she was in the habit of chewing quantities of raw rice and oatmeal. When seen from time to time she refused to allow any examination to be made.

History of Present Illness.

When seen she had severe abdominal pain, referred to the umbilicus, coming on in paroxysms, and inability to retain food. The bowels had not been opened for a week; there was no vomiting when no food was given; pulse 100; temperature normal. Nothing could be made out from the abdomen, and examination by rectum or vagina was refused.

Enemata were given every six hours for thirty-six hours; a mixture was also given. The enemata produced two actions; the patient gradually felt better, and nourishment could be given by the mouth.

On the fourth day she had another similar attack, which passed off in forty-eight hours. On the seventh day, in my absence, Dr. T. H. Redwood saw her; she said she was better. On the eighth evening I found she had been vomiting for twenty hours, and that for the last ten the vomit had been faecal. She was regurgitating mouthfuls of liquid faeces at short intervals. Pulse 140. It took another four hours to persuade her to submit to operation that night.

Operation.

After being admitted, she was given an enema, with no result; saline solution and adrenalin were infused hypodermically, and a nutrient enema with brandy was given also. Her general condition considerably improved, and the vomiting ceased; there was practically no distension, and nothing could be made out on abdominal examination. On rectal examination, a lump could be made out in Douglas's pouch; a catheter was passed; the stomach was not washed out, and a general anaesthetic was decided on; the pulse was 120. The anaesthetic used was C.E., which was then given. The abdomen was opened in the middle line from the umbilicus to the pubes. A little fluid escaped on opening the peritoneum; the gut was fairly empty. On putting the hand into Douglas's pouch, the lump was easily found, and proved to be an intussusception of the lower end of the ileum about 3 in. long, and a hard lump could be felt at its apex. With some difficulty, owing to the size of the apex, it was reduced, the abdominal cavity having been well shut off with gauze before commencing reduction. There were practically no adhesions, but two yellow spots and a perforation appeared on the receiving layer, and from this point on it was slightly adherent, and still more so at the apex, which was reduced with difficulty. Here there were two more yellow spots and two perforations on the receiving layer. A polypus could be felt inside the gut, which was markedly dimpled and thickened at the point of attachment. There was an annular stricture beyond the polypus and a great difference in the size of the gut on either side.

The patient's condition having improved, it was decided to resect and laterally anastomose the shut ends with Murphy's button (third size). This was done 3 in. beyond the stricture and 3 in. beyond the unhealthy spot mentioned. About 2 ft. of intestine was removed. More subcutaneous saline and a hypodermic of adrenalin were now given. The halves of the button were pressed together firmly enough for good coaptation of the opposing surfaces of gut wall, but on removing the clamps there was slight leakage in one spot; they were pressed more firmly together, and reinforcing sutures put in; this may account for the button coming away on the ninth day. A little fluid was found in Douglas's pouch. The abdomen was closed, and a large Keith's tube left in above the pubes, with a gauze wick. The preparation of operation area and operation took about an hour. The patient never vomited again from the time that she was put on the table until she was well. An injection of streptococcic and *coli* vaccine was given.

The wick was changed every six hours, and a good deal of fluid came away with no smell. More saline and adrenalin were given, and she was kept up in Fowler's position. At the end of forty-eight hours there was some distension and pain, but no vomiting. Pulse 120: no flatus passed. A turpentine enema was given and not returned. A long tube was passed, and part of the enema came away, some of no flatus, and distension was not relieved. Sodium sulphate ʒvi in ʒx iced water was given slowly, and liq. strych. hyd. (q.q.h.) hypodermically. Liquid faeces were passed, and from that time the patient made a good recovery, having about four actions daily, the discharge from the tube ceasing about the ninth day, on which day the button came away. The patient for the first eight days in her own house had been on a hard kitchen armchair, with her legs up day and night; she had refused to move out of it. She developed a large sore in consequence over her sacrum, which is now rapidly filling up.

On opening the gut removed, the polypus, as big as a large prune, was found to be gangrenous; a section through the base of it, cut and stained here by Dr. Scudamore, seemed to be a columnar-celled carcinoma. The only gland seen when removing a V-shaped piece of mesentery looked healthy.

The point that strikes me about the case is that this woman is about the last in the district I should have expected to stand an illness of this sort—unless her previous state in some degree could have hardened her to the condition of things found at the operation.

IMPACTION OF GALL STONE IN SMALL INTESTINE: LAPAROTOMY: RECOVERY.

By HENRY ROSS, M.B.ABERD.,
MEDICAL OFFICER, STRATFORD-ON-AVON GENERAL HOSPITAL.

THE following case is of interest, not only on account of its rarity, but because the symptoms were so slight and insidious, and there was an entire absence of any previous history of hepatic colic or pain. The recovery after so long a period of complete obstruction before relief was given is noteworthy. The septic middle-ear abscesses were presumably caused by the faecal vomiting.

I was summoned to Mrs. L. B. on the evening of November 23rd, 1908, who was said to be suffering from colic. She was a very stout woman and was sitting by the kitchen fire and not showing any marked symptoms of distress. She complained of intermittent pain about the umbilical region with nausea and vomiting.

History.

She stated she was aged 65, and married, but with no children. She had always enjoyed good health, and till early that morning was in her usual health, taking food well; the bowels acted regularly as a rule, but had only moved slightly on the evening of November 21st. Soon afterwards slight intermittent griping pain set in, but did not become severe until the early morning of November 23rd; this, however, was not so acute as to prevent her attending to her household duties until I saw her in the evening.

The patient being fully dressed, I had not an opportunity of examining the abdomen, nor did I think the symptoms urgent enough to require it. I treated the case on the usual lines, prescribing calomel. 5 grains, and bismuth and soda for the sickness.

Next morning I found her in bed and the symptoms much the same, tongue clean, temperature and pulse normal, but no action of the bowels had taken place. There was nothing to indicate the cause, and regarding it as possibly faecal obstruction, I ordered copious enemata, but with scarcely any result.

As the symptoms did not assume great urgency, that evening I gave her more calomel, to be followed by a brine enema in the morning, but by that time the abdominal pain became more violent and the vomiting distinctly faecal. I asked my colleague, Dr. Box, to see her with me, and we agreed that some form of intestinal obstruction, needing surgical interference, was present, and she was admitted into the hospital.

She absolutely refused to have anything done in the way of operation. The symptoms got more and more urgent, till the patient was *in extremis*. By the seventh day of the obstruction the distress became so great that she voluntarily asked me to try and do something to relieve her.

On the afternoon of November 29th, I opened the abdomen in the middle line, and on passing my hand over the intestines found the cause of the obstruction in the small intestine about 18 in. above the ileo-caecal valve. After withdrawing the bowel and clamping it above and below, I surrounded it and the wound with sterilized swabs, turned the intestine back over the end of the stone, and incised the bowel enough to push the stone through the opening endwise. I sewed up the wound with a double row of silk sutures, first continuous, second interrupted (Lembert). After washing the parts with weak izal solution and then saline, the bowel was returned and the abdominal wound sutured in the usual way.

Her recovery was slow, owing partly to the delay in operating. An abscess formed in the wound, and subsequently she had double ear abscess.

The stone was cone-shaped, and represented a cast of the gall bladder, measuring in its long axis 2¾ in., and in the transverse diameter 1⅞ in.

I must acknowledge the valuable assistance given me at the operation by Dr. Hewer and by Dr. Fox, who administered the anæsthetic, which, from the regurgitation of faecal matter, was a very risky and unpleasant task.

EMPYEMATA ASSOCIATED WITH THE BACILLUS COLI: TREATMENT BY ANTITOXIN.

By J. SIDNEY PEARSON, M.A., M.D.Cantab.,
PATHOLOGIST, EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, E.

As antidiphtherial serum is now being frequently administered by the mouth, the following cases may prove of interest, not only because of their unusual character, but because it was possible to demonstrate from day to day the direct effect of the antitoxin treatment.

F. C., a boy aged 7, was admitted on October 15th, 1908, under Dr. Coutts, with dyspnœa, cough, and very fetid breath. He had been attending hospital on and off for six years, beginning with an attack of pleurisy. When in the hospital five months previously he had shown signs of bronchiectasis involving the left base. Dr. Coutts still inclined to this diagnosis, for although on examination impaired resonance and diminished breath sounds were found all over the left side of the chest, yet from time to time the boy expectorated copious, very foul sputum. He had night sweats, and was losing weight, yet there was no history of phthisis. The heart's apex was felt to be in the fifth intercostal space, about 4 in. internal to the nipple.

On November 19th a red, tender, fluctuating swelling appeared immediately below and to the left of the nipple. Under chloroform I made an incision over this and found the sixth rib necrosed. The diseased portion was cut away, when immediately there was an escape of foul smelling gas, followed by about 4 oz. of pus, resembling pale anchovy sauce—obviously pus that had intimately mixed with blood. I felt the lung to be much shrunken and fibrosed, but could detect no rent in its substance. Streptococci and *Bacillus coli* were found in the pus. On November 19th and on each of the two following days 10 c.cm. of polyvalent antistreptococcic serum were given by the mouth. The discharge from the wound, however, still continuing very foul and profuse, a week later I ordered 25 c.cm. of anticoli serum to be administered by the mouth. Two days later the discharge was less profuse and not nearly so offensive, and ten days later had quite stopped.

On December 20th the wound opened and again discharged offensive pus swarming with the *Bacillus coli*, so that I repeated the dose of 25 c.cm. anticoli serum, and the discharge quickly became less in amount and lost its fetid odour. I examined the discharge daily, and whereas before the serum had been given the bacilli were very active, yet twenty-four hours after its administration they were seen to be very sluggish, of large size, and in greatly reduced numbers. Two days later I could find no *Bacillus coli* in the discharge. The boy's general condition had correspondingly improved, and the wound closed.

On January 10th, 1909, it again broke open and discharged pus as before, this time containing both streptococci and *Bacillus coli*. Both antitoxins were administered simultaneously by the mouth, and two days later Dr. Saunders reported that he could find no bacilli and only a few short chained streptococci. The antitoxins were given again, and henceforward the wound healed and the boy made a rapid recovery. I saw him on May 24th—six weeks after his return from our convalescent home—still looking the picture of health, having put on several pounds in weight.

Empyemata associated with the *Bacillus coli* and without any abdominal mischief are very rare. This case gave no signs of any extra-thoracic trouble. Moreover, whilst he was in the hospital, another boy—C. F., aged 5—was admitted in extreme dyspnœa, and died on the same evening, a few hours after a large empyema had been opened. The pus from this case was very foul and contained the colon bacillus. At the *post-mortem* examination the pericardium also was found full of pus, but no abdominal lesion of any kind was discernible.

G. S., a boy aged 10, was admitted with a subdiaphragmatic abscess that had extended into the right pleura and lung. The stench from his breath was unbearable, but twenty-four hours after the oral administration of 25 c.cm. anticoli serum it was quite sweet. The boy was in the hospital for three months, and made a very slow recovery. His full history is out of place here, but after his abscess had been opened I had two occasions to watch the effect of the anticoli serum upon the bacilli. Within twenty-four to thirty-six hours the bacilli become very sluggish, and the greatly reduced numbers pass into the large involution stage.

I have tried the anticoli serum on one case of acute gangrenous appendicitis, but without obvious result either before or after operation; yet I think investigation in this direction is desirable.

In no case was the antitoxin given hypodermically, and at the present time all serums are given by the mouth at the East London Hospital for Children, except to cases of very urgent laryngeal diphtheria, when it is given subcutaneously; even in these cases I doubt whether it acts more quickly or directly.

Children take antitoxin very well when administered with about double the quantity of warm milk. I have never known the dose vomited.

Since writing the above I notice, in *Lancet*, June 5th, 1909, p. 1580, Drs. Hale White and Eyre report two cases of empyema associated with the *B. coli* treated by vaccines. They state that the improvement after administration of the vaccine was immediate and remarkable. In the cases recorded it was equally so. Both the first and third cases were given up as hopeless, and they appeared to be dying, yet after the antitoxin they both took a new lease of life. Certainly antitoxin is more readily obtained than vaccine, and when the former acts so efficiently I see no reason to delay while a vaccine is being prepared.

For permission to publish these cases I am much indebted to Dr. J. A. Coutts and Mr. Warren.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

QUININE IN SYPHILIS.

IN 1905 the subject for the triennial Alexandra Memorial Prize, open to army and navy surgeons, was "Syphilis in the army and its influence on military service: its causes, treatment, and the means which it is advisable to adopt for its prevention." The essay submitted by me was later published in book form in 1907, under the title *Syphilis in the Army*.[1] On page 52 it is stated that: "Quinine in dilute acid solution is often most valuable precedent to, or immediately after, the first mercurial course, and in cachectic cases. Whether it exerts a specific action on the spirochaete of syphilis, as on the malarial parasite, is uncertain, but I think it should be invariably given if there is an associated malarial history or syphilitic fever. Such fever is common with the onset of rash, and in the later stages with the septicæmia due to necrosing bone or tissues. As early syphilis is associated with a loss in numbers of the red blood corpuscles and in the amount of the haemoglobin in those cells, quite possibly its chief action may be in overcoming this degenerative action, and thus assisting the blood to better deal with the inroads of the virus in the early and more remediable phases of the disease, by increasing its phagocytic power, or by the formation of antibodies. Further, any drug which tends to reduce the number of spirochaetes in the blood in the early stages, will consequently lessen the amount of toxin which can later injure the central nervous system and cord."

In an article written at the request of the editor on the treatment of syphilis, in the November and December 1908 numbers of the *British Journal of Dermatology*, it is further stated: "Whether quinine exerts a specific action on the *Treponema pallidum* as on the malarial parasite is uncertain, but I always temporarily 'substitute' it for mercury if there is an associated malarial history, or if syphilitic fever is present."

During sixteen years' specialized work on venereal diseases in the army I have extensively used quinine, and before the days of the demonstration of the protozoon of malaria by Ross, and prior to Schaudinn's valuable discovery of another protozoon, the *Treponema pallidum* of syphilis. The use of quinine, however, is now placed on a more "scientific" basis. My attention was chiefly directed to this drug in India, where cases of syphilitic fever were not infrequently sent into hospital as ague, or vice versa, or the two diseases co-existed. The drug acts most beneficially in any "septicæmic" state with fever, whether such be due to gonorrhœa, syphilis, or enteric fever. Quinine, mercury, and opium judiciously used are veritable sheet anchors in treating early syphilis. Sanatogen and arsenic are most useful adjuncts. The whole category of

[1] *Syphilis in the Army*. 1907. London: John Bale, Sons and Danielsson.

drugs, however, is very largely assisted by diet, rest, and diaphoresis, judicious admixture being the keynote to success.

H. C. FRENCH, Major, R.A.M.C.
Royal Herbert Hospital, Woolwich.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.

WILLIAM EWART, M.D., F.R.C.P., in the Chair.

Thursday, June 3rd.

BLOOD PRESSURE IN MAN.

SIR LAUDER BRUNTON read a paper on Blood Pressure in Man, its Estimation and Indications for Treatment, which is published at p. 64.

Dr. O. K. WILLIAMSON, in discussing the paper, said that he had originally ranged himself with those who regarded the reading of disappearance of the pulse, as measured by Dr. Hill's method of circular compression of the limb, as an absolutely reliable indication of the systolic arterial blood pressure, and he was bound to admit that he had been strongly prejudiced against the theory—first propounded by Dr. William Russell—that the resistance due to the arterial wall was an important factor in the reading. He had, however, made observations by this method on the arm and leg of a number of cases of high blood pressure as well as on people with normal pressure and healthy arteries, the part of the limb on which the observation was made being in all cases at the level of the heart. These observations pointed to the conclusion that the resistance due to the arterial wall influences the readings markedly because: (1) In the high blood pressure cases the leg systolic readings were in nearly all cases markedly higher than the arm ones. Assuming that the blood pressure in the leg could not be higher than that in the arm (either limit being at the level of the heart) and that with a sufficiently wide armlet the influence of the tissues superficial to the artery might be neglected (as was generally agreed), it necessarily followed that the difference between the arm and leg readings could only be due to resistance of the arterial wall. (2) In the cases of normal blood pressure with healthy arteries, there was on the average no appreciable difference between the systolic arm and leg readings. (3) In all the cases the corresponding diastolic arm and leg readings—which could not be influenced by the resistance of the arterial wall—came out practically identical. The observations further pointed to the conclusion that the abnormal condition of the arterial wall was a direct result of the increased blood pressure, seeing that the arteries of the legs were subjected in daily life to greater hydrostatic pressure from a higher column of blood than the arteries of the arms. Dr. Williamson said that the first arm and leg observations were not simultaneous, but he had latterly taken a number of simultaneous observations on these cases, which in the main bore out the results as above described. He had also obtained evidence that the difference between the arm and leg readings was largely due, as Dr. Russell held, to hypertonic contraction of the arterial wall, for in some cases, more especially those with marked atheroma of the superficial arteries, there would on one occasion be a very great difference between the arm and leg readings, and on another occasion this would disappear. Further, in some cases which Dr. Leonard Hill and he had observed together there were on the first observations found to be marked differences between the arm and leg readings; but after the pressure had been kept up for some time—being not allowed to fall far below the obliteration point—the differences greatly diminished or else disappeared. Granting, however, that the arterial wall resistance greatly influenced the readings, this would not, in his opinion, do away with the great value of relative observations. Thus daily observations in any particular case would enable the physician to determine whether the pressure was rising or falling, and thus to direct his treatment in a manner that mere digital observation could not. With regard to the treatment of cases of high arterial blood pressure a general rule could not be laid down. The physician must feel his way with each case, noting carefully the effect of the apressor remedies, especially with regard to their effect on the urinary excretion. He had found iodide of potassium and purgation with mercury of very great value as methods of reducing blood pressure. He had been somewhat disappointed with the results obtained by nitrites and organic nitrates in cases of very high blood pressure, although these drugs were undoubtedly of great use in cases of moderately raised blood pressure.

Dr. ALEXANDER MORISON, referring to the alleged uniformity of the intracranial blood pressure, stated that, having demonstrated the rich innervation of the intracranial blood vessels, with a peripheral ganglionic system, he believed that the Monro-Kelly doctrine could not be maintained without much modification. With regard to the clinical value of blood-pressure instruments, he believed that they had a certain value when taken in conjunction with auscultation, palpation, and sphygmographic evidence, once they had established a standard in a particular case, variations from which could be noted and recorded. He considered also that variations between the registered blood pressure in the brachials and in the lower limbs were in a measure dependent upon the differences in the osseous anatomy of the parts compressed.

Dr. ETTIE SAYER instanced three cases in which high frequency currents had been efficacious in bringing down high blood pressure. In the first case a course of three months' treatment lowered it from 236 mm. to 160; in the second from 203 to 140: and in the last case, one of chronic interstitial nephritis, from 258 to 170. In this case no amount of electricity appeared to be able to get it any lower, which she attributed to the fact that, whereas in the first two cases one had simply a condition of hypertonus, due to arterial spasm, from the irritation set up by chronic autointoxication, to deal with, in the last, in addition to this, there was a large amount of real arteriosclerosis. The results of a single application were very variable. One day the drop might be only 2 or 3 mm. mercury and the next an exactly similar treatment might cause it to fall 8 or 10 mm. The application must be made with the effleuve directly over the pit of the stomach, and her view was that it was the solar plexus which was directly stimulated. The splanchnic area was capable of holding all the blood in the body, as they all knew might happen in cases of fatal shock. In shock the essential phenomenon was a diminution of blood pressure, and one of the easiest ways to produce this was a hit below the belt. The splanchnic nerves were vaso-constrictor and the sympathetic vaso-dilator: therefore, an attempt must be made to stimulate the latter. If this was done in the splanchnic area the systemic circulation of necessity was mechanically relieved, and the whole blood pressure would be temporarily lowered and a vicious circle broken up. If, at the same time, the patient was being strictly dieted, and the nitrites, paraldehyde, and, if necessary, strychnine, etc., administered, the patient would recover.

Dr. F. HOWARD HUMPHRIS briefly urged the claims of static electricity in the treatment of the reduction of high blood pressure. With such a masterly exposition of the subject as they had heard, it seemed a pity to allow the discussion to close without a mention of static electricity to add to its completeness. He quoted two cases (owing to the lateness of the hour) only which had been benefited by the administration of static currents—one a nurse with a blood pressure of 180, and one a surgeon with a pressure of 158 mm. In the former the symptoms were relieved in two or three treatments, and in the latter a reduction of 10 mm. Hg was noted, all observations being taken with the Riva Rocci instrument (Martin's modification). For the relief of an abnormally high blood pressure and the symptoms caused by it, they had in static electricity a means at their disposal convenient alike to patient and doctor, simple, reliable, and effective.

In reply, Sir LAUDER BRUNTON said that he had not seen the method of estimating the diastolic pressure described by Dr. Ewart. He thought that the diastolic pressure was chiefly useful in cases of aortic regurgitation where there was a tendency to syncope and in cases of high tension with failing heart. Nitrites in small doses might be continued for years without losing their effect, but when the

tension was very high and the nitrites were pushed they seemed to lose their effect to some extent. This might possibly be due to their lessening the alkalinity of the blood, and it was probably wise to combine large doses with alkaline bicarbonates. In reading his paper, which he ought to have limited to twenty minutes, he had exceeded the time by three or four minutes, and even then he had been obliged to leave out part of what he had written, and amongst other things his mention of Hill and Barnard's small syphygmomanometer. In considering the question of aortic regurgitation and the measurement of pressure in it he thought that possibly the condition of the capillaries had to play an important part which had not yet been completely elucidated. In 1884 he had pointed out that in aortic disease a rhythmical contraction of the capillaries could easily be observed by drawing the finger across the forehead of a patient, when a red line was produced which expanded and contracted rhythmically. In this movement three rhythms could be observed, one corresponding to the pulse, another to the expiration, and a third occurring about once in twenty seconds, which was evidently of capillary origin. There was no need to enter into the pathology of oedema, which he had discussed in other papers. He quite agreed with Dr. Hawthorne that the application of the sphygmomanometer only gave one an incomplete idea of the condition of the circulation. More especially was this the case with patients suffering from high tension and failing heart. It was just in these cases, however, that the combined use of the sphygmomanometer and the sphygmograph was so exceedingly useful. As Dr. Williamson had said, iodide of potassium was very useful in reducing the tension in disease. It had but very little action when injected even in large quantities into the blood of healthy animals in the laboratory, but it had a powerful action in disease. He had been obliged to leave out an account of the advantages of Lockhart Mummery's instrument in reading his paper, but it was fully discussed in the paper as written. He was much interested in the observations on visceroptosis, and he quite confirmed Dr. Sayer's observations on high-frequency currents, as many of his cases had benefited greatly by such treatment. He had heard from others of the advantage of static electricity in high arterial tension, but he had not any observations of his own.

ULSTER BRANCH.

Thursday, June 24th.

Alexander Dempsey, M.D., President, in the Chair.

Tabes Dorsalis Treated by Fraenkel's Methods.

Professor Lindsay read a paper in which he said the treatment of chronic affections of the spinal cord constituted one of the most difficult problems in therapeutics. Except where syphilis was the chief causal factor, the value of internal medication was comparatively small. Rest, warmth, hydropathy, massage, and suitable dietary were the chief agents upon which reliance was placed, and while their effect was sometimes striking, it was too often of a disappointing character. The value of electricity was not, in his experience, great. In recent times much attention had been given to another factor—namely, the re-education of the paralysed, paretic, or ataxic limbs. The essential idea of this treatment was that the patient should be encouraged to put in action whatever remained to him of voluntary power, with due precautions against fatigue or strain. Suitable exercises were devised to stimulate the enfeebled or ataxic muscles, a system of drill or gymnastics was practised designed to reinforce the defective movements, the patient was encouraged to recognize that his powers of motility were diminished rather than lost, and in many cases a gratifying result was obtained. These methods were applicable to all cases of chronic spinal disease, where the acute symptoms had long subsided, and where the remaining symptoms were paralysis, ataxia, or muscular atrophy. Infantile paralysis and locomotor ataxia were the two chief conditions where they had achieved their most striking successes. The work of Fraenkel in connexion with the latter disease had justly obtained wide recognition. His book was well worth study, but it was to be noted that his methods had nothing mysterious or recondite about them. They were common-sense exercises specially adapted to the disease in question. They owed their success to their thoroughness, their variety, and the patience and persistence with which they were practised. They were worthy of a wider recognition than they had hitherto obtained in this country. He read notes of a recent case in his hospital service in which Fraenkel's methods were employed in a case of tabes dorsalis.

The patient was a man aged 38, with a syphilitic history. He had well marked and somewhat extreme ataxia of the legs and arms. There were no lightning pains, but the knee-jerks were absent, the Argyll Robertson pupil was present, and there were various forms of sensory disturbance. Romberg's sign was well marked. A series of exercises were devised for him and practised daily for half an hour. A strip of floor, 18 in. wide, was marked out. Vertically over it and on the level of the patient's eyes, a mark was made; another mark was made at the height of 12ft. from the floor. The patient was directed to walk along this strip of floor, at first watching his feet, next watching the mark at the eye level, and finally watching the high mark. Support was given when necessary. The patient also practised turning within a 24 in. square, watching his feet in the first instance and then watching the marks as before. A series of leg exercises were devised and practised diligently. Great improvement followed the practice of the above exercises for a few weeks. When the patient left hospital he could walk well without looking at his feet and turn easily within an 18 in. base. He was able to stand fairly steadily for half a minute with closed eyes.

Salt-Free Diet as a Therapeutic Agent.

Professor Lindsay read a paper on this subject. He said the Russian physician, Karell, more than forty years ago drew attention to the value of a strict milk diet in a variety of morbid conditions, especially dropsy, whether of cardiac or renal origin; also in emphysema, pulmonary catarrh, persistent diarrhoea, and hepatic disease. The *rationale* of this treatment remained doubtful, until the experiments of Romberg suggested that, at least in some of these conditions, the absence of salt from the above diet was the most essential point. As regards the various forms of oedema and dropsy, there was no great difficulty in understanding the *modus operandi* of this form of treatment. Sodium chloride had a high osmotic equivalent and possessed the faculty of retaining fluid in the tissues. Its omission from the dietary might, therefore, be reasonably expected to facilitate the elimination of dropsical effusions. In a recent case in the author's hospital practice the effect of the withdrawal of salt was very striking:

F. C. was admitted into Professor Lindsay's wards in the Royal Victoria Hospital on December 8th, 1908, suffering from chronic tubal nephritis, accompanied by extensive and somewhat extreme oedema. The amount of albumen in the urine was large—namely, 1.6 per cent. The patient had no toxic or uraemic symptoms, but presented the signs of a moderate secondary anaemia. The oedema, which was extensive and extreme, was the leading feature of the case. Routine treatment of the usual kind—namely, purgation, diuretics, hot-air baths, etc.—was ordered and persevered with for many weeks with scarcely any appreciable effect. The patient continued much swollen and the albumen, though varying in amount from time to time, showed no progressive diminution. On March 6th, 1909, a salt-free diet was prescribed, the amount of albumen being then 1.6 per cent. On March 14th the amount of albumen had fallen to 0.8 per cent., and the oedema was diminishing. On March 25th the albumen had fallen to 0.4 per cent., and there was progressive improvement in the oedema. When the patient left hospital the urine was still albuminous, but the oedema had wholly disappeared.

The connexion between the change of diet and the abatement of the oedema in this case could hardly be accidental. The patient had had prolonged treatment on the usual lines without effect. No new measure was tried except the withdrawal of the sodium chloride. The improvement began almost immediately, and continued without pause until the oedema had wholly disappeared. Professor Lindsay added that the patient made no complaint regarding the change in his diet, and seemed to suffer no inconvenience from the want of common salt. Bunge was of opinion that the elimination of large quantities of common salt threw an undue amount of labour upon the kidneys, and tended to the production of renal disease. He suggested the use of rice in diseases of the kidneys, as this cereal contained a minimum of alkaline salts.

An Unusual Case of Habit Spasm.

Professor Lindsay read notes of the following case:

J. R., a boy aged 17, was admitted into Professor Lindsay's wards in the Royal Victoria Hospital on January 19th, 1909,

presenting a curious condition of things. His thumbs were continuously opposed to his fingers, and the power of abduction of the thumbs was completely lost. There was no pain, and the patient's condition was in all other respects normal.

It turned out on inquiry that the boy was an assistant to the riveters in the Queen's Island Shipbuilding Works, and that his occupation necessitated the holding of tongs the entire day in both hands. His condition was evidently one of habit spasm, analogous to writer's cramp. He got rapidly well after a few days' rest in hospital.

The cases were discussed by Sir WILLIAM WHITLA, Drs. MAGUIRE and MCKISACK, and the President.

Gastro-jejunostomy.

Dr. THOMPSON (Omagh) brought under the notice of the Branch a successful case of gastro-jejunostomy. He mentioned as a practical point of the greatest importance the necessity of the surgeon either washing out the stomach himself prior to operation or seeing it done, and illustrated his contention by a case in which the omission of this precaution caused great inconvenience and delay.

Repair of Ruptured Gastric Ulcer.

Dr. THOMPSON also reported a successful case of repair of a ruptured gastric ulcer, and advocated that whenever possible the surgeon should be brought to the patient and not the patient to the surgeon, as the journey and necessary preparation, especially if the distance was far, almost invariably rendered any operation useless.

Open Treatment of Hernia in Children.

Dr. THOMPSON also asked the experience of members as regards the open method in the treatment of herniae in children. He mentioned that in some few cases he had met with no sac could be found in the usual position, and that under such circumstances the gradual filling up of the wound by granulation had generally been successful.

Dr. THOMPSON'S communications were discussed by Dr. DARLING and Mr. FULLERTON.

Fibroids.

The PRESIDENT showed three specimens of fibroids, all of an unusual character, upon which Dr. R. J. JOHNSTONE made some remarks.

Cerebral Abscess.

Dr. CECIL SHAW read notes of a case of cerebral abscess arising from ear disease, successfully operated upon.

The patient was a man, aged 25, who had suffered from chronic suppurative otitis media of the right ear since childhood. His father had taken him to specialists in Belfast, London, and Paris, but without avail. In May last year he began to have severe pain in the ear and side of head, and then vomiting, but he refused to have anything done till he became so ill that his family arranged for advice. Dr. Shaw was summoned by Dr. Laverty of Rathfriland, the family doctor, on June 8th of last year, and found the man semi-delirious and stupid, crying for relief to his pain. Temperature was 107° and pulse 46—a rather surprising combination which was verified by careful observations. There was great photophobia, no optic neuritis, and no swelling or tenderness over the mastoid. The right pupil was moderately dilated. Immediate operation was advised and consented to, and Dr. Shaw trephined 1 in. above the centre of the posterior wall of the external meatus. The meninges were normal and did not bulge. On searching the brain with a grooved needle, down and forward, pus was struck and about three to four ounces of foul grey pus was drained out. The cavity was syringed and drained, and the patient was quite easy on coming from under the anaesthetic.

The recovery was slow, but apparently complete, though the patient refused any further examination of the ear.

Cases and Exhibits.

Mr. FULLERTON read notes of a case of nephrectomy for calculi in which it was found necessary subsequently to operate on the opposite kidney. He also showed a bad fracture of the humerus treated by plates and screws, with skiagrams; and a malignant growth of the sigmoid flexure, in an early stage, successfully removed.

UNDER the will of the late Miss Eliza Scholfield, of Grosvenor Gardens, W., the Royal Infirmary, the Southern Hospital, and the Ladies' Charity and Lying-in Hospital, all of Liverpool, each receive a bequest of £1,000. Other medical charities in the same city each benefit to the extent of £500—namely, the Home for Female Incurables, the Hospital for Consumption and Diseases of the Chest, and the Victoria Home for Invalid Children.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, June 24th, 1909.

Professor J. COSSAR EWART, Vice-President, in the Chair.

The Detection of Tubercle Bacilli in Urine by an Electric Current.

MR. CHARLES RUSS, M.B.Lond., reported the result of experiments to ascertain whether bacteria suspended in an electrolyte were transmitted during electrolysis to either electrode, with a view to the recovery of pathogenic bacteria from a pathological fluid by such means. During electrolysis of certain salts in which bacteria were suspended the organisms were found to migrate to one electrode; in some instances there was no migration. The effect was noticed to occur with killed as well as with living bacteria. By testing certain organisms in the same (but a small) series of electrolytes some differences of effect were found, though this line of inquiry was not pursued. To utilize this bacterial movement an electrolyte in which tubercle bacilli had shown marked kathodic aggregation was added to tuberculous urine and the kathode arranged in the form of a bacterial trap. After electrolysis tubercle bacilli entered the trap, which was eventually withdrawn, and the organisms recognized in a stained film prepared from its contents. A series of such urines was tested in this way, and in each case tubercle bacilli were found in the trap. In the final experiment a number of tubercle bacilli (estimated at 500) were added to 100 c.cm. normal urine, and their detection attempted by separate investigators by means of the centrifuge and current. By the centrifuge none were found, while the current recovered 128 bacilli. The results of this preliminary investigation was summarized as follows: Certain bacteria under the influence of a suitable current aggregate at one or other electrode. The aggregation varies with the nature of the electrolyte, and is probably due to affinity between the products of electrolysis and the bacteria. It occurs with killed as well as with living bacteria. The aggregation by electrical currents affords a means of collection and examination. The differences in behaviour of various bacteria are such as to suggest the possibility of utilizing the method for purposes of specific discrimination; but in this particular the data hitherto obtained are not sufficient to warrant definite statements.

The Effect of Bacterial Endotoxins on the Opsonizing Action of the Serum of Healthy Rabbits.

Professor R. TANNER HEWLETT, M.D., stated that he had studied the effect of the endotoxins of the *Bacillus typhosus*, *Micrococcus pyogenes aureus*, and *B. tuberculosis* on the opsonizing action of the serum of normal rabbits. The endotoxins were prepared by the Macfadyen process, the rabbits were inoculated subcutaneously, and the specimens for counting the number of bacteria ingested by leucocytes were prepared in the usual manner. Human leucocytes were employed, and the counts were made on 50 cells.

(A) *Typhoid Endotoxin.*—The results for this endotoxin were approximate only, as agglutination and bacteriolysis were complicating factors. The amount of endotoxin injected was 0.1 mg., prepared from an avirulent strain. One day after injection a decided negative phase had developed (opsonic index about 0.2), two days after injection the index was rising (1.4), and attained a maximum on the third day (3.3), after which it fell. Dilution of the serum to 1 in 5 and 1 in 10 tended to increase phargocytosis.

(B) *Staphylococcus Endotoxin.*—Endotoxin prepared from an old laboratory strain in a dose of 0.1 mg., produced a rise in the opsonic index to 1.6, which persisted for some weeks. Endotoxin (0.1 mg.) prepared from a recently isolated strain produced a rise to 2.5. An equivalent dose of staphylococcus vacine ($1,000 \times 10^6$ cocci) produced a rise of the opsonic index to 1.8, which fell subsequently to a point lower than that with either endotoxin. Estimations of the opsonic indexes made with the recently isolated strain gave results higher than those obtained using the old strain. With another endotoxin, varying

doses (0.1, 0.01, and 0.001 mg.) all produced marked rise in the opsonic indexes, the rise corresponding with the dose.

(c) *Tubercle Endotoxin.*—Injection of 0.002 mg. of endotoxin caused a rise in the opsonic index to 1.9 sixteen days after. A similar dose of German Tuberculin R. produced hardly any effect. A large dose (1.0 mg.) of endotoxin caused a marked negative phase (index 0.5) forty-eight hours after injection, with a subsequent rise to 1.8. Endotoxin (1.0 mg.) prepared from tubercle bacilli previously extracted with ether also produced a negative phase, with a subsequent rise to 1.5.

(d) *Keeping Power of Endotoxin Solutions.*—Experiments were performed with staphylococcus and tubercle endotoxin solutions which had been kept for seven weeks after preparation; there was little diminution in activity. Other experiments indicate that the solutions deteriorate but little for three to six months after preparation.

(e) "*Negative Phase.*"—Experiments indicate that endotoxin produces decidedly less "negative phase" than a vaccine.

Reviews.

CONGENITAL MALFORMATIONS.

THE second volume and the first section of the third volume of Professor E. SCHWALBE'S work on the morphology of the malformations of men and animals[1] are as complete and interesting as the first volume, which has already been noticed in these pages (BRITISH MEDICAL JOURNAL, April 28th, 1906, p. 982), and of which they form a continuation, carrying the reader on from the introduction, general considerations, and classifications to the detailed study of the various groups of twin formations and malformations, dealt with by Professor Schwalbe in vol. ii, and then, in the first part of vol. iii, to general and special malformations. The accounts of the general malformations resulting from alterations of the whole embryo, such as abortive forms, omphalocephalics, vesicular moles, dwarfs and giants, are by Professor Schwalbe. The special malformations of the body, including ventral and dorsal cleavage of the body wall, extroverted bladder, ectopia cordis, epispadias, and spina bifida, are described and discussed by Dr. Kermauner. The concluding section of Part I of vol. iii, which treats of malformations of the eyes and eyelids, is written by Professor E. v. Hippel. Every section is profusely illustrated, and all the points considered are dealt with in a lucid, vigorous, and masterly manner. Not only are all the most instructive cases fully described and illustrated, but also the genesis of each group of malformations is discussed, previous opinions being stated and the author's own solutions of the problems clearly expressed. In addition, a very complete account of the literature is given. It is quite possible that every one will not agree with the authors' explanations of some one or other of the multitudinous teratological phenomena which are described, but every one will admit the general thoroughness of the work. In their attempts to explain malformations, the authors have utilized the present-day knowledge of embryology to enable them to fix the time at which the malformation must have commenced, and by this means they have been able to set aside many unsatisfactory theories, but it must be admitted that whilst they have thus cleared the ground for future observers and have shown that certain abnormal conditions must be due to alteration of certain developmental processes, they have not been able to discover, or at all events they have not set forth, the causes of the alterations. The book is a most valuable addition to teratological literature, and any one who is interested in an abnormality may consult its pages with the assurance that he will find therein either an explanation of the condition or interesting suggestions regarding its causation.

PARANOIA AND DEMENTIA.

NUMBERS 2 and 3 of the Nervous and Mental Disease Monograph Series, of which Dr. William A. White's *Outlines of Psychiatry*, reviewed in our columns on March 6th of this year, was the first number, have recently been issued. The monograph on *Paranoia*, by Drs. GIERLICH and FRIEDMANN,[2] is not a joint work, but is composed of two original papers; the first, on periodic paranoia and the origin of paranoid delusions, is by Dr. Gierlich; and the second, a contribution to the study of paranoia, is by Dr. Friedmann. The title of the former essay gives at once one of the principal motives of the article. As generally thought of, paranoia is essentially a chronic and progressive disease, and the terms "periodic" and "curable" paranoia sound almost as bizarre as "periodic dementia." Nevertheless, Dr. Gierlich shows by cases of his own, and by reference to others recently described by other writers, that there are patients presenting the picture of paranoia who develop systematized delusions of persecution, without sad or happy affective states, whose symptoms last for several weeks without any sensory impairment, who then rapidly recover and gain insight into their condition, with, however, a tendency to recurrence. These cases, for whose fuller description readers are referred to the book itself, show the characteristic features of paranoia, and are not assignable to any other category. The same thesis is maintained by Dr. Friedmann in dealing with mild forms of paranoia. The cases which he describes show that there may be paranoiac delusions of a persecutory nature in persons who,

although sensitive, obstinate, and exalted in character, have never been mentally abnormal—who, moreover, possess normal intelligence and who have no history of alcoholism, senility, or any pronounced form of mental degeneracy, or, in short, any specific etiology.

Cases of this kind, the author admits, have been described before, and Kraepelin himself, who said that the term "periodic paranoia" was a *contradictio in adjecto*, has recognized that some cases of chronic paranoia—at least, *paranoia quaerulans*—are capable of cure. It seems possible, therefore, that too much has been made of what Dr. Jelliffe, in his introduction, calls the "paranoia bogey," that is, that one has been too prone to consider paranoia as an incurable and inevitably progressive disorder. The fundamental difficulty, of course, turns on diagnosis, and here we may mention that Dr. Friedmann considers it more important to determine whether the delusions are of exogenous or endogenous origin (endogenous forms being directly deducible from fundamental character anomalies, and exogenous forms being adventitious) than their systematized or non-systematized character. In conclusion, it may be said, Dr. Friedmann recognizes three main forms of endogenous delusions. First, the delusion formation progresses slowly but irresistibly, and the affects—Dr. Friedmann admits their affective colouring—do not calm down (genuine chronic paranoia). Secondly, the delusions remain circumscribed, fade, and the affects disappear within a few years. Thirdly, there is only a clouding of the intellect, and delusions of reference are few, and the whole disorder runs an episodic course. The cases described by Dr. Friedmann are instructive and such as are rarely encountered in asylum practice; his discussion of them is well worth reading.

More than a year ago a work of outstanding merit on the psychology of dementia præcox by Dr. C. G. Jung was reviewed at some length in our columns (BRITISH MEDICAL JOURNAL, February 8th, 1908). This book, translated into English and with an able introduction by Professor PETERSON and Dr. A. A. BRILL, forms No. 5 of the Nervous and Mental Disease Monograph Series.[3] In choosing this book the editors of the Monograph Series have done well, for it furnishes, as we said at the time, a suggestive and stimulating illustration of the benefits to be obtained by the application of modern methods of psychological analysis to psycho-pathological states. It is unnecessary once more to discuss in detail Dr. Jung's book. It may, however, be pointed out that whereas Kraepelin

[1] *Die Morphologie der Missbildungen des Menschen und der Tiere.* Von Dr. E. Schwalbe. Teil II und Teil III, Lieferung I. Jena: Gustav Fischer. 1907 and 1909. (Sup. royal 8vo. Teil II, pp. 410, pl. 2, figs. 394. M. 11; Teil III, Lieferung I, pp. 600, figs. 85. M. 6.)

[2] *Studies in Paranoia.* By Dr. Nikolaus Gierlich (Wiesbaden) and Dr. M. Friedmann (Mannheim). Nervous and Mental Disease Monograph Series, No. 2. Translated and edited by Dr. Smith Ely Jelliffe. New York: The Journal of Nervous and Mental Disease Publishing Company. 1908. (Pp. 78. 1 dol.)

[3] *The Psychology of Dementia Præcox.* By Dr. C. G. Jung. Authorized translation, with an introduction by Professor Frederick Peterson, M.D., and A. A. Brill, Ph.B., M.D., of Columbia University, New York. Nervous and Mental Disease Monograph Series, No. 5. New York: The Journal of Nervous and Mental Disease Publishing Co. 1909. (Pp. 153. Price $2.00.)

and other masters in clinical description give accurate and minutely detailed accounts of the symptomatology of the various types of mental disorder, Jung, Bleuler, and others examine and sift the results, fragmentary though they may be, obtained from a refined psycho-analytical inquiry in individual cases into their conscious and subconscious mentality, their mental impressions, emotional reactions, and associational ties, and attempt to explain why in one case this and in another that combination of symptoms occurs. As Drs. Peterson and Brill say, Bleuler and Jung are pioneers and not discoverers in a new field; this honour belongs to Breuer and Freud. The *Studien über Hysterie* of these two, and the *Zur Psychopathologie des Alltagslebens* and *Die Traumdeutung* of the last named, supplied a method which Jung, Rikling, Peterson, Bleuler, and others have applied with advantage to the insane; which has greatly influenced all subsequent important work on hysteria, and which bids fair markedly to affect both normal and abnormal psychology. Professor Freud has had his opponents, even his detractors; but honest opposition may grant a generous acknowledgement of Professor Freud's services to psychology. Of the value of Freud's method of psycho-analysis Dr. Jung's work affords —if such were needed—the completest vindication.

SURGERY.

PROFESSOR KÜSTER had been at the head of the surgical clinic at Marburg since 1890, and in 1907 brought to a close thirty-six years' service in the public hospitals of his country. He has published[4] a complete report of the work performed during the last two and a quarter years in his service. He points with some pride to the fact that in the first year of his work at Marburg there were only 600 cases admitted, and the receipts under the paying system of German hospitals amounted to M. 7,500 (£375), and in 1904, which was his best year, the admissions reached 1,753 and the receipts M. 55,000 (£2,650), although, as he says, "he always reserved a considerable number of free beds." He complains that, for reasons which he does not give, there was some ministerial interference in 1904 with his work, by which it suffered, and in subsequent years the total admissions were rather less. Practically the whole of the operations recorded in this volume were performed by himself, and, where this is not the case, the fact is noted. The large total of 1,922 operations no doubt includes many that might be called minor surgery, but they extend over the whole range of surgical operations except those of the eye. We note that there were 255 laparotomies, 10 ligatures of the external carotid, 13 amputations of the thigh, and 66 tracheotomies for diphtheria. The total mortality was 4.83 per cent. He had 2 cases of tetanus, 1 being cured by intraneural injection of antitoxin. With regard to anaesthetics, he remarks that there is a sort of rule in the clinic to use different anaesthetics for different regions of the body—chloroform for operations of the head and face, Schleich's infiltration anaesthesia for operations on the neck and thyroid gland, ether and chloroform for the thorax and lungs; for the abdomen, chloroform with infiltration or spinal anaesthesia for superficial operations; for operations on the pelvis and lower extremities, spinal anaesthesia. In these general remarks he also states that in operations on the pleura Roth-Brauer's apparatus was used in a few cases with good results. Radium for the treatment of naevus was only used in one case, and then the result given is only "improved," not "cured." He speaks of the large number of cases of tuberculosis of the spine which he has seen in a hopeless condition, or in one in which only very limited good could be effected, and he advocates the establishment of special institutions in which these cases could be treated early and thoroughly under the care of specialists, who should devote their best attention to the subject. He seems to have used the *x* rays in the treatment of a good many cases of splenic enlargement of various kinds, but is able to note no recovery due to their employment, although one case of cure of Banti's disease followed excision of the organ. In his remarks upon appendicitis, he says that he has followed the rule not to operate after a single first attack except when the patient was very desirous to make himself safe against the probability of relapse—for example, on account of going abroad. He thinks there can be no doubt of the relation that exists between the low rate of mortality and early operations, but that delay depends upon several factors besides the will of the surgeon, such as the attitude of the general practitioner, the prejudices of the public, and the accessibility of hospital or surgical help. In the country the people are not only remote from surgical aid but prejudiced against it, so that a surgeon in a small provincial town is more unfavourably situated in the matter of getting his patients early than his colleague in a great city, who draws his patients mainly from his immediate neighbourhood. We may congratulate Professor Küster on the good work he has accomplished, and on the retirement he has so well deserved. This record of his surgical work is not only of special interest to his many pupils, but also contains a great deal that is worthy the attention of all operating surgeons.

DR. MURPHY'S volume on the progress in *General Surgery* during the past year is a lucid and readable report on the most recent phases of surgical activity.[5] The results of the latest researches in practical surgery are given in abstracts of original articles, and in many instances are explained and criticized by the editor, who, in his introduction, points out the subjects to which the greatest attention, from both a scientific and a clinical standpoint, has of late been directed. A favourable view is taken of most of the new methods of treatment. There is, it is held, overwhelming evidence of the practical value of local infiltration in the treatment of acute infections; the results of the surgical treatment of cardiac wounds and of modern operations on the blood vessels are regarded as being most gratifying; and the open and timely surgery of the urinary organs is yielding, we are told, unhoped-for results. In the chapter on anaesthetics, Dr. Murphy takes a very critical and, indeed, condemnatory position with regard, in the first place, to spinal analgesia, which, he suggests, should be prohibited by statutory enactment; and, in the second place, to what he believes to be the almost general inefficiency with which anaesthetics, especially chloroform, are administered in European clinics. In spite of the care and labour that have evidently been spent in the compilation of this book, the able editor has, we think, failed to render it a satisfactory epitome of recent surgical work. Too much space seems to have been given to some subjects, and too little to others. While the chapters dealing with gastric and intestinal surgery take up more than one-third of the volume, not more than thirty pages are given to the surgery of the blood vessels and of the brain and spinal cord. Reference is not always made to original sources of information, and the absence of a full bibliographical list is supplied only by a few scattered footnotes.

In the preparation of a new edition of his *Traité de chirurgie d'urgence*, M. LEJARS has made many useful and important additions to this well-known work.[6] While omissions have been made here and there, the bulk of the volume has been increased by extension of old material and the inclusion of several new chapters dealing with mediastinal abscess, wounds and ruptures of the pancreas, foreign bodies in the stomach, and haematocolpos. Special attention is directed to a new chapter dealing with urgency amputations, in which the author, with the aid of many new illustrations, describes some atypical methods which, it is suggested, might be better adapted than the formal and recognized procedures of operative surgery to meet the conditions of urgency work, and at the same time favour the formation of useful stumps. Additions have been made also to the abundant supply of illustrations, which, by reason of their graphical excellence and their practical and often very realistic character, have constituted a distinctive feature of this book. By his careful revision of the five reissues of this treatise which

[4] *Zwei Schlussjahre klinisch-chirurgischer Tätigkeit.* Von Professor Dr. Ernst Küster. Berlin: August Hirschwald. 1909. (Sup. roy. 8vo, pp. 492. M. 12.)

[5] *General Surgery.* Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the North-Western University; Consulting Surgeon to Cook County Hospital, Chicago, etc. (The Practical Medicine Series on the Year's Progress in Medicine and Surgery.) Series 1909. Chicago: The Year Book Publishers. (Post 8vo, pp. 617, 173 illustrations.)

[6] *Traité de chirurgie d'urgence.* Par Felix Lejars, Professeur agrégé à la Faculté de Médecine de Paris, etc. Sixième edition. Paris: Masson et Cie. 1909. (Sup. roy. 8vo, pp. 1193; 1,014 illustrations. Fr. 30.)

have been published in the course of the last ten years. M. Lejars, who may be regarded as the pioneer in this development of surgical teaching, has fully maintained the value and practical utility of his book. Although it has now many rivals, it still remains, as a means of widely extending the scope of modern methods of operative treatment, by far the best work of its kind.

The handbook of operative surgery by VON BERGMANN and ROCHS[7] has been for a good many years the recognized textbook for students in the surgical clinic in the University of Berlin. In the preparation of a new edition Professor BIER has taken the place of his distinguished predecessor. The new edition appears in one instead of in two volumes—a practical improvement; but, except for this change, does not differ greatly from the fourth. Riedel's method of tying the subclavian artery is added to the section on the ligature of vessels. Additions are also found in the chapter on the skull and brain; the operation for cerebellar tumour is more fully described. Neisser's method of diagnosis by cerebral puncture is introduced, and Heidenhain's stitch for the arrest of haemorrhage from the scalp vessels is mentioned. Another addition is the description of Killian's operation for chronic frontal sinus suppuration, which gives occasion for a new illustration, and there are a few others; many of the old ones might well be redrawn, and the operator stripped of his frockcoat and cuffs. We suspect, but we may be wrong, that in Germany, as in this country, the student's attention is directed disproportionately to the ligature of arteries and amputations. If carried out in its entirety, the course described in this textbook provides as complete a series of practical exercises as a student can well digest.

PHYSIOLOGY.

THERE can be little doubt that in *Further Advances in Physiology*[8] Dr. LEONARD HILL and his coadjutors have produced a book which will be of great use not only to advanced students of physiology but to the clinician who wishes to interpret his results in the light of modern physiology. Professor B. Moore, writing on the "colloid and crystalloid" in living cells, gives a lucid description of adsorption phenomena, and incidentally explains fatty degeneration and post-anaesthetic glycosuria. Dr. M. Flack, reviewing recent work on the morphology and physiology of the heart, gives a careful summary of the evidence for and against the "myogenic" theory of the origin and conduction of the stimulus. No mention is made of W. Koch's recent work on this subject, which seems to throw doubt on the origin of the stimulus in the sino-auricular node. Dr. Lewis discusses the interpretation of venous pulse tracings in a chapter which will be of the greatest utility to those who are working with the polygraph. He gives a unique reproduction of simultaneous tracings with Einthoven's galvanometer and the polygraph, which shows that both methods give practically the same results in the measurement of the *a–c* interval. Dr. Hill, after describing Carrel's marvellous transplantation researches, discusses numerous problems with regard to blood pressure. He enters into controversial matters, and gives his own conclusions with energy and lucidity. Dr. Pembrey discusses the physiology of muscular work in relation to circulation, respiration, temperature, and metabolism. Dr. Keith shows, mainly from the anatomical standpoint, how complicated the mechanism of respiration is when it is carefully considered. Dr. Alcock discusses the electrical phenomena of nerve, shows that fatigue of nerves does in fact exist, gives a short account of modern work on nerve regeneration and of the recent theories to account for nervous activity. Dr. Shaw Bolton, after reviewing histological investigations on the cerebral cortex and some results of physiological psychology, gives a clear account of Marie's work on aphasia, showing how they all mutually support each other. Mr. Major Greenwood, jun., concludes the book with a long and critical discussion of the "duplicity theory" of visual adaptation and of the rival theories of colour vision. All the articles are well worth careful study and should form a distinct aid to English clinical medicine. We hope soon to be able to welcome the "more" advances in physiology which are promised in the preface.

Professor STARLING has published in a volume the Mercers' Company Lectures which he gave on *The Fluids of the Body*.[9] The title is scarcely correct in the proper scientific sense, as the subject-matter deals only with the liquids and not with the gases of the body. The lectures discuss the physical properties of protoplasm; the osmotic relationship of cells; the intake, the exchange, and output of liquids in the body; the production of lymph, the absorption of the interstitial fluids; and the causation of dropsy. The author writes in a clear and interesting style, and sets forth the point of view which he himself has reached from the correlation of his own researches with those of others. Professor Starling has been one of the chief upholders of simple mechanical explanations, such as filtration depending on capillary pressure, as the cause or part cause of the transference of liquid through animal membranes, and in this volume he still valiantly maintains this point of view, while at the same time setting forth numerous observations, such as those of Professor Waymouth Reid on intestinal absorption, Dr. C. Bolton on venous pressure and dropsy, which prove that the wet films of living protoplasm which form the capillary wall and the tissue cells behave quite otherwise than the dead membranes of laboratory manufacture in which the phenomena of osmosis and filtration are studied. None of the conditions which pertain to the process of filtration do we believe to hold good in the body, and we find it difficult to accept Professor Starling's view that capillary pressure is one of the factors which cause the filtering of liquid through the glomerulus into the capsule of the renal tubule, or of lymph into the lymph spaces. How far he has moved from his original standpoint as an upholder of the more mechanical theories of bodily action this volume shows. The lectures are well worth reading, as they contain a great deal of suggestive materials which show the complexity of the problems dealt with and give much food for thought.

Professor MAX VERWORN has brought out the fifth edition of his very interesting and suggestive work—*Allgemeine Physiologie*.[10] He deals with the history of physiological inquiry and the evolution of modern physiological theory; with the nature of the living substance, its general structure and properties; the differences between the quick and the dead, living and lifeless matter; the general manifestations of life such as metabolism, building and evolution of structure, and the living matter as an energy transformer; the conditions on the earth which make life possible, the cause and nature of death; the excitatory phenomena of living matter, the nature of inhibition, paralysis, fatigue, the phenomena of excitation by light, Roentgen rays, electrical stimulation, chemiotaxis, barotaxis, phototaxis, thermotaxis, galvanotaxis, etc.; the rôle of the nucleus and protoplasm of the living cell, specific nature of cells, differentiation of function, etc. The book is admirably illustrated, and written in clear and simple style, and should be on the shelves of every one who takes a philosophic interest in life.

The publication of a new, twelfth, German edition of Landois's well-known *Handbook of Human Physiology*[11] has been commenced. The first volume, which is before us, is printed on somewhat larger paper than was used in the eleventh edition. It contains 480 pages, and will form about half of the whole work. The general arrangement remains little altered, although certain articles have been transposed. Professor Rosemann, of Münster, the editor of this edition, states that though the articles have all undergone careful revision the book remains in its general conception what Landois made it. The title states that it

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[7] *Anleitende Vorlesungen für den Operations-Kursus an der Leiche.* Compiled by Dr. A. Bier and Dr. H. Rochs. Fifth Edition. Berlin: A. Hirschwald. 1908. Post 8vo, pp. 476, figs. 149. M. 8.

[8] *Further Advances in Physiology.* Edited by Leonard Hill, M.B., F.R.S. London: Edward Arnold. (Demy 8vo, pp. 445; about 50 illustrations and diagrams. 15s.)

[9] *The Mercers' Company Lectures on the Fluids of the Body.* By Professor E. H. Starling, F.R.S. London: A. Constable and Co. 1909. (Demy 8vo, pp. 194; figs. 13. 6s.)

[10] *Allgemeine Physiologie ein Grundriss der Lehre vom Leben.* Fünfte auflage. By Max Verworn. Jena: G. Fisher. 1909. (Sup. roy. 8vo, pp. 758. Fig. 319. M. 16.)

[11] *Landois's Lehrbuch der Physiologie des Menschen.* 12 Auflage. Bearbeitet von Dr. R. Rosemann. Erster Band. Berlin and Wien: Urban and Schwarzenberg. 1909. (Sup. roy. 8vo, pp. 480. M. 9 = Kr. 10.80.)

was written with a special eye to practical medicine, and we are inclined to think that of all the many excellent works on physiology which have been published, Landois most nearly attained the object of composing a book which should be of direct and immediate value to the physician and surgeon. We shall hope to refer to the work again when the second volume is published, more especially as Professor Rosemann tells us that his task is so far forward that he hopes to complete it during this summer.

NOTES ON BOOKS.

DR. OSCAR JENNINGS of Paris, who has previously written a book *On the Cure of the Morphia Habit without Suffering*, which has attracted some attention, has just published a monograph on *The Re-education of Self-Control in the Treatment of the Morphia Habit*.[1] This is issued as a preface to a larger contribution on the subject with which it deals, and we gather from it that the author advocates the cure of the morphine habit by a persevering re-education in self-control without coercion or restraint. It is pointed out that the withdrawal of the drug is not alone sufficient for the cure of the habit, but that it is also essential to achieve the suppression of the morphine appetite; in other words, that psychical methods are necessary if therapeutic and physiological processes are to have a chance of being permanently successful. What these psychical processes are by which Dr. Jennings has achieved the results he means to record in his promised book this introductory pamphlet does not reveal, but the following footnote, which is added to elucidate the need for strengthening the will power, indicates that they belong to the "suggestion" series:

> The nervous centres direct and control bodily action and function, but these in their turns are influenced by thought. Persistent and properly directed intentional thought, the conviction that failure is out of the question, can be made to accumulate and charge the brain like a storage battery, and so to concentrate persevering effort into a healthy and efficient fixed and controlling idea.

The Pocket Prescriber[2] is the title given by Dr. JAMES BURNET to a collection of formulæ which he has thought it desirable to publish. In a short preface the author declares that the intention of his booklet is to encourage students "to acquire the art of prescription writing." If the art is to be acquired by cram there may be some excuse for such a string of prescriptions as *The Pocket Prescriber* contains, but as no explanatory text accompanies the formulæ, which are arranged under the headings of various diseases, as though they comprised in each case the whole medicinal indications, we are at a loss to understand what good purpose such a compilation can serve. The art of prescription writing is one which is seriously overlooked in the teaching of students, but there is no art, and certainly no science, in mere repetition such as is encouraged by works of this type.

Meteorology without Instruments[3] is the somewhat paradoxical subtitle of an interesting pamphlet of 48 pages, by Mr. D. W. HORNER, F.R.Met.Soc., which has reached its second edition. There are eight chapters, in which in turn are discussed clouds, wind, halos, and kindred phenomena, that is to say, parhelia and rainbows, thunderstorms and hail, weather sayings, the moon and the weather, and phenological observations. There are three beautiful illustrations. The frontispiece, reprinted by permission from *British Rainfall*, is a photograph by the Rev. R. P. Dansey, showing a remarkable fog or cloud effect on Long Mynd, Shropshire. The observer looks down upon a cloud stratum from which the mountain tops emerge as islands. The remaining illustrations are from photographs by the author, and show hoarfrost on trees, and a typical snow scene in the same garden. There is little to criticize in this attractive booklet. As regards the Beaufort scale of wind force (page 22), the author scarcely needs to be reminded that the equivalent velocities in miles per hour for the Beaufort notation were revised by the Meteorological Office in 1906. Again, surely no one has ever thought that "a rainbow *at night*," in the well-known distich, meant a lunar rainbow? Mr. Horner quite correctly says that "it is evident that evening is meant." A footnote on page 29 states that "rainbows cannot be formed when the sun has an altitude of over 42 degrees." But they can. The sentence should read: "Rainbows cannot be *seen* when the sun has an altitude of over 42 degrees."

[1] *The Re-education of Self-Control in the Treatment of the Morphia Habit.* By Oscar Jennings, M.D. London: Baillière, Tindall, and Cox. Paris: Brentano's. 1909. (Cr. 8vo, pp. 32. 1s.)

[2] *The Pocket Prescriber.* By James Burnet, M.A., M.D., M.R.C.P.E., Registrar to the Royal Hospital for Sick Children, Edinburgh. Edinburgh: John Currie. 1909. (Demy 32mo, pp. 108. 1s.)

[3] *Observing and Forecasting the Weather: Meteorology without Instruments.* By D. W. Horner, F.R.Met.Soc. Second edition. London: Witherby and Co. 1909. (Cr. 8vo. Pp. 48. 6d.)

LONDON WATER.

REPORT ON BACTERIOLOGICAL AND CHEMICAL EXAMINATIONS.

DR. A. C. HOUSTON, Director of Water Examination, Metropolitan Water Board, presented his third report on the results of the chemical and bacteriological examination of the London waters for the twelve months ended March 31st, 1909, at a meeting of the Board held on Friday, July 2nd. Only a short summary of the report, which is very detailed, the results in each case being carefully tabulated, can be given here.

Bacteriological Results.

The results of the bacteriological examination are stated as follows:

Raw Water.—The averages for the twelve months were as follows: Raw Thames water—2,558 per c.cm.; highest, 8,072 (March), lowest, 1,107 (July and February). Raw Lee water—8,794 per c.cm.; highest, 38,469 (March), lowest, 1,706 (November). Raw New River water—1,118 per c.cm.; highest, 3,566 (March), lowest, 233 (April). The worst month in each instance was March, 1909. It is pointed out that these results have an important bearing on the abstraction figures. In a gravitation scheme, with a superabundant source of supply and huge storage reservoirs, the amount abstracted for storage purposes should be inversely proportional to the current impurity of the water. In the circumstances pertaining to the London supply this is only possible in a partial sense, but attention must again be drawn to the fact that the amount of river water abstracted during the months when the river contains an excessive number of bacteria is so large as to emphasize the desirability of passing it through storage reservoirs antecedent to its filtration.

Filtered waters (including Kent and Lee Valley unfiltered water).—The following statement indicates that the exclusive (that is to say, exclusive of samples containing 100 or more microbes per c.cm.) figures for the filtered waters were small, and the percentage reduction effected by the processes of subsidence and filtration remarkably good, as is shown below:

	Thames.	Lee.	New River.
Raw water (microbes per c.cm.)...	2,558	8,794	1,118
Filtered water (microbes per c.cm.)	11.3	18.9	6.1
Percentage reduction	99.6	99.8	99.4

Too much stress, however, Dr. Houston says, must not be laid on percentage reduction of microbes. The worse the raw water, the easier it is to obtain a final filtrate yielding satisfactory results on the basis of percentage purification.

The order of merit, based on the exclusive figures, is as follows, the average number of microbes per c.cm. being respectively:

Kent 5.3, New River 6.1, Lambeth 7.0, Southwark and Vauxhall 9.3, Grand Junction 9.9, West Middlesex 12.3, Chelsea 14.6, East London (Thames) 17.6, East London (Lee) 18.9, Kempton Park 19.7.

Tests for Special Organisms.

The following are the results of tests for special organisms:

B. enteritidis sporogenes Test—Raw Waters.—40.3, 59.6, and 82.6 per cent. of the samples of New River, Thames, and Lee water respectively yielded positive results with 100 c.cm. of water. *Filtered Waters.*—Only 3.0 per cent. of the samples of filtered water yielded positive results with 100 c.cm. of water. Nevertheless, the test, as ordinarily carried out, is a better measure of the degree of impurity of impure waters than an indication of the purity of pure waters.

Typical B. coli Tests—Raw Water.—The results judged by this test were unsatisfactory, having regard to the fact that the rivers Thames and Lee are known to be seriously polluted with sewage, and that there is every reason to suppose that the majority of the *B. coli* found in the raw waters are of human excremental origin. The New River contained *B. coli* in 1 c.cm. (or less) in 47.8 per cent., the River Thames in 87.5 per cent., and the River Lee in 93.9 per cent. of the samples. Taking a one-figure average result, the average number of

typical *B. coli* per c.cm., according to this calculation, was as follows:

Typical B. coli per c.cm. of Water.

	Arbitrary One-figure Result.
River Thames	15
River Lee	26
New River...	1

The "best month" results were remarkably good, and the average results were also satisfactory. The East London (Thames) results, however, were far from satisfactory during January, February, and March. Speaking generally, the difference between the best and worst results (col. 5) was far less pronounced in 1908–9 than in 1907–8. Probably this was largely due to the meteorological conditions being much more favourable for waterworks purposes during the period now under review; but Dr. Houston thinks that, no doubt, the increased use of stored water also played an important part in the change for the better.

The improvement in the Southwark and Vauxhall supply during the years 1906–7, 1907–8, and 1908–9 was very striking, the percentage number of first-class samples working out as follows: 47.6, 67.2, and 75.5 respectively.

For the filtered waters a one-figure result per cubic centimetre of water, expressed as typical *B. coli* per 1,000 c.cm. of water, is as follows:

Kempton Park, 1; Kent, Chelsea, East London (Lee), New River, Lambeth, Grand Junction, 2; West Middlesex, Southwark and Vauxhall, 3; East London (Thames), 137; Lee-derived water, New River-derived water, 2; Thames-derived waters, 3; all London waters, 2.

Without pushing the value of these figures too far, it may, Dr. Houston thinks, be said that the processes of subsidence and filtration improved the Thames-derived waters about 5,000, the Lee-derived water about 12,500, and the New River derived water about 500 times *on the basis of the foregoing figures*. Taking the London waters as a whole, the improvement was approximately 6,850 times.

It is noted that whereas out of every 100 *B. coli* isolated from the *raw* Thames, Lee, and New River waters, 77.3, 83.9, and 75.8 respectively proved to be typical *B. coli*, the corresponding figures for the filtered waters derived from these sources were 42.8, 39.2, and 43.0 respectively. The collective results were 79.4 in the case of the raw waters, and 42.8 in the case of the filtered. This is a proportional statement, and does not refer to the actual number of *B. coli* in the two cases. On the average, for the year under review, the River Lee is more impure than the Thames or New River, particularly than the latter. As regards the filtered waters, it is noteworthy that on the average, and in the best and worst months of the year, the Thames-derived waters compare unfavourably with the Lee and New River derived waters.

Chemical Results.

The chemical results may be summarized very briefly as follows:

Speaking generally, both the Kent and Lee Valley wells are very pure waters as judged by the albuminoid nitrogen and oxygen absorbed from permanganate tests. The water from the Kent wells (excluding Crayford) contains practically no free ammonia, and is free from brown colour. The water from the Lee Valley wells usually contains a quite appreciable quantity of free ammonia and is also slightly brown in colour, or is sufficiently opalescent to yield a positive result with the colour test. Another point of difference is the larger proportion of oxidized nitrogen in the Kent well water. Generally speaking, the water from the Lee Valley wells yields slightly lower figures as regards total hardness, and slightly higher figures in respect of permanent hardness.

Chemically, the *raw* Thames and Lee waters yielded better results in 1908-9 than in 1907–8, as judged by the ammoniacal nitrogen, albuminoid nitrogen, permanganate, turbidity, and colour tests. The *raw* New River contained slightly more ammoniacal nitrogen, and the same amount of albuminoid nitrogen, and was a little more turbid in 1908-9 as compared with 1907-8. The colour and permanganate tests yielded slightly better results during the present year.

The filtered waters, as judged by the albuminoid nitrogen, permanganate and colour tests, all improved considerably during the period under review, with the exception of the Kempton Park supply as regards colour (fractional rise), and the East London (Lee) supply as regards both the permanganate and colour tests (very slight increase).

The New River showed some slight deterioration, but during part of the time it was mixed with some Thames-derived water, which invalidates the comparison.

Bacteriologically, the River Thames and the New River contained fewer bacteria in 1908-9 than in 1907-8, the converse being the case as regards the River Lee. The exclusive figures for the filtered waters were practically the same for the two years. The *B. coli raw* water results did not differ widely in the two years, but the tendency was towards improvement in the case of the New River, and towards deterioration in the case of the Thames and Lee. As regards the *filtered* waters, the general trend of results was in the direction of increased purity.

Speaking generally, the most noteworthy point of the year's results was the more uniform quality of the supply throughout the twelve months. This result may be ascribed in part to the more favourable meteorological conditions prevailing during the period under review, and in part to the increased use of stored water.

Conclusions.

Dr. Houston summarizes his conclusions as follows:

In regard to raw water he points out: (1) The unsatisfactory quality of the raw waters, particularly during the winter months. (2) The importance of judicious selection of raw water for waterworks purposes. (3) The doubt whether the raw waters, even during the best months of the year, are sufficiently free from impurities to be filtered without antecedent storage. (4) The importance of possessing as full knowledge as possible of the multiple pollutions of the rivers Thames and Lee.

Storage.—(5) The unequal, and in some cases inadequate, duration of storage in connexion with the board's different works. (6) The difference between "active and passive storage," and the great importance of active storage from the epidemiological point of view.

Filtration.—(7) The unequal, and in some cases too rapid, rate of filtration at the different works.

Service Reservoirs.—(8) The small size of the service reservoirs leading in some cases to variable rates of filtration during the twenty-four hours.

In regard to filtered water he points out:

9. The variable and in some cases not altogether satisfactory quality of the water as delivered to the consumers from the different works, and the general deterioration in the results during the winter months of the year.

10. The remarkable percentage improvement in the quality of the raw water effected by the processes of storage and filtration.

11. The satisfactory quality, generally speaking, of the Metropolitan Water Supply as judged by average results, and more particularly by the results obtained during the summer months of the year.

12. The importance of bringing the worst results more closely into agreement with the best results by endeavouring to reduce the manifold pollutions of the rivers Thames and Lee, by judicious selection of raw water for waterworks purposes, by the active utilization of storage reservoirs, and by proved slow filtration at a uniform rate, through sand of sufficient fineness and depth.

13. Eighteen experiments have been carried out on the longevity of the typhoid bacillus in samples of *raw* Thames, Lee and New River water, and the results showed that in practically all the experiments over 99 per cent. of the typhoid bacilli artificially added to the experimental water died within one week. Nevertheless, in the majority of the experiments, a very few of the typhoid bacilli remained alive for one or two months.

14. The results of the examination of river water antecedent and subsequent to storage carried out during the last twenty months clearly prove that, apart from the question of algal growths, the advantages to be gained by adequate storage are of a general and material kind, and are not limited merely to the elimination of pathogenic bacteria.

15. It is now possible to judge by comparatively simple tests and with reasonable accuracy, whether *raw* river water has been stored for a length of time, sufficing to ensure destruction of all (or nearly all) typhoid bacilli (and inferentially also of other microbes causing waterborne disease) if these happened to be present originally in the water. This distinctive and valuable knowledge is arrived at by correlating the results of tests dealing with the longevity of the typhoid bacillus in raw river water with those showing the length of time that raw river water must be stored before it exhibits certain changes in its original composition. Hence a new factor has arisen in the work of examining the London waters

which is believed to be of primary importance. Briefly, dependence is now being placed more and more on experimental proof that the water reaching the filter beds, as the result of adequate storage, is in a reasonably "safe" condition *antecedent* to filtration.

16. Certain recent investigations tend to make one look with rather less disfavour than previously on the present sources of water supply.

In the first place, the extreme difficulty experienced in isolating faecal streptococci from 1 c.cm. of the raw waters is a point in their favour. Secondly, the fact that no typhoid bacilli have been found in the raw waters, despite the use, for a period of twelve months, of the most recent and searching tests for this microbe, is a matter worth noting (see Second Report on Research Work). Negative evidence, however, in experiments of this kind is apt to be unconvincing; still it can be said with confidence that the nature of the negative evidence which has been accumulated is of a much less inconclusive character than any previously brought forward.

Dr. Houston warns us that these remarks must not be read as implying that any relaxation in the existing processes of purification of the river water by means of storage and filtration is justifiable.

17. Lastly, it needs to be remembered that it is not only necessary to reduce the pollutions of the rivers Thames and Lee and to store, as well as to filter, the raw water in a satisfactory manner; it is also necessary to guard against the possibility of *accident*. In this connexion questions of drainage, health of workmen, suction of impure water into water mains, laying of new mains, alterations to existing mains, condition of service reservoirs, etc., deserve attention.

Report on Research Work.

The Cholera Vibrio.

At the same meeting Dr. Houston presented his fourth research report dealing with the vitality of the cholera vibrio in artificially infected samples of *raw* Thames, Lee, and New River water, with special reference to the question of storage. He says it is now generally admitted that cholera may be waterborne, and that the disease is caused by the cholera spirillum, or cholera vibrio, or comma bacillus (*Spirillum cholerae asiaticae*), first discovered by Koch. Not a few persons consider that the part played by water in spreading epidemic disease is apt to be exaggerated, and others adopt a sceptical attitude as regards the nature of the infective agent; but Dr. Houston is content to abide by the general view that cholera is liable to be waterborne and that Koch's cholera vibrio is the microbe which conveys the disease. The present investigation was undertaken at an opportune time. Cholera was raging in Russia in 1908, and in the present year (1909) the disease is still so prevalent there as to merit serious consideration. It is precisely when cholera extends from India to Western Europe that our own shores become threatened with danger. The safety of our water supplies may not be likely to be imperilled, owing to the vigilance of the Local Government Board, port sanitary authorities, rivers boards, and medical officers of health. Apart from this, the ravages of cholera in the past forbid the belief that our insular position and temperate climate afford us sufficient protection from this disease. Numerous experiments have already been carried out on this subject, both in this country and abroad, but as regards the Thames, Lee, and New River, the chief sources of London's water supply, a special investigation appeared to be most desirable. Two apparent difficulties presented themselves at the outset of the investigation. The first was that many harmless vibrios had been isolated from water by a number of competent observers (Sanarelli, Dunbar, and others) hardly, if at all, to be distinguished from Koch's vibrio. The second was that not all strains of vibrios isolated from cholera cases possess exactly the same biological characters. As regards the first point, *under the particular conditions of experiment pertaining to this investigation*, these cholera-like vibrios either did not occur in the subcultures or were excluded from consideration by the use of certain preliminary tests which sufficed to differentiate them from the true cholera vibrio. As regards the second point, the directors of a number of laboratories both in this country and abroad furnished Dr. Houston with cultures of reputed cholera vibrios. Some of these were quite recently isolated from cholera cases in Russia, and so may be assumed to have been of extreme virulence. The biological characters of these different strains of the cholera microbe were carefully compared, and one or two were rejected as presenting outstanding differences. The rest gave reactions so nearly similar, according to the tests employed, that for all practical purposes they could be grouped together and regarded as identical. The inquiry dealt with the following two main questions: (1) The vitality of the cholera vibrio in artificially infected samples of raw river water. (2) Evidence of ability to isolate cholera vibrios from samples of raw river water artificially infected with only a few vibrios, and of inability to discover microbes liable to be mistaken for them in comparable (that is, control) samples not so infected.

Conclusions.

The following broad conclusions may, Dr. Houston thinks, safely be drawn from the results of the investigation:

1. Cholera vibrios die very rapidly in *raw* Thames, Lee, and New River water as the result of storage in the laboratory. At least 99.9 per cent. perished within one week, and in none of the experiments could any cholera vibrios (recognizable as such) be found even in 100 c.cm. of water three weeks after its infection. In more than half the experiments the results were negative by the second week.

2. The isolation of cholera vibrios from *artificially* infected *raw* river water presents no insuperable difficulties even when the number artificially added is very small, both actually and relatively to the bacteria normally present in the river water.

3. On the other hand, microbes liable (after careful study) to be mistaken for true cholera vibrios were not found in comparable, but non-infected, river water samples examined under precisely similar conditions.

4. All that he has said in the past as regards the advantages of storing river water from the point of view of typhoid fever applies to cholera, and the time required to ensure reasonable safety in the former case is, on the basis of these experiments, more than sufficient in the latter.

5. There are many circumstances which separately, and still more in conjunction, tend to safeguard this country from a cholera invasion. But no responsible authority can regard a cholera visitation as impossible, and, if it is possible, the part played by impure water in the past in spreading the disease should not be forgotten. Fortunately, even an initially impure water can, by adequate storage and efficient infiltration, be brought into a condition of reasonable if not absolute safety.

6. In the particular case of the Metropolitan Water Supply, there remain four reassuring circumstances even in the extreme (and, it is to be hoped, highly improbable) event of the raw sources of water supply ever becoming infected with cholera. First, the cholera vibrios, even if they were present in very few numbers, could be detected in the river water by appropriate tests. Secondly, adequate storage of the river water would eliminate the great majority, if not all, of them. Thirdly, the final filtration process, if efficient, would be an additional safeguard of proved value. Lastly, as the result of his experience at Lincoln Dr. Houston would not be unprepared *in any emergency* to face the responsibility of sterilizing the water supply, if this was thought to be desirable, and so rendering it absolutely safe for drinking purposes. The existence of large storage reservoirs renders such a project quite feasible as a temporary expedient.

7. Although by no means defending the choice of an impure river water for waterworks purposes, the facts revealed in this report appear none the less to be of a reassuring character and to form another link in the chain of evidence which he has sought to establish—namely, that by adequately storing the *raw* impure river waters which constitute the chief sources of London's water supply, antecedent to their filtration, the safety of the metropolis as regards waterborne epidemic disease (apart from the possibility of accidental infection at the works, or subsequently in the pipes) is almost, if not quite, assured.

BANQUET TO SIR FELIX SEMON.

THE retirement of Sir Felix Semon from active practice was made the occasion of a formal farewell ceremony such as has never to our knowledge been accorded to a member of the medical profession. The movement, as was fitting, had its origin among his brother specialists, but not a few leading members of the general profession, and a large number of persons distinguished in the social, artistic, and musical world joined in doing honour to the man who has so long been the standard-bearer of laryngology in this country. The ceremony took the form of a banquet, which took place at the Hotel Métropole on Friday, July 2nd. Mr. Butlin was in the chair, and among those present were the Duke of Fife, Count Metternich, the German Ambassador, Count Leyden, formerly German Ambassador at the Court of Sweden, Sir Marcus Samuel, Sir Edgar Speyer, Sir Julius Wernher, Sir Hubert von Herkomer, and, later in the evening, Sir Lawrence Alma Tadema, Sir James Dewar, Mr. F. H. Newnes, M.P., Mr. Alfred Mond, M.P. (Honorary Secretary), and Mr. Frederick Macmillan. The law was represented by Lord Justice Moulton, Mr. Rufus Isaacs, K.C., M.P., Sir Charles Mathews, K.C., Sir George Lewis, Mr. W. O. Danckwerts, K.C., Mr. John Roskill, K.C., and Mr. Felix Cassel, K.C. Medicine was represented by Sir Thomas Barlow, Sir Henry Morris, Sir Victor Horsley, Sir James Reid, Sir Anderson Critchett, Dr. de Havilland Hall, Dr. Edward Law, Dr. Milligan, Dr. Dundas Grant (Chairman of the Executive Committee), Professor StClair Thomson (Honorary Treasurer), Mr. Charters Symonds, Mr. E. B. Waggett, Dr. Risien Russell, Dr. P. Watson Williams (Honorary Secretary), Mr. Cresswell Baber, Dr. McKenzie Johnston, Dr. Tilley, Mr. Lambert Lack, Professor Urban Pritchard, Mr. Betham Robinson, Dr. H. Birkett of Montreal, Mr. W. G. Spencer, Mr. Mayo Robson, Dr. T. Dyke Acland, Dr. Donald Hood, Dr. P. McBride, Dr. H. Tooth, Dr. J. A. Ormerod, Mr. G. H. Makins, Dr. Scanes Spicer, Dr. W. Hill, Mr. Hunter Tod, Dr. Holbrook Curtis of New York, Dr. Macnaughton Jones, Mr. Donald Armour, Dr. David Newman, Dr. J. Macintyre, Dr. Henry J. Davis (Honorary Secretary), Mr. G. C. Cathcart, Mr. Mayo Collier, Dr. Adolph Bronner, and Dr. George Finder of Berlin. Music, the drama, art and literature were represented by Madame Blanche Marchesi, Mrs. Alec Tweedie, Miss Gertrude Kingston, Sir Squire and Lady Bancroft, Sir Herbert Beerbohm Tree, Mrs. George Alexander, Mrs. Patrick Campbell, Mr. George Henschel, Mrs. Aldrich of New York, Sir Hubert von Herkomer, Colonel Mapleson, Lady Pinero, Sir Paolo Tosti, and Mr. Plunket Greene. There were in all some 250 guests, and the function was a brilliant success.

After the usual loyal toasts, Dr. DAVIS announced that the subscriptions to the testimonial fund amounted to £1,200, and that contributions had been received from laryngologists in Austria, France, Germany, Russia, Italy, Sweden, and America; while letters had been received from gentlemen all over the world conveying expressions of regret at inability to be present.

Mr. BUTLIN then proposed "The Guest of the Evening." He said his excuse for occupying the chair was that he happened to be one of the few persons there sufficiently acquainted with the conditions under which their guest had worked to be able to appreciate to the full all that he had done and the difficulties he had had to contend with. Before entering on his subject he explained the position of specialities in medicine in the Seventies of the last century. Speaking generally, they were abhorred by the leading members of the profession. Only two were tolerated—obstetrics and diseases of the eye. In course of time, however, it became apparent that students must have instruction in the use of special instruments, such as the ophthalmoscope and laryngoscope, and that special departments must be provided in the general hospitals for that purpose. But provision was made that these departments should be placed under the direction of the assistant-physicians or surgeons to the hospital. Thus it came to pass that there were special departments in the hospitals officered by men who were too often very ignorant of their specialities, and there were specialists who really knew their work but were carefully excluded from the general hospitals. He gave two examples, both from his own experience, to illustrate the absurdity of those conditions. When he was a student at St. Bartholomew's Hospital, the ear department was in charge of an assistant surgeon, who took some interest in his medical education. Meeting him in the hospital square one day, he said: "Butlin, would you like to learn all about diseases of the ear?" On receiving an affirmative answer, he continued: "Then come over to my ear department for three or four weeks, and I'll teach you all that's known about them. The truth is, there are only two kinds of deafness. One is due to wax in the ear, and anybody can cure it; the other does not depend on wax, and nobody can do anything for it." The other example, Mr. Butlin went on to say, was his own appointment to the department for diseases of the throat. Soon after he had become assistant surgeon to the hospital that department fell vacant. At the next meeting of the school committee it was their duty to recommend one of their number to the treasurer for the post. Mr. Savory was in the chair, and he asked first one, then another, whether he would take it. Each replied in the negative, so Mr. Savory said, "Well, then, Butlin must take it. He's the junior and he must do it." With that he was pitchforked into the charge of a speciality which he did not care about, and expected to treat patients whose diseases he could not diagnose, and to teach students the use of an instrument which he could not use himself. While matters were in this state, Semon came to London with the intention of spending a few months in the study of our language and of our medical methods. He spent a large part of his time at the Hospital for Diseases of the Throat in Golden Square, and by-and-by he and Dr. Lefferts (of New York, who was in London at the same time) were appointed clinical assistants to Dr. Morell Mackenzie. It was suggested to him that he might stay in London and practise as a specialist. Accordingly he presented himself for examination at the Royal College of Physicians, and obtained the very good qualification of M.R.C.P., and, in the following year, 1877, he settled down to practise in London. It was surely as risky a speculation as ever a young man embarked in; and, to make things worse, within two years of settling down to practise he had the audacity to marry; but those who enjoyed the privilege of the friendship of Fräulein Redeker knew it to be the wisest and most prudent thing that he had ever done. Semon was endowed with far more than the average of tact and courage, and he soon found an opportunity of putting both in play. At dinner one night in the year 1880, he heard much talk of the International Medical Congress which was to meet in London in the course of the next year. After dinner he asked Mr. (afterwards Sir William) MacCormac, the General Secretary, whether laryngology would be represented. The reply was in the negative, but on further conversation Mr. MacCormac invited Semon to come to him and talk the matter over. The interview resulted in a better feeling, and in the end laryngology was recognized, not as fully as he had desired, but still in better fashion than had been the case in any previous congress; and this recognition was entirely due to the tact and persistence of Semon. A year later Semon became Physician to the Department for Diseases of the Throat at St. Thomas's Hospital, and occupied that post for a period of fifteen years. In 1885 the College of Physicians conferred on him the title of Fellow, a distinction which had never previously been conferred on any one solely engaged in the speciality of the throat. To Semon it was a recognition at once of his skill and knowledge of his profession and of the honourable manner in which he conducted his practice. By this time he had become the acknowledged leader of all the younger men who were interested in diseases of the throat. His influence was apparent in many ways, but in none more than in the foundation of the Laryngological Society of London. It was at his house they met to arrange for the foundation of the society which had flourished for the last seventeen or eighteen years, and had been one of the most successful of all similar societies. From that time his progress was steady. It was no surprise to most of them when his name appeared in the list of honours, or when he was gazetted as a member of the Royal Household. "And now," said Mr. Butlin, "I might finish by presenting him to you as the chief consultant in his branch in this country, as a man who has contributed

to the advance of the scientific part of his profession, and who has represented this country in other lands. I might tell you that distinguished persons of all kinds and of various countries have consulted him, and that the health of various members of the Royal Family and of His Majesty himself has been entrusted in his hands; and that he bears upon his breast decorations conferred by the rulers of England, Prussia, Spain, and Egypt, amongst others. And I might say that this celebration is the natural consequence of a brave fight to success through unusual difficulties, and that this is the way in which my profession takes leave of its distinguished members when they cease to practise. But this is by no means the case. I have heard from one of my legal friends that when a senior in large practice at the Bar, in a moment of spleen or sickness, speaks of retirement, his juniors lose no time. Forthwith they meet, organize a dinner to him, and congratulate him so enthusiastically on his resolution that retreat is made impossible. With us, such celebrations are extremely rare. I have often thought that we sink out of practice like the leaves that fall on a still day in autumn, some dry and brown and withered, others still so vigorous in appearance that one wonders why they separate from the tree. I may truly say that, in my long experience in this town, I have never known a celebration such as this in my profession, so extensive and so enthusiastic. As soon as the intention of Semon to retire was whispered abroad, the laryngologists of Great Britain said: 'We can't allow Semon to go without taking some notice of his going.' They one and all expressed their indebtedness to him for all that he had done for laryngology in this country; as that he had been an excellent example in the practice of his profession, always keeping the three interests in their proper relation to each other: first, his patient; second, his profession; third, himself. That, through the Laryngological Society, he had done much for the education of the younger members of the branch. And that he had been the chief instrument in dragging the speciality out of the very unfortunate condition in which he had found it. They therefore met together and determined to give a dinner in his honour and some small present to his wife. The hope was also expressed by some of them that it might be possible to raise a fund for the foundation of something in connexion with laryngology which should be associated with his name. But laryngologists are not rich men, and it was quite impossible for them to raise a sufficient sum of money for such a purpose. Fortunately the matter came to the ears of Semon's many friends outside the profession, and such was their affection and respect for him that they at once determined to do all in their power to carry out the wishes of the laryngologists, which were indeed their own wishes, and they responded so liberally to the call upon them that there is actually at this moment a Felix Semon Fund of sufficient value to establish a lectureship or scholarship in laryngology." Mr. Butlin added that five and twenty years ago Semon had induced Messrs. Hirschwald to undertake the issue of a monthly journal, which might be a means of communication between the laryngologists of all countries, and offered to act as editor. The *Centralblatt für Laryngologie* had been most successful, and not the least interesting and successful part of it had been the occasional articles on various subjects by the editor, who had from time to time used his pen, with formidable effect, on behalf of some foreign body of laryngologists or of some professor of diseases of the throat, who was in danger of meeting with unworthy treatment. Moreover, he had written letters to persons interested, and had even visited some of the countries where there was trouble, and had interviewed various persons, and personally discussed the best means to be adopted. Mr. Butlin was quite sure that laryngologists of many countries must be indebted to him, but he had not the least notion of the respect and affection cherished for him abroad until he had read the letters, messages, telegrams, and addresses sent to him in the course of the present year. They came from Germany, Hungary, Austria, Russia, Scandinavia, Denmark, the Low Countries, France, Italy, Spain, and America. All of them breathed the same spirit of gratitude and affection, and spoke of the services which Semon had rendered to the cause of laryngology. This feeling reached its highest point in the inscription on a charming present from the laryngologists of Spain, who spoke of their guest as the "glory of laryngology." Reading these things, he for the first time saw Semon in his true aspect—the Defender of the Laryngological Faith throughout the World, the Constant Protector of all Oppressed Bodies of Laryngologists, the man whose name is spoken with affection and respect in every place where laryngologists do congregate.

The toast was supported by Mr. ALFRED MOND, M.P., who mentioned that Semon was the only man who could truthfully say he had silenced Gladstone; Dr. DUNDAS GRANT, President of the Section of Laryngology of the Royal Society of Medicine, who presented Sir Felix Semon with an album of photographs of British laryngologists and a short address; Dr. H. BIRKETT, of Montreal, ex-President of the American Laryngological Association, who on behalf of medical friends presented a beautiful brilliant to Lady Semon; Sir HERBERT BEERBOHM TREE, who said no class of the community was under a greater debt of gratitude to Sir Felix Semon than the actors and actresses to whom he had so often given their voices, and who presented an album containing the portraits of all those of the dramatic profession whom he had attended with such unvarying ability and devotion; and by Sir HUBERT VON HERKOMER and Dr. GEORGE FINDER, Sir Felix Semon's successor in the editorship of the *Centralblatt für Laryngologie*. Sir HUBERT VON HERKOMER said Sir Felix Semon's retirement from practice made him feel a little sad. He was somewhat sorry for mankind in general, too, for there would be many a sad man and woman who would miss not only his skill, but the kindness and strong sympathy of his character. His entry into the sick room brought life and hope; his touch and presence had magic in it—such magic as could only emanate from a nature which was through and through sympathetic. There was quality in Sir Felix's nature, the power of friendship. They all knew what his friendship meant. His life, even in retirement, could not be an idle one, his brain was too active for that. His memory and experiences would now find expression in literature, and he would give to the world of science matter for which he could hardly snatch time enough in his former busy life. It was their heartfelt wish that he and his dear wife, whose heart was quite as big as his own, should thoroughly enjoy that breath of a new atmosphere in their journey round the world.

Dr. GEORGE FINDER, in the name of the Laryngological Society of Berlin, expressed its sincere good wishes to its honorary member, Sir Felix, and to Lady Semon.

Sir FELIX SEMON, who on rising was received with great enthusiasm, said it was undoubtedly a great wrench to say "Farewell" to a profession in which he had worked as student and practitioner for so many years, to break up the happy home in which one had lived for so long, and to say "Good-bye" to a town in which one had worked for a lifetime and where he had made so many good friends. When he reflected that when he retired he was accompanied by such manifestations, not only of goodwill and esteem, but of—what was much more valuable—affection on the part of his own profession and of his personal friends throughout the world, who were the best judges of what he had endeavoured to do, he was rejoiced to think that it was not to be a separation for life, but that he would be happy to see his friends on his return. He had received so many gratifying proofs of the greatest kindness, that that occasion would be ever memorable to him for the rest of his life. His Majesty the King, whom he had had the honour and privilege of serving for many years, had been graciously pleased to signify his pleasure that he should continue to be one of his Physicians Extraordinary. The presence of the German Ambassador showed that his own country had not altogether forgotten him. The gift of the scholarship for his own speciality gave him the greatest satisfaction that was possible to a man of science. The kindness which had been shown to him by his British *confrères* was the greatest of all that he could have wished for. It was the most generous thing, and it was one which he deeply appreciated coming from British subjects to a man who thirty-five years ago came over here as a foreigner to work in this city. He admitted, as a late friend had told him, that at that time he spoke English with a slightly English accent, but as he learnt his English from the patients at the Throat Hospital it was not to be wondered at. He would

not forget the history of his first public speech in England. It was on the occasion when the greatest living medical man in the world, Lord Lister, had come to London and introduced himself by a paper the opinions expressed in which were open to great dissent from a laryngological point of view, and he thought there would have been a chorus of disapproval after the delivery of the paper. But no one spoke, and the President was about to pass on to the next paper when he (Sir Felix) rose. When he spoke he was quite unknown to the members, but when he sat down there was great applause, which was an unusual thing at such a meeting. A member sitting next to him, who knew him but slightly, said that his speech was a good beginning, considering that he was speaking in a foreign country in a foreign tongue against Lister. Walking home with that gentleman after the meeting, Sir Felix asked him for his honest opinion in regard to the speech, and the gentleman replied that he agreed with the verdict of the majority as shown by the applause. Upon Sir Felix pressing him for what he himself thought about the speech, he replied, Well, if he was pressed so hard, he had to reply that he had not understood a single word of what Sir Felix had said. That speech, Sir Felix said, for a long time remained his only speech. He went on to say that it was a great satisfaction to him on his retirement to know that British laryngology stood high not only in the eyes of the profession of this country, but throughout the world. The representatives of the younger school, so many of whom had honoured him with their presence that night, might be counted on to maintain it in the place of dignity it had won for itself after so hard and so long a struggle. Mr. Butlin had referred to his qualities as a fighter, and he had to confess that he had fought for what he considered a good cause. But he thought he might say he had never hit below the belt. Alluding to his early struggles, Sir Felix expressed his indebtedness to the late Sir James Paget, to whose wise counsels he owed not a little of whatever success had fallen to his lot. He also wished to acknowledge the loyal and invaluable help he had received during the whole of that period from Mr. Butlin and Dr. de Havilland Hall, with whom he had been united in friendship for more than thirty years. Whilst expressing his deep and sincere gratitude to all those who had contributed to make this farewell banquet a success, he felt he must specially name his friend Dr. Birkett, who had come over from Canada on purpose to attend it and was going to return by the next steamer. Such friendship surely was rare. Sir Felix said, in conclusion, that he would wish to acknowledge with gratitude the services of his friends, the musical artists, who had so graciously come to the help of the Committee. Among them he mentioned his old friend George Henschel, with whom he lived for several years in bachelor quarters before their marriages; Madame Blanche Marchesi, Mr. Plunket Greene, Mrs. Aldrich of New York, and last, but not least, his dear wife, of whom he could only say that no man could have a better helpmate.

After Sir Felix Semon's speech, which was loudly applauded, Lady Semon sung with magnificent voice and feeling a patriotic song entitled "Canada," of which their son, Mr. Percy Semon, is the author and composer. Mr. Plunket Greene, Madame Blanche Marchesi, and Mr. Henschell also sang to the delight of the assembly; special mention must be made of Mrs. Aldrich's magnificent rendering of a "Magyar Song," composed by Sir Felix. During the dinner the orchestra played the "St. Quentin March," also the composition of the distinguished laryngologist, and "Snow Flakes," composed by Mr. Percy Semon.

LITERARY NOTES.

DR. RALPH LEETWICH, Honorary Secretary of the Shakespeare Memorial Fund, writes:

The first Shakespeare commemoration service was duly held on April 23rd, 1909, at Southwark Cathedral, the poet's old parish church, and met with the warmest appreciation. The collection was given to the Shakespeare Memorial Fund, but the expenses were heavy, and a large proportion of the £650 needed remains to be raised.

The committee are anxious to have the work put in hand at once, so that it may be unveiled next April, and they appeal very earnestly for funds not only to lovers of this beautiful mediæval church, but to all who admit their indebtedness to the bearer of the greatest name in literature. Donations will be gratefully acknowledged by Canon Thompson, D.D., at the Cathedral; by Mrs. Kendal, 12, Portland Place; or by Dr. Leetwich, 125, Kennington Park Road, S.E. Cheques should be made payable to the Shakespeare Southwark Memorial Fund, and crossed "London and Westminster Bank."

Old superstitions are always interesting, and none more so than those which have to do with the art of healing. In a recently published work, entitled *Fresh Leaves and Green Pastures*, by the author of *Leaves from a Life*, a daughter of W. P. Frith, R.A., mention is made of several curious customs which still prevailed in out-of-the-way country places some forty years ago. Perhaps the most curious of all was the charm against whooping-cough. A locket containing hair from the centre of the cross on a donkey's back was considered an infallible remedy; and a sure way to prevent a child from ever having the disease was to take him on a donkey to four cross-roads, and there pass him four times under the animal's body, facing the points of the compass consecutively. The author adds that she greatly offended one of her own tenants by refusing the loan of a donkey in order to render her children immune; but Mrs. Craik, the author of *John Halifax, Gentleman*, won the love of the country people by accepting this charm in apparent good faith, though it is hardly necessary to say that she did not believe in it. A certain cure for toothache consisted in wearing round the neck a piece of paper in a silk bag, on which the following lines were written:

> The Apostle Peter sat upon a Stwön;
> Our Blessed Lord and Saviour He come along.
> And said, "Rise Peter, and wear this for my Seäke,
> And you shall never more have the Toothieache."

Mrs. Craik once actually found a little boy sitting on a stone, and sobbing with pain as he repeated the verse. She promptly took him to the nearest doctor, who pulled out the aching tooth, so the charm had some effect after all, though not in the way that the sufferer expected.

In a letter from Darwin to his early friend Fox, dated Malvern, September, 1850, there is the following interesting passage:

> You speak about homoeopathy, which is a subject which makes me more wrath even than does clairvoyance. Clairvovance so transcends belief that one's ordinary faculties are put out of the question, but in homoeopathy common sense and common observation come into play, and both these must go to the dogs if the infinitesimal doses have any effect whatever. How true is a remark I saw the other day by Quetelet in respect to evidence of curative processes—viz., that no one knows in disease what is the result of nothing being done as a standard with which to compare homoeopathy and all other such things. It is a sad flaw, I cannot but think, in my beloved Dr. Gully, that he believes in everything. When Miss —— was very ill, he had a clairvoyant girl to report on internal changes, a mesmerist to put her to sleep, an homoeopathist Dr. ——, and himself as hydropathist! And the girl recovered.

This reminds us of the child with a rash, a little sore throat, and some pain in the joints, whose fond parents insisted on having—in addition to the family doctor and a general physician—a skin specialist, a laryngologist, an otologist, and a surgeon who was supposed to know whatever was to be known about joints. The affection was scarlatina—and in this case, too, the patient recovered.

Messrs. W. B. Saunders Company announce for early publication *Exercise in Education and Medicine*, by R. Tait McKenzie, M.D., Professor of Physical Education, University of Pennsylvania. This work is described as a complete treatise on the application of systematized exercise in the development of the normal body and in the correction of certain diseased conditions in which gymnastics have proved of value. A part of the book deals with the application of exercise to medical and surgical conditions. Postural defects, including flat-foot, round back, and lateral curvature, are fully described, and prescriptions of exercises given, with illustrations and case reports. Chapters are devoted to the rôle of exercises in the causation of diseases of the heart and arteries and in the treatment of heart conditions.

THE ROYAL COMMISSION ON THE POOR LAW AND THE RELIEF OF DISTRESS.

OVERLAPPING OF POOR LAW AND VOLUNTARY HOSPITALS.

THE Poor Law Commission instructed Miss Norah B. Roberts to report on the classes of persons receiving out-door medical attention at the voluntary hospitals in London, and to show how far they had already been in receipt of, or subsequently received, Poor Law medical relief, with a view to ascertaining how far the work of voluntary hospitals and the Poor Law service overlaps. Three hospitals were selected for inquiry, the Royal Free in central London, St. Thomas's in the south, and St. Mary's in the west.

At the Royal Free Hospital a lady almoner interviews all out-patients, except casualties, her duty being to prevent abuse of free treatment and to see that the patients are in a position to carry out the medical recommendations. Patients in receipt of parish relief at the time, and those who are destitute, are referred back to the parish. The Holborn, Islington, and St. Pancras Unions each subscribe ten guineas annually to the hospital. At St. Thomas's Hospital a lady almoner interviews about one-third of the out-patients and some of the casualties. Parish cases are referred back to the parish, except those that might be instructive to the medical school. Wandsworth Union subscribes ten guineas annually. St. Mary's Hospital has no lady almoner, but an inquiry officer sees all the out-patients and visits some each day to prevent abuse, but there are no instructions about parish cases. Paddington Union subscribes ten guineas annually.

The new out-patients and casualties in one week at the three hospitals numbered 2,932. Of these, 150 came from beyond the metropolitan area, 92 gave no address, and 587 insufficient address. The remainder were found to come from 29 union areas. The relieving officers of these unions were asked to state whether any parish relief had been given to the patients or their families during the six months previous or the three weeks subsequent to the hospital treatment. All the unions allow medical relief without a special order to persons in receipt of permanent out-relief, and in some cases to those in receipt of ordinary relief. Of the 2,081 names with full addresses, 5 were duplicates, leaving 2,076 for inquiry. Of these, 107 had personally received parish relief within the times mentioned, and 28 belonged to identical families. This represents 6·5 per cent. receiving parish relief, the Royal Free showing 8 per cent., St. Thomas's 5·89 per cent., and St. Mary's 5·8 per cent. Miss Roberts suggests that the greater percentage at the Royal Free Hospital may be due to the presence of so many hospitals in that vicinity encouraging the people to seek hospital attention in times of sickness. But she considers the figure 6·5 to be below the mark, because the registration at the hospitals is so imperfect that the relieving officers often could not identify the cases, and also during the period of six months there must have been many removals which could not be traced. Miss Roberts herself visited 233 cases, and found 11 further instances which the relieving officers had passed over. This is an additional 4·7 per cent Thus she concludes that if the three hospitals selected are fair samples, at least 11 per cent. of the out-patients at the voluntary general hospitals in London are actually Poor Law cases being in receipt of some form of Poor Law assistance either at the time or within half a year.

Taking the number of new out-patients in 1907 at the 30 general hospitals in London as 1,312,000, and taking 11 per cent. as the correct figure, the total number of Poor Law cases attended by voluntary hospitals would be 144,320. It is noted that an extraordinary number of mistakes occurred in the addresses of the casualty cases registered at the hospitals, as 15 per cent. could not be found. This is a matter for regret, as the proper address might provide means for judging the suitability of the patients for hospital or Poor Law treatment, whether the medical recommendations could be carried out and whether charitable or other resources might not be organized to assist. Careful registration, too, has a wholesome effect on the people and—

granting that the more easily relief is obtainable the more freely is advantage taken of it (to the people's economic, if not moral, hurt), it would seem desirable on the part of hospitals to go to the trouble of precise registration in all their departments. This reform in hospital registration is to be much recommended.

It is also desirable that registration by the relieving officers should be simplified and improved, especially by the "case-paper" system.

Inquiry as to the class of applicants for parish medical relief showed that heads of families generally sought parish medical aid for chronic illness, few had regular incomes over 22s. per week, 63 per cent. had had previous touch with the Poor Law, about half had occasionally had private doctors, and 15 per cent. had been at some time in sick clubs, and in the large majority of cases the homes were dirty and badly kept.

About 10 per cent. of the voluntary hospital cases were visited, and it was found that many of the richer cases came from long distances with the simple object of getting good advice, about 18 per cent. were in receipt of over 30s. a week, 29 per cent. had over 25s., while 50 per cent. had over 22s. a week.

There is a positive and strong habit of employing private doctors for ordinary ailments, and a large number made independent arrangements at times of confinement.

About 36 per cent. are or have been in sick clubs. Many men and women in work refrain from going to the hospitals because of the long waiting, and they prefer to pay for a private doctor or to apply to the Poor Law, where they will be attended to in a few minutes. Comparing the classes, Miss Roberts estimates that at least 38 per cent. of the persons receiving treatment at the London general hospitals are similar in class to persons receiving Poor Law medical assistance.

In reply to the question, Is Poor Law medical relief the first step to pauperism? most of the parish officers express the belief that medical relief is often a dodge to get outdoor relief, as there is a constant necessity to add nourishment to medical aid.

Miss Roberts found "an extraordinary antagonism" between the voluntary hospitals and the Poor Law. The relieving officers complain of the claim on their time by applications for removal of patients from voluntary hospitals, and they say the hospitals encourage the people to demand relief. The hospitals, on the other hand, complain of the dilatoriness of the relieving officers and guardians in coming to the rescue and accepting responsibility for distinctly destitute patients; the hospitals want the unions to accept their word as to destitution. There is thus constant conflict in all parts of London, with one or two exceptions, notably Willesden, where there is a "happy co-operation." There is also a friendly arrangement between Paddington, Kensington, and Hammersmith Unions, as to payment for maintenance of infirmary cases removed from the St. Mary's and West London Hospitals.

Some hospitals take special pains to obtain contributions from guardians of surrounding unions, and many unions subscribe annually, while some pay per head when a parish case becomes an indoor patient at a hospital. One hospital, however, thought that such subscriptions might lead to interference by the guardians in the government of the hospital, and so did not want any subscription.

The report concludes that the relations between unions and hospitals "evidently need defining by a disinterested and authoritative power." A lady almoner might then be able to see to the practical co-ordinating of the work.

INFANT MORTALITY IN WORKHOUSES.

MRS. SIDNEY WEBB'S retort, published last week, to the article on infant mortality in workhouses which appeared in our previous issue, appears to call for some comment, because we desire to make our attitude as to the general question perfectly clear. We do not question—on the contrary, we gladly recognize—the excellence of the motives by which the Minority Commissioners were actuated, and we share to the full the satisfaction which Mrs. Webb expresses at the intimation that Mr. Burns intends to have the whole subject investigated, for some of the evidence given before the Commission indicates the desirability of such an investigation.

This, however, is a very different thing from admitting that the statistics given in the Minority Report give a fair picture of things as they are, or that on

the strength of these statistics alone an investigation could rightly be demanded. On the contrary, those statistics appeared to us unreliable and misleading in the first instance, and we feel less confidence in them than ever after Mrs. Webb's explanation that "the tabulated results include no deaths after readmission." It is a matter for some surprise that this was not made perfectly clear in the report itself, as it might have saved some misconception. Moreover, it is doubtful whether this is not a case of "out of the frying-pan into the fire," for it distinctly lessens the numbers on which the statistics are really founded, and they were already far too small to be satisfactory. We are told in the report that "most of the infants were taken away long before the year had elapsed," and, again, that "more than half of the mothers discharged themselves within a month." In dealing with comparative mortality statistics it is an accepted axiom that the numbers must be sufficiently large to exclude accidental fluctuations from varying circumstances. If the readmissions had been reckoned in with those who remained in the workhouses, the number on which to found any statistics would have been appreciably higher, and to that extent more reliable; but as the readmissions were not included, the statistics are really founded only on those that never left the workhouse, a comparatively small proportion of the whole.

This very materially vitiates the conclusions based on the statistics, for it is a pure assumption that the death-rate of those who went out was the same as that of those who remained in. Such an assumption is perfectly justifiable in certain circumstances, but not when the proportion of those remaining in is small compared with those going out. To take a purposely exaggerated example: a death-rate of 200 per 1,000 means 2 in 10 on the average, but, reversing the process, we are not justified in assuming that because 2 die out of a particular 10 therefore the general death-rate is 200 per 1,000; the fallacy arises largely from the fact that 10 is too small a proportion of 1,000 to exclude accidental fluctuations. There might be 5 or even 8 die out of a particular 10 and yet the general rate might only be 200 per 1,000. Even including the readmissions the number was too small to depend on; much more so is it if they are excluded.

A further source of fallacy lies in the brevity of the period to which the statistics relate. If reasoning of the same character were applied to a particular village with which we are acquainted, it could be shown that its death-rate was *nil*, yet it is as insanitary, and its inhabitants as unhealthy generally as are any of the surrounding villages, and if its death-rate were considered not for one, but for a number of years, the true state of affairs would be seen. Of course, the Minority Commissioners are quite aware of all these considerations, for they say in a foot-note that they were "fully aware of the shortcomings of the statistical data analysed." In face of this we hold that the publication of the figures at all was a mistake.

If we regard the statistics as unreliable in themselves, they are still less satisfactory as a basis for comparisons. Judged simply by the figures, as the Minority Report would have us judge, the "best" workhouse might be regarded as never having any deaths at all amongst its infant population, for in the year selected by the Commissioners none of the 24 children born happened to die, while about the "worst" workhouse had 8 deaths out of 20 births. Nor would it be correct to say that the Commissioners lay no stress on single workhouses, for each single workhouse is first actually judged as "good" or "bad," and then put accordingly in what is thought to be its proper group. If it could be proved that any one workhouse had year after year a persistently high mortality and another, equally persistently, year after year a low mortality, and if it were also proved that the contributory population and the prenatal conditions in each were similar in character, then, and only then, would it be fair to compare the two by their statistics. But in place of this we are asked to accept conclusions based on the figures of a single year.

As for the contributory populations surrounding the two groups of workhouses compared, we are from our knowledge of them not convinced that they are really fairly comparable. Moreover, we happen to know that the town in which one of the "worst" workhouses is situated, had last year an infant mortality of over 200 per 1,000—a fact which offers some presumption that in this case, at any rate, the workhouse-rate only reflected the rate of the general population, and that the workhouse itself was probably not entirely responsible for the height of its own rate.

For the rest, while giving Mrs. Webb every credit for the energy which she has exhibited in endeavouring to get at the truth of the matter by statistics, we cannot admit that she has succeeded. Indeed, in view of the extreme complexity of this particular question, it may be doubted if any thoroughly satisfactory statistics could be obtained. In any case, we have no hesitation in reasserting that the only real test of efficiency practically and immediately available is careful inspection by competent experts.

The Poor Law Medical Officers' Association and the Report.

The annual meeting of the Poor Law Medical Officers' Association of England and Wales took place on July 6th in the Council Chamber of the Guildhall, London, under the presidency of Surgeon-General Evatt, C.B. A conference of Poor Law Medical Officers was opened at 11 a.m. by the Right Hon. the Lord Mayor, with whom was the Sheriff. There was a fairly numerous attendance, representatives being present from nearly all parts of England and Wales. Papers were read by Dr. Major Greenwood, Mr. Loch, Mrs. Sidney Webb, Dr. Toogood, and Dr. McCleary, but a report of the business transacted during the day must be postponed till next week.

During the afternoon members of the conference were received by the Lord Mayor and Lady Mayoress at the Mansion House, and partook of the hospitality of the City.

At 7.30 p.m. the annual dinner of the association took place at the Waldorf Hotel, Aldwych, Surgeon-General Evatt being in the chair. The members and their guests were about 100, and among the latter were: the Right Hon. Sir Walter Foster, M.P., Sir Dyce Duckworth, Bart., Sir Shirley and Lady Murphy, Alderman Sir Thomas Crosby, M.D., and Miss Crosby, Dr. and Mrs. Copeman, F.R.S., Mr. Ferens, M.P. East Hull, Dr. and Mrs. R. Deane Sweeting, Dr. A. Downes, Rev. Prebendary Russell Wakefield, Mr. Loch, Mr. and Mrs. Sidney Webb, Dr. Smith Whitaker, and Dr. Macdonald.

In proposing the health of the King, Surgeon-General Evatt made special reference to the necessity for a Minister of Health, from whom His Majesty might learn, as he did from other Ministers as to other national matter, of the condition of health of the nation. The relations between the State and medicine were very defective, and medical practitioners were sweated in the service of the State; there never was a greater crisis in the profession than at the present time; the Poor Law Medical Service must stir itself, and push forward in the interests of the nation and point out what ought to be done. He would ask them to take notice that the heads of departments were notoriously conservative and required the greatest stimulation from outside. There would have been no army reform had it been left to the War Office, and we should have been left without ironclads had it only depended on the First Lord of the Admiralty.

After the toast had been duly honoured, the President called on the Honorary Secretary to read a letter from Dr. Newsholme, Principal Medical Officer to the Local Government Board, who expressed his regret that he was not able to be present on account of sudden illness. He expressed his sympathy with the Poor Law Medical Service, and he emphasized the "great possibilities" before it of doing important public work in the future.

Sir Walter Foster, in proposing the toast of "The Poor Law Medical Officers' Association of England and Wales," said that its members were a body who had banded themselves together to improve their position and to promote the welfare of those they served. He was well acquainted with their history, and had known personally in the past most of their leaders. He remembered the Association when it existed under the name of the Poor Law Medical Reform Association, and when it amalgamated with the Metropolitan Poor Law

Medical Officers' Association under Dr. Joseph Rogers to form the present body, which had had an unbroken succession up to the present time. It had always consisted of men who had a grievance, and he believed it was healthy for the community that men should have grievances and make the most of them, for in that way reform was likely to be brought about. He thought the co-operation of all Poor Law medical officers was very necessary now that the whole Poor Law system was in the melting pot.

Dr. Major GREENWOOD, the Honorary Secretary, in replying, said the Association had had a long and chequered existence, and for more than half a century had fought for the cause of Poor Law Reform. While not forgetting it own just rights, it had never lost sight of the welfare of the sick poor committed to the care of its members. He could say with confidence, that since the Act of 1834, the sick State poor had had no more trustworthy friends than the Poor Law medical officers of the country. In the first decade of its existence, the association had dreamed great things, and, owing to the then abuses of the Poor Law system, had fondly imagined that it only needed united action on the part of members of the service to bring about great and immediate reform. He enumerated the measures adopted at that time, the open letters to the Premier, petitions to Parliament, deputations to the Poor Law Boards, and draft Poor Law Amendment Acts. In the late Sixties, under Dr. Joseph Rogers, it ceased dreaming, and settled down to less ambitious but more profitable labours. Instead of attacking the whole system it turned its guns on to parts of it. Dr. Rogers's controversy with the Strand Guardians was a good instance of its work in those days. He had to resign his office, but his criticism could not be stifled, and the public eye was turned on the condition of the indoor poor in the workhouses of the country. The splendid Poor Law infirmaries of the present time were not a little due to Dr. Rogers, who had often occupied in the past the chair now occupied by Surgeon-General Evatt. In all the Poor Law reforms of the last fifty years the association had had a finger, and if many of its attempts at reform had not been successful, it still ought to be judged by those attempts; for though "it was not in mortals to command success," he thought the association had deserved it. There was not attached to their service the attraction of some of the other public services. Their members did not die on *Dreadnoughts*, or amid the excitement of the battlefield, but more often in humble households in the midst of straitened circumstances; but the members had done their work as well as their brethren in the more favoured services, and if the State passed them by unnoticed it was not the less indebted to them. The future was somewhat obscure; if some of those present had their way, it was to be feared their career was at an end. But he trusted it would not be so, and that they would long be spared as a distinct service to assist the sick poor, and to further the welfare of the nation. They were delighted to see Sir Walter Foster again at their table. He had so often assisted them in the past, both in and out of Parliament. They were glad also to see the head of the sanitary department of the County of London. They welcomed also the medical representatives of the great State department that supervised their service and the other overlapping services dealing with the poor. They welcomed also the representatives of the great professional Association of the country to whom all the medical services looked for support and protection. Last, and not least, they welcomed the members of the late Royal Commission. If they did not approve of all their recommendations, they recognized their conscientious attempt to solve a great national problem.

Dr. DINGLE, Mayor of Finsbury, who proposed "The Corporation of the City of London," said that he supposed he was selected to propose this toast because he had so often during his year of office enjoyed the hospitality of the City. The City had been very courteous to their association by assisting it in their London meeting, and lending it the Council Chamber of their splendid Guildhall.

Alderman Sir THOMAS CROSBY, in responding, said that he was glad to have been able to assist the association in getting the Council Chamber of the Guildhall for the meeting. The City was always ready to help in matters relating to the public welfare.

Dr. HOLDER, of Hull, in proposing the toast of "The Local Government Board," alluded to the importance of that body and its many duties. He had had much experience of its working, and had always been treated with courtesy by its medical inspectors. He regretted Dr. Newsholme's illness, and spoke of the great public services of Dr. Downes and of his admirable work on the Royal Commission.

Dr. DOWNES said there had been a great deal of difficulty in coming to an agreement on certain points among the Commissioners. The medical relief question was girt with many difficulties. He thought that part-time service officers had some advantages. It gave them an independence that they would never have as whole-time officers of a Poor Law administrative body. This in many ways was good for the public and the poor. If the Poor Law Medical Service was united, it would undoubtedly have considerable weight in pointing out the way in which reform should take place. The Minority Report was signed by four members, but the influence of one fair member very much preponderated. It was plain that with her own views there always appeared those of another, and when she entered the room, Mr. Sidney Webb, although unseen, always entered with her.

Dr. DRURY, of Halifax, proposed the health of the Royal Commissioners, and spoke of the difficulties of the conflicting reports. He doubted whether much of what had been recommended was practicable. There were good as well as bad boards of guardians, and they could not all be equally condemned.

Mr. LOCH, in responding, admitted the difficulties of the problem, but more co-ordination and better administration were imperatively needed. If the medical profession objected to what was proposed, he earnestly hoped that it would get into agreement those within its ranks, and would formulate some other scheme that would meet the necessities of the case. Now was the time, and he would ask medical men to be united, so that the public might have the advantage of their special knowledge, which ought to be very valuable in many points. For his part, he always spoke with fear and trembling in the presence of Mrs. Sidney Webb, and he must admit that the minority was larger than it appeared. It was, in fact, an example that in some cases two and two added together made five.

The Rev. Prebendary RUSSELL WAKEFIELD said that he went to the Commission with an entirely open mind, and that Mrs. Sidney Webb had quite convinced him that all the Commissioners had done their best to consider the matter from all points of view. They had been twitted as a minority, but it should be noted that the majority was not quite so overwhelming as it appeared. There seemed to be a good deal of division in their midst, as four of the number had found it necessary to put forward an independent report. The minority were at least unanimous.

Surgeon-General EVATT, in proposing "The Guests," associated with the toast three gentlemen who were exponents of three important points of view. Sir Dyce Duckworth represented, he might say, Harley Street; Dr. Macdonald that great and important professional body the British Medical Association; and Mr. Sidney Webb might be considered the representative of the school to whom the Minority Report was due.

Sir DYCE DUCKWORTH said that personally he had had little to do with Poor Law work, but that his class took a proper interest in the important national interests that were at stake, and quite recognized that changes were necessary and that the old system must be considerably reformed.

Dr. J. A. MACDONALD expressed regret that he must curtail his remarks, owing to the necessity of catching a train almost immediately to Somersetshire. It had given him much pleasure to attend the conference and dinner in his official capacity as Chairman of the Representative Meetings of the British Medical Association, and he would take that opportunity of assuring the Poor Law medical officers that their position and their views would receive the fullest possible consideration from the Association before any opinion was expressed as to the reforms proposed in the reports of the Royal Commissioners. He desired to

emphasize what had been said by previous speakers as to the great importance of the medical profession being united at the present time, and of all sections of the profession assisting the British Medical Association to voice the opinion of the whole body on the subject. Upon such a matter there was hardly any practical limit to the power of the profession if its members were agreed, and in the British Medical Association as now reorganized they had the means of expressing a united opinion. He hoped that the Poor Law medical officers would give all the help they could to the Association in shaping that opinion.

Mr. SIDNEY WEBB insisted that the matter was not one wholly affecting the Poor Law medical service, nor was it one that the British Medical Association could claim to adjudicate on by itself, as the Poor Law medical officers formed a considerable portion of that body. Outside the medical profession was the public, who were far more important than the former. He would tell the British Medical Association that it would be useless to come to any decision, resting solely on professional grounds. If it did it would be swept aside, and legislation would certainly be enacted without the Association receiving the degree of consideration to which it might hold itself to be entitled.

As many of those present expressed a wish to hear the "other partner," Mrs. SIDNEY WEBB was called upon, and said that it was quite true that she and her husband were one, and she prided herself on that. She asked Poor Law medical officers not to submit tamely to extinction; if they were to be killed she advised them to be killed at once, when they might claim a full compensation (she estimated this at 3 millions); but if they accepted a slow death much of this compensation would be lost.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN GERMANY.

Dr. M. COHN has recently described[1] the manner in which the medical inspection and treatment of school children have been carried out during ten years in Charlottenburg, a populous suburb of Berlin. Recalling the fact that last summer there were some 3,427 schools in 266 places in Germany which employed "school doctors," he states that the vast majority of these were *Volksschulen*—that is to say, board or elementary schools. The school doctor, or medical inspector, is in nearly each case employed by the municipality. Several journals cater for the medical inspectors, while a large society, with numerous local branches, admits of interchange of opinions and experiences among them.

The work of the medical inspector comprises: (1) The hygienic supervision of the school building and schoolrooms; (2) the examination of the children on entering the school; (3) the supervision of their health; and (4) the direction of hygienic measures for the improvement of the race. Notwithstanding difficulties caused by the conservatism of municipalities and differences of opinion among hygienists, many improvements have been carried out. Better cleaning and ventilation of the school buildings and the improvement of the waterclosets are a few of the achievements of ten years' service. Attention paid to the habits of the school children has resulted in a decided advance toward cleanliness. Baths have been introduced in some schools.

Dr. Cohn has himself examined 2,220 children on entry and 1,670 elder children, giving each child a certificate which accompanied him or her throughout school life. It is rare, he says, to meet a perfectly healthy child. The most common defects are the results of scrofula, rickets, anaemia, and malnutrition; while heart or lung disease, disorders of eyesight or hearing—the latter usually associated with adenoid vegetations—diseases of the skin, defects of speech, and nervous disturbances, are not uncommon, and curvature of the spine is frequent. Neither the children nor their mothers have any conception of the elements of the proper care of the mouth. Some children have a toothbrush, but have no idea how to use it; the pretence of brushing the teeth is only indulged in on Sundays and holidays. The children are now taught how to look after their teeth, and when the dental caries, which is very common, has been treated by the dentist, the mouth soon assumes a healthy condition. By means of orthopaedic measures curvatures and other skeletal defects have been to some extent removed. Children with defects of speech and hearing are drafted to special schools, where much has been done for their improvement. The detection of pediculosis, diseases of the organs of special senses, anaemia of various origins, heart disease, herniae, and goitre has led in a large number of cases to energetic treatment, with, as a rule, satisfactory results. The procedure in Charlottenburg is as follows: The parents are informed that the child has to be treated. If in spite of repeated warnings from the medical inspector and teacher this is not carried out, the school nurse goes to the home to make inquiries. The reason alleged is usually that the mother has not enough time or cannot afford to pay the doctor. It is seldom that indifference is the real reason. When the parents cannot pay the child is taken to the parish doctor for treatment. This does not pauperize the father. The medical inspector may refer the child direct to this officer. When the mother has no time to take the child to the doctor, the nurse takes it either to the nearest private practitioner or to the parish doctor. School clinics exist in several towns in Germany, and answer very well, but the municipal authorities in Charlottenburg prefer the system roughly indicated above.

Dr. Cohn passes in review the auxiliary means available for restoring health to the children. These include "holiday colonies," "schools in the woods," and convalescent stations in the woods. In the first holiday colonies classes each for about twenty children are held in the open air whenever possible. The children are supplied with a plentiful and nourishing diet, while exercise and rest are prescribed. There is also a society for children's excursions into the country which enables groups of fifteen boys and girls to visit the Grunewald for half a day each week. The State pays a contribution to the society and the children are chosen by the head masters and medical inspectors in consultation. A new society for walks in the country has also been formed, but its aim is to refresh the mental activity of the scholars rather than to treat defects discovered at the inspection. The methods adopted in the schools to improve the mental activity of mentally defective or backward children are due, Dr. Cohn states, to Dr. Sickinger, a medical inspector of school children in Mannheim. Briefly, the system consists in giving backward children extra lessons three times a week from the second term onward. Not more than seven children are instructed at one time by one teacher. Care is taken to avoid transforming these lessons into a disgrace or punishment, and since the teaching has the character of individual and not class instruction, the teacher soon discovers the cause of the backwardness in each case, and is frequently able to remedy it, and a large number of these children have been enabled to take their places in the normal classes for their ages after a short time. When it is found that a psychical defect is the cause of the backwardness, but that this defect is only slight, the children are transferred to a class where special forms of instruction are adopted. This class also has borne good fruit, and not a few of the children have been able after a time to return to their normal classes, mentally and bodily fresh and active. The opinion has been expressed that school children should be taken through a course of elementary hygiene during the years which they spend at school. Dr. Cohn has planned a course which he considers would satisfy all requirements, but so far this scheme has not been put to the test. The chief subjects which he suggests should be taught are (1) the importance of sleep, (2) the dangers of alcohol, and (3) the significance of sexual matters. He has found that the majority of school children do not get enough sleep, and states that the taking of alcoholic drinks by school children is very widespread. With regard to sexual questions, he considers that no child should leave school without possessing physiological information concerning the propagation of the race and concerning the dangers of venereal diseases. The school inspector has further had the task of doing something to prevent or lessen the spread of infectious diseases, and even if these attempts have not yet been crowned with the success which had been hoped, the

[1] *Berl. Klin. Woch.*, May 30th and June 7th, 1909.

chances of improvement in the near future cannot be denied.

Dr. Cohn discusses the aspect of the medical inspection question as it affects the general practitioner. He finds that ample evidence in favour of the medical inspector being a part-time officer is forthcoming. He urges that the work is better done by a man who has a small number of schools to inspect and supervize, that the fact that he sees other aspects of practice prevents him from becoming one-sided and stale, and that no advantage is taken of the position of medical inspector of schools to enlarge private practice. Friction between the inspector and the practitioner treating the case rarely occurs, and with tact and care on the part of the former, any difficulties which might arise can easily be smoothed over. He regards it as the duty of the inspector to get into personal communication with the treating practitioner whenever any threat of discord presents itself.

In conclusion, he states that the experience of the first ten years of the system in Germany promises well, and if we in this country find it possible to extend our inspection and amelioration as widely as has been done in Germany, the intervention of the Legislature in this matter will be fully justified by results which will be manifest at no distant date.

Medical News.

THE United Services Medical Society has now adjourned for the summer; the next meeting is fixed for the second Wednesday in October at the Royal Army Medical College.

THE annual general meeting of the Asylum Workers' Association will be held at 11, Chandos Street, Cavendish Square, W., on Tuesday next, at 3 p.m., under the presidency of Sir William Collins, M.P.

AN extraordinary general meeting of the members of the London and Counties Medical Protection Society will be held at 31, Craven Street, Strand, on July 14th, at 4 p.m., to confirm the resolutions adopted at the annual general meeting of the society held on June 23rd.

THE late Mr. Joseph Aynsley Davidson Shipley, a member of a firm of solicitors in Newcastle, who died on February 4th, mentioned in his will a large number of medical charities in Northumberland. The sums directly left to them are inconsiderable, but they are also given a share of the residuary estate—a sum of probably £100,000—and thus may benefit largely.

THE annual meeting and dinner of the Brussels Medical Graduates' Association will be held at the Garden Club, Imperial International Exhibition, on Thursday next, at 7.45. Members are invited to bring ladies. Tickets (price 7s. 6d.) may be obtained from the Honorary Secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square, W.

THE North Stafford joint school authority for the education of blind or deaf children has summoned a meeting of mayors, chairmen of urban district councils, and medical officers of health, at the Town Hall, Stoke-on-Trent, at 3 p.m., on Wednesday, July 28th, to consider the best means of averting infantile ophthalmia. The chair will be taken by the Earl of Harrowby.

THE Hospital for Invalid Gentlewomen, established at 90, Harley Street, fifty-six years ago by Viscountess Canning and Miss Florence Nightingale, has now been closed, and the new hospital for 32 patients in course of construction in Lisson Grove, N.W., will be opened for the reception of patients towards the end of the year; £5,000 are still needed to complete the building and equipment. Donations should be sent to W. C. Bridgeman, Esq., M.P., 13, Mansfield Street, W.

IN an annotation published last week, page 42, on fatal poisoning by gases given off by ferro-silicon, it was suggested that the danger might be avoided by packing the material in airtight cases. Our attention has been called to a paper by Dr. Dupré, chemical adviser to the Explosives Department, Home Office, and Captain M. B. Lloyd, H.M. Inspector of explosives, read before the Iron and Steel Institute in 1904, showing that this plan is dangerous, and therefore does not afford a complete solution of the difficulty. Several severe explosions have occurred at various times, one well-authenticated instance having occurred in Liverpool as long ago as 1903. There is also some evidence that the material may undergo spontaneous combustion; altogether it is clearly very dangerous cargo, and the regulations which should be enforced with regard to it will require careful consideration.

THE second annual report of the King Edward VII Sanatorium for Consumptives, which has recently been issued, deals with the twelve months from July, 1907, to July, 1908. During this period 278 patients were under treatment as compared with 161 during the first year. The number of applicants for admission has largely increased and the value of the sanatorium is evidently becoming more widely appreciated. The patients during the period covered by the report laid out a series of graduated walks in the sanatorium grounds. These paths will be most useful, whilst the making of them has provided suitable outdoor employment. The statistical portion of the report shows that the results of treatment have been extremely satisfactory in the early cases, and most encouraging even in the more advanced and less favourable cases. The publication of the report seems to be unduly delayed.

PROFESSOR J. COSSAR EWART, in the first of a series of papers on the possible ancestors of the horses living under domestication, presented to the Royal Society at its meeting on June 24th, the last before the long vacation, stated that the examination of the skull, teeth, and limb bones of horses found at Roman settlements and in the vicinity of pile dwellings indicated that domestic horses originally belonged to five distinct types. His paper dealt with three of these types, the possible ancestors of which were, he held, *Equus sivalensis* of Indian pliocene deposits, *E. stenonis* of the pliocene deposits of Europe and North Africa, and a new species, *E. gracilis*. Arabs, barbs and thoroughbreds, and other modern breeds with long deflected face, broad and prominent between the orbits, and slender limbs were, he thought, mainly derived from *E. sivalensis*; the Exmoor, Hebridean, Iceland, and other ponies of Celtic type, as well as the ponies found in the south of France, the West Indies, and Mexico, he regarded as descendants of *E. gracilis*. Crossing experiments afforded evidence of the wide distribution of horses of this type, the broad-browed Arabs and thoroughbreds with face nearly in a line with the cranium being mainly a blend of the southern variety of *E. gracilis* and horses of the forest type.

WE have received an official intimation that the cards of identification enabling members of the Sixteenth International Medical Congress at Budapest to take advantage of the reductions in fares accorded on various railway and steamship lines will be forwarded to them from the offices of the General Secretary in the course of the present week. The first copies of the volume containing the papers to be read in the sections to which members have expressed a desire to be attached will be in their hands as early as possible. They will thus have ample time to prepare to take part in the discussions. Members are recommended to apply as early as convenient to the Central Travelling Bureau (IV Vigado-ter 1, Budapest) for such accommodation as they may wish to have reserved for them during their stay in Budapest. Application should be made to the Central Travelling Bureau for the special circular. We are informed that the Executive Committee is devoting special attention to the question of accommodation. We are requested to state that a great soirée will be held for the reception of members, and several other social gatherings have been arranged in their honour, whilst the Ladies' Committee has made all preparations to render the visit of the wives and daughters of members to Budapest pleasant and agreeable.

MEDICAL AND SURGICAL APPLIANCES.

A Urethral Syringe.

THE "New Century" urethral syringe, a specimen of which has been forwarded by Messrs. Hough and Hoseason, of Manchester, resembles a miniature Higginson's syringe. The urethral portion consists of a small soft rubber catheter, 8 in. long, with two eyes, giving a backward flow. The use of the Higginson form of syringe for the urethra is by no means new; but this is a handy little instrument, and the only fault we have to find with it is that the end of the catheter beyond the eyes is hollow and not solid, as from an antiseptic point of view it should be.

British Medical Journal.

SATURDAY, JULY 10th, 1909.

THE ANNUAL REPRESENTATIVE MEETING.

The agenda paper for the Annual Representative Meeting, which has been revised and expanded since the publication of the provisional draft on May 22nd, is published in the Supplement for this week. It is now as complete as it can be made to date, and may be taken to contain practically the whole of the business which will be discussed at Belfast, although amendments or riders, judged by the Chairman to be in order, may still be brought before the meeting. As was pointed out in the article published in the Journal on May 29th, p. 1313, certain changes in the by-laws of the Association and standing orders of the Representative Meeting have led to corresponding alterations in the form of the agenda paper; all standing committees now report through the Central Council, and not, as formerly in some instances, direct to the meeting, and rules adopted by the meeting last year have altered, and it is believed simplified, the procedure to be followed in the presentation of reports.

It will be seen that the Council presents a supplementary report dealing with matters which have arisen subsequent to the issue of its annual report. This report consists in the main of reports and recommendations from the Central Ethical Committee, the Hospitals Committee, the Medico-Political Committee, the Organization Committee, and the Public Health Committee. Among the matters thus dealt with is a report prepared by the Central Ethical Committee in accordance with the instructions of the last Representative Meeting dealing with the question of the desirability of the recognition of a special class of practitioners under the title of consultants, distinguished by the fact that they confine their practice to the treatment of patients in co-operation with other practitioners. The Committee expresses the opinion that a definition of the scope of the work of the two chief branches of the profession would do much to lessen friction and jealousy, and would enable medical men to unite more cordially for the advancement of the honour and interest of the profession, and it recommends that the report now made should be referred to the Divisions in order that their opinion may be taken with special reference to the two points—whether they are in favour of the recognition of a special class of consultants, and whether the Association should prescribe regulations for the conduct of practice by such a class. This Committee also recommends that the Council be instructed to prepare a report on the position of medical practitioners called upon to examine, on behalf of employers, insurance companies, and persons similarly interested, patients under the care of other practitioners, and that this report should be referred to the Divisions.

The Hospitals Committee make three important recommendations in the report published this week; one is that the Representative Meeting should express the opinion that no fresh public medical institution should be opened without previous consultation with the local medical profession through some organized body, such as the local Divisions of the British Medical Association; the second is that the association of officially-recognized representatives of the local medical profession with the general management of all hospitals and other medical charities is desirable in the interests of those institutions as well as of the profession; and the third is that the Representative Meeting should also express the opinion that contributions to hospitals by employers or employees should not be regarded as a payment of premiums of insurance against the cost of treatment of sickness or accident, nor as entitling the contributor to claim hospital treatment for himself or persons nominated by him, but as charitable contributions to be expended at the discretion of the managers of the hospital.

The Medico-Political Committee also submits several new points, of which probably the most important is the set of model rules for nursing associations. As to the need for such rules there can be no doubt, and the correspondence in these columns recently has afforded evidence of some of the abuses and difficulties which may arise unless the local nursing associations carefully prescribe the duties and obligations of the nurses they employ. The same Committee submits a memorandum of evidence as to the working of the Midwives Act, and expresses the opinion that of the two methods by which local authorities may make provision for the payment of private medical practitioners summoned to render medical help in an emergency to a patient already under the care of a midwife—namely, through the board of guardians or by the local sanitary authority under Section 133 of the Public Health Act, 1875—the latter is preferable. It is pointed out that whereas the general conception of the duty of the Poor Law authorities is that of providing, for humanitarian reasons, relief, including medical relief, for destitute persons, the conception of the Public Health Act is that of prevention and treatment of diseases in the general interests of the community. Of these two conceptions the latter would appear to correspond more closely to the conditions under which medical treatment should be given to women and children in cases attended by midwives.

The Organization Committee reports, as will be seen, that the Council has approved replies to the petitions against the Charter, and has ordered that they shall be presented to the Privy Council. The petition for the Charter, the draft Charter, and the several petitions which have been presented in opposition to the Charter, with the replies of the Association thereto, will be presented to the Annual Representative Meeting; and it will be observed that two important riders (Supplement, p. 39) will be moved, the one on behalf of the Salford Division and the other on behalf of the Cardiff Division. The first proposes certain modifications in the Charter, and the other instructs the Council, should the petition be unsuccessful, to prepare alterations of the articles and by-laws, so as to bring all the regulations into accordance with those approved by the Association in the draft Charter, and to submit them for approval in due course, in accordance with the provisions of the Companies Acts.

The most important point brought forward in the report of the Public Health Committee is the recommendation, endorsed by the Council, that the Representative Meeting should declare that, in the interests

of public health and in view of the multiplicity of duties thrown upon medical officers of health, it is desirable that in all future appointments these officers should be required to devote their whole time to the duties of their office, and should be debarred from private practice; that they should be adequately paid, districts being, if necessary, grouped for the purpose; and that they should be protected in carrying out their duties and secured from capricious dismissal.

The Representative Meeting will be held in the Assembly Hall, Belfast, and will be opened immediately after the conclusion of the formal General Meeting summoned to meet on Friday, July 23rd, at noon.

NEURASTHENIA AND MODERN LIFE.

DR. DIOMEDE CARITO, of Naples, is strongly impressed by the social dangers of neurasthenia at the present day. According to him, as demoniac possession at one time was the leading idea of popular pathology and was followed by religious mania, with its accompaniments of magic and witchcraft, at the present time we are in a phase of mysticism which has its root in nervous excitement. He admits that neurasthenia is not a new thing, but holds that its modern manifestations are different from the older forms of the disease. He thinks we are living in one of the most excitable epochs of history, in which the old order of things for the most part no longer satisfies mankind. The worst of it is that no man can yet definitely formulate the new state in which we are all to be strong in body and happy in mind. On the one hand, the chemists proclaim the near advent of a time when our foodstuffs will be manufactured in the laboratory, and assert that universal peace and the brotherhood of man will naturally be the outcome of this discovery. On the other hand, there are the idealists who declare that what man is suffering from is not a squeamish stomach but a mind diseased.

For some all hope of progress lies in the advance of physical science; to them the laboratory is the holy of holies. But there are many who hold that natural science holds in it no promise of a solution of the Sphinx-riddles with which man has to grapple if he is to enter on his new kingdom. Out of the want of harmony between the ideal and the real, between the spirit and the material world, springs a psychical disorder which is the cause of numberless neurasthenic manifestations of different kinds in school and family, as well as in political, social, and professional life. Doctors have daily opportunities of observing the steady spread of neurasthenia. They see students with pale faces, the victims of intellectual overwork, who complain of slackness and enervation, pain and oppression in the head, sleeplessness, loss of power of concentration on a given subject; they are haunted by fear of the examinations which loom before them like spectres. Sometimes the end is suicide, but much more often merely the wreck of intellectual life. Alongside these terrible forms of neurasthenia we daily see another kind in persons of a different class, the chief symptom of which is weakness of mind with an accompanying instability or want of principle, because they have no purpose in life. They illustrate the saying of Thomas à Kempis: *Vita sine proposito languida et vaga est.* Other neurasthenics are shy to the extent of becoming paralysed before the simplest demands of social life; they grumble about everything; they are liars, and full of spite against their fellows. Others, again, are violent, passionate, impulsive, with little or no power of self-restraint; this is the class by which the *crime passionel* is looked upon as not only justified but as a virtuous deed. The motive of crimes is found not so often in what the old lawyers called "the great ovary of crime, want," as in the somewhat heterogeneous neurotic manifestations at present classed under the category of "neurasthenia." One symptom is common to all: inadequate power of resistance and the total lack of intellectual discipline. Children born of the marriage of neurasthenics grow up with an unstable mental system which is the most favourable soil for the development of neurasthenia in their case likewise.

In professional life neurasthenia shows itself in over-eagerness to succeed by short and often questionable cuts, in alternating paroxysms of exaltation and depression; in oversensitiveness to criticism, which reveals itself in a tendency to rush into controversy about things that do not matter: and in premature breakdown. In business it shows itself in "hustling"; every one is in a hurry either to make money or fame, or both. It reveals itself again in the morbid effusions of modern writers, whose principal themes are adultery, suicide, and neurosis. Many modern plays and novels no longer represent ideal models for the guidance of daily life, but reflect the morbid distortions of the modern mind, and the pessimism that has taken possession of its soul. This is the mark of a weakness of mind which has bereft us of the strength to fight the battle of life, whereas our forefathers, so much poorer in respect of material well-being, led a temperate, contented, and happy life, and achieved great things in every sphere of human activity. Neurasthenia also makes itself felt in the political sphere; the old religious mysticism has now become a social mysticism, and hence arise anarchism and other morbid ideals which threaten the overthrow of society. Dr. Carito holds that the fight against neurasthenia, if it is to be successful, must be conducted by the united efforts of the doctor, the teacher, and the sociologist, and suggests that an international congress should be organized to deal with the disease, which is sapping the foundations of social life.

We do not take quite so serious a view of the prevalence of neurasthenia in modern life. Often it is nothing more than a high-sounding term for "that tired feeling" which advertisers who know their public show to be so prevalent. Modern hygiene and the progress in scientific appliances to make the burden of life easy tend to the survival of the unfit. Dr. Carito invokes the aid of the schoolmaster. But we venture to think that it is the prevalence of the schoolmaster, and of his satellite the examiner, which is, to a large extent, responsible for the prevalence of neurasthenia—the strain of an unsuitable education forced on a large number of children who are intellectually and physically incapable of bearing it. We mistake a barren knowledge of facts for education; and it seems to be the aim of the modern system to make the mind of the child a mere *hortus siccus*, and to regard as weeds to be uprooted plants that might grow into things of beauty. Competition is everywhere the test of merit. What chance would Wellington, Nelson, or Napoleon have at the present day of winning admission to the army or navy? What chance would Canning, who did not know that a frog developed from a tadpole, have of getting his foot on the ladder

which carried him to the highest office in the state? Our system of education is the root of modern neurasthenia, as many have come to recognize even in Germany—that land where education is, if we may say so, rampant, with the result that what Bismarck called an intellectual proletariate has been produced which can find a sphere of action only in revolution. The unwholesome athleticism which occupies so large a part of the life of the younger generation is another cause of neurasthenia, not only by the overstrain of competition, but by the stimulus which it gives to the development of the most ignoble elements in human nature.

It was the "flannelled fools" and "muddied oafs" who cost us so large a sacrifice of blood and money in the South African war. The selfishness and luxury of modern life, the restlessness and the craving for excitement, the frantic speeding about in motors, all help in the production and aggravation of the disease. Ancient Rome was brought to ruin by neurasthenia which sapped the tough old stock and left it an easy prey to barbarians. Social observers have noted in us to-day most of the signs of decay that were visible when Imperial Rome was tottering to its fall.

It is neurasthenia which breeds the almost universal anxiety about health which is one of the signs of the times. This leads to a corresponding prevalence of quackery of every kind. It is the alliance of neurasthenia with religious mysticism that is the true begetter of Christian Science and the other forms of faith healing which are the prevailing superstitions of the day.

The remedies are a different system of education, in which elementary school teaching, while offering every encouragement to superior capacity, shall be adapted to the actual needs of the life that lies before the child; and in which the higher education shall not be cast in one rigid mould, but made suitable to develop the mind in its natural direction. We should like to see examinations radically changed so that they should be real tests of knowledge, not traps for an uncertain memory. The mind should be trained, not crammed with things which cause intellectual indigestion and are happily got rid of as soon as the necessity for remembering details about them is past. No system which has yet been invented prepares the mind for dealing with the problems of life so thoroughly as the intelligent study of the classical tongues and their literature, and mathematics. But an essential part of education of every grade is biology. Here again it is not the dry bones but the spirit that should be inculcated. The only way in which superstition and quackery will ever be destroyed is the production of an intellectual soil in which they cannot grow.

THE UNIVERSITY OF BIRMINGHAM.

The King and Queen visited Birmingham on July 7th to open the new buildings of the University at Bournbrook; their Majesties were accorded a civic welcome, and the King conferred the honour of knighthood upon the Lord Mayor, Alderman G. H. Kenrick, who has taken a very active part in ensuring that the new buildings shall be suitable to their purpose, and worthy of the great University of the Midlands. Their Majesties were received at the University by the Pro-Chancellor, the Principal, Vice-Principal, and the Deans of the Faculties of Science, Arts, Medicine, and Commerce, the Presidents of the guilds of graduates and undergraduates, the Secretary of the University, and other members of the staff. The Principal, Sir Oliver Lodge, read an address from the University, in the course of which it was mentioned that under the charter granted by Queen Victoria the King was the Visitor of the University. The King, in responding, after expressing his regret that the Chancellor, Mr. Joseph Chamberlain, was not able to be present to witness the completion of a scheme which had always been dear to his heart, said: "For the wonderful progress of higher education in "the country we have largely to thank the great "universities established in our principal cities. No "nobler object for munificence can be found than the "provision of the necessary equipment for such educa-"tion—equipment which, in view of the diverse and "elaborate requirements of the modern schools of "instruction, must be costly, but without which these "schemes, however carefully devised, will prove fruit-"less. Such institutions as these are of para-"mount importance in enabling the students "to obtain in their native country instruction "in science and technology, in art and mathe-"matics, which in former days they were com-"pelled to seek in places far distant from their homes "at an expense which in some instances they could ill "afford. The universities also foster wholesome "rivalry and encourage the growth of the highest "form of public spirit. A man educated at this uni-"versity will be a better citizen of Birmingham and "a better subject of the Empire. The faculties of "science, art, medicine, and commerce established in "this university represent four great branches of the "education likely to be of the highest utility to "your student." His Majesty concluded by expressing his appreciation of the value of the labours of the teaching staff, and then, turning to the students, he said: "The honour and dignity of this University are largely "in your hands, and I look to you to initiate and "hand down these worthy traditions to your "successors." The new buildings of the University have been erected on a site given by Lord Calthorpe, on the outskirts of Birmingham, between Edgbaston and Bourneville. The central feature is the Chamberlain tower, 325 ft. high, commemorating the University's first Chancellor; under the tower is the main façade with a gallery of statues over the entrance. There is a spacious marble entrance hall, and beyond this the great central hall of the University, 150 ft. long and 75 ft. broad, lofty and light, with fine stained-glass windows. Evidence of one special feature of the work of the University is afforded by a forge, foundry, and series of furnaces, and experimental plant for the metallurgists' school, and an experimental mine. There are hostels for men and women students, and ample recreation grounds. Three blocks remain to be added when the growth of the University and of its funds warrant these extensions.

THE UNIVERSITY OF BRISTOL.

At the first meeting of the Court of the University of Bristol, which was held in the lecture hall of the University College on July 6th, the Bishop of Hereford, one of the Vice-Chancellors, who presided in the absence, owing to ill-health, of the Chancellor, Mr. H. O. Wills, expressed the gratitude of the Court to all those who had rendered possible the crowning of the work which had been so long in the hearts and minds of the citizens of Bristol. He submitted the names of additional members for election to the council of the university, among them being that of Mr. Richardson Cross, F.R.C.S. It was also resolved that all members of Parliament for boroughs and county divisions of Cornwall, Devonshire, Dorset, Gloucester, Somerset, and Wilts, other than those of the divisions of Bristol, should be members of the court. Professor H. H. Turner, on behalf

of Oxford, and the Bishop of Bristol on behalf of Cambridge, offered the congratulations of those universities on the birth of their youngest sister. It was announced that the university fund now amounted to over £200,000.

THE UNIVERSITY OF TORONTO.

THE Medical Faculty of the University of Toronto has recently undergone extensions, in respect both of staff and buildings, which add materially to the high state of efficiency it had already attained. The Chair of Physiology has been divided, Professor A. B. Macallum having taken that of physiological chemistry, while Dr. Brodie, formerly superintendent of the Brown Institution in the University of London, was appointed to the professorship of physiology, the duties of which he took up early in the last winter session. Professor J. J. Mackenzie remains professor of pathology and bacteriology, and Dr. J. B. Leathes, who has been in charge of the laboratory of pathological chemistry at the Lister Institute, will shortly proceed to Toronto to take up the duties of the chair of pathological chemistry to which he was recently appointed. The site for the new Toronto General Hospital is now being cleared, and building operations will be commenced early next spring. It is proposed, we understand, to establish Professor Leathes's laboratory in connexion with the hospital. The medical buildings of the university are to be enlarged to provide additional accommodation for the department of anatomy over which Professor Playfair McMurrich presides. In other directions also the university is enlarging its borders, for extensive additions to the buildings of the university library are now under way providing space for nearly double the number of books, and affording to each professor a private room as well as seminary rooms for tutorial classes. It has also been resolved to commence at once a large archaeological museum, which will be provincial in character, on a site within the university grounds and under its control. It would seem that in making these extensions the University of Toronto is not forcing the pace, but is only responding to a natural demand, for during the last academic year it had more than 3,000 undergraduates, of whom over 700 belonged to the medical faculty. The medical curriculum now extends over five years.

McGILL UNIVERSITY, MONTREAL.

SOON after the destruction by fire in 1907 of the buildings of the medical school of McGill University, Montreal, the Chancellor, Lord Strathcona and Mount Royal, presented to the university a beautiful site for the new buildings on the slopes of Mount Royal, near the Royal Victoria Hospital. The fire occurred in April, 1907; plans for the new buildings were got out in April, 1908, and one wing, containing the library and administrative offices, is nearing completion. Lord Strathcona has now presented a sum of $500,000 (£100,000) to enable the university to complete the plans, which include a museum for the reception of the collection which it has acquired since the fire, mainly through the generosity of public institutions and private donors. The greater part of Lord Strathcona's gift will be devoted to the completion of the building, which it is estimated will absorb $450,000, while the remaining $50,000 will be reserved as a donation to the fund for augmenting salaries throughout the university.

THE MURDERS AT THE IMPERIAL INSTITUTE.

WHILE joining with the whole nation in its expression of horror at the dastardly murder of Sir Curzon Wyllie at the Imperial Institute, the medical profession will, we are sure, share our feelings of special sorrow for the death of Dr. Cawas Lalcaca, who was killed in trying to save him. Dr. Lalcaca was a Parsee, who began the study of medicine at the Grant Medical College, Bombay. Afterwards, he came to London, where he entered at University College, and in 1884 obtained the licence of the Royal College of Physicians. In the following year he took the degree of M.D. at Brussels. After holding a hospital appointment at Bombay, he settled at Shanghai, where he acquired a large practice. He was Surgeon-Major and Principal Medical Officer of the Volunteers of the British Settlement, and was held in high esteem by many English friends. Several of those who knew him have written to the *Times* in most sympathetic terms of his untimely death. He was only 46. The Rev. James Ward, a missionary at Shanghai, who had known Dr. Lalcaca for about twenty years, says that all classes of the community at Shanghai, Chinese and foreign, will mourn his loss. Mr. Thomas J. Pulvertaft, of Church House, Dean's Yard, Westminster, states that when travelling on the Continent recently he had spent many hours in close conversation with Dr. Lalcaca: they discussed many questions with moral aspects, and Mr. Pulvertaft says he has never met any man who, although a non-Christian, had so deep a sense of the duty of helping others. He had the *anima naturaliter Christiana*, and on a rather trying railway journey this Parsee gentleman taught his companions many lessons by his sympathetic kindliness and self-forgetfulness in his efforts to make others comfortable. Mr. George Cave, K.C., M.P., also testifies from his own experience to the high character and attainments of Dr. Lalcaca. He says that his keen interest in life, store of information, and kindly and generous nature impressed all who met him. It is but a few days since, in a conversation with Mr. Cave, he spoke with regret of the unrest in India, and laid stress upon the loyalty of the Parsee community to the British race. Mr. Cave has no doubt that in his characteristic eagerness to save Sir Curzon Wyllie, who had been his friend, he made little of his own danger and so met his death. Sir Henry Morris says that the chivalrous action of Dr. Cawas Lalcaca and his dastardly murder appeal to him in a very vivid and realistic manner, for he was at a consultation in his house on the morning of his death, and was to have met him by appointment on the following Saturday morning. Sir Henry Morris says he can confirm all that has been said of the sympathetic kindliness and self-forgetfulness of Dr. Cawas Lalcaca's character. In addition to his evident efficiency as a medical man, says the President of the Royal College of Surgeons of England, Dr. Lalcaca had much in his favour to commend him to others. Of fine physique and very handsome features, he was a man of most charming manners and of very attractive address, and he seemed full of living energy and of physical and moral courage. Dr. Lalcaca leaves behind him many friends in this country, in Bombay, and in China; but fortunately no wife or child has suffered bereavement by his untimely death. It may, concludes Sir Henry Morris, be some sort of satisfaction, though a poor one, to the Parsee community and to Dr. Lalcaca's friends to know that their loss is deplored and their grief is shared by every British member of the medical profession, of which Dr. Lalcaca was distinctly an ornament. To this fine tribute there is nothing to be added.

THE ETIOLOGY OF MALARIA.

WE have received from the Secretary of State for the Colonies a copy of a dispatch from the Governor of the Seychelles Islands covering a number of com-

munications to him from Dr. J. D. Addison, the Chief Medical Officer, and Dr. M. S. Power, a medical officer and magistrate for outlying islands. They relate to an outbreak of malarial fever in Picard, a small island belonging to the Aldabra group of the Seychelles. The outbreak began eleven days after the arrival of some labourers from a malaria-infected island near Madagascar, and lasted for some six months. From the beginning of the outbreak there was progressive diminution in the severity of cases, but its disappearance, which was quite sudden and permanent, occurred when some of the more serious cases had been removed to headquarters for treatment, and when the remaining persons had been dosed with quinine. The diagnosis was established by microscopic examination of the blood, and the cases were mostly of the benign tertian type, with a few isolated cases of quotidian. The outbreak and its etiology are discussed by the medical officers mentioned, who draw attention to various points of interest. The Seychelles Islands have hitherto been regarded as entirely free from malaria, for though cases of malaria sometimes come under observation, they are always in persons who have reached the islands in an infected condition. In the present instance it is clear that the infection arrived from without, but the propagation of the disease and its duration in epidemic form for a period of six months is difficult to explain, since the *Anopheles* is not a habitant of the islands. In connexion with this outbreak a careful search, prolonged throughout the rainy season, was made in all likely places, but neither the adult *Anopheles* nor its larvae were discovered, though *Culex* and *Stegomyia* were common. Hitherto the *Anopheles* has been regarded as the sole mosquito capable of acting as an intermediate host to the malarial parasite; but either this is a mistake or this epidemic must have been due to asexually reproduced parasites transmitted direct from man to man by some biting insect carrying on its proboscis infected blood. The immediate and final cessation of the disease on the free administration of quinine would seem to lend colour to the latter suggestion, but if such method of transmission be possible, it is curious that the many previously imported cases of malaria have given rise to no similar outbreak. In the circumstances it would seem desirable that the search for *Anopheles* should be renewed, and that the basis of an observation in one of the Governor's notes to the effect that an official of the Aldabra group has informed him that a fever "closely allied to malaria" has "always" existed in Aldabra should be investigated.

CHRONIC TYPHOID CARRIERS IN THE ARMY.

THE Director-General of the Army Medical Service, in a recent memorandum on the transmission of typhoid fever by the "chronic carrier," remarks that in India, in spite of the provision of a pure water supply, enteric fever has remained endemic in many stations. A committee appointed by the Government of India to investigate the channels by which this disease is transmitted, reported in 1907 that "a proportion of those "who have suffered from enteric fever, either in a "form recognized as such, or so slightly as to escape "recognition, and of those who have been in close "contact with them, harbour and excrete typhoid "bacilli for considerable periods, while showing no "symptoms of illness." The Committee therefore recommended the isolation of convalescents in special stations, away from other troops, where facilities should be provided for the daily bacteriological examination of their excreta, in order to determine when the individuals in question were free from infection. As a result of this recommendation, Naini Tal depôt was reserved for enteric fever convalescents, and during 1908 several chronic carriers were detected, and subsequently invalided to England. The army authorities have not been satisfied with the results of ordinary medicinal treatment for such cases. Salol and other intestinal antiseptics, and also urotropine, have been tried, but the bacilli have not been found to disappear completely. Consequently, the Army Medical Advisory Board appointed a subcommittee to investigate appropriate methods of treatment. This committee came to the conclusion that the "chronic carriers" might be arranged in four groups—namely: (1) purely intestinal cases, with bacilli excreted only in the faeces; (2) urinary cases, with bacilli excreted only in the urine; (3) intestinal cases with symptoms of inflammation of the gall bladder, where bacilli were excreted in the faeces, but obviously had a focus in the gall bladder; (4) mixed intestinal and urinary cases, where the bacilli were excreted in both urine and faeces. The attempt has been made to treat two army patients which were discovered to belong to class (1) by the administration by the mouth of Metchnikoff's Bulgarian lactic acid bacillus. In one instance treatment was commenced on March 8th, 1909, when the patient was found to be excreting 3,200,000 typhoid bacilli in each gram of faeces. No satisfactory results were obtained for some time, and on April 2nd the patient was found to be excreting 28 million typhoid bacilli per gram of faeces. But by the end of April the typhoid bacilli had disappeared completely, and no sign of them has been discovered subsequently, the last recorded date of examination being in the middle of May. The Director-General hopes that this patient is cured, but remarks that he must be kept under observation for some weeks after the treatment has been stopped before a definite opinion can be expressed. In the second case, conducted on exactly the same lines as the first, no cure has resulted. At the commencement of treatment, on March 3rd, the patient was excreting 190 million typhoid bacilli per gram of faeces, and at the date of the last examination recorded, May 14th, he was still excreting 86 million per gram. As it was not considered at all likely that cases belonging to groups (2), (3), and (4) would be amenable to treatment by the lactic acid bacilli, the attempt has been made to cure these by the subcutaneous injection of antityphoid vaccine prepared in the Royal Army Medical College. The Director-General states that the results so far available "lead us to hope that if "the protecting substances could be produced in "greater amount a permanent cure would result. The "elaboration of protecting substances appears to be "related to the virulence of the particular race of the "typhoid bacillus which has invaded the human body. "The opsonins produced by the injection of a comparatively non-virulent strain do not seem to have "much power of rendering a virulent strain of the "same organism vulnerable to the attacks of the "white corpuscles of the blood. Consequently it has been determined to discontinue the general vaccine "employed hitherto, and to inject each patient with a "vaccine prepared from the particular strain of the "typhoid bacillus which has infected him."

THE OWL MIDGE AND MEDITERRANEAN THREE-DAY FEVER.

THERE prevails every summer in Malta and Crete a well-defined febricula, which attacks 20 per cent. or more of British residents. In England it would be designated "influenza," since it is marked by pyrexia lasting one to five days, severe pains in the head, back, and limbs, and sometimes by gastric and intestinal derangements. Hitherto this disorder has

been overshadowed so completely by the more serious epidemics caused by the *Micrococcus melitensis* that it has not received the study it has merited. Now, however, that Malta fever has been banished, the residuum of pyrexias of uncertain origin has become manifest and has called for analysis. Colonel J. G. MacNeece, P.M.O., Malta and Crete, therefore appointed a committee of officers of the Royal Army Medical Corps to investigate every febrile case occurring among the troops stationed in Malta and Crete. This committee has ascertained that nearly all these ailments are due to a virus conveyed by the owl midge—*Phlebotomus papatasii* (incorrectly known as a "sand fly"), which is a scourge in many parts of these islands during the hot weather when the fever is prevalent. Lieutenant H. G. Gibson, R.A.M.C., offered himself for experiment, and submitted to the bites of specimens of these insects which eight days previously had fed on a patient during the first day of his illness. A week later Lieutenant Gibson was seized with vomiting, severe pains in his head, back, and limbs, and pyrexia, which continued for three days. The ephemeral fevers of Malta and Crete resemble clinically those of Bosnia and Herzegovina, which Doerr proved to be caused by an invisible virus conveyed by the *Phlebotomus papatasii*. Reference to them was made in the BRITISH MEDICAL JOURNAL, vol. ii, 1908, p. 1706.

CINEMATOGRAPH DISPLAYS.

THE duties of the Central Board of Health in Western Australia would appear to include the regulation of some matters which would here come under the supervision of the Home Office or the police, for in its latest *Bulletin* we find a set of regulations designed to lessen the risk of fires during cinematograph displays. They seem well suited for their purpose and are certainly desirable, since the risk is real, though easily avoided. Its existence has until recently been the only serious charge brought against this ingenious application of science to the purposes of entertainment, but lately a French medical man has condemned cinematograph displays as detrimental to the vision. In a paper read before the Medico-Chirurgical Society of Bordeaux, he recorded cases of ocular trouble which had arisen from this cause. As a rule they consisted merely of a transient watering of the eyes and some photophobia, but in other patients these symptoms were persistent and were accompanied by inability to use the eyes for fine work for a varying number of days. Most people probably suffer from a little eye fatigue after witnessing a cinematograph display, but the cases in which persistent trouble follows seem insufficiently numerous for their occurrence to form a very grave charge against the cinematograph. The appearance of actual movement in the figures shown is brought about by the rapid superimposition on the retina of one picture after another, the changes of view being so rapid that before the impression created by one picture has time to pass away another takes its place, the rate at which the pictures succeed one another being commonly fourteen a second. So far as photophobia and watering of the eyes are concerned, the active factors are probably the light thrown through the picture and its oscillations. Occasionally the light is too bright to be looked at with comfort for long, but much more often any inconvenience is due rather to its flickering or rapid alteration in intensity, brought about by the rapid interruption of light by the passage of the obturator between the pictures. It is a mechanical defect, but not nearly so common as it used to be, and, according to Proszynski, can be entirely overcome by multiplying the number of obturations to such an extent that the light given forth, though somewhat diminished in intensity, is practically constant in quantity. The effect on the eyes of the quivering of the light diminishes with the distance from the curtain, and similar relief is brought about by looking at the pictures through the fingers in such fashion that no light except that from the portion of the picture actually under observation reaches the eyes.

WOMEN AND PUBLIC HEALTH WORK.

ONE of the most interesting and hopeful features of the present day is the part that is being taken by women in matters concerning public health, and a pioneer in this forward movement has been Her Excellency the Countess of Aberdeen, who, with His Excellency the Lord Lieutenant of Ireland (the Earl of Aberdeen), is to honour the medical profession by being present at the annual meeting of the British Medical Association in Belfast in the last week of the present month. As is well known, the Countess of Aberdeen was elected President of the International Council of Women from 1893 to 1899, and from 1904 to 1909, and in June of this year at the Quinquennial Sessions of the International Council of Women in Toronto she was again re-appointed President for another five years. At her request the affiliated National Councils of Women have prepared reports upon matters dealing with public health in their respective countries during the past five years. Lady Aberdeen set the lines upon which these reports should be drawn up, desiring special reference to (1) Care of infants and children; (2) the conditions under which women carry out industrial work; (3) housing of the people; and (4) measures in force against tuberculosis. She has, as President of a great international organization, kept constantly before the National Councils of Women the claims of work for public health, and above all she has, by her own noble example in Ireland, afforded the strongest of all stimuli in influencing women in every nation to give abundantly of their time, their talents, and of their womanly instincts, on behalf of the great cause of public health. These reports have been admirably edited, condensed when necessary, and translated, by Dr. Maria M. Ogilvie Gordon, the Honorary Corresponding Secretary of the International Council of Women, and as a result a most interesting pamphlet on *The Health of the Nations*, compiled from special reports of the National Councils of Women, has just been issued.[1] Mrs. Gordon contributes the first paper dealing with the formation and growth of the International Council of Women, of which the first president was Mrs. Fawcett; then follows the address given by Her Excellency the Countess of Abereen at Geneva in September, 1908, on public health; and, lastly, the reports on public health sent by the affiliated National Councils of Women from eighteen different countries full of very interesting details. The *Agenda for the Quinquennial Sessions of the International Council of Women to be held at Toronto, Canada, June, 1909*, issued as a pamphlet from the same press, gives the subjects for discussion at the conference, which, judging from the Canadian papers to hand, must have been a great success. Two most important resolutions were carried at this meeting: (1) "That the National Councils should, during the "quinquennial period, 1909–14, devote a large share of "their attention to questions concerning children, and "should hold special discussions on such questions at "the next Quinquennial Council of Women." (2) "That "a standing committee on public health be formed by "the International Council, and that National Councils "who have not already a Health Section be recom-"mended to adopt a similar course." These resolutions

[1] Aberdeen: Printed at the Rosemount Press. 1909. Price 1s.

were moved by Her Excellency the President on behalf of the Executive. The perusal of the books to which we have referred will convince any one that women are now taking an extremely important share in the work on behalf of public health in all countries, and that the International Council of Women has been admirably led in this new campaign by its gifted and able president.

THE DIRECTOR-GENERAL, I.M.S.

COLONEL C. P. LUKIS, whose appointment to succeed Surgeon-General Sir Gerald Bomford as Director-General of the Indian Medical Service we have recently recorded, was entertained at the United Service Club, Calcutta, on the eve of his resignation of his appointment as Principal of Calcutta Medical College. His hosts were other officers of the Indian Medical Service, who, in spite of short notice, were able to attend to the number of twenty-nine; the chairman and vice-chairman were Colonel G. A. Harris and Major Bird respectively. The toast of the evening was proposed by Lieutenant-Colonel Drury, who said that the pleasant task had been allotted to him because of all those present that night he was the one longest associated with the institution which Colonel Lukis was about to leave after four years of strenuous and successful work. They wished now to congratulate him on the honour which had been conferred upon him by his appointment to the office of Director-General. There were difficulties ahead which would require most careful handling, but they all had confidence in Colonel Lukis as a helmsman, and felt sure that under his guidance the barque, I.M.S., would weather all dangers, and come safely to port. In returning thanks, Colonel Lukis said that he regarded his fresh appointment with mingled feelings. In the first place, it marked the end of his career as a doctor; and, being one of those unfortunate individuals who did not play games, the whole of his life had hitherto been constituted by professional work. It was a pang to give it up at an age when his contemporaries at home were beginning really to make their reputations. Secondly, he had spent four of the happiest years of his service at the Medical College, and had to thank his colleagues there for the consideration and assistance they had always rendered him in the elaboration and development of the various schemes initiated by his predecessors. Thirdly, he knew that he was about to embark upon the biggest enterprise that he had ever yet undertaken. He hoped, however, to justify the confidence reposed in him by the Government and by his colleagues, and that he would not be found wanting should the difficulties arise to which Colonel Drury had alluded. He would always have at heart the best interests of the grand old service to which they were all proud to belong.

MEDICAL AUTOMOBILISTS AND THE BUDGET.

A DEPUTATION representing the British Medical Association and the Medical Committee of the Motor Union was introduced to the Chancellor of the Exchequer on July 1st by Dr. Cooper, Liberal member for Bermondsey, and Mr. Joynson Hicks, Unionist member for North-west Manchester. The deputation, the purpose of which was to ask Mr. Lloyd George to extend to members of the medical profession the rebate amounting to one-half the duty on petrol which had been promised to persons using motor cars for commercial purposes, consisted of Dr. Bruce Porter (London), Dr. C. E. S. Flemming (Bradford-on-Avon), Dr. E. M. Griffiths (Cwm Carn, Monmouthshire), and Dr. J. Smith Whitaker (Medical Secretary), representing the British Medical Association, with Mr. C. B. Lockwood and Dr. Percival White (London), Dr. J. Orr (Edinburgh), Dr. J. L. Lock (Uxbridge), and others representing the Medical Committee of the Motor Union. Dr. Cooper, in introducing the deputation, said that the members attended not so much in their own interests as in that of those members of the profession who, while they could not afford the possession of luxurious cars, yet found the motor car a necessity for their practice. The views of the deputation were expressed by Dr. Bruce Porter on behalf of the British Medical Association, and by Mr. C. B. Lockwood on behalf of the Motor Union. Mr. Lloyd George in the course of a sympathetic reply said that he recognized that medical men ought to have at their command the most expeditious methods to enable them to bring relief to the suffering, and he had no desire to do anything to stand in the way of their using motor cars. From his knowledge of country life he was aware that it was not always the man who had the largest number of patients who made the largest income. A doctor did not refuse to attend people who already owed him a heavy bill; he might growl, but he went. The lawyer was more apt to say under similar circumstances, "You are in my debt, and I "cannot touch your case until you have paid me." Medical men could never take up that attitude, and for that reason they ought in matters of taxation to be treated generously whenever possible. He was happy to be able to say, after consultation with the Treasury, that he found himself in a position to promise to give what was asked—that is to say, to extend to medical men the same rebate as was to be allowed to the owners of cars used for commercial purposes.

TRAUMATIC APPENDICITIS.

As under the Workmen's Compensation Act the connexion between any injury and a given disease may at any moment be submitted for decision to a court of law, it is important to record all observations which bear upon these relations, especially in those conditions which we have not been in the habit of regarding as depending upon traumatic causes. A case of traumatic appendicitis was described by Dr. H. Wohlgemuth at the meeting of the Berlin Medical Society on April 5th last. The patient, a man, was carrying on his shoulder a metal pillar, which was struck by another falling mass, so as to drive its end against the right side of the abdomen. The immediate results were great muscular laceration, contusion of the bones of the shoulder and ribs, and a right inguinal hernia; but later on digestive troubles supervened, and at the end of three months Dr. Wohlgemuth found sensitiveness to pressure over the appendix and the presence of an indurated band running from the ileo-caecal region to the brim of the pelvis. At the operation the colon and the appendix were deeply injected, the latter was swollen throughout its length, hypertrophied at the distal end, and adherent to the brim of the pelvis; there was also another adhesion to an intestinal loop. After separating the adhesions he amputated the appendix, and then found that its lumen was much diminished at the point of adhesion to the intestine. Moreover, the blind end was full of pus rich in streptococci and staphylococci. In Dr. Wohlgemuth's opinion the injury set up a localized peritonitis; this in turn caused the formation of adhesions which led to kinking of the appendix with coprostasis, the well-known source of most cases of appendicitis. We may mention in this place the negative results of the very extensive series of experi-

ments undertaken by Dr. C. Gibelli[1] to determine whether it is possible to cause ulcer of the stomach by injury to the outside of the abdomen. He found that even when the injury was accompanied by the injection of micro-organisms of different kinds nothing comparable to the gastric ulcer of human pathology ensued. Although the conditions produced experimentally differ in many respects from those which occur in man, yet the results tend to show that gastric ulcer is not one of the conditions likely to follow an external injury.

THE ANNUAL MEETING.

WE are asked to state that the local executive requests members attending the annual meeting in Belfast to wear academic dress or uniform at the President's address on Tuesday evening, July 27th, at the Lord Mayor's reception on Thursday evening, and at the reception given by the President and members of the Ulster Branch on Friday evening. The President of the Ulster Medical Society and Mrs. Kirk invite all the competitors for the Belfast Cup on Friday, July 30th, to lunch at the club house of the Royal County Down Golf Club, Newcastle, on that day. Members who intend to compete are reminded that they should send their names beforehand to the Honorary Local Secretaries, Queen's College, Belfast. The Committee charged with the duty of organizing the Pathological Museum, which will be open during the meeting, have arranged with Messrs. Baird and Tatlock to collect and pack specimens sent from London, and members proposing to send exhibits to the Museum are requested to communicate with Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, London, E.C. The Committee hopes to arrange for a demonstration in the Museum each morning at 9.30. The list of lodgings and hotels in Belfast is again published in the advertisement pages this week, and we may again advise readers to fill up the form and return it to the address given. The return of the form will ensure the receipt of the railway voucher or vouchers entitling members to the special concessions granted by the railway companies, which, as we have already pointed out, are unusually valuable, inasmuch as return tickets, issued at a single fare and a quarter, will be available from July 22nd to the end of August.

THE KING has been pleased to appoint Sir Alan Reeve Manby, M.V.O., M.D., to be Physician Extraordinary to His Majesty.

DR. W. B. COLEY, Surgeon to the General Memorial Hospital, New York, will give an address on the treatment of sarcoma by bacterial toxins at a special meeting of the Surgical Section of the Royal Society of Medicine, 20, Hanover Square, W., on Tuesday next, July 13th.

THE King, accompanied by the Queen, visited Manchester on July 6th and formally opened the new Royal Infirmary, which has been in use for some time past. The King conferred the honour of knighthood upon the chairman, a suitable recognition of the sterling work done for the infirmary and for the Medical Faculty of the Victoria University of Manchester by Sir William Cobbett. A description of the University was published in the BRITISH MEDICAL JOURNAL, 1908, vol. ii. p. 1293.

[1] *Arch. internat. de chir.*, 1908, iv, 2.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Post-Office Servants and Revaccination.—Last week Sir John Batty Tuke asked the Postmaster-General, with reference to his recently-issued regulation permitting future candidates for Post Office employment to be exempt from revaccination on making a statutory declaration, if he was aware that evidence was given before the Royal Commission on Vaccination that many Post Office employees became subject to the risk of infection from small-pox in a degree exceeding that of the general population, and that the Commission's report emphasized the fact that amongst Post Office employees there had not been a single death from small-pox between 1870 and 1880, which period included the small-pox epidemic in London of 1870–72, and only 10 slight cases of the disease; had he, before taking this step, availed himself of the opinions of his medical officers throughout the country; if so, did the new regulation accord with the opinion of his medical officers; was he aware that in other branches of the Government service, such as the army and navy, revaccination was rigorously insisted upon; what was his reason for permitting Post Office servants to be exempt from similar regulations, seeing their acknowledged greater risk of infection; and did he intend to continue to insist upon primary vaccination in all candidates for employment in the Post Office in the future? Mr. Buxton replied that he was acquainted with the evidence given before the Royal Commission on Vaccination and with the references to the Post Office in their report. The House had laid down that a conscientious objection to vaccination was to be recognized as absolving the objector from penalties because of non-vaccination; and he had, therefore, in common with the Local Government Board and the Board of Education, felt it incumbent on him to relax the rules in regard to re-vaccination in accordance with the spirit of the general law on the subject. Primary vaccination was insisted upon by the Civil Service Commissioners in respect of all candidates for established appointments throughout the Civil Service. There would be considerable practical inconvenience in applying a different rule in the case of unestablished appointments.

The Truck Act and Medical Attendance.—Mr. Keir Hardie asked the Secretary of State for the Home Department whether he was aware that the New Cannock Collieries Company, Limited, Ayrshire, Scotland, had intimated by notice to their workpeople that the deductions from their wages for medical service would be paid over to a certain practitioner, who was a relative of the managing director; that a memorial signed by 300 workpeople objecting to this and directing the medical deductions to be handed over to the two medical men hitherto acting for the workpeople had been sent to the firm, who had ignored the request; that pressure was being brought to bear upon the workmen, and threats of dismissal used, to compel them to agree to recognize the medical nominee of the company and to desert the doctors of their own choice; and whether he proposed taking action to enforce those provisions of the Truck Act which were thus being violated. Mr. Gladstone replied that he had received a report with regard to this matter, from which it appeared that the facts were, generally, as stated in the first two paragraphs of the question. The company took over the mine in question last March, and an agreement was entered into at the time between them and the men employed at the mine in pursuance of Section 23 of the Truck Act, 1831, for deductions to be made in respect of the provision of medical attendance by the company. The company contended that the memorial referred to in the question protesting against the new arrangement, and requesting that the deductions be paid to the same doctors as before, had not terminated the agreement; and if this was so, no infringement of the Truck Act was being committed. The company stated, however, that they were not making deductions from the wages of those who had personally signified to them their objection to the deductions, but they declined to collect deductions for the

former doctors. The matter appeared to be one for settlement between the company and the men. Mr. Keir Hardie then asked whether the Home Secretary was aware that the men did not object to the deduction being made, but they did object to giving it to a man whom they did not want to pay for. Was not that an infringement of the principle of the Truck Act? Mr. Gladstone said the point was not a new one. It had arisen in many parts of the country. It was a matter of difficulty; and it did not seem clear that there had been any infringement of the Act.

Experiments on Living Animals.—Mr. Smeaton asked the Home Secretary whether his attention had been called to a statement made by the inspector of experiments on living animals in the return for 1908 to the effect that one licensee performed (so-called) feeding experiments on seven puppies, one kitten, and two rodents without obtaining the necessary certificate, and that another licensee had exceeded the terms of his certificate by bleeding certain animals to an excessive amount; how many experiments of the kind referred to had been made; of what nature were they; and what were the names of the persons who performed them? Mr. Gladstone answered that in the first of the cases referred to the number of experiments was ten, and their nature was the feeding of animals with food containing cultures of micro-organisms. The licensee had a certificate which allowed inoculations, but he failed to observe that its terms did not cover the alternative method of feeding. The nature of the experiments in the second case was fully stated in the return; the licensee held a certificate authorizing the abstraction of small quantities of blood; this was done by pricking a vein in the ear, and he bled some of the animals to a considerable amount. The number of cases was about a dozen, but there was difficulty in drawing the line between the small quantities mentioned in the certificate and the larger quantities which were in some cases abstracted. In answer to further questions, Mr. Gladstone said that there was no reason to suppose that there was any unnecessary cruelty involved in these experiments. He did not see any particular reason for giving the names of the licensees. Mr. Greenwood, on a later day, asked for particulars of the experiments referred to as irregularities in the return for 1908 and whether an inspector was present, or whether the returns of the licensees formed the basis of his reports. Mr. Gladstone replied that the experiments in question were entered in the table under the heading that would have covered them if the proper certificates had been obtained by the licensee. The inspector was not present when the irregularities occurred, but he subsequently saw some of the animals. The irregularities were discovered from examination of the reports made by the licensees.

Eyesight Tests for the Mercantile Marine.—The House of Lords has had very little work to do this session, as the Commons have not sent up many bills for consideration, and the Budget promises to block the way as regards other bills for some weeks to come. Last week, however, Lord Muskerry raised an interesting discussion on the colour-vision tests employed by the Board of Trade in granting certificates for masters and mates. He quoted cases in which candidates had passed the colour test, but had afterwards been rejected on application for a higher grade, and cases in which other experts had certified the candidates as not colour-blind. He asked for a Select Committee to consider the matter. Lord Hamilton of Dalzell, replying for the Board of Trade, defended the methods for testing adopted by the Board. The two candidates specially referred to were subjected to a special examination last May by Sir William Abney and two other examiners and in the presence of four other scientists, all of whom agreed with the decision of the examiners. The number of candidates examined in colour vision during the last four years was 25,151; the number who failed was 239, and of that number 64 appealed, with the result that 27 passed and 37 were rejected. The Board of Trade considered that the tests, as at present carried out, were efficient, and that no case had been made out for the appointment of a Select Committee. Since the tests were established the Board had been in constant communication with Sir William Abney, who was recognized as the greatest living authority on the subject. When he saw this notice on the paper he communicated with Lord Rayleigh, who had authorized him to say that he did not think the Board of Trade could be wrong in following the advice of Sir William Abney. The whole of the scientific evidence on this matter was on the side of the Board of Trade in the course they had adopted. Lord Salisbury said he might claim to be heard on this matter, as he was colour-blind himself—not completely, it might be, but sufficiently to be rejected under the tests described. He was convinced—and this might afford some explanation of the apparent inconsistencies to which his noble friend had called attention in the treatment experienced by the two gentlemen to whom he had referred—that colour-blindness was capricious; on some days he was very much more colour-blind than on other days. But from the point of view of the Board of Trade and of the mercantile marine such caprice must be very dangerous, and, basing himself on his own experience, he could not quarrel that the Board of Trade had applied these stringent tests. The motion for a Select Committee was then withdrawn.

Sanitary Officers and Meat Inspection.—Sir William Collins asked the President of the Local Government Board on Monday whether the Joint Board set up to grant certificates under the Public Health (London) Act for sanitary inspectors and inspectors of nuisances was about to institute examinations for meat inspectors, and whether the institution of such examinations fell within the powers conferred by memorandum on the Joint Board. Mr. John Burns said that he was informed that the Joint Board were about to institute examinations for sanitary inspectors specially to qualify them to discharge the duties of meat inspectors. He understood that these examinations were of the nature of examinations for honours, and that the Joint Board considered that the institution of them fell within the powers conferred by the Memorandum of Association under which they were constituted.

Water Supply, Vatersay.—Mr. Cochrane asked the Lord Advocate last week whether his attention had been drawn to the reports of the medical officer of health and the county sanitary inspector for Inverness-shire condemning the water supply of Vatersay as being insufficient for sixty crofter families and liable to serious contamination; and what steps the Congested Districts Board intended to take to give to their proposed new settlers an adequate water supply free from any risks to health. Mr. Ure said that he was aware of the report in question. The Congested Districts Board had also obtained reports from their expert advisers, and had sanctioned an expenditure of about £400 on the works which were recommended with a view to improving and safeguarding the water supply of the island.

Malaria in Bombay.—Last week Mr. Ramsay Macdonald asked the Under Secretary for India whether Captain McKendrick, who had been the expert adviser to a committee inquiring into malaria in Bombay, had been withdrawn and sent back to Coonoor; whether he would state why this had been done; whether any one had been appointed to carry on Captain McKendrick's work in Bombay, and if so, what were the special qualifications of the new officer; and what was his knowledge of Bombay itself? Mr. Hobhouse said that the Secretary of State understood that Captain McKendrick had been recalled to Coonoor in order to take charge of the Pasteur Institute there, of which he is assistant director. The director had been obliged to take leave. It was not known who had been appointed by the Bombay Government to continue the inquiry on which Captain McKendrick was engaged. In answer to a further question on Thursday in last week, the Under Secretary said that the Government of Bombay had appointed Dr. Charles Albert Bentley to the post vacated by Captain McKendrick. Dr. Bentley held the degree of M.B.Edin., and the Cambridge diplomas of public health and of tropical medicine. He had had experience in malarial diseases as medical officer on the estates of an important tea company, and had been engaged in research work of a bacteriological kind, the results of which have been published in the BRITISH MEDICAL JOURNAL.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

QUEEN'S UNIVERSITY, BELFAST.

MUCH interest and anxiety are at present felt in all educational circles—arts, science, and medicine—as to the ultimate issue with regard to many difficulties in the launching of the new university. It is much to be feared that the medical school may suffer, and suffer seriously, as an indirect result of conflicts of opinion on certain points. The Presbyterians are a very strong and influential body in Ulster; they own in Derry Magee College, which is largely endowed by private philanthropy. As this college was sectarian there was apparently some difficulty in affiliating it with the non-sectarian Queen's University. Few outsiders dreamt there was any real difficulty, and supposed that Magee College authorities were standing out for better terms, when one morning the public press told a somewhat bewildered people that Magee College had become affiliated with Trinity College, Dublin. It was even rumoured that the whole Presbyterian College in Belfast would take flight to the Maiden City. Everybody at once said that a serious blow had been struck at the Arts and Science Faculties of the Queen's University. It had been thought that all Presbyterian ministers would continue to take an arts course and an arts degree in Belfast, but it now seemed clear that they would take certain classes in Derry and would be closely connected with Dublin; the fear as regards the medical school is due to this circumstance; for if every Presbyterian minister in Ulster were to have the heartstrings of his undergraduate days tied to Dublin, it was thought probable that he would advise the parents who consulted him to send their sons and daughters for collegiate training and a degree to Dublin also. As it is, Edinburgh and Glasgow draw a number of medical students from the North of Ireland, and if the remnant have their faces turned Dublinwards, the experience of the disestablishment of the old Queen's University, when the roll of some 300 attending hospital dwindled to 150, may be repeated. The teachers would suffer most, but one feels it a pity to see a flourishing medical school dismembered. In the meantime, rumour says that the Commission is seriously exercised about a Chair of Scholastic Philosophy. To the ordinary medical man this would savour of Nero's occupation when Rome was burning, or perhaps remind him of the more homely stable door proverb.

TUBERCULOSIS PREVENTION (IRELAND) ACT.

The Local Government Board in Ireland has issued a memorandum explaining the objects of the Tuberculosis Prevention (Ireland) Act, 1908, and has issued two orders for carrying into effect the provisions of Section 1 of the Act in urban and rural districts to which Part I of the Act extends. Part I of the Act, which relates to notification and disinfection, is adoptive, and may be put in force by any sanitary authority on complying with the prescribed procedure, which is that the authority shall first obtain the approval of the council of the county, and shall then publish a notice of its intention to carry out the provisions of Part I of the Act. As soon as Part I has become operative it would be the duty of every medical practitioner attending within the district a "prescribed" case of tuberculosis to furnish particulars on an official form to the medical officer of health. In prescribing the cases of tuberculosis which must be notified, the Local Government Board in Ireland, aided by the advice of the Presidents of the Royal Colleges of Physicians and Surgeons, as provided for in the Act, has limited notification to those cases in which it is deemed imperative that precautions should be taken —namely, to tuberculosis of the lung in the case of sufferers so circumstanced that they are likely to prove a means of distributing the disease unless precautionary measures are adopted. The provision is to apply only to a person suffering from tuberculosis who habitually sleeps or works in the same room as any other person or persons not so suffering, or is employed or engaged in handling, preparing, and distributing milk, meat, or any other article of human food intended for sale to the public. In making the notifications, the medical attendant may, if he so desires, undertake the full responsibility of seeing that precautionary measures are carried out, and may request the medical officer of health not to intervene or direct an inspection by the officers of the sanitary authority. The fee for such notification is 1s. in the case of a patient in an infirmary, public hospital, or workhouse, and 2s. 6d. if the case occurs elsewhere. The orders are to come into force on July 1st, so that everything is in order for the adoption of the Act in any sanitary district in Ireland.

DOUBLE TENANCIES IN BELFAST.

This question came before the monthly meeting of the City Council on July 1st. The minutes of the Health Committee contained the following resolution:

> That the following resolution, passed on September 24th, 1908, be rescinded: "That where two or more families reside in a house in which sanitary accommodation is only provided for a single family the executive sanitary officer be instructed to prosecute in order to put a stop to what the revising barrister described as disgraceful and contrary to morality and decency."

Further resolutions proposed to proceed to erect artisans' houses and to stop the notices to owners. A warm discussion arose in the council; one party said that the step was a backward one, dictated by a handful of politicians, and a gross outrage on health and morals; the other party said that it was common sense to rescind, and that any other course would be illegal. When the vote was being taken on an amendment to pass the Health Committee's report but to delete all reference to the double tenancies, 24 members out of 60 found it possible to be present; the amendment was lost by 13 against and 11 for; so that the double tenancies, with all the scandal connected with them, are, in spite of the condemnation of the Health Commission, the revising barrister, and most of the press, to be continued for the present.

HEALTH OF LURGAN.

Dr. Agnew, Medical Officer of Health for Lurgan, has lately presented his annual report. The part dealing directly with the public health is much condensed, and many of the ordinary tables of statistics are omitted. This, Dr. Agnew states, is to give space for a detailed examination of some of the Acts lately passed by Parliament. The birth-rate was 30.8, and the death-rate 18.0; the zymotic death-rate was 0.7; the total number of cases of infectious diseases notified were 46; all but 2 were removed to hospital. Considering that Lurgan has a population of about 12,000 and that there are large manufactories, these figures are very satisfactory.

Dr. Agnew then gives an account of the Public Health Acts Amendment Act, 1907, and the Contagious Disease (Animals) Acts, 1878 and 1886, and insists once more on the importance of a pure milk supply. There is no doubt as to his opinion as to the downward tendency of the Irish people; he ends his report by urging public bodies to demand good milk only from reliable sources, and says: "It would be an excellent lesson for others, and at the same time encourage dairymen to take steps to meet the public demand, and be strong evidence of the influence of local branches of the Women's National Health Association in their efforts to save a *decadent* race."

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PAUPERISM IN SCOTLAND.

A NOTABLE point in the fourteenth annual report of the Local Government Board for Scotland, which has just been issued, is the statement that there has been an increase in the number of lunatic poor in Scotland during the past year. The increase in the number of ordinary poor was 3,093, while the figures of the present year indicating the number of lunatic poor exceed those of last year by 211. Since 1868, however, the ordinary poor have decreased from 130,446 to 95,963, a diminution of 40 per 1,000 to 20 per 1,000 of the estimated populations; so that, taking into account the increase of population, there has been a relative decrease in the ordinary poor of about 50 per cent. During the same period the number of lunatic poor has increased from 5,790 to 15,242, which,

allowing for the increase in population, is equal to an increase of nearly 78 per cent. The number of poor of all classes, including dependants, in receipt of relief on May 15th, 1908, was 111,268, of whom 95,963 were ordinary poor, and 15,242 were lunatic poor. Of the ordinary poor there were receiving out-door relief 81,389, or 84.81 per cent.; receiving relief in poorhouses, 14,574, or 15.19 per cent. The lunatic poor were distributed as follows:—In asylums and institutions for imbeciles, 11,698, or 76.79 per cent.; in licensed wards of poorhouses, 734, or 4.82 per cent.; in private dwellings 2,819, or 18.49 per cent. Of these 111,268 poor persons, 78,890 were paupers or separate individuals, and 37,315 were dependants. Classifying the sane poor according to age, it is found that of individuals relieved 22,793 were 65 years of age or upwards, 7,669 were children, and 28,186 were between the ages of 14 and 65. Poor Law expenditure goes on increasing, being £59,350 more than the previous year.

Medical and Dental Defence Union.

The Medical and Dental Defence Union of Scotland has made arrangements with an insurance company to issue policies protecting members against the risk of damages awarded against them in connexion with their professional work. The premiums vary with the amount of indemnity provided. The insurance will cover any action or counter-claim made against a member of the union for negligence or alleged negligence, carelessness, omission, commission, slander (verbal or written), malpraxis, or any alleged act or default whatsoever of the member or of any assistant or dispenser in his employment, directly arising out of the practice of his profession, provided the union decide to defend such action or counter-claim. Policies will only be issued to qualified medical or dental practitioners who are members of the union. All insurances must be effected through the union. The policy provides that in any case which the union decide to defend for the insured the insurance company shall not be entitled to settle the claim. The council of the union will continue to retain the entire control of all claims made against their members, provided it agrees to undertake the defence, and all such claims will continue to be defended by the union's own solicitors.

Full particulars can be obtained on application to Mr. W. Findlay, secretary and treasurer, 155, Saint Vincent Street, Glasgow.

A Valedictory Letter.

Some time ago Dr. John S. Muir, Selkirk, resigned the position of burgh medical officer of health, and after a long controversy Dr. M'Kellar, Kelso, was appointed in his place. In his annual report on the health of the burgh during the past year, which has just been presented to the Town Council, Dr. Muir has this passage:

> In resigning the appointment of medical officer of health, which I have held for close on thirty years, and bidding farewell to the Town Council in an official capacity, I venture to express the hope that, in the hands of my successor, the conservation and improvement of the public health will receive the application of those scientific and modern methods which his special qualifications will enable him to adopt, and that . . . he will be able to utilize all the measures provided by legislation for the prevention of disease. May I also be allowed to remind the Town Council that their duty to their medical officer does not merely consist in the payment of his salary, but ought to include an intelligent appreciation of his work, and an expressed encouragement of his efforts.

Lunacy Report.

The fifty-first annual report of the General Board of Commissioners in Lunacy for Scotland, which has just been issued, showed that on January 1st, 1909, exclusive of insane persons maintained at home by their natural guardians, there were in Scotland 18,197 insane persons of whom the Board had official cognizance, including the inmates of training schools for imbecile children and of the criminal lunatic department of Perth Prison. Of these, 2,682 were maintained from private sources, 15,464 by parochial rates, and 51 at the expense of the State in the criminal lunatic department of Perth Prison. As the total number at January 1st, 1908, was 17,908, an increase of 289 had taken place. Of the total 2,682 maintained from private sources, 1,195 were males (including 126 in training schools), 1,487 were females (including 78 in training schools). Of the 15,464 maintained by parochial rates, 7,653 were males (including 173 in training schools), and 7,811 were females (including 88 in training schools). Thus there was a total of 465 in training schools for imbecile children—20 more than last year. On January 1st, 1858, there were 5,824 lunatics under the cognizance of the Board, as against 18,197 at January 1st, 1909, showing a net increase of 12,373.

The following table shows the proportions of the insane in Scotland per 100,000 of the estimated population as at January 1st in the past twenty-four years:

Years.		Private Patients.	Pauper Patients.	Total.
Average of 5 Years	1886-90 ...	43	247	290
	1891-5 ...	46	267	313
	1896-1900 ...	49	288	337
January 1st, 1901	...	50	299	349
,,	1902 ...	50	303	353
,,	1903 ...	50	308	358
,,	1904 ...	52	307	359
,,	1905 ...	52	311	363
,,	1906 ...	51	312	363
,,	1907 ...	50	312	362
,,	1908 ...	51	314	365
,,	1909 ...	51	315	366

Since 1858 the number of lunatics on the register of the Board has increased 206 per cent., while the increase of population during the same period has been 59 per cent. This fact, however, has in itself no bearing on the question of the increase of insanity. The provision for the insane in the community was admittedly in 1858 altogether inadequate, and the main object of the Act passed in the previous year was to remedy this defect. This specially refers to the case of pauper patients, because the accommodation for private patients has throughout the period been fairly adequate.

The Question of Increase of Insanity.

Table V of the Appendix shows for each year from 1874 to 1908 the total number of private and pauper lunatics registered during the year, who had not previously been registered as lunatics, and the proportion of such lunatics per 100,000 of population. In the case of private patients the proportion to population has fluctuated within somewhat narrow limits throughout the thirty-five years included in the table, and is this year lower than it was in 1875. In the case of pauper patients there was a fairly steady rise in proportion to population up to 1902, when it attained its maximum of 52.6. It has since fallen, the proportions for the last five years being respectively 50.5, 47.9, 45.1, 48.3, and 46.6. The figures of this table are compiled in a manner which ensures their substantial correctness.

Though these figures are confined to registered insanity, and thus afford an imperfect view of the actual condition of the community as regards mental unsoundness in the past as compared with the present, they may nevertheless be accepted as trustworthy within their scope, and as disclosing the facts as regards the occurrence in the community of officially known insanity with a clearness to which no other statistics can lay claim. In the case of private patients the figures of the table are somewhat unsteady owing to the smallness of the numbers dealt with, but they disclose no indication of any growth during the period embraced. There is, however, little knowledge of the numbers of the community from which private patients are drawn—numbers which must undergo change with changes in the accumulation and distribution of wealth, and without necessary relation to population. There is therefore less certainty than in the case of pauper patients that the figures relating to this class will yield true results when calculated upon the entire population. As regards pauper lunatics, only a very slight increase occurred during the first twenty years, represented by an average of 40.4 during the first ten years and of 41.3 during the second ten years. In the succeeding ten years, however, a marked rise took place, the average proportion for that period per 100,000

of population being 49.2. This period from 1893 onwards may be held to coincide generally with the extensive development of the hospital side of asylums, and, either as cause or effect, with their more perfect equipment for the reception, classification, and treatment of persons of unsound mind who would not formerly have been placed in asylums. This influence has, however, apparently reached its greatest strength, as during the last five years the average has fallen to 47.7, which consequently for these years represents a positive decrease of occurring insanity in the community in forms calling for certification.

Uncertified Boarders Under Private Care.

In houses specially licensed by the Board for the reception of not more than four certified patients, boarders are sometimes received who are not certifiable as insane, or in whose case certification is regarded as uncalled for, but who require supervision on account of some mental affection or peculiarity. The Board require the names of all uncertified boarders received into such houses to be reported. When an interview is thought desirable, such persons are seen by the Board's medical visitors, who satisfy themselves that certification is not called for. If they report to the Board otherwise, steps are taken to ensure that the law is observed. The necessity for the sanction of the Board to the residence under private care of mentally-affected boarders and its right to interfere and to have official knowledge only apply under existing statutes to the case of such of these persons as are found to be insane, or whose estates have been placed under the control of the law courts in consequence of their inability to manage their own affairs; but even to this general statement there is an important exception. The Board's sanction is not required, nor is there any statutory obligation that it should have knowledge, in the case of patients whose insanity is not confirmed, and who have been placed under private care, for a period which cannot exceed six months, upon a certificate in terms of Schedule G to the Lunacy Act of 1857, notwithstanding that such persons may be in a mental state which in other circumstances would make it necessary that they should be certified as insane, and that the sanction of the Board should be obtained for their reception. The power of the Board to interfere in such cases or any form of publicity would destroy the object of this provision, which the Board regards as an excellent feature of the Scottish lunacy law. It does practically for the wealthier class what is done for the poorer class by large parishes which have established observation wards. When it comes to the knowledge of the Board that insane persons are received into private houses under circumstances which point to a contravention of the statute, steps are at once taken to enforce obedience to the law. A recent case in point was that of the occupier of a house in the north of Scotland, who received insane boarders without statutory authority. The occupier expressed regret, and undertook to conform to any conditions the Board might impose in regard to the reception of patients. Persons affected with some mental peculiarity or weakness often not amounting to certifiable insanity, but yet rendering supervision necessary, are frequently the cause of great domestic distress. They are neither fitted for asylum care nor for home life, and if no means existed for having them suitably supervised and cared for, the position of families having such members would be extremely sad. Persons willing to receive such boarders and to afford them the necessary protection and care fulfil in the opinion of the Board a most useful function, and ought not to be interfered with so long as no abuses arise. Many such guardians come within the Board's jurisdiction through having one or more certified patients under their care, or one or more persons whose estates are under the control of the court; and it is more or less unofficially known to the Commissioners that there are others, such as medical men, ladies, and nurses, not holding the special licence, and not having under their care any certified patient, who are willing to receive boarders of the classes described. Some of these are well known to the Commissioners, and have invited inspection by the Board's visiting officers. Though the Board has no means of insuring that it knows of all such persons, it is satisfied that it knows the majority, and instances are extremely rare in which interference on its part has been called for.

At the same time the Board thinks it advisable as a further measure of protection against abuse that the Commissioners should have a clear statutory right to visit houses in which it may be alleged that persons of unsound mind are being illegally detained, and has suggested that a provision to that effect should be introduced into an amending Act. The Board realizes that there is no definite line between those persons for whom certification is called for and those for whom it is not, but it believes that it follows best the spirit of the Scottish lunacy law by leaning towards abstention from the endeavour to obtain certification in doubtful cases in which certification would confer no obvious benefit on the patient.

Suggested Amendments of the Lunacy Acts.

With one trifling exception, no important amendment of the Scottish Lunacy Acts has been passed for forty-three years, though many suggestions of deficiencies have been communicated to the Secretary for Scotland in the hope that an amending Act might be passed. Many important suggestions communicated at its request to the Royal Commission on the Care and Control of the Feeble-minded were recommended by it for adoption by the State. Among the aspects in which the Board think that the existing Acts stand more immediately in need of amendment are:

The extension of the connotation of the term "lunatic," so as to include "imbecile."

To amend the term "house" to make it applicable to houses in which patients are kept under the sanction of the Board.

To amend the provisions relating to the acquisition of land by district lunacy boards.

To enlarge the powers of the Board to enable it to make regulations for the good order and management of all establishments for the insane in Scotland.

To enable the Board to limit the number of patients who may be received into any establishment.

To give power to Royal and District asylums to grant superannuation allowances to officers, attendants, and servants.

To provide for the audit of the accounts of district boards.

To amend the provisions for the election of district lunacy boards, and to provide for the representation of parish councils on such boards.

To extend the provisions with regard to the reception of private patients into district asylums.

To give the Commissioners extended powers of visiting houses or establishments where they have reason to believe that persons are resident on account of mental disorder.

To do away with the certificate granted after the first three years of residence and annually thereafter.

To extend the existing provision for the protection of insane persons not kept for gain who are inadequately protected or ill-treated.

To provide against the removal from the poor-roll of pauper patients removed to an asylum by order of the Board.

To enable district lunacy boards to erect, or to combine for the erection of, institutions for the care of idiot or imbecile children.

To secure more careful consideration by parish councils of applications on behalf of imbecile children.

To make more efficient arrangements for boarding out and supervising pauper lunatics.

To amend the law as to voluntary patients.

To amend the matter of receipt and transmission of letters, and the appointment of judicial factors.

To amend the charge on letters of agreement which have been placed on a basis involving great hardship by recent legal decisions.

To provide that district boards of lunacy shall have power to make annual contributions towards any pathological laboratory having for its object investigation into the pathology of mental diseases.

To enact for Scotland a provision in terms of Section 330, Subsections (1) and (2) of the English Lunacy Acts, 1890-1, for the protection of medical persons against proceedings in respect to certificates of lunacy granted in good faith and with reasonable care.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

NEWCASTLE-ON-TYNE.

THE INTER-UNIVERSITY CONGRESS.

UNDER the auspices of the Student Representative movement the Inter-university Congress opened its fifth session at Durham University on June 29th. The congress was attended by delegates from most of the British universities, and included a number of ladies. The proceedings were presided over by Mr. H. A. Coleman, of St. Chad's Hall, Durham. Mr. A. H. Scott, of Edinburgh University,

acted as general secretary, and Mr. F. C. Longdon, of University College, Durham, as the local secretary to the congress. Although at present a British institution, the Student Representative movement bids fair to become international. To the delegates a kindly welcome was extended by the Dean of Durham, Dr. Kitchin. Tea was provided in the senate room in the Castle, where most of the delegates were housed. In the course of the evening an "At Home" was held by the Master of University College. At the meeting next morning the committee sought guidance as to the appointment of representatives to foreign university celebrations in the name of students of British universities. It was resolved that the consuls of Leipzig and Geneva should be requested to represent at the festivities of the respective universities those British universities which are not separately represented. The International Academic Committee was empowered to act in all matters affecting British students in foreign universities in the name of British university students. The congress expressed its regret that, in consequence of the attitude recently assumed by Germany, the privilege of exemption from attendance during two semesters out of the number required for qualification for the degree of Ph.D. in a German university for B.A. and M.A. graduates of a British university had been withdrawn. An interesting discussion took place, on the proposal of one of the Glasgow delegates, that it is advisable to have separate university colleges for women students only. The motion was lost, but a further proposal that separate university colleges be founded or reserved for the medical education of women was carried. The delegates were entertained to luncheon in the town hall by the Mayor of Durham, and in the evening to dinner by the Dean of Durham. At one of the meetings considerable warmth of feeling was displayed owing to the difference in the method of procedure in submitting amendments which exists north and south of the Tweed. On the whole it may be said that a stricter regard for correct ritual characterized the action of the Scottish delegates. It was stated that very little help was given by universities to students wishing to come to a decision as to their future careers. The Congress thereupon resolved to invite all university authorities to establish appointment committees on which students shall have representation. Considerable interest was taken in a debate as to the respective advantages of the lecture system and tutorial methods of British universities. The debate was opened by the Vice-President of the Congress, the Rev. R. H. Smallwood, M.A., M.B., who insisted upon the superiority of the tutorial system over lectures in the mental discipline of the student. He maintained that the tutorial system brought teacher and student into closer relationship, and most of the delegates were of similar mind. The proposition that a supplemental system of tutorial instruction, after the model of that prevailing in German universities, be urged on all the British centres of learning was carried. Another subject of medical importance discussed was whether the five-years' curriculum is sufficiently long, and it was stated that only 5 per cent. of the students got through in this time; but this, according to the returns published by the Education Committee of the General Medical Council, is an underestimate. The generous hospitality of Durham and Newcastle-upon-Tyne made the social side of the Congress most successful. On one of the evenings there was a dance in the Durham Assembly Rooms, while in Newcastle there was a conversazione in the College of Medicine, the guests being received by the president, Sir George Hare Philipson. On July 2nd the inter-university sports were held in the grounds of the College of Medicine at Heaton. The attendance was large, as befitted the fine weather, an excellent programme, and the character of the sports. In the evening delegates and friends were entertained to supper in the Armstrong College, under the presidency of Sir Isambard Owen. All who took part in the Congress have expressed themselves as highly pleased with their visit to Durham and Newcastle-upon-Tyne, and have carried away pleasant memories of the Congress and the friendships formed thereat. Next year the Congress will meet in Birmingham; St. Andrews has been chosen for 1911, and Cardiff for 1912. Since these annual meetings have been established England has been thrice honoured, Scotland once, and Ireland once.

THE CHAPEL AT THE ROYAL VICTORIA INFIRMARY.

For a year the chapel of the Royal Victoria Infirmary has been closed consequent upon a decision of the Court of Governors. St. Luke's Chapel, like its predecessor in the old Royal Infirmary, was consecrated. It was adorned and furnished by the gifts of private benefactors, but the fact that it had been consecrated has given dissatisfaction to Nonconformists in the district. The offer of the Lecture Theatre for Sunday services was made, but the Free Church Council claimed the right to hold its services in St. Luke's Chapel equally with the Church of England. As this was disallowed, the Free Church Council at a large meeting of the governors carried a proposal to discontinue all religious services in the chapel and lecture theatre. To bring about a solution of the problem has been the aim and sincere desire of the Lord Mayor of Newcastle, who, at a court of governors, succeeded in getting a small committee formed composed of representatives of the House Committee of the Infirmary, of the Church of England, and of the Free Church Council. On July 3rd a special court of governors was held to receive the report of the Lord Mayor's Committee, when it was hoped that the dispute would have been settled, but, by a vote of 264 to 162, it was decided that the chapel remain closed.

POST-GRADUATE CLASSES.

It was expected that by this month a statement might have been furnished as to the proposed courses of post-graduate study in Newcastle-upon-Tyne. Although the arrangements are well advanced, it has been decided to postpone their announcement until later.

MANCHESTER AND DISTRICT.

THE MIDWIVES ACT IN SALFORD.

THE following note has been received from Dr. C. Belcher (Birmingham):

I cannot see the object of the criticism (BRITISH MEDICAL JOURNAL, June 19th, p. 1505) in the report respecting the number of puerperal fever cases in the practice of midwives and doctors respectively. It states that 14 occurred in the former and 13 in the latter, giving 1 case in 132 for doctors' cases, and 1 in every 395 midwives' cases, and remarking that this looks bad for the doctors, etc. I look upon it from another view completely, and so will many who have had much experience among midwives. It shows how conscientious and careful are the the doctors to report such. On the other hand, midwives are not so in this respect, and, unless the lying-in woman is very ill, fail to report.

Our Manchester Correspondent, to whom we referred Dr. Belcher's communication, makes the following observations on Dr. Belcher's note:

The statement in my account of the Midwives Act in Salford that, according to the official statistics, the proportion of puerperal fever cases in the practice of doctors is higher than in the practice of midwives is a mere statement of fact. It applies to both Manchester and Salford, and as some very unjust aspersions on doctors have been made in both Manchester and Salford, I thought it necessary to attempt some explanation of what, it cannot be denied, does prima facie look bad for the doctors. Dr. Belcher overlooks the fact that in my account I gave exactly the same explanation that he does when I said "with a more careful supervision of midwives' cases by a medical inspector probably more cases would be found than these statistics show." Thus I quite agree with him. But I felt that the midwives would simply meet this with a flat denial, and so I expressed regret that the Salford statistics were so incomplete that there were no data for proving, what was actually proved by Dr. K. Gordon for Manchester—namely, that many of the cases of puerperal fever occurring in doctors' practice were really caused by bad nursing after the confinement, for which the doctors could hardly be held responsible. I have no doubt that bad nursing after confinement explains the facts quite as much as the other explanation on which Dr. Belcher and I are quite agreed.

THE ST. MARY'S HOSPITALS.

The annual meeting of the subscribers to the St. Mary's Hospitals, Manchester, was held on June 24th, Sir F. Forbes Adams, Chairman of the Board of Management, presiding. Before June, 1904, St. Mary's Hospital had completed the erection of the large new building in Whitworth Street West, containing 100 beds for in-patients and also an out-patient department. But there was still left more than ample scope for the operations of the Southern Hospital, which carried on its work at a small hospital in Clifford Street, with a maternity department in Upper Brook Street, and by

a scheme dated September, 1906, the two hospitals were amalgamated, and are now known as the St. Mary's Hospitals. Long before the amalgamation the Southern Hospital had contemplated building a new hospital, and a plot of land was granted in Oxford Street by the Owens College which had been presented to the college for hospital purposes by the Whitworth Trustees. This, however, was afterwards sold for the new Royal Infirmary, and another plot close by was acquired in its place. The funds for the building, amounting to over £50,000, were given by Mr. Reid, the surviving trustee of the late Mr. Manasseh Gledhill, but the money needed for furnishing and equipment had still to be provided. The new hospital will contain 80 beds for women and 25 for children, the women's beds being devoted to gynaecological cases, while the Whitworth Street hospital will be used for maternity cases and the out-patient department. The board was compelled to realize investments amounting to £25,000 to meet accumulated deficits, which means a large reduction in the annual income from investments, and it was desired to raise £30,000 to replace this and towards furnishing and equipment. In addition it was hoped to raise the subscriptions to £4,000 a year.

The report for the year announced a serious financial position, as the total income from all sources was £7,255, while the expenditure was £9,286, a deficit of £2,031. The number of patients treated during the year was 17,794. It was stated that the new hospital in High Street would shortly be ready for occupation, but the board felt that in view of the financial position, and unless further substantial public support was given, it would hardly be prudent to open it. A special appeal for funds had been made last April, but the response was far below what was absolutely necessary to carry on the work. The funds available were not even adequate for the upkeep of the Whitworth Street hospital alone, and as the new hospital would entail additional expenditure to a considerable amount, a fresh appeal for help was necessary. There was immediate need for more beds in the maternity department, and cases had constantly to be refused admission. Also, in order to comply with the requirements of the Victoria University for teaching purposes, it was imperative that increased accommodation for students should be provided without delay, and all these demands could be met if the new hospital could be opened.

Mr. H. Agnew, the treasurer, said that when the special appeal was made last year it was recognized that as the appeal for the new Royal Infirmary was before the public at the same time there was some reason for the scanty response. The sum actually received was about £12,000, and the annual subscriptions increased between £250 and £300 a year, but that was absolutely inadequate to justify opening the new hospital, though it was virtually ready for opening. It was almost incredible that this great hospital should be receiving in annual subscriptions under £2,000, while the expenditure was practically £10,000, and he could not continue in the position of treasurer unless the public would support them. It was no use going on with a loss of £2,000 a year. If the appeal did not meet with a proper response, the method of carrying on the hospitals would have to be very seriously altered, which would be a lamentable thing for the whole district.

BIRMINGHAM.

HOSPITAL SATURDAY FUND.

THE thirty-seventh annual collection for the Hospital Saturday Fund was made in Birmingham on June 19th, and on that day a sum of £13,739 was paid into the bank from 1,167 contributors, as compared with £14,860 from 1,215 contributors last year, when the total sum eventually raised was £20,632 9s. 10d. Though trade has been depressed during the present year, it is believed that the final returns of the collection will show another record this year, or, at least, that the sum of £20,000 will have been exceeded. The fund contributes to twenty-four hospitals, and in addition maintains a surgical aid department and provides special treatment for consumptives at the Eversfield Hospital, St. Leonards-on-Sea, and at Weston-super-Mare and Bournemouth, and also for rheumatic cases at Droitwich. The fund also maintains the Hospital Saturday Convalescent Homes at Llanrhos and Great Barr. In the thirty-six years since the fund was started the sum of £388,000 has been raised.

WALES.

HEALTH OF SCHOOL CHILDREN.

IN his annual report on the medical inspection of school children under the Monmouthshire Education Authority, Dr. D. T. Rocyn Jones states that, in all, 5,717 children were examined, made up of 3,427 children who entered school for the first time during the year and 2,290 children who will have left school by the close of the present school year. At Cwmbran, Rogerstone, and Abercarn a number of children were found who were not sufficiently nourished, 0·22 per cent. children had poor clothing, 0·34 per cent. were neglected, and 3·2 per cent. were dirty. The number and percentage of children who had clean mouths with good teeth was low, the figures being 1,693 and 29·6 respectively. This was even lower in children leaving school before the close of the school year, and over two-thirds of all the children examined were suffering from decayed teeth; 0·71 per cent. of the children were mentally defective, and 0·31 per cent. were mentally backward; 4·02 per cent. had weak and defective hearts, and 5·87 suffered from defective vision of one or both eyes; 1,091 children suffered from verminous heads, 262 from verminous bodies, 87 from defective hearing. Where necessary the attention of parents and head teachers was drawn to the condition of the children. There was overcrowding in 17 schools, and the window area of most fell short of the modern standard of sufficiency. The heating arrangements were also bad in many schools; closed stoves are undesirable, the best method being a combination of hot-water pipes and open fireplaces. On the whole the ventilation was fairly good. Five schools were very dirty. The size of the desks in some schools was quite out of proportion to the size of the children. Over 20 schools used slates, an objectionable practice; 18 schools had no water supply laid on, and stored rain water only was available; 3 schools had no playgrounds, and where there were playgrounds some of them were dangerous. Dr. Jones pays a tribute to the assistance rendered him by the head teachers and medical officers throughout the county.

Correspondence.

HOSPITAL OUT-PATIENT DEPARTMENTS.

SIR,—The question of the abuse or misuse of out-patient departments of hospitals is much in evidence at the present time. It has been freely commented on in the recent report of the Poor Law Commission. It has been brought prominently forward in connexion with the treatment of children found defective on medical inspection, and especially by the action of the London County Council in circularizing the hospital authorities as to their willingness to co-operate in treatment. The Council of the British Medical Association has passed a resolution "that a medical certificate of suitability for hospital treatment be required as a condition of hospital treatment, except in case of casualties." This recommendation will come before the ensuing Representative Meeting of the Association.

In view of these facts, it is well that the profession should be fully acquainted with the actual state of affairs, and for this purpose a perusal of Burdett's *Hospitals and Charities* will supply abundant information. The figures are sufficiently startling.

Table showing Number of New Out-patients in the General Hospitals of the United Kingdom in 1907.

London hospitals with medical schools	...	334,239
Provincial ,, ,, ,,	...	395,280
Scottish ,, ,, ,,	...	139,771
Irish ,, ,, ,,	...	45,015
London hospitals without medical schools	...	285,172
Provincial ,, ,,	...	446,954
Scottish ,, ,,	...	18,406
Irish ,, ,,	...	8,727
Total	...	2,165,562

The estimated population of the United Kingdom to the middle of 1907 was 44,098,727. Thus we have the fact that one person in twenty passed through the out-patient departments in this year. Comment is needless, and is indeed difficult.

These figures refer only to the general hospitals. The special hospitals have, perhaps, more justification for the existence of their out-patient departments. But the extent of their use may be gauged by the fact that the number of new out-patients in the children's hospitals of London in 1907 was 142,501.

It may be of interest to give the figures as affecting various centres of population. For this purpose towns in different areas of the country have been selected. Special hospitals are again excluded.

Table showing Number of Out-patients in Various Towns in Relation to Population.

	Number of Out-patients.	Population, 1907.	Proportion to Population.
Bristol	80,411	367,979	1 in 4.5
Birmingham ..	97,515	553,155	,, 5.6
Gloucester	8,412	52,455	,, 6.2
Newcastle	35,445	272,969	,, 7.7
Norwich	11,568	119,191	,, 10.3
Liverpool	67,812	746,144	,, 11.0
Sheffield	40,541	455,553	,, 11.2
Hull	21,659	266,762	,, 12.3
Cardiff	14,285	187,629	,, 13.1
Nottingham ...	14,002	257,489	,, 18.3
Carlisle	2,550	49,725	,, 19.5
Plymouth	3,342	120,065	,, 35.9

Figures such as these are a revelation of the extent to which the public is being pauperized in the matter of gratuitous medical attendance. In the large towns it is apparent that a considerable section of the populace looks upon the out patient department as the normal resort in case of illness. The evil result to the medical profession is obvious. What scope can there be for the general practitioner, except amongst the well-to-do, when, as in Bristol, 1 person in 4.5, or in Birmingham 1 in 5.6, is found in the out-patient department? It is notorious that many who thus attend can afford to pay for treatment, while many of the ailments are trifling and do not require the special facilities of hospitals.

The charitable public, no less than the medical profession, is imposed upon. The hospitals demand a constantly increasing stream of charity, appeals are urgent and pressing; but much that flows into their coffers is diverted to out-patient departments, thronged by many who have no right to avail themselves of charity. One of the tables in *Hospitals and Charities* gives the cost of out-patient departments where these have been obtainable. In only four hospitals is the cost per patient given, and this works out at an average of 1s. 11½d.; in thirty-nine hospitals the cost is given per attendance and the average is 6½d. Allow three attendances for each patient and we may consider the cost per head to be 1s. 6d. This figure applied to 2,168,562 out-patients of general hospitals gives the annual expenditure of £162,642. To this must be added the cost in special hospitals and we thus probably reach a figure approximating a quarter of a million a year—a largesse scattered with a lavish hand, regardless whether those who receive it are in need, an absolutely indiscriminate charity which in any other sphere would be condemned, but which in hospital administration seems a consummation to be desired.

The figures quoted speak for themselves, and are eloquent of the need of reform. No one demands the abolition of out-patient departments, but drastic changes in their administration are required. The position may be summed up in the observations of Dr. McVail contained in his report to the Poor Law Commission:

> The present system of hospital dispensaries in all the great towns is a subject of constant animadversion by medical men, and by those of the public who have given thought to the matter. The abuse of these dispensaries by the well-to-do public is an admitted scandal. Tens of thousands of people who are perfectly able to pay for advice degrade themselves and injure the medical profession, and make a serious call on the funds of the hospitals to which the dispensaries belong. . . . By the average medical practitioner the limitation of hospital dispensaries would be hailed with the utmost satisfaction. He has had to undergo a long course of severe and expensive training to fit him for a professional career, and, having met all the requirements of the Medical Acts, the General Medical Council, and the universities or other licensing bodies, he starts out to practise, only to find out that, *by a continually unsound and mischievous development of charity*, the well-to-do are enabled to pass by his door and obtain for nothing from a hospital or dispensary what they ought to get only by payment of a proper professional fee.

—I am, etc.,

Trowbridge, June 21st. JAMES PEARSE, M.D.

THE PROFESSION AND THE STATE.

SIR,—In last week's issue you say truly that "unless the profession shows itself not only alive to its interests, but solidly united, the reform of the Poor Law may bring disaster to the profession," and "it is the bounden duty of every Division of the Association to be ready with suggestions when called on." This necessity, which now presses upon the profession from outside, of adapting its organization and methods to modern requirements and possibilities, has been urged by some of us from the inside for many years past. If, now that united action is generally demanded, it is to be effective, and not still more disastrous, it needs that our view of what our interests really are shall be a sane and just view.

It will not help us, for instance, if the suggestions of Divisions are made in the spirit of those who have reluctantly accepted the inevitable in the shape of school inspection but demand that "inspection must not run on into treatment." That is to say, that an ascertained source of misery to the individual and loss to the State, easily removable by the knowledge and skill of the profession, shall be left untouched because it passes the wit of the profession and the community to settle how such public service shall be remunerated!

We need to realize that the movement towards social betterment and social efficiency, which in its large medical aspect began with the Factory Acts of a century ago, and has been carried on by the Public Health and Inspection Acts to the present time, will continue in increasing volume, and that deserved disaster would certainly come upon us if it were possible for us to oppose it.

It is our interest, no less than it is our duty and privilege, to accept fully and cheerfully the prospect of increased usefulness and responsibility now opening out before us; to anticipate rather than unwillingly to accept the increased public demand for our services; to help the public to understand how much more valuable still those services might be made, and to insist, if that should be necessary, upon their adequate remuneration.

The public now understands much that we can do for it; we must teach it how much more we can do if it will give us the opportunity.

Nothing less than provision of all branches of medical service—educative, preventive, curative—will efficiently serve the public; nothing less than complete co-ordination of all services under one department of State will prevent waste and loss of efficiency; nothing less than adequate payment from public funds for all work done by the profession for the public will do justice to ourselves.—I am, etc.,

London, N.W., July 5th. A. D. WILLIAMS.

TREATMENT OF SCHOOL CHILDREN.

SIR,—I am glad to find that Dr. Lauriston Shaw now realizes his errors in denying the existence of "school doctors" and in describing them as debarred from practice. Although the term "school doctor" does not accurately connote their duties, I fear his proposal that he and I should mutually agree to call them something else would only result in confusing those who follow the more usual custom of referring to officials by their appointed titles.

Dr. Shaw now lays down that the reception of school children for treatment at hospitals on the notification of a "school doctor" is opposed to the consultative principle, because of "the impossibility of acting as a consultant to

a medical inspector who may not treat the children he inspects."

It will be seen that Dr. Shaw admits that to accept a school child for treatment on the notification of a school doctor would be a consultation *if allowed*; the objection to it, therefore, is not that it infringes the "consultative principle," for it would be a consultation, but on an entirely different ground, namely, that consultation is not permissible—in this instance by reason of the status for the time being of one of the parties to the proposed consultation. This definitely disposes of the contention in the Branch circular, that the reception of a child on a notification of a school doctor would be a breach of the "consultative principle"; it would not be a breach of that principle, but it would be a breach of this new decree that no consultation is permissible with a qualified medical man whose duties for the time being are those of inspection only.

Possibly Dr. Shaw is not aware that while he—the President-elect of the Branch—(in virtue of this office or not I do not know) is thus denouncing consultation by medical men attached to hospitals with the school doctors on the ground that the latter inspect and do not treat, his official colleagues the secretaries of the Branch have issued a printed circular, dated November, 1908, which lies before me, not only countenancing such consultations, but giving elaborate directions as to the methods by which the consultations shall be carried on between general practitioners and these same school doctors, whom Dr. Shaw condemns to forfeiture of their consultative rights, and to the status "of a relieving officer without a qualification."

Whether Dr. Shaw calls such co-operation a consultation or not—and he evidently regards it as a consultation, as his proposition shows—it is evident that the thing he forbids is sanctioned by his colleagues the Branch secretaries. Perhaps Dr. Shaw will plead that a school doctor only forfeits his rights to consult or co-operate with medical men attached to hospitals, while preserving it with private practitioners; if so, we shall have one more of these petty restrictions laid down to guide us.

Of the two conflicting views put forward by the fellow officials of the Branch, I do not think those of Dr. Shaw are the more likely to be endorsed by the profession. For surely Dr. Shaw cannot have fully considered the important and far-reaching effects his prohibition would have if carried into effect.

There are now a large and increasing number of medical men holding increasingly important professional positions in various departments of the public service, whose duties are not those of treatment and who are in some cases entirely debarred from practice. And if Dr. Shaw's decree is to be adopted they must all be debarred from co-operation and consultation with their fellow medical men, because their duties are those of investigation only! I think Dr. Shaw will admit this would be equally serious for them and for non-official medical men, and would be of grave detriment to the public welfare. And if Dr. Shaw is not prepared for his proposition to be a general one, which, as it stands, it is, on what grounds does he mete out to school doctors a treatment which is not applicable to other medical men holding official positions without powers of treating patients?

The "consultative principle," though it has never been endorsed by the chief parties concerned, has at any rate this force, that it is adopted by the British Medical Association; this proposition of Dr. Shaw's, that consultations are not permissible with qualified medical men "who may not treat the children they inspect," is nothing more than an *ad hoc* resolution drawn up to meet the exigencies of the situation; its futility is at once disclosed when examined as a practical proposal, and it has been disavowed in anticipation by the action of Dr. Shaw's colleagues, the secretaries of the Branch.

This "consultative principle" is but a minor point in the main question at issue, but it has been selected by Dr. Shaw as offering a special obstacle to accepting the proposals of the London County Council. He has now shown that I was correct in stating that "even if the principle were allowed, it does not appear to be infringed by the proposal that children shall be treated who come with a notification from a school doctor." And the proposition that Dr. Shaw now propounds abundantly proves the correctness of my observation "that it may be manipulated in the most oppressive manner."—I am, etc.,

London, W., July 6th. SIDNEY PHILLIPS.

THE POSTMASTER-GENERAL AND OUR PROFESSION.

SIR,—Having read in the JOURNAL of June 26th the report of the West Kent Medico-Chirurgical Society's annual dinner, in which reference was made to "a mandate recently issued by the Postmaster-General, whereby a postal medical officer is liable to have thrust upon him at any time the care of a patient whom he has not contracted to attend, and whom nevertheless he is practically obliged to treat at a rate which, in many instances, may work out at an absolute loss," I should like to add, in order to emphasize the injustice of this mandate, that not only is such the case in my experience, but that also many of the persons who now benefit by the new regulation were, possibly, previously private patients of the same postal medical officer, or of another non-official practitioner, and had been accustomed to pay reasonable fees for professional services rendered.

The present Postmaster-General had hardly been in office a few months before we heard he had ordered that all medical officers, on attaining 60 years of age, were subsequently to be closely watched, and, if found to be inefficient (no one but the official heads know what interpretation is to be attached to the word), were to be dismissed; whilst all medical officers, regardless of whether they were efficient and physically capable or otherwise, were to be discharged if 70 years of age, although they might have held the appointment for teens of years, have been devoted in the fulfilment of their duties, and have reasonably expected that they would not be disturbed so long as they were capable of practising. By this order grievous hardship has been, and to-day is being, inflicted on many most reputable members of our profession, because no compensation of any kind has been given for the deprivation, in many instances, of a large portion of their incomes. There can be no question here of a necessity for economy of public money, because a great attempt is being unostentatiously made by a bill before Parliament at the present time vastly to improve the conditions of pension for all other postal and civil servants, and the cost of these improvements must necessitate a largely increased expenditure of public money. If these public servants have to be retired under an age limit, as they have, and must therefore be compensated for loss of office by the granting of a pension, how much more worthy are the medical officers of the Post Office of being given a similar compensation, seeing that their labours save many thousands of pounds annually to the State!

Another of the present Postmaster-General's generous concessions to his staff has been that if any of them contract disease through immorality they are no longer to have to submit to the salutary influence of having to pay for the advice and medicine required, as used to be the case, but the medical officers now are ordered to treat them free of charge and not to discourage them from seeking advice.

The Postmaster-General has recently decreed that a quite unnecessarily elaborate medical examination must be made of men before they are to be allowed to perform any duty which entails cycling, but although this examination is equivalent in its technical character to that required for a first-class insurance company and cannot faithfully be performed under twenty-five minutes, he simultaneously decrees that no fee is to be paid to the medical officer for the extra work. It is currently reported that large batches of these examinations are being thrust upon medical officers at the present time, and it is remarkable, as showing the absurd limits of inconsistency to which Cabinet Ministers nowadays will go in order to secure the vote of organized labour, that no restriction of any kind is put by the Postmaster-General upon officials riding their private cycles to and from their work—as any number of them constantly do—nor for purposes of pleasure; but the moment it is proposed that they should mount a cycle for any official purpose they must be very carefully medically examined and certified as "fit."

Again, amidst a great flourish of trumpets it has been decreed to the staff that "telegraphist's cramp" is henceforth to be classed as a disease of occupation, and the

postal medical officer is made responsible for protecting the Post Office from unjust involvement, and, as a reward for his necessarily searching examination, it is decreed that he is generously allowed to be paid the sum of one shilling.

Again, we find the present Postmaster-General accepting "the conscientious objection" from future candidates for employment in the Post Office, in spite of the acknowledged greater risk postal officials run of contracting small-pox. But if in the future we have an epidemic of small-pox, and possibly many of the staff are attacked and even perish—whether they be senior or junior officials, it does not concern the present Postmaster-General—it will cost the department nothing, for all the increased work and expense would have to be borne by the medical officers without extra payment, as, in the case of epidemics of any kind, all officials, whether paid for or not by the capitation grant system, are entitled to free medical attendance.

Many other examples could be quoted to support the observation on the apparent hostility of the present Postmaster-General to the medical profession, but the above will suffice to enable me to ask what is the meaning of it all? My reply is that it is mainly the consequence of the lamentable absence of organization in the profession, and of there being unfortunately no official at the head of the medical department of the Post Office who appears to be able in any way to champion the cause of his professional brethren, and to see that justice is done to them; and it means that the unorganized medical profession is being crushed and tyrannized over to meet the demands and to secure the votes of organized labour. And so long as medical men continue to tumble over one another to get these appointments as though they were veritable gold mines—which, speaking from a past experience of very many years I can truthfully say they are not—so long will politicians heap ignominy and cruel hardships upon its unorganized officials.—I am, etc.,

June 28th. ONE WHO HAS HAD TO SUFFER.

THE DOCTOR AS A VICARIOUS PHILANTHROPIST.

SIR,—In relation to the above interesting discussion which has occupied for some weeks a portion of the correspondence columns of our JOURNAL, may I beg to be allowed to point out an additional phase which has not previously been touched upon? I refer to the fact that not only are medical men by attendance upon street and other accidents in numerous instances unremunerated, but in several cases have had later to defend themselves in actions brought against them for alleged and unfounded charges of negligence—a statement which can be proved conclusively from the records of the Medical Defence Union for the last twenty-three years. In one instance in which action was taken the costs to the Medical Defence Union amounted to nearly £150 in defending a member for alleged negligence in attendance upon an accident to which he had been called and received no fee. In another the costs came to a much larger amount for successful defence. It must be remembered that a medical man cannot claim exemption from an action for damages for alleged negligence on the ground that there was "no previous retainer" on the part of the patient; the fact that no fees have been paid, nor can be recovered, is no bar to an action. Not only is the medical practitioner exploited by a public which is ever on the look-out for gratuitous medical service, but he is as likely as not to be "shot at" later and an attempt made to make him pay heavily for his philanthropy. Without a retainer no lawyer can be sued for damages for negligence; but unfortunately the law is made by lawyers for lawyers, and the medical profession is in this respect without such security.—Yours, etc.,

London, W.C., July 5th. A. GEORGE BATEMAN.

THE ASSOCIATION.

SIR,—With great regret I see my desire and intention to be present at the conference of my fellow honorary secretaries at Belfast frustrated, so take hope you will allow me to approach them through your columns to draw attention to a matter that concerns us. I am constantly asked (when mildly rebuking colleagues for not attending meetings), What does the Association do for us? My reply, Exactly as much as you do for the Association (perhaps more). The questioner seems to forget, in offering his query, that he is doing precisely the same thing as his club patient, who complains that his doctor is either inattentive in service, or wanting in courtesy, or in the case of a female that he refuses to wet-nurse her baby, for 4s. or 5s. per annum.

The great fact we as general practitioners of medicine have to face is the changing conditions of the times, and our necessity to change in the spirit of them. The pressure of the fact is felt and expressed in bitter terms of complaint, in this and other journals, but one cause is overlooked, that much of the trouble is due to ourselves. We cling to an outworn ideal. Time and space forbid me enlarging on this point further at present.—I am, etc.,

EDGAR J. DONBAVAND,
Honorary Secretary, Plymouth Division.

Plymstock, S. Devon, July 4th.

THE INFECTIVE NATURE OF SEVERE ANAEMIAS.

SIR,—The existence of *infection* in severest anaemias is a great "fact." For the patient it is the most important fact connected with his disease.

It is not a "theory" in the higher sense of that term kindly drawn attention to by my friends Mr. Rushton Parker and Dr. Melland, whose letters I desire gratefully to acknowledge. Still less is it a "theory" in the lower sense in which that term is frequently employed and understood—namely, as connoting a mere "hypothesis" or "speculation."

The infective lesions are very striking and constant, and enable the kind of anaemia to be recognized with certainty long before—a year or more before—the blood changes become pronounced. In the case of the severest of all anaemias—that is, "Addisonian Infective Anaemia"—so-called "primary idiopathic pernicious anaemia"—they are more striking and characteristic than are those of scarlet fever. Their early recognition is therefore the most important fact in diagnosis, and their removal the most important point in treatment.

These are the facts and conclusions—recently fully described and represented elsewhere—to which, in the interests of the patient, I desire to draw the attention of the profession.

They are the outcome of some twenty-five years' work, and of more recent experience gained in dealing with all sorts of anaemias, including some 80 cases of the severest of all—namely, "Addisonian Infective Anaemia."—I am, etc.,

London, W., July 5th. WILLIAM HUNTER.

HEALTH PROGRESS IN THE WEST INDIES.

SIR,—On June 5th you were good enough to publish a note of mine upon this subject, and a special reference was made to Beauperthuy's life-work.

Since then I have had occasion to examine a large number of works dealing with the observations of distinguished clinicians of past ages on the subject of yellow fever, and there are two references to which I would like to draw the attention of the profession:

1. Surgeon-General Blair, the great authority on yellow fever of the Fifties, in one of his monographs states, when describing yellow fever, that "its shifting lines of infection and gyratory movements suggest to the imagination the attributes of insect life."

2. Also in a small pamphlet upon experiments connected with yellow fever, made in Barbados in 1884 by Professor Harrison, now Professor of Chemistry in British Guiana, and the Rev. H. S. Moxley, the following significant passage occurs:

> The theory we believe, in view of all the apparently contradictory facts of the case, to be the most reasonable, and that, if not generally accepted now, will be when the history of the disease is thoroughly known, and when the apparently contradictory facts are compared and given each their due weight, namely, that yellow fever is a highly contagious disease, but that the germs, whatever they may be, require some time and suitable opportunity for their development before they can reproduce themselves in another body; and that the disease is not generally communicable from a sick person to another who may be in ever so close proximity to him.

Surely these are extraordinary coincidences—great observers like Beauperthuy and Blair fixing on the mosquito as the carrier, and Harrison convinced that the

virus, whatever it was, must pass some portion of its time outside the body before it could infect.

The reasoning of these men's minds proceeded on closely similar lines to those of Findlay and Carter in Havana. It is another example of how close to scientific accuracy the clinician can get by powers of observation and by the close clinical study of disease. They did not require laboratories to make these interesting discoveries, and I think that it teaches us that the more time a student of medicine devotes to the study of disease in the hospital and on the spot the more will the study of medicine be advanced.—I am, etc.,

Liverpool, July 6th. RUBERT BOYCE.

THE PROPOSED LEGISLATION IN REGARD TO ANÆSTHETICS.

SIR,—The question of legislation in regard to anæsthetics is passing through such an extraordinary phase that I feel bound to crave the courtesy of your columns in order to direct the attention of the profession to the matter. It is exceedingly important that all medical men should understand the present position of this question, and as many of your readers may not have followed the recent developments which have been taking place I may perhaps be allowed to indicate the point which is now at issue. I need not here enter upon the arguments in favour of improving the present conditions under which anæsthetics are administered. It is now generally conceded that certain reforms are needed, and, as your readers are doubtless aware, one of the most important of these reforms—I refer to the compulsory education of all medical students in anæsthetics—has already been initiated by the General Medical Council. Nor need I here discuss the question whether it is or is not expedient for our Legislature to define by Act of Parliament who should and who should not administer an anæsthetic. Here, again, the balance of opinion seems to be in favour of protecting the public against wholly uneducated persons, who, as the law now stands, may administer chloroform, cocaine, or any other anæsthetic to any one who is sufficiently ignorant and confiding to submit himself to such treatment. Nor, lastly, need I dwell upon the question of including local (injected) anæsthetics in any legislative measure, for there seems to be complete unanimity as to the desirability of such a course. When the question of legislation was first mooted I confess I did not see how this side of the problem could adequately be dealt with; but as I fail to find any record of a fatality from cocaine or its allies in the hands of a registered dentist I am convinced that the public would be properly safeguarded by restricting the injection of these substances to registered medical or to registered dental practitioners, or to persons acting under their immediate direction or supervision.

For the purposes of the present letter, then, I would assume, first, that the reforms which I have elsewhere advanced are necessary; secondly, that it is expedient on public grounds to ask for legislation in regard to anæsthetics; and, thirdly, that it is practicable and desirable to include local (injected) anæsthetics in any legislative measure which may be drafted, and that such local anæsthetics should either be administered by medical or by dental practitioners. By these assumptions I shall, I think, be able to throw into relief the present important issue—namely, Who should, and who should not, administer general anæsthetics?

There are no less than four policies or lines of action before the profession, each of which apparently has its advocates. The first policy is that which is outlined in the first of the three bills which have now been drafted—the "General Anæsthetics Bill," which is under the consideration of the Departmental Committee now sitting at the Home Office. This policy has as its foundation the principle that when one person takes upon himself the responsibility of rendering another unconscious for a medical or surgical operation, act, or procedure, no matter what the anæsthetic or the operation, act, or procedure may be, he should possess a medical qualification. There are, however, certain provisos in the General Anæsthetics Bill, amongst which is one allowing dentists on the *Register* at the passing of the Act to continue to administer anæsthetics for dental operations. In the paper which I have just read before the British Dental Association at Birmingham I endeavoured to show that this policy is not only a perfectly practicable one, but that it is one which would raise rather than lower the position and prestige of the dental profession. Unfortunately I was unable to make much headway at this meeting although I had behind me no less an authority on dental politics than Mr. C. S. Tomes, and the President of the General Medical Council had in his address at the recent opening of the Council expressed his personal acquiescence in the policy. I will not reiterate the arguments which I advanced at Birmingham, but I would refer those of your readers who may specially be interested in the subject to my paper in the *Journal of the British Dental Association* of June 15th last. I endeavoured to show that legislation limiting the administration of general anæsthetics to fully qualified medical practitioners, while not interfering with any privileges enjoyed by members of the dental profession now on the *Register*, would both elevate the professional position of the dentist and free him from the disastrous competition of quacks who now practise without any place on the *Dental Register*.

The second policy has as its characteristic feature the inseparability of nitrous oxide gas from dental practice. The advocates of this policy would either grant to all registered dentists, present and future, the privilege of using this anæsthetic, or, permitting all dentists on the *Register* at the passing of any Act to continue to use any general anæsthetic, would restrict dentists registering after the passage of such an Act to the use of nitrous oxide as the only general anæsthetic to be used by them for their dental operations. The objections to this policy are as follows:

1. It is in direct opposition to the great principle that the production of adequate general anæsthesia, even for the performance of the most trifling surgical operation, is essentially a medical function, requiring for its proper performance a fundamental medical training, in order (1) that the fitness of the patient for the anæsthetic may be determined; (2) that the respiratory and other changes brought about by that anæsthetic may be understood and appreciated; and (3) that proper remedial measures may be applied should dangerous symptoms arise.

2. It would unquestionably sanction and promote the admittedly dangerous practice of single-handed anæsthetizing and operating. The advocates of this policy contend that single-handed anæsthetizing and operating does not and would not take place because, as a rule, dentists are and would be in partnership. But this I venture to question. It would be interesting to ascertain what proportion of dentists are in partnership. Certainly in the past single-handed anæsthetizing and operating has been exceedingly common, and, as I have elsewhere shown, *practically all the fatalities recorded in dental practice during the past twenty years have taken place during the discharge of this dual function.*

3. It would lead to nitrous oxide being given in unsuitable cases, many of which, under the present unsettled state of the anæsthetics question, are now referred to medical men for their opinion or co operation.

4. It would tend to increase rather than diminish the already not inconsiderable proportion of cases of imperfect anæsthesia and imperfect tooth extraction, for it is beyond the power even of the most dextrous operator properly to discharge the dual function in a considerable proportion of the cases which present themselves in practice.

5. It is illogical to legislate specially for one general anæsthetic because it is the safest yet discovered, particularly when, as may easily be proved, there are certain cases in which this anæsthetic is specially dangerous.

The third policy is one which would give to all registered dentists, present and future, the right to administer any general anæsthetic for a dental operation. The first three of the five objections which I have just advanced against the last-mentioned policy apply, with even greater force, to the policy now under consideration. So far as I can gather the third policy is that which at present commends itself to the British Dental Association. Were such a policy to be adopted in any legislative measure it would undoubtedly introduce into dental practice a danger which at present does not exist; for large numbers of dentists who now administer nitrous oxide themselves for dental operations of very short duration, and call in medical assistance whenever ether or some equally profound anæsthesia is desired,

would unquestionably take upon themselves the additional responsibilities of these longer cases, with the result that accidents, particularly from chloroform, would be more common than at present. I am glad to observe amongst those who support the second of the four policies here outlined a disinclination to do more than sanction the use of nitrous oxide by dentists, although, as I have already indicated, I am still firmly convinced that the first policy is the right one if we make the interests of the public the paramount consideration. The recent resolution of the Royal College of Surgeons, making it obligatory upon all candidates for the L.D.S. diploma to have received instruction in the administration of "such anaesthetics as are in common use in dental surgery," may perhaps indicate that this important College is in favour of the policy under consideration. It by no means follows, however, because a subject forms part of the curriculum, that it should of necessity be practised. This is, I think, clear in regard to various other subjects which, though taught, are not practised. If, however, it be the intention of the Royal College of Surgeons of England to recognize registered dentists as competent to administer all general anaesthetics for dental operations, and to support any bill embodying this principle, I can only express my profound and respectful regrets.

Lastly, we come to the fourth policy—that of permitting registered dentists to administer any general anaesthetic for any medical or surgical purpose—a policy which, if carried into effect, would place registered dentists on a level with medical practitioners, allowing them to administer chloroform and allied anaesthetics for the most serious and complex surgical operations. Had I written this letter, Sir, a week ago, I should not have done more than simply mention this policy as a possible one. But I regret to say that it has actually acquired form and substance in a bill just introduced into Parliament by Mr. George Cooper under the title of "The Anaesthetics Bill." Mr. George Cooper's original bill ("the Medical Acts Amendment Bill") was on the lines of the "General Anaesthetics Bill" to which I have already alluded. and was withdrawn. But his second bill is one which I sincerely trust will meet with the immediate and strenuous opposition of all those who have at heart the interests of the public and the medical profession. I cannot think that those responsible for its drafting have fully realized its dangerous possibilities. It is, to my mind, hardly conceivable that a bill embodying such a paradox could have been introduced into Parliament. Our legislation is asked in one breath to grant protection to the public against the indiscriminate use of powerful drugs known as anaesthetics, and in the next to allow *dental practitioners* to administer these agents in *general surgical* practice. But the bill even goes further, for it would allow registered dentists to supervise the administration of general anaesthetics—to be responsible for the lives of patients whilst others are conducting the administration. Do the promoters of this bill realize that it would be possible under such an Act for any dentist to supervise the administration of chloroform—let us say—for an abdominal section or for the removal of the upper jaw? What we need is an elevation and not a decline in the level of efficiency of those to whom the responsibilities of human life are entrusted during surgical operations. It is questionable, however, whether any legislation in regard to anaesthetics will take place until reports have been issued and recommendations made by the Home Office Departmental Committee now sitting and by the Anaesthetics Committee of the General Medical Council, which has recently been appointed; so that, for the moment, we are not likely to find ourselves in a worse position than we were in when the movement in favour of reforms in regard to anaesthetics was inaugurated. In the meantime, it is important that the medical profession should lay aside, at all events temporarily, its customary apathy, and carefully consider the point at issue, Where should the line be drawn?—I am, etc.,

July 6th. FREDERIC HEWITT.

We are asked to state that the firm of Leprince of Paris, whose London agent is Mr. Astor Boisselier, is in no way connected with the Establishment Fumouze, also of Paris. The latter are the proprietors of Carmine Lefrancq, and issue a monthly circular to which exception has been taken on the ground of the illustrations it contains.

Medico-Legal.

ALLEGED PERSONATION.

At Stockton, on June 30th, Adam Melrose Porteous was charged with obtaining sums of money amounting to £81 9s. 11d. and board, estimated at £36, by continuous false pretences, from the Visiting Committee of the Durham County Asylum. According to the report of the case in the *North-Eastern Daily Gazette*, evidence was adduced on behalf of the Public Prosecutor to show that the accused had personated a registered practitioner named William James Porteous, who obtained and registered the degrees of M.B., B.S.Edin., in 1907, and is now in New Zealand; that the accused had been engaged through a firm of medical agents in London as a locumtenent at the Durham County Asylum; and that he had attempted to have his name placed in the *Medical Directory*. The accused reserved his defence, and was committed to take his trial at the next Durham Assizes. Bail of £100 was allowed, and the amount deposited by accused's wife.

HABEAS CORPUS.

In the King's Bench Division on June 28th a medical man was called upon to show cause why a writ of habeas corpus should not be issued against him directing him to produce the body of one of his patients, the wife of the applicant. The affidavits lodged in support of the application stated that the patient suffered from delusions and had been sent for treatment to a private hospital kept by the medical man in question and thence to some place in the country, the address of which he refused to disclose to the husband.

The affidavits put in against the application stated that the patient was not suffering from delusions; that she had been during the greater part of her married life in terror of her husband, who did little work, was frequently drunk, and treated her cruelly; that the real reason why he wanted to get his wife's address was to get possession of her money; that she was not under the control of the medical man, but was in the country by her own desire and had specially requested that her address should not be given. The court, consisting of Mr. Justice Darling and Mr. Justice A. T. Lawrence, decided against the husband, awarding costs to the medical man. Dr. F. J. A. Wiley of Hornsey, who is to be congratulated on his firm adherence to what he deemed his duty in the matter.

WORKMEN'S COMPENSATION CASES.

Lead Poisoning and Insanity.

An interesting and important question in reference to workmen's compensation was decided by His Honour Judge Graham, K.C., at the Bradford County Court on June 22nd. A man, a painter, who was suffering from lead poisoning, became insane, and is now an inmate of the Menston Asylum. It was contended that the lead poisoning had nothing to do with the insanity, and on this there was a conflict of medical opinion. But after mature consideration the judge held that the most expert knowledge on the subject put before him was in favour of the contention of the applicant, for whom he therefore gave judgement with costs.

SCHEDULED POISONS IN NOSTRUMS.

H. T. asks whether it is legal for a person, who is neither a medical man nor a chemist, by taking out a licence for the sale of "patent medicines," to sell a proprietary article containing some of the scheduled poisons.

*** A licence to sell patent medicines does not carry with it the right to sell proprietary medicines containing scheduled poisons, unless the quantity of the latter is infinitesimally small. This was decided in Pharmaceutical Society *v.* Piper, 1 Q.B., 686, 1893. Compare also Pharmaceutical Society *v.* Delve, 1 Q.B., 71, 1894.

LIABILITY FOR ATTENDANCE ON SON.

Rysland writes that he was called in to attend a patient, aged 26, by his father. At the time the patient was residing in his father's house, and during the illness there was also a short attendance on the father and another son. An account for the whole attendance at the house was afterwards sent in to the father, who took no notice of it for some time, but, when pressed, only consented to pay the account after deducting from it the items for his elder son's treatment—the larger portion of his account. This son has since quarrelled with his father and is living in his own house.

*** If our correspondent can prove that the father, who called him in, led him to believe that he was to look to him, the father, for the cost, the latter is liable to pay the whole account, and might be successfully sued in the county court. The fact that the father was from the first debited with the whole account, which was sent to him several times without any protest on his part, coupled with the fact that the son was at the time residing with his father, would be evidence in favour of the doctor's contention. If, on the other hand, the father only intended to guarantee the son's payment, the doctor could not recover unless the guarantee had been put in writing, according to the provisions of the Statute of Frauds.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Council Election.

At the annual election on Thursday, July 1st, 972 Fellows voted, the largest poll on record. As many as 964 sent their ballot papers through the post, only 8 voting in person. There were besides 2 invalid ballot papers, and 7 more arrived too late.

The result of the ballot was as follows:

	Votes.	Plumpers.
Sir W. Watson Cheyne, Bart., K.C.B.	420	8
Mr. W. Harrison Cripps	385	46
Mr. R. C. Lucas	356	70
Mr. J. Bland-Sutton	333	39
Mr. W. H. H. Jessop	328	35
Mr. C. A. Ballance, M.V.O. ..	261	23
Mr. A. W. Mayo Robson	208	5

The President then declared Sir W. Watson Cheyne and Mr. R. Clement Lucas duly re-elected and Mr. Harrison Cripps duly elected members of Council.

UNIVERSITY OF CAMBRIDGE.

The following degrees were conferred on June 22nd:

D.Sc.—H. E. Durham, King's.

M.B.—C. E. M. Jones, King's.

B.C.—J. L. Joyce, King's; L. B. C. Trotter, Cla.; R. R. Armstrong, Trin.; F. H. Lester, Pemb.; A. Barker, Trin.; A. L. Sachs, Pemb.; W. Harmens, Trin.; C. F. Searle, Pemb.; H. E. S. Stiven, Trin.; R. Cox, Gonv. and Cai.; G. Walker, Trin.; A. H. Habgood, Jes.; M. D. Baker, Joh.; F. S. Scales, Jes.; E. Comyn, H. Selw.

Appointments.

The following have been appointed Examiners for the Third M.B., Part II:

Medicine.—Dr. Rose Bradford, Dr. Bradbury, Dr. N. Pitt, Dr. F. Taylor.

Surgery.—Mr. Kellock. Mr. Stanley Boyd, Mr. L. A. Dunn, Mr. Raymond Johnson.

Midwifery.—Dr. R. Pollock, Dr. Spencer.

UNIVERSITY OF DUBLIN.

Conferment of Honorary Degrees.

At a meeting of the Senate of the University of Dublin on June 30th for the purpose of conferring degrees, there was a large and brilliant assemblage. The University Caput consisted of the Vice-Chancellor, the Right Hon. Mr. Justice Madden, the Provost, and Mr. Frederick Paker, Senior Master, non-Regent.

The honorary degree of M.D. was conferred upon the five gentlemen whose names appear below. Each recipient was presented by the Public Orator, who spoke in Latin. We append translations of his speeches:

Sir Alfred Keogh, K.C.B.

Complaints abound everywhere to-day that things are going to the bad, that we shall soon be surrounded with enemies and annihilated, and yet are so supine that we will not learn anything from that best of teachers, Experience; so that, it is said, even the effects of our last, which were found out by the South African war remain, and will remain, unremedied. Now outcries and accusations of this kind I cannot abide, and further I declare that they are wholly untrue, and in proof of this opinion adduce the example of Sir Alfred Keogh, Director-General of the Army Medical Service, whom I now present to you. During the South African war his administration of a general hospital was so admirable that when peace returned he was chosen on the Reorganization Committee, which was appointed to consider, among other things, how the army doctors should get a status and distinction corresponding to their merits; and such were his judgement, energy, and largeness of mind that he was soon made Deputy Director-General, and later full Director-General. All his various excellent reforms in detail I cannot touch upon; but I especially desire to bring out clearly two of these. It was owing to him that the doctors in the army can now, even in time of peace, attain promotion, if they devote themselves to scientific investigations, and advance the domain of medical science: and to-day the ablest men in that service—I may instance Colonel Bruce, to whom we recently gave an honorary degree—can attain to honours commensurate with their abilities and achievements. Again, Sir Alfred Keogh holds strongly that it is the part of the medical art to prevent as well as to cure disease: and thus it is that he is unsparing in his endeavours for the improvement in the sanitation of the quarters and in the condition of life in which soldiers live, as his conviction is that they should be always vigorous and able to rise with energy to the duties imposed on them. An Irishman then of whom his countrymen are proud, who wages such a righteous war for the dignity of science, for the just rights of his fellow-officers, and for the general health and soundness of the soldiers, a man pre-eminently sound himself in abilities and judgement, who has deservedly gained the highest renown in the more peaceful side of war, now that he is about to receive the distinction of our degree, see that you honour with your loudest shouts of applause.

George Alexander Gibson, M.D.

Edinburgh is the famous mother of the most distinguished physicians; and it is now my privilege to present to you one pre-eminent even among Edinburgh physicians, George Alexander Gibson. The proper method of physical diagnosis and of clinical examination of the sick he has set forth at length and in detail in a most useful book which has reached a third edition. He rightly deems his subject worthy of the most serious attention, and has effectually disposed of those doctors who are satisfied with merely feeling a patient's pulse and looking at his tongue with an air of preternatural wisdom. But it is his treatise on Diseases of the Heart which has won him especial renown. No longer need we regard what Ovid says:

> Thou e'en the God of Healing tries his Art,
> To heart diseased no health can he impart:

for this able physician, a better Aesculapius, can hold out hopes. And in this connexion Ireland owes him gratitude in that he has abundantly set forth all that is owed to Irish doctors, some of them his own teachers, in the investigation of diseases of the heart; and we here should feel a closer attachment to him, as we are sharers with him in a recent sorrow. We have just lost a friend, no less loved than honoured by us all, formerly our Professor of Anatomy, Daniel Cunningham. With him this kindly man was associated from boyhood; he devoted himself to the same studies and profession, and during all the changes and chances of life was bound to him by the ties of an unbroken friendship. Lately, when his friend's end was approaching, he brought him back home to his own country from abroad, and did everything for him which solicitude and affection could prompt; and he was with him to the last, so that to his old comrade was granted the sad prayer of friendship:

> Then may I see thee, friend, before me stand,
> And dying hold thee in my failing hand.

Here you have, then, an eminent physician and a good and kind man. You will indeed be guilty of ingratitude if, when he is being enrolled in our number, you fail to greet him warmly with your most cordial welcome.

William Hale White, M.D.

Yet again it is my privilege to present to you a distinguished physician, a Doctor of Medicine of London University, Senior Physician and Lecturer in the Home Grant's Hospital of that city, William Hale White. Bearing what the old Romans would have called an auspicious name, which indicates health, it would seem as if from his very cradle it was ordained that he should devote himself to advancing medical science, and should obtain therein the fullest measure of success and distinction. Nor has the omen failed of fulfilment: for his famous work on *Materia Medica, Pharmacy, and Therapeutics* has already attained to the coveted glory of the tenth edition—a book which, for medical students throughout the whole kingdom, is like a lamp which guides them to a knowledge of these subjects based on the soundest and most scientific principles. For this eminent physician's method starts from a profound knowledge of physiology, and investigates carefully the causes of things, and does not, to use the words of Celsus, "rest merely on observation and experiment, after the manner of empirics." It is in this spirit that his Croonian Lectures have been conceived, wherein he explained most ably the means by which the temperature of the body is maintained in health and disease. Nor is any form of culture and refinement wanting to his household, where his distinguished wife, a mathematician of no mean order, spreads throughout a gracious charm which is enhanced by the bracing discipline of her early Girton training. A man, then, gifted with such learning, such distinction, such happiness, who adds a crown to his good fortune by his pleasant and kindly affability, must needs obtain from you applause re-echoing throughout the hall.

Wilmot Parker Herringham, M.D.

Now I bring before you Wilmot Parker Herringham, a graduate of Oxford University, now a physician of the great and ancient hospital of St. Bartholomew, where he lectures with ability and success in forensic medicine. In very many branches of medicine he has written treatises which have obtained well-deserved praise, the names of which, however, I fear to reproduce, lest haply I should, by terms familiar only to the more subtle investigators of medical science, "make Quintilian stare and gasp," and as they would certainly be disfigured by any attempt of mine to reproduce them in Latin. But in general this eminent physician is deserving of praise, in that he is more profoundly versed in chemistry, as well as anatomy, than most of his fellows; and has investigated and expounded with exceptional skill the origin and nature of diseases of the kidneys, and shown their baleful effect on the human constitution if once they become chronic. Accordingly I strongly advise you if (as Horace says)—

> There still are pains
> That need attention in the side or reins,

straightway to call in Wilmot Herringham, who will promptly dispel the disease, and restore you to vigorous health. This

being so, none will doubt but that this distinguished physician should be welcomed into our body by applause commensurate with his ability and worth.

GEORGE REDMAYNE MURRAY, M.D.

The sheep is an animal not held in much honour, being mostly despised as a typical example of excessive tameness and stupidity; yet it gives men wool when alive and mutton when dead. I should like to deliver a eulogy on the sheep—but not to-day. Now, is there any one here who could believe that the sheep can drive away disease from the human frame? Yet medicine has its marvels, and they are passing strange. Lately we saw how Sir Thomas Fraser used deadly snakes for life-giving purposes, and now we are amazed at the discovery that stupid sheep can restore to mental vigour of clever men—a discovery due to the genius of George Redmayne Murray, whom I now present to you. After graduating at Cambridge, where he gained a First Class in the Natural Sciences Tripos, he lived for some time in the North of England, and won recognition as Professor of Pathology at Durham. Lately he has been invited to Manchester, and there in Victoria University, like "all really excellent teachers (to use Quintilian's words), he rejoices in crowds of pupils, and rightly deems himself worthy of such an important sphere of duty." He has prosecuted minute investigations in various branches of medicine, and written with especial excellence on goitre and other diseases of the throat. But let us return *a nos moutons*. Myxœdema is a severe disease, not only bringing pain to the body, but dulling and clouding the mental powers. That the thyroid gland of a sheep could be useful for the remedy of this malady, and could restore body and mind to their wonted vigour, almost seems like a fairy tale. Yet that such is undoubtedly the case has been established by this eminent physician; and the many and great advantages likely to arise from this discovery we cannot as yet fix limits to, as he is still prosecuting further investigations in this line of study with serious earnestness. To medical men who advance the boundaries of their profession we show grateful respect and willing honour; and now it remains for you in gratitude and admiration for the good services this distinguished doctor has performed to see that your shouts of applause shall reach even unto Manchester and be heard within the walls of his own university.

ORDINARY DEGREES.

On the same occasion the following ordinary degrees were conferred:

M.B., CH.B., B.A.O.—W. R. Allen, F. A. Anderson, C. G. S. Baronsfeather, R. T. St. J. Brooks, D. Daff, P. J. S. Dunn, T. A. Hughes, J. D. Kernan, V. B. Kyle, D. J. Miller, E. J. Powell, W. C. P. Smyly, D. J. Stokes.

M.D.—J. S. Darling, R. Holmes, H. J. Keane, D. J. Miller, A. J. Stals, C. E. C. Williams.

M.S.—J. S. Darling.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on June 16th.

Election of Vice-Chancellor.

Professor M. J. M. Hill, M.A., Sc.D., F.R.S., was elected Vice-Chancellor of the University for the year 1909-10, and a vote of thanks was accorded to Sir William Collins, M.P., for the services he rendered to the university during his tenure of office as vice-chancellor.

Statutory Committees.

The statutory committees of the Senate for the year 1909-10 were appointed.

Doctor of Science in Physiology.

The degree of Doctor of Science in Physiology has been conferred upon Dr. N. H. Alcock, who had presented a thesis on some chapters on the physiology of nerve, and in addition had submitted various contributions to the advancement of science.

Gift to the Physiological Department of University College.

It was reported that the Worshipful Company of Mercers had made a grant of £500 to the Physiological Department of University College, and a resolution was adopted conveying the cordial thanks of the Senate to the Company for their generous donation.

University College Hall, Ealing.

University College Hall, Ealing, recently opened by the Chancellor, was formally recognized as a hall of residence for university students.

Regulations in Medicine for Internal and External Students.

It was resolved that the regulations for the first examination for medical degrees for internal and external students be amended by the addition of the following:

Students exempted from presenting themselves in one or more of the three subjects of the examination must pay a fee of £2 in respect of each subject for which they are required to enter.

It was also resolved that Exemption 2 (iv) of the Red Book and Exemption 2 (ii) of the Blue Book, September, 1908 (Appendix to the Regulations in the Faculty of Medicine, p. iii), be amended to read as follows:

Students who have passed in any subject either at the Preliminary Scientific Examination or the Preliminary Scientific Examination, Part I. for who under former regulations have been entitled to exemption from examination in such subject at either of the above-named examinations in virtue of having passed in that subject at an intermediate examination in science or agriculture previously to June, 1909), will be credited with a pass in the corresponding subject at the first examination for medical degrees, and may complete that examination under existing regulations.

B.Sc. Honours for External Students.

It was resolved that three days be allowed for the practical examination of B.Sc. honours in physiology for external students.

Appointments Board.

An Appointments Board has been constituted to assist graduates and students of the university in obtaining appointments, and to co-ordinate and supplement the work done by the schools and institutions of the university with this object.

Physics at the Matriculation Examination.

A new syllabus in physics for the matriculation examination, including the subjects of elementary mechanics, heat, light, sound, and electricity and magnetism, has been issued; and it has been directed that the questions set shall have regard to the conditions under which these subjects may best be experimentally taught in schools.

Studentships and Medals.

The Lindley studentship of £100, tenable for one year, in the physiological laboratory of the university, has been awarded to Miss Mary Taylor Fraser, B.Sc., formerly of the South-Western Polytechnic, now working in the physiological laboratory.

The university studentship in physiology, of the value of £50, for one year, has been awarded to Mr. Gerald Roche Lynch, demonstrator of chemistry, at St. Mary's Hospital Medical School.

The university medal at the M.B., B.S. examination, May, 1909, has been awarded to Augustus Joll, B.Sc., of University College, Bristol.

UNIVERSITY OF BIRMINGHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—*Class II:* Elizabeth L. Ashby, R. Ellis, J. H. Ritchie, C. S. Stafford, (R. H. Gill, A. P. Smith.

SECOND M.B., CH.B.—*Class II:* G. H. Alabaster, E. Bach, R. A. Broderick, E. F. Buckley, Elsie M. Humpherson, J. C. Jones, J. B. Lowe, D. N. Macleod, H. C. Nickson, H. Sheasby, C. L. Spackman.

THIRD M.B., CH.B.—*Class I:* *O. M. Holden. *Class II:* J. H. Bampton, *a*R. B. Coleman, *b*C. C. C. Court, *b*E. Davies, *b*T. Hampson, *b*C. W. Hayward, *a*Elizabeth S. Impey, C. C. Jones, †D. N. Macleod, R. D. Nelson, P. A. Newton, *a*A. M. Pickup, C. E. Salt, C. Tibbits.

FOURTH M.B., CH.B.—*Class I:* E. R. Assinder. *Class II:* Elizabeth S. Impey, A. H. Newton, J. L. Ritchie, C. Welker.

FINAL M.B., CH.B.—W. F. Barrell, *c*W. C. Blackham, H. H. Sampson, H. C. Terry, Ethel A. Waldron, R. D. Wilkinson.

B.SC. IN PUBLIC HEALTH—*Parts I and II:* J. Dale.

D.P.H.—*Part I:* W. M. Hewetson, A. M. Nevin, R. C. Allen, D. Buchanan, J. M. Dalrymple, P. J. Mason. *Part II:* W. M. Hewetson, A. M. Nevin, J. A. Ainscow, J. Fenton, C. Johnson, R. W. Stocks, L. L. Hadley.

* Queen's Scholarship. † Ingleby Scholarship.
a Materia Medica and Pharmacy only.
b Pathology and Bacteriology only.
c Biology only.
d Chemistry and Biology only.

ROYAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examination indicated:

FIRST M.B., CH.B., B.A.O.—*N. Beattie, F. L. F. G. Bennett, D. E. J. Burke, J. D. Carroll, T. J. Costello, M. M. Davitt, W. S. Dixon, W. A. L. Dunlop, E. C. T. Emerson, T. J. Farrell, B.A., T. Fennessy, J. Garvy, *W. Gaule, *S. Gedds, J. G. J. Green, H. P. Hall, *J. F. Herbert, T. W. G. Hoey, C. L. Kennedy, *G. D. Latimer, J. H. Lawler, T. J. Lydon, *J. B. Lyle, *W. S. Lynd, B.A., W. J. McCracken, W. M. H. McCullagh, Sch., W. MacDermott, *P. McDonnell, J. P. McLoughlin, *G. C. Maguire, M. Neilson, Eveline M. Noble, Mary J. O'Connor, B.A., E. J. O'Keeffe, *J. J. O'Sullivan, Edith Robinson, *R. Shanahan, H. R. Sinclair, *T. Walker, *M. J. Walsh, T. H. Wilson.

* Qualified to sit for honours in one or more subjects of the examination.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

THE annual prizes were presented by Lady Northcote on July 2nd.

Miss Cock, the Dean, who presided in the absence of Mrs. Garrett Anderson, said that two students had received university scholarships—Enid M. Walters having won the Gilchrist Studentship for women at the University of London and Emily H. Morris the R. C. Brown Scholarship for research in special pathology at Cambridge. The latter was regarded as of special importance. A large number of graduates had received appointments as medical inspectors of schools—a work for which women were eminently suited. They wanted many more women medical students. There was work waiting for them, and they had not enough women to do it.

Lady Northcote, having distributed the prizes and certificates, congratulated the students upon their splendid work. In India and in Australia she had seen women achieve great things. It was their duty and their privilege to minister to the sick and suffering, and that school helped them to discharge that duty, not only with sympathy, but with professional skill.

The large number of guests who were present at the prize-giving were afterwards entertained at tea in the school garden.

Public Health

AND

POOR LAW MEDICAL SERVICES.

WORKERS IN TEXTILE INDUSTRIES.*

In accordance with the Factory and Workshops Act, 1901, the Home Secretary, by an Order dated October 21st, 1907, directed that the occupier of every factory and workshop should furnish a correct return of the number of persons employed in 1907, with particulars as to age and sex, and voluntarily with particulars as to the marriage-state of the women employed; 257,000 occupiers were circularized in January, 1908, and reminders were sent later. In the report are embodied the results as regards textile factories; those for non-textile factories and workshops will be issued later. About 10 per cent. of the occupiers of textile factories failed to make returns for 1907, and to this extent the present statistics are incomplete. Since 1904 the number of persons employed in textile factories has increased by 60,845, or 5.9 per cent. Children have increased 903, or 2.8 per cent., and young persons 30,769, or 14.8 per cent. As regards adults, men have increased 13,681, or 4.6 per cent., and women 15,492, or 3.2 per cent. Of the total increment of 60,845, England and Wales have contributed 55,509; Scotland, 2,536; and Ireland, 4,800.

The particulars available relate to 286,275 women out of 504,821 recorded in earlier tables, and among these the unmarried, married, and widowed, were respectively, 205,353, 69,052, and 11,868, the corresponding percentages being 72, 24, and 4.

In the cotton trade the number of children who are half-timers keeps high: Males, 8,862; females, 10,189. In the wool trade the numbers are 4,001 and 4,115; while in the flax trade the numbers are 1,698 and 2,492. The manufacture of jute claims 141 and 174 boy and girl half-timers. The total numbers of children half-timers in all industries are 15,107 boys and 17,540 girls. The textile industries give employment to a total of 1,087,223 workers of all ages and of both sexes, and of these 576,820 are employed in cotton. As regards the marriage-state of women over 18 years of age it appears that of a total of 155,840 women employed in cotton factories, 106,011 are unmarried, 44,399 are married and 5,430 are widowed. The wool industry gives employment to 64,027 women, of whom 6,534 are unmarried, 1,638 are married, and 408 are widows. Flax claims 29,726 female workers. Of these 22,692 are unmarried, 5,224 are married, and 1,810 are widows. One-fifth of the total number of persons, males and females, employed in the textile industries are unmarried women and one-sixteenth are married. The figures form interesting data for future comparison.

TREES IN ROADS.

M.—The Public Health Acts Amendment Act, 1890, which is an adoptive Act, contains (Section 45) a provision to the effect that an urban authority may cause trees to be planted in the highway, but such trees must be so planted as not to hinder the reasonable use of the highway by the public or so as to become a nuisance or injurious to any adjacent owner or occupier. The Act, however, does not apply to London, and, even if it did, the wording of the section does not seem to be directly applicable to trees not planted by a local authority, even if they impede the admission of light and air. In 1886 the Lewes Corporation was convicted at the assizes for causing a nuisance by planting trees on a highway. Whether our correspondent would have a remedy at common law is a matter upon which he should consult his solicitor.

* Summary of Returns of Persons Employed in Textile Factories (including Statistics of Marriage-state of Women over 18). Wyman and Sons, Fetter Lane. 1909. Price 1d.

Obituary.

JOHN CRAW,

FORMERLY RESEARCH SCHOLAR, BRITISH MEDICAL ASSOCIATION.

MR. JOHN CRAW, at one time a research scholar of the British Medical Association, died on June 29th in a private ward at the London Hospital from acute tuberculous pneumonia. Mr. Craw, who was in his 36th year, was the son of a Glasgow engineer; he first attended the board schools, but obtained a scholarship and five years' bursary at the Allen Glen School. After leaving school he was for a short time with Professor Sexton in the Technical College for Metallurgy, and then entered the Parkhead Steel Works as an analytical chemist; later he became Science Master at the Bell Baxter Institute, Fife. Having saved some money in this appointment he went to Germany, studying under L. Meyer at Tübingen, Ostwald at Leipzig, and Nernst at Göttingen, and working eagerly at every fresh opening for original research. Having expended his small stock of money he returned to this country, and for two years was assistant under Professor Tilden; then he returned to Germany and worked with Nernst for another year. Professor Gray having obtained for him a scholarship of £150 for one year, Craw worked in his laboratory and then returned to London and pursued investigations in chemistry, physics, metallurgy, and physical chemistry. His attention was first given specially to physiological and pathological chemistry when he obtained an appointment as chemical research student at the Lister Institute, where Dr. A. Macfadyean encouraged him to bring his wide philosophical knowledge to bear on the chemical problems of immunity. About this time—July, 1905—he was appointed a research scholar of the British Medical Association, and in the following year published a report on the physical chemistry of the toxin-antitoxin reaction and of agglutination. Referring to his work in this connexion, Dr. Leonard Hill in the course of an appreciative notice in the *London Hospital Gazette* writes:

> John Craw was the first to show the importance which absorptive phenomena have in the experimental problems of immunity, to prove that the law of mass action did not hold in the neutralization of toxin by antitoxin, and that the phenomena of antitoxic reactions were not chemical reactions in the sense of the neutralization of an acid by a base, as Arrhenius and Madsen maintained. His controversy with Arrhenius has gained world-wide attention from those engaged in elucidating the problems of immunity, and it is generally held that his experiments and arguments, even those published in the last year of his failing health, remain unrefuted, and, so to speak, hold the field. One of his fundamental experiments was the separation of megatherium lysin and antilysin by a gelatin clay filter.

Craw added greatly to our knowledge of filters and the process of filtration, and lately worked much at the production of a simple and really effective field filter for use in war. Craw worked at an extraordinary amount of things, and arrived at results of interest in most, only to throw them aside as soon as his own curiosity was satisfied. Research after research he has told me of, or I have seen, left to be finished, rounded off and published at some future time. No one yet knows what his hoards of note books and manuscripts may contain. Beyond his actual contributions to pathology, Craw served a function of first-rate importance, and served it with unstinting generosity and success, namely, the function of being the storehouse of physico-chemical knowledge, and the helper in and suggester of researches to all those around him whether in the Lister Institute, at the "London," or to any who chose to consult him at a scientific meeting. It is thus that we all mourn, in the death of Craw, the loss of one of the most generous and helpful of men, and that we strove to help him in the one way that he could not help himself.

PETER ALEXANDER YOUNG, M.D., F.R.C.P.E., J.P.,

EDINBURGH.

DEATH continues to levy toll on the medical profession in Edinburgh. On June 25th there died at Bournemouth a well-known and highly respected physician, a former Treasurer of the Royal College of Physicians, and a Justice of the Peace for the county of the city of Edinburgh. Ill health had compelled Dr. Young a short time ago to relinquish practice. He retired to Bournemouth in the hope that the more kindly climate of the south would somewhat prolong his days, although he was suffering from a progressive malady.

He took the degrees of M.B. and C.M., with honours, at the University of Edinburgh in 1867, and that of M.D. in 1870; he became a Fellow of the Royal College of Physicians in 1874.

He was a Resident Surgeon in the City and County Infirmary of Perth, and during the Franco-Prussian war of 1870–1 he was an Assistant Surgeon to the Baden Women's Society at Heidelberg.

Before taking up practice in Edinburgh he was for some years in general practice in Portobello. He was a keen volunteer, and had risen to the rank of Surgeon-Lieutenant-Colonel of the 1st Midlothian Volunteer Artillery, and had received the Volunteer Decoration. An original member of the East of Scotland Tactical Society, he was a frequent contributor to its discussions, and suggested improvements in the medical part of the service, to a number of which effect had been given by Mr. Haldane in his Territorial scheme.

A Colonial by birth, he took a profound interest in the Colonial students studying medicine in the University and Extramural School of Edinburgh. He was greatly

interested in social and temperance work, and was for many years Secretary of the Scottish branch of the British Medical Temperance Association, and was keenly opposed to the use of alcohol in medical practice. He was Treasurer of the Edinburgh Medical Missionary Society for some considerable time.

Dr. Young was a genial, kindly, and refined man, had many friends and no enemies. No one ever heard a biting word of criticism from him.

He was a good family doctor, full of sympathy and patience, and had earned the confidence and affection of many. His death leaves another gap in Edinburgh which will not be easily filled. His wife died some years ago.

NATHANIEL JOSEPH HOBART, M.D.,

CONSULTING SURGEON, NORTH CHARITABLE INFIRMARY, CORK.

The medical profession in Cork has sustained a great loss in the death of Dr. Hobart, who passed away full of years and honour on June 24th at the ripe age of 84 years.

He was the only son of the late Lieutenant-Colonel Hobart, H.E.I.C., and was born in India on January 6th, 1825. He received his medical education in Dublin and St. George's Hospital. He obtained the diploma of M.R.C.S.Eng. in 1846 and graduated M.D.Glasg. in 1849. He was appointed medical attendant to the Douglas Dispensary (a dispensary which before the Poor Laws were in operation was maintained by various private persons), and was also medical attendant to Togher, Pouladuve, and Glasheen United Dispensaries. He held many important medical appointments; he was Consulting Surgeon to the Home for Protestant Incurables; the Cork Eye, Ear, and Throat Hospital; the Victoria Hospital for Women and Children, and the Cork Protestant Orphan Society. He was Surgeon to the Cork North Charitable Infirmary until he retired in 1900, when he was appointed Consulting Surgeon. He was nephew of a famous Cork surgeon, Samuel Hobart, F.R.C.S.Edin. and Irel., who successfully treated in 1836 subclavian aneurysm, as well as inguinal aneurysm, by ligature.

Dr. Nathaniel Hobart in his life fully maintained the surgical traditions of his family, and rapidly rose to the foremost position as a surgeon in the city of Cork. In his professional life he was always held in the highest appreciation; a neat operator, it was always a pleasure to see him at his work. Students and practitioners looked forward with interest to any demonstration of his great surgical skill. But in addition to his surgical attainments, which were of the highest order, he possessed a charming and lovable personality. He was full of the humour of the Irishman, and endowed with great natural wit; his memory will be revered by all who knew him.

In his long life he had many and strange experiences, and these he was fond of relating; nowhere was his genial influence felt more than in the social meetings amongst his brethren in the medical profession and at his own ever-hospitable board.

He held the position of Honorary Secretary to the Cork Medical Society in its early days, and more than once was elected to its Presidential Chair. He had held the office of President of the Cork Branch of the British Medical Association, and was also one of the Secretaries of the Section of Surgery when the British Medical Association met in Cork in 1879.

Always active and earnest in all that pertained to the betterment of professional life, Dr. Hobart gave his time, experience, and close attention to questions relating to its welfare, and under his encouraging chairmanship was fought the now memorable dispute with the Cork Benefit Societies. He rarely missed a meeting, whether general or of a committee, from the time the Cork medical profession actively took up the matter in 1894 to 1899, when, having suffered from a serious illness, he had to retire from all such strenuous work. Although unable to be present at its meetings, the Cork medical profession yearly re-elected him to the chairmanship.

He believed that deeds were more than words, and nobly acted to his belief. The medical profession can ill spare such a loyal member and sympathetic friend.

Dr. Hobart married Miss Herbert, granddaughter of the late Mr. Herbert, of Muckros, Killarney, and had issue four daughters and three sons. Of the latter, Dr. N. Henry Hobart adopted the medical profession, and succeeded his father as surgeon to the North Infirmary, etc.

GEORGE ARCHIBALD MACONACHIE, M.D.,

BRIGADE-SURGEON-LIEUTENANT-COLONEL, I.M.S. (RET.).

We regret to announce the death of Dr. G. A. Maconachie, which occurred at his residence in Aberdeen on June 26th. Dr. Maconachie received his early education at the Aberdeen Grammar School, and took his medical course at Aberdeen University, graduating M.B., C.M. in 1866, and taking the M.D. degree in 1872. In 1867 he entered by competition the Indian Medical Service, and was posted to the Bombay side, where he had a distinguished and highly honourable career. He held various medical appointments and served in the Abyssinian war, acting as medical officer of the reconnoitring force and being present at the fall of Magdala. In those stirring days, it is interesting to recall, he shared the tent of the late Sir William Lockhart, the distinguished soldier on whom afterwards devolved the chief command in the Afridi campaign. Later Dr. Maconachie was appointed professor of ophthalmology in the Medical College, Bombay, and soon afterwards became Principal as well as professor, and in that dual capacity obtained a large experience in administrative affairs. For upwards of twenty-five years he was a member of the Bombay Educational Department, and besides his connexion with the Medical College held other appointments in Bombay University. He was also a member of the Municipal Corporation and a director of the Mechanics' Institution. He retired from the service with the rank of Brigade-Surgeon-Lieutenant-Colonel in June, 1891.

He settled in Aberdeen, and there continued his interest in educational affairs; much to the public advantage, he was induced to become a candidate for the Aberdeen School Board in 1900, and served for a term of three years. On that Board his wide and varied knowledge of educational problems was of great value, and he was able to render esteemed service to the community. He was an exceedingly able and accomplished man. His medical work in India had given him a full and exact knowledge of the diseases peculiar to tropical countries, and in 1899 he accepted the post of lecturer on tropical medicine in Aberdeen University which he held for some years.

His Indian career lasted over thirty years, and he may well be described as one of the many Aberdeenshire men and graduates of the university who by their attainments and high character have rendered eminent and distinguished service to their country in the foreign and colonial fields. The valuable work he achieved merited and received the most cordial recognition. Dr. Maconachie is survived by his widow and family—his son being in the Indian Medical Service.

The death is announced of Dr. Samuel Alexander, who, until his retirement to Leigh-on-Sea a short time ago, had practised for fourteen years in Bow. He received his medical education at Queen's College, Belfast, and Edinburgh, obtaining the diplomas of L.S.A. in 1879, and those of L.R.C.P. and S.Edin. in 1880. In early life he was for a short time assistant to the late Dr. Bullock of Isleworth, and afterwards for six years to the late Mr. Cheatle of Burford, Oxford. On leaving Burford on his marriage he was the recipient of an illuminated address and presentation. After a short residence in Hampshire he settled at Bulwell, Nottingham, where he practised for six years. On leaving Bulwell to take up practice in Bow he was presented by his friends and patients with a gold watch and chain, and his wife with a silver tea service. Dr. Alexander, who was Surgeon to the North London Railway Works, Bow, was a member of the British Medical Association. He was a practitioner who kept himself abreast of the times, and his death so shortly after his retirement has caused much regret. He died on June 17th, at the age of 53, after a short illness.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are His Excellency Dr. Georg von Neumayer, for many years one of the leading spirits of the German Society of Scientists and Medical Practitioners, aged 83; and Dr. Jewetzky, Professor of Ophthalmology in the University of Dorpat.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE—National:—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2636, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary is stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

LT.-COL. MCINTOSH (Fort William, Ontario, Canada) desires vol. ii, 1905, and vol. i, 1906, BRITISH MEDICAL JOURNAL, bound or unbound.

EGYPT FOR RHEUMATOID ARTHRITIS.

"M.D." asks for information as to a suitable winter residence in Egypt for a lady with rheumatoid arthritis. The terms must be moderate.

*** Helouan would be a suitable place, and good accommodation could be obtained at from 8s. to 12s. a day. The charges at Luxor and Assouan, which might in other respects be deemed suitable, would be higher.

ANSWERS.

MODERN TREATMENT OF FRACTURES.

A.—Dr. Lucas-Championniere has not published a second edition of his work on the treatment of fractures by massage and mobilization published in 1895, but in 1905 Dr. Dagron, his assistant, published a book entitled *Massage des membres* (Paris: G. Steinheil, Fr. 12) which gives a good account of the method, and discusses also the use of massage in various injuries of the limbs. Dr. Lucas-Championniere published in the *Medical Annual*, 1909 (Bristol: J. Wright and Co., 8s. 6d.), an article on the modern treatment of fractures which in some respects supplements the address recently published in our columns (June 12th, p. 1397).

LETTERS, NOTES, ETC.

A WARNING.

W. H. B. S. writes: Will you allow me through your columns to warn members of the medical profession to be scrupulously businesslike and careful in their dealings with a traveller from Virtue and Company, of 38, Shoe Lane, E.C., who tries to sell coloured prints—and, perhaps, other articles?

MEDICAL GOLFING SOCIETY.

THIS society held its annual tournament on June 24th at Burnham Beeches, by kind invitation of the Burnham Beeches Golf Club. The "Henry Morris" challenge cup and the Medical Golfing Society's gold medal were won by W. Page May. The first prize in Class I (handicaps 12 and under) in the 18 holes match play *v.* Bogey, was also won by W. Page May with the excellent score of 4 up. The second prize in this division was gained by W. Bramwell Reid (3 up), after a tie (decided on first 9 holes) with H. Cleveland Smith and F. Foord Caiger. The prize for the best last 9 holes was taken by F. Foord Caiger (4 up). In Class II (handicaps over 12) Herbert Hathorn was the winner with 3 up, while Edward Law was second with 2 up. The prize for the best last 9 holes also went to H. Paterson (2 up). The foursome sweepstake was won by G. A. Sutherland and Bruce Hamilton with 1 up. The second place was tied for by H. Tilley and J. Mansbridge and J. R. Walker and C. M. Anderson, who returned cards "all square." This tie will be played off shortly, as they were also "all square" on first 9 holes. P. Edgelow and P. Kolesar were "all square" on the round of 13 holes, but they were 1 down on the first 9.

"MEDICAL TESTIMONY AS TO CHRISTIAN SCIENCE."

MR. FREDERICK DIXON (Christian Science Committees on Publication, 23 and 24, Clun House, Surrey Street, Strand, W.C.) writes: You have referred to me personally in your article on Medical Testimony as to Christian Science, printed in your issue of July 3rd, therefore I am confident you will permit me to state my views; and I am the more convinced that you will do this as, no matter how strongly we may have differed, you have always had the fairness to allow me to be heard. I do not think it is possible to say that in my letter to the *Outlook* I made use of your original article in a "misleading" way. I said that you could not question Mr. Wilding's qualifications; and surely you do not. You admit that his degrees are genuine, and surely those degrees constitute his qualifications. If it were not so the public would have no guarantee that the medical profession was composed of qualified medical men. The distinction implied in a "legal" qualification would amount to nothing else than an admission that the medical profession might be composed of incompetent physicians, and it is impossible that you should intend this. Now may I apply your ruling to the case which gave occasion for it? The only use I made of your article was the perfectly fair one of showing that the evidence of Mr. Wilding, whose qualifications as a medical man you did not dispute, must have been quite as available to Mr. Paget as that of a number of anonymous American doctors. In saying that you were careful to use an expression which could not be tortured into making you responsible for anything more than having opened your eyes to certain evidence to which Mr. Paget had shut his. If your ruling is correct, if the fact of the possession of a degree does not necessarily qualify Mr. Wilding to speak with authority on the cases he cited, what are we to say of the evidence of other doctors given against Christian Science? What sort of value is to be attached to the evidence of the anonymous American doctors, whose degrees may be as shadowy as their persons, for anything that is known to the contrary? As a mere matter of fact, it would be perfectly justifiable to meet Mr. Paget's anonymous physicians with the immortal utterance of Betsy Prig, "We don't believe there's no such persons."

*** We can only repeat that we think Mr. Dixon's reference to what we said about Mr. Wilding's qualifications misleading, though of course we do not say it is so intentionally. The word "qualification" in its medical sense has only a technical meaning; it denotes that a man has passed the examinations of one or more of the licensing bodies recognized by law. Mr. Dixon, writing in a lay paper, uses the word, doubtless in all good faith, in a way that is likely to convey to the reader who does not know its precise meaning, the impression that we accept Mr. Wilding's statements. Mr. Dixon tells the reader that he will find in the BRITISH MEDICAL JOURNAL of June 5th "the evidence of an English doctor" as to certain cures which he says he has seen wrought by means of Christian Science. We say again, we have quoted some statements made by Mr. Wilding, but we gave no evidence, for none was vouchsafed. We have asked again and again for evidence that can be tested, but neither Mr. Wilding nor Mr. Dixon has come forward to help the cause of truth—which we presume is in their eyes the cause of Christian Science—in the only way that can carry conviction to the minds of unbelievers in that cult. Until Mr. Dixon furnishes us with facts, and with evidence in support of them such as is required from medical writers whatever be their "qualifications," he must excuse us if we decline to continue a controversy which can lead to nothing.

THE CAUSATION OF CANCER.

DR. ASPINALL MARSDEN (Lightcliffe, Yorks) writes: May I suggest that a special committee of the British Medical Association might with advantage be formed to review and sum up the evidence in favour of cancer arising from "natural causes"? From their voluminous reports it is evident that the Imperial Cancer Research Fund "have their hands full," so that any facts or conclusions which such a committee could place before them would, I am sure, be "thankfully received and faithfully applied."

Reverting to my letter of June 5th, I am hoping for further opinions in favour of a verdict of cancer from natural causes. The influence of irritation in resuscitating ancestral reproductive faculties in specialized cells is, I am sure, not only a possibility but a probability, and one in harmony with the doctrines of evolution.

Will Dr. Gilchrist kindly *illustrate* his valuable opinion "that most of the chronic pathological processes are susceptible of explanation on purely evolutionary principles"? This would go a long way to my view, which I wish could be tested experimentally.

Dr. P. R. Cooper, of Manchester, kindly writes me: "Further study of this subject during the last nine years, in which I have carefully followed all the scientific contributions on cancer etiology that I have been able to find, has only tended to confirm me in the main idea—namely, that cancer is essentially a defect in the healing or reparative mechanism of the body, especially the integrative part." The tips of the branches of gooseberry bushes will, of course, root if they come in contact

with the soil, and I know of a clustered bellflower (*Campanula glomerata*) which rooted at its tips because the plant was accidentally bent in semicircular form and the weight of the flowers kept the tip pressed against the soil. Such examples would seem to prove that all cells have a latent power of reproduction in addition to the distinct acquired purpose of the present day. So it may be with cancer: under the stimulus of unusual irritation cells lose the capacity for their acquired distinctive work and go back to the original and primitive work of reproduction.

PROGRESSIVE FALL OF BLOOD PRESSURE IN BRIGHT'S DISEASE.

SURSUM writes: I should like to call attention to a case of Bright's disease under my care, which ended fatally with progressively decreasing blood pressure.

The patient was a man of 40, in whom the disease was brought on by great intemperance; there was much albumen in the urine, which was diminished in amount. The average radial pulse obliterated pressure had been for months 185 to 205 mm. Hg (Riva-Rocci, Martin's modification). One Monday, when not very well, I found the pressure 175. The artery was dilated, and though previously I had been unable to detect with certainty by the finger the smaller differences, this time it was easy. On Tuesday he vomited once, and the pressure was 165. On Wednesday he had a short dyspnoeal attack, and the pressure was 160. On Friday it was 150, and he had dyspnoea and cardiac pain, relieved by amyl nitrite. On Monday the pressure was 135, and on Tuesday, when semi-comatose, 128. He died on Tuesday after thirty-six hours' coma, with muscular twitchings, and two short revivals only. The urine became scantier throughout the week, and none was passed during the last two days. There was no sign that heart failure was the cause of death, unless anginal attacks are to be taken as proof of a breakdown.

Into my possible sins of omission I do not wish to enter, but the case brought home to me the textbook statement that low pressure in diseases where blood pressure is usually high is of bad omen; also that while in renal disease we are usually on our guard against high pressure, one of the protean forms of uraemia gives rise apparently to the very reverse sign.

QUININE IN SYPHILIS.

DR. JOHN BAIN (171, Lauderdale-lane, South Shields) writes: In the issue of the JOURNAL for May 22nd I read with much interest the description of a case of severe secondary syphilis successfully treated by the combined administration of mercury and quinine.

For a number of years I have been treating my cases of severe secondary syphilis in a somewhat similar manner and always with the best results. It has been my experience, however, that bad cases of secondary syphilis, and especially those with severely ulcerated throats, do best when mercury is withheld and its place taken by full doses of tincture of iron. The prescription which has given the best results is as follows:

R Quinini hydrochloratis	...	...	gr. xxx
Tinct. ferri perchlor.	...	...	℥ss
Glycerini...	...	...	ʒij
Aq.	...	ad	℥viii

Sig. Tablespoonful thrice daily in a little water 30 minutes after food.

Three bottles of this mixture are, as a rule, quite sufficient to clear up badly ulcerated throats, which had previously resisted treatment by full doses of mercury internally and gargles and antiseptic applications locally.

It is my practice to keep my patient on the iron and quinine for ten days after the throat has quite cleared up, and then to substitute mercury for the quinine, the iron and mercury combination being afterwards continued during the whole course of treatment. In this manner the patient is enabled to stand far larger doses of mercury perchloride than he could tolerate if the drug were given alone. It is a notorious fact that this preparation has a great tendency to upset the stomach, but when given along with full doses of iron this seems to be quite overcome, and a patient can take for months ½ grain of the perchloride without making the least complaint of any derangement. One of my patients once took by mistake double doses of his medicine, taking ½ instead of ¼ grain of perchloride three times daily, and yet he suffered from no stomach disturbance, and stated that the medicine had done him a world of good.

Probably the reason why iron and quinine are so seldom given in this country in the treatment of syphilis is due to the teaching of Sir Jonathan Hutchinson, who in his book on this subject states that these remedies should be given only in exceptional cases. His words are as follows: "In like manner, all tonics (quinine, iron, etc.) enable the system to resist mercury, and should be used only when really necessary. If a patient be kept in bed, and on rather low diet, he will yield much more quickly to mercurial influence, and ptyalism may be induced, under such conditions, with half the doses required in one who is about in the fresh air."

TREATMENT OF INHERITED SYPHILIS.

DR. C. F. MARSHALL (London, N.W.) writes: In your reply to "Spirochaete" in the BRITISH MEDICAL JOURNAL of July 3rd, you state that syphilis in the fetus and newborn (so called hereditary or congenital syphilis) is of maternal origin. I presume you mean "of maternal origin only," to the exclusion of paternal origin. In support of this view you mention Matzenhauer's *Die Vererbung der Syphilis*. As I have previously pointed out (BRITISH MEDICAL JOURNAL, February 29th, 1908), Matzenhauer's views were the subject of a discussion at the Vienna Medical Society in 1903, when the leading syphilologists of Vienna were opposed to him, and supported the view of the paternal as well as the maternal transmission of syphilis. If "Spirochaete" refers to the latest edition of Professor Finger's *Die Geschlechtskrankheiten*, 1908, or to my book on *Syphilology and Venereal Disease*, he will find an impartial view of the question.

INSURANCE FOR MEDICAL MEN.

DR. J. CREAGHE (Lujan, Buenos Aires) writes that at the time when he received the BRITISH MEDICAL JOURNAL of April 10th, 1909, containing the article on insurance for medical men, he had just received a notification to pay his quota to a medical association established in Buenos Aires, as to which he sends the following particulars: It is formed entirely of medical men, and has just completed its tenth year of existence, with an accumulated capital of $108,529, the number of the members being only 340. Each member pays $100 a year ($50 every six months), and at his death his family or the person indicated by him, receives ten times the amount he has paid during his lifetime until the tenth payment and after that five times. The association has paid out during ten years $141,800; it does not, however, pay more than $10,000. The returns for those who receive the benefit the quotas paid after receiving the amount. The association, in the same way, pays also those who are unable to work, but they cannot again enter as members. The treasurer of the association is Dr. Manual Dellepiani, Calle Santa Fé 1929, Buenos Aires.

SUBSTITUTES FOR COCAINE.

MR. J. R. PEDLEY (Tunbridge Wells) writes: Referring to the recent article on local anaesthetics (BRITISH MEDICAL JOURNAL, March 27th, 1909, p. 783), in which a good deal of prominence is given to novocain, one is led to suppose that at last a substitute for cocaine has been discovered. In comparing novocain, however, with cocaine with regard to anaesthetic strength, I notice that it is not definitely stated whether the former was used with or without the addition of suprarenal gland. Having used novocain in a large number of tooth extractions, and novocain suprarenin, I think your readers will find that in anaesthetic strength a 1 per cent. solution of cocaine hydrochloride is equal to a 2 per cent. or 2½ per cent. novocain (without suprarenal extract), and that a 1 per cent. cocaine hydrochloride suprarenin is equal to a 2 per cent. novocain suprarenin solution. Unfortunately we are, as dentists, frequently called upon to remove septic roots and teeth from inflamed bony tissues, and it is in these cases the addition of suprarenal gland extracts is surely contra-indicated. Novocain (that is, novocain suprarenin) tablets, if injected where these conditions are present, I have found, by arresting all haemorrhage and the evacuation of discharges for some hours, is followed by an unusual amount of aching pains in the jaws. In conclusion, novocain, strength for strength in anaesthetic effect, and without the addition of suprarenal gland, is a poor substitute for cocaine. The ideal local anaesthetic, from a dentist's point of view, is still to be discovered.

BALL PESSARY.

DR. T. H. MOORHEAD (Cootehill, Ireland) writes: A long experience of gynaecological cases has convinced me that the ball pessary possesses many advantages over any form of ring in comfort to the patient when the only object is to support the uterus, but the objections to the boxwood or vulcanite pessary generally prohibit its use. Some years ago an old woman was admitted to hospital with a prolapse that no ring pessary would keep up. Casting about for some means of relieving her, it occurred to me to try a child's rubber ball. I got one of suitable size, compressed it with a pair of ovum forceps, and had no difficulty in introducing it, with such satisfactory results that I have often used it since. When I want to remove a ball I cut a slit in it with scissors, introduce my finger, and hook it out. I do not suppose the idea is novel, but it cannot be generally known, else three-penny rubber balls would be priced in the catalogue at a shilling each.

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TO ILLUSTRATE SIR VICTOR HORSLEY'S LINACRE LECTURE.



Fig. 1.—Thirteenth Century MS. (Bodleian Library) showing Aristotelian view of the nervous system as only consisting of nerves starting from the cardiac region and omitting the brain as of no importance. The original drawing shows, however, the two spinal roots discovered by Galen, though it does not connect them with the nerves.

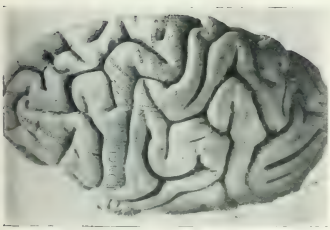


Fig. 2.—The hemisphere of an orang showing motor representation as found by excitation. (Beevor and Horsley, 1890.)

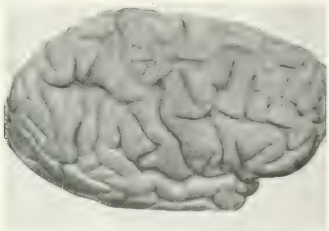


Fig. 3.—Motor representation as found by excitation in man. Isolated observations collected and entered on photograph of cast (Cunningham) of low type human brain. (Horsley, about 1895.)

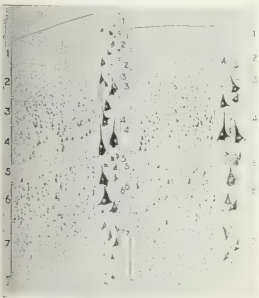


Fig. 6.—Cell lamination of the gyrus post-centralis. The section on the left of the reader is taken from just behind the upper end of the fissure of Rolando, that on the right is from the posterior edge of the gyrus, and termed by Campbell "intermediate post-central area." (Plate VI of Campbell's work.)



Fig. 7.—Fibre arrangement and cell lamination in the pre-central area. (Plate III of Campbell's work.)



Fig. 8.—Fibre arrangement and cell lamination of Campbell's intermediate pre-central area, the dotted region in Fig. 5 in the front part of the gyrus pre-centralis. (Plate XXI of Campbell's work.)



Fig. 18.—Hn. after operation. "Voluntary" movement of the left upper limb in placing the hand on the iliac crest.



Fig. 19.—Hn. after operation. "Voluntary" flexion of elbow and abduction of shoulder. Fingers continuing to slowly flex.



Fig. 20.—Hn. after operation. Forcible voluntary abduction and extension of limb, showing the effort causes contracture of the digits. (3 sec. exposure.)



Fig. 21.—Hn. after operation. Fullest possible "voluntary" extension of the digits. (Instantaneous photograph.) Graded power of extension from thumb active, to little finger inactive.



Fig. 22.—Hn. after operation. Fullest possible voluntary flexion of digits, the ring and little finger contracted by extra flexion of contracture out of sight. The concurrent hyperflexion of wrist (that is, absent normal extension) is well marked. (Instantaneous photograph.)

The Linacre Lecture

ON

THE FUNCTION OF THE SO-CALLED MOTOR AREA OF THE BRAIN.

DELIVERED TO THE MASTER AND FELLOWS OF ST. JOHN'S COLLEGE, CAMBRIDGE, MAY 6TH, 1909,

BY SIR VICTOR HORSLEY, F.R.S., F.R.C.S.,

SURGEON TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, LONDON; AND CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

[WITH SPECIAL PLATE.]



THOMAS LINACRE, 1460–1524, Physician to Henry VIII, one of the benefactors of St. John's College, Cambridge, as well as Merton College, Oxford (see Professor Osler's Linacre Lecture, 1908), founded at both universities provision for medical teaching of which this annual lecture is now one of the units.

My appreciation of the honourable duty of delivering this lecture on the functions of a part of the brain is increased by the fact that Linacre lived just after a renaissance not only in religion but in cerebral physiology. The biological renaissance consisted in the recognition of the grave error made by Aristotle, who endeavoured to guess at function by observing structure rather than living action, and who thereby naturally failed to understand the meaning and purpose of the brain.

Fig. 1 on the plate is a reduction of a hand illumination from a thirteenth century MS. in the Bodleian Library, showing the anatomy of the nervous system, in which, according to the Aristotelian teaching, the brain is not represented, as being only an organ to cool the heart, and having no connexion with the nerves.[1]

It was reserved for the students and translators of Galen, among whom as a literary expert Linacre was himself pre-eminent, to learn the truths of neuro-physiology from the trenchant experimental method of the Roman physiologist. It is highly appropriate, therefore, on this occasion when Linacre's memory is being respected by his college, that a consideration of some important points in the history of brain function should be the object of the lecture, and the point I have therefore chosen is, What is the actual function of the so-called motor area of the brain?

The idea that localized—that is, restricted—parts of the cerebral hemisphere subserve among other functions definite movements of certain parts of the body, may be said to have commenced with Bouillaud's experimental observations on the vocalization of dogs, since by his researches it appeared that destruction of a certain part of the cerebral hemisphere was followed by loss of purposive vocalization movements of the larynx.

It was not, however, till many years later that the epoch-making discovery of Hitzig[2] and Fritsch opened up the larger field of research, which was extended by Ferrier,[3] until a map of the so-called motor area could be constructed for the surface of the monkey's brain and the various "centres" for the different parts of the body delimited.

Our knowledge of this region has become so increased by subsequent workers that for a discussion of the present state of science on the so-called "motor" area I must confine myself strictly to the consideration of but one part of it—namely, that for the representation of the upper limb—which part of the body, including as it does some of the most highly trained combinations of sensation and movement, is specially worthy of study.

It is also time that yet another protest should be raised against the expression "motor area" as untrue scientifically, and, like many unfortunately convenient expressions, so misleading as to hamper the progress of knowledge.

Dr. Bastian's[310] much more logical expression "kinæsthetic area" has, unfortunately, not found general adoption, and yet none better expresses the fact that there is no such thing as a purely motor centre in the cortex cerebri, the whole structure being, in Dr. Hughlings Jackson's language, sensori-motor, or a combined mechanism for the record and execution of afferent and efferent nerve impulses.

Physiologically, the term "motor" has doubtless been employed because of the movements obtained from the Rolandic cortex on excitation. But the term "excitable" area is equally inadmissible when used without qualification, not only because so-called "sensory" cortical regions—for example, the visual area—equally give motor, that is, efferent, results on stimulation, but also because the term leaves out of sight the sensory functions which I have shown are represented in the Rolandic gyri.

We will first briefly consider the topographical outline of the area for movements of the upper limb as determined by means of electrical excitation in the bonnet monkey (*Macacus sinicus*), the anthropoids (the orang and chimpanzee), and in man.

Ferrier's[3] map of the cortex of the Macaque monkey is well known, and represents the arm area as extending on both sides of the fissure of Rolando.

The work of the late Dr. Beevor and myself, begun in 1885, to further analyse more minutely the functions of the arm region, may be summed up as a catalogue of the movements of the different parts of the limb and of their successive order. Although we observed movements, especially of the thumb and fingers, to follow excitation of the gyrus post-centralis—that is, behind the fissure of Rolando—that gyrus we found was not always excitable, and the movements obtained from it were restricted and feeble. We believed at the time† that this was due to the main representation being in front of the fissure of Rolando.

As will be seen directly, this question of the excitability of the gyrus post centralis has now, in the light of modern anatomical research, become interesting on the question of the relation of structure to function, and to the anatomist, as far as the upper limb is concerned, the question of the presence or absence in both central gyri of Betz cells as necessary elements for the intentional movements of the arm segments.

In the first place I would say that I have electrically tested this gyrus either in lecture demonstrations or in the course of experiments in each of the twenty-four years that have elapsed since 1885. Physiologically there is no question that the gyrus post-centralis is more frequently excitable than not in *Macacus sinicus* and in large specimens of *Macacus rhesus*, and that it is less excitable as we ascend the evolutionary scale. But the same point has also been approached in a controlling method by Munk,[10] who, having excised the gyrus pre-centralis in twelve monkeys, found that the gyrus post-centralis was excitable. Grünbaum and Sherrington,[2] however, did not obtain this result in a chimpanzee. So also Rothmann,[6] who has devoted so much time and indefatigable work to the subject of the motor area and pyramidal system, found the gyrus excitable in twelve monkeys (chiefly *Macacus rhesus*), with one exception.

Brodmann,[18] on the other hand, obtained evidence of excitability only in two monkeys, in which he thought that the pre-central cortical structure was abnormally present in the gyrus post-centralis.

The most elaborate investigation of recent times—namely, that by Herr and Frau Vogt,[19] extending over a large series of different species of the lower apes—resulted in the practically invariable conclusion that the gyrus post-centralis is inexcitable. They employed the so-called unipolar method of excitation (see footnote, p. 126).

We will postpone for the present the consideration whether the positive results and efferent results obtained by such stimulation of the post-central gyrus are due to the excitation of a mainly sensory or a mainly motor cortex.

The first experiment in an anthropoid was a solitary

[1] See also my work on the Spinal Cord, 1892.

† *Phil. Trans.*, p. 158.

observation by Dr. Beevor and myself,[18] of which Fig. 2 (on the plate) is the record.

From it it will be seen that we only obtained evidence of excitability of the post-central gyrus at two points. This single experiment, confirmed in all other essential particulars, has been superseded by the extensive researches of Sherrington and Grünbaum, who were enabled to make a great many experiments on the orang, chimpanzee, and even the gorilla. They found that the gyrus post-centralis in the anthropoid was inexcitable to a stimulus which evoked a response from the gyrus pre-centralis, but "facilitated" elicitation of movement from the gyrus pre-centralis.

In man the cortex cerebri has been frequently stimulated in order to guide the surgeon in various operations undertaken for the relief of conditions irritating this region. Up to the year 1890 Beevor and I collected the facts then available, and others have been contributed since by Lamacque, Keen, Lloyd, Mills and Frazier, F. Krause, Cushing, myself, and others. Inasmuch as the exact determination of the cortex stimulated has not always been possible under the special circumstances of an operation, I put together twelve years ago the points that I had myself noted and could be responsible for. From the photograph reproduced in Fig. 3 (see plate), it will be seen that in man I have never elicited a motor response by stimulating with a minimal current the post-central gyrus. Last year, desiring to remove the whole upper limb centre in a patient who was suffering from violent convulsive movements of the arm, I stimulated the Rolandic gyri, and Fig. 4 (see plate) is the rough sketch made immediately after the operation. The inferior genu of the fissure of Rolando is marked by a G, which is placed upon the gyrus post-centralis, and which was inexcitable to the current adequate for the points numbered (except 7) on the gyrus pre-centralis.

We may be certain, therefore, that the more essentially motor part of the kinaesthetic representation of the upper limb lies in the gyrus in front of the fissure of Rolando. We shall see presently that though this is the case, the Galenical method of experimentation, namely, the removal of this same centre, proves that this is not the only part of the cortex cerebri from which voluntary movement can be obtained, and that it is also the seat of highly important sensory as well as motor functions. (Cf. especially Mott[25].)

We may now examine the intensely interesting work which has been contributed of recent years to extending our knowledge of the anatomy of the different regions of the cortex cerebri. When the discovery of "motor centres" first attracted attention, Dr. Bevan Lewis,* as long ago as 1878, showed that the pre-central gyrus contained giant pyramidal cells in groups, and he mapped out this part of the cortex as being specialized for motion. Possibly because the groups of these giant pyramidal cells did not correspond to the foci of representation as demonstrated by the method of excitation, and possibly also because (as he showed) there are areas of the "motor" cortex where no such cells exist, his observations did not receive the attention they deserved.

A fresh impulse to the whole subject was given by Flechsig's myelinization method, but that method, which is essentially crude, did not produce results which commended themselves to most observers, and the subsequent alterations by Flechsig of his areas also did not strengthen his conclusions. At this juncture Campbell[41] began his remarkable work which, by the liberality of this University and the Royal Society, has been presented to the scientific world in full publication. Campbell's work has the further merit that it is in essential particulars in agreement with the independent and equally remarkably careful and thorough investigations of Brodmann.[24] The map (Fig. 5 on plate) of the cortex cerebri in man by Campbell will now make clear the point I have been dwelling on, and from it you will see that to include the whole efferent or motor area as determined by excitation we must take two of Campbell's regions, both his intermediate pre-central and pre-central areas, although he wishes, apparently, the term "motor" to be restricted to the latter. This suggested restriction of the term "motor," namely, because the giant pyramidal cells of Betz are to be found in only a certain (the major) portion of the pre-central gyrus, cannot be justified, since it would exclude the motor centres for the face, larynx, pharynx, and eye muscles, as well as part of the representation of head movements. It also disregards the anatomical rule that an efferent or motor cell varies in size according to the distance the axone has to travel in the central system—for example, the largest pyramids in the pre-central gyrus are in the leg area. Now, as regards the structure of the cortex, it may be seen from his drawings of vertical sections of the cortex cerebri that the cells of which it is built up may practically be divided into two sets—small and large. The innumerable smaller cells are grouped chiefly into two sets—polymorphic and granule—and the larger cells may be roughly divided into the giant pyramids or Betz cells, medium and small pyramids (Figs. 6, 7, and 8 on plate). The pyramid cells must be regarded as the outgoing stations in any part of the cortex, because their axones pass down through the central nervous system, and thus, again, it is not philosophical to consider the Betz cells as the only "motor" element in the cortex cerebri. The much more numerous small cells of polygonal and varying outlines forming the granule layers may be regarded as belonging to a mainly afferent or "sensory" receptive and associative system—that is, the mechanism underlying the preliminary stages of a cerebral motor response. This view of the polymorphic and granule cells of the Rolandic area which I put forward[13] at the Congress of American Physicians and Surgeons at Washington in 1888 on the somewhat slender grounds of homology, has now received the adequate criticism of research, and the receptive character of the cells may be considered to be established by the researches of Bolton, Ramon y Cajal, Mott, Watson, and v. Kappers, among many others. Moreover, the true method of regarding the anatomical construction of the cortex cerebri should begin by accepting the principle first enunciated by Hughlings Jackson from the consideration of the nervous system from the evolutionary standpoint—namely, that every centre in the nervous system must be sensori-motor. Such a thing as a pure motor centre could not exist, since it would be unfurnished with the causative sensory mechanism essential to the occurrence and production of the motor or efferent impulse; and, in fact, a muscular action would be an effect without a cause—an absurdity which indeed the old idea of psychic spontaneity of action involved.

The cortex itself affords a striking example of the disadvantage of any narrow discrimination of nerve centres into "motor" and "sensory." Thus, for the production of the movement of conjugate deviation of the eyes there exists a centre in the motor area so-called, and yet, as Schäfer[16] showed, excitation with a rather stronger stimulus will produce precisely the same movement from a so-called sensory centre—namely, the visual area of the occipital lobe. This latter, the area striata of Elliot Smith, though enormously rich in its granular layers, contains certain pyramidal cells (Meynert's) which are the motor or efferent element in the visual sensori-motor centre. It is obviously quite possible that the motor phenomena obtained from the post-central gyrus, and which can be obtained in different individuals of the Macaque species, may be also instances possibly of stimulation of a mainly sensory centre producing efferent, that is motor, phenomena through its medium sized pyramids.

We may now turn with advantage to Campbell's anatomical investigation of the post-central gyrus, and may remark in passing that Brodmann's description of the same only differs in a more minute subdivision of the cortex of the convolution. Campbell suggests that the post-central gyrus in its richness in small or granule cells, in the absence of Betz cells, and in the arrangement of its fibres, should be regarded as a sensory centre, and this raises at once an enormously large question, namely, What is the seat of the representation of all forms of sensation of the upper limb in the cortex cerebri? This is also particularly the moment to draw attention to the

* It should not, in my opinion, be assumed that the effect of a minimal stimulus, evoking, as it often does, but a single movement of one segment of a limb, is a criterion of all that is represented—that is, in that portion of the cortex cerebri. The response elicited from the cortex cerebri by a stimulus is within limits proportional (1) to the strength of the stimulus and (2) to the degree to which the movements of any given segment or part of the body are represented at the point stimulated. Consequently a minimal stimulus may only be adequate for one item of several represented in one portion of the cortex. It also must not be forgotten that, physiologically considered, an electrical stimulus is a crude method of exciting a nerve centre.

disadvantages attendant on the way in which this subject has been dealt with in textbooks and even monographs. As a recent paper by Mills and Weisenburg[10] shows, some neurologists still think of the nervous system as being made up of sensory centres and motor centres respectively. It appears to me that on this all-important question not only the general principles of Bastian and Jackson, but also the original teaching of Munk, are in danger of being overlooked in this country and, perhaps, in America. Munk[7] has always spoken of the so-called motor area as the "Fühlsphaere," and has regarded the cortex cerebri of this region as the mechanism for storing up the memories of movements—he holds, in short, no part of the cortex should be termed the motor area, since by implication the representation therein of those sensations and sensory disturbances which of necessity precede every muscular action is left out of sight. Every lesion of this region in man that I have seen during the past twenty-four years has served to confirm Bastian and Munk's mode of regarding cerebral function.

Attempts made, therefore, to discover areas of the cortex cerebri in which the representation of sensation (all forms) of parts of the body might be very strictly localized in sensory centres have hitherto failed in proving the existence of such areas. Schäfer and myself[11] observed reduction of sensibility in the limbs after lesions of the limbic lobe, a region which Ferrier had suggested might be a field of sensory representation other than osmotic; but it is possible that the effects we observed were due to deeper involvement of the corona radiata, and that thus the thalamo-cortical system was injured near its origin. Campbell has inadvertently represented me as relying on these few experiments as indicating a centre for somatic sensation. On the contrary, from the year 1886 onwards (see index of papers referred to) I have constantly demonstrated and published evidence to show that a considerable proportion of the sensory representation of the upper limb exists in the so-called motor or Rolandic region.

The first case by which I established this fact in 1886 was one of excision of a small traumatic cyst for epilepsy, which operation (with ligation of veins immediately surrounding) caused the following phenomena:

> After the operation the patient was at first completely paralysed in the digits of the right upper limb, and for further flexion of the wrist and supination of the forearm.
>
> Coupled with this motor paralysis there was loss of tactile sensibility over the dorsum of the two distal phalanges of the fingers.
>
> He could not localize a touch anywhere below the wrist within the distance of one internode; finally, he could not tell the position of any of the points of the digits. Thus we have here apparently a distinct instance of loss of tactile sensibility and muscular sense, coupled with motor paralysis, all due to lesion of the cortex. (BRITISH MEDICAL JOURNAL, 1886, vol. i, p. 673.)

The lesion was by measurement estimated to lie in the centre of the upper third of the gyrus pre-centralis (see Fig. 9 on plate). The patient is (1909) in robust health.

A second case, published at the same time (BRITISH MEDICAL JOURNAL, 1886, page 670) was that of a country lad suffering from a strictly localized tuberculous tumour of the Rolandic gyri, the removal of which, however, affected the post-central gyrus. In this case exact localization was obtained, for the patient eight years later died of tuberculosis and the brain was photographed.

He not only exhibited the like sensory and motor defects, but also, without questioning, stated that (deep) painful impressions evoked by passive movement of the (temporarily) paresed arm ran up the limb, side of neck, and through the head to the seat of the extirpation, and he graphically indicated the actual spot by placing his finger upon the dressing exactly over the wound (see Fig. 10 on plate).

During the many years which have elapsed since these cases I have had innumerable opportunities of confirming these observations, and have published the proofs of the same.

But although I have frequently observed the effects of comparatively small lesions in the pre-central and post-central gyri, it was not until last year that I obtained my first example of an absolutely pure lesion of one of the gyri alone, namely, the gyrus pre-centralis, and one which by repeated examination I am satisfied affords the [illegible] proof of the position here advanced, namely, the sensori-motor character of that convolution.

CASE.

The case was that of a powerfully developed boy, Hn., aged 14, the elder of two children of healthy parents. He had had no illness and suffered no accident, but at the age of 7 had gradually developed athetoid movements of the left hand, which then developed into violent convulsive movements of the whole upper limb, in which the arm was usually strongly flexed and adducted in jerks across the trunk, and more rarely flung out in abduction. The elbow was fixed in semi-extension, the forearm strongly pronated, the wrist flexed, and the fingers either in an interosseal position or flexing and extending independently. The movement was worse on walking, and when his attention or the attention of others was drawn to it. When the limb was quiet his purposive or voluntary movements were normal and powerful. The reflexes, superficial and deep, were everywhere normal; his sensation—all forms—was also normal.

Hn. was in a very distressing condition, and was referred to me by Dr. Risien Russell with the view of arresting the spasms by an operation. Having stopped athetoid and clonic movements in two previous cases by excision of the so-called "motor" area, I advised that the arm area in this case should be delimited by excitation and then removed.

OPERATION.

The operation was performed on March 20th, 1908. The shaved head presented a rather unusually globular outline; the bone was thick and vascular, and the dura mater was also hyperæmic. The bone was removed, as shown in the accompanying diagram, so as to expose completely the Rolandic region. The dura mater was tense, the vessels of the pia mater distended, and the brain turgid, even though the patient was under the influence of oxygen as well as the anæsthetic. The pia mater, especially in the sulcus pre-centralis, had a distinctly embryonic appearance. The cortex was then stimulated with a Kronecker graduated coil furnished with three dry Obach cells. The electrodes, bipolar, were 2.5 mm. apart; a current of 300 Kronecker units was just adequate to evoke a response occasionally from the gyrus pre-centralis, but it was found better to employ a current of 500 units to obtain constant results.

In the first place a current of this latter strength—that is, 500 units—produced no response from the gyrus post-centralis; this, as stated above, is in accord with the results I have previously obtained clinically on stimulating the cortex in man.

The gyrus pre-centralis was then thoroughly explored, and the results of stimulation at the points numbered in the accompanying diagram (see Figs. 4 and 11 on plate) were as follows:

Results of Stimulation.

1. Movement of the left side of the face.
2. Abduction of the left thumb, and so this on repetition of the excitation was added flexion of all the fingers.
3. Flexion of the fingers, flexion of the wrist, with ulnar adduction and late flexion of the elbow.
4. Extension of the fingers, ulnar abduction of the wrist, questionable flexion of the elbow.
5. Extension of the wrist, elbow held at a right angle in "confusion." (Beevor and Horsley.)
6. The same movements as 5, and in addition abduction of the shoulder.
7. No movement of the upper limb.
8. Elbow held at a right angle, powerful retraction of the shoulder.
9. Elbow at a right angle, protraction of the arm, and extension of the wrist.
10. Nil.
11. Protraction of the arm, elbow at an obtuse angle, extension of the wrist, and questionable extension of the fingers.

No other part of the cortex in the neighbourhood giving any response in the upper limb, the gyrus thus marked out was excised very carefully by making a vertical incision through the pia mater along the middle of the surface of the convolution, reflecting the pia mater to the sulci on each side and gently separating it to the bottom of the sulci so as to permit of excising the whole depth of the gyrus pre-centralis without any injury to the neighbouring gyri or even to the vessels in the sulci, beyond, of course, the laceration of the smallest branches entering the portion of gyrus removed.

Fig. 12 on the plate is a photograph of the arm centre

thus excised with a millimetre scale appended, and in Fig. 13 its position is represented by the shaded area.

STRUCTURE OF THE GYRUS REMOVED.

After what has already been stated concerning the function of the pyramidal cells, the histological structure of the gyrus removed is of notable interest. At the operation I noticed that not only was the post-central gyrus unusually narrow, but that the vessels and membranes in the line of the fronto-parietal vein were of a somewhat embryonic type. Histologically also, as will be seen from the accompanying photographs (Figs. 14, 15, 16, 17, on plate), the pre-central gyrus differed in essential particulars from a normal convolution. Thus the depth of the layers of the cortex was reduced about 5 per cent.; the granule layers were not well differentiated and were poor in cells. There were a fair number of medium-sized pyramids (here and there arranged in groups); but the Betz cells were represented by extremely few specimens, only in the upper part of the area and in the anterior wall of the central fissure, none of which were perfectly normal in type or size and all somewhat shrunken in outline. Further, the apical dendrite of almost all the pyramids is seen to be altered in a spiral manner more or less, and the cells show marked physical change, though still, in the large majority of cases, they exhibit normal tigroid bodies. The corkscrew shape of the apical dendron in lesions of the cortex cerebri has been described by Collins,[26] and his drawing (loc. cit., p. 382) shows a similar deformity of the pyramids from a case of chronic epilepsy.

The abbreviation in height of the cortical layers suggests that the increase in neuroglia which is evident may partly be responsible for the spiral outline of the dendrites and nerve fibres in the corona radiata, but Dr. Gordon Holmes has observed the same change in portions of cortex excised under like circumstances. It is possibly, therefore, an artifact due to manipulation and shrinkage.

The importance of the foregoing facts will be appreciated when it is remembered that the corresponding (left) upper limb was strong and muscular, and that all voluntary movements were readily and strongly performed when the limb was not the seat of violent spasm. If, therefore, the doctrine that the "motor" cortex is wholly dependent upon the giant pyramids or Betz cells were true, the pre-central gyrus in this case could not be accepted as the so-called motor centre for the upper limb or the source of its voluntary and spasmodic movement. Yet that it was so is shown by the gratifying fact that the spasmodic movements totally disappeared from the moment that the gyrus was removed, and have remained absent not merely during the short period of total paralysis of the arm but to the present time—that is, during thirteen months—and that since a month after the operation purposive (that is, voluntary) movements have returned and are developing in efficiency, in spite of the fact that the Betz cell area for the upper limb has been removed.

That the Betz cells are not indispensable for purposive muscular actions has also been shown by Brodmann. The precise rôle of these cells has yet to be defined; but that they furnish much of the pyramidal tract is well ascertained, especially by the recent researches of Holmes and Page May.[24]

EFFECTS OF THE EXCISION OF THE GYRUS PRE-CENTRALIS.

Briefly summed up, the effects in HH.'s case of the removal of the so-called motor centres for the upper limb in the gyrus pre-centralis may be stated as follows:

Immediate.—Disappearance of spasmodic movements.
Complete loss of voluntary movement of the left upper limb.
Post-axial and proximal atopognosis of the same.
Complete astereognosis of the left hand.
Moderate anaesthesia to all forms of sensation of the left upper limb, maximal at the periphery.

Remote (that is, a year later).—Permanent absence of spasmodic movements.
Partial recovery of voluntary movement of left upper limb.
Proximal atopognosis of left postaxial fingers.
Astereognosis of the left hand.
Slight tactile anaesthesia of the ulnar periphery of the left hand.

* In many cases the large pyramidal axones also presented a wavy outline.

Further detail of these phenomena must now be given, and it will be recognized that they are in full accord with the results arrived at in 1886, namely, that in the same region of the cortex cerebri sensory and motor representation exist together. The concluding paragraph of a paper I published[16] in the *Deutsche medicinische Wochenschrift* in 1889 expressed the position which I held then, and to which I would only now add the subject of topognosis.

Every functional centre, at any rate, in the so-called motor part of the cerebral cortex is of a focal nature—that is, one finds that the centre is a definite point at which a given movement is most strongly represented and from which this is gradually diminished. Further, all such centres are in their nature kinaesthetic, and the kind of sensation which is thus localized in the same focus is of a twofold character—that is, a slight tactile sensibility and the so-called muscular sense (loc. cit., No. 38).

That, in fact, differentiation is one of degree and not of kind. A gyrus may justly be described as mainly sensory or mainly motor, but never one to the exclusion of the other, or, as Dana[12 22] puts it, "cortical anaesthesia is always accompanied with some degree of paralysis," and Förster,[32] in his monograph on cerebral anaesthesia, draws attention (p. 143) to the fact that the finest localization of sensation in the segments of the limbs is proportional to their mobility.

Before stating the facts found, a few general considerations on the questions of the kinds and mode of appreciation of sensory changes in cerebral lesions must be prefixed.

Of course, a motor phenomenon, from the nature of the construction of the nervous system and the wide representation of afferent impulses, must always exhibit localization in a more striking and concentrated form than a sensory phenomenon.

Probably this has led to the sensory changes in lesions of the so-called motor area being overlooked in the past. But another reason has been that the clinical testing of sensory changes has not only been rough in method but also employed without reference to other associated higher functions of receptivity. Thus Henri's[20] method, introduced in 1893 of simply recording the patient's knowledge of a point touched is often spoken of as though it provided an examination of the person's localizing power as regards tactility, whereas it only expresses the fact that the contact spot can be named. Loss of this knowledge means a very profound and extensive loss of sensory perception corresponding to complete peripheral nerve lesions, and therefore connotes, as far as the cerebrum is concerned, a widespread destruction of the hemisphere. Such anaesthesia, therefore, ought not to be expected from a limited lesion of the cortex cerebri, but, on the contrary, a loss of specialized function having direct relation to the co-ordination and execution of movements must be looked for.

Tactile localization means not only the defensive appreciation of a point of the body touched, but also the position of that point in space—that is, its spatial relation to the object touching.

From the list of sensory defects I observed in 1886 to follow removal of the so-called motor cortex, it was clear that we had before us precisely the kinds of anaesthesia which should be exhibited in accordance with Munk's views, that is, those sensory functions were disordered which are directly connected with the accurate evolution of a movement, and constitute his "memories of movements."

In following out this line of thought I used, in testing for loss of localization of touch, a method which should give not only the record of the spot touched, but also the appreciation and indication by the (vision screened) patient of the position of the contact spot in space—that is, its position in relation to the middle line of the body, its distance from the body, and above all its relation to the other parts and segments of the limb.

For the fulfilment of these requirements the method must obviously include indicative response on the part of the person observed, and I therefore caused the patient to indicate by placing the forefinger of the normal hand on the spot where he felt the touch applied to the opposite paresed hand.

This method immediately revealed the fact that lesions

of the Rolandic region caused besides a loss of appreciation of the lightest tactile stimuli a more important loss of localization in space of the spot touched.

To this latter loss of function I applied the term "atopognosis."

I now wish to point out two facts in regard to the psychical groundwork of this error of atopognosis. The nature of the test depends on the fact that the vision-screened patient feels the touch. If he is asked as to where it is he may reply quite correctly and write it by Henri's method on a diagram—as, for instance, that it is on the ungual phalanx, and yet, if asked to denote the exact spot touched, he will put his indicating finger on the correct digit possibly but too proximally—that is, one or two segments nearer to the body. If the stimulating touch has been considerable in degree or accidentally excited deep sensibility, the person, when his indicating finger touches his hand at the wrong—that is, too proximal—spot, frequently recognizes his error and slides the finger down to the correct spot touched. The refinement of this form of anaesthesia testing is thus considerable, because being a loss of knowledge of position of the part touched as compared to other parts of the limb, it is a step in the psychical response to a stimulus higher than the mere appreciation or not of an excitation.

This is well shown by the following control observation. Inasmuch as the patient preserves a great deal of the sensation of the limb, the loss is purely relative between the segments of the limb, and, therefore, whether the hand, touched and tested, is placed directed down the body parallel to the sagittal plane or pointing upwards should not affect the result.

This is, in fact, the case, for the spot to which the stimulus is referred by the patient still is too proximal—that is, nearer to the body than the spot actually touched. A further interesting point also soon appeared among the results obtained by this method. Investigations on the muscular sense, and of joint or arthric sense in particular, have drawn attention to the fact that when the imperfectly anaesthetic segments of the limb are touched, the point indicated by the observed individual is frequently near to an intersegmental joint. This may be assumed to be due to the psychical record by the cerebral cortex of the joint or arthric localized sensory impressions which constitute such a large part of the so-called muscular sense. As far as I have seen, the reference to a joint is most pronounced in the case of the wrist, and in the next degree that of the elbow.

The second phase of error in topognosis found in lesions of the "Rolandic region," by which term I mean the two central gyri, is extremely definite, and occurred in the present case of Hn. I cannot say, however, whether it is represented in the pre-central gyrus so much as in the post-central. This error is one at right angles to the direction of the error of proximality. If the hand is tested as before, the patient's vision being screened off, it will be found that he places the indicating finger not merely incorrectly as regards proximality, but also as regards the distance from the median plane of the body. Thus in a marked case of this loss, if the index finger be touched the patient will indicate a spot on the third or on the ring finger. Much more rarely the error will be towards the middle line.

For many years I have referred to these two varieties of the transverse axis error in regard to the limb itself as post-axial and pre-axial respectively, and in rare cases of severe disease and destruction of the parietal region of the brain, in which there is a widespread loss or damage of the thalamo-cortical system, and possibly direct damage to the thalamus, there is an obvious reference towards the middle digit. Further discussion in detail of this and of its interesting resemblance to spinal cord representation is not necessary here, since it is dealt with at some length in a special paper by Dr. Colin Russel and myself,[5] but I must point out that this error in the transverse axis is not a simple question of spatial localization, since it includes two additional and governing considerations: (1) The degree of specialization of the first two digits, compared to the ulnar or post axial fingers; (2) the question of the true position of the upper limb at rest.

Of these I will on (1) only say now that the thumb is so intensely and widely represented in the arm area that it never exhibits atopognosis except in very extensive lesions consequently a limited loss is appreciated only on the ulnar side of the hand. The question of post-axial sensory representation I refer to again, but it is a subject worthy of a lecture by itself, if only that the most striking demonstration of cortical failure in a functional patient is the well-known numbness of the little finger (cf. also Bonhoeffer, Fischer, etc.). And on (2) that the ordinary acceptation of the so-called anatomical position of the limb—namely, extreme supination, palm in front—is unfortunately a constant source of fallacy, the real fact being that the forearm at rest is not supinated but pronated, and that consequently the dorsum of the hand is directed forwards, is of necessity more exposed to external contacts, and therefore more frequently the instrumental surface of spatial record.

The bearing of this is that since, as before stated, atopognosis is most readily demonstrated on the dorsum of the hand, a *post axial* error is really one of direction away from the middle plane of the body. The important question of the relation of the surface of our body to the space immediately surrounding us, and the relation of the different points in space to the middle plane of the body, I discussed in the Boyle Lecture[22] four years ago, and therein showed by a special plate method, which was subsequently more fully developed by Dr. Slinger and myself,[23] that inaccuracies in our knowledge of space, and consequently of the position in space of the various points on the surface of our body and limbs, increase as we pass from the surface of the body towards the extremity of the limbs and from the mesial plane of the body outwards to either side. All these determinations of the points in space being effected by exploration of the limbs, our knowledge of localization is, apart from visual impressions, a compound result of muscular, arthric, and cutaneous sensations. It now will again be obvious how these particular forms of sensation, namely, slight tactile sense, muscular sense, and topognosis, are inseparably bound up with the representation of movement in the same region of the cortex, namely, the so called motor area.

I was much interested to find a short time ago that Volkmann[2] in 1844 drew attention to the fact that if a normal person was blindfolded then touched lightly on one finger with a pointed instrument and asked to indicate with another point the spot touched there was frequently an error and that the direction of the error was in the long axis of the limb and amounted to a line or more. It is curious that in the few observations which Volkmann seems to have made he found the error to be more usually distal. My own experience with a very great number of observations, since they extend over many years, is the reverse, and that, both in normal people as investigated by my plate-test and in people the victims of cerebral lesions, proximality is the ruling character of the error and distality the exception.

CHANGES IN SENSATION OBSERVED IN HN. AFTER EXCISION OF THE GYRUS PRE-CENTRALIS.

We may now expand somewhat the brief summary given above of the effects of the operation in Hn. The temporary character of the severe effects observed directly after the interference proves that the sensory representation of the upper limb extends over a wide area of cortex—namely, at least both Rolandic gyri. Practically these provisional phenomena disappeared within three to four weeks after the operation, and, therefore, as fifteen months have now elapsed it is possible to determine accurately what permanent change or loss of function is coincident with the removal of the gyrus pre-centralis.

(a) Position of the Limb.

During the first twelve days after the operation the limb was motionless and flaccid. The patient was imperfectly aware of the position of the limb, and felt a "funny numbness" all down the left side, and mostly in the leg. This subjective numbness of the opposite side is, of course, typical of all lesions of the parietal cortex, whether functional or organic, and this instance may be compared to Fischer's closely studied case.[12]

At the end of the first fortnight he knew the general position of the whole limb by reason of his appreciation of the contrast between the temperature and roughness of the blanket and the surrounding objects. Nine months later, if the limb were kept at rest for some time, he lost

knowledge of its position. He now (June, 1909) knows the general position of the limb in the dark.

(b) Position of Digits.

The position of the digits was correctly described, but not correctly imitated by the right hand until the third week.

Estimation of lengths and breadths by stretching the digits apart was at first entirely wrong (for example, 4 cm. distance described as 4 mm.), but gradually improved *pari passu* with the recovery of voluntary movement, until, nine months after operation, his error in estimates of separation of the digits was not more than about 30 to 50 per cent. (see stereognosis). The error is now reduced to about 30 per cent.

(c) Topognosis.

During the first fortnight atopognosis was very marked, and the first thorough examination at the end of the first fourteen days showed that the atopognostic error was:

(a) Proximal value, 2 segments (that is, distance too high);
(b) Postaxial value, 2 digits (that is, distance outwards from mid-line of body).

Similarly, as the recovery of movement has taken place, there has been some improvement in the patient's topognosis. By the ninth month the post-axial error almost disappeared and the proximal error was reduced to about 1.5 segments on the average.

Now, fifteen months after, he exhibits the typical atopognostic peripheral and ulnar distribution of response to the lightest touches thus:

Left Hand (Right Indicator).

5th digit,	2 segments proximal error.	
4th	,, 2	,, ,,
3rd	,, 1	,, ,,
2nd	,, Correct.	,,
1st	,, Correct.	

The illustrations 5 and 6 given by Fischer[42] (loc. cit., p. 105) would fairly apply to both the topognostic error as well as the diminution of tactility in Hn.

(d) Tactile Sensibility.

The slight loss of tactile sense (superficial, of course) which was evident in the first cases examined in 1886 has been present throughout in Hn. From the first, cotton-wool was felt on all hairy parts. Light touches were not felt on any ungual phalanx, and still are not on those of the fourth and fifth digits.

(e) Temperature Sensibility.

Fourteen days after the operation a test tube of water heated near the temperature of the hand was not felt on the ungual phalanx, was occasionally detected on the middle phalanx, and well appreciated as warm on the forearm. The cold tube was recognized as cold everywhere.

At the present time (fifteen months after) there is slight temperature hyperaesthesia to either heat or cold.

(f) Pain (Pin-prick).

Both the appreciation of the point of a needle and the localization of the same exhibited precisely the same diminution and topognostic error as the reaction to touch; a parallelism in representation to be referred to again later.

(g) Stereognosis.

The most profound sensory change produced by the removal of the gyrus pre-centralis was inability to recognize the form of objects. The subject of stereognosis, as originally investigated by Puchelt,[1] and later by Hoffmann,[8] has received a great deal of investigation, and by some it has even been regarded as a special sense, but, as shown by many authors, it is but a compound experience of several forms of sensation as well as of movement[*]—for example, tactility, muscle sense, arthric sense, temperature sense—in fact, is but the memorialization of exploration and tactility.

The allied subject of sense of volume I have alluded to above under position of the digits. In view of the current hypothesis that the postero-parietal lobule, or the gyrus post-centralis, is the centre for stereognostic perception (Cf. Mill,[46 etc] Bruns,[39] Redlich[21]), it was especially important to note what alteration occurred in the case of Hn.

Tested with all well-known domestic objects as being easier of recognition than geometrical figures, it was found that, after the operation, Hn. could recognize nothing (nail-brush, prayer-book, bottles, coins, knives, pipe, matchbox) when the objects were placed in his hand, and even when the fingers were pressed over them, though he once guessed a tumbler to be a bottle because it was cold.

When I was thus testing him for stereognosis three weeks after the operation he made the striking remark: "If I could only move my hand about I should know what the things were," thus showing under the stress of effort what the real basis of the stereognostic sense is—namely, merely a complex of tactile, muscular, and arthric memories of movements, which are, in fact, the compound experiences of grasping and feeling objects.

At the present time the astereognosis remains extremely marked. Thus, on April 24th, 1909, he could not recognize even a glass lens, keys, small box, etc., though he evidently could appreciate wider contacts of surface.

Commentary.

It is thus quite clear that the so-called motor cortex is a sensori-motor structure, of which the motor element is the principal funnel-like outlet for afferent impressions coming from many parts, especially the gyrus post-centralis and optic thalamus.

Precisely similar observations have been made by Bonhoeffer[28 87] in lesions of the Rolandic region. Of these in his first case the destruction may have been limited to the pre-central gyrus; but as vessels in the pia were tied possible involvement of the gyrus post-centralis cannot be excluded, and therefore objection might be taken to it as an absolute proof of the pre-central representation of sensory function. This criticism also applies to the succeeding interesting cases in Bonhoeffer's paper, but he fully confirms the parallel relation between the loss of motor function and the diminution of tactile sensibility of the periphery, as well as the parallel degree of astereognosis.

Finally, seventeen years ago a most interesting demonstration of the sensori-motor function of the Rolandic cortex was made[26a] by Ransom, who proved that treatment, including direct excitation of points in the "motor" cortex in a non-anaesthetized patient, evoked (1) a vague tingling sensation, (2) increase of muscular sense, (3) muscular contraction. Ransom concluded his remarkable communication by urging the need of recognizing the two-sided constitution of a nerve centre—namely, sensori-motor.†

That the representation of the two sides of the activity of a nerve centre must be thus proportionately associated was, I believe, not fully accepted in Germany, in spite of Munk's teaching, until the appearance of C. Wernicke's[25] paper in 1895. The recent researches of Bonhoeffer,[37] Fischer,[42] and others, however, have placed on a firmer basis, among other points, the essentially peripherally and post-axially graded representation of sensation in the Rolandic cortex.

This brings me to the next question, What is the function of the binder Rolandic convolution, the gyrus post-centralis, and at any rate that part of it which topographically is part of the arm centre? Since I am not cognizant of the post-central gyrus having ever been excised without injury to surrounding convolutions, it is only possible to surmise from clinical cases in which the Rolandic region is generally affected what additional neural loss is caused when the gyrus post-centralis is destroyed as well as the gyrus precentralis. Study of the effects of lesions of both the central gyri, of which I have seen many instances, fully supports the general view that the former constitutes part of the area of sensory representation of the upper limb in the cortex cerebri. The view that it is the sensory centre of the upper limb was put forward long ago by Mills,[31] who, on the basis of clinical cases, hazarded this hypothesis, as well as that it was the centre for stereognosis, and that while it was the sensory centre for the upper limb the pre-central gyrus was the motor centre. His latest

[*] As Long[81] excellently says of this factor in stereognosis, "la motilité elle même doit être suffisamment conservée pour permettre la palpation."

† Since this lecture was delivered, similar and differentially important evidence has been obtained by Cushing,[60] who by electrical excitation of the cortex, under circumstances which render localization accurate, elicited in two cases sensations of tactility from the gyrus post-centralis, and sense of muscular movement as well as actual movement from the gyrus pre-centralis.

monograph on the subject with Dr. Weisenburg[46] is founded on six cases, in only one of which was an autopsy obtained, and I am not aware of any case having yet been published in the literature of this important question, in which it was shown that a lesion* was restricted to the post-central gyrus. Under these circumstances it seems to me premature to formulate any final conclusions as to the function of this gyrus. But in view of Campbell's and Brodmann's demonstrations of its richness in granules and its architecture generally, together with the fact I have just stated, that lesions of both central gyri produce far more sensory disturbance than lesions of the pre-central gyrus alone, I think we may safely conclude that the post-central gyrus is part of the cortical area in which the sensory representation of the upper limb is located. Inasmuch as the sensory properties of the upper limb are all directed to the efficient action of its muscles, it is also not assuming too much to say that like the pre-central it is a centre for tactility topognosis, muscular sense, etc. As regards Mills's claim, that it is the sole centre for *stereognosis*, this clearly cannot be justified, as my present case and others in which the lesions did not involve the post-central gyrus prove.

Just as the disturbances of sensation which follow destruction of the Rolandic gyri are clearly due to loss of the pre-central as well as the post-central convolution, so it is now also certain from the case of Hn. that the pre-central gyrus is not in man the only out-going or motor centre for the voluntary movements of the upper limb. This, indeed, was already made probable, not only by many experiments on the lower apes, but also by the important experiments of Grünbaum and Sherrington[55] on the chimpanzee, in which animal these observers found that after the arm area in the so-called motor pre-central gyrus was excised, the purposive movements returned "in a few weeks," and, further, that this compensation was not effected by the opposite arm area in the contralateral hemisphere.

CHANGES IN MOTION.

I will now proceed to describe the precise recovery of voluntary power in the case of Hn.

(*a*) *Consensual Movement.*

The arm immediately after the operation was perfectly motionless, but by the fourteenth day, when on my request the right (normal) hand was strongly clenched by Hn., his left forearm slowly supinated, the wrist slightly flexed, and the fingers also very slightly flexed.

This extensive consensual response strikingly resembled that obtained in a case of chronic tuberculous disease of the "motor" cortex I observed[9] in 1884. Possibly the further analysis of this phenomenon will aid in the solution of the problem how recovery of "voluntary" movement is obtained after destruction of the gyrus pre-centralis.

(*b*) *Purposive or Voluntary Movement.*

At the end of the third week the power to abduct and adduct the shoulder returned. Next, flexion of the elbow, then extension of the elbow, and flexion of the wrist.

Recovery of power in the digits was especially interesting and important. Several days before the movement of the fingers and thumb returned he stated that he felt the power was returning, and that he would shortly move them. The control and exercise of the digits has now attained its optimum in the thumb, which can be slowly flexed and extended, while the fingers as regards extension follow in rapidly diminishing degree; thus, the index finger fairly extends, the middle finger much less, the ring finger hardly at all, and the little finger not at all. As regards flexion, the complication of hypertonia comes in, because the ordinary hypertonia or contracture affects as usual the most paralysed part, and therefore when the digits are flexed the small fingers curl up into the palm, and the wrist, instead of remaining extended, follows suit. The range of movements are shown in the accompanying photographs (Figs. 21 and 22 on plate), taken on April 24th, 1909. The hand assumes an athetotic posture, and the powerful effort made to keep the arm straight out from the shoulder and to extend the digits is well shown by the movement of the latter throwing them out of focus (3 secs. exp.), as well as by the synergic contraction of the face. Flexion of the elbow is easily performed, though slightly dail-like, and the rotation and pronation movements so well, that, as the photograph shows, Hn. can place his hand on the back of the iliac crest. He is able to use the limb as a help in dressing, but made the interesting statement that for two-handed work he finds there is so far a sense of discord between the hands, for example, in holding a cricket bat, that if possible he preferred at present to use one hand. I would only suggest in passing that this may be due to the fact that, as shown by extremely limited lesions of the cortex, the gyri are symmetrically connected with each other, and not heterotopically. The most comprehensive recent investigation of the question of the paths for purposive movement is by Rothmann, who has done so much to elucidate the phylogenetically older paths for the transmission of motor impulses other than by the fibres of the pyramidal tract. It proves that after complete exclusion of the pyramidal paths the arm region of the cortex is in monkeys still excitable, and that isolated movements could be perfectly obtained.

Comparison of the photographs of Hn.'s present voluntary movements with the valuable drawings furnished by Marinesco[3] of two cases of cortex excitation operated upon by Jonnesco will probably convince any one that they are of precisely the same origin. Unfortunately the localization of the gyri operated upon in Marinesco's cases is not certain, nor the extent of the excision, the effects of which were rendered probably more extensive by the ligature of veins.

CONCLUSIONS.

It follows from what has just been said that the case of Hn. proves for man what has already been established by experiments on monkeys—namely, that so-called volitional movements are not alone generated from the brain through the "motor" area or pre-central gyrus, but must also be subserved by other parts. Further, from what has been already said it is reasonable to assume that, in the absence of the pre-central gyrus portion of the arm centre, the function of movement is executed by the representation of the upper limb in the gyrus post-centralis from which the fibres descend to the optic thalamus through the internal capsule. To Rothmann[45] we owe especially the demonstration of the part played in this restitution of function by Monakow's bundle, the rubro-spinal tract, which constitutes the large primitive efferent tract between the basal ganglia and the spinal cord, and further that by reason of its constituting an axial point in the path of nerve impulses ascending from the cerebellum to the mesencephalon and thence descending to the spinal cord, the red nuclear region is clearly the central point of Schiff's middle group of reflex centres. It would be interesting if it were possible to classify the movements which thus return after the complete destruction of the "motor" area. If we turn to earliest observations on this subject the most striking experiment is, of course, that initiated by Goltz, who removed in a dog the cortex and a large portion of the anterior region of the thalamus, and who found that the animal was able to stand and to walk. The same thing precisely is observable in the higher animal, and it has been suggested by v. Wagner that the pyramidal system which for the upper limb means chiefly the giant pyramids, or Betz cells and their fibres, is the part of the cortical efferent system which is reserved for learning new movements, while stock actions, such as progression, and which ought to be regarded as combinations of Munk's "Einzelbewegungen," can be adequately performed by the cerebellum, mesencephalon, and spinal cord acting together. In a general sense this view is probably widely accepted, consequently the pre-central gyrus must be regarded as part of the mechanism whereby new sensory combinations received from either the surface or deep structures of the upper limb are received and integrated.

HYPERTONIA.

The present case affords some opportunity for a study of the condition of hypertonia or contracture, but to which now only the briefest reference can be made.

In a general sense, from the time of Setschenow the higher nerve centres have been regarded as inhibiting

* With the utmost respect for the opinions of the many distinguished writers on this subject who have published instances of lesions in this region, I venture to object to evidence derived from cases of extensive tumour as scientifically not valid for this purpose.

the lower; and in the old sense of the word "inhibition" the higher centres controlled the lower and prevented their physiological activity being displayed. Consequently, if a higher centre were removed and a change in the muscular condition of the part represented followed, it was said to be due to loss of the influence of the higher centres. This crude view of inhibition was never really acceptable, nor did it at all explain the conflicting evidence obtained from clinical records of lesions of the cortex cerebri. This is not the occasion for full discussion of either of these conditions or their theoretical explanation, but it is evident that MacDougall's well-known view of inhibition alone adequately furnishes their interpretation. According to this view also it would follow that the occurrence of hypertonia in the muscles of the upper limb would be present in proportion to the degree to which they severally had lost their cortical representation. That this is the case will have been noticed in the photographs already shown, the hypertonia being most marked in the muscles of the ulnar fingers and diminishing as we move to the other parts of the limb.

Pain.

I cannot leave, also, the consideration of the function of the so-called motor area without shortly discussing the question as to how far pain is represented in the cortex cerebri. It seems to be rather too generally assumed that because the Rolandic region itself can be manipulated and apparently irritated mechanically without giving rise to pain impressions it is not a psychic organ for the conscious appreciation of pain. From an *a priori* standpoint this has always seemed to me somewhat unreasonable, because the rapidity and intensity of the defensive movements which result when a painful stimulus is applied to the upper limb, for example, and, further, the accurate localization in consciousness of the part which is stimulated, all shows that pain is appreciated as such by the same mechanism that co-ordinates conscious movements and the sensory disturbances which immediately precede them. It is, unfortunately, extremely difficult to obtain direct evidence on this subject, because the observations can only be made with certainty on the human being who can describe in terms the painful character of the afferent impulse, and we are not reduced to interpreting motor responses which in a large number of cases are of subcortical origin. The evidence I possess on the question would seem to show that the conscious appreciation of pain in the upper limb is partly represented in the post-central gyrus. Thus, when the temporary symptoms after the removal of the pre-central gyrus had passed off, the conscious appreciation of a point as a painful prick was found to be preserved, and yet after the free removal or destruction of the whole arm centre—that is, of both central gyri—it is notably diminished, though, like all forms of sensation, not totally abolished.* The second point of evidence lies in the very interesting fact that the localization of a painful impulse is topognostically the same as the sense of touch—that is, in fact, the diminution in appreciation of a pin prick is similarly subject to a proximal error, exactly as a light touch is. Inasmuch as the reaction of the person to the stimulus, whether tactile or painful, involves conscious appreciation, we can only conclude that a precisely similar cortical mechanism provides for this particular functional activity—that is, that pain is considerably represented in the Rolandic gyri.

SUMMARY.

1. The so-called motor area of the human cortex cerebri is really sensori-motor.

2. The gyrus pre-centralis is in man the seat of representation of (1) slight tactility, (2) topognosis, (3) muscular sense, (4) arthric sense, (5) stereognosis, (6) pain, (7) movement.

3. The gyrus post-centralis is in man part of the arm area in which the sensori-motor representation is of the same kind as that in the gyrus pre-centralis, but in it probably provision for sensorial co-ordination is greater, and that for efferent impulses less.

4. The giant pyramids or Betz cells are not essential for the performance of purposive or voluntary movements.

5. Purposive or voluntary movements can be performed after complete removal of the corresponding part of the gyrus pre-centralis.

* To avoid being misunderstood by any who regard localization of nerve functions as implying a series of closed compartments, I would point out here that not only do the above observations show that the gyrus post-centralis is not the only part of the cortex in which pain is appreciated, but it is clear that a painful stimulus reaching the thalamus may be radiated to any perceptive sensory area—for example, the gyrus pre-centralis, or any other region of the cortex—and so arouse consciousness of the distress.

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ON THE EXTREMES IN MUTABILITY OF SYMPTOMS IN DISSEMINATE SCLEROSIS.

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It is many years since Dr. Buzzard directed attention to the fact that of all organic diseases of the nervous system disseminate sclerosis is the most likely to be mistaken for hysteria; since then this axiom has received ample corroboration. Although not limited to the early stages of the disease, the difficulties in the way of diagnosis may then be especially perplexing; frequently the indications are vague and only seem to hint at the presence of some indefinite disorder of the nervous system. Absence of characteristic indications, however, by no means constitutes the only difficulty; well-defined symptoms may appear, but they may be abrupt in their onset, erratic in their course, and transient in their duration. They may replace each other with bewildering inconstancy, and after a time may subside and give rise to the impression that manifestations so evanescent are inconsistent with the presence of organic disease. It is with the object of illustrating, on the one hand, the extraordinarily rapid permutations which may occur in the course of distinct indications of organic disease; and on the other, the persistence of such indications for years, followed by their entire subsidence, that I venture to relate in detail the symptoms of two typical cases. In both of them the early appearance of several cardinal symptoms removed any difficulty as to diagnosis.

CASE I.

A married woman, M. T., aged 28, enjoyed good health up to February, 1908, when, in consequence of eating some fish called "hake," which was probably not fresh, she was attacked the same night with severe vomiting and purging which continued through the following day. She was confined to her bed for a week, and on getting up found that she could not walk, and could barely stand. Some days afterwards she had double vision, and a few days subsequently it was seen that her left eye squinted (external strabismus), a condition which lasted about three weeks. She then recovered the use of her legs, and the squinting ceased. For about four months she could walk "on and off" for one or even two miles, but for some weeks she has been unable to walk at all. About the middle of July she had difficulty in passing water, and on two occasions she passed faeces involuntarily.

I am indebted to Dr. E. T. Larkam for the details of this history, and at his request I took the patient into hospital on August 6th, 1908.

State on Admission.

The patient is a healthy, well-nourished, cheerful woman. She has had no previous illness. There is no history nor indication of syphilis. She speaks perfectly well, without any trace of hesitancy or of syllabic utterance. She moves her arms without difficulty; there is no intention tremor. She can move her legs slightly when in bed, but she can neither stand nor walk. The vision is single, and there is no strabismus. There is no nystagmus even on extreme lateral deflection of the eyeballs. The pupils are moderately dilated and of equal size; they react normally both to light and to accommodation. There is no defect of colour vision, but the patient says that she cannot see as distinctly as formerly. On ophthalmoscopic examination the discs are found to be pale, but not atrophic. The legs are slightly spastic. The knee jerk is excessively exaggerated on both sides. A lively and continuous ankle clonus can be induced on both sides by slight pressure with the fingertip on the ball of the foot. Patellar clonus is easily obtained on both sides. The Babinski response is of the extensor type, and can also be easily obtained on both sides. The umbilical reflex is absent. Sensation to touch is defective: the patient feels the point of a pin, but below the knees the perception is blunted, whilst above the knees to the upper part of the thighs the pin point is felt almost normally. Perception is again blunted over the lower part of the abdomen, especially on the left side; above the umbilicus it is normal. A firm pin-prick on either hip produced involuntary movements of the corresponding leg. The sensation to heat and cold is quite normal. Sensation in the arms to any form of stimulus is not diminished. The muscular sense is unimpaired.

After-History.

August 12th, ankle clonus was less easily produced; there were slight indications of nystagmus. On the 15th the sensory disturbances had almost disappeared; nystagmus was very obvious. On the 17th sensation was quite normal. The knee-jerk was exaggerated, but neither patellar nor ankle clonus could be obtained. The Babinski reaction was flexor on both sides. Nystagmus was very pronounced. On August 23rd diplopia reappeared without perceptible deviation of the eyeball; it ceased when one eye was closed. On the 24th the patient complained of slight numbness on the left side of the face, which she said "felt drawn." On August 26th the diplopia had disappeared. On the 29th there was slight ankle clonus, on firm pressure, on the right side only. On August 31st both pupils were dilated, and they reacted sluggishly to light and accommodation; the left pupil was rather irregular in shape. Diplopia is again present, and the patient says that she feels sleepy when double vision is present. Nystagmus is still very pronounced. Ankle clonus could be obtained on the left, but not on the right side. The Babinski reaction was extensor on the left side and flexor on the right.

September 3rd, no nystagmus nor spontaneous diplopia, but when the eyes are directed to the left as far as possible the patient experiences double vision. When the object on the extreme left, at which she is looking, is very slowly moved towards the median line, her eyes following the movement, the double vision persists, but if the object is rapidly moved towards the median line the vision at once becomes single. When the movement is slow the left eyeball is seen to lag behind its fellow. The patient complains of "pins and needles" in both hands, most strongly in the right. There are slight indications of ankle clonus on both sides. The patient says that she has a peculiar smarting sensation in the mouth, with a "cold feeling like peppermint" on drawing in the breath. Both smarting and buccal anaesthesia are chiefly towards the left side. Sensation to a pin point is duller on the skin of the left cheek than on the right. The sense of taste is unaltered on either side of the tongue. The reflex of the soft palate is absent, and the voice is somewhat nasal. On September 5th diplopia was present only when the eyes were directed to the extreme left. Evanescent ankle clonus could be produced on both sides, and the Babinski reaction is again extensor on both sides. On September 7th the buccal anaesthesia is the same as on the 3rd; slight nystagmus, but no diplopia is present. Feeble ankle clonus could be obtained on the right side, but none on the left. On September 10th the nystagmus is more pronounced; the buccal anaesthesia is much less and is limited to the left side. On the 12th the nystagmus is absent; the patient can walk about the ward unaided. On the 21st the nystagmus is very slight; ankle clonus is absent, and the Babinski reaction is flexor on both sides; the knee-jerk is still exaggerated. On September 23rd there was a faint flicker of nystagmus; the buccal anaesthesia is quite gone. The patient has decidedly improved during the ensuing ten days; at their expiration the only physical sign present was the knee-jerk, which continued to be much exaggerated. On October 3rd the patient left the hospital; she was able to walk with ease, and she said that she felt quite well.

On January 25th, 1909, the patient came to the hospital, and said that she felt weak on the left side. She was depressed by the fear of a return of her trouble. The knee-jerk was much exaggerated. Patellar clonus and fugitive indications of ankle clonus could be obtained on both sides. The response to the Babinski reaction was extensor on both sides. The patient could walk fairly well, without spasticity or ataxia.

On February 1st the patient was readmitted. She was very emotional and depressed. The knee-jerk was excessive; patellar clonus, but no ankle clonus nor Babinski response could be obtained. There was no intention tremor nor abnormal speech. On the 6th a lively and continuous ankle clonus was obtained on the left side; on the right it was feeble and transient. The Babinski response was extensor on both sides, but was more pronounced on the left. The patient says that she cannot see any one approaching her on the left side until they are close up to her; on being tested, there was no hemianopsia. The optic discs as previously, were pale. Slight nystagmus was present. After this date all the symptoms gradually subsided, and the patient regained her natural cheerfulness. She left the hospital on March 3rd, 1909, feeling quite well.

CASE II.

P. C. is an unmarried woman, aged 24, who, after undergoing some family trouble, began to have sensations of "pins and needles" in the knees in January, 1904. The legs then became numb, the sensation of numbness slowly spreading upwards as high as the body. Soon afterwards the legs gradually lost power, until in February the patient was unable to get about without help. She then was confined to bed and on two occasions had incontinence of faeces but not of urine. Her condition continued unchanged until August 9th, 1904, when she was admitted into hospital.

State on Admission.

The patient is a well-developed, healthy-looking young woman. She can barely stand and then only very unsteadily; she is quite unable to walk. The ataxia is not increased when the patient closes her eyes. The legs are spastic. There is some lateral nystagmus. There is no intention tremor nor any abnormality of speech. The knee-jerk is greatly exaggerated on both sides. Ankle clonus can be produced on the left side but not on the right. The Babinski reaction is of the extensor type on the right side; it cannot be satisfactorily obtained on the left side. The umbilical reflex is absent. Sensation to the pin point is dulled on both legs, the dullness extending upwards nearly as far as the sternum; on the arms sensation is normal. Sensation to heat and cold is unimpaired both as regards the legs and the body generally. The pupils react to light and to accommodation. The optic discs are pale; on the left side the pallor is more pronounced on the temporal half of the disc.

After-History.

In this case the reflexes varied but little during her five months' stay in hospital, except that on one or two occasions the Babinski response was of the flexor type. The nystagmus varied in degree; sometimes it was very pronounced, whilst at others it could only be developed by extreme deflection of the eyeball. The discs showed no further change. The sensory symptoms varied but slightly. There was never any intention tremor, nor syllabic speech. On one occasion involuntary evacuation of faeces occurred; micturition was sometimes hasty, but there was no incontinence of urine. Broadly speaking, the condition of the patient was unchanged during her stay in hospital. When she left she could neither walk nor stand. She left the hospital on January 21st, 1905, and remained at home in bed until August, 1907, when she began to have power of movement in the toes of both feet. The use of the legs gradually returned, until, in November, 1907, she could walk with aid of support from chairs and other articles of furniture. In March, 1908, she could walk unaided, and has done so since.

She visited the hospital on August 15th, 1908, when she walked without any difficulty, and said that she does not notice anything wrong with her. The articulation was distinct, and there was no intention tremor; nor was there any nystagmus. The knee-jerk was very lively on both sides. There were still some indications of ankle clonus on the right side, but none on the left. The Babinski response was of the flexor type on both sides.

From the clinical standpoint these cases are suggestive: the first of them as regards diagnosis, and the second as regards prognosis. In a doubtful case alternations of symptoms and reflexes, similar to those encountered in the case of M. T., might easily lead to error if the diagnosis were founded on the results of a single examination made at a time when the critical indications are in abeyance and the Babinski response is flexor. The second case warns against dogmatic pronouncement of an unfavourable prognosis without admitting the possibility that the symptoms may subside for a time, even after prolonged paralysis; and it is to be remembered that the remission may last for a considerable period. In both of these cases experience teaches that sooner or later the disease will return.

Instances in which remissions and variations of the symptoms have occurred in the early stage of disseminate sclerosis, followed by their partial or complete disappearance for months or years, are by no means uncommon; but I have not been able to find any record of equally rapid and repeated interchange of many of the cardinal symptoms of the disease, such as occurred in the first of the preceding cases. Seeing that the physical signs which characterize the disease are determined by the occurrence of multiple sclerotic patches dispersed over the central nervous system, it is difficult to explain the erratic disappearances and returns of indications thus produced. *Post-mortem* investigation of the morbid anatomy of disseminate sclerosis is seldom obtained in any but advanced cases, when the symptoms have been progressive and continuous for a considerable time; under such conditions the anatomical changes are usually distinctive and well marked. In the primal stages of the disease, the nature of any focal changes are little more than conjectural.

The pathogeny of disseminate sclerosis is obscure. The antecedent conditions which have been suggested as possibly causal are so numerous and so diverse as to discredit their direct etiological relationship. In many instances it is quite possible that the alleged causal factor has exercised an influence on the development of the disease by depressing the systemic powers and thus favouring the onset of symptoms previously quiescent and unnoticed, although the morbid processes were probably latently in progress. The patient, M. T., attributed her illness to the fish she had eaten, which doubtless produced a sharp attack of gastro-enteritis; but there is no convincing evidence to show any direct relationship between the poisoning and the sclerosis. P. C. attributed her illness to severe mental strain caused by family trouble. This again would only act as a developing agency.

The view most in favour at the present time is that disseminate sclerosis is due to the action of an unknown, autogenous toxin. Although not universally accepted, it is probable that the toxin acts by setting up changes in the ultimate vascular supply of the parts affected. These changes comprise thickening of the vascular walls with the formation of thrombi in the minute vessels. In the first instance the nerve tissue of the parts affected undergoes softening, with fatty changes in the cells and destruction of the nerve sheaths. A marked peculiarity in the morbid anatomy is then apparent; a considerable number of the axis cylinders persist and traverse the degenerated patches. The ganglion cells are frequently unaffected for a considerable time, though surrounded by partially-sclerosed tissue.

It is no easy matter to suggest a reasonable explanation of the way in which the ebb and flow of the symptoms in cases of disseminate sclerosis is produced. No single explanation will suffice to account for the inordinately variable duration of the abnormal reflexes—a duration that in some cases can be estimated by hours, whilst in others it involves months or even years. In the consideration of this question the anatomical changes in the brain and cord first claim attention. There is little doubt that many of the denuded axis cylinders continue to transmit impulses, although their conductive capacity is liable to fluctuations and interruptions of external causation. Temporary pressure from alterations in volume of the closely surrounding degenerating islets through which the nerve fibres pass is sufficient to impede or interrupt conduction; and as the alterations in volume are the result of recurrent evanescent changes in the walls of the minute vessels which supply the part, the degree of pressure will fluctuate. Again, many foci of degeneration are probably rapidly developed and are infinitely small in their inception, and yet they are capable of setting up temporary waves of disturbance through the surrounding areas, which for a time will derange the functional activity of the implicated nerve fibres. But inasmuch as the disturbance is not attended by any recognisable physical change, it will quickly pass away and function will be resumed. Subsequently, however, the areas thus affected may permanently succumb to the characteristic degenerative processes.

The rapid alternations in the Babinski response which occurred in the first case are scarcely to be explained on purely mechanical grounds. It is more probable that responses so immediately contradictory were due to the direct action of a toxin on the nerve cells. During adult life, and in the absence of certain special conditions, the extensor response to the Babinski test is generally accepted as affording evidence of organic disease of the nervous system. The exceptions comprise meningitis, post-epileptic stupor, certain stages of typhoid fever, some states of coma, and even ordinary sleep, in all of which the extensor response has occasionally been met with in individuals who otherwise yield the normal response. In addition to these conditions of internal relation, it has been found that the administration of certain narcotic drugs develops the extensor response in healthy subjects; whilst other narcotics fail to do so. The drug which produces the extensor response the most frequently is scopolamine. Volkmann[1] found that it almost invariably occurred in morphine-scopolamine narcosis. Kutner[2] observed it in 3 cases after the injection of 0.5 to 1 mg. of scopolamine. Link[3] obtained it in 37 out of 43 patients who had received injections of scopolamine in doses varying from 0.4 to 1.2 mg. The extensor response was usually obtained in from fifteen minutes to one hour; in one instance it occurred two minutes after the injection was administered. The inverted response often persisted for several hours. In the narcosis produced by morphine or by ether the skin reflexes of the foot disappear. During the inhalation of chloroform the extensor response may sometimes be obtained at a certain stage of narcosis, after which it quickly disappears. Most frequently it is absent throughout the whole period of administration. Goldflam[4] noticed that the extensor response produced by scopolamine quickly disappears when chloroform is administered.

Various theories have been propounded to explain the occurrence of the extensor response in scopolamine narcosis. Kutner[5] is inclined to attribute it to temporary damage to the lateral paths of the pyramidal tract; or possibly to an intensification of a pre-existing weakness in these paths. Goldflam considers that the normal plantar reflex is a cortical reflex. If the reflex-arc is interfered with at any point beyond the posterior roots down to the origin of the anterior roots, or if the cortex is functionless, the plantar stimulus develops a purely spinal reflex by way of the posterior roots and collateral branches to the spinal centre for the extensors of the toes.

The view that the extensor response in scopolamine

narcosis is due to temporary exclusion of the cerebral cortex from the reflex circuit is difficult to reconcile with the absence of any such effect during the narcosis produced by many other drugs. Link suggests that this objection may be met on the hypothesis that some narcotic drugs possess specific properties in addition to their general narcotic action. Illustrative of this are Finkelenburg's[8] observations that the injection of cocaine into the spinal canal leaves the reflexes unchanged; whilst if stovaine be injected, the deep reflexes first and subsequently the skin reflexes are abolished. Even in the rare instances of stovaine narcosis, in which the tendon reflexes are increased, the Babinski extensor response never occurs. The selective power of modifying the spinal reflexes thus shown to be inherent in some drugs affords a possible clue to the manner in which the variations in the symptoms were produced in the case first described. The drug produces very decided results, but they are limited to the effective period of each dose; when the influence of the drug passes off, the reflexes revert to the normal type. Assuming that an autogenous toxin is the causal agent by which disseminate sclerosis is developed, it may be further assumed that, in the early stages of the disease, the toxin is produced intermittently, and that it may derange the function of the implicated nerve structures before any recognizable anatomical changes are produced. Such disturbance of function would occur in waves corresponding to the intermittent evolution of the toxin: and being merely a "functional disorder," would subside as each batch of toxin was exhausted. Under such conditions, the rapid oscillations in the symptoms and reflexes would be accounted for.

The course of the symptoms in the second of the two cases is in marked contrast with that observed in the first. Instead of rapid interchanges between the symptoms and their entire subsidence in a few months, was comparative constancy and prolonged duration with paralysis extending over years. This is suggestive of physical changes, and yet the paralysis, along with the other symptoms, vanished. Cases of this kind point to the possibility of regenerative processes taking place in organically damaged areas. The lengthy persistence of the symptoms and abnormal reflexes with ultimate recovery is scarcely explicable on any other hypothesis. That the disease will eventually recur and be progressive is, unfortunately, more than probable: meanwhile, the symptoms have been in abeyance for upwards of twelve months.

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A CASE OF CONVULSIVE TIC.

By T. W. EDMONDSTON ROSS, M.D., F.R.C.S.E., CARDIFF.

THE following case is perhaps of sufficient interest to warrant publication:

L. S., a boy, aged 11, had always been considered robust and healthy, and had no illness, except measles when he was a year old. His general characteristics were those of an unusually intelligent child of a somewhat serious disposition. His father and mother are healthy; they have two younger children, both healthy. There is no history of epilepsy nor insanity, nor of any grave nervous disorder in the family of either parent.

In May, 1907, he suffered from chicken-pox. During this illness the mother noticed that he occasionally jerked his head to one or other side, and sometimes also jerked his arms about. This was thought to be St. Vitus's dance, and little attention was paid to it, although it persisted.

Early in January, 1908, the boy came under observation suffering from acute otitis media. Examination of the ear was rendered difficult by the restlessness of the patient. The head was constantly and forcibly jerked towards either shoulder, generally the right, whilst the head was rotated with the chin towards the opposite shoulder. These movements were often accompanied by a sudden, loud hiccoughing sound or a sharp, squeaking cry. The arms were frequently thrown outwards into the abducted position, or forcibly extended as though the patient were striking at something. More rarely the arms were folded across the chest. The power of speech was unaffected, and the patient could walk well, the leg muscles being unaffected.

On February 3rd, 1908, he developed a severe attack of scarlet fever complicated in its later stages by suppuration in several cervical glands. During the period of severe illness the spasmodic movements never entirely ceased but were not much in evidence.

In April, 1908, when he had got over his other troubles and was beginning to go about again, the spasmodic movements became more marked and certain new phenomena appeared. The facial muscles were affected by spasm, leading to various grimaces accompanying the other movements of the head. Extremely forcible sniffing movements of the nostrils, accompanied by a sharp and deep inspiration, were frequent. The trunk muscles were more generally affected, leading to various irregular, forcible twisting movements of the body. The legs were sometimes forcibly extended as though the boy were kicking at something. He could still walk, but often had a difficulty in starting, as spasms of the leg muscles caused a series of preliminary jumps and kicks.

In July, 1908, explosive utterances, both inarticulate and articulate, became prominent. Hiccoughing sounds were the most common, but sounds imitative of dogs, cats and pigs were heard. Exclamations such as "dash!" "bosh!" "go on!" and "damn!" were shouted, often with wearisome persistency. These exclamations usually, but not always, accompanied the other muscular spasms. The power of co-ordinate movement was not interfered with, except at the actual moment of a spasm. The boy could dress himself, feed himself, write and practise the piano. He could drink from a full glass of water without spilling any, provided the glass was not upset by preliminary flourishes of the arm in the effort to grasp it. During sleep there were no unusual movements.

Since July, 1908, the condition has varied in severity from week to week, but on the whole has steadily got worse.

At the present time (February, 1909) the boy is in good physical condition, and is stouter and stronger than he was six months ago. There is no evidence of organic trouble in any of the systems, nor in the organs of special sense. The only abnormality noted has been a slight exaggeration of the superficial and tendon reflexes.

The spasmodic movements are extremely variable, very irregular in character, and of very constant occurrence, though occasionally the boy may be perfectly still for an hour or two. As instances of the force of the spasms, he has broken a fairly strong plate in two whilst holding it in his hands, and often tears his clothes or wrenches off buttons whilst dressing or undressing. He often bruises himself with his clenched fist.

His power of walking is now often interfered with, progression being made by a series of jumps. Sometimes, however, he can walk fairly well, except for an occasional kick with either leg. The worst feature is now the loud and incessant shouting, making life intolerable for the boy and his parents, and constituting a serious nuisance to neighbours.

His exclamations now include such words as "bloody" and "buggar." These occur not only as loud shouts accompanying spasms, but also in ordinary conversation interspersed with the other words. The boy says he does not to use these words, but that they come to his tongue, and he must say them. He often repeats any observation made to him, in part or in whole. Generally one or two words are repeated several times, more rarely a whole sentence. When reading to himself, he may suddenly shout out a word or a part of a sentence.

He has become very irritable, especially with other children, and whilst previously very obedient, he is now ready to resent interference. If he be reprimanded about anything, the result is a severe attack of shouting and jumping, perhaps lasting for an hour or two. No mental obsessions have been apparent so far.

From the foregoing account it is evident that this case is an example of convulsive tic of the particular variety known as "Gilles de la Tourette's Disease." There are present:

1. The rapid, forcible, arrhythmic, and involuntary contractions of various muscles or groups of muscles, including those of phonation and respiration.
2. Explosive utterance, articulate and inarticulate.
3. The use of bad language—"Coprolalia."
4. The repetition of words or phrases—"Echolalia."

The results of treatment have, so far, been unsatisfactory. Modified Weir Mitchell treatment produced no benefit. A prolonged change to a quiet country place was without good effect. Drugs of various kinds, including strychnine and arsenic, have been of no avail. Bromides produce a temporary improvement, and a small dose has been given nightly for some weeks past, as otherwise the boy gets almost no sleep, and there is consequently no rest for any other member of the household. An attempt has been made to keep the boy occupied, and to interest him in reading, drawing, music, physical exercises, etc. Whilst so occupied he is often comparatively quiet, but the period of quiescence is usually followed by a severe attack of spasms and shouting.

The most noteworthy feature of this case appears to be the occurrence of this malady in a strong and otherwise healthy boy, in whose family no history of nervous disease can be obtained.

THE RELATIVE ADVANTAGES OF CATHETERIZATION AND OPERATION IN THE TREATMENT OF PROSTATIC ENLARGEMENT.

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During the last ten years the operation of prostatectomy—which had previously fallen into disrepute—has been revived, owing largely to the advocacy of Mr. Freyer, who has published long lists of successful cases; and it is now accepted as the routine method of treating all sufferers from enlarged prostate. Signs are not wanting, however, of a coming revulsion in favour of a less drastic treatment, namely, the habitual use of the catheter. There are, apparently, two principal causes for this:

1. The serious nature of the operation, and the existence of doubt as to its after effects, both immediate and remote.
2. The good results obtained from sterile catheterization.

I.

The operation of prostatectomy is severe and the mortality, even with modern improvements, is not less than 10 per cent., and would be far higher if every case throughout the country were recorded. It necessitates prolonged confinement to bed; six weeks would not be overstating the time required for convalescence, and six months must elapse before the patient's health and strength are completely established. Moreover, it is usually performed when the expectation of life is not long, and the sacrifice then of six months, part of which is spent in considerable discomfort, is a matter of consequence. Finally, there remains the all-important question that has never been answered as far as I am aware, What is the proportion of complete cures of those who survive the operation? Innumerable records have been published of the condition of patients six weeks or two months afterwards, but with the exception of 32 cases recorded by Mr. W. G. Richardson,[1] no statistics are forthcoming of the state of those same cases at the end of two years or more.

From my experience, both in regard to patients on whom I have operated and those I have seen after prostatectomy by other surgeons, as well as from isolated reports furnished by friends, I have no hesitation in saying—and I believe this will be corroborated by others—that, brilliant as this operation sometimes is, it does not invariably relieve patients of their urinary troubles, and sometimes ends in miserable failure. During the last few months I have collected particulars of the following cases:

A large phosphatic calculus removed a year after prostatectomy.
Two cases of suprapubic fistula.
One case of great irritability of bladder both by day and night, as bad as or even worse than that caused by partial retention.
One case of vesical haemorrhage.
Four cases in which the urine was still septic.

I cannot say, of course, whether these cases had been reported as successful or not; yet they suffice to prove that a proportion of patients passing out of the surgeon's care continue to suffer from urinary troubles. Until it is clearly proved that comparatively few suffer from after-troubles we should not too lightly advise a patient to submit to prostatectomy. In the successful cases the patient is freed once and for all from the ties of catheter life, which is a very great advantage and appeals strongly to very many.

II.

In the alternative treatment—the habitual use of the catheter—there is little or no danger to life, and no 10 per cent. mortality to face, provided sterility is maintained. The patient after two or three days' rest, while learning the art of sterile catheterization, is able to resume his ordinary occupation. His health is not in any way impaired by long confinement; in fact, a general improvement begins directly the bladder is emptied and he is relieved of the nocturnal frequency. With the exception of having to use the catheter two, three, or four times in the twenty-four hours for the rest of his life—the premium he pays for escaping operation—he has nothing to fear.

This statement will be challenged, for everyone has seen the terrible local and constitutional symptoms which more often than not follow the use of the catheter. But those symptoms, the manifestation of cystitis and similar inflammatory processes, are due to sepsis alone; and since they occur so frequently after instrumentation, the inference must be that the micro organisms have gained access to the urinary passages by the agency of such instruments, and therefore that the preparation of the catheter, or the manner in which it has been introduced, is at fault. If, in the past, disaster has attended the use of the catheter, then it is time that some more efficient method of sterilization should be adopted, for success or failure depends entirely on this point. If it is possible to maintain sterilization with certainty, then it appears that catheter life is preferable to operation in the majority of cases of prostatic retention.

The introduction of soft gum elastic catheters into this country some seventy years ago greatly benefited those who used them, but they also rendered the problem of cleanliness more difficult. The old-fashioned metal instrument, with its brightly polished surface, was more readily cleaned and did less harm on that account than the painless and easy-passing soft catheter, with its cotton or silk foundation coated with layers of varnish. The same danger exists to day; chemical antiseptics, now so universally employed, will possibly sterilize the metal, but certainly not soft instruments, for the rough and oil-sodden interior alone offers to the micro-organisms a safe harbour against all chemical action for an indefinite time. Soft instruments prepared in this way cannot be safe, and their use for the treatment of prostatic retention will end sooner or later in failure—that is, in contamination of the urine or tissues. India-rubber catheters are as bad, for though the lumen is not rough and the material offers less protection to the organisms, yet they swell under the influence of grease, become sticky, lose their polish, and moreover require much fingering on account of their extreme flexibility.

The easiest and safest method of producing sterility is by boiling every instrument in water, and in my opinion catheterization as a method of treating prostatic retention is not given a fair trial unless this precaution is taken. There are, however, certain other points which must be attended to, if success is to be attained:

The lubricant must be boiled and applied mechanically, and not with the fingers.

The catheter must be introduced with a minimum amount of handling; certainly the first 4 in., which pass through the prostate, should never be touched.

The fingers of the operator and the orifice of the penis must be scrupulously clean.

These few details the patient must learn before he can be trusted to relieve himself with the catheter. In order to demonstrate what may be accomplished by a systematic use of the catheter sterilized by boiling, I venture to record the cases which have come under my care during the past year. The results are not perfect, for the limitation of the use of the catheter has not been reached, and improvements in the method can and will be achieved in the course of time, yet they indicate that a man may lead an active life in comfort, even if he is compelled to use a catheter, and may live to a very ripe old age without the terrible symptoms which have been witnessed in the past. All are living at the present time. The youngest patient is 46 and the oldest 96. The average age is just under 70. The longest time for which the catheter has been used is forty years, and the average of the series seven years. Most were septic when the treatment began, very often with foul urine and grave constitutional symptoms, and all invariably improved rapidly, as the records show.

The list is divided into three classes:

(*a*) Those who have recovered the power of natural micturition after treatment.

(*b*) Those who pass their water partly naturally and partly by the catheter.

(*c*) Those who have to rely on the catheter alone.

In the first two classes the gradual fall in amount of the residual urine in some instances is worthy of note. The bladder seems to regain its power to some extent under the influence of regular catheterization (Cases III, IV, V, VI, etc.). For example, the residual urine may be 12 oz. at first, and after a week or two it will fall to 6 or 7 oz., or even may

disappear altogether (Cases I, II). This may be explained either by a decreased resistance in the prostate, caused by a lessening of the congestion in that part, or by a regaining of muscular power, owing to the bladder having been systematically relieved of a load which it had carried for so long—that is, the muscle recovers its power, having been relieved of the strain of a constant burden; whereas, if the weight remained, the muscle would gradually grow weaker, and more urine in consequence would accumulate.

In some cases the prostate has increased in size, or, if not actually in size, at any rate the enlargement of the glands within its substance has pressed increasingly upon the urethra, and has raised the resistance, and thereby the natural power has been lost or very much impaired; the patient is therefore compelled to rely more and more on the catheter (Cases IX, XIII, XVII, etc.). But in no case has the increase given rise to any of the serious difficulties or inconveniences so frequently attributed to it. A large prostate does not necessarily produce symptoms; it only does so when it interferes with the function of micturition. Most men have some enlargement (which begins at a very much earlier age than is suspected, for the same changes may be noted in the glands of the comparatively young man as occur when disease is well established after middle life), and the condition may never be discovered. The best results, in that the patient has not had anything to complain of, are naturally obtained by those who have never been infected—that is, patients who have adopted boiling water as the sterilizing agent from the beginning, and it is this class which offers the best chance of the bladder regaining its powers. Nevertheless, septic cases have done exceedingly well, and the fact that no less than 16 out of these 20 cases were septic when first seen is a strong argument in favour of the contention that the urinary technique connected with instrumentation is sadly deficient.

A.—*Those who have Recovered the Power of Natural Micturition after Treatment.*

CASE I.—L. L., aged 62. Urine passed naturally four to five times in twenty-four hours, and is healthy. The prostate is large, soft, and round. For five or six years patient had indications of commencing prostatic trouble. In October, 1905, I saw him with Dr. Lush, of Hampstead, when he had retention; his bladder was greatly distended; catheterization was very difficult, and accompanied with severe haemorrhage. The difficulty was overcome, and he continued, after being taught, to use his catheter at first three times, then twice, then once, a day, and, finally, as he could empty his bladder completely, it was discontinued. Since the beginning of 1906 he has passed the instrument once a month to make sure that he cleared the bladder. In December, 1908, he had retention, and was relieved. He has no trouble whatever.

CASE II.—R. W. E. (C 274), aged 64. The urine passed naturally five or six times in the twenty-four hours, is healthy, and the prostate full, round, and elastic. I saw him with Dr. Harold. He complained of nocturnal incontinence, and there were 10 oz. of residual urine. Catheterization was performed regularly three times a day, and at the end of six months he could empty his bladder by his own efforts.

B.—*Those who Pass their Urine Partly Naturally and Partly by Catheter.*

CASE III.—N. B. (C 256 S), aged 46. Catheter has been used for three years twice in twenty-four hours; urine passed naturally two to three times; it is clear; the prostate small and firm. He commenced in 1906 to pass the catheter in the ordinary way, and did so twice daily. Troubles soon began—pain, irritability of the bladder, fever, etc., and he was strongly advised to submit to prostatectomy. To this he objected, and in February, 1907, learned to sterilize and pass his catheter properly. The residual urine (8 or 9 oz. in amount, which up to this time was fouly gradually improved, and is now about 6 oz. He is in good health, and actively carries on his business.

CASE IV.—M. L. (C 341 S), aged 62. Has used catheter twice in twenty-four hours for nine months, and passes urine which is nearly clear three to four times in twenty-four hours; the prostate is large and round. For six months previously he had passed his catheter occasionally without any aseptic precautions. Ten days before I saw him he had done so, and was just recovering from a severe attack of fever associated with irritability of bladder, pain, and straining. The urine was thick and offensive, and the residual amount fully 7 pints. He rapidly improved under sterile instrumentation three times a day, and has now regained, to some extent, the power of natural micturition, and uses his catheter twice in the twenty-four hours to clear the organ. He is doing well.

CASE V.—J. O. (C 362 S), aged 62. Catheter has been used four times every twenty-four hours for three-quarters of a year. Urine passed naturally once or twice in twenty-four hours, it is very slightly cloudy; the prostate large, round, and elastic. I saw him with Dr. Sheldon, of Notting Hill, in September, 1908. He had been troubled with frequency of micturition for two and a half years, but never had any treatment. While staying from home in August he had a catheter passed to relieve retention. Rigors and fever followed the introduction, the urine became foul, and his general health began to suffer. Dr. Sheldon taught him to pass a sterile catheter four times a day, from which time he made an uninterrupted recovery. At first the residual urine was 2 to 3 pints. It is now 18 or 19 oz., and he can pass a little naturally. He is in excellent health.

CASE VI.—J. W. (C 206 S), aged 65, has used catheter twice in twenty-four hours for three years. Urine passed naturally two to three times. At present it is a little turbid; the prostate is large, elastic, and uniformly enlarged. He began to use the catheter habitually once a day in February, 1906, but without any antiseptic precautions. His condition rapidly got worse, and in consequence of the foul state of his urine was advised to wash out the bladder, likewise without any regard to cleanliness. By August of the same year his condition was so bad that he was compelled to rise eight or nine times in the night, and could only hold his urine from five to fifteen minutes while moving about in the day. Natural micturition was associated with intense pain and straining. He had frequent attacks of high fever, and was totally incapacitated from following his occupation of a blacksmith. The urine was stinking. He was strongly advised to have the prostate removed as the only means of saving his life. He, however, learnt to pass the catheter properly and rapidly recovered, and is now quite well and strong.

CASE VII.—E. F. (B 158), aged 65, has for nine years used catheter four to five times during twenty-four hours, passing a little urine naturally occasionally, its present condition being cloudy; the prostate is small, round, and firm. For the first four years of catheter life he took very inadequate precautions against sepsis, and consequently the difficulty in instrumentation increased. In 1904 he had severe attacks of cystitis, and a phosphatic stone formed which was removed by lithotrity. Afterwards he was more careful, but still not sufficiently so, and he had slight chronic cystitis, with occasional haematuria, and also some irritability of the bladder, necessitating the too frequent use of the catheter. During the last two months he has commenced to carry out a proper system of sterilization, with the result that the catheter already goes more easily, and is less frequently required.

CASE VIII.—N. B. (B 289), aged 66. Catheter used for four years, about twice each twenty-four hours, and he relieves himself naturally three to four times; the urine is cloudy; the prostate is large and irregular. The first symptoms of enlarging prostate occurred in 1900, and from that time until 1904 he relieved himself occasionally by means of a catheter whenever retention threatened. In May of that year, being from home, he was catheterized at a hospital, where the instruments had been prepared by soaking in a strong solution of perchloride of mercury. No urine was withdrawn, and he was told that there was no retention. However, during the evening, when he had returned to his home, his symptoms became so distressing that he was forced to seek advice. The penis, and especially the mucous membrane, was then so swelled and congested that a catheter could only be introduced with the greatest difficulty, and notwithstanding repeated trials the retention was not relieved. Suprapubic cystotomy was therefore performed, but he declined prostatectomy. The prostate was of the excisemen's inkstand or of the Peteri class. He rapidly recovered from the operation. At first he passed all his urine by catheter, but gradually the bladder regained power, and he is now only using it twice a day. He is exceedingly energetic, and travels much on the Continent. I saw this patient with Dr. Crowdy of Highgate.

CASE IX.—E. P. (C 192 S), aged 67. Catheter has been used for three years three times in twenty-four hours, and he passes urine naturally two to three times a day; it is clear; the prostate is large and round. Previous to 1906 this patient had a good deal of urinary trouble. In that year I removed a phosphatic calculus of moderate size, and Dr. Clayton of Hampstead taught him to use the catheter, which he has done ever since, though rather more frequently recently, as there is an increase in the residual urine. He is quite well.

CASE X.—A. B. P. (C 286), aged 71. Catheter has been used for two years once in every twenty-four hours; urine passed naturally four to five times; it is normal; the prostate is moderately enlarged. I saw him with Dr. Evans of Weybridge. He had great frequency at night, which disturbed his sleep. Since using the catheter he has no trouble, and the residual urine has diminished from 7 oz. to 2 oz.

CASE XI.—R. G. (C 254), aged 72. Has regularly catheterized himself twice a day for two years and passes urine three or four times; it is slightly cloudy; the prostate is round and full. He was formerly troubled with frequency both by day and night, also occasional incontinence and pain in the perineum. There were 12 oz. of residual urine, and a small stone of uric acid and oxalate of lime, which was removed by lithotrity. He had one mild attack of cystitis, owing to carelessness in the preparation of the catheter. I saw him in consultation with Dr. Harold.

CASE XII.—E. W. P. (B 166 S), aged 73. For seven years catheter has been used three times in twenty-four hours, and he micturates naturally two to three times; it is clear; the prostate has not been examined lately. Symptoms of prostatic retention commenced in 1897, but he did not use the catheter until 1903, when there were about 8 oz. of quite clear residual urine. At the end of the year he had a sharp attack of cystitis, afterwards he adopted aseptic precautions and has had no trouble since.

CASE XIII.—W. H. (A 416 S), aged 76, has catheterized himself three times in each twenty-four hours for five years, very little urine passing naturally. The urine is clear, and the prostate is large and round. Lithotrity was performed twice—April, 1897, and November, 1904. The first stone was pure uric acid, the second had a thick coating of phosphates; for five or six weeks previously he was advised to employ a catheter to withdraw 4 oz. of urine, which he did in a most careless manner without being taught. Cystitis naturally resulted. After the removal of the stone and proper instrumentation, he rapidly recovered and remains well.

CASE XIV.—G. C. (A 308 S), aged 78, has for fourteen years used catheter once in each twenty-four hours, urinating naturally three to four times; the prostate has not been examined recently. For many years he has had attacks of retention relieved by the use of the catheter. Urinary troubles invariably followed (cystitis, haemorrhage, and grave constitutional disturbance). Fourteen years ago he commenced habitual catheterization, and two years later adopted strict asepsis and has had no complication since. He was an old patient of the late Sir Henry Thompson.

C.—Those who have to Rely on the Catheter alone.

CASE XV.—F. S. P. (B 380 S), aged 65, has used catheter for seven years four times in each twenty-four hours. The urine, none of which passed naturally, is nearly clear, and the prostate was large and full. In November, 1902, he was in a very serious condition, with frequent rigors and a temperature varying from 100° to 104°. His tongue was dry and coated. Incessant distressing and ineffectual calls to pass urine with much pain. Instruments had been used recently for purposes of examination. There were 60 oz. of residual urine, which was thick and foul. Prostatectomy was urged upon him as absolutely essential: but he preferred to try treatment, with the result that he is now well, bicycling, walking, etc.

CASE XVI.—Dr. L. (C 512 S), aged 72. Catheter has been used three to four times each twenty-four hours for two years. No urine passed naturally; it is clear; the prostate large and soft. He adopted strict aseptic methods from the commencement and has never had any trouble.

CASE XVII.—G. D. L. (B 351), aged 73, for seven years has used catheter three times in every twenty-four hours. Urine clear but none passed naturally; the prostate is firm and extending upwards. He has boiled his catheter from the first. The prostatic urethra is long and offers some resistance to the catheter. At first he used it twice, but recently three times a day, and has lost the power of micturition entirely. He is in excellent health and full of activity.

CASE XVIII.—G. W. P. (C 31), aged 77. Catheter used for seven years three times in every twenty-four hours; urine clear, none passed naturally; the prostate is large and round. He was properly taught to use the instrument by Dr. Beaumont of Norwood. At first he employed it twice, but recently, as the prostatic resistance increased, three times a day. He has sugar and albumen in the urine, and, with the exception of slight haemorrhage on two or three occasions, has remained well.

CASE XIX.—Dr. D. (B 170 S), aged 86, for nine years has used catheter three to four times in every twenty-four hours. Urine slightly cloudy; none passed naturally. Fourteen days before I saw him he had used a catheter night and morning; this produced greatly increased desire to micturate, pain, difficulty with the instrument, and slight fever. The urine was thick. Under proper aseptic treatment he gradually improved, and now, notwithstanding his age, is very well.

CASE XX.—A. M. (A 85 S), aged 96, has used catheter for forty years four times in every twenty-four hours. Urine nearly clear, though none passed naturally. An old patient of the late Sir Henry Thompson. Previously to 1902 he was much troubled with stricture and could only pass a No. 5 catheter to withdraw the urine, which he used five times in twenty-four hours. He had many troublesome attacks of orchitis, fever, urethral discharge, and other complications which frequently confined him to bed. In the latter part of that year he had an attendant to prepare his instruments for him, and he has had no complications since; even the stricture has yielded, and he can now employ a No. 7 with comfort. He is in wonderful health considering his advanced age.

The question, "When should prostatectomy be advised or undertaken?" has still to be considered. I am entirely opposed to the practice of operating as soon as the gland is found to be abnormal, and before any marked symptoms have arisen. The enlargement has been detected very probably by rectal or cystoscopic examination, and it is contended that its immediate removal, while the patient is in good health, will prevent troubles hereafter; this deduction appears to be based on insufficient evidence, for a large number of men go to the grave in advanced years with an enlarged prostate, which has never given any trouble, nor has its existence ever been diagnosed.

Prostatectomy should not be undertaken unless the symptoms present are definitely ascertained to arise from that organ, and from nothing else. Urinary symptoms are very frequently attributed to the gland when in fact they come from quite a different cause. For instance—and this, perhaps, is the most common mistake—a patient complains of occasional retention, haemorrhage, pain, etc.; a rectal examination is made; the prostate is found to be enlarged and is straightway accused, without further search, of being the cause of the trouble. What is the result? During the operation for removing the offending member a stone is found in the bladder, which could easily have been removed by lithotrity and the patient restored to health in a week, whereas he is now condemned to pass through an unnecessarily severe ordeal. In skilful hands the *x* rays will nearly always eliminate such errors, even when the sound has failed to reveal the true cause.

Prostatectomy should be deferred until after treatment by catheter has been tried. The patient may recover his power, or he may decide, when he knows exactly what to expect, to continue treatment. No harm can come of a delay of a month or more, and in septic cases much good will result, for the patient will improve and be in a better condition to bear the operation. Afterwards, if the catheter fails or is found too irksome, recourse can be had to operation.

When the patient is comparatively young, in good health, and has many years of life before him, operation is very rightly advocated as soon as it is proved that catheter treatment will not cure. The same may be said of those who, owing to their position in life, calling, or lack of funds, are unable to carry out the few simple details necessary in sterile catheterization. Prostatectomy undoubtedly is the best treatment when the prostate, by its mere size, has largely encroached upon the bladder space, and there is no residuum. The urine is clear and free from all signs of sepsis, yet the patient has constant and urgent calls to pass water both by day and night. Finally, the operation may be necessary in certain cases where the prostate is constantly bleeding and filling the bladder with clot which interferes with instrumentation and endangers the patient's life.

REFERENCE.

1 *The Development and Anatomy of the Prostate Gland*

HOME CONDITIONS AND EYESIGHT.

By KARL PEARSON, F.R.S.,

FROM THE GALTON EUGENICS LABORATORY, UNIVERSITY OF LONDON.

It may not be without interest, in view of recent criticisms of a memoir by Miss Barrington and myself,* to publish some further determinations of the relation of home conditions to sight.

Before doing so it will be well to point out one or two important considerations which I think have considerable bearing on the manner in which statistics ought to be collected, having regard to the medical inspection of school children, which is now becoming universal.

The first point I would insist upon is that careful distinction must be made between (*a*) home environment and (*b*) school environment.

Our paper dealt chiefly with the influence of home environment on both refraction and acuity of vision. Now, as far as I am aware, the only material hitherto available for testing the influence of the actual *home* conditions on the presence of eye disease, on the goodness or badness of vision, or on shortsightedness, is that provided by the report of the Edinburgh Charity Organization Committee, where we have for the first time the sociological report on the home conditions placed alongside the ophthalmological report on the child's eyes, and accompanied in each case by the age of the child. I do not see how it is possible without such information to draw conclusions as to whether the home conditions do or do not affect sight. I am quite prepared to be shown that the conditions in Edinburgh are exceptional, but the proof can only be given when the children who are reported on elsewhere are followed up into their homes, and the state of these is recorded, as in the Edinburgh investigation.

Further, the Edinburgh material was of special value, because there is not the same extraordinary mixture of racial types in that city which is to be found in Glasgow or London. We are told, for example, that Russian Jews

* *Eugenics Laboratory Memoirs.* V. A First Study of Vision and of the Relative Influence of Heredity and Environment on Sight. Dulau and Co. 1909.

have in London a very high percentage of eye defect. Any one who has studied the copious statistics of Randal must be convinced that the degree and extent of myopia is markedly a *racial* character.[1] Those who have investigated any local class in this country know that in anthropometric characters it is usually significantly differentiated from any other local class. The population of our suburbs is usually more sedentary than the population in the working class districts of the town itself and less mixed.

I know, as a matter of fact, that the cephalic index of school children varies very sensibly from one district of London to a second. On this ground alone it is not possible, without control measurements, to assert that, because the percentage of eye defect varies from Whitechapel to Hampstead, the result is due to home environment. It may be so, but a mere statement of percentages in different districts without (*a*) age distributions, (*b*) racial proportions, and (*c*) percentages of defective parents in each district, will not convince those who desire logical statistical proof before forming any conclusion. It is well known that the defective parents also gravitate to the worst districts, and we may expect the defective children there also. For these reasons the work at Edinburgh was especially valuable. It gave age distribution, it dealt with a racially fairly homogeneous material, and it followed up the children into their homes and told us something, if not all we might desire to know, about their parents. I see no other way in which a real solution could be obtained for London. An individual school or two must have all—not only the defective—children examined, and the eyesight report must be accompanied by a sociological report.

A report such as that of Dr. A. Hugh Thompson on the London school children, in which the numbers at each age of both the normal and the defective children are not given, cannot help the statistician in the least to arrive at definite results. Nor, unless the children are followed into their own homes, is it even possible to say how far bad food, bad air, or parental neglect may account for the presence of any disease. There is always the diathesis as a contributory source, and the fact that all the children in the same family may not be attacked, shows that the variability within the family also plays its part.

Again my critics will, I hope, pardon me if I say that I am not convinced when I am asked whether this or that "is not a fact." For example, that it is a fact that in the better homes the children are more studious, or that the more respectable parents keep their children at home. Either may be the truth, but what we want are actual numerical measures of the effect of these supposed causes in invalidating the apparently small influence of the environmental as compared with the hereditary factor.

What we want are more data before we conclude that results are paradoxes because of such or such an explanation being "a fact" or "a matter of common experience."

Let us attempt to get any information we can on the problem of whether the better class parents keep their children at home, and so their offspring are more studious and suffer more from myopia.[2] Now, I know of no statistics which at all touch this point of the studious character of the offspring of better class parents, but I suppose the argument to be that the children are kept more at close work and that this damages their sight. Now, it would be possible to compare the sight of children of the same age who came to school at different ages originally, and thus find out whether those who began to read earlier have markedly worse sight. It would be very desirable to collect statistics *de novo* on this point. The only material that I know of bearing on the subject is that used by Miss Barrington and myself, and provided by Cohn, who gives the correlation tables of sight and years of school life, and sight and age. We have shown that the relationship is more intimate between sight and age than between sight and years of school life, and that, considering the high correlation of years of school life and years of age, the latter is most probably only a derived result of the former. Now, we have recently reworked Cohn's data and discovered the correlation between the ages at which the child began to read and the degree of myopia *at a constant age*. The partial correlation co-efficient is:

0.04, if age and length of school life have a correlation of 0.8.
0.13, if age and length of school life have a correlation of 0.9.

Now it will be, perhaps, said that the latter is a quite sensible correlation, but compare it with the heredity correlation of 0.40 to 0.60, and we see that environment is quite overmastered by heredity. *Furthermore, the correlation is the wrong way, the later the child went to school, the worse at a given age is the myopia.* I have little doubt that the correlation in this case is sensibly *zero*, or the age at starting reading has little influence on the result. Cohn's statistics are, of course, not final, but they are very suggestive, because they have hitherto been supposed to prove the exact reverse of what is really extractable from them.

I now turn to the question of the effect of good or bad home environment on disease of the eye. I will consider first corneal nebula and illustrate by some of the percentages:

Feature of the Home Estimated.	Boys.		Girls.	
	Good.	Bad.	Good.	Bad.
Economic condition	5.6	2.3	3.9	2.2
Overcrowding	2.5	3.3	2.5	3.4
Physical state of parents	3.8	2.5	3.1	2.8
Moral state of parents	3.5	2.5	2.5	3.5
Means	3.35	2.65	3.00	3.00

Now it is extraordinarily difficult to lay any stress on results whose differences are of this order. A bad moral state of parents would be interpreted to mean less corneal nebula for the boys and more for the girls, the percentages being just reversed. Good economic conditions in both boys and girls would mean 1.5 per cent. more of the disease, and so would the good physical condition of the parents. In such circumstances what stress can be laid on the 0.8 per cent. difference between crowded and non-crowded homes? The only safe conclusion to be drawn is that in Edinburgh at least there is no *marked* relationship between corneal nebula and bad home environment. The curious point is that if we take *all* diseases of the eye and eyelid, we appear to get a slightly more definite, but still a quite negligible relation between disease and home environment. A difficulty is whether to include strabismus or not; the correlations have been worked out by Miss E. M. Elderton, of the Eugenics Laboratory, including and excluding "squint." In each a positive correlation means that there is more eye disease with the worse home condition.

Feature of the Home Estimated.	Boys.		Girls.	
	With Squint.	Without.	With Squint.	Without.
Economic conditions	0.10	0.14	−0.03	0.02
Overcrowding	0.05	0.08	0.04	0.12
Physical state of parents	−0.02	−0.02	−0.10	−0.15
Moral state of parents	0.04	0.03	−0.01	0.01

Now, it is quite impossible to lay any stress on these results. Six out of the 16 show less disease with worse home conditions, and if we have positive correlations of 0.10 and 0.14, we have negatives of −0.10 and −0.15. Further, no correlation of this kind lying under about 0.25 can be really considered to have definite importance. How very different they are from the values running from 0.4 to 0.6 found in our memoir for the inheritance factor.

It is worth while putting on record here the quantitative contributions of refraction and diseases of the eye in producing defective vision. The refraction results are taken

[1] The Jews, like the Gormans, are largely brachycephalic, and the increasing brachycephaly of the town populations is a point not without suggestiveness for changes in eyesight.

[2] The reader of our memoir will remember that our conclusion was, not that the better homes produced more myopia, but that there was no *marked* relationship between bad homes and defective sight.

[†] This category should a priori be considered the most important one in this matter. It marks essentially neglect of the children. Where the home is practically a brothel or the parents habitual drunkards there can be no proper cleanliness or care of offspring.

from our memoir; the disease results have been recently worked out by Miss Elderton.

Correlation of Keenness of Vision with Refraction and with Disease.

	Keenness of Vision and Refraction. (Contingency.)	Keenness of Vision and Disease.	
		Squint Included.	Without Squint.
Boys ...	0.58	0.36	0.21
Girls ...	0.54	0.50	0.32

It will be seen that, if we exclude strabismus, the diseases of eye and eyelid do not produce half the effect on vision that refraction does.

Now I do not intend to argue for a moment that the Edinburgh data provide the final word in these matters, but they form the first solid attempt to provide information as to the influence of home environment. Neither the school medical officer nor, as a rule, the teacher can follow the children into their homes. All that has hitherto been done has been more or less plausible guesswork as to the relation of home environment to the health and intelligence of the child. I shall not be surprised to find, when further data are available, that the nation has for years been putting its money on "Environment" when "Heredity" wins in a canter. To say this is not to discourage all attempts to better defective sight in the schools or to check the intensification of myopia. But it would be foolish—in face of our increasing degeneracy—to neglect the possibility that only other methods can in the long run hinder the spread of defects. Better qualities, such as keen and strong vision, are no longer an absolute requisite for survival, and defectiveness, instead of meeting the stern judgement of Nature, is by governmental and charitable agencies supported to multiply its kind. The curative art in its tenderness for the individual may be disastrous for the race, unless it realizes fully the relative biological importance of heredity and environment.

MEDICINE OR SURGERY IN EARLY CASES OF CANCER.

By SKENE KEITH, M.B., F.R.C.S.Edin.,
LONDON.

At the present time surgery claims the treatment of all early cases of cancer, and allows an experiment only when it has failed. I hope to show a fair case for medical treatment on an early case, after extensive experience gained by experimenting on hopeless ones has apparently rendered this permissible. I do not for one moment suggest a prolonged course of treatment in any suitable case for operation, but one limited to a few weeks only. When a case presents itself where the diagnosis lies between cancer and syphilis, it is considered good practice to clear up the diagnosis by giving antisyphilitic treatment—in other words, to experiment to a certain extent; and this brings me to the point I wish to make, why, as surgery is not altogether satisfactory, not experiment for two or perhaps even three weeks. This is, of course, allowable only after encouraging results have been obtained in hopeless cases. If this length of time would make any appreciable difference to the prospects of permanent recovery, if operation had eventually to be had recourse to, it would be a very serious matter to suggest such delay; but if the disease is growing so rapidly as to show much difference in that time, the case would be one of those in which return is certain to be rapid.

When an experiment has been carried on, it has always been difficult to say if there is any real improvement. All who have much experience with malignant disease know that a certain amount of temporary improvement can be gained in many different ways. If one can show that some definite change is caused by cancer, and that this change can be arrested by treatment, it seems to be reasonably probable that a right line for farther investigation has been arrived at. I believe that it is possible, perhaps probable, that the change which takes place in the blood in all cases of cancer when at all advanced may prove the guide which is wanted. The changes are not confined to one element; the red corpuscles are diminished in number except when there is pressure leading to starvation, and are altered in appearance, being weak and more or less colourless; the haemoglobin is diminished; the white cells are increased in number, and are altered relatively, the polymorphonuclear cells being increased at the expense of the lymphocytes.

If a careful blood examination were made before every operation for cancer it might, and probably would, show that the cases in which there was no return were those in which the blood was normal or nearly normal, or where it quickly returned to a healthy condition after operation. As examination of the blood after operations shows in some cases a gradual return to a normal condition of the white cells, it is apparent that once the local disease is removed, the general condition it had caused may right itself. It is therefore reasonable to advise after all operations for cancer the treatment my brother and I recommend, or any other which has the effect of materially improving the condition of the blood, even when the actual disease is present. There is not sufficient information to enable one to say how quickly the blood should become normal after the whole of a cancerous growth has been removed; but as an illustration of what may happen I give the figures of a case in which the patient became, exceptionally quickly, well and strong after two abdominal operations.

The history was that a colotomy had been performed, followed by the excision of about 9 in. of the transverse colon. My brother saw the patient for the first time on November 4th, 1908, seventeen days after the second operation. He made a blood examination, and found 4,400,000 red and 30,000 white corpuscles per cubic millimetre. As no blood count had been previously made, we do not know if there had been any improvement in the seventeen days. There were 78.1 per cent of polymorphonuclears and 21.2 per cent. lymphocytes. Treatment was begun at once. On November 25th the white cells numbered 15,000, and there were 68.8 per cent. of polymorphonuclears, showing that while the percentage was within the normal limit, the number of polymorphonuclears in the total quantity of blood was roughly half as many as there should be. On March 7th, 1909, the number was 8,000 and the percentage 66, the total number of the polymorphonuclears being thus normal. The red cells had been in excess since the end of November, the count always being over five millions. On May 4th the number was 9,000 and the percentage 67, again within the normal limit. The treatment consisted in fifteen injections, each containing soamin 1 grain, green citrate of iron and ammonium 10 grains, and saturated solution of sodium cinnamate 20 minims. The treatment was finished by the end of December.

Examinations made at intervals after operations might show that the disease was returning before local evidence could be made out. This would not of necessity upset the local theory of the disease, as there might be return internally.

If we take the condition of the blood as a starting point for treatment, we see at once that no one remedy is likely to bring it back to normal, and we must give remedies which will increase the number of red cells, and the amount of haemoglobin, while the white cells are reduced, and the relative numbers of the polymorphonuclears and lymphocytes are put right.

My brother and I have now been working for six years with practically the same remedies. They are arsenic, iron, and sodium cinnamate, all old-fashioned cancer remedies. The preparations we have found best are soamin, green citrate of iron and ammonium, and a saturated solution of sodium cinnamate. Soamin is sodium para-aminophenyl arsenate, and contains 22.8 per cent. of arsenic. Whether these remedies should be given together or separately we are not certain.

Beginning any new line of treatment, one must naturally limit oneself to hopeless cases, to those in which the death sentence has been passed. This is only fair, but after six years' experience with such cases and with the knowledge gained by their study, and more especially when treatment can be placed on a scientific basis, and when certain failure can be seen within a very short time by its want of effect on the blood, surely the time has come when one cannot be accused of great rashness when one advises treatment which is capable of correcting the condition of the blood caused by a cancerous growth, in an early case, and provided always that treatment will not complicate operation should it be necessary later. I was exceptionally fortunate in meeting with an early case lately

before the white blood cells had become altered, and where a radical operation was not possible.

In the middle of last January I was sent for by Dr. Leonard Brown of Pau to see a gentleman 59 years of age. Dr. Brown had diagnosed the presence of an epitheliorna of the rectum, and this was confirmed by Dr. Diriart, who advised that a radical operation was impossible on account of matting together of tissues in front of the rectum, and advised colotomy. The growth was confined to the front and left side of the bowel. I entirely agreed with the diagnosis. The patient was anxious to come back to London, and it was agreed that treatment should be commenced as soon as possible, and that the question of colotomy be left open.

The examination of the blood was very encouraging, as, though the red cells numbered only 3,000,000 per c.mm. and the haemoglobin was 70 per cent., the white cells were normal. The injections were very badly borne, as they were usually followed by violent sickness lasting sometimes for an hour and a half. The blood quickly became normal. The treatment extended over a period of nearly two months, seventeen injections being given. The growth entirely disappeared, leaving on the left side a small pucker. The patient also gained very considerably in weight. One is so thoroughly imbued with the idea that cancer can only be cured by operation, that I naturally began to be doubtful about the diagnosis, and wrote Dr. Brown to ask if he or Dr. Diriart had even a shadow of doubt on the subject, and received the reply that neither of them had any doubt whatever.

It may be said that one case does not prove anything, and with that I agree; but the case is interesting when taken along with others in which the altered condition of the blood in advanced cases has been modified by injections of iron, arsenic, and cinnamate of sodium.

The blood should be examined in all cases of cancer, and especially when any treatment is being carried out. At present it is our only guide, and time alone will show if it is a thoroughly reliable one.

The following extract from a letter received from Dr. Taves of New York, dated April 20th, 1909, is of interest as showing the practical benefit which may be derived, though the blood examination was not carried out, as I had only recently written him about it.

I began the injections recommended by you on October 1st last on a case of carcinoma of the stomach. The patient was a man, aged 74, suffering from vomiting, epigastric pain, and a loss of 20 lb. in weight. The tumour was *visible*, measuring about 4 in. across and 2½ in. from above downward. Since being put on the injections he has gained 12 lb. in weight, has no pain, vomits only very infrequently, and the tumour has decreased more than one-half in size. He is able to enjoy life, and goes to his business every day.

Another case, a man of 40, has carcinoma of the oesophagus. He could not swallow even water. The obstruction was demonstrated by bismuth paste and the *x* ray. As he was starving, a gastrostomy was done for feeding purposes, and then he was put on the injections. He has gained a few pounds in weight, and is now able to take by mouth two quarts of milk, several eggs, and two platefuls of cereals per day. He is stronger, has no pain, and seems to be getting along fairly well.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF LANDRY'S PALSY.*

LANDRY'S paralysis is a rare disease in Bombay. The following notes of a case may therefore be interesting:

Jan Mahomed, a Mohammedan from Cutch-Mandvie, aged 60 years, without occupation, was admitted into hospital on April 19th, 1909. He was a well-developed and well-nourished man. He lived on a mixed diet. He had syphilis eighteen years ago; he did not drink, but smoked moderately.

The present trouble began with tingling and heaviness of the legs and difficulty in walking. He felt exhausted on walking slight distances, and once he fell down while walking. Since then the legs have become very heavy. A few days after this he felt heaviness of his body and weakness of the left arm. Four or five days before admission he was not able to move his legs and left arm.

I saw him in the out-patient department for the first time on April 19th, 1909, that is, eighteen days after the commencement of the illness. He then had paralysis of both legs and of the left arm, but there was no wasting, nor any loss of sensation. Knee-jerks were absent; Babinsky's sign was not present; there was no marked incontinence of urine and faeces. The cerebral functions were perfect; there was no ocular trouble, neither was there any loss of cutaneous reflexes. The vessels were atheromatous, and there was a history and evidence of chronic bronchitis. The spleen was enlarged. There were strong evidences of syphilis—scar on the penis, enlarged lymphatic glands, and swollen tibia. He was admitted with the diagnosis of disseminated myelitis.

The next day paralysis of the laryngeal muscles and weakness of the right arm came on; there was also some weakness of the diaphragm, as indicated by impaired movements of the abdominal walls. Within the next forty-eight hours the respiratory muscles became paralysed, there was dyspnoea and orthopnoea, and great restlessness. He got worse every day, the paralysis affecting all the respiratory muscles as well as the muscles of the neck. His mind was clear to the end, and swallowing and speech were unaffected. He was taken home, five days after admission, in a dying condition. He had no fever all along, except that the temperature was 99° F. on the first day.

The diagnosis rested on the following factors; (1) Rapidly advancing motor paralysis with very little involvement of the sphincters; (2) absence of wasting and the other trophic lesions; (3) absence of fever.

The points of interest in this case were: (1) Landry's palsy generally occurs between the ages of 20 and 30, but the patient under my observation was 60 years of age; (2) at first the case was difficult to diagnose, but later on, when the paralysis spread with such uniformity, as is noted, it was easy to diagnose.

FRAMROZE N. KAPADIA, L.M.and S.,
Honorary Assistant Physician, Sir J. J. Hospital, and Tutor in Medicine, Grant Medical College, Bombay.

* Read before the Bombay Branch.

AN EASY METHOD OF REMOVING THE NAIL OF THE GREAT TOE BY COMPRESSION.

IN the treatment of ingrown nail the ordinary operation of erasion is undoubtedly a method of barbarism. There are many variations and I am surprised that the following method has never been suggested.

I shall describe my last case. A commercial traveller, aged about 40, had suffered for some months with ingrown nail of the great toe. On its inner side it was inflamed and suppurating. First of all I applied a compress of lead and opium for twenty-four hours. Then a tape was tied round the root of the toe till it produced intense congestion. Then I took a large Péan's forceps with long parallel blades, and compressed the nail in the middle of the inner half with moderate firmness. A check as to the amount of compression can be introduced between the handles so as to prevent excessive pressure. Much less force is required than would be supposed. Then the toe was again wrapped in lead and opium lotion for three days. Then the inner part of the nail was found discoloured and loose, so that it was easily removed with the scissors without any bleeding save a few drops from the root of the nail.

In all, I have removed the great toenail five times by this method. The force applied need not be great, and if it produce no result (which I have never found) it can always be applied again. In one case a young lady applied the pressure herself, as she would not permit me, and it was successful. In another case, where the toe was very inflamed and very tender, and the patient was afraid of the process, which I had explained, I applied the blades very slightly, not expecting any result but just to give him courage so that I could apply it more firmly next time. To my surprise the result was perfect. Previous to this I had used much greater force.

Next, as to the place of application, it is better not too close to the edge of the nail. In my first attempts I applied it quite close to the edge, causing very free bleeding and not producing a dark, contused appearance, but a thin white line along the compressed part. To give the best results the force, I find, should be applied to the middle third of the half of the nail on the side affected. No anaesthetic is necessary. Lead and opium lotion I found better than cocaine.

Manchester. PETER TYTLER, M.D

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

YORKSHIRE BRANCH:

Dr. GORDON BLACK, in the Chair.

Scarborough, Saturday, June 26th, 1909.

ASCITES AND ITS OPERATIVE TREATMENT.

DR. RAM (Mexboro') read a paper on this subject.

The patient, a married woman, aged 46 years, came under his observation twelve months ago. She was complaining of feeling of weight and distension of the abdomen, which she attributed to dropsy. On examination he found that the abdomen was dull right up to the umbilicus and in the flanks. There were present both visible and palpable waves. The liver dullness extended from the fifth intercostal space in the nipple line to about 6 in. below the right costal margin. The spleen was enlarged and came down to about 3 in. below the costal margin. The diagnosis of cirrhosis of the liver with ascites was made. She was tapped, and 2½ gallons of fluid were obtained. She had been tapped previously at intervals of six to eight weeks, and the fluid obtained varied from 2 to 2½ gallons. Her trouble began two years before she was sent to Dr. Ram, and during this time she had been tapped several times. He tapped her again on July 30th, 1908, when fluid to the amount of 2½ gallons was obtained. Operation was done on September 1st, 1908. The abdomen was opened through the right rectus, the incision, 6 in. long, being made extending from a point 3 in. below the umbilicus. The omentum, which was found matted up and already adherent to the bowels, had its anterior surface rubbed and stitched up to the parietal peritoneum round the umbilicus, and on either side of the incision. The anterior and outer surfaces of the liver were rubbed with gauze, as well as the parietal peritoneum opposing these surfaces. A drainage tube was put in the middle line 2 in. above the pubes. The wound was closed in three layers. On the tenth day the tube and the stitches were taken out, the wound having healed by first intention.

The woman had not been tapped for the last ten months. There was no fluid present. She was doing her usual housework.

The PRESIDENT congratulated Dr. Ram on the excellent and detailed manner in which he had given his paper and on the happy result of the case. Mr. SINCLAIR WHITE had had 6 cases in which similar treatment had been carried out; 4 of these were cured and 2 died. Some authorities asserted, however, that operation in cases of this kind only hastened death. Probably a large proportion of cases operated on were not really true cirrhosis. He would not operate in any case where there was jaundice. Sometimes draining the peritoneum had appeared to cure in these cases. Dr. CHURTON mentioned that he had heard of cases operated on by puncture being followed by death. He deprecated drawing away the whole of the fluid at one time. Dr. RAM replied.

CONGENITAL FUSION OF BONES OF ARM.

Dr. MURRAY (Scarborough) showed a boy with congenital fusion of the bones of the arm—radius and ulna—at their upper ends, near the elbow. Also a radiogram of the condition. Dr. HUNT (Scarborough) remarked that the humeral articular surface was also probably not properly developed.

TRANSIENT MULTIPLE ARTHRITIS APPARENTLY DUE TO INJECTION OF STREPTOCOCCUS VACCINE.

Dr. CHURTON related the following case:

The patient, a man aged 28, was admitted into the Leeds General Infirmary on March 29th, 1909. On March 15th, he was engaged for many hours removing snow. Next day he had retention of urine. March 15th: Urine dribbled away; bladder found distended; catheterism was necessary. Cystitis followed. March 24th: Sudden paralysis of left leg, with partial anæsthesia from groin downwards, followed by wasting of all the muscles of the limb. Right leg normal. Violent tremors and fascicular twitchings of left leg, worse under observation, occurred soon after admission. April 21st: Signs of pyelitis in left kidney; temperature, 103°. Urotropin and acid sodium phosphate given; hot fomentations eased the pain. April 22nd: Streptococci found in the urine pus; 5 million of a streptococcus, obtained by culture from an empyema, and kept in readiness, injected. April 25th: Great improvement. May 5th: Slight relapse; temperature 100°; pulse 96. Vaccine repeated. May 9th: Temperature and pulse normal. May 26th: Still a slight deposit of pus in the urine. A third dose of vaccine was ordered. By mistake a polyvalent vaccine, made elsewhere, containing 25 million of dead organisms, and said to be prepared from several varieties of streptococci of great virulence, was used. Next day, May 27th, return of pain in left kidney; increase of pus in urine; pain in right knee. May 28th: Left knee painful and very hot. May 29th: Left wrist swollen and painful, very tender; skin red, mottled. Apparently the inflammation was among the tendons, and around rather than inside the joint. Temperature 102°, pulse 108, respirations 24. No rigors; patient dejected, sallow, and weak. Another flask of the polyvalent vaccine had been proved to be sterile. May 30th: Salicylate of sodium was given. June 1st: Dose of salicylate increased to 20 gr. every two hours for four doses, afterwards every four hours. June 3rd: Joints greatly improved; temperature normal, pulse 84. June 5th: Salicylate every eight hours. June 10th: No visible deposit in urine. June 15th: Salicylate omitted. The improvement in the left leg had not been interrupted; sensation was perfect; movements of toes, etc., good.

Probably the number of organisms injected on the last occasion was too great, and some of their endotoxins too strong for this comparatively mild case. The reaction in or around the joints was such as might well have resulted from an invasion of rheumatic cocci and toxins, helped into life and activity by an auxiliary poison; and the effect of the salicylate, in sufficient doses, was striking; but the patient had never suffered from rheumatism. There was no discoverable reason why the two knees and the left wrist should have been affected severely, and other joints not at all. The PRESIDENT thanked Dr. Churton for his paper.

UNUSUAL DISEASES OF THE HEART.

Dr. T. WARDROP GRIFFITH (Leeds) showed some specimens of unusual diseases of the heart. Two specimens were from patients who during life had the symptoms of the morbus cæruleus, and both presented imperfect development of the pulmonary conus with imperfection of the interventricular septum. Two specimens illustrated the rare condition of disease limited to the pulmonary valves. One of these was from an alcoholic who had hepatic cirrhosis, and developed symptoms of infective endocarditis; the disease was confined to one segment of the pulmonary valve, which presented a redundant mass of vegetations. The other was an exceptionally rare condition, namely, pulmonary stenosis, apparently the result of disease, and not congenital. The patient, a girl of 18, had had chorea two years prior to her admission, and the signs pointed to pulmonary stenosis, though there was no cyanosis. She died from acute miliary tuberculosis. The other valves were normal, the interventricular and interauricular septums were complete, and the duct of Botalli was closed. The pulmonary conus was well developed, and the individuality of the mutually adherent valves was not lost. Dr. Griffith inclined to the view that the condition was acquired and not congenital. A child of 6 months was admitted with bronchopneumonia; there was a well-marked systolic bruit at the apex, transmitted to the posterior axillary line, and associated with some signs of cardiac enlargement; she succumbed to a second attack three months later. The heart was enlarged, and the incompetence of the mitral valve was found to be due to disease confined to the posterior segment of the valve, which was shortened, thickened, and opaque. There was also thickening and opacity of the endocardium of the posterior wall of the ventricle. In this case Dr. Griffith expressed his doubts as to whether the condition was congenital or the result of disease, and he inclined to the former view. The last case was that of a man of about 40, who was admitted with acute pulmonary symptoms of a month's duration. There was marked dullness with tubular breathing; this cleared up in great measure. At the time of his admission there were signs of old cardiac disease, there being incompetence of the aortic valve. Symptoms of infective endocarditis then supervened, and the patient died. There was found old puckering of the aortic valves, with an aneurysmal dilatation of one of the sinuses, pointing, it was thought, to a former attack of infective endocarditis. There was very extensive recent endocarditis, with large masses of vegetations. The inflammation had extended through the pars membranacea septi, and a mass of vegetations extended into the auriculo-ventricular aperture of the right side of the heart. There were many recent embolic areas in both lungs. The sequence of events was supposed to be (1) endocarditis, possibly infective, leading to the aortic insufficiency and to the aneurysmal condition of the sinus of Valsalva; (2) an attack of acute pneumonia; (3) infective endocarditis, pneumococcic in origin, involving the damaged aortic valve; (4) extension of this through the interventricular

septum; and (5) embolism of the lung from the fungating mass in the right auriculo-ventricular aperture resulting from this extension. It was interesting to note that the auriculo-ventricular interval as measured by a study of the venous pulse in the neck was normal, and, in this connexion, that the extension of the endocarditis was above the level of the band of His. The PRESIDENT thanked Dr. Griffith for the facile way in which he had addressed them on his subject. Dr. CHURTON also discussed the paper.

OPERATION FOR TRAUMATIC MENINGEAL AND CEREBRAL HAEMORRHAGE.

Dr. SOLLY (Harrogate) related a case of successful operation for traumatic meningeal and cerebral haemorrhage which he had treated in conjunction with Dr. Riley Watson, of Harrogate. The main points of interest were that the patient, a lady aged 38, was knocked down by a bicyclist, and, though more or less conscious for some hours after the accident, gradually became comatose, with dilatation of the right pupil and contraction of the left, restless movements of the right arm, and apparent paralysis of the left. On trephining, the bleeding was evidently from a posterior branch of the middle meningeal near the base of the skull. A large clot, about 2 fluid ounces, was removed from between the skull and the dura mater, but the bleeding point could not be reached, although the trephine opening was enlarged by rongeur forceps to a size of about 2 in. by 1½ in. The bleeding was eventually arrested by two strips of gauze. As the dura mater bulged, showing great internal pressure, it was incised, and a considerable quantity of sanious arachnoid fluid spurted out to a height of about a foot; and as the brain substance protruded through the slit in the dura, a fine pair of artery forceps were pushed into it in the direction of the lateral ventricle. Through this opening some cerebro-spinal fluid escaped with portions of dark clot. The patient's respiration and pulse had evidently improved upon the relief of pressure, but it was not thought possible to do any more, so the wound in the dura being stitched up with fine iodized catgut (prepared by Claudius's method), the scalp wound was closed with silkworm-gut suture, and the two strips of gauze brought out through a fresh incision through the lower part of the flap. The gauze strips were withdrawn about eight and twenty hours respectively after operation; there was a good deal of oozing, but no serious haemorrhage, and recovery was almost unattended by any incidents of surgical interest. The patient recovered consciousness in about thirty-six hours, and after forty-eight hours was perfectly intelligent, though apt to be restless and excitable for the first ten days; for about three weeks she had some diplopia, but gradually recovered from this. The wound was acutely tender for about ten days, and headache was much complained of. It was relieved by doses of aspirin and bromural. The patient was allowed out of bed after two weeks, and at the end of the fourth week could walk about the room without dizziness, and recovery now (five weeks after accident), appears to be complete.

ACUTE INTESTINAL OBSTRUCTION IN A CHILD.

Dr. SOLLY also related a case in which he was called in to see a child, aged 6, with acute intestinal obstruction, symptoms of which had been present for four days before the family medical attendant was called in to see the case, and aperients had been freely administered without any result except the excitation of vomiting. When seen the patient was very much distended, and upon opening the abdomen a loop of small intestine was found strangulated under several bands of adhesions in the neighbourhood of the caecum and appendix, although the latter appeared perfectly free and normal. Great apparent relief was given and the bowels acted spontaneously about eight hours after the operation, but sickness continued, and a rather sudden fatal collapse occurred about twenty-four hours after operation, no *post-mortem* examination being obtainable. It was found upon inquiry that, when about a year old the child had suffered from what was diagnosed as intussusception, and the question of operation was considered. As the symptoms subsided and the child, though "subject to indigestion," had had no further acute trouble, no operation was done. The case was reported as an object lesson in the treatment of acute abdominal complaints in children, for it seemed probable that had a simple exploration been made at the time of the first illness, the diagnosis of intussusception would have been corrected and the child probably saved from the return of the trouble, in which the intestine failed to extricate itself so fortunately as it might be supposed to have done the first time.

Reports of Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Friday, July 9th, 1909.

Mr. PRIESTLEY SMITH in the Chair.

Cataract Pedigrees.

MR. N. BISHOP HARMAN showed some new cataract pedigrees, illustrating the truth of Mr. Treacher Collins's contention that the cataract was a defect in the lens secretion, which went to make the capsule. The patients had plaques on the back part, behind the nucleus, and including the posterior part of the lens. In one girl the cataract extended so as to include the nucleus, while in a further case it projected forward, like a piece of coral, through the lens, so that it seemed there was lens matter bulging through. At first he thought it was so, and that it had been needled, and afterwards got hard and sclerosed.

Radium Treatment.

MR. ARNOLD LAWSON and MR. MACKENZIE DAVIDSON read a preliminary note on the treatment of eye diseases by radium. Mr. Lawson said the cases had been selected from the out-patient clinic of Moorfields Hospital, and were selected as instances of maladies which usually proved obstinate or only improved slowly under the ordinary forms of treatment, or else were of an active and virulent nature and so required drastic measures. Only 17 cases had so far been tried, but in every case the result of exposure to radium had been very encouraging. Most of the cases were corneal ulcerations, 4 were non-ulcerative lesions, and 1 was episcleritis. After one application of five minutes to a hypopyon there was distinct benefit. For instance, a man, aged 35, gave a history of injury to the right eye. There was deep ulceration and a grey infiltrated area of 4 mm. diameter, with a large hypopyon. Twenty-nine milligrams of radium were applied for five minutes, and five days later the injection was subsiding and the hypopyon had disappeared. Two days after a second application of three minutes the man was discharged from the hospital, the eye being not quite white, but, for all practical purposes, well. Other cases also did very well from the treatment. In all cases the only other measures were boracic lotion and atropine where required. Some punctate erosions were also similarly treated, and gave equally encouraging results, as did also cases of old-standing trachomatous pannus, except in one case, in which there was increased vascularity after the treatment. The dosage of radium was an important point, and the small dose of 5 mg. seemed to act as quickly as did a much larger quantity. In one case the pain after the application endured for three days, but in the others the longest time was twenty hours. Mr. Mackenzie Davidson explained that the paper was a tentative one. The radium was applied in sealed glass tubes, the glass cutting off the alpha rays, so that the beta and gamma rays only passed through to the lesion.

The Nettleship Medal.

The CHAIRMAN then, in a graceful tribute, presented to Mr. Edward Nettleship the Nettleship medal for his work in ophthalmology, and MR. NETTLESHIP replied, paying a high compliment to the many coadjutors who had helped him to complete the pedigrees on which he had been working.

Colour Perception.

DR. EDRIDGE-GREEN showed a new spectroscope, which enabled him to isolate any portion of the spectrum and determine without calculation the size of any patch which seemed monochromatic to any person.

ROYAL SOCIETY OF MEDICINE.

SECTION OF SURGERY.

Tuesday, July 13th, 1909.

Mr. WARRINGTON HAWARD, President, in the Chair.

Treatment of Sarcoma by Bacterial Toxins.

DR. W. B. COLEY, of New York, in an address on this subject, said that it was now seventeen years since he first suggested and practised the injection of cultures of the *Streptococcus erysipelatosus* as a treatment for malignant tumours. The basis of his work was the undoubted occurrence of retrogression in, and disappearance of, inoperable sarcomatous growths as a sequel of attacks of erysipelas. Scientific support was forthcoming later when the experimental work of Beebe and Tracy at the Huntington Cancer Research Laboratory showed that multiple sarcoma in dogs frequently disappeared entirely under treatment with the mixed toxins. His first successful case was inoculated in 1884 with a living culture of the streptococcus for a round-celled sarcoma of the jaw; the patient remained free from all signs of the growth and quite well in 1891. He treated in all 12 cases by this method, but was obliged to give it up, partly because two deaths occurred as a result of the infection, and also because he was not invariably able to produce an attack of erysipelas. Nevertheless, he noticed that some inhibitory action was evident even when no definite attack was induced, and this first gave him the idea of a possible toxic action. Then some work at the Pasteur Institute upon the increase of virulence exhibited by the streptococcus in the presence of *B. prodigiosus* suggested the combination of cultures of the latter organism with those of the streptococcus, and it was with this "fluid" that nearly the whole of his earlier work was done. Of 38 cases known to him in which erysipelas, accidental or inoculated, occurred in the course of sarcomatous disease, 23 were benefited; of these 17 were sarcomata, 7 were cured, and 10 "improved."

When the toxins were first used the two organisms were grown together; a two weeks' culture was sterilized, a small piece of thymol added, and the material used without filtration. As a result of his observations he came to the conclusion that, in some cases at least, the *B. prodigiosus* had an inhibitory action of its own, independently of its association with the streptococcus. Hence the next development of the treatment, which consisted in growing the organisms separately and standardizing the cultures before mixing in definite proportions. By this means it was possible to eliminate the earlier severe symptoms, since the dose could be regulated.

The effect of an injection upon a tumour was to render it paler, no doubt as a result of decreased vascularity; then, after about three doses, to diminish the fixity. Softening set in, and finally the tumour, in favourable cases, disappeared by absorption, or by liquefaction and necrosis in the round-celled and more vascular growths.

Not for every case, by any means, could it be claimed that the tumour would disappear altogether, but in some, degeneration did lead to complete absorption. Melanotic types derived no benefit from the injections. It was immaterial where the inoculations were made, whether into the neoplasm itself or into the tissues at a distance.

The explanation he had to offer for what might seem anomalous results, he found in his conception of the essential nature of all malignant growths; he looked upon all tumours, of whatever type, as of microbic origin, and therefore susceptible to natural and induced immunity. He believed there were many analogies between sarcomata and such a condition as bone tuberculosis; some surgeons believed that the latter was invariably a sequel of trauma, and in his experience the same held true for very many sarcomata, whatever might be the case with other neoplasms. His results were to be explained by the induction of an environment unsuitable to the cancer cell, which degenerated in consequence. It would easily be understood that the unsuitability attained might be enough to give the malignant cells a temporary set back but not enough to produce a permanent effect. An examination of the blood after inoculation always disclosed a marked leucocytosis.

There were experimental observations tending to show that the response of cancer cells to slight changes in nutritional conditions were very delicate. For example, a variety of mouse-tumour which could be transplanted freely among Berlin mice could not be transplanted from mouse to mouse in Denmark, and presumably the only difference was some small divergence of diet.

The results of treatment with the mixed toxins varied from absolute failure to brilliant success, the determining factor seeming to be largely a question of dose. The amount given must be adapted to the individual response of the patient, and failure to show rapid improvement need not lead to discouragement. One case of sarcoma of the parotid with metastases in the neck, which showed no improvement after one month, after seven months he was able to report as a cure; the tumour had entirely disappeared and the patient remained well seven years later. He alluded also to the case reported to the society by Major Spencer earlier in the session.

In cases of sarcoma of the extremities where it was a question of amputation, the toxins should be given a chance first, but unless signs of success were forthcoming in at the most three weeks, operation should not be further postponed.

One of the most important uses of the toxins was as a prophylactic measure after operations, particularly for sarcomata, but there was no reason why an inhibitory effect should not be exercised in the case of carcinomata, and he believed it was. He had some 20 cases in which recurrence was to be expected on clinical grounds, but in which none had occurred for seven years, and he attributed this to the beneficial action of the injections.

The reaction required for prophylactic purposes was a light one, not more than enough to give a temperature of 99° to 101°, and no harm resulted even from continuance of the treatment for four years.

He had now some 12 cases of sarcoma of a long bone, in which he had succeeded in averting the operations to which the patients had been condemned by well-known surgeons. Most of them were confirmed as to diagnosis by microscopical examination; some were round-celled and some myeloid. When the figures given by Butlin—68 cases with only 1 permanent cure—were remembered, these results assumed significance. It was sometimes objected that the waste of time was serious. As a matter of fact, in the slower growing, three weeks was not of moment; whilst in the rapidly growing even immediate amputation was foredoomed to failure, whilst his method did give some chance. Operation was easier and less extensive after toxin treatment, so that a stump could sometimes be left for an artificial limb instead of a disarticulation, say, at the hip. In the case of myeloids, enucleation was sufficient if followed by a course of injections.

No definite rules for treatment could be laid down. It was dangerous to stop too soon; generally from six weeks to three months were enough. The shortest successful series he had given was thirty-one injections, whilst a case of sarcoma of the breast injected in 1895 on seventy-eight occasions remained well to this day.

Sometimes recurrences had been observed after disappearance of the tumour. In a case of this sort in his first series, treated with the living germs and yielding only after four attacks of erysipelas, the patient kept well for some years; a recurrence was then successfully dealt with by toxins, but three and a quarter years later he died of metastases.

As a rough guide he would say, "Give toxins till the tumour had entirely disappeared; then for four months longer give smaller doses at longer intervals." The biggest dose usually employed was 8 minims three or four times a week, but he had given as much as 20 minims. The first dose should not be more than $\frac{1}{2}$ to $\frac{1}{4}$ minim, and should be given into the buttock; when given into the tumour itself the dose should not be more than a quarter of the last systemic dose. A temperature of about 102° to 104° was desirable. As long as this degree of reaction was elicited no further increase should be made; then the increment should be $\frac{1}{2}$ minim.

The obstacles he had had to overcome in obtaining support for his method had been: (1) The difficulty of standardization; this was solved for him by Dr. Buxton. (2) Failures published by other surgeons, chiefly due to imperfect trial. (3) The rarity of the disease and the

hopeless attitude of most surgeons towards tumours they saw no hope of relieving by the knife. It required courage and confidence, both on the part of the patient and of the doctor, to face a treatment that might involve a temperature of 105°, a chill, and cyanosis. Fatal cases reported by other surgeons were almost all due to neglect of the most ordinary precautions. In his own list of 500 cases there were only 3 deaths. Two of these were due to embolism, the most frequent cause of a fatal issue in other hands also, and resulted from too big an initial dose directly into the tumour.

Speaking of final results, he had now treated successfully 52 inoperable cases; of these, 35 remained well after from three and a half to sixteen years; 23 after from five to sixteen and 14 after from ten to sixteen years. In all but 2 of these 52 diagnosis was confirmed by the microscope. There were now something over a hundred successes reported by other surgeons. When he read a paper recently before the New York Medical Society, no criticism of accuracy of diagnosis was made. It was said that, if he was right, his treatment ought to have been widely adopted, and that it would have been used in Europe. Many people's failures dated from fifteen years ago, and their arguments did not apply to the modern technique. If history was clear upon one point, it was that there was no relation between the value of a discovery and the rapidity of its acceptance by the profession. In conclusion, he wished to acknowledge his indebtedness to Drs. Buxton and Ball.*

Vote of Thanks.

A vote of thanks to the lecturer was proposed by Mr. BUTLIN and seconded by Sir ALMROTH WRIGHT, and was carried with acclamation.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—At a meeting on July 6th, Dr. MAY THORNE in the chair, Mrs. SCHARLIEB opened a discussion on *Post-partum haemorrhage*, giving as the chief causes of the condition inertia of the uterus (by far the most frequent), lacerations of some part of the genital tract, heart disease, or toxic conditions, for example, albuminuria. The causes of inertia were precipitate or tedious labour, overdistension of the uterus, and the presence of tumours, especially interstitial fibroids. Inertia from tedious labour might be obviated by a timely use of forceps. With regard to chloroform, the speaker considered that if it was carefully given it averted rather than caused inertia, by preventing the exhaustion due to pain and anxiety. The prophylactic treatment of *post-partum* haemorrhage further consisted in the proper management of pregnancy and of labour (especially of the third stage). The treatment of the actual condition should be systematic; the following measures should be carried out in order: (1) Brisk but gentle massage of the abdomen. (2) Hot intrauterine douches; clots or placental tissue could be removed at the same time, and the presence of lacerations noted. (3) Traction on the anterior lip of the cervix. (4) Compression of the aorta. (5) Packing of the uterus and vagina with iodoform gauze. Subsidiary measures consisted in raising the foot of the bed, bandaging the legs, and stitching up lacerations. The drugs that were useful were ergot, ergotinin, calcium chloride, quinine (in large doses), and strychnine. MRS. WILLEY said that she had found the method of drawing down the cervix of the greatest service, and thought that the efficacy of plugging the uterus was largely due to the preliminary traction on the cervix. MRS. GRANGER EVANS noted that *post-partum* haemorrhage was liable to occur in women who had suffered from *ante-partum* haemorrhage. Miss TURNBULL considered that precipitate labour was an infrequent cause of *post partum* haemorrhage. Miss DE GARIS commented on the troublesome cases of continued trickling haemorrhage, and spoke of the value of intravenous and submammary saline injections. Dr. MAY THORNE agreed that chloroform was not harmful if given carefully. She considered that bimanual compression of the uterus was one of the best and safest methods of stopping haemorrhage from the uterus.

* Details of the method of preparation of the mixed toxins can be found in the BRITISH MEDICAL JOURNAL, 1908, vol. i, p. 1064; and in the *Boston Medical and Surgical Journal*, vol. 158, No. 6, p. 178.

Reviews.

DISEASES OF CHILDREN.

DR. ERNST MORO has published the results of an interesting and instructive piece of research on the haemolytic properties of the child's serum in health and disease.[1] Taking first the serum of healthy adults as a standard for comparison, and testing it with sheep's blood corpuscles, he finds that its content of complement does not show marked variations either with different individuals or at different times, when the conditions of experiment are the same. With normal children above the age of sucklings, the tests for haemolysis yield similar results to those obtained with adults. But the amount of complement is lower in newly-born children during the first week of life, and varies with different individuals. Examinations of the amount of complement at different periods during the age of suckling also yield variable results, which appear to be correlated with the mode of nutrition. These differences are not very great and are not absolutely constant, but the author attaches significance to the fact that, independently of the body weight, it is much commoner (in 10 out of 17 cases) to find a low complement value with artificially-fed infants than with those which are breast fed (in only 2 out of 12 cases). He remarks that this fact supports his conclusion, deduced from previous observations, that, *ceteris paribus*, the blood serum of breast-fed children is more strongly bactericidal than that of bottle-fed infants. With regard to children not in a healthy condition, a difference is observable between the infectious and the non-infectious maladies. In the latter the haemolytic property of the serum corresponds to the normal; but in the infectious diseases, particularly in typhoid fever, pneumonia, and tuberculosis, it is distinctly higher.

DR. VON VOGL, of the South German Army Medical Staff, discusses in a recent monograph[2] the relationship between infantile mortality and the supply of recruits. The author is of opinion that a high death-rate in the first years of life is far more detrimental to the interests of national defence than the deterioration of physique which is associated with the modern tendency towards rural depopulation. He gives a map which seems to indicate that infantile mortality is, in South Germany and Austria, excessive in low-lying districts. The territories bordering on the Danube, almost without exception, show a high infantile death-rate. Taking Bavaria as a whole, the infantile mortality is much higher than in any other part of Germany. Dr. von Vogl believes that constitutional weakness, dependent on poorness of parental and ancestral stock and improper feeding, are the chief causes of death in infancy; he is inclined to attach more weight to the former influence. He emphasizes the importance of physical training during the years of school life, and, with the help of a study of the records of long distance races, makes clear the dangers incurred in forcing imperfectly trained and physically unfit men to undertake long marches when burdened with accoutrements. The work contains some information which deserved more enlightened statistical treatment than it has received. As might perhaps be surmised from the title page, Dr. von Vogl has a fondness for long sentences which even exceeds that of the average German author. Dr. von Vogl, whatever may be thought of his literary powers, deserves a word of commendation for adding his testimony to that of the cloud of witnesses who have protested against the disregard of common hygienic principles which has too often characterized military administration.

DR. SITTLER has put together an interesting study of "the most important bacterial types in the flora of the suckling's intestine."[3] Immediately after birth there are

[1] *Ueber das Verhalten hämolytischer Serumstoffe beim gesunden und kranken Kind.* Von Dr. Ernst Moro. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1908. (Sup. roy. 8vo, pp. 100; 15 illustrations in the text. 3*s.*)

[2] *Die Sterblichkeit der Säuglinge in ihrem territorialen Verhalten in Württemberg, Bayern und Oesterreich, und die Wehrfähigkeit der Jugend, mit besonderer Rücksichtnahme auf die Anforderung an die Marschfähigkeit.* Von Dr. von Vogl. München: J. F. Lehmann. 1909. (Med. 8vo, pp. 74. M. 2.40.)

[3] *Die wichtigsten Bakterientypen der Darmflora beim Säugling.* Von Dr. Paul Sittler. Würzburg: Curt Kabitzsch. 1909. (Sup roy. 8vo, pp. 70. M. 2.50.)

found in the infant's mouth the enterococcus, *B. perfringens*, and *B. coli*, all of which are doubtless derived from the mother's vagina. To these bacteria there are soon added *B. bifidus*, *B. lactis aerogenes*, *B. acidophilus*, and *B. exilis*. The enterococcus (*Streptococcus acidi lactici*) is the principal bacterium of the small intestine, and its capacity for souring milk probably restrains the growth of other bacteria in this part of the bowel—for example, *B. lactis aerogenes* and *B. coli*. In the large intestine the most important micro-organism is the anaerobic *B. bifidus communis*, which is also the chief bacterium found in the stools, whilst the *B. perfringens* is characterized by its occurrence in the layer of mucus adherent to the inner surface of the intestine. In pathological conditions not attributable to other and extraneous causes the *B. coli* and *B. lactis aerogenes* are responsible for the milder disturbances, and *B. perfringens*, growing in symbiosis with *B. coli*, for the severer cases. The bacterial infection of the intestinal tract is completed during the first four or six days of life. Ten to twelve hours after birth a few examples of enterococci and *B. coli* are found in the meconium; and by the second day the *B. perfringens* is added to the contents of this excretion. The disappearance of this organism from the meconium is accompanied by the change of the excreta into the normal orange-yellow type, with a preponderance of *B. bifidus*. In discussing the influence of diet on the bacterial contents of the infant's intestine the author attaches special importance to the carbohydrates; his observations on the part played by various sugars in favouring or restraining the growth of particular organisms will be read with especial interest.

A highly favourable opinion of Dr. HUTCHISON'S *Lectures on Diseases of Children*[4] was expressed when the first edition appeared in 1904. In the second revised and enlarged edition the pages have been increased by nearly a hundred, and fresh chapters have been inserted on some diseases of the newly born, congenital pyloric stenosis, chronic constipation in infancy and childhood, some common symptoms of disease in children and their diagnostic significance, and some of the common skin diseases of infancy and childhood. Each of these additions, it may be said, enhances the value and usefulness of the work. As a preliminary to the study of the larger and more systematic treatises on disease in childhood, we know of no work more likely to prove of service. Dr. Hutchison possesses the happy gift of stating the main essentials of each complaint in a plain and lucid manner, and his dogmatic mode of expression is the more calculated to impress his statements upon his readers. In the review of the first edition we commented adversely, and Dr. Hutchison subsequently defended, the advice to feed babies on a mixture consisting of a teaspoonful of Nestlé's milk in six tablespoonfuls of water. In the new edition the advice is retained, but the analysis of the resultant mixture is considerably modified. It may still be pointed out, however, that in the different analyses given in the two editions the proportions of protein to fat do not correspond; in the first, indeed, the amount of protein exceeds that of the fat, whilst in the second analysis the reverse obtains. This must mean that either one or both analyses are at fault. It would be easy to give other reasons in justification of our objection to the author's advice on this point, and we still think it may be harmful, especially when coming from a recognized authority on dietetics like Dr. Hutchison. Of the new chapters, that on congenital pyloric stenosis is especially interesting and suggestive, and Dr. Hutchison speaks "with no uncertain voice" as to the frequency of that complaint and its treatment. "I am perfectly sure," he says, "that any one who is capable of diagnosing it will meet with cases in his practice not very infrequently." As to this, it can be said that numerous observers, who are reputedly capable in other respects, must, if he be right, not only miss many cases in the wards of children's hospitals, but in the *post-mortem* rooms as well. All available *post-mortem* evidence points in the direction of pyloric stenosis being a rare complaint; and, if he be right in his estimation of its frequency, the discrepancy between him and others can only be explained by the suggestion that many cases recover, in spite of the lack both of correct diagnosis and appropriate treatment. He is equally dogmatic as to operation, and his view, which he emphasizes by italics, is "*that operation is never in any circumstances justified in these cases.*" Such a view, needless to say, is in direct opposition to that of the Edinburgh authorities, to whom the profession is largely indebted for its present knowledge of the condition. As in the first edition, Dr. Hutchison places the recoveries from post-basic meningitis as high as 50 per cent.; and we may repeat that his experience of the disease must be exceptional, for his percentage of recoveries is probably four or five times as great as that of most other authorities. In spite of the few criticisms we have ventured upon, we would wish to express our high appreciation of the numerous merits of Dr. Hutchison's work. It is profusely illustrated by photographs, which are admirably adapted for their intended purposes. It is a pity, however, that the quality of the paper of the second edition should fall so far below that of the first.

Infant feeding is far from being neglected at the present time by medical writers, and Dr. FOWLER'S book[5] is no less than the third on the subject by members of the staff of the Edinburgh Children's Hospital during the course of a few months. It may be said at once that the merits of his work are great. Dr. Fowler has evidently a profound knowledge, both theoretical and practical, of his subject, and no important detail has escaped notice at his hands. His sections on the bio-chemical properties and composition of milk are excellent, and more up to date than those in any other work on infant feeding with which we are acquainted. He is no half-hearted advocate for the routine sterilization of cow's milk. After giving thorough details as to the pasteurization, sterilization, and boiling of milk, and their respective advantages and drawbacks, he writes:

> No one will deny that germ-free milk (could it be procured) is preferable to milk which has been cooked; but, in the absence of this ideal, it seems to me that to do anything to foster an opinion which has tended to prevail both in lay and medical circles in late years—namely, that raw milk in any form is superior to artificially sterilized milk—is to assume a serious responsibility and to commit a very grave error.

That raw milk in any form is superior to sterilized milk is so manifestly absurd that we would have thought no one could have been found to differ from Dr. Fowler on the point. But, given milk that on reliable evidence is reasonably pure, and with proper precautions, such as the absence of epidemics and very hot weather, there is an increasing number of competent authorities who consider the ultimate results of feeding are better with such a milk when it is given raw than when it has been subjected to any process of heating. To compare the necessity of the sterility of an infant's food with that required in surgical operations, as the author does, is to overstate the case. Dr. Fowler has had an extended experience of Budin's method of feeding with whole sterilized milk, and writes in its favour. He gives the precautions that are necessary before attempting it, and his directions should be followed by any one resolving to try the method. Regarding buttermilk, of which one hears so much nowadays, Dr. Fowler writes judiciously and with reserve. He has not found it to possess all the virtues that have been claimed for it, but sometimes his results with it in cases of chronic gastro-intestinal disorder have been eminently good. He attributes success with it mainly to its low percentage of fat and the absence of coagulable casein. The author may be congratulated on his excellent book, which deserves success.

A book that has reached a third edition must be supposed to have supplied a want. In the case of Mrs. SADLER'S work, *Infant Feeding by Artificial Means*,[6] however, we are at a loss to imagine to what class of readers it

[4] *Lectures on Diseases of Children.* By Robert Hutchison, M.D., F.R.C.P. Second edition, revised and enlarged. London: Edward Arnold. 1909. (Cr. 8vo, pp. 638. 8s. 6d.)

[5] Oxford Medical Publications. *Infant Feeding: A Practical Guide to the Artificial Feeding of Infants.* By J. S. Fowler, M.D., F.R.C.P. Edin., Physician to the Royal Hospital for Sick Children, Edinburgh, etc. London: Henry Frowde, and Hodder and Stoughton. 1909. (Cr. 8vo, pp. 240. 5s.)

[6] *Infant Feeding by Artificial Means: A Scientific and Practical Treatise on the Dietetics of Infancy.* By S. H. Sadler, author of *Suggestions to Mothers*, etc. Third edition. London: George Routledge and Sons, Limited. 1909. (Post 8vo, pp. 253. 3s. 6d.)

can have appealed. The author apparently possesses no medical qualification, and her work is mainly a compilation from the writings of others. In the preparation of the present edition it would seem a pity that she did not consult some competent authority, with a view to the work being brought up to date. Had this course been followed, the quotation from the late Dr. Playfair, in which preference is given to long-tubed feeding bottles over others, would hardly have been retained. The same might be said of the quotations from the late Dr. Routh, dealing with cases in which, owing to intestinal troubles, there is intolerance for milk, and it is advised: "The aliments to be given in these cases are two—*good black tea*, mixed with milk, which last should be given only in sparing quantities, and raw meat." The last-named author is further quoted to the effect: "Tea comes to resemble very closely beef tea, and as such may be looked upon as a very good substitute." Many other quotations could be given which are not in accord with modern notions or practice. The author would seem to have spent much time in writing to authorities for information on elementary points of minor importance, and in numerous instances their answers are printed in full, thus adding unnecessarily to the bulk of the work. Whilst many parts of the book are likely to be useful, it cannot in the present day be considered a satisfactory guide to the artificial feeding of infants without careful revision and many alterations.

ABDOMINAL SURGERY.

THE first volume of DEAVER and ASHHURST'S *Surgery of the Upper Abdomen*[1] is devoted to disorders of the stomach and duodenum. The object of the work is to present a digest of the enormous accumulation of papers on these organs by surgeons all over the world. An attempt has been made to sift the valuable from the worthless, and thus to provide a ready means of correcting the bias inseparable from close application to practice in one clinic or country without some guide as to the reliability of statistics from outside. After short chapters devoted to anatomical, physiological, and diagnostic considerations, the text is divided into sections of very different lengths, according to the importance of the part under review; thus, "phlegmonous gastritis" has but three pages, and these are chiefly records of cases and operations, with results; "gastric ulcer" has some sixty-five pages devoted to accounts of the various conditions in which operation is demanded, the most appropriate procedure to adopt, the complications that may arise, the results hitherto achieved, and a select list of recent papers. Towards the end of the book is a chapter on the technique of operations; it deals briefly and lucidly with a great many of the most popular operations, but the authors are perfectly definite about their own choice of methods, and give, for the most part, cogent reasons for their selection. It will be seen, therefore, that the volume will be very useful as a means of reviewing rapidly the modern position of gastric surgery, and particularly helpful to any one trying to collect examples of rare or unusual cases that happen to come under his hands. The authors have accomplished their task with great success; they draw upon a large personal experience, and are explicit as to their own preferences and rules, whilst at the same time they are impartial in their estimate of other surgeons' work. They cannot include everything, of course, but they give so much space to the work of Gandy and Hoer in connexion with the etiology of gastric ulcer that one would expect to find some reference to that of Bolton. On the other hand, the late Mr. Harold Barnard's papers, published in the BRITISH MEDICAL JOURNAL last year, are drawn upon largely for the account of subdiaphragmatic abscesses, and handsomely acknowledged. A clinical observation with which all surgeons will certainly not agree is to the effect that not until peritoneal reaction, after perforation of a gastric ulcer, has commenced does marked rigidity of the abdominal wall appear: it certainly appears within half an hour or less of the first onset of pain in some cases. It is satisfactory to find the excision of a perforated ulcer condemned as a waste of time better spent in performing gastro-enterostomy. The authors are not much in love with Finney's pyloroplasty, and seem to think it will not supplant gastro jejunostomy even in cases of simple ulcer, but they describe the operation fully, and evidently consider it very much in the field. Under the head of gastrostomy it is a little surprising to find "Roux's operation" in the same type as Witzel, Franck, and so on, for it is an isolated instance in which a loop of jejunum was transplanted beneath the skin of the chest to connect a cervical oesophageal fistula with a gastric. This book will not need a great deal of recommendation; it is sure to find its way into the hands of all those engaged in the active practice and recording of abdominal surgery.

We welcome the publication of a second edition of DOUGLAS'S *Surgical Diseases of the Abdomen*[2] both because it indicates that the book has already been appreciated and because it gives us another opportunity of urging its claims upon the limited time of working surgeons already harassed by a superfluity of print. The author found time amidst a busy practice to *think* about his cases, and to work out a reasonable reference to pathology for his collated empirical observations. He writes with special attention to diagnosis; he seeks the exact significance of small signs and symptoms, weighs their inherent and relative value and points the moral of his results in fresh and vigorous terms. He has taken full advantage of recent literature and gives his readers short lists of references. There is no detailed account of operative minutiae although he discusses the advantages of different measures; he seems to have no obsessions or fads and is quite frank as to failure. As we stated in reviewing the first edition this is no compendium of old maxims; it is solid and thoughtful experience expressed in terms that make pleasant reading and are at the same time most instructive. It is no real drawback that the editor of this edition, Dr. Barr, has treated the text reverently and not been too anxious to be absolutely up to date with quite recent papers. The most valuable part of the book will be unaffected by the progress effected for some years to come.

OPHTHALMOLOGY.

RETINITIS pigmentosa is a disease which even in these days is obscure, and in spite of the large amount of work which has been done upon the subject we have no true knowledge as to its cause. One of the latest monographs concerning it is that written by Dr. WILLIAM T. SHOEMAKER of Philadelphia, who, in conjunction with Dr. John M. Swan, has been awarded the Alvarenga prize of the College of Physicians of Philadelphia in 1908.[3] It is based on an analysis of 17 cases occurring in deaf-mutes. The book contains three coloured plates and other diagrams, a copious bibliography and an index. Of the seven chapters the first deals with the history of the disease and its pathology, and the second with symptomatology. Neither contains anything not generally known. The etiology is discussed in the third chapter; the distribution of the disease seems to be universal, no country being without its victims, but it is particularly prevalent in Turkey and throughout the East, while the Jewish race is said to provide an unusual number of cases. The authors assume that when deaf-mutism and idiocy are associated with retinitis pigmentosa the one is not the cause of the other, but that they are the result of a pathological condition common to both. They consider that direct transmission from parent to child seldom takes place; in their series not an example of it occurred. There is, however, abundant evidence that the disease has been transmitted through several generations, and that heredity has a potent influence. Such cases are known to every one, and records abound in literature. In the present series it was found practically impossible to learn much of value concerning the ancestry of the children beyond the generation next preceding them. Statistics are very

[1] *Surgery of the Upper Abdomen*. By J. B. Deaver, M.D., LL.D., and A. P. Cooper Ashhurst, M.D. Vol. i. Surgery of the Stomach and Duodenum. London: Rebman, Limited. 1909. (Roy. 8vo, pp. 489. Illustrations 76. 21s.)

[2] *Surgical Diseases of the Abdomen*. By Richard Douglas, M.D. Second edition. London: Rebman, Limited. 1909. (Roy. 8vo, pp. 909; 20 plates. 25s.)

[3] *Retinitis Pigmentosa: with an Analysis of Seventeen Cases occurring in Deaf-mutes*. By William T. Shoemaker, M.D., Philadelphia. Laboratory examination of the blood and urine by John M. Swan, M.D., Philadelphia. Philadelphia: J. B. Lippincott Company. (Med. 8vo, pp. 112. With illustrations and 3 coloured plates. 8s. 6d.)

conflicting as to whether consanguinity plays any part in the development of the disease. "Syphilis plays a very doubtful part, if any, in the causation of retinitis pigmentosa." There is a discussion on the relation of deafmutism and idiocy and of cirrhosis of the liver to retinitis pigmentosa. Details of the authors' cases are given, as well as the results of analysis of the blood and urine. The conclusion is that the disease is a degeneration of the entire neuro-vascular track of the peripheral end organ of vision, extending backwards to the brain, but not an inflammation within the eyeball, the primary structure involved being the choroid, while the retinal changes are secondary. The disease is always congenital, however late it is before it manifests itself, while heredity is an important etiological factor. Consanguinity is of importance only in connexion with heredity and environment. Retinitis pigmentosa without pigmentation is a disease identical with retinitis pigmentosa, while unilateral retinitis pigmentosa is inconsistent with the authors' idea of the nature of the disease. The book is well got up, and sums up our present knowledge of the disease.

The large and most complete book by CASEY A. WOOD of Chicago, *A System of Ophthalmic Therapeutics*,[10] does not consist simply of a description of drugs used for diseases which have a direct or remote effect upon the eye; a very careful description is given of these diseases, and the treatment indicated in each; there is, for instance, a really good description of various diseases of the stomach, liver, brain, etc., which involve the ocular apparatus. The non-surgical treatment of the diseases of the nose and neighbouring cavities which affect the ocular apparatus is next considered, and a chapter is then devoted to general anaesthetics in ophthalmic operations. A very full account is given of the methods of testing the sight of railroad employees and seamen in America, and the information it contains is useful and interesting to those who are engaged in similar work in other countries. A large portion of the book is given up to the discussion of remedial agents employed in eye diseases. The volume is not entirely the work of Dr. Casey Wood, for although he has written the greater part of it, and is responsible for the whole, yet many of the chapters are by other well-known American physicians and surgeons, who deal with branches of the subject which they have made peculiarly their own. Thus there is a particularly interesting section devoted to the history of ocular therapeutics by Dr. Alfred Murray of Chicago. The final chapter deals with the preparation of the patient for ophthalmic operations. A very full index completes the work. The volume is of prodigious size, but the author takes a wide view, and it may well be termed "a system," as it deals with every imaginable form of treatment except operative, that can be used upon the eye. It treats of diseases which can only very remotely be considered to bear any relation to the eye at all. It is complete and eminently practical, and will add to the reputation of Dr. Casey Wood, who is well known for his energy and high technical knowledge.

Bacteriology is still a subject which savours rather of the unknown with many people. This is due, of course, to the comparatively short time since it obtained a well established place in the medical curriculum, but as all students are now grounded, more or less thoroughly, in its principles, it is coming to be more familiar. It has solved many of the mysterious problems of disease, and in ophthalmology has done much to elucidate many vexed questions. We therefore welcome an English translation of Dr. THEODOR AXENFELD'S excellent book, which Dr. Angus Macnab presents with the title *The Bacteriology of the Eye*.[11] It is an elaborate work, beautifully got up and illustrated. The first chapter, which discusses technique, is very practical, and free from an excess of detail. The chapters on the bacteriology of the conjunctiva and cornea occupy the greater part of the rest of the book; leprosy, tuberculosis and syphilis of the eye, endogenous infections and the bacteriology of the orbit being treated in three concluding chapters. The book is wonderfully complete. Professor Axenfeld is a recognized authority on ocular bacteriology, he and Morax having done more in this line of research than any other scientists. The translator has done his work well, and we heartily commend the book to the attention of all workers in ophthalmic science, none of whom can afford to be without it.

[10] *A System of Ophthalmic Therapeutics*. Edited and chiefly written by Casey A. Wood, M.D., C.M., D.C.L. Chicago. Chicago: Cleveland Press. 1909. (Roy. 8vo, 926 pages, illustrated and completely indexed.)

[11] *The Bacteriology of the Eye*. By Dr. Theodor Axenfeld, Professor of Ophthalmology in the University of Freiburg. Translated by Angus Macnab, B.A., M.B., F.R.C.S. London: Bailliere, Tindall and Cox. 1908. Large 8vo, pp. 425 illus. 105. 21s.).

NOTES ON BOOKS.

THE description of Dr. C. P. EMERSON'S book on the *Essentials of Medicine*,[12] as a textbook of medicine for students beginning a medical course, for nurses and for all others interested in the care of the sick, is sufficient evidence of its elementary, not to say popular, character. It is clearly and brightly written, generally accurate in its statements, and simple to the point of colloquialism. If for medical students, its place should surely be at the very earliest possible period in their medical course; if for nurses, it should prove really useful during their theoretical training; and if for a member of the general public, it should chiefly serve and act well in making clear how important it is to have expert medical advice in practically every case of illness. As the author puts it, the book will aid him to understand more clearly the medical problems of the day, to appreciate more highly a well-trained practitioner, and to co-operate better with his doctor. From the point of view of the profession, its great virtue is a series of 116 diagrams illustrating in an admirably graphic manner important points in clinical medicine.

The first part of Dr. VIKTOR BLUM'S book on the symptomatology and diagnosis of urogenital diseases was noticed in the JOURNAL in May, 1908. The second of the three parts of which the whole work is to consist has lately appeared, and deals with the symptoms of functional affections of the male sexual organs.[13] Besides impotence and sterility, it includes also sections on priapism, sexual neurasthenia, and some other matters. The second part, like the first, is carefully written, and contains a good deal of useful and practical information on the subjects dealt with; but, as the question of treatment is not considered, it is, of course, incomplete, and as there are no headlines to the pages and no index it is not easy to find one's way about in it.

The fact that Professor GEORG KLEMPERER'S small book on the elements of clinical diagnosis[14] has reached its fifteenth edition, and that it has been translated into no less than six languages, is sufficient proof of its popularity: but it has other claims on the reader, which are not found in every book of the kind. Although the matter is elementary in so far as only guiding lines to diagnosis are described, the mass of information, which must prove useful both to student and practitioner, is very large indeed and clearly worded. Each diagnostic fact is recorded in a short, simple sentence, and each symptom complex is described by means of a group of such sentences. Here and there a few omissions are to be noted, and less frequently doctrines, which are not universally held, are put forward as fact. The book, however, is composed of material which can be given to any student, and we would wish to extend its sphere of utility by recommending it to practitioners who are afraid of deteriorating in diagnosis and who have not enough spare time to study larger books.

[12] *Essentials of Medicine*. By C. P. Emerson, M.D. Philadelphia and London: J. B. Lippincott Company. 1908. (Demy 8vo, pp. 383. 8s. 6d.)

[13] *Symptomatologie und Diagnostik der Uro-genitalen Erkrankungen*. Von Dr. Viktor Blum. Zweiter Teil. Leipzig und Wien: Franz Deuticke. 1909. (Roy. 8vo, pp. 180. M. 5.)

[14] *Grundriss der klinischen Diagnostik*. By Professor Dr. Georg Klemperer. Fifteenth edition. Berlin: A. Hirschwald. 1909. (Post 8vo, pp. 300, 2 plates, and 53 illustrations. M. 4).

THE fourth series of lectures on scientific microscopy at the Institute for Microscopy of the Jena University, will be held from October 11th to October 16th. In addition to the lectures, practical demonstrations will be given on the Abbé refraction apparatus test plate and apertometer, and on photomicrography with ultra-violet light, with monochromatic visible light and with incident light (for metallography), and on ultramicroscopy of firm colloids of colloidal solutions and of the cells and fibres. Further particulars can be obtained from Dr. Ehlers, Beethovenstrasse 14, Jena. The first of these courses was held in Jena in 1907, the second in Vienna in 1908, and the third in Berlin in March last. The fifth course will be given at Leipzig in March, 1910.

THE FINANCIAL PROSPECTS OF MEDICINE.

RELATIVE OVERSTOCKING.

IN an article recently published in these columns[1] attention was drawn to the increasing frequency of complaints among medical men as to undue difficulty in making an adequate income, and it was asked whether medicine should be regarded as a less efficient money-making calling than formerly so far as are concerned men of average ability and average opportunities. It was shown that while no final answer could be supplied without weighing the effect of a multiplicity of factors, a great deal of light was likely to be thrown on the matter by applying to the problem ordinary economic principles.

Medicine in the connexion in which it is here considered is simply a commercial undertaking, and the financial prospects of every form of commercial enterprise depend primarily on the ratio between supply and demand, and secondarily on variations in the precise character of the demand and in the facilities which exist for meeting it. All these factors may vary very greatly without material interference with the stability of the enterprise as a whole; but it is far otherwise with the individuals engaged in it. They are sensitive plates, which automatically register every variation—pools and creeks which ripple in response to every movement of the general ocean. And in medicine the average pool is very small—so small that a scarcely perceptible heave in the general ocean may in them mean not merely a ripple, but a wave, disastrous or beneficial in its outcome.

The position of the individual remains unaltered if the demand and supply rise and fall together, but in the contrary case it is benefited or damaged according to whether the variation in the ratio between supply and demand results in relative understocking or its converse.

The Supply.

If, for instance, the supply (or the number of persons ready to furnish it) increases while the demand remains unaltered, the financial position of any given individual engaged in the form of enterprise in question must at once deteriorate. This is clear from the following consideration. When, for example, X represents the demand and Y the supply (or number of workers) and Z the amount of work (or profit), the calculation is:

$$\frac{X}{Y}=Z.$$

If, however, the number of workers is increased by b, then Z becomes proportionately less, since

$$\frac{X}{Y+b}=Z-\left(\frac{bZ}{Y+b}\right)$$

This principle when applied to the profession of medicine (in England and Wales) in the article already mentioned brought to light a very striking fact, namely, that the apparent value of Z had diminished by over 17 per cent. during the past twenty-eight years. This was shown to be due to the medical profession having grown in numbers so rapidly in that period that when the total population was equally divided among its members, each medical man only had 1,407 possible patients against the 1,710 possessed by his predecessor of the year 1882.

This being the case, the complaints as to hard times to which reference has been made might at once seem to be fully explained and justified. Such a conclusion would not, however, be convincing, since it has not yet been proved that the value of X (or the demand) is no greater than formerly. Unless this is shown it might be argued (on the ground that the 1,400 possible patients of to-day supply quite as much work as the 1,700 of twenty-eight years ago) that the alteration in the ratio between supply and demand was apparent rather than real.

This, therefore, is the point that must next be considered.

The demand for medical work set up by the existence of any given number of persons in any two years was in the last article assumed to be the same at the beginning and end of the period of twenty-eight years ending in 1908. If, however, it was greater at the end of the period, the deduction apparently to be drawn from the result of the first investigation is negatived. If, on the other hand, the demand set up by such community of 1,000 persons is less nowadays than it was twenty-eight years ago, the conclusion to be drawn from the altered ratio is greatly strengthened; for, obviously, if increase in the supply and diminution in the demand have been going on simultaneously the resulting overstocking must be very great indeed.

The Demand.

Possibly the best way of getting a bird's-eye view of the truth would be to ascertain from life-tables what is the expectation of life now and at earlier dates. This should be useful, because it seems fairly indisputable that relative lengthening or shortening of the average expectation of life must represent similar changes in the average healthiness of the nation. Hence if it is found that the average expectation of life has extended since the beginning of the period it is clear that the demand for medical work set up by any community of 1,000 people twenty-eight years ago must have been greater than that originating in a corresponding number of persons of to-day.

Two life-tables are therefore here given. They are the later two of the four which have been officially compiled during the past half century. The earlier ones teach the same lesson, but are not quoted because based on mortality-rates which do not come within the period now under investigation. Similarly it has been thought superfluous to print the figures relating to ages over 60, because the majority of all persons, and therefore of each man's possible patients, are under that age.

TABLE A.—*Mean Expectation of Life at Certain Ages as Estimated by the Registrar-General after the last Two Censuses.*

Age.	Males. Mean After-lifetime in Years.		Females. Mean After-lifetime in Years.	
	Table A.	Table B.	Table A.	Table B.
0	43.66	44.13	47.18	47.77
1	50.97	52.22	53.24	54.53
5	52.75	53.59	54.92	55.79
10	49.00	49.63	51.10	51.97
15	44.47	45.21	46.55	47.61
20	40.27	41.02	42.44	43.44
25	36.28	37.01	38.50	39.37
30	32.52	33.07	34.76	35.39
35	28.91	29.24	31.16	31.52
40	25.42	25.64	27.60	27.82
45	22.06	22.20	24.05	24.20
50	18.82	18.90	20.56	20.64
55	15.74	15.79	17.23	17.24
60	12.88	12.93	14.10	14.10

The later figures are those headed "B," and on running the eye down them it will be noted that they are higher throughout than those under "A." The differences, it will be observed, are greatest in the earlier periods of life, and gradually diminish after the age of 30. In the figures relating to ages over 60 the difference, if any, tends to be unfavourable to people of the present date.

The additions to the expectation of life which the figures in column B indicate may seem insignificant so far as any single individual is concerned, but, taken as a whole, they certainly prove that the length of time lived by any considerable number of persons, such as 1,000,000, must in the aggregate be much greater than formerly. This table, therefore, would seem to indicate that the demand must have gone down so far as it is affected by the state of health of the majority of any community of unselected persons.

It might be argued, of course, that this addition to the mean expectation of life does not necessarily imply a greater freedom from illness, but merely increased care of the individual, and therefore to that extent increased work for medical men. It is superfluous to discuss this possible objection because in any case the contrary deduction

[1] BRITISH MEDICAL JOURNAL, June 12th, p. 1451.

which has been cursorily suggested as fairly to be based on these tables must be checked by examination of other data. Among these are the death-rates from the principal zymotic diseases. It is not necessary to trace their course year by year, and only those for the years 1880, 1890, 1900, and the latest available year—1907—are here quoted:

TABLE B.—*Death-rates from the Principal Zymotic Disorders per Million of Population.*

Year.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Enteric Fever.
1880	230	334	649	451	261	322
1890	44	406	342	414	286	198
1900	15	414	158	377	314	174
1907	*nil*	361	92	285	175	67

It will be noted that with the exception of measles every one of these death-rates shows a material drop between the beginning and end of the period under investigation, namely, 1880–1908. Small-pox has practically disappeared, the scarlet fever rate is scarcely one-sixth of what it was, and the enteric fever not one-quarter. On the other hand, if similar figures were printed relating to sundry other common diseases, such as pneumonia, diabetes, kidney disease, rheumatic fever, and cancer, a certain degree of increase in the mortality-rates would be shown. Excepting, however, in the case perhaps of cancer and diabetes, such increase might with perfect reason be ascribed not to a greater prevalence of these disorders, but to greater precision in the filling in of death certificates. Tuberculosis, moreover, might be claimed as a set-off, for the death-rate from this disease has dropped in the same period by little less than half.

The same sort of objection as that suggested in respect of the lesson to be derived from the table showing the mean expectation of life might be lodged against this table likewise. It would be possible to argue that the lowered death-rate meant not less sickness, but more efficient treatment. Notification of infectious disease has not been in force sufficiently long to test this point accurately; but in any case such a view could not be put forward on very assured ground. Therapeutics have certainly progressed, but not to such an extent as to account for the huge differences in the mortality-rates in the case of scarlet fever and enteric fever here shown. Furthermore, in the case of some of the diseases, such as small-pox, it is common knowledge that not only is the death-rate smaller than formerly, but the prevalence of the disease infinitely less.

Much the same story is revealed on study of the general death-rate during the period in question.

TABLE C.—*Annual Mortality, all Ages and all Causes.*

Year.	Males.	Females.	Both Sexes.
1880	21.0	18.7	19.8
1885	19.7	17.8	18.7
1890	19.6	17.5	18.5
1895	19.6	17.5	18.5
1900	18.8	16.5	17.6
1905	16.2	14.3	15.2
1907	16.0	14.1	15.2

It is, of course, true that attempts might be made to lessen the force of this table as a proof that any given body of 1,000 people provides less medical work to-day than a similar number of people twenty-eight years ago, but they would be even less convincing than in connexion with the former tables. It is difficult to believe that if out of every 1,000 people nowadays only 15 die yearly against 19 at the beginning of the twenty-eight years' period, the decrease does not truly spell a lessening of annual sickness.

The next and last factor which it seems worth while to consider is the course of the birth-rate during the period in question. Table D shows how it has varied, five-yearly periods being again printed as sufficiently indicative of the fashion in which the number of births per 1,000 of population have varied. It will be seen that since the beginning of the period in question the birth-rate has fallen very considerably.

TABLE D.—*Birth-rates per 1,000 of Population.*

Year.	Crude Figures.	Rates per 1,000.
1880	881,645	34.2
1885	894,270	32.9
1890	869,939	30.2
1895	922,291	30.3
1900	927,052	28.7
1905	929,293	27.2
1907	918,042	26.3

As for the influence of this rate on the question of supply and demand, it is clearly double in its character. In the first place, if the number of babies who come into the world every year are proportionately fewer than formerly, there must be a smaller number of confinements for medical men to attend. In the second place, babies give rise to a good deal of medical work, and if the number of babies in proportion to the general population falls off, the demand for medical work must slacken accordingly.

GENERAL CONCLUSIONS.

It may freely be admitted that none of these tables taken separately could be regarded as a conclusive proof that the demand for medical work existing at the end of the period was less than at the beginning, but when they are taken together it is difficult to assign to them any other effect. It might be possible, as already indicated, to minimize the influence of each of them, but as a whole the conclusion seems inevitable that the demand at the present time is not the same as it was in 1881, nor yet greater, but, on the contrary, smaller.

Since this is the case, the conclusion tentatively drawn from the first investigation is greatly strengthened. That conclusion, owing to the nature of the factors upon which it was based, it was possible to determine accurately and show in definite figures, so that it is the less regrettable that the outcome of the present investigation can only be stated in general terms. We already knew positively that the ratio number of medical men to the general population had greatly increased, and the only reason for not at once concluding that a condition of relative overstocking had thereby been set up was the possibility that it might be shown that a community of 1,000 persons to-day set up a greater demand for medical work than 1,000 persons twenty-eight years ago. We now have exceedingly strong reasons for believing that this is not the case, and hence may justly conclude that the two most powerful factors in creating relative overstocking in any occupation, and in deteriorating the position and prospects of those engaged in it, have been at work in the medical profession during the past twenty-eight years. These are an increasing supply and a falling demand, and they have been going on simultaneously.

The two investigations together, therefore, have revealed the existence of a circumstance which makes complaints among medical men of undue difficulty in making an adequate income perfectly comprehensible.

The causes so far indicated are not, however, in all probability the only ones which exist. As was pointed out at the beginning of the first article, it is not merely variations in the precise ratio between supply and demand which bring about relative overstocking. It is, for instance, common knowledge that in many an occupation of life thousands of persons have been ruined, not because the number of persons engaged in it have unduly increased, or because the demand has fallen, but because there have been fresh divisions of labour owing to the development of new facilities for meeting the demand.

The next step, therefore, must be to find out whether this factor has also been at work, and has been tending to render the task of a medical man of average ability and average opportunity in making an adequate income much more difficult than was that of his predecessor.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the General Committee of the Imperial Cancer Research Fund was held on Friday, July 9th, at Marlborough House, H.R.H. the PRINCE OF WALES, President, being in the chair. Amongst those present were the Knight of Kerry (Vice-President), Sir William Church, Sir R. Douglas Powell, Sir Henry Morris, Sir John Tweedy, Sir Charles Morrison-Bell, Mr. H. T. Butlin (President of the Royal College of Surgeons of England), Sir Henry Howse, Dr. Rose Bradford, Sir John McFadyean, Mr. Edmumd Owen, Dr. J. F. W. Tatham, Dr. F. W. Andrewes, Dr. Whipham, Dr. Arthur Newsholme, Dr. E. F. Bashford (General Superintendent), Dr. J. A. Murray, Dr. M. Haaland, and Dr. Russell. Letters expressing regret at being unable to attend were read from Lord Strathcona, Mr. Waldorf Astor, Mr. A. J. Balfour, M.P., and Sir Julius Wernher (Vice-Presidents), Her Grace Adeline Duchess of Bedford, Lord Rothschild, Sir Thomas and Lady Glen-Coats, and others.

ANNUAL REPORT.

The seventh annual report was presented. It included the report of the Executive Committee for 1908–9, and that of the General Superintendent.

Report of the Executive Committee.

The report of the Executive Committee stated that during the past year further correspondence had taken place with the authorities of the International Society for Cancer Research in Berlin, in which it had been suggested that the Executive Committee should reconsider the attitude it had hitherto adopted and join the International Society, and offering that the First International Congress should be held in London. The Executive Committee was of opinion that the decision it had arrived at was in the best interests of the Scientific Investigation of Cancer, and accordingly felt it must adhere to its position. At a subsequent date a petition was presented by the International Society for Cancer Research in Germany to His Majesty the King, patron of the Imperial Cancer Research Fund, asking that the decision might be reviewed, but His Majesty, after considering the facts submitted to him, with the approval of His Royal Highness the President, by the Chairman, the Honorary Treasurer, and the General Superintendent through the Foreign Office, was graciously pleased to express the view that the Imperial Cancer Research Fund had co-operated freely in the past both with German and other foreign workers, and would continue to do so in the future. As showing the extent to which the Imperial Cancer Research Fund had encouraged the investigations of independent workers both at home and abroad, it was stated that assistance had been given or promised in this country to the Middlesex Hospital; the Pilkington Cancer Research, Manchester University; the Research Department, Royal Infirmary, Dundee; Cancer Hospital, Brompton; the Bio-Chemical Department, Liverpool University; the Pathological Department, Aberdeen University; the laboratory of the Royal College of Physicians, Edinburgh; and others; abroad, to 3 investigators in Austria, 1 each in Belgium, Denmark, France, Russia, Spain, Japan, and New Zealand, 23 in Germany, and 2 each in Italy and the United States of America. A satisfactory feature of the past year had been the recognition of the work of the fund by foreign investigators, as was shown by the number of applicants for permission to work under the General Superintendent. The Third Scientific Report, comprising 509 pages and 303 illustrations and diagrams with numerous tables, published in October last, formed the most complete exposition of the results of the modern comparative and experimental investigation of cancer yet issued. Since that report was issued, the following papers from the laboratories had been published: (1) Advance in Knowledge of Cancer (*Nature*). (2) Heredity in Cancer (*Proceedings of the Royal Society of Medicine*). (3) Ergebnisse der experimentellen Krebsforschung; (*a*) Ueber das Wachstum uberimpfter Tumoren, (*b*) Wachstumshemmende und forderende Einflusse. (4) On the Occurrence of Cancer in Mice of Known Age (*Royal Society Proceedings*). On the recommendation of the Statistical Subcommittee it had been decided that it was unnecessary, for the present at any rate, to continue the collection of statistics of cancer cases from hospitals. In view of the importance attached for a short time to the treatment of cancer by trypsin, and of the negative results of such treatment published in the last two annual reports, due to the experiments of members of the staff, it was thought well to state that facilities for further experimentation by an entirely independent investigator on the means of checking the growth of malignant tumours by the injection of trypsin and other like preparations were afforded in the laboratories, and also gave entirely negative results.

General Superintendent's Report.

Dr. Bashford's report stated that general recognition had been accorded to the soundness of the pathological foundations of the experimental investigation of cancer, and unanimity had now been secured in the interpretation of the significance of the phenomena of artificial propagation of tumours. Experiment had demonstrated the truth of the conclusion deducible from medical and surgical experience, that the chief dangers of cancer lay in the difficulty of diagnosing it in a stage permitting complete removal, and still more in preventing dissemination throughout the body. The clinical course, the results of surgical and other treatment, the pathological findings and relation to general metabolism had now been carefully recorded for 300 mice which had been afflicted spontaneously with malignant new growths of the mamma. These observations, according with experience in man, formed a sound foundation for attempts to apply the results obtained by studying the disease when induced experimentally to the disease as it occurred naturally. Propagation had been attempted for 28 only of the 107 additional cases of undoubted malignant new growth received during the past year, as previous experience had shown that practically all malignant new growths of the mamma could be transplanted. The additional tumours had been first examined histologically, and only transplanted when obviously differing from types already now in propagation, or possessing importance for other reasons—for example, two sebaceous adenomata, a melanotic sarcoma, several squamous-celled carcinomata, a carcinoma of the ovary, and several sarcomata. The careful observation of mice which developed cancer spontaneously had yielded additional evidence of the existence of constitutional conditions favourable for growth. The breeding experiments which had been in progress for several years were still being continued. In all, 29 cases of cancer had developed spontaneously in the mice bred in the laboratory from cancerous stock. As yet no evidence proving the hereditary transmission of cancer had been obtained. The numbers were not yet sufficiently large to make a detailed analysis of the relative liability of strains with differing degrees of cancerous ancestry profitable; but they had sufficed to demonstrate the validity of the law of age-incidence of cancer for mice in a form comparable with that which held good for mankind. Crude data obtained from the total number of cases of cancer occurring in the stocks of breeders of mice and rats had been held by many writers to indicate the endemic occurrence of cancer, not only in single cages in the case of these small animals but also in human beings and larger animals living in restricted areas. These data had been interpreted as evidence of the infectivity of cancer, although investigation had demonstrated not only the manner in which cancer could be transferred from one individual to another, and the restrictions to that transference, but also the fact that there was no evidence at present to show that the disease as it occurred in nature was conveyed by the transference of living cancer-cells. The short duration of the life of a mouse exaggerated, for statistical purposes, the importance of even so short a lapse of time as three months in determining a measurable increase in the liability of mice to develop cancer spontaneously. Thus, breeding experiments, when carried out carefully, did not support the arguments of an infective endemic occurrence of cancer for small laboratory animals. The propagation of spontaneous tumours had yielded results of value by the discovery of a second strain of propagable carcinoma in which the supporting connective tissue

* It was explained that this term was used to distinguish the natural disease of which the cause is still unknown from the disease induced experimentally, and must not be taken to imply a postulation of the manner of origin.

or stroma underwent sarcomatous transformation. The most evident constant factor determining the development of sarcoma from the stroma provided by each successive host of the carcinoma cells had been shown to be the duration of the active growth of the implanted carcinoma. The influence of the parenchyma of this new strain was so potent that the change supervened in practically every animal in which it grew, and the period at which this change in the host's connective tissues could be recognized was fairly constant. At the present time fifty mammary carcinomata were being propagated in the laboratory. In no case could it be said that any one tumour was an exact duplicate of another. In the large variety of malignant new growths of one tissue able to maintain their individuality under the uniform conditions of experimental propagation, an explanation was afforded of the contradictory behaviour long observed by the surgeon and the pathologist in malignant new growths apparently identical. The variations in malignancy were inexplicable, as was also the fact that with uniform care in operative procedure uniform results were rarely obtained. Explanations were sought in the differing constitutional conditions of the patients, but experiments had demonstrated that to a large extent the explanation was to be sought in the growths themselves. A much greater number of varieties of malignant new growths existed than was formerly supposed. During the year even more elaborate and more detailed investigations had been carried out than in earlier years as to the manner in which animals might be rendered resistant to the inoculation of cancer. The investigations had defined much more narrowly the experimental conditions under which the change was induced. It had been found that cells, whether cancerous or normal, which had been killed or disintegrated in any case, such as by chemical poisons or physical agencies (heat, cold, crushing, etc.), were entirely deprived of their power of conferring resistance. This result was in complete contrast with what obtained when the organisms of infectious disease were similarly killed or disintegrated, for in their case the products retained poisonous properties and powers of inducing resistance. Of particular interest was the action of radium upon normal and cancerous tissues without causing their disintegration. After exposure to radium for an interval within which no structural alteration could be observed in the tissues, either with the naked eye or microscopically, they might be completely deprived of their powers of growing and of immunizing. The abolition of these vital properties was here achieved with retention of the histological structure of the tissues and of intactness of the cells, and the experiments demonstrated that the power to elicit these biological reactions was intimately bound up with and dependent upon the vital activities of the cells themselves. Until now the parallel behaviour of normal and cancer tissue in these respects almost excluded the possibility of radium having a selective action upon cancer tissue. It would be well, pending proof of the existence of a selective action of radium upon cancer, not to disseminate exaggerated hopes as to the possible therapeutic value of radium. Experiments were in progress to determine if in any way the vital activities of the cell could be segregated so as to separate immunizing power from capacity for growth and continued propagation. It was impossible yet to say what influence, if any, had been exerted on dissemination or on the tendency to recurrence. Further investigations had been undertaken to elucidate the cellular reactions which take place in the connective tissues of animals during the processes of successful grafting, immunity, and spontaneous healing respectively. While corroborating the general results already published, namely, that the specific connective tissue and vascular scaffolding supplied by a normal was not supplied by an immune animal, they showed that the entire connective tissue system of the animal responds during the processes both of spontaneous healing and of immunization. The consequence was that any subsequent inoculation failed to elicited the response necessary for continued growth. It was not intended to deny that changes in the blood plasma accompanied the acquirement of resistance or immunity, but while it was difficult to conceive of so complete a constitutional change occurring without this intervention, the constitutional changes throughout the connective tissues proved that changes in the blood plasma were not solely responsible, and that the immunity was not purely of a humoral nature, but to a large extent cellular. An explanation was thus afforded of the negative results which have hitherto attended all attempts to obtain an anticancerous serum. From the general hospitals of England and Scotland details of 13,000 cases of cancer which had been submitted to microscopical examination had been collected. For the present the collection of clinical and pathological data from these sources had been suspended, as it was considered that the number already obtained promised to afford as satisfactory results as would even a larger number. This line of inquiry was embarked upon because of its critical bearings upon the interpretation and pathological value of the data on which the national mortality statistics were necessarily based. The wisdom of the conclusion arrived at in 1902 not to undertake a cancer census in the British Empire on the lines of that made in Germany on October 15th, 1900, had been justified not only by their own later experience, but also by the fact that since that date most other countries had recognized its futility.

An improvement in the value of the statistical investigations of cancer was to be expected only from an improvement in mortality statistics as a whole, that is, by increasing the accuracy of the data. The necessity for greater completeness and accuracy of the data of mortality applied still more urgently if comparisons were to be made between the statistics of cancer of different countries. Comparisons between different countries would be made profitable only by an all-round raising of the standards of accuracy and completeness of the mortality statistics as a whole with which those of cancer were inseparably bound up. Acknowledgement was made of the willingness with which Dr. Tatham had placed the resources of the General Register Office at the disposal of the Imperial Cancer Research Fund with a view to promoting the attainment of greater utility, accuracy, and completeness of statistics of cancer for England and Wales. The collaboration of a National Statistical Office had not been vouchsafed to the same extent to similar inquiries out of England and Wales. In the continuance of the collection of hospital statistics for six years, attention had been directed persistently to the importance of the microscopical examination of new growths, and to the difficulties inseparable from the diagnosis of a disease like cancer, which had no specific symptomatology. The collection of the data, therefore, had had a high educational value throughout the country, which must react both upon the medical profession and the public. As time had passed they had accumulated automatically in ever increasing numbers, both from London and the provinces. Whereas in 1905, 1,443 records were received, in 1908 the number amounted to 2,248. It might be hoped that the beneficial influence of this prolonged inquiry would continue, as it was almost certain to do, owing to the important clinical and surgical results which had followed from the study, made partly in the laboratory, of early cancer and pre-cancerous conditions of the tongue, and because of the movement undertaken by the British Medical Association for the earlier diagnosis of cancer of the uterus. In Germany, also, new centres for the microscopical examination of new growths had been or were about to be established. The inquiry had revealed how numerous were the hospitals both in London and in the provinces undertaking the complete pathological and microscopical examination of large numbers of cases of cancer annually, although few made a special feature of tabulating and publishing the results It was to be regretted that the relation of clinical symptoms and pathological features was not systematically recorded, whereas it might so easily and profitably be done.

The collection of data from outlying parts of the empire had been continued, particular attention having been directed again to the importance of seeking for peculiar forms of chronic irritation associated with the occurrence of malignant new growths in native races. In this connexion, a new and most interesting observation had been reported from Egypt, namely, the occurrence of cancer of the skin of the chest on the triangular area of skin left bare by the clothing worn by the Felaheen.

Dr. Bashford continued:

Reviewing the results of seven years' work on the comparative and experimental investigation of cancer, one is struck by the difference between the nature of the problems before us seven years ago and of those now being considered, as well as by the freedom one feels in investigating the problems presented to-day, without the incubus of having to consider them from the standpoints of the many hypotheses now proved to be untenable. I do not think that too much is claimed by asserting that the arduous labour of the past seven years is gradually effecting, and in several respects has actually effected, a complete revolution in many aspects of the cancer problem. But it has done still more in opening up new vistas in biology. Seven years ago no one conceived it possible that portions of the mammalian organism could be kept growing for a period four times the length of life of the whole animal. But to-day the number of different kinds of tissues now being propagated separately, make it theoretically possible that the majority of the tissues may be so grown and segregated. In other words, a living animal can be analysed into many of its living component tissues. The finer relations of various kinds of tissues to one another have been revealed by the application of the new methods. The biological alterations which living mammalian cells may undergo suddenly, as well as gradually, under the influence of experimental conditions, can now be studied. These and many other achievements in the field of general biology are the most important practical fruits which have accrued from the experimental study of cancer, upon which they have only indirect bearings. Ultimately they are bound to be of far-reaching general biological importance, although to-day they are merely the weapons that have been forged to attack cancer. Their further development and their utilization for the solution of purely biological problems will probably precede the solution of many of the problems surrounding the natural causes of cancer.

While some chance opportunity may yield results of immediate practical moment, the outlook on therapeutics in the meantime is in the direction of preventing dissemination or metastasis. The means of expianding why inoculated cancer can undergo spontaneous cure itself have been greatly enriched by the acquisition of fresh strains of propagable tumours behaving in a variety of ways in this respect, and presenting all gradations, from some growing progressively in every animal inoculated, to others which, while developing for a time in every animal, are ultimately got rid of in all cases by the active resistance which the tumours induce against themselves.

Speaking of the laboratories, he went on to say that whereas in 1902 two rooms only were placed at his disposal, to-day the entire accommodation of the laboratories of the Royal Colleges had been placed at the disposal of the Imperial Cancer Research Fund. During the first year of active work the staff consisted of the Director and one colleague. To-day there were four official assistants to the Director, six voluntary scientific workers in the laboratory and a staff of fourteen other laboratory assistants. The investigations had grown to an extent which fully occupied the entire accommodation in the present premises. The future of the investigations depended not only upon whether the Royal Colleges could continue to support them on the same generous scale as heretofore, but also upon whether they could provide for the exigencies of future developement.

Sir WILLIAM CHURCH, in moving the adoption of the report, said experimental work done during the past year confirmed the opinion expressed some years ago that the course of cancer as it could be observed in the laboratory agreed with that which occurred in man, and formed a sound foundation for studying the disease as met with in the human species. So far as their observations had yet gone, they failed to support the view of the endemic character of the disease. Reviewing the work done during the past seven years, it was seen that the investigation into the nature and cause of the disease stood in a very different position now from what it did when the fund was instituted. A large number of the hypotheses regarding the cause of cancer put before them then had been shown to be untenable, and the biological changes which living animal cells could undergo or give rise to, had been closely studied from a new standpoint, opening out a fresh and hopeful field for investigation. In the opinion of the Committee, it was by the free interchange of views and material between the independent workers in cancer research that definite results might be obtained rather than by holding formal conferences in which theories not infrequently played a more important part than facts. Until some general consensus of opinion as to the cause and nature of cancer has been arrived at by those who devoted themselves to the research, it appeared premature to hold a general conference on the question.

Sir HENRY MORRIS (Honorary Treasurer), in seconding the motion, referred to the passing of the old Examination Hall, where the research work had been carried on since its initiation, into new hands. It had been a great feature in favour of this fund that hitherto not a single penny had been spent upon bricks and mortar or upon equipment, but he feared that the time would shortly arrive when it would be impossible to make a similar statement. Owing, however, to the fact that the Royal Colleges had become tenants for the time being of a large part of the Examination Hall, provision had been made for the continuance of the research work in the same quarters for the next three years. After that time it was not improbable that some demand might be made upon the capital of the fund for the purpose of providing a new home for the Imperial Cancer Research Fund. Whether that would be necessary or not he could not predict, but he felt quite sure that the subscribers and donors to the fund might have confidence that, in the event of their having to build, whilst they studied efficiency they would also study strict economy. The resolution was carried unanimously.

Vote of Thanks to Officials.

Mr. GERARD FIENNES next moved a vote of thanks to the Chairman and members of the Executive Committee, the Subcommittees, the Honorary Treasurer, and others who had assisted in the work of the fund during the past year. He could imagine no body of gentlemen to whom the thanks of the public were more justly due. The subscription list for the year showed, unfortunately, that public interest had waned; and, speaking as a layman, he would say that as soon as it was possible, without doing violence to the scientific conscience, it was important that results—even negative results—should be announced. He had never looked for much, he confessed—at any rate, for long years—in regard to the therapeutics of cancer; but if, as soon as the fact was scientifically established, a declaration could go forth that cancer was not hereditary, and not communicable, it would have a vast therapeutic effect on the army of the well.

Mr. L. NEUMANN seconded the motion, which was unanimously agreed to.

Executive Committee.

Sir DOUGLAS POWELL proposed that Professor G. Sims Woodhead be re-elected a representative of the General Committee on the Executive Committee. This was seconded by Dr. ARTHUR NEWSHOLME and carried.

Mr. H. T. BUTLIN moved:

> That the Royal Colleges, having discontinued the appointment of a special laboratories committee, the two representatives on the Executive Committee hitherto appointed by the Laboratories Committee be in future appointed directly by the Royal Colleges, one to represent each college.

This was seconded by Dr. ROSE BRADFORD, and agreed to.

Vote of Thanks to the Prince of Wales.

Sir JOHN TWEEDY, in moving a vote of thanks to the Prince of Wales for presiding, said that the headship of the fund of His Royal Highness was a source of great encouragement, more particularly to the medical and surgical experts engaged in this work, and it was an assurance to the subscribers that the administration of the fund was carried on with due regard to efficiency and economy. But, if he might be permitted to say so, he thought His Royal Highness's presidency of the fund was of greater value than that to which he had referred. For more than 2,000 years, the best minds in the medical profession had been engaged in the study and investigation of cancer. He had no hesitation in saying that since the inception of the fund more progress has been made in the last six or seven years than in the previous ten or twenty centuries. There was no disguising the fact that this recent progress was entirely the outcome of the experimental method, and it was in this respect he thought His Royal Highness's patronage and support was of such great service to the fund and to the community. They could not close their eyes to the fact that there was a small but influential section of the community who disapproved altogether, and under any conditions, of the experimental method. There was, however, a larger and

a more enlightened portion who were willing that this experimental method should be continued under the proper safeguards, not only of efficiency and skill, but of scrupulous considerations for humanity and refinement. The goal at which they were aiming might be distant, but he was confident that they would only reach it by the experimental method.

Sir JOHN MCFADYEAN in seconding the motion associated himself with everything that has been said by Sir John Tweedy. As Chairman during recent years of the Pathological Subcommittee of the fund he wished to corroborate what had been said both by Sir William Church and Sir John Tweedy as to the considerable progress that had already been made towards the final objects of the fund. No one who was acquainted with the scientific reports which had already been published could doubt that for a moment. The motion was passed with acclamation.

The Prince of Wales's Reply.

The PRINCE OF WALES, in reply, said:

Gentlemen,—I sincerely thank you for the cordial manner in which you have supported the vote of thanks so kindly proposed and seconded by Sir John Tweedy and Sir John McFadyean.

Last year circumstances prevented me from attending at our annual meeting, so I am glad to be able to meet you here to-day, and, after listening to Sir William Church's remarks, I think we may congratulate ourselves upon the results of the work of the fund in the past year.

In the report of the Executive Committee reference is made to a petition which was presented by the International Association for Cancer Research in Berlin to His Majesty the King during his visit to Germany. The correspondence which has taken place, and all the proceedings of the Executive Commtitee on this subject, were submitted to me, and I wish now to say that I gave my approval to the decision of the Executive Committee, feeling convinced that the methods adopted by the Imperial Cancer Research Fund of freely distributing their material to workers in every country, of permitting anyone with satisfactory credentials to study our methods in our laboratories, and of encouraging international collaboration amongst the workers in the various cancer laboratories, are the wisest and most efficient means of advancing the study of cancer.

This policy of active laboratory collaboration, as distinct from conferences, has been productive of much good work already, because whilst the fund has achieved a recognition of its position as a National and Imperial Institution, the scientific standing of the staff and the freedom with which it accords assistance to foreign laboratories and workers, are rapidly establishing for it a position of international importance.

When presiding over this Committee on previous occasions, I have expressed the view that immediate results in regard to the cure of cancer must not be counted upon, but that rather we must look forward to steady and consistent progress in accordance with the experience of all scientific investigations. There can be no doubt, however, that the seven years' work already accomplished by the Imperial Cancer Research Fund has brought about a complete change in the standpoints from which cancer should be studied. The many and varied lines of research are being pursued with the utmost perseverance, and every development, as it occurs, is followed up with the minutest care. During the past year an important work—the Third Scientific Report—has been issued from our laboratories, and has been received with high appreciation by all those at home and abroad who are competent to express opinions on these highly technical researches. This, of itself, marks a steady and valuable advance, and one of which we have every reason to be satisfied.

The number of applicants to work under the General Superintendent, coming as they do from all parts of Europe, from the United States, as well as from Japan, is evidence of the high value which is attached to the work in our laboratories.

The Honorary Treasurer calls attention to the fact that again the expenditure has exceeded the year's receipts, and that there is now an overdraft at the bank. Looking to the possible duration of these researches, the realization of capital is to be deplored, but this will be unavoidable unless further assistance in the shape of annual subscriptions and donations is forthcoming.

In conclusion, I offer my best thanks to the Chairman and members of the different committees, and also to Dr. Bashford, our Director, and his colleagues, for the valued services rendered by them during the past year.

The proceedings then terminated.

MEDICAL AND SURGICAL APPLIANCES.

Portable Operation Table.

MESSRS. ALLEN AND HANBURYS, Limited, have made to the design of Dr. Comyns Berkeley a portable operation table, which they state can be opened and fixed in position or folded up again in less than one minute, and will be found equally useful for operating in the Trendelenburg or the lithotomy positions. The table is made of oak, the measurements being: Length, 48 in.; width, 21 in.; height, 32 in.: weight, 31 lb.; it has been tested to take patients weighing up to 20 stone. It is claimed that the mechanism by means of which the top is raised and lowered is very simple, and works very easily.

Knee Support.

Major Gunter, R.A.M.C., has designed an apparatus to keep the knee flexed and rotated during the operation for the removal of cartilage from the knee-joint. It consists of a movable leg rest working on a rachet, which enables it to be extended or flexed as required. On either side of the leg rest are handles to which the leg is bound by a bandage rotating the knee inwards in case of removal of the external cartilage, and outwards in case of the internal. At the back of the apparatus is a movable support for the leg piece, by means of which the leg piece is raised or lowered according to the length of the thigh, and is fixed to the required height by means of a fixation screw. The support can be lowered until it is in the same plane as the rachet frame, but it cannot be raised beyond a right angle. The appliance is made by Messrs. John Weiss and Son.

X-ray Outfits and Accessories.

We have received from Messrs. Siemens Bros. and Co. (Limited), Caxton House, Westminster, S.W., two supplements to their electro-medical catalogue of June, 1908. The first of these treats of *x*-ray outfits with rotating high-tension rectifiers—a method of working with which radiologists have recently been made familiar, and which dispenses with induction coil and interrupter. The rectifier is coupled with the alternating current generator in such a manner that commutation takes place in synchronism with the frequency of the alternating current itself, and a supply of continuous pulsating current is obtained. The second supplement deals with new protective devices and accessories for *x*-ray work. Perhaps the most interesting of these is the examining chair made to the design of Dr. Levy Dorn and Dr. Loos. The patient is supported in such a manner as to prevent movement, and an oil pump which is built into the massive base of the chair enables the cover to bring it up to any required height; there is also adequate provision for the adjustability of the fluorescent screen. Messrs. Siemens have issued a further note on some successful experiments with a stereometer for localizing foreign bodies in the eye.

The Earth-free "Multostat."

Many electro-therapeutists are now pointing out the advisability of absolutely earth-free apparatus for the medical uses of the electric current. The Sanitas Electrical Company, Limited (61, New Cavendish Street, W.), have issued a pamphlet entitled "The Book of the Multostat," in which they describe the uses of their universal apparatus in its new earth-free form. Cases of shock to patients following upon an earth connexion which has been brought about by a slight accident are by no means unknown, and an apparatus in which the necessary precautions have been taken to prevent the danger of leakage to earth will doubtless find a wide circle of appreciation. In the earth-free "Multostat" an arrangement is made whereby the usual motor transformer is wound at the same time as a dynamo, and all the currents used are entirely derived from the motor-dynamo and are independent of the main. On its small base the instrument permits the use of the different currents for most of the approved methods of electrical treatment, including galvanization, sinusoidal-faradization, as well as for the working of cautery appliances and surgical lamps. A word of praise should be added for the readable manner in which the firm have compiled their catalogue.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN IN LONDON.

IT will be remembered that in July, 1907, the London Education Committee appointed a special subcommittee on the treatment of school children, and that this committee presented both a Majority and a Minority Report, which was published in the BRITISH MEDICAL JOURNAL of December 28th, 1908, p. 1869 et seq.

Arising out of this report, the recommendations finally submitted to the County Council were:

(*a*) That, as the existing provision of private and hospital practice sufficiently meets the requirements in the case of children requiring operative and in-patient treatment (who are thus removed from the direct purview of the educational authority), no further steps be taken in respect of this class.

(*b*) That to supply the additional provision for the medical treatment of school children which has been found desirable, the Council should utilize institutions of the types now existing, giving financial help, if necessary, and receiving special facilities in return for any grant of public money, but that in districts where no suitable institution exists, and where within a reasonable time it shall have been found impossible to make the necessary provision by an extension of existing institutions, the Council should consider whether, in default of other means, it shall make the provision itself, and that it be referred to the Education Committee to report further in the matter.

Recommendation (*a*) was approved by the Council on March 30th,[1] but on April 10th Recommendation (*b*)[2] was referred back to the Education Committee in accordance with the following resolution:

> That notwithstanding the declaration of the Prime Minister on March 18th that the Council cannot expect to receive any increased grants from imperial funds towards the cost of medical treatment of children in the London schools, this Council, being of opinion that certain of the diseases referred to in the foregoing reports are of such a nature as to justify their medical treatment by the education authorities, refers the recommendation back to the Committee to report as to the estimated cost of the treatment of each of these diseases, as to the degree to which they affect the educational efficiency of the schools, as to the steps which should be taken to give effect to this resolution, and also as to the steps to be taken to secure such an amendment of the Education (Administrative Provisions) Act, 1907, as will enable local educational authorities to recover the costs of such treatment from parents who are in a position to pay for it.

The committee also had before it a memorandum from the Finance Committee,[3] asking for full information, and enumerating a number of points to which the Education Committee should give full consideration. On May 19th[4] the Education Committee reported that it was prosecuting inquiries in respect of eye, ear, and skin ailments, but had postponed for six months the consideration of the question of the treatment of teeth. Though the Education Committee has not been able to complete its inquiries with regard to the three selected ailments, it considers that, in view of the nearness of the long vacation and the urgent need which exists for the treatment of these ailments, it is desirable to present to the Council the following preliminary report, which was discussed and approved by the committee at its meeting on Wednesday last, July 14th.

REPORT OF EDUCATION COMMITTEE.

The inquiry which has so far been conducted has been directed towards ascertaining (1) the number of children affected, and (2) what the hospitals would be prepared to do in the way of treatment. With regard to (1), we have had before us a return furnished by the medical officer (Education) showing the number of children known to be suffering from bad vision and ringworm, and the estimated number of existing cases with aural discharge. A summary of this return is subjoined:

Number on roll, 740,728.				
Discharging ears	...	...	...	14,782
Bad vision	...	...	...	25,950
Ringworm	...	...	...	3,014
				43,746

With regard to the hospitals, we caused a letter to be sent to fifty-six hospitals which deal with eye, ear and skin ailments, explaining the object which the Council has in view, and asking how far their existing organization would enable them to deal with increased numbers of child out-patients of the character under consideration, and as to the maximum number of children from the schools who could be received per week, the manner in which they would have to be distributed, and the conditions upon which the hospitals would be prepared to co-operate with the Council.

Replies have been received from thirty-nine hospitals. These are set out in the statement appended to this report,[5] and may be divided into four categories, as follows:

(i) Those which have not expressed any desire to co-operate with the Council. There are six in this category.

(ii) Those which have expressed sympathy and are anxious to co-operate with the Council as far as their present accommodation, staff, and so on, permit. In this category may be placed four children's hospitals and six other hospitals. The authorities of the four children's hospitals included in this category discussed the subject at a conference attended by representatives of eight children's hospitals, when the following resolution was adopted:

> That, while prepared as charitable institutions to do all in our power for the good of the school children, so far as the means at our disposal and the rules under which the hospitals respectively are governed will permit, we are not prepared to accept a grant of money from the L.C.C., or to give preferential treatment to the children sent by them, or to admit supervision or inspection by the officers of that body.

(iii) Those which have expressed sympathy, are willing to co-operate so far as their accommodation and staff permit, and have specifically stated that they can take more cases per week. In this category there may be placed at present six hospitals. There is reason to believe that as time goes on the number of hospitals in this category will be largely increased.

(iv) Those which have expressed sympathy, are willing to co-operate, can take a larger number of cases than at present, and are prepared to accept a money payment. There are sixteen hospitals in this category. The tabulated statement shows that the proposals as regards payment very greatly.

We find that, generally, the hospitals are very sympathetic and willing to co-operate, and we think that the Council is greatly indebted to them for the attitude which they have taken up in the matter.

There is a general feeling that the Council should not ask for any special privileges for the children for whom the hospitals may be prepared to provide treatment, although some of the hospitals have expressed their willingness to afford facilities of a special kind. The replies also indicate that the hospitals would be opposed to any interference from the Council in respect of the treatment or of the management of the hospitals. These conditions apply both to hospitals which desire no payment and those which ask for financial aid. We agree with the views of the hospitals in these respects, and are strongly of opinion that responsibility for treatment should rest on the hospitals alone.

It will be seen from the statement appended to this report[5] that there are six hospitals which are prepared to treat additional cases free of charge. We are of opinion that the offers of the authorities of these hospitals should be accepted, and that the thanks of the committee should be conveyed to the authorities. We would arrange that, as far as practicable, every child should be accompanied by its parent, and that the cases selected on any one day should, as far as possible, be selected in such a manner as to avoid placing upon any one department of the hospital a pressure which it would not be able to bear. We propose that the following procedure should be adopted: The children should be selected by the medical officer and cards sent to the parents indicating the nature of the ailments from which the children are suffering, together with a circular letter from the head teachers suggesting that medical advice be sought. If the parents intimate that they are unable to secure the necessary treatment by the ordinary means, suitable arrangements should be made for the children to attend the hospital. The lists should be sent to the children's care committees in order that they may interview the parents where desirable. If such arrangements

[1] BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 857.
[2] Ibid., p. 914.
[3] Ibid., p. 857.
[4] Ibid., p. 1264.

[5] An abstract of this statement will be found at the end of the report

were to be put into practice at the six hospitals in question, provision could be made for dealing with 450 new cases a week, or 20,000 a year. These hospitals, however, would provide for a larger number of eye cases than for either ear or skin cases. We are of opinion that we should be empowered to enter into negotiation with three, or, if necessary, more, of the hospitals which are prepared to deal with such cases if financial aid is given.

It has been intimated by certain hospitals that if they undertake more work in the way of treatment of school children they will have to increase their staff of medical assistants, nurses and porters. We consider that a payment of £50 a year for each additional medical assistant working for one half-day a week, together with a sum of 2s. for each child treated, would be a reasonable payment, and we are of opinion that these figures should form the basis for negotiation with the hospitals in question.

The cost of the scheme will be dependent upon the result of the negotiations, and we are not, therefore, in a position to report the financial effect of our proposals at the present stage. The result of the negotiations will be reported to the Council when completed and the necessary authority will be sought to incur expenditure which may be involved.

We think that these arrangements will secure medical treatment for as many children as may be selected for treatment by the school doctors at present, and we have some confidence that as the numbers of children selected by the school doctors grow other hospitals will find themselves able to co-operate with the Council.

With regard to the suggestion of the Finance Committee that full information should be submitted to the Council in respect of the financial effect of any scheme for the medical treatment of children, we are convinced that reliable data upon which to base a complete estimate of the cost of medical treatment of children can only be obtained after further experience has been gained as to the results of medical inspection, and of the extent to which treatment will be provided privately at the expense of the parents or free by hospitals. We are of opinion that if arrangements are made with the hospitals which are prepared to provide the treatment free of charge, and with the hospitals in respect of which we ask for authority to negotiate as to financial terms, we shall be in a better position to ascertain the numbers for whom public provision is necessary and the total additional cost which will be involved.

RECOMMENDATIONS.

The recommendations of the report were that the offers of the Central London Ophthalmic Hospital, the London Hospital, the Paddington Green Children's Hospital, the Queen's Hospital for Children, Hackney, the Royal Westminster Ophthalmic Hospital, and the Victoria Hospital for Children, Chelsea, to provide medical treatment free of charge for school children whose parents are unable to obtain suitable medical treatment by ordinary means, be accepted, and that an arrangement be made to secure the medical treatment of children at the hospitals named and at such other hospitals as may be willing to treat children attending public elementary schools without financial aid from the Council. It was also recommended that the committee should be authorized to enter into negotiations (i) with three hospitals to provide medical treatment at the out-patients' department for children attending public elementary schools whose parents are unable to obtain suitable medical treatment by the ordinary means, for a payment not exceeding £50 a year for each additional medical assistant (working one half-day a week) required to be engaged for the treatment of such children, together with a sum of 2s. for each child so treated to cover the other expenses incurred by the hospitals; and with, if necessary, (ii) the authorities of other hospitals who may be prepared to undertake such treatment on similar terms; and that the Education Committee do submit a report upon the results of such negotiations in due course.

ABSTRACT OF STATEMENT SUMMARIZING REPLIES FROM HOSPITALS.

1. *Hospitals which have not expressed any desire to co-operate with the Council.*

Grosvenor Hospital; ceased to treat children on December 31st, 1908.

Her Majesty's Hospital (Dr. Barnado's Homes); fully occupied.

Kensington Dispensary and Children's Hospital; resources available by use of governors' letters.

University College Hospital; declines, as the proposals would be likely to disorganize the working of the hospital.

Royal Free Hospital; accommodation insufficient to treat additional children.

Western Skin, Great Portland Street; unable to make definite arrangements.

2. *Hospitals which are sympathetic and are anxious to co-operate as far as conditions will permit, but are unable to accept financial aid.*

Four of the eight hospitals which adopted the resolution at the conference:
- Belgrave Hospital for Sick Children
- East London Hospital for Children, Shadwell
- Evelina Hospital
- Royal Waterloo Hospital

Will do all in their power for the good of school children within the regulations of the hospital:
- Guy's Hospital
- Italian Hospital
- Metropolitan Hospital

King's College Hospital; unable to co-operate in present premises.

London Temperance Hospital; subject to available accommodation and suitability, any case sent by a responsible teacher or manager of schools in the immediate neighbourhood will be received.

St. Thomas's; anxious to assist the Council and is prepared for the continuance of school children as at present, but accommodation and present staff will not permit of any organized addition to the number of cases now attending.

3. *Hospitals willing to co-operate and to take additional cases.*

Central London Ophthalmic; 20 cases daily, six days a week and probably a larger number when the new hospital is erected; the hospital almoner would make his own investigations, in addition to any made by the Council.

London Hospital; will take 15 aural cases a day and 15 ophthalmic cases a day on four days a week, and 15 or 20 skin cases a day on two days a week; 3d. a week charged to each patient for medicines and dressings. It is added that the average cost of an out-patient is 1s. 9d., not including the cost of special appliances, such as spectacles. The children of parents who can afford to pay a doctor should be sent to private practitioners, unless the ailment is one not dealt with by ordinary practitioners.

Paddington Green Children's Hospital*; will take 20 opthalmic cases a week.

Queen's Hospital for Children, Hackney*; will take 400 refraction cases, 2,500 discharging ear, and 900 ringworm cases annually.

Victoria Hospital for Children, Chelsea*; is prepared, as an experiment for six months, to take 25 cases a week, to be sent at times suitable to the hospital.

Royal Westminster Ophthalmic Hospital; will take 10 cases a day, or 60 a week, but asks that they should be sent in the same organized way as to the Children's Hospital, Great Ormond Street.

Hospital for Sick Children, Great Ormond Street; the following arrangement was in force with this hospital but terminated on July 8th, 1909: it was prepared to receive 10 aural and 10 ophthalmic cases a week on the following conditions: (a) That, as far as practicable, every child shall be accompanied by its parents. (b) That these cases attending on any one day shall be selected in such a manner as to avoid placing on any one department of the hospital undue pressure. (c) That the above arrangement continues for a period not exceeding six months, and that it may be determined by the committee at any time.

4. *Hospitals which have expressed sympathy, are willing to co-operate with the Council, can take a larger number of children than at present, and are prepared to accept payment.*

Blackheath and Charlton Cottage Hospital; admits children under 12 free, but charges other out-patients 3d. an attendance, has no ophthalmic department and no x-ray apparatus, but is prepared to take children from neighbouring schools for teeth and other ailments.

Charing Cross Hospital; is prepared to receive 1,000 refraction, 300 to 350 skin and 1,000 throat and ear cases a year, asks for a grant to cover expenditure estimated at £500 a year. The children must pass the hospital almoners, and the payment by the Council is not to entitle it to representation on the governing body nor to interference of any kind.

German Hospital, Dalston; will take cases of defective vision on payment based on the fact that subscribers are entitled to recommend 6 out-patients for one guinea.

Great Northern Hospital; will make ophthalmic, aural and skin departments available to the Council at specified times; it is estimated that one ophthalmic and one aural assistant could each probably deal with 40 new cases a week, working for two hours a day for two days a week, 200 ringworm cases might be taken yearly, making a total of about 3,700 new cases a year, based on payment suggested at 2s. a head, and £100 each a year for special assistants.

* One of the hospitals which adopted the resolution.

Hospital for Diseases of the Skin, Stamford Street; would take 6 cases a week at 10s. a case.

Hospital for Diseases of the Throat, Golden Square, asks time for further consideration, but has suggested 150 cases a week, at the rate of 5s. a patient a week, and 1s. 6d. a day if detained for a longer period.

National Antivivisection Hospital, Battersea; is willing to fall into line with other hospitals, but a payment of not less than 1s. a head would be required.

Poplar Hospital for Accidents; does not take medical patients, but offers the use of a room or rooms at a fair rent.

Royal Eye Hospital, Southwark; proposes a special elementary school eye department taking 30 cases a day for each assistant, accommodation for 5 assistants could be provided, terms suggested are £500 for equipment and £50 for each half-day assistant.

Royal Ear Hospital, Soho; suggests that the Council should make an annual subscription of 200 guineas, which would enable the hospital to take about 200 out-patients and 100 in-patients a year.

St. George's Hospital; refers to the difficulties of the voluntary basis of the hospital and is anxious not to interfere with work of general practitioner; would take Council's patients after ordinary hours in skin, throat, and eye departments on one day a week each, and possibly ears on a fourth day. Out-of-pocket expenses, estimated at £400 a year, to be guaranteed, leaving the question of capitation fee to be considered.

St. John's Hospital for Skin Diseases, Leicester Square; will undertake 20 cases a week at 10s. a case, or the whole of the estimated 3,000 ringworm cases a year for £1,000 inclusive.

St. Paul's Hospital for Skin Diseases, Holborn; services of seven specialists free, Council to pay £100 for *x*-ray apparatus, and at the rate of 1s. for each application, and in addition 6d. per attendance for supplementary treatment until cost of electricity, incidental expenditure, and drugs reaches the capital amount the Council has laid down.

Seamen's Hospital, Greenwich; considers that doctors should be recompensed for the time spent, though they would probably be willing to give their services if financial help were accorded to the hospital, but its position in this respect does not at the present time permit it doing additional work or incurring additional expenditure.

West London Hospital; not unwilling to co-operate in a well-thought-out scheme, but out-patient department is at present fully occupied, so that no large addition of school patients could be treated without structural alterations.

Western Ophthalmic Hospital, Marylebone Road; would take 100 to 150 patients a week if a salary of £100 a year was guaranteed to a refraction assistant.

In discussing the report, Mr. GRAHAM WALLAS said it was a lamentable thing that the only result of the labours of the committee should be that certain hospitals would go on treating the children, but without giving any privileges either to the children or the Council. Would the Council have risen to its responsibilities if it relied only on out-patient departments, where the children would have to wait eight, nine, or ten hours for treatment?

Miss ADLER and the Rev. STEWART HEADLAM asked what was to be done in the districts where no hospitals existed, and received the reply from Mr. JAY, the Chairman of the Subcommittee, that the Children's Care Committees were to be asked to arrange for taking those needing treatment to the central hospitals.

Dr. BEATON remarked that the alternative was between hospitals and clinics. He thought the Council had decided wrongly, but the committee must go on with these proposals and make the best of them. He wished the hospitals could have been given more reliable data as to the number of children requiring treatment; different estimates presented by committees of the Council varied very greatly. Had the point of view of the general practitioner been considered? If the hospitals took patients who could afford to pay, the general practitioner had a right to complain. The Council should take special measures in this matter.

Mr. LEON thought that negotiations should be entered into with dispensaries as well as hospitals, but after discussion this suggestion was referred to the committee. Dr. BEATON pointing out that it would not be desirable to recognize all dispensaries.

Ultimately the recommendations were approved.

THE committee of the Children's Sanatorium at Holt for the treatment of phthisis has received a gift of £300 *in memoriam* M. T., as a contribution to the fund of £6,000 which it is seeking to raise for the erection of a permanent building.

THE REJUVENESCENCE OF BATH.

BATH is the only thermal spring in England, and one of the oldest in Europe. It both profits and suffers by reason of its antiquity; it profits because every one knows Bath at least by reputation, it suffers through a not unnatural disposition among the City Fathers to stand in the ancient ways. As the immense popularity of the city as a health resort in the later part of the eighteenth century was no doubt in part due to fashion, its decline in the nineteenth may perhaps be traced to a caprice of that fickle goddess, but it coincided with the immense development of sport and of the country house habit which that century saw, with the growth of foreign spas both in number and in the attractions they offered, and with the improvement in ease and rapidity of travel which made so many of these spas very accessible and therefore serious rivals to Bath, as to all other British waters. For generations Bath made little effort to retain or regain its popularity, but during the last thirty years or so it has begun to move with the times, and an interesting addition to the advantages it now offers was opened by Sir Malcolm Morris on July 10th.

For a good many years there has been a scheme in existence for providing a colonnade and drinking place, where the waters could be taken in the open air, as is commonly possible at foreign spas. The conditions to be fulfilled were much the same in Bath as at, for instance, Vichy; that is to say, that the drinking place should be protected from the weather, and that there should be a garden near at hand; in Vichy the protection is perhaps most required from the sun, and at Bath, as at other English spas, from the rain, but this is really a matter of detail.

The place selected at Bath is the colonnade under the Empire Hotel. This colonnade is approached through the Institution Gardens, which are prettily laid out, and may, when more fully developed, be a very agreeable drinking place. The water has been brought to the fountain in a double system of pipes, the inner one of iron prepared to resist corrosion, the outer of earthenware, an air-tight chamber being thus formed to act as a non-conductor retaining the heat of the water in the inner main. The alcove has been lined with decorative tiles in green and cream, and in it is the fountain and a serving counter, in the construction of which three arches from the famous Melfort Cross, erected in Bath in 1687, are used as panels. The whole arrangement is on quite a small scale, and though a move in the right direction, should be regarded only as a first step. Only part of the colonnade is used, and the remainder, which turns by the side of the river, is still little better than a lumber place. There are, however, possibilities about it and about the gardens which will no doubt appeal to the local Branch of the British Medical Association and to the Chamber of Commerce, which, with the assistance of the Medical Advisory Committee, are credited with having brought about the present improvement.

Sir Malcolm and Lady Morris were received in the colonnade by the Mayor, the Chairman of the Baths Committee, the Chairman of the Chamber of Commerce, and members of the city council and of the medical profession.

The MAYOR, in opening the proceedings, said that the Corporation was a progressive body, as was evidenced by the fact that the place where the ceremony was taking place was only a few years ago covered with ruinous, unsightly, and insanitary buildings. The suggestion to establish an open-air drinking fountain had been warmly supported by the local medical men, and its accomplishment represented the fulfilment of the first part of the programme which the Chamber of Commerce had put before the council.

Sir MALCOLM MORRIS, referring to the pageant to be held next week, said that there had been a period since the last episode in the pageant—the visit of Queen Charlotte—during which Bath must have lain dormant. Its modern revival dated from 1878, when a large meeting of members of the medical profession was held there, and since then much progress had been made. It was sometimes said that the good results of spa treatment were due to change of air, food, and scene, and absence from work; but that opinion was contrary to the experience of those who practised in diseases of a chronic character, who

knew that the good results of spa treatment were due to taking a particular kind of remedy or immersing the body in a bath. He could vouch from his own personal experience that this was true of Bath. He had never been able to understand why Bath should be considered a winter resort only; if, however, people were to go to Bath in the summer as well as in the winter, it would be an enormous advantage to be able to take the waters in the open air and walk about in the delightful gardens in which the fountain had been erected.

The water was then turned on, and Sir Malcolm Morris, having drunk the first glass, declared the fountain open.

A vote of thanks to Sir Malcolm Morris was then moved by Alderman Oliver, Chairman of the Baths Committee, and seconded by Mr. Egbert Lewis, Chairman of the Chamber of Commerce.

Afterwards the company were entertained at luncheon at the Guildhall by Dr. and Mrs. Mackenzie.

Dr. Richard Carter, in proposing the health of Sir Malcolm Morris, gave a history of medical events in Bath during the last thirty or forty years, and congratulated the city on having constructed an open-air fountain without committing any act of vandalism or wounding the feelings of the antiquarians. The improvement was due to the efforts of the Baths Committee, the Chamber of Commerce, and the local Branch of the British Medical Association.

Sir Malcolm Morris, in the course of his reply, expressed some very definite opinions, which, both by the applause with which they were received and from the subsequent speeches, appear to have struck a responsive note. He said: I have a message to give to you, and that is a message from the medical men, not only of Bath, but of this great country—that you, the Corporation of Bath, should do your duty for the benefit of your fellow creatures, not by dawdling on year after year in your expansions, but act, and act quickly. If you will take that message from me, Mr. Mayor and Corporation, and don't be so slow in your improvements, you will rival the great spas of Europe in a way that no other place can. But you always think, and you talk for hours and hours upon ways and means. You spend your time considering as to whether this thing will pay or that thing will pay, but I tell you as an outside medical man you have a public duty to perform to the nation, and not to your own town only. You have no right to let millions of gallons of healing water to run to waste every summer; your duty is to use it. If the water contains some material (I know not what it is) of benefit to human beings, you have no right to let it run to waste into your river. It is your duty to use it, and quickly. You have all the things to your hand. Why in Heaven's name can't you do it, and do it properly, and at once? I am an outsider; I have nothing to do with Bath and its rates, or with your inside petty jealousies and squabbles, which I take it exist in every provincial town in the world; but you have a national duty to perform. You possess—and Heaven knows why you possess it, but you do possess it—the Almighty has given you a remedy for the cure of chronic diseases, and yet you don't supply a sufficient amount, and sufficient attractions for the people who should use it. Now I have delivered my message; I have said what I think as an outsider. I have delivered my message as a medical man practising in particular branches of medicine. I have delivered my message—it is your duty to do something in return. The medical men of the town cannot do much. They will treat the patients when they come. How can they force the Corporation to do anything? We who are free lances and live outside, we can tell you what your duty is, and what you ought to do. That is my mission to-day, and I have done my duty to the best of my ability.

The Chairman of the Chamber of Commerce proposed the toast of "The Mayor and Corporation," which was acknowledged by the Mayor and the Town Clerk. Mr. H. T. Hatt proposed the health of Dr. Mackenzie, who, in a brief reply, said that Bath had been warmly praised by the French balneologists who visited the city last October. It was strange that Bath, the only winter spa in the country, should be the only winter spa in the world without a winter garden, a defect which he hoped would shortly be remedied.

INTERNATIONAL ANTIVIVISECTION CONGRESS.

The International Antivivisection and Animal Protection Congress, said to have been supported by 200 British and Foreign Societies, was held in London under the presidency of Sir George Kekewich, K.C.B., M.P. The proceedings began on July 6th and ended on July 10th. We give, in the form of a running narrative, a brief summary of the proceedings, condensed from the reports published in the *Times* and other newspapers.

President's Address.

In the President's opening address he said they had to rouse the people from their lethargy. Their chief hope was not in the idle rich but in the workers, and there were signs that that hope would be fulfilled. Every member of the Labour party in Parliament was on their side. There were other signs that their cause was progressing. They had a Royal Commission, but he did not anticipate much practical result from its labours, because it did not represent fairly the two parties in the matter; but it showed that the public mind had been directed more than ever before to the cruelties of vivisection. The advocates of vivisection had taken alarm, and had established a society for its protection. That society was supported by members of the medical profession and by the wealthy. The former saw their profits in danger; the latter swallowed with avidity the fairy tales of the medical pseudo-scientists who told them that the holocaust of tens of thousands of unfortunate animals bled to death and cut to pieces would result in discoveries which would enable them to enjoy their lives and their wealth a little longer. There was at least one hospital which was clean of cruelty—the Battersea Hospital—which afforded evidence that the medical profession were not all on one side. Some opponents of vivisection were called extremists—he was one himself—because they would accept nothing short of the total abolition of the practice. Some thought they could arrive at the same goal more easily if they took any concession that was offered, asking for more when they had the chance. Some were interested in the question of cruelty apart from vivisection. Some, again, were opposed to cruelties in sport. Others regarded with detestation the export of broken-down horses. Others would put an end to the horrors of the slaughter-house. But they all agreed in this, that pain and torture must no longer be inflicted on helpless creatures, and that if life must be taken, it must be taken by the most humane methods. He suggested that a central committee should be formed, on which there should be a representative of any society who chose to join, and that the work of that committee should consist in making arrangements for holding each year a number of large public meetings throughout the country.

Antivivisection and Democracy.

Mr. Christian Tenow, President of the Scandinavian Antivivisection Society, gave an account of the movement in Sweden during the last four years. Dr. Sanchez de Silvera, of Nantes, read a paper entitled, Le besoin de démocratiser nos idées et nos sociétés protectrices.

Medical Antivivisectionists.

Dr. Herbert Snow said it was the special function of the Medical Antivivisection Section to enlighten the public mind on technical points in the colossal imposture drama which was being played throughout the world, and to demonstrate the futility of experiments on the living animal, their utterly unscientific character, and the terrible waste of energy, talent, time, and public moneys which the practice involved.

Dr. Alexander Bowie looked to the section to prove by demonstration that they derived very little of consequence from vivisectional experiments. When they had proved to the lay mind, as they would be able to do, that all their great discoveries had been based upon legitimate and logical reasoning, they would have put an end to the vivisection system.

Dr. Helen Bourchier, speaking of "experiments of the nature of simple inoculations," said a more wicked and misleading title it would be impossible to conceive. The injection in itself was nothing; the effect of the substance injected was the real "experiment." The result of these

"simple inoculations" in the animals experimented upon was a lingering death by a painful wasting disease.

DR. HERBERT SNOW, speaking of cancer research, said that no progress, whether of practical or abstract scientific value, could take place through experiment on the lower animals.

DR. STENSON HOOKER said vivisection had had its trial and had been found wanting.

After the reading of a paper by DR. ROBERT PERKS, a resolution was passed declaring that vivisection in no way furthered the true progress of medicine and surgery.

DR. JOSIAH OLDFIELD read a paper on the Principles of Healing and the Practice of Vivisection, in which he said vivisection was contrary to the spirit of medicine, because vivisection as such took no note of pain; its object was not to relieve pain in the victim but to cause it.

Parliamentary Antivivisectionists.

At a meeting of the Parliamentary Antivivisection Section, presided over by Sir GEORGE KEKEWICH, Mr. CATHCART WASON said the movement did not progress so rapidly as they would wish in Parliament, because the Government always put off the opponents of vivisection by saying that they could do nothing till the Royal Commission had reported. Mr. GEORGE GREENWOOD moved:

> That this meeting cordially supports the formation of an International Parliamentary Antivisection Committee for the purpose of facilitating international legislation on the subject of vivisection.

He was convinced that the Report of the Royal Commission must be followed by legislation.

Sir ROBERT PERKS, in seconding the motion, said he did not know of a single great discovery in medical science which could be directly traced to the practice of vivisection. Even if it could be shown that human life had been lengthened or human suffering to some extent palliated by the infliction of pain upon the brute creation, he would say it was an indefensible argument in favour of the custom. It must have upon those who practised it a debasing and degenerating influence. They must federate with men and women in different countries to further their cause. Dr. QUIDDE, a member of the Bavarian Parliament, and others supported the motion, which was adopted.

Legislation as to Cruelty to Animals.

MRS. BESANT moved a resolution asking the Governments represented in the congress to repeal all legislation that involved cruelty to animals. She asserted that if all the practices of the laboratory were fully known the people would rise up and sweep them away. But the vivisectors took good care to hide their proceedings under the veil of secrecy. She asserted that laboratory experiments did not stop with animals.

Mr. W. T. STEAD said he would have a cinematograph reproduction of all the phases of an experiment in the laboratory, with a phonographic attachment which would reproduce all the moans and groans of the animal operated upon. Further, he would compel all vivisectors to be vivisected themselves before they were licensed to experiment on animals. The resolution was carried.

Concluding Meeting.

Miss LIND-AF-HAGEBY, the Honorary General Secretary, said the congress had been called in a broad spirit. There were two kinds of restrictionists on the question of vivisection. One desired to see it abolished, but believed that this could best be achieved by the step-by-step policy which took different forms in different countries, though she maintained that these so-called restrictionists were really abolitionists at heart. The other kind of restrictionist was the man or woman who believed in the necessity of vivisection but was not yet fully awake to its iniquities. It was with regret that she had to refer to an unfortunate split in this country, which would produce another congress. The other party did not agree with their broad principle; it declared that no one should be allowed to enter its congress who was not a total abolitionist. That might be a logical position from the more narrow point of view, though she did not agree with it from the point of view of a useful, educational, and united congress. That party had throughout the winter circularized people all over the country, declaring that she and her party were shams and humbugs, who did not really mean to help the animal world. That was deplorable, and something which they could not condone. Since the delegates to the congress arrived they had been inundated with letters containing erroneous statements, personalities, and allegations which should be foreign to any humane cause. She could not understand the spirit of any worker in the great cause of mercy who could not to his enthusiasm for animals add a little charity towards his human fellow workers. The congress had been called in the name of the World League—a federation of societies existing on the Continent. It had the support of some American societies, and the English branch of it was originally introduced into this country by Miss Woodward. Miss Woodward had since the date of the last congress resigned from the committee, but the World League was never dissolved, and it was that league which had undertaken the organization of the congress. Meanwhile, Miss Woodward and others decided to go on with another congress. The time had arrived when they felt that they could not work with those who approached these vital questions in a spirit of bigotry and intolerance towards fellow-workers. They therefore felt the necessity of reconstituting the old World League, as represented by the head quarters now in England, into an organization which would be broad enough and sane enough to include all societies which were represented and had given their support to that congress. Miss Hageby moved:

> That this congress reconstitute the old World League into an international federation, to be called "The International Federation of Animal Protection and Antivivisection Societies," and that the congress appoint a commission to draw up the articles of association.

DR. QUIDDE moved an amendment to omit all reference to the World League, and to constitute the congress into an international federation. This was lost. The motion was then agreed to, and a committee was afterwards elected to draw up the articles of association.

Procession.

A procession to Hyde Park took place in the afternoon. Among the institutions represented were our Dumb Friends' League, the Incorporated Parliamentary Association for the Abolition of Vivisection, the National Antivivisection Hospital Ladies' Guild, the Friends' Antivivisection Association, the League for the Abolition of Vivisection, Vaccination, and Inoculation, and the South-West London Antivivisection Society. There was no disturbance. In Hyde Park speeches were delivered from three platforms. Sir George Kekewich, who presided at one of these, was interrupted by some one who called upon him to speak the truth when he said vivisection made medical men callous, and desire to experiment on men as well as on animals. Sir GEORGE KEKEWICH replied that they already practised upon working men in hospitals. He was thereupon asked to substantiate his "dirty lies," and the interrupter denounced his statements as "a blackguardly insinuation against a great profession." Mr. CUNNINGHAM GRAHAM characterized vivisection as an abominable system which had produced no good results. A resolution was put and declared to be carried at each of the platforms to the effect that vivisection is morally indefensible and calling upon Parliament to repeal the Act of 1876.

THE PROTECTION OF ANIMALS.

Slaughterhouses.

A section of the congress was devoted to slaughterhouse reform. It was presided over by Mr. ARTHUR LEE, M.P., who said they must devote all their efforts to trying to get rid of private slaughterhouses. Mr. J. LINDSAY, President of the London Butchers' Trade Society, said there was no institution which was more thoroughly inspected than the private slaughterhouse. There was less cruelty in the slaughterhouses than there was on any one day on Blackfriars Bridge, where one constantly saw horses struggling with heavy loads.

Bird Slaughter.

Mr. ERNEST BELL, representing the Royal Society for the Protection of Birds, said, in regard to birds which were migratory, some international agreement was necessary. The following resolution was passed:

> That, in the opinion of this congress, it is essential that united international action should be taken with regard to the export and import of plumage for millinery purposes.

Docking of Horses.

Mr. J. L. OSBORN (Bristol) moved a resolution:

That docking, being a cruel and senseless fashion, should be forbidden by law.

Docking was ugly, ridiculous, and cruel. The resolution was carried.

Pit Ponies.

Mr. W. H. PICKERING, Chief Inspector of Mines for Yorkshire and Lincolnshire, read a paper on "Pit Ponies," and a resolution was carried to the following effect:

It is desirable to direct attention to the treatment of animals working underground in mines, with the objects of preventing cruelty, improving the conditions under which they work, and educating the drivers, horsekeepers, and other persons who have the control of animals underground.

Sport.

Mr. GEORGE GREENWOOD, M.P., in an address on Sport, said he believed that, as thought and true civilization advanced, it would be recognized that to seek pleasure in the hunting of any animal to its death was unworthy of a thinking and humane man. Other speakers dealt with the horrors of the seal trade, and a resolution in favour of a boycott of its products was passed. Cruelty to performing animals in music halls and other places was also discussed.

SERMON BY ARCHDEACON WILBERFORCE.

On Sunday, July 11th, Archdeacon Wilberforce preached at a special service held at St. John's, Westminster. He said much unnecessary pain was caused by cold-blooded cruelty to sensitive living creatures, the motive of which was either so-called sport, or amusement, or dress decoration, or gluttony, or scientific inquisitiveness. The members of the congress were doing their utmost to make the world less painful to their patient, useful, humble, beautiful, non-human fellow-creatures. For his own part, he thought there were no greater cruelties perpetrated in the world than those which were done in the name of science in some of the physiological laboratories; he said "some" because he gratefully acknowledged that there were exceptions in some of the English laboratories. He expressed his cordial sympathy with the congress, which put forward a claim for simple justice, and sought to undeceive the public on questions relating to experiments on living animals. Eminent surgeons had declared the practice to be not only useless, but absolutely harmful; many declared that it had led surgeons into errors of the very gravest character. Evidence was accumulating every day that severe suffering was inflicted upon the human race from the erroneous conclusions produced by experiments on animals. In ten years' time it would be more clearly recognized, mainly through their propaganda, that the golden rule of the noble medical profession was prevention of disease—not destruction.

REPORT OF THE DEPARTMENTAL COMMITTEE ON THE WEST AFRICAN MEDICAL STAFF.*

THE report of the Departmental Committee appointed last November to consider the organization and administration of the medical departments of the governments of the Crown Colonies in West Africa was published last week as a Parliamentary paper. It is prefaced by a memorandum in which the Secretary of State expresses his views on the report in the form of a dispatch addressed to the various governors concerned.

The committee consisted of three officials of the Colonial Office (one of them Mr. H. J. Read, C.M.G., acting as chairman), a Principal Medical Officer of the West African Medical Staff, a Medical Inspector of the Local Government Board, and a representative of the medical profession in Great Britain, namely, Dr. Fowler, late Dean of the Faculty of Medicine of the University of London, and Senior Physician Middlesex Hospital.

In addition to a great deal of documentary evidence in the form of official papers, including the memorial submitted last year by the officers of the West African Medical Staff and the reply thereto by the Secretary of State, the committee heard evidence from some twenty-five persons, including representatives of the medical officers, of the governors, of the merchants trading in West Africa, of the schools of tropical medicine, as well as the President of the Medical Board, India Office, the Director-General Army Medical Service, and Professor W. J. Simpson, who visited Africa last year at the request of the Colonial Office, and drew up a memorandum on the sanitary organization required, which appears as an appendix to the report.

The condition of matters which led to the appointment of the committee will be seen in turning to an article published on January 25th, 1908, p. 214, in which the whole question is reviewed, and to a leading article on November 21st, 1908, page 1576.

THE COMMITTEE'S RECOMMENDATIONS.

The committee introduces its report with a statement to the effect that it is drawn up on the hypothesis that it is desirable to encourage medical officers to make the West African Service their permanent career, and records a number of reasons for regarding the opposite course as inimical to the interests of the Protectorates and Colonies.

Advisory Committee.

The committee holds that in order to bring the Colonial Office into closer touch with the medical profession and with medical science an Advisory Committee should be appointed, primarily with a view to the better medical and sanitary administration of West and East Africa, but possibly also to advise as to corresponding questions in other colonies. The committee should be as small as is consistent with ability to deal satisfactorily with every class of problem on which its advice might be sought. A membership of six would be adequate; two should be officials of the Colonial Office (one to act as chairman), three others being experts in tropical medical research, tropical hygiene, and general hygiene respectively, the sixth to be one whose ability and experience would enable him to speak with authority on general medical science and practice in the United Kingdom.

The report does not favour the inclusion on the committee of an officer on the active list of the West African Medical Staff, but the evidence of such an officer should be available when any important question affecting the colony in which he is serving is under consideration. On the other hand, it is regarded as very desirable that an officer with local experience should be on the committee, and the appointment as an additional member of some senior officer on the retired list is recommended, provided one whose occupation would permit him to give the necessary attendance is available.

The committee should have no administrative or executive duties, its function being to advise the Secretary of State as to the decisions he should reach on the medical and sanitary problems submitted to him; as to the selection of candidates for first appointment; as to promotions in the senior ranks, and as to any courses of study which officers may be called on to follow before promotion.

Sanitation.

The medical and sanitary duties of the West African Medical Staff cannot be entirely separated, but in each of the larger towns sanitation should be in charge of an officer who should hold the D.P.H., and do no other work. Elsewhere sanitation must be an addition to the medical duties of officers. It is recommended further that a limited number of senior officers should be told off to devote themselves to the study of sanitation in West Africa, and to make tours of inspection throughout their districts and furnish full reports with recommendations. There should be two of these officers—a senior and a junior sanitary officer—for Northern Nigeria, Southern Nigeria, and the Gold Coast respectively, and one for Sierra Leone, who would also be in charge of the Gambia Colony and Protectorate. Their reports should be made to the principal medical officer of his colony, and by him transmitted *in extenso* to the Governor, with any observations he may desire to make. The Governor in his turn should transmit the reports and the principal medical officer's observations to the Secretary of State, accompanied by any remarks thereon that he thinks desirable. By this means the sanitary needs of each colony would be made clear, and it would be possible to preserve continuity of administration in sanitation—perhaps the most important of all West African questions. In the same connexion the Public Works Department of each colony should be

* *Report of the Departmental Committee on the West African Medical Staff.* London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. (Cd. 4720. 2½d.)

strengthened by the inclusion of an officer with special knowledge of sanitary engineering.

Boards of Health.

The committee is definitely opposed to the creation of either central or local boards of health. If they possessed administrative power they would trench on the work of the executive government, while in any advisory capacity they would serve no function which would not be better filled by a consultation between the principal medical officer, his senior sanitary officer, and the head of the Public Works Department.

The Question of a Director-General.

The appointment of a Director-General is not recommended, since by controlling the West African Medical Staff and its work he would, it is considered, exercise functions incompatible with the general system on which the West African colonies are at present governed. The appointment of an inspector-general and deputy inspectors-general, having their head quarters in England, might eventually perhaps prove useful, but would be very expensive. The creation of such posts is thus not at present recommended, more especially because the committee holds that there should be an annual conference between principal medical officers and senior sanitary officers of all the colonies; this would be of great practical utility in accumulating a common stock of knowledge, and so enable proposals for the more effective treatment of sanitary problems to be formulated. With the reports of these conferences and those respecting their tours of inspection furnished by sanitary officers, before it, the Advisory Committee would be able to perform the greater part of the advisory duties which would fall to an inspector-general. In special cases an expert, if need be, could be sent out to report on any large sanitary undertaking in view.

The Status of Officers.

In several places in the report stress is laid on the essential importance of the medical department, and in order to secure greater authority for its head in each colony, it is specifically recommended that the principal medical officer in each colony should be an *ex officio* member of both the Executive and Legislative Councils. Other officers should be given relative rank with officers belonging to other departments on a system by which service salary and position in department are taken into account.

The committee has had evidence that administrative officers of districts in some cases regard the medical department as subordinate to them and its members as liable to be called upon for any duty they please. As the administrative officer in charge of a district in its responsible head, it may in cases of emergency be necessary for him to give direct instruction to officers of all other departments, but in ordinary circumstances the proper course is for him to convey his criticism on a medical officer or his desires to that officer's departmental superior. Moreover, the idea that officers of the West African Medical Staff are appointed solely to look after Government officers should be discouraged. It is a part of the duty of a medical officer to increase the progress of sanitation amongst the native dwelling in his district, and he should be encouraged to devote himself to medical work amongst natives and to research, and the extent to which he is called upon to devote his "leisure hours" to non-professional duties should be strictly limited. If he necessarily has to act for the administrative officer of the district during the latter's absence from head quarters, he should draw duty pay at the same rate as that individual.

Drugs and Instruments.

The necessity of economy in the preparation of estimates should be pressed upon principal medical officers, but the principle to be kept in view by the West African Medical Administrations should be that of regarding the votes for the medical department as among the last, if not actually the last, to be reduced.

Pay and Allowances.

There are at present 167 officers in the West African Medical Staff, of whom only 21 are in receipt of a salary of £600 or more. An officer may thus remain for years on a salary of £500 with little prospect of promotion; this should be altered. The initial salary of £400 per annum rising by increments of £20 to £500 per annum is adequate, but towards the end of the fifth year of an officer's service a report should be furnished to the Governor by the principal medical officer stating whether he is recommended for promotion, and this report should be transmitted to the Secretary of State with observations. If the officer is recommended for promotion he should be placed at the end of his five years on a higher scale, one rising by increments of £25 a year to £600 per annum, subject to his obtaining a satisfactory certificate respecting a three months' course of study to be undergone when he next comes home on leave. This alteration would ensure deserving officers not being kept indefinitely at a salary of £500 per annum owing to lack of opportunity for promoting them. Officers on this scale should be called First Class Medical Officers.

Promotion to the ranks of Senior Medical Officer and higher ranks should be by selection on the advice of the Advisory Committee. Their pay, namely, £600 to £700, should remain as at present, but the rate of increment should be £25 instead of £20. Senior Medical Officers and higher grades, including Principal Medical Officers, should draw duty pay at the usual rate of 20 per cent. of their initial salary. The Senior Medical Officers in charge of Ashanti, of the Northern Territories, and Eastern and Central Provinces of Southern Nigeria should commence at £700, rising by £25 yearly increments to £800, with duty pay at the rate of £140 a year, and should be called First Class Senior Medical Officers

The Senior and Junior sanitary officers whose appointment is recommended in each colony should rank with, and draw the same scale of salary as, first-class senior medical officers and senior medical officers respectively.

The salaries of Deputy Principal Medical Officers are inadequate; they should be paid £800 per annum, rising by £25 annual increments to £900 per annum, with duty pay at the rate of £160 per annum.

Private Practice.

In the pamphlet issued for the information of possible candidates for admission to the West African Medical Staff a paragraph should be inserted to the effect that private practice does not exist at the majority of stations, and that when it does, such station is usually allocated to a senior officer. A fee may be asked from a person admitted to hospital by the medical officer attending him, if such person is one who would be expected to pay him if attended at his own residence. If the reasonableness of a fee be disputed the question should be referred to the principal medical officer, and if the patient disputes his decision, to the Governor for final settlement.

Study-Leave.

Periods of study imposed by the regulations should be on full pay, and, subject to certificates of satisfactory attendance being obtained, the fees of the course should be paid on the officer's behalf, and railway expenses and lodging allowances be granted. Two clear months for purposes of recreation should be allowed in addition to the time absorbed by the courses. The expenses of approved but not necessary courses should be paid, any extra leave required being on half-pay. Officers with an aptitude for sanitary work should be encouraged to take the D.P.H.

Research Work.

The establishment of the Lagos Medical Research Institute is a great step forward, but there should also be a local laboratory in each colony. Each should be placed in charge of an officer for a tour of duty, and on his return from his subsequent leave he should be seconded for duty at the Central Lagos Institute, and then return to his own colony, either to be absorbed in the staff or to undertake further research work. The ultimate benefit to each colony from the training undergone by the seconded officers would outweigh the additional expense incurred, and render superfluous the creation of special posts for the purpose of scientific research.

Admission of Candidates.

There should not at present be a competitive examination for admission to the service, but a subcommittee, consisting of two medical members of the Advisory Board and

one of the private secretaries to the Secretary of State, should be appointed to make a selection among applicants. Natives of the West Coast or of India should not be admitted to the service, though their employment as a subordinate medical service on the lines of that in India might be considered by the conference of Principal Medical Officers.

THE SECRETARY OF STATE'S COMMENTS.

In the dispatch from the Secretary of State it is mentioned that he has already discussed certain questions arising out of the committee's recommendations with two of the Governors, and he trusts that the others will agree with the conclusions at which he has arrived. The committee's recommendations are approved as a whole, but must be modified in some respects, and on these the opinion of the Governors is requested.

Sanitation.

The appointment of special officers for the performance of sanitary duties in large towns should be carried out, but only by degrees as the necessary funds become available, and as experience shows which are the towns at which they are chiefly required. The informal consultations recommended by the committee between the Principal Medical Officer, his chief sanitary assistant, and the head of the Works Department, are not approved. A board of these officers should be formed, as it would relieve the Governor of much of the labour necessitated by the putting forward of sanitary schemes.

The desirability of cordial co-operation between administrative and medical branches of the service is recognized, but it would be advantageous for a local sanitary committee, to be formed of the district commissioner, a medical officer, and a member of the Public Works Department, when one is stationed in the district. In the event of disagreement, the district commissioner must decide as he thinks best, though it is trusted such occasions will be rare. With the concurrence of the district commissioner, the Senior Sanitary Officer should be empowered to give directions for the carrying out of sanitary improvements provided they do not entail expenditure in excess of the estimates for the district.

With regard to the relations between the officers of the West African Medical Staff and the administrative officers in charge of the districts, the committee has not given sufficient weight to the position of administrative officers in charge of districts, so the Secretary of State is unable to accept the committee's views in their entirety. Such an administrative officer should be entitled to issue instructions direct to the medical officer, but, of course, not on purely professional matters.

Status of Medical Officers.

With reference to the employment of medical officers on non-professional duties, they should be prepared to assist in the carrying out of the administration should necessity arise, at all events, in "bush" stations, where there are but few white officers, and where the medical duties are not as a rule heavy. Such officers should be directed to keep diaries showing how their time is actually occupied. It is only on routine administrative work which cannot await the return of the administrative officer that medical officers should usually be employed.

It has been pointed out to the Secretary of State that a medical officer who acts for the administrative officer while the latter is away on tour in the district does not perform all the duties of the post, and thus is not entitled to duty pay, but an allowance at the rate of 2s. 6d. a day might be granted.

The appointment of Principal Medical Officers as *ex officio* members of legislative and executive councils cannot be decided on without reference to other considerations on which a separate dispatch will be sent to the Governor.

The new scales of pay are approved, but Deputy Principal Medical Officers should no longer be allowed to take private practice. The proposed new titles, first-class medical officer and first-class senior medical officer, are regarded as superfluous. In recommending duty pay for all Principal Medical Officers, the committee has not given sufficient weight to the comparative importance of the medical and other departments in the different colonies. It has been suggested, but not by the committee, that, since a medical officer under the present regulations can retire from the service after nine years with a gratuity of £1,000, the Government should be in a position to call upon him to do so when such course appears desirable. The Secretary of State sees no objection to this proposal.

The recommendation as to drug estimates is not approved, though it might apply to a list drawn up at a conference of principal medical officers and approved by the Advisory Board. It is a question how far any special drug for which a medical officer may have a preference should be supplied at the public expense.

ARMY DIETS AND TINNED MEATS.

THE third report (dated January 12th, 1909) of the Committee on Physiological Effects of Food, Training, and Clothing on the Soldier deals with the supply of food. The committee points out:

That any standard of energy-value which may be fixed on in calculating a dietary is only an average value, and that a considerable margin must be left for each individual, so that both waste and insufficiency may be avoided. . . It is also essential that a dietary should be as varied as possible. Experience shows that an unvaried diet may be not only extremely distasteful, but may have serious consequences as regards general health and liability to disease.

The varying appetite for different kinds of food is an expression of physiological needs of which we cannot at present give a strict account. The constitution of the proteins varies; different proteins yield different amino acids, and we know that adding certain amino acids to gelatine, for example, makes an inadequate protein food more adequate. We probably vary our diet to obtain all the protein building stones we require, some of which may only occur in our foodstuffs in traces. Hence probably most of us continue to eat double the protein amount found adequate by Chittenden. The committee says:

At present the balance of opinion is against cutting down the allowance of protein to much below the average among healthy and vigorous men of about 125 grams daily.

The question is largely an academic one, as most foods afford a pretty abundant supply of protein when taken in the proportions necessary to give the energy-value required, and to be eaten with relish.

The peace dietary provided to the British army is less than that allowed to the French, but more than that allowed to the German. The British dietary is supplemented by food bought for supper, and the pay is now sufficient to enable this to be done without hardship. Experience seems to show that the plan of letting the men buy their own supper works smoothly, and is preferred; it gives elasticity to the diet, and allows each man to select the quality and amount of food which suits him. The recruit—a growing lad—requires more food, and the Army Council have now wisely granted him a messing allowance of 3d. a day. The recruit buys considerable quantities of cakes, etc. The committee has visited several barracks, and found the quality and variety of food satisfactory. The war rations of the British Army in South Africa may be contrasted with that of Japan and Russia in Manchuria:

	Protein.	Fat.	Carbohydrate.	Calories.
British	136 ...	105 ...	528 ...	3903
Japanese	158 ...	27 ...	940 ...	4313
Russian	187 ...	27 ...	775 ...	4891

For constant marching and fighting the available data show that about 4,500 calories would be needed; but the amount of physical work done in war varies considerably, and the British war ration has been fixed as the result of considerable practical experience. To underfeed an army is to court infection and disease and to reduce the working power to a minimum. It is, in fact, the most serious mistake that can be made. The committee expresses the opinion that further observations of a more definite character than those at present available are needed to settle definitely the adequacy of the British war ration. No doubt less would be required in a hot climate than a cold.

One of the most interesting and important parts of the report of the committee is that on the work carried out for it by Major Beveridge and Captain Fawcus on tinned meats. They found that the lowest temperature which will completely sterilize a tin of meat is

120° C. (248° F.) acting for not less than sixty minutes! It takes this long time for the heat to penetrate to the centre of the tin. The "blowing of tins" is due to the spores of *Bacillus cadaveris sporogenes* of Klein (*Bacillus putrificus coli* of Bienstock), which are extremely resistant to heat. They found that the spores were killed by a temperature of 112° C. in twenty-five minutes, 115° C. in ten minutes, and 117° C. in less than five minutes. The bacillus is present in the colon, and contaminates all meat. It is not pathogenic, but causes putrefaction in anaërobic conditions. A tin containing these spores may remain good for months at 22° C. and under, but becomes "blown" in the tropics, the optimum temperature for the growth of the bacillus being 37° C. It is recommended, therefore, that sample tins should be examined after having been incubated at 37° C. for a fortnight. In some cases the amount of potassium nitrate from the pickling food was found excessive, and "its ingestion would probably cause gastric disorders." The blackening of tins inside—"can burn"—is due to sulphide of tin and iron, and occurs at the time of sterilization, particularly in meat that is alkaline from decomposition of the protein sulphur holding compounds. Perfectly fresh meat, acid in reaction, can be sterilized at 120° to 130° C. without blackening the tin. Alkalinity and a high temperature favours it. The blackening is not harmful to the consumer. The samples examined varied in age from a few months to 5½ years; the last, a sample of roast mutton, was remarkably well preserved, and quite fit for consumption. Major Beveridge reports:

> One cannot help remarking on the very indifferent quality of the meat as a whole. This is chiefly evident in the exceeding coarseness of the fibre, especially in some of the American brands. In this country, at least, no one would ever dream of purchasing meat of this description, and when corned its coarseness is still more marked. The change on active service to not only a preserved ration, but one consisting of a meat quite unlike the meat the British soldier is accustomed to, is somewhat severe, and leads to a natural distaste.

Two brands of meat—one a New Zealand and the other an Argentine brand—were found very superior in all respects to any other brand examined, both as to the quality of the meat, the state of preservation, and the better tinning of the interior of the tin.

A tinned meat, made in the British Islands, from selected meat or animals, and prepared by the best methods, would meet all the requirements of a nearly perfect ration. It is a pity that the preserved meats for the soldier's use cannot be manufactured under the direct supervision of the Supply Branch of the army itself.

The amount of fat in most of the samples was found to be very high; the average worked out at 17.74 per cent. for corned beef, and 28.12 per cent. for corned mutton. In one sample the fat was 57 per cent., and the meat was in a repulsive oily condition. The committee lay down the rule that the amount of fat in the tin should be 10 to 15 per cent., and that the preparation of tinned meat should continue to receive careful supervision at the hands of the Supply Branch of the army.

The committee is carrying out a most important work to make the lot of the soldier a happy one, and indirectly improve the standard of the nation's food supply.

THE ROYAL COMMISSION ON THE POOR LAW AND THE RELIEF OF DISTRESS.

THE BOARDS OF GUARDIANS AND THE MEDICAL SERVICE.

PROBABLY there never was a more sweeping condemnation of any public service than that passed by both the Majority and the Minority Reports of the Royal Commission on the Poor Law in reference to the medical service under boards of guardians. As all discussion as to a reformed public medical service must begin with the question whether the guardians shall continue or not to have any share in such a service, it may be useful to have in a condensed form the chief arguments that have been given in the reports.

It will be at once noticed that they are very largely arguments against the guardians. In no case do the reports blame the district medical officers themselves. On the contrary, both the Majority and the Minority speak of them in terms of the highest praise, and without hesitation attribute any defects in their work to the conditions under which they are compelled to carry it out. This is especially worthy of note in view of the fact that some guardians have sought to screen themselves by a charge of incompetence or neglect on the part of the district officers. With such charges the Commission has not the slightest sympathy, and the eulogium passed by both the reports on the district officers will remain as a historical vindication of their personal qualifications and devotion to their work.

We are only immediately concerned with the medical service, but as this is so intimately bound up with the system as a whole, it is impossible to avoid including points, mainly general in their application, but, as far as possible, we shall confine ourselves to the relations between the guardians and the non-ablebodied.

The general conclusion of both the Majority and the Minority Reports is that boards of guardians should be abolished altogether, and not replaced by any body directly and publicly elected *ad hoc* for either general or medical relief. The question of *ad hoc* election is, however, taken up specially by two of the Majority commissioners, Miss Octavia Hill and Dr. Downes, both of whom are in favour of an authority specially elected *ad hoc* from an enlarged area, but with the important addition of a large nominated or co-opted element, which would, of course, entirely alter the constitution. Dr. Downes thinks that the present system of election of guardians has not secured efficiency, has not prevented corruption, has not represented all interests, and has not enlisted the services of many well-qualified workers—a most formidable indictment. At the same time he thinks that many of the faults attributed to guardians are really due to shortcomings in public education, sanitation, and housing, and that justice has not been done to guardians for their attempts to introduce classification of inmates. He speaks highly of many infirmaries which are not so deterrent, at any rate in London, as is often represented. A fuller summary of Dr. Downes's position was given in our issue for July 3rd, p. 31.

Dr. McVail says that the present system of Poor Law medical relief would break down entirely if it were not supported by general hospitals and gratuitous medical work; but these cannot be everywhere depended on, so that the Poor Law by itself is incomplete and insufficient. He founds a strong indictment on the fact that preventive treatment is almost entirely neglected by guardians, and medical relief is given without any accompanying requirements as to good conduct, morality, sanitation, domestic or personal cleanliness, or obedience to the doctor's orders. His suggestions for reform of the guardians, if they are retained (though he inclines to the opinion that they ought to be replaced by a new health authority), were summarized in our issue for April 3rd, p. 855.

In the following summary of defects it will be evident that in many cases the fault lies, not with the individual boards, but with the system, for which the boards are not responsible. In other cases it is abundantly clear that, even under their present constitution, the defects could be remedied. Particular faults of isolated boards are not mentioned, but only those that are more general.

The general lack of public interest in the elections of the guardians brings special dangers. In London, while 78 per cent. of the voters poll in a Parliamentary election, and 48 per cent. in borough council elections, only about 28 per cent. vote for the guardians. Something similar occurs in the country. The result is that any small active party can capture a board, and the policies of the boards vary from year to year. The best men are often not elected, but often those who will promise the largest measure of free relief, for, the voting qualification being low, many of the voters are prospective paupers. In rural districts small farmers form the great bulk of the guardians. They are prone to excessive economy at the risk of good administration, and their policy is "parsimony tempered by patronage of their friends." It is not uncommon for them to pay low wages to their own servants and to supplement them by grants of outdoor relief, perhaps giving relief to an aged father whose son is in full work but with a low wage. Even in town districts this has occurred, and we are told that "the work of guardians is tending to fall into the hands of persons who care more for their own interests than for those of the community." There is an almost

complete failure of guardians to avail themselves of the power of co-option which they have. Only 218 out of 643 boards exercise this power at all, and there are only 370 co-opted members out of a possible total of 2,572. There is absolutely no uniformity in the giving of medical relief; persons who would be sent into institutions in one union have free out-door medical relief in another. Many boards refuse relief to sick dependents of an able-bodied man unless he himself goes into the workhouse; other boards make no attempt to exclude even the well-to-do, while others only give medical relief to those who are already receiving ordinary relief. Thus there is often not only no inducement to providence but a distinct inducement to people to range themselves among paupers in order to get medical relief. There is some fear that medical relief is often made a pretext for getting general relief, especially medical extras.

There can be little doubt that the combination of destitution work with medical relief under the same body is the cause of many of the faults. The effect of this union is to attach a stigma of pauperism to medical relief and to make it so deterrent that application for medical aid is often postponed unduly; thus cases that could be well treated in an early stage are not seen until the disease is far advanced and untold suffering and consequent poverty exists which might have been prevented by earlier treatment. This deterrence is increased by many boards that try to cut down outdoor relief by "offering the house" or by only giving "relief on loan," or compelling patients to appear before the guardians personally.

There are 3,713 district medical officers in England and Wales, nearly all underpaid. To make it worse, except in a few of the larger towns, they have to provide medicines out of their meagre salaries, and their status is such as to encourage a want of confidence in them, and has been the cause of the opprobrium that often attaches to the name of parish doctor. The custom still prevails in some places, though in "a veiled form," of appointing the doctor who makes the lowest tender. In some places the relieving officers give orders for medical relief freely and without inquiry, even leaving them with shop-keepers for distribution to any applicants. In many country districts the relieving officer is so inaccessible that it is almost the invariable custom for the doctors to go wherever summoned without an order. If the doctor refuses to go and something goes wrong he is blamed for inhumanity, while if he goes without an order he often never gets paid. "In too many unions, it is clear," says the Minority Report, "that outdoor medical relief begins and ends with a bottle of medicine." There is seldom any attempt, and if there were it would be useless, at preventive treatment, and no means of compelling patients to obey directions about sanitation, diet, and general habits. There is no inspection of the patients, and absolutely no inspection of the outdoor medical relief either by central or local authorities. Hardly any boards provide outdoor nurses, and where there are no voluntary nursing associations much of the work of the doctors is nullified by bad home attendance. There is no uniformity about disfranchisement; in some places it follows the receipt of medical extras, while in others it does not follow even complete board and lodging.

In many large towns the guardians have provided good infirmaries quite separate from the workhouses, but the cost per bed in recent years has increased to an alarming extent, not always with corresponding efficiency, but often from extravagant expenditure on palatial buildings. Side by side with this extravagance there is generally the greatest parsimony when the medical staffs are concerned. The salaries of the doctors are often quite inadequate, and many of the best infirmaries are understaffed. Only in some of the best is there any attempt at classification of patients, phthisis and venereal cases being mixed indiscriminately with the rest. In many places there is far too great a tendency for well-to-do people to be attracted to the infirmaries, and very often the cost of treatment is never recovered. In the rural districts there is a serious lack of institutions for the sick poor. Two-thirds of the sick poor who receive institutional treatment are still in mixed workhouses, no separate infirmaries being provided by the majority of boards of guardians. The sick wards in the rural workhouses are often totally unfitted for the purpose, the medical and nursing staffs are insufficient, so much so that often "curative treatment is almost impossible." There is no attempt at classification of diseases, much less of patients according to character. It is quite impossible for small unions to provide separate wards, much less separate institutions, for different diseases, though the need for some classification is so urgent. Only in two ways can this need be met—either by combinations of several unions, or by enlargement of the areas. Power of combination already exists for the provision of special institutions but only few boards have availed themselves of it. There is too great facility for patients entering and leaving institutions; the worst characters flock into them to recuperate from the effects of evil living, and as soon as they have, at the cost of the ratepayers, recovered, they go out to resume their degenerate careers; especially does this apply to unmarried mothers. The Minority Report brings most serious charges against some workhouses for their management of lying-in cases and infants, and the infant mortality in workhouses certainly needs further investigation in order that its true causes may be discovered and remedied.

The above is only the merest sketch of the defects, but it is sufficient to prove that there is a most urgent necessity for complete and radical reform of the whole system of medical relief. The cost of the present system is enormous, and the results are by no means commensurate, and there is the gravest doubt whether any reform will be effective that does not entirely replace the guardians by a new authority with specialized departments.

LITERARY NOTES.

The Oxford University Press will issue, for the Tudor and Stuart Library, an edition of Sir Thomas Browne's *Religio Medici*, together with the *Observations* by Sir Kenelm Digby, which followed the surreptitious publication of Browne's work in 1642.

The place of the Students' Number, which the *Progrès médical* has published annually for thirty-seven years, will be taken by the *Index du Progrès médical*, which will appear in October as a volume of 800 pages. In addition to the information as to medical study and graduation in the various schools of France, the *Index* will contain an official list of all doctors of medicine and surgery qualified under the French Laws of the 21st Germinal an XI and November 30th, 1892; a list of medical schools and faculties throughout the world, with their professors and teaching staffs; a list of nursing homes, and one of watering places and health resorts, French and foreign.

Inasmuch as the United States Food and Drugs Act of June 30th, 1906, established the *Pharmacopoeia* as a legal standard in all the possessions of the Republic, it has been deemed expedient to translate it into Spanish for the benefit of the inhabitants of the territory comprised within Puerto Rico and the Philippine Islands. The translation has been made by Professor José Guillermo Diaz, of the University of Havana, who was assisted by Dr. Placido Biosca.

In the Journal of June 26th we quoted part of a letter from Sir Samuel Wilks on the proverbial unluckiness of May marriages. The distinguished physician has returned to the subject. He states that Dr. Payne has informed him that Plutarch wrote a book styled the *Moralia*, in which is a chapter called "Quaestiones Romanae," or "Roman Questions." In it is a passage which is translated by Philemon Holland as follows:

> Why did not the Romans marry in the month of May? Is it for that it cometh between April and June? Whereof the one is consecrated unto Venus and the other to Juno, who are both of them goddesses which have the care and charge of wedding and marriages, and therefore think it good either to go somewhat before, or else to stay a while after. Or it may be that in this month they celebrate the greatest expiatory sacrifice of all others in the year? For even at this day they fling off from the bridge into the river the images and portraitures of men, whereas in old time they threw down men themselves alive. And this is the reason for the custom nowadays that the priestess of Juno name Flaminia should be always sad and heavy, as it were a mourner, and never wash nor dress nor trim herself. Or what and if we say, it is because many of the Latin nations offered oblations unto the dead in this month; and peradventure they do so, because in this very month they

worship Mercury: and in truth it beareth the name of Maia, Mercury's mother. But may it not be rather, for that as some do say, this month taketh that name from Majores, that is to say, ancients; like as June is termed so from Juniores, that is to say, younkers. Now this is certain, that youth is much meeter for to contract marriage than old age: like as Euripides said very well:—

> As for old Age, it Venus bids farewell,
> And with old folk Venus is not pleased well.

The Romans therefore married not in May, but stayed for June which followeth immediately after May.

Messrs. Rebman, Limited, have just ready a new book on *Accidental Injuries to Workmen, with Reference to Workmen's Compensation Act, 1906*, by H. Norman Barnett, F.R.C.S., with an article on Injuries to the Organs of Special Sense by Cecil E. Shaw, M.A., M.Ch., M.D., and a legal introduction by Thomas J. Campbell, M.A., LL.D. In view of the very grave responsibility which the Act places upon medical men, and the importance of a report being correct as to diagnosis and accurate as to prognosis, a chapter has been devoted to the making of reports for those who are not very familiar with this very important work. Messrs. Rebman have also just issued Professor de Giovanni's *Clinical Commentaries Deduced from the Morphology of the Human Body*, translated from the Italian by Dr. John J. Eyre, lately of Rome, now of Naples, and the sixth edition of Mr. Bland-Sutton and Dr. Giles's well-known little book on the *Diseases of Women*, a handbook for students and practitioners. The same publishers have almost ready an English translation of Professor Eugenio Tanzi's *Textbook of Mental Diseases*, prepared by Dr. William Ford Robertson, pathologist to the Scottish asylums, and Dr. T. C. Mackenzie, of the Inverness District Asylum.

Medical News.

THE Chelsea Hospital for Women has received from Lady Tate £1,000 to endow a bed.

DR. ISAAC MOSSOP has been appointed by the Lord Chancellor to the Commission of the Peace for the city of Bradford.

THE British Medical Temperance Association will hold a reception at the London Temperance Hospital next Tuesday at 4.30 p.m.

THE Fourth triennial International Congress of the World League for the Protection of Animals and Against Vivisection will be held in the Caxton Hall from July 19th to 23rd.

SURGEON-LIEUTENANT-COLONEL R. H. COOMBS, 3rd Battalion Bedfordshire Regiment, has been appointed Deputy Lieutenant for the county of Bedford by the Lord Lieutenant.

FOUNDER'S day at Epsom College will be celebrated on Friday next, when the prizes will be distributed by the Right Hon. Sir Walter Foster, M.P., and the Thornton memorial window will be unveiled by Canon Curtis.

DEMONSTRATIONS in clinical medicine have been arranged to be given at the London Hospital Medical College during August and September, commencing on Monday, August 9th, at 2 p.m. Further particulars will be found in the advertisement pages.

DR. STIRLING, Dean of the Medical Faculty and Pro-Vice-Chancellor of the University of Manchester, has been appointed to represent the university on the occasion of the quincentenary of the University of Leipzig. The ceremonies in connexion with this event take place from July 28th to 31st.

UNDER the auspices of the Society for the Study of Inebriety, the third Norman Kerr Memorial Lecture will be delivered in connexion with the Twelfth International Congress on Alcoholism in the theatre of the Victoria and Albert Museum, South Kensington, on Tuesday next at 8 p.m. by Professor Taav. Laitinen, M.D., Professor of Hygiene and Director of the Hygienic Institute in the University of Helsingfors, Finland, and Chairman of the Finnish National League of Health, who will take for his subject, "The Influence of Alcohol on Immunity."

THE accounts of the Nightingale Fund for last year show a credit balance of £685. At the St. Thomas's School there were 138 probationer nurses on the books, of whom 49, having completed their probationary year, received appointment as extra nurses on the staff of St. Thomas's Hospital, and 33 were discharged as unsuitable, or left from other causes. Deeming that the connected school at Marylebone Infirmary is now capable of working as an independent institution, the committee has arranged to cease to subsidize it.

AT a meeting of the council of the Charity Organization Society, on June 28th, it was decided to appoint a small committee to consider in what way the application of the principle of provident, as opposed to purely charitable, district nursing can be extended. The question was introduced in a paper by Miss Amy Hughes, General Superintendent of the Queen Victoria Jubilee Institute for Nurses, who showed that originally all modern associations for the nursing of the sick in their own homes were worked upon a purely charitable basis, but that little by little it has become recognized that even in nursing anything which tends towards pauperization is a mistake.

THE International Council of Nurses is to hold a congress at Caxton Hall from July 19th to July 23rd. The Council already represents a membership of some 20,000 nurses, and this number will, it is expected, be increased after this meeting, as four new countries have expressed their intention of formally joining it. Delegates are expected from Canada, the United States, Germany, Holland, Denmark, and Finland, and twelve other countries, not yet officially represented on the Council, will send "fraternal" delegates. Among those expected are M. G. Mesureur, Director of the Assistance Publique at Paris, two ladies dispatched by Prince Matsukata, President of the Japanese Society of the Red Cross, three nurses sent by the Cuban government, Dr. Ley, representing Belgium, and Princess Doria, representing Italy. The honorary president of the Council is Mrs. Bedford Fenwick, the president, Miss S. B. McGahey, of New South Wales, the honorary treasurer, Miss M. Breay, of the Registered Nurses' Society, and the honorary secretary, Miss L. L. Dock, of New York.

THE annual general meeting of the Asylum Workers' Association, founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "homes of rest and nursing," and to enlist public sympathy in their work, was held on July 15th at the Medical Society's House, Sir William J. Collins, M.D., M.P., in the chair. The annual report set forth that the finances were sound, and there was an improved credit balance; 18 cases had received beneficial aid from the Homes of Rest Fund. *Asylum News* continued to prosper under its new editor, Dr. James Nicoll, of Caterham Asylum, and was becoming more and more a medium of intercommunication between asylum workers scattered throughout the Empire. Amongst parliamentary matters engaging the attention of the committee had been the various Nurses' Registration Bills, and steps had been taken to safeguard the equitable treatment of mental nurses. The most important matter had, however, been the preparation of a bill to secure for workers in public asylums definite and assured pensions. This had been introduced by Sir William Collins, and was now in the hands of a Select Committee of the House of Commons. Sir William Collins, in moving the adoption of the report, remarked that at the present time the association was stronger in point of numbers than it had ever been since the increase in subscription in 1902. He pointed out the arduous nature of the work done by nurses and attendants in lunatic asylums, and maintained that after years of faithful service they were entitled to pensions, not as a favour but as a right. To secure that right was the object of the bill which had been entrusted to him; its passage into law this year was not, he thought, by any means hopeless. Mr. Charles Roberts, M.P., in seconding the motion, testified as one of the Board of Commissioners in Lunacy that his colleagues sympathized with the officers and servants of asylums, and were in favour of the Asylum Workers' Superannuation Bill. The report having been adopted, two gold and two silver medals were presented by the President on behalf of the association for long and meritorious asylum service, that of Attendant Cox, of Wyke House, extending over forty years, and that of Nurse Jackson, of Bethlem, over thirty-eight years. Subsequently officers and executive committee were elected (with thanks for services in the past) on the motion of Drs. Outterson Wood and Bower, and other business was transacted; the meeting concluded with cordial votes of thanks to the President and to the various speakers. Dr. G. E. Shuttleworth, Parkholme, East Sheen, S.W., is the Honorary Secretary of the association.

British Medical Journal.

SATURDAY, JULY 17TH, 1909.

THE SO-CALLED MOTOR AREA OF THE BRAIN.

THE precise function of the so-called "motor area" of the cortex of the brain has, for the last forty years, been a field for excreitation to physiologists and linicians alike. Indeed, even before that, it had been ecognized that localized or restricted parts of the cortex subserved definite movements of certain portions of the body; and the further question, Is the "motor cortex" purely motor in function? has from the first given rise to much controversy. It may now, as will be shown later, be safely answered in the negative. The latest contribution to the discussion is the Linacre Lecture by Sir Victor Horsley, published with a special plate of illustrations in this issue (page 121). No living man of science has done more to determine what are the particular functions of the cerebral cortex than has Sir Victor Horsley in the last five and twenty years, and his Linacre Lecture shows the combination of physiological knowledge and clinical acumen that has so often before served to impress its characteristic qualities upon his work. The term "motor area" is, as has often been remarked, a more than unfortunate one. It is convenient, and so continues to obtain current usage; it is also wholly inaccurate, for there can be no doubt that the "motor" area of the brain has many more functions to perform than the mere representation or initiation of movement. Dr. Charlton Bastian proposed the much more expressive term, the "kinaesthetic area," to take its place many years ago, and Dr. Hughlings Jackson the equally good name "sensori-motor area." We can do no more than deplore the fact that neither of these far more correct and comprehensive terms should yet have succeeded in ousting the well-known but misleading "motor area" from the vocabulary of science.

Attacked from both the physiological experimental and the clinical sides, the literature of the subject of cerebral localization has become very extensive in recent years. Accordingly, the Linacre lecturer found it necessary to confine himself to the consideration of the extent and functions of that part of the cortex, which is responsible for the movements of the arm and no more. Experimental physiology has repeatedly shown that, in the macaque monkey for example, the post-central gyrus of the cortex—that is to say, the convolution immediately behind the fissure of Rolando—is more often than not one of the centres for the movement of the opposite hand and arm; while, as the evolutionary scale is ascended, this gyrus appears to become less and less excitable, being very little so in the chimpanzee or gorilla. In man, electric stimulation of this post-central gyrus about the inferior genu of the fissure of Rolando produces no movements, so long as the current is kept small in quantity, and does not spread unduly to adjoining parts of the cortex and stimulate them. It has long been regarded as certain that, in man, the more essentially motor part of the kinaesthetic representation of the upper limb lies in the pre-central gyrus, or convolution lying next in front of the Rolandic fissure. Now it is interesting to note that the elaborate histological studies of the post-central convolution made by Campbell (1905) led him to conclude that it must be a sensory centre, although physiologists have never yet succeeded in proving the separate existence of special centres for sensation in any part of the cortex of the brain. Hence no little uncertainty as to the exact share in the cortical sensori-motor representation of the arm taken by the post-central gyrus has existed up to the present time, and the later work, like that of Campbell—which is well supported by the investigations of Brodmann—has perhaps only served to increase this uncertainty.

Quite recently, however, help has come from the clinical side. Sir Victor Horsley has met with and operated upon a case in which there was a nervous lesion confined to the pre-central gyrus of the right side, and his careful observations, made both before and after excision of this area, prove that it has the sensori-motor character claimed above for the whole so-called "motor area." The patient, an otherwise healthy lad of 14, had for seven years suffered from paroxysms of athetoid and convulsive movements of the left upper limb, worse when attention was directed to them; when the limb was quiet the voluntary movements were normal, as also were the reflexes and all forms of sensation. Removal of the peccant portion of the cortex of the brain was advised, and the operation was performed in March, 1908. The cortex of the right Rolandic region was exposed, and was first stimulated electrically in order to determine the area to be removed. Using a moderate strength of current, no motor response was obtained by stimulating the post-central gyrus. The exposed pre-central gyrus was then stimulated at eleven different spots successively, and the resulting movements of the left arm and shoulder were noted. It was seen that no other part of the cerebral cortex in the neighbourhood gave any response in the upper limb. Accordingly, the gyrus thus marked out by movements in the arm and shoulder was excised *in toto*, great care being taken to avoid laceration of the adjoining parts. The patient made a good recovery, and the spasmodic movements of the left hand and arm disappeared from the moment of the removal of the gyrus.

It is, however, on the subsequent examination of the case that Sir Victor Horsley relies to prove the sensori-motor function of the pre-central convolution. Twelve days after the operation the limb was motionless and flaccid, and the left side, particularly the leg, was numb with the subjective numbness typical of lesions of the parietal cortex. Knowledge of the position of the left arm returned gradually, but even so much as nine months after the operation knowledge of its position was lost if it were kept at rest for some time; some seven months later this condition, too, had passed off. Knowledge of the position of his fingers returned gradually to the patient, but less completely; and his identification of points lightly touched was characteristically imperfect at first, but continues to improve slowly. Tactile sensibility has gradually returned to the whole limb, with the exception of the ring and little fingers; temperature sensibility was much less disturbed by the operation. The pain felt when the skin of the left upper limb was pricked by a needle, and the success

with which such a prick could be localized, were both diminished at first, just as was the reaction to a light touch described above. But the most profound change produced by the removal of the right precentral gyrus was the inability to recognize the form of objects by touch, or astereognosis, and this disability remained well marked even thirteen months after the operation. As regards voluntary movement, a slow and slight consensual flexion and supination of the left arm when the right hand was strongly clenched were noted a fortnight after the operation; at the end of the third week the power to abduct and adduct the shoulder returned; sixteen months after the operation slow flexion and extension of the thumb were possible, the fingers, as regards extension, following in rapidly diminishing degree, while movements at the elbow were fairly good. In two-handed work, however, a certain sense of dissociation between the two hands made the patient prefer to use one hand at a time only. There are many other points of the greatest interest raised in the Linacre Lecture which want of space forbids to be here discussed; such, for example, as the question of the function and importance of the largest pyramidal cells in the Rolandic area of the cortex, the so-called Betz cells, that were at one time considered to be the only "motor" element in the cortex: such, too, as the intricate subject of topognosis and its relation to the axis of the body, or the question of hypertonia in paretic muscles. But it is at any rate certain that the case detailed above proves that so far from being a purely "motor area," the pre-central gyrus in man contains the cortical representation of such multiple and varied functions as tactile sense, topognosis, muscular and arthric sense, stereognosis, pain, and, lastly, movement: yet purposive or voluntary movements can still be performed after complete removal of the corresponding part of the pre-central gyrus. Arguments are also advanced by the lecturer for believing that the post-central convolution is probably similarly sensori-motor in function, but with greater provision for sensory than for motor co-ordination. By analogy, therefore, the "motor area" of the human cortex is indubitably "sensori-motor" in the widest meaning of the term. And in the Linacre Lecture we have once more brilliant example of the way in which clinical surgery, going hand in hand with experimental physiology, may yield to pure science contributions of the highest value.

THE POOR LAW MEDICAL SERVICE AND THE COMMISSION'S REPORTS.

THE long report of the proceedings of the annual meeting of the Poor Law Medical Officers' Association, published in the SUPPLEMENT this week, contains much matter which deserves the careful consideration, not only of Poor Law medical officers, but of the profession at large. The meeting had the advantage of hearing an expression of the views of two members of the Royal Commission—Mr. C. S. Loch, Secretary of the Charity Organization Society, who signed the Majority Report, and Mrs. Sidney Webb, who signed the Minority Report, and who is generally believed to have had a preponderating share in its preparation. Without seeming to detract from the interest of the other papers we may yet be pardoned for expressing the opinion that Mrs. Sidney Webb's was the most important, inasmuch as it took the form of an ardent appeal to Poor Law medical officers to support the recommendations of the Minority. It is, perhaps, rather a pity that the fairy palace built up for district medical officers by Mrs. Sidney Webb should rest on such unstable foundations, though perhaps after all it was not so attractive as she imagined it ought to be.

We can confirm with the added force of practical experience all that she related in her opening remarks as to the wretched conditions under which many district medical officers have to work at present. Compelled in many cases to provide medicines out of a salary that would be paltry even if there were no such deductions, at the beck and call of any person who likes to summon them at any time, knowing well, to quote the words of Dr. Smith Whitaker's evidence, that "if they do not go and anything goes "wrong, then they are accused of cruelty and in-"humanity; if they do go, the rule is that they do not "get paid;" knowing, too, that their patients either cannot, or often will not, carry out their advice as to sanitation, diet and general habits; with no stimulus of inspection, no prospect of advancement, no power in fact to do anything except to give a bottle of medicine, which they dare not refuse even though they know it may be useless—the position of district medical officers is a disgrace to the boards of guardians who have made these conditions. It is not to the interest of the public that this should continue, and in exact proportion as the British Medical Association seeks—as it has made up its mind that it will seek—to ameliorate these conditions, in the same proportion will it be working for the good of the community. Mrs. Webb cannot claim any monopoly in denunciation of this state of affairs. The Majority Commissioners recognize it and deplore it quite as plainly as the Minority, though perhaps not using such words of fervid eloquence.

But when Mrs. Webb comes to describe the remedies proposed, she does less than justice to the proposals of the Majority Report. She says: "The Majority Report "proposes that the Poor Law Medical Service shall "continue in England and Wales separate from the "public health service, under a separate local "authority, and that it shall remain rigidly restricted "to attendance on paupers." But this bald statement needs considerable modification. In the first place the public medical service proposed would not be so completely separate from the public health service as is represented. Most careful arrangements are proposed by the Majority for the co-ordination of the two services. Not only are they to be under the control of the same county or county borough council as the supreme local authority, but the local health committees are to have proper representation on the Medical Assistance committees to ensure full co-ordination. Again, it would be more correct to say that the free part of the service is to be restricted to paupers, for the Majority are quite as much impressed as the Minority with the necessity for making provision for that large class just above the stage of pauperism that cannot pay ordinary medical fees. But does Mrs. Webb mention the restriction to paupers as a reproach to the Majority scheme? Is it not the same in the Minority scheme? Or is it correct, as so many people suspect, that the Minority scheme intends to pave the way to a free medical service for all comers? On the one hand, we read repeatedly in the Minority Report of arrangements for legal assessments to be made by the Registrar of Public Assistance, and

we are told that the unified service proposed "does not necessarily involve" gratuitous treatment for all applicants. On the other hand, the report carefully refrains from discussing the question as to which public services shall be charged for, and the medical service is handed over to the sanitary committees, whose custom it is to do all their work gratuitously; Mrs. Webb's reproach against the Majority, that it would rigidly restrict medical service to attendance on paupers, seems to throw fresh light on the ultimate aims of the Minority. In face of all this, there is strong reason for agreeing with the Majority when they say that the Minority scheme "is inconsistent with any but a "gratuitous system." But surely these doubts ought to be cleared up, and we have a right to demand a plain answer to the plain question, Is the Minority scheme framed so as to encourage free medical treatment for all applicants? If not, and if the Minority would restrict free treatment to those who cannot pay, why should Mrs. Webb reproach the Majority with doing the same? On the other hand, if the Minority does aim at free treatment for all, why not say so plainly? The only reason for leaving it doubtful must be that to declare for a free medical service would wreck the scheme at once. Again, Mrs. Webb only states half the truth when she says that "as many people as possible are to be "enrolled" in the provident dispensaries proposed by the Majority. It would have been fairer to have added "under a fixed wage limit." This alters the whole aspect of the proposal for provident dispensaries; it is an absolutely essential part of the scheme, since it would prevent the total destruction of the practice of general practitioners which would result from a free medical service for all.

But Mrs. Webb, in this appeal to Poor Law medical officers, founds her chief accusation against the Majority scheme, as far as the district medical officers are concerned, on the fact that the Majority Commissioners contemplate that it may be possible in time to do without the district medical officers. It should, however, be noted that this is only contemplated as a remote possibility; for the present the express provision of the Majority Report (p. 301) will hold good—that "where any applicant for medical "assistance is not a member of a provident society, "he shall apply to and at once be treated by "a district medical officer." Further, it is only suggested that the authorities should pay the subscriptions to a dispensary for certain deserving cases, only the aged and widows with young children being actually named. It is nowhere suggested that all paupers should be enrolled at the cost of the authority in the dispensaries; neither is it suggested that all paupers should have a choice of doctor, but only those who are actually enrolled as members of the dispensary. Again, the scheme is so elastic that it is by no means certain that the district medical officers would ever lose their present positions, and if they did full compensation would of course be paid.

On the other hand, it is somewhat remarkable that Mrs. Webb should make so light of the fact that if the Minority scheme were adopted it is far more probable that there would soon be an end of the district medical officers as they exist at present. She herself says, referring to what would happen under the Minority scheme: "We may contem-"plate the district medical officer of the future as "invariably a whole-timer, absolutely debarred from "private practice, properly salaried and pensionable, "and provided with a county motor car to enable him "to cover a large district," etc. Will there be so much more work to do that all the present district officers who are only part-timers can be appointed whole-timers? If so, it will be a sorry look-out for the ratepayers. Again, she says, "This (domiciliary and dispensary practice) would "doubtless remain in the hands of the present district "medical officers until the occurrence of vacancies "permitted a rearrangement of districts; there "would be no disturbance of the rights or positions "of existing officers." Is it seriously meant that the rearrangements of districts would have to wait till existing district officers either got another appointment or died off? It is most unlikely that anything of the sort would occur, for if it did the whole scheme would be at a standstill. If any part-time district officers were superfluous they would simply be compensated, exactly as they would be under the Majority scheme. The only alternative would be to give up their private practice, which many would refuse to do. And as to the bright picture of the "county motor car," it will, we suspect, be received with a smile of incredulity by those who know anything of the ways of local authorities, not excluding county councils.

The same may be said of other parts of the picture. It is suggested that the institutional service would be "recruited largely from the district medical officers of "all the counties, debarred from private practice, with "adequate salaries and pensions." There is not the slightest guarantee that the district medical officers would have any better chance of such posts than other practitioners, who might have better qualifications; neither would many of them be willing to accept an indoor post after years of private practice.

"Finally," we are told, "there would be at the head "of all . . . the county medical officer," who in the future, under the Minority scheme, is to be either a promoted district medical officer, or institution superintendent, or a public health officer—either a clinician or a sanitarian. That means a complete revolution, not only in the Poor Law, but in the sanitary service, which we imagine present medical officers, and especially assistant medical officers of health who are looking for promotion, will not regard with complete approval.

Briefly, after carefully examining Mrs. Webb's picture, so alluring at first sight, we are convinced that the little that would be acceptable to district medical officers is so uncertain as to be hardly worth considering, while much that would be certain would be altogether unacceptable.

We cannot pass over without some protest the remarks of Mr. Sidney Webb after the annual dinner. He is reported to have said: "Outside the medical "profession was the public, who were far more impor-"tant than the former. He would tell the British "Medical Association that it would be useless to "come to any decision resting solely on professional "grounds. If it did, it would be swept aside, and "legislation would certainly be enacted without the "Association receiving the degree of consideration to "which it might hold itself to be entitled." Threats of this kind, thrown without provocation at the British Medical Association, do not augur well for the future if the opinions of the Association do not entirely agree with Mr. Webb's preconceived ideas of what the Association ought to think. The Association does hold that it is entitled to a high degree of considera-

tion in any arrangements in which its members are so vitally affected. No scheme can possibly succeed if one of the predominant partners is not content with the working. The Association has never come to any decision resting solely on professional grounds, to the detriment of the public. Rather has the profession allowed itself far too often to be exploited by the public. A suggestive contrast may be seen if we put Mr. Webb's remarks side by side with the express recommendation of the Majority Report that the British Medical Association should be invited to suggest working details of a scheme with a wage limit, and that representatives of the local Branches of the British Medical Association should have a seat on the Medical Assistance Committees.

This contrast between the attitudes of the exponents of the two schemes is significant. The Majority invites co-operation; the exponents of the Minority show a pretty picture held by an iron hand in a velvet glove. Mr. Webb's remarks came immediately after Dr. Macdonald's invitation to the Poor Law Medical Officers' Association to confer with the British Medical Association before coming to any decision. Any attempt to detach the Poor Law Medical Officers' Association, or to get it to express an opinion before it has fully considered the schemes with the British Medical Association, ought to be resisted, as it must be evident that on this matter, more than on any other that has ever touched the profession, union is strength. Many district medical officers are members of both Associations, and, as Dr. Macdonald intimated, their suggestions will be gladly received and their interests consulted by the special Poor Law Committee of the British Medical Association now considering the subject. We can only express a confident hope they will not be fascinated by Mrs. Webb's tempting prospect, which is, we fear, a mirage, nor allow themselves to be isolated by any premature decisions.

ANTIVIVISECTION AND THE PROTECTION OF ANIMALS.

Two things are mainly remarkable in the International Antivivisection and Animal Protection Congress held last week. One is that it owed a considerable part of what success it had as a demonstration to the skilful mixing up of two distinct elements. This caused confusion of the real issue, which was vivisection. It was admitted by the President, Sir George Kekewich, that some were interested in the question of cruelty apart altogether from vivisection. What proportion of those who attended the congress belonged to this category we are unable to state. What we can say with confidence is that, in regard to this point, the whole medical profession will join in condemning cruelty to animals, whether in slaughterhouses, in the transport of animals, in the working of horses in mines, or in sport. At the annual meeting of the National Antivivisection Society held on June 4th, Miss Lind-af-Hageby stated that the organizers of the congress were endeavouring to make the programme as comprehensive as possible. This comprehensiveness, we imagine, is an outcome of the Royal Commission on Vivisection, where their apparent indifference to the incalculable amount of unnecessary cruelty inflicted on animals outside laboratories was inconveniently pressed on the attention of several witnesses on the antivivisection side. We wish them all success in their efforts to put down cruelty to animals wherever it may be found. We venture to suggest that they might begin with their own President, Sir George Kekewich, whose favourite recreation is said by himself to be salmon fishing. This apostle of humanity declared that whatever divergence of opinion there might be among them in regard to particular points, they were all agreed in this—that pain and torture must no longer be inflicted on helpless creatures, and that if life must be taken it must be taken by the most humane methods. Will he contend that the most humane method of killing a salmon is by dragging it about in the water—it may be for several hours—with a hook fixed in one of the most sensitive parts of its body? Before Sir George Kekewich can consistently abuse vivisectors, he must put his fish under anaesthesia before he hooks it.

The other thing is one which evidently the promoters of the congress felt as marring its effect—that is, the unedifying discord among the antivivisectionists which it revealed. The fact that these worthy people hate each other with more than the rancour of rival religious sects is, of course, familiar to all who have followed their doings. But, if we read the signs aright, the Animal Congress was to have been an occasion for the display of peace and good will. The wolf was to have lain down with the lamb, without the need of an anaesthetic apparatus between them. The disunion which exists in the antivivisectionist ranks was deplored at the meeting of the National Antivivisection Society, to which reference has been made, both by Mr. Stephen Coleridge and Miss Lind-af-Hageby. Mr. Coleridge declared himself to be most anxious to meet anybody amenable to reason on the most generous terms as regards unity. He would like to say to all antivivisectionists, "Come under the old umbrella." The umbrella, we may hint in passing, is not only old but tattered; it is, in fact, so disreputable a "gamp" that it is no wonder many decline Mr. Coleridge's generous offer to them to take shelter under its bare ribs. Miss Lind-af-Hageby echoed the note of unity sounded by Mr. Coleridge. There had, she said, been misunderstandings in the past among fellow workers, but if they could bring about greater union among antivivisectionists in this country, they would have done something worthy of achievement.

But so far off is this union that scarcely have what Sir Thomas Browne calls the "drums and tramplings" of one congress died away than London will resound to the clamour of another. In the *Clarion* of July 2nd Miss A. L. Woodward calls attention to a misunderstanding with reference to the International Antivivisection and Animal Protection Congress. That congress, she complains, was got up many months after and in opposition to her World League Congress, and has caused some confusion. "You "cannot," she adds, "really consider it an animal "protection congress when it condones the cruelties "of the rich, when it happens to have their titled "names, and passes over such cruelties in them as "blood sports." Miss Woodward says that her congress is supported by all the large abolition of vivisection societies. Miss Lind-af-Hageby is hurt by this "unfortunate split," and has deplored the fact that she and her party have been denounced by the opposite faction as shams and humbugs. "She could not," she said, "understand the spirit of any worker in the "great cause of mercy who could not to his enthu-"siasm for animals add a little charity towards his

"human fellow workers." Among Miss Lind-af-Hageby's many gifts, evidently a sense of humour is not included. It is difficult otherwise to understand how so clever a person could have laid herself open to the obvious retort, *Mutato nomine de te fabula narratur*. Perhaps, however, the habit of narrating fables tends to blind one to their possible application in a sense contrary to that intended.

Another sign of the union which prevails among antivivisectionists is the severance by Dr. A. Wall of his connexion with the Battersea Antivivisection Hospital, because "he declined to be a party to mere "factious spite exercised against a large body of "British antivivisectionists whose support has been "given ungrudgingly to the hospital." The secretary of the hospital explains that if Dr. Wall desired to conduct a party of delegates to view the hospital he might do so on a day's notice. Whether this gracious concession was accepted or not we do not know: we only refer to the episode on account of the light it throws on the spirit of antivivisectionism.

Of the proceedings of the congress little need be said. Sir George Kekewich—possibly with the hook of conscience reminding him of his salmon fishing—was particularly virulent. That luminary of the legislature, Sir Robert Perks, said he did not know of a single great discovery in medical science which could be directly traced to the practice of vivisection. What Sir Robert Perks does not know of medical science would make a large library. It would be ridiculous to discuss the question with such an antagonist; we will content ourselves with saying that in the opinion which he expressed he has the misfortune to differ from all the men who have made discoveries during the last half century, from Lord Lister downwards. Of the medical antivivisectionists—Dr. Herbert Snow, Dr. Stenson Hooker, Dr. Josiah Oldfield, and others—it need only be said, in the words of Beaconsfield, that their invective lacks finish. And their speeches contained nothing but invective. Mr. Stead wishes to have cinematograph representations of laboratory experiments with phonographic renderings of the cries of the victims. Surely a man with so much "metaphysical aid" at his disposal has no need to use such carnal means of information. If his "familiar spirit," Julia, cannot, or will not, tell him all that goes on in laboratories, can he not ring up his own spiritual bureau? The congress was appropriately brought to a close by a sermon from Archdeacon Wilberforce, who (if we may judge from the *Times* report) compressed as much misrepresentation into his discourse as the time allowed. That pious but inaccurate divine's power of misstatement is well known. We dealt faithfully with him in the Journal of June 29th, 1901, p. 1639, and he did not attempt to reply. To that article we again refer him and any one interested in the methods of antivivisectionist controversy.

The only thing the congress has done is to show that the appeal of antivivisectionists is now made frankly to the mob. In the graceful language of its President, they do not place their hope in the "idle rich," which, being interpreted, means people of education, but in the "workers"—that is to say, as may be gathered from the context, the ignorant. Their aim is, to use the expression of a foreign gentleman who read a paper, to "democratize" the movement. But science cannot be "democratized" in this sense. If it could, the first to suffer from the restriction of experimental research would be, not the "idle rich," but the toiling poor.

MEDICAL MEN AND THE WORKMEN'S COMPENSATION ACT.

Although the Workmen's Compensation Acts have gone a long way towards the universal insurance of workmen against accidents, the burden imposed on the employers is sometimes overestimated. It is assumed, for instance, that when an accident occurs the employer can at once be held responsible for all the consequences, and that even if compensation be not awarded under the Act, all the medical and other expenses must be borne by him. There appears to be an impression in some quarters that the Workmen's Compensation Acts impose upon employers a duty to pay the fees of the workman's medical adviser. No doubt he has to do so indirectly when compensation is recovered, but the Act imposes no direct liability upon the employer. Confusion has perhaps arisen owing to the fact that medical men are mentioned in the Act, and in certain events may take a very important part in its administration. Thus, it is provided that in certain cases the judge or arbitrator may, in a difficult case, refer the question of liability to a medical referee. Again, where a workman has given notice of an accident, he must, if so required by the employer, submit himself for examination by a duly qualified medical practitioner provided and paid by the employer; and if he refuses to submit himself to such examination, or in any way obstructs the same, his right to compensation, and any proceeding under the Act in relation to compensation, shall be suspended until such examination takes place. The solution of the question is not to be found in the Acts which have been passed within recent years providing almost universal compensation for accidents for workmen. The Workmen's Compensation Acts merely have the effect of rendering the question more urgent, for practitioners are sometimes disposed to assume that, inasmuch as the employer must, in the majority of cases, pay compensation for the accident, he will also be required to defray any medical expenses to which the injured workman may be put. This, however, is an erroneous assumption, whether the workman is or is not entitled to make a claim for compensation. The law relating to master and servant embodies no general principle that the master is bound to provide medical assistance. This is an obligation which must, and can, only arise from contract. We recall a case in which a servant hired at a weekly wage had his arm broken while driving his master's team, and was attended, in his mother's house, by his master's surgeon, who was accidentally passing at the time. In these circumstances it was held that the surgeon could not recover from the master. This was a case of a domestic servant, but the principle upon which it was decided also applies to servants in husbandry and to workmen. It follows that a medical practitioner who is hastily summoned to render first aid to an injured workman must not look to the employer for his fees. If, however, he first see the employer, or the responsible manager who has authority to make the necessary bargain on behalf of the employer, the matter is put upon a different footing. It must not be assumed, however, that every foreman or fellow-servant has authority to call in medical assistance and so charge the employer with liability to pay the fee. In a case which arose in connexion with a railway accident the court held that a railway servant—for example, the guard of a train—had no implied right to call in medical aid to the assistance of injured passengers at the expense of the company. The general manager of a railway, however, has the necessary authority.

THE BLIND ANTIVIVISECTIONIST'S DOG.

THE cult of the dog, which is the animal about whose comfort most antivivisectionists are mainly, if not solely, concerned, leads its devotees into remarkable aberrations. There is, or rather was—for he has faded into nothingness—the legendary Gower Street dog which ran into a shop with a tube in his throat. Then there is the Brown Dog of Battersea, who has become a fetish, even an idol. Some sentimental persons profess to believe that the mythical sufferings of that animal appeal to the tender heart of the Battersea rough. It does not, however, prevent his manners from being ferocious. But the Brown Dog is the idol only of one sect of antivivisectionists: another sect, whose mouthpiece is Miss Beatrice Kidd, repudiates, on behalf of her Union, all connexion with the Battersea "Martyr's Memorial." Now we have a third dog, who has led his blind sympathizers into a ditch. In the House of Commons Mr. Ellis Griffith asked the Home Secretary whether his attention had been called to a public experiment performed on a bulldog by Dr. Waller. He described, to the horror of Mr. Swift MacNeill and some kindred spirits, how a leather strap with sharp nails was secured around the meek animal's neck, while his feet were immersed in glass jars containing salts in solution, and the jars were connected by wires with galvanometers. Mr Gladstone explained that this dreadful experiment consisted in making the dog stand for a time in water to which common salt had been added. "If," continued the Home Secretary, "my honourable friend "has ever paddled in the sea, he will understand the "sensation. The animal—a finely developed bulldog— "was neither tied nor muzzled. He wore a leather "collar ornamented with brass studs. Had the experi- "ment been painful, the pain no doubt would have "been immediately felt by those near the dog. There "was no sign of this." Mr. Gladstone, therefore, did not propose to take any action. The House roared with laughter, all the more when Mr. V. Kennedy asked the Home Secretary with apparent seriousness whether the dog had been drugged for the experiment. Is an anaesthetic considered necessary before paddling in the sea in Ireland? The gentlemen who treated the matter with such portentous solemnity remind us of the elder Sheridan as described by Dr. Johnson: "Why, Sir, Sherry is dull, naturally dull; but it must "have taken him a great deal of pains to become what "we now see him. Such an excess of stupidity, Sir, is "not in Nature." The story is characteristic of the antivivisectionist. The slightest trouble would have enabled Mr. Ellis Griffith to discover the truth about the experiment, which was made on May 12th at the ladies' *conversazione* of the Royal Society this year. But your "whole-dogger" does not wish to know the truth. The "platform fact" is so much more picturesque. For ourselves, we hope the antivivisectionist will go on discovering similar atrocities; there are plenty of them to find out, and their exposure helps to cover the advocates of a peculiarly disingenuous agitation with deserved ridicule.

PROPORTIONAL REPRESENTATION.

THE Metropolitan Counties Branch of the Association has again conducted its election of Representatives on the Central Council and also of its vice-presidents by the method known as the *single transferable vote* system. The Branch has had the advantage of the assistance of the officers of the Proportional Representation Society at each of the three elections at which the method has been used, so that whatever difficulties might have presented themselves at first have been overcome, and the members of the Branch Council, who have taken active part in the elections, are now in a position to conduct an election on the proportional system without fear of mistake or failure. The experience of the last elections does not differ materially from that of its predecessors, and every one concerned has been able to endorse the opinion, often expressed by the advocates of the system, that the working is smooth and satisfactory. It is a curious point that the number of voting papers sent in was almost the same as last year, but it should be recorded that, as compared with 1905, there has been a considerable falling off. Whether this is due to a fear on the part of members of the altered and somewhat unusual form of voting paper, or whether some reason entirely strange to the form of election was operative, cannot be decided, but members can be assured that the voting in the case of proportional representation elections is straightforward and simple. There were a few spoiled papers, but these were for the most part declared invalid on account of the absence of the member's signature. A glance at the details of the elections, given in the SUPPLEMENT of June 26th, will show that, while the system has definite uses in the election for representatives for the Central Council, its advantages for the election of vice-presidents is less evident. This might have been anticipated, for the office of vice-president of the Branch is not one which is so eagerly striven for by the various Divisions and various parties in the Divisions as is the position on the Central Council. The three members who received the greatest number of first votes were elected almost at once, since Sir Victor Horsley had a *quota* from the first and Drs. L. Shaw and Ford Anderson received a *quota* on the distribution of Sir Victor Horsley's surplus votes. The operation of the system was clearly shown by the way in which Drs. Ker and Haslip, who polled less first choices than Dr. Wallace, obtained sufficient votes on the subsequent transfers to secure seats. It may be taken that under the old system Drs. Wallace and Ker would have been returned in response to a following of 34 and 29 members out of some 558 voters, a number which certainly could not be held to reflect the opinion of the members as to the desirability of these two candidates securing seats. At the election the second and further choices showed that over one-sixth of those voting desired that seats should be given to Drs. Ker and Haslip, and they were therefore elected. Since true party politics do not enter into the constitution of the Association, it would be erroneous to speak of the representation of minorities; but as it appears reasonable to suppose that each candidate is known especially for the views which he takes on the several questions exercising the government of the Association, the effect of the system is to ensure that opinions which are sufficiently widely held must be voiced in the Central Council. Under the regulations set forth in the Charter, however, this method of election would no longer be available, as single-member constituencies would be substituted for the present system. The attention of members interested in the subject should be drawn to the June and July numbers of *Representation*, in which the advantages of proportional representation are set forth at length in the evidence given before the Royal Commission on Electoral Systems.

FIRST AID IN ELECTRICAL INJURIES.

PROFESSOR E. A. SPITZKA, of the Jefferson Medical College, Philadelphia, has published in pamphlet form a reprint of his paper from the *Journal of the Medical Society of New Jersey*, under the title of "The Resuscitation of Persons shocked by Electricity." He has

"ld special opportunities of noting the effects produced by electrocution in the case of criminals in the United States. The death penalty under these conditions, he says, is undoubtedly painless and practically instantaneous. The vital mechanisms of life, circulation and respiration, cease with the first contact. Describing the phenomena observed at a necropsy, he says that the maximum damage is wrought in the nerve system, though the heart, at first flaccid, rapidly assumes a tetanized condition, and the blood is profoundly altered bio-chemically. Sections made of the spinal cord revealed curious circular areas with a peripheral zone of condensation, which faded off into the surrounding unaffected areas. They seemed to resemble gaseous emphysema, and were possibly due to electrolytic liberation of gas. The prognosis in cases of electrical accidents is good only when there is some heart action and respiration, heart action particularly. In first aid the patient's head should be kept higher than the rest of his body, and artificial respiration should be attempted by compressing the thorax with the hands applied flat to the sides and lower part of the chest rather than by raising the arms. This action should be continued at the rate of 18 per minute. Heart action may be encouraged by massage over the heart region, by faradization, and by adrenalin injection, according to the method of Crile. "What thou doest do promptly," however, is the main thing. Attempts at resuscitation which are made seven to ten minutes after apparent death may re-establish respiration and circulation, but consciousness is not regained. Apparently, there is imperfect recovery of the brain proper after a cerebral anaemia of abcut seven minutes' duration.

THE RADIO-ACTIVITY OF MINERAL WATERS.

In the course of a long article on the influence of mineral waters upon diseases of digestion and metabolism,[1] Baumstark points out that Sella and Pocchinetto first showed that air which had been conducted through water had gained in conducting power. Thomson and Himstedt confirmed this, and also showed that different kinds of water possessed this property in different degrees; that water fresh from deep springs was the most active, and that when exposed to the air it soon lost it. Elster and Geitel showed that different earths and the deposit from mineral water had the same property. As radium emanations have an influence on the life of the cell, and these emanations are of the same nature, the possession of radio-active properties might explain the utility of various chemically indifferent waters, and also the fact that the bottled waters are not so active as the fresh water. Speculation has been rife, and it is supposed that the air of the bath house is an important factor, as the radio-activity can be demonstrated in the rooms at Wiesbaden and Baden-Baden. Effervescing waters soon lose their activity, so that the water itself contains very little. Radio-active baths are said to cause, in rheumatic joints, a primary reaction followed by improvement. Kronfeld pointed out that for ages the people in the neighbourhood of the mines had been in the habit of wearing a little bag of pitchblende as a charm against rheumatism. Deutwitz claims that the miners themselves never suffer from gout, neuralgia, or rheumatism. Kalmette asserts that the urine, though not normally radio-active, becomes active after drinking the Gottstein waters. These interesting but merely clinical and very unsatisfactory observations require strict investigation by physiological methods. Bergell and Bickel, working with the water of the Wiesbaden "Kochbrunnen," came to the conclusion that the emanation partially prevented the usual inhibitory action of the sodium chloride of the water on peptic digestion *in vitro*. Experiments on a dog's stomach by Pawlow's method were entirely negative. Baumstark thinks that it will be found that the effects of the emanations are less than was originally expected.

[1] *Albu's Sammlung*, vol. i, No. 8.

THE MEDICO-LEGAL SOCIETY.

Law and medicine met once more on a semisocial, semiprofessional, footing under the aegis of the Medico-Legal Society at its annual dinner at the Holborn Restaurant on July 15th. The two professions were equally well represented. A member of the High Court, to whom the society owes much of its success—its president, Mr. Justice Walton—was in the chair, while the guests included the Master of the Rolls, the junior branch of the legal profession being represented in the person of Mr. J. S. Beale, President of the Law Society. Of medicine, Mr. H. T. Butlin, President of the Royal College of Surgeons, was the principal representative, while Sir William Collins, who proposed the toast of the united professions, being a member of the House of Commons, may be taken as representing law in the making. He pointed out sundry links between medicine and the law, and reminded his audience that the supreme law of all was the health of the people. He pointed out, too, that the rules of the society permitted of the election of intelligent laymen, and advised all such to join it forthwith, on the ground that every one was necessarily concerned in medico-legal matters from his antenatal to his *post-mortem* condition. Sir H. H. Cozens Hardy, who replied, recorded as a common characteristic of medicine and law that in neither profession was any man thought the more of because he possessed money, or esteemed the less owing to any particular belief which he might happen to hold. Speaking of work in court, he said that there must often be occasions on which there was difference of opinion, but those on which there should be conflicting evidence as to facts must be rare. Lawyers had long since given up the practice of writing their opinions in Norman French, and he hoped that before long doctors would similarly give up their own particular phraseology, more especially nowadays when the Legislature had adopted the habit of combining legal and medical provisions in a single Act of Parliament. A reply came also from Mr. Butlin, who concluded his remarks by proposing a toast to the society itself. Naturally, he had much to say in its favour, for it is a body possessed, amongst other attractions, of much educational power. In bringing together medical men and lawyers and facilitating discussions between them on topics in which both have a common interest, it smooths the path to a better understanding each of the other's point of view. This is all the more desirable because the relations between medical men and lawyers in court often have a directly opposite effect. It may be added, too, that unless the society had a high actual and facultative utility, it is unlikely that Mr. Justice Walton, who is not one of the least hard worked of His Majesty's judges, would have remained in office as president for three years in succession. In the course of the evening it was mentioned that the society now has 231 members; if its value were properly recognized it would have at least three times that number.

MEDICINE IN WEST AFRICA.

A summary of the report of the Colonial Office Departmental Committee on the West African Medical Staff was issued on July 9th as a Parliamentary paper,

and an abstract appears in another column. The report, which is accompanied by a memorandum by Lord Crewe, Secretary of State for the Colonies, deals with a subject frequently mentioned in these columns during the past few years, namely, the organization and administration of the body in question. It is admitted on all sides now that the complete development of the West African colonies, and the vast adjoining Protectorates is bound up, like that of most other typically tropical territories, with the efficiency of the medical arrangements made, or in other words, in this instance with that of the West African Medical Staff, which practically represents the whole professional advice at the disposal of the local authorities. Hitherto the service has managed to attract excellent recruits, but for many reasons it has failed to satisfy them; sanitary progress has, therefore, tended to lag, and as the result of representations made in this JOURNAL and by a memorial from members of the staff itself, the Secretary of State decided last autumn to appoint a committee to consider the complaints made and suggest remedies. The suggestions seem on the whole promising, but we reserve consideration of the matter, as it now stands, until next week.

THE ANNUAL MEETING.

WE are advised that it is desirable that members proposing to attend the Annual Meeting of the British Medical Association in Belfast—and the warning extends to Representatives travelling to the Annual Representative Meeting opening on July 23rd—should at once take steps to engage berths on the cross-Channel steamers and sleeping accommodation in trains. The routes were enumerated in an article published in the BRITISH MEDICAL JOURNAL of July 3rd, p. 27. The direct routes for England and Wales are by Liverpool, Fleetwood, Heysham, and Holyhead and Greenore. The shortest sea route is via Stranraer and Larne, leaving a short railway journey from the latter port to Belfast. Another short sea route is via Holyhead and Kingstown, the sea passage being about three hours, while the railway journey from Kingstown to Belfast occupies about the same time. By the Holyhead and Greenore route the sea passage is about four and a half or five hours, while the railway journey from Greenore to Belfast occupies about one and a half hours. We are asked to call the attention of Representatives in the Northern and Midland Divisions to the fact that a train by the route via Fleetwood leaves Manchester (Victoria Station) at 9.10 p.m. on July 22nd, and runs alongside the steamer at Fleetwood. The Representatives travelling by this train and route are advised to book berths at once by letter addressed to Commander Baugh, Marine Superintendent, Fleetwood. Members who have not yet sent in the form issued in the JOURNAL of June 19th, page 1521, July 3rd, advertisement page 9, July 10th, advertisement page 7, and again this week (advertisement page 9) should do so at once if they desire to obtain the railway vouchers entitling them to the special concessions which have been arranged. In the SUPPLEMENT for this week will be found particulars of excursions on Saturday, July 31st, to Carlingford Lough and the Mourne Mountains, to Portrush and the Giant's Causeway, and to Glenariff and the Antrim coast road.

THE University of Geneva has conferred on Lord Lister the honorary degree of Doctor of Medicine. A similar distinction was bestowed at the same time on Professor Haeckel, of Jena, and Madame Curie, of Paris.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT]

The Experiments on a Bulldog at the Royal Society Conversazione.—Mr. Ellis Griffith asked the Secretary of State for the Home Department whether his attention had been called to a public experiment performed by Dr. Waller on a bulldog at the *conversazione* of the Royal Society at Burlington House on May 12th last, whereby a leather strap with sharp nails was secured around the dog's neck, his feet being immersed in glass jars containing salts in solution, and the jars being connected by wires with galvanometers; whether, in view of Section 6 of the Cruelty to Animals Act, 1876, which prohibited any exhibition to the general public of experiments on living animals calculated to give pain, he would say whether a licence had been granted to Dr. Waller for the performance of this experiment; whether Burlington House had been registered by the licensee for this purpose under Section 7 of the Cruelty to Animals Act, 1876; and whether any action had been or was being taken in reference to the matter. Mr. Gladstone replied that he had made inquiries. Dr. Waller held no licence for this demonstration, and Burlington House was not registered under Section 7 of the Cruelty to Animals Act, 1876. He understood the dog stood for some time in water, to which sodium chloride had been added, or, in other words, a little common salt. If his hon. friend had ever paddled in the sea he would understand the sensation. The dog—a finely developed bulldog—was neither tied nor muzzled. He wore a leather collar ornamented with brass studs. Had the experiment been painful, the pain no doubt would have been immediately felt by those nearest the dog. There was no sign of this, and he did not propose to take any action. In answer to further questions, he said that the object of the experiment was to show the pulsation of the blood and other interesting matters in the human body. It was absolutely painless. The animal was not drugged, and it was an ordinary demonstration causing not the slightest pain.

Antivivisectionist Processions.—Lord Robert Cecil asked the Secretary of State for the Home Department whether his attention had been called to the proposed two processions of antivivisectionists; whether he was aware that for the purpose of these processions certain highly provocative banners were prepared; that the organizers of one of the processions had expressed the intention of employing certain roughs from Battersea to keep order; and whether, in view of these facts, he would take steps to prevent the processions taking place. Mr. Walter Guinness asked a similar question, and Mr. Gladstone replied that processions of antivivisectionists had been announced to take place on the 10th and 24th inst., but the police had been assured that provocative banners would not be carried. All necessary arrangements would be made by the police for the preservation of order.

Vivisection.—Mr. Ellis Griffith, who is the promoter of the Dogs Exemption Bill, which is down for the adjourned debate on second reading on July 26th, has introduced another bill, called the Cruelty to Animals Amendment Bill. Its full title is "A Bill to amend the Cruelty to Animals Acts," and it consists of the two following clauses:

1. From and after *the passing of this Act* any person (being the owner of the dog) who shall have been convicted of cruelty to such dog under section two of the Cruelty to Animals Act, 1849, shall, at the discretion of a court of summary jurisdiction, be deprived of the custody of such dog and shall forfeit all claim to such dog or its value.

2. A court of summary jurisdiction shall, if they deem fit, order any dog of which its owner shall have been deprived under the foregoing section to be handed over to any recognized society for the protection of animals, or any person whom they deem fit to have the charge of such dog, to be kept or destroyed at the discretion of the court, provided that under no circumstances shall any such dog be used for the purpose of vivisection or other experiments.

The two bills with similar titles introduced by Mr. George Greenwood have been dropped, and this new bill has been put down for second reading on July 29th.

The Millbank Typhoid Carriers and their Treatment.—Sir William Collins inquired of the Secretary of State for War on Monday how many of the five supposed typhoid carriers at Millbank, reported on in Paper Cd. 4609, who were undergoing treatment in January-March of this year, were now pronounced to be free from *Bacillus typhosus*; whether these men exhibited any signs of ill-health beyond the excretion of such bacilli; whether the cases treated with general vaccine continued to excrete bacilli many weeks after the vaccination; what results had attended the use of the specific vaccine from which better results were hoped for; and whether cases were recorded in which two years after cured of typhoid these bacilli had been found in excretions? Mr. Haldane replied that only one of the five men was believed to be cured at present. None of these men exhibited any signs of ill-health beyond the excretion of the bacilli. The general vaccine had no effect on the excretion of the bacilli, and the excretion continued until treatment with the specific vaccine was commenced. The specific vaccine had not given any better results than the general vaccine. With regard to the last part of the question, reference to the report contained in Command Paper No. 4609 would show that such cases had been recorded.

Colour Blindness (Board of Trade Test).—Mr. Henniker Heaton asked the President of the Board of Trade whether there was any civilized country in the world, besides our own, which regarded the wool test, the official test of the Board of Trade, as a reliable test for colour blindness; whether he was aware that not a single ophthalmic surgeon of eminence in this country was of opinion that the wool test was an efficient one; and whether he could state how many, if any, of the examiners of the Board of Trade, either those employed in the first instance or on appeal, had any knowledge of physiology or ophthalmology? Mr. Churchill replied that he was obtaining information as to the countries which had adopted the Holmgren wool test as a test for colour blindness in the mercantile marine. This test was adopted by the Board of Trade on the advice of a committee of the Royal Society, which comprised both eminent physiologists and physicists, and he had reason to think that the highest scientific opinion was in favour of its efficiency. One of its advantages was that it could be applied by persons who possessed no knowledge of physiology or ophthalmology. No such knowledge was, therefore, demanded of the Board of Trade examiners in the first instance. But in the supervision of their tests, in the instructions of their examiners, and in the conduct of their special examination on appeal, the Board had the advantage of the services of two acknowledged authorities on colour vision—both Fellows of the Royal Society, who hold the degree of Doctor of Science.

The Belfast University and the Mater Infirmorum Hospital.—Mr. Hugh Barrie asked the Chief Secretary for Ireland whether it was proposed to affiliate the Mater Infirmorum Hospital (Belfast) to the new Belfast University; and, if so, were its teachers and teaching to be recognized; and would the members of its medical staff be admitted upon the Examining Board of the University? Mr. Birrell said it was not proposed to affiliate the Mater Infirmorum Hospital to the Queen's University. It was proposed by the medical faculty that the hospital should be recognized as a place for clinical teaching, as it was by the old Queen's College, but this was subject to the approval of the Senate. The appointment of examiners was for the Senate, upon the recommendation of the Academic Council. He had no means of knowing how far the medical staff of this or any other hospital would be recognized by the Senate.

Dairy Inspection in Ireland.—Mr. Sheehan asked last week whether district councils in Ireland had appointed as inspectors of dairies local subsanitary officers who also held the position of relieving officers, and whether such appointments would be sanctioned in view of the fact that the time of these gentlemen ought to be already fully occupied. Mr. Birrell replied that he understood that in sixty-eight districts the sanitary subofficers, who frequently hold the position of relieving officers as well, had been appointed to act as inspectors of dairies. The Local Government Board considered it unnecessary to press local authorities to appoint separate inspecting officers of dairy premises in localities where the dairying industry did not assume large proportions. A sanitary subofficer had opportunity of observing defects or insanitary conditions in dairy premises, and there was no reason to suppose that his time was so fully occupied with other official duties as to prevent his carrying out such inspections. Moreover, under the Board's Sanitary Orders of May, 1900, it already formed part of his duties in a district where no inspector of dairies had been appointed to inspect dairies, cowsheds, and milkshops, and to report to the sanitary authority thereon. The sanction of the Board was only required so far as concerns the remuneration of officers under the Dairies Order.

The Sanitary Condition of Ramsey.—On Monday Mr. Boulton put questions to the President of the Local Government Board respecting the water supply, drainage, and the prevalence of infectious disease at Ramsey, and pressed for the visit of an inspector and the enforcement of the Public Health Acts. Mr. Burns answered that he was aware that the consulting medical officer of health of the county council had reported unfavourably on the water supply and disposal of the sewage of the town. The urban district council had decided to take some tentative action as regards the water supply; but, as previously stated, they considered the expense of providing a new system of sewers, which would also necessitate a water supply, to be prohibitive. He had made inquiry, and found that 53 cases of scarlet fever were notified to the medical officer of health in the months of May and June last, and that 5 deaths from the disease occurred during those months. As he had stated twice before, he had not received any such complaint of default on the part of the district council with respect to sewerage and water supply as would enable him to take compulsory action under the Public Health Act. He had, however, given directions that one of the medical inspectors of the Local Government Board should visit the district and make a report with respect to it.

Vaccination Exemption Orders and Fees.—In answer to Mr. Tyson Wilson, Mr. Gladstone stated last week that no fee was payable to a justice for taking a declaration under the Vaccination Act, 1907, or for any other act done in his magisterial capacity. A fee was chargeable by the justice's clerk if he was present and performed the service in respect of which the fee was authorized. Such fees had to be paid by the clerk into the county or borough fund. No complaint had been made to him of any justices keeping them for their own use.

England and Wales.

[From our Special Correspondents.]

LEEDS.

Death of the Chancellor of the University.

By the death of the Marquis of Ripon, which took place suddenly on the evening of July 9th, the University of Leeds has lost its first Chancellor and one of its warmest friends. As is well pointed out in a most appreciative notice in the *Yorkshire Post*, Lord Ripon's most noteworthy achievement in regard to education was the part he took in helping to found the Yorkshire College, on which the University of Leeds, as it now exists, was built. In the year 1879 he formed one of the deputation which waited on the Duke of Richmond and Gordon, then Lord President of the Council, to urge the establishment of a new university for the North of England with which the Yorkshire College could be affiliated. In 1882 he succeeded the late Lord Frederick Cavendish as President of the college, and up to the last his interest in the welfare of the college and of the university never flagged. In all the great events connected with the college and the university he took a leading part. These included the affiliation of the Leeds School of Medicine, the opening of the new wing of the college in 1885 by His Majesty then

Prince of Wales), the association with Manchester in the Victoria University, the opening of the new school of medicine in 1894 by the present Prince and Princess of Wales when Duke and Duchess of York; and finally the acquisition of a Charter for the University of Leeds, the raising of additional funds, and the opening of the new buildings at College Road, as recently as July, 1906, by the King and Queen. In the hall of the university there now hangs a portrait of the late Chancellor, by Sir Hubert von Herkomer. This was formally presented to the university by the subscribers to a portrait fund, many of whom were adherents of the university and admirers of Lord Ripon. It will be a source of lively satisfaction to all who are interested in the welfare of the university that it possesses the admirable likeness of one who, from its inception, has been its most consistent and loyal supporter. The funeral at Studley Royal, on July 13th, was attended by many members of the court and staff.

The Health Congress.

The Royal Sanitary Institute and the Royal Institute of Public Health have for the first time in their history agreed to hold a joint congress in Leeds. This congress is being supported by the City and University of Leeds, and promises to be a great success. It begins on Saturday, July 17th, and will be continued during the greater part of next week. Already intimations of intention to be present have been received from about 800 non-residents in Leeds, and it is believed that the number of visitors and delegates may amount to 1,200. On Saturday a congregation of the university will be held to confer honorary degrees on Colonel Harding, the President of the congress, and on Sir James Crichton-Browne and Major Ronald Ross, C.B. Among the social attractions of the congress will be a reception by the Lord Mayor and a *conversazione* given by the university in the medical school buildings.

WEST YORKSHIRE.

Bradford Education Medical Officer's Report.

Dr. Ralph H. Crowley's report to the Bradford Education Committee for the year ended December 31st, 1908, is the last that he will issue as medical officer to that committee, for, as recently announced, he has been appointed Assistant Medical Officer to the Board of Education. The report discusses with much ability a variety of subjects relating to school life—from the type of building to the home and the child's extra school environment. The number of children on the school registers between the ages of 3 and 14 was approximately 44,000.

Attention is drawn to the arrangements made for the correlation of the school medical service with the public health service in regard to the external sanitation of school premises, and the notification and arrangements made in regard to infectious disease and verminous children. Over 10,000 children were examined during the year and classed as normal and abnormal. The number referred for treatment was about 10 per cent. of those examined, excluding children with defective teeth; Dr. Crowley finds reason to conclude: (*a*) That practically all children have had measles by the time they reach the age of 7 years; (*b*) that about every other child escapes whooping-cough though frequently exposed to the infection; (*c*) that mumps and chicken-pox are less prevalent among children than is usually thought. Children are referred for treatment to the private practitioner or the hospitals, but if not attended to are compelled to come to the school clinic where during the year 841 belonging to the following classes were treated: (*a*) Defective vision; (*b*) ear discharge; (*c*) ringworm; (*d*) sores of all kinds, for example, sore heads, impetigo, scabies, sore eyes and eyelids. A number of children varying from 1,500 to 2,600 in different months received free dinners and some of them free breakfasts. A considerable number of spectacles were given free. Dr. Crowley reports on the defective condition of the children's teeth and suggests the appointment of a school dentist. Reports are made on the blind, the deaf, the crippled, the epileptic, and the mentally deficient. The whole report evidences the work of a conscientious and able reformer, carrying out his duties with a single purpose—the moral, physical, and mental development of the child. At this no one can cavil. But of the wisdom of the policy of doing all this at the expense of the public, there is in Bradford, as in all places, a great deal of criticism and at times a certain amount of resentment on the part of the ratepayers.

LIVERPOOL.

New Out-patient Department at the Royal Infirmary.

On July 7th the foundation-stone of the new out-patient department of the Royal Infirmary was laid by Lord Derby. For more than a hundred years after the foundation of the institution no serious attempt was made to establish an out-patient department, and until the opening of the present buildings in 1891 the only out-patients seen were minor casualties and patients who applied for admission. Cases considered unsuitable for admission were, as a rule, referred for treatment to the public voluntary dispensaries, of which there are three in the city. For many years, however, the need for a regular out-patient department was felt, more particularly from the point of view of instructing the students, and in the new building the space on the ground floor under one of the wards was fitted up as an out-patient department. Almost from the first, however, the space so provided was found to be inadequate, and for nearly twenty years the committee has from time to time been trying to extend its capacity by removing partitions, taking in corridors, and such-like expedients. With the establishment of various special departments, and an increase in the *personnel* of the assistant staff the number of out-patients has steadily increased. In the ten years ending 1888, when the old infirmary was closed, the average number of out-patients was just over 8,000, in 1898 the number had risen to 12,500, and in 1908 to 20,700. The total annual attendances, including redressings, amount now to 80,000 a year. In view of the increasing numbers and the inadequateness of the building, the medical board a few years ago made a formal representation to the committee as to the need of a new out-patient department constructed on modern lines. To provide a site it was necessary to acquire one of the pieces of land adjacent to the infirmary, covered by small houses, and this was done by buying up the houses as they fell vacant, with the aid of a portion of the Mitchell Banks Memorial Fund. For some time the committee naturally hesitated to add to its responsibilities by commencing the building of a new department which is expected to cost between £25,000 and £30,000; but on receipt of the noble gift of £10,000 from the Bickersteth family in memory of the late Mr. E. R. Bickersteth, with other generous contributions, it was decided to delay no longer. The city council has applied for parliamentary powers to enable it to subscribe £5,000 towards the cost of the building.

In architecture and material the new building will closely resemble the main building. On the ground floor ample and suitable accommodation will be provided for medical and surgical cases. The large hall, 75 ft. by 35 ft., will have seating for 250 people. On the first floor will be the gynaecological, ophthalmic, and throat and ear departments, access to which will be by a lift and a gallery around the central hall. In the basement will be the lock, skin, and massage departments. The part of the hospital set free by the removal of the out-patients will be utilized for small casualty wards and the provision of a few beds for special cases. The committee is making a special appeal to provide a maintenance fund to replace that which was raised twenty years ago, and is now nearly exhausted.

LONDON.

Barrow Food.

The London County Council decided on July 13th to give public notice of its intention to consider at a future meeting the desirability of promoting legislation to ensure the observance of proper sanitary regulations in regard to articles of food exposed for sale in the streets, or other places, where the powers at present possessed by the

Council do not apply. The Public Health Committee, in a report on the subject, pointed out that premises, such as yards, stables, and arches, in which food is sold or prepared for sale can be dealt with under Section 8 of the London County Council (General Powers) Act, 1908; but the section does not apply to barrows and other vehicles on which food is exposed by costermongers for sale. A large amount of foodstuff is sold in London in this way, and from evidence before it the committee felt it to be most necessary that sanitary authorities—that is, the City Corporation and the metropolitan borough councils—should be able to exercise control in the matter.

The Sanitary Condition of Stables.

At the same meeting of the Council the committee recalled attention to Dr. Hamer's inquiry, made in 1907 and 1908, as to the extent to which the fly nuisance is caused by accumulations of offensive matter. The investigations showed that horse manure is pre-eminently the breeding ground for house flies. In addition to having power to order the more frequent removal of horse manure, the committee was of opinion that sanitary authorities should be able also to deal with the structure and paving of stables, and to enforce similar regulations to those which obtain in the case of cowsheds.

WALES.

Mussel Poisoning.

At the meeting of the Health Committee, held at Barry on July 1st, it was reported that in addition to a fatal case of poisoning through eating mussels collected at the docks at Barry there had been several other cases of poisoning. Visits had been paid to houses in several streets, as well as to the trimmers' lodge at the docks, and in every house visited persons were found to be suffering more or less from the effects of poisoning. Several coal trimmers who had partaken of the shellfish had also complained of illness. Chief Inspector Sommerfield said that as a result of his visit he had seized about 40 lb. of mussels and destroyed them. The shellfish had been collected from the gates, piers, and jetties at the docks. Dr. J. Neale, Medical Officer of Health, said that it was highly dangerous to eat shellfish from the dock on account of the material they lived upon. No action could be taken without the permission of the general manager of the Barry Railway Company, and it was agreed that Dr. Neale should interview that gentleman with a view to placing printed notices around the docks warning people against the danger of taking shellfish from the docks for food.

Scotland.

[From our Special Correspondents.]

Scottish Arctic Expedition.

Dr. W. S. Bruce, of the Scottish Oceanographical Laboratory, Edinburgh, has chartered a steam trawler, and is having her refitted for a scientific expedition to Prince Charles Foreland, Spitzbergen. Dr. Bruce has already had experience in Arctic exploration. With the Prince of Monaco, he carried on exploration work for two seasons, especially as regards the topography, geology, botany, and zoology of Spitzbergen. He takes with him a strong scientific staff, including Mr. S. V. Burn Murdoch, Mr. John Matheson, of the Ordnance Staff of Scotland, and Dr. R. Brown, late of the *Scotia*. The expedition is expected to return to Scotland in September.

Finlayson Memorial Lectureship.

Sir Hector Cameron, on behalf of the committee of subscribers to the fund in memory of the late Dr. James Finlayson, of Glasgow, has presented a deed of gift to the council of the Faculty of Physicians and Surgeons, Glasgow, conveying to the council the future management of the fund. The income from the fund is to be held and applied as the endowment of a lectureship to be called the "Finlayson Memorial Lectureship." The lectures are to deal with pathology, or the practice or history of medicine.

Ireland.

[From our Special Correspondent.]

Ulster Medical Society.

The annual meeting of the society was held in the Medical Institute, Belfast, on the evening of July 8th. Mr. T. Sinclair Kirk, President, occupied the chair. The reports of the Honorary Secretary, Honorary Treasurer, and Honorary Librarian were submitted and accepted by the meeting. The statement of accounts showed a balance of £70 to the credit of the society, and about £16 still due, but the charge for the cleaning, distempering walls and general renovation of the Institute, in all roughly about £30, has yet to be paid. On the motion of Dr. Calwell, seconded by Dr. Clements, it was agreed that the days of meeting in future should be fixed in the early part of each session and the members notified. Dr. J. J. Austin (Belfast), was elected President for the ensuing session (1909-10), and Dr. Darnell (Bangor), Dr. D. Maguire (Belfast), vice-presidents. Dr. Howard Stevenson was re-elected Honorary Secretary; Dr. J. C. Rankin, Editorial Secretary; Dr. V. G. L. Fielden, Honorary Treasurer; and Dr. W. L. Storey, Honorary Librarian. The President (Mr. Kirk) made a statement regarding the cup for the golf competition at the approaching visit of the British Medical Association.

South Africa.

South African Medical Congress.

The eleventh South African Medical Congress will be held in Durban, August 2nd to 7th, 1909. The congress will be opened by His Excellency Sir Matthew Nathan, K.C.M.G., R.E., Governor of Natal. The President is Dr. H. A. Dumat; the Vice-Presidents, Drs. W. Watkins-Pitchford and W. J. Hill; the Honorary Secretary, Dr. P. Murison; and the Honorary Treasurer, Dr. G. L. Bonnar. The work of the congress will be divided among six sections: Medicine, Surgery, Obstetrics and Gynaecology, Public Health, Ophthalmology, and special subjects.

Medicine.

In the Section of Medicine, the President of which is Dr. Hugh Smith, the special subject proposed for discussion is the rheumatic diseases, with special reference to causation and the effects of climate; it will be introduced by Dr. W. G. Rogers. A discussion on malignant new growths in the negro will be introduced by Dr. W. Watkins-Pitchford. A lantern demonstration on tropical diseases will be given by Dr. L. G. Haydon, with slides selected and lent by Dr. C. W. Daniels, Superintendent, London School of Tropical Medicine.

Surgery.

In the Section of Surgery, the President of which is Dr. E. T. E. Hamilton, the special subject proposed for discussion is gall stones it will be introduced by Dr. G. Ritchie Thomson.

Obstetrics and Gynaecology.

In the Section of Obstetrics and Gynaecology, the President of which is Dr. W. H. Maxwell, a discussion on extrauterine pregnancy will be introduced by Dr. G. A. E. Murray.

Public Health.

In the Section of Public Health, the President of which is Dr. A. M. Fleming, C.M.G., a discussion on tuberculosis amongst the natives of South Africa will be introduced by Dr. N. MacVicar.

Ophthalmology.

In the Section of Ophthalmology, the President of which is Dr. H. Symonds, a discussion on eye symptoms in connexion with the diagnosis of general medical and surgical affections will be introduced by Dr. A. G. Brinton.

Special Subjects.

In the Section of Special Subjects, the President of which is Dr. D. Macaulay, a discussion on the limits of medical charity will be introduced by Dr. W. Darley-Hartley.

Miscellaneous Papers.

Among the other communications promised are the following: Dr. A. Jasper Anderson, infective endocarditis; Dr. N. A. Butterfield, autointoxication; Dr. G. A. Casalis, the statics of the pelvic viscera and their relationship to the operative treatment of utero-vaginal prolapses, and notes on four cases of proliferating ovarian cyst adenomas of large size, and with extensive adhesions; Dr. E. L. Freer, orthopaedics; Dr. Ernest Hill, death-rates, in different sections of the community, in Natal, 1902–1908; Mr. R. L. Hitchins (Advocate, Durban) and Dr. P. S. Klots, closer union of the medical and legal professions; Dr. R. P. Mackenzie, the hospital question; Dr. A. Murray Gray, the children's charter, and the duty of the State towards the young; Dr. Percy A. Nightingale, treatment of blackwater fever; Dr. M. G. Pearson, convulsions in children—a preventable complaint; Drs. Lilian Austin Robinson and Hugh Smith, the psychic element in therapeutics; Dr. Andrew Stewart, concussion cataract; Dr. P. N. Vellacott, notes on malignant disease in the Orange River Colony; Dr. S. W. F. Richardson, notes on a case of acute pancreatitis—operation and recovery; Dr. H. Temple Mursell, case of splenopexy with gastro-enterostomy, and two cases of renal carcinoma.

Correspondence.

INSTRUCTION IN ANAESTHETICS FOR DENTAL STUDENTS.

SIR,—The President of the College of Surgeons sees no objection to the publication of the accompanying correspondence. I should feel obliged, therefore, if you could find room for it in your next issue.

From the reply of the Royal College of Surgeons, I think it is apparent that, as far as general anaesthetics are concerned, the recent regulation is intended to apply only to the administration of nitrous oxide.—I am, etc.,

London, W., July 13th. J. FREDK. W. SILK.

July 7th, 1909.

To the President of the Royal College of Surgeons of England.

Dear Sir,

Our attention has been drawn to a regulation lately issued by the Council of the Royal College of Surgeons, by which, after October 1st next, candidates for the diploma "L.D.S." will be required to receive "a course of practical instruction in the administration of such anaesthetics as are in common use in Dental Surgery."

As teachers of anaesthetics at some of the principal Medical Schools in London, we take the liberty of pointing out to you that this particular phrasing (in common use, etc.) has already been understood in some quarters to include such substances as Ethyl Chloride, Ether, Chloroform, and the chief local anaesthetics.

We can hardly believe that this interpretation was in the mind of the Council when the regulation was originally framed, for it is obvious that, if so interpreted, many dental students would, on the strength of such instruction, claim the right to administer Chloroform and other drugs, a possibility which, in our opinion, would be highly objectionable and dangerous.

We trust that the Council will see its way to issuing a further regulation, stating that the instruction is to be confined to the administration of Nitrous Oxide.

We have the honour to remain,

Yours obediently,

J. BLUMFELD (St. George's and St. Mary's Hospital).
C. C. BRAINE (Charing Cross).
T. G. A. BURNS (Middlesex).
R. GILL (St. Bartholomew's).
R. J. PROBYN WILLIAMS (London).
G. ROWELL (Guy's).
J. F. W. SILK (King's College).

REPLY.

Royal College of Surgeons,
Lincoln's Inn Fields, W.C.,
July 9th, 1909.

Gentlemen,—

I am desired by the President to inform you that he submitted your letter of the 7th inst. to the Council at their meeting yesterday, and that in reference thereto the Council adopted the following resolution, namely:

That the signatories to the letter be informed that the Regulation, to which they refer, was adopted by the Council after full consideration of the different views which have been expressed regarding the administration of anaesthetics, and that the Council are not prepared to admit that the general anaesthetics specified by the signatories are "in common use in Dental Surgery," and must adhere to their decision.

I am, Gentlemen,
Your obedient servant,
S. FORREST COWELL,
Secretary.

*** Among the subjects of examination specified in the Regulations for the Licence in Dental Surgery, as given in the Calendar for 1908, p. 70, is "Anaesthetics, with special reference to their use in Dental Surgery." At its meeting on June 10th, 1909 (see BRITISH MEDICAL JOURNAL, June 19th, p. 1516), the Council adopted the following addition to the Regulations for course of study: "A course of practical instruction in the administration of such anaesthetics as are in common use in Dental Surgery."

THE TREATMENT OF SCHOOL CHILDREN.

SIR,—Dr. Sidney Phillips's last letter has, I think, made it clear that the reason he is so concerned for my ethical reputation and consistency is because he holds a totally different view to that which is usually held as to the meaning of consultation between medical practitioners, and has thereby misunderstood my simple statement that an out-patient officer could not act as a consultant to a medical inspector who had not treated, and could not treat, the patient under consideration.

To Dr. Phillips consultation apparently means the transference of a patient from one practitioner to another. It is a common complaint that this is the basis of too many so-called consultants' private practice. Some indeed have defined a consultant as one who transfers another man's patients to himself.

Now, sir, the whole point of my original criticism of Dr. Sidney Phillips's letter on this subject was to protest against the idea that the proposal to introduce the "consultative principle" into out-patient work could in any sense be met by the mere sending of a child to the department by a medical inspector. Dr. Phillips's statement in his last letter that I admit that "to accept a school child for treatment on the notification of a school doctor would be a consultation if allowed" can certainly not be substantiated by anything I have written. Such acceptance would not, even in the strictest sense, be the transfer of a patient, for the child has never been the patient of the medical inspector. Does Dr. Phillips call a medical examiner for life insurance an "insurance doctor," and regard the candidates as his "patients"? and would he consider that a medical practitioner whom such a candidate was advised by the examiner to see was acting as a consultant to the examiner? It is essential that medical men should recognize that mere recommendation of each other is not consultation. Tradesmen of all sorts who for various reasons cannot provide the public with what it wants recommend or give introductions to their fellow-tradesmen, but the man thus recommended is not said to act as a consultant to the man who sends him the custom.

Transfer of cases must constantly take place in the profession when patients move from town to town, or where their complaints are of a nature which the original practitioner does not care to treat. But the new practitioner cannot be said to act as a consultant to the old. He just takes on his *confrère's* patient. Similarly, of course, members of the profession who hold important positions in various departments of the public service, and whose duties do not include treatment, will often have opportunities of recommending persons who are ill to seek the advice of active practitioners. My "decree," as Dr. Phillips calls it, however universally applied, would not prevent these mutual courtesies between members of the profession, but my desire to use the English language correctly will not allow me to call such introduction a consultation nor to regard the active practitioner as a consultant to the public servant.

I have ventured to trespass on your space and to continue what seems in danger of becoming somewhat a personal discussion because I have a great belief in the introduction of the "consultative principle" as a possible solution of the out-patient problem. But the whole essence of such principle is that the patient should be sent to the department by his "doctor" in the ordinary sense of the word—the man who has examined him and has treated him and is willing to say what he has found and done, and is anxious to hear what the medical officer acting as consultant thinks about the case, and is prepared at once,

or after some special treatment has been carried out, to continue the ordinary treatment of the case. In these conditions the out-patient department becomes the poor man's consultant in the only proper meaning of the term. The out-patient department thereby secures a constant supply of important cases suitable for careful investigation or special treatment, and is able to return at once to the general practitioner cases which do not require further hospital assistance. The hospital secures for itself a definite position in the service of the medical poor, and does not become a promiscuous competitor with the Poor Law medical service, provident dispensaries, and the general medical practitioner.

I am confident that in the interest of the future of voluntary medical charity and of medical research and education, which have in the past been so closely connected with it that our great hospitals should, as soon as may be, put themselves in the relation I have indicated with other forms of medical relief. But when we are discussing how this can be done, we had better not call medical inspectors of school children school doctors, or speak of the transfer of a patient as a consultation.—I am, etc.,

July 12th. Lauriston E. Shaw.

"THE DOCTOR AS A VICARIOUS PHILANTHROPIST."

Sir,—I hoped that after Dr. Gwatkin's just and scathing letter, no one would have been found to support the view so ably set forth by Dr. Wishart Kerr, that the members of our profession should never allow their feelings of pity for a suffering fellow creature to betray them into doing an act of kindness for which they may not be paid. I am the more disappointed, therefore, to see that Dr. Kerr has found so many champions.

Let me remind your readers that the injured child was brought to Dr. Kerr's surgery and that he refused to relieve its suffering until he received payment. Dr. Stewart may well call Dr. Kerr courageous. Most of us are guilty at times of acting unworthily, but few would have the courage to advertise the fact, or to suggest that such actions ought to be emulated. Indeed, afterwards we have the grace to feel ashamed.—I am, etc.,

Manchester, July 4th. E. Vipont Brown.

SPEECH FRIGHT.

Sir,—In the discussion on "speech fright" sufficient importance has not been given to the mental physiology of the question. The various "frights," such as stage fright, cricket fright, operation fright, company fright, etc., which figure so prominently in the life of to-day, are all akin in their nature, and they are especially manifested in two classes of people—those who are unaccustomed to the situation and those who have acquired some reputation, and therefore responsibility, in the art of which they are for the time being the expositors.

The key to the condition appears to reside in what has been aptly termed the *muscular element* of thought—that association of muscular remanets with ideational elements which form the "contents" of intellectual concepts. The paralysis of thought, speech, and action—the triped on which is based the communication between ourselves and the external world, must be brought about by an agency which interferes with the harmonized interaction of the central elements. In the cases under consideration the agent of disturbance of the equilibrium is the emotion of fear. Though we are no nearer now than we ever were to understanding what an emotion, or, indeed, any other mental or nervous state, really is, we have yet made great advance in our knowledge of the physiological accompaniments of emotion, and an analysis of the emotion of fear shows what an important part the muscular system and the viscera play in the content of it. According to Professor McDougall, the emotion of fear is intimately connected with instinctive flight and instinctive concealment, the hurried pulse and respiration being due to the impulse to flight, whilst the sudden stopping of heart-beat and respiration and the paralysis of movement are due to the impulse to concealment. Does not common parlance say, "I could have sunk under the floor from fright," or "I would have given anything to have been able to run away"? In the changed action of the heart we recognize the governor-ball function of that organ, the object being to regulate the supply of blood to the central nervous system, for all these "frights" are central in origin, and must be accompanied with rapid circulation changes in the supply to the nervous system.

Now, fear, more than any other instinct, tends to bring to an end at once all other mental activity, rivetting the attention upon its object to the exclusion of all others (McDougall). In other words, there is a reduction to a state of mono-ideism, in which the free flow of thought and expression is impossible. This being so, "frights" are essentially nervous conditions, and therefore are much more likely to be influenced by nerve stimulants or sedatives, such as opium and quinine, than by cardiac energizers, such as alcohol, because the vascular condition is secondary to the mental state.

The best antidote to fear is experience, which means the acquisition of ready organized channels through which mental action can have full play, and these channels can only be burrowed out by a previous thorough study of the subject and by practice in its development.

The great art in public speaking is to keep well in view the end at which one wishes to arrive; if this is done, the intermediate play of ideas may be allowed full swing, but if the *leit-motif* is lost sight of there is great danger of being landed in a blind alley which has no connexion with the object for which the "speech" was undertaken. Practical speakers are well acquainted with this, and the speaking notes of some of the most distinguished orators are merely a few words punctuating the various milestones of the course. I have elsewhere (*Ex Cathedrâ Essays*) enlarged upon this subject of the incoherence (want of control) brought about by the neglect of this cardinal rule.

Active memory and active attention are intimately associated with will—are, in fact, a form of it; and, inasmuch as will is chiefly constituted by emotion, it is easy to see how a depressing emotion (or "mover"), such as fear, must affect the will and that power of control without which the directing force of attention cannot exist.

The degree of acuteness of these various "frights" depends upon the state of the bodily health and the inherent mental stability of the individual. There are some who from constitutional reasons can never be cured, but however practised and self-possessed a person may be, it is always good policy to have at hand a prompter or the reliant crutch of a few headings.—I am, etc.,

London, W., July 10th. T. Claye Shaw.

PSYCHOLOGICAL BASES OF ORATORY.

Sir,—May I as a deserter from medicine to law tell your readers a few things that have happened to me, and which illustrate your article on the psychological bases of oratory? The first is that a debating society is the best of all schools of oratory. No one who has been stopped in the midst of a fervid peroration by the irruption of a band of malcontents whose leader promptly raised a point of order is likely to be much troubled in the future by interruptions. A speaker who is dull finds every one in the room talking or turning to the writing tables or reading the newspapers. Long words and pompous language provoke ribald remarks, but simple language and terse phrases, uttered by one who has really tried, however imperfectly, to get up the subject, are sure to be heard with attention. Lawyers can never forget that their duty is to assist the court in selecting the correct deduction from the admitted or controverted facts. Then, again, nearly every one makes notes of some kind, unless he has a junior or a solicitor behind him to pull his gown if he has not dealt with all points before sitting down. Nervousness is merely a question of habit. People are not nervous in a familiar court or before a judge who has previously been sympathetic (though adverse). It is the first step that is so hard, from our very infancy.

As to premeditation, I can even now, after twenty-five years, recall Dr. Liddon walking along the towing path above Godstow, evidently working out one of those magnificent sermons which no living orator has surpassed.

There is another matter to which I should like to draw attention. Most of the successful orators at the Bar are men who delight not only their audiences in public but also their friends in private life. They are men with pleasant cheerful faces, persuasive voices, and attractive

manners in private life, and are always favourites wherever they go. Such men, to take two recent losses, were the late Sir Lawson Walton, K.C., and the late Mr. Hammond Chambers, K.C. It seems that the best preparation for attracting the interest of the many is to begin by seeking the friendship of the few.

Lastly, there is one fatal defect which is perhaps met more often in the pulpit than elsewhere—the habit of treating your audience as inferior to yourself. However stupid a jury may be, an advocate must be respectful. However wrong in law you may think the judge, you submit your correction to his lordship "with great respect," or you "venture to submit" the negative; and perhaps the old forms of courtesy are not without value. The little speech of the junior, "May it please your lordship and the gentlemen of the jury," etc., the judge's bow to the court, and the return made by the Bar and I hope by others, the courteous opening of the French preacher, *Messieurs et Mesdames*, following a little bow, the formal dress of Bench and Bar—all these and many other little restraints make for that holding oneself in check which is the physical basis of the "manners that maketh man," and surely go to make the man an orator acceptable to his fellow men.—I am, etc.,

July 5th. G. I.

THE VOMITING OF BILE AFTER GASTRO-JEJUNOSTOMY.

SIR,—In an admirable paper by Dr. Drummond and Mr. Morison published in the JOURNAL of July 10th there occurs the following passage by Mr. Morison:

> Whether this is true or not, there is no doubt that when once vicious circle vomiting is fairly established, the best, probably the only, chance for the patient is to make an anastomosis between the jejunum proximal to the opening and a portion distal to it.

I do not know that the actual cause of vomiting of bile after gastro-jejunostomy has ever been definitely determined—whether the bile is regurgitated through the pyloric aperture, or whether it is passed into the stomach by way of the artificial opening. There are, however, two factors which seem to have a direct bearing on its occurrence. One is that the more patent the pyloric aperture the more frequently does it happen; and the other, that the longer the afferent loop the oftener is it met with. I doubt whether any surgeon who has had sufficient experience of the two methods of operating, by the "loop" and the "no loop," would dispute this fact.

I might add a third factor, which, if not a cause in itself, is likely to accentuate the condition in cases where predisposition is already present from one or other of the first two factors. I refer to a want of muscular tone in the gastric parietes, a manifestation usually dependent on a general or constitutional asthenic condition. This factor has been very strikingly exemplified in two of my own cases where there was a direct relation between the patient's bodily state and the amount and frequency of bile vomit. Although I can now look back upon over 100 operations of gastro-jejunostomy performed by the "no loop" method, I do not know of one case in which the vomiting of bile has led to anything more serious than the temporary discomforts directly associated with the presence of the secretion in the stomach, or where I have deemed it necessary to advise an operation for its relief. Even while causing these discomforts, patients continue to make satisfactory progress as regards the gastric condition for which the operation was performed, and eventually get quite well.

Notwithstanding the fact that I have adopted the posterior "no loop" method for several years, and was one of the first to advocate it on the basis of what I considered sound anatomy, I cannot believe it to be, as some have ventured to assert, a sure preventive against the formation of the vicious circle. At present I believe no operator of any experience, whatever be his method of operating, who follows his cases further than the first two or three weeks after operation, is able to say that he never has a case in which vomiting of bile occurs. Prior to the "no loop" method, when a long piece of jejunum was left between the duodeno-jejunal bend and the anastomotic opening, bile in the stomach was a common sequence to the operation; and I must own to being not a little surprised that so good an authority as Mr. Morison still deems it best to leave a loop of gut from "4 in. to 8 in. between the commencement of the jejunum and the stomach opening to be utilized if necessary." If, as seems only too likely, this long loop becomes waterlogged—or, to coin a more suggestive term, bilelogged—one can understand how a practically permanent condition is produced which can only be relieved by an anastomosis between the afferent and efferent loops. In the light of all that the "no loop" operation is supposed and seems to effect, it appears as if Mr. Morison was assuming the almost paradoxical position of creating a condition for the express purpose of exercising a particular method of curing it!—I am, etc.,

Glasgow, July 12th. A. ERNEST MAYLARD.

OPERATIONS ON THE PROSTATE.

SIR,—Mr. C. Wallace's comments (page 49) on the histopathology of prostatic hypertrophy are interesting, and they call for some reply, which I venture to submit. Mr. Wallace holds that this condition is a true hypertrophy of the gland and unconnected with chronic inflammatory processes, as he has not succeeded in finding evidences of such in many prostates sectioned at various stages of enlargement. Pathologists are, I think, divided on these two opposite views, and the questions arise:

1. Does a compensating regeneration of the prostatic parenchyma occur once senescence of the sexual organs has set in? Is it conceivable that this may occur in those of "a green old age," but such are surely in the minority. In them even, a histophysiological condition might thus be superposed on a histopathological one, giving rise to an apparent fibroadenoma. The faculty of a compensatory hypertrophy in the remaining kidney after nephrectomy is well known.

2. In view of the implicated lymphatic and lymphoid structures of this gland, how far is the adenoid tissue distinguishable from adenomatous tissue when the latter becomes displaced excentrically by fibrosis?

The term fibroadenoma does not seem a happy one in this connexion, and that of fibromyoma might with equal force be applied. The marked shrinking in the size of such prostates under the localized influence of the *x* rays, and the reduction of the frequency of micturition from eighteen to six times in the twenty-four hours is further evidence of the neoplastic nature of the hypertrophy. It is now known that the projectiles of this molecular agent do not *directly* dissociate the molecules of normal fixed cells.

Regarding Mr. Wallace's opinion on the absence of evidence of pre-existing urethral or cystic infection at the outset of the enlargement—and as to this not being one of the contributory causes, I would prefer to leave it to be answered by clinicians of larger experience in genito-urinary diseases.—I am, etc.,

London, W., July 5th. H. D. MCCULLOCH.

THE POSTMASTER-GENERAL AND OUR PROFESSION.

SIR,—The letter in the JOURNAL of July 10th under the above heading deals with a subject of burning importance to the profession. As matters stand to-day, the question is, Are we, or are we not, as a body to permit our incomes to be legislated out of existence by the Government? If we are to be preserved from such a result it behoves us to show the Postmaster-General and the Government by our actions that postal medical officers and medical men generally not only have votes but are men of wide influence in their respective districts, and have it within their power not only to vote but also to influence many votes for or against any Government.

There are, I am informed, somewhere about 3,000 medical men at present in the employ of the Post Office, and when one considers how extensive an area of influence encircles each of those medical men one can at once realize how much political potentiality is latent within this body of the profession if only they would use it aright. It is all very well to have Utopian notions as to the objection to the profession employing its vote to advance its own selfish interests—certain it is that if they do not do so no other section of the community will concern itself on their behalf, and if their voting power is not painfully impressed upon the Government injustices and hardships will continue to be heaped on their heads.

Party voting is an excellent institution, but as matters go to-day it is most necessary in self-protection that medical men should look beyond mere adherence to party, and decide before casting their votes what each party has done or is doing for or against the profession and its interests. In this way, and in this way alone, can we ever hope to secure justice and consideration.—I am, etc.,

July 11th. OBSERVER.

SIR,—With reference to the letter in your issue of July 10th, p. 111, exposing the painful conduct of the Postmaster-General, as set forth in pathetic terms by "One who has had to Suffer," I would like to point out that your afflicted correspondent is too modest in his statement. He has had to suffer a great deal more than he admits. He has actually been "insulted" by an annual payment of 8s. per man on his capitation list, even though a large number of the officers were never seen from one year's end to the other. If the men lived *outside* his radius of three miles, he would not have to visit them, but would be paid; if they lived *inside* his radius and preferred their own medical adviser, the official man would still be paid just as if he was constantly attending them.

The Postmaster-General absurdly thinks that persons who are well paid for work they are not called upon to do might assist the department in an emergency by accepting a small fee, and thus place the rough against the smooth. Personally, I have a large Post Office appointment, and I get a great deal of the underpaid work to which your correspondent refers; I also get a substantial cheque at the end of each quarter, and as I work, I admit, for money, I see no reason "to swallow the cow and choke over the tail."

I am obliged to confess that (apart from the vaccination question) I am as hopeless a degenerate as the Postmaster-General, and most emphatically state that for a gross total of remuneration I am prepared to give an equivalent of work, and shall not bother my head as to whether this, that, or the other item is over or under paid.—I am, etc.,

July 13th. AUSCUL TATE.

THE CHARTER.

SIR,—I am informed that, at the meeting of the Council held on June 30th, it was stated that the 603 signatures to the individual members' petition was an indication of the small amount of support which those who seek an amendment of the Charter in certain directions were able to obtain for their action.

Such is not the case, and I am asked to correct this error.

No attempt was made to obtain a large number of signatures to this petition. It was somewhat hurriedly prepared and lodged, after the announcement of Mr. Dill's opinion (which, by the way, is entirely controverted by very eminent counsel) that the petition of the seven Branches was illegal, *which was published in the* SUPPLEMENT *of January 15th.*

Half a dozen signatures would have sufficed for the purpose of laying the views of the petitioners before His Majesty's Privy Council, but many more than this number were only too anxious to sign it.

No attempt whatever was made to obtain signatures generally. Time did not allow of any such attempt, and, moreover, the expense of such a procedure must in any case have precluded it.—I am, etc.,

RUSSELL COOMBE,
Honorary Secretary, South-Western Branch.

Exeter, July 11th.

Medico-Legal.

PROSECUTION OF HERBALISTS.

At the Leeds Assizes last week some remarkable evidence was given bearing on the practices of two herbalists. Mary Lyle, aged 60, described as a herbalist of Bradford, was charged with wilful murder by means of an illegal operation. A book was found at her residence containing the name and address of the deceased, and a large number of other names and addresses. Several witnesses were called who deposed that they had visited the prisoner and had been operated upon by her, with the result that abortion followed. These witnesses were traced by the entries in the book. Counsel for the defence urged that the testimony of these witnesses was inadmissible on a trial for murder; also these witnesses were accomplices.

Mr. Justice Bray overruled the objection. He held that the prosecution in the case might bring evidence to show a system of procuring abortion, that being an element in the charge, remarking, "I cannot see because an issue in the case is not the whole issue, it can make any difference. Every charge consists of a number of subsidiary issues necessarily." All the witnesses, with one exception, who spoke to having visited prisoner for the purpose of abortion were married women living with their husbands. The dying declaration of the victim, taken shortly before her death in the Halifax Infirmary, was to the effect that prisoner had operated upon her, and that the next day the purpose of the operation was achieved. Objection was taken to the admission of this evidence on the ground that the statements had been made as the result of questions by persons in authority. The judge ruled that substantially no questions were put to the deceased except such as to explain to her what statement she was asked to make. The jury found Lyle guilty of manslaughter, and a sentence of ten years' penal servitude was pronounced. In addressing the prisoner, Mr. Justice Bray said that it was quite plain that she had been guilty of that horrible business for a considerable number of years, and it must be known that all persons who carried on a business of that kind were running the greatest risks, including the severest possible punishment.

On the same day a herbalist practising at Halifax was charged with conspiring with Lyle to procure abortion. The evidence showed that a number of women had visited the herbalist explaining their condition. Failing to obtain the desired result by means of herbs prescribed, the herbalist gave them the name and address of Lyle, for which he charged 2s. 6d., and explained that she would help them right. The herbalist admitted in cross-examination that he knew the women were in the condition they alleged, and that they were sent by him to Lyle to be put right, but alleged that he believed she would use herbs. Counsel for the defence pointed to the wording of the indictment, which charged defendant with "counselling, procuring, or demanding" Lyle to commit the offence by means of an "instrument." On this the case broke down, notwithstanding the admissions made, for the judge informed the jury that in this case they would have to find the herbalist knew Lyle was going to use an instrument, otherwise clearly he would not be guilty. There was no evidence to establish this, and the jury brought in a verdict of "not guilty."

About a month ago a demonstration by the "People's League of Medical Freedom," consisting chiefly of herbalists, took place in the same district from which these revelations come. The exposure of the illegal practices of herbalists and the serious consequences attending may cool the ardour of some of the demonstrators, and may also act as a deterrent. These cases, however, which by no means stand by themselves, demonstrate the necessity for some drastic action to prevent these practices, and to restrain rather than increase the medical freedom of herbalists.

UNREGISTERED DENTISTS AND THE PUBLIC.

MANY cases have lately been noted in which patients have suffered from the malpractice of unqualified dentists, and from the history of the case detailed below there seems little doubt that the fatal issue was due to the cause assigned by Dr. Balfour Graham. The inquiry was one held under the Fatal Accidents and Sudden Deaths Act, and was concerned with the circumstances leading to the death of a Mrs. Thresher, residing in Leven, Fifeshire. On April 30th last Mrs. Thresher had three tooth stumps extracted in Glasgow, and she died on May 31st. The dental operator in his evidence said he performed the operation in the usual way, and he had drawn thousands of teeth during the past year. There was nothing he omitted to do, and he did nothing he ought not to have done.

Dr. Balfour Graham, Leven, attributed death to septicæmia, as the result of having teeth extracted on April 30th. Dr. Graham said it was a terrible thing that people should be exposed to danger by unqualified men, and he thought the matter should be taken up by the proper authorities, with a view of deterring these people from practising. The jury returned a verdict that death was due to blood poisoning, but they were unable to find what induced the blood poisoning.

Dr. Balfour Graham deserves the thanks of the profession for his outspoken remarks, and it is hoped that they may have some effect in preventing people, who ought to know better, placing themselves in the hands of unqualified men, but the verdict of the jury is not encouraging.

FEES TO MEDICAL WITNESSES.

F. J. writes that while on his usual holiday, after having provided a locumtenant at his own expense, according to partnership agreement, he was subpœnaed to return thirty miles and give evidence in the county court on behalf of a patient attending prior to his absence. He asks: (1) What would be a reasonable fee to ask for such a journey and evidence? (2) Whether he is entitled personally to the fee, or should it go to the partnership?

*** It is to be feared that he could only claim the usual fees allowed in the county court, from 10s. to 20s. a day, and mileage one way, which would have to be reckoned from his usual residence, and is 6d. a mile. (2) According to most partnership agreements the fees would go to the partnership.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

A HOTEL DOCTOR'S FEES.

HOTEL DOCTOR writes that he is frequently sent for by the proprietor of a large boarding-house to attend his guests, and they often leave without paying him. The proprietor wishes to prevent this, and offers to book the accounts and collect them, charging our correspondent 25 per cent. for doing this, and guaranteeing payment. Our correspondent asks whether there would be any ethical objection to this arrangement, and if not whether he might pay the proprietor a commission fee for collecting the accounts without receiving any guarantee, and he asks what percentage would be reasonable? If neither of these propositions is approved, he wishes to know what he ought to do? There is no arrangement with the proprietor that our correspondent should be called in to all his guests, and as a matter of fact he is not so employed.

*** We can see no objection to the proposal of the proprietor from the point of view of medical ethics.

LADY BOUNTIFUL AND POOR LAW MEDICAL OFFICER.

DILEMMA.—While X. was at liberty to settle in practice where he pleased, his action in allowing himself to be set up in opposition to the district medical officer has an ugly look; there may be circumstances which justify the lady in the action she took, and X. in giving her his support; but as we are ignorant of them we can express no opinion.

Public Health AND POOR LAW MEDICAL SERVICES.

GUARDIANS AND MEDICAL OFFICERS.

THE widespread dissatisfaction with the existing conditions of Poor Law medical relief sometimes finds expression in utterances which are both impolitic and unjust. An example was afforded at a recent meeting of the Board of Guardians of the Basingstoke Union, which had proposed to appoint one medical officer and public vaccinator for the whole union. The Local Government Board objected to this arrangement, and the Chairman (Sir R. Rycroft, Bart.), after expressing a confident opinion that the Local Government Board was wrong, proceeded to make an uncalled-for attack upon the medical officers of the union. According to the report in the *Hants and Berks Gazette*, he said that the guardians knew that as a rule the work was not properly done, and that the medical officers were paid a great deal too much for what they did, but not enough for what ought to be done. He considered that one medical officer, debarred from private practice but receiving an adequate salary, should be appointed for the workhouse and for Basingstoke and the immediate neighbourhood. In making this suggestion Sir R. Rycroft would appear to express approval of the report of the Minority of the Royal Commission on the Poor Laws, but he clearly speaks with insufficient knowledge, since both that report and the report of the Majority distinctly affirm that the work of the medical officers is as well done as it can be under the defective conditions for which guardians themselves are responsible. The persons at present arraigned at the bar of public opinion are Sir R. Rycroft and his fellow guardians, and it would be as well that the gentlemen mentioned should recognize this and speak with greater modesty on future occasions.

THE REMOVAL TO HOSPITAL OF INFECTIOUS DISEASE.

A COMMUNICATION was read at the meeting of the Wharfedale Union Joint Isolation Hospital Committee, held on June 30th, from the Ilkley District Council, asking that a regulation to the effect that the fever van should not be allowed to fetch patients from Ilkley after 6 p.m. should be rescinded. Dr. Hyslop, medical officer to the hospital, is reported to have said that if the regulation was withdrawn it would mean that the medical men of Ilkley would keep all their patients until night, as they were afraid that if the van were seen going through the streets the reputation of Ilkley would suffer. After discussion, the committee decided not to accede to the request of the Ilkley Council. Although it was stated that really urgent cases were attended to even after the hour fixed, it appeared doubtful whether it would not be better to remove fever cases after 6 p.m., rather than during the day time.

The Services.

RESPONSIBILITY FOR ROYAL ARMY MEDICAL CORPS (T.F.) UNITS.

IT is notified from the War Office that in peace the responsibility for all matters, including mobilization arrangements, connected with the Royal Army Medical Corps units and *personnel* of the Territorial Force will be vested in the administrative medical officers of divisions.

REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS.

THE official copy of the "Regulations for Admission to the Royal Army Medical Corps, 1909," issued with the Army Orders dated June 1st, may now be had in separate form, and may be obtained through any bookseller at the price of one penny.

ROYAL ARMY MEDICAL COLLEGE.

THE following is the list of prize winners at the recent examination at the termination of the junior course at the college.

Rank and Name.			Corps.	Prizes.
Lieutenant H. S. Ranken	...		R.A.M. Corps.	Herbert.
,,	,,	...	,,	De Chaumont.
,,	,,	...	,,	Tulloch Memorial.
,,	,,	...	,,	Ranald Martin.
,,	,,	...	,,	Marshall Webb.
,,	J. A. Manifold	...	,,	First Montefiore.
,,	C. L. Franklin	...	,,	Second Montefiore.
,,	A. M. S. Jukes	...	Indian Medical Service	Parkes Memorial.
,,	B. Gale	...	,,	Fayrer Memorial.

Universities and Colleges.

UNIVERSITY OF LONDON.

GUY'S HOSPITAL MEDICAL SCHOOL.

Prize Day.

THE annual garden party and distribution of prizes took place on July 8th in the afternoon. The hospital, the Residential College, the Wills Library, the Gordon Museum, and the school buildings were open to inspection, and refreshments were served in the quadrangle and on the terrace, where a band was playing. The prizes were distributed by the Duke of Devonshire, and a large number of visitors were present. The Dean's report on the work of the school in the past year showed that it had been of a very satisfactory character. The entry of students between October, 1907, and October, 1908, was approximately the same as in the foregoing twelve months. Since the date at which the policy of taking dental pupils for the period of mechanical apprenticeship had been adopted, the expansion of the Dental School had been so rapid that the banding over to it of the existing chemical and physical laboratories in the Petersham Block and the building of fresh laboratories for the medical school, was under consideration. The principal prizewinners were as follows: The *Beaney Prize* for Pathology (£54), Mr. E. L. M. Lobb; the *Michael Harris Prize* for Anatomy (£10), Mr. W. E. Tanner; the *Hilton Prize* for Dissections (£5), Mr. G. Marshall; the *Wooldridge Memorial Prize* for Physiology (£10), Mr. W. S. George; the *Golding-Bird Gold Medal* and Scholarship in Bacteriology (£20), Mr. W. H. Cutto; the Junior Proficiency Prizes, Messrs. W. E. Tanner (£20) and W. S. George (£15); the *Treasurer's Gold Medal* for Clinical Medicine, H. I. Jan Mahomed.

A CORRECTION.

In the abstract of the proceedings of the meeting of the Senate on May 19th, prepared from the *London University Gazette*, and published in the BRITISH MEDICAL JOURNAL of June 12th, 1909, p. 1460, under the heading "Brown Sanatory Institution," the office to which Mr. Allan was reappointed was given as veterinary assistant; it should have been veterinary surgeon.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

Reconstituted Court of Governors.

THE first meeting of the Court of Governors of the College of Medicine under its new constitution was held at the College on July 7th.

Sir George Hare Philipson was unanimously elected Chairman, and Councillor W. J. Sanderson, J.P., Vice-Chairman. Mr. Cecil A. Cochrane was appointed Treasurer of the College, and the following Governors were elected members of the College Council, namely: The Very Rev. the Dean of Durham

(Warden of the University), Lord Ravensworth, Professor Bedson, Mr. Cecil A. Cochrane, Alderman J. Cromie, Mr. J. E. Gibson, and Dr. Clement Stephenson.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—W. S. Alexander, M.A.; A. C. Anderson, *W. Anderson, J. C. Anchencloss, D. Barbour, A. M. Bayne, G. T. Bodle, *D. Y. Buchanan, C. J. B. Burchheim, *J. Cairns, J. A. M. Cameron, *A. H. Clark, D. J. Clark, J. L. Cochrane, R. Cramb, *C. Dugnid, M.A.; D. Fisher, E. J. Fitzgerald, G. Fletcher, M.A.; *R. Gale, Clarence A. Gilbert, T. G. Glover, R. D. Goldie, J. Granger, K. C. G. Gray, A. W. Gregerson, Euphemia A. Hay, W. A. Hislop, W. Howie, R. M. Hunter, J. T. Kirkland, A. Leishman, W. T. Lindsay, W. M'Adam, M.A., B.Sc.; W. C. Macartney, W. M'Connell, D. M'Intyre, R. B. F. M'Kail, C. Macmillan, *J. W. M'Nee, *J. H. M'Nicol, Jeanie D. M'Whirter, M.A.; D. Manson, Mary C. Mitchell, H. F. W. Morgan, *J. T. Morgan, F. Marshall, F. L. Napier, W. Niccol, C. M. Nicol, D. Purdie, Jessie D. Rankin, J. Robertson, Margaret E. Robertson, R. C. Robertson, H. G. Robinson, *Winifred M. Rose, T. G. Scowell, B.Sc.; J. S. Somerville, R. S. A. Stewart, A. F. Stewart, R. W. Sutherland, †D. C. Suttie, R. Sweet, C. H. Wagner, Ethelwyn M. Walters, H. White, D. M'G. Wilson, R. J. Windsor, D. Yellowlees.

* Passed with distinction in one or more subjects.

UNIVERSITY OF DUBLIN.

THE following candidates have been approved at the examination indicated:

PRELIMINARY SCIENTIFIC (*Physics and Chemistry*).—E. S. Johnson, W. H. R. M'Carter, J. S. English, W. D. Pile, B. C. Powell, H. Boyers, J. A. Small, H. B. S. Dixon, H. V. Fitzgerald, J. G. Butt, R. A. Stewart, E. Barry-White, A. W. D. Magee, W. J. Merrick, G. B. Hadden, C. C. Mecredy, W. F. Evans, R. O. Smyth, C. P. Kelly, D. H. Hadden, E. G. Fishe, T. J. Kelly, M. Ryan, H. R. Ford.

PRELIMINARY SCIENTIFIC (*Botany and Zoology*).—†E. P. Vickery, †D. H. Hadden, †F. G. Flood, †J. W. C. Stubbs, †F. Harris, †W. J. Merrick, T. Allen, J. G. Butt, R. L. Vance, Dorothy E. Webb, H. G. J. Rutherford, Eleanor Taylor, T. A. Lawder, J. C. A. M'Calden, J. P. Quinn, J. A. Small, A. N. Brady, J. D. Oliver, W. F. Gibson, F. A. Roddy, W. E. Tyndall, R. C. Lowe, R. H. Jones, A. R. Twomey, C. A. L'Estrange, W. B. L. Waters, G. A. Bridge, W. D. Pile, H. J. Brown, E. S. Hatte, C. O'Reilly, G. Buchanan, H. C. D. Miller, J. A. Quin, E. J. Malherbe.

INTERMEDIATE MEDICAL (*Part II.*).—A. Chance, M. S. Moore, P. F. Nunan, W. Frier, H. E. Williams, S. A. Lane, T. W. E. Henry, F. Burke, C. Rutherford.

FINAL M.B., CH.B., B.A.O. (*Part II. Midwifery*).—†Beatrice M. Hamilton, †Hilgard Muller, †E. J. Powell, A. A. M'Connell, A. C. Hallowes, M. A. Diemont, B. A. Molyneux, D. Duff, G. E. Craig, W. H. Hart, J. W. Flood, C. H. Denham.

† Passed on high marks.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved for the Degree of M.D.:

*G. D. Dawson, †R. L. Ferguson, ‡C. E. Lea, †A. E. Rayner, Elsie M. Royle, F. P. H. Birtwhistle, T. M. Bride, H. R. Clarke, H. M. Crake, G. F. Forter, T. W. Walker.

* Awarded Gold Medal. † Commended.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on July 8th.

Museum.

A pathological assistant in the Museum was appointed.

The best thanks of the Council were given to the authorities of the Egypt Exploration Fund for their valuable gift of eighty-three skulls of the Vth Dynasty recently found at Abydos in Egypt.

The Darwin Centenary.

The best thanks of the Council were given to the President for preparing an address, on behalf of the College, to the Chancellor, Master, and Scholars of the University of Cambridge, on the occasion of the commemoration of the centenary of Charles Darwin's birth.

Scholarships for the Ensuing Year.

The following nominations of the Nomination Committee were approved by the Council:

Hunterian Professors.—Arthur Keith (four lectures); William Sampson Handley (two lectures); George Coats (two lectures); Richard Horace Paramore (two lectures); Charles Bolton (two lectures).

Arris and Gale Lecturers.—Sydney Richard Scott (one lecture); Peter Thompson (two lectures).

Erasmus Wilson Lecturer.—Samuel George Shattock (six demonstrations).

Arnott Demonstrator.—Arthur Keith (six demonstrations).

Election of President and Vice-Presidents.

Mr. H. T. Butlin was elected President; and Mr. A. Pearce Gould and Mr. R. C. Lucas Vice-Presidents for the ensuing year.

KING'S COLLEGE, LONDON.

AMONGST the Fellows elected by the College Council are Dr. G. E. Shuttleworth and Professor W. J. R. Simpson, M.D.

The following appointments have been made: Dr. R. H. Steen as Professor of Psychological Medicine, and Mr. J. E. Barnard as Lecturer in Microscopy.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following awards have been made in connexion with the examinations at the end of the now concluded summer session:

The *Barker Anatomical Prize*, Mr. H. R. Tighe, and a special prize to Mr. J. S. Fegun; the *Carmichael Scholarship*, Mr. J. T. Duncan; the *Gold Medal in Operative Surgery*, Miss I. M. Clark; silver medal, Mr. F. N. Harvey; the *Stoney Memorial Gold Medal in Anatomy*, Mr. J. T. Duncan. The Barker Anatomical Prize is of the value of £26 5s., the special prize £21, and the Carmichael Scholarship £15. Awards of money prizes, medals, and certificates were also made in connexion with practical histology, practical chemistry, public health and forensic medicine, materia medica, and biology. Lectures and practical courses recommence on October 15th.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FIRST PROFESSIONAL.—*M. J. Burns, *E. Harnett, W. I. Adams, F. Ashe, J. C. Blackham, C. C. Boyle, E. Connell, J. D. Cherry, J. Crowley, J. Cohen, P. D. Daly, D. Donohoe, W. St. L. Dowse, T. R. Elliott, D. J. F. Flanagan, B. Goldberg, T. Gray, M. B. Gunn, M. Heenan, E. E. Hobson, F. J. Hunt, A. Humphreys, F. J. Kennedy, M. P. Lee, J. Magner, J. J. Magner, P. M. Moriarty, M. Morrin, R. J. Mullin, K. McGrath, F. T. McKenna, L. McKeever, J. W. O'Brien, T. F. O'Connor, J. P. O'Driscoll, E. B. Palmer, G. E. Pepper, B. Scher, N. A. Sheridan, R. Slaney, E. B. Stoney, J. C. Sproule, J. Stokes, T. S. Sullivan, F. C. Ward.

* Honours.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

BIOLOGY.—M. S. Rowen, J. K. Nardman.

CHEMISTRY.—M. S. Bowen, H. E. Rose.

MATERIA MEDICA AND PHARMACY.—E. B. Keen, R. H. Pettersson, L. M. Potter.

ANATOMY.—J. P. Jones.

PHYSIOLOGY.—J. M. Coplans, W. R. de C. Shearman.

Obituary.

HARRISON MITCHELL, M.D.EDIN.,

COCKERMOUTH.

WE regret to announce the death, which occurred on July 2nd, of Dr. Harrison Mitchell, of Cockermouth, at the age of 64. Dr. Mitchell, who had been in failing health for some time, underwent an operation, from which he never rallied. Dr. Mitchell, who was a son of the late Mr. Jonathan Mitchell, of Cockermouth, took the degrees of M.B. and C.M. at Edinburgh University in 1867 and M.D. in 1870. After acting for a time as a ship's surgeon on the Cunard Line he began general practice at Aspatria. Two or three years later he went to Cockermouth, but shortly afterwards took over the practice of Dr. Macnaughton at Wigton, and remained there for about twelve years. On the death of Dr. Dodgson, of Cockermouth, Dr. Mitchell returned to his native place as his successor. There he remained at work for a period of twenty-seven years. He held several public appointments, and was much esteemed as a general practitioner and as a public-spirited member of the community. He had a great taste for literature, and was more than once President of the Wordsworth Institute. He also took an active part in church work in the diocese.

In 1893–4 he was President of the Border Counties Branch, and delivered an inaugural address conspicuous alike for its philosophic grasp and the evidence it gave of wide reading and thought. The subject was "The General Medical Practitioner: Teacher and Taught." On various other occasions he read contributions bearing on the intellectual aspects and relations of the medical profession. He was for three years the Representative of the Division at the Representative Meeting, and was elected to fill the same office at the Belfast meeting. In many other ways he took a great interest in the work of the Association.

Personally, he was characterized by a high sense of honour, of duty, and of the place medical men should occupy in the community. In his own town he was in the forefront of every organization to encourage culture and spread knowledge. He was generally the host both of professional lecturers and of those who came under the auspices or at the invitation of the local societies.

Perhaps nothing could better give the keynote of his character than the motto which he adopted for his Presidential address:

> Greatly begin! Though thou have time
> But for a line, be that sublime.
> Not failure, but low aim is crime.

DR. CREERAE writes:

On July 6th, in the quiet churchyard of Bridekirk, under springing sycamores, the body of Harrison Mitchell was laid to rest. His example and his influence remain as a stimulus and an inspiration to us who live after him. To the members of the Border Counties Branch his name stood for simplicity of heart, kindness of speech, and integrity of conduct. With him could be associated nothing cold, nothing unkind, nothing mean. In his broad humanity, in his tolerance, he possessed a charity which thought no evil. Happy in the midst of country scenes, fond of the poetry of nature and of verse, he passed his life in doing good. With a fine pride in his profession he was ever zealous for the chastity of its honour. The memory of his character will long remain a cherished possession of the Branch.

DR. HENRY BARNES writes:

Dr. Harrison Mitchell was an ideal general practitioner with a high conception of his duties and responsibilities. From the first he was an active member of our Branch, served the office of President with general acceptance, was a Vice-President of the Section of Medical Ethics at the Carlisle meeting, and for the last three or four years has been the Representative of the Branch at the Annual Representative Meetings, always attending such meetings, sometimes at great personal inconvenience, and taking a keen interest in the proceedings. A year or two ago he published in the JOURNAL a very excellent paper on ambulance teaching as a bulwark against bonesetters and quackery. His loss will be keenly felt by a large circle of friends, both professional and lay.

THE announcement of the death on July 6th of Mr. WILLIAM BROOME GILES, at the age of 53, after a long illness, will be received with very great regret by a large number of friends both within and without the medical profession. He entered the Medical Faculty of University College in 1874, and was a conspicuous figure in everything that had to do with sport. Although he did not seek academic distinctions, he passed through his medical course with credit and obtained the diplomas M.R.C.S. and L.R.C.P. in 1882. He joined his brother in practice in Herefordshire, where he was popular both as a medical practitioner and as a sportsman, gaining, we believe, some considerable reputation not only in the hunting field but as a steeplechase rider. Some years ago he settled in London and practically retired from practice. He leaves a widow and one daughter.

WE regret to record the death of Mr. ALFRED EDWARD WILMOT, M.R.C.S., L.R.C.P., J.P., who died on June 21st, in his 67th year, after a short illness, at his residence Burnham House, Burnham, Bucks. He was born at Melbourne, and came to England at the age of 16, when he entered Madras College, St. Andrews, and afterwards Guy's Hospital, obtaining the diploma of M.R.C.S., L.R.C.P., in 1864. He was assistant for a few years to Dr. Hutchinson, of Bridlington, and eventually settled in practice at Escrick, Yorkshire, in 1869, where he was Medical Officer and Public Vaccinator for eleven years. In 1880 he moved to Burnham, holding similar offices under the Eton Union until 1908, when he retired, and was granted a pension. He was a member of the British Medical Association and a frequent attendant at the Annual Meeting. He took a keen interest in all local affairs, and was Chairman of the Parish Council at the time of and for many years previous to his death. In the early part of this year he was appointed J.P. for the county of Bucks. In politics he was strong Conservative, and often took the chair at local political meetings. A staunch Churchman, he held the office of Churchwarden and School Manager during the greater part of his residence in Burnham. He took a great interest in the local golf club, of which he was one of the founders and also a Vice-President. His funeral, which took place at St. Peter's, Burnham, on June 25th, was very largely attended, and was a striking testimony to the affection and esteem in which he was held by all classes both in his public and private capacities.

THE news that a serious accident had befallen Dr. MCILROY was received with deep regret in County Down. Dr. McIlroy had been in his usual excellent health, and on July 2nd was returning on his cycle from a country visit when he collided with a vehicle in turning a corner, and was thrown on his head and rendered unconscious. He received at once every aid possible, both from his fellow-townsmen and fellow-practitioners, and also from Belfast, but it was seen that he was suffering from fracture of the base of the skull. He never regained consciousness, and died on July 6th. The funeral took place on July 8th, and the deepest respect was shown to the deceased by the very large attendance of all classes and creeds of the little town of Newtownards and surrounding country. Dr. McIlroy, who had been twenty-nine years in Newtownards, was distinguished by many high qualities; quiet and reserved, he was yet shrewd and had much humour. He was untiring in his professional duties, and although self-sacrificing could administer a gentle rebuke which soon stopped imposition. He had been a student of Queen's College, Belfast, and received the M.D. of the Royal University in 1880. He was civil surgeon of the troops of the 4th Battalion Royal Irish Rifles, and medical attendant to Royal Irish Constabulary and Post Office officials. Dr. McIlroy leaves a widow and one son, with whom very sincere sympathy is felt. The son is a medical student.

DEATHS IN THE PROFESSION ABROAD. — Among the members of the medical profession in foreign countries who have recently died are Dr. Charles Burnham Porter, formerly Demonstrator of Anatomy at Harvard under Oliver Wendell Holmes, afterwards Professor of Clinical Surgery in the same university, aged 69; Dr. Jaime R. Costa, Professor of Physiology in the Medical Faculty of Buenos Aires; Dr. Wilhelm Pichler, founder and for many years editor of the *Allgemeine Wiener medizinische Zeitung*, aged 83; Professor Wilhelm Müller, for forty-six years Director of the Institute of Morbid Anatomy in the University of Jena, aged 73; Dr. Alfredo Thomé de Britto, Professor of Clinical Medicine in the Medical Faculty of Bahia; Professor Pfannenstiel, Director of the Clinic of Diseases of Women in the University of Kiel, aged 47—his death was due to blood poisoning contracted during an operation; Dr. Friedrich Endemann, formerly a member of the German Reichstag and of the Prussian Chamber of Deputies and President of the Medical Council of Hesse-Nassau, aged 76; Dr. F. W. Zopf, Professor of Botany and Director of the Botanical Garden at Münster, known by his researches on mycological and bacteriological subjects, aged 62; and Dr. Henry Cazalis, a poet whose pseudonym, "Jean Lahor," was familiar to the French literary world.

FUNERAL OF DR. LALCACA.—The funeral of Dr. Cawas Lalcaca, who was mortally wounded at the Imperial Institute when Sir Curzon Wyllie was shot, took place at Brookwood Cemetery with the rites of the Parsee faith. The gathering at the cemetery was fully representative of the Parsees in London. The floral tributes were particularly beautiful. Conspicuous among them was a wreath from Lady Wyllie inscribed: "These flowers are sent by the wife of Sir Curzon Wyllie, in ever grateful remembrance of the brave and noble man who lost his life on the night of July 1st in trying to save her beloved husband and others, with deepest sympathy."

THE Board of Health and Vital Statistics of the State of Wisconsin has, we learn from the *New York Medical Journal*, decided to establish a Pasteur institute at Madison for the prevention and treatment of rabies. Dr. M. P. Ravenel, Director of the Wisconsin Hygienic Laboratory at Madison, will probably be appointed director of the institute.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Astiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National)—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

NEWGATE, who is treating a severe case of Dupuytren's contraction by hypodermic injection of fibrolysin, asks how long the treatment ought to be persevered with. No improvement has been noted up to the twenty-fifth injection.

X. F. B. asks whether pollantin, or "hay fever" antiserum, is still used, and whether the results are still considered as definitely good as they were considered some years ago, when the serum was first used. Where can it be obtained?

ANSWERS.

MINERVA.—Two of the best books on sight testing are *Refraction of the Eye*, by A. Stanford Morton, published by H. K. Lewis; and *Refraction of the Eye*, by Gustavus Hartridge, published by J. and A. Churchill. Books may help, but sight testing cannot be learnt without practical instruction.

SULPHUR HAIR RESTORER.

H. W. H.—Analyses of several advertised so-called sulphur hair restorers have been published from time to time; the following is a specimen of the formulæ: Lead acetate, 60 grains; precipitated sulphur, 120 grains; glycerine, 2 fluid drachms; orange-flower water, to 8 fluid ounces.

LETTERS, NOTES, ETC.

TUBERCULOSIS PREVENTION (IRELAND) ACT.

DR. J. C. MCWALTER (Dublin) writes with reference to the Order of the Local Government Board in Ireland (BRITISH MEDICAL JOURNAL, July 10th, p. 105), directing the medical practitioner to notify every case of pulmonary tuberculosis in which in his opinion the sputum is infectious, provided that the patient habitually sleeps in the same room as other persons not so affected, to raise the question as to how a medical practitioner is to ascertain that those who habitually sleep in the same room as the patient are not similarly affected, and how he is to ascertain whether those persons whom he may find not affected do habitually sleep in the same room. Dr. McWalter points out that failure to notify renders a practitioner liable to a penalty of £2, that he will be liable to a lawsuit if he notifies except under conditions which Dr. McWalter considers impossible, and that the notification fee is payable only to the first practitioner who records the case.

SCARLET FEVER, OTORRHŒA, HÆMATURIA.

DR. T. BASIL RHODES (Baguley Sanatorium, Cheshire) writes to correct an error which had escaped his attention in the summary of his paper on Scarlet Fever, read to the Altrincham Division of the British Medical Association, and reported in the SUPPLEMENT, p. 56. One sentence reads: "The severity of the throat symptoms seemed to bear no relation whatever to the question of whether otorrhœa would follow or not." This is the exact opposite of my opinion, as a matter of fact; but if for the word "otorrhœa" in the sentence one substitutes "hæmaturia," then it would express what I believe.

TREATMENT OF INHERITED SYPHILIS.

IN reference to the note on this subject published last week, p. 120, from Dr. C. F. Marshall, we would point out that in the answer to "Spirochæte" the maternal origin, to the exclusion of paternal origin, was meant. The discussion of Matzenauer's views, to which Dr. Marshall rightly draws attention, will be found *in extenso* in the *Wiener klinische Wochenschrift* for 1903 (sitting of the K.K. Gesellschaft der Aerzte in Wien, February 6th, 1903). This Vienna discussion has already been previously alluded to in the JOURNAL. The discussion was most important. Any one reading it carefully and putting aside mere authority, which has done so much to retard the advancement of knowledge, will see how shaky are the "paternal origin" props. This is not a question of partiality or impartiality, but of throwing overboard propositions which have no leg to stand on, and which have too long blocked the way. The *onus probandi* of the paternal origin of syphilis in the hereditary (so-called) connexion referred to lies with those who are "partials to" or believe in that idea. Up to the present no proof has been forthcoming. As a matter of fact, syphilis is not hereditary in the biological sense, and all evidence goes to show that so-called hereditary or congenital syphilis is acquired by the child from the infected mother.

A MEMORIAL TABLET.

MR. R. J. TALLACK (Honorary Secretary of the Leyton Urban District Ratepayers' Association) writes: It will no doubt interest many of your readers to know that my association have arranged to affix a memorial tablet to the birthplace of Sir Morell Mackenzie, 742, High Road, Leytonstone; the premises are at the corner of Browning Road, near the tram terminus, and within five minutes of Leytonstone Great Eastern Railway Station. The tablet will be unveiled on Monday, July 19th, at 7.10 p.m.

SEA SICKNESS AND PHTHISIS PULMONALIS.

DR. J. REID (London) writes: Some years ago I stated in a letter to the BRITISH MEDICAL JOURNAL that I found mullein a good preventive of sea sickness, and also very useful in effecting a resolution of a consolidated tuberculous lung. As I have had correspondence on the question, perhaps you will inform the readers of the BRITISH MEDICAL JOURNAL that Burroughs, Wellcome, and Co. make tabloids, the dose of which would be 1 to 12 a day. I had tablets made by another firm, which unfortunately were not pure; and as the plant contains a product which depresses the heart, as well as mullein, which gives the "chemical reaction" of glucosides and is a tonic to the heart; the *tablets depressed and caused sickness* in a case with weak heart.

DIABETES: A WARNING.

G. writes: The insidious nature of diabetes, with all its hidden dangers, was well exemplified in a case which came under my notice a short time ago. A young married woman came to consult me previous to her starting off on her usual annual seaside holiday. She had been "run down," and complained of gastric trouble, with constipation and piles. I had never previously attended her, having first met her only a day or two previously at the house of a patient who was ill, but I have since ascertained that she was attended by another doctor at a distance, and only a few weeks previously had had a miscarriage during the second or third month of her first and only pregnancy. After seeing her a few times I pronounced her able to proceed to the seaside. On the second day after her arrival she was apparently much stronger, but after a short walk she returned to her rooms quite ill, and before night set in she was in a state of insensibility, which was pronounced to be diabetic coma, and which ended fatally in a day or two. Now, this young lady, apparently in good health, was evidently suffering from diabetes in an advanced stage when she came to consult me, yet there was nothing whatever in her symptoms, as she related them, to point to the fact that she was suffering from diabetes, which only three or four weeks previously had caused her to miscarry. Indeed, it was only after her death I was told she had been losing flesh for some time. There are still some of our brethren, whom we call "old fashioned," who insist upon examining the urine of every case they meet with. Indeed, I know from my own experience during the period I held the post of house-surgeon in a large hospital that an occasional case of diabetes was first discovered there to the extreme discomfiture of the medico who sent in the case.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication: and, if not paid for at the time, should be accompanied by a reference.

N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

An Address
ON THE
TREATMENT OF DISEASE.

BEING THE ADDRESS IN MEDICINE BEFORE THE ONTARIO MEDICAL ASSOCIATION, TORONTO, JUNE 3RD, 1909.

BY WILLIAM OSLER, M.D., F.R.S.,
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I.

As true to-day as when Celsus made the remark, "The dominant view of the nature of disease controls its treatment." As is our pathology so is our practice; what the pathologist thinks to-day the physician does to-morrow. Roughly grouped there have been three great conceptions of the nature of disease. For long centuries it was believed to be the direct outcome of sin, *flagellum Dei pro peccatis mundi*, to use Cotton Mather's phrase, and the treatment was simple—a readjustment in some way of man's relation with the invisible powers, malign or benign, which had inflicted the scourge. From the thrall of this "sin and sickness" view man has escaped so far as no longer, at least in Anglo-Saxon communities, to have a proper saint for each infirmity. Against this strong bias towards the supernatural even the wisdom of Solomon could not prevail; was not the great book of his writings which contained medicine for all manner of diseases and lay open for the people to read as they came into the temple removed by Hezekiah lest out of confidence in remedies they should neglect their duty in calling and relying upon God? And the modern book of reason, which lies open to all, is read only by a few in the more civilized countries. The vast majority are happy in the childlike faith of the childhood of the world. I am told that annually more people seek help at the shrine of Ste. Anne de Beaupré, in the Province of Quebec, than at all the hospitals of the Dominion of Canada. How touching at Rome to see the simple trust of the poor in some popular Madonna, such as the Madonna del Parto! It lends a glow to the cold and repellent formalism of the churches. In all matters relating to disease credulity remains a permanent fact, uninfluenced by civilization or education.

From Hippocrates to Hunter the treatment of disease was one long traffic in hypotheses; variants at different periods of the doctrine of the four humours, as dominated by some strong mind in active revolt it would undergo temporary alteration. The peccant humours were removed by purging, bleeding, or sweating, and until the early years of the nineteenth century there was very little change in the details. To a very definite but entirely erroneous pathology was added a treatment most rational in every respect, had the pathology been correct! The practice of the early part of the last century differed very little from that which prevailed in the days of Sydenham, except, perhaps, that our grandfathers were, if possible, more ardent believers in the lancet.

In the past fifty years—in the memory, indeed, of some present—our conception of the nature of disease has been revolutionized, and with a recognition that its ultimate processes, whether produced by external agents or the result of modifications in the normal metabolism, are chemico-physical, we have reached a standpoint from which to approach the problems of prevention and cure in a rational way. Let me indicate briefly the directions in which the new science has transformed the old art. In the first place, the discovery of the cause of many of the great scourges has changed not only its whole aspect, but, indeed, we may say, the very outlook of humanity. No longer is our highest aim to cure, but to prevent disease; and in its career of usefulness the profession has never before had a triumph such as we have witnessed in the abolition of many fearful scourges. Great as have been the Listerian victories in surgery, they are but guerilla skirmishes, so to speak, in comparison with the Napoleonic campaigns which medicine is waging against the acute infections. These are glorious days for the race. Nothing has been seen like it on this old earth since the destroying angel stayed his hand on the threshing floor of Araunah the Jebusite. For seven years Cuba, once a pesthouse of the tropics, has been free from a scourge which has left an indelible mark in the history of the Englishman, Spaniard, and American in the New World. To-day the Canal Zone of Panama, for years the graveyard of the white man, has a death-rate as low as that in any city of the United States. In the island of Porto Rico, where many thousands have died annually of tropical anaemia, the death-rate has been cut in half by the work of Ashford and others. But, above all, the problem of life in the tropics for the white man has been solved, since malaria may now be prevented by very simple measures. These are some of the recent results of laboratory studies which have placed in our hands a power for good never before wielded by man.

Secondly, a fuller knowledge of etiology has led to a return to methods which have for their object, not so much the combating of the disease germ or of its products, as the rendering of conditions in the body unfavourable for its propagation and action. How fruitful in practical results, for example, have been the new views on tuberculosis! Not that the discovery of the bacillus itself modified immediately our treatment of the disease, but, as so often happens, a combination of circumstances was responsible for the happy revolution—the recognition of the widespread prevalence of the infection, the great frequency with which healed lesions were found, and the knowledge of the importance of the character of the tissue soil, led to the substitution of the open-air and dietetic treatment for the nauseous mixtures with which our patients were formerly drenched. We scarcely appreciate the radical change which has occurred in our views even within a few years. Contrast a recent work on tuberculosis with one published twenty-five or thirty years ago. In the latter the drug treatment takes up the larger share, while in the former it is reduced to a page or two. And it is not only in the acute infections that the use of the "non-naturals," as the old writers called them, has replaced other forms of treatment, but in diet, exercise, massage, and hydrotherapy, we are every day finding out the enormous importance of measures which too often have been used with greatest skill by those outside or on the edge of the profession.

Thirdly, the study of morbid anatomy combined with careful clinical observations has taught us to recognize our limitations, and to accept the fact that a disease itself may be incurable, and that the best we can do is to relieve symptoms and to make the patient comfortable. The relation of the profession to this group, particularly to certain chronic maladies of the nervous system, is a very delicate one. It is a hard matter, and really not often necessary (since Nature usually does it quietly and in good time), to tell a patient that he is past all hope. As Sir Thomas Browne says: "It is the hardest stone you can throw at a man to tell him that he is at the end of his tether"; and yet, put in the right way to an intelligent man it is not always cruel. Let us remember that we are the teachers, not the servants, of our patients, and we should be ready to make personal sacrifices in the cause of truth, and of loyalty to the profession. Our inconsistent attitude is, as a rule, the outcome of the circumstances that of the three factors in practice, heart, head, and pocket—to our credit, be it said, the first named is most potent. How often does the consultant find the attending physician resentful or aggrieved when told the honest truth that there is nothing further to be done for the cure of his patient! To accept a great group of maladies, against which we have never had and can scarcely ever hope to have curative measures, makes some men as sensitive as though we were ourselves responsible for their existence. These very cases are "rocks of offence" to many good fellows whose moral decline dates from the rash promise to cure. We work by wit and not by witchcraft, and while these patients have our tenderest care, and we must do what is best for the relief of their sufferings, we should not bring the art of medicine into disrepute by quack-like promises to heal, or by wire-drawn attempts at cure in what old Burton calls "continuate and inexorable maladies."

Fourthly, the new studies on the functions of organs and their perversions have led to most astonishing results in the use of the products of metabolism, which time out of mind physicians have employed as medicines. The old recipe books are full of directions for the use of parts of animals or of various secretions and excretions. Much of the humbuggery and quackery inside and outside of the profession has been concerned with some of the most

unsavoury of these materials. The seventeenth century pharmacopœias were full of them, and in his oration at the Hunterian Society, 1902. Dr. Arthur T. Davies has given an interesting historical sketch of their use in practice. Metabolic therapy represents one of the greatest triumphs of science. The demonstration of insufficiency of the thyroid gland is a brilliant example of successful experimental inquiry, and as time has passed the good results of treatment in suitable cases have become more and more evident. Before long, no doubt, we shall be able to meet, in the same happy way, the perverted functions which lead to such diseases as exophthalmic goitre, Addison's disease, and acromegaly; and as our knowledge of the pancreatic function and carbo-hydrate metabolism becomes more accurate we shall probably be able to place the treatment of diabetes on a sure foundation. And it is not only on the organic side that progress has been made. Important discoveries relating to the metabolism of the inorganic constituents, such as those relative to acidosis, have opened a new and most hopeful chapter in scientific medicine.

But the best of human effort is flecked and stained with weakness, and even the casual observer may note dark shadows in the bright picture. Organotherapy illustrates at once one of the great triumphs of science and the very apotheosis of charlatanry. One is almost ashamed to speak in the same breath of the credulousness and cupidity by which even the strong in intellect and the rich in experience have been carried off in a flood of pseudo-science. This has ever been a difficulty in the profession. The art is very apt to outrun or over-ride the science and play the master where the true rôle is that of the servant.

And, lastly, we have advanced firmly along a new road in the treatment of diseases due to specific micro-organisms, with the toxic products of which we are learning to cope successfully. The treatment with anti-toxins and bacterial vaccines, so successfully started, bears out the truth of that keen comment of Celsus: "He will treat the disease properly whom the first origin of the cause has not deceived." We are still far from the goal in some of the most important and fatal infections, but any one acquainted in even slight measure with the progress of the past ten years cannot but have confidence in the future. Considering that the generation is still active which opened the whole question, we cannot but feel hopeful in spite of disappointments here and failures there. But in our pride of progress let us remember cancer and pneumonia. The history of the latter disease affords a good illustration of the truth of the remark of Celsus with which I began this address. Year by year the lesson of pneumonia is a lesson of humility. For purposes of comparison statistics are not available, but it is not likely that the great masters from Galen to Grisolle lost a larger number of cases than we do. Pneumonia has always been, as to-day, a dreaded and a fatal disease. For one thing let us be thankful. We have had the courage to abandon the expectorant mixtures, the depressants, the cardiac sedatives, the blisters, the emetics, the resulsives, the purges, the poultices, and, to a great extent, the bleedings. Surely our forefathers must have killed some patients by the appalling ferocity of their treatment, or to have stood it the constitutions of those days must have been more robust. We still await, but await in hope, the work that will remove the reproach of the mortality bills in this disease. I say reproach because we really feel it, and yet not justly, for who made us responsible for its benign or malignant nature? We can relieve symptoms, but we must find the means which will, on the one hand, limit the extension of the process, loosen the exudate, minimize the fluxion, control the alveolar diapedesis, and, on the other hand, diminish the output of the toxins, neutralize those in circulation, or strengthen the opsonic power of the blood. But some one will say, Is this all your science has to tell us? Is this the outcome of decades of good clinical work, of patient study of the disease, of anxious trial in such good faith of so many drugs? Give us back the childlike trust of the fathers in antimony and in the lancet rather than this cold nihilism. Not at all! Let us accept the truth, however unpleasant it may be, and with the death-rate staring us in the face, let us not be deceived with vain fancies. Not alone in pneumonia, but in the treatment of certain other diseases do we need a stern, iconoclastic spirit which leads, not to nihilism, but to an active scepticism—not the passive scepticism born of despair, but the active scepticism born of a knowledge that recognizes its limitations and knows full well that only in this attitude of mind can true progress be made. There are those among us who will live to see a true treatment of pneumonia; we are beginning to learn the conditions of its prevalence, it may yet come within the list of preventable diseases, and let us hope that before long we may be able to cope with the products of the pneumococcus itself.

II.

Along these five lines the modern conception of the nature of disease has radically altered our practice. The personal interest which we take in our fellow creatures is apt to breed a sense of superiority to their failings, and we are ready to forget that we ourselves, singularly human, illustrate many of the common weaknesses which we condemn in them. In no way is this more striking than in the careless credulity we display in some matters relating to the treatment of disease. The other day the *Times* had an editorial upon a remark of Bernard Shaw that the cleverest man will believe anything he wishes to believe, in spite of all the facts and textbooks in the world. We are at the mercy of our wills much more than of our intellect in the formation of our beliefs, which we adopt in a lazy, haphazard way, without taking much trouble to inquire into their foundation. But I am not going to discuss, were I able, this Shavian philosophy, but it will serve as an introduction to a few remarks on the Nemesis of Faith which in all ages readily overtakes doctors and the public alike. Without trust, without confidence, without faith in himself, in his tools, in his fellow men, no man works successfully or happily. For us, however, it must never be the blind unquestioning trust of the devotee, but the confidence of the inquiring spirit that would prove all things. But it is so much easier to believe than to doubt, for doubt connotes thinking and the expenditure of energy, and often the disruption of the *status quo*. And then we doctors have always been a simple, trusting folk! Did we not believe Galen implicitly for 1,500 years and Hippocrates for more than 2,000? To have the placid faith of the simple believer, instead of the fighting faith of the aggressive doubter, has ever been our besetting sin in the matter of treatment.

In the progress of knowledge each generation has a double labour—to escape from the intellectual thralls of the one from which it has emerged and to forge anew its own fetters. Upon us whose work lay in the last quarter of the nineteenth century fell the great struggle with that many-headed monster, Polypharmacy—not the true polypharmacy which is the skilful combination of remedies, but the giving of many—the practice of at once discharging a heavily-loaded prescription at every malady, or at every symptom of it. Much has been done and an extraordinary change has come over the profession, but it has not been a fight to the finish. Many were lukewarm; others found it difficult to speak without giving offence in quarters where on other grounds respect and esteem were due. As an enemy to indiscriminate drugging, I have often been branded as a therapeutic nihilist. That I should even venture to speak on this subject calls to mind what Professor Peabody, of Harvard, remarked about Jacob Bigelow, that, "for his professorship of Materia Medica he had very much the same qualifications that a learned unbeliever might have for a professorship of Christian theology. No other man of his time had so little faith in drugs." I bore this reproach cheerfully, coming, as I knew it did, from men who did not appreciate the difference between the giving of medicines and the treatment of disease, moreover it was for the galled jade to wince, my withers were unwrung. The heavy hands of the great Arabians grow lighter in each generation. Though dead, Avicenna and Mesue still speak, not only in the Arabic signs which we use but in the combinations and multiplicity of the constituents of too many of our prescriptions. We are fortunately getting rid of routine practice in the use of drugs. How many of us now prescribe an emetic? And yet that shrewd old man, Nathanial Chapman, who graced the profession of Philadelphia for so long, used to say: "Everything else I have written may disappear, but my chapter on emetics will last"! How much less now does habit

control our practice in the use of expectorants? The blind faith which some men have in medicines illustrates too often the greatest of all human capacities—the capacity for self-deception. One special advantage of the sceptical attitude of mind is that a man is never vexed to find that after all he has been in the wrong. It is an old story that a man may practise medicine successfully with a very few drugs. Locke had noticed this, probably in the hands of his friend Sydenham, since he says: "You cannot imagine how far a little observation carefully made by a man not tied up to the four humours . . . would carry a man in the curing of diseases, though very stubborn and dangerous, and that with very little and common things and almost no medicine at all." Boerhaave commented upon this truth in a remark of Sydenham "that a person well skilled in cases seldom needs remedies." The study of the action of drugs, always beset with difficulties, is rapidly passing from the empirical stage, and this generation may expect to see the results of studies which have already been most promising. It is very important that our young men should get oriented early in this matter of drug treatment. Our teachers used to send us to the works of Forbes (*Nature and Art in the Treatment of Diseases*) and to Jacob Bigelow (*Nature and Disease*) for clear views on the subject. A book has been written by Dr. Harrington Sainsbury, the well-known London physician and teacher (*Principia Therapeutica*, Methuen), which deals with these problems in the same philosophic manner. It opens with a delightful dialogue between the pathologist and the physician. He lays his finger on the weak point of the pure morbid anatomist who thinks of the lesion only, and not enough of the function which even a seriously damaged organ may be able to carry on. The book should be in the hands of every practitioner and senior student. Some of you may have heard of the lecture-room motto of that distinguished pathologist and surgeon, and the first systematic writer on morbid anatomy in the United States, S. D. Gross: "Principles, gentlemen, principles! principles!!" And it is upon these fundamental aspects that Dr. Sainsbury dwells in his most suggestive work, which I would like to see adopted as a textbook in every medical school in the land.

And we are yet far too credulous and supine in another very important matter. Each generation has its therapeutic vagaries, the outcome, as a rule, of attempts to put prematurely into practice theoretical conceptions of disease. As members of a free profession we are expected to do our own thinking; and yet the literature that comes to us daily indicates a thraldom not less dangerous than the polypharmacy from which we are escaping. I allude to the specious and seductive pamphlets and reports sent out by the pharmaceutical houses, large and small. We owe a deep debt to the modern manufacturing pharmacist, who has given us pleasant and potent medicines in the place of the nauseous and weak mixtures; and such firms as Parke, Davis and Company of the United States, and Burroughs and Wellcome of England, have been pioneers in the science of pharmacology. But even the best are not guiltless of exploiting in the profession the products of a pseudo-science. Let me specify three items in which I think the manufacturing pharmacists have gone beyond their limit and are trading on the credulity of the profession to the great detriment of the public. The length to which organotherapy has extended (not so much on this side of the water as on the European continent) beyond the legitimate use of certain preparations is a notorious illustration of the case with which theoretical views place us in a false position. Because thyroid extract cures myxoedema and adrenalin has a powerful action, it has been taken almost for granted that the extract of every organ is a specific against the diseases that affect it. This forcing of a scientific position is most hurtful, and I have known an investigator hesitate to publish results lest they should be misapplied in practice. The literature on the subject issued by reputable houses indicates, on the one hand, the pseudo-science upon which a business may be built up, and, on the other, the weak-minded state of the profession on whose credulity these firms trade. A second most reprehensible feature is the laudatory character of literature describing the preparations which they manufacture. Foisted upon an innocent practitioner by a travelling Autolycus, the preparation is used successfully, say, in six cases of amenorrhœa; very soon a report appears in a medical journal, and a few weeks later this report is sent broadcast with the auriferous leaflets of the firm. A day or two before I left England a pamphlet came from X. and Co., characterized by brazen therapeutic impudence, and indicating a supreme indifference to anything that could be called intelligence on the part of the recipients. That these firms have the audacity to issue such trash indicates the state of thraldom in which they regard us. And I would protest against the usurpation on the part of these men of our functions as teachers. Why, for example, should Y. and Co. write as if they were directors of large genito-urinary clinics instead of manufacturing pharmacists? It is none of their business what is the best treatment for gonorrhœa—by what possibility could they ever know it, and why should their literature pretend to the combined wisdom of Neisser and Goyon? What right have Z. and Co. to send on a card directions for the treatment of anæmia and dyspepsia, about which subjects they know as much as an unborn babe, and, if they stick to their legitimate business, about the same opportunity of getting information? For years the profession has been exploited in this way, until the evil has become unbearable, and we need an active crusade against pseudo-science in the profession as has been waged of late against the use of quack medicines by the public. We have been altogether too submissive and have gradually allowed those who should be our willing helpers to dictate terms and to play the rôle of masters. Far too large a section of the treatment of disease is to-day controlled by the big manufacturing pharmacists, who have enslaved us in a plausible pseudo-science. The remedy is obvious: give our students a first-hand acquaintance with disease, and give them a thorough practical knowledge of the great drugs, and we will send out independent, clear-headed, cautious practitioners who will do their own thinking and be no longer at the mercy of a meretricious literature which has sapped our independence.

Having confessed some of our own weaknesses, I may with better grace approach the burning question of the day in the matter of treatment. An influenza-like outbreak of faith healing seems to have the public of the American continent in its grip. It is an old story, the oldest, indeed, in our history, and one in which we have a strong hereditary interest, since scientific medicine took its origin in a system of faith healing beside which all our modern attempts are feeble imitations. Lincoln's favourite poem, beginning "We think the same thoughts that our fathers have thought," expresses a tendency in the human mind to run in circles. Once or twice in each century the serpent entwining the staff of Æsculapius gets restless, untwists, and in his gambols swallows his tail, and at once in full circle back upon us come old thoughts and old practices, which for a time dominate alike doctors and laity. As a profession we took origin in the cult of Æsculapius, the gracious son of Apollo, whose temples, widespread over the Greek and Roman world, were at once magnificent shrines and hospitals, with which in beauty and extent our modern institutions are not to be compared. Amid lovely surroundings, chosen for their salubrity, connected usually with famous springs, they were the sanatoriums of the ancient world. The ritual of the cure is well known, and has been beautifully described by Pater in *Marius the Epicurean*. Faith in the god, suggestion, the temple sleep and the interpretation of its dream were the important factors. Hygienic and other measures were also used, and in the guild of secular physicians which grew up about the temples scientific medicine took its origin. No cult resisted so long the progress of Christianity; and so imbued were the people with its value, that many of the practices of the temple were carried on into the Christian ritual. The temple sleep and the interpretation of its dreams were continued long into the Middle Ages, and, indeed, have not yet disappeared. The popular shrines of the Catholic Church to-day are in some ways the direct descendants of this Æsculapian cult, and the cures and votive offerings at Lourdes and Ste. Anne are in every way analogous to those of Epidaurus.

As I before remarked, credulity in matters relating to disease remains a permanent fact in our history, uninfluenced by education. But let us not be too hard on poor

human nature. Even Pericles, most sensible of men, when on his deathbed, allowed the women to put an amulet about his neck. And which one of us, brought up from childhood to invoke the aid of the saints and to seek their help—which one of us under these circumstances, living to-day in or near Rome, if a dear child were sick unto death, would not send for the Santo Bambino, the Holy Doll of the Church of Ara Coeli? Has it not been working miracles these four hundred years? The votive offerings of gold and of gems from the happy parents cover it completely, and about it are grateful letters from its patients in all parts of the world. No doll so famous, no doll so precious! No wonder it goes upon its ministry of healing in a carriage and pair, and with two priests as its companions! Precious perquisite of the race, as it has been called, with all its dark and terrible record, credulity has perhaps the credit balance on its side in the consolation afforded the pious souls of all ages and of all climes, who have let down anchors of faith into the vast sea of superstition. We drink it in with our mother's milk, and that is indeed an even-balanced soul without some tincture. We must acknowledge its potency to-day as effective among the most civilized people, the people with whom education is the most widely spread, yet who absorb with wholesale credulity delusions as childish as any that have ever enslaved the mind of man.

Having recently had to look over a large literature on the subject of mental healing, ancient and modern, for a new edition of my textbook, just issued, I have tried to put the matter as succinctly as possible. In all ages and in all climes the prayer of faith has saved a certain number of the sick. The essentials are first a strong and hopeful belief in a dominant personality, who has varied naturally in different countries and in different ages. Buddha in India, and in Japan, where there are cults to match every recent vagary; Æsculapius in ancient Greece and Rome; our Saviour and a host of saints in Christian communities; and lastly, an ordinary doctor has served the purpose of common humanity very well. Faith is the most precious asset in our stock in trade. Once lost, how long does a doctor keep his *clientèle*? Secondly, certain accessories—a shrine, a grotto, a church, a temple, a hospital, a sanatorium—surroundings that will impress favourably the imagination of the patient. Thirdly, suggestion in one of its varied forms—whether the negation of disease and pain, the simple trust in Christ of the Peculiar People, or the sweet reasonableness of the psycho-therapeutist. But there must be the will-to-believe attitude of mind, the mental receptiveness—in a word, the *faith* which has made bread pills famous in the history of medicine. We must, however, recognize the limitations of mental healing. Potent as is the influence of the mind on the body, and many as are the miracle-like cures which may be worked, all are in functional disorders, and we know only too well that nowadays the prayer of faith neither sets a broken thigh nor checks an epidemic of typhoid fever.

What should be the attitude of the clergy, many of whom have been drawn into the vortex of this movement? I feel it would be very much safer to hand over this problem to us. It is not a burden which we should ask a hard-working and already overwrought profession to undertake or to share. It might be a different matter if it were really a gift of healing in the apostolic sense, but we know this was associated with other signs and wonders at present conspicuous by their absence. Then think of the possibilities for self-deception—of the saintly Edward Irving and the gift of tongues; of Monsieur de Paris, the French priest, and the miracles at his tomb, to the truth of which two fine quarto volumes, with "before and after" pictures, attest! The less the clergy have to do with the bodily complaints of neurasthenic and hysterical persons the better for their peace of mind and for the reputation of the Cloth. As wise old Fuller remarked, Circe and Æsculapius were brother and sister, and the wiles of the one are very apt to entrap the wisdom of the other.

III.

It adds immensely to the interest in life to live in the midst of these problems which concern us so closely. We must meet them with an intelligent cheerfulness, in the full confidence that the Angel of Bethesda never stirred the waters without happy results. It is for us to see that the soldiers we are training for the fight against disease, bodily and mental, are well equipped for the battle; and let me briefly, in conclusion, indicate how I believe we should teach the art—the management of patients and the cure of disease. To know how to deal with disease is the final goal, to reach which the whole energies of the student should be directed. We all recognize that it is in the out-patient departments and in the wards—I wish I could add in the homes of the general practitioners—that he must get this part of his training, not in an elaborate course of lectures on the properties and action of drugs. In the congested curriculum it is by no means easy to find the proper amount of time even for this, the most essential part of his education. But as we learn the futility of the lecture room as an instrument of teaching men the Art, so, I think, we shall gradually be able to adapt the courses so that plenty of time may be given to the practical study of the treatment of cases under skilled direction. We should take over to the hospital side of the school the whole subject known in the curriculum as therapeutics. The composition of drugs, the method of their preparation, and the study of their physiological action should be taught in practical classes in the pharmaceutical laboratories. In the out-patient departments and in the wards much more systematic practical instruction should be given how to treat disease and how to manage patients. If we could only get the students for a sufficiently long period in the hospital, what helpful courses could be arranged in the senior years! Certain aspects of the subject must be ever kept before the assistants[1] and the students, considered, perhaps, by different men associated with the clinic according to the special capacity of each one. The fundamental law should be ingrained that the starting point of all treatment is in the knowledge of the natural history of a disease. Typhoid fever, tuberculosis, pneumonia, and, where possible, malaria, should be used for this important lesson, and in the everyday routine observation of cases the student would learn to know the course of the disease, its obvious features, the complications likely to arise; and he would be taught how to discriminate between the important and the unimportant symptoms of a case. This work should form the very basis of his course in medicine, and it should be accompanied by a *seminar* to take the place of set lectures, in which the features of all the common diseases would be discussed.

The hygienic and dietetic management of patients has now come to be such a prominent part of the work of our hospitals that the student may become acquainted with the open-air treatment, the various modifications of diet suitable to different diseases, and the use of massage, electricity, and other physical agents. But too often he is allowed to pick up this information in a haphazard, irregular fashion. One assistant of the clinic should be detailed to see that every member of the class knows, for example, how to arrange the open-air treatment for a tuberculous patient, and how to supervise the diet of a diabetic case. The student should prepare personally the various nutritive enemata, and be able to give the different kinds of massage, and I would have him thoroughly versed in all branches of hydrotherapy. A serious difficulty is that nowadays the nurse does a great many things that it is essential the medical student should know how to do—the administration of hypodermics, the giving of a cold pack, etc.

Much more attention should be paid to the important subject of psychotherapy. It is not every teacher who has a special gift for this work, but if the professor himself does not possess it, he should, at any rate, have sense enough to have an assistant familiar with and interested in the modern methods. How many of our graduates have been shown how to carry out a Weir Mitchell treatment or to treat a patient by suggestion? The student should be taught that the very environment of a well-managed clinic is in itself an important factor in psychical treatment. A Philadelphia friend once jokingly defined my practice at the Johns Hopkins Hospital as a mixture of hope and nux vomica, and the grain of truth in this statement lies in the fact that with many hospital patients once we gain their confidence and inspire them with hope, the battle is won.

[1] A post-graduate course in medical pedagogy would be most helpful organized by five or six of the large colleges and conducted by them in rotation with teachers selected from the different schools. Many able young fellows take years to acquire methods to which they might be introduced in a six-months course.

And lastly, from the day the student enters the hospital until graduation, he should study under skilled supervision the action of the few great drugs. Which are they? I am not going to give away my list. A story is told that James Jackson, when asked which he considered the greatest drugs, replied: "Opium, mercury, antimony, and Jesuit's bark; they were those of my teacher, Jacob Holyoke." "Yes," replied his interlocutor, "and they were those of Holyoke's master, James Douglas, in the early part of the eighteenth century." Mine is a much longer one! The student should follow most carefully the action of those drugs the pharmacology of which he has worked out in the laboratory. He should be sent out from the hospital knowing thoroughly how to administer ether and chloroform. He should know how to handle the various preparations of opium. Each ward should have its little case with the various preparations of the ten or twelve great drugs, and when the teacher talks about them he should be able to show the preparations. He should study with special care the action of digitalis on the circulation in cases of heart disease. He should know its literature, from Withering to Cushney. It should be taken as the typical drug for the study of the history of therapeutics—the popular phase, as illustrated by the old woman who with it cured the Principal of Brasenose; the empirical stage, introduced by Withering in his splendid contribution, a model of careful clinical work of which every senior student should know; and the last stage, the scientific study of the drug, which he will already have made in the pharmacological laboratory. He should day after day personally give a syphilitic baby inunctions of mercury; he should give deep injections of calomel, and he should learn the history of the drug from Paracelsus to Fournier. He should know everything relating to the iodides and the bromides, and should present definite reports on cases in which he has used them. He must know the use of the important purgatives, and he should have a thorough acquaintance with all forms of enemata. He should know cinchona historically, its derivatives chemically, and its action practically. He should study the action of the nitrites with the blood pressure apparatus, and he should over and over again have tested for himself the action, or the absence of action, of strychnine, alcohol, and other drugs supposed to have a stimulating action on the heart and blood vessels. While I would, on the one hand, imbue him with the firmest faith in a few drugs, "the friends he has and their adoption tried," on the other hand, I would encourage him in a keenly sceptical attitude towards the pharmacopoeia as a whole, ever remembering Benjamin Franklin's shrewd remark that "he is the best doctor who knows the worthlessness of the most medicines." You may well say this is a heavy contract and one which it is impossible to carry out. Perhaps it is with our present arrangements, but this is the sort of work which the medical student has a right to expect, and this is what we shall be able to give him when in his senior years we give up lecturing him to death, and when we stop trying to teach him too many subjects.

THE report for 1907-8 of the Bureau of Health for the Philippine Islands, drawn up by Dr. Victor Heiser, contains a number of notes on tropical disease, and accounts of the progress which is being made in numerous directions. The foundations of a thoroughly sound sanitary system seem now to have been laid, but the task of the bureau is still one of immense difficulty. Elsewhere the machinery by which the health of a nation is safeguarded grows up slowly, but in this as in other tropical countries it has had to be created *de novo*. Last year a million and three-quarter vaccinations were performed, despite the preaching of an antivaccination band; perhaps the fact that such small-pox as occurred was of unusual severity helped the authorities. Usually this disease is comparatively mild among Filipinos, the case mortality ranging between 5 and 10 per cent., but in the year in question it ran up in some places to 50 per cent. No very great difficulty is being experienced in dealing with the opium habit, though at one time it seemed likely to be replaced by cocainism; nor are the difficulties in the way of segregating lepers proving insuperable. A good many of those first interned have been released, their maladies not proving to be leprosy. Experiments with the *x*-ray treatment of the disease are being continued, 1 out of the 30 cases being apparently cured and 5 markedly improved.

An Address

ENTITLED

"HERCULES AND THE WAGONER,"

WITH REMARKS ON THE BRITISH MEDICAL ASSOCIATION.

DELIVERED BEFORE THE SOUTH WALES AND MONMOUTHSHIRE BRANCH.

BY D. J. WILLIAMS, F.R.C.S.,

PRESIDENT.

As a countryman was driving his wagon along a miry lane, his wheels stuck so deep in the clay that his horse came to a standstill. Upon this the man, without making any effort of his own, began to call upon Hercules to come and help him out of his trouble. But Hercules bade him lay his shoulder to the wheel, assuring him that Heaven only aided those who tried to help themselves.—*Æsop's Fables.*

GENTLEMEN,—In the first place permit me to thank you for the honour you have conferred on me by electing me your President for the forthcoming year.

In looking round for an appropriate subject for an address, I have finally decided to utilize the short time at my disposal to consider some aspects of professional life which appear to me of vital importance to the members of our Association as well as to the profession at large.

Doubtless you are aware that I was the first chairman of that most useful and active committee formed in our Branch some three or four years ago to oppose the unfair and unjust conditions that were being imposed on some of our members by powerful combinations of labour. I allude to the Contract Practice Committee.

Not only have I had personal experience of such practice for a large number of years, but as chairman of this committee I became intimately acquainted with the various disputes in our Branch, from Ebbw Vale to far-off St. David's and Aberystwith.

Contract practice seems to be a necessity in most places where large industrial populations are congregated together, as in our colliery and manufacturing towns and villages. But what I wish to insist upon is that the conditions of employment should be such as will enable the medical man to perform his duties to his patients to the best of his abilities, unhampered by considerations of economy in drugs or appliances, unhampered also by self-constituted committees who dole out an inadequate salary that does not remain unsweated in passing through their hands. In some districts where the amount deducted from the workman may be adequate, only a portion reaches the medical attendant. In other districts the amount deducted is so small as to be absolutely inadequate for the medical attendance upon the employees.

In my opinion the patient has a right to expect from the doctor he consults the best services, as regards skill, care, and appliances, he is capable of, and *nothing less*.

Now is it possible for a medical man, with a good knowledge of his profession, to discharge his duties in this satisfactory manner at the rate of remuneration which prevails in large districts in our Branch? Such a question can only be answered by a very emphatic negative.

For my own guidance in this matter, I have kept a strict account for some lengthened periods of the services, personally or by deputy, rendered to the employees of a large industrial concern, including a very large number of surgical operations. It works out at something less than 6d. an attendance, though some of the employees earn 25s. to 30s. a day. I am sometimes pleased to remind some of these exacting people that I have never smoked a cigarette out of their contributions, and that they have had them all back. Then, you will ask, why attend them? My reply is that they supply the place of an honorary surgeoncy to a hospital, and that the experience has been essential to my practice.

I must apologize to those of our members who are not engaged in this class of practice if I have to deal somewhat elaborately with this matter; but it must be insisted on that the bulk of the professional work done in the great industrial centres in our Branch is by contract.

Besides this inadequate remuneration, I have already alluded to the conditions of employment. During recent years an endeavour has been made on the part of strong combinations and organizations of workmen to render the lot of the doctor intolerable by the establishment of so-called "schemes." Ogilvie gives as synonyms for *scheme* "plan, project, design, purpose, devise, plot, contrive." In its application to our professional work, we may take *scheme* as meaning a contriving or plotting to get the utmost service from professional men at the lowest remuneration for which such services can be secured. If you wish to see what schemes in this sense mean, we have a classical example before us in a notorious district in South Wales—namely, Ebbw Vale.

I mention this instance here because the conditions of employment the scheme would impose are printed in black and white, which is some advantage were it only that it exhibits the attitude adopted by the working man (in combination, of course) towards the hapless doctor who labours in such districts. He is to be paid by salary having no relation to the amount that may be deducted from his patients' wages or the amount of work he does; he is to have an assistant, but the "scheme" elects him and the "scheme" dismisses him, the principal having practically no control over him. The surgeon must have no private practice, and tradespeople are to be invited to pay the scheme committee at a certain rate, the doctor to have no further emolument for the increase of work thus involved; there is no provision for payment of salary during strikes or stoppages. The salary is, of course, so small that it precludes the possibility of the doctor making provision for a holiday, much less for his family, or for his declining years should he haply outlive his active period of work under such miserable conditions.

How any self-respecting man can accept service under such dishonourable conditions and restraints is to me incomprehensible. Of course if men can be found so invertebrate and so regardless of their own self-respect, not to speak of their professional honour, as to accept service under such conditions, no association or combination of associations can alter their lot.

This Ebbw Vale dispute was far advanced before the establishment of the Contract Practice Committee, and all but settled on the scheme's terms. Since the advent of the Association on the scene much has been done to alter the conditions of employment towards betterment. It is to be deeply regretted that the Association was not earlier in possession of the terms intended to be enforced on some of its members, but its action since accentuates to the full the power of the Association in similar struggles in the future. We have at any rate placed the issues before the medical public so clearly that no self-respecting member of our profession can apply for such ill-requited and such dishonourable service.

What is the remedy for the present and future of such attempted encroachment on our remuneration and on those honourable conditions of service which will alone enable medical men to do their work effectually? The British Medical Association can and is doing much, as I will show later on; but the remedy has to do primarily with ourselves, collectively and individually.

> Who would be free, themselves must strike the blow,

is as true to-day as it was in Greece, groaning under Turkish tyranny.

Is the suggestion too idealistic and impracticable that medical men in our Branch should first of all sink petty differences among themselves and one and all form an organization powerful enough to meet opposing organizations; take a leaf out of the book of the latter, and establish what may be called a minimum rate, based on poundage, below which no medical man can accept service in such appointments? There is much to be said for it. Primarily, of course, each Division of the Branch must initiate the movement, but no one Division can succeed when a neighbouring Division is inert. The South-West Wales Division is not likely to succeed, for instance, in getting more than the 1s. a month now paid when we are twitted with the statement that medical men in Swansea are satisfied with 8d. Personally I would suggest a poundage of 3d. An eightieth part of a man's income, be he rich or poor, is not too much to set aside for medical attendance by way of insurance against illness and accident, not for himself alone, but for his wife and children under 14. This arrangement has the advantage of not pressing heavily on the small-wage-earning labourer, while it makes the skilled worker pay in accordance with his higher rate of pay. This, however, is not an occasion to elaborate a plan for bringing about this improved rate.

I will only suggest a comparison of the state of things thirty years ago, when a pocket case, an amputating case, a pound or two of lint, and a supply of linseed meal, represented the usual armamentarium of the surgeon; and the present day requirements for antiseptic surgery and the antitoxin treatment of diseases, from diphtheria to tetanus, not to speak of opsonic treatment. The task of making out our case presents no difficulties, and the increase suggested is only right, just, and equitable both for our patients and for ourselves. The men will have to be convinced of the fairness of the increase asked for, but the only real difficulty lies within the profession itself.

Looking back with the mind's eye for the last thirty years, I cannot help being impressed with the enormous improvements made in the lot of the working man. How generously successive Governments have repaid him for his vote! One of the most beneficial Acts, the Compensation Act, is giving the medical man a great increase of work and responsibility, without increased remuneration. Holding appointments from the working man and at his pleasure, it is often difficult not to be biassed in his favour. It has been my experience to be supplanted in an appointment because I could not give evidence in favour of a malingerer.

There is also the Old Age Pensions Act, which, however, has little to do with the medical man, but the working man has promises of an Unemployed Bill and a Right to Work Bill.

Again, how vastly enhanced has been the wage-earning capacity of the working man, brought about by the agency of his powerful unions! It is a pleasure to record the good use the vast majority make of their money; they are becoming better educated, have a higher place in the social scale, and higher ideals of life. There are many among the workmen I attend whom I would not hesitate to rank as friends. But the rate of payment he makes for my services is so ridiculously low that a gentleman, at one time assisting me, declined to remain because he objected to attend people at a shilling a month, living in such fine houses and so well circumstanced, who earned higher wages than he himself earned by way of salary. His argument was unanswerable.

Have we as a profession moved proportionately on the road of well-being? In the quality of our work we certainly have, but not in the remuneration for our services, and to my mind the remedy is perfectly obvious. Under the best conditions the amount of work involved in these appointments is enormous; in some cases I know sixty or eighty visits have to be paid daily. I am and have been a somewhat hard worker myself, but after I have seen about forty patients in the course of the day, my jaded mind could not do justice to so large a number as I have indicated.

I would ask those of our members who are more fortunately situated, and particularly those who specialize, to consider the life of a young medical man who resides in a possibly isolated and essentially industrial district, out of touch with his professional *confrères*, with no opportunities for social relaxation with men of his own station in life; harassed and overworked with a long list of patients of varying gravity; an obstetric conundrum or two; possibly an amputation in a cottage without any hospital equipment. Our judgement must not be too critical.

To myself, at any rate, it is marvellous how well the work is done, but—and here's the rub—it is work which soon burns the enthusiasm out of any man, health suffers, and life becomes all but intolerable. Into this state of things introduce the modern invention of schemes and sweating, and the doctor becomes a victim to unfair and impossible conditions, and cannot discharge his duties with pleasure to himself or, indeed, profit to his patients. Work of such kind becomes drudgery, perhaps ill done because it cannot be done with that enthusiasm and "joy of working," as Kipling calls it, which is essential to all good work.

It is the product of such conditions of work, who are finally discharged, that constitute the principal part of the

flotsam and jetsam of the profession, who disregard warning notices and give trouble in the work of the Contract Practice Committee in various districts. During my connexion with the Contract Practice Committee, a picture was given of the conditions of work in a scheme surgery during an evening consultation. Sundry members of the scheme committee—smoking, talking, and spitting—attend in the waiting room, while their nominee was attending to the patients behind a screen. Is there not something demoralizing in the very thought of it?

It is all very well to laud the nobility of our profession, but that members of it should submit to such conditions of work, should be so unmindful of the honour of the profession to which they belong—not to speak of the respect due to themselves—has often made me despair of the betterment of such conditions.

The profession is honourable because the men who have belonged to it in this and past ages have made it so. May it be our lot, individually and collectively, to preserve its honour!

In our individualistic and isolated positions all the members of the profession are liable to be squeezed. I understand that the teaching fraternity have combined to secure consultations from some of the leaders of the profession in surgery, medicine, gynaecology, and all the other ologies for a mitigated fee, and have succeeded. Such weak-kneed submission to the powers of combination, in such a quarter, seems to me most deplorable.

To the want of combination and competition within the profession I attribute the ridiculously small salaries paid by boards of guardians, county councils, and other bodies to their officers. In my experience the payments made for Poor Law appointments are absolutely inadequate.

Not a year ago there was a great scramble for the appointments given in the county council schools. The members were canvassed as if the appointments were a very rich plum indeed. I was very much amused at one meeting of our Division, when our agenda had reference to the increased fees for life insurance, suggesting the raising of the fee from half a guinea to a guinea for proposals of £100 and over and to two guineas for £500 and over, while on the same paper the fee of a shilling was suggested for the examination of each child in the county schools, and accepted. On looking at the list of details required in the school form and the journeys involved to the respective schools, the two proposals seemed so much at variance that it was found scarcely consistent to move the resolution as to the advisability of the increase of the insurance fee. I have no doubt the half-guinea fee for £100 is still accepted!

Again, many schemes of sickness and accident insurance companies have sought favour during recent years, and the medical man's services to report on all claimants is a necessity. The fees offered are only 6d. or 1s., but it is pointed out that the doctor will be well repaid by the opportunity it will clearly afford him of securing an enlarged *clientèle*—of course, by robbing some one's hen roost. I would advise our young members to give these proposals a wide berth, as they not only endeavour to sweat and demoralize the doctor, but fail to benefit the assured.

In the matter of benefit societies—Foresters, Oddfellows, and others—I have had no experience, but I would like to compliment the medical men of Swansea on the result of their stand some years ago for better pay; there is, however, one rule—that about a wage limit—which should be strictly imposed, but is, I understand, "more honoured in the breach than in the observance."

Not long ago a medical man attended the members of a benefit society at the rate of 2s. 6d. a year; one of them died, leaving an estate valued at £10,000. The medical man himself died shortly after, overworked by much such precariously paid work. There is deep pathos, on the one hand in the almost daily, skilful, and ungrudging attendance on the part of the doctor and the contemptible meanness of the patient.

Another form of contract practice, and one which is, I think, entirely due to the folly of individual members of our profession, is the establishment of private clubs. The rate of pay is generally the same as that which prevails in that district in the large industrial appointments. The clerks have combined for small and inadequate pay in the large towns in our Branch, and I hear also that a combination of commercial travellers have secured the services of a medical man at a guinea per annum.

Many private patients of mine have offered me these terms, which I steadfastly decline, and they entrust themselves to the hands of some one else. These people are usually very well off, and could afford to pay the ordinary fees. It has often been an ethical point with me whether I should again attend them, when urgently called, without letting my *confrère* know beforehand.

An opinion has often been expressed of late years in the medical press that every medical school should provide for the senior students, and those who are about to undertake their life's work, a course of lectures on medical ethics. The father of my medical school, Sir William Jenner, was in the habit of inviting some senior students and those who were about to practise, to his house to breakfast, and in an informal way would advise us as to our conduct in our life's work, pointing out three duties. The first duty was to our patients, the second to our profession, and the third to ourselves. The words were golden, and should abide. In general, however, no such advice is given, and our universities and examining bodies regard their duties as completed when the candidates have given evidence of possessing the standard of knowledge required to practise on His Majesty's subjects. Their interest in and care of us is at an end. The General Medical Council is the only body to keep us in the right line of professional conduct. It will not permit the use of unqualified assistants, nor can we administer an anaesthetic if an unregistered dentist wishes to enlist our services. It also takes cognizance of our existence when a charge of infamous conduct may be preferred against us.

Might it not be possible, after such a course of lectures on medical ethics as has been suggested, to get every member to swear to a kind of Hippocratic oath, extended and modified to suit modern conditions? I think it would be well for the profession.

The British Medical Association under its new constitution is endeavouring to supply this want on the lines laid down seventy-seven years ago by its founder, Sir Charles Hastings of Worcester. Dr. Hastings, as he then was, in his address at the inaugural meeting referred to the disability under which professional medical men then laboured, on account, as he suggested, of want of co operation. They did not, he said, hold the rank and influence in the community to which they might aspire and which the Association might enable them to attain. Though its membership at this time was only 150, in his words as to the scope of the Association he foreshadowed the direction in which it should work. In the first place the advancement of medical science in every direction; in the second place the maintenance of the honour and respectability of the profession and the promotion of friendly intercourse and free communication among its members. Under this head, with regard to medical ethics, attention was drawn to the fact that with the exception of a few essays no attempt had been made to establish a code for the guidance of those needing such guidance. In a well organized profession there could be no difficulty in adapting to its exigencies the doctrines of general ethics. With regard to medical politics, attention was called to the fact that the organization of the profession which obtained, was not what it ought to be. The whole system of medical polity was both defective and erroneous.

Have we advanced very materially during the last seventy-seven years? I think we have, and the British Medical Association under its new constitution since 1901 has been better carrying out the functions foreshadowed for it by Sir Charles Hastings.

It would be absurd even to claim that its organization is perfect. It is complicated, and its literature is simply stupendous, as is to be expected when such a body is undergoing a process of evolution. Those of you who are mere members would be appalled at the amount of literature your Representatives at the Representative Meetings and the members of committees and Council have to go through, and the amount of close reading that these documents entail. At our deliberations on the Council much valuable time is wasted on what I consider trivialities, and at the Council meeting in April last I was led to remark that our Council would soon compete with our Imperial Parliament for the qualifying adjective "time-wasting."

It has always been matter of great regret that a more

general interest is not taken in the affairs of the British Medical Association by its members.

To illustrate this indifference a referendum on some most important matters was sent to 222 Divisions, representing 20,673 members, in 1907, and voting papers were sent to be filled up; 159 Divisions only replied, and only 10 per cent. of the members voted. The result of so small a number recording their votes can hardly be considered as the decisive voice of the Association, whatever way the majority voted.

Again, how many of us, for instance, could give an intelligent, much less a critical, account of the Charter which is now being petitioned for? As at present constituted, the functions of the British Medical Association are circumscribed by the laws relating to limited liability companies. It *may* not do this, it *must* not do that. Yet, notwithstanding its present limitations, it has made itself the body which successive Governments consult to obtain the opinion of the profession when legislation for the health of the people is proposed—not the General Medical Council or the Royal Colleges. To do away with the limitations I have indicated, and to enhance the position of the Association and enable it to speak with the voice of the profession behind it, is the object of the Charter.

In the petition its objects are stated under the following heads:

1. The promotion of medical and allied sciences.

2. The maintenance of the honour and the interests of the profession and of the members thereof collectively and individually.

3. The co-operation of the members of the Association for their mutual sustenance and support in all matters affecting them in their professional capacity.

4. The encouragement, promotion, or provision of means for protecting members and their families against the exigencies of age, sickness, death, or misfortune.

If the petition for the Charter be granted, these paragraphs are sufficiently wide to enable the Association to safeguard its members and promote their welfare in every legitimate way.

Among its permissive clauses I will only name the following:

To hold meetings, to provide and equip libraries for the use of members, to publish the British Medical Journal, and to encourage research by scholarship, etc.; it would have authority to promote, support, or oppose measures in Parliament affecting the public health or the medical profession, or the candidature of any member of the Association for Parliament.

Now is it conceivable that any medical man can be so forgetful of his own interests as to remain outside the Association when these mercies are within his reach for 25s. a year, provided he means to "play the game"?

There are in round numbers 40,000 medical men in the British Islands, and dependencies, and yet only 20,000 are members of the British Medical Association; just under 50 per cent. are not members.

In 1875 its membership was	...	...	6,112
In 1885	,,	,,	...	...	11,249
In 1895	,,	,,	...	...	16,000
In 1905	,,	,,	...	...	19,582
In 1908	,,	,,	...	over	21,000

In thirty years its membership has more than trebled, and I only hope that the same increase will continue during the current quinquennium. The fact remains, however, that there are, roughly speaking, 20,000 medical men who are non-members. This may be due, in part, to the mere indifference of a certain section. But there are causes within the Association itself which may, in the first place, cause defection from its ranks, and, in the next place, prevent medical men from becoming members. I will refer briefly to these causes.

Certain necessary ethical rules have been framed by the Ethical Committee appointed for that purpose for the guidance of members, and if these rules are not observed, the member's conduct may come under the consideration of the Committee.

There is, therefore, a preference on the part of some members of our profession who do not mean to toe the line, to remain outside the Association, or, having joined, to allow their subscriptions to lapse, and become free to pursue their work unhampered by such correctness of conduct as the ethical rules of the Association prescribe.

Instances of this character have unfortunately occurred in our Branch; and when the experience of such defection has been dearly bought, the individuals have sought readmission into our membership. I would only say to such that their professional lives will be infinitely pleasanter in "friendly intercourse and free communication" with members of the Association than in doing work outside its ranks as a sort of professional "pariahs."

Again, much unrest, amounting almost to disaffection from the Association, has arisen in connexion with its attitude towards the honorary physicians and surgeons to some of our large hospitals, arising mainly from the somewhat hasty use of the warning notice by the Hampstead and Marylebone Divisions concerning the appointment of the honorary staff of the Hampstead Hospital, a matter in which one of the most honoured members of our Association was concerned. To my mind the action of these Divisions was hasty and ill-considered, and the policy of the Association should be so framed as to avoid similar unfortunate contingencies in the future. Men of the highest standing in our profession, of undoubted honour and probity, should not be submitted to the indignity of defending themselves against charges ill-based, ill-considered, and in every way regrettable. As the result of this proceeding, it is understood that the members of the staff of one of the principal hospitals in London have resigned from the Association rather than submit themselves to the possibility of themselves becoming involved in any such action.

In connexion with this matter, I may refer to a proposal which has been placed before the Divisions for their consideration, to the effect that the British Medical Association should be represented on the Management Committee of our hospitals, and that the King Edward Hospital Fund for London should be requested to permit local practitioners to act on the committees for the administration of out-patient departments. It is notorious that the great hospitals are abused by patients who can well afford to pay for medical attendance, but I doubt if this proposal will mitigate the evil. It will inevitably meet with the most strenuous opposition on the part of the staff and those responsible for the administration of these institutions. The wisdom of the proposal is open to the criticism that as yet the profession, under the aegis of the Association, is not sufficiently organized to justify it, while, on the other hand, it will inevitably be a source of friction between the Association and the staffs of the hospitals in London, and result in a possible defection from our membership.

Those of you who read your Journal carefully will have noticed that a vast amount of correspondence pro and con has taken place in connexion with the Referendum and the petition for the Charter. A strong body of opinion exists on both sides, and threatens a cleavage in the Association itself—perhaps not very serious.

This, I think, is the result of the limited time that can be devoted by the Council and the Annual Representative Meetings to their deliberations on these important matters.

It is hoped, at any rate, that within the Association a unanimous support will be given to the petition for the Charter.

In this connexion I would like submissively to remind some of the more turbulent and progressive members that the medical profession is as old as the centuries, and that our Association is comparatively very young. The one has its traditions and the other its aspirations, and the harmonizing of the whole is more likely to be attained by the gentle leading by means of a gossamer than by driving with scorpions.

Notwithstanding the points of difference I have alluded to, we as a profession must look to our Association as the most precious and powerful agency for the promotion of our welfare, and I hope for it a wider and more efficient future.

The total number of students of medicine in the German universities is at present 8,918. These are distributed among the several universities as follows: Berlin, 1,462; Bonn, 570; Breslau, 359; Erlangen, 260; Freiburg, 751; Giessen, 209; Göttingen, 254; Greifswald, 178; Halle, 234; Heidelberg, 252; Jena, 271; Kiel, 490; Königsberg, 304; Leipzig, 446; Marburg, 313; Munich, 1,696; Münster, 166; Rostock, 165; Strassburg, 268; Tübingen, 300; Würzburg, 490. The number of foreign students, including those belonging to States not included in the German Empire and those of other European and non-European nationalities, is 1,091, of whom 611 are Russians.

REPORT OF A CASE OF OESOPHAGEAL DIVERTICULUM:

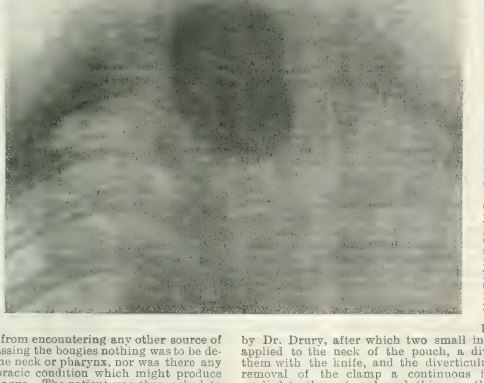
WITH SOME REMARKS ON THAT CONDITION.*

By WILLIAM TAYLOR, M.B. DUB. UNIV., F.R.C.S.I.,
SURGEON TO THE MEATH HOSPITAL AND CO. DUBLIN INFIRMARY.

THE case about to be recorded is that of a condition comparatively rare—namely, an oesophageal pouch or diverticulum.

History.

A gentleman, aged 54 years, stated as follows: "About twenty years ago I observed, when taking a cold in the head, that a white substance like fat, about the size and shape of a small bean, came up out of my throat. A few years later I began to feel a slight inconvenience in swallowing food, which gradually increased. At this time a piece of meat would sometimes remain in the throat for a night without my knowing it, and would come out when in the bath in the morning. This condition continued for a number of years. During the past seven years I had very great difficulty in swallowing, especially during the last two years, during which time considerable quantities of food had to be cleared out of the throat after each meal." He told me subsequently that he often noticed if he took aperient pills at night he could bring them back into his mouth next morning.



My introduction to the patient was through Dr. Finny, by whom the patient was being treated for a severe attack of influenza and its effects upon his heart. Dr. Finny had been this gentleman's family physician for some years, and has frequently expressed the opinion of the probable existence of a pouch or diverticulum above a stricture.

Condition on Examination.

On seeing the patient in consultation with Dr. Finny and hearing the above history, several bougies were passed into the oesophagus, but none could be introduced more than about 9 in. from the teeth. Their passage caused a good deal of irritation and produced severe retching. The passage of the bougies seemed to me to become arrested from spasm of the oesophagus, rather than from encountering any other source of obstruction. Prior to passing the bougies nothing was to be detected on inspection of the neck or pharynx, nor was there any physical sign of any thoracic condition which might produce pressure upon the oesophagus. The patient was then asked to swallow a mouthful or two of water. The effort to do so was accompanied by a good deal of unpleasant gurgling about the pharynx, quite audible all over the room, and about ten to fifteen seconds subsequently the fluid could be heard through the stethoscope trickling into the stomach, but apparently only in small amount. Half a pint of water was then drunk, apparently with more ease than a single mouthful. There was no visible change or fullness to be detected about the neck, but the patient pressing upon his neck with his fingers on each side of the larynx immediately ejected from 2 to 3 oz. of the water. A biscuit was then given to him to eat, but pressure upon the neck in the same way failed to eject any of it. Another glass of water was swallowed, after which pressure on the neck as before ejected some 2 oz. The stomach presented evidences of dilatation, and splashing was easily detected. Having left the room to consult about the case, we were almost at once recalled, and the patient then, by slight pressure upon the neck, ejected the biscuit he had just previously eaten.

The diagnosis of oesophageal pouch was subsequently confirmed by Dr. Watson, who took an excellent radiogram, after giving the patient some bread and milk, containing a considerable amount of bismuth oxide. On looking through the screen, the bolus of food could quite easily be seen entering the pouch when he attempted to swallow. Four spoonfuls were given to the patient while we were looking through the screen, and the bolus on each occasion could be seen passing down the pharynx and entering the pouch, but none could be detected passing down the oesophagus into the stomach. On any attempt at deglutition, such as the attempt to swallow saliva, we could see the now distended pouch with its black contents, about the size of a hen's egg, rising and falling. It seemed to spring from the left side of the oesophagus, pass downwards towards the middle line, and terminate a little towards the right side, just below the level of the suprasternal notch. The screen was placed directly under the chin, with the head thrown well up and back, so as to obtain a good view of the bismuth food from the moment it entered the mouth. It was subsequently found that the patient himself had discovered that he was able to swallow much more easily when the head was inclined towards the right side and bent forwards, but with the head thrown upwards and directed towards the left side deglutition was more difficult, and less food seemed to him to pass onwards into the stomach. He always referred his sense of discomfort and fullness after deglutition to the right side of the neck about the level of the hyoid bone.

Operation.

The pouch was removed on May 27th, 1908, in the presence of Dr. Finny, Mr. Henry Stokes assisting me, and Dr. Drury giving the anaesthetic.

The pouch was readily exposed by making an incision along the anterior border of the sterno-mastoid muscle from the hyoid bone to the sternum. The omo-hyoid muscle (anterior belly) was divided, and the superior thyroid vessels divided between two ligatures. A rather large lateral lobe of the thyroid gland was displaced, so as to expose the oesophagus. The pouch, which was slightly distended with air, passed downwards directly behind the oesophagus, its lower end extending to a point just below the level of the suprasternal notch. There were no adhesions, and it was readily drawn out of the wound; it had its origin from the posterior aspect of the oesophagus, about its junction with the pharynx. A few muscular fibres were spread out over its neck, but the major portion of the pouch seemed to consist mainly of thickened mucous membrane.

An oesophageal bougie was passed by Dr. Drury, after which two small intestinal clamps were applied to the neck of the pouch, a division made between them with the knife, and the diverticulum removed. Before removal of the clamp a continuous fine silk suture was applied to the cut end, and this was then enfolded towards the lumen of the oesophagus by a second fine silk suture, which passed through the muscular tissue alone. The application of this suture was the only difficult part of the operation, as the oesophagus slipped back into its normal position the moment the clamp was removed. In any subsequent case, I intend before removing the clamps to pass two traction sutures through the oesophagus above and below the situation of the communication of the pouch with the oesophagus by which the assistant could pull it out, allowing the second row of sutures to be passed with greater certainty and rapidity. The suturing of the oesophageal opening completed, a soft stomach tube was passed and the stomach washed out, so as to diminish any tendency to vomit. A small tube was passed from the middle of the wound towards the sutured oesophagus, and around this tube a piece of gauze was loosely packed. About three-fourths of the wound was closed by silkworm gut sutures and protected with flexile collodion dressing.

After-Treatment.

The subsequent treatment consisted in giving salines with and without raw meat juice by the rectum at regular intervals, and in withholding all nourishment by the mouth for four days. The mouth was frequently rinsed with formolytol solutions and kept as clean as possible. On the fifth day teaspoonful doses of raw meat juice and sterilized milk and small pieces of jelly were given by the mouth, and when it was seen that there was no sign of leakage from the oesophageal wound fluid

*Read before the Surgical Section of the Royal Academy of Medicine in Ireland.

nourishment was increased both in amount and in frequency, until by the eighth day as much as 4 to 6 oz. were taken at a time. Junket was then added and beaten-up eggs. From this on the diet changed to fish cream and chicken cream, then to boiled fish, and finally, by the end of three weeks, roast lamb with vegetables could be partaken of easily and with comfort. The chief trouble lay in getting the bowels to act. The temperature rose to 102°, but the pulse kept quiet, and there never at any time seemed any sign of irritation about the wound, which indeed healed up by first intention (the sutures were removed on the fifth day), except at the site of drainage, which healed within a couple of days after the drainage was left out. There was never at any time any sign of leakage. An attack of pleurisy on the day when the patient was about to return home detained him in the private hospital for another week.

On July 9th, 1908, the patient wrote: "Since the operation in June last I have no inconvenience in swallowing." He has since taken a trip to New Zealand, and has returned in perfect health. There is no discomfort whatever about his neck while swallowing.

Pathology.

Etiologically there are two varieties of diverticula—traction and pressure diverticula.

In the former the wall of the oesophagus is pulled outwards by the contraction of fibrous tissue formed in connexion with some old-standing inflammation in a neighbouring structure to which the oesophagus had become adherent. Most traction diverticula are small and situated on the anterior aspect of the oesophagus, though they have also been observed on the posterior wall. They do not, as a rule, produce symptoms, because the apex of the diverticulum is at a higher level than the opening, so that food either does not enter the diverticulum at all or does not stay in it. Such a condition is said, however, to favour the development of carcinoma.

Pressure diverticula are produced, as the term implies, by pressure, and the mouth of the diverticulum is at a higher level than the sacculus itself; consequently food enters the pouch, and the tendency is for the diverticulum, having once formed, to continue to increase in size. They are situated at the posterior or postero-lateral aspect of the oesophagus at its junction with the pharynx.

Their production is said to be favoured by the physiological narrowing which exists at the level of the pharyngeal constrictor and the gap said to exist at that point in the longitudinal muscular layer. They vary in size, and may extend for a considerable distance into the thorax. They usually pass downwards towards the left, but may be met with on both sides. Something like 100 cases have been reported from time to time. Mr. H. T. Butlin has reported no less than 8 cases upon which he operated, with 1 death. He states that he has notes of some 6 or 7 other cases; that in his opinion the cases are not so rare as we have been led to suppose; and that it only requires the attention of practitioners to be directed to the symptoms for more cases to be recognized.

Symptoms.

In the early stages the patient complains of dryness and a scratchy feeling in the throat, frequent hawking, nausea, expectoration of mucus, and a flow of saliva. Hawking brings up particles of food from the last meal mixed with mucus. A feeling of pressure may be experienced after taking solid food. After some time the sensation of the presence of a foreign body in the throat is experienced, and there is difficulty in swallowing. Small quantities of food regurgitate into the mouth sometimes while eating, at other times after long intervals—for example, on getting up in the morning a portion of the previous night's supper may be regurgitated; this is a most important sign of the condition. Pressure on the side of the neck after eating or drinking may empty the contents of the pouch into the mouth. The regurgitated or ejected contents—unless when decomposition has taken place in the pouch—appear just as if recently swallowed. They are mixed with saliva and mucus, never appear digested, and are never mixed with stomach contents. Efforts to swallow may be associated with a gurgling noise in the pharynx owing to the escape of air from the pouch. Large diverticula when distended may produce dyspnoea and hoarseness from pressure, while the pressure upon neighbouring blood vessels may produce congestion. The pressure of a distended diverticulum, if large, may obliterate the oesophagus so as to render further deglutition impossible. Decomposition of the contents of a diverticulum will produce great fetor of the breath. These symptoms may not manifest themselves till late in life. Most cases are over 40 years of age and some 70 years or more. One case of Butlin's, operated upon successfully, was 73, and one case, also successfully operated upon by Dr. George E. Brewer,[1] was 78 years of age.

Diagnosis.

The diagnosis can generally be readily made from the history which is quite characteristic. Nothing could be more typically characteristic of an oesophageal diverticulum than the history of the case just detailed. Examination with *x* rays by the screen while giving food containing some salt of bismuth, particularly a heavy salt such as the oxide, will confirm the diagnosis. An *x*-ray photograph taken when the pouch is full of the bismuth food will be a permanent record of the situation and extent of the pouch. The oesophagoscope, I have no doubt, would also confirm the diagnosis as well as show the position and size of the diverticulum.

Cases have been mistaken now and again for stricture of the oesophagus, either simple or malignant. One case was operated upon by Mr. Whitehead, of Manchester, under the impression that the patient was suffering from cancer of the oesophagus (gastrostomy being the operation). She survived some six years, and *post-mortem* examination showed the real cause of the trouble to have been an oesophageal pouch. One of Mr. Butlin's patients had his throat cauterized and the uvula cut or burnt off under the impression that the elongated uvula produced the symptoms reflexly. The subject of this communication was cauterized several times under the same impression by a specialist.

Prognosis.

Without operation the prognosis is bad. The condition gradually gets worse, until death takes place from inanition or until decomposition leads to suppuration and abscess, mediastinitis, or septic pneumonia. The condition may, it is said, lead to the development of cancer, the pouch itself becoming cancerous.

Treatment.

The correct treatment consists in the complete removal of the pouch. This operation does not tax the patient's strength or vital powers unduly, is simple to perform, and the results are eminently satisfactory. Old age does not seem to be any bar to the success of the operation.

The mouth and teeth should be attended to before the operation, and the pouch itself should be empty. If the breath is fetid the probability is that decomposition is taking place in the pouch. It should therefore be washed out with some non-poisonous antiseptic or disinfectant.

The incision should extend from the hyoid bone to the sternum, on whichever side the pouch is situated, and along the anterior border of the sterno-mastoid muscle. The anterior belly of the omo-hyoid muscle and the superior thyroid vessels must be divided.

The lateral lobe of the thyroid gland may require displacement. The pouch can then be easily seen and withdrawn, for unless decomposition has led to inflammation it is not adherent. The continual movements of the oesophagus during deglutition prevent adhesions. On drawing the pouch out of the wound a bougie should be passed to ensure the absence of stricture, and to indicate accurately the position to which the clamp may be applied so as not to encroach too much upon the oesophagus. Risk of infection of the neck will be minimized, if not abolished, by having the pouch emptied and by putting between clamps. The loose tissue at the root of the neck should be disturbed as little as possible, otherwise infection of the neck, if it supervened, would readily extend to the mediastinum and cause death. The oesophageal wound should be accurately closed by two, or possibly three, rows of sutures. The first row should be applied to the cut edges of the neck of the diverticulum before the clamp is removed. Two traction sutures should be passed through the oesophagus above and below the site of the pouch, so as to facilitate the application of a second, or even a third, row of sutures to enfold the first row. The oesophagus can thus be drawn outwards and forwards by the assistant pulling upon the traction suture. The second row of sutures should only pick up the muscular tissue of the oesophagus, while a third row, if desired, may close the loose cellular tissue over the muscular layer. Drainage should always be provided for by tube and gauze; but I see no reason for

leaving the entire wound open, as Mr. Butlin and others recommend (von Bergmann's operation). The stomach may be washed out after the oesophagus has been sutured, so as to diminish the likelihood of post-anaesthetic vomiting. The stomach tube passes readily.

The post-operative treatment is also important. In any future case I shall certainly carry out a similar line of post-operative treatment to that adopted in this case—namely, the avoidance of all nourishment by the mouth for four days, frequent rinsing of the mouth and pharynx with an antiseptic mouth-wash, and rectal administration of salines with raw meat juice. It may be said that as the patient is constantly swallowing saliva he will be no worse off if allowed to take liquid nourishment; but I think less strain will be thrown upon the oesophageal wound by simply leaving the patient to swallow saliva than by giving milk and other liquid nourishment to drink.

Some authorities recommend preliminary gastrostomy a couple of weeks before removing the diverticulum, with the object of increasing the patient's strength before operation and of being able to feed him from the first without running any unnecessary risk of producing leakage of the oesophageal wound. In greatly emaciated patients badly exhausted by inanition, such a preliminary operation under cocaine anaesthesia should unquestionably be performed, but in cases not so exhausted it is unnecessary.

The removal of the diverticulum itself could easily be accomplished under local anaesthesia, and the patient given a satisfactory meal through the stomach tube passed before the neck wound is closed and while the sutured oesophagus is still under the operator's eye.

Passing a tube through the mouth into the stomach or oesophagus, and leaving it in position so as to feed the patient subsequent to the removal of the pouch, is a procedure to which I should not have recourse.

REFERENCE.

[1] *Annals of Surgery*, October, 1908.

Remarks ON COMMON TYPES OF SORE THROAT.*

BY A. STANLEY GREEN, M.B., B.S.,

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SORE throats present considerable difficulties both in diagnosis and treatment, and are amongst the most anxious cases that the medical man is called upon to treat in his practice, especially amongst children, for when a child complains of a pain in the throat the mother is filled with anxiety, sends for the doctor, and her first question is, "What is it, doctor? Is it diphtheria?" and the doctor is expected to give it a name forthwith. Now, in some cases this is an easy matter, but in a large number the diagnosis presents many difficulties, and the cautious man will exercise reserve in giving a definite opinion.

Scarlet Fever.

I do not propose to enter into any details with regard to the differential diagnosis of the acute specific infectious diseases from the appearance of the throat; so many other circumstances have to be taken into consideration with which you are all more familiar than I am, for my practice does not lie in that direction. I often hear the expression, "He's got a typical scarlet fever throat"; but there are four different conditions of sore throat met with in scarlet fever.

1. The tonsils, faucial pillars, palate, uvula, and oropharynx are swollen and of a deep red colour. Sometimes there is inflammatory oedema. (This picture was exactly reproduced in all the throats in our milk epidemic, and many cases were isolated, the isolation being strictly enforced until the patient had finished peeling; in all my cases the oedema was very marked, and the submaxillary glands were involved very early and to a considerable extent.) I have also seen several throats this spring which presented the same appearance, but they were due to influenza; but in these patients the glands were not affected, but a very troublesome cough annoyed the patients, especially at night, and caused a sharp cutting pain in the larynx, which, however, on inspection was found to be normal, but the mucous membrane of the trachea was the seat of inflammation. I found that glyco-heroin acted as a specific for the cough, and the pain was relieved by benzoic acid lozenges sucked freely.

2. The appearance presented may be that of a follicular tonsillitis.

3. A definite membranous inflammation may occur; the membrane is soft, and leaves superficial ulceration as it disintegrates.

4. Marked and deep ulceration occurs in the septic variety; the ulceration may spread upwards to the naso-pharynx and nose and downwards to the epiglottis and larynx; the soft palate may be perforated or the uvula may slough off.

The treatment of the throat symptoms in these diseases merits more attention than is usually paid to them; a gargle is frequently ordered, which many patients, especially children, are unable to use, and in any case the fluid seldom reaches the oropharynx; it is far more efficacious to prescribe a lozenge—for example, formamint—or apply whatever fluid is chosen with a brush; this the physician should do once a day himself, because parents, and indeed many trained nurses, are unable to carry this out efficiently, and more is deposited on the surface of the tongue than reaches the inflamed area. I find it better in many cases not to depress the tongue with a spatula—this causes the patient to hawk and retch; if the patient is directed to open the mouth wide and take a deep breath, the tongue sinks down, and the brush can be passed in rapidly, and the whole area thoroughly swabbed. Inasmuch as the inflammation in a large percentage of cases extends upwards through the Eustachian tubes to the middle ear, causing acute otitis, it is always advisable to douche the nasal cavities; personally I never use a spray, as they are inefficient, easily get out of order, and frighten a nervous child. I find the glass douche the easiest to use, and a warm alkaline solution the most efficacious in clearing away the mucus and freeing the nasal passages.

Diphtheria.

I need not say much about diphtheria; the only question is one of early diagnosis, and the prompt injection of serum in efficient doses. The diagnosis is often attended with difficulty, especially when the membrane is confined to one or both tonsils; indeed, when I was a student I was taught that such cases were not diphtheria, but I have seen several cases in which only one tonsil was covered with membrane, but bacteriological examination revealed the specific organism; these cases are very important, because many of the patients are well enough to walk about, but at the same time are sources of infection to their comrades, and may themselves suffer from subsequent paralysis. The injection of serum is sometimes followed by very unpleasant symptoms.

I had a case lately where I injected 3,000 units of anti-diphtheria serum, and in less than ten minutes the patient's eyelids commenced to swell and this swelling involved the whole of the face in less than one hour; the lips were as thick as a negro's, and the whole body was covered with an urticarial eruption which caused the patient intolerable irritation. I remembered that I had treated her six years previously for hay fever, and that one of her sisters had suffered from chilblains, so I prescribed 20-grain doses of calcium chloride every two hours, with the result that in fourteen hours all the swelling had disappeared from her face and only small areas of eruption were causing any irritation.

Vincent's Angina.

Vincent's angina is a condition met with more commonly than is generally supposed. There are two varieties, but only the ulcero-membranous presents any interest for us; the diphtheroid is extremely rare. The more common type is ushered in by headache and fever with redness of the fauces and enlargement of the tonsils; the breath is fetid, tongue coated, and the submaxillary

* A paper read before the Boston and Spalding Division of the British Medical Association.

glands swollen and tender; deglutition is attended with difficulty and pain. The attack may subside in a week or ten days, or may persist and become chronic; in some cases ulceration of the tonsils and palate may occur. In one case of mine both middle ears had become infected before I saw the case, and both the fusiform bacillus and spirillum were found in the pus. When a grey or yellow membrane has formed on the tonsils and palate it is difficult to diagnose the case from diphtheria or streptococcal infection without a bacteriological examination.

Streptococcus Infection.

One of the most serious conditions of sore throats that we are called upon to deal with is acute streptococcus infection, which may simulate diphtheria very closely, but the diagnosis is cleared up by taking a swab. If seen in the early stage only one tonsil may be affected; it is swollen and red and covered with a yellowish membrane which is difficult to remove, and the surface of the tonsil bleeds when the membrane is removed; the patient's breath is offensive, tongue coated, temperature high (sometimes 106°), and pulse rapid; very soon the other tonsil is affected, and the palate may or may not be swollen. I have seen a case lately where both tonsils and their pillars were acutely inflamed and covered with thick yellow membrane, whilst the palate and uvula were unaffected; the patient feels miserably ill, is with difficulty persuaded to take food, and, if the swelling increases and invades the epiglottis and larynx, respiration becomes impeded, and the patient may be in imminent danger; it may be necessary to scarify the swollen parts or perform tracheotomy. The glands behind the angle of the jaw are affected from the commencement and may form a swelling the size of a Tangerine orange in less than forty-eight hours. Culture from a swab will give either a pure growth of *Streptococcus pyogenes aureus* or a mixed growth of *Staphylococcus* and *Streptococcus*. I find it best to give 5 to 10 c.cm. of polyvalent serum (P.D.), and I swab the throat with a solution made by dissolving 10 grains of a powder composed of equal parts of sodium bicarbonate, sodium chloride, and potassium chlorate in an ounce of water; this should be done every two hours or every hour if necessary. It is surprising how this solution will dissolve this membrane or diphtherial membrane if thoroughly applied; in one case of mine the whole surface of the oropharynx and both tonsils was covered with a thick yellow membrane, but it all disappeared in twenty-four hours, and in thirty-six hours the throat was clear. The throat in this case had been painted with solution of silver nitrate and lactic acid for three days without any improvement taking place, and I am convinced that it is quite useless to paint these throats with antiseptic solutions, as they only tend to harden the membrane.

Place a thick piece of diphtherial membrane in this solution, and you will see it melt away; but place a similar piece of membrane in a solution of weak mercury perchloride and it will become tougher than before. The effect of the serum is in some cases astonishing; in others it is very slow, and a second dose may be required. One very acute case—a lad with empyema of the right maxillary antrum, with a temperature of 105° and a pulse of 140, a thick-coated tongue, and an intensely inflamed septic throat—recovered in less than forty-eight hours. I always prescribe an effervescing mixture of iron and quinine every four hours, giving 20 minims of tinct. ferri perchlor. to each dose; the bowels must, of course, be thoroughly cleared with a good dose of calomel.

Retropharyngeal Abscess.

Retropharyngeal abscess may follow a septic throat. It is, however, a very rare occurrence in adults. I saw one in consultation with Dr. Genney last year. The patient's throat had not been very acutely inflamed, but the abscess, which was situated on the right side, was a large one, and I advised immediate operation on account of the danger of the abscess bursting during his sleep and flooding his larynx; in this case I opened the abscess by means of a 3 in. incision along the posterior border of the sterno-mastoid muscle. I feel sure that in adults, at any rate, this method is attended with less risk than opening through the pharyngeal wall, which is the method usually employed with children in acute cases. I know of one case in which a fine athletic young man died of septic pneumonia three days after such an abscess had been opened through the pharynx. In the case I operated on a culture from the pus gave a pure growth of the *Streptococcus pyogenes aureus*. The patient did extremely well until the tenth day, when his temperature suddenly rose to 104°; we decided to give 10 c.c.m. of polyvalent serum and this had a wonderful effect for the temperature fell to normal in eighteen hours, and there was no further rise.

The only condition that could be mistaken for a retropharyngeal abscess in an adult is a large gumma. In children a chronic retropharyngeal abscess, due to adenitis or vertebral caries, is not at all uncommon, and in these cases I have always performed the external operation, and up to the present I have not lost a case.

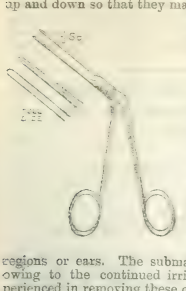
Tonsillitis.

The tonsils are a great source of trouble to many people, and are subject to various forms of inflammation, the most common being lacunar and parenchymatous. In the former the brunt of the inflammation falls upon the lacunae, which are plugged with yellow material, and in some cases small abscesses form at the bottom of the crypts; in the latter the whole tonsil is swollen and inflamed, and if both are attacked at the same time may meet in the middle line, and make swallowing a matter of very great difficulty. The pain may sometimes be relieved by placing the index finger in front of the tragus on each side during deglutition. Rheumatism has been assigned as the poison which causes many of these cases of acute tonsillitis, and it is—in children, at any rate—essential to keep the patient at rest in bed, and a careful examination of the heart should be made, and if any cardiac trouble be discovered small blisters should be applied over the cardiac area. I find gargles worse than useless in these cases, and it is better to give the patient guaiacum lozenges to suck freely and to apply warm alkaline lotion to the throat with a brush several times a day. I always prescribe sodium salicylate, sodium bicarbonate, and ammonium bromide, and, if there is a high temperature, I add tincture of aconite. Sodium benzoate is said to cure acute lacunar tonsillitis in from twelve to thirty-six hours if given in 5 to 15 grain doses every two hours. Some patients prefer warm fluids, while others obtain more relief from sucking ice.

We have a different condition to deal with when the peritonsillar tissue is the seat of inflammation, for in these cases we nearly always have abscess formation and the tonsil is pushed downwards and inwards; the faucial pillars and corresponding half of the soft palate are acutely inflamed; hot linseed poultices round the neck and hot drinks help matters, but venous hyperaemia, by means of a long narrow cupping glass, is better still. As soon as pus has formed it should be evacuated. It is cruel to leave a patient to suffer perhaps another forty-eight hours to allow the abscess to burst; it is far better to paint the throat with cocaine and incise the abscess with a bistoury, and then pass in a pair of narrow forceps, which should be opened until all the pus has been evacuated. The point of the bistoury should be inserted at the outer of the two angles formed by a horizontal line passing through the base of the soft palate and intersecting the vertical line passing along the surface of the inflamed tonsil; the bistoury should be plunged in to the depth of ½ in., and then a pair of narrow forceps passed along the track and opened in different directions until the pus has been found. When recurrent attacks of tonsillitis occur there is always some cause—for example, obstruction to nasal respiration, bad hygiene, or carious teeth—which must be removed.

There can be no doubt about the expediency of removing tonsils which are the seat of chronic tonsillitis or have been subject to recurrent attacks of acute inflammation; in the latter case, every piece of tonsillar tissue must be removed or our object will not be attained. I remember a case of a nurse who had been practically thrown out of work by constantly recurring attacks of tonsillitis, although both tonsils had been sliced with the guillotine on two separate occasions, yet when the offending tonsils were removed *in toto* with punch forceps no further trouble was experienced. It is, I think, impossible for any surgeon to remove the whole of a tonsil with the guillotine single handed, because the tonsil slips away when pressure is put upon it; it is therefore necessary to have an assistant to press the tonsil into the fenestrum of the instrument.

I have had a pair of forceps made with the blades cutting up and down so that they may fit in between the pillars of the fauces, which are in danger of being injured if the blades cut from before backwards.



Calculi often occur in the tonsils, due to the retention of the secretions in the lacunæ, and these become calcified. They usually occur in the upper part of the tonsil. They may give rise to no symptoms or may cause prolonged suppuration with periodical attacks of acute or subacute inflammation or severe pricking sensation or stabbing pains in the faucial regions or ears. The submaxillary glands may enlarge owing to the continued irritation. No difficulty is experienced in removing these calculi either with a scoop or a pair of forceps.

Malignant Growths.

Sarcoma is the most common of the malignant tumours which affect the tonsil, and may present itself as a smooth, red, irregularly-lobulated tumour, which tends to spread externally. If seen at this stage before the glands are affected, the tumour can in many cases be shelled out from its capsule with very little trouble and little if any haemorrhage. If ulceration has occurred the outlook is very different: still, if the condition of the patient is good an attempt should be made to remove the growth.

I have had a fairly large experience in the treatment of both sarcoma and carcinoma of this region with *x* rays and radium, and I find that not only is the rate of growth not checked, but in some cases it is accelerated. I had, however, one case of sarcoma of the right tonsil with extensive enlargement of the glands, which I treated with large doses of *x* rays, with the result that after the growth had been removed from the tonsil the glands subsided entirely, and did not give any trouble until a recurrence took place in the tonsil. Further *x*-ray treatment again caused the glands to subside; but a third recurrence took place, and in spite of all I could do the glands enlarged to an enormous size and the patient died.

The clinical aspect of carcinoma of the tonsil is quite characteristic—an excavated ulcer with hard everted edges. The only condition which may simulate it in any way is a broken-down gumma, which would disappear under large doses of potassium iodide.

Syphilis.

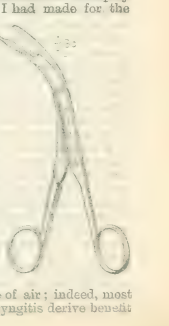
I have found more relief is obtained by the insufflation of orthoform in ulcerated conditions of the pharynx and larynx than by any other method. In secondary syphilis of the pharynx, the so-called "snail-track" ulcer, the best local application is a solution of chromic acid (10 grains to the oz.). Inherited syphilis often attacks the bucco-pharyngeal cavity, and may produce a deep ulceration in the centre of the hard or soft palate, nasal fossæ, or posterior wall of the pharynx, laying bare the bone and causing necrosis.

Chronic Pharyngitis.

Chronic pharyngitis is a very common complaint, causing the patient a considerable amount of discomfort, which a highly nervous individual may magnify into real pain. Some of these cases are of the simple variety, and the soft palate, faucial pillars, and oropharynx are red and inflamed; there is a good deal of tenacious mucus on the wall of the pharynx which the patient finds is difficult to get rid of, especially in the morning, and this causes retching, and in some cases a troublesome barking cough. These patients complain that they have always got something in the throat which they are unable to get rid of, and also a tickling sensation starting in the soft palate and spreading over the whole of the pharynx, and they feel that it would give them ease if they could rub the surface with a finger; all these sensations are more marked when hyperplasia of the lymphoid follicles which surround the ducts of the mucous glands on the posterior wall of the pharynx has taken place, causing granules which vary in size from a split pea to a threepenny piece, and which in some cases form lateral bands behind the posterior faucial pillars; these are best seen when the patient retches. Prominent blood vessels sometimes run across the wall of the pharynx, and give rise to a great deal of discomfort unless they are obliterated with the galvano-cautery. This granular variety is very often met with in clergymen and other professional voice-users.

Chronic pharyngitis is often the only visible sign of some constitutional defect, and its successful treatment depends upon the care taken in ascertaining the cause; this may be some bad habit—for example, drinking alcohol to excess, especially spirits (topers always have a very sensitive throat), excessive tea drinking (in men as well as women), smoking (especially cigarettes), the use of pickles, sauces, and hot spicy foods. If there be a history of gout or rheumatism I eliminate meat from the dietary. In any case in which the patient complains of dyspepsia and heartburn I insist upon a very simple diet, and order a mixture of soda and gentian before meals and papain in cachets or tabloids after food: constipation is often troublesome in such cases, and an aperient water in the morning, fasting, is the best corrective. If there are any carious teeth present the patient must see the dentist. A warm alkaline douch for the nose will give much relief, and if the same fluid is used with a brush on the wall of the pharynx most of the mucous will be removed without any difficulty; the pharynx may then be brushed with some astringent paint—for example, silver nitrate solution in various strengths or a solution of iodine in potassium iodide. If the granules do not disappear under this treatment they should be destroyed with the galvano-cautery blade, only a few being touched at each sitting. This is best done under cocaine anæsthesia. One of the best lozenges to prescribe in these cases is the carbolic acid of the *British Pharmacopœia*: menthol in the form of a lozenge with a black-currant base sometimes gives great relief, but some patients have a great distaste for menthol.

In quite a large number of cases of chronic pharyngitis a careful examination of the nose will reveal some obstruction to nasal respiration; this must of course be remedied, especially if it is sufficient to cause the patient to sleep with the mouth open. The form of obstruction that I have found most commonly associated with pharyngitis is that known as "alternating rhinitis," where first one nasal passage and then the other is blocked by the swelling of the inferior turbinate bone; this occurs most frequently when the patient is in bed, and he finds that he is unable to breathe through the dependent nostril. When the patient is examined both nostrils may be patent, and the condition may be missed unless the patient is closely questioned. Application of the galvano-cautery to the mucous membrane of the offending turbinates may cure this condition, but in some cases is not sufficient, and it is necessary to remove the anterior third of the bone; this I do under anæsthesia produced by the application of a 10 per cent. solution of alypin, a less toxic drug, which I find quite as effective as cocaine. The method I employ is to make a cut with scissors, which I had made for the purpose with the lower blade a little longer than the upper. I then pass the loop of the cold snare round the cut end, and by tightening it up remove the amount I consider necessary; haemorrhage is free at the time, but soon ceases, especially if calcium chloride has been administered to the patient in 15 grain doses for three days before the operation is performed. I find it best to give this drug one hour before each meal.



A very dry condition of the pharyngeal mucous membrane is sometimes seen in weak, anæmic women, and no other cause can be detected save the condition of their general health. The best treatment is the administration of cod-liver oil and iron and change of air; indeed, most patients suffering from chronic pharyngitis derive benefit

from change of air, and of all places that I have tried I find Buxton the best, except when the patient is suffering from rheumatism. Then I recommend either Malvern or Droitwich, so that the brine baths may be taken as part of the cure.

Laryngitis.

Although ulceration of the vocal cords never occurs in simple chronic laryngitis, still this is a condition which is very difficult to cure, and which very often relapses. It often occurs with chronic pharyngitis, and the same causes which have been mentioned in that condition should be looked for and eliminated as far as possible. The inhalation of steam medicated with compound tincture of benzoin or the oil of Scotch fir often gives relief. Care must be taken that the steam is not of too high a temperature, and I always advise patients to mix two-thirds of boiling water with one-third of cold water. If the secretions be viscid and difficult to get rid of, the best lozenge is one composed of ammonium chloride, the only drawback being the disagreeable taste; potassium iodide and tincture of nux vomica in a mixture will often help in this condition. It may be necessary to apply astringent solutions direct to the seat of inflammation, and of these zinc chloride is the best; a wool brush made by twisting some wool tightly round a curved Playfair's probe should be used. The patient must be instructed to use the voice as little as possible.

Laryngitis may be due to the tubercle bacillus, and is then nearly always secondary to tuberculous disease of the lung. It may occur in quite the early stage of pulmonary tuberculosis, before any physical signs can be detected with the stethoscope, although the extent of the lung mischief may be apparent if the chest be examined with the *x* rays. The importance of an early diagnosis is very great, because laryngeal tuberculosis is not now the extremely fatal disease which it was thought to be some years ago. I have seen some cases make very good recoveries, even when both lungs were affected. The most important point in the treatment is rest to the larynx; the patient must be instructed not to raise his voice above a whisper. Even when ulceration has taken place, the patient need not necessarily lose hope, if only he is able to devote the necessary time and money to a long stay in a good sanatorium. I have more than one patient under my supervision in whom the ulcer has cicatrized, the lung trouble has become quiescent, and the patient has resumed work. Where ulceration is present and pain a prominent feature, insufflation of orthoform gives more relief than anything else, and the patient soon learns to do this for himself. Active local treatment, also, is sometimes necessary in these cases.

Malignant Disease of the Larynx.

Malignant new growths are divisible into two groups, intrinsic and extrinsic. The former include tumours growing from the ventricular bands, the ventricles, the vocal cords, and the parts immediately below the cords. The term "extrinsic" is applied to neoplasms taking their origin from the epiglottis, aryepiglottic folds, the interarytenoid fold, the pyriform sinus, and the posterior surface of the cricoid plate. The importance of this classification lies in the fact that intrinsic cancer is of slow growth, and secondary deposits only occur late in the disease when the growth has spread beyond the confines of the larynx. Early diagnosis and prompt operation give better results than follow removal of cancer in any other region of the body. Indeed, some very excellent results have been obtained since the method of attacking the disease by the external operation of thyrotomy has superseded the older methods of intralaryngeal removal.

A very different story has to be told of extrinsic cancer, for in these cases ulceration occurs early, and the glands are involved much earlier. The only condition which this could be mistaken for is a broken-down gumma. Even in these late cases, if the patient's general condition warrants it, an attempt should be made to extirpate the disease by complete excision of the larynx provided the serious danger of the operation is placed before the patient, and he prefers to face this rather than the inevitable suffering which must ensue if the disease is allowed to take its natural course. It should be laid down as an absolute rule that when an adult complains of hoarseness or alteration of voice of several weeks' duration, the larynx should be carefully examined, and if there is diminished mobility of a vocal cord with or without a definite tumour, the help of a skilled laryngologist should be promptly obtained. Many lives and much suffering would be saved if this rule were rigidly observed by those who first see these cases.

ON THE WASSERMANN REACTION IN GENERAL PARALYSIS OF THE INSANE.*

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WHEN the serum of a syphilitic patient is mixed with an extract made from the liver of a syphilitic fetus, the mixture possesses a property not possessed by either constituent alone in the same degree. It is able to take up complement. That this is the case is shown by adding to the mixture a suitable quantity of complement—that is, fresh guinea-pig serum—and after an interval adding sensitized red blood corpuscles. The red cells remain intact, suspended in the fluid; whereas, if the complement had not previously been taken up, they would have been laked.

A quite analogous phenomenon occurs in other conditions. If we mix the serum of a typhoid patient with an extract of typhoid bacilli, the mixture similarly acquires the property of fixing complement; and this is true for many other organisms and the corresponding serums. It seemed reasonable, therefore, to suppose, as Wassermann[1] did when he discovered the syphilis reaction, that in this case also he was dealing with an extract of the causal organism and the corresponding serum. In other words, the liver extract was active because it was an extract of the *Spirochaeta pallida* contained in the liver, and the serum was active because the patient had responded to the invasion of the spirochaete by producing an antibody in his blood. If this were so, the reaction would be specific; the complement would be fixed only if the serum came from a syphilitic, but would remain free if the serum were derived from a non-syphilitic; and a method for the serum-diagnosis of syphilis would have been devised. This proved to be the case. The reaction is specific for syphilis, and its value as an aid to diagnosis is admitted. The theoretical support, however, and the convenient explanation of the specificity which the typhoid and other analogies supplied, have had to be abandoned. It has been shown by many workers[2][3][4] that the spirochaete is not an essential factor in the liver extracted. Non-specific substances such as the heart of the guinea-pig,[5] or even combinations of such relatively well-defined bodies as lecithin, oleic acid, and sodium oleate,[6] may replace the syphilitic liver in the reaction. Its validity, therefore, as a means of diagnosing syphilis depends entirely on the empirical proof. This fortunately is present in embarrassing quantity. Wassermann[7] himself a year ago could report the examination of 1010 non-syphilitic serums without a single positive result, and although there is now a small number of cases on record in which a positive reaction has been obtained in the absence of syphilis, it is everywhere accepted that the reaction is thoroughly reliable as an aid to diagnosis.

Immediately after his announcement of the method, Wassermann published with Plant[8] a paper showing that if the cerebro-spinal fluid from cases of general paralysis of the insane were used in place of the syphilitic serum in his reaction, the complement was fixed in the same manner. This was hailed at once as supplying an objective proof of the connexion of general paralysis with syphilis, which had long been asserted on clinical grounds.

At Dr. Mott's request we undertook the examination of a series of spinal fluids from cases of general paralysis and other diseases, the result of which we record in this paper.

* The results of a considerable portion of this work have already been reported by Dr. Mott in his Morison Lectures. See BRITISH MEDICAL JOURNAL, 1909, February 20th, p. 454.

The method we have employed is essentially that of Wassermann. The blood corpuscles used to test for the presence of complement are derived from the ox, freed from serum by thorough washing in salt solution. They are sensitized by the serum (heated thirty minutes at 56° C.) of rabbits which had received several injections of washed ox corpuscles. As extract we used at first a watery extract from the liver of a syphilitic fetus prepared in the manner described by Wassermann; but later we have used an alcoholic extract made by extracting 1 gram of crushed and pounded liver with 4 c.cm. alcohol at room temperature for two days and then filtering through paper. Such an alcoholic extract remains unaltered in the cold for weeks, and is incomparably more convenient to work with. We have found no difference in the results obtained with the alcoholic as compared with the aqueous extract. Meyer[9] has stated that he obtains "10 per cent. finer results" with watery than with alcoholic extracts, but this has not been our experience. It can scarcely be the case for all livers, since only 25 per cent. of congenital syphilitic livers give an aqueous extract strong enough to be useful (as Georg Meier[10] has stated), and practically all such livers give excellent alcoholic extracts. Before use we dilute our extract, adding 4 parts of salt solution to 1 of extract; the salt solution should be added slowly, as was pointed out by Sachs and Rondoni.[11] As complement fresh guinea-pig serum was employed. The spinal fluid was heated for half an hour at 56° C. before use.

As the strength in complement of guinea-pig serum varies for each animal, and a fresh animal was used for each day's work, the dose of rabbit serum necessary to adequately sensitize the red cells is determined each day—that is, the smallest quantity of rabbit serum which totally laked the red cells in presence of the complement was ascertained; and for use in the actual examination of the spinal fluid two to three times this ascertained dose is taken. For each spinal fluid the tubes are arranged in two series of three tubes each, into which the doses of spinal fluid are measured, as in the example (see table at foot of page). To the first series are added the indicated doses of guinea-pig serum and liver extract, and finally salt solution to make the volume 2 c.cm.; to the second series only guinea-pig serum and salt solution to 2 c.cm. A general control series of tubes is set up as shown. Then all tubes are placed at 37° C. for one hour, to allow fixation of the complement, if any, to occur. Then to all tubes, except the last three of the control series, is added the rabbit serum; and, finally, each tube receives 1 c.cm. of a 5 per cent. suspension of washed ox corpuscles in salt solution. The tubes are then shaken and placed for a further two hours at 37°. The results are then read off, and a second reading is made after the tubes have stood in the cold overnight.

The main difference in this method from that employed by Wassermann is that we have used ox blood corpuscles instead of sheep's. Human serum contains no, or inappreciable, amounts of amboceptor capable of sensitizing ox red cells. It does, however, usually contain amboceptor sensitizing sheep's red cells, and the amount of this may vary greatly with different individuals—for example, 0.25 c.cm. serum from one person may be insufficient to sensitize a quantity of cells, which is fully sensitized by 0.025 c.cm. from another.[12 13] This uncertainty regarding the degree of sensitization of the red cells is troublesome when one is working with serums, and, although in examining spinal fluids it is not so significant, we preferred to use ox cells throughout our work.

We have examined 175 samples of cerebro-spinal fluid, derived from 127 individuals. Of these 127, 64 were cases of general paralysis, and in 59, or 92.1 per cent., a positive result was obtained, while in 5, or 7.8 per cent., the reaction was negative. These 64 cases include 7 from which the fluid was obtained only after death, and all of these gave positive results. It might be objected that the examination of such *post-mortem* fluids could give no trustworthy results. In the case of cerebro-spinal fluids, however (whatever may be the case with serums[14]), this is not so. If the fluid is withdrawn within twenty-four hours

	0.1 c.cm. Guinea-pig Serum + 0.1 c.cm. Extract + Salt Solution to 2 c.cm.	0.1 c.cm. Guinea-pig Serum + Salt Solution to 2 c.cm.	Result.
A. Spinal fluid known to be positive:—			
0.8 c.cm.	—	Total haemolysis	Positive.
0.4 c.cm.	No haemolysis	,,	
0.2 c.cm.	,,	,,	
0.1 c.cm.	,,	—	
B. Spinal fluid from general paralysis:—			
0.8 c.cm.	—	Total haemolysis	Strongly positive.
0.4 c.cm.	No haemolysis	,,	
0.2 c.cm.	,,	,,	
0.1 c.cm.	,,	—	
C. Spinal fluid from general paralysis:—			
0.8 c.cm.	—	Total haemolysis	Positive, but weak.
0.4 c.cm.	Slight haemolysis	,,	
0.2 c.cm.	Nearly total haemolysis	,,	
0.1 c.cm.	Total haemolysis	—	
D. Spinal fluid from melancholia:—			
0.8 c.cm.	—	Total haemolysis	Negative.
0.4 c.cm.	Total haemolysis	,,	
0.2 c.cm.	,,	,,	
0.1 c.cm.	,,	—	
E. General controls:—			
0.1 c.cm. guinea-pig serum + 0.2 c.cm. extract + salt solution to 2 c.cm.			Total haemolysis.
0.1 c.cm. guinea-pig serum + salt solution to 2 c.cm.			,,
[1] 0.1 c.cm. guinea-pig serum + salt solution to 2 c.cm.			No haemolysis.
[1] 2 c.cm. salt solution			,,
[1] 0.2 c.cm. extract + salt solution to 2 c.cm.			,,

[1] These tubes receive no rabbit serum.

after death from a body which has lain in the cold room during the interval (as was done in all our *post-mortem* cases), the Wassermann reaction is not altered. Examinations were made of such fluids from over 30 control cases, with no positive results. The spinal fluid even of a general paralytic, which had been negative during life, remained so after death. And in every instance when we have been able to examine *post mortem** the fluid from a case positive during life, the reaction has remained the same. If withdrawn from the lateral ventricle *post mortem* the fluid is always clouded with fine amorphous flocculi, but if taken from the spinal canal it is clear and limpid as in life. In 22 cases fluids from both the spinal canal and lateral ventricle were examined, with in every case corresponding results; either both were positive or both negative. It is noticeable, however, that the cloudy fluid, while remaining sterile, deteriorates more quickly on keeping than the clear fluid from the spinal canal. Our percentage of positive results agrees well with those obtained by the more recent workers—for example, Marie, Levaditi, and Yamanouchi[15] obtained 93 per cent. positive in 30 cases, Plaut[16] 98 per cent. in 95 cases. The earlier work gave lower figures. Wassermann and Plaut[8] finding only 78 per cent. positive in 41 cases, and Marie and Levaditi[2] 74 per cent. in 39 cases. Of 352 cases collected from the literature, 309, or 87.7 per cent., give positive results.

Marie and Levaditi[2] pointed out that the percentage of positive reactions increased as the disease was more advanced. It is not easy to classify satisfactorily such a disease as general paralysis into definite stages, but, on the whole, our results agree with those of the French authors. Thus, of 21 cases undoubtedly in the most advanced stages of the disease, over 90 per cent. gave the reaction, while of 16 cases certainly in a middle stage, only 81 per cent. were positive. We examined also 9 cases (not included above) in which the definite diagnosis could not be made clinically, though it was considered possible that general paralysis might develop. These all gave negative results. It will be interesting to observe the further progress of these cases clinically and with regard to the Wassermann reactions. In 6 cases of advanced paralysis we tested the urine, with negative results. This agrees with the finding of Hoehne,[17] though Blumenthal and Wile[18] state that they have obtained positive results with urine in a large number of cases of syphilis.

Fluids from 63 cases not suffering from general paralysis have been examined, in 32 of which the fluid was obtained during life. In no single instance was a positive reaction obtained. These cases included melancholia (9), senile mania (10), epilepsy (2), cerebral tumour (2), cerebellar tumour, syphilitic meningitis, lues cerebri, tuberculous meningitis, alcoholism (3), disseminated sclerosis, dementia praecox, post-haemorrhagic and other softenings; and a few fluids received for diagnosis of tuberculous or epidemic meningitis.

In suspected general paralysis a positive Wassermann reaction with the cerebro-spinal fluid is practically diagnostic. In only two other conditions is it ever obtained,† namely, in tabes and in syphilis located in the central nervous system of the meninges. In tabes it occurs regularly, but with much less frequency than in general paralysis. Thus in 112 cases from the literature positive results were obtained in 57, or 50 per cent. In cerebral syphilis it is stated to occur occasionally, though exceptionally.[16 19 20] We have not yet met with a positive case, and it is evident that it is not the rule to obtain the reaction, although the serum may be strongly positive. These two diseases do not usually present difficulties in differential diagnosis, and apart from them the reaction is, so far as is yet known, decisive. It is unfortunate that it is precisely in the early stages of general paralysis, where diagnosis is most difficult, that the reaction most often fails us by giving a negative result. But even in the most advanced cases one occasionally obtains a clear negative. In one of our cases, two months before the patient died, the spinal fluid was negative, though his condition was such that he clearly had not long to live. Three days before death his serum was positive. The diagnosis was confirmed *post mortem*, macroscopically and microscopically. The spinal fluid was withdrawn two hours after death, and specimens of lateral ventricle fluid and of serum were obtained twenty hours after death, all of these giving very strong positive reactions. In this instance, then, although the fluid eventually became positive, it was still negative a short time before death, when the disease was far advanced. We have already referred to a case in which the fluid remained negative throughout.

	Cerebro-spinal Fluid.	Serum
General paralysis: In literature ...	352 cases, 309 positive—that is, 87.7 per cent	285 cases, 247 positive—that is, 86.6 per cent.
Our cases	64 cases, 59 positive—that is, 92.1 per cent	10 cases, 9 positive—that is, 90.0 per cent.
Tabes dorsalis: In literature ...	112 cases, 57 positive—that is, 50.8 per cent	176 cases, 125 positive—that is, 71.0 per cent.

In most cases of general paralysis not only the spinal fluid is positive, but also the serum. It has been said that the serum is invariably positive; but this is not the case. Plaut,[16] Lesser,[21] and Marinesco[22] have indeed recorded 100 per cent. of positive reactions in 169 cases; but Marie, Levaditi, and Yamanouchi[15] obtained only 59 per cent. positive in the serum (as against 93 per cent. in the spinal fluid), and others[23] have obtained even smaller figures. Of 285 cases in the literature, 86.6 per cent. gave positive reactions. We have been able to examine only 10 serums from paralytics, of which 9 were positive and 1 negative. These include a case in which the serum was positive but the spinal fluid negative. The occurrence of cases where the fluid is positive but the serum negative, and the fact that in ordinary syphilis the fluid is always negative though the serum is strongly positive, show that the existence of the reacting substance in the spinal fluid is not due to a mere filtration from the blood. The active body appears in the fluid as the result of a local production, due to an alteration in the nervous system itself or in its coverings. This alteration is of a specific character. The reaction does not always accompany the presence of excess of albumen in the fluid. Thus a positive reaction is not obtained in simple meningitis. Even in syphilitic meningitis we do not get a positive reaction. Through Dr. Mott's kindness we were able to examine such a case three times in two months, during which the cell contents fell under mercury from 350 cells in 1 c.cm. to 70, 20, and eventually none; all three examinations gave negative results. All such tests as depend on excess of globulin or albumen in the spinal fluid must, therefore, fail to be specific. Nor does a positive reaction necessarily accompany an excess of lymphocytes in the fluid (cf. Marie and Levaditi[2]). In 32 estimations of the presence of lymphocytes in the fluid of paralytics, we found these cells in marked excess in 31 and in slight excess in 1, but in only 29 was the reaction positive; while in our control series we have three times found the cells in excess, though the reaction was again negative. Further, the mere breaking up of nerve tissue, such as occurs in softening of the brain substance, whether post-haemorrhagic or otherwise, does not cause the fluid to react positively.

We must assume that there is a highly specific nervous lesion, occurring almost exclusively in general paralysis and tabes, accompanied by the presence in the cerebro-spinal fluid of a substance of a very special kind. It is usual to call this substance an antibody. There is, however, no ground for supposing that it is antibody in any ordinary sense of the term. Since the typhoid and other similar analogies have been abandoned, there is no valid reason to suppose that the substance is directly connected with the spirochaete in any such immediate relation as subsists between a typhoid or diphtheria antibody and its bacillus or toxin. So far as we know at present, it is merely a symptom, like the sugar in a diabetic urine. Its presence confers no immunity. It is normally found in the serum of some of the lower apes,[24] which can be readily infected with syphilis, and the infectivity of active virus is not neutralized *in vitro* by a serum rich in "antibody." In man its presence in the blood is usually taken to indicate that he is still the subject of active syphilis, which clinically may be entirely latent; and Citron[25] goes so far

* Sixteen of our paralysis cases have died since our first examination of the fluid, the diagnosis in all cases being confirmed by the *post-mortem* findings.

† One case is recorded by Levaditi and Yamanouchi, where positive result was obtained with the lumbar fluid in a case of sleeping sickness.

as to formulate this into a so-called "law," "a positive reaction denotes active syphilis." As a general statement, however, this cannot be correct. Tabes and general paralysis can scarcely be described as active syphilis, yet, as we have seen, the serum in these diseases gives a positive reaction in 70 to 90 per cent. of cases. In the spinal fluid it may be held even to be injurious rather than beneficial, since it has a definite affinity for so important a constituent of normal nervous tissue as lecithin. Further, its presence in the serum and spinal fluid of general paralysis and tabes, while it adds another argument to the clinical evidence connecting these diseases with syphilis, in no sense proves that connexion incontestably.

We have pleasure in thanking Dr. Mott for the interest he has taken in our work, and the assistance he has rendered us throughout. We also acknowledge with pleasure the kind assistance given us in obtaining material by Dr. Robert Jones, the Medical Superintendent, and Dr. Hughes, Medical Officer of the London County Asylum at Claybury; Dr. Bond, Medical Superintendent of Long Grove Asylum; Dr. Ingram and other medical officers of the London infirmaries; Mr. Gibbs, Surgeon at the London Lock Hospital; and Dr. Nepean Longridge, of Queen Charlotte's Lying-in Hospital for Women.

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PNEUMONIA MIGRANS INVOLVING THE WHOLE OF BOTH LUNGS, FOLLOWED BY EMPYEMA: RECOVERY.

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THE rarity of acute pneumonia lasting for over five weeks and involving the whole lung area justifies a record of the following case, in which the disease had affected *seriatim* the three lobes on the right side, commencing at the top, and the two lobes on the left side, commencing with the lower, the last involvement, that of the left upper lobe, being preceded by a localized pleuritic effusion. Such a protracted and extensive pneumonia must be a rare occurrence, and it was a matter of surprise to me that even the last phase of the disease ran quite an ordinary course.

On January 4th, 1909, I was asked to see a girl, M. D. F., aged 3½ years, and found her to have quite indefinite symptoms, without any rise of temperature. I was suspicious of pneumonia, as her father was suffering from it in the same house. The next day she had a high temperature (103° F.), but still I could not be sure of pneumonia. On January 6th I detected pneumonia, with all its typical signs, in the right upper lobe. The case progressed in an ordinary way till January 11th, when I observed an extension of the inflammation to the right middle lobe. Two days later much anxiety was caused by signs of heart failure, but happily the heart reacted well to strychnine. The following day (January 14th) there was well-marked pneumonic involvement of the lower lobe on the right side. I noted on January 16th a clearing up of the upper lobe; by January 18th it appeared to be normal. The temperature had kept up till now, varying from 101° to 105° F., but on the evening of January 19th it dropped to normal. The following day it rose to 104·6° F., with clear evidence of pneumonia in the left lower lobe. This fresh attack ran an ordinary course, the temperature only falling on January 29th.

On January 27th I had noted that the right base appeared practically normal. The next spread of the disease was on January 30th, when there were indefinite signs of trouble over the left upper lobe with an increase of temperature. The breath sounds were tubular and distant and percussion was dull; there was no increase of vocal fremitus or resonance. Over the left lower lobe there was undoubtedly no fluid, the breath sounds being tubular and loud with vocal fremitus and resonance both increased. But I could not satisfy myself as to whether the condition in the left upper lobe was pleuritic effusion, or pneumonia, or both. This was cleared up on February 3rd by exploration through the third interspace in the anterior axillary region when I drew off some perfectly clear yellowish-green fluid. Exploration over the left lower lobe by sterilized needles at different places gave negative results. The child's breathing being very embarrassed, I aspirated the localized effusion over the left upper lobe, withdrawing 12 oz. of clear fluid. This gave much relief and the left upper lobe after the aspiration was quite resonant on percussion. But the temperature never came below 100·4° F., and on the morning of February 4th there was clear physical evidence of pneumonia, in the left upper lobe, the resonance being impaired and the breath sounds assuming a high-pitched tubular type. This last attack of pneumonia also ran an ordinary course till February 10th, when the temperature fell to 98° F. after having been up almost uninterruptedly for thirty-six days.

With the child shockingly reduced by the long illness, I fain hoped that some degree of acquired immunity would succeed in cutting short the latter attacks. The only comfort was that there was no other lobe to become involved. For a week the temperature remained down, but the child was in a pitiful state of weakness. Sickness supervened on February 17th, with a rise of temperature, and the child began to go downhill rapidly. The left base had never regained its resonance, but now it became absolutely dull, with distant bronchial breath sounds. On February 22nd the child's condition was extremely grave, but as the temperature kept down I waited and watched for a day or two longer. An increase of dyspnœa on February 25th induced me to explore the left base, when I found pus. The following day, with the kind assistance of my neighbour, Dr. Menzies of Wolsingham, I resected 1½ in. of the eighth rib in the posterior axillary line under local anæsthesia. I avoided a general anæsthetic on account of the weak and septic condition of the child, and I was more than satisfied with the efficacy of the local anæsthetic. The child lay still without making a cry when I excised the rib. A large quantity of pus was evacuated and two parallel rubber drainage tubes inserted. The case progressed favourably until a week after operation, when defective drainage caused some rise of temperature. I then irrigated the cavity daily for a few days with weak perchloride solution, followed by saline solution, and this brought away considerable masses of stinking pus clot. The after-progress was uninterrupted. Six weeks after operation she was healed up, strong, and running about with an expanded left lung.

I regret that nothing was attempted in the way of vaccine treatment, but in a scattered country practice such a refinement is hardly practicable.

THE CAUSES OF OBSTRUCTION PRODUCING CYANOSIS DURING THE NASAL ADMINISTRATION OF NITROUS OXIDE.

By F. TREWBY, M.R.C.S.,
ASSISTANT ANÆSTHETIST TO ST. BARTHOLOMEW'S HOSPITAL; HOUSE-ANÆSTHETIST TO THE ROYAL DENTAL HOSPITAL.

AFTER careful observation and examination of some thousands of gas administrations I have come to the conclusion that cyanosis in ordinary cases is merely mechanical, being mainly due to the size and shape of the palate and tongue.

The tongue varies from the large flabby to the compact muscular variety. While at rest, when the tip of the tongue is on the posterior surface of the lower incisors, the base of the tongue in the former variety may be ½ in. above the level of the grinding surface of the second molars, in the latter it may be well below the junction of the tooth and gum margin. The importance of the soft palate is its variable length; it may overlap the base of the tongue by an inch, or it may be separated by an aperture of an inch.

I. When these structures give rise to the greatest obstruction to free breathing, the patient has a large flabby tongue and a long, overlapping soft palate; the distance between the two is slight, or they may be in contact. Even to start with, the patient may find some difficulty during expiration, as the oro-pharyngeal aperture (by this I mean the aperture bounded above by the soft palate, at the sides by the pillars of the fauces, below by the base of the tongue) is small. Immediately the soft palate loses its tone, being placed at a sloping angle with the base of the tongue, it acts as an inspiratory valve, and is pressed down on the base of the tongue during expiration. This state of affairs may easily be brought about much earlier if gas is given under much pressure through the nose-piece, as the gas passing back into the

naso-pharynx forces the soft palate against the base of the tongue, thus making expiration through the mouth impossible. At this stage, with the soft palate and base of the tongue in contact, if there is no valve at the upper part of the bag, nasal "to and fro" breathing into the bag commences, the patient gradually becoming cyanosed. If there is a valve to prevent this rebreathing, then the only possibility of respiration is by forcing the nose-piece slightly off the face, thus allowing the expired air to escape around it; this obstruction to respiration quickly causes cyanosis. It is quite easy to keep this class of patient unconscious with the ordinary nose-piece, but only at the expense of cyanosis.

II. In a patient who has a small, compact tongue, a short soft palate, the two being widely separated and therefore giving rise to practically no obstruction to respiration, one obtains an ordinary gas anaesthesia; but remove the mouth cover, and continued nasal administration will have very little effect. Even if nitrous oxide is passed rapidly through the nose, the rate of diffusion is so rapid that the patient obtains a mixture of gas and air, which is insufficient to produce anaesthesia; these patients can be controlled by placing an expiratory valve in the fauces.

Between these two extremes are varieties of tongues and soft palate which during the administration give rise to more or less obstruction to respiration, with a corresponding amount of cyanosis or gas anaesthesia.

The most important point dependent on the construction of the fauces is the occurrence of nasal "to and fro" breathing when the soft palate comes in contact with the base of the tongue; this may be brought about by other factors. In cases in which the soft palate does not reach the base of the tongue the slight cyanosis of the gas administration causes the tongue to swell up sufficiently to fill up the space between them. If the oro-pharyngeal aperture is of the largest type, the tongue during an ordinary administration will not swell up sufficiently to reach the edge of the soft palate, and nasal "to and fro" breathing does not occur; but in the average nasal administration during the continuation one observes that the patient is kept cyanosed and the tongue swells up and lessens the oro-pharyngeal aperture; in this way the oral air-way is occluded, and the patient must obtain pure gas by the nose.

It has been stated that "after normal consciousness is lost, a period follows in which psychical disturbances ensue; at this stage there is frequently a change from 'naso-oral' breathing to 'to and fro' nasal breathing, which is evidenced by escape of expired gases around the nose-piece. This is so frequent that it has been taken as a useful sign of unconsciousness and approaching anaesthesia; even the firm application of the mouth cover throughout the inhalation had little if any effect in modifying this phase." The following case will explain the reason:

The patient had a large flabby tongue with an overlapping palate; when anaesthetized with the ordinary nose-piece, the mouth cover being placed in position, for three breaths the valve worked; then "to and fro" nasal breathing commenced, and expired gases tended to escape round the nose-piece, and no air was expired through the mouth. Now, according to the above statement, after four breaths this patient should have been unconscious and nearly ready for operation. What had happened was this: The space between the base of the tongue and soft palate being narrow, directly expiration occurred the soft palate was first pushed against the base of the tongue, and then bulged forwards into the mouth, forcing some of the air out of the mouth and through the valve of the mouth cover. When inspiration started, a slight *minus* pressure formed in the mouth, shown by the valve of the mouth cover being slightly drawn in; as neither gas nor air could enter the mouth, the soft palate was kept fixed down on the base of the tongue. I should describe this as "false action" of the mouth cover, giving rise to early nasal "to and fro" breathing, putting the valve of the mouth cover out of action, and completely obstructing breathing through the mouth.

Whether gas is given by the nasal or ordinary method, the fact remains that the oro-pharyngeal aperture is always obliterated, or nearly so, before the naso-pharyngeal aperture is in any way affected, and the breathing gradually tends to become nasal. This can be easily demonstrated; if gas be given by the face-piece method, when one is near the end of the administration the face-piece is still kept on, and at the same time the nose is compressed, unless the palate is of the short variety, it gives rise to obstruction to expiration.

Besides the condition of the fauces causing obstruction and giving rise to cyanosis, cyanosis in itself gives rise to obstruction of free breathing in the later stages, the swelling and falling back of the tongue giving rise to false stertor; I have noticed that this trouble occurs to a marked degree in patients with receding chins.

Cyanosis causes distension of the large veins of the neck; and, as is well known to every one, a collar or piece of tape, which was quite loose at the beginning is, if the administration is pushed until the patient jactitates, found to be pressing tightly round the neck, the measurement of the neck having increased ½ in. in circumference. This is clearly due to distension of the superficial veins of the neck, as it is not likely that a structure like the cervical fascia can stretch much. In cases of oedema or suppuration beneath the deep cervical fascia, one is struck by the severe dyspnoea that occurs from pressure beneath this structure without any apparent general swelling of the neck.

If the superficial veins external to the cervical fascia be compared with the deep veins of the neck, one realizes what the pressure in these huge veins must be, on the soft tissue, beneath a fixed structure like the cervical fascia.

The parts likely to be affected are the laryngeal opening, which may get pressed back against the wall of the pharynx, and the space just above the larynx, where the tissue is extremely vascular, and it is quite easy to imagine how, with the increased tension within the cervical fascia occurring in asphyxia, the air-way here may be completely obliterated.

It has been stated that "by compressing the nose at the end of an ordinary administration the patient is more likely to stay under for several extra seconds." This is a general experience; we can conclude that the compression causes obstruction of free breathing, if at the end of an administration instead of compressing the nose we place an ordinary nose-piece over the nose, we completely obstruct expiration through the nose, the nasal air-way being at this stage of the administration the chief means the patient has of breathing.

From the fact of the occurrence of nasal "to and fro" breathing during the induction of anaesthesia by nitrous oxide, and that in the later stages of the induction the respiration is almost entirely by the nose, I draw the conclusion that any nose-piece without an expiratory valve on it causes unnecessary obstruction and cyanosis, not only while anaesthesia is being induced, but also during the continued administration.

THE TREATMENT OF SOME CHRONIC INFLAMMATIONS OF THE EYE.

By C. G. RUSS WOOD, F.R.C.S., L.R.C.P.,
SURGEON TO THE SHROPSHIRE EYE, EAR, AND THROAT HOSPITAL, ETC.

Some three years ago Professor Burnham of Toronto published a small book[1] describing in detail a method of treatment of chronic ocular inflammatory conditions, especially irido-cyclitis and sympathetic ophthalmia. My attention was drawn to this by Mr. Stanford Morton, who advised its use in a case, which we were seeing together, of severe irido-cyclitis, with nearly total loss of the anterior corneal layers.

The "combined" treatment, as it is termed by Professor Burnham, consists in the administration of mercury and potassium iodide, combined with the daily hypodermic injections of pilocarpin, his hypothesis being that the pilocarpin arouses and stimulates the ordinary physiological processes to activity in excess of the normal, so that the tissues are more easily acted upon by the mercury and potassium iodide. It is, of course, in the experience of every one that in certain chronic inflammatory

conditions of the eye mercury and potassium iodide are very uncertain in their action, sometimes much benefit resulting from their administration, and in other cases the results are *nil*.

I used this treatment in several cases, with much benefit, and in some patients who had previously been treated by other methods without good results: but in my experience the pilocarpin produced such profound depression when injected daily for ten or more days that I cast about to see if there was not some other method of stimulation of the ordinary physiological processes without this great drawback. In fact, in certain cases, the depression was so profound that the patients, although acknowledging their vision was better, refused to continue the treatment, remarking that the remedy was worse than the disease.

Of course the ordinary hot-air bath suggested itself, but was discarded as being too cumbrous, and finally guaiacol was recommended to me by a colleague. It is, I believe, not generally known that if a small quantity of guaiacol be smeared on the skin, profuse diaphoresis results in about one hour.

I have now tried this method in nearly 40 cases with most excellent results, irido-cyclitis, vitreous opacities, and interstitial keratitis seeming to be the most suitable conditions for the treatment.

The following is the routine usually employed: The urine is examined, and the mercury is omitted if any albumen is found. The ordinary alterative mixture of hydrarg. perchlorid. gr. $\frac{1}{4}$, and potass. iodid. gr. v is given thrice daily; sometimes instead of the above hydrarg. c creta gr. I is given in a pill thrice daily, together with a mixture containing potassium iodide and tincture of nux vomica. The patient is kept in bed between blankets with two hot-water bottles, then 1 drachm of a mixture of equal parts of olive oil and guaiacol is smeared, not rubbed, either in the axills or over the epigastrium. If this dose does not suffice then 2 drachms are used, and in rare cases three, but mostly 1 drachm is enough. The part is covered with oil silk, and a pad of wool is applied over the silk. A hot drink is now given, and profuse general perspiration begins in from one to two hours and lasts for about five hours. It is difficult to make some patients perspire, and in these cases a hot bath beforehand assists and hastens diaphoresis. In one patient some irritation of the skin was produced by the guaiacol, but this was practically well in a week on ceasing the treatment; but the skin in this case was too irritable to stand the application on the same place two nights in succession.

Generally twelve applications are made, and then treatment is stopped for a few days and begun again if considered necessary. As a rule, the patients are kept in bed the whole time, but occasionally when the applications are made in the morning, I allow them to sit up for an hour or so in the evening, well wrapped up.

Our experience at the Shrewsbury Eye Hospital is that guaiacol is a far more certain diaphoretic than pilocarpin, and does not produce the after-depression of the latter drug, while the results are, as far as I can see, equally good.

I have not tried it in any very acute cases, but there does not seem any reason against its use in these conditions. Among the eye diseases for which this modification of the "combined" treatment has been used are interstitial keratitis, irido-cyclitis, vitreous opacities, sympathetic ophthalmia, and optic neuritis. In all there was some benefit, and in some the results were remarkably good. Very many of the patients had been previously treated with ordinary routine methods without good results. Certainly in syphilis the condition is more quickly controlled than when mercury and iodide are used alone. Recently I have been using this treatment in a case of syphilitic perichondritis of the larynx with very good results, when previously the use of mercury and potassium iodide has not influenced the condition very appreciably.

The idea of treating syphilis with diaphoretics and mercury is not new, but has, I believe, been carried out for some years, with the object of shortening the treatment.

REFERENCE.

[1] *The Combined Treatment of Diseases of the Eye.*

HYDATID DISEASE: RECURRENCE: EXTERNAL RUPTURE: RECOVERY.

BY ARTHUR W. BRODRIBB, M.A., M.B.OXON., L.R.C.P., ASSISTANT SURGEON (LATE HOUSE SURGEON) HASTINGS HOSPITAL, HASTINGS.

IN October, 1903, there were published[1] in this JOURNAL notes of a case under my care of hydatid disease in an old lady, in which the disease appeared to be situated in Douglas's pouch. Rupture occurred into the rectum and large numbers of hydatid cysts were discharged. Recovery followed, and for three months the patient seemed completely well.

On October 12th, 1908, I was called in again, as she was in great pain in the abdomen, and was shivering. The temperature was 101°, the pulse feeble, and respirations rapid. I found some sharp crepitations at the left base, and in the abdomen a tender swelling to the left of the umbilicus, dull to percussion, and about the size of a seven months' fetal head. It appeared probable that there was recurrence of the hydatid disease, and possibly some pneumonia setting in, as she was suffering also from a short, painful cough. There was no obstruction in the bowels, as in the former illness.

The next day she was better, the temperature 100°, and the cough and crepitations less. By October 16th the chest symptoms had disappeared, the temperature had fallen to 98°, and the pulse to 88, but the patient did not seem so well; the abdominal pain was greater and the abdomen decidedly larger, the tumour developing a resonant prominence to the left and below the umbilicus. In the left flank there was some resistance and impaired percussion note, and great tenderness.

During the next week her condition varied; at times the abdomen enormously distended with flatulence, and the tumour was larger, the skin over it becoming red and oedematous. The whole of the left side of the abdomen and left flank was dull to percussion. On October 26th the prominence was much larger, the skin more angry in appearance, and she was extremely weak.

In October 29th she passed from the bowel about a pint of mud-coloured liquid, very offensive, but containing no cysts. The next day she passed another three-quarters of a pint, and was evidently relieved; the abdomen was smaller and less tender. During the next few days she seemed better, but the tumour began to increase again, and the condition of the skin became worse. On November 6th she was decidedly worse, and became delirious. Small beads of clear fluid began to ooze through the skin over the tumour from two minute holes. In this way large quantities of clear fluid came away during the next few days, the small holes developing into wounds half an inch long with jagged edges. No cysts were passed. The tumour became rapidly smaller, and the general condition of the patient improved. On November 11th, instead of clear fluid, white creamy very offensive pus was coming away. The wounds were beginning to heal, and an attempt was made to keep them open to get as much drainage as possible. The tumour no longer projected. Within ten days of the first discharge of liquid the tumour had disappeared, and no further discharge occurred. The wounds healed remarkably quickly. The patient made a rapid recovery, and is now in splendid health, in spite of her age, which I believe to be well over 80. She seems none the worse for her two severe illnesses.

The contrast between the two illnesses was chiefly marked by the different direction in which the cyst pointed. Probably the peritoneum was the seat of the trouble, and it may have been the same large cyst in each case, but in the first illness it pointed into the colon, which was almost blocked by it. This cyst refilled, and fortunately pointed, and burst, externally. An alternative view is that in the second illness an entirely new hydatid cyst developed, and the fluid was drained off through the abdominal wound, leaving the daughter cysts within where they have atrophied.

A hydatid cyst situated in the peritoneum can only point in four ways: (1) Into the gastro-intestinal tract; (2) into the bladder; (3) into the peritoneal cavity; (4) externally.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, vol. ii, 1903, p. 1271.

INTRA-ABDOMINAL HAEMORRHAGE ASSOCIATED WITH LABOUR.

BY MAURICE C. BARBER, M.R.C.S.ENG., L.R.C.P.LOND., STAPLE HILL, BRISTOL.

THE intra-abdominal haemorrhage which occurred in the following case must, I think, be a very unusual complication of labour.

C. B., aged 32, enjoyed good health until the age of 15, when her mother says she was paralysed in both lower extremities for

five years, and it took another five years to completely regain the power of her limbs. She had been married about six years and had had five children, but all died from convulsions. During the whole time she was carrying the sixth child she had been suffering from diarrhœa and vomiting, the vomiting being so troublesome that she could not take sufficient food.

The labour began on the evening of November 13th, 1908. When I saw her at 8.30 p.m. the os was about the size of a five-shilling piece, and pains were occurring about every ten minutes. The labour progressed in the ordinary way, and she was delivered of a full-term child about 12.30 a.m. on November 14th. There was no great loss of blood at the time, or after, externally. On leaving the patient the womb could be felt hard and contracted. The pulse was 85. I saw her again about 5.30 a.m., as she complained of feeling very faint. There was slight abdominal distension, but the womb still well contracted, and the pulse 90. She remained in much the same condition during this day; she was very weak and exhausted, but no more than one would expect, considering her condition before labour.

On November 15th the general tympanitic distension increased very much. She vomited frequently, and complained of general abdominal pain. The temperature was normal, but the pulse was 120. For the first time the mother said her daughter, just before sending for me, while walking about, suddenly called out, "Oh, there is something gone!" and said she had severe pain in the lower part of the back, and a feeling as if something had snapped in the bowels. She was very faint, and perspired a good deal; but, after sitting down, she felt better, and thought no more about it.

About 10 p.m., on November 15th, she was removed to the Bristol Royal Infirmary, and was admitted under Mr. Mole, who has very kindly supplied me with the following notes.

NOTES BY MR. H. F. MOLE, F.R.C.S.

Condition on Admission.

Patient was very pale and collapsed, the pulse was small and rather rapid (128). The temperature was only 97° F. The abdomen was greatly but uniformly distended; it was tympanitic, except on quite light percussion in the flanks. This dullness disappeared on deep percussion, and I could not satisfy myself that it shifted when the patient lay on her side. The abdomen moved well, and no localized resistance could be felt.

On bimanual examination the uterus was found to be freely movable, but the fundus could not be defined, owing to the abdominal distension. The external os uteri was contracted. She presented the appearance of a person who had lost a large quantity of blood, and I attributed the distension to intestinal paresis following childbirth. She was given a T.E. with a fair result.

The next morning her condition was much the same; if anything, the tympanites was more marked. Laparotomy was performed that morning.

Operation.

The abdomen was opened by a median incision, which extended at first from the umbilicus to the pubes, and was afterwards enlarged in an upward direction for about another inch. The intestines, and particularly the stomach, were markedly distended; the peritoneal cavity was filled with blood—dark, some clotted, some fluid—there was nothing to suggest that bleeding was going on at the time.

The blood and clots were partially cleared out, but no evidence was forthcoming as to whence the blood had come, after the most careful examination. The uterus was large and soft.

The patient vomited several times during the ensuing twenty-four hours, but the bowels were well opened by enemata, and the abdominal distension rapidly subsided.

The patient was discharged on December 16th, wearing a belt, but with the wound soundly healed.

Mr. Mole is of opinion that the bleeding must have come from some vein in the pelvis—perhaps in the broad ligament—but there was no evidence of it at the time of operation.

If the bleeding had been more severe, the patient would have died during labour, which, besides being very distressing for the friends, would also have been damaging to the doctor in attendance, although in no way to blame. Probably the vessel gave way when she complained of the pain.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A POINT IN THE USE OF KOLLMANN'S URETHRAL DILATOR.

HAVING recently had occasion to use Kollmann's urethral dilator, I found that the blades as they were being screwed back into their unexpanded position were apt to nip off small portions of the urethral mucous membrane, greatly to the discomfort of the patient. To avoid this, I placed a thin rubber covering over the instrument, which did not materially interfere with the expansion of the blades, but prevented the approximating blades from including any tissue. A rubber tube similar to that employed in the Luys's segregator worked admirably. The difficulty experienced in getting the tube over the dilator was easily overcome by using soap as a lubricator. The mechanism was also protected from soiling by contact with the urethra. Anyone using this instrument will find this plan an advantage.

Glasgow. ALEX. MACLENNAN.

UNILATERAL DEVELOPMENT OF THE MAMMA IN THE MALE.

On page 1006 of the JOURNAL of April 24th there appears a most interesting report entitled, "Apparent Unilateral Development of the Mamma in the Male."

In examining conscripts for the Siam Police, about 500 men during the last six months, I have met with two such cases, both on the left side and both secreting a "clear fluid." In these cases there was no aesthetic feeling about the abnormal tissue, and I am, therefore, unable to append a microscopical report.

JAMES C. FYSHE, B.A., M.D., D.P.H.,
Assistant Medical Officer of Health, Bangkok, Siam.

BIOTRIPSIS.

MR. LENTHAL CHEATLE'S paper in the BRITISH MEDICAL JOURNAL of June 12th on what he designates "biotripsis," and the coloured illustration which accompanies it, serve to remind me of a somewhat similar case which came under my observation many years ago.

An old man, an agricultural labourer, was admitted into the York County Hospital in a weak and failing state of health, for which, apart from his age, there was no obvious cause, beyond a curious dry, chronic rash on the backs of the hands, and the malar prominences of the face, obviously of neurotrophic origin. I had had some experience of skin affections, having been house-surgeon to Sir (then Mr.) Jonathan Hutchinson, and having attended his clinical lectures on diseases of the skin, but I had never seen anything resembling the condition presented by this old agricultural labourer. I could make nothing of the rash, nor could I influence its course in any way. It was pigmented and had the appearance of heaped-up epidermic scales; it was absolutely symmetrical, and it did not give rise to irritation or discomfort of any kind. I had it photographed with a view to publication, but the picture did not convey any clear idea of the condition. After some weeks' residence in hospital, during which time the rash did not undergo any change, the old man died from asthenia.

London, W. OSWALD BAKER.

ARSENIC IN LOCOMOTOR ATAXY.

IN view of the important discoveries in experimental medicine as regards the use of arsenic against spirochaetes, my own experience of the drug may be of interest. I have used it in several cases of locomotor ataxia with eye symptoms, some of which have benefited greatly. In two cases the severe lightning pains quite disappeared. In one very bad case in which the patient was almost unable to walk, and whose efforts to do so were painful to witness, a series of ten injections helped him to the extent of riding him of his distressing pains, and enabled him to come to the hospital without any assistance—indeed, he comes quite alone now.

A few words may be in place as to the method of administration. I use soamin,[1] and it is quite unnecessary to give it intramuscularly. The following are the most important points in the technique of injection:

(*a*) Dissolve the soamin in not less than 2 drachms of water. If this is not done, and the injections are made in the subcutaneous tissues, very unpleasant and slightly painful indurated masses remain for several weeks. Adequate dilution prevents this effectually.

(*b*) After injecting the last of the soamin, inject a little sterilized water, so as not to leave arsenical solution in the needle track.

(*c*) Apply firm pressure over the little wound, and a few seconds later put on a film of cotton-wool and paint with collodion.

[1] BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 370.

(*d*) On finishing with the syringe, wash it out in sterilized water, then draw absolute alcohol up in the needle, which is then detached, and it and the various parts of the syringe kept in absolute alcohol.

(*e*) Before using the syringe, wash the alcohol out of it and the needle by drawing up sterilized water. If this is not done, not only should we inject an irritant, but the syringe would act with difficulty.

London, S.W. CHAS. WRAY, F.R.C.S.Eng.

ACUTE TUBERCULOUS ARTHRITIS.

THERE are few conditions more calculated to make the medical practitioner think carefully before committing himself to a definite diagnosis than what seems to be at first sight acute articular rheumatism. Owing to the fact that a clinical picture, the same to all appearance as that of rheumatic fever, but having an entirely different pathogenesis, may present itself, it is imperative in all such cases to institute an exhaustive examination in order to discover what etiological factor is really present, otherwise error is not unlikely to occur, as happened in the following instance:

F. I., a farm servant, aged 23, was seized last April with a sudden attack of illness, which showed all the characteristic features of rheumatic fever, and which was diagnosed as such. Four weeks from the beginning of his illness he was admitted into Driffield Cottage Hospital, when well-marked signs of pulmonary tuberculosis were found. These signs continue to progress.

I think this case worth recording, as it does not appear to be sufficiently well recognized that what seems to be ordinary rheumatic fever is occasionally the initial stage of an attack of tuberculosis.

An interesting and valuable article on this subject appeared in a recently issued number of that excellent serial, *International Clinics* (nineteenth series, first volume), in which the following suggestive passage occurs:

> It cannot be too often repeated that the diagnosis of rheumatic polyarthritis has no longer any significance whatever in our days; we must penetrate beyond this superficial symptom-complexus, and endeavour to discover by all the means at our disposal a complementary pathogenic epithet. If we take the trouble and know how to search, we will find out at an early date in many cases that the rheumatic inflammation is only a striking symptom of an infection that is hidden, and is not a disease in itself.
>
> In tuberculosis more than in any other infection it is of the greatest importance to be sure as to this pathogenesis, and army surgeons in particular will find therein one of the most valuable premonitory signs of incipient tuberculosis.

Driffield. JOHN R. KEITH, M.D.Aberd.

RIGOR MORTIS IN A STILLBORN CHILD.

THE mother was admitted to the Birmingham Maternity Hospital with haemorrhage, at eight and a half months in her eighth pregnancy. She remembered feeling the child move as usual, and had been quite well till four hours before admission, when suddenly haemorrhage began, and she had cramp pains in both legs.

On admission she was having strong labour pains; no fetal heart could be heard; the vagina was packed, and there was no external haemorrhage. Delivery was natural five hours from the onset of haemorrhage, and the placenta was expelled immediately after the child.

There was no difficulty with the head, and the child was a good colour, but the cord was not pulsating. Artificial respiration was at once attempted, and it was then discovered that the mouth was firmly closed, and the whole body rigid; the back was slightly curved, and the arms and legs flexed on the trunk. The surface of the placenta was unusually smooth, and was covered with recent blood clot; the membranes were ruptured centrally, and contained 20 to 30 oz. of clot, and the cord was an ordinary length.

In reading through the reports of other instances of rigor mortis in the stillborn this case seemed particularly interesting, since the mother was so sure that the child was alive five hours before delivery.

Birmingham Maternity Hospital. C. EGLINGTON, M.B., B.S.

Reviews.

CONTRACTED PELVIS.

DR. E. SCIPIADES, an assistant in the clinic presided over by Professor Tauffer at Budapest, has analysed the results during a period of ten years[1] in that clinic, from January 1st, 1895, to December 31st, 1904. During this period 6,877 women were delivered, of whom 949 had contracted pelves. We gather from the preface that the author's native tongue is Hungarian, for this work was first published in that language. His first 81 pages are occupied with quotations and comparisons of the opinions of various German, French, and Hungarian writers upon midwifery. English literature appears to be a sealed book to him. Perhaps he will think it an exemplification of national vanity if we say that if he could read English he might learn a good deal. He has only dimly conceived the principle that contraction of the pelvis is only a relative term. A pelvis below the average size will allow the easy, spontaneous delivery of a small child, and a pelvis of average dimensions will obstruct the delivery of a child of excessive size. This being so, the percentage of cases in which, with contracted pelvis, natural delivery took place, only roughly shows the percentage of children below the average size. To be obstetrically interesting it should be accompanied by a statement of the average weight of the children, those spontaneously delivered, and those whose birth was assisted. Later on the author does classify the case according to whether or not the child exceeded 3,000 grams in weight, but this is a very crude way of testing the effects of different kinds of pelvic contraction.

Dr. Scipiades finds that the prognosis for the child in a case of contracted pelvis in which spontaneous delivery is allowed to take place is somewhat more unfavourable in a multipara than in a primipara. This he attributes partly to the greater frequency of congenital lues in the children of multiparae, partly to the prolongation of labour due to the greater development of the child's head. For the latter reason he thinks the induction of premature labour is more clearly indicated in a multipara.

His experience of the high forceps operation in contracted pelvis is not satisfactory. He has delivered four primiparae in this way, with one maternal and two fetal deaths. But why? The explanation is on the surface. The duration of labour in these cases was 56 hours, and the interval between the rupture of the membranes and the birth of the child was 53 hours 23 minutes (we presume these figures are averages). The bad results were not from the forceps delivery, but from the postponement of assistance.

Taking all classes together, there were 42 cases of high forceps operation. In no less than 10 the operator failed to drag the child through the brim, and had to perforate. The time between the rupture of the membranes and delivery was 31 hours 22 minutes, the duration of the labours 46 hours 13 minutes. It appears to us that the forceps in these cases should have been used much sooner. The 10 cases of perforation after attempts at forceps delivery are so many failures in diagnosis of the relative size of the head and the pelvic brim. Had a correct diagnosis been made early in labour the forceps would not have been thus misused. In our author's opinion, the high forceps operation in primiparae is a grave undertaking, which often fails, and saves but few children. We agree, when it is attempted without properly estimating the relative size of the child and the pelvis, and postponed until the labour has lasted two or three times longer than it ought to have done.

The obstetric authorities at Budapest were not acquainted during the period of which this volume is the record with subcutaneous symphysiotomy. There were 2 cases of symphysiotomy. One of the patients had been in labour 70 hours, the other 44 hours. How can a smooth convalescence be expected when the cases are allowed to linger on like this? There were 3 pubiotomies, and one of the patients left the clinic with a vesical fistula. Comparing these two operations, Dr. Scipiades says that the technique of symphysiotomy is more difficult (he does not

[1] Aus der Zweiten Frauenklinik der königl. ung. Universität in Budapest (Direktor: Hofrat Prof. Dr. Wilh. Tauffer): *Ueber die Behandlung der Geburten bei engem Becken*. Von Dr. E. Scipiades, Assistenten der Klinik. Berlin: S. Karger. 1909. (Imp. 8vo, pp. 241. M. 7.)

know of the subcutaneous method), the duration of the operation longer, it involves greater risk of injury and of infection, and the after-treatment is more difficult than that of pubiotomy. It is general surgical experience, he says, that a clean cut wound of a bone, as in pubiotomy, has a better prospect of healing than a wound in a joint or a cartilage. Further, injuries to structures in the middle line—bladder, urethra, and clitoris—are avoided by pubiotomy. His study of the (Hungarian) literature of the subject leads him to put the mortality of symphysiotomy at 10 per cent., that of pubiotomy at 4 to 5 per cent. Then he goes on to compare pubiotomy with Cæsarean section. The technique of the latter operation, he says, is more developed, the incidental injuries of less importance, the prospect of a living child better. So that if the two operations have about the same risk to the mother, they are not to be considered as equally justifiable. But he very rationally says that in labour with contracted pelvis, which must be terminated in the interest of the mother in the case of pregnancies which have advanced to the eighth or ninth month, perforation must be done. He rejects Bossi's dilator as a means of inducing labour. He has never seen any harm from the introduction of a bougie. He has apparently not heard of Champetier de Ribes's bag, but he has used an instrument of that kind, and found that sometimes when the bag had dilated the cervix, uterine contraction did not follow, and the presenting part did not enter the pelvis. We have known the same thing. The author's advice in inducing labour is, first, a bougie, then a dilating bag; if these fail, rupture of membranes. He is not in favour of hurrying matters; we observe that in two of his cases of induction of premature labour the labour took up more than six days.

The work is an interesting record of experience and careful observation. The practical precepts embodied in it do credit upon the whole to the good sense and sound judgement of the Budapest teachers. What appears to us to be the chief defect of their teaching is the non-recognition of the possibility and the importance of early diagnosis of disproportion between the child and the pelvis, and prompt treatment following upon diagnosis. We are aware that early diagnosis is difficult and liable to error, because there is a factor that cannot be ascertained beforehand, which is the power of the fetal head to undergo compression and moulding. But granting that error may arise from want of appreciation of this factor, and that such error may, if early treatment is adopted, lead to unnecessary Cæsarean sections and craniotomies, yet we think such mistakes less grave than the disasters which arise from waiting for disproportion to be made evident by the phenomena of obstructed labour. Dr. Scipiades's work deserves careful study, and we thank him for it.

INBORN ERRORS OF METABOLISM.

DR. ARCHIBALD GARROD has revised his Croonian Lectures for last year and has added the results of certain important investigations, which have been since published,[2] before printing them in the volume now before us. The principle which Dr. Garrod accepts is that the abnormal excreta with which these lectures deal are probably not really the result of a perversion of metabolism, but of the arrest of a process at some intermediate stage, and the consequent excretion at that point of the substance which otherwise would have been converted into one of the normal excreta. The inborn errors of metabolism dealt with are albinism, alkaptonuria, cystinuria and pentosuria. Little is known of their causation, but in all there seems to be the influence of heredity or of consanguinity. It is strange that the intravascular injection of nucleo-proteins should fail to produce in albino animals such clothing of the blood as is caused in pigmented ones, and still more strange is the observation of Pickering that the Norway hare in its winter coat behaves toward this experiment as an albino, but in its summer coat as a pigmented animal. Dr. Garrod maintains the intermediate product theory as the explanation of alkaptonuria, in spite of the experiments which have to some extent militated against this view. Alkapton does not appear in the urine of animals or men when tyrosin is given by the mouth, and it may be argued that if it were a normal product of metabolism, the power of further converting it would be limited, and that if given in excess it would appear in the urine. Those rare cases are curious in which alkaptonuria has been intermittent or transitory, as in that published by Zimnicki in a patient who suffered from hypertrophic cirrhosis of the liver.

Cystinuria is less rare than alkaptonuria, and perhaps of more general interest. When swallowed by a normal man, cystin is wholly destroyed in the body, and in various experiments cystin obtained by hydrolysis of hair has been administered to cystinurics without causing any increase of cystin, nor did this follow when the patient was fed with his own cystin thoroughly purified; but in one case (Loewy and Neuberg) a great increase followed the administration of 5 grams of cystin from hair, yet when cystin obtained from a calculus was given there was no increase! In spite of the accepted theory that cystin is produced by the action of diamines, the search for these substances in the urine and faeces is far from being uniformly successful, but Dr. Garrod says that if in any given instance the examination be continued sufficiently long, they may eventually be found. These diamines are themselves products of metabolism, being derived from the lysin and arginin of proteins broken down in the organism. Dr. Garrod, however, admits that it is impossible at present to form a satisfactory theory of cystinuria, though he believes it to be due to an interruption of the metabolic process at a comparatively early stage. He has paid much attention to that extremely rare condition, pentosuria. It is possible that some cases are overlooked, for, as is well known, pentose gives the ordinary reaction for sugar with Fehling's solution and other tests. But it does not ferment, and is not associated with any of the general symptoms of diabetes, although it is occasionally found in diabetes together with glucose. When alone it appears to be perfectly harmless. The failure of the urine to ferment, and the failure of fermentation to remove the reducing substance, is a sufficiently trustworthy clinical test, but Dr. Garrod recommends Bial's modification of the orcin test, of which he gives full details. The reagent as described by him should afford a ready means for detecting the presence of pentose in any suspected case.

CUTANEOUS AND VENEREAL DISEASES.

A NEW German work on cutaneous and venereal diseases[3] has been edited by Professor RIECKE of Leipzig, with the collaboration of a number of well-known dermatologists—Professors Bettmann, Bruhns, Buschke, Ehrmann, Gronven, Jesionek, Riehl, Torök, and privat-docents Tomaszewski and Ritter von Zumbusch. A thorough review of the individual contributions can scarcely be attempted in this place, owing to the length of the articles. But taking the book as a whole, it may be said that the various diseases are adequately dealt with in it. One or two criticisms may be permitted. In the first place, the work of non-German writers has not received quite the amount of attention it deserves. For instance, in the bibliography attached to the section on eczema (p. 75), no reference is made to Besnier's exhaustive monograph. German writers still apparently fail to recognize Gibert's pityriasis rosea (vide p. 416), so heavy is the incubus of authority. We are told that the majority of dermatologists consider that pityriasis rosea is closely related to ringworm, that is, the maculo-squamous form of herpes tonsurans (German for tinea tonsurans, and meaning here what we call tinea circinata), although, as the writer (Jesionek) admits, the fungus has never been demonstrated in the scales of the lesions which go to make up the clinical picture (*sic*) of pityriasis rosea. For a very good reason, we would add, namely, that pityriasis rosea is a disease totally distinct from ringworm, a fact which, notwithstanding the statement of Jesionek to the contrary, is admitted by all dermatologists outside Austria and Germany. The illustrations on the whole are very satisfactory, and those showing the *Treponema pallidum* in Buschke's paper on syphilis must be referred to here. There is an alphabetical index to the work, which, though

[2] Oxford Medical Publications. *Inborn Errors of Metabolism.* By Archibald E. Garrod, D.M., M.A.Oxon., F.R.C.P., etc. London: Oxford University Press: H. Frowde, and Hodder and Stoughton. 1909. (Post 8vo, pp. 176. 3s. 6d.)

[3] *Lehrbuch der Haut- und Geschlechtskrankheiten.* Herausgegeben von Professor Dr. Erhard Riecke. Jena: Gustav Fischer. 1908. (Imp. roy. 8vo, pp. 654. 14 coloured plates and 235 illustrations. Paper, M.14·60; bound, M.16.)

it contains errors and is in some directions scientifically behind the day, yet has a certain value as an addition to dermatological literature, if only as showing how slowly new ideas spread.

Dr. S. JESSNER, of Königsberg, whose synthetic surveys of subjects relating to diseases of the skin and syphilis are well known, has just issued a review of the diagnosis and treatment of syphilis of the skin and mucous membranes.[4] The points are dealt with in a clear and succinct manner for the use of practitioners generally. The author apparently believes in conceptional infection of women (conceptional syphilis—*choc en retour*), but paternal infection of the ovum yet remains to be proved. As is the case with most writers on syphilis, heredity is referred to in a loose manner. It will probably be admitted that the term "hereditary" strictly means the transmission of an innate biological variation through a number of generations. If this be admitted as a definition, the bottom is knocked out of the commonly used expression "hereditary syphilis." Everything points to the syphilitic infection of the child as occurring through the mother. On the whole, however, it must be conceded that Dr. Jessner's survey is reliable and readable, but his instructions as to the use of insoluble mercurial preparations might with advantage be a little more explicit. Very rightly he warns against the so-called "benign" syphilis—a very treacherous foe.

The third edition of Dr. OHMANN-DUMESNIL'S book on *Diseases of the Skin*[5] has been enlarged and revised. The intention of the author has been to furnish "just that information which is most desired by medical students and general practitioners." The book therefore aims only at giving a general account of cutaneous diseases. The contents differ little from those found in other works of the kind. There is nothing characteristic to call attention to, but evidently the work has been well received in the United States. The illustrations vary greatly as to quality. It is difficult in some to make anything out of them, owing to indistinctness and blurring. Altogether, as far as the English practitioner is concerned, he will find our own books of greater utility to him than the volume before us.

The first volume of the dermatological yearbook for the year 1905, published in 1907, has lately come to hand.[6] It was brought out under the editorship of the late Professor O. LASSAR, with the assistance of a number of representative dermatologists. As a work of reference this volume will prove invaluable to those desirous of putting their hands on 1905 contributions in the realms of skin, venereal, and genito-urinary diseases. Each section gives the full bibliography, and that is followed by a review of the chief papers. As regards the etiology of syphilis alone, there are 305 references—for 1905 only be it remembered. The mass of work got through is truly "amazing," to use an expression so dear to sensational journalism and politicians. The sections on syphilis are specially important, dealing as they do with the luetic affections of the various organs and tissues of the body. When do our Teutonic friends amuse themselves?

Among the numerous *scripta brevia* on cutaneous subjects produced so industriously by Dr. JESSNER, this second edition of his essay on the diagnosis and treatment of eczema[7] cannot fail to prove of interest, for this disorder, if the singular may be used in this connexion, meets the practitioner at every turn. The term "eczema" as ordinarily employed is elastic and covers a multitude of conditions, varying greatly in degree, extent, and aspect. The author starts off by accepting in a general way the usual definition of eczema as a catarrh of the skin, but this does not take us far. This well-worn statement is a mere analogy, and assumes, as Dr. Jessner states in so many words, that "every medical man knows what a catarrh of the mucous membranes is." Although this is a simple way of tackling one of the most intricate subjects in dermatology, it is as unsound as it is fallacious, and leads nowhither. For a fuller comprehension of eczema, the masterly monograph by the late Ernest Besnier (*La Pratique dermatologique*, vol. ii) should be read in order to get a little deeper than the mere surface. On the whole, however, Dr. Jessner deals with the matter in a "practical" style, and gives a number of formulæ for ointments, lotions, etc., which are much the same as those generally found in books on dermatology.

[4] *Diagnose und Therapie der Syphilide*. Von Dr. S. Jessner. Second edition. Dermatologische Vorträge für Praktiker. Heft 11 and 12 (Doppelheft). 1909. Würzburg: A. Stuber's Verlag. (Demy 8vo, pp. 165. M.2.50.)

[5] *Diseases of the Skin*. By A. H. Ohmann-Dumesnil, A.M., M.D., Ph.D., etc. Third edition. St. Louis: C. V. Mosby Medical Book and Publishing Company. 1908. (Demy 8vo, pp. 666, 140 illustrations. 4 dols.)

[6] *Dermatologischer Jahresbericht*. Herausgegeben von O. Lassar. Erster Jahrgang: Über das Jahr 1905. Wiesbaden: J. G. Bergmann; Glasgow: F. Bauermeister. 1907. (Super royal 8vo, pp. 695. 18s.)

[7] *Diagnose und Therapie des Ekzems*. Von Dr. S. Jessner, Königsberg i.Pr. 2 Auflage. Würzburg: A. Stuber's Verlag. 1909. (Demy 8vo. In two parts, bound in one paper volume. Pp. 50 and 96 respectively. M.2.50.)

ACCIDENTS TO WORKMEN.

DR. LENOIR, in his *Conférences sur les accidents du travail et les affections traumatiques*,[8] has collected in a volume a number of lectures on accidents to workmen, delivered at the Salpêtrière in the surgical clinic of Professor P. Segond. Professor Segond in a preface discusses the question of the previous state of health of a claimant for compensation, and concludes that if there is a condition which contributes to the accident or incapacity, it ought to be taken into consideration in estimating the injury and assessing the compensation. He, however, remarks that distinguished authorities such as Ribierre, Balthazard, Reclus and Brissaud are not in agreement with him; nevertheless, he regrets that the verbal amendment to the French Law of 1898, proposed by the deputy, M. Dron, was not adopted, that full indemnity should be due only for those consequences of an accident which are direct and immediate, while in those cases in which a pre-existing defect is aggravated the compensation should be reduced. The committee, he says, rejected the amendment as unnecessary, on the ground that it was the spirit of the law.

It is probable that if such a principle were generally arguable in English arbitrations, the members of our own profession would be even more interested than they are at present, while the members of the final court of appeal would probably frequently be called upon to frame definitions under a provision of this kind, simple as it may look. The legal mind appears to be as bounteous a gift of the gods in France as it is in England.

The author's duties as medical officer to the Paris-Orleans Railway Company give him opportunities for forming his opinions, and he most vigorously supports the view expressed by his chief in the preface. The observations on hernia are interesting, and in respect of the inguinal variety it is stated that in France there is a general tendency to admit a predisposition if the canal admits a finger, is abnormally short, and the walls thinned. Dr. Lenoir is of opinion that hernia is more frequently a disease than an accident, that there is very often a predisposition but that there may be such a thing as acute traumatic hernia. The rules as to examination are excellent, and the author is courageous enough to apply his principles to a case of successful radical operation in determining if the primary condition was due to accident; he notes the risk of recurrence if the wound has suppurated, and believes that as the radical treatment is not without mortality the patient should not be forced to undergoit. On the relation of appendicitis to traumatism, the conclusion arrived at is that it is very doubtful that trauma or effort can initiate the disease in a healthy appendix, but it may provoke an attack in chronic or latent cases, and may, by producing a peritoneal reaction, cause a predisposition to the disease. The observations on lumbago lead us to think that "bad back" is as trouble-some a complaint in France as it is here. Torticollis of rheumatic origin or from rupture of muscular fibres as an industrial accident is not very common with us, and also very occasionally do we meet the *coup de fouet*, which is recognized as not exclusively rupture of the plantaris, but may have as a cause a tear of deep veins in the leg. In the discussion of hygroma and suppurating callosities the only point that need be noted is that it is stated that the courts have a tendency to exact proof of accidental

[8] *Conférences sur les accidents du travail et les affections traumatiques*. Par le Dr. O. Lenoir, Médecin principal adjoint de la Compagnie Paris-Orléans; préface de M. le Professeur Segond. Paris: Vigot Frères. 1909. (Post 8vo, pp. 249. Fr. 3.50.)

infection. With regard to orchitis due to effort or strain, Dr. Lenoir, after giving the various theories, concludes that such an etiology can hardly be accepted, that effort may be contributory but cannot alone cause the disease, and that in such cases an examination of the genito-urinary tract will show an infection. The book is a useful contribution to the subject of accidents to workmen, and as such will be serviceable; only a few conditions are treated, but we understand that it is intended to publish a further series.

TWO HOSPITAL REPORTS.

THE present editors of the *St. Bartholomew's Hospital Reports* for 1908[9] wisely undertook, when preparing the last volume, to divide the articles into "medical papers" and "surgical papers," and they maintain that arrangement in the present issue. It might even be suggested that a more minute division would be desirable. Thus the records of obstetrics and gynaecology form a very distinct subdivision in medical literature, and purely scientific memoirs like Dr. J. F. Halls Dally's thesis on the Diaphragm in Man should not be classified under surgery. We hazard these suggestions because we sympathize with the editors of these *Reports*, and feel that they are doing their best to make the series really useful by facilitating reference. Archives of this kind, like those published by societies, are too apt to assume the character of a mausoleum from which their precious contents become yearly more and more difficult to disinter. Hence the arrangement of the tables of contents volume by volume is a matter of importance, and it is satisfactory to find how well it is carried out by the editors, one of whom, Mr. ECCLES, performed another praiseworthy task a few years ago, preparing a general index of a score of volumes of the *Reports*. A complete review of the contents, of necessity somewhat variegated, is impossible. Dr. Dally's paper, based on a Cambridge thesis, is a good solid piece of anatomical work, worthy of imitation. It is a record of our present knowledge of the development, relationships, structure, and mode of action of the diaphragm. Mr. Sheffield Neave, of the Wellcome Research Laboratory, Khartoum, writes on sleeping sickness as one who has, and is admitted to have, authority. He and his son, Mr. S. A. Neave, spent a year quite recently in Katunga, studying the *Glossina palpalis* and the disease which it causes in man. He declares that *G. morsitans*, which infects horses and cattle with a deadly trypanosome, does not convey to man the germ of sleeping sickness. Mr. Neave's important contribution on *Leishmania donovani* in the Soudan, published in the JOURNAL for May 28th, 1904, will be remembered by those of our readers interested in tropical diseases. Mr. Sydney Scott contributes an important article on the histology of the human labyrinth in meningitis, with photomicrographs. Mr. D'Arcy Power writes on the surgery of the spleen, giving two after-histories of cases in his own practice worth remembrance. There are some good short clinical and pathological papers; we may specially make note of Mr. R. C. Elmslie's memoir on sarcoma developing in bones already subject to osteitis deformans.

The greater part of the *St. Thomas's Hospital Reports*[10] consists of the statistical tables of the medical, surgical, obstetrical, and special departments of the hospital for 1907, with Mr. Shattock's catalogue of recent additions to the museum, all, we need hardly add, highly instructive. The report of the physical exercise department for 1907 is of special interest. After October 1st, 1906, the entire working of the department was entrusted to Mr. Richard Timberg of Stockholm, with a duly trained and qualified lady assistant. Hitherto there had been a lack of any person capable of undertaking the treatment of male cases. The difficulty being overcome, a fair proportion of male patients soon made their appearance, but the increase in cases required removal of the department to more spacious quarters, and this could not be effected until 1907; then the exercises could be practised three times weekly instead of twice a week as before; 99 males and 101 females were treated in 1907, making 200 in all. Out of these, 61 (47 being females) were cases of all forms of spinal curvature; 19 men and 4 women were treated for "results of fracture"; 6 men and 9 women for pes planus and evertus, 11 men and 3 women for loose semi-lunar cartilage in knee-joint, whilst the remainder were under treatment for over thirty different maladies. Mr. Timberg, whose report is very interesting, urges earlier recourse to treatment in many cases, such as stiffness after fractures, but as the department is not open every day, the majority of patients have to be treated by ordinary massage in the hospital. Dr. Panton contributes An Investigation into Some Aspects of the Actions of Arsenic, showing the action of arsenious oxide on the blood and viscera, and on phagocytosis and chemiotaxis.

[9] *St. Bartholomew's Hospital Reports*. Edited by H. Morley Fletcher, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol. xliv. London: Smith, Elder, and Co. 1909. (Demy 8vo, pp. 231, with Statistical Tables of the Patients under Treatment in the Wards of St. Bartholomew's Hospital during 1907, pp. 190. Subscribers, 5s.; others, 8s. 6d.)

[10] *St. Thomas's Hospital Reports*. New series. Edited by Dr. H. G. Turney and Mr. W. H. Battle. Vol. xxxvi. London: J. and A. Churchill. 1909. (Demy 8vo, pp. 404. 8s. 6d.)

NOTES ON BOOKS.

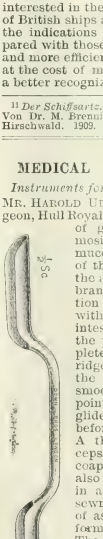
A SMALL book by Drs. BRENNING and OPPENHEIMER on the duties which fall to the lot of a ship's surgeon will be found useful by those who are disposed to spend part of their medical career in service at sea.[11] Amidst much detailed and didactic instruction on the duties of the medical officer on large liners, some useful hints are to be found here and there on his own comfort. The book is intended exclusively for German readers, and to those interested in the medical care of the passengers and crews of British ships affords very little fresh information beyond the indications that the German medical officer, as compared with those of other marines, has, as a rule, a better and more efficient equipment at his disposal, and, though at the cost of more stringent rule, has a more defined and a better recognized official position.

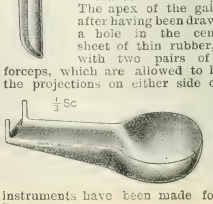
[11] *Der Schiffsarzt. Leitfaden für Aerzte und Kandidaten der Medizin*. Von Dr. M. Brenning und Dr. E. H. Oppenheimer. Berlin: August Hirschwald. 1909. (Post 8vo, pp. 87; 6 illustrations. M. 1.60.)

MEDICAL AND SURGICAL APPLIANCES.

Instruments for Gastro-enterostomy and Cholecystostomy.

MR. HAROLD UPCOTT, F.R.C.S., Honorary Assistant Surgeon, Hull Royal Infirmary, writes: During the performance of gastro-enterostomy or intestinal anastomosis, it frequently happens that the pouting mucous membrane of the already sutured half of the bowel is in the way of the needle while the anterior or return half of the mucous membrane is being sutured. To aid in the application of this suture I have had a protector made with ends of different sizes for stomach or intestine. It is applied after the posterior suture line is complete, and serves to depress the ridge of mucous membrane, at the same time affording a smooth surface over which the point of the needle readily glides. It is easily withdrawn before the suture is completed. A three-bladed coaptation forceps (originally designed for the coaptation of skin edges) has also proved useful for lifting up in apposition the edges to be sewn. The gall-stone bowl is of assistance in the cleanly performance of cholecystostomy. The apex of the gall bladder, after having been drawn through a hole in the centre of a sheet of thin rubber, is seized with two pairs of Poirier's forceps, which are allowed to hang over the projections on either side of the lip of the bowl. The gall bladder is opened between them, and its contents readily scooped into the bowl which rests upon the lower part of the abdominal incision. The instruments have been made for me by Messrs. Down Brothers.





Nova et Vetera.

A COUNTRY DOCTOR.

In an address delivered as Lord Rector of the University of Aberdeen in 1906, Sir Frederick Treves said he was disposed to believe that there have been more heroic men among practitioners of medicine than among those of any other calling. The heroism, he went on to say, may not be of a dramatic type, nor of a thrilling character. It is a heroism based upon self sacrifice, which, accomplished under obscure conditions, has more than once signified that a man has laid down his life not only for a friend, but for the stranger beyond his gates. It is in the humbler walks of the profession that men who have thus borne themselves gallantly are to be found. "I should not," said Sir Frederick Treves, "seek for such men at a great medical festival held in some lordly hall where ornate toasts are proposed amid every evidence of ease and luxury. I would rather think that on the very night of such a festival, in some far-off part of the country, on a bleak moor, perhaps, a solitary man in a gig is pushing through the dark against wind and rain, to help another who is poorer than himself. Indeed, the true spirit of the profession of medicine is not to be illustrated by the brilliant surgeon who holds the operating theatre spell-bound, nor by the learned teacher who can grasp the attention of a crowded audience, but rather by the lonely figure of the man in the gig."

Readers of the *Surgeon's Daughter* will remember Scott's sympathetic picture of Gideon Gray, drawn, as Lockhart tells us, from life. To him Scott applies Johnson's beautiful lines on Levett:

> When fainting Nature call'd for aid,
> And hovering Death prepared the blow,
> His vigorous remedy display'd
> The power of Art without the show;
> In Misery's darkest caverns known,
> His useful care was ever nigh,
> Where hopeless anguish pour'd his groan,
> And lonely Want retired to die;
> No summons mock'd by cold delay,
> No petty gains disclaim'd by pride,
> The modest wants of every day
> The toil of every day supplied.

This exquisitely beautiful portrait, says Scott, well describes many village doctors, from whom Scotland reaps more benefit, and to whom she is perhaps more ungrateful, than any other class of men, excepting her schoolmasters.

Such a rural man of medicine is usually the inhabitant of some petty borough or village, which forms the central point of his practice. But, besides attending to such cases as the village may afford, he is day and night at the service of every one who may command his assistance within a circle of forty miles in diameter, untraversed by roads in many directions, and including moors, mountains, rivers, and lakes. For late and dangerous journeys through an inaccessible country for services of the most essential kind, rendered at the expense, or risk at least, of his own health and life, the Scottish village doctor receives at best a very moderate recompense, often one which is totally inadequate, and very frequently none whatsoever. He has none of the ample resources proper to the brothers of the profession in an English town. The burgesses of a Scottish borough are rendered, by their limited means of luxury, inaccessible to gout, surfeits, and all the comfortable chronic diseases which are attendant on wealth and indolence. Four years, or so, of abstemiousness enable them to stand an election dinner; and there is no hope of broken heads among a score or two of quiet electors who settle the business over a table. There the mothers of the state never take a point of pouring, in the course of every revolving year, a certain quantity of doctor's stuff through the bowels of their beloved children. Every old woman, from the Townhead to the Townfit, can prescribe a dose of salts, or spread a plaster; and it is only when a fever or a palsy renders matters serious, that the assistance of the doctor is invoked by his neighbours in the borough. But still the man of science cannot complain of inactivity or want of practice. If he does not find patients at his door, he seeks them through a wide circle. Like the ghostly lover of Burger's Leonora, he mounts at midnight, and traverses in darkness paths which to those less accustomed to them, seem formidable in daylight, through straits where the slightest aberration would plunge him into a morass, or throw him over a precipice, on to cabins which his horse might ride over without knowing they lay in his way, unless he happened to fall through the roofs. When he arrives at such a stately termination of his journey, where his services are required either to bring a wretch into the world, or prevent one from leaving it, the scene of misery is often such, that far from touching the hard earned shillings which are gratefully offered to him, he bestows his medicines as well as his attendance—for charity. I have heard the celebrated traveller Mungo Park, who had experienced both courses of life, rather give the preference to travelling as a discoverer in Africa, than to wandering by night and day in the wilds of his native land in the capacity of a country medical practitioner. He mentioned having once upon a time rode forty miles, sat up all night, and successfully assisted a woman under the primitive curse, for which his sole remuneration was a roasted potato and a draught of buttermilk. But his was not the heart which grudged the labour that relieved human misery. In short, there is no creature in Scotland that works harder and is more poorly requited than the country doctor, unless, perhaps, it may be his horse. Yet the horse is, and indeed must be, hardy, active, and indefatigable, in spite of a rough coat and indifferent condition; and so you will often find in his master, under an uncompromising and blunt exterior, professional skill and enthusiasm, intelligence, humanity, courage, and science.

Another literary portrait of the country doctor is Ian Maclaren's Weelum MacLure, whose fees "were pretty much what the folk chose to give him, and he collected them once a year at Kildrummie fair." As one of his patients said, he "hed a share in a' body's grief, and carried the heaviest wecht o' a' the Glen." Among his dying injunctions to his friend was the following:

> A' didna keep buiks, as ye ken, for a'aye hed a guid memory, so naebody 'ill be harried for money aifter ma deith, and ye 'ill hae nae accounts tae collect.
>
> But the fouk are honest in Drumtochty, and they 'ill be offerin' ye siller, an' a'll gie ye ma mind aboot it. Gin it be a puir body, tell her tae keep it and geta bit plaidie wi' the money and she 'ill maybe think o' her auld doctor at a time.

Homely and rugged as he was, he went about doing good. Ian Maclaren says he was often asked if there was ever any doctor so self-forgetful and so utterly Christian as Weelum MacLure. To which he was proud to reply on his conscience, "Not one man, but many in Scotland and in the South Country. I will dare prophesy also across the sea." It was his fortune to know four country doctors, each of whom might have sat for the portrait of his hero.

We are happy to be able to give a sketch of a country doctor who to all the active benevolence of Weelum MacLure added an intellectual power, a highly cultivated mind, and a wealth of exact and varied knowledge of which no trace appears in the picture of the rough old doctor of Drumtochty. Strolling about last summer in the beautiful burying ground attached to the parish church of Mortlach, in Banffshire, which tradition carries back to the time of the Culdees, the writer's eye was caught by a monument standing out from among the other stones marking the resting places of the forefathers of the village. In form an obelisk with an ornamental base on a granite pedestal, it had about it a simple dignity that at once arrested attention. Following the injunction of Gray in his *Elegy*, the writer approached and read; and certainly the inscription graved on the stone was well worth reading. It runs as follows:

> JAMES A. INNES, M.D.
> Beloved and deeply revered in life now
> deeply mourned lies here.
> Born at Tenreach, Mortlach, 6 April, 1838.
> Died at Dufftown, 14 February, 1905.
>
> "Blessed is he that considereth the Poor."

> A Physician of marvellous skill and ability,
> leading a life of self-denying simplicity.
> He devoted his whole time to the relief of
> suffering humanity.

> For 40 years his valuable services
> were very highly appreciated
> and in grateful remembrance of his
> assiduous attention
> This monument is erected to his memory
> by 1178 subscribers
> 1905.

A photograph of the monument is reproduced on the next page.

The fact that a country doctor should be commemorated in so touching a fashion led to inquiries which revealed the story of a very remarkable man, of whom our

profession has good reason to be proud. A short account of his life will, we are sure, be interesting to many of our readers. That no obituary notice of such a man appeared in the BRITISH MEDICAL JOURNAL at the time of his death is only a proof that he spent his life in the spirit of the maxim, *Bene vivit qui bene latuit.* We think it our duty now to repair the omission. We have to acknowledge the kindness of several correspondents, notably Mr. Charles Innes (brother of Dr. Innes), Miss Macdonald, the Rev. George P. Shaw, and Dr. John Grant of Dufftown, Mr. James Ingram, editor of the *Dufftown News and Speyside Advertiser*, Mr. John Law, M.A., of Maud, and Mr. Edward Beaton of Hampstead, who have supplied us with information.

James Alexander Innes was the son of a farmer, and was born in the parish of Mortlach in 1838. He was educated at the parish school, then under the rod of John Macpherson, a *plagosus Orbilius* of local celebrity, who had some years before had the late Field-Marshal Sir Donald Stewart and Lord Mount-Stephen among his pupils. Having won a bursary at the University of Aberdeen, Innes entered the Arts Faculty and later began the study of medicine. He finished his course at Edinburgh, where he had the good fortune to have among his masters Syme and Warburton Begbie, who is said to have described him as the best student that ever passed through his hands.

Innes took his degree at Edinburgh with honours. He might with confidence have chosen a sphere that would have made his light be seen of all men, but he preferred that it should be the little candle shining like a good deed in a naughty world, and for our part we think he chose the better part when he decided to make his native place his field of action. He settled in Dufftown in 1864, and there among his own people he worked for forty years without ever taking a holiday. He gave himself wholly to his professional work, seeing patients at his own house at any hour they might choose to come, and answering every call whatever the weather or the difficulties of the road. He recognized no difference of rank or fortune, giving the poor cottager the same attention that he bestowed on the wealthy. Although he soon won a reputation which extended far beyond the boundaries of his own district, from first to last his work was its own reward. His fees were smaller even than those of Weelum MacLure. Often when asked for an account, he would look at his books and say there was nothing due. A lady who knew him well, and to whom we are indebted for much of the information embodied in this article, refers to the case of a gentleman who came to see Dr. Innes from a place about 120 miles distant. The doctor examined him, and after talking with him for two hours charged 1s. for the interview. Another time an English gentleman and his wife who were holiday-making in the neighbourhood called to consult him. As they left the doctor's house, the gentleman said, "When I asked about his fee, I thought he said a shilling, but that is impossible. I will write to him."

A few instances of his beneficence will paint the man. He had prescribed for the daughter of a poor woman, but after a day or two, not being satisfied with the results, he asked if the girl was getting the medicines ordered. Her mother had to confess that she was not, as she was too poor to pay for them. Dr. Innes thereupon handed her the money. Once, when he called on an old woman who lived in a little cottage in the country, she told him to go to the top shelf of her "press," and there in a cup he would find some money. "Pay yoursel'," said she, "but lave fat will pay ma medicine." When the cup was next looked at it was found the doctor had placed in it a sovereign. At a place some twenty miles distant a woman was suffering from a serious illness. Her own doctor after a time called Dr. Innes in consultation. After the woman's recovery she paid her own doctor, and then came to Dr. Innes, asking what was the amount of his bill, as she had sold her cow to pay the first account, and she had a sheep which she could sell to help the payment of the second. Dr. Innes told her that it was to her own doctor that he had to state the amount of his fee, but he asked her to come back after a certain time to him. Meantime, Dr. Innes was asked to send his account to the other medical practitioner, and he asked for the exact amount the poor woman had been charged. When she again presented herself to Dr. Innes he handed her the whole sum, and told her to go and buy another cow.



Monument to Dr. Innes, Dufftown.

The doctor had been in attendance on the family of a crofter in the district for many months. One day the man came and said he would like to pay him something, as he was ashamed of his coming to his house so long. On the doctor's asking how much he had, the man said he had £3, and was going to give him £2 and keep £1. Dr. Innes said, "Never mind until you have more." Some time later the same man had been to market and sold an ox. Afterwards he presented himself at the doctor's house, saying, "I am fit for ye noo, doctor. I hiv plenty siller the day." On the doctor's asking what he proposed to do,

the man said "To give you £2 and keep £1." The answer was "Give me £1, and keep £2 for yourself."

A young journeyman tradesman who was very often laid aside from work through illness needed much of the doctor's skill and care. During convalescence, after a long illness, he went to the doctor and said he was going to give him £1 in part payment, and when he was able to earn more he would come back. Dr. Innes replied that he thought the £1 he proposed giving him would keep him a week at the seaside. "Go and tell Mr. C." (his employer) "that I said you would be better of a short visit to the seaside. Never mind, I'll go and speak to Mr. C. myself," and he did.

On one occasion when he was attending a little servant maid who was lying dangerously ill in the Stephen Hospital, General Sir ——'s carriage arrived to take him to a neighbouring country house to visit the master of the house who was ill, but Dr. Innes refused to go. He preferred to remain and do what he could to soothe the last agony of the poor friendless girl.

Dr. Innes never sent out an account in his life. If patients did not offer a fee, he never asked for one. When he had occasion to ask the help of a brother practitioner he seemed to have an understanding with him about the fee. In arranging a matter of this kind he once said to our informant, "I generally get Dr. —— put off with a guinea." In a case on which he operated successfully for cancer, his charge was nothing for himself and a guinea for the colleague who assisted him. It was not only in the case of individuals that Dr. Innes showed this indifference to fees. For some time he was medical officer to the local lodge of Oddfellows, a very prosperous society. On one occasion his charge for attendance for a whole year was 17s. 6d! Such was the gratitude of the people among whom he worked that in 1882 they collected a sum of £339 16s. 6d. with the intention of presenting it to him as a testimonial. He declined to accept it, however, and insisted on the money being returned to the subscribers, saying that many of them wanted it more than he did.

It should be stated that Dr. Innes had a small private property: moreover, he was unmarried. In such circumstances alone is altruism like his possible. In the matter of fees every man owes a duty to his profession as well as to himself; and in this respect the example of Dr. Innes is, as the biographers of saints are often compelled to say, one to be admired rather than imitated.

Of Dr. Innes, as of John Arbuthnot, it might well have been said that he knew his art but not his trade. He was a man of sound clinical judgement, and a skilful surgeon, operating with good results before the days when trained assistance was available. He is said to have performed the first successful abdominal operation in the district. He took a great interest in the building of the well-equipped cottage hospital which Dufftown owes to the bounty of Lord Mount-Stephen, and took a large part in the planning of the arrangements. There he found a congenial field of work. After a time the directors proposed to present him with a cheque for £50 in token of their appreciation of his services; he would accept nothing for himself, but on being pressed drew up a list of surgical instruments for use in the hospital.

Dr. Innes took no part in public affairs: he was never present at a public function, nor did he ever use his right to vote at any municipal, parliamentary, or other election. He never accepted an invitation to a dinner party, but he was no recluse, and in his own home received any friend who called with the utmost cordiality, and to those interested in his conversation he was liberal in giving of the treasures of his knowledge. Dr. Innes was an omnivorous reader, and was always eager for information on subjects unfamiliar to him. His library contained all the best modern works on the various branches of medicine, and not a few of the ancient writers. He kept himself well abreast of progress in medical science by regularly reading the BRITISH MEDICAL JOURNAL and other professional periodicals. In literature his taste was truly catholic: Aristotle, St. Thomas Aquinas, Spinoza, Renan, John Henry Newman Carlyle, Homer, Herbert Spencer, Herodotus, Thucydides, Shakespeare, Milton, Walter Scott, Byron, Swinburne, Keats, and Tennyson rubbing elbows, so to speak, on his shelves. Burns he knew almost by heart. He did not disdain fiction, even fairy tales, but never read a novel through. But his favourite study was mathematics, in which he had been well grounded in his youth, and to which he continued throughout his life to give much attention. He was considered one of the best mathematicians in the North. He was a great admirer of Newton, all whose works he possessed in different editions. He had also a large collection of the best works on mathematical subjects, English and foreign.

Dr. Innes was a man of fine physique, with a head resembling that of Tennyson. He led a simple life, hating shams and display—a true philosopher of the Teufelsdröckh school. In his later years he did not go to church, the reason assigned for this being characteristic of the man. In the course of a discussion on the subject, an old acquaintance said:

> When he first came to Dufftown he geid to the Kirk ivery Sunday, and sat in his father's set in the breist o' the loft (front of the gallery). His father was an elder, and gathered the bawbees (took up the collection). But he stoppit gaeing because he wis taen oot ivery Sunday and disturbit the fowk.

An old Roman Catholic lady, who occasionally presented the doctor with a pair of knitted gloves, once in sending the gift expressed the wish that he would attend the "Chapel" (as Roman Catholic places of worship are called in Scotland). When the message was delivered Dr. Innes said, "If it would be any satisfaction to Miss ——, tell her that I go nowhere else!"

He used to say that a doctor ought never to retire altogether. "As long as he can sit on his chair, he should give the benefit of his life's experience to others." He continued to work till increasing weakness made it impossible for him to go out, and he passed away worn out but having done his duty faithfully to the end. The inscription on the monument to his memory, which has been quoted, shows the reverence and affection in which he was held by those among whom he worked. It is needless to add anything to such an expression of feeling.

> Kings for such a tomb would wish to die.

THE VALUE OF DIFFERENT SUBSTANCES AS DISINFECTANTS.

THE quantity of disinfectants used for various purposes in this and other countries is already very large and appears to be still increasing; and a proportionately greater increase is certainly taking place in the number and variety of substances and mixtures advertised and sold for use for this purpose. Many recent additions to the antiseptics and disinfectants available undoubtedly embody improvements of value, and represent the application of the best and fullest knowledge yet obtained on the subject; but, as is usual in such a case, there are others which represent little but the employment of the terminology of science to further the sale of articles of little real value.

From the point of view of the public health, the real efficiency and constancy of strength of disinfectants is scarcely, if at all, less important than uniformity in the strength of medicines or the purity of foods. The increasing accuracy of knowledge with regard to the activity of disinfectants has not yet led to very wide application of the principle of standardization, and has certainly shown that many difficulties lie in the way. It can hardly be doubted, however, that the large amount of valuable work that is being done in this direction will eventually render practicable a greater amount of standardization than at present; and before long it may be possible to give the purchaser of disinfectants some sort of legal protection against having articles of little value foisted upon him, such as is now given, rather imperfectly, in the case of food and drugs. Progress in this direction can be, and should be, stimulated by an intelligent demand on the part of the consumer that the maximum possible degree of accuracy should be employed in the description of disinfectants offered for his use, and by subjecting them whenever possible to the most rigorous testing. Although the large consumers of disinfectants are the general public, it is to the medical profession that they look for guidance in the matter; and in the numerous class of surgical antiseptics it is medical men themselves who are the consumers.

A report issued recently from the Hygiene Institute of

the University of Giessen by Dr. Kurt Laubenheimer[1] contains a useful summary of much of the work on the testing of disinfectants done on the Continent in recent years, as well as a record of a series of experiments carried out by the author which led to some not unimportant results. Some of the work which has met with the widest application in this country is not alluded to, and may usefully be touched on here.

The preponderating volume of expert opinion is in agreement in insisting on the necessity for bacteriological testing, though this by no means implies that the chemical composition of disinfectants may be ignored; but agreement does not go very much further than this. A standard test under fixed conditions was first proposed, in 1903, by Rideal and Walker, and the method of working laid down by them has come into fairly general employment, largely because of the official recognition that has been given to the test by certain public departments; but the authors of the test would admit as readily as any one that it cannot be regarded as final, useful as it has proved provisionally. It has been shown that different workers, equally skilful and experienced, not infrequently obtain very different results for the same disinfectants by this method; and a good deal of criticism has been levelled against it on the ground that the conditions of the test differ so much from those prevailing in the actual employment of disinfectants, that the Rideal-Walker coefficient of a substance may give little or no information as to its real relative value as a disinfectant.

Most of the difficulties of the subject arise from the fact that in dealing with bacteria, as with all forms of living material, the number of conditions that are outside the control of the investigator is far greater than in purely chemical work, however complex; and the conclusions drawn from a given series of tests are consequently only capable of much more restricted application. It is necessary, therefore, to define as precisely as possible what effect on the living organisms it is desired to produce; for instance, in the present case, whether a disinfectant is to be tested with regard to its power of inhibiting their growth, or to its power of actually killing them, as the one property does not stand in any constant ratio to the other. It has been laid down by Krönig and Paul that the power possessed by a substance of inhibiting bacterial growth depends directly on the concentration of the solution, other conditions remaining the same; while its power of actually destroying bacteria is a function of the time during which it acts. Many of the results described by Dr. Laubenheimer illustrate the fact that two disinfectants showing a given ratio between their respective powers of inhibiting growth under given conditions may show a totally different ratio between their powers when their bactericidal actions are compared. Thus, working with *Staphylococcus pyogenes aureus*, a 1 per cent. solution of terpineol only destroyed the bacteria when allowed to act for five hours, but a 1 in 15,000 solution was sufficient to completely arrest growth; with o-xylenol and the same culture of staphylococcus, a 1 per cent. solution killed in thirty seconds, but a strength of 1 in 7,000 was necessary to prevent growth. Different organisms, again, are very differently affected; the growth of staphylococcus was prevented by a 1 in 5,000 solution of thymol; for *Bacillus typhosus*, 1 of thymol in 18,000 sufficed; and for *Bacillus diphtheriae* 1 in 30,000.

For certain purposes the power possessed by a substance of preventing the growth of organisms, that is, its antiseptic as distinguished from its germicidal action, is of importance; but in most cases it is the true disinfecting power, or power of killing organisms, which it is desired to measure. Some indication of the activity of a substance in this respect is afforded by a determination of the time required for a given dilution, for example, 1 per cent., to kill organisms of a stated kind under fixed conditions; in order, however, to obtain useful figures, some standard of comparison is necessary, and pure carbolic acid (phenol) is usually taken for this purpose. Since the resisting power of different strains of the same organism may show considerable variations, a control test should always be made with carbolic acid on the same culture of organisms as is employed in testing the substance under investigation; and in this country, instead of comparing the periods of time required by solutions of the substance and of carbolic acid respectively to kill the organism, the plan now commonly adopted is to find by trials the strength of the solution of the substance which will just kill the organisms in the same time and under exactly the same conditions as a 1 per cent. solution of carbolic acid, and the reciprocal of the number expressing the percentage strength of this solution is then called the carbolic acid coefficient of the substance in question. If, for example, a ¼ per cent. solution is found to kill the organism in the same time as 1 per cent. carbolic acid, the coefficient is 4, and so on. In the Rideal-Walker test the exact conditions and method of working are laid down, and it is becoming usual now to include in the description of a disinfectant a statement of its carbolic acid coefficient found in this manner.

This is of course an advance on merely employing such vague terms as "strong," "very powerful," and so on; but it cannot be too clearly pointed out that the information given by the determination of the carbolic acid coefficient is strictly limited, and it would be entirely fallacious to suppose that a substance with a carbolic acid coefficient of, say, 4, can be described without reservation as "four times as strong a disinfectant as carbolic acid," or that disinfectants arranged in order of their carbolic acid coefficients are thereby arranged in order of their value. In the first place, the carbolic acid coefficient is far from being determinable with the accuracy and certainty of a chemical test; experience has shown that different workers, accustomed to the test, will obtain very different coefficients for the same substance. In the second place, the coefficient found only shows the relative efficiency of the disinfectant under the conditions of the test, and the conditions under which it is required to act in practice may cause it to show a very different relative efficiency. Thus it has been shown by several bacteriologists that in the presence of organic matter of various kinds, as faeces, blood, etc., the activity of some substances is reduced in far greater degree than that of others; as an example of this, oxidizing substances such as permanganates show a very high carbolic acid coefficient when tested in the ordinary way, but in presence of any considerable amount of organic matter the oxidizing power of the substance is largely exerted upon the latter, and its germicidal power thereby reduced. But it is not only oxidizers which are affected in this way; a disinfectant containing cresols and coal-tar oils which is several times as powerful as carbolic by the Rideal-Walker test, may not only show an absolutely lower efficiency in presence of faeces, but may be even considerably less effective than carbolic acid when both are tested under these conditions. Other facts which limit the significance of the carbolic acid coefficient are that it is not always the same for different organisms; *B. typhosus* is usually employed for the test, but the disinfectant will in practice be required to act on many others; in particular, it is found that the relative powers of two substances for killing bacteria are often quite different from their relative powers of destroying the vitality of spores. Corrosive sublimate is very effective on some of the most resistant spores, and this fact has helped materially in bringing it into the high favour with which it is regarded, though it is by no means proportionately more effectual than other subsances on some bacilli.

In Rideal and Walker's test the carbolic acid coefficient is determined as follows: Equal volumes of various dilutions of the substance under examination and of 1 per cent. solution of carbolic acid receive additions of equal small quantities of a culture of typhoid bacilli in broth; after definite intervals for the action of the substance on the bacteria fresh tubes of broth are inoculated from the different test liquids, and these are then incubated in order that growth may take place in those cases in which the bacteria have not been killed. If necessary, the test is repeated with other dilutions of the substance until that dilution is found which just kills the bacteria in the same time as the 1 per cent. carbolic acid. A weak point in the method which is not altogether negligible is that in the inoculation of fresh tubes of broth from the disinfecting liquids to which bacteria have been added, small quantities of the disinfectant are transferred to the culture

[1] *Phenol und seine Derivate als Desinfektionsmittel.* Vorgelegt von Dr. Kurt Laubenheimer. I. Assistenten am Hygienischen Institut in Giessen. Berlin and Vienna: Urban and Schwarzenberg. 1909. (Sup. roy. 8vo, pp. 162. M. 3 60.)

tubes; and it may be the case, therefore, if no growth occurs, that this is due to the inhibiting action of this small quantity of disinfectant on bacteria, weakened in vitality by their contact with the disinfectant solution, and not to all the bacteria having been actually killed. This power of inhibition without killing is much greater for some substances than for others; and although it is of much less consequence as a disturbing factor in this method than in the thread method of Koch, it must not be ignored altogether.

A method of testing which is in a good deal of favour on the Continent is the garnet method of Paul and Kronig. This is essentially the same as the method followed by Dr. Laubenheimer. *Staphylococcus pyogenes aureus* being the organism employed. Well cleaned and sterilized garnets of uniform size are treated with a vigorous liquid culture of the bacteria and then drained and thoroughly dried by confinement over a desiccating agent; after drying, a considerable number of the organisms lose their vitality rather quickly when kept at the ordinary temperature, but it was found by a careful series of tests that after four days the number capable of growth did not alter in any serious degree up to about the tenth day, and garnets were accordingly always used not less than four days nor more than ten days after treatment with the bacteria. In making the tests a number of garnets were placed in the disinfectant solution and left there for given intervals of time; they were then taken out and washed free from all traces of the disinfectant, then shaken up in sterile water to detach the bacteria, and plate-cultures made and incubated; after growth the colonies were counted. Various precautions not here mentioned were observed, and the adequacy of these was demonstrated by a variety of control experiments. A blank test was made in each case, sterile distilled water taking the place of the disinfectant solution; the number of colonies obtained from the blank test was usually from 30,000 to 150,000. Each test with a disinfectant was made in triplicate.

Dr. Laubenheimer's investigation was, with a few exceptions, confined to substances of phenolic nature, or mixtures in which the chief active ingredient was of phenolic nature. Full particulars are given of the investigation of about forty bodies of this class; a few of the more important results obtained were as follows:

Substance Tested.	Strength of Solution.	Time of Contact Required to Kill *S. pyogenes aureus*.
	Per Cent.	
Pure carbolic acid	1·0	90 minutes.
Lysol	2·0	5 ,,
Liquor cresoli saponatus (containing 50 per cent. cresol)	2·0	4 ,,
Corrosive sublimate	0·1	30 ,,
Eucalyptol	1·0	6 hours.
Menthol	1·0	6 ,,
Beta-naphthol	1·0	15 minutes.
Thymol	1·0	3 ,,
Propyl-phenol	1·0	3 ,,
O-xylenol	1·0	30 seconds.
M-xylenol	1·0	30 ,,
P-xylenol	1·0	9 minutes.
Chlor-o-cresol	1·0	2 ,,
Chlor-m-cresol	1·0	30 seconds.
Chlor-m-cresol	0·5	1 minute.
Chlor-m-cresol	0·25	1 ,,
Chlor-m-cresol	0·1	10 minutes.

It has long been known that the cresols (or methylphenols), the next higher homologues of phenol, possess a bactericidal power much greater than that of phenol itself, although they are less toxic; they are, however, but very slightly soluble in water, and are therefore generally prepared for use in combination with a soap, and such a preparation, when mixed with water in the proportions required for use, makes a clear solution. It is found, however, that the oily hydrocarbons which are largely mixed with cresol when it is obtained from coal tar themselves possess considerable bactericidal power, and the crude substance is therefore generally employed in making disinfectants; a soapy preparation of this material gives a milky emulsion on dilution with water, and such an emulsion is an efficient germicide. Such preparations usually have a carbolic acid coefficient of about 4. Ascending the homologous series a step further, the next compound is dimethyl-phenol; several isomers of this constitution exist, known as xylenols, three of which are mentioned in the above list. These again are found to be much more powerful than cresol, and they form the most active ingredients in various disinfectants on the market which show a carbolic acid coefficient of about 14 to 18. *Pari passu* with the increase of bactericidal power as the series of phenols is ascended, goes a diminution of toxicity to higher forms of life; the cresols are less poisonous than phenol, and the xylenols are much less poisonous again.

It was found by Dr. Laubenheimer that some of the chlorine derivatives of the cresols were even more powerfully bactericidal than the xylenols, especially in dilute solutions. Thus, comparing the best of each, 1 per cent. of m-xylenol and of chlor-m-cresol alike killed staphylococcus in 30 seconds; 0·5 per cent. solution of m-xylenol required 2 minutes, and 0·25 per cent. required 25 minutes, whereas 0·5 per cent. chlor-m-cresol required one minute and 0·25 per cent. also only one minute; 0·1 per cent. required ten minutes, while corrosive sublimate of the same strength required thirty minutes. The toxicity of the two substances was compared by experiments on guinea-pigs; on these animals the minimum lethal dose of the m-xylenol was found to be 1·75 gram per kilo of body-weight, and of the chlor-m-cresol 4·0 grams, the latter being thus less than half as toxic as the former, and, indeed, practically non-poisonous. Comparisons were also made of the irritant action of the two when applied to the eye of a rabbit; the effect of m-xylenol was small, but that of chlor-m-cresol much less; when a 0·25 per cent. solution of the latter was employed, no irritant effect could be observed. The power of chlor-m-cresol to prevent the growth of staphylococcus, without killing it, was tested. In a solution of 1 in 22,000, no growth took place, even in eight days; with 1 in 24,000, growth occurred on the first day, showing that the former solution was just strong enough to prevent it.

Various trials were then made of the efficiency of this chlor-cresol in sterilizing the skin when applied after the thorough washing that would be employed in actual practice. Full details are given of the various precautions taken to make the test satisfactory. It is stated that treatment of the clean hands with a 1 per cent. alcoholic solution of chlor-m-cresol produced a condition of complete sterility. Finally, chlor-m-cresol and m-xylenol were tested in regard to their power of sterilizing typical tuberculous sputum when merely added to it without thoroughly mixing. Guinea-pigs were afterwards subjected to injections of the liquids, and, after intervals of five and eight weeks, were killed and examined for tuberculosis. In these tests 5 per cent. solution of each was used, and m-xylenol showed itself the better, three hours proving sufficient for complete disinfection, while eight hours' contact was necessary in the case of chlor-m-cresol; 5 per cent. solution of lysol, tested in the same way, did not disinfect the sputum in twenty-four hours, and 10 per cent. solution of lysol did not disinfect in twelve but did in twenty-four hours. It is evident that the chlor-cresols may prove most useful additions to available bactericides.

One of the phenolic substances mentioned above, which has long been in some favour as an antiseptic, is thymol, and it is noteworthy that it showed itself more efficient than beta-naphthol, and even than cresol, under the conditions of the test. Even in weaker solution than 1 per cent. its efficiency was very high; the small extent to which the concentration affected the time taken to kill the bacteria well illustrates the impossibility of deducing the effect of one dilution from that of another; thus, a 5 per cent. solution of thymol killed staphylococcus in two minutes, a 1 per cent. solution in three minutes, and a 0·5 per cent solution in five minutes.

The nature and quantity of the soap used to render these higher phenols and derivatives miscible with water was found in some cases to have a considerable effect on the germicidal power of the solution. A soap prepared with dioxystearic acid possessed no germicidal power itself, but gave much better results when used as an adjunct to the higher phenols than ordinary pure soft soap, although the latter, when tested alone, showed a very appreciable germicidal power; soaps made with ricinoleic acid and sulphoricinoleic acid had very low germicidal power, but also proved to be better media than soft soap. In some cases wide variations in the amount of soap employed had no influence on the results, but in most cases an optimum proportion between soap and phenol was found, and any considerable variation from this caused impaired efficiency.

The general nature of the results arrived at by Dr. Laubenheimer is in agreement with ordinary experience in showing that disinfectants prepared with some of the many phenols or phenol-derivatives have many important advantages over some of the substances which have at various times been in great favour.

We have alluded above to the behaviour of oxidizing agents in the presence of excess of organic matter; it has been asserted that such oxidizers as permanganates will attack the highly complex molecules of the bacterial protoplasm in preference to relatively more stable substances, and there is, no doubt, some truth in the statement; but direct tests have shown that the bactericidal efficiency is lowered in an important degree by the presence of faecal matter and other organic substances. A somewhat similar disadvantage attaches to the use of mercury perchloride, the efficiency of which is greatly reduced by the presence of albuminous substances; such reduction is far less in the case of phenols, and in some cases practically negligible. Thus, a 1 per cent. solution of m-xylenol, in which the medium (apart from the small quantity of soap) was water only, destroyed staphylococcus in thirty seconds, and a solution of the same strength, but in which 50 per cent. of blood serum was present, destroyed them in one minute; 2 per cent. lysol solution destroyed the organisms in five minutes; and a 2 per cent. lysol, containing 50 per cent. of blood serum, required seven minutes.

Extensive experience alone will avail to show which of the various methods employed, or to be employed, for the bacteriological testing of disinfectants will give the greatest amount of information and of the most useful kind. For the present, while bacteriological testing is of great importance, and should always be insisted on, it would be a most serious mistake to accept a carbolic acid coefficient as giving all the information about the efficiency of a disinfectant that it is necessary to have. In judging substances of this class, and deciding in favour of one rather than another, due consideration must be given to the particular purpose for which it is to be employed, whether it is to be used in presence of much or little organic matter and the average nature of the latter, and many other facts. But full recognition of the limitations of the information given by a carbolic acid coefficient should not lead to its being undervalued; as much accurate information as can be given about any substance put forward as a disinfectant should be insisted on. In most cases it is desirable to know the carbolic acid coefficient of a disinfectant according to the Rideal-Walker method, and also the same coefficient when tested in presence of organic matter, which may be faeces or blood, etc.; and, finally, full account should be taken of the chemical nature of all disinfectants.

THE Royal Bucks Hospital at Aylesbury has recently been structurally overhauled, and a new wing and operating theatre and other improvements introduced. In connexion with the alterations Mr. George Carrington, chairman of the hospital, who has been chiefly instrumental in securing their being carried out, had the advantage of the counsel of Sir Frederick Treves, who recently made a thorough inspection of the institution, and in a speech before leaving said that the new wing and its adjuncts represented the very last word in hospital construction. A hospital thus perfectly equipped was of advantage both to the rich and poor of the district, for it kept up the standard of medical and surgical science in its locality.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE acting honorary medical staff of the Derbyshire Royal Infirmary and the Derbyshire Hospital for Sick Children recently presented to the boards of management of the respective hospitals a report upon the medical and surgical treatment of children attending the elementary schools, and found defective by the school inspectors. The report takes the form of a discussion of certain questions.

1. *Should the school authorities, in consideration of payments to the hospitals, be able to claim treatment at the institutions for any children who may be sent thereto?*

After a reference to the paragraph 7 (*g*) in Circular 596 of the Board of Education,[1] the report points out that such proposals raises for the consideration of boards of management serious questions of principle which are dealt with as follows:

"At present our hospitals are charities, supported by the contributions of the benevolent, and managed by boards elected by the contributors. If hospitals accept contributions from public funds in consideration of undertaking the treatment of certain patients, then, as regards the treatment of those patients, they cease to be charitable institutions. They become rate-aided institutions, and the ratepayers, as such, will have a right to a voice in the management.

"The ground on which the services of the honorary medical staff of a hospital are given to it is that it is a charity supported by voluntary contributions of benevolent members of the community. If this charitable basis is abolished, the claim upon the staff to act as honorary officers ceases.

"The importance of the questions thus raised extends beyond the immediate issue. If the boards of management now permit the insidious introduction of arrangements whereby patients, in respect of which hospitals receive payment from public funds, are to be treated gratuitously by the honorary staff, a very serious form of competition with private practitioners will be instituted under public sanction, and a precedent will be created for ever-increasing demands by the community upon gratuitous work of medical practitioners.

"If, in recognition of the considerations above stated, the principle be accepted that payment is to be made to members of the staff for treating at the hospitals children in respect of whose treatment payment from public funds is received, it follows that those members of the staff will cease to be honorary and will become paid servants. As the work will be paid for out of public funds, all members of the medical profession alike ought to be eligible for the appointments to treat these children, and not only those who are members of hospital staffs.

"If the hospitals consent to undertake work paid for out of public funds, and pay their staff, certain important grounds of appeal to the benevolent for funds—that is, the purely charitable basis of the institution and the entirely gratuitous services of the medical staff—will no longer exist, and it is probable that contributions will seriously diminish.

"If the hospitals undertake this work the various departments will be filled with cases, many of a trivial character, and the real work for which the hospitals exist—that is, treatment of the more serious forms of accident and disease—will be interfered with.

"Our answer to question No. 1 is therefore in the negative."

2. *Is it advisable that the hospital boards should let part of their premises to the school authorities for the purpose of the treatment of children found defective by the school inspectors, the school authorities making their own arrangements with medical practitioners to do the work? In other words, is it advisable to allow "school clinics" to be established on hospital premises?*

"This question arises out of a communication from one of the school authorities addressed to the Board of the Royal Infirmary.

"If facilities in this direction be given to one school authority and for one class of disease, it will be wellnigh

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, 1908, vol. ii, p.

impossible to refuse like facilities to other school authorities and for other classes of disease.

"If the proposal be accepted, there will be two classes of patients attending at the hospitals. One class the patients of the charity, and the other class the patients of the school authorities.

"If the proposal be accepted, and the hospital boards make a condition of letting, that only members of their own staffs shall be eligible for appointment to do the work, it will be unfair to other medical practitioners. Medical appointments paid for out of public funds ought to be open to all medical practitioners alike. If the hospital boards make no such condition, the result will then be that medical men over whom the boards have no manner of control will be doing work on hospital premises.

"Our answer to question No. 2 is therefore in the negative."

3. *Should children, found defective by the school inspectors, and coming to the hospitals with recommendations, be refused treatment?*

"We do not think it possible, at any rate at present, to distinguish between children who have been found defective by the school inspectors and those who have been found defective by their parents.

"If the subscribers to the charities desire that certain children shall be treated by the charities, we do not see why they should be excluded, provided they are proper cases.

"The number of children coming to the hospitals in Derby is automatically limited by the number of recommendations available. If it is found that the out-patient departments become overcrowded, it is always open to the boards of management to limit the number that may be seen in any one day.

"Our answer to question No. 3 is therefore in the negative."

LITERARY NOTES.

DR. CAZALIS, whose recent death at the age of 69 has already been mentioned in the JOURNAL, practised as a physician at Aix-les-Bains, but was best known as a poet. He wrote under the pseudonym, "Jean Lahor." He belonged to the "Parnassian" school of poets, and, in conjunction with Sully-Prudhomme, José Maria de Heredia, and François Coppée, he founded the *Parnasse contemporain*. His fame as a poet rests on three volumes of verse, entitled *Mélancolie* (1868), *Le livre du néant* (1872), and *L'Illusion* (1875). He was also the author of a book entitled *William Morris et le mouvement nouveau de l'art décoratif*. In his later years Dr. Cazalis's efforts as a writer were directed mainly to the popularization of notions of hygiene and social prophylaxis. His last work was *Le Bréviaire d'un Panthéiste*, a collection of thoughts on philosophy and religion culled from all sources. Beginning as a pessimist, Dr. Cazalis reached a more comforting creed which led him to preach the duty of altruism. He was one of the promoters of the Society of Popular Hygiene and Art.

The *Annals of Psychical Science*, a quarterly review devoted to critical and experimental research, founded in January, 1905, has changed hands. Mr. Dudley Wright, the present assistant editor, has succeeded Mrs. Laura I. Finch as editor, the last named joining the Editorial Board, which already includes among its members Sir William Crookes, M. Camille Flammarion, Professor Lombroso, Professor Charles Richet, and Colonel Albert de Rochas. Premises have been secured in the West End of London for the proposed Psychical Research Club, which will shortly be opened. Mr. Wynton Hope has been appointed secretary, and all communications respecting the club should for the present be addressed to him, care of the *Annals of Psychical Science*, 110, St. Martin's Lane, London, W.C.

In *My Journal* for July Dr. Dabbs gives an interesting sketch of "Dicky" Partridge, the well-known professor of anatomy at King's College, and surgeon to the hospital. He describes him as old but disdaining age, quite fair, with short, sparse, blonde hair brushed across his skull, faultlessly dressed, with trousers that were a dream of accuracy. He was a short man, stooping a very little, thin, lithe, active, with a smile of subdued amusement, a wonderfully pliable mouth, and eyes that danced with humour. Dr. Dabbs continues:

The most difficult points of anatomical relationship he flashed upon us and fixed for ever in our memories by some anecdote or allusive parallel, more fit very often for the dark room than the light. He had told his anecdotes so often that he had learnt to dwell on each voice inflection with a perfectly balanced proportion as to effect, and he was the most marvellous draughtsman with coloured chalks on a blackboard that I ever saw; his illustrations of the hard facts of anatomy were such a faultless context of their anecdotal suggestiveness, that while the roars of laughter at his words were rising into a whirlwind of appreciative hilarity, the studied accuracy of his drawings checked the laugh at its top note, till it died away in sheer wonderment at the growing work of the artist with his back to us. I rather think that the ecclesiastical side of the King's staff was inclined to be a little shocked at the figures of speech with which he accentuated the somewhat severe subject he was handling, and I know on one occasion that, coming in late, I ran against a Bishop who was sneaking up to the top of the Theatre, intending, as I supposed, to lie *perdu* and so satisfy himself as to whether the rumour of Dicky's methods of teaching was within the strict limits of the allowable. The lecture announced for the day was one which would have given full scope to familiar allusions, so I slipped into the Professor's door, as if by mistake, and luckily came face to face with him putting his chalks in order at the side table near the door. He looked very surprised to see me, and his lips tightened in a way that we all knew when about to castigate our mistakes. But he chuckled in his throat as I whispered swiftly, "There is a Bishop upstairs, sir." With a twinkle in his eye he said, severely, "This is not the students' door, sir," and I apologized volubly. Yet the Bishop was sold, for, without a word of apology or explanation, he suddenly exchanged his subject to the functions of the brain, and Dicky's smile, "the worst fell like sunbeams from his lips," can only partly describe the eloquence and beauty of that lecture. He never afterwards alluded to the subject to me, if, indeed, he ever recollected me; but once, long after, he told his prosector, who repeated it to me, that he was once saved by the tact of a boy from shocking a Bishop.

Mr. Clive Holland contributes to the July number of *Travel and Exploration* an illustrated article, Through Wessex in a Caravan. A caravan holiday in rural England is, he says, sure to be marked by experiences of a varied character. "To the average caravaner it is a matter of some embarrassment to be taken for a travelling "cure-all" or "quack," and to have his services requisitioned by a buxom dame for her "darter who's been took bad." Scarcely less embarrassing is it to be requested to undertake a funeral "'cos t' vicar be away to seaside on a 'olerday," under the mistaken impression that the van is that of a "missioner." It is one of the misfortunes of a caravan holiday that some one may possibly have been there before, the previous year, perhaps, who was not a desirable type of gipsy. On more than one occasion Mr. Clive Holland has been accused of having on the previous trip sold some "cure-all" which "only made my ole man a thousand times wuss."

In an article dealing with researches on plague in Tunis during 1908, Dr. E. Conseil, of the Tunis Pasteur Institute, quotes in the original Arabic a passage from Avicenna, which shows that the connexion between rats and the plague was known in the tenth century. It is to the following effect:

One will also note [among the circumstances accompanying plague] that rats and other animals living in the earth come to the surface, staggering as though they were intoxicated.

Dr. Conseil testifies from his own observation to the accuracy of this description. He has seen rats, when chased about the quays of Tunis, fall and die after running a short way. Bacteriological examination has shown that they were plague-stricken.

In the Middle Ages so little was known of toxicology that all sudden or mysterious deaths were attributed to poison; but in the light of modern knowledge many of these are now easily explained by such diseases as appendicitis or gastric ulcer. Even the Borgias may be absolved from many of the poisonings laid to their charge. Nevertheless, from very early times in Italy poison was a favourite means of "removing" an enemy. In England, France, and Germany cruder methods of vengeance prevailed, and it was not until the sixteenth century that the Medici introduced poisoning into France. The fashion spread with terrible rapidity, and poison was employed in every rank of society to get rid of inconvenient persons. It is said that the prior of Cluny and his valet, Saint-Barthélemi, even poisoned their physicians in order to avoid paying them. Dr. C. G. Cumston of Boston,

in a paper on The Victims of the Medicis and the Borgias in France, from a Medical Standpoint, discusses the question of poisoning in several well-known cases in detail, and makes out a plausible case for the conclusion that many so-called deaths from poison were in reality due to purely natural causes. Jeanne d'Abret, mother of Henry IV, who died of a fever after a four days' illness, was generally believed to have been poisoned by perfumed gloves. It was said that these gloves were placed in a box with a double bottom, the false bottom containing opium, belladonna, hyoscyamus, etc., and the poisons were supposed to have been administered during sleep, the box being exposed under the nostrils of the sleeper. Yet Palma Cayet, assistant preceptor to the future Henry IV, states that it was proved by a *post-mortem* examination that the Queen died of a pulmonary abscess. The Cardinal of Lorraine, uncle of Mary Queen of Scots, was said to have died immediately after touching poisoned pieces of gold. The evidence shows, however, that his death was due to pleurisy caused by a cold caught in walking with bare feet and head in a procession at Avignon. Catherine de' Medici was believed to have poisoned three of her sons—Charles IX, and the Duke of Anjou, and Francis II. Dr. Greene Cumston shows that all three were of weakly constitution. The first two died of consumption, while Francis II probably fell a victim to a meningitis with purulent absorption. He was a degenerate, and had been sickly all his life with adenoids and a discharge from the ear, which caused deafness; he was weakened further by diarrhoea, from which he suffered in childhood, and by too violent exercises. He is described by d'Aubigné as:

> Ne se purgeant ni par le nez, ni par la bouche, laquelle il portoit ouvert pour prendre son vent, dont il se forma un abcès à l'aureille, et puis des coliques fréquentes, marques mortelles à tel aage, ne promettant de luy aulcune durée aux plus advisez.

He was married at the age of 14; the greater part of his reign was spent in travelling in search of health. An account of his last illness and death is given by Régnier de la Planche in his *Histoire de l'Estat de France sous le règne de Francois II*, published at Paris in 1636. This author says:

> Le dimanche 15 novembre 1560, sur le soir, estant le roi à vespres au Jacobins, il luy prist un grand esvanouissement, qui fut cause qu'on l'emporta hastivement en sa chambre; et revenu de sa pamoison commença à se plaindre de la tête en la partie de l'aurielle gauche, en laquelle il avoit eu de tout temps une fistule, en sorte que de la douleur la fiebvre le print.

There was a consultation between Ambroise Paré, Nicole, and Servais as to the propriety of trephining; but the operation was not performed, and the King died on December 29th, 1560. His brother, Charles IX, who succeeded him, was also a sickly degenerate. He succeeded to the throne when very young, and his health, always feeble, completely gave way under the hardships of his miserable reign. According to Brantôme, he contracted a venereal disease. At the time of the massacre of St. Bartholomew he was very ill, and remorse caused him to grow worse rapidly. He could not sleep, and was haunted by visions of mutilated corpses. He did not long survive his murdered subjects. He died on May 30th, 1574, at the age of 23. The autopsy, made the day after his death by his surgeons, Paré and Guillemeau, leaves no doubt that he died of phthisis. Although in the light of present knowledge the cause of Charles IX's death seems plain enough, many of his contemporaries continued to believe that he had been poisoned, and the physicians and surgeons preserved an obstinate silence on the subject. Brantôme relates that he went with Strozzi to Paré to question him about the King's illness and death, but Paré would say nothing more definite than that Charles

> Estoit mort pour avoir trop sonné de la trompe à la chasse du cerf, qui lui avoit tout gasté son pauvre corps.

Another interesting poisoning case which exercised the minds of sixteenth century Parisians was that of Gabrielle d'Estrées. The divorce proceedings between Henry IV and Marguerite de Valois were almost concluded, and the preparations for the King's marriage with Madame d'Estrées had been actually started, when Gabrielle's sudden death during Holy Week, 1599, threw the royal plans into confusion. The doctors who made the autopsy gave no hint of poison, but public opinion at once attributed this mysterious death to the Grand Duke of Tuscany, who was accused of removing the King's mistress in order to render possible the marriage of his niece, Marie de' Medici, with Henry. But symptoms during Gabrielle's brief illness prove that her death was due to eclampsia. She had arrived at Paris on Tuesday, April 6th, and on the following Thursday, whilst in the church of St. Antoine, she was taken ill with headache and vertigo, and had to leave before the end of the service. She was seized with convulsions. One attack followed another, increasing in violence and frequency, and she died during the night of April 10th 11th without having regained consciousness. These few examples, taken at random, from Dr. Greene Cumston's paper, prove how easily suspicious of poison were aroused at the death of any well-known personage, and warn us to be careful in accepting such statements. Deaths attributed to poison abound in history, especially during the period covered by Dr. Greene Cumston. This was due partly to ignorance and partly to fear, but there is no doubt that whilst very many of the deaths which appeared to be the results of poison deftly administered by some jealous rival were due to the rapid development of a fatal disease, it is no less clear that there were a great many cases in which poison was used. The art introduced into France by Catherine de' Medici and her followers took root so deeply as to blossom later into the black magic of Louis XIV's reign.

Not long ago there was some debate among certain medical writers of authority as to the word *prodromata*, which has crept into general use. It is, of course, wrong, but then so are many other words which are in common use. What is the right word? *Prodromas*, which has lately been introduced as a substitute by a very distinguished author, suggests the question, What is the singular of the word? A singular "prodroma" can only be supposed to be the equivalent of *πρόδρομη*. But *πρόδρομη* is not a thing that goes before, but the act of running forward. *Prodroma* might be the plural of the adjective *prodromus*, but that could not justify such a form as *prodromas*. There seems to have been no noun *πρόδρομος* in ancient Greek, though there is one in modern Greek, which means "forerunner" (see Modern Greek-English Dictionary, by A. Kyriakides, advocate; second edition, Athens, 1909). In classical Latin there was a noun *prodromus*, but without, as far as we can find, any special medical connotation. The word must, however, have come into use later, for we find in Bailey's *Universal English Dictionary* (sixth edition, London, 1733) the following passage:

> *Prodromus morbus* (among Physicians) is a disease which foretells a greater, as the Straitness of the Breast is a Prodromus of Consumption.

Prodromi (subaud. *morbi*) would therefore be an admissible plural. But "prodrome" is both the most natural and the correct form. Bailey does not give the word, but it is found in the *Standard Dictionary* (Funk and Wagnall), where it is defined as "forerunner . . . *Prodromus* (Med.) as a forerunner of disease." The *Encyclopaedic Dictionary* gives "prodrome" with a quotation from *Sober Sadness*: "These may prove the prodromes . . . to the ruin of our monarchy." It gives also "prodromous symptom" in a quotation from Allen's *Synopsis Medicinae*. The passage from *Sober Sadness* with the date 1643 is in the *New English Dictionary*, which also cites Henry More, the Cambridge Platonist, as speaking of "a certain Prodrome of the Sun of Righteousness itself"; and Good's *Study of Medicine*, ed. 4 (1822–34), where he speaks of "the symptoms of invasion or accession, the prodromes of M. Deveze." Again, Thomas is quoted as saying in his *Medical Dictionary* (1864): "Vertigo is sometimes said to be a prodrome or precursor of apoplexy." *Prodromata* is described in the *New English Dictionary* as "an erroneous formation, apparently in imitation of such etymological forms as carcinoma, -omata, etc., possibly originating in a Latin prodroma sing. for the Greek *πρόδρομη*, a running forward, or in mistaking the neuter plural for a singular." Motherby, in his *Dictionary of Medicine* (third ed., 1791), gives *Prodromi* as a synonym of *Etesiae*, cool winds blowing from the east a little before the dog days (that is to say, forerunners). No dictionary gives *prodrona*. *Prodromata* is therefore a modern invention, and *prodromas* is a gratuitous barbarism. The choice lies between *prodromi* and *prodromes*. For ourselves we prefer the latter, as simpler, etymologically right, and English in form. It is used by Osler.

INTERNATIONAL CONGRESS ON ALCOHOLISM.

THE twelfth International Congress on Alcoholism was opened on July 19th in Kensington Town Hall, by the Bishop of GOTHLAND, chairman of the Permanent International Committee, who said that while a great advance in public opinion was to be acknowledged, more effective remedies were required, and he indicated specially increased punishment, including imprisonment for repeated drunkenness, and the compulsory confinement of inebriates.

Lord WEARDALE, president of the conference, delivered an address in which he welcomed the foreign delegates and said that the most important questions which the congress would have to discuss were, first, the influence of alcohol on childhood: secondly, the prevention of alcoholism among adults; thirdly, the medical aspects of the use of alcoholic beverages; and finally, the influence of alcoholism on native races.

The foreign delegates then addressed the meeting, among the speakers being the Austrian Minister of the Interior, and the President of the Senate of the Supreme Administrative Court of Berlin, who brought the greetings of the new Chancellor of the German Empire.

Temperance Teaching in Schools.

On the morning of July 20th a discussion on this subject was opened by two papers, read respectively by Miss CORA STODDART (Boston) on the relation of juvenile temperance teaching to national progress, and by Herr J. GONSER (Berlin) on the giving of antialcoholic instruction in schools. Miss Stoddart urged that instruction should be given early, and Mr. Gonser said that the progress made in a comparatively short time was most encouraging. Mr. GEORGE SHARPLES, representing the National Union of Teachers, said that the new code of the Board of Education marked a distinct step in advance, inasmuch as teachers were now empowered to point out to the child that danger lay in his path in the use of alcohol, and to give temperance instruction on food and hygiene. Miss MARY STURGE thought that the school caretaker's luncheon beer set a bad example, and that all caretakers should be abstainers; and Miss BREHN (Chicago) said that the question had already been discussed in Chicago, and that it had been proposed that to be consistent every member of the school board should be a total abstainer. MRS. ALLI TRYGG-HELENIUS of Finland made a report on the organization of juvenile temperance societies throughout the world; in Norway and Sweden the work had been carried on with great energy and success, and in Belgium such societies had a large membership, and were subsidized by the Government. At the afternoon meeting, when Mr. J. Bystrom, a member of the Swedish Parliament, presided, Miss RICHARDSON read a paper on temperance teaching in higher schools, in the course of which she said that in the majority of English public schools for boys there was no systematic teaching of temperance or even of physiology and hygiene, and that in girls' schools hygiene was often taught by the gymnastic mistress. Mr. IVAR THULIN (Stockholm) said that dogmatic instruction would not give students a general interest in the subject, such a result could be obtained only by societies formed and conducted by students, as had been established with success in Scandinavia and America. Herr J. PETERSEN (Kiel) thought that the instruction as to the dangers of alcoholism should not be a special subject, but given in connexion with other subjects. Herr H. RISSEN said that seven years ago it had not been possible to induce a German student to become an abstainer, but that now in seventeen universities there were 400 active members of temperance associations which undertook the scientific study of temperance.

Alcohol in Medicine.

The British Medical Temperance Association gave a reception at the London Temperance Hospital, and afterwards a conference was held under the presidency of Professor SIMS WOODHEAD. Dr. A. HOLITSCHER of Carlsbad read a paper on alcohol in lobar pneumonia and enteric fever, which gave the statistics he had collected from 47 hospitals, in 18 of which a system of control experiments had been made. Among 238 cases of pneumonia treated with alcohol the death-rate had been 24·3 per cent.; among 248 cases treated without alcohol it had been 21·3 per cent. Of 47 cases complicated with *delirium tremens* alcohol had been prescribed in 21, of which 15 ended fatally, while of the 26 patients treated without alcohol only 9 died. It was shown that there was absolutely no foundation for the prevalent idea that alcohol was needed, at any rate in inebriate cases. No one would wish to make alcohol responsible for the difference between the 24·3 and 21·3 percentages owing to the smallness of the number of patients reported on; but the investigation demonstrated the complete failure of alcohol as a curative agent in such cases. Of the 161 typhoid patients reported on by eight institutions 80 had been treated by alcohol, of whom 15 died, and 81 without alcohol, of whom 12 died. The investigation had not settled the question. If records could be obtained of 20,000 cases, showing a death-rate no higher without than with alcohol, objection to the non-alcohol treatment would cease. Such stimulants as camphor involved certainly less risk.

Professor SIMS WOODHEAD said that although there was not sufficient evidence to put the case strongly and clearly before the public, medical opinion was coming round to agree with those who considered that alcohol should be discarded as a therapeutic agent.

Alcohol and Immunity.

In the evening Professor TAAV. LAITINEN, Director of the Hygienic Institute of the University of Helsingfors, gave the third Norman Kerr Memorial Lecture on the influence of alcohol on immunity, observing that it was well established that alcohol weakened the normal resisting power of the body. He gave results of certain experiments he had made on 223 persons, of different classes and ages; beginning with himself, he had selected abstainers and non-abstainers whose condition of life and habits were in other respects as nearly as possible the same. The research, which had extended over three years, was directed to the study of the blood conditions.

The following is a summary of the work and the conclusions to which it led him given by Professor Laitinen himself:

He sought to ascertain whether the resistance of human red blood corpuscles against a heterogeneous normal serum or an immune serum can be diminished by the use of alcohol.

He studied the action of alcohol in drinkers and abstainers on the haemolytic power of blood serum over heterogeneous red blood corpuscles (rabbits). He further studied the power of precipitation of alcohol in the presence of rabbit serum, with a view to ascertain if the reaction between a known dilution of rabbit serum and a certain dilution of serum of alcohol users and non-drinking persons was different or not, and if the reaction was more apparent with the former or with the latter. The resisting power of serum obtained both from alcohol drinking and from non-drinking persons was further tested by human blood, with the object of discovering whether any difference in reaction existed between the same immune serum and the two kinds of human serums above mentioned.

He studied the problem whether the haemolytic complement in the blood serum of alcohol drinking and non-drinking persons was altered in any way by alcohol. The bactericidal power of blood serum from both alcohol drinking and non-drinking persons was determined by experiments which gave the following results:

1. The normal resistance of human red blood corpuscles appears to be somewhat diminished against a heterogeneous normal serum or an immune serum by the consumption of alcohol, provided that tolerably large equal, or nearly equal, numbers of drinkers and abstainers of both sexes be examined, and the average of resistance be taken on both sides, this last-named precaution being necessary because the resistance of red blood corpuscles from different human beings varies largely. The difference is often greater when using weaker dilutions than when using stronger dilutions of lysin.

2. These experiments have shown the normal haemolytic power of human blood serum to be less in the case of alcohol drinkers than in that of abstainers.

3. The precipitating reaction between a solution of 1 per cent. human blood serum and different dilutions of immune serum (obtained by immunizing the animals with human blood serum) was greater in the case of drinkers than in that of abstainers.

4. The complement action of human blood serum, according to these experiments, was greater in the stronger dilutions (0.4 to 0.04) and less in the weaker dilutions (0.02 to 0.0004) in the case of drinkers than in that of abstainers; it was not, however, much affected.

5. These experiments have also shown that the bactericidal power of blood serum against typhoid bacteria was less in the case of drinkers than in that of abstainers.

It seemed clear, therefore, that alcohol, even in comparatively small doses, exercises a prejudicial effect on the protective mechanism of the human body.

THE ENZYME TREATMENT OF CANCER.

A communication by Dr. William Seaman Bainbridge, of New York, entitled Trypsin in Cancer, a Preliminary Statement, was published in the British Medical Journal of March 2nd, 1907. The determination was there expressed of giving to the "Enzyme Treatment," as outlined by Dr. John Beard, of Edinburgh, a thorough scientific test, in a sufficiently large number of cases and over a long enough period of time, to warrant some claim to finality when conclusions were drawn. Now, more than two years since the "Preliminary Statement" was made, and full three years since he began to employ the enzyme method, Dr. Bainbridge has published a final report, of which he has been good enough to send us a copy. It is a very extensive and elaborate document, with carefully tabulated details and charts, and we much regret that, owing to want of space, we are unable to give more than a brief summary of it.

The New York Skin and Cancer Hospital furnished ample clinical material from which to draw a large proportion of the cases in which the method was tried. To employ it only in advanced, irremovable, and inoperable cases, says Dr. Bainbridge, was simple enough, but such cases do not give a sufficient basis for a complete trial. The surgeon, who must look upon the matter not as a "pure scientist," but as a clinician and a humanitarian, cannot bring himself voluntarily to subject a patient with cancer in an early stage, when it is amenable to complete removal by surgical intervention (certain local superficial growths in the judgement of some being excepted), to experimentation with *any* non-surgical method, no matter upon what scientific basis it may be exploited. Consequently such a method may be tried in early cases only where, despite the surgeon's earnest advice, operation is positively refused by the patient. Inasmuch as the treatment of necessity extended over weeks and in some instances months, it was not feasible in all cases to care for the patients in the hospital. In these circumstances, when the patient could not afford the expense, it was necessary to furnish medical attention and employ trained nurses to administer the treatment, and carry out the régime in the home after the patient's discharge from the hospital. To follow up the records in a'l cases from week to week and from month to month in such a manner as to render possible an accurate report of each, meant, in many instances, tracing the patient from tenement to tenement, sometimes from city to city.

Dr. Bainbridge acknowledges with thanks the hearty co-operation in the work of Dr. Martha Wollstein, Pathologist to the New York Skin and Cancer Hospital; Dr. James Ewing, Professor of Pathology, Cornell University Medical Department; Dr. F. B. Mallory, Professor of Pathology, Harvard University Medical School; Dr. S. Elizabeth Finch, Assistant Pathologist to the New York Skin and Cancer Hospital; Dr. F. M. Jeffries, Pathologist to the New York Polyclinic Medical School and Hospital; Dr. F. D. Jessup, of the Department of Pathology, College of Physicians and Surgeons; Dr. E. E. Smith, Pathologist to Fordham Hospital, and others, for their valuable assistance in the laboratory phases of the work; Dr. J. Douglas Malcolm, of the staff of the New York Skin and Cancer Hospital, for his assistance in administering the treatments and following up the cases after their discharge from the hospital; Dr. Loy M. Ingram, Statistical Secretary to the Committee on Scientific Research of the New York Skin and Cancer Hospital, for accurate collation of scientific data; and the various graduate nurses who have carefully carried out the details of the regimen in the homes of many of the patients.

The Method.

In regard to the method, Dr. Bainbridge says it is sufficient for his purpose to say that at all times during the trial of the enzyme treatment he has been in close touch with Dr. Beard, of Edinburgh, and has followed the essentials of his method in all respects save one. When he first began to test the treatment, Dr. Beard advocated its use in all cases after operation for the removal of cancer, whether primary or secondary, and in all inoperable cases. In this Dr. Bainbridge readily concurred. When, however, at a later date, Dr. Beard modified his views, and opposed the removal of any "living cancer," declining to accept as a scientific test any case in which there had been previous operation, of course Dr. Bainbridge demurred. This demand was met, however, in cases where operative intervention was positively refused, and while the method has not been tried exclusively in such cases, it was tested in a sufficient number to meet this requirement with justice to Dr. Beard's modified views. In addition to the use of enzymes, many details of management were urged by Beard. His various suggestions were incorporated in the directions for the "full régime," and were employed in the test, with modifications to suit the needs of the individual case. In all cases, unless otherwise specified, this regimen was executed in every instance, a copy of the directions being given to each one who administered the treatment.

Directions.

1. *Physical examination*, accurate and complete, made upon commencement of the treatment.

2. *Records* of each case, accurately and fully taken *daily*, with *weekly* records of the condition of the Urine, Blood, and, if possible, Blood Pressure, and Weight. Both subjective and objective symptoms to be carefully noted.

3. *Diet*, wholesome and nourishing, with very little salt and no acetic. Large quantities of water to be taken by the patient.

4. *Exercise* moderate.

5. *Hygienic surroundings* as good as possible, with abundant fresh air.

6. Oral Treatment: (1) *Holadin*, 1 capsule t.i.d., one hour before meals. (2) "*Pepsil*" *Ox-gall compound*, 1 or two pills at night, according to requirements (to give tone to the bowels).

7. Local Treatment: *Lotio Pancreatis.*—To the quantity required for a single application, add an equal volume of freshly distilled water (unless ordered to be employed undiluted) and apply freely. Use twice daily, flushing the surface carefully with boiled water previous to renewal of solvent.

8. *Hypodermic Treatment*: (1) *Injectio Trypsini* (Special XX). Begin with 10 minims daily, increasing 5 minims each day until some marked reaction takes place, or until two ampoules (20 minims each) are being taken each day.

(2) *Injectio Amylopsini.*—When the trypsin injections have been increased to 40 minims daily, injections of amylopsin are then begun on alternate days with trypsin, never on the same day. Commence with 10 minims, increasing 5 minims each day until the maximum dose is reached, namely, 40 minims of trypsin one day and 40 minims of amylopsin the next.

Before making the injections apply ethyl chloride to the surface to be injected (preferably over the buttocks), or inject $\frac{1}{60}$ grain eucaine; then inject the trypsin or amylopsin into the deepest subcutaneous tissues, not into the muscles.

Note 1.—The greatest care, cleanliness, and nicety in every detail must be observed.

Note 2.—The doses must be regulated with careful regard to the reactions observed.

Note 3.—The contents of the ampoule must be used *only when freshly opened.*

Note 4.—The ferments are destroyed by antiseptics; care must be taken, therefore, not to render them inert by contact with such substances.

Note 5.—If there is any local irritation from the injection, despite the greatest care, dilute with equal parts of distilled sterilized water before injecting, or with equal parts of sterilized normal salt solution.

Note 6.—The general condition of the patient must be given careful attention. As little narcotic medication should be given as possible, tonics and predigested foods, if indicated. Elimination by bowels, kidneys, and skin is of the utmost importance.

Note 7.—The treatment, after well started, is said to have a definite control over pain. Over-drugging should be avoided, in order that this claim may be carefully studied in relation to the cases.

Note 8.—Injections of amylopsin should not be given while the patient's stomach is empty, as the tendency to nausea is increased under such circumstances.

Note 9.—If irritation results from the introduction of the entire injection in one locality, this may be overcome in the following manner: Introduce the needle tip into the tissues, inject a portion of the material, withdraw slightly, introduce in another direction and inject another portion, and so on until the entire amount is inserted into the subcutaneous tissues in "puddles" at some distance from each other, but with one

common point of puncture. By taking this precaution the tissues will not be overdistended, and the tendency to irritation will be lessened. The needle should be inserted obliquely, so that the material will not escape in part through the puncture point.

The Materials.

The materials employed were supplied by Mr. B. T. Fairchild. They consist of the following: (1) Holadin capsule, a pancreas gland extract containing all the pancreas enzymes—trypsin, amylopsin, and lipase, and the milk-curdling ferment. This is given to aid digestion. (2) "Pepule" ox-gall compound, which contains inspissated ox gall, extractum pancreatis, and extract of nux vomica: this gives tone to the bowel and aids in elimination. (3) Lotio pancreatis, a glycerine extract prepared directly from the fresh gland and carrying in solution only the entire soluble gland constituents. This solvent of broken-down tissue is applied topically to the ulcerating surfaces. (4) Injectio trypsini, a glycerine extract of trypsin, which, according to Beard, was supposed to "kill" the cancer cell. (5) Injectio amylopsini, a glycerine extract of amylopsin, which was thought to "digest" the dead cancer cells.

The first pancreas injections were made of a proteolytic power equal to 2 per cent. of trypsin (Fairchild), and adopted in consequence of a strength or "percentage" of trypsin (Fairchild) at first extemporaneously prepared and used by Beard and others. The medium, 60 per cent. glycerine, had already been found to meet the requirements, containing the enzymes of the fresh pancreas extract in an active and sterile condition. This, however, necessitated preliminary dilution in making the injection ready for use. Gradually clinical experience warranted an increase in tryptic power, until finally this desideratum could be achieved only by a more aqueous medium, and consequent reduction to 20 per cent. glycerine. This lower content of glycerine afforded the advantage of increase of trypsin content and increase of dosage, as found in the ampoule.

The various injections of trypsin furnished for use were identified for convenience of record as follows:

"Regular," 60 per cent. glycerine, equal to 2 per cent. trypsin (dry), Fairchild: "Fortified," 60 per cent. glycerine, double the strength of the "Regular"; "Special," 20 per cent. glycerine, double the strength of the "Regular"; "Special XX," 20 per cent. glycerine, four times the strength of the "Regular" (this was used in most of our cases); "Special Quadruple X," 20 per cent. glycerine, six times the strength of the "Regular" (prepared especially for this test, and said at the time to be the strongest it was possible to make).

Injections of amylopsin of corresponding strengths were furnished. The 20 per cent. glycerine-amylopsin injection presents parallel advantages with the 20 per cent. trypsin injection, in increased potency and in available volume of dosage without dilution. Thus 20 minims of the 20 per cent. glycerine "special" carries an enzyme potency corresponding to a 60 minim injection composed of 20 minims of 60 per cent. glycerine solution from an ampoule with 40 minims of diluent—sterilized water.

The injections used in many of the tests were much stronger than were those employed in the cases reported by a number of writers during the earlier months of the history of this method. The idea entertained by many at first—that only moderate doses of weak solutions of trypsin could be tolerated—was proved to be entirely erroneous. In many cases Dr. Bainbridge and his fellow workers were able to give daily two or three ampoules (twenty minims each) and in several instances 100 minims for days at the time of the "Quadruple X" solution with no untoward effects. From this it will be seen how absurd were some of the earlier claims of "cures," as well as of the strange symptoms and "terrific' results from the small doses employed. A careful study of the blood and urine in a certain number of cases was made, the results of which are given in great detail.

Effect of Trypsin upon the Tissues.

In submitting sections to pathologists for examination, in all cases where the tissues were removed after the institution of the enzyme treatment, it was requested that especial attention be directed to the determination of any structural changes that might in any way be attributable to the action of trypsin. Whenever it was possible to do so sections were removed from time to time, care being taken in every instance not to encroach upon Nature's barriers. Comparative studies were thus made of the pathological tissues before beginning the enzyme treatment, at various times during its course, and in some instances after the death of the patient.

Dr. F. B. Mallory, Professor of Pathology, Harvard Medical School, who made a number of examinations, found nothing that he could in any wise attribute to the action of the trypsin.

Dr. Martha Wollstein, Pathologist to the New York Skin and Cancer Hospital, who made the largest number of examinations during the course of the test, found no tissue changes which could be ascribed to the action of the trypsin.

Dr. James Ewing, Professor of Pathology, Cornell University Medical Department, after careful study of the specimens submitted to him, made the following statement:

In several sections the central cells in male tumour masses were loosened, degenerating or necrotic, while only the outer layers of cells adherent to an infiltrated lymph space seemed to retain their vitality. In some cases of cancerous infiltration of the uterine muscles originally larger tumour cell masses appeared to have been reduced by this process to thin strands of degenerating epithelial cells, and in some rather wide areas the tumor infiltration took the form of isolated cells scattered at wide intervals.

In some cases a peculiar œdema and vacuolar degeneration was prominent, but this condition differed only in degree from that sometimes seen in untreated cases.

Occasionally there was encountered a peculiar œdema and granular degeneration and fragmentation of fibrous, connective, and smooth muscle tissues which I have not seen in untreated cases. In all the cases considerable portions of the growth appeared little or not at all affected by the above-mentioned degenerative processes, a fact which may account for the steady clinical progress of the disease. In one or two cases there appeared to be no change whatever referable to the treatment.

Work of Others.

In order to ascertain the experience of others with the method, letters of inquiry were sent to more than 3,000 representative physicians and surgeons, a large proportion of whom had been furnished material by Mr. Fairchild, and were known, therefore, to have employed the treatment.

Seven hundred and eighty replies were received. Of this number 304 reported no experience. Those having had experience reported a total of 949 cases treated. Of this number of cases 248 were given as favourably influenced as to pain, local or general condition, but not as to the ultimate outcome of the disease. With the exception of 15 cases, the remainder were reported as doubtful or negative. In his summary Dr. Bainbridge has excluded a consideration of reports which were clearly fictitious—for example, as when a physician makes the sweeping statement that he has employed the method in over 100 cases, all of which were cured. The 15 alleged cures do not embrace the celebrated "Case No. 1," and others of Morton's published report.[1] Of the 15 cures, 4 had only the clinical diagnosis, and the evidence in support of malignancy was insufficient. In one of these cases the physician who reported it expressed doubt as to the correctness of the diagnosis. In the other 9 of the 15 cures, some of which were still under treatment when the report was made, the end result is not known, but, reasoning from analogy, it is quite probable that these, like the celebrated Case No. 1 of Dr. Morton's series, have made their exitus while being published as cured.

In connexion with these supposed cures, it is pointed out that those stated most positively as cured up to the time of report were diagnosed as cancer of the stomach. How much of the improvement in any of the cases is attributable to the régime is a question. The fact that the control cases did as well with injections of glycerine and sterile water, or sterile water alone *plus* the régime, as did the others with the full enzyme treatment, leads to the belief that the régime plays a most conspicuous part in the production of whatever favourable results were noted.

Prospect and Retrospect.

Dr. Bainbridge recalls that in his previous paper on trypsin attention was directed to the fact that it should always be borne in mind, in testing a so-called cure for cancer, that between the starting point, "no evidence,"

[1] See BRITISH MEDICAL JOURNAL, January 19th, 1907, p. 158; and EPITOME of the same date, Par. 35.

and the hoped-for goal, "a cure," there may be many way-stations of usefulness. In the trial of the enzyme treatment he and his coadjutors have kept this ever in mind. While, unfortunately, they have not reached the goal of either prevention or cure, they believe there are several way-stations of usefulness along the route.

The internal medication and the local solvent have their place as adjuvants in the cure of the patient afflicted with cancer; the dietary régime, forced feeding when necessary, exercise, and fresh air do much in these cases, as in other chronic conditions, to ameliorate the ravages of the disease. The trypsin and amylopsin, though employed in every manner suggested by Dr. Beard, have not, in their experience, substantiated the claims of curative and preventive properties advanced for them. Whether trypsin will be found to be of the diagnostic value which some of the German workers have predicted, remains for further tests and more extended research to determine.

Looking back upon the work of the last three years, the most important lesson to be drawn from the test of the enzyme treatment of cancer is that the patient is a human being who, while suffering from cancer, it is true, may at the same time be the subject of any of the other ills to which flesh is heir, and who doubly deserves to be treated with all the careful scientific attention which modern medicine and surgery command. By building up the nutrition, aiding the impaired function of elimination, treating complications, giving to the patient a better mental as well as physical atmosphere—in other words, treating the patient and not the "cancer case"—suffering can be wonderfully ameliorated and life, in many instances, prolonged in comparative comfort for months and even years.

Summary.

Dr. Bainbridge concludes that, from careful clinical and laboratory observations made on 100 cases, and extending over a period of three years, the following deductions may be drawn:

1. That the internal medication with heladin and oxgall aids digestion and increases elimination.

2. That lotio pancreatis applied locally clears the ulcerating surface by removing organisms, thus aiding in diminishing the absorption of their products.

3. That aiding digestion, increasing elimination (by skin, kidneys, and bowels), and decreasing local absorption are the most important features of the treatment.

4. That the régime, by increasing resistance, may in some cases decrease the rapidity of the malignant process.

5. That control cases given injections of glycerine and water or sterile water alone, *plus* the régime, did as well as those on the full enzyme treatment.

6. That injectio trypsini, in some cases, seems to cause more rapid disintegration of (to "liquefy," according to Beard), cancerous tissue.

7. That while it may accelerate the breaking-down in the centre of the tumour mass, the periphery is found to be actively growing, as was true of Case 1 of Dr. Morton's published series. When injected into the tumour itself this disintegration is more marked.

8. That because of the tendency of injectio trypsini disintegrate the tissues, it may be a direct menace to life (*a*) by eroding large blood vessels (when the disease is contiguous to these structures, as when deep in the neck or in the pelvis), thus causing death from haemorrhage; (*b*) when given in large doses, over considerable periods of time, by overwhelming the system with toxic products (tumour toxins), thus in some cases hastening death.

9. That the injections are often painful, and patients many times refuse to take them.

10. That the so-called "trypsin abscess" proved, upon examination of the material, to be unabsorbed injectio trypsini *plus* broken-down tissue.

11. That when real abscesses formed they were due to faulty technic, to localization of a general sepsis resulting from the absorption of toxic products, to an accompanying sepsis of whatever origin, or to a complicating acute infection.

12. That injectio amylopsini seems to diminish cachexia in some cases, in accordance with the claims of Beard and others.

13. That in some cases there was no reason to believe that that injectio amylopsini exerted the action claimed for it.

14. That when amylopsin was injected directly into the indurated area left after injecting trypsin, absorption of the trypsin solution was not hastened.

15. That 100 minims daily of the "Quadruple X" solution, the strongest made, were given in some cases with no untoward effects.

16. That improvement in haemoglobin (5 to 12 per cent.) during the first few weeks of trypsin treatment occurs in about one-sixth of the cases examined. In only one-third of these was the increase ascribable to the trypsin alone.

17. That a gradual and moderate increase in the number of polymorphonuclear neutrophile cells was noted during the first two weeks of the trypsin treatment in a few of the cases.

18. That with the exception of 2 cases such leucocytosis as was noted was attributable to the occurrence of complications during the first two weeks of trypsin treatment.

19. That in 15 out of the 22 cases in which special blood counts were made a steady increase (6 to 12 per cent.) in the number of eosinophile cells was noted while patients were on the trypsin injections. There was no eosinophilia in the control cases, nor in the cases treated by trypsin given by the mouth.

20. That eosinophilia occurred regularly in cases of carcinoma involving the bones or the intestines, even without the exhibition of trypsin.

21. That the claims for eosinophilia as a test have not been substantiated in our experience.

22. That albumen and casts were found in the urine before treatment was begun in two cases. In neither of these was the amount of albumen or the number of casts increased at any time throughout the continuation of the trypsin injections.

23. That in severe cases in the very last stages of the disease, hyaline, granular, few pus casts, and occasionally albumen, made their appearance.

24. That in two other cases in which it was impossible to obtain specimens of urine before beginning the treatment, albumen and casts were present when the cases came under examination; and as the trypsin doses were increased, the amount of albumen and the number of casts were increased.

25. That dextrose was at no time found in any of the urine specimens examined, not even when untoward manifestations of trypsin were present and large doses of amylopsin were being given.

26. That the series of experiments which were conducted for the purpose of ascertaining the presence or absence of an enzyme in the urine with properties of digestion similar to trypsin, showed the presence of such an enzyme body (irregularly present) in (*a*) trypsin-treated cancer cases, (*b*) non-cancerous untreated cases, (*c*) cancer cases which had not received the trypsin treatment.

27. That the exact constancy of this enzyme body in the urine with reference to the treatment was not ascertained. No enzyme body was found in urines in which there was ammoniacal decomposition.

28. That the enzyme treatment, as administered in the cases herewith reported, and according to the suggestions of Dr. Beard, *plus* important details of régime, does not check the cancerous process.

29. That it does not prevent metastasis.

30. That it *does not cure cancer.*

MOTOR CARS FOR MEDICAL MEN.

F. H. asks whether a 6-volt accumulator with corresponding "coil" (instead of the ordinary 4 volt) would do any harm to the valves, etc., of an 8-h.p. car (single cylinder)? I have been running, he adds, on a 6-volt current, as an experiment, with great increase in power. I have been told that I should not do so, and that if I wanted a "bigger spark" I should have a magneto fitted. My coil and accumulator (6 volt) cost about £2 10s.; a magneto would cost £15 to £20.

*** A 6-volt accumulator can be used under the circumstances stated with perfect safety to everything except the coil. Though some coils intended for 4 volts will stand 6 volts without breaking down, it is an unfair strain on the insulation, but a good coil, specially wound for 6 volts, should be quite durable. When dry cells are used instead of accumulators is usual to have 6 volts, on account of the small amperage of the current, even with a 4-volt coil.

Medical News.

DR. P. W. DE LA MOTTE, who has practised in Staines for more than thirty years, was recently presented with a silver bowl bearing a suitable inscription and a cheque for £125 by friends and patients. The presentation was made by Sir Edward Clarke, K.C., who said that Dr. de la Motte had always been the kindliest of doctors to the poor, who had shown their gratitude by joining in the presentation.

IN June, 1906, the London Education Committee established a special school for children suffering from favus, the majority of whom were resident in a small district. After a time a regular method of cleansing the children's heads and systematically disinfecting the surface several times a day was adopted. In May, 1908, an *x*-ray apparatus was installed, and, after its regular use for twelve months, only two or three children remained uncured. Altogether in the four years 142 children were admitted: 123 left cured, of whom 108 returned to the ordinary school; 16 children left for other reasons. All the cases treated, with the exception of one Irish child, were of alien descent, and though it is expected that families will arrive from time to time with several members affected, it is not considered necessary to maintain the special school, as it is believed that the small number of cases to be anticipated can be treated as out-patients.

THE sixteenth annual meeting of the National Society for Epileptics was held at the London office, Denison House, Westminster, on July 19th. Mr. Montefiore Micholls, who was in the chair, said that the extension of the Chalfont colony had continued, a new home for 26 epileptic women having been opened in the middle of 1908; since then two homes for epileptic children, one for boys and one for girls, each to accommodate 24 patients, had been completed, and would be opened during the autumn; the cost of the building, which amounted in each case to £3,500, had been defrayed by Mr. Frederick Green, the late Mr. C. A. Tate, and Mr. H. Woolcott Thompson respectively. It was reported that the colony now had accommodation for 224 adult patients, but as there were 40,000 epileptics in the country, of whom a considerable proportion would be suitable cases for treatment at Chalfont, the accommodation was obviously inadequate. At present male applicants had to wait two years for admission, and additional homes for men were urgently needed.

THE annual meeting and dinner of the Brussels Medical Graduates' Association was held at the Garden Club, Imperial International Exhibition, on July 15th. Dr. Richard Paramore, the President, was in the chair, and twenty-five members and guests sat down to dinner. After proposing the health of the King, the President read letters from Lord Strathcona, Sir Thomas Barlow, Bart., Sir William Collins, M.P., and Mr. Butlin (President of the Royal College of Surgeons), expressing their regret that they were unable to attend. The President then called upon Dr. Oliver, the guest of the evening, to propose the toast of the Brussels Medical Graduates' Association. In responding to this toast, the Honorary Secretary (Dr. Arthur Haydon) said that during the past year considerable progress had been made, for, as the result of his visit to Brussels last summer to interview the University authorities, he had much pleasure in saying that every one of the recommendations made by the Council had since been carried out, and that the Association had been officially recognized by the University of Brussels. He hoped to be able to organize an annual meeting and dinner at Brussels next year during the great Exhibition of 1910. Dr. Major Greenwood and Dr. Kirby also spoke. Dr. R. Paramore, Dr. Major Greenwood, and Dr. Arthur Haydon were elected president, honorary treasurer, and honorary secretary respectively for the ensuing year. After dinner a musical entertainment was carried out in the drawing-room by Miss Marshall and Dr. Haydon.

ON July 19th a memorial tablet commemorating the birthplace of Sir Morell Mackenzie was unveiled at Leytonstone. The house in which he was born more than three score and ten years ago has, owing to the growth of the district, undergone many changes. It is situated at the corner of Browning Road, and is now designated 742, High Road, Leytonstone. Here Sir Morell Mackenzie and his elder sisters were born. The memorial tablet has been erected by the Leyton Urban District Ratepayers' Association. After the honorary secretary (Mr. R. J. Tallack) had announced the receipt of letters from those prevented from being present, Mr. A. Munro, acting as chairman of the committee, referred to the lasting and far-reaching work of Mackenzie, and to the satisfaction it gave them in Leytonstone to commemorate his birthplace. Mr. D. J. Morgan, J.P., and formerly M.P. for the Walthamstow Division, then unveiled the memorial and spoke of his personal recollections of Sir Morell Mackenzie, of his great industry and perseverance, which were crowned with success in spite of the difficulties he had to contend against early in life. The tablet bears the simple inscription: "Sir Morell Mackenzie was born here, July 7th, A.D. 1837. Erected by L.U.D.R.A., 1909." Dr. C. H. Panting (Leyton) spoke on behalf of the local members of the medical profession. Laryngology was represented by Dr. Dundas Grant and Dr. Jobson Horne. The former added a tribute to the memory of the great laryngologist. Dr. Morton Mackenzie (Dorking), in the absence of Sir Stephen Mackenzie, expressed the thanks of his family to those who had erected the memorial.

A GREY rustic granite cross with panelled bases has been erected by the friendly societies of Chard and district "in memory of their beloved medical officer," the late Dr. Benjamin Lambe Powne, who died on July 1st, 1908, aged 65. Such a tribute to the memory of a medical officer is perhaps not common, but it may encourage those who believe that under a properly devised and administered provident system the relations between the medical profession and the working classes might be made satisfactory. A correspondent who some years ago assisted Dr. Powne for over two years writes to say that he was much impressed by the cordial relations which existed between Dr. Powne and his club patients; his unwearying courtesy, kindness, and attention never failed to win their confidence and affection, and he never lost an opportunity of impressing upon young men the wisdom of joining a good friendly society. At about the time mentioned Dr. Powne found that 4s. a year was not sufficient remuneration for the medical attendance such as his club patients received; he pointed this out to influential members and to the secretaries, with the result that most of the societies at once increased the payment to 6s., others to 5s., only a few finding themselves unable to increase the rate. The members who thus recognized Dr. Powne's services in a practical manner during his lifetime have now paid a graceful and handsome tribute to his memory.

THE second quinquennial meeting of the International Council of Nurses was held at the Church House, Westminster, on July 20th, and was attended by representatives of nursing associations in all parts of the world. The central aim and idea of this international body is, we understand, the promotion of self-government among nurses, the raising of standards of nursing education and ethics, and of developing in every nurse both the human being and the citizen, thus to enable her better to apply her knowledge and skill to the many-sided service demanded of her by modern social conditions. The proceedings were inaugurated by an address from the honorary president, Mrs. Bedford Fenwick, after which reports from the federated councils were presented, and four new countries were formally admitted—namely, Holland, Finland, Denmark, and Canada. Fraulein Agnes Karll, of Germany, was then elected to succeed Mrs. Bedford Fenwick as honorary president, and it was decided that in future the conferences shall take place triennially, the next being held at Cologne in 1912. Descriptions of the position of nurses and nursing in their respective countries were read by their representatives of France, Italy, Sweden, Belgium, Switzerland, Japan, and Syria, and a resolution in favour of State registration of nurses was likewise adopted. An international congress of nurses commenced on the following day, the proceedings being opened by Miss Isla Stewart, matron of St. Bartholomew's Hospital, who said that in the higher development of all organized occupations a time came when their followers realized that they were capable of governing themselves, and that it was their duty to do so, and nurses had now reached that stage. The numerous papers read included one by Mr. D'Arcy Power, who said that private nurses ought to be recruited from higher and best educated social grades. When they were not popular in households it was usually because they tried to force upon such households the routine of hospitals. Dr. Rose, of the Education Department of the London County Council, spoke of the value of the open air school, one of the first outcomes of medical inspection. The part to be played in them by a nurse was more important than in ordinary schools. In connexion with the conference a nursing exhibition has been opened at Caxton Hall, and receptions have been held at St. Bartholomew's Hospital, at Dorchester House (the American Embassy), and at the Mansion House; while Thursday's programme included an address by Mr. Haldane, M.P., on "The Nurse as a Patriot."

British Medical Journal.

SATURDAY, JULY 24TH, 1909.

THE TREATMENT OF DISEASE.

In an address recently delivered before the Ontario Medical Association, and published elsewhere in the present issue, Professor Osler deals with the treatment of disease in a broad-minded spirit, which is rare even at the present day when experimental research and accurate observation have freed medicine from the shackles of hypothesis and tradition. He recognizes that the highest aim of medicine is no longer cure but prevention, and he further recognizes that there are diseases which are, with such means as we have at our disposal, incurable. To the enthusiast this is a hard saying; but it is true, and it is, therefore, well for the doctor as well as for the patient that it should be frankly acknowledged. After all, it expresses what Herophilus meant when he said that the best quality of a physician was the power to distinguish between the possible and the impossible. It is the pretence of being able to cure all diseases that constitutes quackery; but the delusion honestly nourished by too many practitioners that the demon of disease can be exorcised by drugs, if only the right one can be found, is almost equally pernicious. It brings the profession into contempt, and we fear we must say that it is largely responsible for the manifold forms of quackery and superstition which is a characteristic of the present time. The sufferers themselves cannot be blamed if, when they find that medicine can do nothing for them, they seek relief elsewhere. Nevertheless, it is the duty of the scientific practitioner to recognize the limitations of his art; and if he loses a few patients by such frankness, he will gain the confidence of the more intelligent. Anything of the nature of sacerdotalism—by which we mean mystery and the belief that we belong to a sacred caste whose work is beyond the criticism of the profane—is utterly out of place in medicine. As Professor Osler well says, we work by wit and not by witchcraft; and while we must do all we can for the relief of suffering, we must not bring the art of medicine into disrepute by promises of cure which we have not the power to fulfil.

Here we venture to interpose a word to prevent a possible misunderstanding of Professor Osler's teaching. There are undoubtedly many diseases before which the physician can only indulge, as Asclepiades said of the expectant treatment of Hippocrates, in a "meditation on death," and which the most aggressive of modern surgeons would not dare to attack. While it would be wrong to promise a cure in such cases, it is equally wrong to abandon the patient to his fate without attempting to relieve his sufferings. To stand with folded arms by the bedside of a man doomed to death by a lingering disease is, we think, not merely cruel; it is unscientific fatalism. As Sir James Paget said, it is the doctor's duty, even when he knows the case to be hopeless, to fight for his patient to the very last. We may illustrate our meaning by a story which can be told now without offence, as both the great men concerned have long passed beyond the reach of human criticism. One was called to see a patient whom, with characteristic honesty and bluntness, he pronounced to be suffering from cancer of the liver, for which nothing could be done. Recourse was then had to another physician, who with equally characteristic suavity said that, although it was unfortunately true that the patient had an enlargement of the liver which could not be said to be benignant, a great deal could be done to alleviate the disease. So he continued to attend the patient for some months, relieving symptoms as they arose and soothing the dying man's pillow till he fell into the sleep that knows no waking. Now, it may be said that one of these physicians was honest and the other was not. This, we submit, is a rash judgement. There can be no doubt that the sufferer's last days were made more tolerable for him by the ministrations of the man who stood by him to the last, and we go so far as to say that he, rather than the other, did his duty as a doctor. Even if he did not prolong life, he made death more easy; and there are many cases in which, though the end cannot be averted, it can be delayed, giving the patient time to set his house in order in preparation for the great change.

Professor Osler traces the progress of medicine and its victories in recent times with a master hand, and he indicates what the future holds in it of hope for further progress. He looks forward to the discovery of means of preventing or correcting the perversion of function which leads to exophthalmic goitre, Addison's disease, and acromegaly, in ways similar to that in which myxoedema can now be dealt with, and of placing the treatment of diabetes on a sure foundation. He sees prospects of advance in other directions; but he bids us in our pride of progress remember cancer and pneumonia, in which we are still powerless to do more than relieve symptoms. There is comfort, however, in his prediction that there are those among us who will live to see a true treatment of pneumonia. It were to be wished that a similar certainty could be expressed with regard to cancer. The method of dealing with disease which Professor Osler finds most hopeful is wholly the fruit of experimental research; and there can be no doubt that it is on the unfettered prosecution of such research that the progress of medical science depends. In the use of drugs he is as *parcus et infrequens* as Horace describes himself to have been in the worship of the gods. In this he follows the stream of tendency. Gull said: "One thing I am thankful Jenner and I "have together succeeded in doing. We have dis- "abused the public of the belief that doctoring con- "sists in drenching them with nauseous drugs." But it is only fair to say that before Gull or Jenner there was Hahnemann, who, though all unwittingly, prepared the way for the overthrow of the old temples of medicine in which the rites of exorcism by purgatives, emetics, expectorants, depressants and remedies which might have been the brew of the witches' cauldron, were ruthlessly carried out. The infinitesimal doses of homoeopathy proved that many diseases got well of themselves, and that in none was the pouring of substances of which little was known into bodies about which nothing was understood—as Voltaire described the art of medicine—necessary or useful. Professor Osler does indeed hold fast by a few drugs, and he urges that the action of these should be scientifically studied in the sickroom after previous experimental testing in the laboratory. This will save

practitioners from the thraldom of the manufacturer of medicines into which, owing to their want of first hand knowledge of the effects of drugs, they are in danger of falling at the present day. It is only right to acknowledge that we owe much to the manufacturer, but while we gladly accept his dainty preparations, we cannot recognize him as a teacher of pathology or therapeutics.

Professor Osler has much that is interesting to say about faith healing, old and new. His attitude in regard to the matter is the same as that long maintained by the JOURNAL. While warning us against the Nemesis of Faith, which in all ages overtakes not only the public but the doctor, he fully admits the remedial potency of suggestion, and he holds that much more attention should be given to psychotherapy than is now the case. In his own practice the psychic element has a well-defined place, and he virtually acknowledges the truth of a friend's joking description of his method of treatment as a mixture of hope and nux vomica. If he would not altogether agree with Petronius that *medicus nihil aliud est quam animi consolatio*, he recognizes the great, though yet undetermined, influence of the mind on the body. The medicine of the day is perhaps a little too much dominated by the dogmatism of the laboratory, and it is well to be reminded by one whose utterances justly carry weight with the whole profession of the importance of the psychical factor in disease and its treatment.

MEDICAL PRACTICE IN INDIA.

IN 1900 Lord George Hamilton, then Secretary of State for India, in a dispatch to the Government of India, expressed the opinion that it would be a "great benefit "to India generally that medical men should establish "themselves in private practice in the country in the "same way that they do in other parts of Her Majesty's "Empire." In August, 1907, the present Secretary of State, Lord Morley, called the attention of the Government of India to his predecessor's dispatch, and inquired what had been done and what was proposed to "promote the growth of an independent medical "profession in India." It may fairly be assumed that the two successive Secretaries of State had in mind the conditions which exist in Great Britain and in the Colonies, where the population is of European birth or race. The proposal would appear to be that doctors, European, Eurasian or Indian, with either European or Indian medical qualifications, should establish themselves in practice in the various cities, towns, and villages of India, and being available and willing to undertake Government work in addition to their private practice, should gradually replace the I.M.S. officer in civil employ.

It will be interesting to consider what are and have for many years past been the conditions relating to medical practice obtaining in India, for a considerable number of actual facts have very important bearings on the subject.

In the first place, it must be recognized that a very large proportion of the inhabitants of India have not yet been converted to the advantages of the Western system of medicine and surgery. They believe in their own systems, Hindu or Mohammedan, and when sick employ kobirajs, hakims, herbalists, and quack doctors of every kind, to say nothing of numbers of mere compounders or "failed" medical students, who use Western or native systems, as their patients prefer. The masses are very poor and cannot pay more than pence for medical treatment and drugs. European treatment is brought within the reach of a part of these masses by means of the thousands of State-supported dispensaries throughout the country and the numerous privately supported charitable hospitals and dispensaries. These institutions are staffed by native practitioners, assistant surgeons, or hospital assistants, educated at the Government colleges and schools, and all these men have the right to private practice amongst the classes who can afford to pay fees. The salaries paid to them by the Government are low, on account of this right to practise; but the monthly salary is secure, and they have the prospect of a pension. As a class they are not contented, because large numbers of them do not make much more than a living. Roughly speaking, it may be said that in every town or large village in British India, where an independent native medical practitioner might have a chance of making a bare living, there are State-supported native practitioners of this kind, and in most places a goodly number also of independent native practitioners of every kind.

The medical colleges and schools for the last fifty years have been turning out graduates and practitioners, some of whom enter Government service for the hospital and dispensary work mentioned above: but large numbers of them engage in independent medical practice in a way suited to the requirements of the country. To a very great extent, therefore, independent medical practitioners exist, and in some places they are even more numerous than is necessary to meet local wants.

In the Presidency cities of Calcutta, Bombay, and Madras, at some of the large hill stations and in some of the large up-country cities, possibly less than a dozen in number, there are independent medical practitioners—Europeans, Eurasians, Parsees, Hindoos, and Mohammedans—some of whom are very successful and make excellent incomes; but, if of European habits, they require considerable capital to start in a good way, or else introductory support from business firms. In the case of Europeans, partnerships are essential to secure long absence from work for recruitment of health, or to meet temporary incapacities from sickness.

The number of native medical practitioners holding British or Indian degrees and qualifications, in all the Presidency towns and in the large up-country towns is in fact so considerable that some I.M.S. officers of great experience are strongly of opinion that the supply of native practitioners of this superior class is in excess of the present wants of the country.

The measures for promoting the growth of an independent medical profession in India urged upon the Government of India by Lord Morley must, therefore, be taken to refer chiefly to what is called the "mofussil," that is to say, the whole country outside the three Presidency cities, and it will be well to consider what conditions obtain at present and what could be offered to independent practitioners to meet the views expressed by Lord Morley and those who have set the present agitation in motion.

A typical civil station, neither large nor small, may be taken as an illustration. There would be the usual half-dozen European civil officers and their families, the judge, the magistrate, the assistant magistrate, the district superintendent of police and his assistant, the district engineer and a few European and Eurasian subordinates; possibly also some Europeans not in

Government employ, but engaged in business. The adjacent native city may be one of from 5,000 to 40,000 or 50,000 inhabitants, mostly poor people. The medical staff will consist of the I.M.S. officer in civil charge, probably a captain on 400 to 500 rupees, or a major on 750 rupees a month, and a native assistant surgeon in charge of the local hospital on 100 to 200 rupees a month. In addition to the headquarter dispensary or hospital there will be varying numbers of outlying or district dispensaries in charge of hospital assistants.

The civil surgeon's duties are numerous and varied: (*a*) He has to attend, free of charge, all Government servants whose pay is above 200 rupees monthly; the assistant surgeon has similarly to attend all Government servants of lower grades. The families of officers other than military in military employ are not entitled to free attendance, but of late years local Governments have repeatedly tried to put the families of Government employees of certain subordinate departments on the free list. (*b*) All the medico-legal work of the district passes through his hands, and much of it is done by him personally. (*c*) He has medical charge of the police and recruitment for the police and other services. (*d*) He has charge of the vaccination work and of some of the sanitary work of the district. (*e*) He has also executive and medical charge of the district gaol, for which he draws a charge allowance of from 50 rupees to 100 rupees monthly. He is the sole European medical officer of the district, which may have a population of from a few hundred thousand up to a couple of millions, and have an area of a couple of thousand square miles. (*f*) He has to inspect four times yearly all outlying dispensaries, numbering anything from six to twenty-five or thirty. Some of these may be two or three days' journey distant from his head quarters. This duty alone represents some two or three months' absence from the head quarter station. How much of this work would an independent medical practitioner be willing to take and on what terms?

A district civil surgeon is a very hard-worked man, and at the present day in many districts the amount to be made by private practice is very small. It is difficult to see where the independent medical practitioner the Secretary of State proposes could find a place in such a locality with advantage to himself, to the State, or to the public. If he replaced the I.M.S. civil surgeon entirely he would have to be paid as high a salary and become a pensionable servant and be under control, ceasing to be independent. It is, therefore, not surprising that the Government of India has already pointed out to the Secretary of State that the proposal gradually to reduce the civil side of the I.M.S., replacing it by the employment of civil medical practitioners, is not practicable because so large a proportion of the duties of officers of the Indian Medical Service on civil employ must be performed by Government services over which Government should have control on all points. Such control would not extend to independent medical practitioners merely doing some work for Government in addition to their private practice. It would not be possible for an independent medical practitioner to perform the duties of a civil surgeon in an up-country station as a mere addition to his private work. He might be given one or more of the additional appointments which carry extra allowances, but he certainly would not want any of the work which carried no pay, and there would have, in any case, to be a Government civil surgeon to perform all the many duties covered by the bare grade pay. As has already been pointed out, the Government has long recruited civil medical practitioners in India for civil work, and they form the large and efficient Assistant Surgeon Service (Subordinate Medical Service).

In the fourth paragraph of his dispatch the Secretary of State says that, if there are any particular posts requiring special qualifications for which European, Eurasian, or Indian medical men, whether trained in Europe or holding European degrees, cannot be found in India, candidates are to be sought for in England. This can only mean the formation of a supplementary small service recruited at home for special appointments. Such a service would have to be highly paid, with proper leave and pension rules, and a reserve for casualty. It is difficult, therefore, to see how this proposal of the Secretary of State can make either for economy or for the encouragement of Indian medical practitioners.

THE MEDICAL SERVICE OF THE WEST AFRICAN COLONIES.

THE questions raised by the report of the Departmental Committee appointed some eight months ago to consider the affairs of the West African Medical Staff, a summary of which was published in our last issue, p. 160, are of wide interest; but to appreciate the full import and importance of the report, the previous medical history of the West African Colonies must be borne in mind.

The West African Medical Staff is in many ways analogous to the Indian Medical Service, and since outside its ranks there are few qualified medical men in West Africa, its members have to fill for the colonies and vast protectorates there situate the parts played in the United Kingdom both by private medical practitioners and various medical services. It was formed primarily by welding together into one service all the medical employees of the various colonies, this consolidation being an outcome of a recognition of the immense importance of the part to be played by medicine in facilitating in all cases, and in some places rendering in any wise possible, the full development of the British possessions in West Africa from the point of view of commerce and civilization.

This change was made some six or seven years ago without full consideration and elaboration of the organization necessary to make such a service attractive or its members contented, and to secure for the colonies all the possible advantages of its existence. It is not surprising, therefore, that after a few years dissatisfaction arose. It found expression in letters to this JOURNAL, so numerous that after publishing a considerable number we summarized the rest and the situation as a whole in an article which appeared in January, 1908, and at the same time indicated the conclusions which a study of the question suggested.

The discontent was due to three principal causes: Financial questions counted for something, as in the matter of allowances there were unfair differences between the medical and other departments, but in this respect the chief factor was the very poor prospect of promotion. A second cause was a tendency among at least a considerable proportion of members of the "political" or administrative departments to treat the medical department and its views as of comparatively minor importance, and its members as liable to be employed at their will in a general capacity. By far the most important factor of all,

however, was a sense of the futility of effort. Besides being carefully selected as medical men, the members of the staff are required to undergo special training in the etiology of tropical diseases and their administrative control; but they found their knowledge as well as their energies to a considerable degree wasted. This was sometimes because the value of their suggestions was not appreciated, frequently because their work was upset by the amateur sanitarians who abound in the administrative departments of the local governments, but principally, perhaps, owing to a lack of any method of co-ordinating sanitary work. On the west coast, where a tour of service never lasts more than a year, no given individual can count on completing any task he undertakes, and when there is no machinery either for prescribing sanitary efforts that are to be made or for seeing that they are carried through by successive medical officers, it is inevitable that there should be a great deal of wasted work.

This was the general position of matters both at the time of the publication of the article mentioned and some ten months later, when, as the outcome of further representations from several sources, the Committee was appointed by the Secretary of State and commenced its work. It is also the situation at the present moment, and it will remain unchanged until effect has been given to the Committee's recommendations.

The Committee took a broad view of its duties, and, though its conclusions do not in every respect coincide with the desires expressed by past and present members of the West African Medical Staff, they are, nevertheless, likely to receive general approbation. They provide for an immediate improvement in the pay of such officers as have been for any time in the service, and for the betterment of the prospects of all, both by increasing the likelihood of promotion and by adding indirectly to the amount of pension which may eventually be secured. They will also go a considerable way towards adjusting the relations between medical and non-medical employees of the various Governments. Still more important, they suggest a very practical and comprehensive sanitary organization, and one which ought to ensure, not only that sanitary schemes are properly thought out, but that they shall be carried through. A medical officer who has the sanitary progress of his district at heart will be able to feel that if he cannot complete the work himself it will be completed by his successor, and that, except with the cognizance and authority of the Secretary of State, no scheme can be nipped in the bud by some lay official on the coast to whom, for one reason or another, it does not happen to appeal. If, in short, full effect is given both to the spirit and the letter of the Committee's recommendations, officers in the West African Medical Staff will be in a position to do full credit to themselves and the profession to which they belong, and the prospects of the various local governments succeeding in taking full advantage of the immense natural endowments of these West African colonies and protectorates will be greatly increased.

In considering the force of the recommendations in the report, it is important to remember that even as a departmental committee the body which made them was specially strong in officials. Three of them occupy important positions in the Colonial Office itself, a fourth is in the West African Service, a fifth an official of the Local Government Board, and only one an entirely independent individual — namely, Dr. Fowler, late Dean of the Medical Faculty of the University of London. At first sight, therefore, it would seem as if the fullest effect must be given to the report: but the success of the scheme still remains in the balance, since the Secretary of State, while approving of the report as a whole, has reserved his decision on some important details until he has had time to consult the various Governments concerned. While the sanitary organization recommended by the committee is satisfactory, it will not be practically efficient unless the Colonial Office Advisory Board, the creation of which is advocated, is a really live and active entity. The committee seems to have foreseen this when it deprecated the establishment of local sanitary boards, and for analogous reasons we regret that the idea of such boards should have been put forward to the Governors in the Secretary of State's dispatch. It is an essential part of the committee's scheme that the Advisory Board should, through the Secretary of State, be the final controller of sanitary work in West Africa, receiving the reports of the travelling sanitary officers and the comments thereon of the Principal Medical Officer and the Governor respectively, and basing its advice on these and its own expert knowledge. The interposition, therefore, of other bodies which would act as local advisory boards to the Governors is unnecessary. They seem also undesirable, since in most cases they would merely be the Governor's *alter ego*, and if he were a man who happened to be opposed in a general way to sanitary reforms they would be a powerful weapon in his hands.

It is also to be hoped that a rule making it possible to call upon an officer to retire at the end of nine years' service, irrespective of his conduct, will not be adopted. It would introduce a superfluous element of uncertainty into the prospects of all junior men, and be very inimical to the idea of encouraging officers to look upon service in the West Coast of Africa as a life career, a point to which the committee attaches much importance. There is no such rule in any other service, and it would probably be fatal to recruitment of men of the right class.

In view of the reservations of the Secretary of State on these points and in regard to the appointment of principal medical officers to executive and legislative councils, the outlook is perhaps not thoroughly reassuring. The publication of this very strong report is, however, a great gain in itself, and we are disposed to regard Lord Crewe's eventual acceptance of all its recommendations as certain, in spite of a certain subflavour perceptible in the tone of his dispatch to the Governors. This is of such a kind as to seem to indicate the existence among his counsellors of some not fully convinced of the desirability of developing the medical organization of West Africa to the fullest degree, and still imbued with the old-fashioned idea of complete decentralization and of treating Governors of Crown Colonies and their district deputies as the final arbiters of the fate of the areas in their charge.

THE BRITISH MEDICAL ASSOCIATION AND ITS MEMBERS.

THE JOURNAL contains this week two addresses upon the work which the British Medical Association is doing, and the still greater work it could do, for the profession, and on the sources of its strength and weakness. In the one, the address delivered by the President of the South Wales and Monmouthshire Branch, the subject is approached from the point of view of a

general practitioner who has had a long experience of contract practice in a manufacturing district and of the work of the British Medical Association; in the other, the Medical Secretary of the Association discusses the aspects of the matter which have impressed themselves upon one who has from the beginning been closely associated with the working of the new constitution. The British Medical Association has always been in conception and in intention democratic, and the reorganization of 1902 was designed to give the principle freer scope. Risks and defects attend every form of government designed by man, and the British Medical Association cannot expect immunity from those which attach to democracy. Chief among these are the apathy of some individuals and the tendency among others to make an abstraction of a form of government or association. The strength of a democratic institution lies partly in numbers, and partly in the zeal with which all the members work towards the common objects. The two addresses make in different ways, and from slightly different points of view, the same appeal to the whole profession to join the Association, and as members to take each his individual share in its work. Both addresses give examples of what has been done and may be done, and neither blinks the fact that the tasks before us are difficult, and that the difficulties are enormously increased by our want of union, unanimity, and discipline. Dr. D. J. Williams refers more particularly to the evils of contract practice and their remedy, with a plea, if we mistake not, for the cultivation of a tolerant spirit in the adjustment of intraprofessional differences of opinion. Dr. Smith Whitaker, after illustrating the need for union by a reference to recent incidents within the area of the new Wakefield Division, appealed to its members, and through them to the profession at large, to make use of the machinery provided by the Association for studying the reports of the Royal Commission on the Poor Laws and the Relief of Distress, so as to arrive at a settled policy with regard to the many and somewhat conflicting suggestions therein made on matters nearly affecting the interests—social, economic, and scientific—of the medical profession in Great Britain. The problem in Ireland is a little different, but there also questions of the same order have arisen which urgently call for a unanimous expression of carefully considered opinions.

THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

It may be said with confidence that the election of Mr. Butlin to the high office of President of the Royal College of Surgeons of England has been universally recognized as a well deserved honour paid to a man who has done much to enlarge the realm of surgery in various directions. To him we owe great improvements in the surgical treatment of malignant disease, especially of the tongue and of the larynx. On these subjects there is no higher authority living. Mr. Butlin has had considerable experience in administration and the conduct of affairs. He is intimately acquainted with the business of his college, and he held the office of Treasurer of the British Medical Association for two consecutive terms. How ably he acquitted himself in a position requiring judgement and tact is writ large in the records of the Association. Mr. Butlin will not merely fill worthily the chair to which he has been called, but will adorn it by his eminence as a scientific surgeon and by the dignity of his personal character. He need not fear comparison with any of his predecessors in office, distinguished as many of them have been. It may be interesting to point out that Mr. Butlin is the fifty-seventh President of the College. The first was John Hunter's brother-in-law, Sir Everard Home, who was elected in 1821. Sir Astley Cooper was twice President; from the date of his first election in 1827 a system of rotation seems to have been in force. This was abandoned in 1863, after which no President held office for more than one year till 1885. Then Sir William Savory was President for four years, and later Mr. Thomas Bryant held office for three years, Mr. J. W. Hulke and Mr. Christopher Heath each for two years, Sir William MacCormac for five, Sir H. G. Howse for two, Sir John Tweedy for three, and Sir Henry Morris for four years.

THE DISINFECTION OF BOOKS.

Xylander (*Arbeit. aus d. kaiserlichen Gesundheitsamte*, vol. xxix, Part II, 1908) has conducted experiments with the view of finding the best way of disinfecting books. Schumburg had found that while air at 100° C. containing 80 per cent. of water killed vegetative forms of bacteria, it did not destroy leather. Balmer found that bacteria dried on rags and placed inside books were killed in four hours by air at 95° C. containing 40 per cent. of water; while if the degree of saturation was increased to 60 per cent., the disinfection was complete in three hours. With the object of ascertaining conditions most efficacious for disinfection of parcels of books Xylander impregnated pieces of filter paper with various vegetative bacteria: they were placed between the pages of the books, which were exposed to the heated air either singly or piled up on or next to one another. Air at 95° C., charged to the extent of 20 per cent. saturation with moisture, killed staphylococci and tubercle bacilli in sputum dried on silk threads in two hours, while *B. coli*, *B. typhosus*, *B. paratyphosus*, *B. enteritidis*, and streptococci were killed in from forty-five to seventy minutes. Diptheria bacilli were killed after thirty minutes. When the moisture corresponded to 60 per cent. of saturation, all the bacteria were killed within ten minutes, and many within two minutes. Using 60 per cent. moisture saturation and a temperature of 95° C., the bacteria in a single book distributed between various pages and placed some toward the back, others in the middle, and others toward the front of the book, were not killed until after four hours had elapsed. With packets of books the time depended on the size of the packet. The temperature in the inside of books forming large packets rose very slowly, and under the conditions of the apparatus employed did not reach 95° C. within twenty-four hours. In all these experiments the only effect of the process was a slight yellowing of the paper and a tendency to curling of the cover. With 30° C. and 7.8 per cent. moisture, all bacteria tested were killed within twenty-four hours in a single book and in packets in thirty-two hours. As to formaldehyde, he found that a strong concentration of formaldehyde vapour did not work more rapidly than a weak, and therefore kept to 10 per cent. formaldehyde solution in 30 c.cm. of water, and worked out the best degree of moisture for the disinfection. With from 20 per cent. to 40 per cent. of moisture saturation, sterility was obtained in twenty-four hours. When formaldehyde was used the time of disinfection depended on the size of the parcel of books and on the relative moisture and temperature. As in the other experiments, the temperature inside the books always remained below that in the apparatus. When formaldehyde was evaporated with water *in vacuo* at low temperatures—for example, with a vacuum of 450 mm. of Hg, and formaldehyde solution saturating at 70° C., even

anthrax spores were killed in two hours, but only if the vapour could reach the pages of the books; no action occurred when the books were tightly packed together. His conclusion is that for the disinfection of books hot air is better than formaldehyde and aqueous vapour *in vacuo*. Both methods rest on scientific foundation, but further research is needed before the best method of disinfecting books can be determined.

NURSES REGISTRATION.

MR. SYDNEY HOLLAND, who read a paper in opposition to State registration of nurses at the International Congress of Nurses this week, expressed his regret at the differences of opinion on the subject; but he was, we think, inclined to exaggerate their extent and prevalence. The opposition to the movement, such as it is, is voiced chiefly by himself, and but for his persistence there would probably by this time be entire unanimity on the subject. It is true that he has been indirectly connected with nurses for a good many years past, and we have no doubt of his genuine devotion to what he regards as the interest of nurses; but, after all, he is only acquainted with one side of the question, and it cannot be forgotten that a good many training schools such as that which he represents have perhaps something to lose by the introduction of registration. On the other hand, there is no reason to suppose that they know any more about the subject than do those who desire to see registration introduced; and resolutions to that effect have been passed over and over again by the British Medical Association, a body composed of men thoroughly acquainted with all sides of the subject, and with the difficulties which the present condition of affairs creates. They regard it as fair to nurses that that status should be conferred upon them, and believe that it would be accompanied by great advantages to the public. A special committee of the House of Commons has taken the same view after a prolonged inquiry, at which full weight was given to the views expressed by Mr. Sydney Holland and his colleagues in the matter. It is perfectly true, of course, that a registered nurse will not necessarily be a perfect nurse, but, at least, medical men and the public alike will have some kind of knowledge of the persons who offer themselves for employment. They will know that a nurse who is registered has been educated in nursing matters up to a certain standard, and is not a woman of no education whatever. Furthermore, a machinery will have been created by which nurses unfit for their occupation will eventually be winnowed out. The opponents of registration continually argue that not only knowledge, but capacity, is necessary to make a good nurse, but though this is perfectly true, it is not a characteristic of nursing only. It is a feature common to practically every recognized occupation in the world; but as regards nurses it is at present difficult not merely to find out whether a nurse is a good nurse, but even whether she is a nurse at all.

ROYAL APPETITES.

READERS of *Sartor Resartus* will remember the epitaph on Count Zaehdarm, who, it is recorded, while he lived, *varii cibi centumpondia millies centena millia . . . in stercus palam convertit*. This digestive achievement has been paralleled or surpassed by many sovereigns. Whether they reign by divine right or by the will of the people, providence would seem to have endowed royal personages with appetites in proportion to their exalted position. According to Motley, Charles V was an enormous eater. "He breakfasted at 5, on a fowl seethed in "milk and dressed with sugar and spices. After this "he went to sleep again. He dined at 12, partaking "always of twenty dishes. He supped twice—first "soon after vespers, and the second time at midnight "or 1 o'clock, which meal was perhaps the most "solid of the four. After meat he ate a great "quantity of pastry and sweetmeats, and he irri- "gated every repast by vast draughts of beer "and wine." Roger Ascham "standing hard by the "Imperial table at the feast of the Golden Fleece" watched with wonder the emperor's steady progress through "sod beef, roast mutton, baked hare," after which "he fed well of a capon." Ascham adds that Charles drank "the best that ever I saw; he had his "head in the glass five times as long as any of them, "and never drank less than a good quart at once of "Rhenish wine." Naturally the Nemesis of gout and dyspepsia overtook him. But, says Sir William Stirling, even in his worst days of suffering from these diseases, before setting out for Flanders, the fullness and frequency of the meals which occurred between his spiced milk in the morning and his heavy supper at night, so amazed an envoy of Venice that he thought them worthy of special notice in a dispatch to the Senate of his Republic. In his cloister life, eating was the only physical gratification which the Emperor could still enjoy. To the last he continued to dine on rich dishes, and the supply of his table was the main subject of the correspondence between the majordomo and the Secretary of State. Spain and Portugal were ransacked for fish, partridges, sausages, and other dainties to please the worn-out palate of the Emperor. Presents of game, venison, beef, veal, and other provisions were showered upon Charles in his retreat by those who knew that the nearest way to his heart was through his stomach. His faithful attendant, Luis Quixada, saw with dismay the long files of mules laden as it were with bile and gout. The Renascence introduced Italian cooks and pastry into France, and the banquets of Henri III recall those of Heliogabalus. It is related that at one of them, Catherine de' Medici, the Queen Mother, ate so much that she was ill almost unto death. Louis XIV had a truly kingly appetite. He often took at one meal, four platefuls of different soups, a pheasant, a partridge, a large plateful of salad, two large slices of ham, mutton stewed in garlic, a plateful of pastry, fruits, and hard-boiled eggs. It is no wonder that the *Journal de la Santé du Roi*, a diary kept by his physicians till within a few years of his death, is a long record of indigestion, intestinal storms, and attacks of gout, with constant physicking, clysters, and bleeding. Fagon succeeded in getting the King to submit to dieting, but even then he would eat, in addition to toast and pigeon soup, three roast chickens. The Bourbons were nearly all mighty trenchermen. In our own day there are, or were, royal personages worthy to feast with Charles V. In *An Onlooker's Notebook*, attributed to Mr. G. W. E. Russell, which appeared some years ago, there is the following passage: "An Illustrious Couple arranged to pay a "two-nights' visit at a country house of which the "owners were friends of mine. For reasons of "expediency we will call the visitors the Duke and "Duchess, though that was not their precise rank. "When a thousand preparations too elaborate to be "described here had been made for the due entertain- "ment of them and their suite and their servants, the "Private Secretary wrote to the lady of the house "enclosing a written memorandum of his master's and "mistress's requirements in the way of meals. . . . "The day began with cups of tea brought to the bed- "room. While the Duke was dressing, an egg beaten "up with sherry was served to him, not once but

"twice. The Duke and Duchess breakfasted together "in their private sitting room, where the usual "English breakfast was provided. They had "their luncheon with their hosts and the house "party, and ate and drank like other people. "Particular instructions were given that at 5 o'clock "there must be something substantial in the way of "eggs, sandwiches, or potted meat, and this meal the "illustrious couple consumed with special gusto. "Dinner was at 8.30 on the limited and abbreviated "scale, which has superseded the hecatombs of "Francatelli. But let no one suppose that the "Illustrious Ones went hungry to bed. When they "retired supper was brought up to them in their "private sitting room, and a cold chicken and a bottle "of claret were left in their bedroom as a provision "against emergencies." Constitutional monarchs may be gluttons without much harm to any but themselves. But it would be interesting to trace the connexion between dyspepsia and despotism, between gout and misgovernment, in the case of arbitrary sovereigns.

THE ETIOLOGY OF YELLOW FEVER.

THE history of the work done in connexion with yellow fever since 1899 is one of the most interesting pages in the history of medicine. Dr. Finlay's suggestion, made many years earlier, that the contagion of this disease is transmitted through a mosquito, laid the foundation of the etiological knowledge now possessed. Although the disease has been mastered from the point of view of epidemiology in a veritable hotbed, by precautionary measures against the intermediary host of the unknown invader, it is still highly desirable that the parasite should be isolated, for a careful study of its life-history, the phases of growth and development through which it passes when lodged in the stomach of the *Stegomyia culex*, and of the conditions under which it cannot live would be very useful. Dr. Harald Seidelin, Professor of Pathology and Bacteriology in the Medical School at Merida and Director of the Laboratories of the Hospital at O'Horan in Mexico, believes that he has been able to identify the parasite.[1] Having a large number of yellow fever patients at his disposal, he made numerous observations on their blood. The parasites appear as red blood corpuscle inclusions. They were seen in blood smears stained by Giemsa's method. Drawings of the various types are reproduced in his article. The structures present multiple dark points, which take up the chromatin stains, and a protoplasm; the less deeply-stained portions stain pale blue. The colour of the chromatin, he states, is rather more violet than that of malaria parasites, and compares with the centrosomes of rat trypanosomes. In a single case he was able to see an extra-globular crescentic structure, totally unlike the malaria crescent, and in respect to this form he expresses himself with reserve. The forms are either ring or amœboid and vary considerably in size. The structures were found in nearly every case examined, save when the blood was taken at a later epoch in the disease. In discussing the probability of these structures being the specific parasites of yellow fever, he states that although he has made a very large number of blood examinations he has never seen them in the blood of a person not suffering from yellow fever. Against the hypothesis that they might be degeneration products of some artificial structures are the facts that they show a very characteristic staining, that they are intra-globular, and that they have well marked chromatin. He was able to exclude the suggestion that they might be forms of malaria plasmodium, as some of his patients had neither had an attack of malaria nor had come into contact with malaria patients. In none of his cases was there any splenic enlargement, nor did quinine do any good. He is inclined to classify the parasites among the *Piroplasmata*. This is the story told by Dr. Seidelin. At present it is obviously impossible to form any opinion as to the probable specificity of the parasites, since careful examination of the blood of yellow fever patients is the only method of solving the problem. The pictures lead to provisional acceptance of the view that the structures are parasites; but here again reserve is necessary, since the pictures are reproductions of drawings made from specimens. Furthermore, it will be necessary to demonstrate the presence of the parasite in the *Stegomyia* before its specific nature can be admitted.

[1] *Berl. klin. Woch.*, May 3rd, 1909.

RADIOGRAPHY AND URETERAL CALCULI.

THE resources of science may deceive even the greatest experts working under the most favourable conditions. This truth has been recently demonstrated by the publication of a remarkable case in Professor Pozzi's wards in the Hôpital Broca, Paris,[1] and MM. Proust and Infroit deserve much credit for having made the facts known. A very sickly woman, with a cold abscess in the subcutaneous tissues of the thorax, was admitted into hospital for pains in the lumbar region and frequent micturition. The urine was turbid and sometimes bloodstained; at first there had not been any distinct attacks of renal colic, but they had appeared and become frequent during the three months preceding admission. By the aid of radiography M. Infroit detected a spot corresponding to the course of the right ureter a little above its termination in the bladder. Dr. Luys used the cystoscope and his now famous segregator, and found evidence of chronic cystitis and great dilatation of the orifice of the right ureter, whence issued urine mixed with pus. The orifice of the left ureter was normal, and the urine which came through it was free from pus. Right pyonephrosis and calculus in the ureter were diagnosed. Proust and Salin performed nephrotomy so as to render the patient less septic before operating for removal of the calculus. The usual lumbar incision was made, but the kidney was so adherent that it could not be drawn well out of the wound for thorough exploration. Its convex border was incised, pus escaped in moderate quantities, but no calculi could be found. The kidney was drained, and the patient's health improved for a time, then she grew worse, and died at the end of the eleventh week after the nephrotomy. At the necropsy the right ureter was found to be dilated to about one-third of an inch in breadth. It was surrounded, 2 in. above its entry into the bladder, by dense inflamed tissue. The *x* rays were used once more, and two little spots were then seen lying in the sclerosed and hypertrophied sheath of the ureter, and corresponding in situation to the single spot detected by radiography during the patient's life. After some more very careful dissection, catheterism of the ureter and repeated use of the *x* rays, the spots were found to indicate the position of two small phleboliths which lay in the lumen of a vein in the sheath of the ureter. It is pleasing to find men of recognized talent putting themselves to so much trouble to point out how even they may be misled by new methods supposed to ensure precision in clinical research and diagnosis. Our readers must remember Dr. Mackenzie Davidson's remarkable

[1] Proust et Infroit. "Phlebolithes des veines péri-urétérales, simulant à la radiographie l'existence d'un calcul de l'uretère." *Bulletins et mém. de la Soc. Anatom. de Paris*, April, 1909, p. 242.

report on the diagnostic value of *x* rays,[2] read at the Leicester Meeting of the Association, and illustrated by fine skiagrams. We may turn special attention to Case V in Dr. Davidson's series, which showed the importance of caution on the part of surgeons, and the advisability of careful consultation with colleagues who devote their time specially to *x*-ray work. In the other cases of suspected presence of calculi in the ureter the diagnosis made by aid of the rays was confirmed by skilful operative procedures.

LEBANON HOSPITAL FOR THE INSANE.

THE eleventh annual report of the General Committee of the Lebanon Hospital for the Insane at Asfûriyeh, near Beirut, Syria, has recently been issued. The report, which is illustrated by photographs and maps, contains also the report of the annual general meeting, held in London last May; a description of the present state of the hospital by the founder, Mr. T. Waldmeier, and the report of the medical superintendent. The main facts concerning the excellent philanthropic work done at Asfûriyeh are already widely known. It may be recalled, however, that some years back, Mr. Waldmeier—urged by pity for the unfortunate insane at Lebanon, then treated by priestly exorcism with its accompaniments of branding and chaining—journeyed to Europe and America begging help. Though then over 70 years of age his labours were successful, and the asylum was built. It must be a source of gratification to all concerned that the venerable founder, eight years after the opening of the asylum, during which time eight hundred patients have been treated, is still able to direct its fortunes. The asylum is mainly supported by voluntary contributions from Great Britain, Holland, Switzerland, and America, collected and transmitted through local committees. We are glad to learn, however, that paying patients increase in number. Of Christian foundation, it ministers not only to members of the Eastern and Western Churches, including Maronites, but to Druses, Anzeyries, and Moslems. The only institution of its kind in the Turkish Empire between Cairo and Constantinople, it spreads the ameliorating influences of modern medical science and humanitarian zeal, not only among those dwelling in its neighbourhood, but to far-distant countries, by travellers along the trade routes to Damascus and Baghdad, and even along the Haj road from Damascus to Mecca. Dr. Thwaites, the late medical superintendent, left the asylum in February, 1908, and the present medical superintendent (Dr. Watson Smith) only assumed office in February of this year. In the interval the institution was placed in the medical charge of Dr. Anton Saleh, a native medical man, who has compiled the statistics for the year April, 1908, to April, 1909. From these we see that on April 1st, 1908, there were 75 patients in the institution, the same number remaining on the corresponding day of this year. During the year 122 were admitted, of whom 4 were readmissions during the year. In all, 197 were under treatment during the twelve months. Of the total admissions, 26 were Maronites, 34 belonged to the Orthodox Greek Church, 8 were Roman Catholics, 19 Moslems, 14 Jews, and 6 Protestants. They were classified, according to the forms of mental disorder, into: Mania of all kinds, 31; acute and chronic melancholia, 24; senile dementia, 3; primary dementia and precocious dementia, 19; general paralysis, 4; monomania, 4; hysterical insanity, 7; epileptic insanity, congenital insanity, aphasia and puerperal insanity, 2 each; dipsomania and hashishism, 1 each; not insane, 3; 18 remaining unclassified. During the year 26 were discharged as recovered, giving a recovery-rate on the total admissions of 21.3 per cent.; 26 also as improved, and 60 as not improved. Also 7 died during the year, the deaths being due in 3 to nervous exhaustion, in 2 to apoplexy, and in 1 each to heart disease and diarrhoea. To those who would know more of this most deserving institution copies of the report will be sent on application to the Secretary, Miss A. M. Gooch, 35, Queen Victoria Street, E.C.

[2] BRITISH MEDICAL JOURNAL, January 20th, 1906, p. 137.

SCOTTISH ARCTIC EXPEDITION.

REFERENCE was made in a previous number of the JOURNAL to the fitting out of another Arctic expedition. The steam yacht *Conqueror* left Leith on the 19th inst. for the Arctic regions, her destination being Spitzbergen and adjacent seas. The scientific side of the expedition has been organized by Dr. W. S. Bruce, the object of which is to continue the topographical survey of Prince Charles Foreland and adjacent lands. This work will be under the supervision of Mr. John Matheson, of the Ordnance Survey of Scotland, assisted by Mr. Ernest A. Miller. Dr. Rudmore Brown, University of Sheffield, formerly of the Scottish National Antarctic Expedition, will carry out topographical, botanical, and other researches in the Foreland and elsewhere. Mr. J. Y. Burn Murdoch and Mr. H. Hannay will conduct geological investigations. The crew and members of the shore party have been very specially selected, and satisfactory results may with confidence be anticipated. It may be of interest to note that the whole expedition has been fitted out in Leith and Edinburgh. The Admiralty, Royal Observatory, Scotland, and National Physical Laboratory have supplied a large number of instruments. The Scottish Oceanographical Laboratory has also lent a very complete set of oceanographical instruments and equipment.

THE UNIVERSITY OF BRISTOL.

AT the first meeting of the council of the University of Bristol, Mr. Lewis Fry was elected chairman. Dr. Lloyd Morgan tendered his resignation of the office of vice-chancellor, and Sir Isambard Owen, Principal of Armstrong College, Newcastle-on-Tyne, was elected in his place. The council placed on record its sense of the distinguished services rendered by Professor Lloyd Morgan to the cause of university education during the twenty-two years of his tenure of office as principal of University College, Bristol, and its hearty acknowledgement of the unsparing manner in which he had devoted his time and influence to the promotion of the scheme for the foundation of the University of Bristol. Sir Isambard Owen, who as Vice-Chancellor will be principal of the new university, will take up his duties on September 9th. He is also the senior deputy chancellor of the University of Wales, and the question has been raised whether his appointment at Bristol is compatible with the continuance of his official connexion with the University of Wales. He has himself stated that the new appointment need involve no change in his relation to the University of Wales. Sir Isambard Owen played an important part in the negotiations which led to the foundation of the university; he has ever since taken an active share in its administration, and the help of his knowledge, experience, and enthusiasm in the cause of higher education could ill be spared.

MR. BERNARD MALLET, Commissioner of Inland Revenue and Controller of Stamps, has been appointed Registrar-General for England and Wales in the room of Sir W. C. Dunbar, Bart.

DR. FREDERICK TAYLOR has been elected Chairman of the Committee of Medical Members of the Senate of the University of London.

PROFESSOR HARVEY CUSHING will deliver the fifth William Mitchell Banks Lecture at the University of Liverpool on Wednesday, August 4th, at 4 p.m. The subject selected is Recent Observations on the Pathology and Surgical Treatment of Intracranial Tumours.

MR. ALEXIS THOMSON, Assistant Surgeon to the Royal Infirmary, Edinburgh, Surgeon to the Deaconess's Hospital, and Lecturer in Surgery in the School of Medicine, Edinburgh, was, on July 21st, appointed by the Curators of Patronage Professor of Surgery in the University of Edinburgh in succession to Professor John Chiene, C.B. There were five other candidates.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Post Office Medical Officers.—Sir William Collins asked the Postmaster-General whether, in connexion with the employment of postmen on cycling duties, any additional duties in regard to medical examinations of postmen to be so employed had been placed upon medical officers; and if he would state what regulations the Post Office had laid down in regard to such examinations. Mr. Buxton replied that it had for some time past been a part of the duty of Post Office medical officers to examine postmen about to be employed on cycling duty. He had recently seen cause to extend this examination to men already employed on cycling duty, and to cause it to be repeated at intervals of four years. In order to ensure a searching and complete examination a list of questions had been compiled for the use of medical officers indicating those points which were of importance in the interest of the staff and of the public service.

The Royal College of Surgeons and the Admission of Women.—Dr. Rutherford asked the Secretary of State for the Home Department whether, in view of the fact that the Royal College of Surgeons was unable through the provisions of the Medical Act of 1876 to confer the rights and privileges of the college to women who are admitted to its diplomas, he proposed to grant a new charter to the college. Mr. Gladstone replied that he had no power to take any such action. He understood that a supplementary charter for the Royal College could only be granted by the Crown on the petition of the governing body.

Death in Poplar Workhouse.—Mr. Cochrane and Mr. Summerbell asked the President of the Local Government Board whether he had now received a report of the inquiry regarding the circumstances attending the death of Diana Green, who was found dead under a bed in Poplar Workhouse, with four ribs and one arm broken, on June 13th; and whether he could communicate the results of that inquiry. Mr. Burns said that he had received from the guardians a copy of the report made to them by the Visiting Committee after their investigation of the case referred to. The committee appeared to have taken all the evidence available, but unfortunately the medical officer of the workhouse was seriously ill, and hence they were unable to examine him. They reported that they had given very careful consideration to the depositions at the inquest, the report of the master of the workhouse, and the statements of the officers and inmates examined by them, but that they had been unable to elicit any material facts in addition to those contained in the depositions and the master's report. They were of opinion that, until the medical officer was in a condition to be further examined, it would not be possible to come to any definite conclusion as to the cause of the injuries to the deceased. He had requested to be informed when the medical officer had sufficiently recovered to give evidence, and had promised, in compliance with a request to that effect, that the Local Government Board's senior medical inspector for Poor Law purposes should assist at any further investigation then held.

Fees for Vaccination Exemption Certificates.—Mr. Tyson Wilson asked the Home Secretary whether, in view of the fact that some justices of the peace charged a fee for signing an exemption from vaccination certificate, he would issue a circular informing magistrates that they were not justified in charging a fee unless the services of the justices' clerk were utilized. Mr. Gladstone replied that, if the hon. member would inform him of any cases in which justices had charged a fee for anything done by them in their magisterial capacity, he would communicate with them. He did not, however, think that a general circular was called for, as he had no doubt that justices generally were properly informed on this subject.

Dismissals of Scottish Poor Law Medical Officers.—Mr. Cathcart Wason asked the Lord Advocate whether he would grant the return asked for with reference to dismissals of Poor Law medical officers in Scotland, and the trouble thereby entailed on the poor. The Lord Advocate replied that if his hon. friend would move for a return showing in how many and what parishes during the past three years Poor Law medical officers in Scotland had vacated office and what period in each case had elapsed before the appointments had been permanently refilled, the Government would offer no opposition.

Dairies and Cowsheds Act (Ireland).—Mr. Lundon asked the Chief Secretary if, in view of the fact that the majority of the district councils of Ireland had refused to put the Dairies and Cowsheds Act into operation on the grounds that it was unnecessary and only creating additional taxation, the Local Government Board would withdraw legal proceedings which had been threatened against some such councils, and make the Order, heretofore compulsory, an optional one. Mr. Birrell said he understood that only a very small minority of the district councils in Ireland had refused to put the Order in question into operation. Officers had already been appointed for nearly half the districts in the country, and additions were steadily being made to their numbers. Compulsory action had only been taken by the Local Government Board with respect to districts which were recognized as large milk producing areas, and in which the conditions attaching to the production of the public milk supply had been found on inspection to be unsatisfactory. The Board, therefore, saw no reason whatever to withdraw legal proceedings as suggested. In the interests of public health it was necessary that every step should be taken to ensure that the Order should come into operation throughout the country.

Indian Medical Service.—Mr. Rees asked the Under Secretary for India whether the Government of India (Home Department), Notification No. 607, of July 1st, 1907, regarding the receipt of fees by officers of the Indian Medical Service for professional services rendered to Indian nobles or gentlemen and their families or dependents in British India, was still in force, and if so, whether it had received the necessary confirmation of the Secretary of State, in anticipation of which the Order was issued nearly two years ago; whether he was aware that the Order had caused dissatisfaction in India amongst the officers of the Indian Medical Service; and whether his attention had been called to the spirit of the Regulating Act of 1773 (13 Geo. III, c. 63, Art. 25), by which the right to take or accept fees, gratuities, and rewards in the way of their profession was specially reserved to medical officers. The Under Secretary replied that the Secretary of State was still in correspondence with the Government of India regarding the notification referred to in the question, which had not yet received his confirmation. He was not prepared at present to make any statement on the subject.

The Metropolitan Ambulances Bill was read a second time and committed on Thursday in last week.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ARGYLL SANATORIUM AT OBAN.

A SANATORIUM for the treatment of phthisis, the gift of Mr. and Mrs. Bullough, was opened at Oban on July 13th. The offer to build and equip a sanatorium for the county was made through Dr. McNeill, M.O.H. for the county, in 1906, but, owing to the difficulties in procuring a suitable site, the donors purchased the estate of Benvoulin, and erected thereon a sanatorium. The estate, which is about nine acres in extent, is situated within the extended boundary of Oban, about 400 ft. above the sea level; it commands a view of some of the most beautiful scenery, for which the West Highlands of Scotland is so deservedly renowned. The grounds are planted with shrubs, and trees, principally pines, and are traversed by numerous well-kept paths; there is a vegetable and fruit garden, and several hot-houses. The buildings consist of the mansion house, with large greenhouse attached, which has been converted into an administrative block. The new buildings comprise a large block, of the butterfly design, containing two wards and sitting-room; there is a one-story building, with flat roof, containing two bedrooms and shelters for patients; a second one-story block, with a verandah in front running its whole length, and containing four single-bedded rooms and sitting-room for private patients; and a third block, also one story high, with artistic verandah, for special cases. The buildings were designed by Mr. Neil Gillies, architect. There are two entrance lodges, one at each end of the property. The buildings are all fitted and furnished in the most modern and scientific manner.

PROFESSOR CLELAND'S VALEDICTORY ADDRESS.

The summer graduation in medicine took place at Glasgow University on July 13th. As this was the last occasion on which Professor Cleland would have an opportunity of addressing the graduates, he was heartily applauded when he rose to make a few valedictory remarks on the eve of his retirement. His address was directed mainly to the position the medical man held in society, and emphasized the fact that the physician's and surgeon's art was a noble profession, but noble only when nobility became nobility of purpose. Nobility of purpose was the most effective stimulant to study as well as to the performance of duty at the bedside, and it ennobled the whole acquisition of knowledge of every description. Discussing the sources of error, he said errors of all sorts might arise when there was neither ignorance nor unworthy inclination, but simply from want of strength of purpose. All men were not capable of exhibiting equal force of character. Resolution was a quality which, like every other feature, was largely dependent on heredity, and heredity was not of their own making. It was an unearned increment, though he was almost afraid to say so, lest a tax be levied on it.

SCOTTISH NURSES' ASSOCIATION.

A preliminary meeting of nurses was held recently in Glasgow for the purpose of considering whether, in view of the three bills now before Parliament, Scottish nurses should not organize themselves in their own interests. A provisional committee was appointed to draw up suggestions. This committee summoned a meeting which was well attended by nurses and medical men, and at which it was decided to form the Scottish Nurses' Association. The objects of the association are to obtain State registration of nurses by a single-portal system for the United Kingdom, and extend it, if possible, throughout the British empire, the nurses to be admitted to the register after three years' regulated training in recognized hospital schools, and after having passed a State examination conducted under the auspices of a suitable board at suitable centres. The association will seek to raise and regulate the standards of education and training of nurses.

ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.

New Convalescent Home.

The new Convalescent Home erected on the site of Muirfield House, Gullane, was formally opened on Saturday afternoon, July 17th, the Chairman of the Directors (Mr. James Clark, K.C.), presiding. It contains provision for the nursing staff, and accommodation for twenty-four convalescent children. The chairman traced the history of the steps for securing the Home, referring to the bequest of the late Miss Meikleham of the residue of her estate, and to the contribution of £13,000 by the public. Mr. Harold J. Stiles, M.B., F.R.C.S.E., moved a vote of thanks to the chairman, and spoke of the vast help the Home would be in the treatment, often prolonged, of cases of tuberculous disease of bone and joints. They would now be able to save a greater number of lives, and to cure a certain number of children, making them useful members of society, instead of leaving them helpless cripples. The staff of the hospital was grateful to the directors for the liberal way they had met its views in regard to what the Convalescent Home should be.

Mrs. Maconochie was presented with a gold key by the chairman, and with it opened one of the doors of the new Home, declaring as she did so that she was certain she had opened the door to health and happiness for many children.

LEITH DISPENSARY ABUSES.

Fortunately hospital abuse is relatively uncommon in Scotland, but the chairman of the Leith Hospital, at a meeting on July 15th, remarked that the directors had a growing conviction that a large number of people got the benefit of the dispensary who might be able, without much strain to themselves, to pay for medicines and for such attendance as was required. The committee recommended that they should adopt a more stringent method of ascertaining whether the cases were really necessitous or not, and thought it quite possible to frame such a series of questions as would show the real facts of the applicant's position.

At the same meeting of directors it was reported that Dr. William Elder, senior visiting physician, would retire on July 19th. In his place Dr. H. G. Langwill was appointed senior physician, and Dr. John Eason will be appointed full physician in charge of wards.

REPORT OF THE DEPARTMENTAL COMMITTEE ON INEBRIATES.

The report has just been issued of the Departmental Committee appointed by the Secretary for Scotland to inquire into the operation in Scotland of the law relating to inebriates and their detention in reformatories and retreats. The Committee communicated with town, parish, and county councils, and examined a large number of witnesses, and found that public opinion seemed ripe for the adoption of methods which formerly were held by many to invade unduly the liberty of the individual.

The Committee makes a number of important recommendations for the amendment of the existing Acts.

Definition.

1. It suggests that the term "inebriate" be substituted for that of "habitual drunkard," and be defined as follows:

> An inebriate is a person who habitually takes or uses any intoxicant or narcotic, and while under the influence of such, or in consequence of the effects thereof, is
>
> (*a*) At times dangerous to himself or any other person; or
> (*b*) At times incapable of managing himself or his affairs; or
> (*c*) At times a cause of harm or serious annoyance to his family or to any other person; or
> (*d*) Unfit to have the care of any child of which he is the parent.

Retreats.

2. That the power to license retreats should be in the hands of the Secretary for Scotland, and that all licensed retreats should be subject to such inspection as shall be directed by the Secretary for Scotland.

3. That it should not be lawful for any person for payment to board and lodge in an unlicensed house more than one inebriate at the same time.

4. That the power to order the discharge of an inmate from a retreat should be in the hands of the Secretary for Scotland. No order for the discharge of an inmate from a retreat before the expiration of the period for which he is signed or has been committed should be made unless fourteen days' previous notice of the hearing of the application has been given to all the persons interested.

Guardianship.

5. That power be given to a relative, friend, or guardian, or other person having an interest, and to the procurator-fiscal, to petition the sheriff for an order of guardianship, or for the committal to a retreat of an alleged inebriate. The procedure in the petition should be carried through by any of the persons above mentioned, or by the procurator-fiscal, who, on a prima facie case being made out to him, should be required to bring the case before the court. When the petition is presented by any person other than the procurator-fiscal, it should be supported by a written declaration, signed by the petitioner himself and one other person, to the effect that the alleged inebriate is a person to whom the Act applies. The sheriff should dispose of the petition summarily in camera, unless he otherwise determine, and, if he is satisfied with the evidence taken before him, which need not necessarily include a medical certificate, that the alleged inebriate is an inebriate within the meaning of the Act, he should have power alternatively:

(*a*) To make an order placing the inebriate under guardianship for a period of one year; or

(*b*) To commit the inebriate to a retreat for a period not exceeding six months, and thereafter for a further period under guardianship for a year.

In the event of any of the conditions of guardianship ordered in terms of subsection (*a*) above being broken by the inebriate, the sheriff should have power, on the report of the guardian, or, failing him, the original petitioner, to commit the inebriate to a retreat for a period not exceeding six months, with a further period under guardianship for one year. In the event of a breach of the conditions of guardianship subsequent to detention in a retreat, the sheriff should have power, on the report of the guardian, or, failing him, the original petitioner, to commit the inebriate to a retreat for a period not exceeding three years.

6. The Secretary for Scotland should have power to prescribe from time to time the conditions of guardianship and to approve of their modifications in individual cases. Power should be given to the sheriff when placing a person under guardianship to apply to his case the provisions of Section 72 of the Licensing (Scotland) Act of 1903 relating to the purchase and obtaining of excisable liquors, and the selling or supplying the same, without the conditions as to previous conviction contained in that section.

7. That when making an order of guardianship or an order for compulsory detention in a retreat the sheriff should also be empowered to require, where necessary, the inebriate, or any person on whom he is legally dependent, to pay the expenses of the application, or of guardianship, or maintenance in a retreat, to such an extent as the sheriff shall consider reasonable and proper, where the inebriate or such other person is possessed of means available for this purpose.

Drunkenness and Crime.

8. That Section 23 of the Inebriates Act, 1898, should be amended so as to apply also to cases tried summarily. It should be the duty of the procurator-fiscal in all cases where the offence is committed under the influence of drink, or of which drunkenness was a contributing cause, and where there is prima facie evidence that the offender is an inebriate, to charge him with being an inebriate as well as with the offence; and that in all cases of offences tried under an indictment or summarily, where the offender pleads guilty or is convicted of the offence, the court should have power to deal summarily (that is, without a jury) with the question whether the offender is or is not an inebriate, and, if satisfied that he is, in addition to or in substitution for any other sentence, to order his detention in a reformatory.

9. That in cases under Sections 23 and 24 of the Inebriates Act, 1898, where there have been three previous convictions as aforesaid, or where the person charged has been under detention in a reformatory, or under guardianship, within the twelve months preceding the date of the commission of the offence with which he is charged, the onus of proving that he is not an inebriate shall be placed on him.

10. That the scheduled offences should be extended so as to include:

(1) Assault, when the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

(2) Breach of the peace, where the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

(3) Malicious mischief, where the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

(4) Theft, where the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

(5) Begging, where the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

(6) Being a common prostitute, and loitering or importuning in a public place for the purpose of prostitution while under the influence of drink.

(7) Cruelty to children, where the offence was committed under the influence of drink or where drunkenness was a contributing cause of the offence.

11. That where a person has been convicted of being an inebriate under Section 23 of the Inebriates Act, 1898 (amended as above), the court, in addition to, or substitution for, any other sentence in respect of the offence with which he is charged, should have power:

(*a*) To place the offender under guardianship; or
(*b*) To commit the offender to a reformatory.

12. That where a person has been convicted of being an inebriate under Section 24 of the Inebriates Act, 1898 (amended as above), the court, in addition to, or substitution for, any other sentence in respect of the offence with which he is charged, should have power:

(*a*) To place the offender under guardianship; or
(*b*) To sentence him to imprisonment for a period not exceeding six months; or
(*c*) To commit him to a reformatory.

Parish Councils and Inebriates.

13. That a Treasury grant should be made to any after-care associations approved by the Secretary for Scotland to induce them to render assistance to inebriates on their release from reformatories. That the State should at its own cost provide for the accommodation and maintenance of all inebriates who are convicted of an offence, and who are committed by the courts.

14. The inebriates in reformatories should be classified. That the local authority (either alone or in combination with other local authorities) should provide for the accommodation and maintenance in retreats of inebriates within their district committed by order of the sheriff, who are unable (either at their own cost or at the cost of those legally liable for them) to pay the charges for maintenance in a retreat. Such accommodation might be provided by the local authorities erecting or acquiring such retreats, or by paying for the maintenance of inebriates in retreats, the managers of which are willing to receive them. For inebriates who desire to enter retreats, and are unable to pay the charges for maintenance in a retreat, the local authorities should be empowered to provide accommodation at their discretion. That, on default of the local authorities, the Secretary for Scotland should have power to require them to provide such accommodation as he may consider necessary, or to combine for this purpose; and, failing their doing so, to provide the same at their expense.

15. That a parish council should be entitled to apply to the sheriff setting forth that a person is an inebriate, and has within the twelve months immediately preceding the date of such application received poor relief not more than three times; and on such application the sheriff should, after such inquiry as he deems necessary, if satisfied that the person is an inebriate and has received relief as aforesaid, have power to order him to be detained in a poorhouse devoted to that purpose as hereinafter provided for a period not exceeding three years. That parish councils, either alone or in combination, should have power, with the consent of the Local Government Board for Scotland, and subject to such conditions as may be approved of by them, to acquire, make use of, maintain, and manage any existing poorhouse not required or only partially required for Poor Law purposes, or to erect a poorhouse for the detention of inebriates committed as above, and to rate for this purpose. Dealing with urgent cases of acute alcoholism, the

committee recommends that the sheriff should have power, on an application by the nearest available relation, or by any person having an interest, accompanied by an affidavit of a medical man, to pronounce an order of urgency for the care, control, and treatment of the person in respect of whom the application is made for a period not exceeding fourteen days. Such an order should be available as evidence on any subsequent application in terms of the Inebriates Act.

Ireland.

[FROM OUR SPECIAL CORRESPONDENT.]

DUBLIN HOSPITALS' TUBERCULOSIS COMMITTEE.

A special meeting of the committee was held on July 16th, when there were present Her Excellency the Countess of Aberdeen, Sir John Moore (in the chair), Dr. M. F. Cox, Dr. Alfred R. Parsons, and Sir William J. Thompson (Honorary Secretary).

Her Excellency stated that on her recent trip to Canada and the United States she had had the opportunity of meeting a number of workers in the antituberculosis campaign, which is being carried on so actively in America, and had been invited to address several meetings in New York, Boston, and Detroit, with the special object of describing how the crusade was being conducted in Ireland under the auspices of the Women's National Health Association. Great interest was manifested in the movement, and the result had been the formation of committees in the cities above mentioned for the purpose of arousing sympathy among American citizens of Irish parentage, and of obtaining their practical co-operation in assisting the work in Ireland. One gentleman, Mr. Robert Collier, had already promised Lady Aberdeen £1,000 per annum for five years, with the object of equipping and starting a tuberculosis dispensary in the city of Dublin in memory of his late father, Mr. P. J. Collier, and to be called after him. The committee expressed its pleasure at this announcement and its gratification at the practical results of the meetings addressed by Lady Aberdeen on behalf of the health movement in this country. It was agreed to communicate with the Dublin hospitals with the object of obtaining their co-operation in the work of the proposed tuberculosis dispensary.

TUBERCULOSIS IN ULSTER.

The Derry County Council has appointed a committee to consider the whole question of tuberculosis, including the mortality in the county, the notification of the disease, and the erection of a county sanatorium.

The Superintendent Medical Officer of Health of Belfast has reported in favour of voluntary notification of consumption, and presented a return to the meeting of the Health Committee of July 15th, showing that during the half-year ending June 26th, the following voluntary notifications were made: Union workhouse, 462; registrars of cemeteries, 219; medical officers of health, 158; Women's National Health Association, 132; other notifications, 96; Nurses for the Sick Poor, 83; applicants for admission to the Forster Green Hospital (Corporation beds), 81; total, 1,231.

This is satisfactory as far as it goes, but the returns of the registrars of cemeteries is rather inconsistent with notification during life. There are over 1,000 deaths per year in Belfast from pulmonary tuberculosis alone, and from 5,000 to 10,000 living persons suffering from the disease.

LUNACY FEES.

Dr. Hayes sued the Rathkeale (co. Limerick) Guardians before the county court judge for £6, being £2 each for examining three lunatics, which amount was certified for by the magistrates who called him in, and the county court judge granted him a decree for the full amount with costs, the guardians having refused to pay more than £1 in each case. The guardians appealed to the Judge of Assize, and in cross-examination Dr. Hayes admitted that the certifying justices were doctors, no other justices being available.

Mr. L. O'Brien Kelly, for the guardians, said that the Act allowed justices to give reasonable remuneration, which should not exceed £2 in each case. The orders in these cases were bad, inasmuch as they did not segregate the fee for the medical officer from the other expenses attendant on the conveyance of the lunatics.

It does not appear, however, that there were any other expenses payable by the guardians, lunatics being conveyed upon the magistrate's warrant at the expense of the Crown.

Mr. Justice Johnson reduced the amount in each case to one guinea, and gave a like decision in similar cases instituted by Dr. Nolan, of Shanagolden, and Dr. Maguire, of Rathcale. This was pure bad luck for these three gentlemen, for over and over again judges of assizes have reversed the decisions of county court judges who refused to give more than a guinea a case.

OUTBREAK OF ENTERIC FEVER.

There has been an outbreak of enteric fever near Borrisoleigh, on the borders of the Thurles and Nenagh Union, and 13 cases have been conveyed to the fever hospital. The source of the disease has not yet been determined, but the Local Government Board has instructed Inspector Dr. Brown to make an investigation regarding it.

THE POPULATION OF IRELAND.

The report of the Registrar-General for Ireland for the year 1908 shows that the natural increase of population in the country was 25,148; lost by emigration, 23,295, which is less than the average number for the previous ten years.

The marriages registered in Ireland during the year 1908 numbered 22,734, the births 102,039, and the deaths 76,891. The marriage-rate was 5·20 per 1,000 of the estimated population, showing an increase of 0·06 as compared with that of the year 1907, and an increase of 0·10 as compared with the average rate for the ten years, 1898–1907. The birth-rate was 23·3 per 1,000 of the estimated population, being 0·1 above that of the preceding year, and also 0·1 above the average rate for the ten years 1898–1907, and the death-rate (17·6 per 1,000) was 0·1 below the rate for the preceding year, and 0·2 under the average rate for the ten years 1898–1907.

Marriages.

Of the 22,734 marriages registered during last year, it is shown that 16,069 were between Roman Catholics, 3,474 were celebrated according to the rites and ceremonies of the Church of Ireland, 2,306 were in Presbyterian meeting houses, 446 in "registered buildings" belonging to various religious denominations, only 421 by civil contract in the registrars' offices, 5 were according to the usages of the Society of Friends, and 13 according to the Jewish rites. The rate for Roman Catholic marriages is 4·95 per 1,000 of the Roman Catholic population, estimated to the middle of 1908, or 0·20 over the corresponding average rate for the preceding ten years, and the other marriages represent a rate of 5·91 per 1,000 of all persons other than Roman Catholics in the population, this rate being 0·13 below the corresponding average rate for the ten years ending with 1907.

Births.

The births registered during 1908, namely, 102,039, include 52,396 boys and 49,643 girls, or 105·5 of the former to every hundred of the latter, the rate afforded in proportion to the estimated population being 1 in 42·8 or 24·3 per 1,000, which is 0·1 above the average rate per 1,000 for the ten years 1898–1907. Of the 102,039 children whose births were registered in Ireland during the year 1908, 99,449, or 97·5 per cent., were legitimate, and 2,590, or 2·5 per cent., were illegitimate, the latter being 0·1 below the corresponding average percentage for the preceding ten years. These results bear favourable comparison with the returns for most other countries. The number of male children born in wedlock during the year was 51,090, and of female 48,359, or 105·6 of the former to every 100 of the latter. Of the illegitimate children, 1,306 were males, and 1,284 females, being 101·7 boys to 100 girls.

Of the children born in Ulster 3·4 per cent. were illegitimate; in Leinster the percentage was 2·6, in Munster 2·1, and in Connaught 0·7. An investigation regarding multiple births in Ireland was undertaken for the year 1908 for the first time. Of the total births—namely, 102,039—there were 1,198 twin births, and 10 triplets. The proportion of twin children to total children was 1 in 426, and the percentage of twin births to single 1·203.

The Death-rate.

During the year 1908 the number of deaths registered in Ireland was 76,891, equivalent to 1 in 57, or 17.6 per 1,000 of the population, estimated to the middle of the year. The deaths of males amounted to 38,219, and those of females to 38,672, the rate per 1,000 males and 1,000 females being 17.6. The death-rate (17.6) is 0.1 below that for the year 1907, and 0.2 under the average rate for the preceding ten years. The total number of deaths from all forms of tuberculous disease was 11,293, as against 11,679 registered in the year 1907, the former figure representing a death-rate from the disease of 2.58 deaths in every 100,000 of the population, and the latter a rate of 2.67 per 100,000 of the population.

For the four Provinces the recorded death-rates are as follows: Connaught 13.3, Munster 16.1, Ulster 18.1, and Leinster 19.1 per 1,000 of the population, according to the Census of 1901.

Tuberculosis.

The report states:

It is my pleasing duty to have the honour of reporting to Your Excellency the fact that the rate of mortality per 1,000 from all forms of tuberculosis declined during the year 1908 to 2.6, the corresponding figure for the three years 1905, 1906, and 1907 being 2.7. When the actual numbers are taken it appears that, as compared with the mortality of the previous year, there were 386 fewer victims to the ravages of the disease, which is a matter for much congratulation. A further satisfactory feature, moreover, is that the decline is observable in the pulmonary cases, which number 8,511, as compared with 8,828 in 1907. I earnestly trust that this may be the beginning of a gradual fall in the death-rate from this terrible malady, and that the magnificent antituberculosis campaign inaugurated and carried on through the agency of the Women's National Health Association of Ireland—by Her Excellency the Countess of Aberdeen—has begun to tell on the mortality records of our island. The Tuberculosis Exhibitions held under the auspices of Her Excellency in almost all its large towns, and the tuberculosis vans which under her direction have travelled through many of the rural districts, have instructed the people as to the infectious nature of the disease, and the means of protecting themselves from its ravages, and evidences are not wanting that the lessons thus inculcated are bearing fruit, and that in many places there has been a material change for the better amongst our people in their habits and surroundings.

The return states that in 1864 in England and Wales the rate was 3.3 per 1,000, and in the year 1907 it was 1.6 per 1,000. In Scotland in 1864 the rate was 3.6 per 1,000, and in 1907 it had fallen to 2.1 per 1,000; and in Ireland the rate, which in the first year of the period was 2.4 per 1,000, was 2.6 per 1,000 in the year 1908, having declined to this from the rate of 2.7 per 1,000, representing the mortality from tuberculous disease in Ireland in each of the years 1905, 1906, and 1907.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

PROPOSED RECEIVING HOUSE FOR INCIPIENT MENTAL DISORDER.

THE Asylums Committee submitted to the London County Council on July 20th a report in favour of reviving the Lunacy Acts Amendment (London) Bill, the object of which is to secure to the Council power to establish receiving houses for persons mentally afflicted, or alleged to be of unsound mind, and to authorize their detention in such houses. The bill has been several times under the Council's consideration, and has been introduced into Parliament, though it has not become law. The report of the Royal Commission on the Care and Control of the Feeble-minded recommended the provision of receiving houses on lines very similar to those suggested in the Council's bill. The Commissioners said:

The special advantages of reception wards for the clinical study of mental disease are so evident that many general hospitals, especially those to which medical schools are attached, would be glad, we think, if they were subsidized, to provide them within their own premises with medical, nursing, and attendant staff complete.

Summarizing the reasons which led to the introduction of this legislation, the Asylums Committee points out that at present the Council's duty to the lunatic commences and ends with his admission to and discharge from one of the asylums. The initial proceedings—that is, the information to be given to a justice of the peace as to the lunacy of an individual, his removal to a workhouse or infirmary, and thence to the asylum—devolve upon the relieving officer, and in some cases upon the police constable. In the thirty unions and parishes into which the county of London is divided the methods of dealing with lunatics naturally varied considerably. The great majority of those received into the Council's asylums were described as paupers in receipt of relief, perhaps under the authority of Section 18 of the Lunacy Act, 1890, which enacted that a person who was visited by the medical officer of the union at the expense of the union was, for the purposes of the section, to be deemed to be in receipt of relief. The number of patients removed direct from their homes to the asylums was very small, the practice having grown up in the metropolis of removing practically all cases to the workhouse under Section 18. A very large percentage of the lunatics who became inmates of the asylums had never had cause to seek poor relief, and had only entered the workhouse in consequence of their lunacy. Their removal to the workhouse was often considered by the friends a great hardship, and complaints were frequently made. There was, however, at present, apart from the workhouse, no available house of reception for alleged lunatics. In cases in which the relieving officer took proceedings he did so in a quasi-independent capacity, and as regards the medical examination of the patient, the medical officers of the unions had no legal claim to be called in by the justices in preference to any other duly registered and qualified practitioner. In the majority of the unions and parishes of London, however, the medical officer of the union or parish certified and received a fee for so doing.

The scheme to be embodied in the bill was that the Council should provide receiving houses, to be entirely under its supervision and staffed by its officers, to which an alleged lunatic would be taken instead of to the workhouse. The medical superintendent of the receiving house would have power to detain the alleged lunatic for a period not exceeding three days, but before the expiration of that period he must bring him before a justice or else discharge him. The medical superintendent must report to the justice whether, in his opinion, the alleged lunatic should be sent to the county asylum or be detained in the receiving house. If the justice decided that the case was one for asylum treatment the usual proceedings under the Lunacy Act, 1890, would be taken. If, however, he decided that the case was one for detention in the receiving house the justice would call in the superintendent and might, if he thought fit, call in any other medical practitioner, and after investigation order the alleged lunatic to be detained in the receiving house. The detention order would only remain in force for a period of six weeks; extensions not exceeding three weeks at a time might be made by a justice if thought necessary. During his detention in a receiving house the patient would not be designated a lunatic or a pauper. At any time during the period of detention the medical superintendent, if he thought the patient should be removed to an asylum, might bring the patient before a justice with a view to the ordinary reception order being made.

The committee considered that the advantages of the proposed scheme were evident. The alleged lunatic, directly he entered the receiving house, would be under the care of medical men who had specialized in mental disease. The most experienced alienists were of opinion that the increase of insanity which had been apparent in London during recent years could only be limited by the early treatment of cases. Such treatment would be provided in receiving houses, and thus without doubt many persons who at present were sent from the workhouses to asylums would not need to go to asylums at all, but would improve and recover at the receiving houses. In connexion with the receiving houses there could be, if required, an out-patient department, which would enable persons who needed it to obtain advice.

It was believed that in many cases incipient mental disease might thus be arrested, and the need for protracted seclusion in an asylum avoided. The bill proposes that the certification of lunatics for detention in an asylum should be placed in the hands of the medical officers attached to

the receiving houses, and in this it coincided with the spirit of the recommendations of the Royal Commission. There would be discrimination as to the necessary treatment and classification of each patient, and thus only those who needed detention in an asylum would be sent there. The bill proposed also to obtain power for the provision of ambulance stations and ambulances which would enable lunatics to be brought to the receiving house and to be transferred to the asylums with proper care and attention. There would be considerable economy in this, as at present each union made its own arrangements for the removal of lunatics, and at times the arrangements left much to be desired.

The committee heartily agreed with the pronouncement of the Royal Commission that receiving houses should be established without delay, and considered that the special circumstances of London called for immediate action, and as it seemed improbable that the Government will introduce early legislation on the lines of the report of the Royal Commission, the County Council should make a move in the matter. When the question of providing receiving houses was before the Council in 1899, it was suggested that four should be established, each to accommodate 250 patients, the approximate expenditure being £500,000. The committee had subjected this scheme to severe pruning, and now proposed the establishment of two receiving houses, each for 250 patients, one on the north and one on the south of the Thames. By utilizing part of the site being purchased for a mental hospital under the terms of Dr. Henry Maudsley's gift the committee thought the total cost of the scheme should not exceed £150,000 to £180,000.

The Finance Committee, reporting on the financial aspects of the proposal, set forth the following considerations *pro* and *con*. There would be a saving to the ratepayers, because (1) the early treatment of incipient mental cases would minimize the increase of insanity; (2) the certification of patients would be done mainly by the medical officers of receiving houses without extra fee; (3) the conveyance of patients from the receiving houses to the asylums would be more economical than their conveyance from twenty-nine different unions. The cost falling upon the Council would be: (1) Capital cost of buildings, (2) repair of buildings, (3) possible cost of maintenance of out-patient's department, (4) pensions of staff. As regards maintenance of patients, this would be recovered from the guardians, but the cost in the receiving houses might be more than in the workhouses or infirmaries. The Finance Committee proceeds:

> We are of opinion that the arguments which have been adduced by the Asylums Committee in support of these proposals are such as to warrant the Council in obtaining parliamentary powers to establish as an experiment *one* receiving house. It appears to us inexpedient and unnecessary to obtain any further powers at present. In the event of one receiving house being established and proving a success there would be no difficulty in obtaining additional powers. We are prepared to support the proposal if its scope is limited in this direction. By proceeding in a tentative and cautious manner the Council would avoid the danger of anticipating Government action upon the report of the Royal Commission.

The committee adds, in conclusion, that the possibility of establishing the receiving house on the site of the proposed mental hospital influenced it largely in coming to its decision, as it seemed to point to the possibility of trying an important experiment on a comparatively small scale. The Report will come before the County Council next week.

MUNICIPAL SUBSCRIPTIONS TO VOLUNTARY HOSPITALS.

The General Purposes Committee on July 20th recommended the London County Council to apply to Parliament next session for authority to contribute to the funds of hospitals and similar institutions at which employees of the Council receive treatment for injuries sustained in the course of their employment. The committee had been informed that the Admiralty contributes to the funds of hospitals in which injured employees are treated, but the County Council has been obliged to refuse applications for grants in similar circumstances, although if the employee were treated privately the Council would probably have to pay. The Council might also wish to subscribe to convalescent homes to which workmen and others of very limited means were sent. At present tickets and letters were obtained from private persons, and the opinion had been expressed that the Council should not have to rely on private charity in such a matter. The authority sought should, therefore, cover contributions to such institutions. As regards the maximum amount to be contributed in any one year, the committee had ascertained that Kingston-upon-Hull Corporation and Stratford Urban Council had obtained statutory authority to expend annually for this purpose sums not exceeding £200 and £100 respectively. Having regard to the large number of employees in the Council's service, and the hazardous nature of the occupations of many of them, the committee proposed that the maximum should be fixed at £500. The contributions to any institution in any one year should be based, it was suggested, on the average capitation cost of the patients received in the preceding year. The recommendation was adopted.

THE NEW KING'S COLLEGE HOSPITAL.

The foundation stone of the new King's College Hospital at Denmark Hill was laid by the King on July 20th. It will stand on a site rising towards the south, overlooking Ruskin Park. The main elevation, 1,000 ft. long to the north, contains the administrative block in the centre, with the medical school to the west, and the out-patient and casualty departments to the east. The ward pavilions, which will contain 600 beds, will be erected on the southern part of the site. The building was commenced some time ago, and the casualty and out-patient departments are approaching completion. The out-patient department consists of a central hall, of which the consulting rooms open; above the casualty department are eight separate one-bed wards.

His Majesty, who was accompanied by the Queen, was received by the Hon. W. F. D. Smith, M.P., Chairman of the Committee, and Mr. Charles Awdry, Treasurer of the hospital, and among those present on the platform were the Senior Physician and Surgeon (Dr. Nestor Tirard and Sir W. Watson Cheyne, Bart.). Mr. Smith, in presenting an address, said that the site of the hospital measured twelve acres, and that, in addition, some thirty acres had been acquired, partly by private liberality and partly by public funds, for a people's park, so that the hospital would always have the advantage of an adjoining open space larger than that enjoyed by any similar institution in London. The removal fund now amounted to £229,000, towards which the King Edward's Hospital Fund had given £27,000. The King, in his reply, said that King's College Hospital was specially and closely associated with the great work of Lord Lister, who, in introducing the antiseptic method in surgery, rendered an inestimable benefit to all mankind. The decision to abandon the old building and to remove the hospital to a poorer and more populous district, where the need for a hospital was greater and the field for its work wider, was a bold, and, in His Majesty's opinion, a wise and right step. He congratulated the medical and nursing staffs on the great opportunity thus given for increased usefulness. The King on his way to the ceremony received an address from the Mayor and Corporation of Camberwell, thanking him for his courteous action in consenting to lay the foundation stone of a building which would be used to alleviate distress and pain, and assist with medical comfort and aid the poor among the 300,000 inhabitants of the borough and million persons beyond its borders.

LEEDS.

EXAMINATIONS FOR THE DEGREES IN MEDICINE.

Recent Changes in the Regulations.

THE end of the present summer term seems an appropriate time for comments on some changes in the regulations for the course of study and examinations for the degrees in medicine and surgery. These regulations have been directed to secure a longer period of the curriculum for hospital work, to institute a clinical examination in obstetrics and gynaecology, and to introduce as one of the factors in the awarding of honours a knowledge of modern languages. The regulations, when instituted, were not made retrospective, so it is only now that with the lapse of time they are coming into effect. The test in a knowledge of modern languages is much the same as that for many years associated with the membership of

the Royal College of Physicians of London, and takes the form of the translation of passages from French, German, and other modern languages. It is not intended that the ordinary pass standard shall in any way be influenced by the institution of this test, but that the knowledge a student has of modern languages shall be taken into consideration in the award of honours. The regulation appears to be a sound one. It does not cut any one off from obtaining honours who is not acquainted with modern languages, nor is it in any way intended to make a knowledge of languages cover deficiency in other subjects. The institution of a clinical examination in obstetrics and gynaecology was given effect to in the recent examination. It is believed that the University of Leeds is one of the first bodies in the country to make this important innovation, and, coupled as it is with some important changes in the teaching, it marks a distinct advance in the recognition of the importance of these subjects. The institution of the five years' curriculum was expected by many to secure an extra year for clinical subjects, but every one knows that the extra twelve months have not gone in that direction. As a rule, the first three years have been devoted to chemistry, biology, and physics, and to anatomy, physiology, materia medica, and pharmacy, and the last two years to the real professional subjects, such as medicine, surgery, and midwifery, along with pathology and hospital work. In view of the relative importance of the various groups of subjects this is an unfair division. The regulations now will secure that after a student has passed his matriculation examination he begins his preliminary scientific course in October, taking classes on chemistry, biology, and physics during the first and second terms. In March he should pass chemistry and physics. During the third or summer term he continues his studies in biology and attends lectures on an introductory course of anatomy and dissects. At the end of the term he should pass in biology, and should be acquainted with the bones of the body and with at least one "part." During the next year he will devote himself entirely to anatomy and physiology, with the addition of materia medica during the third term, the examination on the subject being taken at the end of the summer term. The examination in anatomy and physiology will be taken at the end of the first term of the following session—that is to say, in December instead of in March, or, in other words, at the end of the eighth term of the curriculum instead of at the end of the ninth as formerly. In this way a student will begin his senior subjects and enter on full hospital duties in January instead of in May, and an increase in the amount of time devoted to the senior subjects and to clinical work will be secured.

MANCHESTER AND DISTRICT.

THE MIDWIVES ACT IN MANCHESTER.

THE annual report of the Manchester Midwives Supervising Committee has become an important document, as it probably shows the working of the Midwives Act at its best. The report for 1908 just issued is divided into three parts: First, a summary by Dr Niven, the medical officer of health; then the report proper, with statistics by Dr. Merry Smith, the lady inspector of midwives; and lastly, a special report by Dr. Knyvett Gordon on puerperal fever. Dr. Niven says that it is unlikely that there will be any shortage of midwives in Manchester in 1910; he suggests that in the rural districts the Act, if strictly enforced, will probably entail the creation of a new public health service of persons qualified as nurses, midwives, school nurses, and health visitors, paid by the districts to which they are allotted, while suitable payments might be made to the authorities by patients engaging the services of these nurses. The midwives in Manchester at present have a difficulty in making a living, and many of them apply for the position of health visitor in addition. Special attention has been paid during the year to ophthalmia neonatorum, and a conference was arranged between the medical subcommittee and two of the staff of the Royal Eye Hospital. In the opinion of the staff of the eye hospital there is no danger in introducing a drop of a 2 per cent. solution of silver nitrate into the eye of the newborn infant, and we are told that "it is desirable in all cases as a prophylactic." The committee is doubtful as to the desirability of entrusting this to the midwives, but Dr. Niven suggests that it would be useful if a demonstration of the method were given to midwives at the Eye Hospital.

Statistics.

The number of midwives in 1908 was 147, of whom 68 per cent. were certificated. The lady medical inspector made 258 inspections of midwives at their homes, and on the whole reports very favourably on the way in which they keep their records. The mode of practice of 75 midwives was investigated in the houses of patients, 312 lying-in women being thus visited, both in the presence and in the absence of the midwives. Complaints of negligence or misconduct were made against four midwives, and one was struck off the roll.

The total births registered during the year were 19,041, and of these midwives attended 11,498, that is, just over 60 per cent., while doctors attended 7,543, or 40 per cent. The proportions are almost exactly the same as last year, and differ somewhat strangely from Salford, where midwives attend 76 per cent. of the births. The total number of stillbirths of which there is any record was 886, compared with 818 in 1907, and of these 539 occurred in the practice of doctors and 349 in the practice of midwives.

Medical Assistance.

Medical assistance was summoned by midwives in 1,634 cases, in 1,060 cases for difficulties in labour, 358 for the infants, and the remainder for complications during pregnancy or the lying-in period. Tedious labour is given as the reason in 384 cases, rupture of perineum in 183, and rise of temperature to 100.4° in 81 cases. Manchester and two other towns only in the whole country has an arrangement by which the corporation under the Public Health Act of 1875 pays a fee to medical men for responding to the summons of a midwife in the case of patients below a fixed wage limit. Under this scheme 315 applications for a fee were received from practitioners, and payment was actually made in 272 cases, amounting to £279. Of the 43 rejected applications, in 28 the patient's income was above the scale, while the rest were not cases for which payment is made. In these cases the doctor had to look to the patients themselves for his fee. In the previous year payment was made by the committee in 239 cases amounting to £247.

Puerperal Fever.

In 1908 101 cases of puerperal fever occurred, with 24 deaths. This is an attack-rate of 5.3 per 1,000 births, and a case mortality of 23.8 per cent. Of the 101 cases, 54 occurred after normal full-term labour, with 15 deaths: 14 after abortion, with 2 deaths; and 33 after abnormal full-term labour, with 7 deaths. Perineal tear was stated to be present in 19 cases, 2 of which died. Forceps had been used in 22 cases—that is, in over one-fifth of the total, with 5 deaths. The attack-rates after normal labour and after forceps, of course, cannot be stated, but it is curious to note that the death-rate of cases after normal labour is considerably higher, 28 per cent., than the rate after forceps, 22.7 per cent., while the death-rate in cases of perineal tear, 10.5 per cent., was so low as to suggest that many of the cases were only sapraemic, not septicaemic. In the 7,543 patients attended by doctors alone there were 50 cases of of puerperal fever with 13 deaths, an attack-rate of 6.6 per 1,000 births and a case mortality of 26 per cent. In the 11,498 patients attended by midwives there were 51 cases with 11 deaths, an attack-rate of 4.4 per 1,000 and a case mortality rate of 21.5 per cent. The attack-rates are not directly comparable in doctors' and midwives' cases, as it should be noted that of the 51 midwives' cases only 37 were attended by midwives alone, while a doctor had been summoned to the assistance of the midwife in the other 14. The 37 were thus probably normal labours and the 14 abnormal. In addition, it is practically certain that in the doctors' cases some nurse had been present who undertook the after-nursing. Dr. Knyvett Gordon, Superintendent of Monsall Fever Hospital, gives notes on 69 of the cases admitted to that hospital. An accurate history of the exact time of onset of symptoms was obtained in 67 cases, and assuming that the incubation period is not over forty-eight hours, Dr. Gordon is thus able to say that in 27 out

of the 67 infection took place at the time of delivery. As to the other 40 cases he makes the following important remarks:

Though a medical man was present in the majority of these 40 cases, he would not, as a rule, have occasion to make an internal examination at visits paid subsequent to the confinement, so he cannot very well be held directly responsible for the infection of the patient. It is important to bear this point in mind, as it is within my experience that the medical attendant has often either received or assumed blame for these later infections.

This is especially important as showing that the excessive number of doctors' cases, compared with midwives' cases, is partly at any rate to be explained by the fact that when a doctor attends there is often also an ignorant and untrained nurse to look after the patient, and carelessness on her part a day or two after labour may often account for the infection. The supervision of the midwives themselves is so good in Manchester that it is not likely that they often fail to notify cases. The Supervising Committee is so convinced of the great importance of ordinary monthly nurses being under some supervision that it passed a resolution that in order to deal more effectively with the prevention of puerperal fever the Government should be urged to extend the provisions of the Midwives Act so as to confer such control on the authorities. A small book of instructions was also issued and distributed to monthly nurses, but great difficulty is found in getting a complete list of such nurses. The treatment of puerperal fever at Monsall is mostly sharp curetting, followed by swabbing with pure izal, the uterus and vagina being then packed with gauze soaked in dilute izal; in no case was douching used. In 14 cases the abdominal cavity was opened, mostly for suppurative peritonitis. Bacteriological examination showed that in 51 out of 61 cases examined the only infecting organism was a streptococcus, in 3 only the *Bacillus coli communis*, in 1 only the pneumococcus, and in 3 only staphylococcus. The duration of stay in hospital of cases that recovered averaged six weeks, Dr. Gordon being strongly of opinion that prolonged rest is necessary if the patients are not to become chronic invalids.

WALES.

University College of Aberystwith.

Once more have the Davieses of Plas Dinam demonstrated their keen interest in the welfare of Welsh students. On this occasion their solicitude for the college at Aberystwith takes the form of a valuable gift for a new college hall. In a letter Mr. David Davies, M.P., writing on behalf of his mother and sisters, outlines the scheme under which the contribution will be made for the erection of a men's hostel, and further accommodation for the normal students of the college. It is anticipated that the cost of such a hall will be £8,000. Among the conditions that the family attach to the offer are: (1) That the college will undertake to provide a suitable site. (2) That the residential accommodation to be provided for the ordinary students of the college, and the normal students should be in the same building. (3) That the college will undertake to provide residential accommodation for at least one-third of the present number of ordinary students, and that it be made compulsory for those students to be in residence. (4) If, at the end of three years' experience of such hostel it be found satisfactory, and no financial loss be sustained, that the college will agree to enlarge the hostel so as to accommodate at least two-thirds of the students to be in residence. (5) If at the end of six years it be found satisfactory, the college to further enlarge, so as to accommodate all the men students. (6) The offer, if accepted, not to affect the contributions as regards accommodation of the students, to be made either by county authorities or the Board of Education.

Remuneration of Poor Law Appointments.

When some time ago Dr. J. E. H. Davies, one of the medical officers and public vaccinators of the Wrexham Union, tendered his resignation, he was asked by the guardians to reconsider it. At a recent meeting, however, a further letter was read from Dr. Davies, in which he stated that, while fully appreciating the kind references made to the manner in which he had carried out his duties, his intention to resign was formed after very careful consideration. The present remuneration did not sufficiently repay him for the work and anxiety; further, the Vaccination Act, 1907, had done much to destroy the careful preventive measures of the past, and must lead within a few years to heavy infantile mortality, unnecessary suffering, and disfigurement at each successive visitation of small-pox. Other points which he considered were an injustice to district medical officers and public vaccinators were: That no arrangements were made for increase of salaries of these officers in ratio to the increase of population in their districts; that extra work had been thrown upon them without extra remuneration by the Elementary Education Act; that extra work had been added to their duties without extra remuneration by the Old Age Pension Act—many worthy poor, who would in the past have sought the refuge of the workhouse, now remained outside as (*a*) pensioners, or (*b*) qualifying for a pension, and as such were entitled to medical relief; that the fees for successful vaccination had been reduced from 6s. to 3s. 6d. without any reduction in the amount of work for the public vaccinators; that the working expenses of the Poor Law medical officers and public vaccinators had increased.

In reply to a member who asked whether a Poor Law doctor was obliged to attend an old age pensioner, and under what provision of the Pension Act this obligation arose, the Chairman said that the medical attendance was given under the Poor Law and not under the Old Age Pension Act. After some discussion it was resolved to accept Dr. Davies's resignation and to advertise the vacancy on the present terms and conditions. Some of the guardians appeared confident that plenty of applications would be received, but, even should this anticipation be fulfilled, Dr. Davies's protest will not have been altogether without effect, although this effect would be vastly increased if the profession generally were to support his protest in the only effective way.

Cardiff Infirmary.

At a meeting of the Cardiff Infirmary Board of Management held on July 14th a report was presented by the Finance Committee stating that the overdraft of £18,423, due to the bankers, had been increased to £19,620—£6,475 on capital expenditure and £13,142 on working account. Colonel Bruce Vaughan observed that the responsibility of the overdraft did not rest with the board, for it had done its duty; its policy had been to use every available bed, to give succour and help to all the afflicted. But the waiting list—658 men, women, and children—ought to touch a heart of stone. In the casualty department, since January last, quite 112 accidents had been treated every week. One week last month there were 198 cases in a hospital with 190 beds; 14 additional nurses had been added to the staff since June, 1908. The apathy and indifference of the women in Cardiff to the suffering of their fellows was appalling. A band of able, earnest women, with a leader of ability, would make short work of the effort and obtain a sufficient income.

Rhymney Valley Sewerage.

The report of Mr. Baldwin Latham, the special engineer appointed by the Bedwellty District Council to submit alternative sewerage schemes to that proposed by the Gelligaer Council, pointed out that the population of the Rhymney Valley, exclusive of Caerphilly, was about 46,000, but consideration should be given to the needs of the whole valley down to below St. Mellons, and provision made for a future population of 200,000 persons. In a scheme for the total diversion of the sewage from the valley the work could be carried out by means of an independent scheme, or one which might be joined with the existing outfall sewer of the Western Valleys. If, however, the works were joined with the Western Valleys sewers it would be desirable that the sewage of a larger population than 140,000 persons should be conveyed to that outfall. If provision for a larger population than that were made it would be better to have independent works with direct outfall to the sea. One of the great advantages of a total diversion scheme, sanctioned by Parliament, over a scheme which might be approved by the Local Government Board, was that Parliament sanctioned a longer period for the repayments of loans. Loans approved by the Local Government Board had to be repaid in thirty

years or less, whereas in the case of the Western Valleys fifty-five years had been sanctioned for the diversion scheme. The multiplication of works for local treatment of sewage was undesirable. Diversion into the sea formed a complete and final solution of the sewage difficulty. The cost of works for the conveyance of the Rhymney Valley sewage into the outfall of the Western Valleys main drainage system would be £180,000—as far as Park Wood. The annual expense of a total diversion scheme for 70,000 persons would be £8,676, and a total diversion scheme for conveying the sewage down the valley to St. Mellons would cost £231,526. Mr. Latham's report was discussed at a conference of Gelligaer, Bedwellty, St. Mellons, and Mynyddislwyn Councils, and on the motion of the Chairman it was resolved that each council should consider the matter and then communicate with the Gelligaer Council.

Hong Kong.

[FROM OUR SPECIAL CORRESPONDENT.]

DEATH OF DR. WILLIAM HUNTER, GOVERNMENT BACTERIOLOGIST.

DR. WILLIAM HUNTER, who since 1901 has held the position of Government bacteriologist in Hong Kong, died suddenly on June 9th at the early age of 34. As a student he had a distinguished career at Aberdeen University, graduating in 1893 M.B., C.M., the most distinguished graduate of his year. After graduation, Dr. Hunter devoted himself to pathology and bacteriology, holding appointments in Aberdeen Royal Infirmary and the London Hospital, and also studied at Berlin.

On his appointment to Hong Kong, he entered with great enthusiasm into the investigation of many diseases found amongst the Chinese, and his annual and special reports contained much valuable information on bubonic plague, beri-beri, the causes of the infantile mortality amongst Chinese, on typhoid fever amongst Chinese, on malignant tumours, and on malaria; he was also a frequent contributor to the medical journals. Dr. Hunter was lecturer on pathology and bacteriology in the Hong Kong College of Medicine, and the following resolution well expresses the esteem in which he was held by his fellow lecturers:

The members of the Senate of the Hong Kong College of Medicine desire to convey to the widow of the late Dr. William Hunter their most sincere sympathy with her in her bereavement. Dr. Hunter, since his first arrival in the colony in 1901, has been a most keen and sympathetic supporter of the college, and has given much good work to the furtherance of its objects. Through his death the college has lost one of its most able, enthusiastic, and successful teachers. In addition to many members of the general community, the Court and Senate of the college and a large number of students attended the funeral at the Happy Valley.

PLAGUE RETURNS.

From the beginning of the year to June 12th 98 cases of bubonic plague with 87 deaths were recorded. No Europeans have been attacked. Plague is believed to be prevalent in Canton, but exact statistics are not available. The spring has this year been remarkably cool, and the rainfall less than the average. As the summer heat has now set in, if the experience of former years holds good, it is likely that the colony will escape very lightly this year.

ENDOWMENT FUND FOR PROPOSED UNIVERSITY.

Down to June 12th 168,300 dollars had been collected locally, and a telegram has just been received from His Excellency the Viceroy of Canton stating that he will send 200,000 dollars whenever required. The news that Messrs. Butterfield and Sware had given the very generous donation of £40,000, equal in value to 420,000 dollars, was received with great satisfaction, and seemed at once to bring the proposed university nearer. It is expected that some of the other large European firms will also give handsome donations.

FOUNDER'S DAY at Epsom College will be celebrated on Saturday, July 24th, and not Friday, July 23rd, as announced last week.

DR. CHARLES FREDERICK FRANCE of Wigan and Dr. William Latham of Ashton-in-Makerfield have been enrolled on the commission of the peace for the County Palatine of Lancaster.

Correspondence.

CHARGES FOR MEDICINES AND DRESSINGS AT HOSPITALS.

SIR,—The determination of the House Committee of Westminster Hospital to follow in the footsteps of Guy's Hospital and more recently of the London Hospital in charging outpatients for medicines and dressings has been followed by a meeting between the chairman and local practitioners.

The sense of the meeting—small though it was—was very distinctly against the principle of charging at all, and I am glad to be able to record the fact that the majority of the medical staff of the hospital present supported the views of the general practitioners against the proposal.

It was admitted by the chairman that the only reason for the innovation was the financial embarrassment of the hospital, and I will summarize the main arguments advanced against and for the proposal by those present.

1. *That the proposal was against the interests of the local profession and the public interest*, in that the small sum to be charged will not be a deterrent to the class of patient now using the hospital, and that the local doctors could in no way benefit by such a charge.

2. That by charging for medicines and dressings, it would be an attraction to a superior class of patients to seek the advice and treatment of the hospital medical and surgical staff.

3. That in this way the hospital would be seriously competing with the neighbouring practitioners.

4. That such payments must inevitably lead to a relaxation of the inquiries by the lady almoner into the means and eligibility of those seeking hospital attendance.

5. That this competition would inevitably draw a large number of provident patients from the local dispensary and other provident clubs to the hospital, to seek the highly skilled advice of Harley Street doctors on a 3d. a week basis, degrading the status of the hospital staff and the reputation of the hospital.

6. That the charging of patients would hit very hard a class of poor very numerous in Westminster and having a distinct claim on the general hospital in their midst, and who are neither paupers or quite able at any time to pay the already low fees open to the general practitioners to charge.

7. That in this way, the Westminster Hospital, instead of co-ordinating its medical services with other medical agencies, both public and private, would be instrumental in throwing this class on to the Poor Law and thus indirectly adding to the local public and private burdens.

8. That subscribers to the hospital, and employers of labour, employees, and private benefactors, would not tolerate a system whereby the recipient of hospital relief had, in addition, to pay for medicines and dressings, and that in this way these subscriptions would fall off.

9. That the anticipated revenue expected from such an innovation would not amount to more than £250 to £300 per annum, which could not compensate for the loss from other sources, or the friction and bad feeling caused to the public and local professions, by such a change.

10. That it is no part of the policy of the committee to limit the out-patient department.

11. That this charity does not propose, in altering the fundamental basis of its present work, to give the public or local profession any representation on the Board of Management.

12. That the Executive Committee of the Westminster Division of the British Medical Association by an overwhelming majority passed the following resolution:

"That such payment by patients as proposed is inadvisable, and further that, in the interests of hospitals and their work, it is advisable, as suggested by the Council of the British Medical Association, that local medical practitioners should nominate representatives for election to the Board of Management."

13. That in the knowledge and experience of one of the doctors present, the practice of Guy's Hospital in making similar charges had seriously competed with the local profession in the South of London, and had caused grave dissatisfaction.

14. That a similar experiment now in practice at the London Hospital had resulted in drawing away medical men from the neighbourhood of the hospital, and that the decision to make these charges was opposed by the majority of the medical staff of the hospital, and was against the opinion of the local practitioners.

15. That this particular time was most unfortunate for such a change, in view of the whole hospital system being now under review, in the light of the Poor Law Commission's report.

Having given generally the arguments formulated against the proposal, it is only fair to say that on the other side the following reasons were vouchsafed for the new departure:

1. The financial straits of the hospital.

2. That in the opinion of two of the medical men—one a member of the staff and the other a local practitioner—the

departure would result in a considerable revenue to the hospital and be appreciated by the patients, in that more value would be set upon such services, by abolishing the wholly gratuitous and charitable nature of them.

3. That in the opinion of another local practitioner the proposed change would do no harm to the local profession.

Of all the problems ripe for solution in the domain of medical politics, none is more urgent than the hospital question in all its bearings, of which Westminster Hospital and its new proposed policy is an apt illustration. When may we hope that the statesmanship of those who aspire to lead the profession in such matters may be applied whole-heartedly to the speedy and thorough settlement of the question, a settlement as imperative in itself, and because its present chaotic continuance is prohibitive of any real logical conclusions or just estimation of the relative value of either the Majority or Minority Reports of the Poor Law Commission, in the future improvement of medical services to the necessitous poor, the profession, the public, and the nation?

Let the coming Representative Meeting at Belfast deal with the whole hospital question in its entirety, instead of wasting time in the discussion of a few desultory and disjointed pious opinions, leading nowhere and convincing few, and they will have done something to justify and strengthen the British Medical Association and its work, and help the nation and Parliament to deal with the Poor Law Report.—I am, etc.,

London, S.W., July 12th. MORGAN I. FINUCANE.

THE REPORTS OF THE POOR LAW COMMISSION.

SIR,—Your leading article upon the Poor Law Medical Service and the Commissioners' Report has come to me, as it must have come to many other thoughtful members of our profession who have had some experience of provident dispensaries and contract practice, as a most unpleasant shock. It seems almost impossible to believe that our own JOURNAL should be so wrong-headed as to favour the scheme of the Majority of the Royal Commission, which would hand us over body and soul to be the slaves of the provident dispensaries.

Only those who have had experience of contract practice can realize the hopeless degradation of its servitude.

Coming events cast their shadows before, and there are much more substantial things than shadows to warn us that great changes have already begun which are pregnant with tremendous issues vitally affecting the future of our profession. I do not think that any careful observer can doubt that in the near future there will be a far smaller proportion of general practitioners than has been the case in the past. To be sure, there will still be room for the old-fashioned "family doctor," but the vast majority of those who enter the profession in the future will not be "family doctors," and what they will be depends in large measure upon the influence of our British Medical Association and its JOURNAL.

Two opposing tendencies have found expression respectively in the Majority and Minority Reports of the Royal Commission. The one tendency would put us under the heel of the provident dispensaries—a position compared with which that of the proverbial toad under a harrow would be enviable. The other tendency would transform those of us who do not choose general practice into self-respecting civil servants acting under the medical officer of health. Indeed, the medical officer of health would be the head of a staff of well-salaried medical officers, whose duty it would be to keep the community, or at least its poorer members, in a condition of thorough physical efficiency. No longer would the poor sufferer be hurried off with "a bottle," as is now the case. The causes of his trouble would be looked for, and wherever possible remedied. Thus, all the work which is now done—and, be it confessed, badly done—in the out-patient departments of our hospitals, in our provident dispensaries, and in the surgeries of our sixpenny *confrères*, would be done well and adequately remunerated.

From the point of view of the profession, what does it matter whether or no the scheme involves "gratuitous treatment for all applicants"? For us it should suffice that the work is well done and well paid for. It would rest with the community to recover the cost if they thought it desirable to do so.

You describe the Minority scheme as a "fairy palace," and dismiss it as a "pretty picture." But is it not better to have an ideal to aim at, even though we fall far short of it, than to be content with a condition of affairs which, at best, can only prove a degraded and degrading servitude? "Not failure, but low aim is crime."

In conclusion, let me express my sincere hope that "the contrast between the attitudes of the exponents of the two schemes" may not blind the rank and file of our profession, as it seems to have blinded you, to the relative merits or demerits of the two schemes.—I am, etc.,

Manchester, July 18th. E. VIPONT BROWN.

SIR,—May I be permitted to correct the statement of views attributed to me on page 163 of the JOURNAL for July 17th? The actual words of my memorandum on the Reports of the Poor Law Commission are as follows:

> It is doubtless true that the present elective basis of our local government has in some places proved insufficient to secure efficiency or to exclude corruption.

This is not quite so sweeping as the version given in your last issue, and it may be applied to local government generally, and not to the Poor Law only.—I am, etc.,

July 20th. ARTHUR DOWNES.

THE POSTMASTER-GENERAL AND THE MEDICAL PROFESSION.

SIR,—In connexion with a letter in the JOURNAL of July 10th on the subject of medical attendance on Post Office officials, may I be allowed to say a few words as an onlooker not directly interested?

The system of choosing one or more special practitioners for Post Office work is radically bad. The motive for doing so is plain. It is to ensure subordination on the part of the favoured employees, and to be able to lay as many burdens and restraints on their backs as the Postmaster-General may think fit to impose.

But, Sir, the principle of wholesale selection is, I hold, unfair both to the Post Office men and to the doctors left out in the cold. So much is this the case that to my knowledge a patient often elects to pay his own medical attendant rather than be compelled to accept the services of another whom he does not want.

Why should not a list of qualified practitioners be made up in every district, and the Post Office servant allowed to choose the doctor he prefers, the fees being fixed at so much a head per annum? This plan would be fair all round, and I am certain would work much more smoothly in practice than the present system. There is an element of slavery in the existing arrangement which must be hateful to every true and independent Briton.—I am, etc.,

WILLIAM BRUCE,
Late Member of the General Medical Council.

Dingwall, July 12th.

THE NEED OF AMALGAMATION OR FEDERATION OF POOR LAW OFFICERS AND ALLIED ASSOCIATIONS WITH THE BRITISH MEDICAL ASSOCIATION.

SIR,—There are several medical associations having separate organizations with the special object of maintaining the honour and interests of their members. They are maintained at considerable cost of time and money, but with practically *no results*. The following are a few of them: Factory, police, vaccinators, Poor Law, insurance, medical school inspectors, Post Office, medical officers of health, army and navy services, contract practice. All these and others ought to join the British Medical Association. Our Articles of Association allow us to do their work. In fact, already we are doing their work, and there are thousands of medical men outside the Association who are reaping the fruits of our efforts in all departments. We have a moral claim for their support. Let any one read the reports of the Council and of the several committees, particularly the Medico-Political and the Army and Navy Committees for this year, and for the past three or four years, and it will be a surprise to many who say, "What has the British Medical Association done for me?" Every week there is a whole page of "Warning Notices" in regard to "Contract Practice Appointments" in regard to England, Wales, Scotland, and Colonies, also dealing with club appointments, vaccination, medical officers of health, medical school inspectorships, hospital appointments, etc. Already we have seen

that the action of the Association has been successful in securing an advance from £200 to £250 for medical school inspectors. Unfortunately in one or two cases the candidates that ignored the Association's advice have got the appointment at £200 and had the advance of £50 without competition. We have an Association: with about 20,000 members in England, Scotland, and Wales, but there are about 10,000 outside. At present it is said that 90 per cent. are "Journal members"; well, they have good value for their money. But the Association: if all these allied bodies were to unite with us, we could be a most effective body in the maintenance of the honour and general good of the medical profession and the public.

We have only to see what is done by the National Union of Teachers to protect their members from injustice and insults. No schoolmaster can afford to be outside. In the teacher's difficulty they afford legal and financial help at once. Also the Education Department must consult with their officials before altering the code, etc. If we could get 5,000 or more members to join, we should be a great power; at present we are ignored by all departments of the Government, and we are unable to back up our members in cases of flagrant injustice in Poor Law appointments, etc., by concerted action and financial support. We have the Association, with its network of Divisions all ready to deal with these "bread and butter questions" which so vitally interest all Divisions. These are the questions that arouse interest and get good attendances. You have only to see what has been done in the South Wales dispute. May I suggest that a meeting be arranged by our Medical Secretary in Belfast to have a friendly discussion? There will be a large number present who are members of these various associations. If the thing is ignored I am certain of this, that these various bodies ought to unite and form a "National Medical Federation." *There is no need for this.* We are doing the work, and would do it very much better if we were all united. I do not press "Medical Defence," as there is a division of opinion on the matter.—I am, etc.,

Bacup, July 19th. JOHN BROWN, M.D.

THE BRITISH MEDICAL ASSOCIATION.

SIR,—So many useful sides of the British Medical Association come before the Representative Meeting, that any Representative may vouch for its undiminished and in fact growing activity. But far more than at these facts before every meeting, one stands astonished at the effects of the wonderful strain of the constant unselfishness of those who conduct the affairs of the Association; and it would be hard to find it surpassed or paralleled in any other society; the JOURNAL and its extraordinary influence; the great meetings and the consequent importance and respect shown to them; the voice that it exercises in every professional direction; and the beneficence, charity, and fairness towards new episodes—these are all real factors of advantage. Assemblages of men and nations have therefore expressed their admiration of and built up their own associations on lines copied from ours; of course copied, in this instance, in the spirit of support and not infringement. So many are these sides of help and possible assistance to doctors, that, if some particular desires of certain individuals have not already been fulfilled, even their view will very likely be reached in time through their further support. A considerable section outside the Association will always remain entirely absorbed in their own affairs, and prefer not to give their time to concerted action from any broad, general point of view which must govern the larger affairs committed to the charges of the British Medical Association. But many sections must feel satisfied at this unselfish service on many sides of our numerous officers and workers. And it is that communal lesson which every one of us has the opportunity to see operating when supporting the whole work of the Association. It gives an obviously good stamp to the medical doctors whom we constantly meet at the Divisional meetings, and that influence would be worth obtaining by non-members of the profession, who, as yet, have not felt the enjoyment of the benefits of joining the British Medical Association and experiencing that concerted and communal feeling which places them above the herd of mere self-seekers and traders. This brings into consideration the financial side, on which the work for so many years has depended, and which involves considerable expenditure. It is entirely those limits of the financial position which have already made us restrict some of the most pressing reports, parliamentary activity on bills, and other work of the Council.

But when the new Charter comes into force there will be two other preponderating inducements for new members to join the Association. These will be the members' provident and insurance schemes and medical defence. But to find funds to help these and other activities some expenses, especially report printing, might well be curtailed. Still if new expenses for new features are to come into force, probably some special subscriptions for these benefits will have to be imposed. I think, too, a reserve should be accumulated; whilst any subsequent widows' and orphans' funds should be kept quite separate for those who specially subscribe to them. As past members will be affected by the provident insurance fund, the opportunity is given to use the Branch funds fairly for this particular insurance reserve. It is ridiculous to accumulate funds at the Branches for no special purpose; and in the future, whatever the expenses of the Branches, new rules should be made to provide only sufficient for these expenses, the balances to be automatically returned partly into any central fund, but mostly into any new insurance fund for disabled members. Those reformers, then, who have spent their best energies to mould this great Association along these newer directions deserve well of the untold numbers of prospective members for their very clear insight in providing these newer inducements, so that any members of the medical profession may be soundly advised to join for their own interest and the common weal. After obtaining the Charter, or by some easy readjustment in the future, I think it would be most advantageous to retain the continuity of open interest in an Annual General Meeting, but on a smaller scale than the present one.—I am, etc.,

Bognor, July 10th. H. ELLIOT-BLAKE.

THE TREATMENT OF SCHOOL CHILDREN.

SIR,—Dr. Lauriston Shaw now states that the effect of the consultative principle is—

> That no patient shall be admitted as out-patient to a hospital unless he is sent by the man who has examined him and has treated him, and is willing to say what he has found and done, and is anxious to hear what the medical officer acting as a consultant thinks about the case, and is prepared at once or after such treatment has been carried out to continue the ordinary treatment of the case.

In this way the notified school child is made ineligible for hospital treatment. It is worthy of note that this interpretation of the consultative principle involves the exclusion also of the two classes of persons who have most claim for hospital treatment:

1. Those whose ailments are such that the general practitioner does not undertake them at all.

2. Those who for the time being, at any rate, are unable to pay a doctor.

Whether those who supply and those who administer hospital funds will accept Dr. Shaw's exposition of the "consultative principle" remains to be seen when it emerges from the region of pious opinions. Dr. Shaw also writes "that his proposition, however universally applied, will not prevent those mutual courtesies between members of the medical profession" which he calls "recommendation" and which I alluded to as "notification."

If the framers of the circular had only borne in mind that these courtesies between medical men are so well established as to constitute a right, they would not have put forward the "consultative principle" as one of the bars to the reception of the school child.

It is a matter of indifference whether notification be considered as a "recommendation" or as a "consultation," but it is satisfactory to know that there is a loophole for the school child in the meshes of the consultative principle which Dr. Shaw has so closely woven.

There is nothing, as Dr. Shaw suggests, of the personal in my failure to agree with him. I should very much regret any personal disagreement with Dr. Shaw, but my letters, of which this will be the last, were in answer to an official circular sent to me as a member of the Branch, and because the one clause in the circular which has been

defended has been defended by its President-elect.—I am, etc.,

London, W., July 20th. SIDNEY PHILLIPS.

CONSULTATION AND THE TRANSFER OF PATIENTS.

SIR,—The proposed scheme for treatment of school children at charitable institutions is one of great importance, and in my opinion should be strenuously resisted by the profession. We are grateful to Dr. Lauriston Shaw for his services in the duel in your pages of the last three weeks; but especially we should be grateful for his reference to a grievance of which I have heard complaints for many years—the annexation of patients of one practitioner by another under the guise of "consultation."

The Association has been unable so far to define the term "consultant," but I trust that it will soon say distinctly that the present-day line of conduct of very many so-called "consultants" must be altered, and that it will enforce the laws of ethics upon each and all alike.

At the present day the atmosphere in and around the profession of medicine needs clearing. Let the Association take steps towards the cultivation of real honesty as well as nobility; of this last quality, methinks, we have heard a little too much. Let others speak out clearly as Dr. Lauriston Shaw has done; let this matter be threshed out in the Divisions, when plenty of evidence of the need of reform will be forthcoming, and many of us would be able to recognize our friends, which we are very anxious to do. Let us have less cant and more grit; then the public will benefit and will really appreciate us, and we as a profession will be able to have more respect for ourselves. —I am, etc.,

July 20th. REFORMER.

THE NATIONAL LIBRARY OF WALES.

SIR,—Speaking from the Presidential Chair of the National Eisteddfod at the Albert Hall, London, on the 16th June last, the Prime Minister, referring to the National Library of Wales, said:

> That National Library will, I trust, become the centre, the home, the gathering, and the training ground of Celtic scholarship in this country in the years that are before us. It already possesses, either actually or in promise, some of the most valuable manuscripts and books which it is possible to accumulate for those who desire to explore the antiquities of Celtic literature and Celtic history.

The Prime Minister went on to point out that it was a patriotic duty to assist the National Library and the National Museum by "adding to the treasures of which these great national institutions are to be the storehouse."

The National Library of Wales was founded by Royal Charter granted by H.M. the King in 1907, and entered upon the first stage of its existence on January 1st of the present year in a temporary building at Aberystwyth, a building admirably adapted for the storing and cataloguing of the collections pending the removal to the permanent building which will be erected on a magnificent site of four acres, close to the town of Aberystwyth, generously given for the purpose by the Right Hon. Bacon Rendel.

A large number of valuable gifts of books, manuscripts, prints, and drawings has already been made to form the nucleus of the library, which at this moment contains the finest collection of Welsh MSS. in existence, including the famous Hengwrt and Peniarth MSS.; the collection of MSS. and Early Welsh books made by Moses Williams, afterwards the property of the Earls of Macclesfield; and a number of MSS. derived from other collections. The Hengwrt Library includes not only the oldest texts of Romance literature, but also one of the most valuable MSS. of Chaucer's *Canterbury Tales*, and other MSS. of great importance. The number of printed books already in the library is nearly 50,000.

We need, however, very many books in Celtic literature, and, even more, works of general reference, standard books in English and other languages, sets of transactions of literary, historical, and scientific societies; sets of the great periodicals, dictionaries, encyclopædias, and many other books of various kinds which we have no funds to acquire.

The Charter provides for the circulation of duplicate books for educational and research purposes, and this will be an important feature of the work of the library. The case of Wales is exceptional. Its university consists of three national colleges, situated at Aberystwyth, Bangor, and Cardiff; while there are other important centres of educational activity, all urgently in need of the aid which it is hoped the National Library will be able to give to the higher branches of study. I wish particularly to state that, while the Celtic side of the library must be its strongest feature, yet the object for which it was founded is much wider. It is to be a National Library in the best sense, designed to afford in Wales that opportunity and encouragement for study and research hitherto wanting, and the lack of which has placed Wales at a disadvantage as compared with the other divisions of the United Kingdom and with other countries. England, Scotland, and Ireland enjoy great privileges under the Copyright Act, which Wales has not received, and can hardly now expect to receive. Three libraries in England, and one each in Scotland and Ireland, are entitled to one free copy of every book published in the British Islands, while five or six other libraries which formerly had the same privilege now receive an annual grant from the public funds in lieu of it.

It is contemplated to proceed as soon as circumstances will permit with the erection of permanent buildings, and plans have been provisionally adopted. A sum of £21,000 has been subscribed towards the building fund. To erect a suitable and worthy building will cost a far larger sum. The contributors to the fund include residents in all parts of Wales and Monmouthshire, and many residing in London and elsewhere, including Welshmen abroad. The fund is a truly national one, and is made up of sums ranging from £5,000 to 3d.

The quarrymen of Festiniog and neighbourhood, for instance, made up a list of 744 names for a contribution of £70 18s., while the teachers of Cardiganshire agreed to make up £100. In Carmarthen, Swansea, Cardigan, Aberayron, and other centres, large and small, committees were formed to collect subscriptions. The contributors to the fund fully represent the Welsh people, and their enthusiasm for the National Library is clearly shown.

The library has also received gifts from kindred institutions. The British Museum, the Library of Congress at Washington, the Smithsonian Institution, the Corporation of London, the John Rylands Library (Manchester), the National Library of Ireland, and the principal public libraries have each sent sets of their publications, while the University of Oxford has made a grant of publications of the Clarendon Press. Several eminent scholars at home and abroad have also sent gifts of books, in many cases spontaneously, and with a graciousness which greatly enhances the value of their gifts.

The library is managed by a court of governors and a council, to which bodies members are nominated by H.M. Privy Council, by the county and borough councils of Wales and Monmouthshire, the University of Wales, and the three university colleges. The maintenance is provided by a grant in aid from H.M. Treasury, which at present only provides for bare working expenses. No sum for purchasing the large number of necessary books is at present available.

I venture to ask those of your readers who feel an interest in this effort to bring within the reach of the residents in Wales the advantages which a National Library offers, to make gifts of books, or money for the book fund, and donations to the building fund.

Communications may be addressed to me at the National Library, Aberystwyth.—I am, etc.,

JOHN WILLIAMS, Bart, M.D., President.

July 12th.

CANCER RESEARCH.

SIR,—Dr. Skene Keith's article in your issue of July 17th. tends to show that, while the actual position of the cancer question in its relation to man has not been appreciably changed after the seven years' labour of the Cancer Research authorities, a considerable advance is taking place at the bedside.

Now I am quite aware that there are different opinions connected with *mouse* and *human* in the various parts of this country, and I do not therefore wish to be pedantic: but I must remind Dr. Keith that the use of sodium cinnamate was first advocated by me, in a paper which

I published in the *Lancet* of July 12th, 1902. In this paper I referred to a paper of Dr. H. Batty Shaw in the *Journal of Pathology*, which dealt with the changes produced by the injection into the veins of cats of an emulsion of sodium cinnamate, and I based the introduction of the drug as a means of treating cancer, upon this work. Neither Dr. Morgan nor I could at that time find any reference to the use of this drug as a therapeutic agent; but we subsequently ascertained that, under the name of hetol, Landerer had introduced it in 1887 as a remedy in the treatment of tuberculosis. Dr. Morgan found that the drug was very insoluble, and that a 10 per cent. solution could only be obtained by prolonged boiling in glycerine.

I have at various times published reports on progress made, and on one occasion in the columns of the JOURNAL Dr. Skene Keith himself took part in a correspondence connected with the subject. Under these circumstances, recognizing the fact that imitation is the sincerest form of flattery, I am delighted to find that Dr. Skene Keith is obtaining satisfactory results. The progress of treatment is certainly definite in connexion with the disease, and sustained work must lead to further success. There appears to be no reasonable doubt that the treatment of the disease will be determined at the bedside and not in the laboratory. That great assistance has been obtained, and will always be obtained, from the general systematic work carried out in physiological laboratories admits of no doubt. By connecting such work with systematic treatment at the bedside nothing but good can be expected; it is, however, improbable that a course of laboratory work such as is in progress under the auspices of the Cancer Research authorities, and entirely divorced from practical work at the bedside, can succeed. The same general laws govern the life of all living cells, and such work as that of Sir Almroth Wright leads much more to a better understanding of the methods of treating disease and the action of remedies than the class of work which has been turned out by the authorities of Cancer Research.—I am, etc.,

Hatfield, July 19th. LOVELL DRAGE.

DISUSED INSTRUMENTS AND MEDICAL CURIOS.

SIR,—The Medical Missions Committee of the S.P.G. are very grateful to an anonymous donor for a case of surgical instruments; they are always very thankful for such gifts for use in mission hospitals and dispensaries abroad, or for the equipment of recently-qualified doctors about to proceed to mission stations.

They would also—for Exhibition purposes—be very grateful for gifts of *native* medicines, charms, or other articles used in the treatment of disease, the stock-in-trade of a Chinese doctor or chemist, or the dress, etc., of an African witch-doctor. The object of showing these or similar articles at Exhibitions is to contrast the apathetic indifference to human suffering, the heartless and stupid neglect of the sick, or the horrible cruelty to which they are subjected in lands where non-Christian beliefs hold sway, with the work of the medical (Christian) missionary to whom all human life is sacred, and who without distinction of caste or creed ministers with loving skill to all alike.

Gifts of such articles, accompanied by a brief description of their character and purpose, should be sent, with the name and address of the donor to the Medical Missions Department, S.P.G. House, 15, Tufton Street, Westminster, S.W.—I am, etc.,

E. H. MOSSE,
Chairman of the Medical Missions Department, S.P.G.
7, Henrietta Street, Covent Garden, W.C., July 19th.

THE ROYAL SOCIETY AND THE TESTS FOR COLOUR BLINDNESS.

SIR,—I am glad to see in the BRITISH MEDICAL JOURNAL of July 17th that Mr. Henniker Heaton has at last persuaded the President of the Board of Trade to inquire as to the methods of testing for colour blindness adopted by other countries. Mr. Churchill stated that one of the advantages of the test was that it could be applied by persons who possessed no knowledge of physiology or ophthalmology. I will deal with only one point—that is, the rejection of normal-sighted persons by this test. I stated to the Committee of the Royal Society in my evidence that normal-sighted persons were rejected by the Holmgren test. Sixty-four men who could not pass this test by the Board of Trade appealed, and twenty-seven were found to be normal sighted and to have been rejected wrongly. How many of those who failed and did not appeal were normal sighted? It is noteworthy that Germany has discarded the Holmgren test for the reason mentioned above. It is stated at the end of the official directions for testing for colour blindness that—

> The examination with Holmgren's wool test is not recommended, because it exaggerates the number of cases of genuine colour blindness. It is possible that merely colour weakness or a misunderstanding on the part of the patient has influenced the diagnosis.

—I am, etc.,

Hendon, July 17th. F. W. EDRIDGE-GREEN.

THE PROPOSED LEGISLATION IN REGARD TO ANAESTHETICS.

SIR,—The present situation with regard to this question requires the careful attention of the medical profession, and the remarks which follow have no relation whatever to the practice of anaesthetics as a speciality, but apply to the general practitioner of medicine in all parts of the kingdom.

Dr. F. W. Hewitt has undertaken a most important work in bringing forward a measure to ensure protection to the public from the risks of general anaesthetics in the hands of persons who have not received a complete medical training. His proposals have been opposed by a portion of the dental profession, partly on the ground that a very large number of medical practitioners are ignorant of the details and methods necessary for producing efficient anaesthesia for operations in the dental chair. In this statement they are perfectly correct, and this state of affairs has been due to the apathy and supineness of the medical student, who during his curriculum despises the idea of learning practical means of earning a livelihood from a secret conviction that he personally will be wafted into a consultant's chair where kneeling princes will pray for his advice. It is, however, absolutely essential that he should learn to give nitrous oxide and ether in the dental department of his hospital, so that he may become an efficient coadjutor of the neighbouring dental surgeons in that general practice which will have to support him and his family during his working life.

At the present moment, when the dental profession are making some claim to be more familiar with the use of nitrous oxide gas than the medical man, unless the latter opens his eyes to the fact that by reason of his medical knowledge and training, he is the only proper person to induce and conduct general anaesthesia in all circumstances and decides at once to attend a dental hospital or department to obtain a proper facility with the apparatus and in the procedures involved, he will find, during the next decade, that a serious rivalry in this respect has been established, and that he has cast away a valuable means of livelihood which is not only his birthright, but a duty which he owes to the public who become his patients.

A medical practitioner is in a false position who, for no other reason than a want of activity in learning how to control the gas or vapour for the purpose in hand, stands by while his patient is subjected to the action of drugs which are potent enough to cause insensibility at the hands of others whose knowledge of medicine and therapeutics is less than his own. Surely, if he thinks he is the proper person to be sent for to apply means of resuscitation in case of accident during anaesthesia, he should be still more the fit person to prevent the accident from arising. It should be his task to choose the most suitable anaesthetic according to the opinion he forms of the patient's state of health, to produce a complete anaesthesia, to discriminate during his administration of this anaesthetic between respiratory and circulatory symptoms, and to apply himself the remedial measures as required.

It is to be hoped that the teachers of anaesthetic administration in the hospitals of this kingdom will see to it that their pupils before qualification can properly administer nitrous oxide and ether for dental operations and that the general practitioners will bestir themselves so that their present inefficiency in this respect may recede into the past.—I am, etc.,

H. BELLAMY GARDNER,
Formerly Instructor in Anaesthetics at Charing Cross Hospital.
London, W., July 19th.

SIR,—I have striven in vain to discover some good point in Dr. Cooper's last effort to legalize unqualified medical practice. As Dr. Hewitt has already pointed out, it definitely authorizes dentists to administer anaesthetics during *any* surgical operation, though they have received no medical training whatever. Thus, a dentist may call in a surgeon to perform an abdominal section on a patient, while he (the dentist) administers chloroform; no general practitioner being present at all. The danger of such a possibility must be obvious to anybody who has the slightest knowledge of the many changes that may arise during anaesthesia, some of them almost imperceptible except to the practised eye and ear, but nevertheless capable of causing the death of the patient, or at least the failure of the operation, unless they be corrected before it is too late.

The bill, moreover, while it prevents all except medical men and dentists from administering drugs which will produce unconsciousness, permits anybody to produce analgesia by means of spinal or subcutaneous injections. The gross absurdity of such an arrangement must be patent to every one whose intelligence is above that of a member of Parliament or of a coroner's jury.

Clause 4 prohibits a medical practitioner from giving a certificate of death in the case of a person dying "while under the influence of an anaesthetic," but no definition is given of what is meant by the words which I have placed in inverted commas. Anaesthetics sometimes leave their effects behind them for some days; thus, cases are on record of patients who have vomited for five or six days after taking an anaesthetic. A lawyer might reasonably argue that the patient is therefore "under the influence of an anaesthetic" all this time, and consequently no death certificate may be given if a patient dies within a week after undergoing an operation! This clause, in addition, assumes that, whenever a patient dies during or shortly after an operation, the death must of necessity be due solely to the effects of the anaesthetic. The surgeon is exonerated from all blame, but the unfortunate anaesthetist must take his trial before the coroner and the aforementioned coroner's jury.

I can hardly imagine that the medical profession will allow such a bill to become law.—I am, etc.,

London, W., July 10th. ROWLAND W. COLLUM.

The Services.

THE ROYAL ARMY MEDICAL CORPS (TERRITORIAL FORCE).

Transport to General Hospitals.

THE issue of *National Defence* for July contains a paper by Dr. J. E. Bowser, of Penrith, Surgeon-Major in the Westmorland and Cumberland Yeomanry, drawing attention to the fact that hitherto no definite arrangements have been made for the transport of sick and wounded Territorial soldiers from field ambulances to general hospitals affiliated to the Territorial Force. It has been suggested that the Red Cross Society should undertake this duty, but it is pointed out that, even should the society be prepared to do so, the transport required does not exist. He makes various suggestions as to how the apparent gap in the arrangements might be filled. Abroad, the question of the conveyance of the sick and wounded by train has been carefully studied, but in this country the only provision is five ambulance coaches, built for the Regular Forces by the War Office in 1900, and one coach maintained by the Great Central Railway in connexion with its "break-down" train. The distances to be traversed in this country are so small as compared with those on the Continent that possibly it has hitherto been thought that the need would be sufficiently met by the use of guards' vans and other like rolling stock, having doors sufficiently wide to admit stretchers.

A MEETING of the Italian Congress of the History of Medicine and Natural Science will be held at Venice towards the end of September.

THE Italian Surgical Society will hold its twenty-second annual meeting on October 13th and following days in the Policlinico Umberto I, Rome. The questions proposed for discussion are: (1) The etiology and cure of cancer (to be opened by Professors Durante and Fichera); (2) the surgery of the pancreas (to be opened by Professors Muscatello and Tusini); (3) the surgery of the prostate (to be opened by Professors Ruggi and Roth).

Medico-Legal.

DIACHYLON PILLS.

A VERDICT of *felo de se* was returned by a Grimsby jury on July 7th in connexion with the death of a married woman with three children, who died about a fortnight after taking diachylon pills to produce abortion. Dr. E. H. Felton, the medical witness in the case, said that the practice was growing amongst Grimsby women, and was not confined to the poorer classes. He had no doubt that the town lost hundreds of children every year; he had himself attended five women in a single day for lead poisoning.

It is evident from this case, and from other information which reaches us from time to time, that the use of diachylon as an abortifacient has not diminished, but has spread to neighbourhoods where it was formerly unknown. Attention to the subject was first drawn in 1893 by Dr. Pope of Leicester (BRITISH MEDICAL JOURNAL, 1893, vol. ii, p. 9). Between that date and 1905 papers on the subject appeared from time to time, in the latter year a profusion of notes on the subject appearing in these columns. Early in 1906 existing knowledge as to the prevalence of the practice and its effects was summarized by Dr. Arthur Hall of Sheffield and Dr. W. B. Ransom of Nottingham in a joint paper (BRITISH MEDICAL JOURNAL, 1906, vol. i, p. 428). Meantime a subcommittee of the Medico-Political Committee of the British Medical Association had been appointed to consider the subject. In April, 1906, a question was put in the House of Commons, but the Home Secretary replied that he was advised that inclusion of diachylon in the Schedule of Poisons was not likely to minimize the evil.

As an abortifacient diachylon is uncertain in its action, but, as is well known, may quickly cause or produce serious and prolonged ill health.

DRY SHAMPOOING BY CARBON TETRACHLORIDE.

AT an inquest in Kensington on July 15th, evidence was given as to the circumstances attending the death of a lady aged 29 while having her head dry-shampooed at Harrod's Stores. It was stated that she had been in very good health. After the shampooing had been in progress some two minutes she grew pale and looked faint, and then proceeded to collapse. Medical assistance was called in and artificial respiration was performed, but death occurred.

The general evidence given was to the effect that the shampooing liquid contained carbon tetrachloride, and that it was applied from a bottle to the back of the head, and rubbed into the hair; meantime the customer's face was covered with a towel to prevent the fumes irritating the eyes, and an electric fan kept going to remove the fumes rapidly and obviate their affecting either customer or hairdresser. It was added that from 90 to 100 customers were shampooed in this fashion daily by the firm concerned in this case, and that during the six years that had elapsed since its introduction, some 20,000 or 30,000 persons had undergone the process. No serious result from its use had ever been known, but one case of fainting had occurred. The hairdresser who applied the lotion on this occasion had not previously applied it to the head of a customer, but had used it constantly in cleansing hair in a workshop where twenty assistants were employed. On this occasion, while the shampooing was in progress, the windows of the cubicle used were open, and the fan working normally.

Dr. Basil Jones of Walton Place said that he found the deceased's face discoloured and her pupils dilated. There was plenty of ventilation and an electric fan was working, but there was an odour of carbon tetrachloride. The electric fan had been introduced on his suggestion, as two years ago he had seen a lady who was faint and had a rapid irregular pulse for about an hour and a half after undergoing this shampooing process. He had also seen another healthy woman who became faint after having her hair dry-cleansed. He considered the process a safe one when due precautions as to fresh air were used.

Dr. B. H. Spilsbury, pathologist at St. Mary's Hospital, gave evidence that the deceased's body was healthy, but the heart was dilated and its muscles degenerated. The tonsils were enlarged, and the condition of status lymphaticus existed. Death was due to sudden heart failure, from degeneration of the heart muscles, and possibly in part to the condition of status lymphaticus and inhalation of carbon tetrachloride. He did not think the deceased would have died had she not inhaled the tetrachloride vapour. The process might cause sudden death in a person with a weak heart, but if it could be ensured that the vapour was never inhaled by an unhealthy subject the process was absolutely safe. When tetrachloride was administered as an anaesthetic the percentage of deaths was about 1 in 20,000.

The jury returned a verdict of accidental death accelerated by the fumes of tetrachloride, and added a rider to the effect that Harrod's Stores were not justified in employing unskilled operators in applying this dangerous process.

Carbon tetrachloride is a heavy colourless volatile liquid, with a pleasant pungent, quince-like odour allied to that of chloroform. Its vapour was at one time suggested as a treatment of hay fever, and it was also occasionally used as a local application to relieve neuralgia. Commercially it is used as a solvent in place of chloroform, and also as a clothes cleaner, and for allied reasons, namely, its freedom from inflammability and the rapidity with which a thick head of hair can be cleansed by its use, it has grown in favour with hairdressers.

Nearly two years ago (see BRITISH MEDICAL JOURNAL, 1907, vol. 2, page 764) Professor Mckendrick of Glasgow sent us a quotation from a communication made to him by a lady which, as was pointed out at the time, seemed to indicate, besides some risk to life, another disadvantage in the use of this liquid, namely, the temporary partial intoxication which shampooing by this process may induce. From Dr. Spilbury's statement it would appear as if carbon tetrachloride were commonly used as an anaesthetic for surgical purposes, but we are unaware of any data on which his calculation as to its fatality-rate could be founded, or of any anaesthetist who uses it, or of any institution at which it is employed. Its possible value as an anaesthetic was investigated by Simpson and others some fifty years ago, but it was put aside as unsuitable. In general physiological action resembles that of chloroform, but it is slower and much more toxic. Lafont, Morell, Raboteau, and Professor Marshall of St. Andrews, more recent observers, take the same view of its unsuitability.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

A HOTEL DOCTOR'S FEES.

A CORRESPONDENT of considerable experience in connexion with medical practice in hotels informs us that he considers that the scheme described under this heading by a correspondent in the last issue of the JOURNAL (page 181) is open to serious objections. In the first place, he holds that the deduction of 25 per cent. to be made by the proprietor who guarantees payment of the doctor's fees is excessive and unfair to the doctor, since the proprietor can nearly always ensure payment if he chooses. Further, he thinks that the proposal might be very improperly used by unscrupulous persons, whether proprietors themselves or even practitioners desiring to get a footing. Our informant considers that no percentage or commission ought to be paid, and that the proprietor of an hotel or boarding house having the advantage of feeling certain that he can always obtain medical assistance at once for any visitor, and know that the interest of his establishment will be studied—as, for instance, by the prompt removal of any case of infectious disease, etc.—ought to be willing to assist the medical attendant to obtain his fee without making any deduction or charging commission.

Universities and Colleges.

QUEEN'S UNIVERSITY OF BELFAST.

Professor Redfern.

AT a meeting of the Senate held on July 15th the resignation of Professor Redfern, F.R.C.S., from advancing years and failing strength, was accepted with regret, and a resolution of regard and sympathy passed.

Recognition of Hospitals.

The Registrar submitted a list of hospitals which had made application for recognition and filled up schedules of particulars as regards their arrangements for clinical instruction. There are ten—the Royal Victoria Eye and Earinfirmorum, Union Infirmary, Belfast Hospital for Sick Children, Ulster Hospital for Children and Women, the Maternity Hospital, the Ophthalmic Hospital and Eye and Ear Dispensary, the Benn Ulster Eye, Ear, and Throat Hospital, the fever hospitals (the Belfast and the Union), and the District Lunatic Asylum. The Senate recognized these institutions as places of clinical study for medical students.

Clinical Lectures and Teachers.

The Registrar also submitted a report from the University Commission regarding the appointment of university clinical teachers and of university clinical lecturers, which was approved of.

UNIVERSITY OF LEEDS.

Degree Ceremony.

A CONGREGATION of the university was held on July 19th for the purpose of conferring honorary degrees on Colonel T. W. Harding, President of the Health Congress at present in session in Leeds, and on Sir James Crichton-Browne and Major Ronald Ross, who are attending the congress. The Vice-Chancellor, who presided, made a feeling reference to the great loss sustained by the university in the death of its first Chancellor.

Colonel Harding was presented by Professor Phillips, who made the following speech:

Mr. Vice-Chancellor, I present to you for the degree of Doctor of Laws the Chairman of the Health Congress now being held in this city, the freedom of which he has purchased with a great sum of public service. Thomas Walter Harding is a man so urbane that, like Cicero, we may rejoice that the *urbanus* does not become *rusticus* quod urbe exiit et animi causa rus amoenum habet, because he has withdrawn from Leeds, and become a country squire in Cambridgeshire. It is difficult, Mr. Vice-Chancellor, to compress into a few sentences the public record of one who has ever had a broad margin to his life, and whose maxim appears to have been, The way to live is to be alive. But when homage has been paid to his public spirit, that for which he would seem to deserve the highest praise is his recognition of the fact that beauty cannot exist without health, nor health without beauty. The work which he began as member of the Library and Art Gallery Committee he magnificently completed in the City Square, where, if his effigy does not appear, one is yet tempted to say, Si monumentum requiris circumspice. The work which he commenced as Chairman of the Sewerage Committee, and which prepared him for political importance—for the membership of the Royal Commission on Sewage Disposal, for the chairmanship of the Belfast Health Commission, and of that congress of which this congregation may be regarded as a session. Arcem facere e cloaca—to treat the sewer as if it were a citadel was a jest to the ancients, to Colonel Harding it has been a chief care of municipal government. Honoured by the King, by the corporations of this city and of the borough of Cambridge, he now is to be admitted by you as a graduate of the university of whose Council he is already a member.

Sir James Crichton-Browne and Major Ronald Ross were presented by Professor A. S. Grünbaum, who spoke as follows:

Until a century ago the only treatment in asylums for the insane was iron chains. Then followed the period of treatment by relative liberty. But rational treatment with the aid of drugs, based upon actual observation of their effects, remained practically unknown in this country, and hardly anything was known about the anatomical basis of insanity at the time when, now more than forty years ago, Sir James Crichton-Browne initiated at the celebrated West Riding Asylum the systematic study of the pathology of insanity and of its therapeutic treatment. The resulting conspicuous successes and discoveries are evidence of the efficiency of his youthful directorate during ten years. The stimulus to microscopical research, to which branch the present director, Professor Bevan-Lewis, has made such brilliant contributions, and to physiological investigations which led to Ferrier's fundamental discoveries on cerebral localization, arose with him. As one of the original editors of *Brain*, his articles were distinguished by an admirable delineation of clinical histories and pathological findings in unique and truthful word painting. His treatment of such conspicuous mental cases as the Tichborne claimant, in 1884, upon the educational life of boyhood, which was followed by an official report by him called for by the Government, on overpressure in school life. Every cause in public hygiene has been greatly furthered by his efforts and by his continuous assistance on the physiological principles of a healthy life. The familiarizing of the people with such knowledge has been a distinctive feature of the work of the Royal Institution, and due largely to the exertions of its distinguished Vice-President and Treasurer, whom I now present to you, Mr. Vice-Chancellor, for admission to the degree of Doctor in Science, *honoris causâ*, in this university.

Few of us realize that in India alone nearly five million lives are the annual tribute exacted by malarial fever. The task undertaken by Major Ross fifteen years ago was therefore no mean one—to discover how malaria passed from man to man, and how it might be stopped. After five years of patient labour, despite imperfect tools and lack of books, despite arbitrary removals from one end of India to the other, and despite many official hindrances and discouragements, he reached his goal. The mere systematic examination of the whole of many hundreds of mosquitos in itself is no small feat; to do so fruitlessly and in the face of long-drawn disappointment, yet with intuitive hope, patience, and consciousness of ultimate success, are characteristics of the true investigator, found only in those pioneers of knowledge of which each one produces but a handful. Well might he say, with Ovid, "Ardua molimur: sed nulla nisi ardua virtus"; truly may we say, with Bacon, of him that "to try things oft and never to give over, doth wonders." No less energy has Major Ross displayed in the practical application of his discovery. To these efforts the reduction of malaria and yellow fever, in many places almost to the vanishing point, bears eloquent testimony. Genius is ever manysided. A powerful novelist, a dramatist, an accomplished musician: further, a profound mathematician as well as an epoch-making discoverer—such is the man whom I present to you, Mr. Vice-Chancellor, for admission to the degree of Doctor in Science, *honoris causâ*, in this university.

At the same time the degrees of M.B. and M.Ch. were conferred on the following:

J. N. L. Thoseby (with first class honours), H. L. Flint and R. E. Smith (with second class honours), S. M. Hepworth, W. Shaw.

The Diploma in Public Health has been awarded to W. Carnes.

The Diploma in Dental Surgery has been awarded to H. R. Bentley and C. F. Salt.

The following candidates have been approved at the examinations indicated:

FIRST M.B. (PART II).—L. R. Butler, C. H. Gozney, H. R. Knowles, H. A. Sinson, H. L. Taylor, J. Wilkinson, J. Wright.
SECOND M.B. (PART I).—T. Elliott.
SECOND M.B. (PART II).—H. Amel, J. H. Blackburn, J. Fergusson, G. W. L. Kirk, F. H. Kitson, G. P. Mellis, J. C. Metcalfe, M. Peto, J. J. Pickles, S. Samuel, H. P. Shackleton, H. W. Symons.
FINAL M.B. (PART I).—C. S. Brown, J. F. Brown, J. E. Fisher, W. S. Hart, H. N. Ingham, J. B. T. Keswick, H. S. Raper, B. A. Slocombe, G. V. Stockdale, N. S. Twist.

UNIVERSITY OF LIVERPOOL.

Degree Day.

THE Chancellor, Lord Derby, presided at the ceremony of granting degrees which was held in St. George's Hall on July 10th. The procession to the dais included, besides representatives of the teaching bodies of the university, the Lord Mayor of Liverpool and representatives of the corporations of Blackpool, Crewe, Southport, Birkenhead, and Preston.

The Chancellor in a short address condoled with those candidates who had failed in the examination, and reminded them that nobody thought any the worse of those who failed, but despised those who, having failed, did not make another attempt to win. He advised those who had succeeded to have a definite aim and object in view, for according to the old proverb, it was as foolish to live without an aim as to shoot without an aim. He hoped that those who were leaving the university would carry with them a love of it, and of the county within whose borders it stood.

The Chancellor then conferred the honorary degree of Master of Arts upon Mr. Percy Edward Newberry and Mr. John Montgomery, and that of Master of Surgery upon Mr. W. Thelwall Thomas, surgeon to the Royal Infirmary, and Mr. Robert Jones, surgeon to the Royal Southern Hospital, Liverpool.

Ordinary medical degrees were conferred on the following:

M.D.—J. A. M. Blich, L. Hutchinson, A. Hendry, H. E. Heany, H. R. Hurter, T. W. Jones, J. M'Clenaan, J. E. W. McFall, J. Graham Martin.

M.B., CH.B.—W. A. Daley (First-class Honours), K. J. C. Bradshaw (Second-class Honours); A. G. W. Owen (Second-class Honours), N. W. Steinberg (Second-class Honours), J. W. Cropper.

The Vice-Chancellor announced the list of awards in connexion with the university's fellowships, scholarships, studentships, prizes, and medals:

Robert Gee Fellowship in Anatomy, Richard Howard Mole, M.D.
Holt Fellowship in Physiology, Charles Henry Hasler Harrold, M.B., Ch.B.
Thelwall Thomas Fellowship, William Wright Mackarell, M.B., Ch.B.
Ethel Boyce Fellowship, William Robertus Pierce, M.B., Ch.B.
Holt Medal in Pathology, John Campbell.

The proceedings terminated with the playing of the National Anthem on the grand organ by Dr. A. L. Peace, and the pronouncement of the formula of dismissal. "*Salve Sit Universitas Nostra. Quod precantes consurgamus,*" by Vice-Chancellor Dale.

GRANT MEDICAL COLLEGE, BOMBAY.

THE report of the Principal, Lt.-Colonel H. J. Dunnock, I.M.S., for the year 1908-9 is commendably concise, and gives evidence of prosperity and progress. A new pathological laboratory, operating theatre, addition to the ophthalmic hospital and students' hostel, are in course of completion, and a new physiological building costing Rs. 30,000 is soon to be commenced. Chemical, bacteriological, and biological laboratories are still required, and facilities for teaching tropical medicine practically. Native graduates of the college take an active part in instruction in the capacity of tutors. At the close of the year 482 students remained under instruction. Of these 455 were male and 27 female; 87 were Christians, 274 Hindus, 129 Parsees, 14 Mahommedans, and 3 Jews; 97 new students joined the college, and 209 appeared for the L.M. and S. final examination, of whom 61 passed; 8 of these were female students; 44 military medical pupils were also under instruction, and three graduates of the college, after studying in the sanitary surveyor's class, were examined and passed. The list of scholarships and prizes is a long one, evidencing praiseworthy interest in the success of the college and its alumni on the part of both Europeans and natives. The fees received during the year amounted to Rs. 78,772.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

First Professional.—R. J. Croxford, G. A. Grandsoult, J. V. Duffy, W. C. Holburn, W. Bannatyne, A. Watson, R. C. Craig, J. Williamson.

Third Professional.—H. Chatterjee, W. W. Shorten, M. W. Rees, I. Galdemar, J. B. Mitchie, J. M'Cusker, J. M. Chrystie, R. H. Jones, M. C. Anderson, W. E. Hopkins, R. Anderson.

The following passed the Final Examination and were admitted L.R.C.P.E., L.R.C.S.E., L.F.P.S.G.—T. S. Douglas, W. E. Hopkins, W. J. Taugher, A. C. Livingston, J. Young, E. W. Wilbourne, F. J. Tastie, W. Browne, S. N. S. Aiyengar, G. M. MacLeod, E. D. Shroff, S. Rozdon.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

SECOND COLLEGE, JULY, 1909.—"M. J. Hillery, 'T. P. H. Roberts, T. T. Buckley, N. S. Deane, H. J. Cotter, S. Griffin, R. Henry, W. H. Johnston, H. K. Kevin, R. Konefick, T. Kennedy, J. Kearney, A. McGrath, F. J. McCarthy, M. Meehan, T. Mulcahy, J. C. O'Farrell, W. R. O'Keeffe, J. C. Ryan, I. M. Swanepoel, J. Walsh, V. J. White.

"Honours.

Obituary.

RAYNER W. BATTEN, M.D., F.R.C.P.LOND.,

CONSULTING PHYSICIAN TO THE GLOUCESTER ROYAL INFIRMARY.

DR. RAYNER W. BATTEN, one of the oldest and most distinguished members of the profession in Gloucester, died on July 15th; he had been in failing health for some time, but continued to work until two days before his death, which was due to cardiac failure. He was born at Devonport in 1835, the son of Mr. John Batten, and of Mary, youngest of the children of the Rev. William Winterbotham, a well-known Nonconformist minister, descended from a Lancashire family. Dr. Batten received his medical education at St. Bartholomew's Hospital, took the diploma of M.R.C.S. in 1857, and graduated M.B.Lond., being University Scholar in Medicine in 1858; he graduated M.D. in 1860 and became a Fellow of the Royal College of Physicians in 1889. He was successively house-surgeon and tutor at St. Bartholomew's Hospital and house-surgeon to the Hospital for Children, Great Ormond Street; afterwards for a time he held the post of assistant physician to the Metropolitan Free Hospital, but in 1867 was appointed physician to the Gloucester General Infirmary, a post which he held until 1899, when he was elected consulting physician. As physician he was an *ex officio* member of the General Committee of the infirmary, and in 1901 he became an elected member; he was also consulting physician to the Gloucester dispensary, and to the Berkeley Cottage Hospital.

In 1886–7 Dr. Batten was president of the Gloucester Branch of the British Medical Association, and in that capacity delivered an address on the physical training of girls, in which he showed himself to be in advance of the general opinion of the day, advocating not only drill and calisthenic exercises but also outdoor games for girls. Dr. Batten was for many years the representative of the Gloucestershire Branch on the Central Council of the Association, retiring in 1903. He was vice-president of the Section of Medicine at the annual meeting in Cheltenham in 1901, and many of those who were present at that meeting will remember the cordiality with which he joined in their reception at Gloucester on the last day of that meeting.

Dr. Batten took an active part in all religious and philanthropic movements in Gloucester; he was a fluent and graceful speaker, and was always ready to support a good cause. He held strong opinions with regard to temperance, was himself a teetotaller, and was a strong advocate of temperance. He was for many years one of the governors of the Gloucester Endowed Schools, and one of the Gloucester municipal charity trustees. He was a steward of the Three Choirs Festivals, and an active member of the Gloucester and District Devon and Cornwall Society. Dr. Batten was placed upon the Commission of the Peace for Gloucester in 1882, and at the court held on July 16th his death was referred to in sympathetic terms by the chairman, the clerk to the magistrates, the deputy chief constable, and a representative of the solicitors practising in the court.

Dr. Batten was twice married; his first wife—Miss Leonard of Clifton—died in 1870, and his second—a daughter of Mr. Samuel Bowly, the temperance reformer—in 1891. He leaves a family of one son—Mr. Lauriston Batten, K.C., and two daughters.

The funeral, which took place in Gloucester cemetery on July 17th, was preceded by a memorial service in Southgate Congregational Church, which was attended by representatives of the Corporation of Gloucester, of the Gloucester Royal Infirmary, and of many other bodies with which Dr. Batten was connected, and by a large number of members of the medical profession in the city and county.

MR. C. FIRMIN CUTHBERT, of Gloucester, writes: My personal knowledge of Dr. Batten was very considerable, having myself been in practice in Gloucester for very nearly twenty-five years. He was held in the highest regard both by the medical profession and by the public. I myself, as a surgeon, have on innumerable occasions derived the utmost benefit from his opinion as a physician, and I have been struck very often with the

knowledge he possessed and the power he had in coming to correct conclusions as to what could and should be done for the surgical benefit of those very cases in which a physician's opinion is at the present day so valuable for the protection and guidance of a surgeon. He could not have spent a life more appreciated by those around him, nor held greater honour and esteem at the time of his death by those amongst whom he lived and upon whom he had bestowed lifelong kindness.

CHARLES HARTLEY, M.R.C.S., L.S.A.

We regret to have to announce the death of Mr. Charles Hartley, of Bishop's Stortford, Herts, a member of the British Medical Association, who passed away on July 15th, aged 60 years.

He was the eldest son of the Rev. Charles Hartley, who was for many years the Rector of Stocking Pelham, Herts, and afterwards Incumbent of Little Dunmow, Essex. He was born at Porthleven, in Cornwall, and spent most of his early years at Stocking Pelham. He was educated at Felstead Grammar School, and after trying for a short time an uncongenial stool in a city office, he obtained his wish, and entered the medical profession, becoming a student at Charing Cross Hospital. Following the then usual custom, he became a pupil of the late Mr. Brickwell, of Sawbridgeworth, for whose memory he retained ever after an intense veneration. "What a teacher that man was!" was his invariable remark whenever he spoke of him. He obtained the diploma of M.R.C.S. in 1873, and that of L.S.A. in the following year; and, after holding the house-surgeoncy at Charing Cross, took a resident appointment at the Ventnor Hospital for Consumption, where he laid the foundation of that excellent knowledge of chest disease which he displayed in after-life.

From Ventnor he went to Lynton, North Devon, taking, at the age of 24, a widespread and arduous practice. His nearest medical neighbour was almost twenty miles distant, and his area of work included a large part of Exmoor. He was then a powerful and active young fellow, but both courage and endurance were often severely tried during his journeys on the moor. Shortly after settling at Lynton he married Miss S. M. Ward, the daughter of the Rev. John M. Ward, Vicar of Clapham, Yorkshire. After seven years' hard work in North Devon he removed to Great Dunmow, in Essex, carrying with him friendships which have proved lifelong. At Great Dunmow he practised for over ten years, and when he decided to go to Bishops Stortford the regret of his patients expressed itself in a largely signed and handsome testimonial.

Mr. Hartley's best work was, perhaps, done at Bishops Stortford, whither he removed in 1891. Here he practised for eighteen years, and here his brave and strong personality and the excellence of his opinion won the esteem and confidence of all classes of the community. He was a highly honourable and broad-minded man with a keen appreciation of human nature, of a cheery disposition, and with a remarkable gift of repartee.

Professionally, Mr. Hartley was a general practitioner of a very fine type. A keen observer and possessed of excellent judgement, he was remarkably able in diagnosis: his opinion was invariably formed only after careful and thorough examination. He was always on the look-out for "something behind" (to use his own expression), and he never allowed haste or pressure of work to interfere with due deliberation. While his formed opinion was seldom at fault, he always welcomed assistance when in difficulty, and these characteristics combined to make him emphatically a "safe" man. In treatment he was particularly happy. A continuous study of the idiosyncrasies of his patients, and of the adaptability of various forms of treatment to their individual needs, not only made his routine practice eminently successful, but enabled him in many instances to prophesy the result of a line of treatment suggested by others with an accuracy that appeared intuitive. Apart from all this, he was emphatically the friend of his patients, loyally respecting their confidences, and entering into their griefs and troubles with a depth of sympathy that was apparently inexhaustible.

For the last ten years of his life Mr. Hartley was greatly troubled with multiple chronic arthritis of a most painful nature; yet, lame and suffering, he steadily continued work. Even when, during the last two years of his life, attacks of abdominal pain, for which no cause could be found, were added to his troubles, he still made light of his sufferings and worked with his usual thoroughness to the very end. On June 29th he was seized with acute obstruction of the bowels, and with a cheerful courage which was characteristic of him, acquiesced in immediate operation. When he learnt that, although the obstruction had been relieved, a malignant growth existed in the splenic flexure, which was, in the opinion of his advisers, removable, he faced without flinching the prospect of a second operation, with full knowledge of the risk it entailed. The growth was successfully removed a fortnight later, but he never recovered from the shock, and died within forty-eight hours.

He leaves a widow, son, and daughter. He was greatly beloved, and is deeply mourned.

JOSEPH POWELL SWANWICK, M.R.C.S., L.S.A.,

WINSFORD, CHESHIRE.

MR. SWANWICK, of Winsford, who died on July 14th, was born at Prestbury in 1825, went to school there, and later at Alsager. He studied medicine at King's College, London, spending his first year in the house of Mr. (later Sir) William Bowman, and the rest in the college itself.

About 1847 he was apprenticed to Dr. Lallemand, of Macclesfield, from 1849 to 1851 was "clerk to the physicians" of the Manchester Royal Infirmary, then married Miss Harriette Pritchard, of Macclesfield, and settled in practice at Over (Winsford, Cheshire), afterwards at Congleton till his enforced retirement in 1865 owing to serious injury in a fall from his horse. After an invalid period he took the house and farm in which he died, as tenant of St. John's College, Cambridge.

He was an exceedingly capable and hard-working practitioner, full of resource, enterprise, good judgement, and operative address. He was a good mechanic and schemer of building operations: gradually enlarged and altogether improved his cramped house and farm buildings; made his farm pay, though knowing at first nothing of farming, and usually got in his hay before his neighbours. With a natural aptitude for drawing, he taught himself in middle life to paint in oils and water colours, converted his granary into a studio, and made many drawings of Egyptian scenery derived from three winters spent in that country with travelling friends. He was a capable critic and instructor in pictorial art, in mechanical work and plain building operations, and also in farming; after his retirement from medical practice, though keeping up his interest in it in amateur fashion, he actually led the life of a farmer and artist. His younger of two surviving sons is a professional artist of reputation. One son died in West Africa, aged 22. His wife, a brilliant pianist, died at the end of 1893. Their two daughters and the sons inherit the artistic tendencies of the parents, and the sons their father's mechanical skill.

His energetic life was spent in overcoming obstacles, some formidable. Having been suddenly deprived of health and strength, he found both again in country life and unceasing work, supplemented by a reasonable amount of refined and intellectual leisure.

We note with regret the announcement of the death on July 16th of Lady PRIESTLEY, widow of Sir William Priestley, the well-known obstetric physician to King's College Hospital. Lady Priestley herself took a great interest in public health work, and did useful service by popularizing in articles contributed to the general press a knowledge of the epoch-making researches of Pasteur. She was the daughter of Robert Chambers, the Edinburgh publisher, and one of the authors of the *Vestiges of Creation*. Throughout her long life she maintained an interest in science and all intellectual pursuits, and numbered among her friends many of the most distinguished men of literature and science during the later part of the Victorian era.

THE degree of M.D. has recently been conferred by the University of Brussels upon Edward Abraham Coorey, of Moratuwa, Ceylon, and Miss Amy Blanche R. Periton, of Bangalore.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ASTHMA asks for information about the treatment of asthma by injections of antidiphtheria serum.

LOCUM desires to know which is the best local anæsthetic, its strength and quantity, to use in operating upon a recto-vaginal fistula, a general anæsthetic being contraindicated.

THE PUPILS IN APICAL PNEUMONIA.

MR. JAMES H. MARTIN, M.B., writes: As an undergraduate student some years ago I pointed out to my then clinical teacher that in one of his patients suffering from right apical pneumonia the right pupil was larger than the left. After the crisis the pupils were equal. Since then I have seen on several occasions in apical pneumonia, right or left, dilatation of the pupil on affected side. I shall be pleased to hear if any reference to above is to be found in the literature on pneumonia or the eye.

REFRACTION.

S. E. A. asks: Is there a cheap and effective apparatus for enabling a workhouse medical officer to prescribe spectacles without the usual trial glasses?

*** No apparatus other than the usual trial case can be recommended, and to use this of course requires experience.

FLIES.

S. E. A. asks: How much formaldehyde 10 per cent. solution should be used in a room 16 ft. square to keep away flies? Does it matter if the windows are open?

*** If formaldehyde 10 per cent. solution is used for the purpose of destroying flies two pints should be sprayed daily over a room 16 ft. square. The windows should be closed. Those who have tried this method of getting rid of flies have not been very successful.

ANSWERS.

RETINITIS PIGMENTOSA.

E. G.—So far as we have been able to discover, there is nothing definite in literature about the treatment of retinitis pigmentosa by means of the high frequency currents. The usual electrical treatment in cases of retinitis pigmentosa is by means of a constant galvanic current. Fair success has, it is said, been obtained by passing about 5 milliamperes for five minutes twice a week. An electrode with a soft sponge is applied to the eye and connected with the positive galvanic pole, while the negative electrode may be placed over the cilio-spinal centre.

A DOUBTFUL VERDICT.

E. M. B.—The details supplied are not sufficiently precise to justify an expression of any opinion beyond the statement that the verdict attributing the death of the young woman to the results of a burn received some five weeks earlier seems to have been wrong. Mudar juice, a substance resembling which was said to have been found in the stomach, is obtained from calotropis, usually *C. procera*. The milky juice is a violent local irritant, which, when taken internally, acts as an emeto-cathartic, and may produce a fatal gastro-enteritis. In India it has long been used, not only for suicidal purposes, but to kill newly-born female infants, and also to produce abortion.

LETTERS, NOTES, ETC.

SECRET REMEDIES AND PROPRIETARY PREPARATIONS.

H.—Eureka Consumption Cure appears to consist principally of eucalyptus gum (red gum), with a moderate proportion of wood tar and a little eucalyptus oil. When distilled with steam some volatile oil is obtained, but in amount too small for analysis; it shows no evidence of any other oil than that of eucalyptus. The distillate also contained a trace of acid, probably acetic acid from the wood tar.

"H." has forwarded two bottles sent to a patient suffering from an obscure form of hemorrhagitis, by a German "wonder doctor" called Ast. Our correspondent informs us that his patient tells him that the directions are to send a few hairs cut from the back of the head of the patient, giving only the name and address, but not mentioning the disease or age; in a few days medicines with directions are received, accompanied by a bill for 2·50 marks, or perhaps 3 or 4 marks. The medicines, he says, come sometimes from one chemist, sometimes from another, but always from Hamburg or its neighbourhood. One of the stories the patient has been told is that on one occasion a girl with movable kidney sent some hair, and received a mixture to take and a plaster to stick on the loin. Another story is that a doctor sent a hair from a corpse, and in three days received a note saying, "My medicine is no good for the dead." The contents of the two bottles have been submitted to qualitative examination, with the following results:

No. 20.—This is an alcoholic preparation containing no alkaloidal substance and no salts; it contains emodin, indicating that it is a preparation of one of the drugs containing this substance (rhubarb, senna, cascara, etc.), and the general characters indicate that this drug is probably rhubarb. Aromatic substances are also present, a preparation of cardamoms being recognized. No evidence was obtained of any more active drugs than those named.

No. 23.—This is an alcoholic preparation containing a considerable proportion of oil of spearmint, with some menthol, and apparently a little camphor, and a trace of green colouring matter. No evidence was obtained of any other substance.

DR. F. ZERNIK has published a further contribution on the composition of certain proprietary preparations, etc. (*Deut. med. Woch.*, May 20th, 1909).

Franz Lammersdorf's universal chiblain cream, a Hanover preparation, to be applied thinly on the chilblain and covered with wool and a bandage, and renewed every twenty-four hours, was found to consist of about 25 grams of extract of malt. Dr. Zernik points out that this is a curiously original medicament for chiblains.

Jelmol is advertised as differing from all other preparations in its power of allaying all forms of toothache, including the most severe. It is a fluid, and three or four drops are to be applied on a piece of cotton-wool to the cavity of the tooth. A small bottle containing about 3 c.cm. of an alcoholic solution of oil of cloves and other ethereal oils, and possibly also cajeput and camphor, and coloured green with chlorophyll, costs 30 pfennigs, that is, about 3½d.

Leistner's tablets are also sold at 30 pfennigs a box. They are advertised as being certain in disturbances of digestion, constipation, etc. Each tablet, which weighs on an average 0·36 gram, consists of powdered cascara sagrada bark and starch.

Dr. med. R. Kleinertz's Quidestin is advertised in a most catchy manner. The advertisement includes the following passages: "What is it? It is a comfort for those about to become mothers." The directions for use are as follows: A tablespoonful of the extract is to be placed in a thick walled small cup or other similar vessel, and this is placed in a pail. The fluid is then lighted, and the patient is to allow the fumes to play around her abdomen and legs, until they are thoroughly warmed. This is to be repeated twice a day for the last six weeks of pregnancy. The composition is given as blackthorn, camomile, eucalyptus, hoarhound, shepherd's pouch, and cheese rennet extracted in alcohol. The analysis showed that quidestin is a weak extract of various indifferent vegetables, including eucalyptus, and contains in 90 per cent. spirit. Apart from the impossibility of the fumes being of therapeutic value, Zernik points out the highness of the price, 5s. per litre bottle, sufficient for three weeks.

Roller's powder for epilepsy is supposed to be a remedy for epilepsy, chorea, hysterical attacks, cramp of the stomach and of the chest, etc., and is sold by the Dresden "Diakonissenanstalt" for M 3.40 the box. The package contains three 5-grams powders wrapped up in sealed paper capsules. The powder is black, and has the odour of a rancid animal oil. Analysis proved that it consisted of partially carbonized animal substance, which yielded 20 per cent. of brown substances soluble in ether. The preparation is said to be made by burning magpies shot on twelve nights following Christmas. This use of incompletely carbonized animal substance for epilepsy is an ancient superstition.

Sprengel's herbal juice, is a preparation which Bernhard Sprengel of Hanover claims to be harmless, and as it consists of blood purifying herbs and roots, and not a secret remedy, he recommends it for all sorts of diseases, especially for diphtheria, trichinosis, whooping-cough, etc. The bottle (which costs M.1.25, about 1s. 3d.) contains about 30 c.cm. of a turbid brown fluid of acid reaction. It contains powdered jalap bulbs, suspended in a watery extract of frangula (or some similar drug), to which alcohol and liquorice have been added. Its jalap content renders the free sale of this preparation unlawful in Germany.

TREATMENT OF INGROWING TOENAIL.

DR. PHILIP MIALL (Consulting Surgeon to the Bradford Infirmary) writes: Dr. Tytler, in the JOURNAL of July 17th, proposes a great improvement on the erasion sometimes recommended. But is any operation required? Long ago I found that it could be dispensed with, and published the method in the BRITISH MEDICAL JOURNAL. It was widely used. I now it described in an American daily paper. I paint the part with a thick, treacly solution of tannic acid, fresh from the maker, an ounce to 6 drachms of water, or 1b.j to ʒxij. If not fresh it will not dissolve in such proportion. It should be applied night and morning, and if it accumulates a poultice may be necessary to clean the surface, and the tannin applied again. Two or three days will cure any case. I have heard that lead nitrate answers the same purpose. Perhaps Dr. Tytler's lead and opium lotion would be enough without compression.

The Causation of Cancer.

Dr. Gilchrist (Nice) writes: In an Essai de Pathologie Evolutioniste, read before the Nice Congress of Climatotherapy in 1904, I made, on page 18 of my paper, the following references to the subject of this letter. Without excluding the question itself, which, according to this manner of regarding the question, would be, not only an attribute of the reproductive function, but the sign of regressive heredity. . . . It has been said (Woods Hutchinson, *Studies in Human and Comparative Pathology*, page 275) that cancer is a "gland-abortion." From the point of view we have adopted, this notion assumes an unexpected significance. It tends to confirm the conception that general pathology, as is currently held of the relations of ontogeny to phylogeny, is an abridgement, so to speak, of aberrant phylogeny. On page 19 I followed with a series of remarks that will serve, I hope, for such an illustration of my general opinion as Dr. Marsden kindly demands (British Medical Journal, July 10th, No. 119). From the pathological point of view: We would find the *trait* that unites the different varieties of tuberculosis: The best guide for that being to study the avian respiratory system and to follow the aerial cavities which communicate throughout, and everywhere distribute a gaseous flow. In effect, to the thoracic chamber, containing a comparatively vascular, dense, and adherent lung, would correspond the initial congestion, the tendency to haemoptysis, the adhesive pleurisy and concomitant emphysema of the pulmonary disease; to the osseous cavities would correspond the tuberculous affections of the bones, joints, and periarticular tissues, while to the diaphragmatic and abdominal reservoirs would correspond the mesenteric invasion, peritoneal tuberculosis, and infiltrations of the uro-genital tract. The conception is admittedly speculative, but where else except in these evolutionary principles would we find so systematic an explanation of apparently dissociated processes? And if we add to the list I have quoted such lesions as tuberculous fistula in ano and similar destructive disease of the larynx, where else will we discover so suggestive a theory? For "recentness and instability" go together, says Woods Hutchinson (loc. cit., p. 308) and the organs in question are recent phylogenetic acquisitions (batracians and reptiles have no epiglottis and monotremes no cloacal differentiation), and correspondingly vulnerable as we know. I am afraid that Dr. Marsden's demand for a special committee of the British Medical Association to review the evidence in favour of cancer arising from natural causes is based upon too hopeful expectations. Might not Herbert Spencer have formulated a similar requisition when he wrote that the natural reproductive powers of the fixed cells of the body tissues are held in check by the influence of the entire organism, so that any relaxation of this control increases the imminence of disease? What we require is the more general recognition that pathology is essentially a branch of biology. We want more books like Le Dantec's *Nature and Origin of Life*, like Wiedersheim's *Structure of Man*, and Wesley Mills's *Animal Physiology*. How little this need is understood will be seen by a reminiscence I may be allowed to relate. Wishing to investigate the question of the renal secretion in the animal series, I ordered the *Traité de physiologie comparée des animaux* of a well-known professor in the Paris Ecole Vétérinaire. In something like 2,000 pages I found under twenty devoted especially to the subject of urinary secretion. There were four comparative analyses of urine, the first being that of a man. The document was taken from Lehmann, and a very cursory examination of its characters showed that the subject was essentially abnormal. The secretion was clearly that of an uricæmique.

The Metropolitan Branch Elections.

Dr. G. Crichton (Kensington) writes: Permit me to supplement your notice of the Metropolitan Counties Branch elections and to point their moral. As regards the vice-presidents the method is perfect. The precedent is continued of electing to the first place the retiring chairman. For the other three, three Divisions nominated and elected a nominee; one Division nominated two, and a choice had to be made. So in the election to the Central Council Westminster had two candidates, and the choice fell on the sitting member. The principal of local or topographical representation is thoroughly secured. The three who headed the poll were no doubt elected by nearly *the same supporters* and would under any system have secured election (except the new method threatened and, we hope, to be carried). There were, then, three. [illegible] issued a joint manifesto the week [illegible] uting for the occasion a party. The [illegible] party carried the election. No doubt the City Division not use the right electioneering methods. They propose five candidates and put their own man at the foot of the list. This election was one emphatically to favour local representation. If any Division, or two or three Divisions acting together, could have got only 95 supporters for any one whomsoever they chose (about 4 per cent. of the numbers of the Branch) they would have elected him. If members show so little interest in the matter, why should they be considered in rearranging areas? The general lack of interest is no doubt due in part to the weakened authority of the Central Council under the Charter. As to the use of the method of proportional representation generally, with awakening interest in the special objects of the Association will come an increased resort to this the only sufficient way of electing responsible and stately government.

June Sunshine in Guernsey.

Dr. Hy. Draper Bishop (M.O.H. Guernsey) writes: The accounts of the weather in England during June have been such dismal reading, that it may be interesting to state that during the month 232 hours of sunshine have been recorded in Guernsey. From the beginning of the year until the end of June the total of sunshine was 1,032 hours.

A Caehd Mille Fealtagh.

To Our Medical Visitors from Oversea.

Och, shure, an' ye're welcome, comrades all,
From over the blue say's wave;
Welcome to bed, an' board, an' dhrink,
Far more than yez iver can lave.

We've oceans here for all that come,
An' more for them that stay;
Whatever yer special taste may be
You've only just to say.

Ov course we're famed for talkin' big,
But we always mane what we think,
An' wher'a the thruer hearts than ours,
That were iver warmed up wid drink?

In English smoke an' Scottish mist
Ye've been doin' yer very best;
'Tis late, poor sowls, but right ye are
To come over here for yer rest.

The sun himself does come this way
When to Murphy's arms he's goin'—
'Tis his snorin' that throubles the say
From Cape Clear to Innishowen.

This is the land ov pure delight,
'Tis a trate to the weary mind,
To see how *we* meet our throubles,
An' just let them go on behind!

Och, 'tis the jolly bhoys we are.
We're right good fellows all through;
Both bhoy an' girl, both old an' young,
Shure we'll laugh wid an' laugh *at* you!

But don't, O don't, make yer spaches long,
An' just lave yer papers behind,
We'd rather show yez over the place
Than sit listenin' to yer "wind."

Wind's all right when it sweeps the hills,
An' right when it ruffles the say,
But it gives a dale ov throuble
When it rises an' wants to stay!

We've our faults like other people,
An' by that same token have you,
But we're both the salt ov the earth,
An' the light, an' the mornin' dew!

We're the pick ov the whole creation,
The wine that gladdens the earth,
The sweet that flavours the bitter,
An' the joy that mollifies mirth.

We're *there* when life's just about dawnin',
An' often we're there at its close,
We're its best friends between times,
From the top ov its head to its toes.

What would the world do without us,
English, Scottish, Irish, and all?
We're the swatest fruit iver plucked
Since the wan that was pulled at the Fall.

So, comrades, here's to yer healths,
An' here's to our own health too!
For a thousand years may ye live,
An' may we live longer than you!

Dr. Adair, Belfast.

Scale of Charges for Advertisements in the British Medical Journal.

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Eight lines	0 4 0
Each additional line	0 0 6
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President's Address

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

SIR WILLIAM WHITLA, M.D., LL.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, QUEEN'S COLLEGE, BELFAST.

THE BELFAST MEDICAL SCHOOL: A SURVEY OF THE STATE OF MEDICAL EDUCATION: NECESSARY REFORMS AND THE QUEEN'S UNIVERSITY OF BELFAST.

YOUR EXCELLENCIES, LADIES AND GENTLEMEN,—I discharge my first duty, and that which lies nearest to my heart, when I thank the members of the British Medical Association for the honour which they have conferred upon me by electing me to the Presidential Chair of their great society, numbering over 20,000 members, and containing in its ranks all that is best in the medicine of to-day, not only in the British Isles, but in our great colonies and dependencies beyond the seas.

It is my pleasing duty to offer, both upon behalf of the members of the medical profession residing in and around Belfast and in the Province of Ulster, a hearty Irish welcome to our visitors, and this greeting is most cordially endorsed by our citizens and chief magistrate, who have honoured us by their presence to-night at this our seventy-seventh annual meeting.

Our worthy and public-spirited Lord Mayor and City Council have given practical proof of the sincerity of their welcome by generously placing at our disposal their Exhibition and Ulster halls and their Botanical Gardens, as our esteemed Vice-Chancellor and his professors have thrown open to us for the week the entire range of class-rooms and buildings in the university.

MR. SIMEON SNELL.

My next duty is a sad one, as I refer to the irreparable loss sustained by the Association in the death of Professor Simeon Snell of Sheffield, who departed this life on April 17th last, during his year of office as President. Little did any of us, except, perhaps, his immediate circle of friends, suspect, when admiring his genial and manly presence at the highly successful Sheffield meeting a brief year ago, that never again were we to be privileged to sit under the spell of his magnetic personality.

The exhaustive sketch of his strenuous life which appeared in our JOURNAL soon after his death leaves me nothing to say about the high position which he had attained in his own realm of ophthalmology; nevertheless it is meet for us, in our bereaved condition, to mourn for him, and "to pay to his sweet memory the meed of a melodious tear."

His whole life was a long series of brave and strenuous efforts to make his profession better than he found it, to improve the condition of his fellows, and to exalt the position of the city in which his lot was cast.

The cause of his death, which occurred at the comparatively early age of 56, was arterio-sclerosis, and, as remarked by his friend, Sir Anderson Critchett, "had he been less prodigal of his boundless energy we might perhaps have been spared his untimely loss, but his faculties were ever at concert pitch, and he seemed to realize to the full Elizabeth Barrett Browning's terse and forcible injunction, 'Get work; be sure 'tis better than that you work to get.'"

This continuous draft upon his capacity for work led to the inevitable result—"Comes the blind Fury with th' abhorred shears and splits the thin-spun life; but not the praise." But not the praise—since he faded from our sight wearing the laurel crown of our great Association.

THE GROWTH OF BELFAST.

I shall not pause to dwell, as is usual on such occasions, upon the ancient historical associations of the city which the members of our organization honour by their visit. Our local historian, Benn, commenced his *History of Belfast*, written in 1877, with the short sentence, "Belfast as a town has no ancient history." Our position offers a marked contrast in this respect to the cities in which the Annual Meetings of the Association are frequently held in England, where the history of the meeting place is often in miniature the history of England.

This fact—as useless to deplore as it would be vain-glorious for us to exult in—nevertheless has not been without its stimulating effect upon individual and collective exertion, teaching the sturdy citizen of Belfast that "He lives to build not boast a gen'rous race." It will be obvious to you how thoroughly he has learned the lesson if you survey our busy wharves with their evidences of a flourishing world-wide commerce, as you see the stately leviathans which glide down to the sea from our shipbuilding yards, and as you catch a glimpse of the myriads of human spiders who spin and weave from morn till night in our great flax mills and linen factories.

I shall not weary you with statistics which demonstrate the almost unparalleled if not absolutely unique progress made by Belfast in recent years; it is sufficient to remind you that since the Association honoured the city by its first visit, just a quarter of a century ago, the population has almost doubled and is still making rapid strides, which in a few more years promise to reach the grand total of half a million souls. At the same time it is a source of honest pride to the thoughtful Belfast man that whilst his native city has been directly prospering by his energy during the last three or four decades the achievements which have brought this success to her have in some instances purchased far-reaching benefits to many parts of the habitable globe. We have only to reflect upon the perfection of the processes employed in the spinning and weaving of linen, and the epoch-marking innovations in naval architecture inaugurated in 1870 by Sir Edward Harland, which have been continuously applied and perfected by his successors in the shipbuilding yard which it will be your privilege to visit during this busy week. The development of these new principles may in a sense be regarded as having annihilated sea distance, knitting together all parts of our huge empire, and bringing within comparatively easy reach the far-away places of the world. Neither do we forget the important part played in this triumph over storm and wave by our illustrious townsman, Lord Kelvin, who by his perfection of the mariner's compass has laid mankind under lasting obligations to his genius.

I shall refer to but one other invention of comparatively recent birth in Belfast. The application of the pneumatic principle to vehicular tyres by our townsman has in a similar sense annihilated land distance. Without its aid the motor car (in which so many of you now speed upon the wings of the wind on your errands of mercy) would have been an impossibility. The indirect outcome of the use of the Dunlop tyre has been the planting of flourishing industries in many English and Continental centres, as it has already covered with rubber trees the slopes of Ceylon and the swamps of the Malay Peninsula, whilst its direct effect has been the establishment of a revolution in human intercourse. From this remarkable invention Belfast as a city has, however, only reaped the benefits which have been enjoyed by all parts of the civilized world, owing to the head quarters of the industry being established in Coventry.

The present visit of the British Medical Association coincides with an epoch in our progress and history far more important and wide-reaching than those to which I have just referred. You do not find us gathered round the stocks to witness the launch of a huge record-breaking ocean liner or watching the gradual evolution of a pneumatic tyre, but you discover us in the act of taking the first steps in the inauguration of a movement compared with which all other of our past achievements are to be considered as of minor importance. You see us gathered around the cradle of an infant university confronted by potentialities beyond the power of language to describe or of human thought to foreshadow.

THE NEW UNIVERSITY.

The problem of higher education presents at all times to the thoughtful mind a fascinating study, but on its purely literary and scientific aspects the present is not the occasion to dwell. The birth of a university brings at once to the mind of the medical man the serious consideration of the examination standards by which the new portal to the profession is to be guarded, and also the still more vital subject of the efficiency of the training and teaching to be carried out under its direct supervision. To the layman the event is of still greater importance; the medical student of to day becomes the physician or surgeon of to-morrow, armed with his lifelong commission in the struggle for the relief of suffering and the prevention or cure of disease, and in his hands are often placed the issues of life and of death. For these reasons every member of the community becomes interested in or involved more or less at some period of his existence in the efficiency of the institution which has presided over the training of his medical attendant. Hence no pains should be spared by the municipality or by the State to make this training as perfect as possible. Many people are apt to think, if they think at all, that the recognition of the medical man as a valuable public or national asset is an idea of modern growth, but you all remember that stirring episode in the *Iliad*, where Homer 3,000 years ago makes Idomeus exclaim, when commanding Nestor in the din of battle to fly to the relief of the wounded leech, Machaon, "when trembling Greece for her physician feared":

> Ascend thy chariot, haste with speed away;
> A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal.

It behoves us as medical men periodically to review our position as regards the teaching and practical training of those desirous of joining our ranks, and upon an occasion like the present no more suitable subject could occupy our attention than a survey of the existing conditions of medical education, and a scrutiny of the requirements and modifications of these methods necessitated by the progressive march of scientific research as knowledge grows from more to more. I am confident that such a survey will also incidentally reveal evidence to satisfy the medical profession, as represented by this great Association, that our new university is fully alive to its serious responsibilities, and will be able to maintain the efficiency and to uphold the dignity of medicine in this portion of His Majesty's dominions.

THE HISTORY OF THE BELFAST MEDICAL SCHOOL.

The early history of medical teaching in any educational centre is closely identified with the growth of the facilities afforded by hospital accommodation. The first mention of any such institution in Belfast, according to the testimony of Dr. Malcolm, who more than half a century ago wrote the annals of the old General Hospital, is to be found in the appalling statement that in 1689 an epidemic raged throughout the North of Ireland, thousands of the stricken being crowded into "the great hospital at Belfast," which in the course of six months became the grave of 3,762 victims. This institution was evidently a temporary one, and probably under military control, since no further mention is found of any form of organized medical relief till the inauguration of the Belfast Charitable Society three-quarters of a century later, followed in 1792 by the establishment of the Belfast dispensary system, and a few years later by the erection of the lying-in hospital and the creation of a fever hospital, the first institution of the kind established in Ireland.

The old General Hospital, which still stands in Frederick Street, was commenced in 1815 and opened in 1817, in the midst of a terrible epidemic of typhus, the victims being carried into the new buildings, whose freshly-plastered walls were still dripping with moisture, and whose stairways had been scarcely rendered secure by the overworked carpenters and masons. During the first three years of its existence no fewer than 3,527 patients were admitted within its walls. Malcolm dwells with pride upon this period of our local history, when he states that "Belfast presented a glorious spectacle of philanthropy deserving the admiration of the world. The prosperity of her later years is doubly blessed by the reflection that when but in the infancy of her strength she drained her dearest resources to help the desolate and afflicted, to dry the orphans' and the widows' tears, to feed the hungry and clothe the naked, and rescue a myriad host from impending destruction." It was during such a period of storm and stress that we learn of the first beginnings of the Belfast Medical School, when, in 1820, at the termination of the epidemic which had stricken one-fourth of the entire population, pupils were first admitted into the wards of the hospital to study disease at the bedside and to act as clinical clerks and dressers, in accordance with a resolution passed by the committee in 1817, just before the outbreak of the pestilence. (My auditors will therefore observe that in a few years hence the Belfast Medical School will be celebrating the first centenary of its existence.) This decision was the immediate outcome of the enlightened spirit which emulated the founders of the charity, when they deposited in the first stone, laid in 1815, the inscription dedicating the building to the advancement of medical science and the relief of suffering:

> HOC NOSOCOMION
> AEGROTIS ET ARTI MEDICAE
> SACRUM.
> IN SALUTEM PUBLICAM (ETC.).

Not content with the mere admission of students to watch the practice of the medical staff in the wards, we find in 1826 that the committee were fully alive to their responsibilities, realizing that clinical instruction must be for all time an obligatory portion of the duties of the physicians and surgeons. Accordingly, a systematic course of clinical lectures was commenced in the following summer, and these were most scrupulously persevered with, the lectures being delivered in the theatre of the hospital at least once a week to the whole body of students attending the institution during the winter and summer sessions. This practice, in addition to the bedside teaching, was continued for half a century, when the clinical instruction in many of the older teaching hospitals was often limited to desultory conversation around the bedside in the wards. The first theatre lecture of this systematic course was delivered by Dr. James McDonnell, a very remarkable man—an intellectual giant in his day—whose name is associated with every movement for the advancement of medical education and for the relief of suffering.

James McDonnell.

If any one name is to be singled out from amongst the founders of the Belfast Medical School, as we look backwards at the present momentous stage of our progress, it must be that of McDonnell. To him we owe the origin of the first hospital established in Ireland for the treatment of fevers, and to him is due the honour of founding the Belfast Dispensary. Malcolm relates how that in times of the greatest apathy towards this, his favourite project, when almost unassisted by an encouraging hand, he continued to tend and watch over it with fostering care and unabated interest until it had reached a vigorous maturity. He was the leading spirit in the campaign that called into existence the Belfast General Hospital.

As an evidence of his marvellous energy and of the manysidedness of his colossal character, it may be mentioned that he was also the founder of the Natural History Museum, still standing in College Square and still doing duty as our only scientific museum for the education in natural history of the people of the city. There stands his splendid bust in marble, alongside the mummy of an early Egyptian dynasty, and some geological specimens gathered by his own hands or chiselled out by his faithful servant, Mike, who in his day enjoyed almost as large a degree of popularity as his worthy master.

In the midst of his arduous labours in the interest of humanity McDonnell found time for the pursuit of original research, and contributed valuable additions to our knowledge upon the mechanism of the circulation. His work upon the variations in the pulse under diverse physical conditions and alterations in the body posture shows the remarkable originality of a mind capable at the

same time of patiently accumulating enormous numbers of observations and rightly interpreting their physiological and clinical importance. Born in the Glens of Antrim in 1762, McDonnell graduated in Edinburgh in 1784 and lived till 1845.

Though systematic courses of lectures in anatomy, physiology, and chemistry had been delivered for some years in the Academical Institution, it was not till 1835 that the Belfast Medical School, started so modestly and unpretentiously in 1820, became firmly established. In this year (1835) chairs of surgery, midwifery, and materia medica were added to those of anatomy and physiology and chemistry, and in the following year chairs of medicine and of botany were created, all in connexion with the Belfast Academical Institution, which with the General Hospital constituted the home of the Medical School up till the establishment of the Queen's College in 1849.

The first list of professors appointed to these medical chairs contained the names of men some of whom have left an indelible impression upon the science of medicine. A brief glance at their achievements will show that from the moment of its birth the Medical School of Belfast was characterized by an originality of thought, an earnest and conscientious recognition of its high mission and an intense practical trend—qualities which stand out prominently in its subsequent history, and which still remain as its chief distinguishing features after almost a century's patient and noble service.

Thomas Andrews.

The first of these men was Thomas Andrews, born in Belfast in 1813. He practised as a physician actively and successfully, and was one of the clinical teachers in the General Hospital up till the year 1846. Though he finally abandoned the practice of medicine for the profession of the theoretical chemist, we justly claim him as one of those who laid the foundations of our Medical School upon a thoroughly scientific base. Bringing his great intellect to the elucidation of clinical problems at a time when purely scientific methods were not often applied at the bedside, he gave a high character to the clinical teaching at the hospital, and adapted his lectures on chemistry all through his long occupancy of the chair at Queen's College to the students of medicine in a practical manner only possible to a teacher highly trained in clinical methods. His discovery and demonstration of the continuity of the liquid and gaseous states, his achievements in the domain of the liquefaction of gases facilitated by his discovery of the critical point in their condensation, and his research work on the latent heat of vapours, on the heat of chemical combination, and on the qualities of ozone, have gained for him an imperishable name amongst the ranks of scientific discoverers.

At this university stage in our career I feel it my duty to pay a tribute to the remarkable foresight and fearless honesty of this great pioneer of medical education. He was the first to see clearly half a century ago that nothing but the creation of an independent northern university could meet the requirements of Belfast, and he never lost a suitable opportunity of impressing his conviction upon those responsible for the state of higher education in the country. In 1867 he published his *Studium Generale*, in which he urged powerfully the Government of the day to elevate Owens College, Manchester, to the rank of a university of the Scottish or German type, contending that the system of affiliating teaching institutions with a central university was fatal to freedom and intellectual progress, leading to "the degradation of all high mental culture whether scientific or literary."

Henry MacCormac.

The first occupant of the Chair of Medicine, created in 1836, was Dr. Henry MacCormac, father of Sir William, the late President of the London College of Surgeons. He was born in 1800 and lived till May, 1886. In a short sketch of the life of this remarkable man, published in the *Transactions of the Ulster Medical Society*, I have contrasted his mental qualities with those of Andrews. From this obituary I may be permitted to quote a few sentences. His claim to a position amongst the immortals is not that of a discoverer, of a pioneer, or of a reformer. He belongs to the rarest group of medical celebrities—MacCormac was a seer.

Many of us who knew him well are only now beginning to realize his remarkable prevision. He saw clearly, as only the seer can, things whose advent, if we yet see at all, we see through a glass darkly. Andrews found out new truths after most laborious though brilliant methods of research, not advancing one step until he had patiently satisfied himself of his data; MacCormac saw them afar off by means of some gift possessed by the few, but when he paused to reason upon the nature of the truth revealed to his subtle instinct he frequently erred. Andrews's results were the outcome of the exercise of rare reasoning powers, drawing safe conclusions from observed facts, and leading with scientific precision often to important advances in knowledge.

MacCormac in all fairness must be regarded as the father and originator of the open-air treatment of phthisis and scrofula. The unity of both diseased conditions, as well as that of the so-called white swelling in joints, was clearly realized by him at an early period in his medical career. In his work entitled *The Nature, Treatment, and Prevention of Pulmonary Consumption, and Incidentally of Scrofula*, published in 1855 in London, Paris, and Leipsig, he dwelt with almost painful repetition upon the influence of impure or rebreathed air as a predisposing and a vital cause of tuberculosis.

I am conscious that in an address dealing with the history of our Medical School and its present position as regards medical education I am travelling outside the track of my subject in dwelling upon MacCormac's claims as the man who first put into practical shape the open-air treatment of phthisis, which is to-day regarded as one of the most important advances in modern therapeutics. I do so because it brings home to us the greatness of a mind which for many years continued to stamp its original bent upon our Medical School at the most impressionable stage of its existence. It is also, unfortunately, necessary to emphasize his claims to priority, since these have been somewhat lost sight of by the prominence given to the valuable labours of Hermann Brehmer.

Two years after MacCormac had graduated and commenced the practice of his profession Brehmer was born, and when his first work appeared in Berlin in 1856, a year after MacCormac's classic was published, he was only 30 years of age, though it must be acknowledged that his researches were independent and original, since we find that he had already established a small sanatorium in Görbersdorf in 1854.

Writing in 1855 MacCormac states that: "For a long period of years I have, with an increasing fullness of conviction, discerned the undesirable results flowing from an ill-renewed atmosphere. I am perhaps the only physician of my time and standing, possibly the only one who is intimately and entirely convinced that consumption is not only when taken early very often removable, but, what is of still greater importance, that with proper means and appliances it is in every single instance preventable."

The proper means and appliances he defines in the constant formula to be used by the rich and poor—namely, to sleep with their windows largely open, and to spend as much time as possible in the open air. For those already tuberculous he insists that there shall be a ceaseless, unlimited supply, day and night, winter and summer, of pure fresh atmosphere in the apartment of the sufferer, his rule being that the chamber atmosphere must be as pure and untainted as the open air, in which the patient should spend as much time as his strength, the weather, the season, and his means will permit. These words, which I quote from his work of 1855, may be taken as containing every vital essential of the most modern method of treating this fell disease, and he emphasizes the importance of a liberal supply of highly nutritious food. It is a somewhat sad reflection that the invaluable teaching of this genius of his day required almost half a century for its full fruition. In his own time, and as early as 1855, he complained "that whilst some complied intelligently with his suggestions, others treated every direction with indifference; but to cleanse the Augean stable was a very trifle compared with the difficulties encountered by him who would unmask a single prejudice, supersede a single habit, however hurtful and pernicious to his kind."

I am addressing some individuals who are old enough to remember that upon more than one occasion Dr. MacCormac figured in the local police court, being summoned by irate patients for smashing with his walking cane the panes of glass in the windows of the sick chamber when he found these hermetically sealed against the admission of the outer air, so profound was his conviction and so consuming was the fire of his zeal.

When our great Association next honours this progressive city by its presence I feel confident that one blot upon its fair name will have disappeared—a noble statue of this great physician, I trust, shall adorn one of our leading thoroughfares, testifying to our appreciation of his genius and our gratitude for his far-reaching labours in the interest of suffering humanity. There is an excellent marble bust of this venerable sage in the art collection of the municipal library, which can supply accurate material for an ornate monument, such as has already been erected in Germany to the cherished memory of Hermann Brehmer. No more suitable time could be chosen for the launching of such a worthy project than the present, when all Ireland has been awakened by the noble crusade against tuberculosis inaugurated by Her Excellency the Countess of Aberdeen.

Alexander Gordon.

In 1847 Alexander Gordon, the originator of the radial splint and clavicular apparatus, was elected to the Chair of Surgery in the Medical School, whilst its home was under the roof of the Academical Institution, and he was transferred to the new chair established in Queen's College in 1849, upon which he continued to shed an ever-increasing lustre till his retirement in 1886, an unbroken period of almost forty years.

Gordon was a robust thinker, the bent of whose powerful mind was inventive or creative, though he was also one of the closest and most accurate observers of his day—a combination of intellectual qualities not often met with in medicine. Confining his mental activity mainly to the domain of fractures, whose etiology, pathology, and treatment he found in a condition of chaos, dominated largely by empiricism, he left it with its pathological problems and clinical signs reduced to order and its treatment based upon a purely scientific foundation. If we reflect for a moment upon the state of the literature of fractures at the lower end of the radius, the outer end of the clavicle, and at the neck of the femur, when Gordon commenced his studies it might be compared to the condition of a stagnant pool, which he transformed into a clear and crystal spring. A remarkable tribute to his genius and accuracy is afforded by the revelations of the Roentgen rays when applied to the elucidation of recent fractures, a method which has corroborated in many details his views, maintained fearlessly against a host of hostile critics. In a sense, less poetical than it may seem to some of my auditors, Gordon may be said to have forestalled the use of the x rays, his colleagues being often astonished at how, guided by his highly-trained sense of touch, his vision almost seemed to pierce through the skin and soft tissues to the position of the fragments in a swollen and oedematous limb. His lasting monument will be found in his unrivalled collection of fractures, to be seen in the pathological museum at Queen's University. The influence of Gordon's teaching in the class-room, in the operating theatre, and by the bedside in the wards of the old General Hospital was a powerful factor in the advance of the Medical School, nor was his power due exclusively to his originality in thought and practice; few teachers ever held a more undivided sway over the hearts of their pupils than did this fearless and honest and pure-minded surgeon.

I am addressing many of Gordon's old pupils, one of whom—our local treasurer—loves to relate a striking instance of his originality, patience, and resourcefulness in overcoming apparently insuperable difficulties. No better illustration could be given of the genius of the great surgeon who so materially assisted in the building up of our Medical School during the middle of the last century. Early in his professional career he started to build with his own hands a small sailing boat; after the final completion of his task, and not till then, did he discover that his work of art, like the famous picture of the family of the Vicar of Wakefield, was too large to be removed through the door of the apartment in which it had been created. Nothing daunted, Gordon proceeded with his own hands to cut the small vessel in two, and, after its successful removal from the loft in which he had worked at it for several months, he conceived the idea of lengthening the boat. This he successfully accomplished by the insertion of a new central portion of considerable length between the divided ends of the original, thus foreshadowing the possibility of one of the greatest feats ever performed by the modern architects of our large ocean steamers.

Peter Redfern.

From the foregoing brief sketch of a few of the many master minds which moulded the character of our local school of medicine during the critical period of its early existence, before and immediately after the establishment of the Queen's College, we are led up to the advent of the illustrious teacher whose influence more than that of any other man consolidated its varied units and created for it a reputation which placed it amongst the foremost group of teaching institutions in the United Kingdom. Professor Peter Redfern in 1860 succeeded to the Chair of Anatomy and Physiology, first established by Drummond and afterwards occupied by Hugh Carlisle. The number of medical students attending classes in Queen's College at this time, though steadily rising from its opening in 1849, had only reached the total of 116. As the fame of the anatomical department under Redfern began to travel beyond the boundaries of the North of Ireland the numbers markedly increased, so that within a period of fifteen years they had doubled, and in 1881–1882 the medical roll of the college contained the names of 364 students, whilst the hospital register showed those of some other senior men pursuing their clinical studies after having completed their collegiate courses. It will probably surprise many of my auditors to hear that for several years about this period our local school of medicine was the third largest in the United Kingdom, Edinburgh and Glasgow alone exceeding it numerically. Redfern continued to fill the double Chair of Anatomy and Physiology till 1893, when he was compelled to retire owing to the operation of the age limit, the Crown having previously extended his tenure of office beyond the regulation limit in just recognition of his exceptional services. He was succeeded in the Chair of Anatomy by Professor Symington, an anatomist of world-wide fame, so that our anatomical school has enjoyed an unbroken period of nearly half a century's preeminence.

It is a difficult task to do justice to the many brilliant gifts of Redfern as a teacher of anatomy. The accuracy and range of his knowledge, the fascinating lucidity of his expositions, his polished oratory, and the magnetic influence which he wielded at the dissecting table and in the class-room, are still cherished memories with his many old pupils occupying honourable positions in the profession throughout the world. But if there be a single gift or quality to which we are to attribute the secret of his successful career as a teacher or as the founder of a school of anatomists, it must not be to any of those brilliant powers just mentioned. In him the quality of *thoroughness* developed into a master passion. Every department of his anatomical work was dominated by it; with him, as regarded the teaching of anatomy and physiology, "there existed not a trifle." He might well with pardonable pride point to the success of his life work in the report of the inspectors appointed by the Medical Council when they stated their opinion that the students of Queen's College, Belfast, were taught a great deal too much of anatomy, for he strenuously held that an intimate and practical acquaintance with the details of anatomy must ever prove to be the only solid foundation upon which a progressive science of surgery and medicine can be erected. Into his well-earned leisure and retirement he carries with him the reverence and the love of all his old pupils. Looking back upon the strenuous labours of his long life to give to anatomy the first place in medical education, he may justly claim to be the real founder of our new and progressive local school of operative surgery, which bears the stamp of its great sire in its thoroughness, patient and scrupulous attention to every practical detail, and in its

conscientious devotion to the ideal of the sacredness of human life.

James Cuming.

During the long term of Redfern's occupancy of the Chair of Anatomy the Chair of Medicine was filled by James Cuming, who died in harness in 1899. Some of my auditors will remember him as President of the British Medical Association when your great organization visited Belfast in 1884—a memory, indeed, which almost overwhelms him who ventures to address you to-night. Would that Cuming's mantle, along with his memory, had fallen upon his unworthy successor to this honourable position! During his tenure of office as professor he was fortunate in occupying for thirty-four years the office of Visiting Physician to the Royal Hospital, where he was the colleague of Dr. James Smith, whose powers as a clinical teacher rarely have been excelled. As Smith's brilliancy at the bedside proved a valuable asset to the Medical School, so in those days Cuming's prowess in the class-room became soon no less generally recognized. He was the thorough master of an almost perfect literary style—the outcome of a lifelong and intimate acquaintance with the best writings in ancient and modern literature—which made his class-room expositions models of elegance, lucidity, and power.

It is doubtful if the brilliance of the *personnel* of any medical school in the United Kingdom has ever excelled that of our own during the Seventies and Eighties of the last century, when the list of our teaching staff contained such names as those of Redfern, Andrews, Gordon, Cuming, and Smith.

Recent History.

Notwithstanding, however, the brilliancy of such a galaxy, the ill-advised and disastrous legislation which effected the dissolution in 1882 of the Queen's University of Ireland, and in its stead established the examination board, known as the Royal University, immediately checked the increasing prosperity of the Belfast Medical School and at the same time retarded the growth of true academic life in Ireland outside Trinity College, Dublin. The numbers of students studying medicine at Queen's College, Belfast, showed a marked falling off, and by the year 1888, when the Royal University Act had come into full operation, these had fallen from 364 to 220, a decline corresponding to about 40 per cent.

When all allowances have been made for normal fluctuations, it is gratifying to find that of late years the position of our Medical School has been steadily, if slowly, improving, especially when we reckon the increasing percentage of senior students who continue to attend the clinical instruction in the hospitals after having finally completed their academical courses in the lecture halls of the college. So that we now find ourselves at the commencement of the university stage of our existence with an average roll of about 270 students of medicine preparing themselves for their serious life work at the different teaching institutions in our city.

Clinical Resources.

The mention of these institutions brings me to a most important point. I need not remind my hearers that large and prosperous arts and science faculties may flourish in a university established anywhere independent of the density of the population in its immediate vicinity. It is otherwise with an efficient medical faculty, as such cannot exist unless in a centre sufficiently populous to supply every hospital facility for the practical teaching of medicine and surgery and their allied specialities. It is conceivable that hospital facilities considered adequate for the wants of a medical department attached to an affiliated college might fail to meet the requirements of the medical faculty of a university, and it behoves us as a profession to inquire into the amount and nature of the clinical pabulum placed at the disposal of those students who may select our new university as the portal for their entrance into the ranks of the brotherhood of scientific medicine.

There are at the present moment upwards of 3,500 beds freely available for clinical instruction in Belfast, all of which from time to time during late years have been utilized by the students attending our Medical School.

These are made up in the following manner:

General Hospitals.—Royal Victoria Hospital, 300 beds (266 of which are at present occupied); Mater Infirmorum, 150 beds (122 of which are at present occupied); Union Hospital, 1,400 beds.

Fever Hospitals.—Purdysburn Municipal Hospital, 168 beds; Union Fever and Small-pox Hospitals, 260 beds.

Children's Hospitals.—Queen Street Hospital, 45 beds; Ulster Hospital for Women and Children, 28 beds; Throne Children's Hospital, 35 beds.

Eye, Ear, and Throat Hospitals.—Clifton Street Hospital, 35 beds; Great Victoria Street Hospital, 25 beds.

Skin Hospital.—Clifton Street Skin Hospital, 32 beds.

Maternity Hospitals.—Townsend Street, 32 beds, and Extern Maternity (about in all 200 cases yearly); Ulster Hospital, 2 beds (and 6 Gynæcological beds), with Extern Maternity (267 cases yearly).

Samaritan Hospital.—25 beds.

District Lunatic Asylum.—1,000 beds.

If we scrutinize the amount of teaching material which flows through the great extern department of the Royal Victoria Hospital annually, every case being utilized for instruction, we shall find that the number of new cases amounts to about 30,000, representing an attendance of 90,000; these, with the attendances at the externs of the Mater Infirmorum and the various special hospitals, make a huge total of about 170,000 each year.

It is obvious at a glance that the clinical and extern teaching facilities in Belfast are much more than sufficient to meet the demands of a medical faculty of the largest possible dimensions.

All these teaching institutions are of quite modern construction, and as the members of the Association will have the opportunity of seeing for themselves during the week, the Royal Victoria Hospital is probably better equipped for purposes of clinical instruction than any other teaching institution of its size in the United Kingdom. In order that you may form some idea of how this great mass of varied clinical wealth is being at present utilized, it is only necessary for me to add that outside the large staff of university professors and lecturers there are physicians and surgeons and specialists to the number of about sixty engaged actively from day to day in the teaching of medical students at the bedside and out-patient departments of the charitable institutions provided for the relief of the suffering in our city.

Laboratories.

It is unnecessary to weary you with details regarding the staff of professors and lecturers engaged in teaching at the university in the Faculty of Medicine, most of whom are already known to you by their valuable contributions to the literature of medicine. Nor is there any necessity to dwell upon the series of splendidly equipped new laboratories—physical, biological, chemical, pathological, physiological, and pharmaceutical—which, through the indefatigable exertions of Vice-Chancellor Hamilton and the munificence of our citizens, and of Sir Donald Currie, have been recently added to the university buildings.

I hope I have been able to satisfy you, from the history of our past progress and from the evidences of the amplitude of our present resources, that our new university starts upon its educative mission fully equipped for maintaining the best traditions and highest ideals of British medicine. But at the present critical stage in the progress of scientific medicine and surgery there lies, beyond the venerating of ancient tradition and the living up to stereotyped, lofty ideals of teaching, a more solemn duty imposed upon the responsible heads of every medical school and faculty of medicine in each university. This duty consists in the establishment of radical reform in the curriculum, urgently necessitated by the enormous accumulations of new scientific facts and theories; and it is at once obvious that the error of clinging to obsolete ideals is less pardonable in a young university than in an ancient medical corporation.

DEFECTS OF THE MEDICAL CURRICULUM.

This brings me to the consideration of the second part of my remarks—the present unsatisfactory state of medical education—a subject bristling with difficulties; but I shall only detain you for a brief period with the most important and pressing of these difficulties. All authorities agree that a medical curriculum which was planned forty years

ago is now entirely out of date, since at that time bacteriology was scarcely dreamt of; medicine, surgery, and gynæcology were in a rudimentary state contrasted with their present condition; sanitary science was practically non-existent, and it was then still possible to obtain a degree or diploma in medicine in less than a three years' period of study. I need not remind you that the stringent regulations of the General Medical Council of to-day render it impossible for the student of medicine to obtain his qualification to practise until after the lapse of a minimum period of five medical years, or fifty-seven months from the passing of his entrance examination and registration.

The aim of the General Medical Council in prolonging the minimum period of study from four to five years was to enable the student to devote entirely his fifth year to clinical or bedside study in medicine, surgery, and the special departments, all of which had in the meantime increased enormously in complexity and importance. But the preliminary sciences—biology, physics, chemistry, and physiology—had also grown prodigiously, with the result that the additional year has been practically swallowed up in the study of these sciences or appropriated by the specialized teachers in these subjects. (As regards the teaching of anatomy, it is obvious from the enormous development of the final or practical subjects that the prominent place justly given to this subject, whose study occupied such a large proportion of the students' time, is now no longer possible as it was in Professor Redfern's day.) The outcome of the existing regulations is that the brain of the student failing to expand in assimilative power with the growth of advancing science, we have arrived at the crux, so ably propounded by Professor Starling at the Sheffield meeting last year, of getting two pints into the one pint pot. The disastrous effect of the attempt to achieve this impossibility is seen in the rather startling fact demonstrated by the investigations of the General Medical Council, which prove that the mean or average time actually spent by the medical student in obtaining his degree or diploma is not the minimum period of fifty-seven months, but one of almost eighty-four months, just falling short of seven long years by only three weeks.

Nor is this, in my opinion, the worst evil of the many arising out of the working of the present ill-arranged curriculum of medical education. A considerable proportion of students, after failing in passing the examinations in the preliminary subjects of physics, biology, and chemistry, or before presenting themselves to the examiners in anatomy and physiology, proceed to attend the classes in the advanced or final subjects, and put in an attendance at the hospital with the one or two sets of examinations in these earlier subjects still hanging over their heads, which paralyse their capacities for obtaining anything like an efficient training in the subjects whose practice is to become their ultimate life-work.

The evil of the system which permits such a course is fully seen in the cases of those students who only succeed in passing their examination in the intermediate subjects at a stage in their career when they have completed, or almost completed, their entire academic courses and hospital attendances, with the pernicious result that their last year before qualifying is entirely devoted to the grinder or spent in cramming the undigested contents of the various textbooks to the total neglect of the invaluable mine of wealth available in the wards and the extern department of the hospitals, and which they had been merely able to tap in the preceding years of their study. After more than a quarter of a century's experience as a hospital teacher and as an examiner, embracing a practical acquaintance with the working of three universities in the United Kingdom, I feel constrained to believe that in the sending out of *men qualified immediately to enter upon the routine practice of their profession*, we are, in some respects at least, behind the results obtainable in the old days of apprenticeship.

The Reforms Necessary.

It is easier to point out the evils in the existing system of medical education than to suggest remedies for them, just as it is easy to diagnose a serious malady and often impossible to suggest a remedy for its cure. But, fortunately, the indications for treatment in the case of the more important of these evils are as clear as they are imperative. The preliminary and intermediate periods, amounting to three years out of the minimum of five years, must be shortened, and the clinical period of study must be increased if we are to train more efficiently, and turn men out of our teaching institutions properly equipped for their serious life-work. How is this readjustment of the curriculum to be accomplished? Obviously an enormous aid to it would be a compulsory examination in experimental physics and chemistry at matriculation. Such an examination could never dispense with the necessity of a complete academic course in these subjects; it would ensure the student having some knowledge of the principles of both sciences from the start of his college work, and enable the average lad easily to pass his further examinations in them within a period of twelve months from matriculation. Already the old notion that the stage of school life should be entirely devoted to purely literary studies is showing signs of yielding to the urgent pressure of modern ideals, which demand that boys must be trained to observe and reason upon the operations of the natural forces continually manifesting their presence in the world around them. Owing, however, to the present unsatisfactory arrangements for the teaching of science in the majority of the secondary schools, little relief is to be immediately expected from this method of shortening the curriculum of the preliminary subjects, though we can confidently count upon a steady improvement in the amount of elementary scientific knowledge possessed by medical candidates presenting themselves for matriculation, hence our new university has wisely permitted physics and chemistry to appear in the list of optional subjects for the entrance examination.

It is manifestly out of the question that we should be compelled to wait for the universal introduction of science teaching in the public schools before attempting to shorten the curriculum in the preliminary medical subjects. Moreover, such a consummation, however devoutly wished for, could not be expected to aid us effectually in dealing with the still more important studies of physiology and anatomy. There is a growing conviction, amounting amongst those best qualified to judge aright in this matter to a consensus of opinion, that a prolongation of the period devoted to clinical studies can only be achieved (without unduly lengthening the entire curriculum) by *a radical change in the method of teaching the entire group of preliminary and scientific subjects.*

The crux of the question centres itself in the problem of instituting the desired reform without lowering the standard of the student's knowledge in these subjects. It would be a retrograde and perhaps disastrous epoch in medical education should each of our specialized teachers begin to realize that his own particular subject was not the most important one in the curriculum; but "Art is long and Time is fleeting," and, as Sir Felix Semon reminds us, "Technique is difficult." Were I placing merely my own convictions—the outcome of years of thought and observation—before you upon the urgent necessity of reform in the teaching of physics, biology, chemistry, physiology, and anatomy *to the medical student*, I would be overwhelmed by the feeling that I was treading upon dangerous ground, beset with many snares and numerous pitfalls; but the University of London has boldly declared for reform, and has decided that the teaching of these subjects must be conducted *with due regard to their bearing upon the special requirements of the student of medicine.* A fact which ensures the success of this great revolution is the pleasing one that the campaign is being led by the teachers of these sciences.

Professor Starling, a member of the Senate of the University of London, who occupies the Jodrell Chair of Physiology in University College, made the spirit of the new regulations clear at our last Annual Meeting in Sheffield. He said we must acknowledge that the present training in science received by the medical student fails in its end and does not make him scientific. The words of this great teacher of one of the intermediate subjects are so weighty they will bear repetition when he states "that from the very commencement of his medical curriculum the work of the student should be directed; every scientific subject which he studies, whether it be chemistry, physics, or physiology, should be considered

only in its bearings on his future work as a medical man." I would venture to suggest that these words should be written in letters of gold and set up in the retiring-room of each teacher of the preliminary and intermediate subjects in our universities and medical schools, when soon we would cease to see the lamentable fiasco of the attempt to make every medical student an accomplished physicist, an analytical chemist, an experimental physiologist, a practical botanist, and an expert zoologist, as these phantoms dangle before his mental vision whilst he is already far advanced in putting in a vain and perfunctory attendance at his final classes, or whilst he is absent-mindedly sauntering about the extern department, or wandering aimlessly through the hospital corridors.

Professor Starling maintains that this "directed" method of teaching should also be applied to the subject of anatomy, where the minute knowledge which is insisted upon at the present time as regards the direction of muscular fibres, the insignificant markings on the bones or the identification of fragments of human bones can have no bearing on the student's future work, even if he is to be an operating surgeon, and that all anatomy should be learned as surgical and medical anatomy. He believes that "by such a method, far from sacrificing the scientific training of the student, we would ensure that the whole of his science studies, preliminary or intermediate, would be built up with his clinical training into one compact scientific fabric—the science of man and his diseases."

The application of the principle of this applied or directed method of teaching is planned by the Senate of the University of London to reduce the former three years of preliminary and intermediate study to two years and a half, and the new arrangements even permit of this period, under certain conditions, being further reduced to two years. It is to be noted, however, that as the clinical part of the students' course is now to be fixed at three years there is, therefore, a lengthening of the entire curriculum from the minimum of five to five and a half years. Since, however, only a small percentage of students are able to graduate under about six years, it is confidently anticipated that by the better division of work the new arrangements will really shorten the entire period of study. These new regulations have come into operation in the London University during the present month.

Beyond all shadow of doubt the time has fully come when a general and complete overhaul of the medical curriculum in all the universities and in every medical school in the United Kingdom is urgently necessary. There can also be little doubt that the reconstruction must be carried out upon the lines laid down by the University of London.

THE ATTITUDE OF THE QUEEN'S UNIVERSITY OF BELFAST.

The 20,000 members of the great British Medical Association have a right to ask what is the attitude of the Senate of the new Queen's University of Belfast regarding the programme of medical education. This is not a question whose interest is exclusively centred in the functions of the General Medical Council, since the honour, the efficiency, and the traditions of the profession are more or less influenced by the accession of each batch of medical graduates permitted to swell its ranks every spring and autumn through the new portal. Nor is it a subject of interest only to the members of the profession resident in Ireland, since a considerable proportion of our medical graduates, as in the past, will ultimately seek England, the Public Services, and our Colonies as the spheres of their future life-work.

I rejoice at being in a position to give an answer to this question which can hardly fail to prove satisfactory. We have modelled our regulations regarding the medical curriculum upon lines somewhat similar to those inaugurated by the University of London, and being an entirely new university, absolutely untrammelled by any vested teaching interests, I respectfully but confidently submit that we have been able in some ways to improve upon the new regulations laid down by that august institution without, we believe, any lowering of the recognized standards of excellence. If we have been delayed till now in the realization of our aspirations towards achieving university rank, the delay has enabled us from the start of our career to seize on the latest improvements and most advanced developments in medical education, which in recent years have been grafted upon the various and varied curricula of the older universities and long-established corporations in their attempts at keeping pace with the ever-swelling tide of medical knowledge. In the planning of our new curriculum we were most fortunate in having the aid of the supervision of one of the Commissioners of the University in Sir Donald MacAlister, the able President of the General Medical Council, in whose unique personality is combined the rarest business acumen with the most profound knowledge of the requirements of progressive medical education.

Though not presuming to state that my distinguished colleagues who teach the preliminary and intermediate subjects in the Queen's University of Belfast all go so far as to endorse in its entirety every view of the eminent professor in University College whom I have already quoted, I am justified in stating that they have always conscientiously and successfully aimed at directing the studies of the medical student from the point of view of his future serious vocation as far as our intimate connexion with the cumbrous and somewhat obsolete machinery of the now expiring Royal University permitted.

I shall not risk wearying you with minute details of the curriculum of our new university; suffice it to say that within a period of one year, consisting of one winter and one summer session, from matriculation the student can present himself for examination in all the preliminary subjects—experimental physics, chemistry (both theoretical and practical), and botany with zoology (both theoretical and practical). Within twelve months more he can complete his curriculum and examinations in anatomy and physiology, so that, if diligent and of average ability, he finds himself, before entering upon his third winter, completely free from study and from attendance upon all the classes of the preliminary and intermediate subjects, and privileged to give henceforth his undivided attention for a period of three whole years to practical clinical work and attendance upon the lectures devoted to the final subjects, whose practice is to constitute his life-work.

By this judicious arrangement of his time and study the new university has thus been enabled to change the usual three years devoted to preliminary education, and the two years into which the clinical study had been squeezed, into two years of preliminary training and three whole years of clinical work. That this result is not obtained by sacrificing any of the time formerly devoted to the teaching of these scientific subjects is evident upon glancing at the calendar, which shows that during the first two years the student is compelled to attend no fewer than sixteen separate courses of lectures, each course being of the usual length and consisting of the recognized number of lectures. The standard of excellence is maintained by arranging that the examination in each subject shall be conducted at the termination of each session, that the instruction given shall be in every possible way carried out on practical or experimental lines laid down upon the directed method already mentioned, in which the bearing of principles and facts are presented with due regard to the wants of the student and of the future practitioner of medicine.

Whilst there is thus no danger of any lowering of the standard of scientific knowledge required of the student, ample provision is made for the maintenance of his clinical training at a high level by compelling him to avail himself for a minimum period of three years of the almost unrivalled hospital facilities at the command of the new university.

The spirit of thoroughness in which our curriculum has been conceived is further demonstrated by a regulation which prohibits the student's attendance upon lectures on the final subjects until he has passed his examinations in the preliminary subjects.

In conclusion, I trust that this necessarily fragmentary sketch of the origin, development, and progress of the Belfast Medical School under the master minds of its early teachers, whose present successors are determined to uphold its traditions, and keep abreast of the tide of advancing knowledge, will carry the conviction to the minds of my auditors that a great, glorious, and free university has arisen to shower its blessings upon our province, to carry the lamp of learning, and to bear upon its wings the balm of healing to the remotest parts of our colossal Empire.

Address in Medicine

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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PROGRESSIVE MEDICINE AND THE OUTLOOK ON TUBERCULOSIS.

It is fitting that the first word this afternoon should be one expressive of my sincere thanks to the Council for the invitation with which they have honoured me to deliver the Address in Medicine at the Annual Meeting of the Association. In responding to the request, I am sensible of the responsibility no less than the compliment which is implied. As years go by, the choice of a subject does not grow easier. The immensity of the field constitutes an increasing difficulty.

Turning the matter over soon after the invitation reached me, I chanced to pass my old school, left, almost to a day, thirty-five years ago. It occurred to me that in place of attempting to project a bird's-eye view of medicine as a whole, it would be well to limit attention to one department which illustrates in striking fashion the extraordinary revolution of thought which has occurred in little more than a generation. In selecting for my theme the outlook of modern medicine on tuberculosis I make no apology for the choice. No subject in medicine has wider interest. No assembly can appraise, as this great Association can, its significance and magnitude. You know its difficulties and have to face them every day. I am influenced, too, by the fact that the Association meets this year in Ireland, where, thanks to the admirable energy of Her Excellency the Vice-Reine and the generous co-operation of the medical profession, a great anti-tuberculosis movement is in progress. Nor can I forget the striking part played by the city of Belfast in times gone by through the remarkable labours and writings of Dr. Henry MacCormac, and in more recent times by those who are yet with us.

RETROSPECTIVE.

Let me try rapidly to picture the change which has come over the spirit of our dreams. Recall the general attitude towards tuberculosis of thirty-five years ago. Recall the atmosphere of ignorance and helplessness and hopelessness. Then turn to the period I have selected, and view the bounding, surging movement which has compelled the great march forwards.

To give greater precision, let me divide the thirty-five years into five lesser periods of seven years each.

The first period (1875–81) was one of darkness and fog. The great work of Laennec and Louis was threatened with eclipse. The unity and specificity of the tuberculous process were obscured. Terminology was vague and inexact. Tuberculosis of the lung was labelled catarrhal pneumonia, with three stages of congestion, consolidation, and excavation. A "neglected cold" played a chief causal rôle. The hopelessness of therapeutics was depressing. Here and there appeared glimmering of light. Experimental research on the earlier lines of Villemin presaged the dawn.

The commencement of the second period (1882–88) saw the advent of daylight. Koch's announcement to the *Physiologische Gesellschaft* of Berlin, on March 24th, 1882, came like sunrise to a sleeping city. The discovery of the tubercle bacillus inaugurated a time of Sturm und Drang—the strife of critics and opposing doctrines. The tremendous significance of the brilliant discovery could not be realized at once. Time was needed for the correction and adjustment of older views. Research had to develop on fresh lines. The character, life-history, properties, and morbific activity of the tubercle bacillus were studied by a host of observers. The conception came gradually—not an absolutely new conception indeed—that tuberculosis, notably pulmonary tuberculosis, must be given a place among infective diseases. The old feeling after truth, which led the Italian and Spaniard almost a century before to pass enactments prescribing preventive measures against tuberculosis, was found to rest on scientific fact. Gradually there emerged indications of a larger outlook towards prevention.

During the third period (1889–95) observation and research were pursued with increasing exactness and better result. The period is remarkable because of two events: (1) The announcement of tuberculin; (2) the more general adoption of the doctrine of aëro-therapy, a doctrine promulgated long ago, but little apprehended or applied. The intimation by Koch in 1890 that he had obtained in tuberculin an agent of specific value in the diagnosis and treatment of tuberculosis was an event only second in importance to the announcement of the bacillus itself. It needed years, however, to enforce the conviction that tuberculin, which was received with mingled criticism and almost hooted from the stage, embodied a principle of greatest significance to medicine.

The fourth period (1896–1902) saw the more rapid spread of antituberculosis activity throughout the civilized world—the increasing determination of scientific, social, and, to some extent, official, effort towards the tuberculosis problem. While experimental research was pursued with keenness, men's minds were awakened to the large issues of preventive medicine. This was the time of more general development of the Sanatorium. The Tuberculosis Dispensary, inaugurated in the Eighties as a centre of antituberculosis operations, aroused attention. Notification was admitted as a practical measure. Tuberculosis associations were founded in different centres. Conferences and congresses began to be held. The commencement of the twentieth century found the subject pretty much in the air.

The fifth and last period of seven years (1903–9) is remarkable for the development of larger views on immunization and the appearance of the opsonic doctrine and its application to therapeusis as a means of directing vaccine-therapy. Diagnosis has been made more exact by various adaptations of tuberculin. This is also the period of more rapid evolution of preventive measures. The physician and the sanitarian have joined hands, and have been aided not a little by thoughtful social workers who recognize the vast part played by tuberculosis as an agent of national devitalization and impoverishment. The nations of the world are falling into line. Repeated international congresses have borne excellent fruit. With exchange of ideas endeavour has become better directed and more uniform. The significance of organization and co-ordination of effort is gradually being appreciated. Administrative control is taking practical shape. And so the great work goes on.

PRESENT POSITION AND OUTLOOK.

To-day I invite you to pause for a brief hour and think what the discovery of the tubercle bacillus has meant to medicine and to the world, and what it may mean. Nor deem this a trite or exhausted subject. I hope to succeed in showing that, great as have been the advances already made, still greater are the possibilities which the discovery implies.

Consider the matter more closely. The determination of the essential cause has called order out of chaos. It has thrown to the winds the vague, nebulous talk of dualism which long perplexed medical science. Tuberculosis, however various its aspects, is one indivisible entity, dependent essentially on the presence and activity of one organism. Behind the changing pathological and clinical appearances the tubercle bacillus remains single and constant.

NOMENCLATURE AND CLASSIFICATION.

The discovery has taught us to call things by their proper names. In presence of tuberculous infection, mysterious inflammations, formerly named in misleading fashion pneumonia, bronchopneumonia, pleurisy, bronchitis, etc., are getting their proper place. We are facing the fact that tuberculosis is vastly more common and infinitely more various in manifestation than we dreamt of in years gone by.

We have come to realize that when tuberculous disease

is present in an organ, be it in the lungs or elsewhere, we have to deal with a specific disease the local manifestation of which may be comparatively unimportant compared with the systemic effects. Commonplace as the view may appear, it can hardly be emphasized too much. It is lost sight of sometimes when it should be accentuated most. Take, for example, the classification of pulmonary tuberculosis recently adopted by the International Conference of Tuberculosis at Vienna in 1907, which embodies what was previously known as Turban's classification. This recognizes three stages of pulmonary tuberculosis, which I recall according to the official description:—

Stage I.—Disease of slight severity, limited to small areas of one lobe, which, for example, when affecting the apices bilaterally, does not extend beyond the spine of the scapula and the clavicle, or, unilaterally, does not extend below the second rib anteriorly.

Stage II.—Disease of slight severity, more extensive than Stage I, affecting at most an entire lobe, or of greater severity extending at most over half a lobe.

Stage III.—Disease of greater extent than just defined and all cases with considerable cavities.

It seems a pity that the stages which this classification admits are solely stages of anatomical change within the lung. Little cognizance is taken of systemic involvement. Yet, after all, the prognosis and treatment of a given case are governed by the degree of systemic intoxication rather than by the extent of local change. For on the one hand, the local change may be extensive, and yet the prognosis remain comparatively good because of the absence of systemic disturbance. On the other hand, the local lesion may be relatively slight and yet the prognosis be serious because of the disproportionate degree of intoxication. On that account I prefer a classification which gives approximately just expression to both the local and the systemic disturbance. Adopting the symbol L for the local or lung lesion, and admitting three stages as in the classification just referred to, we may speak of L_1, L_2, L_3. To express systemic involvement, I use the symbol S. By the simple device of combining variously capital or small letters, the diagnosis can be expressed with reasonable accuracy. Thus, taking an early process in the lung, we can state the various possibilities as L_1S, that is, an early local process with relatively slight systemic disturbance, or L_1S, that is, an early local process with equivalent systemic disturbance, or l_1S, that is, an early local process with excessive systemic disturbance. It matters not what degree of local change be present, whether L_1 or L_2 or L_3, the same principle of classification is available. Thus L_3s indicates a case of extensive lung disorder with vomica formation, but comparatively slight systemic intoxication, while l_2S indicates a case where, with the local process one of infiltration only, systemic intoxication is excessive. The presence of complications is indicated by the symbol + followed by the lesion, for example, l_2S + ent. tub., that is, the case just described with complicating tuberculous enteritis.

Such a classification not only gives greater fullness and exactness to the recorded diagnosis, but also conveys a summary of prognosis. This is important. It should be a chief aim of prognosis to estimate the degree of systemic disturbance in relation to varying local lesions. This means not the examination of the lungs only, but of every organ, and a complete review of the patient's condition. A comprehensive determination of this kind with a view to prognosis and treatment emphasizes the fallacy of much of the present-day diagnosis, which is made to rest chiefly, if not entirely, on the bacteriological examination of the patient's discharge.

Diagnosis and Prognosis.

The discovery of the tubercle bacillus in the patient's expectoration affords bacteriological proof of tuberculosis. This is incontestable evidence. It is the evidence which we seek for in dead tissues. But from the physician's point of view much more is needed. In the first place, if he wait for the appearance of the tubercle bacillus in the discharge, he waits too long. The occurrence of the bacillus in the expectoration signifies a tuberculous invasion which has made considerable advance. The disease has progressed far before it takes the form of a discharging lesion. The physician's duty is to conclude the diagnosis prior to this.

Further, the detection of the bacillus in the discharge or the determination, by one or other of the more recent bacteriological tests, that the patient is tuberculous, yields but a partial diagnosis from the standpoint of prognosis. Unfortunately the present tendency is to say, on the one hand: Given no tubercle bacillus in the discharge, we may not diagnose the condition as tuberculosis; and, again: Given the bacillus in the discharge, the diagnosis is one of tuberculosis, and there's an end of it. But *quâ* prognosis, much more is needed.

In respect of early diagnosis and the completer diagnosis on which are based both prognosis and treatment, the physician has methods of determination beyond those of the laboratory, which can be refined and perfected only by careful, patient, and prolonged study at the bedside. The physician, while making use of all bacteriological advances as aids to diagnosis, cannot afford to forget that there is evidence imprinted on the patient's every tissue and organ, which when read by the seeing eye and interpreted by the trained senses, gives completeness of view otherwise unattainable. The physician is primarily the thoughtful observer of Nature. Familiar with the features of healthy activity as these manifest themselves in every organ, he becomes quick, by repeated observation of disease, to catch the first slight deviations which indicate that the physiological has become the pathological. In illustration, let me cite a simple case:

Some years ago I was asked to see a young lady suffering from pulmonary tuberculosis, who was extremely ill, indeed almost moribund. There was little to be done. In passing downstairs from the sick-room, I happened to meet a bright girl with whom I exchanged a few words. After expressing an unfavourable opinion regarding the patient, I ventured to ask who the girl was whom I had met on the staircase. To the reply that it was the patient's younger sister, I suggested we should direct treatment to her. The immediate rejoinder was: "But there is nothing wrong with her." I heard no more of her for twenty months, when I was asked to see her on account of pulmonary tuberculosis. The doctor in attendance reminded me of the previous incident, and indicated that the girl had "kept well" till a fortnight ago, when cough appeared, and a specimen of expectoration sent to the laboratory revealed the presence of tubercle bacilli. Examination of the patient showed extensive bilateral disease, and pronounced systemic disturbance. Months of much moment to the patient had slipped by, during which the disease was slowly making way. It was only when the lesion came to be a discharging one that the suggested diagnosis of twenty months before was seriously considered. In spite of speedy adoption of treatment, and a brave fight on the part of the patient, she died. Had treatment been instituted at the earlier date, the unfortunate issue would probably not have occurred. Such incidents are of frequent occurrence.

The extent to which faith is limited to the bacillary diagnosis is serious. I have before me a letter from a bacteriologist who, at the request of a throat specialist, had received a specimen of sputum from a patient in whom, to my knowledge, the diagnosis of pulmonary tuberculosis had been made six years ago, and who had done remarkably well. The writer reports that he found the patient discharging "a very large number of tubercle bacilli, which indicated that it was an advanced and progressive case of phthisis but still not hopeless." It is clear that neither the unfavourable verdict nor the subsequent reassurance, coming from one who had never seen the patient, can be admitted as of much value.

What I am anxious to urge is, on the one hand, that the bacteriological diagnosis comes frequently too late, and in any case should not be waited for without an estimate of the results of every other method of examination, and, on the other hand, that the bacteriological diagnosis is much too narrow an issue on which to base prognosis in a given case. While, broadly speaking, the presence of a large number of tubercle bacilli in the discharge points to a considerable focus of disease, the actual number *per se* is not a sufficient gauge of the stage or gravity of the case. To the trained clinical eye there are a score of other points which must be appraised in order that the diagnosis may be of prognostic value.

Tuberculin in Diagnosis.

Pleading as I am for exactness in the determination and interpretation of clinical appearances, I am not forgetful of the material assistance afforded in the early diagnosis by the discovery of tuberculin. The subcutaneous injection of tuberculin, as first proposed by Koch, is occasionally of much value. There occur every now and again in the experience of the best clinician cases where the

symptoms, physical signs, and clinical course are difficult of interpretation—cases where the possible presence of tuberculous disease means too much to the patient to justify doubt or delay. In such instances the use of tuberculin is clearly indicated. Resting on an opinion formed by a persistent use of the method since its first introduction, I can testify to its value and its freedom from risk. There are also available more recent adaptations of tuberculin diagnosis, which include the cutaneous, percutaneous, and ophthalmic tests. These have a wide range of application. Perhaps the most generally serviceable is the cutaneous. The percutaneous is a simple modification of this, in which the skin remains unbroken. The ophthalmic or conjunctival has similar application where there is no contraindication because of existing eye disease.

These methods, which are readily carried out, yield convincing evidence as to the presence or absence of tuberculosis in the given *individual*. They do not, of course, afford certain proof—although the presumption may be present—that the *particular symptoms or lesion* under consideration are of tuberculous origin. They justify the diagnosis that the individual has tuberculosis, while they leave the localization of the lesion to other means. In this sense the cutaneous and ophthalmic tests are commonly less conclusive than the subcutaneous. On the other hand, the former are often preferable. Thus they may be preferred when the point to be determined is the general one, Is the patient tuberculous? They may be preferred—especially the cutaneous—when the hypodermic method might be objected to either by the patient or his friends or when the character of the lesion makes subcutaneous injection undesirable. The external methods—and in most cases the cutaneous—are preferable when an extensive test involving many individuals is undertaken, as in a public institution, for the purpose of determining the amount of tuberculosis present. In respect of all these tests it is unfortunate that, while they commonly indicate with remarkable certainty the existence of a tuberculous lesion, they fail to discriminate, so far as present methods go, between lesions of comparatively old and quiescent character and commencing lesions of aggressive nature. They fail also to detect some of the worst cases, notably disease rapidly advancing towards a fatal termination.

Etiological Relationships of Childhood.

From the larger point of view we are much indebted to tuberculin for convincing evidence of the vast frequency of tuberculosis. Of paramount importance is the conclusive testimony it bears as to the frequent occurrence of tuberculosis in children. Its use has confirmed in remarkable fashion estimates, concluded on other clinical grounds, which have sometimes been criticized as excessive. Thus conclusions published by me, which showed that of groups of school children from 6 to 14 years of age no fewer than 30 per cent. presented stigmata of tuberculosis, have been thought extreme. Yet observations by means of the cutaneous test go to show that such conclusions are within the mark. Much evidence is accumulating on the point. In the absence of investigations on a large scale from London or other great city at home, I cite recent Continental observations.

Statistics from the city of Vienna are available, which deal with large numbers of children. They include (A) cases examined *post mortem* and (B) cases tested with tuberculin. The figures are as follows:—

(A) *Post mortem* results (Sluka and Hamburger):
Of 848 cases dying from all sorts of causes, 335 were found to be tuberculous, that is, circa 40 per cent.
Arranging them in six groups according to age:

Group I (1st year of life) showed	15	per cent.	tuberculous
II (2nd .. ..) ..	40	,,	,,
III (3rd to 4th yr.) ..	60	,,	,,
IV (5th to 6th yr.) ..	56	,,	,,
V (7th to 10th yr.) ..	63	,,	,,
VI (11th to 14th yr.) ..	70	,,	,,

(B) Tuberculin results:
(*a*) Of 988 consecutive patients coming to hospital and tested by cutaneous method (von Pirquet):

Group I (as above) showed	16	per cent.	positive.
II ,, ,, ,,	24	,,	,,
III ,, ,, ,,	37	,,	,,
IV ,, ,, ,,	57	,,	,,
V ,, ,, ,,	57	,,	,,
VI ,, ,, ,,	68	,,	,,

(*b*) Of 509 consecutive patients in hospital for diphtheria, scarlet fever, and other acute infections (except measles), tested cutaneously, and in case of doubt subcutaneously (Monti and Hamburger), 271 were positive, that is, circa 50 per cent. Or, taking them in groups:

Of Group I (as above) undetermined.			
,, II ,,	9	per cent.	were positive
,, III ,,	27	,,	,,
,, IV ,,	51	,,	,,
,, V ,,	71	,,	,,
,, VI ,,	94	,,	,,

It is to be kept in view that the figures quoted are based on investigations among children of the poorer classes, and refer to tuberculous *infection* and not to clinically determinable *illness* merely. For the present we are concerned with the actual distribution of tuberculosis throughout large communities. It is also to be understood that the conditions pertaining in Vienna and correspondingly the incidence of tuberculosis are not strictly comparable with those in our own large towns.

None the less, collective evidence from many sources emphasizes the view that it is especially in childhood that the tuberculous seed is sown. Tuberculosis is an all-pervading blight. Its occurrence would seem traceable largely to the nursery, or at least to the period of childhood. The German saying, "Am Ende hat Jedermann ein bischen Tuberkulose," might in the light of modern observation almost read, "Tuberculosis is commonly contracted in childhood."

The significance of this can hardly be exaggerated. The frequency of tuberculous infection in childhood explains much that previously gave rise to endless speculation. If we modify slightly the doctrine of heredity which formerly held sway and ally it with that of the survival of the fittest, we shall come near to the truth. Heredity means not transmission of the disease, but of tissues which are extra liable and extra vulnerable. The widespread distribution of the disease and unhealthy environment mean the probability of infection in less or greater degree. The more liable tissue becomes more certainly infected, and the more vulnerable tissue suffers in greater degree. The less liable may escape altogether, and the less vulnerable resist successfully.

If the conclusion which seems forced on us be correct, that in a majority of instances infection occurs in childhood, we are faced with a problem of totally different complexion and proportions from that which was previously conceived. To solve it we must search for causal conditions in the life of the child. It is impossible on the present occasion to condescend on details as to channels of infection. Suffice it to say that prolonged observation has led me to conclude that inoculation may occur by way of the mucous passages at any point from the mouth and nostril downwards. I believe this is especially frequent in the naso-pharyngeal, tonsillar, and faucial regions. From the point of entrance there is usually a slow dissemination by way of the lymphatic circulation. The factors essential to invasion are devitalization of the tissues and the presence of the bacillus.

In answer to the query, Where does the bacillus come from? it is natural and tempting to trace infection in childhood chiefly to infected milk supply. But do the facts bear this out? Tuberculin tests show that tuberculosis is relatively less common during the first two years—when, if milk were the chief agent, we might expect it to be greater—and evidence of infection becomes progressively common as age advances. The facts of comparative ethnology tend also to qualify the view. For tuberculosis flourishes abundantly in not a few countries where feeding with milk from cows or other animals appears unknown. I am assured by numerous competent observers abroad that tuberculosis abounds in districts where the use of milk for alimentation is unknown. The extent to which tuberculosis depends on the ingestion of bacillus-containing milk remains, therefore, a moot point.

It seems rather as if some other cause were operative—a cause common to home and school life. The incidence of pulmonary tuberculosis shows a steady increase as the child grows. The ratio of increase is greater about the time the child goes to school. One morbid influence seems constant throughout the progressive stages of the child's life, namely, the comparative withdrawal of the developing organism from the natural and healthful stimulus of the open air. The facts appear to point conclusively to

the relatively airless conditions of home and school life as a chief etiological factor. This view is corroborated by observations made under the system of domiciliary visitation which forms a leading feature in the activity of the Victoria Dispensary for Consumption. Under the system the home of every patient coming to the dispensary is systematically inspected by nurse and doctor. In addition to inspecting the house the doctor holds a "march past" of the household, so that other cases of infection may be detected as early as possible. The frequency with which several members of a household—it may be half a dozen children—are found to be concurrently affected is striking. There is a remarkable coincidence between the airlessness of the house and the frequency of disease. Sometimes every member of the family presents stigmata of the disease. Such homes are veritable "nests" of tuberculosis.

In this connexion I venture the suggestion that it is to the extensive distribution of tuberculosis in childhood that we must trace the frequency of the graver symptoms and complications which occur in such infections as measles and whooping-cough. The more carefully we have regard to complete diagnosis, the more frequently will it be found that tuberculosis lurks behind the more acute illness. It is often stated that pulmonary tuberculosis occurs as a *sequela* of measles and other infections. Are there not grounds rather for believing that such infections tend to assume the graver character because of *pre-existing* tuberculosis? Do not such infections frequently rouse into activity a pre-existing tuberculosis? Tuberculosis is, I believe, to be credited with a much greater proportion of mortality in childhood than is usually conceived, and is largely responsible for the aggravated manifestations of otherwise simple ailments.

Tuberculosis in Communities.

Turning to the occurrence of tuberculosis in the community generally, I may recall calculations made a number of years ago as to the ratio between mortality and incidence of pulmonary tuberculosis. These led me to the conclusion that the mortality within a district might safely be multiplied by ten to express the number of cases of pulmonary tuberculosis worthy of medical surveillance, and I suggested that this number might be further increased without exaggeration. Subsequent observations have confirmed the belief that the estimate, far from being excessive, errs probably on the low side. The results obtained by means of the newer methods of diagnosis are strongly corroborative. If we reckon not merely patients who are so evidently ill as to require medical supervision, but the entire number of persons who give a positive reaction to tuberculin, the sum total is vastly greater.

Such facts have a very practical bearing on prevention and treatment. They testify to the tremendous grip which tuberculosis has obtained on the race and its immense ramifications throughout the social organization. They emphasize the significance of measures directed to the better sanitation of dwellings and schools as well as workshops, offices, etc. They illuminate and illustrate the housing question—using the phrase in the widest sense—as nothing else could do. No less do they accentuate the great need which exists for an organized and co-ordinated plan of operations in relation to tuberculosis as it occurs in our social communities. With so great a mass of tuberculous material to handle we cannot afford merely to wait and treat individual patients as they happen to present themselves at out-patient departments. We must search for them in their hiding places. We must track them to their breeding grounds.

Towards this end *concerted action* is desirable. We must obtain all available information as to the distribution and spread of the disease with a view to its prevention and eradication. This is the justification of notification. Much more is needed. Approaching the matter from the standpoint of the pathologist, I was led some twenty-two years ago to propose the establishment of the Consumption Dispensary as a central institution which should concern itself with every aspect of the tuberculosis problem, and would have regard especially to the patient's home conditions in relation to his own treatment and the limitation of the spread of the disease throughout the household. By the continuous activities of the tuberculosis dispensary and the system of domiciliary visitation to which I have alluded, there is maintained a ceaseless campaign and successful raid on the disease. If properly worked, there will be accumulated a remarkable mass of information regarding tuberculosis in the given district. Thus, in Edinburgh, the activities of the Consumption Dispensary have tended to the completion of a satisfactory plan of antituberculosis operations, which includes compulsory notification, a sanatorium for early cases with approximately 100 beds, a working colony, a hospital for advanced and dying cases with 62 beds, in addition to suitable and extensive accommodation for patients of the pauper class under the Poor Law authorities. The several factors in the scheme are on terms of intimate relationship and co-operation. The scheme is closely related to the Municipality through the medical officer of health, and by many links to the Charity Organization Society and other such agencies. As illustration of the significance to the community of such concerted action, it is noteworthy that while during the first ten years of the development of the scheme, when its activities were more restricted, the mortality from pulmonary tuberculosis in Edinburgh fell 12·8 per cent., in the succeeding ten years (1897–1906) the mortality further fell to the extent of 42·1 per cent. Without tracing this remarkable drop entirely to the activities of the system, it seems fair to interpret these as chiefly contributory to the result.

The further goal towards which all effort is directed is the recognition by the State and the various administrative bodies concerned that tuberculosis is a social evil, the existence and effects of which call for consideration and active interference. The change which has come over the official attitude of the country is eminently satisfactory. So far as England is concerned, the most significant indication is found in the fact that last year there was issued by the Local Government Board an order calling for the notification of all cases of pulmonary tuberculosis occurring in patients under the Poor Law. In Scotland an advanced position was taken some years ago. In a Memorandum dated March 10th, 1906, pulmonary phthisis was declared by the Local Government Board of that country to be an infective disease within the meaning of the Public Health Act, and the various elements in what may be described as the Edinburgh Scheme were recommended as collectively forming the basis of a national scheme of antituberculosis measures. Ireland, thanks largely to the attitude adopted by her Local Government Board, is in possession of a Tuberculosis Prevention Act which became effective on the first of the present month, and which gives her potentially the entire machinery for a complete and effectual campaign. These are striking indications of ripening opinion. Taken along with the wider public health enactments which have been a conspicuous feature of recent legislation, they afford a gratifying promise for the future.

Therapeutic.

Many other points occur on which I am tempted to linger. Let me invite you to consider briefly two aspects of treatment. The first of these has no direct relationship with the tubercle bacillus—namely, aëro-therapy. The second depends essentially on the bacillus—is, indeed, the outcome of our growing acquaintance with that and other organisms. I refer to tuberculin and vaccine-therapy.

The great quarry of scientific truth from which throughout the ages there has been reared the magnificent temple of Medicine contains yet untold wealth of building material. Of this in large part we can only dream. Sleeping or waking, such dreams vary with the dreamer. Apart from the mighty boulders still silently resting on their eternal bedrock, there may be found, lying loose within the quarry or at its edge, heaps of splendid building material which have not yet received a place in the noble pile. There are many reasons why this is so. Sometimes it would seem the ill luck of the worker, who is called to another sphere just as he was bringing to view the block fitted to be a column or pillar in the temple. Sometimes the mass is too great for one worker or even for one age to raise. Sometimes it may be the fault of the worker, eager, restless, too desirous to see results rather than patiently to work. Perchance it is the fault of fellow-workers who cannot realize the nature of the find—who cannot recognize the quality and distinction of the mineral, who cannot

appraise its priceless value nor the rare colour of the stone.

My thoughts turn in this direction because of Belfast, and because of Henry MacCormac, and because of the misunderstanding which still lingers round the great truth he sought to establish, with the result that what ought to be a mighty bearing column is still lightly discussed as almost of doubtful purpose in the edifice.

The Great Principle of Aëro-therapy.

Although, as the cynic may remind me, the great principle of aëro-therapy dates from the Garden of Eden, somehow as time went on the principle ceased to be followed save by a few. The experience of the past two decades has greatly influenced the medical attitude towards aëro-therapy. Its methods have gained an assured place in therapeutics. We have come to recognize from a comparative study of pulmonary tuberculosis as it occurs throughout the world, that it is not a disease of any one latitude or climate. The fallacy, which in the popular, and perhaps also in the medical, mind associated consumption particularly with these islands has been exposed. The relative infrequency of consumption in England and Scotland as contrasted with other European countries has not only contributed to dissipate ignorance as to its etiology, but tended actually to a reversal of the conception that climatic conditions has to do with its production. The pioneer work of the earlier sanatoriums in this country led rapidly and certainly to the conclusion that open-air treatment was a method of universal application. Facts and statistics have speedily accumulated which go to show that tuberculosis results chiefly from the exclusion or insufficient supply of fresh air in the dwelling-room, work-room, and other haunts of man, and, further, that in proportion as the supply of air and sunlight is improved, under better conditions of sanitation, there follows a corresponding reduction in the mortality from tuberculosis. Not only this, but there is abundant evidence that open-air treatment is successful in proportion as it is carried out completely, in winter no less than in summer. Indeed, there is not wanting support for the belief that the results obtained under open-air treatment are fully better during the colder than the warmer months of the year.

Nor is it too much to contend, that the application o aëro-therapy has completely changed the clinical features of pulmonary tuberculosis. Under proper aëro-therapeutic conditions, the classic type of disease as described from generation to generation in the past has ceased to be. The aspect of the patient is metamorphosed. The delicate pink and white colouring or the hectic blush usually described is frequently replaced by a ruddy look. Pyrexia disappears marvellously. Within a short time, temperatures which have been swinging for weeks tend to become normal. The rapid pulse is slowed, and blood pressure increased. Night sweating is practically unknown. Cough quickly lessens or disappears, and expectoration is correspondingly reduced. Appetite picks up and digestive disabilities disappear. Lassitude and disinclination for effort, physical and mental, pass away, and the patient becomes once more keen and fit for neuro-muscular expenditure. His entire physiology returns to a higher plane. The classic description of the consumptive, read alongside of patients under treatment on aëro-therapeutic lines, sounds exaggerated and false.

The brilliant results achieved under aëro-therapy in the arrest of what seemed hopeless conditions of disease afford encouragement for the wider adoption of open-air measures with a view to prevention. It is remarkable how far prevention lags behind treatment. What is capable of effecting the cure of definite tuberculosis is *a fortiori* capable of preventing its appearance. We admit this in theory, but the practical application is half-hearted and faltering. This is the more remarkable because we have a constant object lesson in the relatively low place which England and Scotland occupy in relation to tuberculosis mortality as compared with other nations. There is little doubt that this finds its explanation in chief part in the habits of our people, their love of outdoor sports and the like, and in the continuous and steady amelioration of housing conditions from successive enactments which have been passed during three-quarters of a century.

The history of medicine abundantly shows that where therapeutic procedure is based on physiology, the methods of application are simple and direct. This is conspicuously true of aëro-therapy. The accumulated experience of recent years has established three general propositions of much significance.

1. Aëro-therapy is a measure of universal applicability in all lands. There is no climate specially favourable for its practice. The advantage of brighter, warmer climates lies chiefly in the greater facility and comfort with which it may be carried out. Open-air treatment seems more natural when the sun is shining. On the other hand, in warmer climates there are inherent difficulties to the carrying out of the system all the year round. It may be doubted whether any climate, taken as a whole, is more suitable for the purpose than that of the United Kingdom.

2. Aëro-therapy is of universal applicability in every sick-room. It is not a special system to be practised in special institutions. It is utilizable in the bedroom of the ordinary dwelling as certainly as it is in the ward of a special hospital. Although more conveniently carried out in the sanatorium, it may be used no less completely and effectively in the ordinary dwelling house, if only the principle of application be rightly apprehended. There is no need to send patients to sanatoriums *merely* on this account. Sanatoriums have their uses. They are serviceable, especially in the interest of patients who, for one reason or another, cannot have a proper régime maintained in their own home. But even the poorest—and still more easily the well-off patient—can enjoy the advantages of aëro-therapy at home.

This is a significant admission, because it carries with it the further important conclusion that a sanatorium does not require, in order to be effective, to be erected in an inaccessible place, removed, it may be, a hundred miles from the centre of population which it especially serves. Many mistakes have been made in regard to this in the past. Much unnecessary expenditure and inconvenience have been caused. If a sanatorium is established for the poorer classes of a town it is eminently desirable that, while it should be removed to a sufficient distance to protect it from smoke and dust, it should still be sufficiently under the eye of the citizens to constitute from day to day an object lesson in the application of aëro-therapy.

3. Aëro-therapy, while especially indicated in tuberculosis, is a measure of widest applicability in relation to disease. It is a mighty principle of treatment both from the curative and from the preventive point of view. I have already alluded to the remarkable change in type which occurs in pulmonary tuberculosis when treated on open-air principles. No less striking is the absence of complications as compared with their frequency under the protective method. Throughout fifteen years of constant experience of aëro-therapy in the Royal Victoria Hospital for Consumption, I have watched closely for the occurrence of pneumonia, or pleurisy, or bronchitis, and have failed to meet them. Their absence from a considerable community, all of whom have already weakened lungs, is singular, and merits reflection. Further, there has never been an outbreak of epidemic disease, and it is the rarest occurrence to have a member of the staff off duty even for a day. It would seem, indeed, that the application of aëro-therapy is without limits, provided reasonable care be taken to preserve the warmth of the body. We are only awaking to the full significance of this great cleansing, antidotal, and vitalizing principle whose applicability in medicine is no less far-reaching than that of asepsis in surgery. It was a far-seeing, clear-visioned poet who wrote:

> Air, air, fresh life-blood, thin and searching air,
> The clear, dear breath of God that loveth us.
> * * * * * * *
> Water is beautiful, but not like air.

The progress of surgery within recent times is sometimes contrasted with that of medicine to the disadvantage of the latter. It is worthy of note that the remarkable developments of modern surgery are the result of the application of one or two great principles which may be described as medical rather than surgical. The two principles which have revolutionized surgery, namely, anaesthesia and asepsis, have allowed the surgeon to proceed fearlessly, leisurely, and without risk of interruption or complication, to the completion of operations which

otherwise were impossible. In like manner, it seems to me, the adoption of aëro-therapy as a basis of treatment brings the physician to a vantage ground in respect of therapeutic possibilities from which he is debarred under the more protective system.

Let me urge that to place a patient suffering from pulmonary tuberculosis under the influence of aëro-therapy is not synonymous with the adoption of expectant treatment. Aëro-therapy is, in the truest sense, a therapeutic measure which has been found capable of giving the best results. Need I recall the classic experiment of Trudeau, who inoculated a number of rabbits with tubercle and then allowed one half to run about in the open air while the other half were penned in darkened airless hutches? Of the two groups the former successfully resisted the effects of inoculation while the other half succumbed. Aëro-therapy is no vague trusting to time and chance. It is the definite utilization of one of Nature's elementary principles. It is the deliberate attempt at increased oxygenation. If, under conditions of imperfect aëration, the red cells fail to fulfil their office of oxygen carriers to the tissues with resulting anaemia, chlorosis, etc., it may well be that the withdrawal of a sufficiency of air influences, in like measure, the white blood corpuscles in a way not yet determined. We do not know what effect oxygen has on the white blood corpuscle. From the point of view of modern haematology, may the phagocytic appetite of the leucocyte not be whetted by aëro-therapy? Or, on the other hand, may not some influence be exerted on the invading organisms which makes them a readier prey to the leucocyte? Certain it is, that comparatively rapidly under the influence of aëro-therapy the complicated clinical picture which we are in the habit of tracing to mixed infection commonly clears up and an important step towards cure is achieved.

HENRY MACCORMAC: PIONEER.

It is to the everlasting credit of Henry MacCormac that he had a clear prevision of so much of this, and had the courage and determination to state his belief in no uncertain way, notwithstanding captious criticism and even ridicule. A few sentences quoted from different pages of his work on consumption will illustrate sufficiently his width of view. To those who do not happen to know the work I commend the volume, which was published in London in 1865. The fact that his therapeutic views are associated with an etiological conception of tubercle which was fallacious does not detract from the correctness of the former. From start to finish, the volume contains pregnant statements of remarkably striking character. Thus:

> Tubercle is simply impossible in the case of persons who respire habitually air not prerespired and who sleep in an atmosphere incessantly renewed. . . . Pure respiration is the law of life, impure respiration is the law of death. . . . It was once a general prepossession that taking cold, that damp night air, forsooth, was a source—the source indeed—of consumption, but this is a great error. The coldest, dampest air does not, never did since the world begun, and never will, induce consumption. . . . If a person will but occupy three or four hours daily with active open-air life and effort, and sleep in a chamber the windows of which shall be pulled down winter and summer the night through, he may bid defiance to consumption and scrofula for ever and ever. So all-important is the respiration of a pure, unprebreathed atmosphere all night long, that I should freely stake the prospect of health upon its observance alone, before and beyond any and every other means, which omitted this most desirable and, indeed, indispensable requirement. . . . If the inhabitants of Great Britain and Ireland would but consent day and night to live in a pure, unprebreathed atmosphere, it would put a total close to the ravages of consumption and scrofula, white swelling, tabes mesenterica, water on the brain—in fine, the whole abhorred family of tuberculous disease.

Then in relation to the bearings of climate how modern he is!

> There is, in fact, no panacea in Californian air, no peculiar specific for lung troubles. If we cannot have the summer of California or the winter of sunny Mexico, we possess not the less a climate, whatever some may choose to say against it, replete with almost every possible element of vitality and well-being. We have air as pure as any obtainable on Californian or Mexican hills, air abounding in oxygen and ozone, air, in short, which, if we only do not respire it twice, leads to as perfect security from tubercular disease here as there. . . . The shores, almost any of them, of our own islands, our mountain slopes and airy downs, our many heaths and moors, will often, if not most times, prove preferable to, while they are much more accessible than is any Nice, or Rome or Madeira. The materials for the possible recovery from phthisis, I repeat, lie around every door.

These are remarkable words, are they not?—the sayings of a seer, the writings of a prophet. Reading them to-day I cannot refrain from congratulating Belfast and reverently saluting Henry MacCormac.

TUBERCULIN AND VACCINE-THERAPY.

Turning from this to tuberculin. The quest after a specific remedy for tuberculosis has been long and disappointing. Until the discovery of the tubercle bacillus the quest was in the dark. The best attempts were but random shots inspired by the hope that in some lucky moment the *materia medica* might reveal a drug to which tuberculosis would respond as syphilis does to mercury and iodide of potassium. Among the legion of vaunted remedies none can be credited with much beyond symptomatic value.

The recognition of the tubercle bacillus gave fresh impulse to research, and afforded occasion to determine on scientific lines the activity of bactericidal agents against the bacillus both *in vitro* and in the living tissues. Once more—notwithstanding recurrent claims to the contrary—the net result has been discouraging. No bactericidal agent, in the ordinary sense of the word, has yet proved effective in dealing the death blow to the bacillus which is not at the same time harmful to the living tissues of the human organism.

A more satisfactory picture presents itself when we turn to tuberculin. The discovery of tuberculin in 1890 meant an entirely new conception of treatment in tuberculosis. At first tuberculin attained but a precarious foothold in medical practice. On the reasons for this I shall not enter. During the years which have elapsed it has been continuously used by me as a therapeutic agent. There has been ample time for experiment, observation, and reflection. These have been not less satisfactory because of the reserve and even distrust with which the agent was commonly treated. Necessarily mistakes occurred, and conceptions and methods have shifted from time to time. Looking back, it is gratifying to have the opportunity to state that throughout the period there has grown and remained with me the conviction, which is ever ripening, that in tuberculin we have a remedy of first importance in the treatment of tuberculosis. The cases treated have been very numerous and of varying kinds and types. The net result is a decisive verdict in favour of tuberculin.

The excessive dosage and too frequent exhibition of tuberculin of the first few years have been modified. The value of smaller doses, repeated at intervals, has been recognized. Gradually the cruder conception of its mode of activity has merged into that of vaccine-therapy.

On the principle of vaccine-therapy I may not dwell. Suffice it to remind you that its aim is the production of immunity by stimulation of the natural protective mechanism. Vaccine-therapy seeks to activate the leucocyte and the bacteriotropic elements of the blood. It is admittedly difficult to immunize a healthy animal against tuberculosis. More difficult still is the attempt to immunize an animal already affected. After all has been said and done, a complete immunity from tuberculosis seems a good way off. By the exhibition of tuberculin we introduce an agent closely related to the infecting organism in the hope that we may thereby reinforce Nature's own effort at immunization. But we are working in the twilight. The exact effect of varying doses of tuberculin on the subject infected with tuberculosis is obscure. We are even hazy as to what we wish to effect. What is meant by a so-called reaction—using the term in its widest sense? Is it something to be desired? How are we to direct and limit reaction? What are its bearings on immunization?

It may be affirmed with reasonable certainty that pronounced reactions, both general and local, are to be avoided. On the other hand, it will be the conclusion of most observers that a mild reaction, local and general, is associated with progressive changes which make for improvement. A chief aim of clinical investigation should be the determination of the degree and limits of this serviceable effect. How are we best to attain satisfactory results? How are we to determine for different cases and occasions the *optimum* dose, and so exclude harmful effects which result from excessive dosage? Needless to

say, both care and experience are required. It seems to me that, as physicians in immediate relation to the patient, we have methods of gauging from day to day the result of tuberculin treatment similar to, if not yet as certain as, those by which we gauge the effect and value of digitalis or other of the more potent drugs of the *Pharmacopoeia*.

One of the more striking results of well-regulated dosage with tuberculin is the modification of symptoms indicative of systemic intoxication. From the first injection onwards, where dosage has been successfully determined, there is commonly reported by the patient a sense of improvement and even well-being, with a corresponding limitation of constitutional symptoms. The patient loses the feeling of tiredness. Other symptoms lessen. The local effect of tuberculin on tuberculous tissues is no less striking. Every one who has seen the change effected by tuberculin on a local lesion—for example, a gland, preferably a discharging one, or a superficial tuberculosis of mucous membrane or skin—must realize its remarkable influence. The hyperaemia induced in and around the tuberculous focus is conspicuous, and must have something to say in respect of the curative process. Similar evidence is available in relation to pulmonary tuberculosis.

With improper regulation of dosage or with want of care, the effects may be less happy. On the one hand, constitutional symptoms may be accentuated, as evidenced by the patient's sensations (anorexia, malaise, headache, etc.), colour, pulse, and temperature. On the other hand, local aggravation may be registered by changes determinable, when superficial, by eye and hand, or, when more deeply situated—for example, in lungs—by physical examination. Such changes are definite, and recognizable by the experienced clinician as clearly as are changes in relation to other groups of medical disease.

Speaking as a clinician, with prolonged experience in the use of tuberculin, may I say that I am unable to acquiesce in the proposal to replace thorough clinical observation by reference to one set of phenomena, namely, those of the blood? The latter afford contributory evidence, but they do not seem to me to constitute the case, in the legal sense. While no one can fail to be impressed by the extreme value and beauty of the line of research, we have still much to learn as to the actual relationship between the opsonic index and the production of immunization. It may yet be ascertained that the changes registrable in the blood afford a satisfactory index of the progress of other changes essential to immunization. Meantime I do not feel that, so far as tuberculosis is concerned, this has been attained.

This is especially true of pulmonary tuberculosis, with regard to which there is available evidence, both systemic and local, which appears of greater range and reliability than that offered by opsonic determination. The opinion is not an *a priori* one. It is advanced after careful comparison of results obtained in a large series of cases. In some of these, treatment was regulated by estimate of the systemic and local evidence. In others, it was regulated by determination of the opsonic index. No trouble was spared to make the determination in both sets of cases as exact as possible. Throughout the series I have not found that the balance was anyways in favour of the latter. It has seemed to me that the opsonic curve may sometimes suggest that the patient is not doing well, while other clinical evidence affords convincing proof to the contrary. Conversely, opsonic readings may appear to indicate satisfactory progress when on other clinical grounds we have to conclude that the progress is downwards.

I refrain purposely from dwelling on the technical difficulties, inherent to opsonic determination, which meantime place the method outside the usual possibilities of the general practitioner. Such objection, great as it is, would not be sufficient to exclude a method if proved of incomparable value as a means of scientific treatment.

I have already given expression to a *caveat* in respect of the attempt to conclude an *in absentiâ* diagnosis and prognosis in such a condition as pulmonary tuberculosis from examination of the expectoration. Need I suggest that the proposal, which is sometimes seriously made, to treat a patient who has never been seen on similarly limited evidence is extremely dubious?

In the use of tuberculin, success will not only depend on the accuracy and experience of the physician, but very largely on the patient's immunization potential. This varies with the individual and the stage of the process—that is, whether the tuberculous lesion is local merely or systemic. The significance of the classification of pulmonary tuberculosis to which I have already referred is once more illustrated. It may be stated broadly, that in proportion as the disease is localized and presents little systemic involvement (in other words, in proportion as L is greater than S), the hope of successful treatment by vaccine-therapy is enhanced. Tuberculin has remarkable influence in defining and delimiting tuberculous disease. Its influence is conspicuously conservative.

To take examples, I may cite tuberculosis of glands, bones, and joints. Here the effect of tuberculin is conspicuous. Treatment by tuberculin is advantageously combined with surgical interference. Tuberculosis of skin and mucous membrane is likewise readily cured. Tuberculous enteritis is favourably affected. The results in genito-urinary tuberculosis have been remarkably encouraging. In pulmonary tuberculosis much depends on the stage and character of the lesion. In the majority of early cases the result is satisfactory. In proportion to the advance of disease and the presence of systemic intoxication the possibility of cure becomes restricted. The reason for this is twofold—on the one hand, anatomical, and on the other, physiological.

Anatomically the process of arrest in tuberculosis is associated with cicatrization. If arrest is to be effective and permanent, cicatrization must be complete. This implies, in the case of pulmonary tuberculosis, corresponding shrinkage of the superficial structures forming the chest wall. In slighter cases the necessary shrinkage of the thoracic wall is readily attained. According as the disintegrative process in the lung extends more widely, with production of vomicae, the chances of shrinkage of the thoracic wall proportionate to the requisite contraction and cicatrization of lung tissue are progressively lessened. Inevitably there comes a time when intrathoracic disintegration is in excess of possible shrinkage from without. In such a case pulmonary cicatrization will remain incomplete. It is impossible for the ulcerated surfaces to close.

Such considerations explain why treatment of a patient with slight apical change is comparatively simple and satisfactory and why, contrariwise, in other cases it may be impossible on purely local grounds to attain an effective cure. Hence, doubtless, in a young subject, whose chest wall gives freely, treatment is commonly more successful than in the adult patient with fixed, rigid thorax. From the same cause, probably, it results that pulmonary tuberculosis in the young child so often heals spontaneously. In this sense there may be traced an analogy between the results obtainable in pulmonary tuberculosis and in empyema. In both conditions the important factor which renders the child's recovery more easy than the adult's is the relatively yielding condition of the thoracic wall.

From the physiological side the limitations to tuberculin may be stated thus: So long as the local process is the main feature—that is, so long as systemic disturbance remains relatively slight—we may anticipate benefit from treatment by tuberculin. On the other hand, with advancing intoxication there comes a time when the introduction of tuberculin ceases to have value or when the introduction of tuberculin may do positive harm. Where the system is already soaked with tuberculous toxins, the addition of tuberculin will probably make matters worse. The possibility of activation of leucocytes and bacteriotropic elements no longer exists. The limits of activation have been passed.

While this is so, the curious and interesting observation is sometimes made that, even when recovery seems no longer likely, tuberculin may yet exert important symptomatic influence. Thus I have frequently seen asthmatic manifestations strikingly relieved. The same thing may occur in relation to cough, and even haemoptysis. The explanation of this is not quite evident, and cases vary much. It is yet a point of therapeutic value worth remembering.

In much of this we are still groping a way through an intricate maze. If the quest be difficult, the fascination is great and the reward is fair. Amid the perplexities of the road, the worker of to-day holds a thread in his hand which was denied to the generations that have gone. It is significant that this great Association, representative of

medicine in the land of Edward Jenner, should have this year constituted a separate section for deliberation in the department of vaccine-therapy. If it seem hazardous to increase the subdivisions of medicine on such occasions, we shall most of us be agreed that it was a happy inspiration which led the Council to make the present experiment, and no less befitting that the trial should be inaugurated under the direction of one who, along with his fellow workers and pupils, has so conspicuously illuminated the subject.

THE LARGER PROSPECT.

Time forbids further digression. What of the larger future? May we look forward with confidence to the time when tuberculosis shall cease to be? I think we may. Everything points to its early and final disappearance. This should not be impossible of achievement within a generation or two among the nations which regard the public health as an integral part of civilization. Is not tuberculosis chiefly the expression of partial, ill-informed civilization? It was introduced by ignorant, unthinking mankind, and mankind, educated and thinking, can expel it.

We are wont to speak of two factors in reference to infective processes—namely, the soil and the seed. It is a handy enough mode of expression, and its application to tuberculosis seems especially natural. But I should like to insist that, in addition to the soil and the seed, we have to reckon also with the tuberculous *seedling*. The invasion of tuberculosis is a slow process, much slower than is usually conceived. Infection by the tubercle bacillus is not the work of a moment. For the most part it is dependent on devitalizing influences which have been long at work. Even after infection Nature's barriers are many. The bacillus does not get it all its own way. Considerable resistance is usually offered. The first line of defence at the lymphatic glands may show excellent fight. As physicians, we cannot be too alive to the call for help which multiple enlargement of lymph nodes implies. Reverting to the former metaphor, this is the stage when the tuberculous seedling should be recognized. Happily this is possible in a variety of ways.

The realization of the vast frequency of tuberculosis in childhood is the first step to its timeous recognition. The removal of the tuberculous weed is an easier process at the seedling stage than when it is a grown tree. Let us be jealous of the first buddings. The children of a community must be carefully scanned. This is a matter, as it seems to me, for the general practitioner, and not primarily for the medical inspector of schools. I would fain see parents insisting on the periodic examination of their children at home and the periodic inspection of home conditions. The family doctor should anticipate the school inspector. It is not alone in the home of the poor that the "march-past" of the inmates reveals the presence of tuberculous seedlings.

In the wider sense the principles of antituberculosis warfare are clear enough. The chief difficulty lies in their practical application—especially their engraftment on the older régime.

Conceive a city built to-day *de novo* in accordance with physiological and hygienic law. The structure and arrangement of the houses would be a first consideration. The sunless, airless dwelling would be impossible. Every apartment would have the maximum of sunlight. Windows would be framed so as readily to fulfil their other function, namely, to let in air. From infancy the citizen would be trained to regard the dual function of the window as vital to his safety. The nursery would especially be bathed in air and sunlight. The schoolroom would be an object lesson in hygiene. None would be sanctioned whose ventilation was not in large part associated with the open window. There would be no school without a large playground. In fine weather much of the work would be done outside. Throughout the town wide streets would be the rule. Open spaces would abound. Crowding in dwellings, offices, workrooms, factories, meeting places, would be criminal. The housing of cattle would be similarly regulated. In such a city soil for tubercle would not exist. Tubercle would be unknown. It need never appear.

The immediate difficulty is, How to engraft these ideas on the older system? How best to reform the cities of an earlier civilization? How to effect what is needed reasonably soon? Local authorities need to be reminded that they already possess far-reaching powers, and should be urged to make use of these, especially in respect of faulty construction of houses and streets. Dwellings and apartments unfit for human residence or work must be more freely condemned. Where insufficient powers exist, fresh legislation must be called for. The case for such legislation is clear, and its inspiration will be found in the successful results of sanitary legislation in the past.

What applies to our towns applies no less to country districts. *A priori* it seems unthinkable that tuberculosis should be a frequent visitor in the countryside. And yet it is extremely prevalent. The other day the wife of one of our largest landowners, who is keenly interested in the well-being of the people, asked me how it was that in their lovely county consumption should abound. The answer is, unfortunately, that the same causes are operative there as in towns. I fear, indeed, that it may prove a harder task to control and eradicate tuberculosis in rural districts than in urban centres. It has always been less easy to change faith and practice in outlying districts. But the principles of reformation are the same, and in this instance the countryman has the advantage of greater ease of adjustment to the new life, if only the creed be accepted and its meaning practically grasped.

With the soil rendered unsuitable, I feel less concern about the seed in time to come. On the crop which remains in our present crowded centres the awakened intelligence of our people is beginning to tell. The thorough tackling of existing tuberculosis, on the comprehensive lines already referred to, will prove sufficient, if only well-organized antituberculosis schemes be associated with larger preventive measures.

The ravages of tuberculosis constitute a blot on our civilization. It is time that we inaugurate a policy commensurate with the evil and worthy of the age. It is time that we grasp the larger conception of tuberculosis as not merely the cause of an overwhelming mortality and infinite distress, physical and economic, but also a great devitalizer of the race, indirectly responsible for an incalculable amount of other disease. So soon as that is realized, and also that the agencies which condition its occurrence are as certainly removable as those which led to typhus, we shall act effectually. Never were the causes of a disease so definitely ascertained. What is chiefly needed is the awakening of the educated intelligence of the nation and the belief that the end is attainable. When that has been achieved, the offices of the doctor will be placed on a higher plane. Instead of being asked merely to tinker up diseased frames, he will be recognized as a nurseryman in the Garden of Health. Is it too optimistic to anticipate the time when the physician shall have restored to him his proper *métier* of physical "educator"—in the largest sense—and guardian of the National Health?

Address in Surgery

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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PROGRESS IN INTESTINAL SURGERY.

My first and pleasantest duty in appearing here to-day is to express my cordial acknowledgements to the Executive of the British Medical Association for the very great honour they have conferred on me in asking me to deliver the Address in Surgery at this meeting before so distinguished an audience. The pleasure is particularly great because the invitation brings me once again to the land of my birth and to a province in which I spent the happiest days of my boyhood.

It is something to have even lived not far from Belfast during the period in which she has demonstrated more than at any other time in her history her claim to be

considered one of the most progressive cities in our great Empire.

Reminiscence begets reminiscence, and one is led in looking back over a very stirring era and in a great centre of progress to consider what advance has been achieved in our own science and art during that time. In doing so one is almost bewildered by the multiplicity and magnitude of the strides which have been made in surgery in the present generation. Under the inspiring leadership of Lister conquest has followed conquest, until it may be said that there is hardly a region or organ of the body which has not been brought under the beneficent rule of recent surgery. To attempt a review of these achievements within the last twenty-five years would be a task too great for the present occasion. But if I venture to ask you to recall what has been harvested in one field of surgery, which to many of us in our earlier professional days appeared particularly unlikely to yield fruit, and if I endeavour to trace in broad outline the evolution of those ideas which underlie some of the progressive work which has been done in the surgery of the intestines, it may be profitable and encouraging to fresh effort. For it must be abundantly clear to any seriously reflecting mind that what has been so far achieved is almost as nothing to what remains to be done.

Within the memory of many present to-day any trans-peritoneal interference surgically with the intestinal canal was regarded as one of the most dangerous undertakings possible. Nowadays, although we look upon all intestinal work as demanding the greatest pathological knowledge, technical skill, and judgement, we know that it can claim an ever-increasing measure of success.

One of the first reasons for this progress lies in the fact that we have now ever clearer conceptions of the functions of the peritoneum.

When the abdominal cavity first became accessible to surgical interference our conceptions of it were dominated by the idea that its lining was one of the most vulnerable points in the whole body. But soon after came the gradual recognition of the wonderful powers of repair possessed by the membrane when unsoiled by septic matter. Perhaps no one did more to demonstrate this even before our era than the father of abdominal surgery, Spencer Wells. And we must not forget that this was in spite of the fact that much of his work was done before the acceptance of the Listerian régime. With the advent of the antiseptic era and the general improvements in results achieved, the conviction was forced upon the surgical mind that many of the successful cases of abdominal section which had recovered anterior to it could not have been performed under anything approaching ideal aseptic conditions. In other words, it seemed clear that if (as was almost positively the case in many of the earlier operations) a certain amount of infective matter must have been left behind in the abdomen after procedures where recovery followed, the peritoneal cavity surely possessed some, then unknown, power of tolerating a certain amount of septic material for a time and ultimately removing it completely. This conviction was strengthened more and more as the pathology of so-called appendicitis (to mention no other lesion) began during the same period to be better understood, and its clinical history to be more closely followed with and without operation. With the knowledge that this disease was an infective peritonitis starting from the vermiform appendix, it became abundantly clear that unless the peritoneum possessed the power of disposing in some way of very considerable quantities of septic matter no case of *acute* appendicitis could possibly recover. And yet it soon became obvious that many such cases did get well without any operation even after severe peritonitis. Moreover, this led to much greater hopefulness about all surgical interference within the abdomen, whether for accident or disease. And the conviction henceforth gained strength that in the peritoneum we possess a powerful ally, always ranging itself upon our side instead of a foe. These facts gradually aroused doubts as to whether the free use of chemical germicides so beneficial elsewhere was, within the abdomen, really sound practice when it was seen that the peritoneum alone could dispose of infective material and when it was discovered that these germicides could exert noxious influences upon the inherent reparative powers of the membrane. By degrees bacteriology and biology have furnished us with explanations of the facts observed in clinical study, and we have come to know something more definite about the defensive powers of the serous cavities. We know now pretty conclusively that these defensive agencies are not at an end when the membrane has thrown out a certain amount of plastic lymph for the repair of a lesion or the shutting off of an infected area. We believe that this is not its only function, but that under irritation it pours out an abundant effusion of fluid, diluting any toxins present; and that this fluid, like healthy serum, has besides an inherent property of inhibiting or destroying bacterial growth to a certain extent, limited of course, but marvellous as far as it goes.

The observation that the peritoneum was able under proper stimuli to rapidly furnish lymph of the very best quality for the repair of damage was a very old one. But the view that the fluid poured out into the abdomen under traumatic or bacterial irritation was in the first place a diluent of any toxins present, and in the next inhibitory or destructive to organisms, has only come to us recently in the evolution of biological knowledge.

Its development has gone hand in hand with the study of phagocytosis, and cytolysis, and of antibodies and opsonins in the blood and fresh serum. And I cannot help feeling that these studies have not as yet sufficiently influenced our practice in dealing with the peritoneum. Immense industry and brilliant research have led very far, and have furnished us besides with antitoxins and vaccines for a number of infections. But, speaking with the most profound respect and gratitude for these discoveries, I sometimes venture to think that attention has been more or less diverted by them for the moment from the marvellous powers of the body itself of producing antibodies *in situ* when called upon. For instance, where infection of the peritoneum is obvious, some of us are perhaps nowadays too ready to turn to manufactured antitoxins, and to overlook the fact that before they were discovered countless cases had been saved by some germ-destroying mechanism inherent in the serous cavities themselves, probably in the serum and cells effused into them during inflammation. After all, the practice of increasing the amount of blood and serum in a damaged part by means of poultices, fomentations, and other so-called rubefacients is of great antiquity, and has been universally sanctioned as a means of combating destructive inflammation. But the biological mechanism, so to speak, by which hyperaemia operates in arresting septic processes, has only recently received close study, as I have said. At all events, we are not so much afraid now as formerly of hyperaemia and effusion into serous and other cavities within certain limits. Indeed, under the influence of Bier's views on hyperaemia, the premeditated increase of blood flow and effusion of serum in infected areas has once more come to be emphasized as a regular practice with the very best results, as, for instance, in infective synovitis of joints and tendon sheaths. Here it has been proved over and over again that joint cavities swarming with certain bacteria beforehand are sterile after the hyperaemia treatment with rubber bandages or suction glasses has been properly carried out at intervals for a few days. That inflammatory effusions into the peritoneal cavity under septic irritation are also, up to a certain point, beneficial, seems now certain. And this view explains why it is that we now very often obtain so much better results in abdominal surgery without drainage in cases where a few years ago it was considered indispensable and carried out very elaborately. It is, of course, necessary to be very cautious in applying these theories to our practice in the surgery of the intestines, but we have, I believe, already received much valuable help from them just in this particular field. We have learnt to be more rigorous in our precautions for warding off sepsis from without during operation, more careful to guard the serous surfaces from all rough treatment during manipulation, and from chemical or physical irritation while exposed, and, on the other hand, more hopeful and bolder in cases where it is already obviously present within the abdomen. Let me illustrate this now by a case. About a year ago I was asked by my colleague, Sir Thomas Barlow, to operate on a boy of 14 who had been ill for some weeks with peritonitis, which had ultimately culminated in a localized swelling in the left iliac fossa, probably tuberculous in origin, and already softening

into an abscess. With considerable misgiving, knowing from experience the softened condition of tuberculous intestines around a breaking-down mass, I operated. A foul, stinking collection of pus was found in the midst of adherent coils of small intestine thoroughly rotten. An attempt to separate them only resulted, as I had feared, in their crumbling down in several places. It was necessary to completely resect a considerable length of this small intestine ragged with holes and to join sound bowel end to end above and below the damaged portion, all of which was removed. Now all this was done without antiseptics in the presence of foul pus which we could not pretend to have completely evacuated and wiped away during and at the end of the operation. Notwithstanding, I thought it better to close the parietal incision without drainage, even at the risk of the effusion re-forming and pointing through the closed wound. This it did to a small extent after some days, but the discharge soon ceased, the wound healed soundly, and the boy made a complete recovery, being fat and ruddy and without any intestinal trouble when he returned for examination some months later. Not so long ago such a condition as was found here would, I confess, have seemed, at all events to me, hopeless, and would have been treated by simply drawing out the ragged, perforated bowel and making an artificial anus in it, with the usual bad result. But the boldest course proved the best, in spite of the septic condition encountered. It may be asked, Would it not have been better to have put in a gauze drain down to the line of junction in the intestine? Possibly it might have been for a day or so, but I thought not at the time, and am of the same opinion still. The presence of effused serum after such an operation is not injurious within certain limits, and it is not necessary to drain it off in every instance. This requires judgement, and each case must be treated on its own merits.

I may be pardoned for alluding to two other cases bearing on the same point. As they have both been recorded, a brief notice will suffice. The first was that of a woman of 76, admitted into University College Hospital in a very serious condition, due to an internal strangulation of several feet of intestine by a band, with gangrene of some feet of it. On opening the abdomen, a couple of pints of very foul, dark greenish brown fluid escaped, and black dead coils of intestine followed. I found it necessary to resect 5½ ft. of bowel to reach sound gut. No antiseptics and very limited mopping were used, and the edges of the wound, which had been soaked in the foul effusion throughout the operation, were united without drainage after being simply wiped dry. Primary union, not showing a single flaw, was the result, and I saw the patient two years afterwards, at the age of 78, quite well and hearty. She was an Ulster woman, which may, of course, have accounted for her vitality. The second case was like it in almost every respect. It was that of a lady of 49, to whom I was hurriedly called out of London eighteen months ago. Here, too, there was a disastrous, sudden internal strangulation by band of about twenty hours' duration. The patient was cyanosed and pulseless at the wrist. When the abdomen was opened about 1½ pints of stinking, greenish-brown fluid gushed out, and a mass of black, foul intestine was found to be hopelessly strangled. It was necessary to resect 4 ft. 9 in. of bowel and make a side-to-side anastomosis. Here, too, the parietal wound was completely closed without drainage or the use of any chemical germicides, and was healed in ten days with only one slightly moist stitch. Recovery, in short, was perfect and permanent, as I have since heard. In neither of these two cases could there be any pretence that the abdominal cavity was left quite clean by simple mopping at the end of the operation. But in both the peritoneum was manifestly able to deal with what septic matter remained behind after the removal of the gangrenous intestine and the bulk of the effused fluid. The most reasonable interpretation of the results appears to me to be that the effused fluid was in the first place inhibitory to the free growth of organisms, and in the second a diluent of the toxins of those present, enabling them to be excreted without harm to the system generally and to the kidneys in particular. I feel confident that without a belief in the newer views as to the powers of the tissues to deal with considerable quantities of certain septic matters I, at least, would have regarded these three cases as hopeless and would have abandoned them when I saw the state of things within the abdomen. Other cases similar to them might also be cited if time permitted. Moreover, I feel sure that any prolonged attempts to render the abdominal cavity more ideally clean either by flushing by antiseptics or sponging out—such as would have been made a few years ago—would have been not only futile here, but injurious to the defensive works of the peritoneum. In these cases we were dealing with intra-abdominal conditions undoubtedly contaminated. It was our business to restore the continuity of the obstructed and damaged bowel, and by every conceivable precaution of asepsis to prevent any superadded infection from without. This we did and evacuated the bulk of the foul matter. With what remained the peritoneum was able to deal, and did so rapidly.

We are here thrown back upon the faith of our fathers in the *vis medicatrix Naturae*—a power intangible, beneficent, all-pervading, claiming our faith, arousing our hope, but baffling our analysis hitherto beyond a certain point. Yes, we have changed our conceptions of the protective and reparative functions of the serous membranes very much indeed within the past few years, and, as a rule, to the advantage of our patients. We recognize and understand their protective purposes more fully, and are careful to foster and not to impede them. Who would have believed a decade or two ago that the brain and cord may be bathed in virulent septic fluid for days, and yet recover all their delicate mechanism once more, aided by manufactured antitoxins introduced from without? And none have demonstrated this fact more satisfactorily than the physicians of Belfast in your terrible epidemic of cerebro-spinal meningitis. Again, the fact, established by numerous observers now, that this same disease in its severe forms may be recovered from under simple repeated tappings of the spinal canal through the lumbar sac without any injection at all, suggests strongly that these serous coverings, too, must possess defensive works of the highest order, only requiring slight assistance in the removal of an overplus of poison to effect a complete recovery in many cases. And this does not apply alone to infection with Weichselbaum's bacillus. Those of us who, like myself, have seen our patients in a state of wild delirium, etc., from cerebro-spinal meningitis starting in the ear, relieved almost at once and ultimately recovering completely after repeated withdrawal from the lumbar sac of the products of inflammation, are driven to the conclusion that the powers of defence against bacterial invasion possessed by this cerebro-spinal serous membrane must be very great, and analogous to that of the peritoneum.

Once the assurance was arrived at that the serous membranes were on the side of the surgeon and not against him, a long step in advance had been made, and we were encouraged to put forth every power to preserve all its protective forces intact. For it became a matter of observation that these could, under certain circumstances, become exhausted. Prolonged exposure and chill, for instance, or injudicious manipulation or sponging quite apart from sepsis, had been found by experiments on animals and in practice on the human patient to lower the reparative forces of the peritoneum. And besides this, though the peritoneum could be shown to tolerate a certain amount of bacterial poison, it became quite clear that, marvellous as were its powers in this direction, they had their limits, and these could ultimately be reached, even in the case of the less virulent organisms. Also we came to know that there are various infections—for example, with certain streptococci—which seem almost from the first to baffle all the reparative and eliminative powers of the serous coverings. Which of us has not often seen cases, for instance, of appendical (or, as it is perhaps more classical to call it, with Küster, "epityphlitic") peritonitis successfully arrested by the natural powers alone, unaided by operation? And which of us has not felt, in operating for epityphlitic abscess, that we have done little more than provide an escape for pus which had already been securely shut off from the system by adhesions, in spite of the bacteria and their toxins? Which of us, finally, has not seen many cases of severe epityphlitic peritonitis, where we have opened the abdomen early and found only general redness of the serous surfaces

with very slight effusion and no trace of reparative lymph, where deep general toxaemia was already obviously present, and where from the first the peritoneum seemed unable to cope with the poison, either on account of its quantity or, more probably, of its peculiarly noxious quality? We have seen the same thing in many cases of punctured wounds of the intestines. In some, great advances in the direction of repair only calling for a little ordinary surgical help, and in the others no progress at all in the formation of plastic lymph, and a condition beyond the reach of any operative measures. When we speak now of peritonitis, we are conscious that we are using a term which includes conditions as widely apart as are an ordinary attack of eczema and a desperate cutaneous streptococcal erysipelas. This knowledge has already had the greatest influence on our treatment of abdominal inflammations. Take, for instance, the question of drainage, formerly considered indispensable. We now know that in many cases it is not only not necessary, but injurious. Many of us are able now in certain cases, where an inflamed epityphlon or pyosalpinx has been removed from the middle of a small abscess, to close the parietal wound without a drain and obtain flawless union per primam.

Another observation which has had an enormous influence upon the surgery of the bowel is that healthy intestinal walls will prevent the migration, to any serious extent, of the bacteria of the contents through them, but that if their vitality is lowered (to use an ordinary term) by accident or disease, even without any breach of surface, this migration will take place through mucous, muscular, and serous coats, and the general cavity of the peritoneum will thereby be infected more or less seriously. This most important discovery—first made upon the fluid found in the sacs of herniae in various degrees of strangulation and then demonstrated experimentally—has had a greater influence on our dealings with the intestines than is commonly supposed. On the one hand, it prompts us in our operative manipulations to deal as gently as possible with the tissues of the bowel, and, when the latter is damaged by injury, strangulation, or other disease, to be sure that in removing it we only leave really healthy tissue behind, not merely that which shows no loss of substance, but such as is capable of resisting the emigration of organisms from within outwards. It also prompts us in cases where enterectomy is contemplated, and where time permits, to reduce the number of bacteria in the contents of the intestine by laxatives, enemata, and intestinal antiseptics, as well as by the cleansing of the mouth, teeth, and pharynx, and the use of only sterilized albuminous food. Moreover, it has led us in cases of obstruction to adopt the routine of washing out the stomach thoroughly before operation wherever feasible, knowing as we do, since the practice has been adopted, that in many such cases the stomach contains large quantities of putrid material, which in course of time would have to be vomited or pass through the part of the intestine lowered in its vitality by the strangulation, and possibly also by the exposure and manipulation necessary during operation, thus increasing the chances of infection. That a certain limited number of bacteria pass from the intestine into the peritoneal cavity in health without injurious effects seems probable from recent investigations. This suggests the possibility of a gradual immunization of the serous covering in chronic obstruction, a view which some of the facts observed in this condition seem to support.

Other additions to our knowledge, both theoretical and practical, have also combined to remove many of the risks of intestinal operations: among these our experience that patients after such procedures need not necessarily be entirely deprived of food by the mouth for long periods. This, of course, is contrary to the teaching of earlier days. And yet it is in accord with sound theory. We know now that the mechanical efficiency of our deeper line of sutures passing through all the coats of the bowel lasts in most cases for days if cleanly done, and is sufficient to prevent separation by the movements of peristalsis, and that round the outer sero-muscular sutures enough lymph is thrown out in six or eight hours to produce fairly sound union and stop leakage. We know, too, that this plastic process is more perfect the better the patient is nourished. And as it is often the case that such patients have been precluded from having proper nourishment for days beforehand, or have constantly vomited it when taken, the need of aliment after operation is very great. Of course, when vomiting due to the anaesthetic is still present, food by the mouth is useless. But we are now able to give peptonized foods by the rectum, which were not formerly at our disposal, and have more recently learnt how to employ several important aliments subcutaneously. Here not only can water, the first need of the system, be given in large amount and with perfect safety in normal saline solution, but also carbohydrates in the form of 5 per cent. solution of glucose. In this way 2 oz. of sugar can be administered per diem—in short, a very important food, without any demand upon the alimentary tract. The increased action of the kidneys induced by the free instillation of fluids we believe to be most useful further in carrying off diluted toxic matter from the system charged with them as a consequence of the condition for which the operation was performed.

Then during the same period what improvement in the art of administering general anaesthetics has taken place! The drugs are now purer, the dosage better formulated, and the danger signals during administration better understood. We now recognize that the anaesthesia must be pressed while the peculiarly sensitive parietal peritoneum is being manipulated, while it may be reduced or actually omitted during the manipulations and stitching of the practically insensitive intestine. The amount of the drug, therefore, given in these mostly protracted operations is now enormously and advantageously reduced in the hands of experienced administrators. This we owe in a large measure to the recent brilliant demonstrations on the innervation of the parietal and visceral peritoneum by our Swedish and Russian *confrères*. Their discoveries supply us besides with many data of the utmost use in the localization of lesions in the abdomen by painful impressions. Further, many of the dangerous pulmonary sequelae of general anaesthesia, so often seen not long ago in intestinal surgery, especially when stercoraceous vomiting was present, and before the routine of washing out the stomach before operation was practised, are now reduced in number and severity. Thus infective affections of the lung are avoided or controlled by greater care in cleansing the apparatus employed and the rigid attention to the antisepsis of the teeth, nose, and throat, which is now also a matter of routine. We have also learnt that the lung troubles which so often follow abdominal operations can be prevented, and favourably modified by abandoning as soon as possible the recumbent position formerly thought indispensable after operation, and by placing our patients in the sitting position in or out of bed within a day or two of the operation. This has also probably a favourable influence on that nightmare of abdominal surgery, pulmonary thrombosis, which, though regarded by most of us as depending on septic conditions, is undoubtedly favoured by shallow respiratory movements in the recumbent position. Whether the employment of local and spinal analgesia will ultimately eliminate some of the risks following general anaesthesia, it is too soon to predict with any certainty. But from what I have myself seen of both procedures in hundreds of cases, and from the study of analyses of many thousands more now published, I cannot help hoping that there is a great future for both in abdominal, and especially intestinal, surgery. On one point, however, I believe all surgeons who have employed spinal analgesia to any extent are agreed, and that is that the conditions under which the operations are done with it are immeasurably superior to those present under general anaesthesia. There is, for instance, absolute quietude and relaxation all over the field of operation—no small matter in the patient's interests where delicate adjustment of parts is of importance. At all events, for my own part I have thought it my duty to study the whole question in its many aspects, and to examine into the value of these methods in hundreds of cases guardedly, patiently, and I hope dispassionately. For local analgesia, which is quite innocuous when used intelligently, there is undoubtedly a considerable if restricted field of usefulness in abdominal work, as, for instance, in strangulated hernia in the aged and decrepit. Here it is an ideal procedure, and I believe it has already saved many lives by eliminating the well-known risks of general anaesthesia.

Another point which has had a remarkable influence upon intestinal surgery has been brought out within the last few years, partly by experimental work on animals and partly by the experience of surgeons who have felt themselves compelled, for one reason or another, to remove considerable tracts of bowel. We have learnt that considerable lengths of the jejunum, ileum, colon, and rectum can be at all ages removed without any very apparent influence for evil upon the processes of digestion and assimilation. I do not for a moment wish to suggest that we have arrived at final conclusions upon this point. Physiologists are at present hard at work upon it, as I know, and are making extensive studies on the excreta of patients who have been compelled to part with various portions of the alimentary canal. Nor do I wish to acquiesce in the removal of any part of the latter tube for any but the most unavoidable reasons. I merely desire to draw attention to the fact that for some of the gravest emergencies in human experience large portions of the intestinal tube have been removed without seemingly producing the deleterious effects which might perhaps have been expected. My own experience of such procedures includes the removal, in one case, of between 6 and 7 ft. of small intestine, in several of between 5 and 6 ft., and several more of lesser amounts of both small and large intestine. In none of these was there any evidence months or years later that the general health had been in any way injuriously affected. And it has been the same in many published cases, though not in all. At all events, I believe it has been shown that the removal of any amount of small intestine up to 6 ft. can be well tolerated. And, as far as I know from observation and study of the literature of the subject, age or sex does not influence this conclusion. My own eldest case was aged 76, and here at least 5½ ft. were excised, the patient being in excellent health two years later, as was also another case over 50 in which I removed 6½ ft. How much of the *large* intestine can be removed without demonstrable effects on the health is not yet fully known; but for malignant and tuberculous affections nearly the whole has been taken away or excluded from use, and the patients have enjoyed good health afterwards. I have recently seen one of my own cases in which more than five years ago I extirpated a great part of the colon for malignant disease and excluded the rest, and the patient is now in the most robust health, and without any sign of recurrence, with only the rectum representing the large intestine. A full report of the effects on the excreta of the elimination of the colon in this case will soon be published from the chemico-pathological laboratory of University College. But it is, in my opinion, quite another thing to say that the large intestine should be removed for other less serious conditions, such as chronic constipation. Personally, I have no experience of the procedure for this trouble, and am not concerned with the controversy anent it.

Having reviewed some of the factors contributing to our present success in intestinal surgery, let us glance at some of the conditions formerly considered desperate which have been actually relieved during the last decade or two. Among the injuries, punctured and bullet wounds and bad contusions of the bowel have been successfully dealt with: gangrenous strangulations, external and internal, with or without the removal of long pieces of bowel, have been saved; large sarcomata involving intestine have been extirpated; tuberculous tracts of intestine in a hopeless condition of ulceration have been taken away with transient or permanent relief; typhoid ulcers and perforations have been excised, and though only a small percentage of the patients afflicted with them have been saved, owing to the general condition, we must remember that the best authorities tell us that the mortality of typhoid perforation treated without operation is 98 per cent. Intussusceptions operated on at a reasonably early stage are now almost invariably successful.

But perhaps the greatest achievements of intestinal surgery have been those gained over the terrible cancers of the bowel, so hopeless and so distressing until quite recently. If we had learnt nothing more about these than that they could in most cases be successfully short-circuited, and that the patients could thereby be relieved of the immediate dangers of obstruction without the sad necessity of a permanent artificial anus, with all its bodily and mental distress, we should have won an immense boon for a class of sufferers who claim our sympathy almost above all others. But the last few years have taught us far more. We have seen that cancers of every part of the large intestine, from the caecum to the anus, can be removed with immediate success and with, at all events, as much prospect of non-recurrence as those of other parts—perhaps even greater. Indeed, this ought to be so, seeing that we are dealing in most cases with columnar epitheliomata of a low type of malignancy whose mode of lymphatic extension is through tissues well defined and accessible, and better understood anatomically than any other. In any case, the gain of several years of life, which is common now, is an enormous one, especially as the objectionable artificial anus is becoming rarer and rarer.

The greatest advance of all, however, is in the direction of dealing with those terribly distressing conditions due to cancer of the lower part of the large intestine. Since it has been demonstrated by countless cases that carcinomas of the pelvic colon and rectum, unapproachable only a few years ago, can now be removed with a good prospect of prolonged immunity from recurrence, if no more, a great load has been taken off the surgical mind. We owe to Kraske and his followers a great debt for the gift of the trans-sacral operation for the removal of cancer of the rectum. We owe him perhaps more for the working out of the combined abdominal and dorsal procedure, which he has recently advocated for some cases as a substitute for his original trans-sacral method, the defects of which he has recognized and frankly acknowledged. And as its principles and details become more and more familiar and the selection of cases follows the usual course our gratitude will, I believe, deepen. In this procedure we have not only the prospect of excising the original growth anywhere between the anus and descending colon and preserving the anus in all its functional integrity, but also of removing those parts of the retroperitoneal tissues which contain the lymphatic vessels and glands likely to be, if not actually, infected with malignant elements from the growth. Herein we are only following the principle recognized now as indispensable in all operations on cancer, whether of the tongue, breast, or other organ—that is, that it is not only necessary to the highest ideals of success to extirpate the original cancer, but also all those tissues around, in which the lymphatics run, whether visibly or tangibly infected or not. The combined method of operating on the pelvic colon and rectum is, of course, a severe procedure, and at present has a high mortality for several reasons, mostly those due to faulty technique and inexperience in the selection of proper cases. But if in the hands of the best surgeons who followed Kraske in the first few hundreds of ordinary trans-sacral operations the mortality was over 30 per cent., and has fallen since in the hands of some experts, each with an experience of several hundreds of operations, to about 10 per cent., we may surely hope for a corresponding improvement in the immediate results of the abdomino-dorsal method as it is better understood. Of the superiority of its functional results over the sacral methods there can be no question. And as to the greater immunity from recurrence, we have every reason to believe that it will be proved when we have larger numbers from which to judge after years of observation. And with so formidable and painful a malady there are numerous sufferers who would be prepared to face some extra risk from an operation which offered a larger hope on the two points of function and non-recurrence. And we must not forget that a new source of accuracy of diagnosis has come to us in the use of the Roentgen rays acting on meals mixed with bismuth and other substances. This method of examining the state of the bowel seems to promise in the future to patient and surgeon alike a large measure of help.

I have tried now to give a short review of the gradual evolution of intestinal surgery from the point of view of one who, though still in his Fifties, has seen it in his own time. This evolution has not been the result alone of the better conception of asepsis, much as we owe to it. Nor has it been due altogether to improved manipulative skill. It has resulted from clearer views on the vital processes concerned in all lesions within the

abdomen. These we have gained partly from closer clinical observation, aided by what we have learnt from the anatomist, the pathologist, bacteriologist, biologist, and physicist, and from careful sifting of our experiences, whether of failure or success.

Looking back, as I have tried to do here, and looking forward, as every hopeful man must and ought to do, we see encouragement in both directions. What has been done within the last few years in this important field of surgery, in spite of the enormous difficulties which surround it, assures us of a far greater yield in years to come, working, as we shall do, under more favourable conditions and with ever-increasing knowledge. Is any inclined to despond, thinking, mayhap, of the magnitude of the problems still unsolved and the smallness of his own individual powers of grappling with them, let him listen to the clarion note which rang ont just one hundred years ago from one ranking among the greatest philosophic thinkers of his day and certainly its greatest poet:

> Wish upon wish to nobly gain,
> Wake up; behold the rising sun.
> Those lowering clouds will break in rain;
> Rend sleep's brief thrall and gird thee on.
> Rouse thee; be bold; and greatly strive.
> Heed not the faltering, loitering throng.
> The lofty soul can all achieve,
> Whose thought is swift, whose grasp is strong.

This appeal has since then been finely responded to by his own countrymen, though at the time almost crushed materially and inclined to be despondent. Let us see to it that we, too, undeterred by the languid interest in science of a commercial and materialistic age, press ever onward, thankful for past achievements in the interests of suffering humanity as we look backward, hopeful and courageous as we look forward to the years to come.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF PSEUDO DIPHTHERIA DUE TO THE PNEUMOCOCCUS.

In view of the articles by Sir Felix Semon and Dr. John Elliott in the issue of June 26th on pneumococcus invasion of the throat, the following case may be of interest.

The patient, a girl aged 8, was admitted to hospital in July, 1907, with a history of three days' illness following upon exposure to wet weather. She was certified as suffering from diphtheria, and accordingly was sent to a diphtheria ward.

When I saw her she appeared to be very ill. Her breathing was rapid and laboured, she was distinctly cyanosed, and had a hoarse cough suggestive of diphtheria. Her temperature was 102° and pulse 140. On examination both tonsils were seen to be thickly coated with a whitish membrane, and she coughed up some thick whitish material. On inspection of the chest there was seen on inspiration considerable epigastric retraction. On auscultation there was evidence of widespread bronchopneumonia in both lungs. Having regard to the state of the tonsils, the hoarse cough, and the obstruction to inspiration, the case was accepted as one of diphtheria and serum given. The question of performing tracheotomy then arose in view of the obstruction to respiration; and after consultation with a colleague I performed the operation, which seemed to relieve the patient to some extent. As the membrane seemed softer than usual, and as I had the impression that the urgency of her condition was mainly due to the state of her lungs, smears were made from the membrane. On examination of these, instead of the diphtheria bacillus there was found a pure culture of what was morphologically the pneumococcus. Accordingly the case was then diagnosed as one of bronchopneumonia, with tonsillitis and laryngitis due to the pneumococcus. The patient was desperately ill for some days, but gradually improved, and eventually made a good recovery. She was greatly relieved during the first two days, by the administration of oxygen, which was given for ten minutes every half-hour. Prior to its use she was exceedingly restless, throwing her limbs about, and jerking herself from one end of her cot to the other. After its use her colour improved, she became quieter, and was enabled to sleep.

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INOCULATION FOR CHICKEN-POX.

On April 4th, 1905, my son, aged 9, came home for his Easter holidays with a warning from the head master that there were cases of chicken-pox in the school; and on the evening of April 6th he developed a sharp attack, and was immediately isolated from the two other children. On April 20th (fourteen and a half days later) the youngest child, aged 4, developed a well-marked eruption.

As the boy's attack had been rather severe, leaving some pock marks on the face, I decided to inoculate the other child, aged 11, hoping that possibly the eruption might be modified in its severity and the period of incubation possibly shortened. Accordingly on April 21st, at 12.30 p.m., the second day of the eruption, I opened a vesicle on the back of the younger child, and inoculated the elder in one spot over the biceps of the left arm. Antiseptic precautions were taken, and the scratch had entirely disappeared on the third day.

On April 29th the site of the inoculation became irritable: on the morning of April 30th there was a slightly raised papule, looking as if a small vesicle had been rubbed off; no fever nor constitutional disturbance. After luncheon I had to drive her in the motor car to London, a distance of about eighty miles, and on the way she was violently sick, and seemed feverish. Next morning the temperature was 100°, and there was a general acuminated papillary eruption, with a scarcely visible vesicle at the apex. The temperature in the evening was 101.4°. The fever disappeared on the second day, the spots were fading, and the patient was quite well in five days time.

Interesting points are that the eruption was so modified as to show no likelihood of pitting, and that the incubation period was apparently much shortened.

Lee-on-Solent. DONALD SMALLPEICE.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

BEDFORD COUNTY HOSPITAL.

TRAUMATIC RUPTURE OF THE SMALL INTESTINE: OPERATION: RECOVERY.

(Under the care of Mr. W. GIFFORD NASH, F.R.C.S.)

[Reported by WILLIAM J. LEIGHTON, M.D., R.U.I., House Surgeon.]

H. S., aged 14, a farm labourer, was admitted on November 26th, 1908, at 11 p.m. He had had breakfast about 6 a.m., and some bread and butter about 10 a.m. At 1 p.m. he was kicked in the abdomen by a horse. During the afternoon he was very pale, sweated profusely, vomited several times, and passed a quantity of urine, which, so far as his parents observed, appeared to be normal.

On admission the temperature was 100.4°; the face flushed; respirations 32, gasping, and evidently painful. The heart was normal; the pulse was 138, "running," volume small, and tension low. The veins on the abdomen and chest were markedly dilated. The abdomen did not move with respiration, and was very rigid. He complained of pain and tenderness, having their maximum in the right side of the umbilical region. The flanks, especially the left, were dull; the liver dullness was normal.

Mr. Nash performed laparotomy at 1 a.m., twelve hours after the accident. An incision was made in the middle line extending from 2 in. above to 4 in. below the umbilicus. Some yellowish fluid containing streaks of blood and a little bile-stained fluid escaped. The intestines were inflamed, and on the surface were several patches of lymph. On lifting the great omentum a perforation in the intestine was discovered large enough to admit the forefinger; from the amount of bile which had escaped

the tear was apparently in the upper part of the jejunum. The edges of the rupture were brought together by a row of "through-and-through" sutures, and then buried with a row of Lembert sutures, fine silk being used in each case. The peritoneal cavity was swabbed out, the peritoneum and muscles secured with interrupted silk stitches, and the skin wound closed with silkworm gut. A large drainage tube was inserted in the lower part of the wound.

The patient was propped up in bed, and continuous saline irrigation of the large intestine was instituted. In twenty-two hours over 10 pints of normal saline were absorbed. The drainage tube was removed on the third day, when it was replaced by a gauze drain for two days more, after which the wound was allowed to close, as all discharge had ceased. He made an uninterrupted recovery, except for an attack of tonsillitis, which was prevalent in the hospital at the time. He was discharged on January 9th quite cured.

Berry and Giuseppi[1] have published an analysis of 132 cases of rupture of the intestines treated in various London hospitals between 1893 and 1907. Of these, 115 died, a mortality of 87.2 per cent.; 84 were operated upon with 17 recoveries, the remaining 48 not operated upon all died.

The most important points in diagnosis are: pain, rigidity of the abdomen, and a rising pulse-rate. With regard to treatment, early operation is, of course, the only rational method. In the after-treatment the method which gives the best results is to place the patient in a sitting position and administer copious saline enemata.

In the case recorded a very important factor was, I think, the almost complete absence of food from the stomach and upper part of the intestine, so that there was comparatively little soiling of the peritoneum.

[1] *Proceedings* of the Royal Society of Medicine, November, 1908.

Reviews.

A PHYSICIAN'S NOTEBOOK.

IN a small volume of desultory papers, entitled *Notes and Thoughts from Practice*,[1] Dr. TYSON of Folkestone discusses, from the point of view of the clinical physician, several important subjects. Every one will not agree with all his opinions, but his views are expounded temperately, and in a discursive and light way he discourses, somewhat superficially it may be, on more than one question of general professional interest. The chapter which the author devotes to food and exercise contains some common-sense reflections on the tendency towards extreme views in regard to both the one and the other. Dr. Tyson protests against the use of diet tables prepared on a cut and dry plan, and issued indiscriminately to those who are sick, without regard to the question of idiosyncrasy. He says truly: "The organs of smell and taste, like other organs of sense, are developed with varying degrees of sensitiveness in people, and the so-called 'pleasures of the table' have a real meaning to some, but not to others." He emphasizes the need for doctors themselves to take special care, since their duties, being unusually exacting, are apt to interfere with regularity in regard to meals and to encourage a careless disregard of exercise. Dr. Tyson says that "the members of our profession have more hobbies, whether they be out-of-door ones or those of art, science, or literature, than any other section of the community." It is to be feared that this is true only of certain sections of the profession—those who practise in rural districts, and those who in towns, having gained a certain measure of success, are wise enough to make leisure. It is a counsel of perfection to say: "I believe that it is a wise thing to get quite away once a week from one's work, where there is a change of air, of scene, and of people." However wise, we want to be told how it can be made practicable for all.

In two of his lectures Dr. Tyson pleads for a more accurate classification of disease, but we doubt whether his proposal that a qualifying adjective should be prefixed to a generic name will do much to advance diagnostic precision. It is conceivable that too much refinement in the way of detailed nomenclature might increase existing difficulties, and hinder rather than promote descriptive accuracy.

In dealing with the future prospects of the medical profession the author is pessimistic, holding that it is "digging its own grave," and that it must inevitably continue to do so. He says that dispensing by doctors is to a great extent abolished, a statement the truth of which we take leave to doubt; that the slighter ailments are nowadays treated, for the most part, either by the patients themselves or their friends; that nurses do midwifery and other work which previously was entirely in the hands of medical men; and that "masseuses, electricians, quacks such as corn cutters, skin specialists, and many such like, take another large share of our work." The remedies he suggests are a smaller admission to the ranks of the profession, presumably by increasing the severity of qualifying examinations; fewer honorary appointments to public institutions; co-operative methods after the club system; and State support in all branches of medicine. An emancipation from present difficulties on such lines would have many and obvious disadvantages, but the millennium is far off for medicine as for everything else, and so we must possess our souls in patience, and try to work out our salvation with what hopefulness and fortitude we can muster.

[1] *Notes and Thoughts from Practice.* By W. J. Tyson, M.D., F.R.C.P., F.R.C.S., Honorary Physician, Victoria Hospital, Folkestone. London: John Bale, Sons, and Danielsson, Limited. 1909. (Cr. 8vo, pp. 95. 2s.

TREATMENT OF PULMONARY TUBERCULOSIS.

THE interest aroused by Dr. WOLFF-EISNER'S book on early diagnosis and immunity in tuberculosis[2] is shown by the appearance of a second edition in less than a year after the publication of the first. In the new edition the work is revised and expanded, and references to papers read before the International Congress on Tuberculosis held in Washington in the autumn of 1908 are included. The earlier chapters discuss the physical examination for signs of early tuberculosis, the bacteriological examination of sputum, the so-called cytological diagnosis—that is, the inference as to the presence or absence of tuberculosis from the characters of the cells found in sputum or a suspected exudate, and the diagnostic and prognostic significance of the opsonic index. Upon all these matters readers of English medical literature are already well informed, and little need be added by way of comment upon Dr. Wolff-Eisner's views. But with regard to what he says about cytodiagnosis, we may remark that he attaches more importance than the majority of English clinicians to a preponderance of lymphocytes in sputum as a sign of tuberculous infection.

"It has repeatedly been my experience," he says, "to find isolated tubercle bacilli, after protracted search, in sputums rich in lymphocytes, and it was this cellular character of the sputum which induced me to continue the search; often cases with sputum rich in lymphocytes have at a later period developed into manifest tuberculosis."

Whilst attaching due weight to the author's observations, we think it is hardly safe to draw a definite inference from an examination of sputum which reveals many lymphocytes but no tubercle bacilli. Greater importance attaches to Dr. Wolff-Eisner's very extensive observations on the diagnosis of tuberculosis by means of tuberculin and the significance of the ophthalmic and cutaneous reactions. He recommends the combined use of these two reactions, as the information provided by the one supplements that given by the other. For the conjunctival test the author uses a 1 per cent. solution of "Ruete-Enoch" tuberculin, and finds that a positive reaction is a sure sign that tuberculosis is present in an active form. The cutaneous reaction, on the other hand, reveals inactive as well as active tuberculosis; hence from the combined indications of the two tests it can be ascertained whether tuberculosis, if present, is in an active or an inactive stage. This difference between the two reactions is explained by the author as attributable to differences in vascularization and absorptive powers of the skin and the conjunctiva. The tuberculin introduced cutaneously is only absorbed after a long time; remaining *in situ* it can produce its local reaction even when it takes some time for the requisite antibody to reach it. But when brought into contact with the conjunctiva the tuber-

[2] *Frühdiagnose und Tuberkulose-Immunität.* Von Dr. A. Wolff-Eisner. Zweite vermehrte Auflage. Würzburg: Curt Kabitzsch. 1909. (Sup. roy. 8vo. pp. 388; with illustrations and charts. M.12.)

calin is very quickly absorbed, and therefore a local reaction can only take place when the antibody reaches the site quickly; and this postulates an active tuberculosis where, under the influence of constant stimulation, the antibodies are present in considerable quantity in the circulating blood. In advanced stages of tuberculosis, manifest on ordinary physical examination, diagnosis by either of these tests is not called for, and both tests may fail to give a positive reaction; but positive results are obtained more frequently by the conjunctival than by the cutaneous reaction. This difference is to be contrasted with the results obtained in clinically healthy persons, where the percentage of reactions is very much higher by the cutaneous than by the ophthalmic method. The author found that the significance which he attributes to the cutaneous and conjunctival reactions was to a large extent confirmed by the cases which came to *post-mortem* examination. After negative results had been obtained with both reactions, and with the exception of progressive phthisis, in which these reactions are admittedly uncertain, the autopsy generally revealed an absence of tuberculosis. Following a positive cutaneous and a negative conjunctival reaction the necropsy revealed deposits of old, healed nodules, which were encapsuled or calcareous. The author maintains a sceptical attitude towards claims to diagnose between infection by human and by bovine bacilli from alleged specific differences in the effects of tuberculin prepared from human and bovine bacilli respectively.

The appearance of a second edition of Dr. BURTON-FANNING'S little book on *The Open-air Treatment of Pulmonary Tuberculosis*[3] shows that it has been appreciated. The author has collected much information in a small compass. In the preliminary chapters on etiology the reference to various theories, sometimes contradictory, produces a sense of doubt as to whether anything is yet certain about the origin and spread of tuberculosis. When there is so much that is definitely known, it might have been better in a small book to leave out conflicting theories, or at least to offer some guidance as to which theory seems most in accordance with the author's experience. In the four years which have elapsed since the publication of the first edition little that is essential has been added to the practice of the "open-air" treatment. The theory of auto-inoculation in explanation of certain variations in the opsonic index of patients who are taking exercise justifies the inclusion in this edition of an account of Wright's work and conclusions. The book will be found interesting and instructive to all who are practising the open-air treatment of consumptives.

CHEST DISEASES.

THE medical schools of Lyons and Montpelier have been very active of late years in the production of bulky treatises on various branches of clinical medicine, and we have now to record the appearance of a large volume, the work of Professor RAYMOND TRIPIER of Lyons, presenting a series of anatomo clinical studies, in which the pathological and clinical aspects of certain diseases of the circulatory and respiratory systems are minutely examined from the standpoint of the practical physician as well as from that of the pathologist.[4] The author complains that there is a growing tendency to divorce the two branches of study which should be united, and that there has been too much straining after that which is new and too little endeavour to sift to the bottom the every-day problems which still await solution. Treatment to be successful must follow closely the successive stages of the diseased conditions—a fact which is sometimes forgotten in routine practice, where the remedy appropriate to the beginning is often applied to the late stages of the disease. Endocarditis, one of the commonest of diseases, forms an illustration of this. Although now known to be associated with a vast number of different infective conditions, the exact manner in which infection takes place is a matter of conjecture, but the fact that an initial lesion of the endocardium is almost always present is apt to be overlooked. This pre-existent affection is usually rheumatic, and the prevention of such a lesion by the vigorous use of salicylates in the very earliest stages may avert the endocardial lesion, and enable the heart to withstand the subsequent infection when it arises. The liability of the damaged valves and hinge-lines to become the seat of microbic infection is attributed, not to the greater agitation of the blood-stream at these points, but to the aggregation of infective material in the stagnant stream behind them, comparable to the collection of impurities in a ditch where it is held up by a dam. The infective origin of endocarditis is very fully discussed, but no mention is made of serum or vaccine treatment. On somewhat slender evidence it is maintained that endocarditis may have a tuberculous origin, but it is admitted that the visible lesion can hardly be distinguished from that produced in rheumatism. The inflammatory process is described as beginning with a subendothelial exudate and not from thrombus of minute vessels, the vegetation forming on the surface of the valve and undergoing slight vascularization, with subsequent fibroid change and varying degrees of thickening or shrinkage. The extent of the local lesion is no measure of the severity of the case. Aortitis and aneurysm are separately considered, while the section on arterio-sclerosis is made the occasion of a critical attack on Drs. Huchard and Teissier, who within recent years have endeavoured to establish the universality of sclerosis or xerosis in aged persons. Irregularity of incidence is characteristic of the disease, and syphilis its most frequent cause. The tendency to attribute all troubles attendant on advancing years to vascular degeneration is no doubt too common, but the general arterial change in old age is very manifest to the microscopist if not to the clinician. The latter half of Dr. Tripier's book is devoted to the study of emphysema, pleuritic adhesion, the relation between cardiac and pulmonary disease and tuberculous disease of the lung. The whole treatise will be found interesting, especially by readers who value clinical experience, but it suggests that the experience that it records must have been acquired many years ago, and seekers after modern or new ideas of treatment will not find much enlightenment in its pages.

DISEASES OF THE RESPIRATORY ORGANS.

THE first edition of Dr. SAMUEL WEST'S well-known book on *Diseases of the Organs of Respiration* was published in 1902, and much work has been done both in the scientific and practical study of respiratory disorders in the past seven years. The new edition is presented in the same form as its forerunner, and the subject matter is arranged in unaltered sequence.[5] Careful observation and analysis of contemporary work, happily blended with the personal impress of the ripe experience of the author, is equally characteristic of the present as of the original edition. Electricity, which has worked so great a revolution in modern life, has of late years been instrumental in aiding diagnosis of disease in the dark places of the body, and much new light has been shed upon the accurate diagnosis of chest diseases by means of the Roentgen rays, and still more recently by the orthodiascope and bronchoscope These instruments and their practical application are well described and illustrated. The morbid conditions of the upper air passages have perhaps been more closely studied during the last decade than at any previous period, and the records of the Laryngological Society and Section contain abundant evidence to show that surgical interference has proved of greater service in the relief, if not arrest, of disease than has hitherto been thought possible. The section relating to it in the present work might, possibly, have been somewhat amplified, especially in relation to the surgical treatment of tuberculous disease of the larynx.

The distinctions between the two forms of bronchopneumonia, upon which the author has previously insisted, is again clearly demonstrated, and a chapter is added upon the acute suffocative catarrh originally described by Laennec, and comparison made between it and

[3] *The Open-air Treatment of Pulmonary Tuberculosis.* By F. W. Burton-Fanning, M.D.Cantab., F.R.C.P. Second edition. Modern Methods of Treatment Series. London: Cassell and Co. 1909. (Cr. 8vo, pp. 196. 5s.)

[4] *Etudes anatomo-cliniques. Coeur—vaisseaux—poumons.* By Dr. Raymond Tripier, Professor of Medicine at Lyons. Paris: G. Steinheil. 1909. (Roy. 8vo, pp. 619; 32 figs. in the text. Fr. 10.)

[5] *Diseases of the Organs of Respiration.* By Samuel West, M.D., F.R.C.P., Physician to St. Bartholomew's Hospital. Second edition, thoroughly revised. Two vols.; illustrated. London: C. Griffin and Co. 1909. (Roy. 8vo, pp. 574. 36s.)

other acute affections of the finer divisions of the lungs and bronchi giving rise to acute dyspnœa. The probability of the presence of a bacillus and the need for continued search for it in all such cases is duly emphasized.

The exhaustive account of pulmonary phthisis which occupies the first part of the second volume contains the author's views on the newer methods of diagnosis and treatment. Like many other physicians of experience in cases of tuberculous disease of the lungs, he finds that the determination of the opsonic index has not yet proved sufficiently trustworthy for practical use. Its variation in tuberculous cases is often too great to warrant implicit reliance upon its indications. The verdict, thus far, is "not proven"; but as a scientific observation, probably destined in the future to lead to more practical results, the work of Sir A. Wright and his pupils must always hold a prominent place. Seven years of added experience of sanatorium treatment enable the author to give an analytical account of the results that have been obtained, much of which is taken from the admirable report of Dr. Bulstrode to the Local Government Board in 1908. The conclusion to which statistics lead us is somewhat disappointing. Except in very early cases, the ultimate results as regards arrest of disease do not seem to be better than those of the pre-sanatorium era. The results in very early cases are uniformly good, but in many instances it is open to doubt whether any actual disease was present, although it may have been reasonably suspected.

Of Dr. West's book as a whole we may repeat the opinion expressed seven years ago, when we commended the work as worthy of British medicine and of the great school in which its author is a teacher.

RULES FOR RESPIRATION.

Dr. HENRY HUGHES, of Bad Soden, in Taunus, has prepared a compact little handbook of instructions for the employment of respiratory exercises under various conditions of chronic disease and recovery from acute illness.[6] It is intended to supplement existing works on respiratory gymnastics by giving more precise data as to the number of respirations to be taken with the body at rest in various positions and under different degrees of active exercise. The bibliography given of the subject contains only sixteen works, mostly of German origin. As befits a work of this kind, the style is essentially dogmatic. The prescriptions and the reasons for their use are simply asserted without the production of any evidence to indicate the relative amount of success that may be expected from their use. Whether they are the outcome of experience, or merely of a vivid therapeutic imagination, is not very clear. In cases of malformation or ill-developed chest these exercises will doubtless prove useful, but the application of hard and fast rules to cases of recovery after acute diseases must be approached with caution, and there is nothing in the work before us to indicate their superiority over the ordinary processes of Nature. The book, however, contains many suggestions which will be found especially useful in the treatment of cases which are only amenable to a "cure" of some kind, and are not influenced by the dictates of common sense.

DIABETES.

AMONG many workers on the subject of diabetes there is probably no one better known than Professor R. LÉPINE of Lyons, whose contributions in the form of lectures and notes to learned societies during the past twenty years must be numbered in hundreds, and a book on diabetes[7] by him is opened with the pleasurable anticipation of finding in it the work of a master. In his preface Professor Lépine reproaches the Hippocratic method for its failure during the centuries in which it has been applied to the study of diabetes to discover its cause; but it may be rejoined that, at any rate up to the present, the experimental method cannot claim complete success. It is by no means certain that saccharine diabetes was recognized by Greek medicine, while there can be no doubt that in spite of the discovery of Willis, its existence was ignored or received little attention until the middle of the eighteenth century. The experimental method in its application to the problems of pathology has its limitations, for although it always gives a definite answer to the question, this may be so wrongly put that the answer is of little value or it may not be possible to put the question exactly, and we have to be content with an analogy. If it were not so it would not need the highest intellectual capacity and mental training to make a successful experimenter, and the progress of physiology and experimental pathology would have been much more rapid than it has. More than half Professor Lépine's book is taken up with the description of experimental work done during the last fifty years, yet he is obliged to admit at the end that the pathology of diabetes remains unsolved. We scarcely think he has fulfilled his promise in the preface to "show that, in general, diabetes is curable on the condition always that, like tuberculosis, it is treated hygienically, medically, and—why not admit it—empirically." It would really seem as if that passage had been introduced for quotation, as the text merely teaches that, except in rare instances, diabetes is a disease which can be controlled but not cured. The great defect of the book is the paucity of information under the heading of regimen; there are no model diets or lists of foods with their carbohydrate contents, which are of great value to practitioners, nor does the author clearly recognize the importance of regulating the diet quantitatively as well as qualitatively. With regard to the diagnosis of the state of the pancreas in diabetes, he mentions Cammidge's reaction, but says that, so far as he knows, it has never been seen in diabetes. He speaks more favourably of Otto Loewi's method, which is based on the fact that when a solution of adrenalin (1 in 1000) is instilled into the conjunctiva mydriasis occurs only in animals deprived of their pancreas, and that out of 48 patients, 18 of whom were diabetics, so tested, mydriasis occurred in 10 of the diabetics and in only 2 of the other 30 non-diabetics. The method is one which is worth a further trial.

NOTES ON BOOKS.

AN INDIAN LUNACY MANUAL.[8]

MAJOR R. BRYSON, F.R.C.S.E., of the Indian Medical Service, has accomplished a useful work by compiling a manual in which are given the laws and regulations affecting the admission into asylums, the detention and discharge of private, public, and supposed lunatics, European and native.[8] The information concerning these classes of insane persons is set forth clearly and systematically, the authority being quoted in the margin, and the forms in use and laws in force are appended in detail. The manual refers mainly to the Madras Presidency. With some alterations and additions it might be made applicable to other parts of the Indian Empire, and it seems very desirable that this should be done, the regulations peculiar to the Central Provinces being indicated by different type from those affecting all provinces. Magistrates and medical men will find this manual most serviceable, and it may be consulted with advantage by those who are concerned in the disposal and maintenance of insane relatives and friends.

SUCCESSFUL VACCINATION.—Dr. W. F. Sheard, Public Vaccinator, Putney district, has been awarded £67 13s. by the Local Government Board for successful vaccination. This is the eleventh award made to Dr. Sheard.

A VACATION course, consisting of forty-one lectures and demonstrations, and lasting a month, is to commence at the Post-Graduate College, West London Hospital, on August 9th. The course is free to yearly or perpetual students of the college, the fee to others being two guineas for the full course and a guinea and a half for a fortnight. A syllabus of the lectures and other information can be obtained on application to the Dean.

[6] *Atemkuren.* With 115 prescriptions. By Dr. Henry Hughes, of Bad Soden, in Taunus. Würzburg: Curt Kabitzsch (A. Stuber's Verlag). 1909. (Demy 8vo, pp. 58.)

[7] *Le diabète sucré.* Par R. Lépine. Paris: Félix Alcan. 1909. Roy. 8vo, pp. 720. Fr. 16.)

[8] *The Indian Lunacy Manual for Medical Officers: A Summary of the Lunacy Acts and Rules regulating the admission into, detention in, and discharge from Government Lunatic Asylums of Private and Public Patients.* Compiled by Major Bryson, F.R.C.S.E., I.M.S. Madras: The R. Vivekananda Press and Higginbotham and Co. 1908. (Supr. roy. 8vo, pp. 40. Annas 8.)

EPSOM COLLEGE.

A LARGE gathering of friends of Epsom College assembled on Saturday, July 24th, to celebrate Founder's Day. Amongst those present were the Earl of Rosebery, President of the College; Sir Henry Morris, Treasurer; Sir William S. Church, Chairman of Council; the Right Hon. Sir Walter Foster, M.P., Sir Constantine Holman, Dr. W. Collier, Dr. F. de Havilland Hall, Dr. F. Needham, Mr. W. A. Propert, Dr. G. Rankin, and Dr. Frederick Taylor.

Distribution of Prizes.

After a service in the College chapel, and the unveiling by the Rev. Canon Curtis, an old Epsomian, of a window erected therein by old Epsomians and others in memory of the late Archdeacon Thornton, the first Head Master of the College, the prizes were distributed in the schoolroom.

In his address dealing with the progress of the school since last Founder's Day, the HEAD MASTER drew attention to the great advantages resulting from the new buildings which the Council had provided, especially the "Markham Skerrith" science block, which was erected through the generosity of Mrs. Markham Skerritt, who has just passed away. He also referred to other buildings in course of erection, including a new gymnasium and a music block, both of which will be greatly appreciated. He said that some of the Deans of the London hospitals were coming down that day to inspect the buildings and the facilities for teaching science. In reference to teaching the elements of science to very young boys to the detriment of such important subjects as English, French, and Latin, he felt sure this was undesirable. If boys were sent to the college properly grounded in these essential subjects, they could then be thoroughly taught science. He observed that in eight years no fewer than 46 Epsom boys had passed the whole of the preliminary scientific examination of the University of London, and 33 boys had passed a part of that examination.

Speech by Sir Walter Foster, M.P.

Sir WALTER FOSTER gave away the chief prizes, and at the conclusion of the distribution addressed the boys. After tendering to Sir Henry Morris his cordial congratulations on the honour of a baronetcy which had been recently conferred upon him, he expressed his pleasure at visiting the College, observing that he had known its founder, John Propert, who accomplished a great result by self-reliance and self-denial, which result stood before them in that institution. He was pleased with all he saw at the College, and congratulated the council on the excellent arrangements provided by them for the teaching of modern science. He said that a public school reminded him of the House of Commons. The fascination which the House had for the middle-aged man was due to the fact that it brought back to him the days of his youth. There, as at school, each man had a definite task, was under discipline, and had his hours—but they were sometimes very bad. Some members worked hard, and others could idle a little. One great resemblance between the House of Commons and a public school was that work was respected, and seldom failed to win a prize when it was associated with ability. After referring to the importance of a healthy mind in a healthy body, he said he was struck by the beauty of the surroundings of the College and the opportunities provided for healthy and invigorating games. It was not necessary, however, to be an athlete: that was not the end and aim of teaching, and in a civilized community muscle always counted less than brain. He placed before the boys the importance of devotion to duty, though duty, in order to be done well, required something more than mere mechanical adherence to rule. It should be done with foresight and knowledge, and when done well it lifted the man from the rut of his fellows. He wanted every boy to feel that in the performance of duty well and wisely done he would be contributing in the most effective way to the good of his country. He was pleased that science took a leading part in the curriculum of the College, and was also pleased to know that the head master considered classical teaching to be the best way of building up vigorous mental power. He said, in conclusion, that a great work was left to the present generation, and Epsom College was helping to do that work, and would take a deservedly high place amongst the public schools of England.

Vote of Thanks.

Sir HENRY MORRIS, the Treasurer of the College, proposed a vote of thanks to Sir Walter Foster for his kindness in attending that day to distribute the chief prizes, and to address the boys, the resolution being carried by acclamation.

Parade of Rifle Corps.

At the close of the proceedings refreshments were served in the grounds of the College, where the members of the Rifle Corps, numbering 133, paraded. It is interesting to note that 80 per cent. of boys in the school able to join the Rifle Corps are members. The Director of Military Training reports that at the annual inspection the drill movements were well executed and the words of command were correct and good; the discipline appeared to be good, the turn-out was good on the whole; the signalling messages were correctly sent and received, and the clothing, arms, and equipment were in good order. The contingent has therefore been recorded as "efficient" as regards inspection.

Memorial Window to Archdeacon Thornton.

The window which has been erected in the College chapel in memory of the late Archdeacon Thornton is on the south side of the chancel. It is designed to illustrate the events of Easter Day, the Archdeacon having died on that day. The three scenes are Christ's appearance to Mary Magdalene in the Garden, "Touch me not"; the supper at Emmaus, "He was known to others in breaking of bread"; and Christ's appearance to St. Peter, "The Lord is risen indeed and hath appeared to Simon." The upper tier of lights contains single figures of Apostles and teachers suggesting different ideas of ministerial work, St. James, St. Peter, and St. Timothy, the proposal being to continue a series of figures in the other chancel windows. In the tracery lights are the arms of the University of Oxford and of St. John's College, Oxford, to which the late Archdeacon Thornton belonged.

ANOTHER ANTIVIVISECTION CONGRESS.

THE fourth triennial International Congress of the World's League for the Protection of Animals opened on July 19th and came to an end on July 24th. The congress is said to have been supported by the British Union for the Abolition of Vivisection, the Church Antivivisection League, the Independent Antivivisection League, the Letchworth Antivivisection League, several branches of the London and Provincial Antivivisection Society, and the League for the Abolition of Vivisection, Vaccination, and Inoculation.

Lady PAGET welcomed the delegates on behalf of the English branch of the World League. She hoped that "unity" would be the watchword of antivivisectionists all over the world.

Miss A. L. WOODWARD, honorary organizing secretary, said the most cordial relations existed between English antivivisectionists and the Continental branches of the League, practically every one of which had sent delegates. Previous congresses of the World League had been held at Gras, Paris, and Helsingfors, and she hoped that the present congress, which was the fourth, would be as successful as the others.

We give a running narrative of the proceedings condensed from various newspapers.

"Down with Vivisection."

Professor FÖRSTER, in his opening address on "Our Position with Regard to Vivisection," said that only thirty or forty years ago European nations became acquainted with the cruel and monstrous proceedings of scientific men described in the word "vivisection." Conscientious and logical animal protectors did not doubt for a moment that this new foe had to be opposed. Victor Hugo cried: "La vivisection est un crime," and religiously considered it to be a mortal sin against the Divine command. Lord Shaftesbury and Frances Power Cobbe called it "an abominable crime." The scientific question, he said, was only a secondary one. Whether vivisection had ever aided science, or ever would aid it, was an open question that might comfortably be left to experts, like other technical questions. The battle of vivisection would not be decided on that field, where opinions would ever differ.

For them the question was for ever decided when they separated it from all secondary considerations, and placed before them the one decisive thought, "It is an evil, unjust, sinful, and therefore to be cast away." The plague had spread over the whole world, and every means must be employed to fight it. They would have nothing to do with compromise with an evil thing and evil men. They had no reason to swerve from their demand for total abolition. Even diplomatically and politically they would make more progress by the strongest defence of their rights than if they wavered from the straight line and gave way to the enemy. The example of England had shown them that half measures and Government inspection were of no help at all. "Down with vivisection" must ever remain their battle-cry.

The Value of Opposition.

Dr. HADWEN said that the Council of the Société Protectrice des Animaux of Paris had passed a unanimous resolution for the abolition of vivisection, which showed how their cause was spreading, and that the great humanitarian feeling was in the ascendant. The most encouraging sign was that they had so much opposition. The more opposition was brought to bear against them the more their cause would succeed.

Inquests after Operations.

Miss ANNIE GOFF (Copenhagen) said the public should know the number of deaths after operations, and the coroner's right to hold inquests in such cases should not be tampered with, despite what the medical profession might say. The public had a right to know what a person had died from after an operation, for clearly such a death was not natural. If the Departmental Committee inquiring into the law regarding inquests reported in favour of the coroner the Home Office would overrule it in some way or other.

Dr. HADWEN said that he had given evidence before the Departmental Committee, and pointed out that 10,000 persons were buried every year without any statement whatever being made of what they died from. Cases had come to his own knowledge in which a coroner had certified death on the evidence of an ordinary constable.

The Brown Institute.

Dr. E. HAUGHTON read a paper on the Brown bequest for the benefit of diseased animals. It was sixty years, he said, since the money had been bequeathed, but experiments on animals went on, and the purpose of the testator was not being carried out. He called on the Senate of the London University to make a new and searching inquiry into the matter, and he suggested an agitation until a satisfactory arrangement had been made at the institute in the Wandsworth Road.

Dr. HADWEN said that he had been informed by counsel that nothing could be done in the matter of the Brown Institute unless an action at law was taken.

Antivivisectionism and Parliament.

Mr. ROBERT CAMERON, M.P., as one who was in his eighty-fourth year, said his chief regret was that the anti-vivisection movement had not received the approval of the House of Commons. Nothing that scientific men had discovered had balanced the evil effects of the system which made them callous to dumb and helpless creatures dependent on mankind.

In Defence of Vivisection.

Dr. MORGAN JONES, of Ilford, obtained permission to defend vivisection. Cruelty and torture, he declared, were repugnant to every civilized human being. Animals were killed for food and dress, and if they inflicted pain on animals for these purposes, they might also inflict less pain to prevent suffering and to prolong life. Much useful scientific knowledge had been gained by vivisection. Dr. SNOW, in his evidence before the Royal Commission, had defended even painful experiments under certain circumstances. In this country no operation involving an incision was allowed unless the animal were anaesthetized. Not less than 96.6 per cent. of the experiments were inoculations, and the great bulk of these took place in municipal laboratories in the interests of public health. If anti-vivisectionists had their way, and the Government made it illegal to use any remedy obtained by experiments on animals, the result would be that all municipal laboratories and every hospital would be closed. All Lister's work was the result of experiments on living animals. What would antivivisectionists suggest in their place? "You fight for dogs and guinea-pigs," he concluded; "I fight for men, women, and children."

Dr. HADWEN, in reply, said it was easy to make rash statements, but another thing to prove them, and this Dr. Jones had not done in a single instance. What Dr. Snow had said he was sorry for afterwards.

Antivivisectionism in Austria.

Madame PAULA MONDRA said that scarcely one man in ten thousand knew what vivisection meant. The Austrian Antivivisection Union suggested that the congress should accept a proposal to combat vivisection by means of public lectures, with cinematograph demonstrations of experiments on living animals.

Antivivisectionism and Scientific Stupidity.

Dr. WALL said that vivisectionists claimed that they had done good in cases of diphtheria and tuberculosis, but these were mere assertions unsupported by any proof. There was a large section of the public which unfortunately swallowed these assertions with ignorant eagerness.

Professor FORSTER contended that conscience was much more than science. Between man and animals there was no demarcation, and antivivisectionists were engaged in a war against scientific stupidity.

The Brown Dog of Battersea.

"The Brown Dog of Battersea" was the subject of an address by Alderman WORTHY, who said that in November there would be an attempt to turn out the Progressives at Battersea, and he wanted help to retain them, because on the other side there were one or two persons who would do their best to get the fountain removed. If it were removed he hoped that not only London and England would noise their protest, but foreign countries as well.

Condemnation of Bull-fights.

Miss WINIFRED LEE said that unfortunately the bulk of the foreigners in Spain could not be said to exercise a good influence in that respect, since they did not set a good example by boycotting the bull-rings as they should do. Sad to say, some English people became so accustomed to the horrid sight that they went again and again. Bishop Cabrera, the Protestant Spanish Bishop in Madrid, told her that the bull-ring at San Roque, near Gibraltar, was mainly kept up by the receipts obtained from English-speaking people.

The following resolutions were passed:

1. This congress declares that bull-fights should be abolished in the interests of God's creatures, and that foreigners visiting countries where they are practised should refuse to attend them.
2. This congress also urges on all societies for the prevention of cruelty to animals the duty of opposing to their utmost the introduction of bull-fights into their town or country.
3. In view of the many bull-fights now taking place in the western and southern parts of France the presidents of the French societies be requested to use their efforts to put a stop to this shocking cruelty.

Prohibition of Vivisection.

Sir FRANCIS CHANNING, M.P., who presided, said that in the present age they saw what one might almost call the diabolical ingenuity concentrated in the perpetual expansion of gigantic machinery for human destruction. That was the spirit of the age which they had to combat in pleading for the lives of animals. He held that all the knowledge that could be obtained through vivisection and the torture of animals could be gained by simple, clinical observation.

A resolution was carried in favour of the prohibition of vivisection, which was declared to be morally unjustifiable.

Closing Demonstration.

The congress closed with a demonstration in Hyde Park, in which the foreign delegates and representatives of between thirty and forty organizations connected with the antivivisection movement or the cause of kindness to animals took part.

Archbishop BAGSHAWE proposed the following resolution:

This meeting, believing vivisection to be morally unjustifiable, earnestly desires its prohibition by law.

The MAYOR OF BATTERSEA supported the resolution. They all knew of the Brown Dog memorial at Battersea. A constable was placed on duty to guard that memorial day and night, but it was a waste of public money, inasmuch as the children of the locality constituted a watch-dog over it and would prevent any secret attack upon it. The memorial was, in fact, a powerful and splendid medium for making the children acquainted with the antivivisection movement.

The resolution was carried unanimously.

LITERARY NOTES.

MESSRS. METHUEN will almost immediately publish a new work by Mr. Frank Podmore, entitled *Mesmerism and Christian Science: A Short History of Mental Healing*.

Mr. Edward Arnold announces that a second edition of Dr. T. D. Savill's *System of Clinical Medicine*, corrected and revised by the author, will be issued in one volume about September 1st.

In a communication which appeared in *Notes and Queries* not long ago, Mr. Stanley Williams, of Queen's College, Oxford, cites the following letter which he says may be found in Cal. S.P. Dom. 1665–6, vol. clii, 180:

From Lidlington, March 5th, 1665.

There being now a person condemned in Bedford Goall, for unfortunately striking a Tobacco pipe into ye eye Brow of a Man who is since Dead. And ye person prosecuted by one sole witness, being a Woman generally knowne by a very lose and debosht Life. And since Sentence passt, a Gentle woman Surgeon of sound judgment and good repute, has been before severall Justices of ye County (being much troubled in mind she was not calld to the Barr to give her evidence) which she is since ready to attest on oath—that she first dress the Person of h s wound and soe continued her care to ye Last, and that the wounded person dyed noe more of that wound that of a Cutt finger.

They desire a reprieve. And so on. . . .

Signed,
BEDFORD.

THO. SNAGE, high-sheriffe. HENRY CHESTER. HRD. WINGAVE.

Mr. Williams is rather exercised about the "gentlewoman surgeon." He says the letter affords grounds for speculation as to what she was in her everyday capacity, and how she gained the knowledge which earned her the reputation she seems to have acquired. Mr. Williams does not seem to be aware that the art of healing was practised by women not only in ancient Greece and Rome, but in most other countries. According to Dr. Payne, among the old Germans medicine was largely practised by women; and Tacitus relates that warriors wounded in battle brought their wounds to their mothers and wives to be attended to. Such, he says, may have been the custom of the heathen Saxons in England, but no record of it remains. At a later period in the Middle Ages, however, mention is often made of noble ladies as skilful surgeons. In the old ballad of "Sir Cauline," when a wounded knight is brought to the castle, the King calls out:

Come down, come down, my daughter deare,
Thou art a leech of skill.

Again, in an English medical MS. of the fourteenth century, Dr. Payne has found a prescription described as composed by Lady Beauchamp, the Earl's wife of Warwick.

In a paper read before the St. Louis Medical History Club, and reprinted in the *Aesculapian* for December, 1908, Dr. George Homan discusses the medical qualities in the writings of St. Luke. His essay is mainly founded on the work of the great Biblical scholar, Harnack, who after a critical examination of all the available evidence has come to the conclusion that St. Luke was really a physician thoroughly versed in the medical learning of his day. Harnack says that St. Luke's profession seems to have led him to Christianity, for he embraced that religion in the conviction that by its means and by quite new methods he would be enabled to heal diseases and expel evil spirits—above all, to become an effective physician to the soul. When St. Paul at Caesarea appealed from Festus unto Caesar (Acts xxv. 11), he was sent thence under guard to Rome. His health being infirm, St. Luke went with him as his physician, and was with him to the end. St. Paul says: "Only Luke is with me," a statement which, Dr. Homan says, tends to establish his medical character. It may be, he thinks, that St. Luke's life was spared on account of his calling. Harnack points out that while all the four evangelists mention that at the seizure of Christ, St. Peter struck off the ear of Malchus, St. Luke alone says that the ear was restored and the wound healed by the miraculous act of Christ. In those days Greeks with religious interests were disposed to regard religion mainly in connexion with healing and salvation. Harnack says:

A combination of characteristic signs will compel us to believe that the author was a physician, if the description of the particular cases of disease show distinct traces of medical diagnosis and scientific knowledge; if the language, even where questions of medicine or of healing are not touched upon, is coloured by medical phraseology; and if those passages where the author speaks as an eye-witness medical traits are especially and prominently apparent. These three kinds of tokens are also found in the historical work of our author. It is accordingly proved that it proceeds from the pen of a physician.

Dr. Homan remarks that St. Luke nowhere claims for himself the possession of miraculous powers, or speaks of their exercise by him; it is only as a possible onlooker, or as a chronicler, that he takes note of cures wrought in disregard of all physical laws as now known or understood in medical doctrine—"a possible compromise between the science of the physician and the faith of the disciple."

There is a curious passage in Augustus Hare's *Sussex* relative to the practice of touching for the King's Evil, which may be of interest to those among our readers as care for old customs and superstitions. One gathers from it that the power to heal lay not only in the touch of the royal hands, but that garments once used by a king were believed to possess the same efficacy, even after their owner's death. One of Charles I's most devoted friends was Sir John Ashburnham, of Ashburnham Place, near Battle, who was his groom of the bedchamber in days of prosperity, and his faithful companion in adversity. Sir John never forsook his royal master and was present on the scaffold at Charles's execution. His fidelity was rewarded by the gift of the blood-stained shirt with ruffled wrists, marked with a crown and C.R., in which the King had died, his white silk drawers, his watch and key, and the sheet that had been used to cover the royal corpse. Ashburnham took them home, where he built a church (now the parish church of St. James), in which for many years the relics of the martyr king were exhibited; and people came from all parts of the country to touch them in the hopes of a cure. So strong was the belief in their efficacy that as late as 1828 a boy touched for King's Evil in the church, and the shirt was last used for that purpose in 1836. The relics were removed finally to Ashburnham Place, not, says Haro, on account of the superstition attached to them, but because they were in danger of being stolen. He also mentions another Sussex superstition, this time peculiar to Winchelsea. The town is close to the marshes, which are full of ague, called "Old Johnny" by the shepherds, who guard themselves against it by hanging round the neck a triangular piece of paper containing the following lines:

Ague, I thee defy:
Three days shiver,
Three days shake,
Make me well for Jesu's sake.

In a work published not long ago, M. Cros-Mayrevieille gives an interesting account of public medical service in antiquity. Greek legislation anticipated to some extent the Minority Report of the Poor Law Commission by making the doctor a functionary paid by the State. We gather from a passage in Xenophon's *Memorabilia*, however, that the medical service in ancient Greece was looked upon as open to all who thought they had a vocation—such as that attributed by Mr. Montagu Tigg to his friend Chevy Slyme—to live at the public expense. He records the following frank declaration made by one candidate for the post of medical officer at Athens:—

Certainly, O Athenians, I have never learnt the medical art, and have never sought for one of its professors to be my master. My great anxiety, indeed, has always been not only to learn nothing from the doctors, but even not to appear to have learnt the art. Nevertheless, grant me the post of public officer which I solicit. It is at your risks and perils that I will try to get my medical education.

This is the kind of candidate who would be approved of by certain enlightened politicians of our own day.

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THE PRESIDENT'S ADDRESS.

SIR WILLIAM WHITLA'S Presidential Address was delivered before a crowded audience, conspicuous in which were the Lord Lieutenant of Ireland and the Countess of Aberdeen. It is published at page 249. In it is given a most interesting history of the evolution of the Belfast Medical School, and of the men who laid the foundations of the stately edifice which the members of the Association present at the annual meeting have had the opportunity of seeing this week. Each of the founders and master builders who helped to bring the work to completion receives a felicitously-worded tribute of praise; the genius and character of each are painted with a hand as skilful as it is sympathetic. James McDonnell, who founded the first fever hospital in Ireland, and who brought into existence the Belfast General Hospital, was a many-sided man, the results of whose energy and foresight are embodied in the Belfast General Hospital and the Natural History Museum. The Belfast Medical School had its beginnings in a humble way in 1820, but it was not till 1835 that it was firmly established. Among its early professors were Thomas Andrews, whose chief work was done in the domain of scientific chemistry; Henry MacCormac, father of Sir William MacCormac, for whom the President claims the credit of having been the man who first put into practical shape the open-air treatment of phthisis; Alexander Gordon, whose name is known to every surgeon in connexion with the treatment of fractures; Peter Redfern, still happily with us, who made Belfast famous as a school of anatomy; James Cuming, the brilliant teacher and writer, who was President of the Association in 1884. These men stamped a character on the School which it has never lost, and Sir William Whitla is fully justified in saying that from the first it has been marked by "an originality of thought, an "earnest and conscientious recognition of its high "mission and intense practical trend," and that these qualities still remain its chief distinguishing features after almost a century of patient and noble work.

But the President, while giving its fair meed of praise to the past, is mainly concerned with the present, and all who are interested in medical education will read with interest what he has to say about the curriculum as it is, and the modifications which are to be adopted by the University of Belfast. Like many of us, he is not well satisfied with the curriculum as it usually operates in practice, and he holds that the establishment of a new university, untrammelled by the past, is an opportunity for introducing reforms which should not be missed. In his own words: "It behoves us periodically to review our "position as regards the teaching and the practical "training of those desirous of joining our ranks"; and further: "Radical reform in the curriculum is urgently "necessitated by the enormous growth of scientific "facts and theories," so that "all authorities agree "that a medical curriculum which was planned forty "years ago is entirely out of date."

While he is not unmindful of the efforts, to a large extent successful, of the General Medical Council to keep up a progressive modification of the requirements of medical education, Sir William Whitla holds that there is now an opportunity to make, in common with the University of London, a step in advance. It was long ago pointed out by Professor Huxley that the medical curriculum was overloaded, and he was prepared to sacrifice in part his own special subject of biology. Now Sir William Whitla's dissatisfaction goes the length of making him say that, after more than a quarter of a century of experience as a teacher, he is constrained to believe that, in sending men out qualified immediately to enter upon the routine practice of their profession, we, in some respects at least, fail to secure the results obtainable in the old days of apprenticeship. We note that he uses the word "obtainable" and not "obtained," a distinction probably made of full intent, and we do not gather that he has any leaning towards a revival, even partial, of the apprenticeship system. But we well know what was in his mind; we are fully cognizant of the difficulty experienced by the newly-fledged practitioner, and perhaps still more acutely felt by those who may employ him as an assistant, in making the change from hospital practice, the only practice he has seen, to private practice. For in the hospital an elaborate machinery was working smoothly; the patients were tractable; pathological laboratories were at hand; dispensaries were very liberally equipped and worked by experts, and nursing was highly organized and supervised; all this was so much a matter of course that he learnt almost instinctively to take it for granted. But when he turns to private practice he finds that he has to give his individual attention to all these things, and it may take him a year or two to learn to do so with ease to himself. Moreover, he has gained little acquaintance with the minor ailments which bulk so large in private practice. Nevertheless, medical education must not be written down a failure, for it is beyond all question that the capacity of the average practitioner the country over is far higher than it was thirty years ago.

With the reforms foreshadowed by Sir William Whitla we are in full agreement. Briefly, they may be said to be two: First, that the so-called preliminary subjects should be curtailed by being taught, from the commencement, with close regard to their bearing on medicine and on practice; and, secondly, that a clear period of three years after disposing of these subjects should be devoted to the final subjects.

The statistics collected by the General Medical Council have shown that not much less than seven years is the time consumed by the average student in obtaining his qualification, and a good deal of the delay occurs over the preliminary subjects. Yet we have the dictum of Professor Starling that his education fails, and must necessarily fail, in making him "scientific" in the true sense of the word. It will therefore be profitable to see what reforms are proposed and how they may be carried out, considering the new regulations of the University of London, which has set the lead, and those of the University of Belfast as foreshadowed by Sir William Whitla. It is proposed to teach anatomy from the outset from the standpoint of medical and surgical anatomy, and to eliminate from it much of the detail of the bones and

their muscular attachments, and the like details. Physiology, too, is to be taught with strict reference to practical medicine, and the same direction towards their ultimate particular application is to be kept well in view in all the preliminary subjects. This is not a new ideal; indeed, it is one which in theory has never been lost sight of, although in practice we have got away from it more widely since the teaching of the preliminary subjects passed out of the hands of the medical and surgical staff of the hospitals into the hands of specialists in the several subjects. We would not for a moment suggest that subjects are not best taught by those whose knowledge of them is deep, even though the teaching may be restricted to their elements; but from this one point of view of strict adaptation to practical medicine there is a danger, not imaginary, but only too real, that the specialist's teaching may tend to a treatment of a subject as complete in itself, and not as the handmaid of another science.

The difficulty lies, then, not in the acceptance of the ideal set forth by Sir William Whitla, but of its practical realization. For we cannot hope that the student will grasp, say, the complexities of physiological or pathological chemistry without having been led up to them by learning the simpler conceptions of inorganic chemistry; and it will tax the ingenuity of our teachers to the utmost to determine how much grounding is indispensable before attacking the applied science. And we fear that our President is a little optimistic when he expresses the opinion that, under the new teaching, the average student will be able to dispose of his physics, chemistry, biology, anatomy, and physiology in the first two or two and a half years of his course. With regard to physics and chemistry, the Belfast University has offered an encouragement to schools to increase their science teaching by including them as optional subjects in the matriculation examination. Biology, too, is to be so taught as to assimilate it to elementary physiology.

We have often expressed the opinion that it would be a great boon if these subjects could be made an indispensable part of the entrance examination, and this view is endorsed by Sir William Whitla. He holds, however, that their special application to medicine must still be taught in academic courses, the school teaching being looked to as supplying an excellent start. With this view we fully concur. But it has been shown by the Education Committee of the General Medical Council that the requisite facilities for this sort of science teaching do not yet exist in a sufficient number of secondary schools; hence any change in the direction of compulsorily shifting chemistry and physics to the period of school career cannot as yet be entertained.

It will be seen that the changes in medical teaching foreshadowed are in pretty close agreement with the various recommendations of the Education Committee of the General Medical Council, upon whose latest report we propose shortly to offer some comments. Meanwhile we wish every success to the new departure on the part of the Universities of London and of Belfast, especially as it offers some remedy for the encroachment of the preliminary subjects upon the time intended to be devoted to the final subjects. For it is notorious that the addition of a fifth year of study, intended by the General Medical Council to be devoted to clinical work, has in effect been appropriated by the earlier subjects, and no real increase in the time devoted to the final subjects has been secured.

THE ADDRESS IN MEDICINE.

THERE is a special appropriateness in the selection of Dr. Philip to deliver the Address in Medicine at Belfast. No man has done more than he to demonstrate the soundness of the principle of the modern treatment of tuberculosis which was urged on the profession by Henry MacCormac, of Belfast, half a century ago. MacCormac, though a pioneer of the open-air treatment, was not the first to preach the gospel of the open window. He had at least one forerunner in George Bodington, who in 1840 published a small book entitled *The Treatment and Cure of Pulmonary Consumption*. In that work Bodington condemned the practice of "shutting the patients up in a close room, "to exclude as far as possible the access of the "atmospheric air, and thus forcing them to breathe "over and over again the same foul air con- "taminated with the diseased effluvia of their "own persons." After referring to the inhalation of medicated gases, he goes on to say: "The only gas "fit for the lungs is the pure atmosphere freely "administered without fear; its privation is the most "constant and frequent cause of the progress of the "disease. To live in and breathe freely the open air, "without being deterred by the wind or weather, is "one important and essential remedy in arresting its "progress; one about which there appears to have "generally prevailed a groundless alarm lest the con- "sumptive patient should take cold; thus one of the "essential measures necessary for the cure of this "fatal disease is neglected, from the fear of suffering "or incurring another disease of trifling import." Bodington laid stress on the need of generous nourishment, but the great remedy was, he held, the free use of a pure atmosphere. The cold, he said, is never too severe for the consumptive in this climate: "The cooler the air which passes into the "lungs, the greater benefit will the patient derive. "Sharp frosty days in the winter season are most "favourable. The application of cold pure air to the "interior surface of the lungs is the most powerful seda- "tive that can be applied, and does more to promote "the healing and closing of cavities and ulcers of the "lungs than any other means that can be employed." Bodington was the founder of the sanatorium system, which he held to be the only means of dealing successfully with consumption. Speaking of medical practitioners who take cases of consumption under their charge, he says: "If they are to succeed, they "should have country houses in proper situations, "well ventilated, and provided with all 'appliances and "'means to boot,' where their patients should be under "their own eyes, and strictly watched and regulated "in all respects as regards exercise, air, diet, and "medicine, etc.; or, there should be a certain class of "practitioners who should exclusively pursue this "practice as a distinct branch, to whom those in the "large towns should confide their consumptive "patients, instead of sending them, as many now do, to "take their chance, or probably to fall into the hands "of mercenaries at some distant seaport, where they "commonly die, far away from friends and home. With "respect to the consumptive poor patients, those who "cannot afford to pay for a proper treatment of this sort, "hospitals should be established in the vicinity of "large towns, in fit situations, and properly appointed "in all respects for their reception and treatment. In "these there should be provision made for affording "them carriage or horse exercise, and gardening and "farming occupations for the convalescent. The

"common hospital in a large town is the most unfit "place imaginable for consumptive patients, and the "treatment generally employed there very inefficient, "arising from the inadequacy of the means at com-"mand." Nothing could be more definite or explicit than this. Bodington's teaching, however, fell upon deaf ears, or rather upon ears not ready or perhaps willing to hear. His system was killed by a phrase. Sir James Clark, then regarded as an authority on consumption, called it "the beefsteak and porter system," and the reviewers of the day joined in ridicule of the man who was so far ahead of his generation. Another pioneer was Benjamin Ward Richardson. But in medicine, as in every other province of thought, the seed of new ideas is too apt to fall among thorns which spring up and choke it, or upon stony places where it dies. A striking instance of this is the treatment which Henry MacCormac received at the hands of his brethren. In 1855 appeared the first edition of a book on consumption, in which he said: "It is the state of "the indoor air, and very particularly the bedroom "air, and not the condition of the outdoor atmosphere "at all, that is to account for the production of the "malady. A sufficiently renewed indoor atmosphere, "and particularly a sufficiently renewed bedroom "atmosphere, together with active, and particularly "active, outdoor habits, will render life wholesomer "in general and freer from consumption even in "towns, than it will prove in the most admirably "circumstanced country residence with ill-aired "rooms and passive inactive habits. For action, "coupled with a pure atmosphere, tends to life and "health, whereas inaction and unrenewed rebreathed "atmosphere but insure irreversible decay and death." Elsewhere he says: "I assert and declare with all "the emphasis in my power that in the immense "majority of instances of tubercular deposits the "sleeping chambers have been habitually closed." And again, "Pure respiration is the law of life: "impure respiration is the law of death. . . . Tubercle, "then, and tubercle-engendered maladies, are pre-"ventable. The means—means sure and certain—"subsist at every door." After affirming that night air as such never injured any one, he goes on: "The air should be admitted into every room until the air "within shall be as pure and fresh as beneath the free "Heavens themselves. As for myself, I have slept for "long years with my chamber window open. For "years my family and every one whom I have been "able to influence have done so likewise, not only "with impunity but with every conceivable imaginable "advantage." MacCormac declared that the idea of a hospital for curing consumption was a "pathological "solecism." "In hospital air," he says, "indoor "air of any kind, unless most carefully and "ceaselessly renewed, serves but to foster tuber-"culous disease." But MacCormac, too, was as one calling in the wilderness. In 1862, when his views were brought before the Medico-Chirurgical Society of London, the paper was characterized by one illustrious being as a waste of time; another inquired whether it had been referred to a committee before being read to the society; a third asked that the society should be protected against the reading of such productions. So strong was the disapproval of the society, that the customary vote of thanks was refused. The incident is another illustration of the truth which has often been insisted upon in this JOURNAL, that the "superior person" is one of the great obstacles to the progress of medicine. The British profession laughed at Bodington, and refused to listen to MacCormac. The result was that the "white plague" continued to walk among us unchecked, and when the open-air treatment was at last forced upon us, the credit of the discovery was given to a German.

But it is not only the rejection of the open-air treatment that stands as a reproach against the medical profession. Long before, it had turned its back on the truth which it had once received, that the disease is communicable. Dr. Philip touches lightly on this point, which is one of the most interesting and instructive in medical history. Consumption was believed to be infectious by Aristotle and by Galen. The belief was long universal among physicians. Several of the sixteenth and seventeenth century writers expressly refer to the fact, and in the eighteenth century Morgagni writes that he was careful to avoid infection from the bodies of consumptives in the deadhouse, where he laid the foundations of morbid anatomy. His words are: *Ego vero illa (sc. cadavera phthisicorum) fugi de industria adolescens et fugio vel senex.* In the early part of the same century stringent enactments as to notification and disinfection in cases of phthisis were made in Barcelona, Saragossa, and elsewhere. About the middle of the century phthisis was a notifiable disease in Tuscany, and regulations, with heavy penalties attached to the breach of them, were issued as to disinfection of rooms, furniture, and clothes after a patient's death. It is interesting to note that even then some notion of the therapeutic value of fresh air existed in the minds of the Florentine authorities, for it is ordered among other precautions to be taken in cases of phthisis, that "from time to time free ingress of air "should be allowed into the patient's room." The danger of infective sputum was also recognized, for it was enjoined that consumptives should not spit anywhere except into special vessels of glass or glazed earthenware, which were to be emptied and washed frequently. The Republic of Lucca and that of Venice passed similar ordinances. In 1772 the Sacra Consulta of Rome issued a circular to all governors in the States of the Church urging them on no account to allow the sale of the clothes of persons who had died of consumption, that "pernicious communicable "disease" (*il pernizioso communicabile morbo di etisia*). In the kingdom of Naples stringent enactments as to disinfection were made in 1782. As late as in 1834 we read that consumptives were separated from the other patients in a Neapolitan hospital.

But already in 1754 we find that there was some doubt on the subject in the minds of the leaders of professional opinion. The fact that repeated ordinances were issued serves to show that the law was treated by doctors as a dead letter. Among the people, however, the belief in the infectiousness of consumption lingered long after it had been thrown aside as a superstition by the profession. In 1803 Chateaubriand, writing from Rome, after announcing the death from consumption of a lady whom he knew, says: "I am in "great embarrassment; I had hoped to sell my car-"riages for 2,000 crowns, but as, by a law dating from "the time of the Goths, phthisis was declared a con-"tagious disease at Rome, and Madame de Beaumont had "ridden two or three times in them, no one was willing "to buy them." In Spain, as late as in 1839, the great composer Chopin, who was consumptive, was treated as if he had been a leper. The belief persisted into our own day not only in the South of Europe, but in some

parts of the North. Yet so obstinate in its unbelief had the profession become that when Villemin, in the early Sixties, proved the inoculability of tuberculosis, the "Princes of Science" in his own country treated the discovery with contempt. It was not till Koch, in 1882, conclusively showed that the disease is due to a special bacillus that the mists of error which blinded the profession were dissipated.

Since that time progress has been steady, and in the advance Dr. Philip has been a leader. The sanatorium, which dates from Hermann Brehmer's foundation at Görbersdorf in 1859, has become a part of national hygiene in every civilized country. To Dr. Philip belongs the credit of having initiated the tuberculosis dispensary system, which has had such far-reaching effects, educational as well as therapeutic. Now the importance of the prevention of tuberculosis is acknowledged by those who hold in their hands the destinies of nations, and a combined war of extermination is waged against the disease. But much remains to be done before the victory is won. Dr. Philip's address places the pathological and practical problems that still await solution in the clearest light. Not only the profession but the public owes him a debt of gratitude for the part he has played throughout the campaign, and not least for his latest effort to spread the light on a matter which vitally concerns the welfare of the nation.

THE ADDRESS IN SURGERY.

In the land of his birth Mr. Arthur Barker has reviewed with pride the progress in intestinal surgery which began in his own lifetime. *Cujus pars magna fui*, he might rightly say of his personal relation to that progress; indeed, he demonstrated in a manner highly instructive to his hearers, and to those who can now read the address in the columns of the JOURNAL, that from the beginning he took nothing for granted. Mr. Barker, who was born in days when surgeons held the peritoneum in such awe that they feared to touch it, rightly reminds us that it was Spencer Wells, "the father of abdominal surgery," who dared to lay open that great serous sac and found that it possessed wonderful powers of repair when untainted by septic material. Mr. Barker points out that it soon became evident that Wells's cases often recovered when the peritoneum had been exposed to infection during operation and had included septic elements in its cavity after the abdominal wound had been closed by the operator. Thus it became manifest that the peritoneum tolerated, neutralized, or destroyed septic material. The attention of surgeons was turned to the vermiform appendix, the treatment of "perityphlitis," as it was usually called, being unsatisfactory forty years ago. Yet in those days many cases got well. Now the disease in question was found to be infection of the peritoneum from the vermiform appendix, and since clinical research showed that this infection was not necessarily fatal, it was seen that the peritoneum could dispose of infective material. From those days until now surgeons have devoted much time to researches to determine the resisting powers of the peritoneum and other serous membranes. Chemical antiseptics were soon found to be superfluous. The lymph thrown out from the serous surface had long been recognized as a salutary agent, a barricade protecting the serous cavity beyond the seat of injury or infection. Unfortunately, men who defied the peritoneum and knew that its lymph was an ally, still dreaded the fluid which was poured out into its cavity under traumatic or bacterial irritation. Many of us, we may add, remember Wells's "toilet" of the peritoneum, that sponging which often caused what it was intended to prevent. As fluid collected in spite of, or rather, because of, the sponges, surgeons took to the drainage tube. Many cases did well, but later research proved that the good result was due to quite other causes than the free escape of exudation. Mr. Barker is an authority on the action of drains and the fallacies still prevalent about drainage. His observations on that subject, based on a large experience, are of great weight. A serous cavity kept closely sealed can take care of itself. The process of serous inflammation is essentially bactericidal, or can be made so by the aid of some very old-fashioned therapeutical agents.

Thus the peritoneum can bear a great deal and can resist a great deal. This fact explains the progress in intestinal surgery, which formed the subject of Mr. Barker's address. Some of his clinical and surgical experiences are very interesting. Perhaps the most striking are his remarkable cases of successful resection of bowel for tuberculous peritonitis and extensive gangrene of intestine without any kind of drainage. He felt sure that prolonged attempts to render the abdominal cavity more ideally clean either by flushing or sponging, such as would have been made a few years ago, would not only have been futile but injurious to the defensive works of the peritoneum. Let us all ponder on the last eight words of Mr. Barker's remarkable statement.

The dread of the migration of septic germs from the alimentary canal into the peritoneal cavity is very reasonable, but it has retarded the progress of intestinal surgery. Research, however, has calmed the fears of the operator. Healthy intestinal walls, Mr. Barker reminds us, prevent the migration of germs, but, when the vitality of those walls has been damaged, septic bacteria pass in quantities through the serous coat, as is observed in the fluid in a hernial sac. On the other hand, the surgeon can unload the alimentary canal of much septic material by laxatives and enemas, destroy septic germs by intestinal antiseptics, and prevent the entrance of more germs by the cleansing of the teeth, mouth, and pharynx, and by diet. When intestine has been resected, the surgeon must not starve the patient. The deep sutures resist peristalsis for days; lymph protects the serosa around the line of suture; and, on the other hand, Mr. Barker teaches us, permanent union will be the more perfect the better the patient is nourished. Fluid nourishment is absolutely needed, as it aids the kidneys in carrying off toxic matter which has accumulated in the system as a consequence of the condition for which the intestine was resected. Where no food can be given by the mouth, as when vomiting results from anaesthesia, enemas or subcutaneous injections of normal saline solution are of high value. With regard to anaesthesia, Mr. Barker recognized that it must be pressed when the peculiarly sensitive parietal peritoneum is being manipulated, while it may be reduced or actually omitted during the handling, resecting and suturing of the practically insensitive intestine. As these manipulations take up much more time than the preliminary and concluding steps of the operation, the patient, when anaesthetized after these reasonable principles, is saved from several great perils due to the charging of the blood or respiratory tract with chloroform or ether. It is too soon to predict with any certainty whether the employment of local and spinal

analgesia will ultimately eliminate some of the risks following general anæsthesia.

Many other bold surgeons besides Mr. Barker have resected great lengths of small and large intestine without any apparent influence for evil on the processes of digestion and assimilation, but he uttered a word of warning about certain recent developments in intestinal surgery. He admitted, on personal experience which he himself related, that after the resection of the entire large intestine excepting the rectum, a patient may be restored to robust health and live for years. He was speaking of operations for malignant disease, but when defending these he was careful to add that it was quite another thing to advocate resection of the large intestine for less serious conditions, such as chronic constipation. He said more, for he declared he had no personal experience of resection of the colon for constipation, and was not concerned with the controversy about that point. Lastly, returning to the question of malignant disease, he admitted that radical procedures aiming at the permanent cure of patients subject to malignant growths in the intestine are essentially good surgery and not merely displays of operative skill. Intelligent boldness and thoroughness, such as Mr. Barker indicated in his address, have brought intestinal surgery to its present relatively high development, and the same principles will advance it yet further; but we must never allow the knife to replace the laxative and the enema in affections of the intestine in which medical and therapeutical agents are known to hold out a good prospect of cure.

THE ANNUAL MEETING.

Church Services.

THIS year the custom of commencing the scientific proceedings by religious services in the leading churches, attended by the President and members in state, was waived in favour of informal but special services on the preceding Sunday. One of these, attended by the President-elect, Sir William Whitla, and a large number of members, took place in the Cathedral, the Right Rev. the Lord Bishop of Down, Connor and Dromore (Dr. Crozier) preaching the sermon, and taking "Luke, the beloved physician" (Coloss. iv, 14), and "Only Luke is with me" (Tim. iv, 11) as his text. The presence, he said, of the British Medical Association led him to say to the people assembled there that there was no class of men to whom the human family owed more in mind and body than to the skilled physicians of the land. In our own day, how marvellous had been their work in the alleviation of pain and the prolonging of life! They remembered, for instance, Simpson, the inventor of chloroform; Lister, of antiseptic dressing; Jenner, of vaccination; Pasteur, of inoculation; and now there were the brave men who were waging war against lupus, consumption, cancer, sleeping sickness, and so on. Then they could recall with gratitude how God made the great medical man referred to in his text to be "an evangelist and physician of the soul." In two scholarly volumes, just published, Professor Harnack, of Berlin, had convincingly proved that to this physician we owed the Gospel called by his name and the Acts of the holy Apostles. In the opening words of his Gospel, St. Luke related how he set himself diligently to examine into the evidences for the Christian faith. He dealt with the evidence as a true scientist. There was one class of evidence on which St. Luke was peculiarly qualified to speak—namely, the cure of physical disease and suffering, to which he himself had devoted his life. Disease that no doctor's skill had ever cured yielded to Christ's touch. At His word the blind saw, the leper was cleansed, and the dead man was raised to life. And, like a wise scientist, St. Luke set himself to examine into these things and to discover the conclusions based upon them. A careful study of the Acts of the Apostles would convince them that St. Luke had accepted the Christian faith long before he came into contact with St. Paul, and that it was St. Paul's illness at Troas which first brought them together as medical man and patient. St. Paul's three recorded meetings with Luke synchronized exactly with three dangerous illnesses of which he spoke—at Galatia, Troas, and Jerusalem—and on the last occasion the beloved physician seemed to have finally attached himself to St. Paul's company, and never parted with him till the end came. The Gospel of St. Luke showed how a godly and earnest layman found God in his ordinary occupations and pursuits. Business and diligence in business did not of themselves make them forget God, but too great absorption in business did. Science and philosophy did not hide God from the soul, but too great absorption did. Some of the greatest scientists, like Luke the physician, had also been holy and humble men of heart. In their own time they could point to Lord Kelvin, who had taught them that

> The chain of second causes,
> However long it be,
> Has yet one link we call the last;
> 'Tis held, O Lord, by Thee.

Absorption in any pursuit blinded the eyes and dulled the ears to the presence and voice of God. Therefore, they of the kindred profession, whose calling was "the cure of souls," must thank God for the godliness and godlikeness of the great mass of medical men. Since his ordination he had been brought closely into contact with medical men, and had worked loyally in comradeship with them. They had invited and encouraged the clergyman's visits to the sick; they had recognized the sick man's spiritual as well as his bodily needs. He had seen much of the devotion of their medical men, their skill and self-sacrifice, even unto death. The relation between Christianity and the healing art never was closer than at the present time. There had been disease and suffering in every age and in all lands, but at no time had such patience and skill and love been devoted to its cure. The sacredness of the body, as Christ had taught it, was at the root of it all. No medical man would do or sanction to be done anything to the poorest patient that he himself would not submit to under like circumstances, and this followed from the example of Christ, who was the great Healer as well as the great Preacher to the sons of men. He concluded with the words: We bid you welcome here to-day as men and women fired by the love of God with a holy passion for sick and suffering humanity.

A corresponding service was held by arrangement with the Presbytery of Belfast in the Fitzroy Avenue Presbyterian Church, the preacher being the Rev. David Purves, D.D., who took as his text: "They that "are whole have no need of a physician, but they that "are sick" (Mark ii, 17). After describing the work of Christ as a healer of the sick, he said disease and sin were evils to be got rid of, for God was at war with them. This raised the whole subject of the relations between religion and medicine, of which they heard much to-day. They were sometimes told that the work of the Church was too one-sided, and that in order to fulfil the ideal of the Gospels and the practice of the early Church

they must regain lost gifts of healing. To be more concrete, there had arisen a movement, hailing from America, the object of which was to take the wind out of the sails of the cult called Christian Science, by attaching to the spiritual department of the Church a "psycho-therapeutic clinic," in which there should be a delimitation of the work of the spiritual and the medical adviser, the practical result of which was that to a certain extent the priest took the rôle of the physician. In actual working, and in relation to those diseases where the functions of the doctor and the clergyman seemed to merge, an arrangement was come to between representatives of the two professions whereby disorders of the nervous system which were functional rather than organic, and which might presumably yield to spiritual rather than medical treatment, were left to be treated accordingly. The church clinic during the week, therefore, became a consulting-room, where to the treatment of troubles that bordered on those of the soul, but sprang from various causes, moral and spiritual, means were applied, sometimes conversation and prayer, at other times what was known as "suggestion" and hypnotism, but always after a preliminary agreement between the clergy and the doctors whether the case was for the one or the other. Now, one could well understand what considerations had led to this experiment being made, and appreciate the pure and lofty motives of the leaders of this movement. Nevertheless, he could not but think that it was fraught with serious dangers, and rested on a grave fallacy. The fallacy was that of supposing that the religious leader was in any way bound to take up the rôle of physician, and the danger, to put it bluntly, was the old one of the confessional. In the absence of statistics it was impossible to estimate the good or otherwise which the movement had effected, but there was evidence in what might be called the official textbook of the movement, entitled *Religion and Medicine*, that more was claimed for it than there was evidence to support. Granted that certain ailments on the border-line had yielded to moral and psychical treatment, there was an absence of convincing proof that the cures said to have been effected by this semi-religious and semi-psychical treatment could not have been accomplished in some other way. The theoretical basis of the movement was a modern philosophy, which put forward a somewhat extravagant claim, and the practical treatment had been carried out by the use of means involving a somewhat perilous relation between the adviser and the patient. There seemed to be more of the confessional than the consulting-room in this modern church clinic. The lesson it taught seemed to be that there were cases on the border-line of disease in which the clergyman might with advantage be requisitioned by the physician, but that was a different thing from the clergyman taking up the rôle of the doctor. A wise physician might note—and they were sure he often did—that the patient was really in soul trouble, and he would in that case refer him to his minister; and, conversely, a wise clergyman might see that the patient would get more real help in the doctor's consulting-room than in his vestry. Let them collaborate, by all means, but their respective spheres should be kept distinct. In remote districts where doctors were scarce it had sometimes been of advantage to a minister to know a little about medicine, and the combination of the medical man and the missionary in one person had worked well in the mission field. But, speaking for himself, he had not infrequently seen ministers playing the part of amateur physicians in a way that had made mischief. And he felt that they ought thankfully to recognize that the healing ministry of the Master towards the bodies of men was being carried on to-day by the members of a noble profession, of which it was not too much to say that it was the way in which Christ was carrying forward His beneficent activity in the world. They entered fevered homes and hospitals with the healing of His seamless robe; they worked the miracle of surgery with a skill and science which had come from Him; they were, whether they realized it or not—and many of them did—the healing Christ in the modern world.

Reference to the scientific work of the Association was also made by the Rev. James Allen at the Donegall Square Methodist Church, who took as his text three passages from the Epistle of St. Paul to the Colossians, iv, 14, "Luke, the beloved physician"; Philemon 24, "Luke, my fellow-worker"; and 2 Timothy iv, 11, "Only Luke is with me." He and his congregation would pray God's blessing upon it, for it would be a glorious thing if during the week some hint was dropped which would lead by patient investigation to the discovery of means of robbing of their terror some of the diseases which now work havoc. Continuing, the preacher dealt with the facts of Luke's life, and showed the close comradeship which existed between him and the great Apostle of the Gentiles. This mutual ministry suggested some thoughts which were not inappropriate in view of the meeting in their midst of so many members of Luke's noble profession. That two men of such outstanding ability and of marked culture found all they desired in the service of Jesus Christ reminded them that the service of humanity's Christ offered the very noblest sphere for men of the most marked ability and the highest culture. Let not any one dream that his gifts, however exceptional they may be, would decorate the altar; rather would the altar sanctify the gifts. Luke, had he remained at his profession in disobedience to God's call to become a medical missionary, would probably have filled a foremost place amongst the medical men of his day, and within a generation no one would have known who he was. Because he yielded to God's call his name is a household word to-day around the globe. The comradeship, the mutual ministry of the physician and evangelist, suggested how only the needs of the world would be met. Sin and disease were the twin ravagers of human life. A gospel which dealt with sin and ignored disease left untouched vast tracts of human need, whilst a gospel which dealt with disease only and ignored sin was of all gospels the most helpless. In conclusion, the preacher pointed to Christ as combining both the evangelist and the physician in His ministry, and urged all, according to their gifts and opportunities, to follow His example.

THE ARRANGEMENTS.

MOST members attending the meeting had this year to face a sea passage, and hence, perhaps, started unusually early. In any case, things seemed to get into swing much more promptly than at most meetings. The reception room officials were kept busy all day on Monday, and by Tuesday afternoon, when, as a rule, the stir is only just commencing, over seven hundred members had already reported their arrival. They found the most excellent arrangements for their personal comfort, and the success of the scientific work. The Queen's University is just far enough away from the centre of the town to be free from noise, is easily reached by frequent tramcars in charge of a peculiarly civil and obliging set of men, while footfarers found the Belfast policeman as intelligent

and ready a guide as his London analogue. The same spirit seems to animate all classes. Inside the building it was clear that things had all been carefully thought out by the Executive Committee, with Sir William Whitla at its head, and Dr. Cecil Shaw as its Honorary Secretary. The rooms of the building had appropriately been selected according to the work of the Section for which they were named, and there was plenty of comfortable accommodation in the way of writing, smoking, and waiting rooms, and finding any particular department was made easy by direction boards. Finally, moving about the city and investigating the neighbourhood was facilitated by a neat map attached to members' cards: of particular service, too, was a most interesting handbook, ably compiled for the occasion by Dr. Robert Johnstone. To spare members the trouble of going down town for luncheon or tea a tent was provided in the grounds of the college, in addition to a luncheon room in the Exhibition Building. The arrangements for ladies were equally thoughtful, the Registrar of the College having kindly placed his official residence at their disposal, and motor cars having been provided to take them for drives while the more serious work of the meeting was in progress. As for the weather, this, too, might be regarded as favourable. Though disposed to be showery, it was pleasantly cool, and there was a charming absence of dust. Everything, therefore, seemed to presage a most agreeable meeting, and one of great utility on the scientific side. Nor, need it be said, were social amenities lacking. The Union and Reform Clubs, the Boating, Golfing, Yachting, and Bowling Clubs had elected visitors honorary members. Even before noon on Tuesday organized entertainments had commenced. These were led off by a visit to one of the places which have helped to make Belfast famous—the York Street flax wearing works. Later there was a visit to the up-to-date Abbey Sanatorium, an inspection of the docks by invitation of the Harbour Commissioners, and a reception at the Mater Infirmorum Hospital. In the evening an organ recital by Dr. Mulholland preluded the Presidential Address, delivered in the presence of an assembly of some two thousand. It was a notable scene, to which additional *éclat* was lent by the presence of the Countess of Aberdeen and a speech by the Lord Lieutenant, whose apt eloquence was no surprise to those who remember his address on a similar occasion at Montreal. Immediately after the arrival at the College of Their Excellencies on Wednesday morning to attend the Section of Hygiene and Public Health scientific work was in full swing.

Presence of the Lord Lieutenant and Lady Aberdeen.

On glancing at the work of the Sections on the first day, the palm of greatest success must be awarded to that of Hygiene, for it was attended both by the Lord Lieutenant and Countess Aberdeen, the Vice-Chancellor of the University (the Rev. Dr. Hamilton), the Lord Mayor of Belfast and Lady Mayoress, and the President of the Association. Their Excellencies were awaited at the college gates by a guard of honour drawn from the Belfast University Contingent of the Officers' Training Corps under command of Captain Cunningham and Lieutenant Steeman, other officers present being Lieutenants Browne, McCallum, Clark, and Brennan. In the vestibule they were welcomed by the Reception Committee, with Sir John Byers at its head, and by a number of other officials, including the three local Honorary Secretaries, Drs. McKisack, Cecil Shaw, and Howard Stevenson. Addressing Their Excellencies, Sir John Byers expressed the gratitude felt by the British Medical Association at the compliment paid to itself, and through it to the whole medical profession, by Their Excellencies coming to Belfast to attend the meeting. Nothing could augur better for the settlement of great national and civic problems concerning the welfare of the people than such recognition by the highest officers of the influence and value of a practical and scientific body like the British Medical Association. Sir John also alluded to the fact that the Lord Lieutenant had been for some time an honorary Member of the Association, and he expressed the hope that very shortly the name of the Countess of Aberdeen would be added to its roll of honour in recognition of her splendid efforts to improve the health of the Irish people. Various presentations were then made, after which the party moved to the Section of Hygiene, where Dr. Louis Parkes, in his opening address, dwelt on the evils of intoxication and alluded to the prevailing ignorance of the value of fresh air. This ignorance was being combated and decreased among the poorer classes by bodies such as that of which Lady Aberdeen was President—namely, the Women's National Health Association of Ireland. It was to these and allied efforts that they must look for the creation and maintenance of a common-sense attitude towards hygienic problems of daily life. Specifically alluding to the presence of Their Excellencies, he said the British Medical Asssociation took the greatest interest in Lady Aberdeen's work, because it knew that in Ireland tuberculosis was relatively more common than in England. It believed that by work such as her ladyship was undertaking it would prove possible to reduce Irish death-rates to the level of those of the sister countries. Lord Aberdeen also spoke. Questions of hygiene, he said, came home to every one, even if merely because all were conscious of the oppression caused by badly ventilated rooms. In all that had been said by Dr. Parkes as to the value of open windows, and the part played by unsound ideas as to open air in preventing deterioration among urban populations, there was something which must appeal as true to every body. The Women's Health Association, including its president, would feel gratified and encouraged in its work by the appreciation of its efforts expressed by Dr. Parkes on behalf of the medical profession.

Later in the morning Their Excellencies attended the delivery of the Address in Medicine, in which Dr. Philip dealt with an analogous subject—namely, progressive medicine and the outlook with regard to tuberculosis.

Presentation to Mr. Sinclair White.

The members of the Association in Sheffield recently presented to Mr. Sinclair White, who was elected to the vacancy in the office of President caused by the lamented death of Mr. Simeon Snell, a very handsome badge of office consisting of a gold medallion enamelled with the arms of the City of Sheffield, and bearing the recipient's crest above. Around the arms is a fillet bearing the title of the office, and on the back is an inscription relating the occasion of the gift.

Delegates from Colonial Branches.

The following were the delegates appointed to attend the meeting by Colonial Branches:—Bombay Branch: Captain E. F. Gordon-Tucker, I.M.S. Burmah Branch: Major N. P. Lalor, I.M.S. British Guiana Branch: Dr. R. Carter. Colombo and Ceylon Branch: Dr. H. G. Thomasz. Gibraltar Branch: Dr. A. W. Dowding and Major H. A. L. Howell. Hong Kong and China Branch: Dr. J. H. Sanders. Melbourne and Victoria Branch:

Drs. A. V. M. Anderson, R. J. Bull, G. C. Mackay Matheson, and G. A. Syme. Natal Branch: Drs. James Hyslop and D. Campbell Watt. New Zealand Branch: Drs. W. E. Collins, A. W. Izard, J. H. E. Jarvis, H. J. M'Lean, C. G. F. Morice, and W. H. Unwin. South Australian Branch: Drs. Melville Jay and M. J. Symons. South Indian and Madras Branch: Surgeon-General P. H. Benson. Sydney and New South Wales Branch: Drs. Richard Arthur and O. Maher. Transvaal Branch: Dr. G. Michie. West Australian Branch: Dr. Ashton.

Foreign Guests.

A LARGE number of visitors from foreign countries are attending the meeting, some as guests of the British Medical Association, some as members. The former include Professor Jerimann Fehling of Strassburg, Professor E. Fuchs of Vienna, Dr. C. Jacobs of Brussels, Professor Francesco Sanfelice of Bologna, Professor W. J. Bordet of the Pasteur Institute, Brussels; Dr. V. Delsaux of Brussels, Dr. Louis Wickham of Paris, Professor D. Bryson Delavan of New York, Professor W. Gordon Byers of Montreal, Professor C. H. Hughes of St. Louis, U.S.A., and Drs. J. K. M. M'Lennan of Winnipeg, Lomax Swathmey of Norfolk, Virginia, Herbert Old of the same city, A. J. Knapp of Indiana, U.S.A., C. A. Samborn of California, and Charles Rohen of Brussels; Professors Sonnenburg and Greef of Berlin; and Professor Calmette of Lille. The Association had also had the honour of attracting to its meeting the Lord Lieutenant of Ireland and the Countess of Aberdeen, who arrived in time to listen to Sir William Whitla's Presidential Address and to attend the first meeting of the Section of Hygiene and Public Health, which was holding a discussion on the compulsory notification of all forms of tuberculosis. The Association is also extending its hospitality to several distinguished representatives of general science resident in the British Isles, but not members of the British Medical Association, among these being Professor Milne, of seismological fame, and Professor E. A. Letts and Mr. R. F. Blace, F.C.S., of Belfast. Among the members of the Association who live abroad but have come home for the meeting, though not as delegates of Branches, are Drs. Thomas Gibson of Ottawa, E. L. Marsh of Shanghai, B. J. Eccles of Johannesburg, D. W. Samways of Mentone, Leonard Robinson and C. G. Jarvis of Paris, Reeve of Toronto, Ferguson of Cairo, Wilmore of Alexandria, G. C. Strathnairn of Uganda, and O. E. M'Cutcheon of Jalpaiguri, India. There are also attending the meeting a considerable number of officers of the Royal Army Medical Corps and the Indian Medical Service, and a few who belong to the Medical Department of the Royal Navy.

The Annual Exhibition.

THE annual exhibition of medical and surgical desiderata is well situated this year, and should be a great success from the point of view of exhibitors. From that of members of the Association its success was assured from the moment the doors were open, for it is very ready of access and well ventilated, and there is plenty to see. Moreover, the band is not too loud, and the floors being covered with thick carpeting, neighbouring conversations do not interfere with the explanations given by the stall-holders of their various wares. Finally, there is a good luncheon and tea room in one of the rooms of the exhibition building, in addition to the tent which serves the same purpose close to the main university buildings. All classes of medical and surgical appliances, drugs, foods, and furniture are well represented, the characteristic of the exhibition as a whole, perhaps, being its strength in stalls devoted to modern medical literature. In this connexion a new feature is the exhibit of the BRITISH MEDICAL JOURNAL, where sundry volumes of reprints of special articles which have appeared in its columns are on view, and where a brisk sale of *Secret Remedies: What they Contain and what they Cost*, seems to be going on. Altogether there are some 90 firms exhibiting, and though most of them bear names which are already very familiar to medical men, there is practically no stall on which some novelty in the way of ingenious and useful application of science to manufacture is not to be seen. The exhibition will continue open until 6 p.m. on Friday evening, and it is to be hoped that every member will contrive to visit it, since occasions on which so much that is new can be seen and thoroughly examined with so little trouble are rare. The exhibition may be regarded as a mine of new ideas, for manufacturers of to-day are so much on the *qui vive* in matters scientific that every fresh suggestion in the way of treatment is promptly seized and made practically available to every one, often almost before medical men who are too busily engaged in the cares of practice to be constant attendants at the scientific meetings of Branches and Divisions of the British Medical Association, or of other medical societies, have even heard of them. Our detailed account of the various exhibits commences this week (see SUPPLEMENT, page 162). This first notice is necessarily brief, and only refers to a very small proportion of the stalls; it is hoped, however, that a notice of all the more attractive features of the exhibition will have appeared before the end of the coming month.

Medical Libraries.

A SPECIAL and most attractive feature of this year's meeting is a collection of ancient books and manuscripts dealing with medicine, which is housed in one of the rooms of the Engineering Department of the college. It represents the first fruits of a body which has only just sprung into existence—namely, the Medical Library Association. The British Medical Association may fairly claim some share in its creation, for it appears that the conception of the body dates from the meeting at Sheffield last year. Those immediately responsible for the germination of the happy underlying idea are, we understand, Dr. I. Walker Hall of Bristol and Dr. Cuthbert E. A. Clayton, who interested various people in the project, and are now acting as honorary secretaries of what since Wednesday morning is a fully fledged association, which, very appropriately, has Professor William Osler as first president. The objects of the association are: (*a*) To bring together those engaged in, or interested in, medical libraries and medical literature; (*b*) to maintain an "exchange" for the distribution of duplicate books and periodicals; (*c*) to increase the facilities for reference work; (*d*) to encourage the study of the history of medicine, and (*e*) to issue publications dealing with questions relating to the principles and details of medical library work. The annual subscription is only half a guinea, and judging by the very large assembly which attended the first meeting, and listened to Professor Osler's address on the medical library as a factor in post-graduate work, the society would seem to have a very successful future before it. Its full objects and value will perhaps be better understood when we have published Dr. Osler's address. Meantime some reference to the contents of the exhibition may be made. The works as a whole were divided into sections. Two MSS. in Section I called for special attention—an English one of the fourteenth century on urine (lent by the Manchester Medical Society), and another on the same subject, about the same date, in Latin and

Irish (lent by Trinity College, Dublin). Section 2 contained fifteen volumes, printed before 1500, amongst them the first edition of *Celsi de medicina liber* (Dr. Lloyd Roberts), the works of Mesuë, 1478 (Bristol Corporation), the surgery of Guy de Chauliac, 1480 (Manchester Medical Society), and the *Anathomia* of Mundinus, 1493 (Dr. Lloyd Roberts). Amongst the books printed since 1500, Section 3, were two editions of Raynalde's *Birth of Mankind*, 1528 and 1613 (Dr. Lloyd Roberts and Bristol Medical Library), Faier's *Regimen of Life*, 1567, Paynel's *Regimen Sanitatis Salerni*, 1541 (Dr. Lloyd Roberts), and a pamphlet on *Variolous Contagion*, 1808, by Jenner (Professor Lindsay). An exceptionally fine collection of books by Irish authors or printed in Ireland formed Section 4, lent principally by Dr. Kirkpatrick, of Dublin, and the Royal College of Physicians of Ireland. Professor Osler had lent two interesting collections of books relating to Michael Servetus—whose quatercentenary occurred this year—and Ulrich von Hutten, the scholar-knight, who wrote upon syphilis as observed in his own person. The last section contained a series of books on consumption, commencing with Celsus, who recommended open-air treatment and the use of milk, and ending with the Countess of Aberdeen's *Ireland's Crusade against Consumption*. This exhibition, which is attracting much attention, is to remain open the whole of the week.

Other Associations.

As has been the case at some previous Annual Meetings, the British Medical Association offered facilities this year to other bodies to hold gatherings. It is a courtesy which is highly appreciated, since occasions on which actual and possible members are all to be found assembled in one town in such numbers are rare. This year the Irish Medical Schools' and Graduates' Association held its summer general meeting, and gave what is becoming a standing feature of the meetings of the British Medical Association—namely, a luncheon party. It took place at the Medical Institute on Wednesday, the chair being taken by the president, Dr. A. Mouillot, of Harrogate, an old Trinity College man. The National and Irish Temperance Leagues combined also gave a breakfast, issuing invitations to be present to all and sundry. Another body commonly to be met at Annual Meetings of the British Medical Association, which has its head quarters at Paris—namely, the Anglo-American Medical Society—arranged a luncheon party for Thursday, with its honorary president, Professor Osler, in the chair. There was also a new comer, in the shape of the recently-organized Medical Library Association, which held a numerously-attended meeting early on Wednesday morning. Reference to its proceedings is made elsewhere.

Social Functions.

On Tuesday Sir William Whitla entertained at luncheon in the Medical Institute, Belfast, a large number of guests to meet the members of the Council of the British Medical Association. After luncheon the host proposed the toast of "The Council," coupling with it the name of Mr. Edmund Owen, and congratulating the Council on being able to retain the services of Dr. J. A. Macdonald. Mr. Owen replied, and Sir William Whitla then gave "The health of Mr. Sinclair White," who very briefly acknowledged the compliment. The Bishop of Down, who, with the Lord Mayor of Belfast, was among the guests, proposed "The health of Sir William Whitla," which was very warmly received and briefly acknowledged. The President's garden party, the annual dinner, and the ladies' reception at the Opera House all proved brilliant successes. A little rain fell on Wednesday afternoon, but not enough to interfere with the pleasure of Sir William and Lady Whitla's guests at Lennoxvale. The magnificent grounds surrounding the house are in themselves particularly well suited to outdoor entertainments, and the Pierrots' music and life saving demonstrations given in the lake by the Ulster Branch of the Royal Life-Saving Society were thoroughly enjoyed. The Lord Lieutenant and Lady Aberdeen were present at the party, and in the evening while His Excellency attended the annual dinner, to which reference is made elsewhere, Lady Aberdeen presided at the ladies' reception. During a long *entr'acte* between the two playlets, excellently performed by the Ulster Literary Society, Her Excellency left her box for the stage and addressed a short speech of welcome to the guests. Afterwards she caused to be thrown on the screen a series of limelight pictures illustrative of the work of the Women's National Health League, and herself gave a description of the import of each picture. A feature of all entertainments up to the present has been their very large scale. Over 500 persons were present at the reception at the Mater Infirmorum Hospital: on Tuesday there were 1,700 at Lennoxvale, and approximately 2,000 at the Opera House. To some people a better idea still of the size of the gathering will be conveyed by the fact that at the ladies' reception during the short tea interval, sixty-seven quarts of ice-cream, in addition to countless cups of tea, coffee, lemonade and the like, disappeared in less than twelve minutes. The Sassenach, therefore, can scarcely fail to be convinced that the tales he has heard of Irish hospitality are no myth.

Entertainments.

The amusements in progress, apart from daily golf and bowling, a cricket match on the ground of the North of Ireland Cricket Club on Thursday, and yacht racing at Cultra on Friday, include visits to various industrial undertakings of general importance. Among these are Messrs. Workman and Clark's shipbuilding Works; the Belfast Rope Works; Messrs. Gallaher's Tobacco Factory, where visitors will learn something of Irish twist tobacco; Messrs. Shaw Brown and Co.'s Damask Works at Edenderry; and the famous distilleries worked by Messrs. Dunville and Co., who are entertaining a very large contingent of members at luncheon. Another entertainment of the same general order is a visit to Messrs. Harland and Wolff's gigantic shipbuilding yards, where among other trifles members will see a keel over 800 ft. long, which is to form part of a vessel of no less than 50,000 tons. There are also numerous garden parties to the fore, the first being one given by the President and Lady Whitla at Lennoxvale House on Wednesday, a day which ends with the Ladies' Reception at the Opera House. Thursday sees an afternoon reception given by the Chairman of the Royal Victoria Hospital, Mr. James Davidson, and a civic reception given in the strikingly handsome building known as the City Hall by the Lord Mayor. On Friday the Royal North of Ireland Yacht Club is "at home" during the progress of the special races for members, and Cabin Hill, the residence of Mr. R. J. M'Mordie, at Knock, is the scene of a garden party given by him. Finally comes what is likely to be the *chef d'œuvre* of the meeting, so far as amusements are concerned, this being the evening entertainment in the Botanic Gardens, given by the President and Members of the Ulster Branch of the British Medical Association. The tale, however, is not yet complete, for on Saturday, when, formally speaking, the meeting will have been over

for nearly a day, there are to be sundry excursions to interesting spots. Some will visit the Giant's Causeway, others the Glenariff Glen and Garron Tower, and others, again, the Mourne Mountains and Carlingford Lough. Clearly, therefore, members of the Association and the ladies accompanying are not crossing the seas to the Emerald Isle for nothing.

THE ANNUAL DINNER.

THE annual dinner of the Association on Wednesday evening was most successful in every way. Every seat was occupied and the speeches were all interesting. Sir William Whitla gave the toast of "The Lord Lieutenant and prosperity to Ireland" in a felicitous speech, in the course of which he said the toast was always received in every part of Ireland in the true spirit of brotherhood. His Excellency devoted his reply to a sketch of the public health work done in Ireland during the last few years, especially that done by the Women's National Health Association to check the ravages of tuberculosis. Though it was too soon to expect statistical proof of the success of that work, the statistics for 1908 indicated that the death-rate from tuberculosis was declining. His Excellency added that the Countess of Aberdeen was exceedingly gratified that her work in this direction should have been recognized by the British Medical Association, for he was permitted to say that the Council had that day resolved to recommend the Association to elect her at the General Meeting on Thursday an Honorary Member, a privilege he had himself enjoyed since the Annual Meeting in Montreal. The toast of "The Association" was given by the Bishop of Down, Connor, and Dromore, and was briefly acknowledged by Dr. Macdonald. The toast of "The Guests," given by Sir Peter O'Connell, was acknowledged by the Lord Mayor of Belfast, Professor Fehling of Strassburg, and Dr. Delavan of New York.

CO-OPTION TO CENTRAL COUNCIL.

THE Central Council has co-opted Dr. Buist, Mr. Andrew Clark, Dr. Macdonald, Dr. Maclean, and Dr. Pope.

THE total number of members registered as present at the meeting up to the time of going to press is 1,480.

ANNUAL REPRESENTATIVE MEETING.

NOTES.

THE Annual Representative Meeting which assembled in Belfast at noon on Friday, July 23rd, concluded its business on the afternoon of Tuesday, July 27th. It sat on Friday, with adjournments for lunch and dinner, until 10 p.m. On Saturday it sat, with an adjournment for lunch, from 9.30 until 5, when a majority of the members left Belfast to spend the week end at Portrush, including a visit to the Giant's Causeway, or at Newcastle. On Monday the Representatives sat from 10, with an adjournment for lunch, until nearly 7 p.m. On Tuesday the meeting assembled again at 11 a.m.; the business on the agenda paper was concluded soon after 1 p.m.; but after the General Meeting at 3 p.m. on that day, when the retiring President, Mr. Sinclair White, inducted Sir William Whitla, the Representative Meeting was resumed to confirm the minutes, and to express its thanks to Dr. Macdonald for the way in which at four successive meetings he has presided over its deliberations. Sir Victor Horsley's fine tribute to Dr. Macdonald's services and character, supported as it was by equally sincere words of commendation from Mr. Ballance, Dr. Macdonald's successor in office; from Dr. Campbell Watt, the Representative of Natal; and Dr. Bruce Goff, the father of the Scottish members, was received with enthusiasm by the meeting; and it was impossible to mistake the ring of genuine admiration with which the retiring chairman was received when he rose to respond. In this response, Dr. Macdonald seized the opportunity afforded by the fact that a Colonial Representative was among those who had supported the vote of thanks to give expression to his fervent hope and confident anticipation that the British Medical Association would be able to knit more closely the ties between the members of the profession at home and those in the Dominions beyond the Seas. This hope and this anticipation are, without any doubt, shared by all the Representatives and, indeed, by all those in whose name they speak. The reorganization of the Association has caused some inevitable delays and has in some directions produced certain difficulties; but the delays, it may reasonably be expected, are now nearly at an end, and as to the difficulties which have not yet been removed, where there is a will there is, according to the old proverb, a way, and as to the good will of the representatives, those who have watched their meetings can have no doubt.

ON the first day of the Representative Meeting a very interesting and instructive discussion on the many problems arising out of the institution of compulsory inspection of school children took place. Among these problems was that of the treatment of school children found on inspection to be in need of treatment. Upon this the meeting first affirmed the general principle that such children should not be referred to public medical charities for treatment, whether the public authorities did or did not offer payment or subsidies. This resolution has an obvious bearing on the present situation in London, where many voluntary medical charities have recently expressed their readiness to accept payment, whether by way of capitation fees or round-figure grants, for treating children referred to them by the education authority. The meeting also affirmed the principle that no scheme for referring the children for treatment under the Poor Law could be approved under existing conditions pending such reforms as may result from the reports of the Royal Commission on the Poor Law. The discussion showed more clearly than ever before that the conditions in urban and rural districts differed so much that different methods of meeting the new circumstances must be found. The meeting expressed the view that in towns the work should be entrusted to private practitioners, who may discharge their duties at convenient centres to be designated "school clinics." In sparsely populated districts the opinion stated by the meeting was that the necessary provision should be made by the official recognition of the surgeries of private practitioners as places at which treatment may be obtained at the public expense. In this connexion a scheme proposed by the Watford and Harrow Division was approved as likely to prove applicable to many districts. It is in part founded on the system under which payments are made for the treatment of soldiers on furlough in districts where no officer of the Royal Army Medical Corps is available, and would preserve for the parent or guardian full freedom of choice in the selection of the practitioner.

THE reports of the Committees on Ophthalmia Neonatorum and on Uterine Cancer also led to interesting discussions, in the course of which apprehensions were expressed that certain risks attended the promulgation of such reports. One of these was that they might conceivably be used by a cross-

examining counsel to the disadvantage of a medical defendant. To this it was replied that the statements in the reports themselves did not go beyond those which are to be found in modern textbooks, and fairly represented the opinion and the practice of the day. The other risk feared was that the authority which must attach to such reports might tend to crystallize opinion in too insoluble a form, and thereby possibly retard the free growth of medical science and the development of even more efficient methods of treatment. That it would be mischievous to stereotype opinions and methods no one will deny, but this is very far indeed from the intention of the Association, which, having put its hand to the plough, will not hesitate to prolong the furrow when occasion arises. The two reports are appeals, primarily to the profession, to use its opportunities and influence to check two great evils affecting the infants and the mothers of the country. It would, of course, be absurd to suppose that in either instance finality has been reached; medicine is a living science and a progressive art. When new facts are discovered the Association may be trusted to take note of them, and improve its recommendation accordingly.

Two things were done by the Representative Meeting which it may, perhaps, be permissible to say recent experience of the editorial office tends to prove very much wanted doing. The one was an instruction to the Central Council to formulate the main principles affecting medical contract practice contained in the Contract Practice Report, but not always very easily extracted from that valuable but voluminous document by a man in a hurry or in a difficulty. The other was the adoption of a set of model rules for inclusion in the regulations of local District Nursing Associations. The correspondence columns of the JOURNAL have recently afforded abundant evidence that these associations—admirable in their conception, and, when conducted under proper regulations, of the greatest assistance to the profession, of the greatest benefit to their patients—are liable to abuses which largely destroy their usefulness.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE character and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 28th, 1909.

SECTION OF ANATOMY AND PHYSIOLOGY.

PROFESSOR C. S. SHERRINGTON, who presided at this Section, after a few words of welcome, said he was glad the programme contained so many papers of equal interest to anatomists and physiologists alike. The association of structure and function in a Section like the one with which they were concerned was absolutely essential if their discussions were to be fruitful and illuminating. The first formal contribution to the business of the meeting came from Professor A. F. Dixon (Dublin), who, dealing with the anatomy of the achondroplasic skeleton, explained that he had recently had an opportunity of examining five complete examples of achondroplasic dwarfs. They seemed to throw some sidelights on the processes of ossification in the body. The limbs were short and thick owing to the great development of the muscles, and these factors reacted on the skeleton. By means of lantern slides he demonstrated the bones of the specimens he had examined, from which it was clear that all the long bones were very remarkably short, with the single exception of the clavicle, the latter being practically normal in size. Those bones which were ossified earliest were affected most and vice versa. The cranium showed a remarkable contracture of the base. The face was drawn backwards and the foramina at the base of the skull were very small. An interesting discussion followed, in which Professor Patten, Dr. Waterston, Dr. Scanes Spicer, Dr. Rutherford, Professor Peter Thompson, and the President took part. A very interesting discussion next took place on a paper communicated by Dr. Scanes Spicer on some points in the mechanics of respiration, and the relation of these as a causal factor in the production of extrinsic cancer of the larynx and oesophagus. In his opinion, bad forms of abdominal breathing produced a frictional movement between the posterior arch of the cricoid and adjacent part of the oesophagus on the one hand, and the vertebral column behind on the other. The frictional movement was produced by the descent of the cricoid, pulled down by the trachea, and this in its turn was due to excessive descent of the diaphragm. The discussion which followed centred mainly on the mechanics of respiration, and the frequency of cancerous growths in the region of the cricoid cartilage. Criticisms on the various points raised were made by Professor Peter Thompson, Dr. Dickey, Dr. Rutherford, Dr. Waterston, and Dr. Howat, and afterwards Dr. Scanes Spicer replied. Dr. Hugh Maclean (Liverpool) read a paper on phosphatides in the light of modern research. These substances, he said, were of a more or less fatty nature, extracted from the tissues of the body generally, and especially the heart and brain; in short, they might be defined as nitrogenized, phosphatized fatty acids. He pointed out that the generally accepted formula for such a phosphatide as ordinary lecithin was incorrect, and that probably few, if any, lecithins contained all their N in the form of cholin; moreover, lecithins from different sources, while showing a somewhat similar elementary composition, might differ considerably in regard to their cholin content. In the discussion which followed, Dr. Rutherford, Dr. Reid Hunt, Professor Moore and Professor Milroy took part, and the Section then adjourned.

SECTION OF DERMATOLOGY AND ELECTROTHERAPEUTICS.

THE proceedings of the Section were opened by the President, Dr. William Calwell (Belfast), who devoted his address mainly to the progress of dermatological study in the medical schools in Belfast. Speaking upon the general question, he suggested that dermatology did not obtain its proper place in the education of the medical student. It was a mistake to make it a hurried and scamped course at the end of the curriculum, and it might very well be taken while the student was being instructed in medical and surgical anatomy. A student would form a better idea of pulmonary tuberculosis, for example, if he were to see the several varieties of lupus, while the study of the class of disease labelled "eczema" would give an insight into the gastro-intestinal infections. A discussion upon radium-therapy was then opened by Dr. Louis Wickham, head of the Radium Institute in Paris, who described the methods he employs for the treatment of cancers. He said that the filtrative methods, by which any desired modification of the radiation was obtained, had been carried to a high degree of refinement. He explained the principles of his cross-fire applications of radium, and also his method of taking advantage of artificial orifices, such as an *anus praeter Naturam*, to introduce the radium deeply into the intestinal mucosa, and from there to treat the cancer. The four conditions in which he found radium-therapy of most service were epithelioma, angioma, keloid, and chronic eczema. He brought forward some remarkable slides illustrating cases which had yielded readily to treatment. The

discussion was continued by Sir Malcolm Morris (London), who said that, just as they divided surgery into two great epochs—"before Lister" and "after Lister"—so they might divide the medical application of radium into "before Wickham" and "after Wickham." The group of cases that had interested him more particularly were those in which great filtration in the shape of layers of lead was employed, thereby obtaining therapeutic penetration in the deep tissues. He had recently a case in which tuberculous glands had been removed on three different occasions. When they began to form again he determined to try the effect of radium on these glands, so as to avoid any further surgical investigation. He used a filter of 2 mm. of lead and gave long exposures, and at the end of three weeks there was no trace of the gland left, and the skin had received no burn. Professor Wild (Manchester) pointed out certain differences between x rays and radium as therapeutic agents. Dr. Tomkinson (Glasgow) thought that Dr. Wickham had not sufficiently dilated upon the aesthetic quality of the resulting cicatrices in cases treated by radium. Dr. Sequeira (London Hospital) thought that in radium we had rays, if not of greater penetrability, at least more manageable than in the case of the x rays. Dr. H. Lewis Jones (St. Bartholomew's) read notes of twenty-four cases on the treatment of naevus by radium.

SECTION OF DISEASES OF CHILDREN.

WORK in this Section began with a discussion on club-foot, opened by Mr. Robert Jones, of Liverpool. Dealing with the congenital varieties, it was pointed out that the talipes equino-varus was the only type presenting difficulty in treatment. After tracing the anatomical difficulties which any treatment had to overcome, Mr. Jones pleaded for the earliest possible recognition and treatment. Both the equinus and varus could be remedied simultaneously, and failure of union after tenotomy was practically unknown. Rotation of the tibia and fibula on each other was soon corrected by daily torsion with both hands, the epiphyses being efficiently guarded from disturbance. When the case was on its way to recovery walking improved it, and should give the finishing touches to the surgeon's art. He thought "over-correction" of the deformity at the time of operation a mistake, and, where interference with bone was necessary in severe or relapsed cases, previous manipulation much diminished the amount of sacrifice of bone necessary. Mr. A. H. Tubby's remarks were confined to the reasons for incomplete cure and relapse of cases. He favoured astragalectomy where bony interference was required. Mr. J. H. Nicoll (Glasgow) preferred to divide the tendon partially and then snap the remaining fibres, approaching it from its superficial surface as safer than cutting towards the skin. The treatment for each case must be decided by a consideration of the child jointly with its mother. Mr. A. McLennan (Glasgow) explained his method of elongating the tendo Achillis, which he regarded as the factor most concerned in the production of both deformities. Mr. E. Laming Evans (London) said he was an adherent of the technique laid down by Adams, and attached importance to "unrolling" the astragalus from the os calcis. Mr. Edmund Owen (London) said he fixed the foot in plaster of Paris in the over-corrected position for three weeks, after which no manipulation or further operation was required. Where radical treatment was necessary Phelps's operation yielded good results. Mr. R. C. Dun (Liverpool) and Mr. Collinson (Preston) also joined in the discussion, and the President (Mr. Harold Stiles of Edinburgh) pointed out that adduction of the metatarsal bones was quite the most difficult part of the deformity to correct. Mr. Robert Jones, in his reply, pressed for tenotomy and repeated wrenching before any bone operation was undertaken. He regarded a case relapsed after Phelps's operation as hopeless, the condition then approximating to an amputation of the front part of the foot.

SECTION OF HAEMATOLOGY AND VACCINE THERAPY.

THE new Section of Haematology and Vaccine Therapy was opened by the President, Sir Almroth Wright, with a paper entitled Retrospect and Prospect. In this he gave a brief survey of the therapeutics of bacterial diseases and of the development of therapeutic immunization out of prophylactic immunization. He discussed the question whether the method of passive immunization (serumtherapy) would eventually furnish a general method for the treatment of generalized bacterial infections, and how far this method of treatment has already been successful. He then dealt with the suggestion that localized bacterial infections might appropriately be healed by active immunization (vaccine therapy) and the subsequent proposition that vaccine therapy might be applied also to generalized infections. He gave a brief synopsis of the results which, in his opinion, had already been achieved by this therapeutic method, and discussed the question as to what future extensions of it may be anticipated. He drew attention to the urgent need for further study of the physiology of the machinery of immunization and the possible application of vaccine therapy in connexion with the secondary infections of scarlatina, small-pox, cancer, whooping-cough and hay fever in connexion with the limitation of family and institutional epidemics. Mr. Leonard Noon followed with an interesting paper on the site of inoculation as influencing the immunity produced. He described some experiments which appeared to demonstrate the possibility of separating the different phenomena generally recognized as integral parts of the response to inoculation. Dr. Butler Harris commented on the importance of the site of inoculations in the treatment of localized infections. Dr. Golla read a paper on the antitryptic index and described a method for which he claimed accuracy and simplicity for estimating a tryptic digestion, and gave a general summary of the results he had obtained in estimating the antitryptic index in tuberculosis and various other diseases. Dr. A. Fleming also spoke, and suggested that the antitryptic index had no relation to the tuberculous infection, but is in relation to the pus-forming organisms which form secondary infections. Dr. Thomas Houston read a paper on chronic typhoid infection and described cases, and Professor J. McWeeney mentioned that during the past year he had traced the causation of two outbreaks of typhoid to carrier cases. The morning ended with a paper by Professor Sanfelice (Bologna) on the genesis and cure of the malignant tumours, which was followed by a demonstration of lantern slides. From the results he had obtained Professor Sanfelice concluded that he had isolated a toxin capable of producing an antitoxin, and that this promised to be of use in the treatment of malignant growths.

SECTION OF HYGIENE AND PUBLIC HEALTH.

THE opening meeting of this Section was attended by Their Excellencies the Lord Lieutenant and the Countess of Aberdeen, and by the Lord Mayor and Lady Mayoress of Belfast; and Dr. Hamilton, Vice-Chancellor of Belfast University. The President, Dr. Louis Parkes, in his introductory remarks, alluded to the reduction of the death-rate in recent years, owing to the efforts of public health authorities. He stated that the rate of infantile mortality had only been reduced during the last few years, and considered that this reduction was due to two causes—partly to the influence of health visitors, and partly to climatic influences—the cold and wet summers which we had recently been enjoying. In his opinion they were sadly behindhand in regard to the impurity of the air which they breathed, and this was one of the chief causes of physical deterioration. He pointed out the improvement in this respect which had taken place in London in recent years, which he considered to be largely due to the use of gas by poor people. With regard to tuberculosis, he considered that its ravages were due rather to insanitary homes than to polluted milk, and he thought it was an interesting question as to how far tuberculosis remained latent in

the system for years. A discussion on compulsory notification of all forms of tuberculosis was opened by Dr. Scurfield, M.O.H. Sheffield, who gave an account of the system of compulsory notification which came into force in Sheffield in November, 1903. He stated that bacteriological examination of sputum was provided free of charge. The notified cases were visited by inspectors, who gave advice, supplied spittoons, and disinfected when necessary. Hospital accommodation was provided by the Corporation for 20 males and 20 females for short periods, the principal objects being to educate the patients, to relieve their friends, and to select those who were suitable for prolonged sanatorium treatment. He thought that work should be provided for consumptives, in order to avoid the creation of a class of loafers. An open-air school had just been provided for delicate children. In the second part of his paper Dr. Scurfield analysed the tuberculosis death-rate in Sheffield and other towns, and showed that in Sheffield the female rate was very low, and that for males and children high. The discussion was continued by Dr. McWalter of Dublin, who strongly opposed compulsory notification, saying that it showed a tendency to adopt the methods of the Holy Inquisition, which was out of date in the twentieth century. He criticized a recent Order in Council which compelled notification of consumption only when the notified person slept in a room with others not affected, and said that this Order left out the rich and struck at the poor. He considered that the whole tuberculosis scare was a superstition of science. Sir Charles Cameron, M.O.H. Dublin, was strongly in favour of compulsory notification, but only regretted that the word "may" was used instead of "shall" in the Act as applied to Ireland. He pointed out that the Irish had a great respect for laws they thought useful, and instanced the fact that there had never been any difficulty in carrying out the Vaccination Acts in Ireland. Sir John Byers, of Belfast, spoke strongly in favour of compulsory notification, and urged the making a beginning, so as to find out how the Act worked. Dr. Nasmyth of Edinburgh, Dr. Gilchrist of Nice, Dr. Rentoul of Lisburn, and Dr. H. Jones of London, all spoke in favour of compulsory notification. Dr. Darley Wynne of Clonmel read a paper on the connexion between cattle fairs in Ireland and the excessive death-rate from tuberculosis. The paper was illustrated by a photograph of a cattle fair in Clonmel. Dr. Niven, M.O.H. Manchester, read a paper on the control of tuberculosis in cattle. The business of the Section for the day concluded with two short papers—one on school medical inspection, by Dr. E. Magennis, and one on primary education in Ireland, by Dr. Henry O'Neill of Belfast.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

THIS Section was opened by the President, Dr. St Clair Thomson, who expressed his appreciation of the honour conferred upon himself by the Council in electing him as President. He thought the programme selected an excellent one because of the wide-reaching importance of the subjects, although some appeared to be very complex. Tinnitus was so frequent and so troublesome that any fresh light as to its causation and treatment would be welcomed. With regard to the Klebs-Loeffler bacillus, they would have the opportunity of hearing the views of Dr. Watson Williams, who had had unique opportunities of studying it clinically. They would also have the opportunity of hearing a skilled bacteriologist, and, finally, the suggestions of a medical officer of health, with regard to dealing with it on a large scale. The Section would also have the benefit of hearing the views of an American colleague, Dr. Delavan, upon intubation. Dr. Barr of Glasgow then read a paper upon the treatment of tinnitus aurium from a non-operative point of view. He referred to its connexion with vertigo, but limited his remarks to the tinnitus. He pointed out that this symptom might occur with practically every disease of the ear, and was also the result frequently of general disease. It was thus very important to find, if possible, the cause of the noise, and to examine the history and habits of the patient. Neurasthenia, either as cause or result, was often present, and should be attended to. He referred to the action of fibrolysin, and spoke of the difficulty of estimating its effects, which was true of any new form of treatment. He had tried various drugs, as quinine, salicylate of soda, aspirin, hypnotics, and sedatives with varying results. He next touched upon climatic conditions, preferring upland and inland air, if not too cold, as he had found that seaside and humid atmosphere was inclined to aggravate the condition. He briefly spoke of external stimulating applications to the mastoid process, some of which at times produced improvement. He laid rather more stress upon *Tom-behandlung*—application of tuning forks to mastoid process—which seemed certainly to produce improvement. Electrical treatment, which a few years ago seemed to hold out hopes, had not fulfilled its expectations. In fact, they were very much in the position as regards curative methods that they were in twenty years ago. Dr. Lake dealt specially with operative methods, giving a brief summary of the various operations that were and had been practised, dividing them into minor and major classes. He criticized these, and did not consider that they were based upon logical methods, and success was only occasional. Ablation of the cochlea he thought a logical procedure, as it removed the end organ. He finally gave some statistics of division of the auditory nerve, from which he argued that it never should be done. Dr. Knowles Renshaw gave an interesting account of the result of the subcutaneous injection of thiosinamine, in every case of which some improvement was manifested. Dr. Andrew Wyllie spoke of his method of hot-air injection. The discussion was continued by Drs. Oliver Carlyle, Hill, and Ward Cousins, Dr. Logan Turner was doubtful as to the selective tinuel by Drs. Oliver Carlyle, Hill, and Ward Cousins, the last named referring to the danger of facial paralysis in division of auditory nerve. Dr. Woods did not consider that it was at all proved that there was increased intralabyrinthine pressure in tinnitus, and action of fibrolysin upon the ear. Dr. Hugh Jones read a short paper upon the association of slight abnormalities of the auricle with certain forms of deafness, giving statistics in reference thereto. Mr. Jackson discussed the question of exostosis of the external meatus in an interesting paper, giving some ethnological investigations. He considered that they were most probably due to irritation of sea water. The proceedings terminated after Dr. Dan McKenzie had read a paper on the clinical value of labyrinthine nystagmus tests, in which he gave the results of some careful clinical studies of the effects of hot and cold water applications to the membrana tympani through the external meatus and their relationship to nystagmus.

SECTION OF MEDICINE.

AFTER a few introductory remarks by Professor J. A. Lindsay, President of the Section, Sir Clifford Allbutt opened a discussion on angina pectoris. It was, he maintained, a symptom group or procession, the members of which were discussed, recurring in mankind with fair uniformity and hence due to fairly uniform causes. He divided angina pectoris into angina major and angina minor, the characters of which he described. Pseudo-angina he classed with vago-vasal attacks; vasomotor oscillations might occur in angina pectoris as determinants of attacks, or might be themselves the result of afferent impressions from the cause of the angina. Having discussed the prevailing theories of angina, he gave his own interpretation of angina, that its origin was not in the heart but in the aorta above the sigmoid valves, that the oppression of angina minor originated there, also the pains of angina major, and these spread by diffusion of the central irritation to neighbouring centres. Neither in its major or minor forms was angina directly fatal, in the majority of instances of its occurrence was due to co-operating causes—as valvular or myocardial disease. Many cases of the major and minor forms ended in recovery. When death was due directly to the angina it was from reflex

inhibition of the vagus or from other severe peripheral irritations. But in that case the myocardium was nearly always weakened from coronary disease, toxic influence, or other cause. Sir Lauder Brunton could not accept the view that the aorta was the only source of aortic pain. He considered that there were cases with anginal pain that differed in quality, and not merely in degree, and he provisionally adhered to the name "pseudo-angina" as a convenient clinical term. In this the pain occurred in young persons, and although the pain might be extremely severe it did not cause death, and was not relieved by nitrites. Mere distension of the serous coat of the aorta could not, he thought, be a cause of pain, or of any organ, as seen in the case of the bladder, bowel, etc. He still thought cramp of some of the heart muscle fibres was a cause of the pain in some of the cases, and that that was largely due to the excessive work of the heart against great resistance. In some cases the pain was not referred to the sternum but to the apical region of the heart, and these were not, he thought, primarily aortic. Anginal attacks might cease for many years, but that did not necessarily involve the idea of cure of the causal disease of the angina. In pseudo-angina the treatment was tonic, in true angina repressive. Professor Osler thought that although there was one group of cases clearly aortic as Sir Clifford Allbutt had described, yet in another large group there was disease of the coronary arteries and none of the aorta, and in a third small group of cases there was neither. He had more faith in the intermittent claudication of of the heart theory as explaining many of the cases than in any of the other prevalent hypotheses. Dr. W. K. Hunter described a case in which although there was aortic regurgitation there was high blood-pressure the anginal pain in which was relieved by nitrites. After Dr. John Haddon had made some remarks, Sir Clifford Allbutt replied. Papers were then read by Dr. D. W. Samways on misconceptions concerning the Riviera, and Dr. W. Gordon on the influence of soil in phthisis. The Section adjourned early to allow the members to attend the Address on Medicine.

SECTION OF NAVY, ARMY, AND AMBULANCE.

THE Section of Navy, Army, and Ambulance commenced work on Wednesday, with Fleet Surgeon J. Lloyd Thomas, R.N., as President. In his opening address he offered a hearty welcome to the members of the Section. Colonel T. H. Hendley read a paper entitled "A Contrast between the Treatment of the Wounded under the Moghul Emperors and King Edward VII, Emperor of India." In the army of the Indian Moghuls the wounded seem to have been left mostly to their fate; there was no organization for their succour nor any attempt to heal their wounds; this was left to their relations and friends. Surgery was left to quacks or barbers, and in India to "jarahs," who were combinations of both; they used salves, or plunged stumps of limbs into boiling oil, especially after gunshot wounds, which were regarded in India, as in Europe, as being poisoned. These practices and ideas persisted in the armies of the native princes almost down to the present time. A case of the use of boiling oil had recently occurred when Colonel Hendley was in India in 1871, and "jarahs" were attached to all native regiments of the Jeypore State, who dressed wounds, shaved sepoys if required, or acted as chiropodists. Medical treatment for Mohammedans was in the hands of "hakims," who followed the Yunani or Greek system of Galen and Avicenna, and for Hindus was in the hands of Vaids who practised the humoral methods of the old Sanscrit writers. In Moghul or Mahratta armies there was no provision for the transport of wounded. Every wounded man, if not able to walk or ride off himself, had to be carried on an animal or in a country cart, and the friends alone, and not the State, had to be depended upon to provide what was wanted. The main principles of the present method under King Edward VII, Emperor of India, were to follow up the fighting line so that the wounded might be succoured as soon as possible after they fell; their speedy, and, as far as might be, comfortable removal to a place of comparative safety, and then to some place at which they could be properly treated in view of returning them when fit at the earliest date to the front. A paper was communicated by Colonel H. E. R. James, giving an account of the Officers' Training Corps, with special reference to its medical branch. The existing reserve of medical officers to-day was, he said, inadequate. A special reserve of officers designed to help to meet the case had been formed, but in the most favourable circumstances it was unlikely in the immediate future to produce the large body of officers required. Men were apparently loth to bind themselves to undertake war service in prospective, although they would come forward readily upon the occasion arising. It was also pointed out by Colonel James that a medical man who knew nothing of military service must be at a great disadvantage under conditions of field service for a considerable time after joining and probably at a critical period of a campaign, whereas one who had received military medical training would be at once valuable to colleagues and patients. Therefore, the giving of the opportunity of the necessary training with a free hand to schools and universities without binding the recipients to service, was a measure which promised well, even if it did not fill the Special Reserve of the Territorial Force with officers as was hoped. A paper by Lieutenant-Colonel R. Porter on physical training of recruits in the army was read, and the system was demonstrated by a squad of recruits who recently completed a three-months' course of training.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

THIS Section met in the Natural History Class Room, at 10 a.m. on Wednesday, July 28th, the President, Dr. John Campbell, being in the Chair. After a few words of welcome to visitors, he called upon Dr. Thomas Wilson, of Birmingham, to open the discussion upon the treatment of the graver forms of puerperal sepsis. In doing so, Dr. Wilson recommended the segregation of patients, and held that effective means for isolation and treatment should be provided by the community, as in the case of scarlet fever, small-pox, and diphtheria. He considered that the graver cases included all such cases as threatened the patient's life. No symptoms were constant, but the rise in temperature was the best indication for treatment. A temperature of 102° without other apparent cause was sufficient presumption that infection had occurred, and energetic treatment should be at once begun. The uterus should be freely washed out, and he preferred to use a solution of iodine. If there was any débris left it should be removed with the finger rather than by the curette. The discussion was continued by Professor Fehling (Strassburg), Professor Murdoch Cameron (Glasgow), Dr. Munro Kerr (Glasgow), Dr. Hastings Tweedy (Dublin), Dr. Henry Jellett (Dublin), Dr. F. Edge (Wolverhampton), Professor Alfred Smith (Dublin), Dr. Cuthbert Lockyer, Dr. C. E. Parslow (Birmingham), Dr. Beckett-Overy (London), and Dr. Wilson replied, and insisted that the examination of the uterus should not be delayed more than twelve hours after an intrauterine irrigation had failed to lower the temperature. The remaining time of the session was taken up by a paper on midwifery in private practice —a criticism of methods based on actual results, by Dr. J. J. Austin, which was most favourably discussed, and one on the treatment of uterine cancer in the later months of pregnancy by Mr. Cuthbert Lockyer.

SECTION OF OPHTHALMOLOGY.

THE President, Dr. J. Walton Browne, opened the proceedings with a short address in which he made sympathetic allusion to the death of Mr. Simeon Snell

and to his work on ophthalmology. Dr. Freeland Fergus (Glasgow) then opened a discussion on eye injuries in their relation to the Workmen's Compensation Act. He drew attention to the impossibility of inventing any mathematical formula by means of which one could describe the amount of vision any person either possessed or had lost. He considered it almost impossible for a man to carry out underground work with only one eye. In employments which demanded binocular vision liberal compensation should be given for the loss of an eye, and in addition it should be remembered that many middle-aged persons were quite incapable of learning a new trade. He pointed out the great disadvantage suffered by a man whose vision was not good, for, owing to recent legislation, no one cared to employ him at all. Dr. Cecil Shaw dealt with the question of the loss of an eye. He stated that in many employments a one-eyed man was as good as one who had two. The loss of one eye was chiefly important from the much greater risk they ran of total blindness from accident or disease, and this would in time cause all employers to avoid those persons. Dr. W. H. Brailey (Hove) thought that Dr. Freeland Fergus had rather minimized the effect of the loss of binocular vision. Workmen should be allowed to contract out of the Act, so as to avoid the difficulty of getting employment. Mr. Bishop Harman thought the loss of binocular vision was a most serious matter to any one, and especially to those employed in machine shops. Remarks having been made by Dr. Arthur Green (Norwich), Dr. Henry (Leicester), and Mr. Johnson Taylor (Norwich), Professor Fuchs (Vienna) spoke of the way in which things were managed in Vienna. Mr. Berry (Edinburgh) thought that people who lost one eye quickly got used to monocular vision. He thought that the added risk of a man having only one eye becoming totally blind was almost inappreciable. Dr. Nelson (Belfast) spoke strongly against the practice of surgeons in taking sides in any case. After some further remarks by Sir Victor Horsley and a summing up by the President, Dr. Freeland Fergus replied. Sir Victor Horsley read a paper on optic neuritis, his chief point being the isolaterality which existed between the optic neuritis and the lesion. He showed many drawings of discs in which this was evident, and he came to the conclusion that it was almost a universal rule. He accepted the ophthalmic evidence as the chief thing on which he could rely in order to determine the side of the tumour, and gave a most interesting demonstration on the ophthalmoscopic and microscopic conditions present in these cases. The subject was discussed by Dr. Gordon Holmes and Mr. Leslie Paton. Dr. Hinshelwood (Glasgow) described a case bearing on the point. Mr. Thomson Henderson (Nottingham) discussed the matter from the point of view of intracranial pressure, and entirely agreed with Sir Victor Horsley. Sir Victor Horsley replied. Dr. Hinshelwood (Glasgow) described a case of sarcoma of the choroid, in which excision was not allowed until three years after the diagnosis was made; after removal the growth was shown to be a spindle-celled leuco-sarcoma. Mr. Johnson Taylor related a case in which a leuco-sarcoma was present for eleven years before removal, and the patient was still alive. Mr. Devereux Marshall said he had found that most leuco-sarcomata contained pigment microscopically, and that he paid but little attention to the tension of the eyeball, which varied so much. Dr. Reeve (Toronto) also made remarks, and Mr. Hill Griffith described a case in which transillumination gave much help. Dr. W. M. Killen read a paper on the relationship of asthenopia with adenoids, and pointed out that many of the eye symptoms were relieved by clearing the naso-pharynx. Mr. Bishop Harman described a case of orbital periostitis consequent on dental disease. Dr. Freeland Fergus described a similar case and the patient ultimately recovered with good vision. Mr. Johnson Taylor thought it was extraordinary that if bad teeth was the cause the disease should not be far more frequent. Dr. Little (Bradford) also discussed the paper, and Mr. MacCallan related his experience in Egypt. Mr. Harman replied.

SECTION OF PATHOLOGY.

PROFESSOR SYMMERS, the President of this Section, briefly welcomed the visitors to Belfast, and then called for the commencement of the first discussion. It was devoted to the modern aspect of cancer, the chief contributors being members of the staff of the Middlesex Cancer Research Laboratories. Dr. Henry Beckton discussed the question of the presence of granules in cells. In normal cells he had found that granules practically always existed and even in benign growths, but in malignant tumour cells granules never existed. He illustrated his paper with lantern slides, and concluded that on the whole the presence of granules probably denoted a deviation of or loss of function on the part of the normal cell. He reminded the audience that granules varied with the fixative used, and Dr. Lazarus-Barlow (London), Professor Lorrain Smith, F.R.S. (Manchester), Dr. Walker Hall (Bristol), and Dr. Moore (Cork), discussed the question mostly from the aspect of technique. Miss Chambers, M.D., gave a lantern demonstration of and summarized the results of her exhaustive work on a large number of cases of innocent goitre, and the statistics showed that all forms of innocent goitre were far commoner in females, and that parenchymatous goitre occurred most commonly in males than the other varieties, but in both sexes occurred almost practically always in the quinquennial period between 16 and 20 years. The idea of a syphilitic origin of exophthalmic goitre had suggested itself to her, but a histological and bacterioscopic research had not lent any support to this view. In the discussion which followed, the question of amœbae which are found in the stools, and their relation to endemic goitre, was raised by Dr. Willmore (Egypt), and discussed by Miss Chambers. Dr. Lazarus-Barlow gave a lantern demonstration illustrative of the subject of skiotography—an outcome of many years' work on radio-activity and carcinoma, which he dwelt on at length in his recent Croonian Lectures. The question is at present far from understood, but Dr. Lazarus-Barlow was convinced that radio-activity had much to say on very many points in the etiology of carcinoma. The lectures have already been published in full in the BRITISH MEDICAL JOURNAL, and, in fact, it would be impossible to summarize so elaborate a contribution to the subject of malignant growth. Dr. Cecil Rowntree (London) gave a demonstration on x-ray carcinoma, and summarized the many cases that have occurred in this country and in America. Eleven cases had been reported in the British Isles, and it was noteworthy that in these multiplicity of growths was much more frequent than in other growths. He himself had exposed rabbits' ears and rats' tails to x rays, and produced active changes in the connective tissue, though no actual cancer changes. Still, he put forward the view that these changes favoured the onset of malignant proliferation of the epithelial elements. Professor Lorrain Smith showed a case of cancer of the pylorus, with metastasis in the bronchial glands and diffusely in the lung. Amongst his slides were some of interest taken by the polarized light, which showed the distribution of myelin in the lymphatic gland and in the metastases.

SECTION OF PHARMACOLOGY AND THERAPEUTICS.

THE Pharmacological Class Room of Queen's College was appropriately selected for this Section, and work began promptly at 10 a.m. Professor Ralph Stockman (Glasgow) occupied the chair, and, in welcoming those present, reminded them that twenty-five years ago, at the former meeting of the Association in Belfast, a Section of Pharmacology and Therapeutics was held for the first time, and was inaugurated by Sir William Whitla, now President of the Association. Mr. George Chiene (Edinburgh), in a paper upon spinal anæsthesia, referred to the wide divergence of views among writers on the subject. Murphy had stated that the death-rate from spinal analgesia was such as to justify

the introduction of legislation directed against its employment: others maintained its safety, and lauded its value. He instituted a comparison between spinal anaesthesia and general anaesthesia, and discussed in detail the following points: (*a*) The drugs at present recommended and employed; (*b*) the advantages or disadvantages of the addition of adrenalin: (*c*) the dosage and the relation of dose to symptoms; (*d*) the posture of the patient and the position of the puncture. No anaesthetic at present was perfect. He thought that we should look to the future and not condemn indiscriminately. Dr. Dudley Buxton (London) complained that in the comparison between the methods of spinal analgesia and general anaesthesia, the comparison was between picked men, experts in spinal annesthesia, and the rank and file of the profession, who had had no particular opportunity of gaining special experience. He laid emphasis on the comparative frequency of the failure of analgesia, and estimated it at from 5 to 12 per cent. of all cases. That consciousness was retained throughout was in some cases a great drawback. Some had, therefore, advocated the addition of scopolamine-morphine to dull the patient before the ordeal. Different advocates of the method considered different cases unsuitable for its application. The combined list excluded so much that only a limited field was left. The directions as to the posture of the patient given by different authorities were diametrically opposed. The mortality was certainly higher than in general anaesthesia. The method was of great and abiding use, but it was to be added to the old, not to replace it. Dr. Alexander Don (Dundee) described some *x*-ray photographs which he had taken to determine the most suitable posture and place for puncture, and gave details of his own practice. Mr. Arthur Barker (London) said he was in complete agreement with Dr. Buxton, but he denied that there was yet such a person as an expert spinal anaesthetist. All were still students and without authority to guide them. He laid stress on the need of recording all cases well. Dr. J. Mill Renton (Glasgow) described a method to render the puncture painless. In nervous patients he often combined spinal anaesthesia with ether anaesthesia by the open method. Dr. G. A. H. Barton was opposed to the adoption of spinal analgesia, except in special circumstances, because of the greater risk. In four and a half years' experience Mr. Leedham-Green (Birmingham) had had no accidents, and had had satisfactory analgesia. The patient suffered more pain after the operation than with general anaesthesia. Professor W. E. Dixon (Cambridge), Dr. V. G. L. Fielden (Belfast), and Dr. Coffey (Egypt) also spoke, and Mr. Chiene replied. Professor Arthur Barker then read a short note upon the elimination of stovaine after spinal analgesia, which was discussed by Dr. Newman Neild (Bristol). Professor W. E. Dixon (Cambridge), and Dr. H. H. Dale (London).

SECTION OF PSYCHOLOGICAL MEDICINE.

THE proceedings of this Section were opened by the President, Dr. Outterson Wood, who briefly enumerated the papers to be read, at the same time announcing the unavoidable absence through illness of Dr. Mercier, whose paper, entitled "Somatic Delusions and Local Delusions," was to have formed the subject of discussion on the first day. The President then alluded to the general neglect of the study and teaching of mental diseases which at one time prevailed, and contrasted this neglect with the awakening to the importance of this branch of medicine which is in evidence at every teaching centre to-day. There still remained, however, much to be done, even within the British Medical Association, to bring psychiatry into closer union with general medicine, and particularly with neurology, and he considered that a practical step, which could not but be attended by good results, would be to combine neurology with psychiatry in one Section. A few members having spoken in approval of the suggestion of the President, it was proposed by Dr. Outterson Wood, seconded by Dr. D. J. Thomson of Norwich, and carried: "That in the opinion of the members of this Section, the subjects of psychological medicine and neurology should be combined in one Section and called 'The Section of Psychological Medicine and Neurology,' and that the resolution be forwarded to the General Council for its consideration." Dr. W. R. Dawson (Dublin) then drew attention to the need for additional teaching in mental diseases in Ireland, and proposed the following resolution: "That the Section of Psychological Medicine of the British Medical Association is of the opinion that the attention of the authorities of the National University of Ireland and of the Queen's University of Belfast should be respectfully called to the desirability of establishing lectureships in mental diseases in connexion with the medical faculties of each of the constituent colleges, and that this resolution be forwarded to the Council of the Association." This resolution, seconded by Dr. M. J. Nolan (Downpatrick), was also carried. A resolution was also passed by the meeting, before any paper was read, relating to the Superannuation Bill now before Parliament. In proposing a resolution, "That this meeting of the Section of Psychological Medicine of the British Medical Association desires to express its approval of the principles of the Superannuation Bill now before Parliament, and that this resolution be forwarded to the Council of the Association," the proposer, Dr. Lawless, and the seconder, Dr. Greenlees (South Africa), referred in grateful and eloquent terms to the arduous labours of Dr. Shuttleworth in this matter. Dr. J. M. MacCormac then read a paper on the superficial and deep reflexes as an additional means in the diagnosis of the principal forms of mental diseases. This paper, which was exceedingly brief, consisted of a series of uncompromisingly dogmatic statements upon the reflex phenomena in mental diseases: for example, "in acute mania the reflexes are normal": "in secondary dementia all reflexes are exaggerated," and "in hysteria there is a decrease of painful sensibility and of the cutaneous reflexes." Dr. MacCormac's paper was briefly criticized by Dr. Thomson (Norwich), Dr. Cole (London), Dr. Nolan and Dr. Hughes (U.S.A.), and others, most of the speakers maintaining that in cases of mental diseases in which no actual organic lesion was present, the various somatic reflexes were so variable that, with rare exceptions, no rule could be laid down. Dr. MacCormac was followed by Dr. T. D. Crothers (U.S.A.), whose paper, entitled "A Study of the Hereditary Influence in the Causation of Inebriety," was followed with the greatest interest. Throughout his paper Dr. Crothers made no great attempt at tabulating and analysing the great mass of material he had accumulated bearing on this important matter, but contented himself with broad general statements all pointing in the same direction, namely, "that the physical causation of inebriety is a fact beyond dispute due to hereditarily-transmitted defective germ cells"; also, "that alcoholic inebriety produces organic defects and derangements of protoplasm, cell growth, and cell activity; and further, that these defects are transmitted to the next generation. Incidentally the speaker referred to the different manifestations of inebriety in different countries, and maintained "that moderate drinking in America is an impossibility." Dr. Crothers's paper was discussed by Drs. Greenlees, Dawson, Shuttleworth, and others, among these being Dr. Hughes, who affirmed his belief that the root of the malign influence of alcohol lay in its dehydrating effects, thus bringing about degenerative changes in the tissues from lack of fluid support, the moral to be drawn from this being "always take plenty of water in your grog."

SECTION OF SURGERY.

AFTER a few introductory remarks from the President, Professor Sinclair, welcoming the members of the Section, a discussion on the proper selection of cases for operative treatment of obstructive jaundice was opened by Mr. Moynihan, who laid great stress on

the importance of employing every possible means, clinical and chemical, in arriving at a diagnosis. He described cases of obstructive jaundice as falling into two classes, the first class consisting of those in which the onset was insidious and painless, the intensity of the jaundice uninterruptedly progressive and the ultimate tint green-black. These were almost invariably due to malignant disease in the biliary tract or its immediate vicinity. In the second type, the onset was sudden and violent; the jaundice rapidly deepened, but almost as rapidly faded; it was accompanied by fever and rigors and was characteristically recurrent: there was an ebb and flow of jaundice, each "flow" accompanied by pain and fever: the ultimate colour, at its deepest, was orange-yellow. These were the cases due to foreign bodies in the ducts, generally, of course, calculi, but a possible cause of this latter train of symptoms was found in chronic pancreatitis. The first and most important line of clinical inquiry lay in the investigation of the history. The second, the question of physical signs in this connexion, the value of Courvoisier's law was discussed. The presence of ascites was a most serious sign. Finally, too much weight could not be attached to the chemical investigation of urine and faeces by Cammidge's method. Before operating in deeply jaundiced patients, precaution against haemorrhage should be taken by administering an alien serum. Cholecystenterostomy, valuable as it was in chronic pancreatitis, should be avoided where irremovable obstruction existed. In malignant cases, operation was only justifiable to relieve intolerable irritation of the skin. Exploratory operation might be necessary, but as little as possible should be done. Sir Thomas Myles drew attention to the paradox that the larger a gall-bladder tumour became, the more difficult was the recognition of its anatomical origin. Mr. Stanmore Bishop said he had found calcium chloride useful, and put in a word of warning against junction of the gall bladder with the colon. Mr. de Courcy Wheeler spoke of the value of other simple chemical tests besides Cammidge's. Mr. Childe made a point of the desirability of prophylactic surgery of the gall bladder. He had never found calcium chloride of any use. Mr. Crawford Renton also insisted upon the importance of earlier diagnosis, and spoke of the value of *x*-ray investigation. Mr. Mitchell pointed out that exploratory laparotomy was undertaken not to find out what was wrong, but to confirm an opinion as to operability. Professor Sonnenburg referred to a case of interest, and Mr. McAdam Eccles entered a plea for calcium chloride, and spoke in general agreement with the opener of the discussion. The morning's work ended with a paper by Mr. Newbolt on some cases of resection of intestine, which was discussed by Sir Thomas Myles, Mr. Eccles, Mr. Syme, Mr. Mitchell, Mr. Childe, and Mr. Thelwall Thomas.

SECTION OF TROPICAL DISEASES.

THE President, Dr. C. W. Daniels, after a few introductory observations, opened a discussion upon the persistence of the tropical disease of man due to protozoa. He pointed out that the persistence of the protozoal infection of a single host had to be distinguished from the persistence of protozoa in general. The latter was concerned with both the asexual and sexual phases, the former with the asexual stage only. They ought, he said, to deal with protozoal infections more on the lines of bacterial infection, and direct their efforts to increase the resistance which already existed as well as to endeavour to destroy the parasites. He was followed by Dr. A. Breinl (Liverpool), who, during his comments on Dr. Daniels's paper, stated that he had been able to prove by microscopic investigation the presence of malaria parasites in blood of a person who had resided in this country for seven years consecutively after leaving the tropics. A general discussion then commenced, in which the following took part: James L. Maxwell (Formosa), Major T. Ritchie, R.A.M.C., James Cantlie (London), C. A. Stone (Dooars, India), J. Stewart Brooke (India), Oliver McCutcheon (Dooars, India), Fleet Surgeon P. W. Bassett-Smith (Haslar) communicated a paper upon a short study of the pathology of the blood in verruga. Dr. George A. Williamson (Cyprus) sent a paper entitled "Is ponos kala-azar?" Dr. Aldo Castellani (Ceylon) contributed a paper on bronchial spirochaetosis. On the paper on ponos the following took part in the discussion: Surgeon-General W. R. Browne, I.M.S., D. L. Maxwell, A. Breinl, C. W. Daniels, J. Cantlie, J. Stuart Brooke, and C. A. Stone.

THE KING AT THE ORTHOPAEDIC HOSPITAL.

ON Friday, July 23rd, the King, accompanied by the Queen and Princess Victoria, opened the new inpatient department of the Royal National Orthopaedic Hospital, Great Portland Street, W. Their Majesties were received at the principal entrance by the Duke of Marlborough, the President of the hospital; Lord Denbigh, the Chairman and Lady Denbigh; the Mayor and Mayoress of Marylebone (Colonel and Mrs. Alfred J. Hopkins), Sir R. B. Martin and Sir Samuel Scott, M.P. (the Treasurers), Mr. J. R. Cooper (Chairman of the Executive Committee), Miss Hunt (Treasurer of the Ladies Committee), Mr. Muirhead Little (the senior surgeon), and Mr. Arthur Morley (Secretary). The Duke of Marlborough read an address to Their Majesties on behalf of the committee and governors of the institution. In this it was stated that the committee of His Majesty's Hospital Fund, having realized that great economies of management might be effected by a policy of amalgamation among those special hospitals carrying on similar work in London, urged the committees of the old Royal, National, and City Orthopaedic Hospitals to amalgamate their funds and build a central institution. That building, which provided for 200 inpatients, most of whom were children suffering from malformations which could be cured in the early stages, was the first realization of the policy of concentration. In addition to the hospital itself, they had, across the road, a nurses' home and an outpatient department, where last year more than 11,000 cases were treated, and where they had now installed a special gymnasium for orthopaedic treatment. The cost of the buildings had amounted to about £75,000, of which £20,000 was still required. More than 400 patients were now waiting for admission. The King, in reply, said he responded with much pleasure to the invitation to lay the foundation stone of the new buildings of the amalgamated hospitals, in one of which his beloved mother, Queen Victoria, so long took a lively interest, and with which he himself was associated for upwards of fifty years. The Queen wished him to say that she took a special interest in their work among crippled children, and she was glad of this opportunity of showing her deep sympathy with their efforts to alleviate their lot. He rejoiced to think that those who controlled the funds subscribed for the hospitals of London were alive to the advantages of concentration. There could be no more striking example of the valuable services rendered by the Committee of the Hospital Fund which bore his name than this amalgamation into one of these special hospitals. Not only was money which otherwise would have been spent on the upkeep of separate institutions set free for the definite achievement of the objects for which the institution existed, but the wider experience gained by collecting all the cases in one building was likely to be productive of valuable results in treatment. He trusted they would speedily be relieved of any anxiety in the matter of funds. His Majesty went on to make an appeal on behalf of the institution. He said it was with great

pleasure that he renewed the Royal charter on the amalgamation of the hospital, and he assured them that the Queen and he would always take the warmest interest in its beneficent work, of which they were most happy to be patrons. After the ceremony, Their Majesties with Princess Victoria visited some of the wards.

THE QUEEN ALEXANDRA SANATORIUM, DAVOS.

THE prospective opening of the Queen Alexandra Sanatorium at Davos for the reception of patients early in this autumn was announced from the chair at the sixth annual meeting of the Council, held at 11, Chandos Street, Cavendish Square, W., on July 16th, by the President, the Lord Balfour of Burleigh, K.T., P.C., who has laboured so long and successfully in the difficult task of raising funds. A splendid donation of £25,000 lately received from a munificent sympathizer, who desires that his name shall not be published, not only supplies the amount required to complete the work and to open the sanatorium free from debt, but provides means for its scientific equipment and for future extensions. It should be mentioned that Lord Strathcona, with his well-known zeal in the promotion of all charitable and useful works, not long ago gave a donation of £2,000 for the purposes of the sanatorium. For the present the sanatorium will accommodate 54 patients, all in single rooms. But the public rooms are designed for a full equipment of 120 patients. The Davos Invalids' Home, the original foundation of the late Mrs. Lord, which for so many years was the only representative of our national charity in Davos, has now ended its task and fulfilled the purpose for which it was initiated—that of developing into a National Sanatorium. The Home had been granted Her Gracious Majesty's patronage as far back as 1899.

WE are informed by the Honorary Secretary to the Executive Committee of the King Edward VII Sanatorium that the King has approved of the appointment to the Consulting Staff of the King Edward VII Sanatorium, Midhurst, of John Mitchell Bruce, M.D., F.R.C.P., and Bertrand Edward Dawson, M.D., F.R.C.P.

MR. JORDAN LLOYD, who has been Professor of Operative Surgery for nearly twenty years, has been appointed one of the Professors of Surgery in the University of Birmingham, in succession to Mr. Bennett May, who resigned that position at the end of the summer session.

IT is announced that the King has been graciously pleased to approve the appointment of Surgeon-General William Launcelot Gubbins, C.B., M.V.O., Deputy Director-General, Army Medical Service, to be Director-General in succession to Surgeon-General Sir A. Keogh, K.C.B., Honorary Physician to His Majesty, when the latter vacates the appointment. Surgeon-General Gubbins entered the Army Medical Service in 1873. He served in the Afghan war in 1878–9, in the Egyptian war of 1882, and with the Burmah Expedition of 1886. In South Africa (1899–1901), where he served as Principal Medical Officer, he was present at the relief of Kimberley, at the battles of Paardeberg and Driefontein, and the occupation of Bloemfontein; subsequently he served as Principal Medical Officer at Pretoria and Pietersburg. He was mentioned in dispatches, promoted to Colonel, and made Assistant-Director of the Army Medical Service, a post he held until 1899. As Principal Medical Officer on the Staff of the Duke of Connaught he made all the medical arrangements for the Coronation in 1902. He has since held similar posts at home and in India. He was created M.V.O. in 1902, and C.B. in 1905.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Milk and Dairies Bill (Scotland) was considered in Committee in the Lords last week, and, after an amendment to postpone the operation of the bill had been discussed and withdrawn, Lord Pentland made an amendment in the definition clause to make the bill apply only to premises from which milk is sold or supplied for sale. Amendments were also made to Clauses 4 and 5 relating to the inspection and licensing of dairies. On the motion of Lord Balfour of Burleigh, a certificate of registration was substituted for the annual licence. Clause 13, which deals with the keeping of a diseased cow with healthy animals, was modified by an amendment of Lord Camperdown, and on the question of expenses the point was raised as to a grant from the Exchequer to help local authorities in administering the Act. It was contended that the purification of milk concerned the whole country and was not merely a local matter. The discussion on this point was deferred till the third reading, and on this understanding the bill as amended was reported to the House.

Indian Medical Practitioners.—Last week Mr. Kettle raised in a series of questions the following points: (1) Whether highly-qualified Indian medical practitioners were not allowed to work as honorary officers on the staff of Government hospitals; (2) whether the chief medical advisers of the Government of India and of the local Governments must be officers of the Indian Medical Service, and whether the appointment of civil surgeons to important posts would depend on these officers; and (3) whether some London schools of medicine were practically closed to Indian students, and whether steps could be taken to see that persons qualified from such schools were not employed in the Indian Medical Service. The Under Secretary replied: (1) That the number of surgeons and physicians who could be attached, in whatever capacity, to Goverment hospitals was necessarily limited; as to the policy of the Secretary of State and the Government of India in regard to medical appointments generally, he would refer to the papers recently presented to Parliament; (2) that the Secretary of State was not at present in a position to add anything to his answer of June 17th last as to the manner in which the policy recently laid down could be carried into effect; and (3) that the Secretary of State did not think it advisable to modify the existing arrangement under which the medical services of the Government of India were open to the profession generally.

Diseased Meat (Inspection).—Mr. Watt asked the President of the Local Government Board what countries in Europe besides Great Britain had their meat inspection now done by their medical officers of health; and whether, in view of the public danger if unsound imported meat was not detected, he would see that all inspectors appointed in the future had attended a course of lectures on meat inspection and had taken a certificate thereon. Mr. Burns said that the information at his disposal did not enable him to answer the first part of the question precisely, but he might point out that other European countries did not, as a rule, have a service of local medical officers whose administrative functions corresponded with those of medical officers of health in regard to the inspection of food. He had no reason to believe that the port medical officers of health could not satisfactorily perform the duty of judging whether meat was unsound. It was, however, the practice of the Local Government Board, before sanctioning the appointment under the Foreign Meat Regulations of inspectors or other persons to act under the direction of the medical officer of health in relation to the powers and duties imposed on him by the Regulations, to require evidence that these persons were qualified to perform them. In answer to further questions, Mr. Burns said that condemned meat was destroyed in every case. It was sent to a destructor, and a certificate given of its destruction. Where there was no destructor it was destroyed in furnaces or by means of chemicals.

The Manufacture of Morphine.—Mr. Laidlaw asked the Under-Secretary of State for India if the Indian Govern-

ment had established or contemplated the establishment of a factory for the manufacture of morphine. The Under Secretary replied that opium alkaloids in small quantities were extracted in the Government opium factories from waste opium, but the Indian Government had not established, and did not contemplate establishing, a factory for the manufacture of morphine.

The Typhoid Germ Carriers and the Vaccine Treatment.—Captain Clive asked last week, when the supposed germ carriers at Millbank would be released, seeing that the vaccine treatment had failed, and Mr. Haldane replied that, although the general and specific vaccines had not been successful in the urinary cases, another method of treatment was now being employed, and it was not proposed to discharge these men as medically unfit until every reasonable method of treatment had been tried. He might point out that these men were undergoing this special treatment in their own interests and in the interest of their comrades, to whom in their present state they would be considered a danger. No question of compensation arose.

Metropolitan Asylums Board and Vaccination.—Mr. B. S Straus asked the President of the Local Government Board whether he was aware that the Hospital Committee of the Metropolitan Asylums Board had made it a condition of tenancy of cottages on their property that every person residing therein should be vaccinated and revaccinated to the satisfaction of the medical officer; and whether such requirement had been sanctioned by the Asylums Board and by the Local Government Board. Mr. Burns replied that, as regards the cottages on the Small-pox Hospitals estate of the Metropolitan Asylums Board at Joyce Green, Dartford, it had been made a condition of tenancy that every person residing in them should satisfy the medical superintendent of the small-pox hospitals that he or she was adequately protected against small-pox, or should consent to be vaccinated or revaccinated. The condition had been laid down by the Hospitals Committee of the Managers, acting in their behalf, and in pursuance of the general policy agreed to by the managers, and the Dartford sanitary authorities, and approved by the Local Government Board, for the protection of the neighbourhood of the small-pox hospitals against the disease. It only applied to the cottages on this particular estate.

Lunacy in Ireland.—In answer to Mr. Vincent Kennedy, who quoted from the report of the Inspectors of Asylums in Ireland, Mr. Birrell stated that he had seen the statement referred to. He was informed by the inspectors of lunatics that in 1880, when the population was estimated at 5,202,648, the number of lunatics under care in Ireland was 12,932, and that in 1908, when the estimated population was 4,371,436, the number of lunatics under care was 23,951, an increase of 10,949. The increase had been continuous, but had tended somewhat to fall off in recent years. In England the increase in the registered insane between 1880 and 1907 was 52,971. In Scotland the increase between 1880 and 1908 was 8,185. The Government had had before them a report dealing at length with the causes which, in the opinion of the inspectors, had contributed to swell the numbers of insane in institutions in Ireland. This report was presented to Parliament in 1906 (Cd. 3126).

The Training of Nurses in Colonial Hospitals.—Mr. Boulton asked the Secretary of State for War why Colonial training in large general hospitals was not accepted for the Queen Alexandra Imperial Military Nursing Service. Mr. Haldane said that his friend had been somewhat misinformed. Colonial training was accepted under the same conditions as training at home. It depended, however, on the opinion of the Nursing Board whether any particular nurse training institute attached to a hospital was accepted for recognition.

Steevens's Hospital, Dublin, and Insane Patient.—Mr. Reddy asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that a member of the Royal Irish Constabulary who had become insane was allocated to the common ward of Steevens's Hospital: that this man escaped from the ward and hid himself for days in the building, while his body was being searched for in the Liffey; and that when he was discovered he was found in a dying condition, the result of hunger and exposure; and would he say by whose direction and authority a lunatic was sent as an ordinary patient for treatment in this hospital. Mr. Birrell said that the constable in question was sent up from the country for treatment for nerve trouble, his medical attendant stating that the case was not one of mental aberration. He was seen to leave the ward on the night of November 14th and, as he did not return, was followed, but could not be found anywhere Every effort was made to trace him, but it was not till a week later that he was found concealed on the roof of a verandah of the hospital. He died a few days later. He had been seen on several occasions before his escape by the surgeon of the force and the resident surgeon of the hospital, but neither of them was prepared to certify that he was insane.

Aliens and Trachoma in London.—On Monday Mr. Rupert Guinness asked the President of the Local Government Board whether there were any returns as to the number of persons in London suffering from trachoma; and whether he had any official information showing that this disease existed almost exclusively among aliens born abroad. Mr. Burns replied that he was not aware of any returns of the number of persons in London suffering from trachoma, but he had no reason to suppose that it was considerable. From the reports of the Medical Officer for Education of the London County Council he gathered that the disease was very rare amongst school children, and almost entirely confined to children of alien birth.

Famines in India.—Dr. Rutherford asked how many famines there had been in India during the 25 years ending in 1887 and in 1907 respectively, with the official estimate of the loss of life involved during each period; and the names of the provinces which suffered most severely. The Master of Elibank replied that, omitting droughts of limited extent, there were four great famines in the first period—the Orissa famine of 1865: the Northern India and Rajputana famine of 1868–70; the Behar famine of 1873; the Southern India famine of 1876–8. The Famine Commission of 1880 estimated the mortality in British India in these four famines at about 8,000,000 in excess of the normal. Much of the excess mortality was due to epidemic diseases obscurely connected with seasons of drought and privation. In the second period there had been four great famines—the Upper India and Central Provinces famine of 1895, which extended to Madras and Bombay, and to Bengal and the Punjab; the Rajputana and Central India famine of 1899, which also affected Bombay and the Central Provinces; the Guzerat famine of 1899–1902; the United Provinces famine of 1907, which extended to parts of the Central Provinces and the Punjab. The excess mortality in British India in 1895 had been estimated at 750,000, and in 1907 at 1,000,000. He was not aware that estimates had been made for the later famines. In the 1907 famine in the United Provinces the provincial death-rate was 36·47 per 1,000, against a normal of 34·59, but there were only 11 deaths which after full inquiry could be attributed to want of food. In answer to a question by Mr. Rees as to famines in India before British rule, it was stated that there was a certain amount of information on record, but it was of a general and not of a statistical character. In the conditions then prevailing systematized relief was not practicable.

The Local Education Authorities (Medical Treatment) Bill, which was read a third time late at night last week in the Commons, obtained its first reading in the Lords on Monday. The bill is a small measure of two operative clauses, and enables local authorities to recover the cost of the medical treatment of children where such treatment is provided under Section 13 of the Education (Administrative Provisions) Act, 1907. The Education Authorities already have power to recover the cost of meals from parents, and this bill puts medical treatment on the same footing. There is every prospect of an easy passage for the bill through the Upper House.

Medical News.

IT is stated that, with a view to checking hereditary insanity, the State Legislature of Connecticut recently passed a bill authorizing the sterilization of State prisoners confined in institutions for the insane, on the direction of the medical staffs of those institutions.

THE sanatorium for men of limited means which was established two years ago at Clacton-on-Sea, has recently been transferred to the grounds of the Ochil Hills Sanatorium, and at the opening of the new buildings which afford accommodation for ten men, Dr. Chapman explained that the institution was intended for cases of early and, therefore, presumably curable tuberculous disease. Dr. J. C. McVail said that the attention paid in recent years to the cure and prevention of phthisis was due not to a passing whim, but to public appreciation of the great discovery that phthisis was a bacillary disease, that it was preventable, and that it was often curable. The new pavilion would help to meet the wants of a class whose position was particularly difficult. The scheme by which the payment of 30s. a week could be in part recouped by the value of the patient's own labour, was attractive in several ways, for while it would reduce the cost of treatment and would tend to the patient's recovery it would prevent him from thinking that undue advantage was being taken of his labour.

THE Danish-French expedition for the investigation of leprosy, which is under the patronage of the Queen of Denmark, left Copenhagen in February last for the West Indies. It was under the direction of Professor Ehlers of Copenhagen, who has drawn up a provisional report on the results of its work. The other members of the expedition were the Danish zoologist, Mr. Wieth, and the French physicians, Drs. Bourret and Félix Verdier. The expenses of the expedition were defrayed by the Danish engineer, M. Davidsen, of Paris. The investigations were made on the Danish West India island, St. Thomas. The chief object of research was the part played by insects in the propagation of the disease. Dr. Goodhue has expressed the view that bugs in particular conveyed the bacilli from lepers to healthy persons, and thus constituted a source of danger. Professor Ehlers was at first inclined to accept this view, but the labours of the expedition have, in his opinion, shown that it is ill founded. Insects fed on healthy human beings having the lesions in lepers. A full report by Dr. Ehlers dealing with this and other not less important points will be issued later.

THE annual meeting of the Association for the Oral Instruction of the Deaf and Dumb, whose school for children and training college for teachers are at 11, Fitzroy Square, was held on July 15th at the Portman Rooms, W. In the unavoidable absence of Lord Avebury, the Chair was taken by the Rev. C. H. Parez, who moved the adoption of the annual report. This set forth that an increasing number of pupils, the starting of a kindergarten for deaf children from 3 years of age (the first in the country), and the institution of an experiment by Mr. White, of Ipswich, of a special mode of voice-production with the object of securing to oral pupils a more natural tone of voice. Funds were still much needed to carry on efficiently the work of the institution, and during 1908 an overdraft on the bankers, amounting to £228, had been unfortunately necessary. Mr. Macleod Yearsley, F.R.C.S., Medical Inspector of London County Council Deaf Centres, in seconding the adoption of the report, congratulated the Association on its vitality, making special reference to the efforts to improve the quality of voice of the orally-taught congenitally deaf child—too frequently monotonous in tone and phrasing. He commended also the kindergarten department for deaf infants recently opened by the director, Mr. G. Sibley Haycock, as its occupations would promote imitativeness and thus smooth the way to learning to lip-read and produce speech. The report having been adopted, the Director gave an interesting address, in which he contrasted the normal child whose brain development was stimulated by language, receptive as well as active, with the deaf infant cut off from the potent and multifarious influences of spoken words, and so lagging behind with unexpanded mind and no adequate means of communication with his fellows. This was the problem of the teacher of the deaf—to stimulate the latent but undeveloped powers of the mind, and to establish a means of inter-communication by teaching him language. Mrs. Galley Blackley distributed the prizes after an interesting demonstration on the platform of methods of teaching in various stages of progress.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

DEATH OF PROFESSOR ALEXANDER FRASER.

WE very much regret to learn of the death of Professor Alexander Fraser, occupant of the Chair of Anatomy in the Royal College of Surgeons, Dublin. We shall refer to it next week.

THE TREATMENT OF A CONSUMPTIVE.

Surgeon-Colonel Flinn last week held an inquiry into the circumstances attending the death of Patrick Doyle, who died in Naas Workhouse hospital in May last. Amongst other allegations was one that his days had been shortened by placing him in a cell while he was a hospital patient and spitting up blood. The Master stated that he did not put the man into the casual ward where there was a fire because, it being half-past nine, the fire would be out. Further pressed on that point, the witness gave as a reason that Doyle was under the influence of drink. He would not have put him in the cell if he had thought he was suffering from lung trouble.

Evidence was given by Constable Kenny that deceased had been found drunk in the streets of Naas on February 2nd, and Mr. Thomas Lacey, Secretary, bore testimony to the satisfactory manner in which Mr. Shiel discharged his duties as Master.

Dr. Coady, Medical Officer of the Workhouse, said considering the man was suffering from phthisis, he did not think it was wise to put him in a cell. He did not, however, consider the night in the cell had any ill-effects.

ACTION FOR ALLEGED LIBEL AGAINST A HOSPITAL.

Last week Mr. Miles Keogh applied by Counsel (Mr. Jefferson) to Mr. Justice Boyd for discovery of certain documents in connexion with the case for libel in which he is plaintiff, and the Incorporated Dental Hospital of Ireland is defendant. The plaintiff complains that the defendants falsely and maliciously wrote and published of and concerning the plaintiff, the following:

That Mr. Keogh (meaning the plaintiff) cannot be accepted as a student at this hospital (meaning the Dental Hospital of the defendant company), the committee having the right by their bye-laws to refuse any student without assigning a cause.

The plaintiff, in his statement of claim, said that these words would be understood by any dentist or other person having knowledge of the practice in Ireland of admission to the dental profession in Ireland to mean that the plaintiff was a man who was unfit and unworthy to attend the lectures at the hospital. The plaintiff also stated that he had in 1894 attended lectures for one year at the Dental Hospital, which hospital was taken over by the defendant company; and in that year he paid 15 guineas as his fees for attending lectures. In 1908 he desired to resume lectures, and believed that the fees he had paid in 1894 should be allowed.

Mr. Justice Boyd, without calling on the other side, refused the application. He said that imputations had been cast on a most respectable body of gentlemen, who were conducting a very valuable institution in the city. The plaintiff in his affidavit had said he was "informed and believed," and again he said, "I have been duly informed." What did he mean by "duly" informed? He did not state the name of anyone by whom he had been informed. The application was a pure fishing application, and he refused it with costs.

CEREBRO-SPINAL MENINGITIS.

A special meeting of the Dublin Municipal Council has been summoned for Monday, August 9th, in the Mansion House, at 4.30 p.m., for the purpose of adopting resolutions declaring cerebro-spinal meningitis to be a permanently notifiable disease within the County Borough of Dublin, and declaring that Part I of the Tuberculosis Prevention (Ireland) Act, 1908, shall apply within the County Borough of Dublin.

PROTEST AGAINST A PROPOSED SANATORIUM AT DALKEY.

At the last meeting of the Dalkey Urban Council, a petition largely signed addressed to the Countess of Aberdeen was submitted to the Board protesting against converting the Dalkey coastguard station into a home for

consumptives, on the grounds that it would mean irreparable injury to the township as a summer resort, and would depreciate every class of property.

Dr. Wright, the Medical Officer of Health for Dalkey, who was asked to report on the subject, wrote protesting in the strongest manner against the establishment of a sanatorium in Dalkey, and condemning the proposed site as unsuitable. "I consider it most unfair," his letter continued, "that this attempt to force a sanatorium on Dalkey should be made, particularly having regard to the fact that the Dalkey Urban Council was one of the very few who agreed to contribute to the scheme of the Dublin Corporation for the establishment of a sanatorium in a suitable isolated spot in the country."

Dr. Greer wrote stating that the proposed premises were in too close proximity to the important residences, that the rooms in the Coastguard Station were too small, and the grounds around it were very limited, and not nearly large enough for the patients to take exercise or for shelters, etc., to be erected. A more isolated, extensive, and suitable site should be obtained.

A deputation was appointed to wait on Her Excellency and present the petition against the proposal.

Scotland.

[FROM OUR SPECIAL CORRESPONDENT.]

ABERDEEN.

Proposed Testimonial to Professor Ogston.

A CIRCULAR has been issued by a number of prominent Aberdeen medical men—as a provisional committee—giving expression to a feeling which is said to be widely entertained that, on Professor Ogston's retirement from the Chair of Surgery, some recognition should be made of his eminent services to surgery and to the university. It is suggested that this take the form of the presentation of a portrait by some well-known artist. With the circular is enclosed a list of 48 subscriptions already intimated. Dr. Mackenzie Booth is the honorary secretary, to whom subscriptions should be made payable. They will be received from members of the medical profession only.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE COUNTY COUNCIL AND THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE London County Council on July 27th considered the report of the Education Committee with regard to preliminary arrangements to be made for the medical treatment of school children (published in the BRITISH MEDICAL JOURNAL, July 17th, p. 155), and the recommendations of the committee (1) that the offers of six hospitals to provide free treatment be accepted, (2) that arrangements be made with hospitals which are prepared to give free treatment, and (3) that negotiations be entered into with other hospitals on the basis of a money payment.

Mr. Cyril Jackson, Chairman of the Committee, mentioned that since the report passed the committee more hospitals had come in. One, Paddington Green Hospital, had somewhat withdrawn and had gone into the class of hospitals adopting an attitude of general sympathy. Instead, however, the Council now had the assistance of Guy's and Bartholomew's Hospitals, and would probably see its way to doing more than the 20,000 cases mentioned in the report. Forty-six hospitals had replied to date, and 21 were prepared to accept payment. With a little careful organization by the committee, they would be able to get the children treated and also to help the hospitals with their out-patient departments.

Dr. R. M. Beaton moved an amendment to the third part of the recommendation:

That all negotiations be conducted on the basis that the Council reserves the right of inspection in regard to medical treatment, towards the cost of which grants are made by the Council.

He said that with regard to the hospitals which had declined payment, it was a question between them and the general practitioner. When the Council made grants, however, it should have some sort of representation, either by the appointment of a representative on the governing body or by periodically sending an official to the hospitals. Especially was this necessary when it was remembered that some of the children would be attended by unqualified men, or men who had only just qualified and who lacked experience.

Mr. A. J. Shepheard seconded, and pointed out that the Council's grants would soon be extended probably to institutions of lesser standing and to dispensaries.

Mr. Jackson said that he could not accept the amendment. The hospitals would not stand it. Dr. Beaton did not say that when the Council paid it would pay for qualified clinical assistants and not for unqualified medical students. He did not think it desirable that young doctors appointed for medical inspection of the children should criticize the work of the clinical assistants, who would be supervised in the hospitals by experts.

Dr. Beaton: Nonsense.

Mr. Jackson defied Dr. Beaton to mention a hospital where the men at the head of the different departments did not see that the work was properly done. The very best men in London hoped to give supervision to this, and to deal with cases of special difficulty.

The Rev. Stewart Headlam remarked that no one suggested that children would be entirely under the care of unqualified men, but a good many students were employed on this kind of work, and the Council ought to exercise supervision.

On a division the amendment was lost by 52 votes to 30, and the recommendations of the Committee were agreed to.

REPORT OF ASYLUMS COMMITTEE.

At the same meeting of the London County Council it was announced that the report of the Asylums Committee recommending the establishment of two receiving houses for the treatment of incipient insanity would not be submitted until after the summer recess. Mr. Hayes Fisher has given notice of an amendment on behalf of the Finance Committee to limit the scheme to one receiving house.

Correspondence.

THE POSTMASTER-GENERAL AND THE MEDICAL PROFESSION.

SIR,—I am afraid Dr. William Bruce, from his letter published in the JOURNAL of July 24th, is not very intimately acquainted with the Post Office Medical Service. He appears to imagine that all the services required by the department are included in the medical attendance upon officials in case of illness. Reference to the report of the Hobhouse Commission would have disabused his mind of this idea.

The duties of a postal medical officer are many. In addition to attendance upon officials, he has to inspect and report upon the sanitary condition of the offices under his charge; he examines candidates for the service; he has constantly to report upon the health of individuals—the probability or otherwise of their ability to render efficient service in the future, the desirability or otherwise of their retirement before the statutory age. He has to be in touch with their work; he furnishes an annual statistical report. He may be appealed to at any time for expert opinion and advice upon any matter connected with the health, duties, office accommodation, etc., of the whole staff in the district to which he is appointed. A medical officer thus becomes intimately acquainted with his district staff, whether he actually attends them in illness or whether they go elsewhere.

The scheme suggested by Dr. Bruce sounds simple but would in practice prove to be very complicated. The ordinary "Post Office man"—so far, at least, as London is concerned—rarely lives for a long time in any one place or neighbourhood. He would, therefore, be frequently changing his doctor. In dealing with the enormous number of its employees, the department must keep disciplinary hold upon them. Dr. Bruce's plan would open a large field for malingering.

I fail to see why the present system is "radically bad." It is not at all uncommon *outside* the Post Office. The "motive" *is* plain—it *is* amongst other things to "ensure subordination" not only amongst the medical officers but also the whole staff of officials.

There are undoubtedly "burdens and restraints" laid upon us. These the Association of Postal Medical Officers endeavours from time to time, not unsuccessfully, to lighten. Whatever the result of our association's endeavours may be, its representations to the Postmaster-General are at least always courteously received and considered.

Again, I see nothing unfair in what Dr. Bruce is pleased to call "the principle of wholesale selection," either to the "Post Office men" or to the "doctors left out in the cold." That a patient should at times prefer one doctor to another, the other being the official doctor, is of course inevitable. This is common every-day experience, and is not confined to cases under discussion.

It is even not an unknown thing for "Post Office men" or women to prefer the *official* doctor to one in private practice, apart from the free attendance given by the former. There can be no "element of slavery" in free contract, from which the *slave(?)* may retire whenever it pleases him to do so.

It is true there is a feeling of resentment at the present time amongst postal medical officers because of certain new duties they are asked to perform without further remuneration. These grievances have been ventilated in the two previous issues of this JOURNAL. Our association has already taken these matters up, and I would urge all postal medical officers who have not already joined our association to do so at once. The Honorary Secretary is Dr. Giddings, Mansfield Road, Nottingham. Its existence and authority to speak upon matters connected with the medical service of the Post Office have been recognized by the Postmaster-General and Permanent Head Quarter Staff, and questions relating to the Post Office Medical Service have by them been referred to it. The stronger it is numerically the more weight will its opinions carry.

In conclusion, may I suggest to Dr. Bruce that his letter, as coming from a late member of the General Medical Council, is scarcely calculated to help a very considerable section of general practitioners who hold these appointments, either in their position in the Postal Medical Service or in their relations with the profession generally.

The position of a postal medical officer is an extremely delicate one; he has a duty to perform both to the Department and to the officers under his medical care, and he has to avoid professional conflict with his fellow practitioners. Vigilance, tact, and courtesy he must possess in a considerable degree to enable him to steer safely through the shoals of his daily work.

Surely in entering into this correspondence we might reasonably have expected something better from Dr. Bruce than what he has given us.—I am, etc.,

GEORGE A. MASON,
July 25th. President, British Postal Medical Officers' Association.

THE NEED OF AMALGAMATION OR FEDERATION OF POOR LAW OFFICERS AND ALLIED ASSOCIATIONS WITH THE BRITISH MEDICAL ASSOCIATION.

SIR,—I consider Dr. John Brown is greatly mistaken in his impression that the associations to which he refers can show "practically *no results*" to justify the expenditure of time and money their existences entail; and I feel that he must have surely been driven into making his assertion either from a want of knowledge of the actual facts, or from being one of those who imagine that every unsatisfactory feature connected with any given groove in life ought to be, and can be, obliterated and rectified in the twinkling of an eye.

Without entering into detail, I feel much confidence in rejoining that those who actually know will support me in maintaining that, at any rate, the association which I have had the honour and privilege of serving as honorary secretary for many years can claim to have achieved some very pronounced results, and results quite commensurate with its expenditure of time and money, thanks to the abilities and energies of its series of influential presidents and members of its executive, coupled with the hearty co-operation of its members.

The necessity for the continued separate existence of these associations is in my opinion undoubted, seeing that they deal with special conditions of professional work which those engaged in it can alone fully comprehend; but I think it is equally undoubted and essential that our British Medical Association, with its far-reaching and more general influence, should realize its imperative duty to be ever ready and willing to accord its invaluable assistance when desired or required by any one of these smaller specializing associations, if it is true, as we believe it to be, that it has at heart the interests and welfare of the entire profession.

In my opinion no better instance could be found of the absolute necessity for the existence of such special associations than in the perusal of a letter which appears in the last issue of the JOURNAL above that from Dr. Brown, and which emanates from the pen of the eminent Dr. William Bruce. Dr. Bruce's letter displays a total ignorance of the special type of work that is required at the hands of the medical officers to the Post Office—especially in large centres—work which neither the Postmaster-General, nor any other employer of upwards of 200,000 officers, could ever possibly expect to have performed for him excepting through the channel that the medical men performing it are entirely in his employ and absolutely under his direct control. Under Dr. Bruce's proposed system the medical man who had a reputation for granting easy and generous sick leave, and for invariably screening officers when incapacitated for duty by alcohol, etc.—in fact, the medical man who solely "played up" to the staff regardless of the interests of the department, and therefore of the public, would become the popular man locally, and his emoluments would expand with his easy-going popularity.

Any one who knows the true state of matters is alive to the fact that postal medical officers have a dual and ever extremely delicate duty to discharge, and one which it would be impossible to expect medical men, who, after all, are very human, to perform in anything like a publicly satisfactory manner if their annual income from this source was made to depend very largely, if not entirely, on their popularity with a local Post Office staff.—I am, etc.,

R. R. GIDDINGS,
Honorary General Secretary, the Association of British Postal Medical Officers.
Nottingham, July 24th.

RURAL DISTRICT NURSING ASSOCIATIONS.

SIR,—Adverting to a letter signed "G. P." appearing on pages 1153 and 1154 of the BRITISH MEDICAL JOURNAL of May 8th under the above heading, complaining of the conduct of a certified midwife, I am directed to inform you that the Central Midwives Board had the matter under consideration at its last meeting.

The Board had been furnished with statements signed respectively by the writer of the letter and by the executive officer of the local supervising authority.

After careful consideration of all the facts submitted to the Board, the following resolution was passed:

> That, as the midwife has already been reprimanded by the local supervising authority for the error she committed, and as in other respects the statements of "G. P." do not appear to be substantiated, no further action be taken in the matter.

—I am, etc.,

G. W. DUNCAN,
Central Midwives Board, Caxton House, Westminster, London, S.W., July 26th. Secretary.

RAMSEY, ISLE OF MAN.

SIR,—Under Parliamentary Notes in the JOURNAL of July 17th reference is made to an official inquiry into the insanitary condition of "Ramsey"—evidently our Huntingdon namesake.

My Health Committee feel that the casual reader might easily mistake the reference as applying to our favourite watering place, and consider that, in further reports, a liberal use of italics—with Huntingdon written large—is due to us, lest in the confusion of names it be assumed that we have departed from our hitherto exceptional sanitary reputation. I am, etc.,

J. M. BARBOUR, M.B.,
July 22nd. Medical Officer of Health, Ramsey, Isle of Man.

Medico-Legal.

ENGAGEMENT OF LOCUMTENENT BY TELEPHONE.

A CORRESPONDENT (X. Y. Z.) writes that he was engaged and accepted an engagement as locumtenent by telephone for a fortnight. The same evening he received a telegram cancelling the engagement without any explanation. In the meantime, he states, he refused other engagements in consequence. He wishes to know what is his legal position.

*** An engagement could not be legally terminated in the manner stated by our correspondent. He is entitled to sue on it, and to recover any damages he can prove he suffered in consequence. Under the circumstances an amicable arrangement should be possible. The leading case on this subject is Hochster *v.* De la Tour, 22 L.J., Q.B. 455. It must not be forgotten that an engagement by telephone may be difficult to prove.

MEDICAL OFFICERS TO CLUBS AND BONESETTERS.

A CORRESPONDENT writes that he is medical officer to a club, one of the members of which called in a bonesetter to attend him for an injury to his ankle. The bonesetter had given a certificate, which had been accepted by the club, but the club secretary had demanded a certificate also from the medical officer, which he had refused to give. He wished to be advised as to his position as medical officer to a society which accepted certificates from a bonesetter.

*** The club is acting illegally under the Friendly Society Acts in accepting a certificate from an unregistered practitioner, and if making payments on such certificate, those paying are liable to be compelled to make good the money. In our opinion our correspondent, as medical officer, can be required to visit and examine the patient and to certify as to his injury, although he cannot be compelled to attend him while under the treatment of a bonesetter.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

RADIOTHERAPY AND ELECTRO-THERAPEUTICS.

VACUUM asks whether any ethical exception could be taken to a medical man practising radiotherapy renting a room in a pharmaceutical establishment, for installing apparatus with a view to affording such treatment to a large class who cannot afford large fees, but who are precluded from availing themselves of public hospital treatment? Also whether he could with propriety affix his name plate on the door, indicating his hours of attendance for *x*-ray and light treatment? He suggests as a precedent that it is customary for general practioners to attend pharmaceutical establishments at certain fixed hours, duly notified on the door plates, for the purpose of prescribing medicinal remedies for those unable to consult them at their residences.

*** The objection there is to medical men choosing chemists' shops as suitable places in which to carry on their practice has frequently been pointed out.

Obituary.

WE regret to announce the death of Mr. OGLETHORPE WAKELIN BARRATT, which took place on July 9th, in his 83rd year. He was one of the oldest medical practitioners in Birmingham, and continued in practice until a few months ago, when it became necessary for him to give up his work owing to his great age. He was a Birmingham man, and received his medical education at the Queen's College. He obtained the diploma of L.S.A. in 1849, and those of L.R.C.P.Edin. and M.R.C.S.Eng. in 1859. He was House-Surgeon at the Queen's Hospital, Birmingham, and later was in medical charge of an Australian emigrant ship. He ultimately settled in practice in Holloway Head, Birmingham, and became very widely known and highly respected. He was a Liberal in politics, and for a time served on the Birmingham Board of Guardians. He was an elder brother of Alderman Alfred Barratt, and his son, Dr. Wakelin Barratt, is working in the cancer research laboratories in the University of Liverpool. The funeral took place on July 13th at Castle Bromwich.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

GRADUATION CEREMONIAL.

THE closing scene of the summer session—the Graduation Ceremonial—took place in the M'Ewan Hall on Friday, July 23rd, at 10 o'clock, the Vice-Chancellor (Principal Sir William Turner) presiding.

The Honorary Degree of Doctor of Laws.

The Dean of the Faculty of Law (Professor Sir Ludovic Grant) presented the Right Hon. George Wyndham, M.P., D.C.L., Lord Rector of the University of Edinburgh, for the honorary degree of LL.D.

In absentiâ, because of the state of her health, the same degree was conferred on Madame Curie, Docteur ès Sciences, Professeur à l'Ecole Normale Supérieure, Sevres.

The Degree of M.D.

On the motion of the Promoter (Professor Sir Thomas R. Fraser), the degree of M.D. was conferred on the following sixty-nine candidates, who were individually presented by the Dean of the Faculty of Medicine (Professor Harvey Littlejohn) :

*Ainscow, James Allen, England, M.B., Ch.B., 1905; Anderson, Alford William, Scotland, M.B., C.M., 1891; Archibald, Marion Hamilton, (M.A.), Scotland, M.B., Ch.B., 1908; Blacklock, Breadalbane, Scotland, M.B., Ch.B., 1902; Buchanan, Walter James, Burma, M.B., C.M., 1896; *Coldicutt, Claude Ernest Addison, New Zealand, M.B., Ch.B., 1907; *Cculson, Thomas Edmund, England, M.B., Ch.B., 1904; Cunningham, Barbara Martin, Scotland, M.B., Ch.B., 1901; Cunninghan, Francis William Murray, Scotland, M.B., Ch.B., 1907; *Dalgleish, John, British Guiana, M.B., Ch.B., 1901; Dill, Marcus Graham (Lieutenant R.A.M.C.), Scotland, M.B., Ch.B., 1905; Ellison, Chatterton Eric, England, M.B., Ch.B., 1905; *Fletcher, Hugh Nethersole, England, M.B., Ch.B., 1903; Geikie, James Stewart, Scotland, M.B., Ch.B., 1900; *Giles, John Duddens, Scotland, M.B., Ch.B., 1903; Girdwood, James (M.A.), Scotland, M.B., Ch.B. (with second class honours), 1905; Hamilton, Robert, England, M.B., Ch.B., 1901; Hislop, Patrick Wood, Scotland, M.B., C.M., 1889; *Hogg, Katie Welton (B.A.), Australia, M.B., Ch.B., 1900; *Hunter, Charles William, Scotland, M.B., C.M., 1885 (*in absentiâ*); *Harris-Jones, Evan Harries, Wales, M.B., C.M. (with second class honours), 1897; Irvine-Jones, Henry, U.S., M.B., C.M., 1896; Jardine, John, Scotland, M.B., Ch.B., 1904; Jones, Edward Hughes, Wales, M.B., C.M., 1890; Koch, Julius George de, South Africa, M.B., Ch.B., 1907; **Laidlaw, George Francis Stirling, England, M.B., Ch.B., 1904 (with first class honours); **Ledger, Archibald George Kirkwood, England, M.B., Ch.B. (with second class honours), 1906 (with second class honours); Lee, Alaister Fraser, Scotland, M.B., Ch.B., 1907 (*in absentiâ*); ***Macdougall, Wm. (M.A.), Scotland, M.B., Ch.B., 1901 (with first class honours); *** Macgillivray, Archibald Currie (M.A.), Canada, LM.S.I. Scotland, M.B., Ch.B. (with first class honours), 1898 (with first class honours) (*in absentiâ*); *** M'Gowan, John Pool (M.A., B.Sc.), Scotland, M.B., Ch.B. (with first class honours), 1904 (with first class honours); * M'Hattie, Thomas John Tyndale, Scotland, M.B., Ch.B., 1897; M'Kelvie, John Douglas, England, M.B., Ch.B., 1905; ***Mackenzie, Alister Thomas (M.A.), Scotland, M.B., Ch.B., 1907 (with first class honours); MacKessack, Robert John (M.A.), Scotland, M.B., Ch.B.,* 1904; M'Millan, John James, Scotland, M.B., Ch.B., 1903; **M'Turk, John Norman, England, M.B., Ch.B. (with second class honours), 1906 (with second class honours); **Marshall, Legh Richmond Herbert Peter, Scotland, M.B., Ch.B., 1907 (with second class honours); * Mathers, Robert Pirie, Scotland, M.B., Ch.B., 1906; Mitchell, Alexander Philp, Scotland, M.B., Ch.B., 1907; Morison, John, Scotland, M.B., C.M., 1892; Movat, Robert Stewart, England, M.B., C.M., 1894; Munro, Neil Gordon, Scotland, M.B., C.M., 1888 (*in absentiâ*); Murray, Donald Sutherland, Scotland M.B., Ch.B., 1904; Norman, George Percy, England, M.B., Ch.B., 1905; Paterson, Arthur Thomas, New Zealand, M.B., Ch.B., 1907; ***Pattie, Charles Purdon, England, M.B., C.B. (with first class honours), 1907 (with first class honours); Paul, David Hutcheon, Scotland, M.B., Ch.B., 1905; Philip, James, Scotland, M.B., C.M., 1891; **Porter, Agnes Ellen, Scotland, M.B., Ch.B., 1906 (with second class honours); Renton, James Murray (M.A.), Scotland, M.B., C.M., 1891 (*in absentiâ*); Rhys, Owen Llewellin, Wales, M.B., Ch.B., 1900; Roberts, Thomas Ernest, Scotland, M.B., Ch.B., 1906; **Robinson, Amy, England, M.B., Ch.B., 1905 (with second class honours); *Scott, Francis Lindsay, New Zealand, M.B., Ch.B., 1907; Shepheard-Walwyn, Alfred Irving, England, M.B., Ch.B., 1905; Stuart, Charles, Scotland, M.B., C.M., 1891; Tarr, William, (Captain, I.M.S.), England, M.B., Ch.B., 1898; Taylor, James Andrew (M.A.), India, M.B., C.M., 1889; Telford, Robert Whitson, Australia, M.B., C.M., 1905; Tewsley, Cyril Hocken (M.A.), New Zealand, M.B., Ch.B., 1906 (*in absentiâ*); Thomson, Hedley Barry, Australia, M.B., Ch.B., 1907; Thomson, James Alexander, South Africa, M.B., C.M., 1895; Ussher, George Herbert, New Zealand, M.B., Ch.B., 1904; *Verteuil, Fernand Louis de (Surgeon, R.N.), Trinidad, M.B., Ch.B., 1905; Wallace, John Andrew Leslie, Scotland, M.B., Ch.B., 1903; Walton, Robert Henry, Wales, M.B., Ch.M., 1906 (*in absentiâ*); Williams, John Clarkson Birkbeck, England, M.B., Ch.M., 1907; Williamson, David James, England, M.B., Ch.B., 1907.

*** Awarded Gold Medals for their theses.
** Highly commended for their theses.
* Commended for their theses.

The Degree of C.M.

The degree of Master of Surgery was conferred on William Maxwell Munby, England, M.B., Ch.B., and on David Percival Dalbreck Wilkie, Scotland, M.B., Ch.B., M.D., who was awarded a gold medal for his thesis.

The Degree of M.B., Ch.B.

The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on the following 103 candidates:

Armstrong, Fergus, Wales (*in absentia*); Babington, Alice Elizabeth May, (B.A.), Ireland; Balfour, Thomas Henry, Scotland; Borthwick, Thomas Chalmers, Scotland; Bose, Ajit Mohan, India (*in absentia*); Brand, William Gillon, Scotland; Brodzink, Frank, Adolphus James, Cape Colony; Brown, Gavin Stiell, Scotland; Bruce, Alexander Ninian, (B.Sc.), Scotland (with second class honours); Bulstrode, William Frederick, Scotland; Bulloch, Oswald Symes, Scotland; Burgess, William Leslie, Scotland (with first class honours); Burjorjee, Bhumonjee Nowrojee, Burmah; Burt, Leonard Andersen Pearce, England; Burton, Alfred William, Cape Colony (with second class honours); Buyers, Sarah Ellice, Scotland; Campbell, James Argyll, Australia (with second class honours); Carter, Humphrey Gilbert, England; Carter, Joseph Adolphus Hamilton, Trinidad; Cawkwell, George Law, New Zealand; Chamberlain, Ralph Brereton, Ireland; Child, Armando Dumas, England; Christie, William Francis, Scotland; Chrystal, William Patrie, New Zealand; Coward, Noel Anthony, England; Crocket, James, Scotland; Dickie, John Kolbe Milne, Scotland; Draper, Adelaide Alfred, Ireland; Elliott, Alfred Moore, Ireland (with second class honours); Felthan, Herbert George, New Zealand; Ferguson, John Bell, Scotland; Fisher, Gerhard Friedrich, Cape Colony; Gardner, Mary Muter, Scotland; Garratt, Graham Reg, British Guiana; Gill, Alexander Wilson, Scotland; Goss, Walter Ethard, England; Grant, Alexander George M'Pherson, Scotland; Gupta, Satis Chandra Sen, Bengal; Hamilton, Alan George, England (with second class honours); Hamilton, Henry Fleming, England (with first class honours); Harkness, Robert Coltart, Scotland (with first class honours); Harwood, Thomas Eustace, (B.A.), England (with first class honours); Hayward, George Russell, England (with second class honours); Innes, Flora Riddell, Australia; Jardine, William Christopher, Scotland; Jones, Archibald Mason, Wales; Kirk, George Bellow, Scotland (with first class honours); Lawry, Josiah Howard, New Zealand (with second class honours); Leslie, Leonard, Scotland; Lethem, Cecil Robertson, Scotland; Lewis, William Robert, Scotland; Low, Mary, (M.A.), Scotland; Lumsden, Harry Foote, Scotland; Macaskill, Donald Cameron (M.A.), Scotland; MacCallum, Alexandra Barham, Scotland; Macdonald, William, Scotland; Mackay, George Edward Gray, Scotland (with second class honours); M'Kean, James M'Connell, Scotland; M'Kenzie, Archibald Duncan, Scotland; Macleod, Alexander Duncan, Scotland; Macmillan, Robert James Alan, Scotland; MacQueen, Ronald Chesney, England; Macvie, Andrew Jamieson, Scotland; Malloch, John, Scotland; Mann, Charles Gerard, Cape Colony; Mathewson, Thomas Henry Reeve, Australia; Messer, William, Scotland; Middleton, Edward Loggie, Scotland (with second class honours); Millar, Alexander Fleming Wilkie, Scotland; Mitchell, Isabella Victoria, (M.A.), Scotland; Morice, Stevenson Plumbe, Ireland; Morrison, William, Scotland; Mortimer, John Alexander, Scotland; Moyes, John Murray, Scotland; Muncaster, Ethel Rose, Scotland; Ogg, Alexander, (M.A., Scotland (with second class honours); Pillai, Govinda Raman, India; Reid, Eric M'Kay, England; Renwick, John, Scotland (with second class honours); Robertson, Duncan Glenerochie, Australia (*in absentia*) (with second class honours); Robertson, William Stewart, New Zealand; Ross, Dermid Maxwell, Scotland; Ross, William (M.A.), Scotland; Rosser, Richard Picton, England; Schaffter, Charles Merill, England; Shaw, John James M'Intosh (M.A.), Scotland; Simpson, Kerr, Scotland; Smith, Hulseberg, England; Smith, Henry Faithful (B.A.), England; Sowden, George Smith (M.A.), Scotland; Sprent, James (B.Sc.), Tasmania; Stewart, William, Scotland; Swanston, Cyril Patrick Andrew, Wales; Swan, James, Scotland; Taylor, Arthur Loudoun (B.Sc.), Scotland; Teague, Henry William, England; Thompson, John Alexander, Ireland; Thomson, Jessie Wylie Smyth, Scotland; Watson, Allan, Scotland; Wheeler, John Pearce, England; Wilson, John, Scotland; Wilson, John Dykes (M.A.), Scotland (with first class honours); Young, Margaret Chapel, Scotland.

Diploma in Tropical Medicine and Hygiene.

This diploma was awarded to:

Dyer, Ethelbert William, M.B., Ch.B., and Robinson, Joseph, M.B., Ch.B.

Thesis Gold Medals were awarded to:

George Francis Stirling Landon, M.D., William MacDougall, M.A., M.D., Archibald Currie MacGilchrist (Capt., I.M.S.), M.A., M.D., John Pool M'Gowan, M.A., B.Sc., M.D., Alister Thomas Mackenzie, M.A., M.B., Chas. Fulton Pattie, M.D., and David Percival Dalbreck Wilkie, M.D., Ch.M.

Fellowships, etc.

The following Fellowships, Scholarships, Medals, and Prizes were awarded:

Goodsir Memorial Fellowship to Charles Fulton Pattie, M.D., Ch.B.; *Milner Fothergill Gold Medal in Therapeutics* to Alister Thomas Mackenzie, M.A., M.D., Ch.B.; *Ettles Scholarship* to Robert Coltart Harkness, M.B., Ch.B.; *Allan Fellowship in Clinical Medicine and Clinical Surgery* to Alfred Moore Elliott, M.B., Ch.B.; *Freeland Barbour Fellowship* to Duncan Glenerochie Robertson, M.B., Ch.B.; *M'Cosh Graduate Award in Medical Jurisprudence* to John Dykes Wilson, M.A., M.B., Ch.B.; *Murchison Memorial Scholarship in Clinical Medicine* to Alexander Gibson, M.A., M.B., Ch.B.; *Pratten Gold Medal* to Godfrey Rosenfield, B.Sc., M.B., Ch.B. *Beaney Prize in Anatomy and Surgery* to Allan George Hamilton, M.B., Ch.B.; *Mount Scholarship in the Practice of Physic* to Satis Chandra Sen Gupta, M.B., Ch.B.; *Cowan Double Prize* to Alfred William Burton, M.B., Ch.B.; *Buchanan Scholarship in Gynæcology* to Robert Coltart Harkness, M.B., Ch.B.; *James Scott Scholarship in Midwifery* to James Sprent, B.Sc., M.B., Ch.B.; *Dorothy Gubilian Memorial Prize* to Mary Muter Gardner, M.B., Ch.B.; *Pattison Prize in Clinical Surgery* to Alexander Ninian Bruce, B.Sc., M.B., Ch.B.

Degree of D.Sc.

The degree of Doctor of Science was conferred on:

Alexander Ninian Bruce, B.Sc., M.B., Ch.B.; James Patrick Longstaff, B.Sc.; and Henry Walker, M.A., B.Sc.

Degree of B.Sc.

The degree of B.Sc. in the Department of Public Health was conferred on Andrew Gray Carment, M.B.

Address to the New Graduates.

The Promoter, Professor Sir Thomas R. Fraser, after offering his congratulations to those who had just been "capped," said this was the third occasion on which the duty of addressing the graduates had fallen to him. The intervals separating these occasions were to be measured by considerable numbers of years. During that time he had lost many friends and colleagues. There no longer remained in the Faculty of Medicine any one of the members who constituted that Faculty when he had the honour of becoming a Professor; and even in the Senatus there was only one member, the Professor of Sanscrit. When he first became a member, the Faculty of Medicine contained so distinguished members as Rutherford, Grainger-Stewart, Simpson, Wyville Thomson, Crum-Brown, Balfour, Sanders, and Lister. Again, when he compared with to-day the occasion when he was Promoter for the second time in 1894, there remained of those assembled to fill the vacancies that had occurred only three professors out of the full complement of twelve, namely, Greenfield, Cossar-Ewart, and Simpson. To-day they deeply lamented the recent death of Dr. Cunningham, the Professor of Anatomy and Dean of the Faculty of Medicine, a life cut off in the maturity of its prime. That resignation of Professor John Chiene and the appointment of his successor, Henry Alexis Thomson, were referred to. He had no intention of reviewing the vast field of the changes which were represented in the University Acts and in reforms. It only remained

the Earl of Derby. The winners of the more important prizes were as follows: The *Scholarships in Clinical Surgery, Medicine, and Obstetrics*, each of the value of £20, Messrs. A. H. Penistan, W. J. O'Donovan, and C. Cushne-Taylor; the *Sutton Scholarship* (£20), A. H. Penistan; the *Scholarship in Anatomy and Physiology* (£25), and in *Anatomy and Biology* (£20) both went to T. D. Williams; the *Senior Letheby Prizes* in Organic and Inorganic Chemistry each £10, J. R. K. Thompson and E. Morley; the *Junior Letheby Prize* in Chemistry and Physics (£10), T. H. Thomas; the *Duckworth Nelson Prize* (£10), A. H. Penistan. Besides these some seventeen other awards were distributed, ranging in value from £15 downwards, as well as a number of certificates.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE summer session which has just come to a close has been one of the most successful on record. Fifty-one students took out the course. The accommodation at the school provides for only forty students in the general laboratory, and about five in each of the special departments, and on the present occasion the school has been much overcrowded. Thanks to the generosity of a friend of the school, the laboratories will be enlarged during the long vacation, and it is hoped that when the school reopens in October there will be sufficient accommodation for all who desire to get through their curriculum here. There were more numerous than in the present session. At the terminal examination the following students passed:

*Dr. P. Bahr, *Dr. P. J. de Miranda, Dr. J. A. Harley (Colonial Service), *Captain H. Brooke (U.S. Army), Captain R. A. Lloyd (Indian Medical Service), Major C. H. Boole-Evans (Indian Medical Service), Dr. A. W. Gurdin, Captain J. L. Lumbin (Indian Medical Service), Dr. T. Chalmers, Dr. W. H. Peacock (Colonial Service), Dr. A. Lunnie (Colonial Service), Dr. G. A. Turner, Dr. W. H. Hare (Colonial Service), Dr. C. L. Straugman, Dr. T. F. Bayfield (Colonial Service), Dr. G. F. Forde (Colonial Service), Dr. R. C. Macpherson (Colonial Service), Dr. J. Guilion, Dr. W. Pearn, Dr. G. J. W. Kershaw (Colonial Service), Captain G. King (Indian Medical Service), Dr. J. M. O'Connell (Colonial Service).

The students against whose names an asterisk is placed passed with distinction.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

DR. H. D. ROLLESTON is orator for the day at the inauguration of the new session on October 1st, at 3 o'clock, and will take for his subject, St. George's and the Progress of Physic. The oration will be followed by the annual meeting of the St. George's Club. The annual dinner will be held at the Prince's Restaurant in the evening at 6.30 for 7 p.m., Mr. A. Marmaduke Sheild, F.R.C.S., Consulting Surgeon to the Hospital, in the chair. Tickets may be obtained from the Honorary Secretaries, Medical School Dinner, St. George's Hospital, S.W.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—E. Johnson, L. E. Markham, R. P. Minnis, J. L. Pringle, P. B. Robson, J. S. Scott, W. Woodman, *G. A. Berkeley-Cole, *G. Carse, *C. Duncan, *I. D. Evans, *R. L. Kitching, *R. A. Hooper, *Nora Murphy, *F. J. Nattrass, *Carinna A. B. O'Neill, *Grace W. Pailthorpe, R. E. Rikon, *A. Sutcliffe, *C. O. Shackleton, †W. Lesser, †L. M. Pirrie, †F. S. Rood, †G. E. Stephenson.

* Chemistry and Physics only.
† Elementary Anatomy and Biology only.
‡ Elementary Anatomy only.

SECOND M.B. (*Anatomy, Physiology, and Materia Medica*).—R. G. Badenoch, E. Babst, J. J. Brown, T. R. Burrell, J. W. Craven, Evelyn A. Constable, Sarah L. Green, N. Hodgson, J. Kerr, F. J. Liddersdale, J. G. Ogle, E. Hazen, L. L. Pearson, F. Phillips, B.A.; T. C. Storey, Eleanor Walkinshaw, S. K. Young.

THIRD M.B.—*J. H. Barclay, *M. Brennan, O. F. D. Airth, J. B. Alderson, W. H. I. Bathurst, T. C. Hindmarsh, W. Hudson, H. L. James, F. H. Lennard, J. H. L. Owen, T. A. Peel, E. Jessie Ramsbotham, Madeline R. Shearburn, C. J. V. Swabberg, C. S. Thompson, Olivia N. Walker, A. H. Wear.

* Second class honours. † First class honours.

At the Convocation holden on Saturday, July 24th, the following degrees were conferred:

DEGREE OF M.D.—V. E. Badcock, M.B., B.S. Durh.; C. W. M. Hope, M.B., B.S. Durh., F.R.C.S.; Elizabeth N. Niel, M.B., B.S., B.Hy., D.P.H. Durh.; H. B. Stephenson, M.B., B.S. Durh.

DEGREE OF M.D. FOR PRACTITIONERS OF FIFTEEN YEARS' STANDING.—T. W. Bartlett, L.R.C.P. and S., L.F.P.S. Glasg.; J. Gay, M.R.C.S., L.R.C.P.; H. J. Hilditch, L.R.C.P. and S. Irel.; J. L. Jeaffreson, M.R.C.S., L.R.C.P., L.S.A.; E. S. Lander, M.R.C.S., L.R.C.P.; J. A. Nolan, M.R.C.S., L.R.C.P. and S., L.F.P.S. Glasg.; E. K. Norton, M.R.C.S., L.R.C.P., D.P.H.; C. Reidy, B.A., L.R.C.P. and S. Edin.; E. Ringrose, M.R.C.S., L.R.C.P.; J. G. Uppleby, L.R.C.P. and S.; A. H. Walker, M.R.C.S., L.R.C.P.

DEGREE OF M.B.—W. Barkes, A. H. Bower, J. G. Campbell, M.A., H. G. Cooper, P. A. Galpin, F. P. Hare, J. P. Jackson, Theresa De G. Miller, Ruth Nicholson, R. Raffle, H. W. Sykes, Dorothea M. Tudor, G. H. Wood.

DEGREE OF B.S.—W. Barkes, A. H. Bower, J. G. Campbell, M.A., H. G. Cooper, P. A. Galpin, F. F. T. Hare, J. P. Jackson, Theresa De G. Miller, Ruth Nicholson, R. Raffle, H. W. Sykes, Dorothea M. Tudor, G. H. Wood.

DEGREE OF B.HY.—S. Havelock, M.B., B.S., B.Sc. Durh.; H. B. Stephenson, M.B., B.S. Durh.; T. L. Wormald, M.B., B.S. Durh.

Diploma in Public Health was awarded to:

S. Havelock, M.B., B.S., B.Sc. Durh.; W. T. Sewell, M.D., B.S. Durh.; H. B. Stephenson, M.B., B.S. Durh.; F. T. H. Wood, M.D., B.S., B.Sc. Lond.; T. L. Wormald, M.B., B.S. Durh.

UNIVERSITY OF BIRMINGHAM.

FACULTY OF MEDICINE.

THE following is the list of successful candidates at the examinations for medical degrees in June, 1909:

FINAL M.B., CH.B.—*Pass Official*: William Frederick Haslam, Percival Pasley Cobb.

Pass Ordinary Regulations: †Walter Charles Blackham, Herbert Henry Sampson, Harold Cairns Terry, Ethel Annie Walden, Kenneth Douglas Wilkinson.

FOURTH M.B., CH.B. *Forensic Medicine and Toxicology and Hygiene and Public Health.*—*Class I*: Eric Walter Assinder.

Class II: Elizabeth Stephens Inman, Arthur Harry Newton, John Lichtenstein Ritchie, Cranston Walker.

THIRD M.B., CH.B. *Pathology and Bacteriology and Materia Medica and Pharmacy.*—*Class I*: Oscar Marcus Holden.

Class II: James Henry Bampton, Robert Baxendell Coleman (Materia Medica and Pharmacy), Christopher Charles Cole Court (Pathology and Bacteriology), Evan Davies Pathology and Bacteriology), Travis Hampson (Pathology and Bacteriology), Charles William Hayward (Pathology and Bacteriology), Elizabeth Stephens Inman (Materia Medica and Pharmacy), Charles Crawford Lodge, Douglas Noel Macleod (Pathology and Bacteriology), Ronald Douglas Nelson, Percy Alfred Newton, Arthur McLean Pickup (Materia Medica and Pharmacy), Charles Ernest Salt, Arthur Christopher Tibbits.

SECOND M.B., CH.B. *Anatomy and Physiology.*—*Class II*: George Herbert Alabaster, Edward Bach, Ralph Alexander Broderick, Eric Francis Buckler, Bertram Humphreys, John Christopher Jones, John Burman Lowe, Douglas Noel Macleod, Horace Clarence Nickson, Herbert Sheasby, Charles Lovell Spackman.

FIRST M.B., CH.B. *Chemistry, Physics, and Biology.*—*Class II*: Elizabeth Labrey Ashby, Robert Ellis, James Henry Ritchie, Thomas Stanley Stafford Hodge.

External Candidates: Koch Harry Gill (Chemistry and Biology), Alfred Percy Smith.

DEGREE OF B.SC. IN PUBLIC HEALTH.—Parts I and II.—*Class II*: John Bell.

DIPLOMA IN PUBLIC HEALTH.—Parts I and II: William Morton Hewetson, Alexander McDonald Nevin.

Part II to complete Examination: James Allen Ainscow, James Fenton, Claude Johnson, Reginald Woolsey Stocks, Leonard Leigh Hadley.

Part I: Richard Clayton Allen, Donald Buchanan, John Milne Dalrymple, Philip James Mason.

FIRST EXAMINATION FOR THE DIPLOMA IN DENTAL SURGERY (*Chemistry and Physics*).—Arthur Bernstein.

‡ Queen's Scholarship. † Ingleby Scholarship.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (*Parts I and II*).—C. W. Dixon, J. R. Jones, E. B. Marsh, A. C. Mooney, H. S. Pemberton, R. E. Roberts, J. St. G. Wilson.

FIRST M.B., CH.B. (*Part II*).—F. A. Belam, A. D. Bigland, H. E. Marsden, R. Martley, Beatrix M. Walker.

SECOND M.B., CH.B. (*Part I*).—H. Clarke, R. C. Crooke, J. E. Getting, R. Heald, N. P. Laing, J. Loudon, G. W. Mooney.

SECOND M.B., CH.B. (*Part II*).—B. W. Gemmell, M. T. Morgan.

FINAL M.B., CH.B. (*Part I*).—J. Beniforth, J. E. Barnes, J. Campbell, A. A. Dear, E. S. Miller, W. B. Wade, T. W. Wadsworth.

FINAL M.B., CH.B. (*Part II*).—K. J. C. Bradshaw, J. W. Cropper, V. N. Daley, A. G. W. Owen, N. W. Steinberg.

FINAL B.D.S.—F. Halsall.

FIRST L.D.S.—P. G. Capon, C. Q. Dion, S. S. Tittin, W. Williams.

SECOND L.D.S.—J. Burns, W. B. G. Jones, J. Tyson.

FINAL L.D.S.—G. P. P. Clapham.

UNIVERSITY OF BRISTOL.

Appointment of Pro-Vice-Chancellor.

AT a meeting of the council held on July 23rd, Professor J. Michell Clarke, M.A., M.D., F.R.C.P., was appointed Pro-Vice-Chancellor of the University of Bristol.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College held on July 22nd, the following gentlemen were elected Fellows:

Richard William Anthony, M.B., C.M., Captain, Indian Medical Service; Alexander Watt Beveridge, M.B., Ch.B., Edinburgh; Frederick James Brodie, M.D., Toronto; Robert Donaldson, M.B., Ch.B., Liverpool; Ethelbert William Dyer, M.B., Ch.B., Edinburgh; Edward Alexander Elder, M.B., Ch.B., Edinburgh; Carlton Atkinson Ellis, M.R.C.S. Eng., London, N.; Ernest George Firench, M.D., Captain, Royal Army Medical Corps; Samuel Thompson Irwin, M.B., M.Ch., Belfast; Harley Patterson Milligan, M.D., Edinburgh; Ronald Roderick Murray, M.B., Ch.B., Edinburgh; Herbert Charles Orton, L.R.C.S.E., Edinburgh; John Alexander Pottinger, M.B., Ch.B., Stromsay; Elyatamby Visvalingam Rajnam, L.R.C.S.E., Colombo; Harold Ernest Rawlence, M.B., M.R.C.S. Eng., Edinburgh; Alexander Macdonald Westwater, L.R.C.S.E., Liaoyang, Manchuria.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates passed in:

SURGERY.—†H. A. Hancock, W. J. Morton, ‡†H. M. Pollard.

MEDICINE.—‡J. M. Burke, †A. H. C. Dawes, J. A. Jones, W. J. Morton, ‡H. M. Pollard, ‡J. W. Williams.

FORENSIC MEDICINE.—H. V. Humphry, W. J. Morton, H. M. Pollard.

MIDWIFERY.—W. H. Hooton, E. B. Keen, G. Meyer, W. J. Morton, J. K. Narliman, H. M. Pollard.

‡ Section I. † Section II.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:

H. A. Hancock, W. J. Morton, and ‡H. M. Pollard.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

COCAINE IN PARTURITION.

STOCKTON writes: Will any member having experience of the use of cocaine pessaries during the first or second stage of labour in primiparae of comparatively mature age be good enough to state dosage and frequency, and effect of treatment?

ANSWERS.

PARAFFIN AS A LUBRICANT FOR CATHETERS.

ALPHA.—We have referred this question to an expert, who writes: Paraffinum liquidum, *B.P.*, now commonly known as "liquid vaseline" is an excellent catheter lubricant, and has been employed for the purpose for at least fourteen years. It is neutral in reaction, without taste or smell, is not easily decomposed by heat, and boils at about 650° F. It is not a germicide, but is an undoubted inhibitor of microbic activity. It can be sterilized either by boiling in a vessel, or on the surface of water, without any danger whatever. (See BRITISH MEDICAL JOURNAL, July 29th, 1899, p. 265; May 25th, 1901, p. 1260 et seq.; June 15th, 1901, "Sterilization of Catheters," under Correspondence.)

THE CLIMATE OF NORTH CORNWALL.

A. H. T.—There is a great contrast between the climate of the south and the north coast of Cornwall. In the article on the climate of Cornwall (*Climates and Baths of Great Britain, being the Report of a Committee of the Royal Medical and Chirurgical Society of London*, vol. i, London, 1895, page 15), Dr. Howship Dickinson says: "In crossing the short distance which separates these coasts, possibly not more than ten miles, we exchange the bracing character of the north-west for one producing limpness and depression, and indisposing the traveller for exertion to which before he was incited by the influences around him."

THE PUPILS IN APICAL PNEUMONIA.

DR. W. B. WINCKWORTH (Taunton) writes: In reply to Dr. Martin's inquiry, the following extract from vol. viii (1893) of the *Westminster Hospital Reports* may be of interest. In the analysis of some cases of lobar pneumonia the late medical registrar (Dr. W. A. Wills) writes: "The equality and inequality of the pupils during the attacks of pneumonia has been observed in 103 of the cases (60, 1891; 43, 1892). In 48 where only one lung was affected the pupils were equal throughout. In 7 where both lungs were affected they were equal. In 36 the larger pupil was on the same side as the affected lung; in 12 on the opposite side." No special note appears to have been made of those cases in which the lesion was limited to the apex.

H. E. K. writes: Dr. J. H. Martin will find the information he requires in an article on pneumonia by Laudouzy and Griffon in vol. XXIX of Bronardel et Gilbert's *Nouveau traité de médecine et de therapeutique* (page 152 et seq.). Dilatation of the pupil is not peculiar to apical pneumonia.

ANTIDIPHTHERIA SERUM IN ASTHMA.

M. K. A. writes: In reference to "Asthma's" request (BRITISH MEDICAL JOURNAL, July 24th, p. 247) for information regarding the treatment of asthma by antidiphtheritic serum, the following facts may be of interest. I have been afflicted by asthma for the past twenty years, but recently the attacks have been diminishing in frequency and severity. After a whole year's freedom from any symptom of the disease, I received an injection of the antitoxin (2,000 units) as a prophylactic measure. Within ten days I had a very severe reaction, and was compelled to remain in bed for a couple of days until the rash disappeared and the swelling at my wrists and ankles subsided. At the end of a fortnight from the day I received the injection I was again invalided with a very severe type of asthma, characterized by a very copious expectoration. This the physician who attended me described as a bronchiolitis exudativa. Following on this paroxysm, the usual nocturnal type of the disease annoyed me nearly every night for quite three months with occasional exacerbations of a severer nature. After seven months it has again disappeared almost completely. It is well known that asthmatics are very liable to a reaction after injection of antitoxin, and that the disease itself may be influenced by the injection, but in my case it seems to have exerted a harmful influence, temporary, at any rate. Of course, there may have been no connexion between the increased frequency of the attacks and the injection of the serum; it was possibly a coincidence. However, it seems to me to have been the only possible factor, and I shall be very cautious in future. A point of interest is that dyspnoea did not arise when the urticaria was at its height, as one would have expected it to do. A question which seems to me to be of importance is whether the benefit which one patient derives from the serum and the harm which it inflicts on another is due to the personal equation of the patient or to the personal equation of the animal from which the serum is derived. I hope that someone else will relate his experiences of the administration of the serum to asthmatics.

LETTERS, NOTES, ETC.

IT is officially notified that the exhibit of Messrs. Burroughs, Wellcome and Co. at the Bombay Medical Congress, held in February last, has received the highest award.

PRIZE FOR ORTHOPAEDIC WORK.

THE prize Umberto I, of the value of £140, will be awarded in accordance with the decision of the Provincial Council of Bologna for the best work or invention in the domain of orthopaedic surgery. The competition is open to medical practitioners of all nationalities. Applications relating to the competition should be addressed to the President of the Rizzoli Institute in Bologna. The competition will close on December 31st, 1909.

PATHOLOGY OF GLYCOSURIA.

DR. C. BELCHER (Birmingham) writes: Having had a run of six cases of diabetes—perhaps more correctly or generically termed glycosuria—the fact is poignantly thrust before me, Why should this condition occur? What defect in the economy is there that sugar appears in the urine, or in what way does the metabolism as a whole, or of an organ, fail, so that the physiological conditions cease and a pathological change is wrought? All these patients were men about 60 years of age, and inclined to be obese, four of them were temperate men, one moderate, and the other addicted to immoderation. This one died, and the curious factor in his case was that the symptoms were quite remote from glycosuria, but he had an insignificant pimple on his neck, upon which a stray fly would persistently alight, and this gave me the clue. It afterwards developed into a carbuncle, from which the man died—but this is by the way. The present theories given for glycosuria do not seem to account for the condition, nor nearly satisfy the "causa causans." Now all these patients were inclined to be stout; can it be that in these cases a certain point was reached when the chemical metamorphosis of the tissues failed, from nervous degeneration or other causes, so that the sugar circulating in the sanguineous fluids failed to be converted into lipomatous tissue or cells? That such saccharin bodies can be converted into fatty products can be demonstrated by the simple fact that it is done in a direct manner by bees; at a certain season when wax is required to form the honeycomb, similar in composition to the fatty material of the human economy, except having a stearic acid base instead of an oleaic acid base. It is produced by the bees at the expense of the honey. While this process is going on a good deal of heat is produced and a large quantity of oxygen used up to effect the conversion. Now may it not be possible that owing to a deficiency of oxygen to the tissues or the organ at fault that the sugar is not converted into fat and remains in the circulation and excreted by the kidneys in the urine? It occurred to me that the deficiency may be brought about by failure of the haemocytes of the blood to absorb the oxygen in the lungs, or being in an unstable condition, unable to act as carriers of oxygen in the blood in sufficient quantities to produce the conversion of saccharine elements to fatty bodies in the tissues.

VIVISECTION AND THE AURORA BOREALIS.

WE are indebted for the following story to Sir Samuel Wilks. He says a friend was lately in an hotel where he heard an old lady declaiming against the horrors of vivisection. She went on to say that there was no cruelty or dreadful thing that scientific men would not do to find out how things acted. There was nothing that God had created but what they would destroy to look at its inside; but "thank God," she ended, "they can't touch the beautiful aurora borealis!"

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Address in Obstetrics

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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THE PRESENT POSITION AND THE FUTURE DEVELOPMENTS OF OBSTETRIC MEDICINE.

My first duty is to thank the British Medical Association for the compliment it has paid me in inviting me to deliver the Address in Obstetrics. I feel the responsibility of my position all the more as I am confident that in selecting me the Association wished to honour that branch of medical science which, owing to the unique facilities afforded in Ireland for clinical investigation and study in maternity hospitals, has come to occupy with us a position of acknowledged pre-eminence.

Occasions like this great medical meeting present fitting opportunities for reviewing the position at present occupied by the three divisions of the healing art—medicine, surgery, and obstetrics: for recording what real progress has been made in each branch: for discussing calmly and scientifically various new views, especially those pertaining to treatment: and, finally, for suggesting the lines of advance along which we may hope for still further success.

It is indeed quite unnecessary for me to say anything as to the importance of obstetric medicine, which the majority of the medical profession have to practise. Apart altogether from the fact that those engaging in this branch of practice have the great responsibility thrown on them of dealing at the same time with the fate of two lives, the modern obstetrician, in addition to possessing a sound knowledge of all the sciences ancillary to medicine, must cultivate the keen power of observation and must enjoy the education and have the special training necessary to draw correct inferences—qualities supposed to be the special prerogatives of the physician—while, at the same time, he must be imbued with the scientific accuracy and make himself master of the perfect technique and the skilled handicraft of the surgeon.

Now, keeping constantly in mind that *the ideal to be aimed at in obstetric practice is not merely a living mother and a living child, but rather a living healthy mother and a living healthy child*, I propose to-day to endeavour to place before you in some of its bearings the present position of obstetric medicine and surgery, and to throw out a few suggestions, the adoption of which, I venture to hope, would lead to still greater progress in the future. A consideration of both these aspects of the subject—the present position and the future developments of obstetrics—will convince you, I believe, that Bacon's famous aphorism, "Medicine is a science which has been, as we have said, more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgement, rather in circle than in progression," does not apply to obstetrics.

I. THE PRESENT POSITION OF OBSTETRICS.

It was exactly a quarter of a century ago that, in this very room, on the occasion of the first meeting of the British Medical Association in the North of Ireland, of which I was one of the honorary secretaries, a very interesting address in obstetrics was delivered by one who at that time was the recognized head of his own speciality—the late Dr. George H. Kidd, ex-Master of the Coombe Lying-in Hospital, Dublin. Taking that address as a landmark, and as the expression of the views of a most thoughtful and practical obstetrician, let us ask the question, How does the science of obstetrics stand to-day as compared with its condition in 1884? I will endeavour to answer this query by considering three problems of obstetrics—puerperal infection, operative midwifery, and some of the complications of labour.

(A) *Puerperal Infection.*

Dr. Kidd selected as the subject of his address in 1884 "Puerperal Fever," which is probably still the most important question in obstetric medicine; and, while he spoke of traumatic cases of this disease, of types due to organic substances retained in the uterus, and of other forms where the disease originated in varicose veins (phlebitis), he dealt specially with epidemics of puerperal fever; and, quoting the definition of epidemic disease from the New Sydenham Society's *Lexicon* as "a disease prevalent among a people or a community at a special time, and produced by some special cause or causes not naturally or generally present in the affected locality, as distinguished from an endemic disease," he arrived at the conclusion that there was a large group of puerperal cases that came strictly within this definition, and that the epidemic thus constituted was a specific disease. He gave an account of one such epidemic which occurred during 1854–5 at the Rotunda, and which was described by Dr. McClintock, and he also gave his own experience of another at the Coombe in 1880. Dr. Kidd also discussed the septicaemic theory as to the nature of puerperal fever, which seemed to him to be defective, and pointed out that "those who hold it look on the disease as preventable, and assert that its occurrence is due either to ignorance of the precautions necessary to prevent it, or to failure in seeing that such precautions are rigorously carried out"; but, at the same time, he added, "The history of great hospitals, such as that of Dublin and Vienna, shows that puerperal fever will prevail and cause sad mortality at times, and disappear again, and that the conditions governing its movements have not yet been discovered."

A quarter of a century has passed since Dr. Kidd's able address was delivered, with the result that we now know not only the nature of puerperal fever and the conditions relating to its etiology, but—what is of infinitely greater practical importance—we have mastered the methods by which it can be prevented, and we see that epidemics of this disease do not now occur. We no longer use the term "puerperal fever," because it conveys the suggestion that it is a specific malady—analogous to scarlet fever or typhoid—and because it lays too much stress on its thermometric phenomena. We, at the present time, employ the words "puerperal infection"—in order to draw special attention to their communicable nature—as defining those protean morbid conditions due almost invariably to the entrance of various kinds of micro-organisms into the parturient canal before or at labour, or during the puerperium, introduced as a rule by fingers, or instruments, or any other object, which are not surgically clean, or by sterile fingers or instruments from insufficiently cleansed labia minora. Maternity hospitals have no longer epidemics of puerperal infection, and we now measure the success of the technique employed at these institutions much more accurately by their morbidity than even by their mortality, the reason being that some deaths at childbirth are still due to accidents and complications, which cannot, with the means at present at our disposal, be avoided, while, on the other hand, the great proportion of childbirth illnesses are due to want of proper surgical cleanliness, and, as we shall see, can be, to a large extent, prevented.

Puerperal Morbidity.

It is a great pity that, for the purpose even of statistical comparison, the various maternity hospitals are not agreed as to the physical indications of puerperal septic morbidity. This is well seen in the report of the Committee on Puerperal Morbidity, appointed at the annual meeting of the British Medical Association in Leicester in 1905. Information was received from maternity hospitals in England and abroad in regard to the standards of puerperal morbidity which they recognized, but from the utter diversity of the replies it was clear that efficient comparison of the statistics of these institutions would be impossible. For example, some thought such a standard was "useless," others that it was "desirable, but hardly practicable, no one factor being sufficient in itself." Some replied "every case must be judged on its merits," others that "the only accurate method will be by having bacteriological examination of the lochial discharge," or "offensive lochia"; or "the rise of temperature above 100.5° F., persisting for more than forty-eight hours, should be regarded as indicative of infection, unless it can be clearly

demonstrated to be due to some other cause. If the rule were adopted that all such cases should have a leucocyte count, uterine cultures and blood cultures, a positive result might clearly determine which febrile cases are septic"; while, in opposition to such a rigorous criterion, some said, in reply to the question, "Have you any suggestions as to general adoption of a standard for use in maternity hospitals to serve as an index of septic morbidity?" "No. Every one who is fit to be in charge of a lying-in hospital is capable of deciding this, and a standard is, in my opinion, useless"; and another reply to the same query was "No. The diagnosis of septic morbidity is usually easy enough to the unprejudiced observer." The majority of the maternities, however, regarded pulse, and especially temperature, as the best and most easily available evidence of puerperal morbidity. In a paper, "A Plea for the Early Recognition and Treatment of Puerperal Fever" (published in the *Lancet*, August 22nd, 1896), I pointed out that the early symptoms of puerperal infection were elevation of temperature and quickness of pulse; and while I mentioned certain intercurrent non-septic conditions which might raise the pulse and temperature after delivery (giving, at the same time, the diagnosis between them and cases of puerperal infection), I wrote: "I think, then, if we exclude conditions such as I have mentioned, and which, after all, are not very common, we are warranted in concluding that it is, on the whole, rare to have fever and quick pulse in the first five or six days after labour from any other cause than infection." The Committee on Puerperal Morbidity appointed by this Association made the following recommendations:

1. That irregularities in temperature occurring during the twenty-four hours following delivery should not be considered for statistical purposes.

2. That as the time puerperal patients remain in hospital varies in different institutions, statistical tables should be formed from the records up to the end of the eighth day after delivery.

3. That statistical records should relate only to patients delivered after the sixth lunar month of pregnancy. (It is recommended that cases delivered before the end of the sixth lunar month of pregnancy should be tabulated separately.)

4. That records of pulse and temperature should be taken twice a day in every case, the following precautions being observed:

(*a*) The temperature to be taken night and morning: if possible, between the hours of 7 and 9 a.m. for the morning, and between the hours of 4 and 7 p.m. for the evening record.

(*b*) The temperature to be taken in the mouth.

(*c*) The thermometer to be kept in the mouth for four minutes.

5. That the title of puerperal morbidity should include all fatal cases, and also all cases in which the temperature reaches 100° F. on any two of the bidaily readings from the end of the first to the end of the eighth day after delivery.

6. That all cases which according to this convention are "morbid" should be tabulated in statistics, the probable cause of the illness and its duration in days being given.

This may be called the British Medical Association standard. On the other hand, at the Rotunda Hospital, in deciding what is the morbid indication, a more certain criterion in the Master's opinion is adopted, and regard is had both to pulse and temperature. If a patient's temperature and pulse, taken twice daily, rise above 99° F. and 90 respectively on three consecutive occasions, counting from the beginning of the second day to noon on the eighth (the time normal cases are discharged), she is regarded as being morbid. Abortion cases are included, but patients dying without fever are excluded. If a patient's pulse and temperature exceed these limits, she is not allowed to leave the hospital until they fall to normal for three consecutive takings, and should a patient be retained in hospital after the eighth day and then show any morbidity, she is reckoned in the morbidity statistics. Temperature and pulse must together rise above these limits and remain above them for three consecutive bidaily takings, or, to put it another way, for twenty-four hours, before a case is regarded as morbid, the temperature being always taken in the mouth. In this way transitory and unimportant elevations of pulse and temperature (to which it would be unfair to apply the term "morbid") are excluded, and further, the irregularities of pulse and temperature often met with in the twenty-four hours after delivery are also excluded. Now, with the exception of certain transitory nervous influences and the presence of intercurrent maladies wholly independent of the puerperal state, in the great majority of cases as defined in this way by the Rotunda standard of morbidity the cause is infection by micro-organisms or by the toxins of retained lochia. So far back as 1891, in a paper on "Puerperal Fever, its Nature, Prevention, and Treatment," I used these words: "The experience I have gained at the clinic in diseases of women at the Royal Hospital and in private practice has brought prominently before my attention the fact that many of the chronic ailments of women are traceable to some feverish attack which sets in after parturition." Subsequent knowledge, acquired in the Belfast Maternity Hospital and in the Gynaecological Ward of the new Royal Victoria Hospital, has shown me that a large number of those affections of an inflammatory nature to which we give the term "pelvic inflammatory disease" in women, are cases of puerperal infection which, when they occur in a maternity institution, cause its "morbidity," and which, with a more complete aseptic and antiseptic technique, will in time be banished from lying-in hospitals as well as from private practice. These are the cases of child-bed illness which so often ruin health, which cause an immense amount of invalidity and chronic suffering, and which, it is estimated, constitute at least one-third of hospital gynaecological patients. When I studied at the Rotunda Hospital no clinical thermometers were in use; it was in the year 1882 that they were first introduced, and, as pointed out by Dr. Tweedy,[3] the notebook of the Assistant Master of that period, which I have inspected, shows that, of 99 cases in which the temperature was taken, in no less than 50 per cent. there was morbidity, 9 had temperatures of 105° F., and 18 temperatures of 103° F., yet the Master reported the condition of the hospital of that date as having been "particularly healthy."

Now, let me contrast the year 1884 (when the British Medical Association met last in Belfast) with the present time as regards mortality and morbidity in two Irish maternity hospitals. In the year 1883–84, from November 1st to October 31st (Arthur Macan, Master), 1,109 patients were confined in the Rotunda Hospital, with 9 deaths, and of these 1,109 there were 281 in whom the temperature was over 100.4° F., and the percentage of morbidity was 25.34. In the last year of which we have records, from November 1st, 1907, to October 31st, 1908 (E. Hastings Tweedy, Master), 2,060 patients were confined in the Rotunda Hospital, with only 7 deaths, and in only 126 was the temperature over 100.4° F.—that is, a percentage morbidity of 6.12. Of the 7 deaths, only 3 were due to infection (one was admitted infected, another had been examined outside, and the third was a case of incomplete abortion with a fetid discharge on entering hospital). It will be seen that, with nearly double the number of patients, there is less than half the number of actual morbidities, and also fewer deaths. As the present Master of the Rotunda points out in a letter to me, these results are better than the figures actually show, because:

1. Many patients formerly left the hospital on the fifth day, an occurrence now almost unknown.

2. The old thermometers did not register under six minutes, and, as a result, they were often taken out too soon. Further, they were placed in the axillae and not in the mouth, as at present—a method which gives a much more accurate record.

3. The present nurses at the Rotunda are much better educated than those of bygone days; they live in the house and are more thoroughly supervised, and, as a consequence, more reliable observations are made.

It is very interesting to note how the "morbidity" is gradually falling in the Rotunda, as shown by the following table. The estimate is made according to the Rotunda method.

Years.				Morbidity.
1903-4	...	...	...	10.70 per cent.
1904-5	...	...	...	6.67 ,,
1905-6	...	...	...	4.33 ,,
1906-7	...	...	...	3.99 ,,
1907-8	...	...	...	3.64 ,,

In former years in Belfast there were so-called epidemics of puerperal fever in our Maternity Hospital, necessitating its being closed on several occasions, and numerous cases which would now be classified as examples of "morbidity." At present such a state of affairs is unknown, and in our new, much-enlarged hospital, where both students and pupil midwives are trained, we had, during 1907 and 1908, 12 deaths out of 1,355 deliveries, and of these only 4 deaths were due to puerperal infection. (In

one the patient had been in labour for twenty-four hours, attended by an unqualified woman before admission; another, with a contracted pelvis, had been in labour several days before admission: and in a third, the child was born in an advanced state of decomposition.) Further, in 1908, our cases of morbidity from every cause, estimated on the standard that the occurrence of one temperature of 100.4° F. indicated a pathological condition, were 9.42 per cent., which is distinctly lower than at Hofmeier's well-known clinic. Again, owing to the aseptic and antiseptic management of the mother during her confinement, as well as by the adoption of special prophylaxis in the care of the child, cases of ophthalmia neonatorum in both maternities are now extremely rare.

These statistics show the present condition of obstetric medicine as practised in two Irish maternities—the Rotunda in Dublin, the largest midwifery institution in the British Empire, and in the Maternity Hospital, Belfast, in both of which students and midwives receive practical training. How have such splendid results been brought about in getting rid of that terrible scourge so often termed "puerperal fever," and in reducing the number of cases of morbidity? Simply by the careful and thorough carrying out of a series of details evolved step by step in the great campaign against infective microbes.

1. By recognizing, as was so well taught by the great Viennese obstetrician, Boer[6] (who really acquired the knowledge largely when visiting France and this country), that, in at least 75 per cent. of the cases, labour is a natural process not needing interference, and that its tendency is to prevent infection, and that our duty is to follow and aid it, and to interfere only when the resources of Nature fail to protect the interests of mother or child. The uncalled-for use of the forceps, early rupture of the membranes, douching—unless under very special circumstances—and the improper management of the third stage of labour, are things of the past in properly conducted maternities.

2. By the thorough application of the most minute surgical cleanliness as regards patient, nurse, and doctor during labour and the puerperium.

3. By the adoption of Credé's teaching, enunciated so far back as 1886, when he wrote, "Even the simplest manipulation may cause infection. It should, therefore, be laid down and taught as a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits. It can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions."

4. By the immediate suture of any laceration occurring during the process of labour.

In my opinion, the most scrupulous surgical cleanliness in all manipulations, the thorough sterilizing of every article coming in contact with the patient, the greatest possible employment of the external methods of examination, and the strict limitation of internal examinations to cases in which the external plans have failed to give the necessary information, combined with the use of rubber gloves (recollecting, however, that sterile fingers, even when covered with recently boiled rubber gloves, may carry in infective bacteria unless the utmost care is taken to prevent contact with the inner surface of the labia and borders of the hymen), despite F. Ahlfeld's views[7]—these are the most important elements in the technique of a modern maternity hospital for the prevention of septic mortality and morbidity.

Professor Hofmeier,[8] estimating the puerperal morbidity on the basis that any case which shows even for once a temperature of 100.4° F. must be regarded as pathological, recently pointed out that the percentage of morbidity at the Wurzburg clinic was 11.48; while Scanzoni found that, out of a series of 157 precipitate births, 21.6 per cent. of 97 women who were never touched vaginally by any examining finger at all had a rise of temperature of between 102° and 104° F.; while of 112 parturients, who were confined without any contact from without, 11.5 per cent. had a rise of temperature up to 102.5° F., which it is presumed arose from infection. From such facts the conclusion might naturally be drawn that, do what we will, the woman who is confined can infect herself. But, on the other hand, it may be said that some of these supposed examples of autoinfection may have arisen from external sources after delivery, during the puerperium, as it was in this way that the morbidity of 10.7 in 1903–4 at the Rotunda had its origin in great part after the birth of the children. No doubt a very small proportion of septic cases may, during the lying-in period, seem to be examples of autoinfection. I have seen a case where in a primipara a rise of temperature was proved to be owing to the infection of the uterus with the pneumococcus, and, what was still more curious, the baby suffered from a bronchopneumonia. In another case a lady was infected from a septic phlebitis of the veins of the vulva which were inflamed before her confinement. The Master of the Rotunda has had similar cases, but that such so-called cases of "autoinfection" must be very few in number is clearly proved by the fact that the more thorough and complete is our aseptic technique the less is the morbidity. Further, the very remarkable gradual fall from year to year in the number of the morbidity cases at the Rotunda—as shown in the statistics I have quoted—is totally against the view that autoinfection is anything but a rarity in well-conducted maternities. It is a remarkable fact that puerperal infection (mortality or morbidity) is very uncommon among savage people, or among the patients confined on their way to a maternity; its risk seems to increase with the amount of interference, for in a maternity the morbidity is always less in those normally delivered than in those requiring assistance—a fact which shows how necessary it is, even in such institutions, to strive to improve the aseptic technique in operative cases.

The following statistics showing the mortality in England, Scotland, and Ireland, kindly supplied me by the Registrar-Generals of these countries, indicate that the puerperal infection is still a cause of many deaths—a fact all the more remarkable in face of the results in maternities, and when one considers how typhus fever, small-pox, enteric fever, and (outside Ireland) tuberculosis have all declined so markedly during the past quarter of a century:

DEATHS FROM PUERPERAL SEPSIS.

England and Wales.

Year.	Numbers.	Death-rate to a Million Females living.
1901	2,079	122
1902	2,003	118
1903	1,668	97
1904	1,654	94
1905	1,734	98
1906	1,640	93
1907	1,465	81

In England and Wales the numbers were for the year 1884, 2,580, being a death-rate of 186 per million females living.

Scotland.

	1901.	1905.	1906.
Puerperal septicæmia, sapræmia ...	113	124	125
Puerperal pyæmia	2	5	10
Puerperal fever not otherwise defined ...	126	119	130
Total	241	248	265

Including puerperal fever, puerperal peritonitis, puerperal pelvi-metritis, puerperal endometritis, puerperal phlebitis, etc.

The statistics for 1907 are not yet available. In 1884 the deaths from "puerperal fever" were 336.

Ireland.

The death-rate represented by deaths from puerperal septic diseases in Ireland during the year 1905 was 2.21 per 1,000 births registered; during 1906 it was 2.26; and during the year 1907 the rate was 1.60 per 1,000 births registered. In 1884 the deaths from puerperal fever and phlegmasia dolens represented a rate of 2.57 per 1,000 of all births registered in that year.

(B) *Operative Midwifery.*

During the last quarter of a century the employment of antisepsis and asepsis and the experience derived from abdominal surgery, due so largely to gynæcologists, have exercised a marked influence upon operative midwifery. This is well seen in our present knowledge of the pathology and treatment of extrauterine pregnancy, in the revival of symphysiotomy and its more recent modification, pubiotomy (hebosteotomy), in the thorough establishment of abdominal Cæsarean section as one of the best major

operations (provided that there has been no previous risk of vaginal infection), and in the introduction of the vaginal Cæsarean section, which, in the opinion of many, will be the method for promptly emptying the uterus in cases in which the cervical canal is intact. The treatment of contracted pelvis has been placed on a more scientific basis by recollecting that in every case of deformity of the bony parts we must rely both on pelvimetry, and on the relative size and consistency of the fetal head and its relation to the maternal pelvis.

The whole tendency of our operative measures now is to avoid craniotomy in a living child, and in contracted pelves to employ only those methods which are likely to save both mother and child. In pelves with a true conjugate below 3 or above 3½ in., the line of treatment is clear, as in the latter we hope for spontaneous delivery, or delivery by aid of the forceps, while, in the former, Cæsarean section or pubiotomy may be done. In the alternative of Cæsarean section, asepsis is absolutely essential, while pubiotomy may be selected provided there are no evident signs of previous infection. Bumm[9] does this operation in cases of contracted pelvis where the true conjugate is not less than 6.75 c.m. ($2\frac{7}{10}$ in.), or in the cases of normal pelvis with an unusually large fetus. Most operators would, however, prefer not to perform pubiotomy if there were signs of infection, but this is a debatable question, as Zweifel thinks subcutaneous pubiotomy may be carried out even in cases with fever. In the intermediate group—that is, those in which there is a true conjugate of 3 to 3½ in., every case must be considered on its own merits. One of the most interesting and important lessons we have learned in maternities in recent times is the occurrence of spontaneous delivery in many patients with contracted pelves. My own observation has taught me more and more that in a maternity hospital—where we can get rid of the importunities of the patients' friends educated in the former too frequent practice of early interference, and where we have an opportunity of observing Nature's own methods unobscured and not interfered with by unnecessary operative procedure—far more cases will terminate spontaneously under such conditions than one would suppose. Dr. Munro Kerr has had the same experience in the Glasgow Maternity Hospital,[10] as well as Zweifel at Leipzig; while quite recently Professor Schauta has shown that in his great clinic at Vienna[11] actually about 80 per cent. of the births with narrow pelvis occur spontaneously, only full-term births being considered. But we have learnt something more, and that is that spontaneous delivery in contracted pelves is by far the best method, both as regards the mother and the child. Not only are the soft parts of the mother not injured under these circumstances, but the child's head is not compressed; and, as Professor Schauta puts it: "Of all the possible methods of treatment of labour in contracted pelvis, the expectant treatment gives by far the best results for the mother as regards both mortality and morbidity. And I would mention here that we consider the puerperium disturbed if the temperature has once risen to 38° C. (100.4° F.). Regarding the child, we have also obtained the best results from spontaneous birth in preference to all other methods of treatment with the exception of Cæsarean section."

In other cases (with a conjugate between 3 in. and 3½ in.) of what has been styled the "medium degrees of pelvic deformity," where spontaneous delivery does not occur, the careful use of the axis-traction forceps applied in the dorsal posture to the sides of the child's head, which must be fixed, and with the patient placed subsequently in the Walcher position, gives better results, in my experience, than version; and, in case of failure, can be aided (so long as the child is alive) by dividing the pelvic bony girdle. The induction of premature labour in contracted pelvis is an operation I dislike, owing to the poor results as far as the children are concerned, the uncertainty of any of the methods employed, and owing to the fact that spontaneous delivery does not by any means follow in all cases. It is, in my opinion, much wiser in these intermediate cases of pelvic contraction, or in what are called "border line" cases, in which you cannot predict the outcome of the labour, to allow the patients to go to full term, as by this means now and again a patient will deliver herself, or, if the head becomes fixed, forceps may succeed, while, if after some hours of strong pains the head will not engage, then pubiotomy should be done as affording the best chance of the birth of a living child (provided a very careful consideration of the progress of the case has shown that the child is viable and that less dangerous methods are inapplicable), or Cæsarean section, in case the fetal head is large and hard, the labour pains not strong, and the patient not infected. In multiparæ, where there is a history that Nature failed to make the head engage in a previous labour, then Cæsarean section, performed at the end of pregnancy or at the very onset of labour, is indicated. Let me emphasize the fact that, in all cases of moderate pelvic deformity, each must be considered on its own merits, and we must, in addition to measuring the pelvis, estimate carefully the relation of the child's head to the pelvic brim. Other factors in this problem are the skill of the obstetrician and his special experience in any particular method of delivery, and the question whether the deformity of the pelvis is recognized for the first time at labour, or, more fortunately, during pregnancy, and, finally, whether the patient is a primipara or multipara.

(C) *Complications of Labour.*

The scopolamine-morphine narcosis during labour, especially in nervous patients who bear pain badly, is of undoubted value, but, when used, mother and child must be watched closely; and, while in the main the treatment of *post-partum* haemorrhage is its prevention, we have now in hot water, the clearing out of anything from its cavity that may prevent contraction and retraction of the uterus, and gauze packing, good measures when this complication arises. Further, the management of the accompanying collapse has developed into a very hopeful scientific procedure. The treatment of pregnancy complicated with tumours—ovarian, fibroid, etc.—has been placed on much clearer lines, and, as a result, we know also more of the influence which pregnancy exerts on them, as, for example, the red degeneration of fibroids. In Ireland we think the method of plugging in accidental haemorrhage, and the use of morphine—combined with washing out the stomach, purgation, the lateral position, saline infusion, and delivery of the child as soon as the os is sufficiently dilated—in eclampsia give the best results. In placenta prævia, bipolar version followed by a natural delivery, and the use of Champetier de Ribes's bag, still constitute the alternative methods employed, though the results at the Amsterdam clinic obtained by Bonnaire's method of bimanual dilatation and extraction are very extraordinary.

Lastly, the treatment of rupture of the uterus by delivery of the child, manual removal of the placenta, followed by loose plugging and draining the tear with a large piece of iodoform gauze, has in many cases simplified the management of this serious accident.

II. The Future Developments of Obstetrics.

In considering the second portion of this address—the future developments of obstetric medicine—I would venture to suggest that the lines of advance along which we may hope for still further progress in the future will be (1) the more thorough practical training of students and midwives; (2) the public health aspect of obstetrics; and (3) the more intimate association with the practical obstetrician, of the physiological chemist, and of the clinical pathologist.

(1) *Need for More Practical Teaching of Students and Pupil Midwives.*

In bringing before you the present position of obstetric medicine, it must be clearly understood that the splendid progress I have tried to describe has been achieved in connexion with maternity hospitals, and that if we are to continue to make headway there, or to come up to the standard of these institutions in private practice, the students of to-day—who will be the practitioners of the future—must be trained as thoroughly in lying-in institutions as they now are in the surgical and medical wards of our large general hospitals. Now, students being, after all, only human, will simply fulfil (owing to the multitude of their studies) those conditions prescribed by the universities and licensing bodies. It is therefore incumbent on these authorities to make further and more stringent regulations for the attendance of students on practical midwifery. It is satisfactory to note that the General Medical Council has been moving in this matter of the clinical teaching of

midwifery, and, in answering a series of questions sent down in 1905 to the various teaching bodies by the Students' Practical Midwifery Committee of the General Medical Council, I made the following

*Suggestions for the better Training of Students in Practical Midwifery.**

They are based on my experience as a professor, clinical teacher, and examiner.

1. I think no student should be allowed to begin his attendance on cases until he has had a course of six months' systematic lectures. This would ensure that he has gained, at least, some knowledge of the theory of the subject. Further, no student should, in my opinion, be allowed to take out the class of systematic midwifery until he has passed all the previous—what may be termed "non-final"—examinations of the university or examining board whose degree or diploma he is aiming at obtaining. An example will make my meaning clearer: In the Royal University of Ireland a student, before the final degree (M.B.) examination, must pass three preliminary university examinations. The third examination in medicine consists of the following subjects: Anatomy, physiology, materia medica (with pharmacology and therapeutics). Now, I hold all students should be obliged to pass this examination before attending lectures on midwifery. It often happens they do not follow this course, with the natural result that while attending midwifery lectures their mind is all the time dwelling on this third examination which they have to pass, and so they do not take sufficient interest in the lectures, with the result that they begin their practical midwifery afterwards with a very inadequate knowledge of the theory of the subject.

2. I think a student should have taken out his pathology course before attending his labour cases, owing to the important bearing of pathology on many obstetric problems.

3. Students should, in my opinion, be required to give evidence that they have received clinical instruction in midwifery. The examining boards should not be content with simply a number of cases "personally attended," which too often means that the attendance is only during the labour. Evidence should be required that students have seen their cases regularly under the personal supervision of the obstetric physician for at least ten days after the confinement. In other words, midwifery should, like medicine and surgery, be taught clinically. At present the difficulty obstetric teachers have to meet is that students shirk the after-attendance on their midwifery cases, on the ground that they have so many other hospitals to attend (special and general). To obviate this they should be obliged to take their midwifery cases at a time when they can properly attend them, both at delivery and afterwards. A better knowledge of pregnancy from the clinical standpoint is also needed.

4. The number of cases of "personal attendance" should be at least ten, conducted by each student, and seen regularly for at least ten days afterwards.

5. No student should attend a case until he has seen, under adequate supervision, five cases, and while doing this his attention should be specially directed to acquiring a knowledge of the practical application of asepsis and antisepsis to labour, and of the importance of abdominal palpation as a means of diagnosis.

6. Each student should be drilled on the phantom in the technique of obstetrical operations—that is, he should personally perform such operations as forceps, turning, etc., under the direct supervision of a medical tutor.

7. In universities or examining boards of colleges, where at the Final M.B. degree, or diploma examination in obstetric medicine, students are examined in midwifery, gynaecology, and diseases of children, the candidates should be obliged to give evidence beforehand (in addition to the certificates in reference to practical midwifery) that they have also studied diseases of women and of children clinically. In other words, students should be obliged to show that they have had personal charge of cases (say six each) of diseases of women and children, either in the special wards devoted to these maladies in a general hospital, or in special hospitals for diseases of women and of children.

In the curriculum of the new Queen's University of Belfast it has been decided that every student before commencing the study of practical midwifery shall be required to have held the offices of a clinical medical clerk and surgical dresser, and to have attended a course of lectures on pathology, surgery, and midwifery. We have also adopted the suggestions of the General Medical Council passed in 1907, as follows, in regard to practical midwifery:

Every student shall be required either—

(a) To have regularly attended the indoor practice of a lying-in hospital or the lying-in ward of a general hospital for a period of three months; and after having received therein practical instruction in the conduct of labour, under the personal supervision of a medical officer, to have conducted twenty cases of labour under official medical supervision; or

(b) To have conducted not less than twenty cases of labour, subject to the following conditions:

That he has during one month given regular daily attendance upon the indoor practice of a lying-in hospital, or the lying-in wards of a general hospital or Poor Law infirmary, having a resident medical officer recognized for that purpose by the university; and that he has therein conducted cases of labour under the personal supervision of a medical officer of the hospital, who shall, when satisfied of the student's competence, authorize him to conduct outdoor cases under official medical supervision.

No certificate that the student has conducted the above-mentioned twenty cases of labour shall be accepted unless it is given by a member of the staff of a lying-in hospital, or of the maternity charity of a general hospital, or of a dispensary having an obstetric staff recognized for that purpose by the university, or of a Poor Law infirmary having a resident medical officer so recognized.

Every student before commencing the study of practical midwifery shall be required to have held the offices of clinical medical clerk and surgical dresser, and to have attended a course of lectures on surgery and midwifery.

Further, we have arranged that, in reference to gynaecology, every student shall present a certificate of having received clinical instruction in diseases of women, either in a special hospital for diseases of women recognized by the university, or in a special ward for diseases of women in a general hospital similarly recognized; and that, as regards diseases of children, every student shall present a certificate of having received clinical instruction in diseases of children for a period of three months, either in a children's hospital, or in a children's ward of a general hospital recognized by the university.

We have also decided to have a clinical examination in midwifery, gynaecology, and diseases of children.

With reference to the training of midwives, it would be a great gain if the Central Midwives Board would endeavour to raise the standard of general education among those applying to be examined by them, by demanding some test or certificate showing that the nurse had received a suitable general education (this standard could be easily arranged to suit each of the three kingdoms), and in every instance it should be obligatory that the nurses had enjoyed a surgical and medical training. A woman of good previous general education can be much easier taught a new subject, and can all the better appreciate the reasons for what she does in her special avocation, while an uneducated person is simply an automaton, doing what she sees others do, but without any real reason for the faith that is in her. Further, a previous experience in general medical and surgical nursing makes it so much easier to apply the principles of surgical cleanliness to midwifery. A course of training in practical midwifery for midwives should not be less than six months; indeed, its extension to one year would be better. I am confident that, by a more thorough practical training of students and pupil midwives, puerperal infection would show a much greater and more rapid diminution in private practice in the future; and, further, that owing to a more thorough clinical obstetric experience craniotomy on a living or dead child or decapitation would cease to be performed. We must teach our students how to recognize at the proper time—that is, during pregnancy, before labour sets in—that a woman has a contracted pelvis needing very careful obstetric treatment. We must impress upon students and pupil midwives that by early recognition and suitable treatment during pregnancy many otherwise serious complications may be warded off, and that even craniotomy on a dead child or decapitation might in most cases be avoided if a proper line of treatment was adopted at the beginning of labour, and that in the future pubiotomy or Caesarean section will take the place of craniotomy done on a living child. It is still, unfortunately, now and again an operation of absolute necessity, and unavoidable, as Professor Schauta has pointed out in opposition to the views of the Paris school, as put forward by Pinard, who teaches craniotomy should be entirely discarded. Schauta thinks it is "still indispensable in cases which reach expert aid too late, or in advanced stages of labour, often febrile from infection, where Caesarean section or hebotomy is contraindicated, and in which, on account of the head being high above the brim, forceps cannot be applied, or on account of high degrees of stretching of the lower segment of the uterus turning cannot be performed, although the completion of labour is urgent."[1] We must in the future try to

* Report by the Students' Practical Midwifery Committee of the General Medical Council on the Operation of the Rules regarding Midwifery Practice required of Candidates for Medical Qualifications. May, 1906, p. 72.

get rid entirely of this horrid operation from obstetric practice by teaching students and midwives to recognize early the conditions calling for the newer operations, which will obviate the necessity for craniotomy. Further, we must in the case of the child—as in that of the mother—have regard both to its morbidity after birth as well as to its mortality, and a thorough consideration of what may be its subsequent condition after delivery should also enter into the problem of deciding the best way in which to help the mother.

(2) *Obstetric Medicine in Relation to Public Health.*

The modern obstetrician has two duties constantly impressed upon him—he must look after the interests of the mother, not merely in her hour of trial at childbirth, but also before and after that event, while, at the same time, he must care for the child. Now, in reference to the latter, he must concern himself not only with those factors that promote and favour antenatal life, but he must also have a thorough acquaintance with the means for preserving the life and promoting the growth and welfare of the newborn infant. The ideal we must all aim at in our practice, as I pointed out at the beginning of this address, is not alone the absence of *mortality*—that is, a living mother and a living child—but, at the same time, the avoidance of *morbidity*—that is, a healthy mother and a healthy child. If this ideal is to be realized it is absolutely essential—above and beyond the expert aid and advice afforded by the skilled obstetrician—that there should be spread more and more among the people the knowledge of motherhood. We must train the children in the public schools as to what is essential for the proper understanding of life, so that they may realize how often Browning's line is true:

Ignorance is not innocence but sin.[15]

Those who are brought face to face with the clamant public health problems of our great cities—and in the boroughs and urban districts of England and Wales there were 77 per cent. of the aggregate population in 1901 as compared with 50 per cent. in 1851—must feel that if we are to succeed in making a healthy nation, if we are to get rid of that physical degeneration which is so prevalent, and if we are to regain our ability and our energy—qualities which are so essential for any country in the present fierce struggle for existence, and so much of which has been lost through crime, ignorance, and apathy—we must cease to neglect the mothers of our people. No method will ever give us physical betterment which does not exercise a beneficial effect upon that sex which is the most dominant element in the development of the race. The more in every respect we elevate motherhood, the more we dignify home, and the more we raise our race.

Now, in order to spread the knowledge of what is really essential for good motherhood among the poor—especially of our crowded cities—we must insist that at the public schools the laws of health and hygiene are taught, and in connexion with these schools the establishment in Ireland recently of the Girls' Guild of Good Health (which is in affiliation with the Women's National Health Association of Ireland) is a distinct step in advance. The girls banded together in these guilds pledge themselves to be as healthy as possible in body and mind. We must also try to reach a class hitherto totally neglected—the poor expectant mothers—and to guide them in reference to such questions as food, occupation, housing, and temperance—factors so important not alone to themselves but to their unborn children, for it is well known that four-fifths of the value of an infant's start in life and its chance of living depend upon the proper nutrition of its mother during her pregnancy. Truer words were never uttered by any statesman than those spoken by the President of the Local Government Board, when, in a discussion in reference to the administration of his department in the House of Commons on June 17th of this year, he said: "It was the business of every employer of labour, of every husband and wife, and of every department and authority concerned in the future of the race, to see that the prenatal conditions of the child were vastly improved." In his interesting address last week at Leeds on Child Mortality in Relation to the Health of the State, Dr. Newman, Medical Officer of the Board of Education in England, said future measures of preventive medicine must start from the child and must deal with the home. Now, while both these means are admirable, unless the antenatal conditions are improved, even these efforts, good as they are, will, in many cases, come too late. Such aid, in addition to useful hints on various points, might in some cases take the form of good nourishment, especially during the latter half of gestation, outfits ("maternity bags") etc., for those who do not enter lying-in hospitals. In some places this help can be (and indeed is) afforded through voluntary philanthropic agencies, such as guilds of lady visitors, mothers' welcomes, babies' clubs, Samaritan funds, and maternity nurses; but looking at the way France, with her low birth-rate (and we must not forget that in England and Wales only two children are now born against the three of thirty years ago), has been compelled to face the problem, it is a question whether optional powers (as in Mr. Robert Harcourt's Necessitous Mothers' Assistance Bill, introduced this session) should not be given to local authorities to levy a special rate for this purpose.

I have shown that in modern times properly conducted maternities have banished that great scourge formerly styled puerperal fever, and it is to the credit and glory of obstetric medicine that it was Pierre Budin, Professor of Midwifery in the University of Paris and Director of the Clinique Tarnier, who, in 1892, started a similar revolution in the interest of the newborn child by establishing the first fully developed "Consultation for Nurslings," or School for Mothers. At a great congress of artisans in Paris in 1892, Budin said: "Your country has need of all her children, and humanity demands that we should spare no effort on their behalf." Shall we not repeat these words in every part of our empire? Here in Belfast we are making a beginning, for in connexion with the Infant Mortality Committee of the Belfast Branch of the Women's National Health Association of Ireland, that splendid organization established by Her Excellency the Countess of Aberdeen, whose magnificent work on behalf of public health in Ireland is known all the world over, there has been started a series of schools for mothers, called "babies' clubs." They now number four, situated in different parts of the city, and they are the first of the kind in Ireland, and are doing an immense amount of educative work in spreading the light in regard to good motherhood and in solving the infantile mortality problem. These admirable organizations are in close touch with the Belfast Maternity, the two children's hospitals, the dispensary midwives, the St. Vincent de Paul Society, the Nurses of Charity, and numerous other philanthropic societies of our city. They are managed by a small band of most devoted ladies, whose great aim is to afford practical help to poor, necessitous, and inexperienced women, and to bring before them the knowledge necessary for good motherhood. They show them how properly and hygienically to bathe, clothe, and dress babies, and how to laundry their garments. They encourage in every possible way the mothers to nurse their children, but in case of insufficiency or of total failure in this respect they supply them with milk which comes from a dairy where, by the tuberculin test, cows suffering from tuberculosis are excluded, where modern clean Danish methods are used with rapid cooling of the milk, which is placed in sealed bottles. This milk, following the method of the famous Copenhagen Milk Supply Company, is neither pasteurized nor sterilized, and by an arrangement with the proprietor of the dairy it is sent direct to the homes of the women whose children, in the opinion of the lady doctors who attend the clubs, really require it; but this milk is given only on condition that the infants are brought every week to the clubs so that it may be judged how they are progressing. These babies' clubs are thus doing a threefold duty: (1) They are educating the mothers; (2) they are supplying, when needed, a pure milk; and (3) they are affording an object lesson, even before the passing of Mr. Burns's Milk and Dairies Bill, as to the production of a natural, clean, non-tuberculous milk. Since the opening of the first club in February, 1908, up to July 1st, 1909, 889 children have passed through these institutions, and 5,640 quarts of pure milk have been distributed. In the summer of last year—July, August, and September—I am informed, not a child receiving this milk died. To the young expectant mothers hints are given as to the care of themselves, and they are advised as to making provision for their confinement.

Further, from a public health point of view, the Midwives Act of 1902 should be made to apply to the whole of the United Kingdom, and not, as at present, to England alone. Ophthalmia neonatorum, a preventable malady, which is the cause of at least one-third of the cases of permanent and hopeless loss of vision in our blind institutions, should be constituted a notifiable disease; and provision should be made for the early removal of cases of puerperal infection among the poor to hospitals or institutions where the results of the latest scientific research can be made available, and effective treatment can be employed.

(3) *Problems still Unsettled, Requiring for their Solution the Combined Efforts of the Obstetrician, the Biochemist, and the Clinical Pathologist.*

We have accomplished much in the last quarter of a century, but there are still many questions in obstetrics that await solution. How little we yet know as to the real nature of menstruation! Is dysmenorrhœa a disease, or is it a symptom of many underlying conditions? What is its relation to sterility? What a field the diseases of pregnancy afford to the careful scientific investigator! We speak of the toxaemias of pregnancy, but what are these toxins and how and where are they elaborated? What are the factors in the production of herpes (hydroa) gestationis? What really is eclampsia? How does tubal pregnancy occur? What is the cause of chorion-epithelioma? How do diseases of the placenta arise? Why are women at childbirth so susceptible to bacterial infection? Why do the bacteria travel at one time along lymphatics, at another in the course of blood vessels? We know that puerperal infection is caused by micro-organisms, but how do these microbes become virulent and in what way do they lose their malignant influence? Has season, race, or the predisposition (lowered resistance to infection) of the individual attacked anything to do with their power? In other words, while we know a great deal about the seed we are still largely in the dark as to the soil. No doubt operative interference has accomplished much in puerperal infection, especially in cases of localized abscess, pus tubes, and intense peritonitis limited to the pelvic organs, and occasionally in ligation or excision of thrombosed veins in puerperal pyaemia (as has been done in infected thrombi in mastoid disease);[14] still, when severe puerperal infection is present, can we yet boast of having advanced much beyond the view of William Hunter, who said, "Treat these in what manner you will, at least three out of every four will die." Have our surgical measures accomplished much in the very severe types of puerperal infection? Speaking for myself, in the most fatal and formidable form of puerperal infection—that due to the *Streptococcus pyogenes*—I have seen little advantage so far from surgical interference. The serum treatment of puerperal infection has also been disappointing clinically; and, indeed, with the exception of the antidiphtheritic and the antitetanic serums, is the preparation of the various antibacterial serums based on exact scientific principles? Certainly no one should use an antibacterial serum "except where, as in the case of an antidiphtheric serum, the pathologist is prepared to give him definite information with respect to the amount of protective substances in the serum."[15] Is the future of these severe puerperal infection cases, so far as treatment is concerned, not with that school established by one who received his early education in Belfast, Sir Almroth Wright, and his pupils, whose work is revolutionizing every branch of medicine, and who from each case of puerperal infection may elaborate the proper vaccine-therapy?

Conclusion.

We must invoke in the future, more and more, the help of the physiological chemist and of the clinical pathologist in the clearing up of the many unsolved problems of obstetric medicine, and they must work hand in hand with the practical obstetrician. It is in the laboratory situated in the maternity hospital that investigators, I am convinced, will help the practical obstetrician to unravel in the years to come many of these mysteries that still confront us, but they must look at these problems both from the clinical as well as from the biochemical and from the pathological side, and, as a result of the combined efforts of all these workers, may we soon be able to say:

There's a fount about to stream,
There's a light about to gleam,
There's a warmth about to glow,
There's a flower about to blow.
There's a midnight darkness changing
Into gray,
Men of thought, and men of action,
Clear the way.

Once the welcome light has broken,
Who shall say
What the unimagined glories
Of the day—
What the evil that shall perish
In its ray?
Aid the dawning, tongue and pen;
Aid it, hopes of honest men!
Aid it, paper—aid it, type—
Aid it, for the hour is ripe,
And our earnest must not slacken
Into play.
Men of thought, and men of action,
Clear the way![16]

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A PLEA FOR A RATIONAL PUERPERIUM.

*WITH A RECORD OF A HUNDRED CASES.**

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For many years I have thought that the conduct of the puerperium simulated more that of the convalescence from a severe illness than the management of the sequel of a normal function. I never, however, felt in a position to justify an attempt to disturb a custom which has prevailed through tens of centuries, and which is surrounded by traditions and superstitions.

It was, therefore, with pleasure I read the interesting paper by Von Alvensleben on "Das Aufstehen der Wöchnerinnen in der ersten Tagen der Wochenbetts," wherein he gives the statistics of 100 cases. I felt that from the satisfactory results he obtained I had at least some data to go upon, before flying in the face of popular prejudice and fashion, and determined to give a fair trial to what I considered a rational management of a physiological process. My statistics I now have the pleasure of bringing forward. The mode of management adopted was as follows:

The puerpera, if willing, was encouraged to sit up in bed to meals on the second day. As early as she felt inclined thereafter she was allowed to leave her bed and walk to the fireside, where she sat for an hour. On the following day this was repeated morning and evening. The next day two hours, morning and evening, were spent out of bed, the patient sitting and walking a little if she so

* Read at the Obstetrical Society Edinburgh.

desired. The fifth day after rising was practically spent out of bed with the exception of a few hours' rest in the afternoon, and on the tenth day the patient left the hospital. The number of cases who followed this line of treatment was 100, all of whom sat up in bed on the second day; 40 rose on the third day; 35 rose on the fourth day; 25 rose on the fifth day. Of the 100 cases, 47 were primiparae and 53 multiparae.

Each was carefully examined before leaving hospital, and as many as possible six weeks later.

The morbidity in these cases—that is, a temperature over 100° F. or pulse over 90 for twelve consecutive hours—was represented by three cases. Two developed infective temperatures on the third day. One of these left the hospital well on the sixteenth, the other on the twenty-eighth day. Pelvic examination on the day of leaving hospital (tenth to twelfth day) showed the pelvic organs to be normal, except in two cases, where a slight retroversion of the uterus was present. In one there was considerable varicosity of the veins of the legs, but the woman remarked that it was not nearly so bad as after previous confinements—this being her seventh.

All the cases examined six weeks and more after confinement showed involution to be thorough, and the position of the uterus normal, with the exception of two, being those previously noted as having retroversion.

It was most interesting to hear the uniformly eulogistic terms in which, without exception, the women described their so-called convalescence; while the favourable comparisons made by multiparae with their former confinements was most convincing. Many voluntarily expressed the opinion that they had never felt so well previously, and from the others when asked there was no dissentient voice.

Even with statistics such as these one must necessarily ask oneself the cogent question, Is there any advantage to be gained by such a radical change in the management of the puerperium? For a satisfactory answer one must consider the question from the two important aspects of the patient and the practitioner. If the puerperal woman prefers to be in bed, and feels weak and needy of rest, no one, in a supposed free country such as ours, would suggest otherwise. But there can be no gainsaying the fact that it is otherwise in the vast majority of instances. The healthy woman after her confinement feels, during a normal puerperium, that the compulsory lying in bed prescribed is irksome to a degree. This exists in all ranks of the social scale, and it seems to me to say a great deal for the amenability of the female that she has so long put up with her enforced invalidism. Indeed, one of the most favourable characteristics of the normal puerperium is the feeling of well-being enjoyed, and it seems hard, unless there are very special reasons, that the mother should be condemned to ten days—indeed, even to three weeks—absolute confinement to bed. If no such reasons are forthcoming, it savours more of punishment for becoming pregnant rather than a reward for replenishing the earth.

Given the fact, then, that a mother feels fit and able to rise, and is desirous of doing so, we have now to consider the management from a therapeutic aspect, and to do so it might be as well to view the puerperium from both a physiological and pathological standpoint.

In these relations the former is most important, as the puerperium must be recognized to be the sequel to a physiological process. If labour is not a disease, the puerperium cannot be considered a convalescence. It is merely the natural return of the parts connected with pregnancy to their normal condition, in which is mainly concerned the involution of the uterus and the readjustment of the pelvi-abdominal circulation.

The former is more or less a function *per se*, influenced, probably, to a greater or less extent by the latter, mainly due to the inherent faculties of retraction and contraction directed by nervous mechanism, which is chiefly sympathetic in nature. The latter (the pelvi-abdominal circulation), however, is more dependent on physical conditions, and it seems to me particularly on intrapressure.

Immediately after delivery, from the rapid diminution in the size of the uterus in a practically closed cavity (peritoneal), intra-abdominal pressure is at a low ebb, as evidenced by the more or less constant distension of the intestines at this time. In like manner the intra-abdominal and pelvic veins are much distended, as shown by the terribly free regurgitation of blood in *post-partum* haemorrhage when the uterine sinuses are not thoroughly closed.

The return of intra-abdominal pressure to its normal must be mainly brought about by the retractability of the abdominal muscles, which under the most adverse conditions occurs to a partial extent. This, it is natural to suppose, must be greatly stimulated by the voluntary contraction of these muscles, in a like manner as the involuntary contractions of the uterus increase retraction. By increased pressure, passive pelvic venous congestion will be relieved and the circulation accelerated. To this probably is due the origin of the time-honoured binder as a substitute for the atonic, relaxed abdominal muscles.

In the present day management of the puerperium by enforced absolute rest in the recumbent position the abdominal muscles are not stimulated to retraction, and remain more or less atonic; and women rely on the maintenance of abdominal pressure, and, what is of greater importance to them, the return of their figures, to the inconvenience of a binder pulled to the verge of their asphyxiation by the energies of a nurse, with a result which is, alas! but seldom successful. Surely a more rational and natural, not to say efficient, means would be the contraction of the abdominal muscles themselves through voluntary movements. In this way not only would the figure be more readily restored to its pristine elegance, but the intra-abdominal circulation accelerated, and the other sequelae of defective intra-abdominal pressure, such as constipation, diminished.

Considering the puerperium from a pathological point of view, one may say generally it is beset mainly by four varieties of complication:

1. Septic inflammation.
2. Uterine displacements.
3. Subinvolution.
4. Venous derangements.

The question naturally arises, Are any of these influenced deleteriously or otherwise by the assumption of the erect attitude and moderate exercise?

Sepsis.

As regards septic inflammation, no one can for a moment maintain that the position of the puerpera can be a primary source of infection. On the other hand, after infection has occurred, it seems reasonable to suppose that the freer drainage of the genital tract acquired by the upright position must necessarily be of advantage in facilitating the escape of the infected lochia; this must also be further aided by the increased intra-abdominal pressure induced by muscular contraction of the abdomen. The erect position has by various writers been suggested as of value. Thus Rueff, in the *Expert Midwife*, 1634, writes:

> Let the child delivered woman be brought to her bed, then let her lie on her backe, let her stretch out her legs and hold them wide abroad so much as shall be convenient, the other part of her body being so upright that she may rather seem to sit than to lie down, because by that means if any superfluous matter doth remain it may more commodiously pass away.

There can be little doubt, physically speaking, that this is correct reasoning. If so, how much more satisfactory must the entire erect attitude be? In this connexion, I may state that several patients have, during their first day's exercise, expelled large clots, which, should the women have rested in the recumbent position, would probably have remained in the genital passages for an indefinite period as mediums of septic incubation.

Involution.

As regards the question of uterine involution, other conditions being normal, the position of the patient must influence it but slightly; even, however, in this respect it is only reasonable to suppose that the increased intra-abdominal pressure which results from the contraction of the abdominal muscles must act in a salutary manner, mainly by stimulating the intra-abdominal venous circulation, and thus preventing passive uterine congestion.

Uterine Displacement.

On first impressions one might be rather apt to suppose that, from the increased weight of the uterus, displace-

ments of the organ in a backward or downward direction would be predisposed to by the early adoption of the erect position; this, however, is not borne out by the clinical facts, in which it will be noted that it occurred in 2 per cent. On closer reasoning from a physical standpoint, the erect posture must, I think, be considered a distinct factor in the preservation of the normal forward position of the uterus, and infinitely superior to the recumbent dorsal position at present practised.

When lying on the back the weight of the enlarged uterus must tend to stretch the round ligaments, which are the main structures in securing the forward position of the fundus; it thus predisposes to retroversion, should they be atonic or relaxed. On the assumption of the erect position, intra-abdominal pressure must, on the other hand, tend to accentuate the normal forward inclination of the fundus by pressing it downwards towards the pubes, and traction on the round ligaments is avoided.

An extreme example of the benefit of the vertical position in this connexion I observed on a private patient who, after her first confinement, acquired a decided backward displacement, which gave rise to much trouble, and, owing to prolapse of the ovaries, was impossible to keep in position by vaginal supports. Fortunately, she became pregnant again, and, by rising on the third day after labour, the uterus was maintained in its normal position, with the result that she is now perfectly well, and freed from the discomforts of her previous displacement.

If we concede, as I feel we must from the facts before us, that the normal forward lie of the uterus is favoured by the erect position of the patient, it is absolutely unnecessary to argue that prolapse will equally be avoided, as the prime factor in the initial stage of downward displacement is retro-displacement, by which means the uterus is disposed in the axis of the outlet. This is quite in accordance with the clinical facts from the cases observed, as in none was there the slightest evidence of prolapse.

VENOUS DERANGEMENTS.

Perhaps the complication, the result of early rising, most dreaded by the lay mind is sudden death, due to pulmonary thrombosis and embolism. That this rare complication should play such a prominent part in this connexion is easy to account for, for it is an accepted fact that the vast majority of instances of this dreadful calamity occur after the tenth day, when the puerpera, according to conventional custom, has either risen, or at least has been allowed to sit up in bed. In the same way, white leg and phlebitis are particularly prone to develop about this same time.

As is well known, the blood of the puerperal woman is highly fibrinous and coagulable, hence the liability of these complications. To prevent coagulation it would appear to me to be most essential that the rate of the venous circulation should be stimulated. This can be most readily acquired by muscular exertion; thus *a priori* one would expect that by exercising the limbs and at the same time increasing intra-abdominal pressure by contractions of the abdominal muscles, the tendency to dilatation of the veins and sluggishness of the circulation through them must be avoided, and the tendency to coagulation diminished.

Besides these major complications, the mere maintenance of complete rest must tend to muscular atony. As we all know, on first rising after from ten days to three weeks in bed, the puerpera stands and walks with difficulty, and has to undergo a continued convalescence before the normal tone of her muscles has been recovered. On rising on the third day, however, there is little loss of muscular power, standing and walking are easily and comfortably accomplished. In like manner, the figure is more effectually and rapidly restored by the voluntary action of the abdominal muscles than by the most strenuous efforts of the nurse in tightening the binder. Yet another and important complication is minimized, namely, constipation; this is but natural to expect from the increased intra-abdominal pressure by exercise of the abdominal muscles. Its diminution by the adoption of the methods suggested is one of the most striking advantages noted.

It is difficult to understand why woman has been condemned for thousands of years to so much enforced idleness. In consulting ancient literature there is no evidence that the prescription was founded on a physiological or even a physical basis. In primitive races immediate exercise was the usual custom, the woman, to cleanse herself, at once after the birth of the child plunged into the lake or stream near which the confinements were usually conducted.

In what might be termed "the religious epoch," when priests assigned to themselves the position of obstetrical specialists, this practice seems to have been discontinued, and woman subjected to the ordeal of purification, which varied in detail amongst different authorities, but mainly consisted in enforced solitude for from ten days to three weeks, which was chiefly spent in the recumbent posture, doubtless from want of anything better to do. From this probably arises the term "confinement," so generally used for the act of child-bearing. Throughout this epoch empiricism rather than physiology was the basis of obstetric management, and this was determined by the supposed mystical powers of the priesthood. The religious atmosphere which pervaded obstetric practice 3000 B.C. is most interesting, and deities presiding over labour were innumerable. Roman mythology is particularly resplendent in such, from Mena, the goddess of the monthly flow, to Diana Lucina, who presided over labours.

Cleanliness seems, however, to have been at the root of practice, as shown by the teaching of the ancient Egyptians, from which sprang that of the Israelites. Gradually, however, the priest and the physician became severed, till in the time of Hippocrates, 400 B.C., a new era may be said to have become developed, and a considerable advance was made in the conduct of labours, by science founded on a higher, that is to say, a physiological, basis.

The work of Hippocrates, associated with that of Celsus and Soranus, seems practically to have been continued without change through the Middle Ages, and it is not until the time of Ambroise Paré (1550) that any advance can be said to have been made. From that time to the present day obstetrics has flourished through the efforts of Chamberlen, Smellie, Levret, Simpson, and a host of others. All their energies seem, however, to have been directed to improvement associated with the actual delivery, little or no change having been suggested in the management of the puerperium. Probably this was due to the fact that it was founded upon the religious edicts—on the observance of cleanliness and necessary purifications. It has therefore remained in a realm of theory, and no practical change has been advocated. The puerpera still remains condemned to rest in solitude without any true explanation of its nature having been considered.

From time to time specifics of various kinds are recommended. Thus Mauriceau, in the *Accomplished Midwife*, 1673, suggests the application of "the skin of a black sheep flayed alive to be laid all over the belly and lie on for 4 or 5 hours. A remedy of much trouble, for there must always be a butcher ready for every woman that is laid, who must for that purpose be in the very chamber or at least in the house that so they may have the skin very hot."

Ill like manner the application of cataplasms over the "privites" are recommended in textbooks. One of these consisted of "2 ounces of oil of bitter almonds and 2 or 3 yolks and whites of new laid eggs stirred together till it becomes of the consistence of a poultiss, which being spread upon a cloth must be applied to the parts, and when she hath fully done cleansing herself—which is usually after the 18th or 20th day—a fomentation is recommended of a decoction of pomegranate peel, cyprus nuts, acorns, Provence roses and alum."

In a general *Treatise of Midwifery* by Deones, 1720, p. 263, the following occurs:

> She can't be kept too quiet, she must be on her back with her head a little raised. She must turn herself as seldom as possible: she must be kept so warm that she may be constantly in a breathing sweat, and must not trouble herself in family cares or news, and must talk little and see very little company.
>
> Nobody is permitted to enter a lady of Quality's chamber for the first 9 days, neither has she any other light but candle night or day, and in the last place let her not point foot to the ground till the tenth day.

Penal servitude such as the above is at the present day fortunately not general, although in many instances it still exists in a but slightly modified form. Doubtless the skin of a sheep flayed alive and aromatic poultices have had their

day and been discarded, but not so the isolation and its concomitants. This probably is the result of the blind acceptance of principles founded on religious belief.

And the question naturally arises, Is there more reason for the latter than the former? Are the fads of Mauriceau or Diones any worse or based on any less secure foundation than the fetish of a despotic priesthood? Are we as a progressive profession blindly to accept the practice of the latter merely on account of its antiquity or its religious origin, without any investigation from a scientific aspect? Surely not! It is in this attitude I have ventured to bring this important subject before the society for discussion.

I know I am sailing in dangerous proximity to an explosive mine loaded with tradition, prejudice, and superstition, the products of an ancient mystic empiricism, and sentiment; but I feel if one's armour be truly tempered with the modern improvements of physical and physiological science and practical experience, its most violent explosion can only result in a passing noise.

Changes in ancient customs, like hereditary attributes, are difficult to vary, and must be slowly attempted. The profession and the public cannot be expected suddenly to alter the teachings of their childhood. The instant adoption of a reformation such as I propose cannot be expected. Like the breaking of morphine or other habits, it must be gradual; but I feel convinced, both from practical proof and scientific reasoning, that a great change is bound to come in our treatment of puerperal women. Unless there is valid reason founded on a scientific and practical basis, it seems to me unbefitting of a learned profession such as ours to condemn them to an enforced tedious convalescence, the whole object of which resolves itself into the maintenance of an ancient mystic custom of so-called "cleansing." Theoretically it rests only on precept founded on empiricism; practically it has no foundation whatever, so far as my experience shows. It is a subject the importance of which cannot be overestimated. It demands mature consideration from a rational aspect. I feel, therefore, that no apology is required for bringing it before the society for serious discussion.

Three Demonstrations

ON

CONGENITAL MALFORMATIONS OF PALATE, FACE, AND NECK.

GIVEN AT THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

BY

PROFESSOR ARTHUR KEITH, M.D., F.R.C.S.ENG.,

CONSERVATOR OF THE MUSEUM.

I.

THE material which has gradually accumulated in the various metropolitan medical museums during the last hundred years affords the basis for a very complete study of the various forms of cleft found in the palate and upper lip of children at birth. While the specimens which are shown at these demonstrations are derived from the museum of this college, it has also been possible for me, thanks to the unfailing courtesy of those in charge of the medical schools of London, to have free access to the valuable material on the shelves of their museums. A classified list of the total number of specimens at my disposal is given in Table I. Museum specimens are not representative of the run of cases met with in practice; the slighter and, from a surgical point of view, the more interesting lesions are sparsely represented, whereas the more severe forms, often associated with other grave lesions, predominate.

TABLE I.—*Classified List of Specimens showing Congenital Clefts of the Palate and Upper Lip in Metropolitan Medical Museums.*

	A.	B.	C.	Total.
1. Palate cleft into three parts	14	12	2	28
2. Palate cleft into two parts	3	12	2	17
3. Median cleft extending from the premaxilla to the uvula	4	3	7	14
4. Cleft of soft palate	3	0	0	3
5. Cleft of uvula	4	1	0	5
6. Cleft on both sides of premaxilla	1	0	0	1
7. Cleft limited to one side of premaxilla ...	1	0	1	2
8. Median cleft due to absence of premaxilla	1	2	4	7
9. Bilateral harelip	1	0	3	4
10. Unilateral harelip	0	6	0	6
11. Median harelip	—	—	—	0
	32	36	19	87

A. Specimens in the Museum of the Royal College of Surgeons of England.
B. Specimens in the museums of metropolitan medical schools.
C. Specimens of cleft palate in mammals other than man, chiefly in the Museum of the Royal College of Surgeons of England.

TRIPARTITE PALATE.

In this, which must be regarded as the most severe form, the three elementary parts of the palate are widely separated. In all cases the lesion is remarkably alike, a typical example being shown in Fig. 1. In the middle element from before backwards are to be recognized (1) the middle part of the upper lip; (2) the premaxillary part of the palate, carrying the incisive papilla, which is joined to the upper lip by a fraenum; (3) the lower border of the septum of the nose, which is wider, shallower, and longer than normal; (4) the varying number of dental sacs on the premaxilla: in 16 cases only the two middle incisors are carried; in 3 cases one lateral incisor as well as the two middle (as in the specimen shown in Fig. 1), and in 4 cases all four incisors. In no case did the premaxilla in these cases show a suture between the ectognathic and mesognathic parts. The nerves and vessels of this element are the naso-palatine. On each lateral or maxillary element three distinct areas can be recognized (Fig. 1): (1) the alveolar area on which may be seen an elevation over the sacs of the two milk molars, another over the canine and frequently a third, often on the margin of the cleft, over the lateral incisor (Fig. 1); (2) a plicate or rugose area marked by folds; (3) a smooth narrow marginal area (see Fig. 1). When the mucous membrane is removed, the maxillary or lateral element is seen to be supported by the superior maxilla and palate bones. The nerves and vessels of the maxillary elements are the descending palatine.

The Nature of the Lesion.

Seeing that fusion of the three elements to form the palate begins in the human embryo at the fifth week, a period at which the branchial arches are best marked, it is only natural that one should turn to fishes to find as a normal condition one comparable to that seen in the tripartite palate of the malformed child. Embryology, too, leaves us in no doubt as to the class of fishes in which the condition should occur; the more we know of the early development of the mammalian embryo, the more we become convinced that it has much in common with the Selachii or shark tribe. The tripartite palate is an arrest of development at a Selachian stage. In Fig. 2 is shown the mouth of the dogfish: what at first sight appears to be its upper lip is divided by two furrows—the olfactory or naso-buccal—into three parts, a mesial and two lateral. The part between the furrows represents the middle nasal process of human embryology—the process which gives rise to the nasal septum and premaxilla. The furrows which represent extensions of the nasal openings towards, or actually into, the buccal cavity of the shark, are divided by a fold from the middle process (see Fig. 2) into two functional parts—an upper, the anterior nares, by which water may enter the nasal

* In 555 cases at the clinic of von Bruns at Tübingen, Dr. Gustav Haug (*Beitrüge fur klin. Chirurgie*, 1904, Bd. 44, p. 254) found that the tripartite palate occurred in 15 per cent. (against 38 per cent. in the London series), bipartite palate in 23 per cent. (against 22 in the London series), unilateral harelip with no cleft of the palate 40 per cent. (against 9 per cent. in the London series).

cavity, and a lower or posterior nares, by which the water may be drawn into the pharynx as that cavity expands during respiration. At first sight the comparison seems imperfect, for the nasal furrows of the shark appear to lie rather on what may be named its face and entirely in front of the teeth. But these teeth behind the furrows in the shark's mouth are carried not by the maxillae but by the palate bones—bones represented in the human skull by the vertical processes of the palatines—situated, as is the shark's, at the posterior nares. The premaxilla and the premaxillary part of the palate are absent in the shark, but there can be no doubt that the area of tissue lying between the nasal furrows represents the part which bears the premaxilla in higher vertebrates, and that in the course of evolution the roof of the mouth has been extended on to this area.

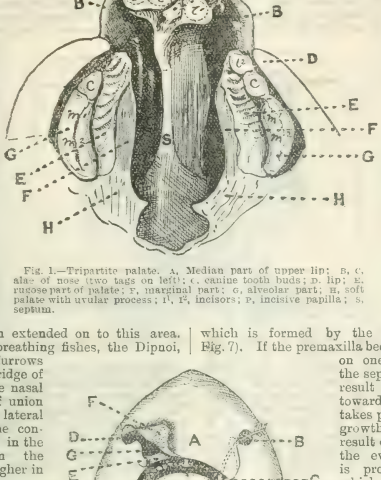


Fig. 1.—Tripartite palate. A, Median part of upper lip; B, C, alae of nose (two tags on left); C, canine tooth buds; D, lip; E, rugose part of palate; F, marginal part; G, alveolar part; H, soft palate with uvular process; I^1, I^2, incisors; P, incisive papilla; S, septum.

In those remarkable air-breathing fishes, the Dipnoi, the margins of the nasal furrows have actually fused. The bridge of tissue thus formed across the nasal furrows is the earliest form of union between the mesial and lateral elements of the palate. The condition of cleft palate, normal in the shark, has disappeared in the Dipnoi, and all vertebrates higher in the scale than fishes.

The stage of development seen in the Dipnoi may be studied more conveniently in amphibians. In Figs. 3 and 4 are shown side by side the palate of one of the larger frogs and of a lion cub—one of the many which have been born in the gardens of the Zoological Society of London with cleft palate. In the frog's palate a premaxilla has appeared, and it has extended across the nasal furrow and fused with the maxilla, so that a horseshoe-shaped alveolar arcade is now formed. The amphibian form marks a distinct stage in the evolution of the palate, and one at which development may be arrested, as shown by the specimen represented in Fig. 4. In the human embryo the Selachian stage is superseded by the amphibian during the fifth and sixth weeks of development; the mesial or premaxillary processes unite then with the lateral or maxillary element of the palate. During the seventh and eighth weeks the third or mammalian stage is entered on; from the lateral or maxillary elements two palatal processes grow out and fuse in the middle line, fusion commencing behind the premaxillary element and ending at the uvula (Fig. 4a). Within the palatal processes the horizontal plates of the maxillary and palate bones are developed. Arrest may occur at any point of the third stage. The development of the horizontal palate rendered the evolution of mammals possible; without such a palate suction and mastication are impossible, unless the breath be held while these acts are in progress.

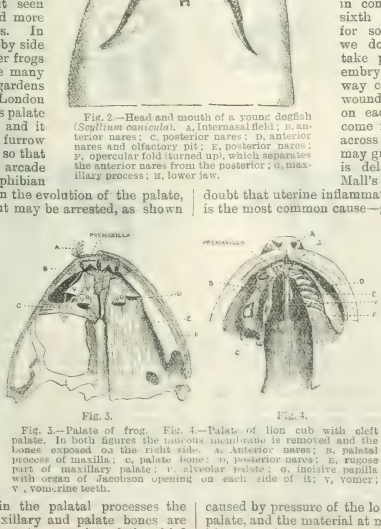


Fig. 2.—Head and mouth of a young dogfish (*Scyllium canicula*). A, Internasal field; B, anterior nares; C, posterior nares; D, anterior nares and olfactory pit; E, posterior nares; F, opercular fold (turned up), which separates the anterior nares from the posterior; G, maxillary process; H, lower jaw.

The Degree of Separation between the Various Parts of the Palate.

The late Professor His was of opinion that clefts in the palate resulted from irregular and inco-ordinated growth of the three elements which go to form it. That the growth of the three parts is irregular in the later months of fetal life there can be no doubt (see Figs. 1 and 5). The septal part of the mesial nasal process is abnormally long, so that the premaxilla projects some 6 or 8 mm. in front of the maxillary parts of the palate. The increase in length of the septum is due not to the vomerine part of the septum, but to that part of it which is formed by the premaxillary processes (see Fig. 7). If the premaxilla becomes adherent to the maxilla on one side the extra growth of the septum still takes place, with the result that the premaxilla is bent towards the side on which union takes place (Fig. 5). Irregularity of growth is not the cause but the result of the cleft condition. From the evidence to be produced it is probable that the processes which form the palate were in contact during the fifth and sixth weeks of development, but for some reason—the exact cause we do not know—union did not take place then. The union of embryological processes is in every way comparable to the healing of wounds; the epithelial coverings on each side of the nasal groove come in contact and form a bridge across which the uniting mesoblast may grow. If for some reason union is delayed — and from Professor Mall's observations there can be no doubt that uterine inflammation, sometimes from syphilis, is the most common cause—growth in the several elements of the palate causes them to separate, and once a breach in their continuity has been effected, union cannot afterwards take place. The younger the fetus the smaller the cleft, not only absolutely but relatively. The width of the fissure between the palatal processes of the superior maxilla varies from 7 to 20 mm. in the tripartite palate; 14 mm. is the average in eight full-time children; in a fetus at the fourth month this cleft measured only 1 mm. Brophy[1] has suggested that the subsequent separation is caused by pressure of the lower jaw and tongue against the palate, and the material at my disposal is in harmony with his suggestion. He also makes the statement that there is

Fig. 3. Fig. 4.

Fig. 3.—Palate of frog. Fig. 4.—Palate of lion cub with cleft palate. In both figures the mucous membrane is removed and the bones exposed on the right side. A, Anterior nares; B, palatal process of maxilla; C, palate bone; D, posterior nares; E, rugose part of maxillary palate; F, alveolar palate; G, incisive papilla with organ of Jacobson opening on each side of it; V, vomer; V', vomerine teeth.

no atrophy of the parts that go to form the palate, but this is certainly not the case in the specimens I have examined. In three palates of adults the cleft was in the average 20 mm. wide, the breadth of the palate 64 mm.; the bony parts of these palates were thus 10 or 15 mm. less than normal. In newly-born children the deficiency affects the inner or marginal area of the palate (see Fig. 1), but it does not amount to more than 3 mm. on each side. Whether the cleft continues to increase after birth I am not in a position to say, but, judging from the width of the cleft in the adult palate, I conclude that the parts do not continue to separate after birth at the rate they did before birth.

Imperfect Degrees of Union.

In Fig. 5 there are shown very imperfect strands of union between the premaxillary and maxillary processes. A study of these throws much light on the condition of cleft palate. The slightest degree of union is shown in Fig. 5 A, where a strand of fibrous tissue covered by epithelium unites the ala of the nose to the premaxillary process; this represents the rudiment, or rather vestige, of the union of the mesial and lateral nasal process to form the boundary of the anterior nares. In B, C, D (Fig. 5) increasing degrees of union are shown. In the fullest degree (Fig. 5, D) the uniting band forms a bridge on which four elements end in attempting to reach the premaxillary process—(1) the ala of the nose, (2) the lateral part of the upper lip, (3) the dental groove, (4) the palatal process of the upper maxilla. These strands of union have apparently become stretched by the unequal or irregular growth of the parts which go to form the palate and upper lip; occasionally blunt conical processes occur on each side of the cleft, evidently the remnants of a strand which has broken under the strain.

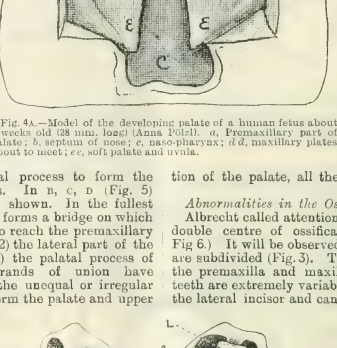


Fig. 4A.—Model of the developing palate of a human fetus about 6 weeks old (28 mm. long) (Anat. Polyt). *a*, Premaxillary part of palate; *b*, septum of nose; *c*, naso-pharynx; *d d*, maxillary plates about to meet; *e e*, soft palate and uvula.

The Relationship of the Incisor Teeth to the Clefts.

It is well known that the cleft usually lies between the middle and lateral incisors. In 41 cases I was able to verify the position of the fissure; in 23 it passed between the lateral and middle incisors; in 9 it passed between the lateral incisor and canine. In 7 cases the lateral incisor had not developed on the side of the fissure; in 2 cases a third incisor was developed. To explain the varying relationship of the fissure to the incisor teeth Albrecht supposed that the premaxilla was developed in two parts, that carrying the mesial incisor being developed in the mesial nasal process, and that carrying the lateral in the lateral nasal process. Koelliker, and afterwards His, showed conclusively that Albrecht was wrong—that the lateral nasal process did not enter into the formation of either the palate or lip, but because Albrecht offered an explanation of appearances with which surgeons are familiar while the great anatomists offered none, his theory has been widely accepted in England. The true explanation of the varying relationship of the teeth to the fissure is extremely simple. The germ of the lateral incisor, although carried by the mesial nasal process, is laid down in the cleft between the maxillary and premaxillary (mesial nasal) processes. In cases of cleft palate the processes move apart under the strain of growth during the middle and later months of fetal life. Three fates may then overtake the bud of the lateral incisor: it may be destroyed, it may remain attached to the premaxillary process, but more frequently it moves outwards attached to the maxillary process. I have seen it stranded on the bridge of tissue between the processes or loosely attached at one side of the fissure or the other (see Fig. 5, c).

Mr. Clement Lucas has pointed out that families in which harelip and cleft palate are hereditary have usually the lateral incisor of very small size; Professor Warnekros regards an irregularity in the development of the lateral incisor as the actual cause of cleft palate, and points out not only the frequent absence but the occasional duplication of this tooth in families in which cleft palate is apt to occur. Yet the bud of the lateral incisor belongs to and is developed in connexion with the mesial nasal process. In the condition of cyclops, where this process fails to take part in the formation of the palate, all the incisor teeth are absent.

Abnormalities in the Ossification of the Premaxilla.

Albrecht called attention to the fact that there is often a double centre of ossification in each premaxilla. (See Fig 6.) It will be observed that the amphibian premaxillae are subdivided (Fig. 3). The position of the suture between the premaxilla and maxilla and its relationship to the teeth are extremely variable. As a rule it ends between the lateral incisor and canine, but it may vary in position, as Schumacher has pointed out, to the degree illustrated in Fig. 7, ending in extreme cases either between the lateral and middle incisor or between the canine and first milk molar. The lateral part of the premaxilla is formed within the maxillary process; the process of ossification is not influenced by the position of embryonic fissure; the premaxilla is laid down in adjacent parts of all three processes that go to form the face.

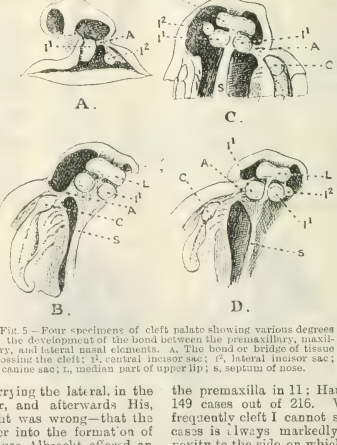


Fig. 5.—Four specimens of cleft palate showing various degrees in the development of the bond between the premaxillary, maxillary, and lateral nasal elements. A, The bond or bridge of tissue crossing the cleft; i^1, central incisor sac; i^2, lateral incisor sac; c, canine sac; L, median part of upper lip; s, septum of nose.

THE BIPARTITE PALATE.

Having discussed in some detail the tripartite palate it will be sufficient to deal with the less severe, if commoner, forms more briefly. In the bipartite palate the premaxillary element has undergone normal union on one side, usually the right, with the maxillary process (Fig. 7). Of the 15 cases in man, the cleft passed to the left side of the premaxilla in 11; Haug found it on the left side in 149 cases out of 216. Why the left side is the more frequently cleft I cannot say. The nasal septum in such cases is always markedly deformed, presenting its convexity to the side on which the cleft is situated. In 4 of these cases union had occurred not only between the premaxilla and maxilla, but also between the nasal septum and edge of the palatal processes of the maxilla and palate bone (see Fig. 7). In the usual form the lower border of the nasal septum is free, there being no union between the maxillary and mesial nasal elements.

Intermaxillary Clefts.

As we have seen, the union of the premaxillary element with the alveolar parts of the maxilla marks a distinct stage in the evolution of the palate—a stage well seen in amphibians. The next stage—the mammalian—lies in the development and union of the maxillary palatal processes already to be seen in the amphibian palate (Fig. 3). One would expect arrests to occur in the passage from the amphibian to the mammalian stage (see Fig. 3), although such specimens are comparatively rare in museums (of the 14 cases on my list, 7 are from the human subject, the others are from the dog, lion, sheep, and calf); they are the more common form of cleft palate met with in practice. Mr. J. Berry[2] records a list of 67 cases, of which 36 were due to non-fusion of the maxillary processes in the roof of the mouth. In these cases there is a real arrest, not only of the fusion of the processes, but of their actual growth. Clefts of the soft palate alone or of the uvula alone, as may be seen from Table I. are comparatively rare; I have seen 3 of the former and 5 of the latter. They indicate an arrest towards the end of the development of the palate when the fetus is about 50 mm. long and entering the third month of intrauterine life. Even when the palate is completely cleft the two halves of the uvula are clearly indicated as tags projected from the border of the palatal folds. The dissections in the College Museum show the tensor and levator palati well developed; the upper part of the superior constrictor and palato-pharyngeus are stronger than in normal palates.

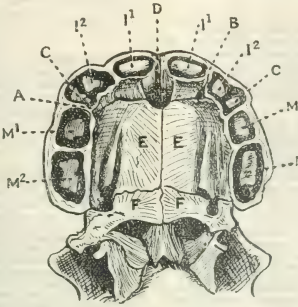


Fig. 6.—Palate of newly-born child (natural size) to show the elements entering into its formation. A, Suture between premaxilla and maxilla ending behind canine tooth; B, the same ending behind central incisor; C, canine; D, vomer appearing in naso-palatine fossa; E, marginal part of maxillary palate; F, horizontal process of palate bone.

Premaxillary Clefts.

The cleft or clefts may be limited to the premaxillary part of the palate. In the three cases included in Table I the fissure was unilateral in two cases and bilateral in the third. In these cases arrest had occurred during the period of formation of the primary palate, whereas the process of formation of the secondary palate had been successfully carried out. Besides lateral premaxillary clefts, there are two others, mesial in position, which are rare but worthy of notice. In one of these forms the embryological elements (the globular processes) which go to form the middle third of the upper lip and premaxillary palate have been arrested at an early stage, and a mesial cleft is thus left in the lip and palate. Of the 7 cases on my list 3 are from human subjects (see Fig. 8) and 4 from pigs. In such cases a lateral incisor may be present. The other form is very rare—namely, where a mesial cleft occurs in the upper lip similar to that which occurs in the hare. Cases of this cleft are described by Mr. Clutton and Mr. Edmund Owen in man. The two globular processes have not completely united together. This anomaly is much commoner in the domestic mammals than in man, as shown by the specimens in the College Museum.

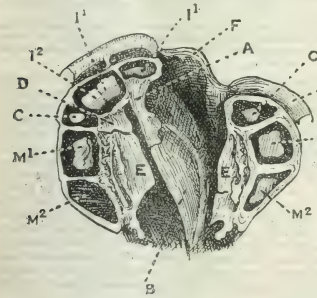


Fig. 7.—Bipartite palate. A, Septal process of premaxilla; B, vomer; C, canine; D, premaxilla; E, marginal part of palate; F, ala of nose; G, maxillary part of lip; I^1, I^2, incisor teeth; M^1, M^2, milk molars.

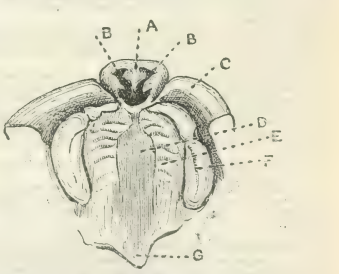


Fig. 8.—Absence of premaxillary part of palate (preparation No. 203). A, Vestige of septum and premaxillary process; B, B, anterior nares; C, lateral part of upper lip; D, marginal part of maxillary palate; E, F, rugose and alveolar parts; G, soft palate and uvula.

The Causation of Harelip.

Although comparatively few family histories are at present available, there is a general agreement among those who have inquired into the matter that harelip and cleft palate are very apt to occur in certain families. Mr. Edmund Owen, Mr. Clement Lucas, and Professor Warnekros have recorded family trees showing the degree to which the condition may be inherited.* More suggestive of the true cause of the condition are (1) the malformation with which cleft palate is so often associated (spina bifida, anencephaly, morbus cordis, atresia ani, and club-foot); (2) the observations of experimental embryologists. Such malformations may be produced by disturbing the development of the embryo by various means, but one may conclude from Professor Mall's observations on malformed human embryos that morbid uterine or placental conditions are the commonest cause of malformation of the lip and palate in man. In a group of sixteen malformed human fetuses, the prevailing lesion being anencephaly, the following defects of the palate were found: Divided uvula 4, divided soft palate 1, division of hard and soft palates 1, anterior bilateral fissure 1, unilateral premaxillary fissure 1, bipartite palate 1, failure of ossification of hard palate 1. Eleven out of the sixteen showed malformation of the palate. These malformations are rarely met with amongst natives of Africa and of the South Sea Islands.†‡

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[1] Brophy, T. W., *Jour. Amer. Med. Assoc.*, 1907, vol. xlix. p. 662. [2] British Medical Journal, October 7th, 1895. [3] Murray, R. W., *Lancet*, 1904, vol. i. p. 1423.

* For details as regards heredity see Le Dentu. *Comptes rendus de l'Académie des Sciences*, 1908, t. 146, p. 1133.

† A skull of a South Sea Islander in the college collection shows a cleft of the palate.

TWO CASES OF HEAD-NODDING IN INFANTS.

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THIS disorder is, perhaps, of sufficient rarity to make the following notes of two cases worth recording.

CASE I.

Male child, 4 months old, brought on February 26th with complaint of nodding of the head and twitching of the eyes.

Parents are healthy and have had no nervous diseases. At birth the baby was healthy, but after the first week it was bottle-fed, and when seen at 11 months old was very thin, shrivelled, and weak. There was no digestive disorder, but it was having a very weak milk and water mixture, and on the proportion of milk being raised it soon improved and put on flesh.

The head-nodding was first noticed at the beginning of February, the baby being then 5 months old; the twitching of the eyes was not noticed till one or two weeks later.

The child is now plump, but small and pale; when sitting and holding its head up, the head usually nods, with a monotonously regular forward and backward motion and very occasional jerk to the left side; sometimes the head is kept still for about half a minute, and it is usually still when leaning against some support, or when the gaze is fixed intently on some object. There is nystagmus in both eyes, but more in the right one; it is in a horizontal direction, and the optic axes remain parallel. Contrary to the nodding of the head, the nystagmus is much increased when the gaze is arrested by something bright. The mother says it is usually absent for a few minutes on waking after a good sleep; otherwise it is almost constant.

The mother complains that it cries a great deal, is frequently sick, and is constipated; it is fed at intervals of two hours, and has its milk "diluted" with strong barley water.

Two grains of phenazone were given daily, at first in ½-grain and later in 1-grain doses, and suitable alterations in the feeding were suggested.

March 22nd. Nystagmus much less; head-nodding quite as much as before, but now more horizontal and less in the sagittal direction. It cries very much less and is not sick.

There was no nystagmus noticed after April 4th, and no head-nodding after April 7th. When seen a week later there were no signs of any teeth coming through.

CASE II.

Female child, 18 months old, brought on March 23rd with complaint of nodding of the head and twitching of one eye.

The mother is epileptic; she is 29 years of age, and has had fits about once monthly for about eight years; her memory is considerably impaired. Father healthy.

The child has been previously healthy, except for some inflammatory condition of the left eye a few months ago, after which the twitching of the eye and head-nodding was noticed. The precise date of onset could not be ascertained, except that it was after Christmas.

The child is big and firm, walks well, and has no sign of rickets; it has all its teeth, except the back double ones. It has been breast-fed, but now has a mixed diet, and has no digestive trouble except constipation.

As a rule, her head is kept still; but occasionally, when she was sitting quietly on her mother's knee, it would nod in a horizontal direction, being pulled round more to the left than to the right side; this would last for half a minute and then stop. The eyes seem quite steady, but when the gaze is directed to the right there is nystagmus in the left eye in a horizontal direction. No nystagmus was observed in the right eye in any position.

Some treatment was directed to remedy the constipation, but none for the head-nodding.

A fortnight later the condition, especially the nodding of the head, was rather more marked, and in another fortnight it was practically the same, but the condition vanished about April 29th.

It was suggested by Henoch that the disease might be of reflex origin, a result of dentition, but neither of these cases lends any support to that view, as their cessation was not marked by any eruption of teeth and the first case was evidently not yet entering on the period, while the second was almost at its close. Rickets has also been suggested as a causative factor, but it was certainly absent in these cases. Raudnitz and J. Thomson have contended that it is due to the dim light in which these babies are living and trying to use their eyes, and this theory fits these two subjects well: the seasonal incidence, in the darkest months of the year; the environment—both these babies lived during the day in dark ground-floor rooms, with one window facing east, but shut out from most of the sky by tall buildings within a few yards, and neither baby was often in the open air. So far as one could find out the two had never been in contact, but their homes were less than 50 yards apart.

One could not be sure that the treatment by phenazone did anything to lessen the duration of the disease; from the time they came under observation both cases ran a course of between five and six weeks.

CLONIC SPASM OF THE DIAPHRAGM ASSOCIATED WITH A CERVICAL RIB.

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I CAN find no case of clonic spasmodic contraction of the diaphragm recorded, except as part of the condition known as hiccough, from which this case differed, in that the glottis remained open during the spasm. Having the two very rare conditions of diaphragmatic spasm and a large palpable cervical rib coexisting in one patient, the probability that one condition stood in some relation to the other is very great indeed.

An anæmic, undersized girl of 16, markedly neurotic, first presented herself on account of a hard lump in the left posterior triangle of the neck, which she said had appeared lately. It was thought that this was probably a cervical rib, but, in the absence of an *x*-ray examination, an absolute diagnosis was not made. There were then neither pressure symptoms nor scoliosis, so that no operative treatment was recommended.

Three weeks later, following over-fatigue, the patient was seized suddenly one night with clonic spasm of the diaphragm—a sudden violent contraction, sometimes reduplicated, with each inspiration, exactly like hiccough, except that, owing to the absence of laryngeal spasm, there was not the characteristic "hic" sound of that condition. The spasm, which persisted day and night, was very severe—sufficiently so as to shake the bed in which the patient lay. It was practically uninfluenced by treatment—bromide, belladonna, chloral, even morphine under the skin, giving no, or merely transient, benefit. At the end of a fortnight the patient being in a miserable condition, apparently in danger of losing her life from weakness and loss of sleep if the spasm continued, it was decided to operate, the diagnosis being cervical rib causing irritative pressure on the phrenic nerve.

The lump was found to be a cervical rib running almost vertically downwards and forwards beneath, and parallel to, the inner border of the left trapezius. Across its anterior surface passed the cords of the brachial plexus, which were carefully separated and drawn aside. It was then possible, by working an elevator round the bone, to separate it from the dome of the pleura behind, and to remove the whole body of rib in its periosteum, about two inches in length, from its articulation with the transverse process of the seventh cervical vertebra above to its cartilaginous junction with the upper surface of the first rib below. The phrenic nerve was not recognized during the operation.

The patient made a good recovery. The spasm of the diaphragm ceased as she passed under the influence of ether, and has never returned during the two years that have elapsed since the operation.

There would appear to be two ways in which a cervical rib might cause diaphragmatic spasm: (1) By pressure on the vagus in the neck, causing a reflex contraction, much as derangement of the stomach may produce the ordinary hiccough by irritation of the terminations of the vagus in the gastric mucosa; or (2) by so exalting the normal impulse regularly passing down the phrenic nerve to produce the usual inspiratory contraction of the diaphragm by direct irritative pressure on that nerve trunk as to produce a violent spasmodic contraction of the muscle. The latter appears to me to be far the more probable explanation. The vagus in the carotid sheath lay some distance internal to the cervical rib, whereas the phrenic nerve in its course along the anterior surface of the scalenus anticus muscle must be exposed to pressure of a large cervical rib near the articulation with the scalene tubercle of the first rib.

The fact that removal of the rib, alone of the treatments tried, was directly followed by cessation of the spasm is another argument that this latter was probably caused by pressure of the rib, even remembering that *post hoc* is not always *propter hoc*, and that the administration of ether and the moral effect of the operation might conceivably have something to do with the cessation of the spasm. Whether the spasm was merely associated with the abnormal rib or whether the latter caused the former, as in all probability it did, this case, as far as I can trace the cases of cervical ribs in the *Index Medicus*, is unique. There are a number of cases of atrophy of the intrinsic muscles of the hand from pressure of a cervical rib on the

lowest cord of the brachial plexus recorded by Thorburn,[1] Lewis Jones,[2] and others. Keen[3] mentions that there are recorded four cases in which unequal pupil, unilateral sweating, or alteration in the palpebral fissure indicated pressure of an abnormal rib on the cervical sympathetic.

Cervical ribs may also press on the cutaneous branches of the cervical plexus, causing pains in the neck and shoulder; on the subclavian artery, causing either increased pulsation in the neck or impairment of circulation, even thrombosis or gangrene of the hand; or very rarely on the subclavian vein; but up till now the phrenic nerve seems to have escaped.

This case agrees with recorded experience that when symptoms are caused by the pressure of these ribs they are seldom noticed before puberty, probably owing to the ossification and increased rigidity of the ribs which then take place. Females are affected three times as often as males. It is noticeable that Russell[4] estimates that only 10 per cent. of those who have cervical ribs suffer from symptoms due to them.

With regard to removal of the offending rib, Keen[3] was able to collect, two years ago, 25 cases which had been operated on for the relief of various symptoms with no mortality.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RARE VARIETY OF FEMORAL HERNIA.

The following case is an example of a rare form of femoral hernia in which the sac protrudes beneath Poupart's ligament, but external to the femoral vessels. The patient was a woman, 58 years of age, who had undergone an operation for femoral hernia in the right side three years previously. For six days there had been abdominal pain and vomiting, the symptoms commencing suddenly while she was at work in her garden: for two days there had been constipation which was not quite complete, as flatus had been passed, and repeated enemata had produced a slight result. When seen, the pulse was 112, temperature normal, the abdomen was distended and there was some general tenderness. Just below and parallel with Poupart's ligament on the right side there was an old scar, and at the outer extremity of this scar and just external to the femoral vessels a little thickening could be felt; this small thickening was not tender and the patient declared it had been present ever since the previous operation; there was no swelling in the situation of the femoral canal. Owing to the fatness of the patient, the presence of the old scar and the unusual situation of the slight swelling present, I found it difficult to decide whether the patient was suffering from a hernia strangulated in an abnormal situation, or from some other form of intestinal obstruction. I therefore opened the abdomen in the middle line below the umbilicus; distended small intestine at once presented, and a little examination proved that there was a Richter's hernia into a small hernial opening just external to the femoral artery. The gut was easily separated by a little traction and was found to be undamaged; the hernial sac would just admit the tip of the index finger, Poupart's ligament could be felt in front and the pulsations of the femoral artery just to the inner side; the femoral ring itself was firmly closed. Owing to the condition of the patient no radical cure was attempted. The usual textbooks contain no account of the rarer forms of femoral hernia. Tillmanns's *Surgery* mentions the variety I have described and also a form in which the sac is placed behind the femoral vessels. Hesselbach has recorded a case in which the hernia accompanied the anterior crural nerve.

I have drawn attention to this case because a hernia appearing in one of these abnormal situations is apt to escape notice and lead to a mistake in diagnosis.

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A METHOD OF TEMPORARILY REMOVING COLOUR-BLINDNESS.

In the *Practitioner* for October, 1908, I ventured to put forward a theory of colour-vision, and, consequently, one of colour-blindness.

My contention was that the cells of the retina move in one direction in response to a red stimulus, and in another direction to blue, while failure to move in any certain direction means failure to convey to the brain the result of a colour stimulus. This view I justified by some experiments I had done with electricity on sensitive photographic plates.

With regard to the sensation of white, I held that colour-blind persons respond to that sensation, because the total or complete movement of the cells is produced by a process of contiguity, which overcomes a sluggishness of response to any individual colour.

My theory, I venture to think, is the only one on which we can formulate any method of removing or temporarily improving this impediment of colour-blindness. Anything that would improve the movements of the cells ought to have the effect of stimulating the retinal cells to more ready response to colour sensations; and as the calcium salts have that stimulating effect on the body cells, I came to the conclusion that a big dose of calcium lactate ought to remove colour-blindness, if only temporarily.

The first case to undergo the experiment was a medical friend of mine, whose response to green sensations was nil, but who, after only 10 grains of calcium lactate, was able to appreciate and differentiate green-coloured articles. The appreciation in this person was certainly not complete, nor was I surprised that such was the case, for one could hardly expect that such a small dose would perform miracles.

In the next case I decided to give a greater quantity of the calcium salt, and for a longer period before the experimental test, and with this idea in view I arranged for the patient—a young man, aged 25—to call at my house at 2 o'clock, when I gave him 10 grains of the drug, and at 3 another 10 grains, and at 3.30 5 grains. At 4 o'clock I put him through a colour test and found that his response to all the colours was distinctly better.

The only objection to the experiment was that the patient had a headache for a few hours afterwards.

In the third case I gave only 20 grains, but the result was just as satisfactory and quite as conclusive.

Three cases are not sufficient to prove any theory, but they are sufficient to justify one in asking those who have greater opportunities for testing it to be so good as to do so.

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Swansea.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

HAYWOOD HOSPITAL, BURSLEM.

THREE INTESTINAL OPERATIONS ON THE SAME PATIENT.

(By Harold Hartley, M.D.Lond., M.B., Ch.B.Manch., F.R.C.S.Eng.; Surgeon to the Hospital.)

A married woman, aged 34, was admitted on March 14th, 1907, suffering from strangulated and gangrenous right femoral hernia. Herniotomy was at once performed, but immediate resection with anastomosis was quite out of the question, as she seemed to be actually dying.

Although by vigorous restorative measures her general condition improved, it was some time before the desired passage of flatus and faeces was satisfactorily obtained. Then a free discharge of irritating, offensive, alkaline fluid began. Attempts to shield the skin were very unsuccessful. Sapraemia was marked and emaciation rapid. Neither a liquid nor a more solid diet, carbohydrates nor proteids, nor peptonization, made much difference to the discharge. Everything taken by the mouth appeared very quickly in a practically unchanged condition in the wound. Charcoal,

This case formed the basis of a paper read before the Staffordshire Branch of the British Medical Association.

for example—given as a sandwich and without fluid—was seen on the thigh in ten minutes.

On March 27th the wound measured 4 in. by 2½ in., and was correspondingly deep; all gangrenous intestine and sloughs had been got rid of, but the skin around the wound, between the thighs, and on the vulva, buttocks, and lower abdomen was in a very bad state.

On March 28th enterectomy with end-to-end anastomosis of the bowel was performed. The abdomen was opened above Poupart's ligament, and the two coils of intestine passing to the artificial anus brought outside and packed off. Each was then divided between a pair of clamps down to the mesentery at about 2½ in. from the artificial anus. The ends of the two segments passing to the fistula were closed by purse-string catgut sutures reinforced by three Halsted sutures of fine silk for each end. End-to-end anastomosis over a Robson's bobbin next restored the continuity of the bowel—the first layer of suture being a continuous one of catgut through all the coats and the outer layer a continuous Lembert suture of fine silk—special attention being given to including both layers of the mesentery. The abdominal incision was closed by a single layer of silkworm gut sutures.

Progress after operation was all that could be expected, and on June 10th the patient went to Rhyl.

After a month she returned and asked to have the fistula removed, as each day about two ounces of irritating alkaline watery fluid with a little stringy mucus were discharged. Only one pocket could be found; it admitted the whole of my little finger, which was gripped by the external opening. On coughing, the pocket was seen to be slowly evaginated, and showed extremely lively peristalsis. It quickly partially strangled itself, becoming erect and bluish-black in colour, but this condition gradually passed away, and it withdrew inside again.

On July 12th, 1907, the intestinal pockets were excised through an abdominal incision made to the right of the original one. Numerous adhesions had been contracted by the pockets, one of which had become dilated by retained secretion owing to occlusion of its mouth by pressure of the other.

Recovery was excellent. She is able to work, and remains very well at the present time (July, 1909). A truss is worn, as the scars have yielded.

Reviews.

GYNAECOLOGY.

WE are all apt to lay more stress on pathology than on normal histology, and, though the latter is fairly well taught in medical schools, we tend to forget it; and, as in hospital and private practice we have more to do with diseased than with healthy tissues, we grow more and more liable as time goes on to mistake health for disease. This kind of error is no doubt frequent in gynaecology, which involves much inspection of doubtful morbid tissue, chronic inflammatory changes, new growths, and so forth. Hence this fine *Atlas der normalen Histologie der weiblichen Geschlechtsorgane* supplies a distinct want. Drs. MORALLER and HOEHL,[1] pupils of the late Professor W. His, senr., and of Professor Doderlein, to which distinguished authorities they dedicate their work, announce that it was prepared, on the recommendation of His and Max Singer, to aid the practitioner in diagnosis and to serve for clinical instruction. They have taken great pains to collect good material for their excellent original coloured microscopical drawings, in which they have had the aid of some of the most renowned gynaecologists and histologists in Germany and they gratefully acknowledge their indebtedness to Professor ROBERT MEYER, the director of a great obstetrical laboratory in Berlin, who has assisted them for ten years in preparing and collecting specimens. The prospectus published with this first portion of the Atlas gives a list of all the plates, including those to come, among which will be, we are glad to learn, some illustrations of the human ovary at all ages; we have been too much instructed from cats and guinea-pigs, where the ovary differs in many respects from that in our species. There will also be drawings of a series of sections illustrating the course of Gartner's duct—a disputed point. The authors, we may add, do not spell the Dane's name "Gaertner." The first fasciculus illustrates, by means of beautiful plates, the histology of the labium, clitoris, urethra and parauretbral ducts, hymen, Cowper's glands, vagina, and cervix uteri. The remaining plates, more beautifully prepared, if possible, than those just mentioned, are devoted to the muscular coat, endometrium, submucous tissue and subserous connective tissue of the body of the uterus. Lastly, though the cardboard outer cover is separate and made to close in the atlas by means of tapes, the paper cover, text, plates, and descriptive letterpress are stitched together, so that the atlas, 11½ in. by 8 in. in measurement, is far more convenient for study or reference than many of its colossal and clumsy predecessors.

The title of the remarkable work by Mr. STEWART MCKAY of Sydney is somewhat misleading, as *Operations upon the Uterus, Perineum, and Round Ligaments*[2] suggests the inclusion of hysterectomy for cancer and fibroid disease, and for once it may be allowed that a longer title would have made the scope of the book more clear. Mr. Stewart McKay prefers to explain himself in an introduction. He mainly treats of the surgery of those immediate and remote lesions originating in injuries during the second stage of labour. He desires that the practitioner should know how to deal with primary lesions immediately after they have occurred, and how to understand and treat properly the results of neglect after these complications. He devotes one chapter, very properly, to anatomical points, discussing at length a very intricate subject. Without doubt, those who have the care of patients should understand this puzzling department of anatomy, and as far as good diagrams and drawings can serve, the author has done his best, but the anatomy of the pelvic floor and vulva is a ground of dispute amongst experts up to the present day. He makes clear the mechanism of perineal lacerations, warns the reader against false theories as to the supports of the uterus, and describes the scientific principles of perineorrhaphy. Then he devotes chapters to Lawson Tait's operation for ruptured perineum, to the surgical treatment of relaxed vaginal outlet, cystocele, rectocele, lacerated and hypertrophied cervix, and uterine displacements. Two other general subjects are included in this treatise—curettage of the uterus, and dysmenorrhoea. Mr. McKay is much to be commended for insisting that the use of the curette is a serious matter requiring foresight, skill, and careful after-treatment. We must congratulate the author on the excellence of his illustrations. The medical public have grown rather weary of diagrams, copied in textbook after textbook, intended to teach the reader how to repair a ruptured perineum. As a rule, the most youthful teacher of anatomy could justly criticize such drawings as far too small for their purpose. Mr. McKay has avoided these errors. His illustrations are all either absolutely original, or else drawn from Nature "after" some earlier authority. They are also big, properly lettered, and not overshaded. We include not only drawings of perineorrhaphy—a test subject—but all the other illustrations in the treatise. We know of no better drawing in any current works, even in the publications of the Johns Hopkins University, and Dr Dupuy, the artist, deserves the praise justly awarded to him in the publishers' preface. Thus Mr. McKay has produced a work without dispute pre-eminent for the teaching value of its illustrations of plastic operations. The text also is distinguished for its clearness. Plastic operations on the vagina and perineum have to be done, and Mr. McKay teaches the reader how to do them so that they may prove successful. How far shortening of the round ligaments and suspension of the uterus should be taught to the inexperienced is, on the other hand, highly questionable. Mr. McKay is known as the author of *The*

[1] *Atlas der normalen Histologie der weiblichen Geschlechtsorgane.* Von Dr. Franz Moraller, dirig. Arzt der gynäk. Abteilung des St. Marienkrankenhauses in Berlin, und Dr. Erwin Hoehl, Nervenarzt in Chemnitz, unter Mitwirkung von Professor Dr. Robert Meyer, Vorstand des Laboratoriums der geburtshülflich-gynäkologischen Universitätsklinik der Charité in Berlin. Part I. Leipzig: J. A. Barth. 1909. (Demy 4to, pp. 87, 26 coloured plates with descriptive letterpress. M. 15.)

[2] *Operations upon the Uterus, Perineum, and Round Ligaments.* By W. J. Stewart McKay, M.B., M.Ch., B.Sc., Senior Surgeon, Lewisham Hospital for Women and Children, Sydney, Member of the Royal Society of Medicine. London: Baillière, Tindall, and Cox. 1909 (Cr. 4to, pp. 471. Plates 148. 21s.)

Preparation and After-treatment of Section Cases, a publication which showed how thoroughly he understood the subject; he laid as much stress on after-results as on recovery from operation. In plastic surgery the patient should be insured, as far as art and science can be of any avail, against complications and bad after-results. We should have liked to have read more warnings of this kind than we find in Mr. McKay's newer work. Alexander's operation badly performed involves complications self-evident when we remember that the structures in relation to the inguinal canal are wounded, and that the uterine appendages may be diseased; the author warns the reader against the latter peril, but the beginner cannot always recognize pathological complications of this class. Nor are the inexperienced in a position to understand questions still disputed, such as ventrifixation and subsequent pregnancy, where the author disagrees with Herman and Giles. Still, as in the case of the far better established operations on the vagina, if suspension is to be done, it is best it should be done properly, and the author of course does his best in this respect. He is a safe and sure guide to the beginner who has to repair a perineum, and also to the experienced gynaecologist who has hitherto refrained from attempting those more questionable operations to which we have alluded, and who meditates their performance, not we trust until after much deliberation. No less experienced man should ever attempt them.

Dr. Meilhaber's work on bleeding and discharge from the uterus is based upon original researches by himself and his assistants, which have been published from time to time in medical periodicals.[3] His main object is to elucidate the cases described under the names of "endometritis," "chronic metritis," and "chronic engorgement." In his preliminary remarks he calls attention to the great differences in the physical characters of the uterus at different periods of life, and to the differences in the uterine functions in different women. Just as among the millions of women who inhabit this earth no two are exactly alike in all respects, so with their uteri. Before making too much of what may seem to us a morbid condition we must know the patient's age, parity, menstrual habit, and the period of the menstrual cycle. Although Dr. Meilhaber urges the importance of taking these things into account, yet we cannot say he throws much further light upon what the normal changes in the uterus are. Dr. Meilhaber thinks that many investigators have confined their observations too much to the endometrium, and that the muscular wall of the uterus is as important as its mucous lining. Some thirty years ago Braxton Hicks read two papers before the Royal Society, in which he called attention to the effect of uterine contractions in helping the circulation through the uterus. Dr. Meilhaber appears to have rediscovered this, for there is no mention of Braxton Hicks either in his text or his bibliography. He devotes several pages to what he terms "*insufficientia uteri*"; that is, that the circulation through the uterus is not properly carried on because the uterine muscular tissue does not act properly. If the uterus is large, it is often because there is an excess of fibrous tissue, which hampers and hinders the muscular fibres from doing their duty. If the uterus is small, there may not be enough muscular tissue adequately to help on the circulation. If from either cause there is uterine insufficiency, then menstrual irregularities, haemorrhages, chronic metritis, chronic engorgement, etc., are the usual result. This is the chief novelty, or rather relative novelty, in Dr. Meilhaber's teaching. He describes carefully and well the treatment *quâ* haemorrhage, of the different kinds of disease that may cause excessive loss of blood; but his practice is not materially different from that which is taught in our London medical schools, except that he is a little more inclined to argue *post hoc ergo propter hoc* than some of our more critical English writers. Then he thinks Thure Brandt's massage of the uterus is good, because it stimulates uterine contraction. He states that he has sometimes obtained good results from Apostoli's electrical treatment. There is no doubt, he holds, that atmokausis (steaming the uterus) gives very good results as far as stopping bleeding. But there are possible after-effects: atresia of the canal, with haematometra—local peritonitis from the steam penetrating the uterine wall, or we presume the Fallopian tubes. The work is one of considerable interest. We confess ourselves to be much in Dr. Meilhaber's own position—we are unable to feel sure that we can correctly interpret his observations from the imperfection of our knowledge of the physiological changes in the uterus.

Dr. Albert Blau, an assistant in the clinic of von Rosthorn at Vienna, has studied very thoroughly the questions concerning the origin and spread of tuberculosis in the female genital tract, and embodied his work in the form of a monograph on the subject.[4] He has read and summarized most of the recent German literature on the subject. He has not exhausted the literature, for he refers to nothing earlier than 1890, although there were persons who knew something about genital tuberculosis, and wrote excellent papers about it, before that date. He quotes a few French writers, and still fewer English, and the latter only through the medium of German abstracts. He has carried out a number of experiments in the Paltauf Institute for general and experimental pathology in Vienna. The whole investigation has been under the auspices of Professor Chrobak. He has analysed 36 cases of genital tuberculosis. In 25 of these 36 the adnexa were the seat of the disease; in 8 the adnexa and the uterus; in 3 the uterus only. The tubes only were diseased in 19 of the 25; in 6 the ovaries also. His general conclusions are as follows: In not one of his 36 cases could he find any evidence that the tuberculous infection had reached the uterus by way of the vagina. In guinea-pigs, animals peculiarly susceptible to puerperal infection, merely putting bits of tissue the subject of tubercle into the genital passage is not enough to infect the animal, unless it has been previously made specially susceptible either by parturition or by injury. He believes that the secretions of the female genitals are inimical to the tubercle bacillus, and that the epithelium of the female genital passage hinders the entry of the tubercle bacillus into the tissues. This, he thinks, explains why tuberculous disease of the genital organs is less common in women than in men, and in women less common than tuberculous disease of other parts of the body. In his view, such infection of the female genitals is only possible if susceptibility has been increased either by parturition or by some injurious influence; or if the tubercle bacillus is of an exceptionally virulent strain. These conclusions have at least this to recommend them: that they have been reached by much patient labour and study. English readers welcome the results of those who follow the precept of Harvey and seek out the secrets of Nature by way of experiment. But, unless the author can tell us how and why in a particular case the tubercle bacillus is an exceptionally virulent one, we have not advanced much by accepting his formula. His explanation remains a verbal one only. However, as countrymen of Harvey, we thank and praise Dr. Blau for his work.

Mr. Bland-Sutton and Dr. Giles's well-known *Diseases of Women*[5] appears now no longer clad in the familiar pale-green buckram, but bound in elegant blue cloth. As before, the authors have taken great pains in the revision of their standard manual without making it bulky, physically or otherwise. All authorities and teachers will admit that they were judicious in extending their chapter on injuries of the uterus, for the curette is freely and widely used nowadays, and many employ it who would not undertake an abdominal section. One of the first duties of the teacher is to warn his pupil that "minor surgery" is never free from peril—a truth which the annals of gynaecology have amply demonstrated. The authors, too, were wise in laying more stress than before on the relation of the vermiform appendix to diseases of the female organs. Other additions involve matter which is open to

[3] *Blutungen und Ausfluss aus dem Uterus, ihre Ursachen und Behandlung.* Von Hofrat Dr. A. Meilhaber. Mit 9 Figuren im Text und 4 Tafeln. München: Ernst Reinhardt. 1909. (Roy. 8vo, pp. 87. M. 2.50.)

[4] *Über die Entstehung und Verbreitung der Tuberkulose im Weiblichen Genitaltraktc.* Von Dr. Albert Blau, Assistenten der Klinik von Rosthorn in Wien. Aus der Klinik Chrobak in Wien. Berlin: S. Karger. 1909. (Roy. 8vo, pp. 95. 3 marks).

[5] *The Diseases of Women: A Handbook for Students and Practitioners.* By J. Bland-Sutton, F.R.C.S.Eng., Surgeon to the Middlesex Hospital and Senior Surgeon to the Chelsea Hospital for Women, and Arthur E. Giles, M.D., F.Sc.Lond., F.R.C.S.Edin., Surgeon to the Chelsea Hospital for Women, and Gynaecologist to the Tottenham Hospital. Sixth Edition, with 125 illustrations. London: Rebman, Limited. 1909. (Post 8vo, pp. 562; 125 illustrations. 10s.)

criticism. Mr. Bland-Sutton awards a chapter to fibrosis uteri, and states that he has removed the uterus sixty-seven times for fibrosis, and it is on that experience that the description of the disease given in this edition is based. The authors are quite right in teaching that adenomyoma of the uterus, to which they also grant a special chapter, is a grave malady, though histologically benign. The reviewer naturally turns to the paragraph on Wertheim's operation, to see what is taught about so radical a measure. We find it very clearly described, but feel that the authors are not enthusiastic about it. "The radical operation for cancer of the neck of the uterus," they declare, "is on its trial in Great Britain. The operative mortality is very high, and no reliable returns concerning the remote results are at present available." We quite agree as to the propriety of the new chapter on injuries to the ureter in pelvic operations, and understand perfectly why the authors take pains to show that it is a corollary of their views on Wertheim's teaching and practice. "Since the vulgarization of hysterectomy, and more especially in the operation of total hysterectomy, vaginal hysterectomy, and the so-called 'radical' operation for cancer of the neck of the uterus, the vesical segments of the ureters are very liable to suffer injury." No doubt "so-called" is rather cruel, but the opinions in a book meant to teach must be carefully expressed, and Wertheim's operation is a procedure to be learnt or rejected by the expert rather than to be taught to the pupil. In conclusion, we may repeat, for reasons which we have made clear, that the authors have taken great pains not only to bring the new edition up to date, but what is more important, to exercise judgement about new doctrines and methods.

We have already reviewed the three original German editions of the *Lehrbuch der gynäkologischen Diagnostik*, by Winter and Ruge, and Dr. John G. Clark,[6] with the assistance of Dr. Max Goepp as the literary translator, has brought out an English version with the title, *Textbook of Gynecological Diagnosis*, after the best style familiar to us who read the products of the Johns Hopkins and other Transatlantic presses. Dr. Clark admits in his preface that, "although much has been established in the practice of gynaecology in the United States, we owe much, nevertheless, to English and Continental gynaecologists for the discovery and inauguration of many essentials in theory and practice." It is comforting to find that Old England is not always overlooked, and that Dr. Clark graciously mentions us in the preface to a translation of a work published in another European country. We must all agree with the translator's praise of German gynaecology in general and of this textbook in particular; indeed, neither needed an apology. There is a lamentable ignorance of the language of Goethe and Schiller in the United Kingdom, and its literary construction is somewhat intricate. This translation will therefore be of great value to those who are ignorant of German, as the pages on the diagnosis and physical signs of abdomino-pelvic tumours are highly instructive; moreover, they encourage the reader to study and examine every case under his care thoroughly rather than to begin what many are too ready to call "diagnosis" by opening the abdominal cavity. The pathological illustrations and text are also of great importance, owing to the high authority of their author, Carl Ruge, and the skill of his artistic assistants. The Briton should, therefore, be grateful to the translator who has enabled him to read the text in his own language.

The literature of the diseases of women has become voluminous, but Dr. Gottschalk has prepared a manual which is to a certain degree original. *Gynäkologie*[7] is the eighteenth volume of Dr. Luithlen's *Medizinische Handbibliothek*; it is very handy and well condensed, contrasting with too many textbooks that are clumsy in form and irregularly elementary and advanced in text. Thus the letterpress is void of references, free from padding with elementary anatomy, and not cumbered with pathological subtleties, nor does the author overload his pages with details of the countless modifications of abdominal and plastic operations too often admitted into elementary and synoptic works. The handbook is mainly clinical, with concise accounts of therapeutic and surgical measures for the relief of diseases of the female organs. The illustrations are artistic and instructive.

Dr. Catherine Macfarlane's *Handbook of Gynecology for Nurses*[8] is a good synopsis of the anatomy, pathology, surgery, and therapeutics of the female genito-urinary tract, published in a convenient and portable form. The essential portion, however, is that which pertains to the duties of a nurse. The authoress lays stress on clothing, gauze, folding of pads and gauze-sponges, etc., as well as on the selection and sterilization of instruments for operations, and the directions for irrigation of various parts and cavities, and the preparation of enemata and saline transfusion are written in plain language and made more clear by illustrations. The modern nurse has a great deal to learn, and this work can teach her much and help her to remember what she has been taught already. It is free from many objectionable features familiar to us in publications of this class, and lacks nothing that is really necessary.

MEDICAL INSPECTION OF SCHOOLS.

In Dr. Hogarth's *Medical Inspection of Schools* those interested or employed in the work of medical inspection in our public elementary schools will find much that is valuable.[9] The school doctors are greatly in need of such a lead as he gives, and without necessarily endorsing all his opinions, we may say that they will find information on many of the difficult questions which constantly crop up in connexion with their duties.

The aims and objects of medical inspection are clearly set forth, and many fallacies are exposed. The effect of routine inspection on outbreaks of epidemic disease, the seemingly normal child, the demand for statistics, exclusion of children from school, unsatisfactory school buildings, closing of schools for infectious disease, the extent of medical inspection of a child, the school nurse, the evolution of a school doctor, medical attendance on the poor, and public charities in connexion with school work, are only a few of the points on which Dr. Hogarth gives great help to the beginner and support to those with more experience. In other respects, however, neither the writer, nor as yet anyone else, can give reliable guidance. What is possible in London is not necessarily so elsewhere, and what works well in one city may not do so in another. Education authorities, and the representatives of ratepayers vary in their estimate of what is desirable. The effect on general practice which the appointment of general practitioners as school doctors would have, and the question of home visiting, are too airily dismissed. Many of Dr. Hogarth's suggestions as to what should be done with regard to medical inspection and how it should be done, are unfortunately, as yet, quite beyond the confines of practical politics, but, taken as a whole, they form in most respects an excellent ideal to aim at and work for. Perhaps it is unusual to consider the obstacles in the way of the school doctor taking an ideal place as an authority capable of, and with the right to dictate as to school curricula, but these exist. The experienced teacher, Government and local inspectors, educational experts and "interested persons" all exist, and each has as yet a stronger voice than most school doctors. The case for school dentistry, as of paramount importance does not seem convincing, and the provision of free dentistry at this juncture may handicap the general scheme heavily.

The suggestion that attendance at school clinics must be optional and free, is open to grave objection under both heads, though perhaps treatment would have to be technically optional.

[6] *Textbook of Gynecological Diagnosis.* By Dr. Georg Winter, Königsberg, with the collaboration of Dr. Carl Ruge of Berlin. Edited by John G. Clark, M.D., Professor of Gynæcology, University of Pennsylvania. After the third revised German edition. Illustrated by 6 full-page plates and 346 text illustrations in black and colours. Philadelphia and London: J. B. Lippincott Company. 1909. (Sup. roy. 8vo, pp. 690. 25s.)

[7] *Gynäkologie.* Von Professor Dr. Siegmund Gottschalk in Berlin. Vienna und Leipzig, Alfred Hölder. 1909. (Crown 8vo, pp. 370; 46 illustrations and 1 coloured drawing. M. 6.)

[8] *A Reference Handbook of Gynecology for Nurses.* By Catherine Macfarlane, M.D., Gynecologist to the Women's Hospital of Philadelphia. Philadelphia and London: W. B. Saunders Company. 1908. (Pott 8vo, pp. 150; 68 illustrations. 6s.)

[9] Oxford Medical Publications. *Medical Inspection of Schools.* By A. H. Hogarth, M.B., B.Ch.Oxon., D.P.H., M.O.H. for Buckinghamshire, Assistant Medical Officer (Education) London County Council. London: Henry Frowde, and Hodder and Stoughton. 1909. (Cr. 8vo, pp. 360. 6s.

The problem of the badly-nourished child, and the position and duty of the educational authority with regard to it, have not been seriously tackled yet—certainly not in London, and are peculiarly difficult. One would have wished for an extension of the chapter on diseases affecting school life, and some more useful information with regard to mental defectives. The treatment of stammering is not difficult, and in most cases is quite satisfactory, and should be included; respiratory exercises alone are not sufficient.

The specimen card for the record of medical inspection hardly seems adequate for the purposes which it has to fulfil, while that suggested by the Board of Education certainly contains more than can be made practical use of.

On reading the regulations as to exclusion of children from school for infectious diseases, one wonders how it is that medical officers of health differ so much on these points, and whether uniformity in similar districts is out of the question.

Dr. Hogarth's book, following as it does a somewhat similar work relating to the public schools in the United States, will place school medical officers in a much better position to look at the whole question from all sides and with adequate knowledge.

INTERNATIONAL CONGRESS ON ALCOHOLISM.

(*Continued from page 218.*)

Alcoholism in Hungarian Children.

Dr. Imre Doczi, of Budapest, the official representative of the Hungarian Parliament, read a paper on Alcohol and its Effects on Children. He said that in some communities children were given bread soaked in brandy, while in other instances brandy was given to stop them crying. Because of its extraordinary cheapness, brandy was often given to the children for breakfast. In consequences of the degenerating influence of alcohol the birth-rate in communities where these practices prevailed was becoming less every year. The opportunities for indulging in intoxicating liquors had grown to such an extent that pupils in the first and second elementary classes came to the schools quite intoxicated. Reports had been received of pupils being so intoxicated that they were unable to do their lessons. The influence of this juvenile drinking on mind and character was very marked; 36 per cent. of the children were found to be careless and idle, 11 per cent. dull of comprehension, 13 per cent. incapable of any prolonged attention. In other directions the effects were equally startling; 30 per cent. were inattentive, restless, and nervous, 15 per cent. melancholy and abnormally shy, 30 per cent. coarse and without any feeling, 9 per cent. vindictive and given to stealing, 18 per cent. immoral, while only 20 per cent. showed no apparent evil effects. Three-fourths of the children who indulged in alcohol were found to be of colourless complexion and pale, with sunken cheeks; one-fifth showed arrested development of the body; and in only one-fifth was the disturbing influence of alcohol unnoticed.

Alcohol and Home Life.

Mrs. Bramwell Booth, in a paper entitled "Alcohol in its Relation to the Home," pointed out that liquor not only dissipated the substance and material resources of the family, but opened the door to the most vicious forms of self-indulgence and impurity, and was the implacable enemy of all that belonged to the ethical advance of the community. Too often the children's milk was sacrificed to the father's beer, and that experience proved that alcohol was the natural ally and friend of the beast in man.

Juvenile Temperance and the National Life.

Miss Cora Stoddard, of Boston, U.S.A., read a paper in which she said that many employers of labour demanded total abstinence on the part of their employees. There were two million positions in the United States closed to men who were in the habit of using strong drink. The bankruptcy of nations was due less to the decline of trade or periodic waves of commercial depression than to their loss of moral ideals. It was in harmony with the spirit of medical and social science that preventive efforts should be put forth in time rather than that redemptive measures should be adopted when too late. An inquiry instituted in American institutions showed that two-thirds of the inebriates began to drink when under 16 years of age. A systematic course of temperance teaching would not only influence the nations of to-day, but its greatest effect would be seen in the nations of the future.

Mr. G. Sharples (Manchester), who represented the National Union of Teachers, said the Education Department had at last embodied in its regulations a permission to enclose the seed of temperance teaching in lessons on hygiene. He was sure there was not a school in this country where the effect of the syllabus would not be most beneficially felt, but in addition to the temperance teaching there was the personal factor of the teacher to be reckoned with, and a great step forward would be gained when the teachers were taught, as it was probable they would be in the new training colleges, the vicious effects of alcohol.

Alcohol and the National Services.

Referring to the navy, Vice-Admiral G. King-Hall said that 80 per cent. of the crimes against discipline, such as leave-breaking and insubordination, were due to excess in taking spirituous liquors. On the other hand, temperance improved the health and morals of the men, and gave clearer minds and a higher development of the powers of the intellect. There were now about 25,000 total abstainers belonging to the Royal Navy Temperance Society.

Colonel L. G. Fawkes said there had been a great improvement in the sobriety of the British army during the last twenty-five years. Twenty-five per cent. were now abstainers, and the non-abstainers drank half the amount formerly consumed.

An evening meeting in connexion with the Congress took the form of a demonstration of the temperance forces of the national services, the departments represented being the navy, army, postal service, the railways, and the nurses. The Lord Chief Justice, who presided, said that after forty years at the Bar and ten years as a judge he had no hesitation in saying that 90 per cent. of the crime of this country was caused by indulgence in strong drink. There was a custom prevalent in the Temple of giving drinks to both barristers, witnesses, and clerks on the completion of litigation cases. What was eminently desired was to promote among the young fellows in the Temple the manliness and courage which would enable them to resist the temptation to drink.

Miss Agnes Weston, who was escorted by a company of the Royal Naval Temperance Society, elicited great applause by the statement that the flags of two tectotal admirals were flying between London and the Nore, and if Admiral King Hall's ship had been in commission there would have been a third.

The Hon. A. H. Holland-Hibbert, who spoke on behalf of the railway service, said that the membership of the London and North-Western Railway Society was increasing at the rate of 2,000 per year. He condemned the practice, happily declining, of railway passengers offering drink to guards and porters.

World-wide Prohibition.

A meeting was held at the Imperial Institute for the purpose of establishing a world-wide confederation in favour of prohibition.

Mr. E. P. Gaston, Honorary Secretary of the Provisional Committee, outlined the objects of the confederation. They had met to bring into closer touch with each other the many organizations which were endeavouring to put an end to the legalized liquor traffic throughout the world. Twenty-five to thirty countries were represented. The confederation was to be carried on by voluntary workers, who would collect and distribute information.

On the motion of Mr. Bruce Mickleham, the following resolution was carried unanimously:

> That the present is the opportune time for taking some steps which may better amalgamate the various forces working along their respective lines towards the common aim of the suppression of the drink traffic.

Mr. Guy Hayler and Mr. Gaston were then elected convener and secretary respectively, with power to elect a representative committee to draw up a constitution and make a report.

(To be continued.)

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 22nd, 24th, 26th, 27th, 28th, 29th, 30th, and 31st.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

SECTION OF ANATOMY AND PHYSIOLOGY.

Thursday, July 29th, 1909.

THE proceedings began with a paper on the development of the epithelial elements of the ovary by Dr. H. Louise McIlroy, the meeting being held jointly with the Section of Obstetrics. Miss McIlroy, from observations on the puppy, kitten, pig, and the human species in the early fetal condition, had concluded that the embryonic germ cells growing from the surface of the ovary into the deeper parts formed two distinct cellular structures, and that Pflüger's tubules, which had been a considerable source of worry to workers in this field, were nothing more than tubules of follicle cells from which the oocyte had fallen out. Dr. Waterston pointed out that practically all the stages of ovum formation could be found in sections of the adult ovary. Oogenesis was not confined to embryonic life, but was continued during a long period. He had made a number of observations upon the later stages of oogenesis in a number of different mammals, and traced the history of the follicle cells onwards to the final stages, and showed their nutritive character and the part which they played in the formation of the zona pellucida. In opening the discussion on the deep afferents, their function and distribution, Professor C. S. Sherrington, in an admirably lucid address, said it would be necessary to limit his observations to two main groups of afferents—(1) visceral and (2) somatic or muscular. He referred at the outset to the fact that when food is swallowed there is a point in the fauces beyond which, under normal conditions, no field of consciousness exists. The mouth is the intermediary zone between the external areas of sensation and the "blank inside." Therefore, in this portal of entry to the alimentary canal certain striking features were found, namely, that chemical agents were able to stimulate the appropriate nerves and produce sensations. Beyond this point sensations did not arise. Co-ordinating factors did exist, however, between the various parts of the alimentary canal, their action being exerted, according to modern researches, through the medium of the blood, any nervous adjustment being doubtful. From this point Professor Sherrington passed to the consideration of pain in viscera, and explained how the views of Lennander and Meltzer were diametrically opposed. He himself was inclined to believe that there must be some sensation, since reactions could be obtained by acting on the sympathetic system going to viscera. There resulted vaso-motor reactions—a rise of blood pressure—and it was difficult to believe that there was no sensation associated with this phenomenon. But the animals being anaesthetized, it was impossible to be certain about this. The views of Head and Mackenzie were then considered, and again there was a wide divergence of opinion on visceral pain. Professor Sherrington next passed to the consideration of deep afferents which are not visceral, but are deep, that is, "deep touches." These deep touches were registered by muscular nerves. Nerve fibres going to muscle were heavily laden with afferent fibres—more than half. Where the muscles passed into the tendon, was a regular nest of afferent fibres, and in tendons, Golgi's organ was present—which again was an afferent structure. Tonus occurred in extensor muscles; it might occur in the flexors, too, but there was no proof of this. Briefly, tonus was present in those muscles which antagonized gravity. In conclusion, Professor Sherrington observed that the whole system of afferents formed an important group, for a study of which clinicians, physiologists, and anatomists might combine and attack certain problems, such as (1) the distribution of afferent nerves in muscles of different type and shape: and (2) the distribution of visceral afferents, concerning which there were so many discrepancies. In the subsequent discussion Professor Milroy, Professor Dixon, Professor Macdonald, Dr. Haddon, Dr. Graham-Brown, Dr. R. J. Anderson, and Dr. Rutherford took part. Professor Sherrington briefly replied. Dr. Waterston demonstrated some reconstruction models of the fetal pelvis, which had been built under his supervision by Dr. Pattie. He also showed Lissauer's instrument for taking outline tracings of the skull in various planes: also Martin's instrument and an improved form of Matthews's perigiyph. A paper was read by Dr. Milroy from Dr. Leonard Hill, which was of the nature of a reply to Haldane and Douglas, who, in the *Proceedings of the Physiological Society*, June 26th, 1909, have stated that "Hill's recent observations as to the effects of previous inhalation of oxygen in diminishing distress caused by muscular exertion can be explained as a result of the deep breathing which is apt to occur in persons to whom oxygen is administered."

Friday, July 30th, 1909.

Dr. J. S. Goodall and Mr. H. G. Earle (Middlesex Hospital, London) read a paper, illustrated by lantern slides, on the structure of the pancreas in relation to function. The three essential points which they brought forward were (1) that the structure of the elasmobranch pancreas is the same as that of other vertebrates; (2) that in the elasmobranch pancreas structures are found which only exist in other vertebrates in an embryonic condition; (3) that there is continuity between the zymogenous tissue, islet tissue, and the duct. Professor B. Moore (Liverpool), in a communication on the biochemistry of haemolysis, pointed out that the red blood corpuscles contained lecithin, which was of the nature of a membrane or cement, and that all haemolytics had the property of dissolving lecithin membrane and the fats of fatty acids. Haemolytics might be classified in three groups: (1) Fatty acids and their soaps; (2) bile salts and their derivatives; (3) glucosides of the saponin-digitalin group. On introduction into the circulation they caused slowing of the heart, and stoppage in a condition of systole. Another property which these bodies possessed was that of causing conjugation with other substances to form more complex molecules. The latter part of the communication dealt with the "balancing" action of haemolytic bodies, an action which, in certain cases of combination, resulted in failure to act on the red blood corpuscles, whilst in other combinations union took place, the "balancing" action was lost, and both attacked the corpuscles. Dr. H. M. Johnston read a paper on the distribution of the intercostal nerves, from which it was apparent that these nerves give off many branches to the pleura and subpleural tissue, whilst others arising from the white rami communicantes of the lower thoracic nerves proceed to supply the diaphragm. Professor Peter Thompson gave a demonstration of the development of the human heart in the first month. He showed three models of reconstructed hearts from human embryos of 2.5 mm., 3 mm., and 7 mm. A special feature which they illustrated was the changes in position of the U-shaped ventricular loop in the third and fourth weeks of intrauterine life. Other points dealt with were the fate of the sinus venosus, the formation of the right and left venous valves, and the appearance of the aortic end of the heart tube. Dr. Dickey gave a lantern demonstration on the cervical pleura. He had dissected it in thirteen adults with a view to determining its surface relationships to the clavicles and sterno-mastoids, etc. He had taken measurements of the

thoracic inlet and the mean breadth of the sterno-mastoids from a topographical point of view. In his research he had utilized eight male and five female subjects. Mr. Norman Rutherford (Edinburgh) demonstrated an excellent model, reconstructed from wax plates, of the chondro-cranium of the trout at the time of hatching. The model included also the brain, cranial nerves, and sense organs, the whole forming a complete picture of the anatomy of the head region. It was probably unique in combining so many structures in the one model. As far as the chondro-cranium was concerned, it took an almost exactly intermediate position between the models made by Stöhr in 1882 of the earliest stages and that made by Gaupp of the Stadium Optimum of the teleostean primordial cranium. The last two papers were communicated by Professor R. J. Anderson (Galway), and proved to be most interesting both to the anatomist and physiologist. The first dealt with some results of the uniformity of action and habit; and the second with characters that make for persistence, particularly as regards the skeleton. Many suggestive points were raised, but the lateness of the hour prevented any adequate discussion.

SECTION OF DERMATOLOGY AND ELECTRO-THERAPEUTICS.

Thursday, July 30th, 1909.

AFTER the exhibition of some cases of skin affections —including one case of acanthosis nigricans—by various members, Sir Malcolm Morris (London) opened a discussion on mucous membrane lesions. He dealt separately with a great number of these, as seen in practice associated with the principal kinds of skin affections. In urticaria the mucous membranes of eyelids, lips, mouth, tongue, pharynx, and vulva might be the seat of wheals. In lichen planus the mucous membrane of the mouth was not infrequently attacked, and the condition was sometimes diagnosed as leukoplakia. Among the manifestations of tuberculosis on the mucous membrane, the most important was lupus vulgaris. In a large proportion of cases the starting point of the disease was certainly in the nose, from which it spread to the face. In leprosy, he said, the disease probably showed itself first on the mucous membrane of the throat and upper air passages; it might also begin in inflammation of the mucous lining of the nose. The speaker urged the importance in all cases of skin disease of examining the mucous membrane of the mouth and nose; but since lesions situated there were seldom sufficiently characteristic to form the basis of a diagnosis, the recognition of their true nature, in the absence of any dermal affection which might throw light upon the case, presented enormous difficulty. When the mucous membranes alone were the seat of lesions, syphilis was always the first thing to be thought of, but it was most important to remember that there were conditions not commonly met with—notably, herpes of the prepuce or vagina, lupus, and true leukoplakia—which were wholly independent of syphilis. Dr. Louis Wickham (Paris) and Dr. R. B. Wild (Manchester) also laid emphasis on the need for making thorough examination of the mucous membranes in all cases of skin disease. The latter said that lupus vulgaris, which by all outward appearance, was limited to a few spots, was sometimes found on deeper examination to have involved unnoticed a large portion of the mucous membrane of the nose. Dr. Sequeira (London) had also been impressed by the importance of early diagnosis of lupus of the nose. He thought that a large number of such cases had been overlooked, even by the specialist. Dr. Goodwin Tomkinson (Glasgow), in a paper on the etiology and treatment of pruritus ani, spoke highly of the benefits to be derived from spa treatment in this distressing condition. He had observed marked amelioration follow a course of Harrogate strong sulphur water. Among the various things suggested for local application, he inclined to the use of tar preparations, and also counselled for temporary relief the use of water as hot as could be borne. Dr. Humphris (London) advocated static electricity for this condition, and Dr. Metcalfe (Bradford) pointed out that a frequently unrecognized cause of pruritus ani was the *Oxyuris vermicularis*, and that many persons suffered from the irritation of this parasite during the whole of their lives. Two cases of acanthosis nigricans were described in separate papers, the one by Dr. R. B. Wild (Manchester) and the other by Dr. St. George (Lisburn). Dr. Wild noted the occurrence of this disease among persons who were subjected to great heat in the course of their work: his own case was that of a sugar-boiler. Dr. St. George said that no drug or combination of drugs could be depended on for a cure in this condition, and all that could be done was to make the patient observe hygienic principles and have plenty of open air.

Friday, July 30th, 1909.

The greater part of the sitting was devoted to a discussion of the supposed risks attending the *x*-ray treatment of ringworm. The subject was opened by Mr. R. Higham Cooper (University College, London). Speaking of brain injury, he noted the total absence of authoritative records of its occurrence among the many thousands of cases which had been treated. He was of opinion that with the most ordinary care such injuries were not possible; but, granting the possibility of their occurrence, he would limit them to cases in which a hard tube was employed, and would consider all risk absolutely avoided when the patient was treated with a moderately soft one. Dr. Margaret Dobson (Bradford) said that during the past four or five months she had treated 270 ringworm patches by means of the *x* rays, and in the 3 cases out of that number in which the disease was due to the *Megalosporon endothrix* the patches, in one case after twenty-four hours and in a second after ten days, swelled up, the skin becoming raised, oedematous, and glossy, and the hairs loose. In such cases, she thought, there was a greater risk of burning the scalp and producing permanent baldness. Professor Wild (Manchester) thought that it was easy to exaggerate the importance of scalp ringworm, which in itself was rarely serious, and he condemned the proposed compulsory treatment by the *x* rays. Dr. Sequeira (London Hospital) said that the risk of injury to the brain was purely imaginary, but he suggested that no child under 3 years of age should have its scalp irradiated. He had followed up 267 of his patients who had been inmates of orphan asylums and the like, and who, after treatment, had been under the expert observation of the medical officers and teachers, and not a single case of mental abnormality following *x*-ray treatment had been observed. He was of opinion that with proper apparatus used with sufficient care, and according to Sabouraud's instructions, the *x*-ray treatment was efficient, rapid, and safe. But, as a precautionary measure, he personally insisted on the parents and guardians understanding the nature of the treatment, and giving a written guarantee that no liability was incurred. Dr. Goodwin Tomkinson (Glasgow) also believed that the possibility of cerebral injury was entirely chimerical, as was proved by the vast number of cases successfully treated, not only in this country but also in Paris. Dr. R. W. MacKenna (Liverpool) suggested raising the age-limit under which the scalp of no child should be subjected to irradiation to 5 years. Dr. Howard Pirie (London) related an instance in which an overdose was given, resulting in permanent baldness over a patch of the scalp and temporary weakness of health and skin eruption. The child made an excellent recovery, however, and no brain symptoms were noted. Dr. Ernest Dore (London) referred to the fact that the smaller doses of *x* rays had a temporary stimulating effect, and suggested that if overdoses were making "idiots wholesale," it was reasonable to assume that they were also making statesmen, poets, artists, and the like by stimulating doses. Dr. Metcalfe (Bradford), Dr. Howell (Middlesbrough), and Dr. Humphris (London) also took part in the discussion, and at the close, in another paper, Dr. Hall-Edwards (Birmingham) dealt with the cognate subject of special

susceptibility to x rays, and said that, apart from the allaying of pain, he had failed to note any effect upon the nervous system, except in very advanced cases of chronic x-ray dermatitis such as his own. In the course of short papers, Dr. Howard Humphris dealt with the subject of static electricity; Dr. Hazleton, with the x rays in gynaecology; and Dr. S. W. Allworthy, with a case of cutaneous actinomycosis.

SECTION OF DISEASES OF CHILDREN.

Thursday, July 29th, 1909.

THE most important item in the day's programme in this Section was a discussion on functional neuroses in children, opened by Dr. J. A. Coutts, of London. After dealing with faulty deglutition and congenital dyspnoea, he passed on to pyloric stenosis, of which he had some doubt as to whether it could fairly be classed as a purely functional neurosis, seeing there was some difference of opinion as to whether it really originated solely in gastric spasm. Dr. Robert Hutchison's views as to its frequency and its invariable curability by medical treatment alone, were, he thought, contrary to the experience of some other observers. The speaker also pointed out the relation between cyclic vomiting and migraine, and dealt briefly with incontinence of urine and faeces, with night-terrors, nightmare, tic, chorea, hysteria, and habit-spasm. Dr. G. E. Shuttleworth (London) drew attention to the close interdependence of neurotic conditions in children on one another, and criticized the romantic character of the picture-books now in vogue for children. He showed also how readily morbid fancies passed into permanent obsessions. Mr. Sydney Stephenson (London) remarked on the necessity for correcting errors of refraction, the relief of which often had a magical effect in removing blinking and similar functional neuroses in children. Dr. George Carpenter (London) enlarged on the difficulty of separating purely functional cases from those which ultimately proved to have an organic lesion underlying them. Dr. Essex Wynter (London) insisted on the much more rapid cure of acute cases of chorea with chloretone, the average duration being reduced to nine days. At the same time the drug might produce peeling of the hands and feet or erythematous rashes. Dr. J. W. Simpson (Edinburgh) stated clearly the divergence of opinion prevailing with regard to pyloric stenosis, its frequency, its pathology, and treatment, whether operative or medical. Dr. R. W. Leslie (Belfast) confirmed the value of chloretone in chorea, and described *Rhus aromatica* as a useful remedy for enuresis. Dr. McCaw (Belfast) described a fatal case of pyloric hypertrophy where the redundant gastric mucous membrane formed a valve impermeable to fluids. The President (Mr. H. J. Stiles of Edinburgh) was convinced that genuine cases of pyloric stenosis were amenable to nothing short of surgical measures. The condition might sometimes be traced to intestinal disturbance, apart from gastric troubles. Dr. Coutts, replying, thought chloretone should be used with caution, especially in private practice. He had limited the carbohydrates in enuresis without any apparent benefit. Mr. Alexander MacLennan (Glasgow), read a paper on Madelung's subluxation of the wrists, illustrated by photographs and skiagrams of cases before and after cuneiform osteotomy. He also exhibited a series of stereoscopic pictures of various interesting conditions in infancy and childhood. Dr. A. Dingwall Fordyce (Edinburgh) contributed an analysis of 137 cases of abdominal tuberculosis in young children, where the abdominal condition was uncomplicated by lesions elsewhere. The rôle of diet was considered, and the vagaries of the temperature in these cases discussed.

Friday, July 30th, 1909.

The last day's programme in this Section included a paper by Mr. E. Scott Carmichael (Edinburgh) on pneumococcal peritonitis in children. Twenty cases of this nature observed by the author had been divided by him into three classes, according as the main channel of infection was genital, haemic, or gastro-intestinal. On laparotomy the absence of odour about the peritoneal fluid and its other characteristics, according to the stage of the disease, afforded valuable diagnostic evidence. In spite of the bad prognosis 13 out of the 20 cases recovered. Free drainage of the abdomen was the first essential. The paper was discussed by Mr. D'Arcy Power, Dr. J. McCaw, and Dr. John Campbell. Mr. G. H. Edington (Glasgow) narrated a case of prostatic sarcoma in a boy of 21 months at first presenting only comparatively trivial urinary symptoms. On *post-mortem* examination a spindle-celled sarcoma undergoing myxomatous degeneration was found, the same change being noted in the pelvic lymph glands, while the kidneys were cirrhotic. Mr. D'Arcy Power pointed out the frequency of similar polypoid sarcoma in girls, in whom they originated near the neck of the bladder. Mr. Carmichael, Dr. J. Campbell, and Mr. Stiles described similar cases, and Mr. A. Fullerton urged the value of cystoscopic examination by perineal urethrotomy. Mr. J. H. Nicoll (Glasgow) read a paper on the surgery of infancy, being a review of twenty years' work at a children's hospital. He felt that the resources of the hospital as regards operations on infants might be greatly extended by making the children out-patients rather than in-patients. Mr Stiles, Dr. J. Campbell, Dr. J. W. Simpson, Mr. A. Fullerton, Mr. E. S. Carmichael, Mr. R. C. Dun, Mr. A. MacLennan, and Mr. G. H. Edington criticized and supported Mr. Nicoll's main conclusions. Mr. D'Arcy Power contributed a paper on the value of new tuberculin (T.R.) in surgical tuberculosis, which was discussed by several speakers. Mr. R. C. Dun (Liverpool) read a communication on the association of a patent funicular process with certain forms of a patent funicular process with certain forms of hydrocele, and described two cases of median hare-lip, while Mr. Maynard Smith (London) read a paper on exomphalos. This brought the proceedings to a close.

SECTION OF HAEMATOLOGY AND VACCINE THERAPY.

Friday, July 30th, 1909.

WORK began with the reading of a paper on the micro-organism of whooping-cough by Dr. Bordet of the Institut Pasteur du Brabant, Brussels. Working with Dr. Gengou in 1906, a small cocco-bacillus, non-motile, Gram-negative, and staining feebly, was isolated, which they regarded as the cause of whooping-cough. The organism was found in large numbers, often in almost pure culture, in the exudate at the beginning of the period of cough. The pure cultures were difficult to obtain, and required a special medium. The best medium for their isolation was agar mixed with defibrinated blood, and even with this isolation was difficult if the exudate contained many contaminating organisms. The organism resembled in certain respects the cocco-bacillus of influenza (Pfeiffer), but it was readily distinguished from it by the appearance of the culture and by the reaction of immune serums. The filtrate of liquid cultures did not appear to possess any very evident toxic properties, but by Besredka's method for obtaining endotoxins a very active toxin could be obtained. The serum of children lately recovered from whooping-cough conferred upon the organism the power of absorbing complement with great vigour, and this was an additional proof that the organism was specific. Dr. Fleming replied and discussed the extreme difficulty of isolating the organism described by Bordet, and described its characters more fully. He became convinced of the specificity of Bordet's bacillus when he found that cultures obtained from M. Bordet in Brussels were specifically agglutinated by the serum of children in London, and would also deflect complement with such serums. He pointed out that the agglutinating reaction of the serum was not strong; complete agglutination in sixty-fold dilution was about the highest found. The agglutination did not always take place, failure often seeming to depend on the bacterial emulsion employed. He considered a convincing proof of the specificity of the organism was

found in the results obtained by vaccine-therapy, and judging from the clinical results he had obtained by the use of a vaccine he thought the evidence was in favour of the use of a vaccine in whooping-cough. Drs. Willcox and Morgan read a paper on the treatment of pneumonia by inoculation, giving the results obtained in the treatment of 24 cases of pneumonia, either lobar or lobular. In all cases the organism present was the pneumococcus: in two cases this was combined with a streptococcus and the influenza bacillus respectively. The inoculations were not controlled by the opsonic index on account of difficulties in its use which the author described, and clinical symptoms were therefore taken as a guide to the dose. The authors claimed to have obtained distinctly good results by the inoculation of from 20 million to 50 million of pneumococci. Dr. Benham read a paper on the bacteriology and vaccine-therapy of the common cold. He described several organisms which he considered of importance in the etiology of a common cold and held out a hope that vaccine-therapy might eventually be a successful method of treating this unpleasant and sometimes dangerous condition. Dr. W. Carmalt-Jones read a paper on the treatment of bronchial asthma by a vaccine: he suggested that one cause of spasmodic dyspnoea was a specific bacterial toxin, the result of a definite infection and amenable to treatment by the corresponding vaccine. Dr. Fleming discussed the bacteriology and vaccine-therapy of acne vulgaris, and pointed out the importance of distinguishing acne vulgaris very carefully from other diseases to which the name of acne has been applied, and especially from acne rosacea.

Section of Hygiene and Public Health.

Thursday, July 29th, 1909.

The meeting of the Section of Hygiene and Public Health was held in conjunction with the Laryngological Section, the subject for discussion being latent infections by the diphtheria bacillus and the administrative measures required for dealing with contacts. The discussion was opened by Dr. Watson Williams of Bristol, who treated it from the clinical standpoint. His remarks are reported under the proceedings of the Laryngological Section. Dr. R. M. Buchanan of Glasgow dealt with the subject from the bacteriological standpoint. He stated that the clinical significance of the distribution of diphtheria bacilli was very indefinite, and rendered the diagnosis of the disease apart from bacteriological methods difficult and uncertain. The difficulty of classification of different types of the bacillus was very great, owing to the personal equation of different observers. The diphtheria bacillus was most tenacious of its virulence. The speaker considered that systematic examination of contacts was a recognized preventive measure in public health administration. During the last three years there had been 2,305 such examinations in Glasgow, with a positive result in 211, or a little over 9 per cent. The experience of the fever hospitals in Glasgow showed that spread of infection by return cases was very limited, the average having been 8.5 per annum in three and a half years. In his opinion, infection by contacts occurred much seldomer than might have been anticipated. This paper was illustrated by several lantern slides of different types of diphtheria bacilli and by statistical charts. Dr. Forbes (M.O.H., Brighton), in a paper on the administrative measures required for dealing with diphtheria contacts, said that in future legislation dealing with infectious disease it would be advisable to substitute the words "persons in an infective condition" for "persons suffering from an infectious disease." This would give the necessary discretionary power to the medical officer of health and clear away the present ambiguity. He pointed out the importance of taking swabs from both the throat and nose in dealing with contacts, and outlined the administrative measures which he recommended in order to check the spread of disease by contacts. He considered that prophylactic injections of antitoxin for contacts were as a rule inadvisable. Dr. R. V. Clark (Assistant M.O.H., Leeds) dealt with latent diphtheria in schools and institutions. He considered that the incidence of cases of latent diphtheria was greatest when personal contact was closest. In his opinion the only thoroughly efficient procedure was to examine bacteriologically the throats of every member of a family when diphtheria occurred, and to isolate those from whom a positive result was obtained. This isolation should be carried out for from one to seven weeks. After a few remarks by Dr. Renshaw and Dr. McKenzie, Dr. E. W. Goodall (London) remarked that return cases of diphtheria were not worth talking about. In the treatment of convalescents he did not think it mattered a bit whether swabs were taken or not. He only did it himself in order to comply with the requests of the medical officer of health. He considered it unnecessary to empty and disinfect wards in general hospitals when an accidental case of diphtheria occurred. He considered prophylactic injections of antitoxin quite unnecessary and sometimes dangerous. Dr. Herbert Jones (Hereford) said that his experience in Herefordshire led him to agree with Drs. Davies and Heaven, of Bristol, that in the presence of an outbreak of diphtheria Hoffmann's bacilli must not be ignored. Drs. StClair Thomson, Clements, Spicer, Williams, Wyllie, and Mowbray also spoke. The President, in closing the discussion, said that he agreed with Dr Goodall's views as to administrative methods, and that it was not justifiable to send contacts to diphtheria wards. The diphtheria bacillus was much more virulent in times of epidemic prevalence of the disease than under ordinary conditions, and while special measures might be required to cope with an epidemic, in ordinary circumstances he did not consider that either isolation of contacts or systematic swabbing of throats was necessary. Dr. Watson Williams, Dr. Buchanan, and Dr. Forbes, having briefly replied, the meeting adjourned.

Friday, July 30th, 1909.

The Section was mainly occupied with a discussion on the discharge of sewage effluents into tidal waters. This was opened by Dr. Henry O'Neill, member of the City Council, Belfast, who pointed out that the problem of sewage purification in Belfast was one of more than ordinary difficulty, owing to the sluggish tides and large areas of shallow water in the upper reaches of Belfast Lough; they favoured the growth of *Ulva latissima*, a green seaweed which, according to the investigations of Professor Letts, is an indication of sewage pollution. Dr. O'Neill gave a most interesting account of the Belfast sewage purification works, illustrated by photographs of the various processes. The great difficulty was getting rid of the *Ulva latissima*, which object must be attained by depriving it of its pabulum. By mixing the effluent from percolating filters with an equal quantity of septic sewage and treating the mixture in contact beds, the organic matter was oxidized at the expense of the nitrates in the filter effluent, and the total quantity of ulva pabulum reduced. Two methods of disposal of the sludge were proposed: (1) At the main outfall works it would be conveyed to sea by steamer; (2) at the Sydenham outfall, as shallow water rendered steamer disposal expensive and inconvenient, Dibdin's slate beds, which converted the sludge into an inoffensive humus, would be installed. An effort to deal with the ulva nuisance had been made by the formation of a joint board of the Belfast, Holywood, and Castlereagh authorities, who had been expending £2,000 a year on the collection of the weed from the foreshore, some 20,000 tons having been removed last year. Professor Letts of Belfast read a paper dealing with the nuisance caused by certain green seaweeds due to the discharge of sewage into tidal waters. He related his experiments dealing with the chemistry of these seaweeds, and outlined in detail the scheme of sewage treatment which he had suggested in order to prevent the green seaweed nuisance. Dr. R. J. Ewart, Assistant Medical Officer of Health for Middlesbrough, dealt with the sewage pollution of the Tees estuary,

especially with regard to pollution of mussels. He came to the conclusion that it was possible to obtain mussels free from all evidence of sewage pollution, and that there was a close relationship between size, number, and sewage pollution, for it appeared that when the mussels were of sufficient size to be marketable and in sufficient quantities to be worth gathering, evidence of pollution was marked. He considered that mussels could not be looked on as safe, especially as they were apt to die in transit to inland towns, when the bacterial contents would rise by millions. Professor Dunbar, of Hamburg, expressed his high appreciation of Professor Letts's work. He pointed out that it was only lately that the difficulty of dealing with sewage effluents in tidal waters had been thoroughly realized. After the cholera epidemic in Hamburg in 1892 experiments had been made with various disinfectants with a view to sterilizing the sewage. Milk of lime was found too costly, and the most satisfactory disinfectant was found to be hypochlorite of lime, but as its penetrating power was only $\frac{1}{4}$ mm. for crude sewage, it was necessary first to purify the sewage by means of septic tanks before trying to disinfect it. In Hamburg the question of shellfish pollution was not important, and their experience had led them to discard the purification of sewage, except that from hospitals, from emigrant stations where so many Russian emigrants congregated, and the waste water from the Hygienic Institute. Dr. Wilson demonstrated an apparatus for the isolation of the *Bacillus typhosus* from drinking water. Sir Peter O'Connell alluded to the peculiar difficulties of the sewage problem as it affected Belfast. The President assured Professor Dunbar that the difficulties of disinfecting crude sewage were fully realized in this country. He was glad to hear the Professor saying that Germany had learnt lessons from England about sewage purification, as he thought it was often the other way about. After some remarks from Dr. Carnwath (Manchester) on the relation of mussels to sewage, the President proposed a vote of thanks to the writers of papers. This was seconded by Dr. Cowan, Chief Engineer, Local Government Board, Ireland, and passed unanimously. Dr. Patterson (Assistant M.O.H., St. Helens), read a paper on measles in schools, which was discussed by Drs. Mackenzie, Brook-Fox, H. Jones, and A. Walker. Dr. Gilchrist, of Nice, read a paper on the endemicity of influenza. He considered that we must recognize a chronic and permanent form of this disease. Dr. J. B. Story (Dublin) read a paper on the neglect of physical education in primary and secondary schools. The proceedings of the Section then closed with the usual votes of thanks.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

Thursday, July 29th, 1909.

THE Section combined with that of Hygiene to discuss latent infections by the diphtheria bacillus. It was introduced by Dr. Watson Williams (Bristol), who laid stress on the difficulty of recognizing such cases by clinical signs. It was necessary, he considered, to depend on the aid of the bacteriologist. He then instanced clinical phases of later infection, leaving the bacteriological diagnosis to the next speaker. The phases he grouped under three headings: First, those with no definite clinical symptom, but who are not well, and who present the bacillus; secondly, those with local lesions, but not ill; thirdly, those presenting bacillus and yet are quite well and have no local lesions. He gave many instances of these groups, and concluded by advocating a virulence test rather than a morphological one. He was followed by Dr. R. Buchanan (Glasgow), who read a paper illustrated by lantern slides, dealing with the subject from a purely bacteriological point of view. He laid stress on the difficulty of demarcation between latent infection and latent disease, the former being the presence of an infective agent bacteriologically unaccompanied by any obvious pathological change. He showed that the clinical evidences were indefinite, as of the swabs sent in for bacteriological examination only 31 per cent. showed positive results, and of those taken from cases admitted to hospital from 71 to 76 per cent. He recognized that morphology alone was not sufficient for true recognition of bacillus, and that inoculation was necessary. He considered that the virulence of bacilli from apparently healthy subjects was only slightly less than that from infected cases. Dr. Duncan Forbes (Brighton) read a paper dealing with the same subject from an administrative standpoint and its relationship to the medical practitioner. The latter he urged always to take a swab from the nose after its examination, and make a note as to the clinical appearances. He was followed by Dr. Clarke (Assistant M.O.H., Leeds) upon somewhat similar lines. There was an interesting discussion in which widely divergent views were expressed as to the importance of bacteriological examination of swabs from the throat and nose, and isolation of infected patients and of contacts. Views ranged from uniform swabbing of contact carriers, with isolation in certain cases, together with the virulence test, to allowing Nature to exterminate the susceptible by epidemics, which then practically died out. This last view, however, did not meet with general acceptance, which lay rather on the side of bacteriological diagnosis and virulence tests. This was the line taken by Drs. Knowles Renshaw and Dan Mackenzie, while Drs. Goodall and Herbert Jones rather doubted its value, the former thinking prophylaxis of little importance. Dr. St Clair Thomson referred to the practical difficulties from the laryngologist's point of view. The value or otherwise of the presence of the Hoffmann type of bacillus was discussed by succeeding speakers, among whom were Drs. Clements, Scanes-Spicer, Wyllie, Mowbray, and the President of the Public Health Section (Dr. Louis Parkes). Drs. Watson Williams, Buchanan, and Clarke briefly replied.

Friday, July 30th, 1909.

Dr. Lack, in a paper on the treatment of cicatricial stenosis of the larynx and trachea following diphtheritic tracheotomy cases, held that the disease had no direct connexion with the subsequent stenosis, which was due to the tracheotomy. In cases of a genuine low tracheotomy he had never known any laryngeal stenosis follow. Where there had been no sloughing or necrosis of the cartilages he thought that his objection to interference with the larynx itself extended to intubation. Dr. Delavan of New York, in an interesting paper, spoke of O'Dwyer in eulogistic terms, and referred to the methods of treatment prior to his time. There were three essential objects in a case: (1) Relief of the stricture; (2) permanence of result; (3) as little injury to the parts as possible. He gave a summary of various cases, and referred to certain anatomical conditions upon which the principles of intubation were based, and believed that prolonged stretching of scar tissue finally resulted in its giving. For this purpose each case should have its own tube made to suit the special conditions present, and no tension should be made for at least one month. The paper was illustrated by the passing round of the various kinds of instruments used. A spasm of the adductors after removal of the tube was mentioned, and its diagnosis, whether due to nervous elements or otherwise, was pointed out. He finally referred to the latest form of laryngo-fissure, but considered that it was too early as yet to be definite upon its results. Dr. Delsaux then described the operation of laryngo-tracheostomy, and the conditions in which it was indicated. Some of the tubes employed were passed round for inspection. The operation was divided into its various stages, and he spoke of the length of continuance of treatment which might extend beyond twelve months. The methods of removal of the tube and the teaching of the patient to breathe in a normal way was then indicated. Dr. Emil Mayer gave a history of 3 cases, a traumatic, an inflammatory, and a neoplastic stenosis treated by intubation, and passed round for inspection his special hollow instrument for a slow insertion of the tube, which enabled the patient to breathe through it during its introduction. Dr. Hill made remarks upon a special

case, for which he had devised an intralaryngeal splint, of the prevention of cicatrical formation in the larynx after the division of transverse webs and the like. Drs. Logan Turner, Barnett, and Scanes-Spicer joined in the discussion which followed, and the President summed up in a few remarks. Drs. Delavan and Delsaux replied. Dr. Scanes-Spicer, in a paper on the relationships of cancer of the larynx, laid stress upon the effect of various physical forces upon the body generally and their reaction upon the vocal organs, illustrating it by means of a model. He considered that the position of and pressure upon the larynx during abdominal and thoracic respiration was a possible factor in cancer growth. Dr. Woods showed a patient whose larynx he had extirpated, and explained a vocalizing apparatus he had devised. The proceedings terminated with the reading of a paper on the surgical anatomy of the tonsils in the absence of the author, Dr. Neil (New Zealand), by Dr. J. S. Barr.

Section of Medicine.

Thursday, July 29th, 1909.

A discussion on the medical aspects of athleticism was opened by Dr. Tyrrell Brooks (Oxford) and Dr. Clement Dukes (Rugby). Dr. Brooks said his experience was that the more vigorous undergraduates came from schools whose athletics were of the more strenuous type. An inquiry to the medical officers of the principal public schools as to the influence of athletics on health extending over a period of twenty years gave five deaths, almost exclusively from surgical injuries during games, but among the same boys during the same time four sudden deaths occurred quite apart from athletics. At Oxford during the same time there were two deaths from excess in athletics, but one was in the subject of aortic valvular disease. As to the heart, valvular damage was very rare, and slight dilatation of the heart was difficult to estimate. Excessive smoking, alcoholic indulgence, gluttony, or sexual excess might produce perversion effects on the heart's action exactly similar to those of over-exertion, and the toxins of acute febrile attacks had a similar action. But in boyhood it was unlikely that mere muscular exercise could seriously damage the heart. Among precautions that should be taken to minimize the risks arising from athletics were an entrance physical examination, careful observation of younger boys in their ordinary games, and an ample interval between the previous meal and active exercise, with special care after convalescence from acute illness. With such precautions he supported the system of school runs. The profession should not, he thought, sacrifice the interests of the race to the interests of the individual. Dr. Clement Dukes said that the catastrophes from over-exercise were quite preventable. In addition to the points already mentioned in his abstract published in the Supplement of the British Medical Journal, he especially referred to the evil effects of excessive football and running. The short, quick runs in boys were apt to produce rapid mischief in the heart, which quickly disappeared, the long runs permanent damage by dilatation. At least an hour between a meal and active exertion was imperative. Details of the serious effects of excessive running at Rugby in former days were given, but owing to the practical rules now there in force these were a thing of the past. Sir Clifford Allbutt referred to the blood-pressure observations on the effects of athletics at Cambridge, the results of which were to be shortly published. The only serious results were those from over-exertion after an acute infectious disease, particularly a bad cold. Sir Lauder Brunton said the ideal training of youths was probably a combination of gymnastic exercises and games. He advocated the establishment in the schools of this country of the office of games master. The Provost of Trinity College, Dublin (Dr. Anthony Traill), referred to the introduction of Swedish drill into the schools of Ireland, and insisted on previous medical examination and the necessity for suitable feeding of the children. He discussed the effects of physical exercise on moral states, and gave personal experience of lifelong following of athletics. Sir James Barr referred to the influence of exercise on character, to the strain of the heart by its self-generated stress, and the importance of respiratory capacity. Dr. Clive Riviere described the effects of heart strain of arduous holiday excursions in boys. Dr. Gullan advocated games rather than gymnastics. Dr. W. J. Tyson urged a continuous individual interest in athletics, the teaching of health laws to school children, and the personal continuance of physical exercises throughout life. Dr. W. P. Kennedy referred to the question of pulmonary haemorrhage in athletes. Dr. Brooks and Dr. Dukes replied. Dr. P. Dempsey showed a case of argyria in the subject of a gastric ulcer, and Professor B. Moore an apparatus for administering known quantities of oxygen. Dr. Clive Riviere read a paper on cardiac strain in boys, and Dr. F. C. Eve one on a case of glycosuria which was only to be inferred from the presence of gas and bacilli in the urine.

Friday, July 30th, 1909.

On the third day of the meeting of this Section Dr. Theodore Thompson and Dr. H. S. Souttar gave a demonstration on gastric illumination. The mechanical features of the instrument they employed were demonstrated by Dr. Souttar, and its sphere of usefulness in observation and diagnosis was described by Dr. Thompson. Dr. Gordon Gullan read a paper describing an obscure case of hour-glass contraction of the stomach with special reference to diagnosis. Dr. Purves Stewart described the technique and results of Schlösser's method of the treatment of tic-douloureux, the injection of alcohol into the foramen of exit of one or other branches of the fifth nerve at the floor of the skull. Freedom from pain was secured for many months after each injection. The operation was demonstrated on a patient before the Section. The paper was discussed by Dr. W. P. Kennedy, Mr. H. A. Ballance, Dr. J. H. Williams, Dr. F. Kennedy, and Dr. O'Sullivan. Dr. J. H. Williams (Washington) read a paper on the treatment of tabes dorsalis by antisyphilitic remedies, especially the intravenous or intramuscular injection of mercurial solutions. The paper was discussed by Dr. Theodore Thompson and Dr. Gullan. Dr. H. D. Rolleston read a paper on pruritus in lymphadenoma, maintaining that if pruritus occurred early in the disease the prognosis was unfavourable.

Navy, Army, and Ambulance Section.

Thursday, July 29th, 1909.

The Section dealing with Navy, Army, and Ambulance work commenced proceedings on Thursday with the reading of a paper by Colonel P. Broome Giles, A.M.S., on the importance of the permanent attachment of ample transport under the command of the medical officer of each field medical unit. History and experience proved the failure of detailed transport for the use of medical units. The use of detailed transport, whether supplied on requisition from the Army Service Corps or hired from civilian sources, introduced serious complications. The wretched and inadequate results of using hired civilian transport, evident during drills and camp training, were intensified on manœuvres, and it was a most elusive idea to think that civilian wagons and harness would do for medical units. The advantages of the permanent attachment of ample transport under the command of the medical officer of each field medical unit were that the transport sections recruited for each medical unit would be homogeneous, and part and parcel of the permanent *personnel*. In Territorial Medical Units hired civilian transport could neither be popular nor successful. Fleet Surgeon P. W. Bassett-Smith, R.N., communicated a paper on modern methods of laboratory diagnosis of syphilis and discussed the Wassermann Neisser and Bruck's complemental fixation methods. The procedure employed by Fleet Surgeon Bassett-Smith was that recommended by Wassermann slightly modified,

using for antigen dried syphilitic congenital liver and the following were the conclusions which he reached: Almost all cases with evident primary syphilis gave a marked reaction, this being obtained as early as the fifteenth day after infection; in many cases admitted for chancroids the presence of a double infection was early indicated by the test; in almost all cases of early secondary syphilis, with or without symptoms at the time, positive results were obtained; in late secondary stages or tertiary manifestations the results were more variable; in about 50 per cent. of para-syphilitic cases a positive reaction was present: in cases without symptoms and generally after much treatment, but with an undoubted history, a minority reacted; the reaction was specific for syphilis as far as other venereal diseases were concerned; mercurial treatment did not appear to prevent the reaction when symptoms were present. The method was a valuable aid in the diagnosis of syphilis, and would decide the nature of many difficult cases, and indicate early the need of specific treatment. Colonel F. J. Lambkin, R.A.M.C., read a paper on the probable effects in the services of the new treatment of syphilis by means of organic arsenical compounds, and Major G. S. Crawford, R.A.M.C., contributed a paper on the beneficial results of recent sanitary work in Malta. A few years ago most service people looked upon Malta as a very undesirable station, and the chief reason for this opinion was the amount of sickness usually prevalent in the garrison; all that had been changed, and Malta was now known to be one of the healthiest of the foreign stations.

Friday, July 30th, 1909.

The concluding meeting of this Section commenced with the reading of a paper by Staff Surgeon F. F. Mahon, R.N., on relief work from a British man-of-war at Messina. Dr. J. M. Carvell then read a paper on the existing ambulance organization of the home railway companies, with suggestions for its amplification and unification. He said that the course of instruction which railway ambulance men went through was in accordance with the syllabus of the St. John Ambulance Association. It extended over a period of five weeks. There were five lectures with an interval of seven days between each, followed by an examination. The examination consisted of a practical and a theoretical portion. The theoretical was either by a written paper or by *viva voce* questions. In the majority of railway examinations the written paper was dispensed with, owing to the fact that the premises were not suitable. The examination consisted of at least five tests. In the practical part each candidate must treat a case of supposed fracture and a case of supposed haemorrhage, and then do either stretcher or hand seat exercise, or perform artificial respiration. In the *viva voce* two questions had to be answered. The maximum number of marks was 20 per test, making a total of 100. For a pass for a certificate a candidate must obtain 50 per cent. For a voucher for the first re-examination, twelve months having elapsed after obtaining a certificate, 55 per cent. of marks had to be obtained. For the medallion examination, taking place after a lapse of twelve months from obtaining the voucher, the pass standard was 60 per cent. For the label examinations, which would be entered for at intervals of twelve months, the first twelve months after obtaining the medallion, the standard was 60 per cent. Encouragement to take up ambulance work was given in different ways on different lines—such as rewards for proficiency, rewards for work done, additional passes, medals, certificates of honour, competitions, and prizes. The great incentive to railway ambulance work was the Inter-Railway Shield, which was offered for annual competition by the St. John Ambulance Association. Each railway had the right to send a team, consisting of five men, to compete. As to amplification, he considered that all railway ambulance men should be given an elementary knowledge of nursing and sanitation. The men's wives should also be encouraged to go through elementary instruction in home nursing and sick-room cookery. In regard to transport, all guards' vans should be fitted with rings in the roof for the suspension of stretchers, and looped ropes should be carried for attaching the stretchers to the rings. On those lines on which corridor trains were run, a percentage of stretchers should be provided with telescopic handles, as they could then be carried in the corridor compartments, when placed cornerwise. He thought the easiest method of unification would be through the St. John Ambulance Association. All railway companies, who had not already done so, should form centres of the Association. Then a Home Railway Committee should be formed, which could meet at St. John's Gate. The members of the Committee should be nominated by the railway companies and the St. John Ambulance Association. Captain W. Salisbury-Sharpe said that there appeared to be little co-operation or unity of method between the different railway companies respecting the way of keeping up the men's interest and efficiency in the work. Lieutenant-Colonel E. M. Wilson said he had listened with great interest to Dr. Carvell's paper, and agreed that it was more desirable to obtain a large number of efficient men than a few very highly trained squads for competition purposes. Mr. W. C. Rivers read a paper on rhinology as an aid to diagnosis of pulmonary tuberculosis, with special reference to the physically selected classes, and the work of the session came to an end with the reading of a paper on a detailed scheme for an unexpected landing party, using material available on board ship by Staff Surgeon J. G. Wallis, R.N.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Thursday, July 29th, 1909.

THE Section commenced work at 9.30 a.m. by attending a demonstration on the development of the epithelial elements of the ovary. Notes respecting it will be found in the paragraph concerning the Section of Anatomy and Physiology, in whose room it took place. On return to its own quarters the President called upon Dr. Hastings Tweedy (Dublin) to open the discussion on endometritis. Dividing the cases into acute and chronic, Dr. Tweedy pointed out that in the former one must proceed upon general principles—collections of pus must be opened, necrotic matter removed, and before any douching a specimen of the discharge should be taken for the preparation of a vaccine. The patient's general system should be fortified, and any complication such as retroflexion rectified. He altogether condemned the use of the sharp curette. Chronic cases included all other non-malignant diseases of the uterus. Professor Fehling (Strassburg) thought that endometritis was less difficult to cure than endocervicitis. A sharp spoon was necessary for the cervix. Dr. A. Donald (Manchester) attached much importance to gauze packing in addition to dilatation and curettage, as it stimulated the uterus to contract and promoted involution. Professor Kidd (Dublin), like Professor Fehling, had found curettage to be followed by amenorrhoea. Dr. F. J. McCann (London) insisted on the necessity of supplementing curettage by a modified rest cure of from four to six weeks. Dr. Thomas Wilson (Birmingham) said that the indication for curettage was uterine haemorrhage. Professor Cullen (Baltimore) approved of the concise classification—(*a*) acute and chronic, (*b*) corporeal and cervical—adopted by Dr. Tweedy. A colleague of his own had described thirty-three different forms of endometritis, an affection which, except after abortion, he rarely saw in an acute form. He held that a sharp curette was absolutely necessary; a trial of the blunt curette on the uterus of the female cadaver ought to convince anybody. Professor Alfred Smith (Dublin) attached great importance to the so-called glandular hyperplastic endometritis, from its close resemblance to malignant disease. Professor Henry Corby (Cork) had known curettage to be followed by amenorrhoea for ten months and the birth of a healthy child. Dr. Buist (Dundee), Dr. T. B. Grimsdale (Liverpool), and Dr. E. J. Maclean (Cardiff) also joined in the discussion, and the President having emphatically declared in favour of the sharp spoon, Dr. Tweedy

replied. Dr. Smallwood Savage then read a paper entitled "An Ovarian Tumour, Clinically Malignant, arising from the Overgrowth of Lutein Cells," and showed the specimen with photomicrographs of sections of the growth. After some remarks from Professor Fehling, Dr. Munro Kerr, Dr. Edge, Dr. Louise McIlroy, and Dr. Hicks, from which it appeared that these growths were apt to be connected with vesicular mole, the meeting adjourned.

Friday, July 30th, 1909.

The last day's proceedings opened with a paper by Professor Fehling on the treatment of cases of contracted pelvis. He mentioned the method of limiting the diet proposed by Prochownik, saying that as fetal growth was most active towards the end of pregnancy good effects could be obtained by such restriction in the last six or eight weeks. The induction of premature labour he recommended, but only for primiparae. Walcher's position was useful, especially for the passage of the aftercoming head. With pubiotomy an increase of the true conjugate of from 0.5 to 2 c.cm. could be obtained in clinics, but in private practice the high forceps and perforation, even of the living child, could not be dispensed with. He was strongly in favour of pubiotomy and of Caesarean section on positive indications, but reserved as to the recently introduced extraperitoneal indications. As to relative indications for Caesarean section, each case must be judged on its own merit. Professor Murdoch Cameron (Glasgow) was strongly in favour of the induction of premature labour at from the thirty-fifth to the thirty-seventh week, as he thought the child had a better chance of survival than after Caesarean section. Dr. Munro Kerr insisted on the expediency of waiting, and pointed to the good results obtained at Queen Charlotte's Hospital. With the high forceps half the children were born dead. Dr. Hastings Tweedy considered that no contraction of the pelvis could be assumed without accurate measurements of the pelvis, for which the foreign and ordinary instruments were quite useless. He employed Skutsch's pelvimeter under an anaesthetic. The child's life should not be imperilled by too long delay; operation should be done before the fetal heart's action became slow. In reply, Professor Fehling said that Prochownik's limited feeding was essentially a method for the practitioner. Many Caesarean sections were performed upon primiparae and upon single women, and that accounted for the infantile mortality. In multiparae the induction of labour gave better results than Caesarean section; but, taking all cases in his clinic, this was not so. He preferred measuring the pelvis with his finger, under an anaesthetic if need be, and found it accurate enough. Professor Cameron read a paper on two cases of dystocia due to ventrifixation of the uterus. Professor Jacob spoke of three similar cases, and, after some remarks from Dr. McCann and Professor Murdoch Cameron, the meeting adjourned to the Ophthalmological Section for the joint discussion on the report of the Ophthalmia Neonatorum Committee, an account of which is given under the Section of Ophthalmology.

Section of Ophthalmology.

Thursday, July 29th, 1909.

Professor Fuchs (Vienna), in a paper on malformation of the cornea in cases of inherited syphilis, paid tribute to the work of Sir Jonathan Hutchinson on this subject. He himself had collected 23 cases last year, in which the cornea was oval, and of these 20 were girls and 14 had interstitial keratitis; it was a common condition in interstitial keratitis. The malformation was more frequently seen in both eyes; as a rule astigmatism was present "against the rule." Mr. Treacher Collins asked if Professor Fuchs had examined the cases anatomically or only clinically; some cases were apparent rather than real. Professor Fuchs said that in his cases the malformation was real. Dr. Inglis Pollock (Glasgow) read a paper on visual acuteness among school children. He gave statistics of the condition he found in which 77.8 per cent. had defective vision. Mr. Bishop Harman had found that myopia in school children was not more than about 2 to 3 per cent. Mr. Henry (Leicester) agreed with Mr. Harman, as the result of his experience in Leicester. Dr. Pollock replied. Dr. Freeland Fergus described a method of trephining for glaucoma which is a modification of Le Grange's operation. His trephines were very like those of Bowman's. He selected the position where the iris was the freest. He then dissected up the conjunctiva and cut out a circle from the sclera. In acute glaucoma he still preferred iridectomy, but for chronic cases he preferred the trephining operation. After the piece of sclera had been removed he then separated the ciliary body with a repcsitor. This operation could always be done under cocaine. Mr. Little thought that an eye in which a filtration scar was present was in a very dangerous state from the point of view of infection at any late period. Dr. Berry (Edinburgh) thought that, taking it all round, iridectomy was by far the best operation, and the results were permanent in the great majority of cases. He much preferred to get an absolutely flat and smooth scar, but, if this were impossible, he thought that Dr. Freeland Fergus's operation would be most useful. Mr. Treacher Collins (London) pointed out that the operation was both a removal of the sclerotic and a cyclo-dialysis, and it was doubtful how much good arose from each part of the operation. Mr. Thomson Henderson discussed the question of the relation between intraocular and intracranial pressure. Professor Fuchs was not satisfied with cyclodialysis, and in some cases he had to do iridectomy for recurrence. He had quite given up the operation. Dr. Freeland Fergus replied, and said that some cases he had cured by trephining without the irido-dialysis. Mr. Treacher Collins opened the discussion on diseases of the lymphoid tissue of the conjunctiva. He pointed out the difficulty in following cases unless attached to an ophthalmic school. All the evidence pointed to the fact that the spread of it was always direct by direct infection; the trachoma organism appeared to be a non-purulent one. He described in detail the life-history of the disease, and explained on histological grounds the *rationale* of treatment. He still considered the time-honoured sulphate of copper was the most efficacious means they had as a method of treatment. His experience of *x*-ray treatment was that it was at the present time somewhat uncertain, and radium had not given him much satisfaction. Professor Greef (Berlin) said that no micro-organism had been discovered that caused the disease, and probably it was not an ordinary micro-organism. He described the trachoma bodies he had found and examined. These were constantly present, and were probably a living germ. Mr. A. F. MacCallan (Egypt) gave his experience of trachoma in Egypt. Professor Fuchs (Vienna) had seen the micro-organisms, and they were entirely in the epithelium of the conjunctiva, and he advocated the search for them in doubtful cases. Mr. Sydney Stephenson (London) said that twenty years ago follicular conjunctivitis and trachoma were stages in the same disease. Among 15,000 cases of school children of various classes only 5 per cent. had absolutely healthy conjunctivae. Nearly all showed follicular conjunctivitis, and usually this was associated with enlarged tonsils, adenoids, etc. In this way he came to the conclusion that follicular conjunctivitis was uninfectious, and had nothing to do with trachoma. Mr. Craig (Belfast) said that Ireland was badly affected by trachoma, and this was chiefly due to industrial schools. He advocated legislation and the endeavour to prevent its importation. He still was of opinion that sulphate of copper was the best remedy at present known. Dr. Nelson (Belfast) advocated strict attention to hygiene, good surroundings, and good food. He thought that a regular crusade should be carried out, just as in consumption. Dr. Fyers (Montreal) and Dr. Reeve described the legislative procedure in Canada. Mr. Collins and Professor Greef replied.

Friday, July 30th, 1909.

A resolution, calling on the Government to take action to prevent the spread of trachoma, was brought up by the executive of the Section. After discussion by Messrs. Treacher Collins, Storey, Nelson, Pollock, and Harman, the resolution, differently worded, was proposed by Mr. Collins, seconded by Dr. Greene, and carried. Mr. J. H. Tomlinson (Egham) demonstrated his new "scotograph with binocular fixation," an instrument for the detection of loss of sensibility in parts of the retina. Dr. Alexander Fleming (London) demonstrated his modification of Wassermann's serum test for syphilis. Mr. N. Bishop Harman demonstrated his "diaphragm test for binocular vision," and Dr. Pollock and Professor Fuchs commented thereon. The Sections of Ophthalmology and Obstetrics then united, under the presidency of Dr. John Campbell (Belfast), to receive the report of the Ophthalmia Neonatorum Committee. It was presented by Mr. Sydney Stephenson. Dr. Wendell Reber (Philadelphia) said there was a tendency to take the work out of the hands of the doctors, which was a fatal policy. Nurses should not be allowed to administer strong antiseptics. A doctor should be called in to determine their necessity and apply them. Mother and child should never be separated; the most natural feeding was never more necessary than to these affected infants. Dr. George Carpenter (London) agreed in these remarks, and added that compulsory notification was their hope, because thereby they could get immediate treatment of the affected. Dr. Nimmo Walker (Liverpool) objected to the current teaching of obstetricians on the desirability of Credé's method. He detailed their work at the St. Paul's Hospital, Liverpool. Dr. Wallace Henry (Leicester) said notification was impracticable without a definition of what the disease was. Mr. Bishop Harman said their great want was an instructed public opinion; governments and officials would never move except under pressure, it did not pay them. They had to get that pressure applied. Some good had been done in that direction by their work. He said there was no real difficulty in notification. Dr. J. Wharton (Manchester) said voluntary notification had been a brilliant success in his city. Dr. Buist (Dundee) agreed in the advantages of notification, and the smallness and hardship compared with benefit. Dr. J. H. Taylor (Salford) protested against that part of the report which tended to crystallize medical treatment. It was a dangerous precedent. Dr. Cecil Shaw (Belfast) said the objections to notification were the old ones used when diphtheria was under discussion. Dr. Staveley Dick (Manchester) objected to the "Recommendations to Practitioners," their principle was bad, they were not accurate, they would be made a subject of final appeal in cases of action for malpraxis. He moved that they be deleted from the report. Dr. Adam Fulton (Nottingham) seconded this amendment. Dr. Henry and Dr. R. J. Johnstone (Belfast) agreed. Put to the vote the amendment was carried. The amended report was then adopted by the joint meeting of the Sections.

Sections of Pathology and Vaccine Therapy.

Thursday, July 29th, 1909.

The Sections of Pathology and Haematology and Vaccine Therapy combined to hold a discussion centring round the early diagnosis and treatment of tuberculosis. It was opened by Professor Calmette (Lille), who from observations on 20,000 cases was able to put forth some valuable conclusions. Early diagnosis, he said, was of the utmost importance in relation to efficacy of treatment, and this should be possible long before clinical or even bacterioscopic manifestations enabled a diagnosis to be made, for the following reasons: (1) The infection was generally localized for a time in the lymph glands, draining the part infected: (2) if the bacilli were not numerous or highly virulent they could be destroyed in these glands: (3) severe lesions resulted from a single infection in bulk or from numerous smaller infections repeated at short intervals. In discussing methods of diagnosing early infection he pointed out that (1) the subcutaneous method was inadvisable on account of the local congestive reaction around the tuberculous foci with the danger of diffusion of bacilli and also because of the uselessness in febrile patients: (2) the cuti-reaction of von Pirquet was not perfect, as it also revealed latent lesions and old calcified and fibrous lesions, and so was only conclusive in patients under three years of age—in 55 per cent. of apparently healthy adults it gave a positive reaction. Hence in positive cases confirmation must be sought in the Wolff-Eisner-Calmette ophthalmo-diagnostic method. This in the apparently healthy only gave a positive reaction in 18 per cent., which corresponds to the average percentage of latent tuberculous patients. He did not think it was of any prognostic importance, nor was it a dangerous method provided that careful precautions were taken to prevent injury to the eye. In only 80 cases out of his 20,000 were there any accidental results. Further anaphylaxis of the conjunctiva did not exist. Often it was necessary to supplement this with other reactions such as the reviviscence and the humoral and phagocytic reactions of various sorts. With all these he thought it ought to be possible to diagnose and isolate the early tuberculous carriers and prevent repeated infections of the same case, and perhaps bring about the entire resorption of bacilli, as was known to occur in bovines. Professor Symmers, in a well-phrased reply, congratulated the assembly on having Dr. Calmette's important work set before it by the author himself. Dr. Paterson (Frimley) dwelt on the importance of preventing autoinoculation, which would occur even whilst the patient was being kept in bed or at stool. Professor Osler thought that all hardened veterans of the pathological world would give a positive Calmette's reaction, but did not state whether he himself or any other veteran had afforded conclusive proof of this statement *in corpore vili*. He thought that a large percentage of school children would react, but a distinction should be drawn between open and closed tuberculosis as regards segregation and the expense attached thereto. Mr. Maynard Smith (London) discussed inoculation treatment of tuberculosis from the surgeon's point of view, and still thought that the extinction of the surgeon was not yet imminent, though he might have to adopt more conservative methods. Dr. Carmalt-Jones gave a critical review of five years' treatment of tuberculosis in the Department of Therapeutic Inoculation at St. Mary's Hospital, with special reference to glandular disease. He submitted that his statistics showed the high value of this method of treatment. Dr. Inman pointed out the importance of the opsonic index in diagnosis before clinical manifestations. Professor McWeeney (Dublin) was in general agreement with Calmette, and had found that v. Pirquet's reaction was given in many non-tuberculous cases. Professor White gave his personal experiences of the initial stages of infection. Dr. Crofton (Sutton Bridge) had successfully tried intravenous injections of iodoform in ether in several cases of tuberculosis. Drs. Houston (Belfast) and Wilcox (London) added their experiences, and Dr. Butler-Harris spoke from the aspect of the general practitioner, concluding that a case of tuberculosis could never be regarded as cured. Professor Wright pointed out that, though more complicated than Calmette's reaction, the opsonic index had some relation to the immunization reaction, so should always replace it where a laboratory was accessible. The ophthalmic reaction was further of danger because of the absorption of a considerable amount of tuberculin from the eye; and, indeed, it had often been followed by a considerable negative phase. He doubted the advisability of continuing to use this method when the most scientific opsonic method of diagnosis was at hand.

Section of Pathology.

Friday, July 30th, 1909.

Professor Symmers read Dr. Cobbett's (Cambridge) paper on the portals of entry of tubercle bacilli. As

a result of experiments with inert pigment particles, *Bacillus prodigiosus* and *B. tuberculosis*, Dr. Cobbett denied that pigmentation of the lungs was of intestinal origin, and he was able repeatedly to infect the lungs and then the bronchial glands by spraying into the respiratory tract suspensions of both bacilli mentioned. Professor Symmers pointed out that these observations were entirely opposed to the work of Calmette, and of Whitla and Symmers, which tended to show that pulmonary infection was secondary to intestinal infection. Dr. Ford Robertson (Edinburgh) and Dr. Margaret Young (Edinburgh) gave a lantern demonstration of their detailed work on the protozoon origin of tumours. They maintained that tumours were due to organisms of the mycetozoa group, for which a suggestive name would be nucleo-amoebae. By a special ammonium-silver-cyanide method they had followed out all stages of development of this protozoon and had diagrammatized the complete cycle side by side with the cycle of an Haemamoeba. Slides were shown purporting to demonstrate nucleated bodies, some even in conjugation, in Jensen's mouse tumours and human tumours. Further they had cultivated products which fitted into their idea of the complete cycle. Many of the slides, stained by this special method, which was specially stressed, were demonstrated in the adjoining laboratory. Professor McWeeney (Dublin) made an important contribution on the use of coloured media in the detection and differentiation of bacilli of the typho-coli group. With the aid of a watery solution of china green in nutrient agar he had managed almost to completely inhibit *B. coli*, and to obtain a luxuriant growth of *B. typhosus*. These results were most effectively demonstrated on their respective media side by side with cultures on the older media, such as Ludo's and Drigalski's. Professor Benjamin Moore (Liverpool) and Dr. Stenhouse (Liverpool) demonstrated the inhibition of growth of the bacillus of tuberculosis and other organisms in increased percentages of oxygen. Out of thirty-seven different organisms that he experimented with, he obtained definite inhibition only with *B. tuberculosis*, *B. pestis*, and *Staphylococcus pyogenes aureus*. Dr. Wilson (Belfast) described his observations on cases of epidemic cerebro-spinal fever, in whose blood serum he was able to demonstrate specific agglutinins for a non-pathogenic coliform organism isolated from Belfast tap water (*B. aquatilis alkaligenes*), and discussed the question of heterologous agglutinins. His results had led him to conclude that intelligent discrimination should be employed in the diagnosis of disease by the agglutination reaction. Professor McWeeney, in discussing this paper, referred to the analogous reactions observed in swine fever, where specific agglutinins for the coliform organism previously said to be specific for this disease were present, although the disease was now known to be due to an ultramicroscopic organism. He thought that in many infections in man the vital forces were so reduced by the primary infecting agent that organisms ordinarily saprophytic could acquire parasitic properties, with resulting development of specific agglutinins. Dr. Armand Ruffer (Alexandria) and Dr. J. G. Willmore (El Tor) described the varieties of dysentery occurring amongst the El Tor Mussulman pilgrims. They had come to the conclusion that in addition to the purely amoebic dysentery, a large number were due to a bacillus provisionally named "*B. dysentericus* El Tor No. 1." Professor McWeeney congratulated Dr. Willmore on his important contribution; and the meeting concluded with a valedictory address from Dr. Lazarus-Barlow, who referred to the great science of pathology as the Cinderella of medicine, and eagerly anticipated the arrival of the fairy prince.

Section of Pharmacology and Therapeutics.

Thursday, July 29th, 1909.

The meeting of the Pharmacological and Therapeutical Section was continued on Thursday, at 10 a.m., when Professor W. E. Dixon (Cambridge) and Dr. H. H. Dale (London) gave a demonstration of the effect of certain pressor substances in putrid meat, placenta, and ergot on the surviving mammalian heart and uterus. Abelous was the first to find indication of the existence of substances possessing an adrenalin-like action in putrefying meat, and similar substances were later recognized in extracts from the placenta by Professor Dixon and Dr. Taylor. Baiger and Walpole successfully isolated two substances which exerted this adrenalin-like action in a marked degree—that is, isoamylamine and parahydroxylphenylethylamine. They obtained these substances by inoculating a solution of broth containing tyrosin with a culture from human faeces. They came to the conclusion that the activity of the liquid extract of ergot was due almost entirely to the same substances. In the excised heart of a rabbit perfused with Ringer's solution ½ mg. of the active principle injected caused marked acceleration and increased amplitude of beat. It differed from adrenalin in that it could be given by the mouth and in its much more prolonged action. Similar effects were shown on the pregnant uterus of a cat. Professor Benjamin Moore (Liverpool) read a paper upon a new member of the saponin-digitalin group of glucosides, its chemistry and physiological action. He demonstrated upon a surviving mammalian heart its powerful action in slowing the beat and increasing the tone of the heart and the amplitude of the beat. Dr. J. C. McWalter (Dublin), in a paper on the regulation of quack medicine traffic, spoke of the enormous sale of such medicines, amounting to £2,000,000 annually. He suggested methods of controlling the abuse by co-operation with the medical officers of health. In such work the analyses recently published by the British Medical Association were of much value. Dr. F. Charteris (Glasgow) reported the results of extensive trials of the injection of thiosinamin. He had found no benefit clinically, and a large number of estimations showed there was no evidence of any effect on the leucocyte count: this, although the drug had been much praised and extensively recommended. Professor W. E. Dixon (Cambridge) read a paper upon facts and fancies in pharmacology. Tradition still was responsible for many of our formulae. Though opium had no local effect, there were three local applications containing the drug in the *Pharmacopoeia*. Ether and strychnine were not direct cardiac stimulants. Atropin paralysed nerve endings, but had no action on the mammary secretion, which was not under nervous control. He gave many examples of drugs to which certain actions were still erroneously attributed.

Friday, July 30th, 1909.

On the final day of the meeting Dr. H. D. Rolleston (London) opened a discussion on the treatment of oedema. He confined his remarks mainly to the treatment of cardiac and renal oedema. In cardiac dropsy he emphasized the importance of the recumbent posture, of restricted fluids, and of massage, together with certain cardiac tonics, digitalis, caffeine, and its allies diuretin and theobromine. In dropsy of renal origin the etiology was more complicated, and effects were more difficult to estimate. He referred to three cases in which, without any apparent cause, diuresis had suddenly set in and the oedema had disappeared. The great Dr. Johnson of dictionary fame apparently, he remarked, had a similar urinary crisis. It was important to know whether or not the reduction of oedema was always beneficial. He discussed the advisability of limiting the intake of (*a*) fluids, (*b*) of sodium chloride. Sir James Barr (Liverpool), who followed, defined his views as to the etiology of oedema generally. He believed that treatment to be successful must remove the cause. Dr. Lazarus-Barlow held that in the production of oedema, certainly of oedema of passive congestion, the first and most important factors were not mechanical. Primarily, transudation was due to the need of the outside cells for nutrition. Dr. F. Charteris (Glasgow) detailed the practice in Professor Stockman's wards in Glasgow. He believed that caution should be used in the employment of mercury in kidney disease. Symptoms of salivation, etc., were very readily pro-

duced. Sir Lauder Brunton referred to Ranvier's experiment, in which oedema did not occur, after ligature of the femoral vein in a cat, even when the motor nerves were also cut, but did occur on division of the sympathetic nerves. This nervous element was well shown in angio-neurotic oedema. He had produced oedema by injection of antistreptococcal serum, and he believed that the toxins here concerned had an action similar to that of the toxins of renal disease. Dr. H. C. Cameron (London) thought that too little attention had been paid to the "salt-free" treatment. The curve of the body weight of the patient had been proved to follow very closely the proportion of salt retained, as shown by estimation of the sodium chloride in the food, sweat, urine, and faeces. In certain cases, where the heart and lungs were hampered by excessive oedema, it should be tried. Dr. Sillar (Edinburgh) believed that the cause of some cases of oedema was the absorption of toxic products from the intestine. In this respect the action was comparable to that of other poisons which facilitate permeation. Professor Stockman (Glasgow), in the absence of Dr. Rolleston, replied. Dr. Robert May (Belfast) read a paper upon the action of cresotinic and toluic acids in acute rheumatism. Their composition closely resembled salicylic acid, and their pharmacological action was almost identical. They were, however, distinctly less toxic. Earlier workers had used impure preparations. Sir Lauder Brunton congratulated the reader of the paper. It was a valuable contribution to the relationship between chemical constitution and physiological action.

Section of Psychological Medicine.

Thursday, July 29th, 1909.

In his prefatory remarks to his paper on the present position of applied psychology in medicine, which opened the second meeting of this Section, Dr. Schofield said he wished it to be clearly understood that he did not limit the range of psycho-therapeutics to the treatment of mental diseases, but wished to emphasize rather the need for the special education of all medical men as an indispensable part of their curriculum in the psychic treatment of all diseases, of whatever kind. Defining psycho-therapeutics as "the power of the mind in medicine," the speaker discussed the principal elements which entered into the relations existing between the physician and his patient under the heads of the reason, emotions, and will of the physician, and the influences upon the reason, emotions, and will of the patient; the need for an educated guidance of the patient in these matters, and the beneficial effects which might accrue to the patient by a proper choice and disposal of surroundings. Finally, he submitted that it was high time that the study of psychic methods of treatment should form part of every system of medical education. Treatment by suggestion was mentioned incidentally, the "power of the mind over the body" tacitly assumed, and the influence of the will in averting or postponing death affirmed; but, although the study on a scientific basis of psycho-therapeutics was mentioned on several occasions, no hint of such scientific study was afforded by the paper, which consisted mainly of vague generalities upon the undoubted benefits to the patients which follow suitable suggestions by the physician—confidence in the treatment and the will to get better. Dr. Mercier's paper on somatic delusions and local lesions was then read, in the absence of the author, by Dr. W. S. Smyth. The paper consisted of a description of a case of a man with a persistent delusion that his bowels were stopped, who refused food in consequence, although his bowels were moved several times a week. He also believed that he had been ravished per rectum by a Frenchman, this also, for sufficient reasons, being deemed to be a delusion. After an illness of over two years the patient died, the *post-mortem* examination revealing extensive tuberculous disease of the lungs and perforating ulceration of the small intestine, with terminal peritonitis. The author discussed the various possible hypotheses which might be advanced to explain the connexion between the bowel disease and the delusions, and in the end inclined to the view that the central cortex representing the bowel was first affected, the metabolism of the bowel in consequence interfered with, and the resistance of the bowel so lowered that it easily became tuberculous. The delusions were thus not secondary to the local lesion; but both the physical disease in the bowel and the delusions arose from the central disorder in the assumed cortical centre in which the bowel is represented, and from which its metabolism is governed. After a brief discussion by Dr. Dawson, a resolution of regret at the cause of Dr. Mercier's absence was proposed by Dr. Greenlees and carried by the meeting. An extremely interesting paper by Dr. Shuttleworth on Mongolian imbecility, based on 350 cases, mostly observed by the reader, was then read. After a brief account of the bibliography of the subject and an anatomical description of the type of imbecility, Dr. Shuttleworth considered, first, etiology, that is, heredity, and such factors as parental alcoholism and syphilis, and came to the conclusion that Mongolian imbeciles were exhaustion products, more than one-half of all cases in institutions being the last-born of long families, and in a large proportion of all cases the children of mothers already old in the child-bearing period. Dr. Shuttleworth's paper, which was illustrated by numerous excellent photographs, was followed with great interest, as were also the remarks of Dr. Langdon-Down, who spoke next on some points not touched upon by Dr. Shuttleworth, including the hand shape and markings of Mongolian imbeciles, illustrated by hand-prints. After Dr. Caldecott had commented upon the brief span of life of Mongolian imbeciles, rarely exceeding twenty years; the valuelessness of thyroid treatment, and their invariable proneness to tuberculous disease, necropsies disclosing tuberculous lesions in 100 per cent., the meeting terminated.

Friday, July 30th, 1909.

The last day of this Section was devoted to a consideration of the Report of the Royal Commission on the Feeble-minded. The discussion was opened by Dr. W. R. Dawson of Dublin, and the Section was honoured by the presence of Her Excellency the Countess of Aberdeen. After a general survey of the principles laid down by the Royal Commission, and after suggesting that, so far as Ireland was concerned, it would be well to restrict the powers of the local authorities by turning the asylum service into a national service on the lines recommended for the Irish Poor Law Service by the recent Viceregal Commission, Dr. Dawson proceeded to the discussion of the detailed recommendations of the Royal Commissioners. With regard to the three methods of dealing with defective persons by supervision, certification, and detention, the speaker failed to see what good could be done by the first two alone. With regard to classification, he did not quarrel with the disuse of the terms "lunatic" and "asylum," though any benefit accruing from the change could be only temporary, and the distinction between "persons of unsound mind" and "persons mentally infirm" seemed to him devoid of utility. Whilst in general agreement with the recommendations of the Commission, Dr. Dawson agreed with Commissioner Dunlop that compulsory notification, except where public assistance was required, was undesirable, and objected also, where Ireland was concerned, to the retention of the order for reception by a judicial authority, this being stigmatized by the speaker as an unwarrantable intrusion. Also his investigations in Dublin had convinced him that the establishment of special schools for mentally defective children was an impossibility, and that the provision of special classes would be much better. Further, he considered that the whole system should be supplemented by regulations dealing with inebriates who were not mentally defective, and lastly he thought that the recommendations of the Commissioners on the matter of family care were half-hearted and insufficiently definite, and that no system of provision for the

mentally defective could be complete without the inclusion of that form of treatment which was at once simple, easily provided, and inexpensive. Dr. Shuttleworth then gave the meeting the benefit of his long experience with mental ailments, and in particular pointed out that any scheme of compulsory notification as applied to the young child would be difficult, likely to arouse much opposition in the parents of the children, would throw a great responsibility on the certifying officers, and would permanently label many who might afterwards prove to be wrongly labelled as outcasts. Dr. Maguire and Dr. MacCormac both referred to the need for some provision being made for the early treatment of cases of incipient insanity and of early juvenile imbecility, and Mr. Fagan, Inspector of Reformatories and Industrial Schools in Ireland, voiced the general feeling of all speakers at the meeting that compulsory notification was inadvisable, and further that, in his opinion, it was unwise to separate feeble-minded children from their fellows at too early a stage, as he found that they derived benefit from mingling with normal children, when the feeble-minded bore only a small proportion to the normal children. Dr. Caldecott discussed the recommendations of the Commissioners from the financial standpoint, and affirmed that these recommendations, if carried out, would bear very hardly on charitable institutions by converting voluntary subscriptions into public contributions. He considered also that the Commission's estimate of the increased expenditure which would follow the adoption of their scheme, of £500,000 a year, would turn out to be nearer £1,500,000. Dr. Dawson then briefly spoke on the several points raised during the discussion, and in particular laid stress on the almost entire lack of provision for feeble-minded children in Ireland, there being only one institution, the Stewart Hospital for Imbeciles, with 100 beds, while it was estimated that there were 10,000 defective children in the country. The customary votes of thanks to the President having been passed, the proceedings then terminated.

Section of Surgery.

Thursday, July 29th, 1909.

A discussion on modern methods of treatment of tuberculous disease of joints was opened by Sir William Macewen, who laid it down as an essential preliminary of treatment that a clear idea of the pathology and of the stage of the disease should be obtained. Only in the earliest stages, when tubercles were still discrete, blood vessels dilated, and no tissue actually dead, could cure be effected by treatment via the blood stream. When tissues still living were engaged in the endeavour to create a barrier to stop the progress of the disease, or to absorb dead tissue and bacilli, then was the time for chemical agents and active surgical intervention. The important point was to attack the disease whilst still limited to the bone and prevent its extension to the synovial membrane. The greatest reliance was to be placed on a proper use of iodoform emulsion injected into the actual focus of disease. The injection of sinuses with bismuth was useful both for diagnosis and treatment. Bier's treatment, unaided, had not fulfilled in this country the expectations raised by its success abroad. Massage used with iodoform was often very useful. In final stages, excisions might be practised with the certainty of good functional results in most joints; they should always be "intracapsular." Mr. Robert Jones emphasized the divergence to be observed between treatment for adults and children. He thought tuberculin valuable not only as a means of very early diagnosis but also of treatment. Limitation of movement and rigidity was, he thought, the most valuable early clinical sign. He described criteria for deciding the proper time for cessation of fixation treatment. Abscesses should, he felt, be treated in the most conservative way. Deformity, except in the case of the spine, should be reduced regardless of the stage of the disease. Professor Sonnenburg related his procedure in treating affected joints with new tuberculin. Mr. A. H. Tubby drew attention to paraarticular foci and the necessity for operative eradication. Mr. Crawford Renton believed every palliative method should be given a chance, but that excision should not be indefinitely postponed, especially in the case of the elbow. Mr. Ward Cousins emphasized the importance of eliminating the bacillus. Mr. Maynard Smith gave the results of treatment of tuberculous joint disease at St. Mary's Hospital by the opsonic method. Mr. Rushton Parker gave some historical reminiscences of the progress of treatment. Mr. Cathcart, whilst agreeing that iodoform emulsion was most useful, believed that excisions were often required. He thought much was to be hoped from tuberculin as a therapeutic agent. In the course of his reply, Sir William Macewen agreed that Calmette's test was safe and valuable. He had also used the Pirquet reaction. *X* rays were certainly valuable. He demonstrated by numerous photographs the excellent functional results obtained after excisions. Cases of interest were demonstrated to the members of the Section by Mr. Howard Stevenson and Mr. A. B. Mitchell.

Friday, July 30th, 1909.

Mr. Syme of Melbourne read a paper on the diagnosis and treatment of some of the rarer forms of echinococcus cyst. With regard to lung hydatids, he said that in the case of unruptured cysts the *x*-ray pictures were typical, but with ruptured cysts this means of diagnosis was less useful, and the condition was often mistaken for pulmonary tuberculosis. The character of the sputa, however, generally enabled the careful and constant observer to recognize the actual lesion. In bone the exogenous form of development was common in the cancellous tissue, and, probably as a result of the pressure, the formation of scolices was prolific. In some cases eosinophilia was marked, about 9 per cent. of eosinophiles being not uncommon. He referred to the precipitin reaction, but said that in the Melbourne Hospital they had always got negative results, which were of little value. He thought "marsupialization" the best treatment; where lung and liver were simultaneously affected the liver cyst—the primary, that is—should be evacuated per abdomen. Cysts in the spleen might be evacuated and the organ dropped back into the peritoneal cavity. He had no experience of the closure of suppurating cysts by suture; in bone, thorough and repeated gouging and scraping generally led to successful eradication. Mr. Ward Cousins referred to very large hepatic cysts which might be mistaken for ovarian, especially if sterile, and also to cases in which chronic changes obscured the true character and origin of the cysts. Mr. Freyer exhibited a series of prostates removed from octogenarians, and also some of very large size, the largest weighing 17 oz. He presented the final statistics of his 644 operations to date. The total mortality was 6 per cent.; the average age 69, and the average prostatic weight 2½ oz. In 114 instances calculi were present. In reply to the President, Mr. Freyer said that he now only left in the tube for from four to ten days, and that if at the expiration of that time catheters were regularly passed, no constriction took place at the opening of the bladder cavity into that from which the gland had been enucleated. He only made use of initial irrigation when uraemic symptoms were present, and it was generally wise to drain the bladder suprapubically for ten days before enucleating the prostate in these cases. Dr. Hort read a paper on the diagnostic value of estimations of the antitryptic content of the serum in cases of malignant growth. Mr. Mitchell detailed 16 cases of operation for perforated duodenal ulcer with 16 recoveries. He drew attention to the undue stress laid upon shock as a sign of perforation, and emphasized the value of rigidity of the muscles as an early feature. He explained the constant absence of considerable extravasation as due to reflex contraction of the pylorus. He had made use of gastro-jejunostomy, in addition to simple suture of the ulcer, in 7 cases without a fatality. Mr. Ward Cousins thought the absence of shock in visceral perforation was to be explained by

the quantity of fluid poured out into the peritoneum and thence absorbed. Mr. Thelwall Thomas advocated early operation and anaesthesia with ether by the open method. In the course of his reply Mr. Mitchell said an additional danger of morphine was the relaxation of the pylorus induced. Mr. Edington discussed the question of resection of intestine in various conditions. Mr. Leedham-Green gave his experiences of a hundred consecutive cases of scopolamine-morphine narcosis, describing his routine, and characterizing the method as ideal for the patient, in contrast to the spinal method, which, whilst perhaps ideal for the surgeon, had serious drawbacks for the patient. The advantages claimed for this method were that the patient was spared preliminary nervous tension; full narcosis was early and quickly attained; the amount of anaesthetic necessary was lessened by at least a half; complete muscular relaxation could be secured; the secretion of mucus was much diminished, so that ether could be given easily and safely; post-operative pneumonia could be avoided; the operation was followed by long and peaceful sleep of four to six hours' duration; there was almost complete absence of post-anaesthetic vomiting; and, finally, there was plenty of evidence to show that, as compared with simple inhalation narcosis, scopolamine-morphine was safer.

SECTION OF TROPICAL DISEASES.

Thursday, July 29th, 1909.

MR. J. CANTLIE (London) opened a discussion on the treatment of chronic recurrent dysentery, with special reference to the possibilities of surgical treatment. He pointed out the many terms applied to intestinal flux associated with mucus in the faeces, and with occasional attacks of fever accompanied by blood in the stools. He considered that in the chronic forms of the disease a stenosis at the junction of the sigmoid and rectum (the sigmo-rectal pylorus) was to be met with in the majority of cases, and the treatment resolved itself in the means of dealing with this lesion and its consequences. He reviewed treatment by diet, by drugs, by enemata, and by surgical operations. In lesions limited to the junction of the rectum and sigmoid, when other means failed he recommended opening the upper part of sigmoid. When the disease extended further, he recommended washing out the bowel from the appendix, and when this proved insufficient, opening the ascending colon in preference to the caecum. A discussion followed, in which the following took part: J. L. Maxwell (Formosa), W. Carnegie Brown (London), Allan H. Hanley, C.M.G. (Dublin), R. A. Carter (British Guiana), J. Herbert Sanders (Hong Kong), Captain Gordon Tucker, I.M.S., Fleet Surgeon Lloyd Thomas, R.N., and the President. C. W. Daniels (London). A paper was communicated by H. E. Ozzard (British Guiana) on the life-history of *Ankylostoma duodenale*. He had cultivated the ankylostoma outside the human body, and having satisfied himself that this could be done, concluded that the *Ankylostoma duodenale* must be heterogenetic. The President (C. W. Daniels) discussed the paper.

Friday, July 30th, 1909.

DR. W. Carnegie Brown (London) opened a discussion on feeding and treatment of children in the tropics. He stated that, although reliable vital statistics from tropical countries were unattainable, they followed the general rules that obtain in European countries where more carefully prepared returns are given. Amongst well cared for children, whether European or native, the death-rate was low in the tropics as in temperate climates; whilst in the tropics, amongst the lowest classes of natives whose children were badly nourished, the infant mortality might reach 50 or 60 per cent. This terrible loss of infant life was almost entirely due to gastro-intestinal disorders which were directly caused by the want of fresh and nutritious milk. He drew attention to a fact at times observed among European women; previously delicate, they improved in health whilst breast-feeding their infants. He compared the milk of the cow, the goat, and the buffalo as substitutes for breast milk, and discussed the uses of condensed and preserved milks. The main disorders of early life due to tetanus neonatorum, gastro-intestinal affections, entozoa, dysentery, malaria, yaws, and enlargements of the liver and spleen, were dealt with in detail. The speaker considered it more than doubtful whether a white population could ever be successfully reared in the tropics. The following took part in the discussion: Lieutenant-Colonel Andrew Deane, I.M.S., J. L. Maxwell (Formosa), Surgeon-General W. R. Browne, C.I.E. (Madras), Major J. Ritchie, R.A.M.C., J. Cantlie (London), Stuart Brooke (India), Professor Hellier (Leeds), Captain T. H. Campbell, R.A.M.C., Robert Aird (Hankow), C. W. Daniels (London). The meeting was well attended, and a cordial vote of thanks was recorded to the President, Vice-Presidents, and the Secretaries of the Section.

LITERARY NOTES.

PROFESSOR OSLER has a subject entirely to his taste in the Linacre Lecture delivered by him at St. John's College, Cambridge, in 1908, and reprinted at the Cambridge University Press. Thomas Linacre appeals to him not only as a physician but as a humanist. As every one knows, Linacre was the founder of the Royal College of Physicians of London. He was born at Canterbury in 1460, and educated at Oxford. He then went to Italy, where he was one of the earliest English students who sought at Padua the medical education they could not get at home. Linacre also studied Greek at Florence under Politian and Demetrius Chalcondyles, and he transcribed Greek manuscripts in the Vatican Library. He was, indeed, all his life more a scholar than a physician. Early in the sixteenth century he was appointed physician to Henry VIII, who himself was, according to Froude, one of the best physicians in his kingdom. At any rate, he took sufficient interest in the subject to favour Linacre's scheme of founding a college. Linacre was a friend of Thomas More and all the scholars of a court which Erasmus describes as "less a palace than an academy of learning." He translated several of Galen's works, and was the author of a Latin grammar which was for a long time an accepted authority, especially on the Continent. In his later years Linacre entered into Holy Orders, and held a number of benefices. He died of stone in the bladder in 1524. Professor Osler thinks that Linacre may have been the scholar who gave Browning the idea of *The Grammarian's Funeral*. At any rate the description would fit him:

> Back to his book then; deeper drooped his head;
> Calculus racked him
> Leaden before, his eyes grew dross of lead;
> Tussis attacked him.
> "Now, master, take a little rest,—not he!"
> Not a whit troubled
> Back to his studies fresher than at first,
> Fierce as a dragon.
>
> So with the throttling hands of Death at strife,
> Ground he at grammar;
> Still, through the rattle, parts of speech were rife
> While he could stammer.
> He settled Hoti's business—let it be!
> Properly based Oun,
> Gave us the doctrine of the enclitic De,
> Dead from the waist down.

Of the many foundations associated with Linacre's name, a full account is given by Professor Osler, whose booklet, illustrated by reproductions of the title pages of several of Linacre's works, is interesting alike to doctors and to scholars.

Dr. Henry Barnes (Carlisle) writes: As supplementary to your notice of Dr. Homan's paper on St. Luke (see JOURNAL, July 31st, p. 274), I venture to send you a few additional observations, as any facts or comments bearing on the literary or medical character of the author of the third gospel will probably be welcome to your readers. There is reason to believe that St. Luke, who is affectionately called the "beloved physician" by St. Paul (Col. iv, 14), was an Asiatic Greek. He was born at Antioch in Syria, and his writings bear clear evidence that he had received an education much superior to that of the other evangelists. Instances are given by Professor

Harnack of St. Luke's literary skill, the dramatic pith and power of his style, and the poetic richness of his imagery. Reference should also be made, as Bishop Goodwin points out, that he has special claims to be regarded as a historian in the modern sense of the title. He is sensible, for example, of the importance of dates and of giving the means of verifying them. In his first chapter he gives a careful note of time: "There was in the days of Herod, the King of Judaea" (St. Luke i, 5), and again, in the second chapter:

It came to pass in those days that there went out a decree from Caesar Augustus that all the world should be taxed. And this decree was first made when Cyrenius was Governor of Syria.

This statement has aroused much controversy, an account of which will be found in *Smith's Dictionary of the Bible*, under the heading of "Cyrenius," and it is satisfactory to know that recent investigations establish the accuracy of St. Luke on this point. In the third chapter we have another careful note of time:

In the fifteenth year of the reign of Tiberius Caesar, Pontius Pilate being governor of Judaea, and Herod being tetrarch of Galilee, and his brother Philip tetrarch of Ituraea and of the region of Trachonitis, and Lysanias the tetrarch of Abilene, Annas and Caiaphas being the high priests, the word of God came unto John the son of Zacharias in the wilderness.

In this instance the mention of two high priests is contrary to the principle that there could be but one, but there is abundant evidence to show that Annas had been irregularly deprived by the civil power and Caiaphas substituted for him. Many other instances of St. Luke's historical accuracy might be given, but these must suffice. With regard to the medical language of St. Luke as a proof that the writer was a medical man, much has been written by several writers before the matter was taken up and discussed by Professor Harnack. In the *Gentleman's Magazine* for June, 1841, Mr. J. K. Walker calls special attention to the medical language used by St. Luke in his account of the miracles, and points out that not only is he more circumstantial in his narrative of those miracles which relate to the healing art than the other evangelists, but there is one recorded by him—that of raising the widow of Nain's son—not to be found in any other part of the four Gospels. When he mentions diseases, or their cure, he selects such words as none but a professional man would use, and shows some previous acquaintance with Greek writers. A few examples may be given. The word *ὑδρωπικός*, applied to the man who had the dropsy, occurs only in St. Luke. In speaking of one afflicted with palsy, St. Luke uses the word *παραλελυμενος*, whereas the other evangelists use the word *παραλυτικός*, which is never used by Greek medical writers. The medical term, *παραξυσμος*, appears in St. Luke, but not in the other Gospels. In speaking of Simon's wife's mother, who was taken with a great fever (St. Luke iv, 38), he uses the term *συνεχομενη* in the same sense as the Greek writers. In 1882, the Rev. W. K. Hobart, LL.D., ex-Scholar of Trinity College, Dublin, published an exhaustive analysis of St. Luke's writings,* in which he gives a list of some four hundred words which are rather peculiar to St. Luke, or which, though not peculiar, are yet for the most part more frequently employed by him than by any other New Testament writer. The subject is also discussed by Mr. James Smith in his *Voyage and Shipwreck of St. Paul*. In his *Foundations of the Creed*, Bishop Goodwin remarks (p. 112) that it is not merely the use of medical terms, but the manner of dealing with medical subjects which brings home to the mind the fact that the third Gospel was written by a physician. Take one instance: St. Mark tells us (chap. v) that the woman who had an issue of blood twelve years *had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse*. Compare this severe account of medical treatment with the corresponding passage in St. Luke (chap. viii), who speaks of *a woman having an issue of blood twelve years, which had spent all her money on physicians, neither could be healed of any*. "The same story precisely, but very differently told. St. Mark was not a physician: St. Luke was." It is not without significance that in alluding to the expense incurred by the woman different words should be used by the two evangelists. St. Luke uses the word *προσαναλωσασα*, derived from the verb signifying to expend, and St. Mark uses *δαπανησασα*, a word which is more applicable to wasting or spending in a riotous and luxurious manner, and this is the word used by St. Luke in the case of the prodigal son.

* *The Medical Language of St. Luke, a proof from Internal Evidence, that the Gospel according to St. Luke and the Acts of the Apostles were written by the same person, and that the Writer was a Medical Man.*

Medical News.

DR. DUDLEY BUXTON has been appointed to the newly instituted chair of anaesthetics at the Royal Dental Hospital of London in Leicester Square.

FRED. HIBBERT WESTMACOTT, F.R.C.S., from Honorary Associate, has been appointed a Knight of Grace of the Order of the Hospital of St. John of Jerusalem.

DR. ARMAUER HANSEN, of Bergen, the discoverer of the leprosy bacillus, has been elected a foreign associate of the Paris Academy of Medicine. At the same sitting a like distinction was conferred on Professor Morisani, of Naples.

UNDER the title of "L'Esculape" a medico-artistic society has recently been founded in Paris. It is organizing an exhibition of painting, sculpture, engraving, and decorative art for November next. Literary recitations and dramatic and musical sketches will be included in the programme. The honorary committee consists of: Drs. Garrel and Widal, of the Academy of Medicine; MM. Gilbert, F. Henneguy, and Edmond Perrier, members of the Institute of France; Dr. Marcel Labbé, *professeur agrégé* in the Paris Faculty of Medicine. The following are the members of the committee: President, Dr. F. Bezançon, *professeur agregé*; Vice-Presidents, Drs. Marx (Physician to St. Lazare), Barbillon, and Delmond-Berret; Secretaries, Drs. P. Rabier and Fr. Déherain: Treasurers, Drs. R. Sassier, Fr. Ferrand, Cabanes (editor of the *Chronique Médicale*), Cocquelet, and Léon Petit.

A QUARTERLY court of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on July 14th. Dr. Blandford, president, in the chair. Twenty-one directors were present. The death of a member of the society was reported, and seven new members elected. The sum of £1,255 was voted for paying the half-yearly grants to the forty-eight widows and thirteen orphans on the books of the society. The widow of one of the members applied for relief; her husband, owing to ill health, had been unable to make any provision for his widow, and a grant at the rate of £50 per annum was voted. The society only grants relief to the widows and orphans of deceased members. Membership is open to any registered medical practitioner who at the time of his election is resident within a twenty-mile radius of Charing Cross; the subscription is two guineas a year, or a member may become a life member by paying a sum fixed by the by-laws of the society. The invested funds now amount to over £100,000. Application forms for membership and full particulars may be obtained by applying to the secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W. The next election takes place on October 15th. Application forms must reach the secretary on or before September 22nd.

OVER forty years ago, in September, 1865, a statue by Noble was erected in the Ranelagh Gardens, Chelsea Hospital, in memory of Sir James McGrigor, the first Director-General of the Army Medical Department. It was felt that the new Royal Army Medical College in Grosvenor Road would be a more fitting place for this memorial of an officer whose career was so closely and gloriously associated with the army and the advancement of medical science. Accordingly permission having been obtained from the authorities, the statue has been re-erected on a site in the grounds of the College on the north-east side facing the Tate Gallery. The cost has been defrayed by the officers of the Royal Army Medical Corps. Sir James McGrigor occupied very much the same position on the staff of the Duke of Wellington as that held by Barron Larrey on that of Napoleon, and as the statue of the famous surgeon, who was described by the Emperor as the most virtuous man he had ever known, adorns the grounds of the Val-de-Grâce (the army medical school in Paris), so now, after a lapse of many years, the monument of his British compeer has found a fitting place in the grounds of the Royal Army Medical College, London. Sir James McGrigor was a native of Aberdeen, and a memorial of him in the form of an obelisk of Peterhead polished granite was removed a few years ago from the quadrangle of Marischal College to the Duthie Park, Aberdeen.

British Medical Journal.

SATURDAY, AUGUST 7th, 1909.

THE ADDRESS IN OBSTETRICS.

It is natural that apostles and enthusiasts should magnify their office—indeed it is a necessary condition for success. Sir John Byers cannot be accused of belittling either the importance of obstetrics, the qualifications necessary for success in that art, or the part taken by Irish institutions in the progress of midwifery. A deceased surgeon of great eminence used to say that when the surgeon was called to the parturient woman her danger began. Before the time of Semmelweis this was literally correct. It is true, as Sir John Byers said, that the practitioner of midwifery has to think of the well-being of two human lives, and that either of them may suffer from something which requires the widest knowledge and the highest skill to discover, prevent, or cure. But such cases are exceedingly rare. In the enormous majority of labours, all that is wanted is that the patient shall be made clean and kept clean, and that the process of natural delivery shall not be interfered with. Midwifery is in truth a limited department of preventive medicine.

Sir John Byers's address consists of two parts. The first might well have been entitled, "*Venite exultemus Lucinae*"; or, with a local application, "*Venite exultemus Rotundae.*" Sir John exults, and with good reason, on the practical extinction of puerperal sepsis. He referred to the address in obstetrics delivered in 1884 by the late Dr. George H. Kidd, ex-Master of the Coombe Lying-in Hospital. This distinguished man was, however, behind his time in the matter of antiseptic midwifery, for he said: "The history of great hospitals, such as that of "Dublin and Vienna, shows that puerperal fever will "prevail and cause sad mortality at times, and "disappear again, and that the conditions governing "its movements have not yet been discovered." Dr. Kidd was not happy in his choice of a hospital to illustrate this belief; for it was in the Vienna clinic that Semmelweis demonstrated that puerperal fever could be prevented. It seems as if in 1884 he were not acquainted with the *Traité de l'art des accouchements* of Tarnier and Chantreuil, the first volume of which had been published in 1882. These authors there stated: "In France, in England, in Germany, in "Russia, in Italy, in Switzerland, in a word, in every "country, progress is accentuated; everywhere the "mortality and morbidity of lying-in women diminish "from day to day." This statement remains true to-day. Puerperal infection is not yet extinct; but those who administer the Midwives Act are steadily wiping out one after another from the midwives' roll the dirty old women of the Mrs. Gamp type; and the old doctors who know not antiseptics and scorn what is new to them, are yearly joining the choir invisible, and are being replaced by younger men, who recognize in Lord Lister one to whom every medical knee should bow. Sir John Byers expresses his regret that "the various maternity hospitals are not agreed "as to the physical indications of puerperal "septic morbidity." He quotes the views of a Committee of the British Medical Association, which he calls the "British Medical Association "standard." He quotes also what he terms the "Rotunda Hospital standard," which represents the opinion of the Master of the Rotunda. The great Napoleon has somewhere been reported to have said that the worst general that ever existed was better than a council of war. A widely different but very sensible Englishman said that the best number for a committee was three, of whom two did not attend. We also in practical matters prefer the opinion of a competent man with responsibility upon his shoulders to the resolutions of any committee. We may remark, however, that as in 1882 the Coombe Lying-in Hospital was behind Paris, so the Rotunda was behind London; for Sir John Byers tells us that the clinical thermometer was first introduced into the Rotunda Hospital in 1882. In the London teaching hospitals the clinical thermometer was used in the later Sixties, and the English translation of Wunderlich's *Clinical Thermometry* was published in 1871. In 1882 the amount of morbidity in the Rotunda made known by the thermometer was 50 per cent. In 1907–8 it had been reduced to 3.64 per cent., a result on which the hospital is to be congratulated. Sir John Byers attributes this achievement, in the first place, to the recognition of the fact that in 75 per cent. of labours there is no need to meddle; they will safely finish themselves. He does not push this principle to the length that some have done and say that labour should be conducted without vaginal examination. Without vaginal examination how can disease in the passage be discovered? The second cause of improvement is the adoption of Listerian principles. The third is the limitation of vaginal examinations to the fewest possible number. The fourth and last improvement is the immediate suture of *any* laceration occurring during the process of labour (the italics are ours). Is not this statement somewhat too sweeping? In the first place, some laceration of the cervix, and of the vaginal orifice, takes place in every first labour, as Matthews Duncan pointed out. Its frequency is illustrated by the importance attached by nurses to what is called the "show" as an indication that labour has begun. The "show" means that there has been slight laceration of the cervical mucous membrane. Lacerations, if not too extensive, are beneficial, in shortening the duration of subsequent labours. The precept to suture *any* laceration immediately means an anaesthetic in every case of labour; for a practitioner who should suture the perineum in every case without an anaesthetic would in a year or two find his occupation in this particular practice gone. And this means that another practitioner must be sent for, for one man cannot satisfactorily both anaesthetize and stitch. An anaesthetist means, of course, another fee and a slight additional danger. Suture of a torn cervix is not always easy; an ill-applied suture may include the ureter, or may lead to retention of discharge, and consequent sapraemia. These are reasons which make some people think it wiser not to try to sew up tears in the cervix immediately after delivery. Sir John Byers impresses on practitioners some home-truths occasionally forgotten by extremists: for instance, that it is possible for sterilized india-rubber gloves to convey pathogenic microbes from the vulva into the uterus; and that febrile illness during childbed is not necessarily of septic origin, and, if of septic origin, that it does not necessarily follow that the patient was infected during delivery.

Sir John Byers tells us that "the whole tendency of "our operative measures now is to avoid craniotomy "in a living child." This is the principle that now directs the practice in most lying-in hospitals. But does it do so in private practice? The latest figures that we know of to illustrate the risk the mother runs in Cæsarean section (those of Munro Kerr) show a maternal mortality of 8 per cent. Till the mortality of Cæsarean section has been brought down much lower than it is at present, we think the time is not ripe for the general practitioner to send his cephalotribe to a museum.

The second part of the address is entitled "The "Future Development of Obstetrics." Like all specialists, Sir John Byers wants more and more practical training for the student and the pupil midwife. He is in hearty agreement with the General Medical Council, which is trying to enforce upon the London medical student a kind of training which the London medical schools, with one exception, cannot give. The University of Cambridge has swallowed whole the proposals of the General Medical Council; with the result, so far as we can see, that the Cambridge student will have to go out of England to learn midwifery.

The two London Royal Colleges have so far declined to act on the resolutions of the General Medical Council. There is one point of view from which Sir John's practical proposals are wholly admirable. We should like to see practical training replace the acquisition of verbal information, which can be written upon paper and therefore tested by examiners who know nothing more about the candidate. The best education is that which produces a person who can *do*, rather than one who only *knows* about something. The one is education, the other only information.

With these general propositions as to the advantages of practical training hardly any one will be found to disagree. But when we come to the putting into practice of these excellent principles we find that the reformer knocks against any number of hard economic snags. The benefits conferred upon the poor by the outdoor maternity departments of our large teaching hospitals make no large calls upon the funds of those hospitals. But the building of lying-in hospitals or the provision of lying-in wards in our great teaching hospitals and the maintenance thereof involve great expense. The midwife, if Sir John Byers can have his way, must pass a preliminary examination in "suitable general education," have a training in medical and surgical nursing, and then a year's midwifery training. He does not specify what is the "suitable" general education; but we presume he wishes to raise the average intelligence and knowledge of the women who practise midwifery. There are people, of whom Mr. Harold Gorst not long ago made himself the spokesman, who regard modern so-called education as a "curse," and who, if they had to pick out women to serve as nurses and midwives, would rather have those whose intelligence had not been crushed and their powers of observation and action blunted and weakened by being forced at an early age to learn by heart scraps of useless information and unintelligible verbal formulæ. These views are no doubt extreme, but that there is an element of truth in them will scarcely be denied by any one of practical experience.

But supposing this highly-trained midwife is obtained, who is to pay her adequately for her services? She will want a larger fee than the less educated woman who at present gets on the midwives' roll. Those who want to screw the standard up and up should remember that no law can ever prevent one woman from rendering service to another during childbirth. It can forbid a woman to call herself a midwife, and it can make a pecuniary consideration irrecoverable at law; but if a woman about to have a baby prefers to trust to the attention of a humble "friend" who is not a midwife, and does not call herself one, rather than pay the fee of a highly-trained woman on the midwives' roll, the law can never prevent this.

Sir John Byers quotes with approval a speech of the President of the Local Government Board to the effect that it was the business of every employer of labour, of every husband and wife, and of every department and authority concerned in the future of the race, to see that the prenatal conditions of the child were vastly improved. With this we all agree. But how? That is the question. Sir John Byers hopes much from "babies' clubs," institutes similar to the "consultations for nurslings" established in Paris by Pierre Budin. These "babies' clubs" both educate the mothers and ensure pure milk for the babies. He asks attention to the amount of preventable blindness produced by ophthalmia neonatorum, and he would like these cases early removed to some "hospital or institution." Yes; but by whom, and at whose expense?

In his concluding paragraph, Sir John Byers specifies some of the yet unsolved problems of obstetric medicine, and he winds up with a quotation which expresses in melodious verse the cheery optimism which is the dominant note of the address. We thank him heartily for it, and would add as our comment, *Floreat Johannes Byers, floreat, florebit!*

CROWNER'S QUEST LAW.

Not a few cases reported in the British Medical Journal during the last few years have shown that the law governing the practice of coroners in the holding of inquests is not very clear, or at any rate that it is variously interpreted, and we have on several occasions felt it our duty to call attention to what seemed to us instances of abuse of power on the part of certain individuals dressed in the authority of that ancient office. The manner in which one coroner in particular conducted inquests has more than once been brought to the notice of the Lord Chancellor, but without directly producing any particular effect. That these remonstrances, however, have not been altogether unheeded is proved by the fact that in December last a Departmental Committee was appointed to inquire into the law relating to coroners and coroners' inquests, and into the practice of coroners' courts. The members appointed to that Committee were Sir Mackenzie Dalzell Chalmers, K.C.B., C.S.I. (chairman), Sir Malcolm Morris, K.C.V.O., F.R.C.S.Edin., Sir Horatio Shephard, LL.D., Mr. T. A. (now Sir Thomas) Bramsdon, M.P., and Dr. William H. Wilcox. The committee has just issued a first report, in which it is stated that it has held seventeen meetings, at which thirty-two witnesses were examined, not only with regard to the matters specified in the terms of reference, but also in regard to deaths resulting from the administration of anæsthetics, and the danger arising from the use of flannelette in articles of clothing, as to which they were requested to make special inquiry in a letter addressed to the chairman by the Home Secretary on

December 24th, 1908. The inquiry is not yet complete, but a Blue Book of evidence has been issued. We propose to publish a summary of such parts of that evidence as directly concern the medical profession, but in the meantime it may be useful to give a general idea of its nature and scope.

Mr. James Brooke-Little, author of the article "Coroners" in Lord Halsbury's *Encyclopaedia*, gave a history of the office of coroner, which goes back to the twelfth century. In the Middle Ages the powers of coroners were more extensive than they are now. Their chief function was to hold inquests on the bodies of those who were supposed to have died either by violence or accident, and on the bodies of those who died in prison, and also in cases of serious bodily injury, rape and prison breach, breaking of houses, and practically nearly every felony. These functions have dropped off bit by bit. Apart from inability or misbehaviour, a county coroner holds his office for life. The grounds which, according to Mr. Brooke-Little, have been held sufficient to remove a coroner under the common jurisdiction of the Lord Chancellor are the following: If he have no sufficient knowledge or capacity; if he be so engaged in other business that he has not sufficient time to attend to his duties; if he be disabled and broken by age or disease. There are other reasons which do not concern us here. According to Mr. Brooke-Little there is no definition of "misbehaviour"; the Lord Chancellor has a great discretion in the matter. A borough coroner holds his office under the Municipal Corporation Act during good behaviour, but he is removable by the Lord Chancellor, not by the borough council. A coroner has not an absolute right to hold an inquest in every case in which he chooses to do so. If notice of the death is accompanied or followed by information that it was probably due to such cause as apoplexy or other "visitation of God," so as to show that an inquest is not necessary, the coroner may reasonably exercise his discretion by not holding an inquest. But if a coroner receives from the police authorities information of a sudden death in order that an inquest may be held, and there is no medical certificate of death from any natural cause, or other ground on which he can reasonably form an opinion as to the actual cause of death, it is his duty to hold an inquest; and in such case he cannot properly exercise any discretion to the contrary unless, by inquiry or otherwise, he has obtained such credible information as may be sufficient to satisfy a reasonable mind that the death arose from illness or some other cause rendering an inquest unnecessary. If a coroner has information which, if true, makes it his duty to hold an inquest, he is bound to hold such inquest; his jurisdiction to inquire does not depend upon the actual result of the inquiry. He cannot order a *post-mortem* examination unless he is holding an inquest. Mr. Brooke-Little stated that, supposing a person dies suddenly under a surgical operation, the coroner cannot give the surgeon permission to make a *post-mortem* examination. The relative can do so, unless the coroner determines to hold an inquest. As soon as he determines to do this he can instruct the medical man who was attending the deceased, or any other properly qualified medical man, to make an autopsy. In the case of a sudden death under a surgical operation there is no legal objection to a *post-mortem* examination being made, if the relatives consent, without the coroner being communicated with; but the coroner may still hold an inquest. If a person dies under an operation in a public institution, the coroner is bound, under a special Act of Parliament, to hold an inquest. If the death occurs in a private house, the coroner ought not to hold an inquest if an autopsy is made by a properly qualified man; but if he thinks that a possible case of negligence might be made out against the medical man, he would be justified in holding an inquest. Mr. Brooke-Little expressed the opinion that death under a surgical operation does not come within the meaning of a violent death in the words of the Act. If it appears that the deceased was a person who was not attended by any legally qualified practitioner, the coroner may summon any legally qualified man who is at the time in actual practice in or near the place where the death happened, and such witness may be asked to give his evidence as to how in his opinion the deceased came by his death. The coroner may summon the doctor who attended the case, and if no doctor attended, he may summon any neighbouring practitioner to give his opinion, even although he is an expert and not a witness as to facts. If a coroner deems it right to hold an inquest, the question whether a *post-mortem* examination should be made rests entirely with him, except to this extent: That if an autopsy has not been made, but a medical witness has been called, then, if the majority of the jury are of opinion that the cause of death has not been satisfactorily explained by the evidence of the medical practitioner called in, or by the other witnesses, they may require the coroner in writing to summon as a witness some other legally qualified practitioner named by them, and to direct a *post-mortem* examination to be made by him.

In regard to medical witnesses, Mr. Brooke-Little said the question was now entirely governed by statute. The Coroners Act, Section 21, makes provision that if the coroner knows that the deceased was attended by a practitioner he can summon that medical practitioner to come as a witness. If the person was not so attended, the coroner may summon any other qualified medical practitioner who is in actual practice in or near the place of death to come and give evidence. In either case the wording is "may" summon. He may also, either in the summons or at any time between the summons and the end of the inquest, direct such medical witness to make a *post-mortem* examination. But if any one states on oath before the coroner that in his belief the death of the deceased was caused partly or entirely by improper treatment of the person going to make the *post-mortem* examination, that person is not allowed to make it, and some other person must do it. Asked whether, if a medical man attends a person during his last illness and the person dies and an inquest is held, the coroner has power not to call to give evidence the medical man who has seen the person but some other medical man who has not seen the person during life, the witness replied that it was difficult to say that he had not the power; but if he acted in that way knowingly it would be an improper use of his power, and the local authority might, he thought, refuse to reimburse the coroner the expenses of such witness. The coroner was not bound to summon any medical witness at all, but if he did, and the deceased was attended in his last illness or at his death by a medical man, it was his duty to summon the one who was in attendance.

Dr. F. J. Waldo stated that the more experience he had as coroner the more *post-mortem* examinations he

ordered. In the majority of cases outside hospitals he got the practitioner who had attended the deceased during life, or had been called in at the time of death, to make the examination; but if on the evidence put before him by his officer, or in other ways, he could not form a satisfactory opinion, he thought it essential to get an independent man. Then he got his own special pathologist, who did it for the small statutory fee. He placed the greatest value on the clinical evidence of the doctor who had seen the deceased during life, but he used his own discretion. He did not think it necessary to have a special pathologist for all *post-mortem* examinations. He thought it should be left entirely to the discretion of the coroner. He assumed that he had the power now, but he thought it should be made more definite in the Act.

Mr. Isaac Bradley, Coroner for Birmingham, said he thought it was obligatory to hold an inquest when a patient died under an anaesthetic in the course of an operation. He would not include the case of an actual surgical operation.

Mr. A. J. Pepper said that, speaking from a very large experience, where he had examined bodies in which the *post-mortem* examination was supposed to have been complete, it had been very incomplete. When a *post-mortem* examination was made by an ordinary general practitioner, there were often appearances that might lead him wrong. The condition about which a mistake was most likely to be made was as to the cause of death and the mode of dying. The appearances might lead him to suspect violence when the death had, in fact, been natural. He suggested that the coroner should be compelled to call in an expert from a list nominated by the Home Secretary where there was any doubt as to the cause of death, and even where there was the merest suspicion or rumour of foul play. Reports of these examinations should be sent by the coroner to the Home Office. He thought that a medical man—whether he had attended the case previously, or had simply known the person, or had been called in at the time of death, or immediately afterwards—should always be called in. He thought the medical attendant's evidence essential, and it was perfectly monstrous to take his evidence and not call him.

Mr. Henslowe Wellington, Deputy Coroner for Westminster and the South-West District of London, said he did not suggest that deaths on the operating table in hospitals were not reported to the coroner. There were five large hospitals in his jurisdiction, and he had no reason to find fault with any of them upon the question of death under an anaesthetic or concealment of death.

Dr. G. Bateman, Deputy Coroner for the St. Albans District, Hertfordshire, said the coroner should always call in the medical practitioner who had attended the deceased, because the cause of death might be decided from clinical and also from pathological symptoms, and it might be necessary to combine them both in order to ascertain the true cause of death. The practitioner might be able to throw light upon the cause of death, from his personal knowledge, without a pathologist coming in after the event. Section 21 of the Coroners Act was decided in this sense years ago. It was the practice of most coroners to call in the doctor who had been in attendance, but there was one coroner who did not do this, and this had been the cause of a good deal of trouble. One inconvenience was that the cause of death could not properly be ascertained. It was unfair to the doctor that an inquiry should be held in his absence. He should be asked to be present and should be given an opportunity of watching the case. In a certain number of cases there would be no *post-mortem* signs of the disease from which the patient died; in such cases a pathologist who knew nothing of the symptoms during life would be absolutely unable to ascertain the cause of death. Wherever possible, both clinical and pathological evidence should be given.

Evidence as to many other points of practice in coroners' courts was given by various coroners. One was conspicuous by his absence. It is to be hoped that Mr. Troutbeck will be given an opportunity of explaining his reading of the law at a later sitting. The practice in Scotland was described by Professor Harvey Littlejohn, of Edinburgh.

Evidence as to anaesthetics, the dangers of particular agents, and the instruction of students in their administration, was given by Dr. Frederic Hewitt, Dr. Dudley Buxton, Sir Lauder Brunton, Mr. C. S. Tomes, Mr. Morton Smale, and others; and as to the certification of death, with special reference to cremation, by Mr. Herbert T. Herring. Dr. Hadwen gave evidence as to the risk of premature burial. Much other evidence was given by coroners, representatives of the police, and others, as to giving information of deaths, as to payment of witnesses and doctors, and many other points which cannot be dealt with now. We understand that it will be some time before the Committee issues its final report. Till then, of course, we refrain from making any comment on the evidence.

THE ANNUAL MEETING.

The Lord Lieutenant of Ireland and the Association.

Sir William Whitla, President of the British Medical Association, has received the following letter from His Excellency the Lord Lieutenant of Ireland:

Vice Regal Lodge,
Dublin,
August 2nd, 1909.

Dear Sir William Whitla,

Now that the memorable week of the British Medical Association's visit has been completed, I cannot help wishing to congratulate you both personally and officially regarding the conspicuous success which has characterized the proceedings collectively, and also with reference to the separate parts and events of the occasion.

There seems to be a general impression, which I am sure is well founded, that, combined with the many instructive and important deliverances and discussions, there has been awakened a large amount of intelligent interest on the part of the public with reference to the various questions and topics of far-reaching importance which have been dealt with and expounded during the Congress, and this I apprehend is eminently a result desired and aimed at by the Association.

Allow me now to express, on behalf of Lady Aberdeen and myself, most sincere thanks for the manner in which we were received by yourself as President and by all the officials of the Association, whose courtesy and thoughtfulness added so much to the pleasure of our attendance at the various meetings and reunions. And I cannot refrain from alluding once more to the honorary membership conferred on Lady Aberdeen, a distinction which will be a lasting source of gratification and encouragement.

Again thanking Lady Whitla and yourself, and with best wishes for the success of your Presidential term,

I remain,
Yours very faithfully,
Aberdeen.

Sir Wm. Whitla, M.D., LL.D.

Sir William Whitla has also received the following letter from Her Excellency the Countess of Aberdeen:

Vice Regal Lodge,
Dublin,
August 2nd, 1909.

Dear Sir William,

Will you allow me to add to His Excellency's letter a few words of grateful personal thanks for the kindness shown to me and to the Women's National Health Association by you and by the British Medical Association?

The honour you did me was altogether so unexpected and so surprising, and the stamp of approval set on the work of the Women's National Health Association so gratifying and encouraging, that I am still somewhat overwhelmed by my experiences. But I am sure it will give a great impetus to our health work generally.

May I ask you to convey to Lady Whitla our renewed thanks for your kind hospitality and for all the pleasure of the garden party in your beautiful grounds, and also for the two splendid bouquets she was good enough to present to me. We hope that you will accept the photographs which we are sending you and Lady Whitla as a remembrance of our visit to the British Medical Association under your Presidency, and we hope you will send us your photographs in return.

Yours sincerely,
Ishbel Aberdeen.

We are informed that Sir John Byers has received an extremely kind personal letter from Their Excellencies the Lord Lieutenant of Ireland and the Countess of Aberdeen, thanking very warmly Lady Byers and himself for their "most interesting and thoughtfully carried out entertainment," on Friday, July 30th, at Dreenagh House, Belfast, where a large number of the members of the British Medical Association met them at luncheon.

A Souvenir of the Meeting.

We understand that Sir William Whitla, President of the British Medical Association, has expressed his intention to present a copy of his work, in two volumes, entitled *The Practice and Theory of Medicine*, to every member of the Association who was present at the annual meeting recently held at Belfast. We are sure that the liberality of the President will be warmly appreciated, both on account of the value of the gift and the occasion of its bestowal. It will form a most interesting souvenir of a meeting which largely owed its success to the tact, courtesy, and genial hospitality of Sir William Whitla.

GENERAL NOTES ON THE MEETING.

By the time these notes appear, the majority of members who attended the Belfast meeting will be back in ordinary harness. Others more fortunate will be taking advantage of the facilities granted to holders of members' tickets by the London and North-Western and other railway companies for an extended tour, and will thus be seeing something of the beauties of southern and western Ireland. But for all alike the Belfast meeting and its strenuous doings will have become merely a memory. What is likely to be the primary outstanding impression? Probably a sense of the smoothness with which all arrangements worked, a dim realization of the skill and labour which secured it, and gratitude for the good-humoured courtesy of all classes.

These, it is true, are features of most annual meetings, but custom does not stale the pleasure which they cause, nor for those who know something of the engineering of meetings does it blunt the feeling of admiration—of half surprise—at the success witnessed.

The management of huge congresses, such as those which the annual meetings of the British Medical Association have now become, is a task which might well be deemed formidable even by professional organizers, and for men who have other affairs to attend to—their practices, whether consultant, specialist or general, to carry on simultaneously—it means a vast amount of anxious thought and conscientious labour for months before the date of the meeting and a sleepless week during its actual progress.

This fact is worth putting forward, for few members probably realize to the full how much they owe to the honorary officials on such occasions as the meeting at Belfast. To whom their thanks this time are more particularly due it would be difficult to say, for each and all of the nine subcommittees appointed by the General Executive Committee performed their respective tasks equally well. No one, however, will readily forget the courtesy and thoughtfulness of the General Honorary Secretary of the Executive Committee, Dr. Cecil Shaw, and of his colleagues Dr. H. L. McKisack, and Mr. Howard Stevenson.

The Hotel, Lodgings, and General Purposes Committee, headed by Dr. William Calwell, with Drs. J. B. Moore and Gardner Robb as honorary secretaries, had a difficult task, for Belfast is not specially well off for hotels. Nevertheless, we heard of few people who did not find themselves comfortably housed, for the committee had managed to get ready any number of rooms in private houses, and to exclude from its lists all specimens of the proverbial lodging-house keeper, who is probably to be found in Belfast not less frequently than elsewhere.

In their choice of members of other subcommittees Sir William Whitla, Dr. Alexander Dempsey, President of the Ulster Branch, and Dr. W. G. Mackenzie, Chairman of the Belfast Division—the three leading members of the Executive Committee—were equally happy, for as those who went to Belfast well know, not only were the arrangements for the meetings of Sections thoroughly satisfactory, but each and every day was made thoroughly enjoyable. The day entertainments were managed by Mr. P. S. Kirk, the secretaries of the subcommittee being Drs. Charles Kevin and J. E. MacIlwaine; the evening entertainments by Dr. J. R. Davidson, with Mr. J. A. Craig and Dr. W. W. Mackenzie as secretaries; and the excursions by Dr. J. C. Martin, of Portrush, with Dr. J. J. Austin and Mr. R. J. Johnstone as secretaries. The only person who did not carry out his task to the thorough approbation of every one was a gentleman whose name was thoughtfully not disclosed, namely, the Clerk of the Weather. He is not, however, a member of the Association, and so, perhaps, not under the control of the Executive, which seemed to be able to command the very best services of every one else anywhere within fifty miles of Belfast. Nevertheless, it may be said for him that his behaviour was probably less due to carelessness or ill-will than to inability to make up his mind as to whether it was summer or winter, and in any case he supplied some excellent hours of sunshine and an interesting number of Hibernian samples of meteorological possibilities.

Of the generous scale and great success of the garden party given by Sir William and Lady Whitla at Lennoxvale mention was made last week. It was followed by an entertainment of similar character at Cabin Hill on the last day of the meeting. The guests, to the number of over 1,500, passed up the long winding avenue of this beautiful estate in a

continuous stream, to be welcomed by their host and hostess, Mr. and Mrs. R. J. McMordie, in an oak-panelled hall, converted for the nonce into a bower of pink and blue hydrangeas. The grounds, with their winding walks and beautifully-kept lawns, supplied a feast in themselves for beauty lovers; but for the more carnally-minded there were performances by society artistes, as well as crystal-gazers, palmists, and refreshments galore.

Somewhat allied in its general character was the entertainment offered by the Royal North of Ireland Yacht Club at Cultra. It was a kind of garden party, with a yacht race by way of centre of attraction. Some of the visitors travelled down by a special train others in automobiles and outside cars, and by half-past 3 in the afternoon the club grounds presented a very animated scene. The weather, a little showery at first, later on turned out attractively warm, and watching the progress of the race was a pleasant occupation. The Association proved itself to possess a much larger number of sailors than might have been expected, and the three-reach race was well contested. The boats used belonged to the No. 2 class, and were kindly placed at the disposition of the visitors by the club, while two prizes—a cigarette case and a travelling clock, both engraved with the arms of the club—generously provided by Dr. Donnan and Dr. Greenfield, were awarded. The captains of the winning boats proved to be Dr. J. T. Wigham and Dr. W. H. Brailey respectively, but the racing was very close, for less than ten minutes divided the first arrival at the winning post and the sixth and last. This party was, so far as we remember, an entire novelty in the way of entertainments at Annual Meetings, and was a great success, while, curiously enough, the cricket match in view fell through, in spite of the trouble which Dr. J. W. Taylor had taken in making all preliminary arrangements. It was impossible, however, to give effect to the idea, for members still energetic enough to wield the willow and ready to face a fast bowler were not forthcoming in adequate numbers. On the other hand, Dr. John Rusk found plenty of members desirous of refreshing their memories of a much more ancient game—namely, bowls. To enable them to do so, the Belfast Bowling Club hospitably threw open its grounds near Queen's College, and some amusing competitions were held.

Another entertainment which attracted an enormous crowd was that given on Thursday evening by Sir Robert Anderson and the Lady Mayoress at the City Hall. Probably every one had admired the exterior of this very striking piece of municipal architecture; as, however, the building is not intended for show purposes but for the transaction of the daily work of the authorities of the great city, few, perhaps, were prepared to see so beautifully proportioned and decorated an interior. Apart from the great Council Chamber it has a lofty reception room with a dais at one end, a music balcony at the other, leading out of which are wide corridors, all communicating with a colonnaded gallery overlooking the marble entrance hall with its finely designed central fountain. From this hall mounts a broad marble staircase, and at the head of it the Lord Mayor and Lady Mayoress welcomed each guest in turn. The place is so big that, in spite of their number, there was never more than just sufficient crowding to make searching for friends an amusing task. An excellent band was playing, some solo singers performed at intervals, and refreshment tables were at the disposition of everybody from beginning to end of the evening, which on the departure in state of the Lord Lieutenant and the Countess of Aberdeen and their suite, terminated in a most enjoyable dance.

As was expected, the *al fresco* fête provided by the President and members of the Ulster Branch of the British Medical Association proved the *clou* of the meeting in the way of entertainments. It took place in the Botanic Gardens, and by way of playing "heads I win, tails you lose," with the meteorological official already mentioned, the Committee had caused to be erected a city of marquees, which rendered those present quite independent of the vagaries of the weather. Whether as a sequence or a consequence, not a drop of rain fell until quite late in the evening, so that meantime guests were able to wander about the gardens by the light of the thousands of fairy lights or listen to the various bands of musical entertainers at will. It need scarcely be said that the possible needs of the inner man were fully anticipated. Four or five marquees opening one into the other provided plenty of space for long tables of refreshments and for moving about and exchanging experiences, the series ending in a tent where the male portion of the assembly had an opportunity of comparing the liquid products of a certain well-known province in the more northerly part of France with those of Ireland in general. The evening, indeed, was all too short, and it is to be feared that not every one found time to visit the ferneries, which were most artistically lighted for the occasion. A very large house is devoted to them, and even by Kew the collection of tropical foliage of the smaller kind is not surpassed. At this entertainment, as at the other garden parties, their Excellencies the Lord Lieutenant and the Countess of Aberdeen were present, and members had an opportunity of making acquaintance with all that constitutes society in and around Belfast. Of the millinery no description can unfortunately be given; suffice it to say that it was not less good to look on than its wearers. Belfast, in short, did not fail either at this or any other entertainment to do Ireland justice, both in looks and conversation.

The needs of those whom amusement pure and simple does not satisfy, even in times of relaxation, were not overlooked by the Executive Committee, which, enlisting the sympathies of the great manufacturers of Belfast, arranged for the mysteries of several important industries to be explained to members. These included the intricate art of flax spinning at the works of the York Street Flax Spinning Company, and rope making at the Belfast Rope Works—both of them trades which involve dealing with many difficult problems of ventilation. In this connexion, perhaps, the most interesting visit of all was that paid to the Damask Works at Edenderry, for its owners, Messrs. J. Shaw, Brown, and Co. have created for their employees a model village somewhat on the lines of those at Bournville and Port Sunlight. The commercial results of such enterprises appear to be satisfactory, and the underlying idea is one which, if generally and thoroughly adopted, will go far towards nullifying the disadvantages of the inevitable predominance of urban over rural occupations. If Ireland develops on these lines all will yet be well with it.

Another interesting visit was that paid to Messrs. Gallaher's, tobacco manufacturers. The firm is one of the few which have stood out against the Tobacco combine, and its operations are conducted on such a large scale that visitors were able to gain a good idea of the whole of the processes involved in the conversion

of tobacco leaf into cigarettes and pipe fuel. At Messrs. Dunville's, whisky distilling was not actually proceeding, but the visitors had an opportunity of picking up some knowledge of the methods which have served to make this firm's whisky famous, and to the number of some 200 were entertained at a champagne luncheon. Irish whisky, it is clear, fears nor foe nor rival, even though cased in portly magnum capped with shining tinfoil.

NATURALLY also visitors were afforded an opportunity of realizing something of the importance of the part played by Belfast in the shipping world. Their experiences in this direction began on Tuesday, which was by no means too early, because it would be quite possible to live a good many weeks in Belfast without recognizing that it has vast docks within its area, and that it vies with Newcastle and Gateshead as a centre of the shipbuilding industry. On Tuesday upwards of a hundred members were received by Mr. Robert Thompson, Chairman of the Dock Commission, and some of his colleagues at the Bangor boat jetty. There the Commissioners' private steamer was in waiting, and after a short general cruise of inspection the visitors were taken to see the new Graving Dock and the Musgrave Channel, tea being served meanwhile. The following day Messrs. Workman and Clark's establishment was thrown open, and the visit proved exceedingly interesting to the many for whom marine engines, their interiors and component parts, are ever fascinating objects. Twenty-four hours then passed, and the remaining thirst for information regarding matters maritime was satisfied by a visit to the head quarters of a shipbuilding firm whose operations are of such magnitude as frequently to have evoked absolute poetry from engineering writers. The works occupy Queen's Island, where the guests were led by the Right Hon. A. M. Carlisle, in company with three or four other directors of Messrs. Harland and Wolff, Limited. Several gigantic liners in process of construction were seen, and the boiler shops, engine-fitting shops, and ship's carpenters' and various other departments inspected. The visit occupied almost two hours, and no one can fail to have been impressed by what was seen.

QUITE of a different character was the visit of inspection which a good many members paid on the invitation of the Corporation of Belfast to examine the methods employed in dealing with the sewage of the city. Members already knew something of these, thanks to an elaborate paper on the subject read by Councillor Dr. Henry O'Neill in the Section devoted to Hygiene and Public Health, but they were grateful for the explanation supplied by Councillor M'Cullagh as to the special difficulties with which the sewage authorities in Belfast have to contend. These are partly due to the sluggishness of the river, which on receding leaves a large area of bare foreshore, but more especially to the omnipresence of the marine plant known as *Ulva latissima*. It thrives on the nitrates and free ammonia inevitably present in water in the neighbourhood of sewage outfalls, and, when it has reached a certain size, breaks away from its roots and scatters far and wide to decay in the sunshine. As the outcome of the findings of a Royal Commission, which made a prolonged inquiry into the matter a few years ago, the Corporation is at present centring its efforts on depriving the plant of nutriment by subjecting the sewage to an elaborate system of sedimentation, while it is also experimenting with various fashions of dealing with the problem which have been suggested. The visit ended with tea at an hotel during which a vote of thanks to the Corporation and to Councillor M'Cullagh was passed on the suggestion of Dr. Louis Parkes.

How the visits paid to the two sanatoriums, of which Belfast is already able to boast, to the famous Royal Victoria Hospital, and to the older but almost equally well-known Mater Infirmorum Hospital, should be classed is not quite certain. Many perhaps regarded them as elaborate tea parties, as a pleasant opportunity of meeting friends, and were well justified in doing so, for at each and all of them the authorities had prepared for their guests taking this view. They were equally prepared, however, to meet the desires of those who wished to examine carefully the provision made for the treatment of the sick at these various institutions. The parties at the White Abbey Sanatorium where the guests were received by Dr. and Mrs. Hall, Dr. Morgan and the Lady Superintendent (Miss E. Woods), and that to the Forster Green Sanatorium, took place on different days. This was a happy arrangement, since it enabled those specially interested in sanatorium work to compare institutions for the benefit of tuberculosis as conducted respectively by municipal authorities and through private benevolence. At the Forster Green Sanatorium it was a pleasure to all to meet the widow of the founder, a lady who, before the end of the afternoon, appropriately acknowledged a speech of thanks to the Committee for their hospitality, made on behalf of himself and his fellow guests by Professor Cameron. The gathering at the Mater Infirmorum Hospital was a very large one, and though tea and talk satisfied the requirements perhaps of the majority, the Reception Committee formed by the members of the medical and surgical staff had its hands kept full by those wishful to explore the spick and span wards. Even larger was the number of visitors who responded to the invitation of Mr. James Davidson, the Chairman of the Board of Management of the Royal Victoria Hospital. The added size was partly perhaps due to the fact that by the time the entertainment took place the meeting was more thoroughly under way than on Tuesday, when the reception at the Mater Infirmorum Hospital was held, partly because of curiosity excited by the special system of ventilation on which the Royal Victoria depends. This is the Plenum system, which has rarely hitherto been applied to any such great hospital as the Royal Victoria. The general arrangements of the institution and the fashion in which the Plenum system is utilized will be found fully described and illustrated by ground and other plans at page 25 of the second volume of the BRITISH MEDICAL JOURNAL for 1903 (see also vol. ii, 1904, page 697). Those who advocated the adoption of this system in the circumstances may be regarded as having been somewhat bold spirits, but their action seems fully justified by the results obtained. By way of testing these in a perfectly unbiassed fashion, we addressed inquiries casually to a large number of different persons who had attended the entertainment, and were much interested to find that while several of them were quite unaware that there was anything unusual in the system on which the hospital is constructed, all were ready to testify to the sweetness of the wards and their freedom from any trace of stuffiness.

AN account was given last week of various sermons preached on the Sunday immediately preceding the commencement of the scientific portion of the proceedings of the Annual Meeting, but those notes would not be complete without some reference at least to an address delivered at St. George's Parish Church by the Rev. H. D. Murphy, D.D. It is true that it was

not intended for the consumption of medical men, but, nevertheless, dealt with a matter which is necessarily of high interest to practically every member of the medical profession—namely, the question of pounds, shillings, and pence, and the moral duty of seeing that the services of medical men are not merely remunerated by more or less empty expressions of gratitude. The Rev. Dr. H. D. Murphy, in short, dealt faithfully and plainly with the sins of the individual whose existence has given rise to a heading which of late has frequently figured in these columns—"vicarious philanthropist"—and preached on that subject as apt and eloquent a sermon as even the least frequently paid medical man could desire. He took as his text a passage from the Apocrypha with which perhaps few people are acquainted. It is not canonical, but is nevertheless a part of the Holy Scriptures which "the Church doth read for example of "life and instruction of manners." It runs, "Honour "a physician with the honour due unto him, for of the "Most High cometh healing, and he shall receive "honour of the King. The skill of the physician shall "lift up his head, and in the sight of great men he "shall be in admiration. There is a time when in "their hands there is great success." The reverend advocate of the cause of medical men preluded his address by stating that no one had suggested to him the subject of his sermon, no one was responsible for what he was about to say except himself, in whose mind the thought had long dwelt of addressing his congregation on the subject of the shameful way in which medical men are treated by some of those who owe to them their lives.

The week ended as usual in a series of Saturday excursions, all of which were well selected and well arranged. During nearly the whole of the preceding night rain fell heavily, and the prospects of large parties seemed doubtful, more especially as an early start from home was essential. In the event, however, everything turned out in the happiest fashion. Remembering, doubtless, the old proverb, "Rain before seven, fine by eleven," some three hundred visitors bodly faced the drizzle and were rewarded almost as soon as they had taken seats in the trains by a burst of sunshine. The day, in short, turned out to be as attractive in point of weather as in everything else. One little fact proves the success of the efforts of the excursions subcommittee; on questioning members of the returning parties each was found to be preening itself on its choice. Each party, in short, was convinced that its own expedition must have been much the pleasantest. A further good point in the arrangements was that taking advantage of the excursion plans did not, as is sometimes the case, necessarily interfere with homeward flights, returns to Belfast being all timed so as to permit of visitors catching if they would the various cross-channel steamers. On its Saturday's work, therefore, the Executive is to be as warmly congratulated as on all the rest, since perhaps for no other part of an Annual Meeting is it more difficult to secure success than for the terminal excursions. Play the piper ever so gaily, guests do not always dance—not because they would not but because they may not, owing to the necessity of hastening home to resume once more the trivial round, the common and ill-paid task.

Two of the parties started together by special train before 9 o'clock in the morning, travelling northwards. The larger division went on to Portrush, where, after a light luncheon had been served, all climbed into the waiting electric cars and started for the Giant's Causeway. The tram line or light electric railway follows the edge of the cliff, and from time to time brief pauses were made for a peep down into the clear water or a more prolonged view of some particularly attractive promontory. Midway Dunluce Castle was reached and this picturesque ruined stronghold thoroughly explored. Another quarter of an hour on the cars and the Causeway was reached. Some opted for exploration of the caves by boat, landing in one of the more distant bays which break the line of basalt columns; but the majority followed the shore route on foot, and were well rewarded, for walking proved easy, and they were able to examine the remarkable formation of the foreshore in more leisurely fashion. It was made clear that science and some superstition are not entirely incompatibles, for few failed to take a seat on the wishing-stone. Perhaps they were merely resting, but why that particular spot, when the whole shore is strewn with natural armchairs, and looks in parts not unlike the auditorum of a Roman theatre? A few endeavoured to get as far as Port-na-Spania Cove, where an Armada vessel came ashore. It is believed to have intended to attack Dunluce Castle and mistook certain curious natural pinnacles on the cliff for its turrets. The pleasure of this visit was greatly enhanced by the presence of Mr. Traill, a brother of the well-known Provost of Trinity College, Dublin. He has a house in the neighbourhood, has made a prolonged study of its characteristics, and in a few short sentences at intervals managed to convey quite a clear notion of its geological and other history. The party got back to Portrush by 4 o'clock and found a well-spread table awaiting it. On conclusion of the meal and after a brief stroll through the town, the majority of the party then entrained for Belfast. The impression left was that either at Portrush or the Causeway an excellent summer holiday could be spent. The sands are magnificent, the cliffs positively beg for exploration, and the golf links are hard to beat.

The smaller party, which quitted the main line at Ballymena, travelled on to Parkmore by a narrow gauge tram, having a view meanwhile of the Flemish mountain, on which, according to tradition, St. Patrick passed his boyhood as a slave and herder of cattle. From Parkmore, lying 1,000 ft. above sea level, and the highest railway station in Ireland, brakes took the party to the head of the picturesque Glenariff Glen. It is a rocky gorge some two miles long, excavated by the torrent coursing through it. Of its kind, this gorge with its numerous cascades and overhanging foliage, is perfect in its scenery, and as the path is downhill all the way, exploring it on foot, as did the party, entails no undue exertion. On reaching the foot the brakes were again requisitioned and took the party to luncheon at the hotel, into which the Garron Tower—a former seat of the Londonderry family on a lofty terrace formed by a gigantic landslip—has now been converted. Starting afresh in the afternoon the party then drove along the coast road through Carnlough and close to Glenarm Castle—the chief residence of the Earl of Antrim—arriving at length, tired but happy, at Larne about 6 p.m. Some of the party returned forthwith to Belfast, buoyed up by a wealth of memory-pictures of the beautiful scenery viewed during the day, while others, after a refreshing leisurely tea, explored the well-known starting point for Scotland, returning to Belfast late in the evening.

The third party left home somewhat later, and, being bound for Carlingford Lough and the Kingdom of Mourne, travelled in a south-easterly direction. They passed on the way Lisburn, the birthplace of the

linen industry of Ireland, and, reaching Warrenpoint, were met by Mr. Joseph Carroll, the Chairman of the Urban Council, Mr. W. Johnson, its solicitor, and were later joined by Drs. W. W. Glenny and Vesey and several other residents, who kindly took upon themselves the duties of ciceronage. Warrenpoint itself, with its beautiful surroundings and the blue summits of the Mourne Mountains in the distance, is very attractive, but two separate expeditions were promptly started. Steamer excursions are often not popular, but the arm of the sea at the head of which Warrenpoint stands is landlocked—a cross in appearance and formation, as some one suggested, between a fjord in Norway and a tarn in the Highlands—and was so smooth that most people jumped at the chance of a cruise round its shores. They thus saw the sundry castles for which this lough is famous. It was the site of much fighting, and the castles, one of which dates from the first decade of the eleventh century, are all relics of the first British invasion of Ireland. The rest of the party went by land to Rostrevor, nestling at the base of a tree-clad promontory on the other side of the lough; some even essayed a climb of the nearest peaks of the Mourne Mountains, the fastnesses whence the native Irish for years continued to swoop down to ravish with fire and sword the fertile lands wrested from them by the Sassenach invaders. About 2 o'clock all reassembled at Warrenpoint, and enjoyed luncheon to the strains of an excellent band. The chair was taken by Mr. J. Carroll, who in due course expressed the pleasure felt by the Amusements Committee of the town in being able to take some share in making the visit of the British Medical Association pleasantly memorable to its members. His remarks and the hospitality shown met with due acknowledgement from Dr. Rayner, the Treasurer of the Association, who formed one of the party, and the company, after a toast to the Chairman, adjourned to inspect the sea baths. Some Pierrot performances and band music followed, and finally, after a tea-party in the Municipal Gardens, the hour arrived for taking the train homewards.

FINALLY remain to be mentioned the golf doings of the week. They made it clear that the medical golfer, at any rate, practises what he preaches, and is disposed at times to put aside even scientific discussion in favour of quiet outdoor exercise. The excuse, however, was ample, for there are as many as six most attractive links in the immediate vicinity of Belfast, and all of them were hospitably placed at the disposition of members. The chief event of the week, however, in this connexion was the first competition for the Belfast Golf Cup generously offered by the Ulster Medical Society on the suggestion of its President, Mr. T. S. Kirk. The competition took place, not on any of the Belfast links, but on those of the County Down Golf Club, near Newcastle, at the foot of Sleive Donard, the highest peak of the Mourne Mountains. The hosts of the day were Mr. and Mrs. Kirk, who welcomed at the club house the 200 or more guests, who arrived by special train and otherwise in the course of Thursday morning, and were assisted by Dr. and Mrs. R. L. Bell of Newcastle, both at luncheon and tea. The course is over 6,000 yards long, and, thanks to its abounding natural and artificial hazards, put the skill of competitors thoroughly to the test. The eventual winner proved to be Dr. Shackleton, of Holywood, his score being 2 up on bogey—80—with a handicap of 14. The second winner was Dr. George Cheyne, of Edinburgh, and both, about 5 p.m., received their prizes from the hands of Mrs. Kirk. The day was one of thorough success both from the view of serious golfers and from that of mere amateurs or onlookers, for the course was at its best—which is very hard to beat—the day fine, the rugged beauties of the course a pleasure to note in themselves, and 'tween times there were putting and approaching competitions for the benefit of the numerous ladies who graced the function by their presence.

NATIONAL TEMPERANCE LEAGUE.

ANOTHER occurrence during the week of the meeting is one which, formally speaking, was not part of its official events; nevertheless, reference to it may well be made in this place, since it is of annual recurrence and is looked forward to by a large proportion of members. This is the annual breakfast provided by the National Temperance League, which on this occasion shared the duty and responsibilities of the position of host with the Irish Temperance League. It was the Chairman of the latter body, the Right Hon Sir Robert Anderson, Lord Mayor of Belfast, who presided at the breakfast this year, and he was supported by Sir James Henderson, Chairman of the Technical Institute, whose committee had placed their magnificent rooms at the disposition of the conjoint leagues; by Dr. Crothers, of Hartford, Connecticut, U.S.A., and many others; while apologies for unavoidable absence were received from the President of the Association (Sir William Whitla) and Sir Victor Horsley. The principal business of this breakfast conference was to hear from Dr. T. N. Kelynack a summary of the scientific evidence with regard to the effects of alcohol presented at the recent International Congress in London, of which some account has already appeared in these columns. His address was a "scientifically dispassionate" summary of the facts on which the modern medical advocate of total abstinence relies, and he started with the postulate that, "although science claims the right to guide "and govern in such essentially a medico-sociological "problem as that presented by alcoholism, it must be "remembered that at present we stand only at the "beginning of our researches." Quoting the results of Professor Laitinen's laborious researches on the influence of alcohol in decreasing resistance to disease, the speaker enforced, by various observations, the necessity for a clear understanding of all the causal factors in alcoholism and of its relation to individual and racial deterioration. Laitinen's view that alcohol, even in small quantities, has an injurious effect on human offspring was, he claimed, endorsed and illustrated by the evidence of Drs. F. W. Mott and Clouston, Aschaffenburg, Holitscher, and Branthwaite. A vote of thanks to Dr. Kelynack for his address was moved by Dr. T. Crothers and seconded by Dr. Norman Barnett, the Honorary Secretary of the Belfast Branch of the British Medical Temperance Association. The latter was pleased to think that the breakfast that morning had been one of the most successful ever held under similar auspices. It was also a matter for congratulation that as time passed many medical men, formerly disposed to regard the question of temperance reform as a mere fad, were coming to take a deep and sympathetic interest in its progress. The motion was also supported by Mr. McAdam Eccles (of St. Bartholomew's Hospital), General Honorary Secretary of the British Medical Temperance Association. Belfast, he said, was clearly building morally and architecturally with a view to the future, more especially in regard to the education of the young, on which to a very great extent the future progress of the struggle against alcoholism depended. The British Medical Temperance Association, composed solely of medical men and medical women

pledged to total abstinence, now numbered about 700, of whom 89 were resident in Ireland. The success of the Belfast branch was largely due to the energetic work of its president, Dr. Calwell, and of its honorary secretary, Dr. Norman Barnett. The meeting also had the advantage of hearing a few words from Mr. J. T. Rae, the Secretary of the National Temperance League. He mentioned that the breakfasts had been started by his late father, and that they had been held annually for over forty years.

Irish Medical Schools' and Graduates' Association.

Another similarly unofficial incident in the course of the week was the annual summer meeting and luncheon of the Irish Medical Schools' and Graduates' Association, held at the Medical Institute. There was a large attendance of members and guests, including ladies. Sir Charles Cameron (Dublin) was in the chair, and amongst those present were the Rev. Dr. T. Hamilton (Vice-Chancellor, Queen's University, Belfast), Dr. Sinclair White (retiring President of the British Medical Association), Dr. E. Rayner (its Honorary Treasurer), and Dr. Dawson Williams. Dr. J. A. Macdonald, Mr. H. J. Ballance, Mr. R. H. Kinsey, Mr. Guy Elliston, Drs. Smith Whitaker, A. Cox, Shepherd Boyd, Buist, Vernon Dodd, R. Fegan, J. H. Ewart, Rev. Dr. Seaver, Dr. J. J. Macan, Dr. J. Hobbs Crampton and Dr. W. Douglas, the last three being respectively Chairman of Council and Honorary Secretaries of this representative of medical educational centres in Ireland.

A MENTAL HOSPITAL FOR LONDON.

The report of the Asylums Committee of the London County Council, which appeared in the Journal of July 24th, p. 234, led us to cherish the hope that at last the Council was about to make a serious endeavour to carry into effect the scheme of a mental hospital which has for years past been advocated by this Journal. For a considerable time it has seemed as if Dr. Maudsley's magnificent offer of £30,000 towards the foundation of such a hospital was to be allowed to lapse owing to an ill-judged economy, doubtless inspired by the near approach of a general municipal election. From the report referred to it appeared that a site for the hospital had been found. The Asylums Committee also proposed, in accordance with the recommendation of the Royal Commission on the Care and Control of the Feeble-minded, that two receiving houses should be established to which alleged lunatics should be taken instead of to the workhouse. There they could be kept under observation and treatment till it was ascertained whether they were fit to be discharged or the mental disease was of such a nature as to make it necessary to send them to an asylum. The Finance Committee, while approving of the proposals of the Asylums Committee, expressed the opinion that the Council should in the meantime content itself with obtaining parliamentary powers to establish one receiving house by way of experiment. It suggested that this receiving house should be "on the site of the proposed mental "hospital." The wording of this recommendation must have struck a careful reader as rather ambiguous, as it might be taken to mean that the receiving house was to be a substitute for the hospital. We were led to understand, however, that the receiving house would be a separate establishment, standing in its own grounds, adjoining those of the mental hospital. Such an arrangement would in some ways have had considerable advantages. Last week we announced that it had been decided to defer the consideration of the report of the Asylums Committee till after the summer recess. This, we fear, means that the matter is to be indefinitely hung up. This fear is confirmed by information which we have received that the negotiations for the purchase of the site chosen for the mental hospital, which were believed to be all but formally completed, have at the last moment been broken off. For this, as far as we know, the London County Council is not to blame, but it is none the less unfortunate, and we are afraid that the fact may be used as a pretext for further delay in giving effect to Dr. Maudsley's benevolent intention.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A meeting of the National Committee for Great Britain and Ireland was held at the rooms of the Medical Society of London on July 22nd, 1909, Dr. F. W. Pavy, F.R.S., President, in the chair. It was proposed by Sir William J. Sinclair and seconded by Mr. L. Eliot Creasy, that the members of the National Committee be circularized as to the advisability of asking His Majesty's Government to invite the Seventeenth International Congress of Medicine to meet in this country. A report was made upon the appointment of official delegates at the Budapest Congress. It was also pointed out that members of the Congress who desire to travel with the Royal Society of Medicine party shall communicate at once with Mr. J. V. W. Macalister, 20, Hanover Square, W. The meeting closed with a vote of thanks to the Medical Society of London for the use of the rooms.

LEEDS HEALTH CONGRESS.

This is the age of congresses, and though some of them might pass into the regions of perpetual silence without drawback to the progress of the world, there is plenty of excuse for those dealing more or less authoritatively with questions of public health. They bring together workers in different classes of public health administration and in their train a host of dabblers who leave none the worse for having been in contact with real experts. Furthermore, though the sectional discussions may not be of any great scientific value, they afford opportunities of putting nails in the coffins of the fads in which the world at present runs riot, and attract the attention of the general public to really sound conceptions of desirable public and private life conduct. But though there is ample room for one such congress a year, there is hardly space for two: on this ground alone, therefore, the decision of that old standing body, the Royal Sanitary Institute, to join hands with its younger brother, the Royal Institute of Public Health, and hold a joint congress at Leeds is to be regarded as excellent. The result was a very useful week's work which terminated just in time to allow some of those present to hurry over to Ireland for the meeting at Belfast. The work was divided among four or five Sections dealing respectively with Industrial Hygiene, Child Study, Preventive Medicine, and Engineering and Architectural Work, and at each of them papers of interest were read by well-known medical officers of health and other authorities. Leeds as a whole, moreover, and its university, in which, knowing that both institutions were in search of a meeting place, the idea of a joint congress would seem to have practically originated, offered every facility. The plan was taken up by Dr. Spottiswoode Cameron, the Medical Officer of Health for Leeds, and it is mainly to his powers of organization that the success of the congress was due.

BRITISH PHARMACEUTICAL CONFERENCE.

The British Pharmaceutical Conference began work at Newcastle-on-Tyne last week under the presidency of

Mr. J. F. Tocher, B.Sc., F.I.C., a pharmacist of Peterhead, Aberdeenshire, a member of the Board of Examiners for Scotland, and known likewise in connexion with the study of physical anthropology. He devoted his presidential address to the consideration of present-day problems in the pharmaceutical world of a medico-political and scientific character, and before the end of the meeting introduced a discussion on a subject of common interest to pharmacists and medical men, "Should dispensing "of medical prescriptions be exclusively confined "to pharmacists?" In the course of his paper on this subject Mr. Tocher considered several methods by which a desired separation between the practice of medicine and the practice of pharmacy might possibly be brought about, but pointed out that it was only in cordial co-operation between bodies truly representative of medicine and of pharmacy respectively that hope of settlement of the various problems involved really lay. As a practical means to that end he was disposed to urge an attempt to bring about the institution of a joint standing committee formed partly of members of the British Medical Association and partly of members of the British Pharmaceutical Conference. His idea, however, was, he indicated, still in embryo, and the general discussion which followed his introductory remarks ended in a resolution that the matter should be referred to the Executive of the British Pharmaceutical Conference for consideration, power being given to it to take any steps necessary to arrange for an exchange of views between the British Medical Association and itself. Before the Conference separated an invitation to meet next year at Cambridge was received and accepted.

AN OPHTHALMOLOGICAL CONGRESS.

AT a meeting held at Oxford on July 15th it was decided to place the annual meeting at Oxford on a permanent footing. Mr. Sydney Stephenson (London) moved, and Dr. R. A. Reeve (Toronto) seconded, the the following resolution: "That the time has now "come when it is advisable to place upon a permanent "footing the annual meeting at Oxford of those in-"terested in ophthalmology." The motion, which was supported by Professor Deutschmann (Hamburg), Professor Motais (Angers), Professor Marc Dufour (Lausanne), Dr. Wendell Reber (Philadelphia), Dr. Vail (Cincinnatti), Dr. L. Werner (Dublin), Mr. R. J. Coulter (Newport), and Dr. H. Walker (Glasgow), was carried without a dissentient voice. It was then moved by Professor Osler, seconded by Mr. F. M. Granger (Chester), supported by Professor Gotch, and carried *nemine contradicente*: "That the Oxford Ophthalmo-"logical Congress be, and hereby is, constituted." Lastly, on the motion of Dr. Hill Griffith (Manchester) and Mr. Rayner D. Batten (London), a provisional committee (with power to add to their number) was appointed to make the necessary arrangements and to report in due course. The committee consisted of Sir Anderson Critchett, Bart. (London), Sir Henry Swanzy (Dublin), Dr. George Mackay (Edinburgh), Professor Osler (Oxford), Dr. Hill Griffith (Manchester), Professor Greeff (Berlin), Professor Dufour (Lausanne), Professor Deutschmann (Hamburg), Dr. Darier (Paris), and Dr. Wendell Reber (Philadelphia), together with Mr. Robert W. Doyne as chairman, and Mr. Sydney Stephenson as secretary.

THE OPIUM QUESTION.

WE learn from the *Medical Record* that the United States has invited all the countries which participated in the meeting of the International Opium Commission at Shanghai, China, last February to send delegates to a second conference, to be held at The Hague in the near future, at which means will be considered for the international control of the production, manufacture, and traffic in opium, with a view to the complete suppression of the use of opium, except for medicinal purposes. Dr. Hamilton Wright, who was one of the American delegates to the conference at Shanghai, is preparing a programme to govern the discussion of the conference. It is hoped that the conference will also take up the question of the use of cocaine and other narcotics and habit-forming drugs. Dr. Wright is preparing legislation for submission to the United States Congress, which, if enacted, will place the manufacture of and inter-State traffic in habit-forming drugs under the supervision of the Bureau of Internal Revenue.

WE are requested to state that the library and rooms of the Royal Society of Medicine will be closed during the month of August for cleaning and alterations.

SIR MALCOLM MORRIS, K.C.V.O., AND DR. NEWSHOLME, Medical Officer to the Local Government Board, have been appointed delegates of His Majesty's Government to the International Congress on Leprosy, to be held at Bergen from August 16th to 19th.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Examination of Imported Meat.—Mr. Watt asked the President of the Local Government Board whether, in regulations under the Public Health (Regulations as to Food) Act, it was the Customs officer whose duty it was to call in the medical officer of health to examine imported meat which the Customs officer considered unsound; if so, would he say whether that official was qualified by training to decide what meat was diseased and what meat was wholesome; and, if not, would he alter the regulation so that all meats imported were subjected to expert examination. Mr. Burns said that it was the case that an officer of Customs would not be qualified by training to decide what meat was diseased and what meat was wholesome, but the regulations did not require him to do this. His duties under them were to require that certain classes of foreign meat, whether it was diseased or not, should not be removed until they had been examined by the medical officer of health, and that other classes of foreign meat should not be removed if, by reason of facts brought to his knowledge, or of representations made to him, he was of opinion that the meat required examination by the medical officer of health. The responsibility for expert examination rested with the medical officer of health, and he might examine any foreign meat whilst it was still in the district, although it had not been detained by the officer of Customs. It did not appear to him that any alteration of the regulations was necessary.

Hammersmith Infirmary.—Mr. James Parker asked the President of the Local Government Board last week whether his attention had been called to the treatment towards Mr. Jameson by the Hammersmith Infirmary officials because he refused to undergo an operation on his leg and was turned out in consequence, although the infirmary doctor had to remove the splints from his leg to pass him out; and, seeing that this man was readmitted an hour afterwards and was subjected to bad treatment on readmission, would he cause an inquiry to be made about the matter? Mr. Burns replied that he had received complaint with regard to this case, and had made inquiry with respect to it. Jameson was admitted to the infirmary on January 5th. The splint was removed on the 6th, not apparently for the purpose of passing him out, but because it was no longer required and because the sinuses from which he suffered rendered its continuance undesirable. On the 8th he declined to undergo an operation on his leg. He was discharged on the 9th, not, as he understood, on this account, but at his own request. He was readmitted

the same day. The allegation that he then received bad treatment was entirely denied by the officers concerned, whom he had caused to be questioned on the subject, and he did not find any evidence in support of it.

Vaccination Order, 1907, Declarations.—Sir Maurice Levy asked the President of the Local Government Board whether he was aware that a number of parents had been misled by the wording of Form Q, issued under the Vaccination Order of 1907, into believing that they were at liberty to make a declaration under the Vaccination Act, 1907, within four months and seven days of the birth of a child provided the vaccination officer received the declaration within that period, whereas the declaration was void if made after four months had elapsed from the birth; and whether he could in some way alter the wording of the form to prevent any further misconception on this point. Mr. Burns replied that he had received some representations on this subject, and he would give consideration to them. He might, however, point out that in the Notice of the Requirement of Vaccination which was given by the Registrar of Births and Deaths to the parent or other person registering the birth of a child it was expressly stated that the statutory declaration must be made within four months from the birth of the child.

Croydon Rural District Water Supply and Drainage.—Last week Mr. James Parker called the attention of the President of the Local Government Board to the reports of the Medical Officer of Health for Croydon, which stated that a large number of cesspools existed in the rural district, and that great danger arose therefrom to the water supply, and asked what action the Board proposed to take in this case and other cases in which there was a water supply from chalks. Mr. Burns said that he was aware of the reports referred to. He had communicated with the rural district council, and had been informed that they had succeeded in persuading a considerable proportion of the owners to connect their premises with the public sewers. He had advised them as to the powers which they possessed for dealing with cases where such connexions had not been made, and he had subsequently issued an Order conferring upon them certain additional powers under the Public Health Acts Amendment Act, 1907. Further, he was causing some scientific investigations to be made with regard to chemical means of purifying chalk waters. He was fully alive to the importance of the subject.

Gordon College, Khartoum.—Sir H. Craik asked the Secretary for Foreign Affairs whether increased assistance could not be given to the Gordon College in consideration of the important bacteriological investigations conducted in the College with the object of preventing malaria and other diseases. Mr. George Greenwood followed this by asking whether the bacteriological experiments referred to were not in fact conducted in the Wellcome Research Laboratories, equipped by a member of the firm of Burroughs and Wellcome; whether his attention had been called to the *Journal of Pathology* of March, 1906, giving an illustrated account of a series of very cruel experiments on dogs and monkeys by inoculating them with sleeping sickness, without thereby advancing the cause of knowledge or science by one jot or tittle; and whether, in view of the great and growing body of opinion hostile to such experiments, he would refrain from devoting public moneys to their promotion. Sir Edward Grey said that he had no information on the points raised in the supplementary question. The question of assistance from the Egyptian Exchequer was a matter for the decision of the Egyptian Government, but he might point out that Sir Eldon Gorst stated in his annual report on Egypt that the expenditure on education had been increased, in the budgets of the last few years, to the utmost extent which the resources of the country would allow. In the Soudan in particular there were many objects absolutely necessary to the country, such as improvements of means of communication, which must be considered. With regard to assistance from the British Exchequer, although he was quite alive to the merits of the Gordon College, and much appreciated the value of its work, he feared there was no precedent for subsidizing such educational establishments from the British Exchequer. Though he could not hold out hopes of a grant of this nature, he could assure the hon. member that it was the desire of His Majesty's Government that the work of the Gordon College should receive every support and encouragement that could be given as opportunity arose, either from public funds or private benevolence.

Experiments on Mosquitos at Mian Mir.—Mr. Ramsay Macdonald asked the Under Secretary for India whether his attention had been called to a paper read by Captain James at the Bombay Medical Congress last October, in which it was stated that the attempts made at Mian Mir to extirpate malaria-bearing mosquitos had failed, and that malaria was on the increase, and to replies by Surgeon-General Hamilton, Colonel Barrow, and others; and whether, in view of the importance both to the white and native population of India of these experiments to extirpate malaria, the Government would see its way to undertake an impartial but authoritative inquiry into the Mian Mir experiment. The Under Secretary for India replied that the proceedings of the Medical Congress held in Bombay in February last had not reached the Secretary of State, but he had seen a notice in the Bombay newspapers of a paper read by Captain James, recounting the results of an investigation into the health of the population of the Mian Mir cantonment. The Government of India would be consulted on the suggestion made.

Milk and Dairies (Scotland) Bill.—On Thursday last week this bill was again before the House of Lords, and in Clause 2 the words "or maker of butter or cheese" were inserted. Amendments were made as regards the registration of dairies and the withdrawal of certificates of registration, and a new clause providing for the co-operation between local authorities in dealing with tuberculosis in cows. As regards the expenses of administering the Act, Lord Carrington said the matter was under careful consideration, and he promised to make a statement before the third reading.

The Local Education Authorities (Medical Treatment) Bill came on for second reading in the Lords on Thursday in last week, and, after a speech from Lord Donoughmore explaining the objects of the bill, Lord Crewe said the Government would offer no opposition to the bill, which had passed through the House of Commons. He hoped, however, that it would be sympathetically applied by the local authorities. It would be most unfortunate if the effect of the bill were to discourage parents who were poor but not absolutely indigent from having recourse to this medical treatment for their children. The bill was then read a second time.

Epidemic Disease in Native and European Army in India.—Last week a return was ordered, on the motion of Sir Wm. Collins, showing the cases of and deaths from enteric fever, cholera, plague, and small-pox (with corresponding rates per 1,000) in the native army and among European troops in India, respectively, for each year from 1900 to 1908, inclusive.

Poor Law Medical Officers (Scotland).—Mr. Cathcart Wason has succeeded in getting a return ordered showing in how many and what parishes during the past three years Poor Law medical officers in Scotland have vacated office, and what period in each case has elapsed before the appointments have been permanently refilled.

Death Registration in India.—On Monday the Master of Elibank, in reply to Mr. Vincent Kennedy, said that death registration was instituted generally in British India between 1870 and 1875. There was no reliable record of the number of deaths resulting from starvation or famine. In times of famine special efforts were made to secure an exact report of deaths directly resulting from starvation, but the number of deaths so recorded was small, and was not an indication of the excess mortality directly or indirectly brought about by privation in seasons of drought and scarcity.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

PUBLIC HEALTH COMMITTEE OF THE COUNTY COUNCIL.

AT the meeting of the London County Council on July 27th the Public Health Committee recommended the Council to initiate legislation next session for the sanitary regulation of stables and the inspection of food exposed for sale on street barrows (BRITISH MEDICAL JOURNAL, July 17th, p. 368). The proposal met with considerable opposition.

Mr. P. C. Simmons moved the reference back. He explained that he did not object to the inspection of costermongers, and he understood that the costermongers themselves were not opposed to it, but he pointed to the increase of motor traffic, and suggested that there would soon be comparatively few stables in London, rendering the proposed legislation unnecessary.

Mr. Whitaker Thompson, who seconded, thought it would be difficult for the borough councils to inspect costermongers' barrows.

Mr. Gilbert Johnstone, in defending the proposals of his Committee, said they had in mind large stables of cartage contractors or cab proprietors. On the cleanliness of these the extent of the fly nuisance very largely depended. In his experience this nuisance was worse in the East End of London than in Egypt. Further, if stables were more cleanly it would be possible to stamp out glanders, in dealing with which the Council spent thousands of pounds annually. As regards costermongers, the law at present discriminated unfairly against shopkeepers, who were subject to inspection, while their competitors were not. There was nothing to prevent a costermonger using a filthy barrow or washing it with dirty water. The only power of the sanitary authorities was to seize food absolutely unsound. Nine of the borough councils wished to have these powers.

Dr. Beaton moved an amendment to refer the matter back as far as it applied to stables.

This was agreed to as a substantive motion, but on a division less than two-thirds of the members voted in favour, and therefore under standing orders the whole proposal fell through.

OXFORD.

THE PREVENTION OF CONSUMPTION.

A MEETING was held on Monday, July 19th, at Professor Osler's house in Oxford, to consider what steps should be taken in the County of Oxfordshire for the prevention of consumption. Mr. W. H. Ashhurst presided, and among those present were Professor Osler, Sir Ernest Trevelyan, Mr. Vernon and Lady Mary Watney, Dr. A. L. Ormerod (Medical Officer of Health for the city), Dr. Collier, Dr. Drew, Dr. Coles, Dr. Banks, Dr. Esther Carling, and many others. Letters of sympathy and regret at non-attendance were received from the Bishop of Oxford, Lord Valentia, and the Rev. L. R. Phelps. Miss Price read a letter which it was proposed to send to the Oxfordshire County Council. The signatories asked the Council, with a view to an exact record of the extent and situation of the illness, to adopt the following measures:

(*a*) Notification: either (1) voluntary notification, which obtains at Brighton, or (2) compulsory notification, as at Sheffield. (*b*) Preventive measures, such as the dissemination of information as to the nature and danger of the disease by addresses given in towns and villages in the country by competent persons. (*c*) Curative measures, by the provision of sanatorium treatment for all suitable cases in the following categories: (i) For a month to train patients in personal hygiene and the general management of the illness, so as to minimize the risk of the spread of infection when they return to their homes and their work. (ii) For a longer period in cases where the disease is in so early a stage that a cure is possible or probable. (iii) For the dying. In the last stages of a consumptive's life the danger of infection to those about him is greatest, and stringent precautions and careful nursing become necessary. It was stated that several borough councils and unions in the neighbourhood had met the demand for sanatorium treatment by sending their patients to the Maitland Sanatorium at Peppard, where they permanently reserved beds. The Henley Union reserved one bed there and the Reading Borough Council five.

To ensure organized quarterly visits and reports of some responsible person on those who have left the sanatorium, and to supervise the continuance of precautionary measures; to provide assistance when necessary in the home, give instructions and report on sanitary deficiencies.

To direct systematic and thorough disinfection of houses, bedding, etc., from which patients have been removed, or after death, by washing, whitewashing, papering, etc.

Dr. Banks, in opening the discussion, said the total abolition of consumption was an ideal not immediately practicable; still, a great deal could undoubtedly be done. He warned them also against saying that they could cure every case; they could not. They had to consider what would happen to a patient after he returned from the hospital. The man would not be able to do anything like his full work, and every one who knew anything of the labouring classes would know how very difficult it was to get employment for men who could only do light work. All who had watched the work at Madley would know something of what could be done in the way of a sanatorium for working men, but they had to persuade the patient that, even if he had been earning £3 before treatment, it would be better to take 25s. when he came out, and set the other 35s. as an asset in the way of prolonged life. If they were going in for an open-air system of treatment, all that was wanted was wooden buildings, and these could be had for £4 or £5. He also warned them against the fallacy that this system was a quick method of treatment. It would take a very long time and a great deal of money, but it would be of inestimable benefit in carrying forward the work of improving the health of the people. Dr. Collier said the only difficulty seemed to be the question of getting the money. Here he thought they ought to set a certain amount before themselves which was to be raised by private charity before approaching public bodies. Any sanatorium should be co-operative with the patients. Each patient should pay something towards the cost, and he was of the opinion that the families of the poor from the founding of the scheme should pay something as a form of insurance, as was done in other countries, such as Germany. They had also to remember the influence for good a discharged patient would have on the home life. They had found in cases at the Radcliffe Infirmary, where they had not been able to keep patients very long, that the man's return meant a very great stress being laid on the necessity for personal cleanliness at home and other conditions which made for healthiness. As for help from the county council, he supposed there never was a time when public bodies were less willing to spend money. Dr. A. L. Ormerod said what interested him most was the question of prevention. At Brighton there was a system of voluntary notification; cases were sent to the isolation hospital, and the worst of the poorer cases were sent to the workhouse infirmary. They had had very little help from legislation. Paupers were now bound to be notified in cases of tuberculosis, and an order from the Local Government Board for December, 1908, though it gave them hope at the beginning, tied the hands of the medical officers by its later clauses. They could do nothing to stop the spreading of infection. In 1910 compensation would be offered for the slaughter of tuberculous cows; that was all legislation had done to help. The great fault was that men and women would not enter a sanatorium till it was too late. Another difficulty was that they could not get people to believe that consumption was infectious; and—though it seemed a dreadful thing to say, he thought it was true—even if the patients did know that the disease was infectious, they would not care. He had a scheme, though he thought it almost one impossible of realization. He would have a dispensary formed, fully equipped with a staff of physicians and nurses, the nurses ready to follow the applicants to their homes and see to cases there. Then there would be a strong committee formed which would not rest till any houses that were absolutely bad should be done away with. They must educate public opinion, show the people the necessity of dealing with the matter, and teach them to look to the future as the test of the value of their efforts. Dr. Coles said he had always advised the councils to which he was medical officer not to adopt notification. To quote Sheffield as an instance of compulsory notification was peculiarly unfortunate, because Sheffield was a large district which could pass a special law annulling the regulations of the

Public Health Act. In other places they could only place consumption on the list of infectious diseases, with the result that no poor man would be able to avoid being an object of interest, and perhaps dislike, to his neighbours, with the certainty of being unable to carry on his work. The first step must be the establishment of a sanatorium. One should remember the good effect which a man from a sanatorium had; he often developed a real hunger for air, and would sleep out of doors for choice. Dr. Esther Carling thought that the total abolition of consumption was not a counsel of perfection. They had the Local Government Board's statement that it might be hoped that in time phthisis would be as scarce in England as typhus or malaria, and they could point to the general reduction of the death-rate all over the country. There seemed no doubt that people thought a great deal of money had been wasted on sanatoriums in the past, but now a new era was opening. Formerly a sanatorium was supposed to be a place for lounging in easy chairs—a place which taught nothing but idleness. Now the patients were arranged to do work of different value. Professor Osler remarked that there were three things necessary to their campaign: education, organization, and belief that they were going to win. The first of these things was very important, and it could be carried forward by the distribution of pamphlets, by spreading literature, and by means of the tuberculosis van. This van was very successful in its travels about the country; it was fitted up with models showing the treatment of the disease, and carried with it a staff of equipped men who spoke and delivered addresses from the steps of the van. No cause was ever won by being half-hearted, and in this case they could be sure they were on the winning side. The Chairman corroborated the fact mentioned by Miss Price, that in many workhouse infirmaries no treatment was given. A short discussion followed on the best means of carrying forward the propaganda, and it was decided, on the motion of Dr. Collier, to appoint a committee of seven to consider the matter, preparatory to calling a public meeting to support the scheme. Sir Ernest Trevelyan, Miss Price, Professor Osler, Dr. Esther Carling, Mr. V. Watney, Dr. Collier, and Mr. W. H. Ashhurst were invited, and consented, to act on the committee. The Chairman, in proposing a vote of thanks to Professor Osler for arranging the meeting, and to the speakers, said he thought that there could be no doubt that the Council was ready to receive any scheme very sympathetically.

LEEDS.

Death of Mr. Blair, General Manager of the Infirmary.

The death of Mr. Blair will cause a widespread feeling of regret among many generations of former residents at the General Infirmary. Mr. Blair was appointed General Manager of the Infirmary in 1876, at a time when the work of the infirmary was much less extensive than it now is, and, to quote the words of a resolution passed at the weekly board last Friday, "he has watched its growth with the utmost interest, and has himself been one of the chief factors in the large measure of success which has been obtained." Mr. Blair was one of the most loyal servants any institution could possess, while his genial manners and courtesy made him a great favourite with the members of the weekly board, with the honorary staff, and with the resident officers.

The Medico-Psychological Association.

The annual meeting of the Medico-Psychological Association was held in Leeds and Wakefield on Thursday and Friday, July 22nd and 23rd, under the chairmanship of Professor Bevan-Lewis, the President of the Association. The meetings were well attended by distinguished alienists from all over the country. On Friday evening the annual dinner of the Association was held in Leeds. Among those present were the Bishop of Wakefield, Sir James Crichton-Browne, Dr. Yellowlees, Dr. Savage, and Dr. Mercier. The University of Leeds was represented by Professor A. S. Grünbaum, and by other members of the teaching staff. In submitting the toast of the University of Leeds, Dr. Mercier referred to the loss sustained by the death of the Marquis of Ripon. He said he was glad to find that he was in error in supposing, as at one time he did, that women were not admitted to the courses of study and to the degrees of the university. His satisfaction on discovering his error was, however, tempered by the discovery that the doors of the General Infirmary were closed to women students, so that they were deprived of the opportunity of availing themselves of the regulations of the university. Professor Grünbaum, in replying, referred to some recent changes in the teaching staff, and with special satisfaction to the retention on the staff of Professor Bevan-Lewis, who by his valuable clinical instruction supplemented the teaching of Dr. Bedford Pierce. Professor Grünbaum held that the recent regulation of the university—whereby a separate paper in mental diseases was abolished and a compulsory question in mental diseases was incorporated with the paper in medicine—was an improvement, and was likely to result in a better standard being maintained than under the old plan of a separate paper. In proposing the toast of "The President," Sir James Crichton-Browne was in the earlier part of his speech reminiscent, dealing with the old times at the West Riding Asylum, and with the improvement which he had seen there during the last forty years. One thing he had done for the West Riding Asylum; he had discovered Dr. Bevan-Lewis, and "tempted him from those Welsh hills where doubtless his heart still was, to the less interesting plains of the West Riding." He paid a graceful tribute to the assistance Dr. Bevan-Lewis had throughout his connexion with the West Riding Asylum received from his wife. The toast of "The Visitors" was submitted by Dr. Yellowlees, and happily replied to by the Bishop of Wakefield.

Hospital for Women and Children.

The Special Election Committee has promoted Dr. Carlton Oldfield, who for three years has been assistant surgeon to the Hospital for Women and Children, to the full staff in succession to Mr. Walter Thompson, who has resigned on his promotion to the full staff of the General Infirmary.

Resident Appointments at the General Infirmary.

Mr. H. L. Flint, M.B., Ch.B.Leeds, has been appointed House Physician to Dr. Wardrop Griffith and Mr. S. H. Booth, M.B., B.S.Lond., has been appointed House Surgeon to Mr. Walter Thompson.

BIRMINGHAM.

Ophthalmia Neonatorum.

The following instructions have been issued by the Health Committee to all the midwives in Birmingham with reference to infantile ophthalmia. The instructions are largely copied from those drafted by the British Medical Association in the special report on the subject.

Inflammation of the Eyes in Young Infants (Ophthalmia Neonatorum).

The above disease accounts for more than 10 per cent. of all cases of blindness, and over one-third of all the cases of blindness in blind schools are due to this disease. If taken in time the disease is curable. Midwives are required to observe the following directions:

I.—*Treatment of Cases presumably Normal as regards Danger of Ophthalmia Neonatorum.*

Child.—In every case in which a medical practitioner is not in attendance the midwife shall adopt the following routine procedure:

(i) Directly the head is born, and before the eyes are opened, the lids and the surrounding skin should be wiped clean on each side with a separate piece of sterilized wool.
(ii) Nothing should be dropped into the baby's eyes.
(iii) The face and the body should not be washed in the same water. Fresh water should be taken for each.

II.—*Treatment of Cases in which the Mother Suffers from a Purulent Vaginal Discharge.*

(a) Mother.—If there is a purulent vaginal discharge, whether in pregnancy or labour, medical help must be obtained.

(b) Child.—If a doctor is not already present when the child is born he should be sent for immediately, in order that any necessary application to the child's eyes may be made.

III.—*Procedure where an Affection of the Child's Eyes is Observed.*

If there is any inflammation of the baby's eyes, however slight, shown by redness, swelling, or discharge, the midwife or

nurse must explain that the case is one in which the attendance of a registered medical practitioner is required, and medical help must be obtained in accordance with the rules of the Central Midwives Board.

N.B.—Failure on the part of a midwife to act promptly in reporting any case of inflammation of the eyes will be deemed to be a serious offence by the Health Committee.

THE HEALTH OF BIRMINGHAM.

The health of Birmingham, with the exception of a widespread and very fatal outbreak of measles, has during the last six months been good. The birth rate was 27.8 per 1,000 as compared with 29.7 during the same period last year, and the death rate was 17.7 as compared with 17.2 in the first six months of 1908, and an average of 18.5 in the previous ten years. A very fatal type of measles began to be prevalent during November last, and the infection was diffused over the whole city during the period when the weather was coldest. The mortality was very high, for no fewer than 503 children died from the disease during the half-year under review; of these, 97 were under 1 year of age, 210 between 1 and 2 years of age, 91 between 2 and 3, 51 between 3 and 4, 22 between 4 and 5, and 32 over 5. The deaths from the other infectious diseases were: Small-pox, 0; scarlet fever, 40; diphtheria, 56; whooping-cough, 97; typhoid fever, 5; epidemic enteritis, 44. The number of cases notified under the Infectious Disease (Notification) Act was: Small-pox, 0; scarlet fever, 1,125; diphtheria, 382; typhoid fever, 40; puerperal fever, 15; erysipelas, 246.

The health of Birmingham at the present time is exceptionally good. The total death-rate last week was equal to 10.6 per 1,000 per annum of the population, as compared with 11.5 in the previous week. A death-rate of 10.6 is the lowest experienced in Birmingham since the week ended August 3rd, 1907, when the rate was equal to 10.5 per 1,000. The lowest death-rate last year was 10.8, and was recorded for the week ended July 25th. At the end of last week there were 334 patients in the scarlet fever hospital, 33 in the diphtheria wards, and 4 in the typhoid fever pavilion.

BIRMINGHAM LUNATIC ASYLUMS.

The report of Dr. Whitcombe upon Winson Green Asylum shows that in 1908 there were admitted 453 patients, discharged 391, died 114, leaving 638 in the institution at the close of the year. The number of admissions was equal to about an average for the last ten years, and the number of those discharged was increased by the removal of 50 males and 70 females to Rubery Hill Asylum. It is satisfactory to note that an increased proportion was discharged recovered, the recovery-rate for the year upon the number of admissions reaching 50.7 per cent. The death-rate was again high and was considerably raised by many patients being sent to the institution in a practically dying condition. No fewer than 12 males and 8 females were received in such advanced stages of physical disease, other than brain disorder, that they survived only a few days, most of them having suffered for long periods before admission. The report of Dr Suffern upon Rubery Hill Asylum shows that the number of patients at the beginning of 1908 was 1,343, admitted during the year 121, discharged 108, died 68, remaining in the institution at the end of the year 1,288, average number resident 1,310. The average age of those admitted was 40, the ages ranging from 4 to 71 years. Among the forms of mental disorder on admission were 24 cases of congenital mental deficiency, 17 cases of epileptic insanity, and with one exception the remainder were chronic cases. Of those discharged two had recovered, two were relieved, and the remainder had not improved. The death-rate was again low, the percentage of deaths on the average number resident being 5.19, as compared with 10.1 per cent. for borough and county asylums during the year 1907. Neither seclusion nor restraint had been resorted to during the year.

HOSPITAL SATURDAY FUND.

The present year's collection amounts to £19,041 from 2,045 contributors, as against £20,163 from 2,084 contributors at the corresponding date last year. This is a decrease of £1,122 in amount, and of thirty-nine in the number of contributors. The falling off in the collection is undoubtedly due to the very bad trade that has existed throughout the city. It has not been confined to one branch of trade, but seems to have affected all trades. This being the case, there is no reason to regard this year's drop in the Hospital Saturday Fund collection as anything more than a temporary vicissitude, due to causes altogether beyond the control of those who have the direction of the movement. Now that the annual collection is past, renewed efforts will be made on behalf of the Sir William Cook Memorial Fund for Consumptives. Something like 10 per cent. of the factories have already paid contributions to this fund.

WALES.

THE EBBW VALE DISPUTE.

THE following announcement appears in the *South Wales Daily News* of July 20th:

The Ebbw Vale Doctors' Fund question was the subject of arbitration proceedings at the Town Hall, Newport, on Monday. The arbitrators were Mr. Alexander Wilkie, M.P., for the Board of Trade; Mr. Richard Bell, M.P., nominated by the Cwm workmen; and Mr. Arthur Henderson, M.P., nominated by the Fund Committee. Since 1894 there has been a difficulty between the Ebbw Vale and Cwm sections of those contributing to the fund with regard to the conditions under which the doctors have served the Fund Committee. The Cwm section specially raised the question of the dismissal of Dr. J. O'Sullivan, and after protracted negotiations it was decided to refer the matter to arbitration.

Several witnesses were called, and in the evening the arbitrators announced they were of opinion that Dr. O'Sullivan and others were legally dismissed by the committee under the powers provided in Rule 10.

The same newspaper in its issue of July 24th says:

The fact that a section of the payees at Cwm had decided to throw over its leaders and form a new committee to carry on the fight in connexion with the Ebbw Vale Workmen's Doctors' Fund dispute, and to ignore the findings of the arbitrators at Newport, has complicated the situation. Yesterday our representative called upon Mr. Tom Rees, secretary of the fund, who said the action of these men in throwing over the old leaders and repudiating the award of the arbitrators had arisen from thoughtlessness. He was sure if the men had the slightest knowledge of the real position they would now drop the whole matter. They were assisting the British Medical Association to fight their fellow-workmen. He hoped the Cwm men would give the question their earnest consideration, and not let the interests of one man be opposed to the welfare of the community.

SWANSEA HOSPITAL.

At a meeting of the Swansea Hospital Board held on July 21st, Mr. John Dyer, one of the greatest benefactors of the institution, was unanimously elected chairman.

PATTI AND CARDIFF INFIRMARY.

Intimation has been received by Dr. Howell Rees from Madame Patti that she will sing at a concert in Cardiff in aid of the infirmary on September 8th. The announcement that the Baroness Cederstrom had consented again to help the institution was first made in January last at a meeting of the Infirmary House Committee, but at that time the date of the concert had not been fixed.

WATER FOR WESTERN VALLEYS.

A conference of the local authorities of the Western Valleys of Monmouthshire was held at Newport Town Hall on July 21st to consider the provision of an adequate supply of water for the district. There were present representatives from the Abercarn, Abertillery, and Risca Councils. The Mynyddislwyn Council wrote stating that as they had arranged with the Tredegar Council for their water supply they did not consider it expedient to send representatives to the conference. After a lengthy discussion it was resolved to visit the site of the Grwyne Fawr stream, in the north of the county, and the conference was adjourned for a month.

A FORMER CARDIFF BACTERIOLOGIST.

The Somerset County Council having decided to appoint a medical officer of health at a salary of £700, rising by yearly increments of £20, the committee to whom the appointment was left selected Dr. William G. Savage, who has been Medical Officer of Health for Colchester since March, 1903. For three years before that time Dr. Savage was Lecturer in Bacteriology at the Cardiff Medical Schools, and Bacteriologist to the Cardiff and County Public Health Laboratory. During his stay at Cardiff

Dr. Savage made a large number of friends, to whom the news of his new appointment has been most gratifying.

Swansea Lupus Patients.

On July 22nd it was announced that Miss Dillwyn had made a gift of £1,000, which will yield £40 per annum, for the purpose of sending necessitous patients suffering from lupus to special hospitals for treatment. The Swansea Ladies' Samaritan Society will have charge of the fund, and it is the wish of Miss Dillwyn that guardians who know of sufferers from this disease shall notify this Committee. At a meeting of the Workhouse Committee of the Swansea Board of Guardians the chairman made the announcement, and a member said the guardians had reason to be proud of the generous spirit shown by Miss Dillwyn. In the course of her investigations as a guardian she had realized the ravages this fearful disease was causing. Several others expressed appreciation, and Miss Dillwyn said the best appreciation that could be shown would be to bring before the notice of the society deserving cases.

Nursing Association.

The Lord Mayor of Cardiff presided at a meeting at the Law Courts on July 24th, when it was decided to establish a Nursing Association for South Wales in affiliation with Queen Victoria's Jubilee Institute of Nurses, in order to provide for the training and supply of village nurse-midwives for the rural districts of South Wales. Amongst those present was the Marchioness of Bute (who convened the meeting) and several other ladies of note. Miss Hughes (general superintendent of the Jubilee Institute for Nurses) explained that the object of the association would be to help to provide for, and further develop and increase the efficiency of district nursing throughout South Wales; to arrange for the training of village nurses and their supply to local nursing associations that could not afford to employ a more highly trained nurse, etc., and to approach the various local public administrative bodies for financial assistance towards the training of nurses and midwives. Lady St. David's moved a resolution that the South Wales Nursing Association should be formed; this was carried *nem. con.* Rules to govern the work of the Association were adopted, and the Provisional Committee for South Wales was formed, with power to add to their number. The president is the Marchioness of Bute, with Mrs. Alan de Rutzen as honorary treasurer *pro tem.* and Lady St. David's honorary secretary *pro tem.*

Presentation to Dr. T. E. Richards.

The inhabitants of Abercrave, Brecon, and district recently presented Dr. T. E. Richards, J.P. (Medical Officer of Health to the Ystradgynlais Rural District Council), with an illuminated address, diamond scarf-pin, and gold chain. Mrs. Richards was also presented with a diamond ring, a pair of silver candelabra, and a case of cutlery. In the afternoon 550 persons partook of a tea provided by Dr. and Mrs. Richards at the council schools. The evening meeting was presided over by Councillor D. R. Morgan (Abercrave), who said that the workers of Abercrave had organized the presentation to signalize Dr. Richards's appointment to the commission of the peace for the county of Brecknock, as well as to show their regard for the doctor, who during the nine years he had been among them had won the respect and esteem of all.

Ireland.

[From Our Special Correspondents.]

Protest against a Proposed Sanatorium at Dalkey.

On Monday last a deputation of members of the Dalkey Urban Council waited on Lady Aberdeen, to protest against the utilization of the Coastguard Station as a sanatorium for consumptives. The substance of the address was given in the Journal of July 31st, p. 294.

Dr. Wright, Medical Officer of Health, said if they had a consumption hospital placed there the fate of Dalkey as a health resort would be sealed.

Lady Aberdeen said the deputation was under somewhat of a misconception, as there was not a definite idea of starting a sanatorium at the Dalkey Coastguard Station. As far as coastguard stations generally were concerned they could not be considered suitable for consumptives in advanced states. Every case would be submitted to medical examination so as to render it sure no danger would be created. But they felt so great a need existed in Ireland for preventive work, that it seemed a crime not to take advantage of buildings in the most healthy position in Ireland. Some people were afraid that the antituberculosis movement was creating a scare injurious to the country, but she appealed to the deputation and to the country to help to dissipate this scare.

After much discussion Dr. Wright said the place should only be used as a holiday home.

Lady Aberdeen said they were under a misapprehension. People who went there would not be consumptive.

It was finally agreed that the building if acquired should be used as a holiday home for tired workers, and that no cases of pulmonary tuberculosis should be sent there.

Irish and the National University.

At a recent meeting of the Senate of the newly-established National University, Archbishop Walsh, Chancellor, in the chair, the question of compulsory Irish was brought forward by Dr. Hyde in the form of a resolution, that the Senate should ordain

> That a suitable proficiency in the Irish language and in the history of Ireland should be required for all candidates for entrance, and for the non-specialized courses of the university.

This was ruled out of order, inasmuch as it called on the Senate to make a regulation relating to examinations which the Senate was expressly prohibited from making without report from the General Board of Studies, and the General Board of Studies could not exist until after the dissolution of the Royal University.

In reply to a request from the Irish County Councils' General Council that the Senate should receive a deputation urging that the Irish language should be made an essential subject in the programme of the university, the Registrar was directed to state that, under the provisions of the Charter, no matter connected with the curriculum or subjects of examination of the National University could be effectively considered until the General Board of Studies shall have been constituted, which board could not be constituted until after the dissolution of the Royal University—that is to say, until some date probably not earlier than the end of October—and to add that the Senate would be prepared to receive the deputation at the first meeting held after the dissolution of the Royal University.

Special Correspondence.

VIENNA.

Post-graduate Lectures in August and September.—Control of Midwives.—Disinfection in Vienna by the Municipal Works.

The summer term of the University of Vienna ends in a few days, and with it the official lectures and classes will cease. For some years back the assistants in the clinical wards and the *Privatdocenten* have made use of the two vacation months for the holding of special classes for graduates from all universities. These classes comprise theoretical and practical teaching of certain branches. They extend over four weeks, one lecture being given every day, and cost generally about £4 4s., whilst the number admitted to the class is mostly limited to 10. Surgery, anatomy, bacteriology, otology, rhinology, pathology, and ophthalmology are the main subjects taught. The classes are unofficial, in so far as they are not conducted with the special authorization of the Senate; but they are as good as any others, and even more appreciated on account of the good opportunities offered by them to students to study the cases. The fact that the clinical lectures are suspended enables the teacher to select cases from the entire clinic. As a rule, some classes are conducted in English, especially those arranged by the Anglo-American Medical Society in Vienna.

Since the appointment of a new official to the post of Chief Inspector of Health in the Ministry of the State (Home Secretary), his attention has been directed to the

state of affairs of midwifery in this country. At present a curriculum of not longer than six months is sufficient to enable a woman to style herself midwife. In some country places the title is adopted without any other studies than the teaching obtainable from another equally "qualified" matron. The number of medical practitioners is not sufficient to check any harm done by such women, and in spite of all the drawbacks of the system popular belief is not easily corrected; therefore the medical profession has learnt with satisfaction that a reform of the course of studies for midwives is contemplated. A curriculum of two years, three months' theoretical and nine months' practical work in each year, has been fixed as a minimum. The studies must be pursued in certain midwifery clinics, of which there will be seven in Austria. An examination has to be passed before a diploma is granted, and no one may assume the title of "midwife" unless she can produce this diploma. The district officers of health will in future be required to control the midwives of their districts by frequent surprise visits, and once a year at least a meeting of the midwives of a district will be held, with the officer of health in the chair, to enable him to make the women acquainted with anything important concerning their avocation. A case of puerperal fever incapacitates the midwife in charge for a period of at least eight days after her last attendance, and this measure will be one of the most strictly enforced under the new regulations. The midwives now at work will have to undergo an examination comprising the fundamental principles of asepsis and obstetric work, and the first care of the newborn babe, unless they already possess a proper diploma. The instillation into the eyes of two drops of a solution of nitrate of silver or protargol, according to Credé's method, will be made compulsory for each midwife in every case of delivery of a living child. The efficacy and harmlessness of this treatment has been proved in many thousands of cases in the maternity wards in this country.

Following the erection of a new disinfection plant in the city, the municipal board of health has since last year taken over all disinfecting operations within the city of Vienna, and the following rules have been laid down for those employed in the work. The disinfection is to be effected either by steam or by formaldehyde gas with steam or with the gas alone. Plague, small-pox, and anthrax require a thorough disinfection of all articles contained in the house inhabited by the patient with formaldehyde and steam. Diphtheria, scarlet fever, whooping-cough, and typhoid fever are termed second-class diseases, requiring a thorough steaming or a large quantity of formaldehyde. Houses with measles, German measles, influenza, mumps, blackwater fever, or dysentery must be treated only with formaldehyde. Excretions and bandages must be destroyed, or, if this is impossible, must be placed in carbolic lotion (5 per cent.) or oxycyanide of mercury 2 per cent., and then brought away. All medicines, food, and articles of personal use must be destroyed, and on no account are they to be thrown into the watercloset without being well mixed with carbolic or the oxycyanide. Books, toys, and papers must be burnt. The men employed in the work must wear special garments, which have to be placed in the disinfection apparatus as soon as they are taken off. Each man has, in his turn, to submit to a strict cleansing process, including hair cutting and a bath, when his work is done. The number of disinfections has increased in the last year owing to the fact that all this work is done free of charge in every case of notified disease, and the people have found out that it is the safest course, in spite of the discomfort it may bring upon the individual. On an average twenty-five disinfections are done daily. The costs are comparatively low, each disinfection costing not more than about 2s. 6d. per room. The expenses are defrayed from the rates and taxes paid by the citizens.

Miss Mary Howard, formerly of Southborough, Tunbridge Wells and Bournemouth, recently deceased, has left £1,000 to the Cancer Research Fund, £500 each to St. Peter's House, Woking, for the endowment of a bed in the Children's Ward, the Surgical Aid Society, the National Society for the Prevention of Cruelty to Children; and £250 to the Society for the Prevention of Cruelty to Animals.

Correspondence.

THE REPORTS OF THE POOR LAW COMMISSION.

Sir,—While expressing my entire sympathy with Dr. Vipont Brown with regard to his remarks on the provident dispensary scheme of the Majority Report, I fear I must join issue with him about the Minority. He says:

> What does it matter whether or no the scheme involves gratuitous treatment for all applicants, provided we are well paid?

That reservation is a very important one! What one party considers good pay often differs a good deal from the views of the other. Dr. Brown has a wonderful faith in the State as a paymaster; possibly he has not had much experience of State service. He might usefully study your article in the Journal of July 24th relating to the Indian Medical Service. The civil surgeon there spoken of might be regarded as a type of the Minority State doctor, except that he does not appear to have the use of a State motor car. The 500 rupees a month, making allowance for the depreciation on the silver currency and the enhanced expenses of Indian life, would work out at about £300 per annum in this country. If the proposed State doctor got £250 a year he would be considered extremely well paid by most of the supporters of the Minority Report. The President of the Local Government Board himself once publicly expressed his inability to comprehend that any man's work could be worth more than £500 a year.

On the whole I cannot help thinking that, bad as general practice may be in many cases, it is better for our brethren to trust to the munificence of the public than to the State. At least, as a general practitioner he possesses an independence that no State official can claim. He is not bound hand and foot by red tape; and I agree with Dr. Downes that it would be a bad day for the public when the natural independence of the medical profession was exchanged for any system of nearly universal officialism.—I am, etc.,

London, N.E., July 24th. Major Greenwood.

CANCER RESEARCH.

Sir,—I regret exceedingly that Dr. Drage should think that I have in any way slighted him; but the fault, if there be one, lies not with me, but in the impossibility of any one reading all that is written. On two occasions at least I have given Dr. Drage credit for his work in connexion with the treatment of cancer, and it would really be impossible, when writing or speaking of any drug or treatment, to always "couple with the name of Dr. So-and-So."

Besides, I brought forward a principle, and the practice was somewhat incidental; and I expressly excluded the treatment of cancer by cinnamate of sodium when I said that no one drug was sufficient to carry out the principle I advocated—namely, that of regulating treatment by the improvement or otherwise in the condition of the blood.—I am, etc.,

London, W., July 27th. Skene Keith.

THE CAUSE AND PALLIATIVE TREATMENT OF ENLARGED PROSTATE.

Sir,—Will you kindly allow me to make a remark or two on these subjects, concerning which the last few numbers of the Journal contained something anent? It is the fashion now to attribute senile enlargement to inflammation, and consequent infection. As clinical evidence is mentioned, I would like to say that the theory is unsupported in my opinion. For many years I have worked at statistics, and I have found this condition quite as common—in fact, I believe more common amongst those who never had urethritis, or even the chance of getting it! This inquiry embraced personal experience in urban and rural districts far and wide, and information got from rural practitioners. The disease is common even amongst the celibate clergy.

Amongst 1,000 persons the subject of the disease, one-fourth only had had urethritis. Chronic prostatitis, more often than not, culminates in fibrotic change, a state rather antagonistic to glandular proliferation. The initial step of senile prostate may be prostatitis. It is the expression of congestion, not urethritis. We do not very

commonly find stricture where infective states are marked in company with the senile gland. Moreover, I have met the latter in old dogs, and these are not the subjects of urethritis in the usual sense.

Mr. Herring's article is apt and praiseworthy, but is not asepsis too big an idol? Every one knows what the anterior urethra contains, and he does not tell us how to fight the flora. The absence of trauma is more important than even asepsis, and, if he takes away the rubber catheter, he takes the old man's best aid. A rubber catheter and a spittle are better than a hard one clean from the fires of the gods. Pliability, as I often pointed out, when disadvantageous can be remedied by a thin whalebone or other stilette bent at the tip, if desired, to constitute a coudé. Do not oil the catheter; inject some antiseptic mucilage into the urethra. All this involves no trouble.—I am, etc.,

London, E.C., July 18th. JAMES MACMUNN.

RECEIVING HOUSES FOR INCIPIENT MENTAL DISORDER.

SIR,—I have read with much interest the communication regarding this matter in the JOURNAL of July 24th.

The proposal seems to me a very good one, and should be universal, not limited to London.

For many years I have had occasionally to deplore the want of an institution intermediate between the home and the asylum, and I have no doubt it is a general experience.

Most mental cases in their early days would benefit by removal from their usual surroundings, but naturally enough the patient objects to be sent to an asylum, as this word is associated in his mind with all that is dreadful. The family objects on the same grounds, as well as on account of the stigma attaching to this treatment. The result is that the case grows worse, and sometimes ends in disaster, which might have been entirely prevented.

Occasionally the patient himself seeks removal to a place where he knows he will be safe and properly cared for. This, of course, occurs only in the earliest stages, when the mind is only unhinged. Personally I have had more difficulty with the family in such cases than with the patient, for he can sometimes be convinced of the value of special treatment. The friends cannot be made to understand that a lunatic asylum is a hospital for the cure of mental disorder, and not necessarily a place for the permanent detention of incurables. This is the real reason for their refusal to allow those who are only slightly affected from having the chance of being cured. They regard the asylum as penal servitude for life, and the doctor who suggests it is treated accordingly.

This is why mental cases are kept at home until they are hopelessly ill to the detriment of all concerned. The presence of such a person at home is detrimental to other members of the family, especially to any one who may be morbidly inclined, as all experienced doctors know.

Home treatment is impossible on account of the expense, even if all other things are favourable. There is not one house in a thousand where these are favourable. I have urged that a mental disorder requires treatment like any other illness, that there are hospitals for the treatment of the bodily sick, and that there are asylums for the treatment of the mentally sick.

It is no use telling people that an asylum is a large building with facilities for the classification of cases; they think and aver that the mild cases are associated with the severe ones, and suffer in consequence.

What we want is an institution with a name different from asylum—call it hospital for mental diseases, or mental sanatorium, or nursing home, or institution for mental illness, or something else—where the charges would be moderate.

The private hospital and public receiving house, such as is proposed for those who are paid for by the rates, could be combined in one institution if the departments were kept separate and distinct.—I am, etc.,

Manchester, Aug. 2nd. F. W. JORDAN, M.D.

THE POSTMASTER-GENERAL AND THE MEDICAL PROFESSION.

SIR,—I am obliged to Dr. Mason for the courteous tone of his letter in your issue of July 31st, and I hope I shall say nothing in the course of this discussion—which I look upon as of the highest importance to the medical profession as a body—that might be considered in the smallest degree, as of a personal character. In this connexion, when I used the word "slave." I did so in no derogatory sense. I myself happen to hold an official appointment, and in that respect am a "slave." Further, it is my privilege to know a great many practitioners who hold Post Office appointments, and I can say with truth that one and all have been well chosen and hold most worthily the position in which they have been placed.

Now, Sir, in venturing to address you on the subject of Post Office appointments, I did so on what I well knew was a partial and incomplete view of the situation. This particular aspect of the question had remained fixed in my mind since the time, now long ago, when as a member of the General Medical Council I had the best opportunities of studying, in connexion with the actions of friendly societies, the whole matter of contract practice, not without much consideration and attempts at finding some final solution of the many difficult and complicated questions connected with the relation of those bodies to their doctors did I come to the clear conclusion that *all* contract practice is essentially bad, and, wherever possible, ought to be condemned and abandoned.

In seriously considering the necessity for selecting certain practitioners for the office referred to, and in a broad view of the subject there are four essential points to keep in mind:—

First, the work to be done and its proper supervision and regulation.

Secondly, the qualifications of those chosen for the posts of medical officers.

Thirdly, the interests of the medical profession as a body; and

Fourthly, the feelings of the Post Office men themselves.

As regards the first head it is quite evident that those who aspire to be medical officers to the Post Office must be possessed of certain necessary qualities for the work. They would have to be of at least some two or three years' standing, and their character and respectability would have to be vouched for, amongst others, by two or more of their medical brethren who were in a position to speak of them from intimate knowledge. Again, the candidate would have faithfully to promise to obey all reasonable orders issued by the Postmaster-General. Further, he would have solemnly to engage to do his duty fairly and impartially as between his patients and the department at the risk of being immediately dismissed from the service if he acted in a different spirit.

Coming to the second head in the order suggested. In the first place I wish to state that however anxious I am for reform in the mode of making a selection from *future* candidates for these posts, I would never for one moment think of disturbing the present holders from their position. As I have said, all that I know convinces me that they have been well chosen and are eminently fitted for their posts. But I humbly think—and I speak from having, as a matter of fact, deliberately chosen the course I am recommending—that it would tend to sweeten one's relations with his neighbours if a little self-denial were oftener practised in accepting such appointments.

In discussing the question we are considering under the third head—the interests of the profession as a body—I have already referred to the evils of contract practice. And here I would like, with your permission, to enter a protest against the views of my friend Mrs. Sidney Webb and those members of the late Poor Law Commission who advocate what I must call the Socialistic doctrine of State-supported and State-managed doctors. *Quis custodiet ipsos custodes?* I hold that medical skill and attention can *never* be weighed and measured, and that it would be fatal both for the doctor and his patient to attempt to gauge such imponderable entities by the agency of lay inquisition, however impartial they were disposed to be. And so I say let the doctor and his patient, the Post Office official, settle between themselves whether they will continue to hold that intimate relationship, or resolve to drop it, and let another practitioner, as in daily life, try *his* hand. Surely, Sir, the parties to the contract will not willingly resolve to part; but the freedom of the chain which binds them—that of mutual regard and respect—

will be less galling than a hard-and-fast bond of enforced services.—I am, etc.,

Dingwall, N.B., Aug. 3rd. WILLIAM BRUCE.

P.S.—A word as to the numerous duties of the Post Office medical officer mentioned by Dr. Mason. Sanitary matters, if I may be allowed to speak as a medical officer of health, belong to the province of the local authority; and again, speaking from personal experience, for all the good that statistics yield, any well trained practitioner is surely able to furnish and complete the necessary information required. W. B.

SIR,—In your issue of July 31st Dr. Mason "fails to see why the present system of medical appointments by the Postmaster General is radically bad."

He must be well enough aware that the position in most cases is gained through political influence, irrespective of the qualification of the different candidates, or without considering the wishes of the Post Office employees to be served.

The employees are placed on a lower level than the penny a week club patients, who can retire without losing their occupation, whilst the poor Post Office official by retiring loses his means of livelihood. The present system is indefensible.—I am, etc,

August 2nd. OBSERVER.

SIR,—May I add to the voices raised over the Postmaster-General and the medical profession one more?

Recently a medical man got the Post Office appointment here, where there are other medical men, who had attended as chance had it up to that time the Post Office officials. I suppose others like myself find that they are in process of losing patients through this change which we are forced by taxation to pay our share of. The only solution of this is Dr. Bruce's, and the letters of the President and Secretary of the Principal Medical Officers' Association are beside the mark and selfish.—I am, etc.,

July 31st. SOCIALIST.

THE DRINKING CHILD.

SIR,—In your review of *Die kindliche Psyche und der Genuss geistiger Getränke*, by Leopold Lang (BRITISH MEDICAL JOURNAL, February 6th, 1909), you said:

> To what extent juvenile drinking obtains in our country we do not know. Accurate information on this point would be valuable, particularly if at the same time the educational results could be obtained and compared from this point of view. We imagine, however, that in this country juvenile drinking is of infrequent occurrence, and that in this matter, at least, we can say, "Let the galled jade wince, our withers are unwrung."

Dr. Imre Döczi, the representative of the Hungarian Government at the 12th International Congress on Alcoholism, read a paper on "Alcoholism and its effects upon the child." The original paper was written in his native tongue, and was subsequently translated into German and thence into English, with the result that an unfortunate error crept in and he was made to say in the published abstract that:

> As a result of statistics gathered it is found that there are hardly any schools in which there is a pupil who is a total abstainer. On the other hand, it is by means rare to find schools where there are not pupils who do not have alcohol given to them in some form by their parents.

He has requested me to ask you to correct the error, and to state that what he intended to convey was that:

> Most carefully prepared statistics based upon the data obtained by the Hungarian Government as to the drinking habits of all the children—that is, about half a million children under the age of 18, in all the schools of all classes, both elementary, private, and public, show that 20 per cent. of the children are total abstainers. It is by no means rare to find schools where pupils are given alcohol daily by their parents. Among the poor Slav population this is given in the form of spirits distilled from grain, or possibly more commonly from potatoes.

The investigation was carried out in a very thorough manner, and it was found that 36 per cent. of the pupils who indulge in alcoholic drinks were careless and idle, 11 per cent. dull of comprehension, 13 per cent. incapable of prolonged attention, 10 per cent. during the first hours of the morning (from 8 to 9) gave confused answers, 18 per cent. were very backward in subjects requiring special mental effort, while only 10 per cent. showed no ill effects.

The statistics show, further, that alcohol has a marked influence on mind, character, and bodily health. In only 5 per cent. of the cases had a doctor prescribed alcohol for the child.

These facts may be taken as valuable evidence of the necessity for similar research in England. Some months ago I obtained figures from a few of the London County Council infant schools, and found that, in each, no less than 40 per cent. of the infants under 8 years of age drank alcohol more or less regularly. There appears to be no doubt that a similar state of things exists in every part of Christian Europe, except in the countries of the farthest north, and it would be interesting to find out whether the figures I obtained from schools chosen haphazard are true of the rest of the country. In one school of some 300 infants I found that 11·8 per cent. drank alcohol daily, 34·1 per cent. drank occasionally, and 54 per cent. were "band of hope," but I know of one "band of hope" child in another school who drinks alcohol daily.

The medical inspectors of school children already have power to obtain this information, and it is to be hoped that during the course of the next few years some such inquiry will be made into the drinking habits of the children in this country.—I am, etc.,

Norwood, July 28th. F. G. MACKERETH.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

SIR,—The attention of my committee has been drawn to the statement in the published report of the meeting of the Education Committee of the London County Council, held on July 14th, contained in the issue of the BRITISH MEDICAL JOURNAL of July 17th, p. 156, that:

> The Paddington Green Children's Hospital will take 20 ophthalmic cases a week.

I am requested to inform you that this statement is incorrect, and that no such offer has been made from this hospital.—I am, etc.,

W. H. PEARCE,
Paddington Green Children's Hospital, Secretary.
London, W., July 23rd.

HOSPITAL OUT-PATIENT DEPARTMENTS.

SIR,—The figures given in the letter under this heading (JOURNAL, July 10th, p. 109) are truly a revelation. How far the medical staffs of the hospitals, the private practitioner, and the public are to blame for such a state of affairs it is difficult to decide, but all three are guilty.

The profession has the matter in its own hand, and if every would-be hospital patient seeking charity were required to produce a certificate stating that he or she is a suitable case for charitable treatment, signed by a medical practitioner, I think abuse and misuse of charitable institutions would be greatly diminished.

There is no doubt that the profession—the medical practitioner on the one hand and the medical hospital staff on the other—ought to exercise more care in recommending and in admitting patients to charitable treatment. Charity at all times requires very careful supervision, and in no quarter is that more necessary than when doling out charitable treatment to patients.—I am, etc,

FORMER RESIDENT HOUSE-SURGEON, HOUSE-PHYSICIAN, AND EXTERN SURGEON.

July 14th.

INSTRUCTION OF DENTAL STUDENTS IN ANAESTHETICS.

SIR,—With regard to the letter in the JOURNAL of July 17th on the instruction of dental students in anaesthetics, it is quite evident that the council of the Royal College of Surgeons of England are wholly unfamiliar with the conditions prevailing in some parts of the United Kingdom as regards anaesthetics employed for dental operations.

For instance, in Scotland $CHCl_3$ is still employed very often when some minor and safer anaesthetic agent would be preferable. It may be said to be in common use—in country districts, if not so much as formerly in the larger cities. Ethyl chloride is frequently given by dentists themselves, when single-handed. Surely it is not the desire of the council to perpetuate this sort of thing. It should rather be the aim of the regulations they frame as

well as of any new anaesthetics bill to put an effectual embargo on this class of practice—whether the anaesthetic be given by a dentist or medical practitioner.

Probably no single man has contributed more good educational work, so far as the administration of anaesthetics by dentists is concerned, than Mr. Guy of Edinburgh. It has been his invariable practice to induce only a brief anaesthesia by means of nitrous oxide and ether, or nitrous oxide and ethyl chloride, and by training students to do extractions very rapidly enable them to accomplish as much as possible in the time afforded—possibly one and a quarter to two minutes. If more is required, the patient returns another day. Nothing has done more to improve the technique of dental anaesthesia in Scotland and many parts of the English provinces where Scottish students settle than this.

And nothing has done more to put an end to the reckless and unjustifiable use of chloroform in dental operations. Personally I can see little objection to the dental student being so trained, and many advantages. The poorer classes thus get better treatment and comparative safety. Of course, the ideal—at which Dr. Hewitt would appear to aim—is the presence of a fully-trained anaesthetist or a well-trained physician, but the ideal is usually unattainable—and it certainly is so here.

In the present mixed-up state of medical education as regards anaesthesia, it is certainly much more difficult for a medical student to be adequately trained in the minor anaesthetics than for a dental student. Looking farther ahead, one sees the time coming when the dental and medical professions will be more closely welded than at present, and the medical side of the dental curriculum considerably extended—even to equalling that of the medical practitioner to be.

It would seem better, therefore, on cool reflection, that the efforts of those working in the department of anaesthetics should be directed not to restriction of the dental surgeon's powers and training, but to the framing and pressing forward of such a legal enactment as will secure a good training in anaesthetics all around—a compulsory training—and so lessen malpraxis; further, to make the use of any anaesthetic agents of a toxic nature, local or general, by the unqualified quack and impostor, an offence punishable by fine or even imprisonment.—I am, etc.,

Peebles, July 21st. T. D. Luke.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

The Professorship of Anatomy.

On July 29th the Curators of the University unanimously appointed Dr. Arthur Robinson, M.D., Professor of Anatomy in the University of Birmingham, to the Chair of Anatomy in Edinburgh University, rendered vacant by the death of Professor D. J. Cunningham. Professor Robinson studied at the University of Edinburgh, where he graduated M.B., C.M. with honours in 1885. In 1890 he proceeded to the degree of M.D., being awarded a gold medal for his thesis, which embodied the results of original investigations upon "The Development of Rodents." For a number of years he was on the teaching staff of Owens College, Manchester. In 1895 he was appointed Lecturer on Anatomy in the Middlesex Hospital Medical School, and in 1900 he was appointed Professor of Anatomy in King's College, London. He was Secretary of the Board of Intermediate Studies of the University of London, and was actively associated with the movement which resulted in the formation of the Board of Human Anatomy and Morphology by the Senate of the University of London. In 1904 he was elected to the Chair of Anatomy at Birmingham, and in 1905 he was appointed Sub-Dean of the Medical Faculty. In the summer of 1905 he was appointed Hunterian Professor by the Council of the Royal College of Surgeons of England. He has also been Examiner at Oxford and elsewhere. Professor Robinson has made many valuable contributions to the literature of his science; among them may be mentioned papers on the Position and Peritoneal Relations of the Mammalian Ovary; the Nutritive Importance of the Yolk Sac; the Formation and Structure of the Optic Nerve and its Relation to the Optic Stalk; the Development of the Pericardium; and the Comparative Anatomy of the Ova and the Placenta in Mammals—all of which appeared in the *Journal of Anatomy and Physiology*.

QUEEN'S UNIVERSITY OF BELFAST.

Departments of Physiology, Pathology, etc.

To provide for the expected larger demands upon its resources next session the senate has sanctioned the expenditure of £1,500 on the provision of better equipment for the departments of physiology and pathology, pathological laboratory, physics, chemistry, zoology, archaeology, anatomy, botany, and geology.

Graduates of the Royal University.

A notice has been issued to graduates of the Royal University of Ireland who are entitled under the Act to join the Queen's University, and an application form for the purpose has now been sanctioned by the senate, and will be sent to any such graduate by the registrar on application.

Officers' Training Corps.

The university contingent of the Officers' Training Corps went into camp at Ballykinler on July 31st for a fortnight's training. The Commander-in-Chief in Ireland (Sir Neville Lyttelton, G.C.B.) has expressed his intention of making the annual inspection of the corps during their stay in camp.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary quarterly Comitia was held at the College on Thursday, July 29th, the President, Sir R. Douglas Powell, in the Chair.

Membership.

The following candidates, having passed the required examination, were admitted Members of the College:

Edwin Greaves Fearnsides, M.A., M.B.Cantab., L.R.C.P., William Errington Hume, M.B.Cantab., James Lindsay, M.D.Edin., Henry MacCormac, M.B.Edin., Walter Maiden, M.A., M.D. Cantab., Arthur Hallowes Miller, M.B.Cantab., L.R.C.P., Patrick Thomas O'Sullivan, M.D.Roy. Univ. Irel., Leonard Gregory Parsons, M.D.Lond., L.R.C.P., Ivy Evelyn Woodward, M.D. Lond.

Licence.

Eighty-six candidates having passed the necessary examination were granted the Licence of the College to practise Physic.

Diplomas in Public Health.

In conjunction with the College of Surgeons, Diplomas in Public Health were granted the following gentlemen:

Andrew Allison, M.B., Ch.B. Glasg., Hugh Barr, M.B., Ch.B. Glasg., James Aylmer Beaunish, M.B., B.Ch., R.U.I., Harry Benlcott Bolus, M.B., B.C.Cantab., L.R.C.P., M.R.C.S., Clement Henry Burton Bradley, M.B., Ch.M.Sydney, L.R.C.P., M.R.C.S., Thomas Evans, M.B. London, James Farley, M.B., Ch.B. Glasg., Robert Mylcraine Freer, M.D., C.M.Edin., Walter Ernest Fry, L.R.C.P., M.R.C.S., Henry William Harding, L.R.C.P., M.R.C.S., M.D.Lond., Richard Athelstane Parker Hill, M.B.Cantab., L.R.C.P., M.R.C.S., Thomas Edward Holmes, M.D., B.C.Cantab., Herbert Edward Littledale, M.D., B.Ch.Dublin, Walter St. Clair McClure, L.R.C.P., M.R.C.S., Krishnaji Shripat Mhaskar, M.D., L.M. & S., Bombay, Richard Alfred O'Brien, M.D., B.S.Melb., Percy William Spaull, L.R.C.P., M.R.C.S.

International Medical Congress.

The President announced that he had received a communication from the Secretary of State for Home Affairs, requesting him to nominate a delegate to represent this country at the International Medical Congress to be held at Budapest this year. He nominated Dr. F. W. Pavy, who had already been elected to represent the College at the Congress.

Murchison Scholarship.

A report was received from the Examiners for the Murchison Memorial Scholarship at Edinburgh, stating that as the result of the recent examination the scholarship had been awarded to Mr. Alexander Gibson, M.A., M.B., and that Mr. G. C. Greenfield, M.B., had been "*Proxime accessit.*"

Emeritus Registrar.

On the motion of the Senior Censor, Dr. Norman Moore, seconded by Dr. P. W. Latham, Dr. E. Liveing was elected Emeritus Registrar by acclamation.

Communication.

The following communication was received: From the Secretary of the College of Surgeons reporting proceedings of their Council on July 8th.

Censors and other College Officers.

On the nomination of the President, the Council, and the Library Committee, the following gentlemen were elected Censors, other College Officers, and Examiners:

Censors: Sir William Henry Allchin, M.D.; Francis de Havilland Hall, M.D.; Seymour John Sharkey, M.D.; James Kingston Fowler, M.D. *Treasurer:* Sir Dyce Duckworth, M.D. *Registrar:* Joseph Arderne Ormerod, M.D. *Harveian Librarian:* Joseph Frank Payne, M.D. *Elected Members of the Library Committee:* Norman Moore, M.D.; William Osler, M.D.; Arthur Francis Voelcker, M.D.; Charles Arthur Mercier, M.D. *Curators of the Museum:* Sir William Henry Allchin, M.D.; Seymour John Sharkey, M.D.; William Hunter, M.D.; Frederick William Andrewes, M.D. *Finance Committee:* Francis Henry Champneys, M.D.; George Newton Pitt, M.D.; Herbert Pennell Hawkins, M.D. *Examiners.—Chemistry:* Wm. Holdsworth Pratley, D.Sc.; George Senter, Ph.D., B.Sc. *Physics:* Dawson, F.D. Turner, M.D.; Alfred Henry Fison, D.Sc. *Practical Pharmacy:* Arthur Philip Beddard, M.D.; Edmund Ivens Spriggs, M.D.; Robert Arthur Young, M.D.; William James Fenton, M.D.; Alfred Ernest Russell, M.D. *Physiology:* William Dobinson Halliburton, M.D.; Marcus Seymour Beanbrey, M.D. *Anatomy:* Christopher Addison, M.D. *Medical*

Anatomy and Principles and Practice of Medicine: Wilmot Parker Herringham, M.D.; Richard Grainger Hebb, M.D.; Sidney Harris Cox Martin, M.D.; Herbert Fennell Hawkins, M.D.; Humphry Davy Rolleston, M.D.; Sir Edwin Cooper Perry, M.D.; Sir Hugh Reeve Beevor, Bart., M.D.; James Galloway, M.D.; Wilfred James Hadley, M.D.; Laurence Humphrey, M.D. *Midwifery and Diseases peculiar to Women:* Herbert Ritchie Spencer, M.D.; George H. Drummond Robinson, M.D.; Arthur Hamilton Nicholson Lewers, M.D.; Arthur Francis Stabb, M.B.; George H. A. Comyns Berkeley, M.D. *Public Health:* Part I, William Henry Willcox, M.D., B.Sc.: Part II, Alexander Grant Russell Foulerton, F.R.C.S. *Murchison Scholarship:* David Bridge Lees, M.D.; Horace George Turney, M.D. The newly-elected officers, examiners, and members of standing committees gave their faith to the college.

Baly Medal.

On the same recommendation of the Council, the Baly Medal, for distinction in the Science of Physiology, was awarded to Emil Fischer, Ph.D., Professor of Chemistry, University of Berlin.

Moxon Medal.

On the same recommendation, the Moxon Medal, for distinction by observation and research in Clinical Medicine, was awarded to Sir William Gowers, M.D., F.R.S.

Committee of Management.

The Registrar, Dr. Ormerod, was elected a member of the Committee of Management in the place of Dr. E. Liveing, who had resigned.

Imperial Cancer Research Fund.

Dr. Sidney Martin, who retired by rotation, was re-elected a member of the Executive Committee of the Imperial Cancer Research Fund.

Reports.

The following reports were received:

1. From Dr. Norman Moore on the Darwin Commemoration at Cambridge, June 21st to 25th.

2. From Dr. Habershon on the celebration of the 350th Anniversary of the Foundation of the University of Geneva, July 7th to 10th.

3. From the Standing Committee on Beri-beri after a meeting held on May 19th last.

4. The Annual Report of the Imperial Cancer Research Fund.

5. From the Committee of Management, dated June 29th, recommending—

(*a*) That the London County Asylum at Long Grove, Epsom, be added to the list of lunatic asylums recognized by the Examining Board in England.

(*b*) That the Western Reserve University, Cleveland, Ohio, United States, be added to the list of institutions at which the curriculum of professional study required for the diplomas of the Royal Colleges may be pursued and whose graduates may be admitted to the final examination of the Examining Board in England, on the production of the required certificates of study.

Both recommendations were adopted.

6. From the same Board, dated July 13th, recommending that Mr. R. J. Godlee be appointed visitor to the examinations of the Egyptian School of Medicine for the examinations to be held in December next.

The recommendation was approved.

7. The Quarterly Report of the College Finance Committee, dated July 15th.

8. The Annual Report of the Library Committee.

9. The Annual Report of the Curators of the Museum.

10. The Quarterly Report of the Examiners for the Licence on the results of the examinations in April last.

Library.

Books and other publications presented to the library during the past quarter were received, and thanks returned to the donors.

Obituary.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Bondet, sometime Professor of Clinical Medicine in the Medical Faculty of Lyons, aged 78; Dr. Gustav Christian Lott, Professor of Obstetrics and Gynaecology in the University of Vienna, and author of writings on the anatomy and physiology of the cervix uteri, and many other contributions to the literature of his speciality, aged 66; Dr. Amédée Monteils, member of the General Council of Mende, and sometime representative of La Lozère in the French Chamber of Deputies; Dr. August Vogl, Ritter von Fernheim, Professor of Pharmacology and Pharmacognosis in the University of Vienna, of which he was Rector in 1887–8, besides being more than once Dean of the Medical Faculty, in his 75th year; and Dr. Gustave Gauthier, formerly representative of the Haute Saône department in the French Senate.

The Services.

INDIAN MEDICAL SERVICE.

AT the examination on July 31st for 21 commissions in the Indian Medical Service there were 48 candidates. The highest number of marks obtainable was 5,100. The following were successful:

	Marks.		Marks.
C. H. Smith	3,997	D. G. Cooper	3,366
A. M. Dick	3,840	W. L. Forsyth	3,333
T. J. C. Evans	3,735	K. S. Thakar (Punjab) ...	3,288
R. J. Binning	3,712	M. A. Rahmar (Bombay) ...	3,281
M. J. Holgate	3,512	F. J. Kolaporewalla (Poona)	3,258
J. McD. Eckstein	3,503	H. R. Gibson	3,257
T. L. Bomford	3,471	D. Arthur	3,252
W. A. M. Jack	3,433	E. H. V. Hodge	3,225
G. R. Lynn	3,412	G. T. Burke	3,187
L. H. L. Mackenzie	3,409	R. H. Barucha (Bombay) ...	3,145
A. C. Anderson	3,385		

EXAMINATION FOR PROMOTION, HOME STATION.

THE following is the list of successful candidates at the May examination for promotion of majors of the Royal Army Medical Corps on technical subjects:

Major L. WAY, Sanitation and Epidemiology. Already passed in (*d*) ii, in Army Medical Organization in Peace and War, and in Medical History, etc.

Major G. A. T. BRAY, Technical Subjects; .8 in Medical History, etc. Already passed in (*d*) ii.

Major J. D. FERGUSON, D.S.A., (*d*) ii. Already passed in Technical Subjects.

Major E. E. POWELL, Army Medical Organization in Peace and War. Already passed in (*d*) ii, in Sanitation and Epidemiology, and in Medical History, etc.

Major O. L. ROBINSON, Technical Subjects; .8 in Medical History, etc. Already passed in (*d*) ii.

Major E. H. CONDON, M.B., (*d*) ii, and in Technical Subjects.

Majors B. W. LONGHURST and C. T. SAMMAN (*d*) ii, have yet to pass in Technical Subjects.

Major C. M. FLEURY, (*d*) ii. Has yet to pass in Sanitation and Epidemiology.

Majors W. TIBBITS, M.B., and A. W. HOOPER, D.S.O., (*d*) ii. Have yet to pass in Technical Subjects.

Captain W. H. S. NICKERSON, V.C., M.B., (*d*) ii; .75. Already passed in (*h*).

Captains M. M. LOWSLEY and H. B. G. WALTON, (*d*) ii. Already passed in (*h*).

Captains H. M. MORTON, M.B., and E. W. SIBERY, (*d*) ii; .75. Already passed in (*h*).

Captain J. A. HARTIGAN, M.B., (*d*) ii. Already passed in (*h*).

Captains B. S. BARTLETT, J. G. CHURTON, C. B. FURNIVALL, and E. BENNETT, (*d*) ii; .75. Already passed in (*h*).

Captain A. J. W. WELLS, (*d*) ii. Has yet to pass in (*h*).

Captain P. G. EASTON, (*d*) ii; .75. Has yet to pass in (*h*).

Lieutenant A. C. VIDAL, (*d*) ii, and in (*h*) ii and iii. Has yet to pass in (*h*) i.

Lieutenants C. CASSIDY and A. FORTESCUE, M.B., (*d*) ii and in (*h*) ii and iii; .75 in (*d*) ii. Already passed in (*h*) i.

Lieutenant M. P. LEAHY, M.B., (*d*) ii and in (*h*) iii. Already passed in (*h*) i and ii.

Lieutenant W. G. AVISS, (*d*) ii and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant G. F. DAWSON, M.B., (*d*) ii and in (*h*) ii and iii; .75 in (*d*) ii and .8 in (*h*) ii and iii. Already passed in (*h*) i. Special Certificate.

Lieutenant H. V. B. BYATT, (*d*) ii and in (*h*) ii; .75 in (*d*) ii. Has yet to pass in (*h*) iii. Already passed in (*h*) i.

Lieutenant F. J. STUART, M.B., (*d*) ii and in (*h*) ii and iii. Has yet to pass in (*h*) i.

Lieutenant J. A. RENSHAW, (*d*) ii and in (*h*) ii and iii; .8 in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant R. DE V. KING, (*d*) ii and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant D. B. MCGRIGOR, M.B., (*d*) ii and in (*h*) ii and iii. Has yet to pass in (*h*) i.

Lieutenant R. G. S. GREGG, M.B., (*d*) ii and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant W. A. SPONG, M.B., (*d*) ii and in (*h*) ii and iii; .75 in (*d*) ii and .8 in (*h*) ii and iii. Already passed in (*h*) i. Special Certificate.

Lieutenant H. P. HART, M.B., (*d*) ii and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenants A. E. B. JONES, M.D., and A. HENDEY, M.B., (*d*) ii and in (*h*) ii and iii. Have yet to pass in (*h*) i.

Lieutenant J. F. GRANT, M.B., (*d*) ii and in (*h*) ii and iii. Already passed in (*h*) i.

THE ROYAL ARMY MEDICAL CORPS (TERRITORIAL FORCE).

TRANSPORT TO GENERAL HOSPITALS.

IN his paper on transport to general hospitals, published in *National Defence* and noticed in our issue of July 24th, p. 243, Dr. Bowser mentioned that the Great Central Railway was the only company in possession of a railway ambulance coach. Mr. E. A. Richards, Secretary of the South-Eastern and Chatham Railway Centre of the St. John Ambulance Association, writes to inform us that that company has an ambulance saloon equipped in every respect, which is constantly in use for the conveyance of hospital cases. Mr. Richards also forwards prints of the coach taken from their last annual report.

Medico-Legal.

LIABILITY FOR FEES.

C. H. writes: A child is in need of a surgical operation; the mother, who is present, requests me to perform the operation: the father, who is absent, objects to the operation, unknown to me at the time. The operation is successfully performed, and the child recovers. The wife's income depends upon her husband, who repudiates liability for fees. Will you kindly inform me if there is any legal redress?

*** If the operation was urgent the father is legally liable. But there might be operations where the consent of the father would be necessary to make him responsible for the fees. At common law the wife is only the agent of her husband, and this agency may be repudiated by the latter. Cases bearing on this are: Montague *v.* Benedict (3 B. and C. 631), Seaton *v.* Benedict (2 M. and P. 66), Jolly *v.* Rees (33 L.J.C.P. 177).

TENANTSHIP AND CANCER.

A CORRESPONDENT writes: Was I, in point of law, compelled, before taking a furnished house, to give my landlady notice of the nature of my wife's complaint, namely, malignant disease of the breast with secondary bronchial glandular infiltration, cough, etc.?

*** Our correspondent was under no legal obligation to give notice of the nature of his wife's complaint.

Public Health AND POOR LAW MEDICAL SERVICES.

REPORT OF MEDICAL OFFICER OF HEALTH.

King's Norton and Northfield Urban District.—Dr. Reginald Green, Medical Officer of Health for the King's Norton and Northfield Urban District, has just issued his report on the work of the health department for 1908. The population was estimated at 78,608. The birth-rate was 25.54 per 1,000 of the population, being the lowest on record. The births numbered 1,929, the males being in a decided majority—1,015 to 914 females. The death-rate was 10.78 per 1,000, the same as in 1907. The rate of infant mortality was 86 per 1,000 births, the average for the past ten years being 107. Of 1,354 births in this district, 1,472 children were vaccinated—a proportion to the whole of 76.1 per cent. This was 7 per cent. less than in 1907, and was due to conscientious objectors becoming more numerous as the facility with which they could obtain certificates of exemption increased.

EXTRA FEE FOR TREATMENT OF FRACTURE.

ARGUS.—In reply to our correspondent, we judge from his query that he has no contract covering such services: we are therefore of opinion that a fee of £3 is payable for the operation of setting the fracture and the subsequent attendance. In this case it appears that there was no subsequent attendance, and hence no claim can be made under the Order of the Local Government Board. But the matter being one of sudden and urgent necessity, the guardians may pay such sum as they may consider reasonable.

FEES FOR CERTIFICATION OF WORKHOUSE LUNATICS.

A CORRESPONDENT writes: In May, 1905, A., the medical officer to a workhouse, and B., another practitioner, examine a patient in the workhouse, and certify that he is an idiot and fit to be detained in the workhouse, and are each paid the legal fee. In April or May of this year the Commissioner in Lunacy finds that the report of B. is dated May 15th, 1905, whereas the magistrates' order and the medical officer's report are dated May 8th, and states that it is necessary to obtain fresh certificates for the patient's legal detention. At the instigation of the guardians the patient was re-examined by A. and B., and fresh certificates with the magistrates' order were prepared. Are the medical officer and other practitioner entitled to another fee, as they claim that it was not their fault that the first certificates were wrong, and that they had exactly the same amount of work to do in the second examination as in the first?

*** We are of opinion that B., who signed the first certificate on May 15th, 1903, is fairly entitled to a second fee for having again (after the expiration of a period of five years) certified the same patient, as the latter duty must have been a no less responsible and onerous one than the first. We do not understand on what grounds A., the medical officer of the workhouse, can establish a claim to a fee for either his first or second certificate.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2636, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

P. J. M. asks for information as to the suitability of La Bourboune for rheumatoid arthritis.

SENEX would be grateful for some information about Eltham (Kent). Is the soil gravelly, or clay; dry or wet? Is the rainfall high, and does it suffer much from fogs? Is it looked upon as a healthful place, or otherwise?

IERNE asks if any reader can recommend a place in the British Islands in which the climate is suitable for children suffering from adenoids. Is there any place in which "adenoids" is practically unknown among the native population?

W. H. would be obliged if some reader could tell him of a mincer or other apparatus for finely dividing food, that could be used at meals. He has two old patients, 90 years old, and it is difficult to find anything, in the nature of animal food, that they can masticate and swallow.

DR. ROBERT J. SIMONS (Bridgend, South Wales) writes: I would feel very greatly obliged if you could give me the names of any books dealing with the art of medicine among primitive peoples and among the ancients. Among other things, I wish for information about necromancy, charms, amulets, philtres, and other methods of the dark ages. Any information as to where I might get some knowledge of the dawn of medical science would cause me to be greatly indebted to you.

ORGANIC CHEMISTRY EXAMINATION AT LONDON UNIVERSITY.

NIL DESPERANDUM writes: Would any brother from an atmosphere of learning kindly tell an isolated country practitioner what would be the best books to read for the Organic Chemistry of Part I of the Second Examination for Medical Degrees of the University of London, and where the chemicals and apparatus necessary for the practical work could be obtained?

*** The most suitable books for the London examination in Organic Chemistry are (*a*) in theoretical work, Bunge's *Organic Chemistry for Medical Students*, translated by Plimmer and published by Longmans; (*b*) in practical work, *Practical Organic Chemistry*, by Plimmer, published at University College in two parts (both of these are necessary). They can be obtained on application to the Secretary, University College, Gower Street, W.C., and cost 6s. for the two parts. We fear that our correspondent would have almost insuperable difficulties in preparing himself for the practical part of the examination, and our advice is that he should take out a practical course at some institution. The cost of chemicals and apparatus would be great for a private individual, as such apparatus as reverse condensers, etc., are essential. But if he wishes to buy the chemicals for himself, Messrs. Griffin (Kingsway, W.C.) are a respectable firm, in whose hands he would be safe. He would need to spend about four weeks on practical work, if he tried to work through a course at a recognized institution.

HOSPITAL OR DISPENSARY.

L. H. writes: A benevolent lady has started a movement and wishes to endow a hospital for chest diseases, which at present, until developed, will be for out-patients only. We propose having it in the metropolis. It was suggested at the last meeting that, as there were no beds at present, we could not perhaps call it "hospital." I have been desired to ask you if such would be out of place. We propose putting "hospital," with "out-patients" in brackets, until the beds are provided.

*** An institution for out-patients only is usually called a dispensary. We think it would be misleading to the public to describe it as a hospital.

ANSWERS.

COCAINE IN PARTURITION.

DR. J. SEARDON PROWSE (Manchester) writes: In reply to "Stockton," who (in the JOURNAL of July 31st) asks for experiences in the use of cocaine during the first or second stage of labour, I send a short account of the effects noted in a number of cases in which I used the drug some years ago. I employed the cocaine in about thirty-three labours, occurring among both primiparous and multiparous patients, with ages ranging from seventeen to forty-four years, chiefly for the relief of a painful and prolonged first stage, due to an unyielding os; but also, in some cases, for the relief of pain in the second stage from rigidity of the perineum; and in several, for relief of pain during the repair of perineal tears. In cases of rigid os, I either made use of a ½-grain suppository, passing it into the os, and retaining it with a tampon, or applied a 10 per cent. solution of cocaine to the parts with a brush, or a pledget of cotton wool. For rigid perineum, and for repair of ruptures, I used the solution of the same strength. In more than half the cases of delay in the first stage, from rigidity of the os—especially in neurotic women—the immediate result were happy: the os softened and dilated rapidly, the pains becoming less severe, and labour, in consequence, progressing as desired. In the remainder of these patients no particular effect was noted. With several women, in whom an unyielding perineum was the source of suffering and delay, the application of the cocaine appeared to render the pains less trying; but there was no evidence that it had any action towards softening the tissues, or making the perineum more elastic. Where the perineum was torn, the use of cocaine, naturally, enabled me to suture the wound with comparative comfort to the patients. So far, so good; but I think, judging solely from my own experience, there is a serious drawback to the use of this drug during labour; for, with the exception of seven, all my cases had a varying degree of *post-partum* haemorrhage; and the haemorrhage was less easily controlled than usual. Two of them, an alcholic of 37, and a primipara of 28, suffered from the most severe attacks of *post-partum* bleeding which it has been my fortune to deal with. Apart from these "cocainized" cases, my midwifery practice has fortunately been very fairly free from this unpleasant complication, and I believe, therefore, that I am justified in attributing the increased tendency to haemorrhage, observed in these cases, to the influence of the cocaine used. It will be interesting to learn if others have had any similar experiences.

DR. S. E. ATKINS (Exeter) writes: Replying to "Stockton," I have found the use of cocaine locally to the os uteri in the first stage bring about a rapid dilatation, but the results are not always constant. The form I use is that of a thimble, which fits on the top of the examining finger, and is left behind in close apposition to the os. Each contains 2 grams of cocaine, with a little boric acid, with coca butter as a base. They are prepared by Ferris, of Bristol.

LETTERS, NOTES, ETC.

DR. A. C. has not enclosed his card.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

MR. GRIFFITH C. WILKIN (Paignton) writes: The medical profession will be wise to keep an eagle eye on this. The London County Council considered on July 27th the report of the Education Committee on this subject. It will be well for doctors to watch carefully every step taken by this most unfriendly committee. The Education Committee is practically suggesting that the treatment shall be done by the hospitals, and many of the hospitals—bodies that have always been supported by the profession—are base enough to eagerly offer their services. It is the duty of the Association to act at once, lest this pauper country should again fleece the doctors.

ANTIDIPHTHERIA SERUM IN ASTHMA.

DR. H. A. CLOWES (London) writes: In the early part of the year—I forget the exact date—the *Oxford Times* contained the report of an inquest on the body of a young woman who had died immediately after the injection of a prophylactic dose of diphtheria antitoxin. She was in apparently good health, but had suffered from asthma, and had had diphtheria some time before; but as diphtheria had occurred in the house in which she was living the doctor in attendance gave her an ordinary prophylactic dose of antitoxin, when she died in a few minutes from acute dyspnoea. The medical evidence was to the effect that death was due to acute asthma induced by the injection of diphtheria antitoxin, and a verdict was given in accordance with this evidence. It is evident from this case that antidiphtheria serum should be given with great caution to asthmatic patients.

TREATMENT OF INGROWING TOENAIL.

DR. J. BROOM (Rutherglen, Fife) writes: May I suggest, in reference to Dr. Tytler's memorandum (BRITISH MEDICAL JOURNAL, July 17th, p. 141), about the treatment of ingrowing toenail, a procedure I have followed for some years? It consists in splitting the fleshy part of the toe which covers the ingrowing point by inserting the point of the knife alongside the ingrowing nail and cutting straight out through the point of the toe, and then easing the point up and putting a fragment of linen below the point. The point of the nail will grow out and require no tearing off of the nail. It is of the utmost importance to get the patient to wear bigger boots and square toes; this is a vital matter in all such cases.

O.H.G. writes: Referring to recent correspondence as to the treatment of ingrowing toenail, it was in the columns of the BRITISH MEDICAL JOURNAL of November 13th, 1886, I learned of Dr. Miall's tannic acid method of treatment of ingrowing toenail. The procedure seemed so simple that I tried it on the first case that presented itself, and with highly satisfactory results. Since then I have abandoned all other lines of treatment, and the surgeon's knife has altogether been dispensed with. The Miall treatment of this troublesome affection cannot be too well known.

DR. W. HARDMAN, J.P. (Blackpool) writes: I am sure I cannot have treated fewer than 50 or 60 cases of this condition when I was in general practice. I cured all the cases rapidly and comparatively pleasantly by a very simple and common-sense procedure. It never failed in a single case, and I am sure some of the cases were as well marked and fully developed as any to be met with. I had seen cases treated in hospital a few times before I commenced practice, always by, as I think, the barbarous method—avulsion. I could not bear the thought of this unnecessarily cruel treatment, and as soon as I got a case I studied it, and found a mass of maloderous granulations overlapping the outer corner of the nail. This could, after soaking in warm carbolized water, be pushed aside, disclosing the nail corner. Examination showed this corner was dead, and had no attachment to the underlying bed. I got a strong, short-bladed, sharp-pointed pair of scissors, and wriggled it under the nail, and bit by bit cut off all the dead part. I then packed lint, moistened with carbolic lotion, between the nail edge and the granulating flesh, so as to push and keep the raw edge from the nail. I then wrapped a piece of lint, moistened with the same lotion round the toe, covering all with gutta-percha tissue and a 1-in. bandage. Every day I repeated the soaking, and cut away more dead nail if I could. Usually the inflammation would be so much abated, and the toe so much less painful, that the patient could bear the manipulations better, and I could thoroughly complete what I might have left unfinished at the first sitting. The dressing was repeated as at first, and in a very short time the raw surface would be healed and the patient cured. I used always to examine the boots for malformation, and particularly the stockings. In my opinion the most common cause of this complaint is the constricting pressure of pointed-toed worsted stockings. These run up with washing, and very effectually compress the fleshy edge of the toe bed against the nail, hence the condition of not "ingrowing toe nail," but impressed toe bed edge. If the toe was very much swollen and tender, I used lead and opium lotion instead of carbolic for a few days. I do not attribute the slightest curative virtue to the carbolic except that it prevented decomposition.

DR. CORDES (Marnex, Coppet, Vaud) writes: With a trifling operation I have had a constant success. I transfix the soft parts, just at the edge of the nail, taking away all the flesh, then applying a common dressing without suture. I remember two cases (being out of town I have no access to my notebook). The first one was a Chinaman, whose work was to climb a bamboo tree, using only his toes. After three days he was able to resume his occupation. I lost sight of him about a week after the operation. The second one I saw many times during a good many years. The disease never returned.

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THE DOUBLE-FILIGREE OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA,

With Notes of Thirty-three Cases; and on Certain Cases of Ventral Hernia Cured by the Implantation of Filigree.

BY

LAWRIE McGAVIN, F.R.C.S.Eng.,

SURGEON TO THE SEAMEN'S HOSPITAL, AND LECTURER ON CLINICAL SURGERY IN THE LONDON SCHOOL OF CLINICAL MEDICINE.

The results of operative surgery in the treatment of large inguinal herniae leave much to be desired. Even at the present time, when so much has been accomplished in other departments of surgery, it is the general complaint of surgeons that in inguinal herniae in patients of poor physique, in elderly subjects, in those whose occupation involves a constantly-recurring increase of intra-abdominal pressure, and indeed in any patient in whom such hernia has recurred or has exceeded the more moderate dimensions, the prospect of accomplishing a really radical cure is extremely remote and in some cases quite hopeless.

So much has already been written on the causes which originate a hernia and on those which contribute to its recurrence after operation, that it would be a mere waste of time to reproduce them here. There are, however, certain points with regard to the principles underlying the operative treatment of inguinal hernia which can only be brought home by repetition; and these I would venture to state here, as I have already done elsewhere.

I.

The complete and permanent cure of inguinal hernia depends on: (*a*) The total abolition of the peritoneal sac or *sacs*; and here it must be remembered that one of these may be thick-walled and perfectly obvious, while another may be present which is of the most extreme tenuity, difficult to find, with a lumen only admitting a probe, and yet quite capable of enlarging one day to greater capacity. (*b*) The *permanent* approximation of the muscular structures of the inguinal canal to Poupart's ligament. (*c*) The maintenance of the histological character of these structures by careful operative technique and by the subsequent employment of properly regulated physical exercises. And (*d*) on the prolongation of convalescence in the recumbent position for a period much beyond that which is usually accorded to these cases.

It is easy to see that while the first and fourth of these essentials present no very great difficulty, the second and third are not so simply attained. The gap to be covered may be enormous; the musculature may be attenuated, friable, and fibrous, and thus it may be that the whole inguinal canal presents such a wreck that the possibility of cure seems quite out of the question. In other cases, although the structures may be in fair condition, the amount of dissection required to accomplish the approximation, especially in old-standing and recurrent cases, and possibly the tension necessary to keep muscle and ligament in accurate contact, are such that, within a few weeks of the operation, what was muscular is reduced to fibrous tissue.

Now the muscle which is brought down is brought down with a very definite object; its purpose is not merely to block the canal *passively* by its presence (the peritoneum and the abdominal aponeurosis would of themselves do that), but by its *active* contraction to tighten up the walls of the canal without suffering permanent loss of elasticity in doing so. When an operation has been done and the trouble recurs, it is not muscle which is found covering the sac; what is found is merely the fibrous remains of the stretched union, the muscle having receded to a point above the level of the canal. Had the muscle been sound and active, and had it remained in close apposition to Poupart's ligament, recurrence would have been impossible. It is therefore clear that to get a permanent result which shall honestly deserve the term "radical cure," a term hitherto much misused, is not by any means so simple as it would at first sight appear.

II.

It must be borne in mind that in no branch of surgery is the old proverb concerning "the stitch in time" more truly applicable. Bassini's operation, when done early in the history of a hernia and followed by sufficiently protracted convalescence, is an excellent operation in most cases; there are others, however, in which it fails to meet the requirements of modern surgery, and these may said to be the following:

1. Those of inguinal hernia in elderly subjects.

2. Those in adult life where the strain of certain occupations is so constant and severe upon the abdominal walls, that it is unreasonable to expect a cure when treated by the ordinary methods.

3. Those in which, although in young subjects, the muscular structures of the part are found at time of operation to be thin, badly developed, or stretched and loose over a large area.

4. Those in which the hernia has recurred, especially if after a carefully carried out operation followed by a primary union.

5. Those in which the hernia is of such size that the gap cannot be closed without the exercise of such tension as to produce strangulation of the structures within the grip of the sutures—a condition which is one of the most certain of all the predisposing causes of recurrence.

III.

It is even at the present time no uncommon thing for the surgeon to be expected to bring about a cure in a case where, for years, the hernia has been subjected to the pressure of a truss. In such a case it is quite unreasonable to hope for any permanent result, especially if the truss has been a very heavy one, possibly badly fitted, or more probably never fitted at all in the proper sense of the term. The tissues underlying such a truss, and indeed under every truss, will be found to be matted, thinned out, and the muscles almost entirely converted into fibrous tissue. It is impossible to look upon the truss as anything but an antiquated piece of apparatus, the very existence of which is a sorry testimonial to progressive surgery, the use of which generally results in gradual injury to the wearer, and the results of which tax the surgeon's best efforts to undo when the time comes that the truss is no longer able to hold up the protrusion.

IV.

There is a point which is entirely ignored in most textbooks on the subject of inguinal hernia, and which is yet of the greatest importance in dealing with the trouble in herniae of long standing and in elderly subjects. This is the weakness of the abdominal wall so frequently seen to the *outer* side of the internal abdominal ring. There is little doubt that this weakness, which is evidenced by softness and bulging of the tissues here, is responsible for much of the recurrence seen after Bassini's operation in these cases. No matter how carefully the suturing of the canal may have been carried out, the failure to strengthen this region will greatly prejudice the result in the course of time, and if a cure is to be achieved, some method must be adopted by which the muscles can be reinforced and the tendency to bulge can be counteracted.

V.

Lastly, referring to a point already mentioned, it cannot be denied that, in this country at least, the constantly increasing demand for admission to hospital, a sense of monotony on the part of the surgeon who has to deal with an unending stream of hernial operations differing very slightly in interest, and the constant thirst of the student for a fresh draught of clinical material, has brought about the undesirable practice of unduly shortening the period of convalescence of the patient, with the result that in most hospitals this period is represented by a bare three weeks. Now, when we consider carefully the condition of a cicatrix resulting from a union by first intention at the end of three weeks, it must be perfectly obvious to most of us that it is simply courting failure to allow the patient to get about so soon after operation. The new exudate from the lips of the wound is barely organized; such fibrous tissue as is formed from it is immature and extremely distensible, the sutures are not yet absorbed,

and in some patients there is comparatively little difficulty even in opening up the deeper tissues of the cicatrix with the handle of a scalpel at this date. It seems to me to be an absolute waste of time, skill, and material to perform an operation which is expected to result in a radical cure, and then to ruin the whole of the work by sending the patient out at a time when his wound is barely consolidated. Surely it seems worth while, for the sake of our professional reputation as well as for the benefit of the patient, that convalescence should be sufficiently prolonged to render the result of the operation permanent, even if the cost to the hospital is thereby slightly increased.

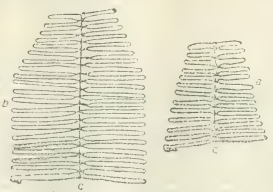


Fig. 1.—*a*, Iliac section; *b*, pubic section; *c*, midrib of filigree.

It was with the idea of bringing *all* cases of inguinal hernia within the scope of operative treatment, of doing away entirely with the use of the truss, and of establishing a method of treatment which should honestly deserve the name "radical cure," that I devised in 1905 the method which I have termed the "double filigree method," and which I described in the following year at a meeting of the Clinical Society. This method I now propose to describe more fully, since I have found it to bear out in the fullest manner all that I then claimed for it. The method consists in strengthening the walls of the inguinal canal by the implantation of two filigrees of silver wire in the tissues in such a way that subsequent stretching or bulging is rendered impossible, and the necessity of a truss is entirely done away with. The results obtained by the implantation of filigrees of silver wire in the cure of ventral herniae of large dimensions—an operation first devised by Bartlett in America—have proved that not only is the area involved rendered permanently unstretchable, but that there is no tendency on the part of the tissues to cast out the structure as an irritative foreign body, even when enormous filigrees are employed. Thus, I myself (as has also my colleague, Mr. Douglas Drew) have on many occasions buried abdominal filigrees measuring as much as 9 in. to 10 in. in length, and 4 in. to 5 in. in breadth. This being so, the idea occurred to me that some such method might be applied to the cure of inguinal hernia, especially in those cases which I have tabulated under my second heading. Before detailing, however, the method of manufacturing and applying these filigrees, I would state briefly the principles underlying their use.

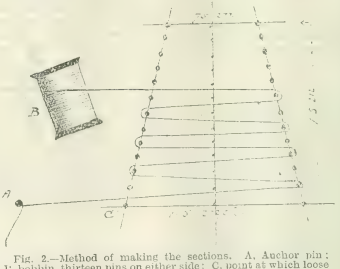


Fig. 2.—Method of making the sections. A, Anchor pin; B, bobbin, thirteen pins on either side; C, point at which loose ends are twisted on completion of zig-zags. The black dots represent pins.

In all cases in which hernia occurs or recurs, the chief factors are:

(*a*) The presence or formation of a peritoneal sac.

(*b*) The recession or pushing aside of the muscular walls of the inguinal canal.

(*c*) The stretching of the fibrous structures covering the canal.

Remove the sac, fix the muscles *permanently* in position, prevent the fibrous structures from stretching, and the cure will be a "radical" one. Of the last two of these requirements the second is by far the most important; the sac must of course be removed, but it is upon the third especially that the ultimate cure depends. Now, when a filigree of silver wire, such as I shall presently describe, is placed in the tissues composing the inguinal canal, presuming that it is perfectly aseptic, the first effect is that of local irritation of the parts in contact with it; this results in the exudation of lymph, which rapidly organizes about the filigree, and in a very short time new vessels and young fibrous tissue are produced and grow around, among, and between the wires of the filigree to such an extent that ere long a solid plaque is formed which once and for all converts the inguinal canal into a sound, resistant area, which will neither stretch nor bulge, the muscles, peritoneum, and aponeurosis being welded together by the filigree, which acts much as the backbone of a sole does upon the tissues which it supports; but there is this difference, that the ends of the filigree wires, being in the form of a loop, they are capable of acting as retaining sutures, whereas the bones of the sole only act as a scaffolding for support. The following is the method of making the filigrees I am in the habit of using, and which until recently I made myself.

They are made in two sections—namely, a pubic (*a*) and an iliac (*b*), Fig. 1; the former is always made of the following dimensions: At the narrow end its width is $\frac{3}{4}$ in.; at the wide end, $1\frac{1}{2}$ in.; its length is also $1\frac{1}{2}$ in., this being the usual length of the adult inguinal canal. Being constructed on the principle that every filigree, whether abdominal or inguinal, should be made with not fewer than eight loops to every inch of its midrib, this will give thirteen loops on either side of the pubic section of an inguinal filigree. The iliac section (*b*, Fig. 1) is made in such a way that its inner third corresponds in shape and size to the outer two thirds of the pubic section. Its outer end must meet the requirements of the case, being trapezoid, square, or, what is more usual, oblong, and of a total length of $2\frac{1}{2}$ in. to 3 in., as may be found necessary. The wire must be of unalloyed silver, and for convenience sake it is well to keep to the same gauge for all filigrees—namely, No. 28 Standard wire gauge.

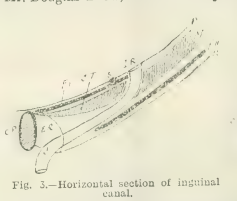


Fig. 3.—Horizontal section of inguinal canal.

A, Aponeurosis; C.T., conjoined tendon; C, spermatic cord; O.P., symphysis pubis; F.i., pubic section of filigree; F.ii., iliac section of filigree; E.R. and I.R., external and internal rings; S, neck of sac tied off; P, parietal peritoneum; M, muscle.



Fig. 4.—Iliac section placed deep to internal oblique muscle external to internal abdominal ring.

A board of soft wood or cork is taken, and on it is placed and fixed by pins a sheet of white paper; upon this the plan of the filigrees to be made is drawn out accurately. Stout pins are then inserted vertically, as in the diagram,

and an odd one, the "anchor" pin (*a*, Fig. 2), is placed to the left of the wider end of the plan from which to start, the wire being given a turn or so round it. The wire now runs from the end pin on one side to the second from the end on the other, and so on from side to side, a pin being missed each time, and the wire being carried round the outer side of the pins. Having reached the last pin on one side, it is carried across to that of the other, and so begins to travel back to the pin from which it started, when the anchor pin (*a*) is removed, and the ends of the wire are neatly twisted together round the outer side of the first pin of the row and cut off short. It will now be seen that the crossing of the wires falls evenly down the centre of the filigree, and the mid-rib (*c*, Fig. 1) is attached. This is done by taking a separate short strand of wire and fixing it to the centre of the strand at the wide end; from this point it is carried along the centre of the filigree, a turn being made round each point of crossing of the wires, at which points it is firmly pinched by a pair of dissecting forceps to fix it in position. On reaching the opposite end of the filigree the mid-rib is finished off by being attached to the last strand in the same manner as that by which it was fixed to the first. The surplus being cut off short and the pins removed, the filigree is complete. A little practice is required to produce the most perfect work, as the pull of the wire must be kept equal at all points and breakages avoided, since joins are not only clumsy but difficult to effect. The method of employing these filigrees is as follows:

As perfect asepsis is imperatively necessary here, indeed even more so than in the case of abdominal filigrees, it may be said that the filigrees should be placed in ether for five minutes to remove all grease from them, and should be left in the sterilizer *in the centre of the most actively boiling area*—it is necessary to emphasize this point, as I have seen them placed at one end where there was barely a trace of ebullition—and left there till the moment of implantation, when they are lifted straight from the sterilizer into the wound.

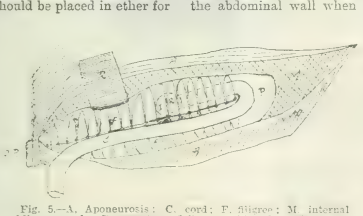


Fig. 5.—A, Aponeurosis; C, cord; F, filigree; M, internal oblique muscle; R, retractor; O.P., os pubis; P, peritoneum; I.R., internal ring.

The operation is at first conducted exactly as in performing an ordinary Bassini's closure, except that the aponeurosis should be split to a point rather farther out, and the peritoneum must be more freely separated from the posterior surface of the conjoined tendon, as must the latter be from the aponeurosis overlying it. From this point the steps are as follows: The sac having been isolated and dealt with, the cord is held out of the way, and the first two of the sutures which are to approximate the conjoined tendon to Poupart's ligament are inserted, and their ends are caught by pressure forceps. These sutures being held aside by the assistant, the pubic section of the filigree is placed upon the peritoneum, its narrow end being close to the pubic spine, and its wide end at the inner margin of the internal abdominal ring. If the peritoneum is very loose and inclined to sag, a fine suture may be used to unite it to the filigree; as a rule, however, this is unnecessary, and all that is required is to bring the conjoined tendon into close apposition with Poupart's ligament *over the filigree* by the two sutures already inserted, and then to insert as many more as may be deemed necessary, care being taken to keep the bed in which it lies as dry as possible. In cases in which the muscular wall of the abdomen external to the internal ring is sound and strong, the cord is placed in position, and the iliac section of the filigree is taken from the sterilizer and is placed beneath the aponeurosis in such a way that its inner end lies over the internal abdominal ring and upon the cord for a space of ¾ in., the outer end being carried outwards and laid upon the surface of the internal oblique muscle, one or two sutures holding it in place (Fig. 3). If the above-mentioned weakness is present, the muscular wall is divided from the ring outwards towards the iliac spine for about an inch, and is separated from the peritoneum by the handle of a scalpel; upon this peritoneum the outer end of the iliac section is laid, being lightly sutured in place, and the muscles are brought together again over it (Fig. 4), the inner end lies as already described. Finally, the aponeurosis is sutured in place and the wound closed by means of Michel's clips, which are removed on the fifth day.

It will be seen from this that the cord comes to be "sandwiched," as it were, between two layers of filigree in the canal, the natural relations of which are hardly altered; and further that the area external to the internal abdominal ring is fortified by a filigree which may be made of any size which may be deemed necessary.

It is obvious that such a proceeding as I have described must in most cases be comparatively simple in its performance; it will be found equally satisfactory in its results. Granted a primary union of the wound, the hernial gap will be found to become as impermeable and as unstretchable as a pad of leather. There will be neither pain nor discomfort afterwards; there is not the least fear of interference with the cord nor with the functions of the testis; the necessity for any form of truss is done away with permanently, and the operation thus offers the patient a radical cure in the truest sense of the word.

Now what are the disadvantages of the method, if there are any, to be placed against these points in its favour?

I think I may honestly say that the only disadvantage is that, if suppuration should occur, the iliac section and possibly (although not so probably) the pubic section, may shift their positions; or if only a slight sinus should develop, that convalescence may be unduly prolonged. It must be understood that the inguinal region is by no means so favourable a site for an aseptic operation as is the abdominal wall when one is dealing with a ventral hernia. If suppuration occurs and the filigrees shift, the probability is that the cure will fail, just as it does in cases where no filigree is used. In this respect the operation differs entirely from that for ventral hernia, where even if sepsis occurs, not only is there no possibility of the filigree shifting its position, but the eventual result is only to fix it more firmly and to consolidate the tissues more thoroughly. In such a case of failure, it is perhaps better to remove the filigree, wait until healing has taken place, and again perform the operation. To some extent this plan was adopted in one of my cases (Nos. 7 and 18) and a cure was then effected.

In cases in which the suppuration is purely superficial and slight, and in which it is felt that the iliac section has not shifted, it should on no account be removed, as in most cases it will not affect the result and careful dressing will usually induce the sinus to close.

It may be asked why these cases are more likely to break down than other cases of hernia. The answer is that they are the largest and worst cases; many of them are recurrent herniae, and therefore the amount of tearing and dissection necessary to separate the layers and make a bed for the filigree commonly results in the oozing of blood serum and fat, which, taken in conjunction with the proximity to the genitals and anus, renders the wound a particularly favourable nidus for bacterial action.

Since I first devised this operation I have had occasion to perform it in the following 27 cases, and to these cases I have added 3 cases operated upon by my colleague, Mr. C. C. Choyce, who has kindly allowed me to publish them, as well as 3 cases in which a single long filigree was used, the first cases in which I attempted to treat inguinal hernia by filigree: two of these were in women, and one in a man. Since these latter were done, however, although they have been perfectly satisfactory, I have used only the double filigree method, as it has enabled me to deal with cases which the single filigree would hardly have controlled, and this is especially the case in men, in whom the anatomical conditions necessitate a difference in method.

CASE I.

A woman, aged 40. Gap in the left inguinal canal admitting three fingers straight into the abdomen; ten years' history;

sac the size of an orange; pain and dragging sensation preventing her work. Sac excised and filigree measuring 3 in. by 1½ in. placed deep to conjoined tendon. This patient is engaged in heavy manual work, and although she has never worn any support since operation, the inguinal region is sound and firm. Done four years ago.

CASE II.

Seaman, aged 61. Very large inguino-scrotal hernia, partially reducible, and of many years' standing, for which he has worn a truss; this has, however, failed to control the mass for the last nine months. Sac very thick, and tissues much thinned out and adherent about the neck: adherent omentum in sac. Filigree measuring 3 in. by 1½ in. placed deep to conjoined tendon. In order to allow filigree to defend space outside internal abdominal ring, cord had to be drawn outwards round the end of filigree, and was then carried down in front of muscle after its approximation to ligament (Fig. 5). It was this case which, owing to this difficulty with the cord, suggested to me the necessity for the use of two filigrees, in order that the natural position of the cord might be maintained, and at the same time the space outside the ring efficiently strengthened. Unfortunately a stitch sinus resulted, and the filigree could be felt for some weeks through it. I then advised removal of the latter. Patient refused, saying he preferred the "little hole" to the chance of his hernia returning, and went out. Six weeks later sinus had healed. Two years later he wrote saying that he was "well and sound in spite of constant hard work as a pilot, and was grateful for not having to wear a truss." Done nearly four years ago.



Fig. 6.—Case VIII.

CASE III.

A woman, aged 65. Large left inguinal hernia presenting for ten years. Operation similar to Case I. At present time well and sound, doing hard housework and wearing no kind of support. Hernia admitted half the hand into abdomen, and muscles were very thin. Done three years ago.

CASE IV.

Seaman, aged 17½. Double inguino scrotal hernia, right side recurrent from operation done abroad. Abdominal muscles weak and bulging towards iliac spine on either side; wide neck to both sacs. This was the first case in which the double filigree method was done. Convalescence normal. Done three years ago. Last April had an inguinal bubo which caused iliac section to present; this has left a sinus. Up to time of infection was sound.

CASE V.

Seaman, aged 58. Large right direct inguino-scrotal hernia, gap admitting four fingers; has worn a truss for many years. Now gets griping pains, and has to give up work at times. Omentum adherent in a thick sac, the neck of which was almost cartilaginous; much matting round neck. Double filigree implanted three years ago. (No reply as yet.)

CASE VI.

Seaman, aged 51. Almost exactly similar case to the preceding. Implantation three years ago. Writes to say he is "well, up to date."

CASE VII.

Seaman, aged 40. Recurrent left inguinal hernia, admitting three fingers into abdomen; patient alcoholic and slightly cirrhotic; tissues found matted and friable, their separation resulting in much oozing into the scrotum. Double filigree implanted. Sinus formed on tenth day and discharged freely; subsequently became very much smaller and finally healed, and patient went out. At this time there was some bulging, and it was clear that the filigree had shifted its position. Warned patient to return if hernia recurred. (See Case XVIII.)

CASE VIII.

A negro seaman, aged 43, with a very large traumatic inguino-scrotal hernia (Fig. 6), measuring 12 in. long and 18½ in. in circumference. Sac contained much omentum, bowel, and mesentery, the neck of the sac measuring 3 by 2 in. The hernia was complicated by an old and very thick-walled hydrocele of such a character that I considered it wise to remove the testis. Double filigree implanted 2½ years ago. Wife has written to say patient gone to sea well and sound.

CASE IX.

Seaman, aged 72. Large right inguino-scrotal hernia for sixteen years. Truss had thinned out and almost destroyed the muscular walls, so that bowel seen through skin. Small sinus followed operation, but he went out with inguinal region firm and strong. Implantation 2½ years ago. Writes to say there has been no return of rupture, and is well and sound.

CASE X.

Seaman, of 36, with large double inguinal hernias of six years' standing. Gaps admitted three fingers on either side, and there was much bulging outside the internal abdominal rings. Implantation done two years and three months ago. Writes to say, "Operation is quite a success, in spite of heavy stoking and blacksmith's work for many months."

CASE XI.

Seaman, aged 62, very stout and plethoric, with an enormous left inguino-scrotal hernia of nine years' standing (Fig. 7). This was, I think, the largest inguino-scrotal hernia I have ever seen, and measured 15 in. in length and 25 in. in circumference: the penis had retracted entirely out of sight. This was the first case in which I employed spinal analgesia. The sac was so adherent that it could not be removed, and contained the whole of the sigmoid colon with its mesocolon, and a very large mass of omentum, all of which were adherent to the sac and to each other. When reduced it was found that the whole fist could be easily passed into the abdomen through the neck of the sac. The sac was isolated at its neck and divided between ligatures; a double filigree was implanted, and convalescence was uninterrupted. Done nearly two years ago. Fig. 8 shows this patient after operation; a Keetley's suspender is applied to assist the shrinking of the scrotum. As yet no answer.



Fig. 7.—Case XI.

CASE XII.

Seaman, aged 59. Left inguino-scrotal hernia. Double filigree implanted eighteen months ago. Convalescence normal. Spinal analgesia. Writes to say, "Well, up to date."

CASE XIII.

Seaman, aged 25. Inguinal hernia on right side, inguino-scrotal on left; Bassini on right, double filigree on left. Normal convalescence. Implantation eighteen months ago. Spinal analgesia. So far no answer.

CASE XIV.

Seaman, aged 32. Right inguino-scrotal hernia; double filigree inserted eighteen months ago. Convalescence normal. Spinal analgesia. No address for inquiry.

CASE XV.

Seaman, aged 44. Large inguinal hernia on right side which had twice recurred after operation. Prolonged dissection required to separate the structures about the neck of the sac. Gap admitted half the hand. Double filigree implanted sixteen months ago. Convalescence normal. Spinal analgesia. Writes to say no pain or discomfort, and is stronger than ever.

CASE XVI.

Seaman, aged 50. Large inguino-scrotal hernia on the right side; thinned tissues owing to truss pressure. Double filigree implanted sixteen months ago. Convalescence normal. Spinal analgesia. No answer received yet.

CASE XVII.

Colour-Sergeant, late R.A.M.C., aged 42. Very large inguino

scrotal hernia of seven years' duration; gap measuring 3 in. by 1½ in. Implantation done sixteen months ago. Convalescence normal. At work ever since and doing heavy gardening work without difficulty. Spinal analgesia.

CASE XVIII.

Same case as No. 7. Returned with his hernia recurrent, as I anticipated, the filigree having shifted as the result of the suppuration above mentioned. Pubic section firmly in place, iliac section found lying 1 in. above its proper level and too firmly imbedded for removal; hernia appearing external to internal abdominal ring and just below iliac section. Sac removed and a fresh iliac section implanted. Convalescence normal. Done fifteen months ago under spinal analgesia. Writes, "Operation quite successful and I feel better than I have been for years."

CASE XIX.

Seaman, aged 50. Right inguino-scrotal hernia for seven years; has worn a truss up to date. Double-filigree implanted thirteen months ago. Convalescence normal. Spinal analgesia. No address available for inquiry.

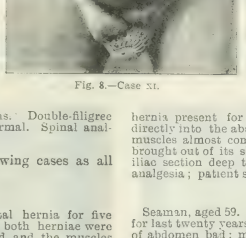


Fig. 8.—Case xi.

CASE XX.

Seaman, aged 29. Large recurrent inguinal hernia on the right side. Recurrence was the result apparently of sepsis, as the scar is stretched and pigmented. Patient says the operation was done three years ago, and the recurrence was noticed at the end of six months. Double-filigree implanted a year ago. Convalescence normal. Spinal analgesia. No answer received to date.

No inquiry has been made in the following cases as all are less than a year old.

CASE XXI

Seaman, aged 33. Double inguino-scrotal hernia for five years; has never worn a truss. Although both herniae were large, the tissues were not markedly matted, and the muscles were in fair condition, which would not have been the case if a truss had been worn. Double-filigree implanted on both sides; convalescence normal. Done nine months ago under spinal analgesia.

CASE XXII.

Seaman, aged 49. This case was of interest not only from its size, but because it was entirely extraperitoneal of the bladder. this organ being enormously enlarged, so that the portion of it composing the hernia could easily have contained over a pint of fluid. The peritoneum was sutured into the angle of the pubes, and a double-filigree implanted under spinal analgesia. Convalescence was normal. Done nine months ago.

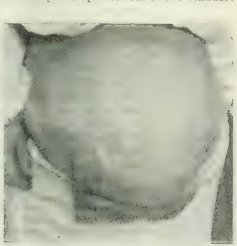


Fig. 9.

CASE XXIII.

Seaman, aged 51. Recurrent inguinal hernia on right side. Double-filigree implanted seven months ago under spinal analgesia. Convalescence normal and clots removed. Wounds remained aseptic; scrotum shrank to normal size in three weeks. Inguinal region firm and strong on discharge. Done four months ago.

CASE XXVII.

Seaman, aged 27. Large reducible inguino-scrotal hernia on left side; gap admitting four fingers; cord frayed and stretched out over sac; muscles thinned and adherent at neck; double filigree implanted; convalescence normal; done under spinal analgesia two months ago.

CASE XXVIII.

Seaman, aged 45. Stout heavy man, with a large inguino-scrotal hernia on right side, which he has had for five years. Contents reducible, but tissues extensively matted at neck, and cord spread out over sac; gap admitted half the hand. Much bulging towards the iliac spine. Owing to the width of this man's pelvis and the extent of the bulging I was compelled to use a third filigree to cover the area, not having an iliac section of sufficient size at hand. Convalescence normal. Done under spinal analgesia recently.

CASE XXIX.

Seaman, aged 54. Prematurely aged and feeble man; muscular wall of abdomen flabby and weak; was operated upon some years ago for hernia of the right side by Mr. Johnson Smith (no sign of recurrence); left inguinal hernia present for three years. Gap admits three fingers directly into the abdomen. At operation sac very thin indeed; muscles almost converted into fibrous tissue; rectus muscle brought out of its sheath in order to cover the pubic section; iliac section deep to abdominal muscles. Done under spinal analgesia; patient still in hospital.

CASE XXX.

Seaman, aged 59. Large direct inguinal hernia on right side for last twenty years and slight bulging on left. Muscular walls of abdomen bad; much matting about neck of sac, and bad bulging outside internal abdominal ring. Double filigree implanted under spinal analgesia on right side and Bassini's operation on left. Done recently; patient still in hospital.

The following are Mr. Choyce's cases:

CASE XXXI.

A seaman, aged 37. Left inguinal hernia operated upon nine months previously, had since recurred, although he had rested six months before returning to work. He also had a right inguinal hernia. On left side neck of sac very wide, necessitating suture in place of ligature. Single filigree implanted on peritoneum and muscles sutured over it. Healed by first intention. Done two years ago. No address available for inquiry.

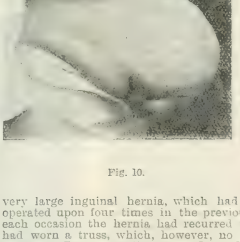


Fig. 10.

CASE XXXII.

This patient, a seaman, had a very large inguinal hernia, which had been unsuccessfully operated upon four times in the previous twenty years; on each occasion the hernia had recurred within a month. He had worn a truss, which, however, no longer controlled the rupture. Last operation was done five years previously. Skin showed old cicatrices of operations and counter-incisions, pointing to old suppuration, which had occurred after two of his operations. Sac found very thick and adherent to contents. Muscles almost unrecognizable, owing to fibrosis. Double-filigree implanted in planes representing those in which the filigree is usually placed, but which, in this case, it was quite impossible to differentiate. Patient healed by first intention, and was discharged well. Mr. Choyce remarks: "In July, 1903, this patient attended my out-patient room for another condition; his hernia had not recurred, nor was he wearing a truss. He had no untoward symptoms, and there was no pain nor discomfort from the filigree." At this time the operation had been done nearly two years. This patient is sound and well at the present time.

CASE XXIV.

Seaman, aged 52. Large inguinal hernia of right side of six years' standing; no truss had been worn. Double-filigree inserted. Normal case, done under spinal analgesia four months ago.

CASE XXV.

Seaman, aged 41. Double inguinal hernia (inguino-scrotal on the right side, and wide gap on the left). Double-filigrees on both sides; convalescence normal. Done four months ago under spinal analgesia.

CASE XXVI.

Seaman, aged 34. Large recurrent inguinal hernia on the right side. Sac very adherent and tissues much matted about the neck. Double-filigree implanted under spinal analgesia three months ago; subsequent extensive oozing of blood into scrotum, groins, and perineum. Scrotum opened

CASE XXXIII.

A seaman, aged 42. Left inguinal and interstitial hernia of five months' duration, following a fall. There was a large gaping ring. A single filigree was implanted superficial to the cord. Primary union. Patient has not been seen since. Done fifteen months ago.
No address available for inquiry.

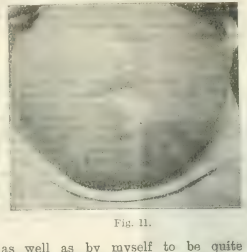


Fig. 11.

In conclusion, I would draw attention to the fact that I have carefully excluded from my series of cases any in which there was even a remote prospect of cure by Bassini's method; consequently there is no case here reported which was not considered by others as well as by myself to be quite outside the scope of any operative method hitherto published.

The results tend, I think, to show that the method is capable of dealing with herniae of the largest dimensions, and in patients whose age has hitherto been considered as a contraindication to operation, owing to the tendency to recurrence.

NOTE ON VENTRAL HERNIA.

As regards the subject of ventral hernia, the chief object of this note is to publish the accompanying photographs, which are those of two cases under my care some time ago, and the particulars of which I have not hitherto published; and to depict the filigree which I now use, and which is a modification of that originally described by Bartlett.

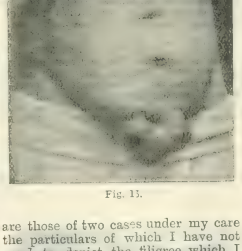


Fig. 13.

The first of these photographs (Fig. 9) is that of a woman of 49 years of age, who was admitted to the Seamen's Hospital in August, 1907, for an enormous umbilical hernia of many years' standing. As will be seen, the lower part of the sac was occupied by a large adherent mass of bowel and omentum. The amount of sacculation present necessitated the removal of so much of the abdominal wall that the return of the contents to the abdominal cavity, and the closure of the abdomen, was only accomplished with the greatest difficulty at the end of an hour. A filigree measuring 9½ in. by 4½ in. was implanted and covered as far as possible by the frayed-out remains of the rectus muscles. Owing to the great intra-abdominal tension, even after nearly the whole omentum had been removed, the patient remained very collapsed through the night. She recovered well however, the wound, which measured 14 in., closing by first intention, and she returned to her work, that of a cook, at the end of six weeks. The second photograph (Fig. 10) shows the hernia from the side, and Figs. 11 and 12 the result of the operation, also from the front and side. I have recently heard from this patient that she is in good health, doing her work without any form of support, and that the filigree causes her no discomfort whatever.



Fig. 15.

Figs. 13 and 14 are photographs of another woman, aged 43, who was admitted for a post-operative hernia of very large dimensions, nearly a year ago. The skin was in very bad condition, and so adherent that almost the entire covering of the sac had to be sacrificed. There was a large amount of adherent bowel and omentum, and the right rectus muscle was atrophic and pushed to the right of the hernia. A filigree of the same size as the last was inserted between the muscle and peritoneum below, and between the muscle and posterior sheath above. On the twenty-first day a small stitch sinus developed and gave some trouble, remaining open down to the filigree for some weeks. Eventually this closed, and the patient went home well in every respect. She is now, and has been since her discharge, doing hard manual labour at home, without the support of any form of belt, and feels no discomfort from the presence of the filigree.

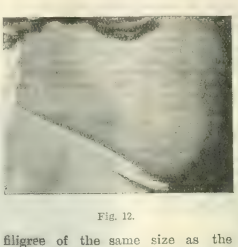


Fig. 12.

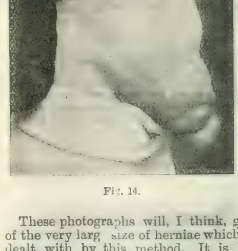


Fig. 14.

These photographs will, I think, give some impression of the very large size of herniae which may be successfully dealt with by this method. It is hardly necessary to point out that these operations are often not only prolonged but extremely difficult, and not to be undertaken without a sufficiency of help, a full knowledge of the difficulties to be encountered, and every provision which can be made for the patient's comfort and safety.

The last photograph (Fig. 15), which, owing to the closeness of the wires, is hardly as clear as I should like it to have been, shows the filigree, which I have found to be more easily manipulated than that which was first introduced by its originator, Willard Bartlett. The modification consists simply in providing *three* backbones in place of the one midrib. At a point 1 in. from the edge of the filigree, a strand of wire is carried along it, binding each pair of contiguous wires together. In the diagram this may be easily made out by the use of a hand magnifying glass. The result is that a filigree is produced which is very much stronger, and which can be introduced very much more easily than the original pattern, in which there was always a tendency for the loops to get bent and crossed during introduction. The number of loops to the inch remains the same, namely, eight, as does the standard gauge of the wire, namely, twenty-eight. The ends should measure in width about two-thirds to three-fifths of the width of the filigree at the centre.

NOTE.—Since this article has been in the press several replies have been received from patients in various parts of the world, all of which show the operation to have been successful up to date. To the stated period since operation five months must be added in every case.

ACUTE NECROSIS OF SKIN.

By CAREY COOMBS, M.D.Lond.,
CASTLE CARY.

In the following remarkable case the persistence of high temperature, the appearance and progress of the sore, and the fact that the first nurse had to leave because her hands became infected suggest a bacterial cause. Syphilis may be dismissed, and tuberculosis is improbable, as the patient and her children had never shown any tendency of the kind.

History of the Case.

A stout lady of yellowish complexion began to suffer from remittent fever on April 10th, 1907. There was much pain in the course of both sciatic nerves, followed after a few days by the appearance of three or four bullæ, like those of ecthyma, about ½ in. in diameter, near the tuber ischii. These bullæ formed sores which healed in three months. On the inside of the right knee one bulla appeared about May 11th, ½ in. in diameter; nine days later it was 3in. in diameter. Its margin was purplish-red, raised ¼ in. above the surface of the sore, which consisted of healthy granulations. In two months the whole thickness of the true skin had gone from the right leg; the tibia in the front of the foot were the bases of the toes, on the sides of the foot the points of the malleoli, the upper edge being on the level of the patella. The tendon of the extensor of the toes was exposed on the dorsum of the foot. On some days more than a square inch of skin died. The process usually began by serum appearing under the epidermis at the growing point of the necrotic area; the cutis vera died in a few hours; when it was cut off, granulations were found growing beneath.

The necrosis ceased at the end of July—that is, in the tenth week—and the whole surface had skinned over in November, 1908, eighteen months after the disease started.

As a rule, the edge of the wound was well defined, purplish-red; the surface generally was clean, and islands of new skin appeared from time to time. Skin-grafts generally grew readily. But in March, 1909, the skin began to die again on the inner side of the calf, and in six weeks the surface of five sores was 3in. in diameter. The patient's temperature was above 99° at night for twenty-five weeks, the highest point being 104°. The discharge from the sore was not examined until the recurrence took place in 1909.

There can be no doubt that the patient's excellent appetite helped her recovery. The recurrence has followed four months of lack of nourishment, as her food began to return daily soon after she started a laryngeal cough. Her veins were weakened by her pregnancies, and venous bleeding has three times followed lowering the leg to the floor. Bier's bandage had the result that great pain and large blebs of blood appeared in two minutes after it was applied. The whole limb became œdematous, just as the sore was nearly healed.

Treatment.

Quinine and iron were taken throughout the illness. Opium was given at night, and was added to the ointment used for about a year—namely, lanoline containing tincture of benzoin and opium, suggested by Dr. Milner Moore. At first boric acid was used in carbolic lotion, 2½ per cent. Then, by the advice of Dr. Firth, of Bristol, iodoform was added to the lotion, and the edges of the wound were painted with hydrogen peroxide. These methods were continued during the time of rapid sloughing—ten weeks. When the skin began to die again, in March, 1909, I ionized the sore by placing the positive electrode of a Leclanché battery over layers of lint soaked in 2 per cent. zinc sulphate solution on the sore; 10 to 12 milliamperes of current were used for ten minutes every two or three days. The result was to make the surface look silvery white, as though mild silver nitrate had been applied. But the use of hydrogen peroxide and iodoform lotion had a better effect, and at the end of six weeks the recurring ulceration is arrested. One ulcer, ⅝ in. in diameter, is closing, and seven, which are about half an inch across, are stationary.

THE Edinburgh Post-Graduate Course, which commences on August 30th and extends for four weeks from that date, promises, judging from the number of entries, to be at least as popular as its predecessors. The full number of applications for the Special Surgical Course, the attendance on which is limited to twenty-five, were indeed received almost a month prior to the date of its commencement, and some of the limited classes of the General Course, which is, as in former years, divided into two quite independent fortnights, are filling up rapidly. Among those who have entered are several who have taken out the Course in previous years.

Three Demonstrations
ON
CONGENITAL MALFORMATIONS OF PALATE, FACE, AND NECK.

GIVEN AT THE ROYAL COLLEGE OF SURGEONS, ENGLAND,
BY
PROFESSOR ARTHUR KEITH, M.D., F.R.C.S.Eng.,
CONSERVATOR OF THE MUSEUM.

II.—CONGENITAL FISTULÆ OF THE LOWER LIP.

A BILATERAL cleft in the upper lip is frequently associated with a curious malformation of the lower lip, in which two fistulæ or recesses open on the lower labial surface opposite the clefts in the upper lip. The orifice of each recess may be raised into a nipple-like process, which, when the mouth is shut, fits into the corresponding upper cleft. This was the condition in a specimen submitted to me by Mr. Woolcombe,[1] which was excised from the lip of a boy, aged 3 months. The orifice of the recess was situated at the apex of the papilla; its fundus, about the size of a rice-grain, lay within the substance of the lip, and was surrounded by mucous glands which opened into it. A layer of striated muscle surrounded the pocket, which in nature was clearly a localized invagination of the mucous membrane and glands of the lip. In three cases reported recently by Mr. R. C. Dunn[2] there was one in which the recesses opened on nipple-like processes; another in which the orifices were wide and flush with the surface of the lip; while in the third the two recesses were confluent—thus forming a transverse depression on the surface of the lower lip. The condition has been described by Mr. Bland-Sutton, Mr. Arbuthnot Lane, Mr. Clutton, and Dr. Ballantyne. There is no example of this malformation in London museums. An appeal to comparative anatomy does not afford a satisfactory explanation. Seeing that the malformation is so closely associated with bilateral harelip and cleft palate, a condition which occurs normally in certain fishes, it is clearly in this vertebrate class that an explanation of the condition is to be sought. On each side of the middle line of the lower lip of sharks, and exactly in the position where these recesses are found, open a group of mucous canals which are connected with nerve endings found in fishes. It is possible that these labial recesses have some relationship with these two mucous labial organs found in selachians, but the matter requires further investigation.

TABLE II.

	A.	B.	C.	Total.
Recesses and papillæ on the lower lip ...	—	—	—	—
Median clefts on the lower lip and mandible	—	1	3	4
Naso-maxillary cleft	—	4	—	4
Lateral nasal clefts...	3	1	—	4
Mesial nasal clefts	—	—	5	5
Lateral nasal proboscis	—	—	—	—
Recess on nasal septum	—	—	—	—
Congenital perforation of nasal septum ...	1	—	—	1
Occlusion of anterior nares	2	—	—	2
Occlusion of posterior nares	—	—	—	—

[1] For explanation see Table III.

Median Cleft of the Lower Lip and Mandible.

Among the 250 specimens of malformation examined, only 4 showed this condition—a full-time child in the museum of St. George's Hospital and three specimens in the museum of this college, one from an ass, another from a cockatoo, and a third from a sparrow. Seeing that the lower lip and mandible arise by the fusion of right and

left halves, their immunity from median fissure, as compared with the upper lip and palate, is surprising. In four other specimens there was an apparent cleft of the lower jaw, but when the condition was more minutely examined it was seen that the lesion was really the result of a bifurcation or doubling of the buccal cavity, an attempt at the formation of twins.

Naso-maxillary Clefts.

In four fetuses, all of them nearly at full time, the maxillary process is widely separated from the lateral nasal process, so that the nasal duct is represented by a wide groove, lined by mucous membrane, and shelving from the inner angle of the eye into the nasal cavity (Fig. 9). These specimens are in the museums attached to the medical schools of St. Bartholomew's, St. Thomas's, and the "London" Hospitals. In two the cleft is on the right side and in two on the left. The nasal duct and lacrymal canaliculi are formed at the same period of development as the primitive palate—namely, during the sixth and seventh weeks, when the maxillary and lateral nasal processes fuse across the intervening groove and enclose a rod of solid epithelium between them. The rod becomes canaliculized early, but, according to Stangulean,[3] its nasal end does not open until the end of the eighth month. In all four specimens there was double harelip and cleft palate. In the specimen figured the cleft had evidently been continued into the temporal region on the right side, a small half-submerged polypus marking its termination on the right temple. The nasal duct appeared during the evolution of the amphibia, but in no living animal is any stage known between the complete formation of the duct as seen in amphibia, and the open skin area between the nose and eye as seen in sharks. There are no specimens in the metropolitan museums which illustrate the occurrence of dermoid cysts along the naso-maxillary fissure. Ballantyne met only three specimens of fissure in the cheek in 325 cases of congenital malformation.

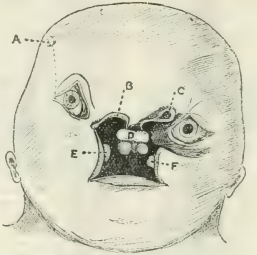


Fig. 9.—Full-time child, showing tripartite palate and naso-maxillary cleft. A, Polypus in temporal region, probably connected with a naso-maxillary cleft; B, C, right and left lateral nasal processes; D, mesial nasal process; E, F, right and left alveolar maxillary processes.

Lateral Nasal Clefts.

Through the courtesy of Mr. Raymond Johnson I was lately afforded an opportunity of examining a child which showed a very uncommon and very interesting malformation of the nose (Fig. 10). There was a complete cleft of the palate, the cleft ending anteriorly in the left nostril. The wing of the left nostril (lateral nasal process) is pulled outwards and is widely separated from the septal part of the nose (the mesial nasal process). The cleft thus lies between the mesial and lateral nasal processes on the left side. On the forehead there is an interfrontal depression covered by hair which descends towards the nasal cleft. There is no specimen exactly like this in the metropolitan museums, but there are four—three of them in the museum of this college—which help us to understand the condition. It is one due not to an arrest of the normal progress of development, but to certain bands, probably amniotic in origin, which are apt to occur in certain pathological conditions of development between the anterior nares or lips and the scalp. Professor von Winkel,[4] who regards most facial malformations as a result of amniotic adhesions, has figured a case in which such a band passed from each nostril over the forehead to end in spongy tissue on the scalp. In two specimens in the college collection the scalp and calvarium are represented by a spongy vascular mass of tissue; a deep furrow passes from this mass along the nose to a premaxillary cleft on the left side of the palate (see Fig. 11). The left ala of the nose bounds one side of the fissure in which the left nasal cavity is exposed. The right anterior naris is perfectly formed, for the furrow, as in Mr. Raymond Johnson's case, lies between the mesial and lateral nasal processes of the left side. In another specimen in the college collection epidermal filaments—adhesive cords, such as are regarded as amniotic bands—project from and close the nostrils, but the face is otherwise well formed. In a specimen of anencephalic fetus in the museum of University College Hospital Medical School the nostrils are small and closed; from the root of the nose bands of tissue, apparently amniotic in origin, are attached. Taking all these cases together, one may reasonably infer that in Mr. Raymond Johnson's case (Fig. 10) an abnormal band of epidermal or amniotic tissue had been formed at an early stage of development between the coverings of the cerebrum and buccal cavity, the depression in the forehead indicating the position of the band. Why bands should be formed so exactly in the same position in case after case requires further elucidation. We shall see presently that fissures of a similar nature occur between the mouth and the ear.

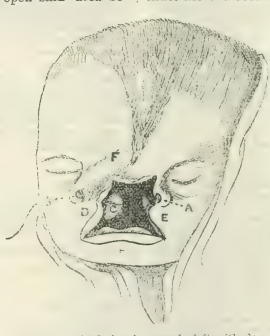


Fig. 10.—Child showing nasal cleft with depression on forehead (Mr. Raymond Johnson's case). A, Ala of left nostril; B, ala of right; C, sacs of incisor teeth; D, mesial, nasal, and right maxillary elements; E, left maxillary element; F, depression on forehead marked by prolongation of scalp.

Mesial Nasal Fissures.

There is not a single museum specimen in London to illustrate the occurrence of a fissure in the mid line of the nose in the human subject, nor is there a specimen of the dermoids or of the fistulae which occasionally occur in the line of this fissure. Dr. Alex. MacLennan[5] has recently reported a case in which a tumour, dermoid in nature, occupied an area corresponding to the flat, wide inter-olfactory field of the human embryo and of the shark, and had prevented the proper apposition and fusion of the symmetrical right and left halves of the nose. An incomplete fusion in the mid line of the two halves of the external nose is comparatively common amongst animals; five specimens in the college museum illustrate the condition — three from the pig, one from the cat, and one from the dog. Mr. Bland-Sutton has drawn attention to a breed of Parisian pug dogs in which a mesial nasal fissure forms a constant feature.

Lateral Nasal Proboscis.

In certain rare cases one half of the nose is arrested at an early stage of development and assumes the form of a small proboscis, such as is shown in Fig. 12. Some eight years ago Mr. Frederic Eve gave me the opportunity of examining a boy at the London Hospital in which this abnormality was present, the proboscis being situated over the inner canthus of the right eye in place of over the left canthus, as in Fig. 10. In many specimens of cyclops the nose is represented by such a proboscis (see Fig. 15); a lateral nasal proboscis represents a half—right or left as the case may be—of the proboscis seen in a cyclops. Mr. Eve removed

the proboscis, and it was found to consist of a central pocket of mucous membrane, encapsuled in a thin plate of cartilage and covered by skin. Mucous fluid escaped from it, as in Kirchmayer's case, when the boy cried. The epithelial lining of the mucous pocket is stratified squamous at the trumpet-shaped entrance, and columnar in the rest of its extent. The primary lesion in these cases appears to be a unilateral absence or failure of the epithelial and nervous substratum of the organ of smell; the stimulus which gives rise to the full formation of the nasal cavity is apparently derived from the normally developed olfactory epithelium and olfactory bulb. The same thing is seen in connexion with the ear; when the eighth nerve is absent the external ear is malformed or absent. The case recorded by Kirchmayer[4] differs from all others: he regards the fold crossing the cleft in the lip (see Fig. 12) as the ala nasi of the left side, and the proboscis as a supernumerary structure, which therefore does not represent the left half of the nose. In all other cases the proboscis was the sole representative of the corresponding half of the nose, and it is possible that this is also the condition in Kirchmayer's case. The isolated development of half of the nose as a proboscis does not give rise to a gap or fissure on the face; the maxillary process fuses with the nasal processes of the opposite side (see Fig. 12), thus covering the area normally occupied by the missing half of the nose.

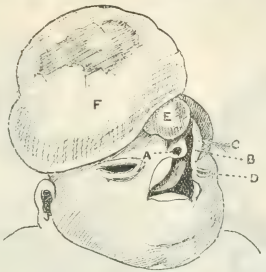


Fig. 11.—Full time child showing a cleft in nose, probably caused by an amniotic band. A, Right nostril; B, ala of left nose, bounding left side of a fissure which leads up to the masses of tissue E, F; C, the arrow points to the left nostril; D, left eye. A condition of exomphalos was also present.

Malformations of the Nasal Cavity.

In Fig. 13 is shown the preparation (No. E 169 in the college collection) of a nose of a newly-born child prepared by Mr. Shattock to show the normal development of the little mucus pocket which represents Jacobson's organ at birth. The pocket contains a small isolated area of the olfactory epithelium vestigial in man, placed on the septum near the anterior nares and the naso-palatine canals. Indeed, in many mammals the orifice of the pocket appears on the palate by the side of the incisive papilla, and is probably stimulated by the odour arising from food as it enters the mouth. Occasionally the septal pocket or recess assumes a considerable size. Mr. Hunter

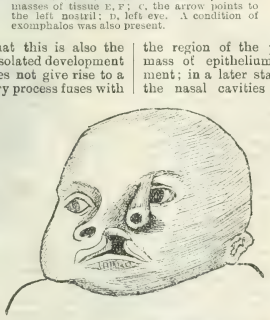


Fig. 12.—Lateral nasal proboscis (after Kirchmayer).

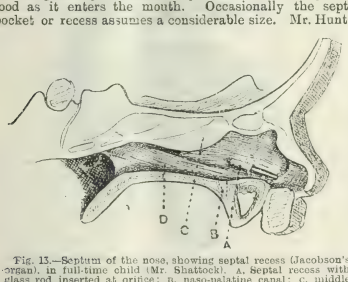


Fig. 13.—Septum of the nose, showing septal recess (Jacobson's organ), in full-time child (Mr. Shattock). A, Septal recess with glass rod inserted at orifice; B, naso-palatine canal; C, middle turbinate process; D, vomer.

Tod showed me such a case in his out-patients at the London Hospital. Mangakis has figured a case in which a pocket passed along the posterior three-fourths of the nasal septum on the left side, its orifice communicating by a perforation in the septum with the orifice of the corresponding pocket situated on the right side of the septum. Ballantyne gives reference to several cases. I need only mention certain other malformations of the nasal cavity. A specimen in the Hunterian Collection of the college shows a perforation of the anterior part of the septum, in the area where Jacobson's recesses open. Gaup has shown that in the Australian porcupine (echidna) there is an absence of cartilage in the corresponding part of the nasal septum, and in the Australian duckbill the septum is perforated. Absence of and deformities of the nasal septum were mentioned already in describing cleft palate. I regret that there is not a single specimen in the metropolitan museums illustrating occlusion of the posterior nares, a condition which has been frequently described in late years. In a recent paper, Dr. W. G. Porter,[5] in describing a case, mentions that over 100 examples have been recorded. We shall see that in the condition of cyclops and often in agnathous fetuses there is occlusion of the posterior nares. The explanation offered by Hochstetter is that the nasal cavity in the region of the posterior nares is filled with a solid mass of epithelium in its earlier stages of development; in a later stage, the epithelium breaks down and then communicate with the naso-pharynx. In some cases the occluding tissue contains bone. The conditions require further examination. Occlusion may occur at the anterior nares. There are two cases in the college collection. The anterior nares are represented by pits, which, as regards depth, correspond to the wings of the nose. Retzius observed that an occlusion of the anterior nares by an epithelial plug occurred during the 3rd, 4th, and 5th months of fetal development. Occlusion of the anterior nares is evidently due to an organization of this plug.

Cyclopia.

Although this condition is altogether beyond surgical aid, it is well worthy of study were it only to illustrate the extraordinary manner in

Table III.—*List of Specimens showing the Conditions of Cyclopia and Agnathia.*

	A.	B.	C.	Total.
Cyclopia with the nasal processes fused to form a proboscis	6	5	17	28
Cyclopia without a proboscis	—	4	6	10
Cyclopia combined with agnathia	6	—	12	18
Agnathia (ears lateral)	1	1	4	6
Agnathia (ears ventral)	1	3	13	17
Aprosopus (absence of the preauricular part of the face and head)	2	1	8	11
	16	14	60	90
Epignathus	2	5	4	11
Buccal fissures	2	2	2	6
	4	7	6	17

A. Human specimens in the Museum of the Royal College of Surgeons of England.

B. Human specimens in the museums of the metropolitan medical schools.

C. Specimens of vertebrate animals others than man chiefly in the Museum of the Royal College of Surgeons.

which the embryological elements of the face can adapt themselves to an altogether new combination, and produce a structure which is at once malformed and yet finished. Table III shows the great wealth of material which has been collected to illustrate the condition: the table also shows the groups into which I have arrranged the material at my disposal, but it would

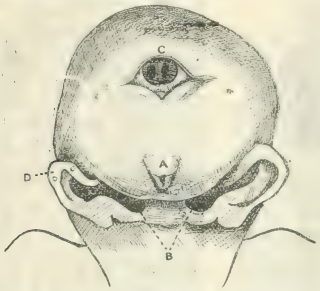


Fig. 14.—Head of fetus, showing cyclopia combined with agnathia. A, Proboscis-like mouth; B, external auditory meatus; C, combined eyeballs; D, right ear, showing two fistulæ.

require a series of demonstrations to deal with the various conditions fully. Figs. 14. 15, 16, and 17 will serve to give a general idea of the lesions represented in the various groups of cases included in Table III. Fig. 14 represents a specimen in which the nasal cavities and all the parts pertaining to the nasal cavities are absent, so that the orbits and eyelids and eyeballs fuse in the middle line of the face. There is no apparent trace of the nasal processes in the specimen figured. On the other hand, the maxillary processes are fully formed and meet together. There is also present the condition known as agnathia; the mandible is represented by a mere vestige. The mouth is a minute orifice on a conical process formed out of the lips. The external auditory meatus of the one side almost meets that of the other. In the specimen (No. 263A, Royal College of Surgeons Museum) portrayed, of a child in the seventh month of development, the mandible and nasal processes, which form so large a part of the human face, have been blasted at an extremely early stage of development, and yet the maxillary processes have escaped and attempted to cover up the deficiency. In Fig. 15 is shown a section of the head of a cyclops child (No. 223, R. C. S. Museum) in which the mandible is fully developed, and the nasal processes are represented by a proboscis projecting over the median eye. The *bases cranii* in front of the pituitary body is absent, only that part of the skull base is present which is

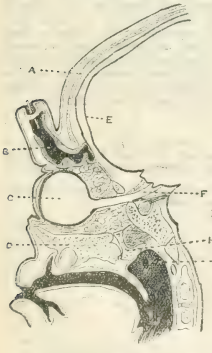


Fig. 15.—Mesial section of head of cyclops. A, Frontal bone in forehead; B, proboscis with capsule of cartilage forming inner wall of cavity; C, fused eyeballs; D, superior maxilla; E, fused anterior ends of cerebral vesicles; F, fused optic nerves; G, Eustachian tube opening in naso-pharynx; H, palate bone.

developed in connexion with the primitive body axis, the notochord. The optic foramina and sphenoidal fissures form one opening. The optic nerves are fused, and in

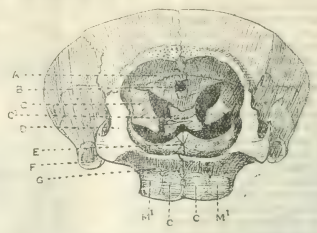


Fig. 16.—Facial part of the skull in a cyclops. A, Orbital plate of frontal; B, foramen for combined optic nerves between small wings of sphenoid; C, great wings of sphenoid: C', basi-sphenoid; D, malar; E, orbital process of palate bone; F, annulus tympanicus; G, superior maxilla.

such cases Mr. Stephen Mayou[2] found no nerve fibres developed within them. The olfactory lobes and nerves are absent, and the proboscis is made up of the cartilagi-

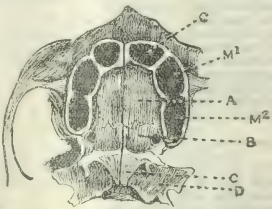


Fig. 17.—Palate in a case of cyclops. C, Socket for canine tooth; M^1, M^2, for first and second milk-molars; A, palatal plate of maxilla; B, horizontal plate of palate; C, vertical plate of palate; D, external pterygoid plate.

nous olfactory sense capsules, which enclose a pocket of mucous membrane representing the fused olfactory pits. We are dealing here with an atrophy of all those

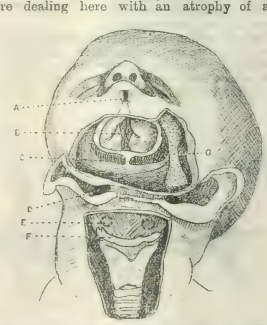


Fig. 18.—Head of full-time child, showing the condition of agnathia. A, Lips and mouth; B, buccal cavity (stomodæum) exposed from below; C, fibro-muscular mass representing muscles of the lower jaw; D, external auditory meatus; E, mylo-hyoids, with tonsils and tongue lying deep to them; F, hyoid; G, bar of bone representing zygomatic process.

parts pertaining to the prechordal part of the skull, a part which we have reason to believe is of less antiquity than the chordal part. Fig. 16 shows the

formation of the single orbit. All the membrane-formed bones, developed in connexion with the cranial cavity and with the maxillary processes, are present, but the bones formed in connexion with the nasal processes are absent. The orbital plates of the superior maxillae and palate bones meet to form a complete and finished floor for the orbit. Although the premaxillary element is absent, the palate is neatly formed, and carries no incisor teeth, only the canine and milk molars (see Fig. 17). The position of the posterior nares is occupied by the vertical plates of the palate bone, which meet in the middle line, there being of course no vomer and no septum. As may be seen from Fig. 15, the naso-pharynx is formed and receives the Eustachian tubes.

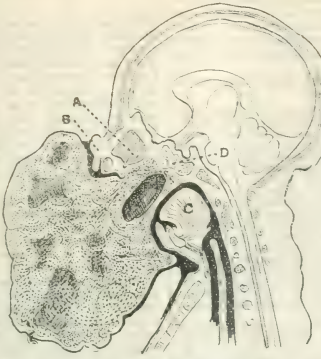


Fig. 19.—Dr. Alex. Low's case of epignathus. A, Nasal septum; B, nose, upper lip, and palate; C, tongue and lower lip; D, the basi-sphenoid.

AGNATHIA.

The condition of parts in agnathia are shown in Fig. 18. There is, in this case, a total separation of two embryological parts—the stomodaeum or primitive mouth and the pharynx (developed from the foregut), which normally become continuous before the end of the third week of development. In the figure the cavity of the stomodaeum is exposed from below, and shows the palate in a complete form on the roof of that cavity. There is no trace of the lower jaw, but a mass of fibro-muscular tissue represents its musculature. The tubules of the ears and the tympanic rings are fused on the basal surface of the skull; the malar bones and zygomatic processes occupy a position in the ventral aspect of the skull. The auditory passages open into the pharynx, which contains the tongue. The tonsils lie just above the hyoid bone (see Fig. 18), and over the mylo-hyoid and hyo-glossus muscles.

In the conditions just described the nasal or the mandibular elements of the face may be absent, or both may be wanting, but in the last group given in Table III—the condition known as "aprosopus"—the maxillary as well as the two other elements are absent, and the animal appears to terminate in a pharynx and ears.

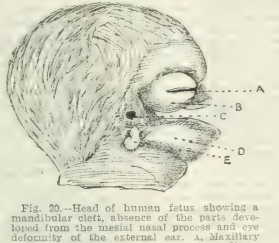


Fig. 20.—Head of human fetus showing a mandibular cleft, absence of the parts developed from the mesial nasal process and eye deformity of the external ear. A, Maxillary process; B, eyeball; C, external auditory meatus; D, mandible; E, auriculare appendix.

EPIGNATHUS.

The illustration I give to represent this condition is taken from the paper on epignathus by Dr. Alex. Low,[10] in which the fullest and most accurate account of this condition is given. The specimen in the college collection, the two at St. Bartholomew's Hospital, and another at St. George's Hospital, are replicas of the specimen described by Dr. Low. Two others, one in St. Mary's Hospital and another at Guy's Hospital, differ in that the tumour, instead of projecting through the widely opened mouth, protrudes on a distorted face. The epignath may form quite a small tumour, such as represented by the specimen recently presented to the college collection (No. 5413) by Mr. Bland-Sutton. The condition is also represented in the college collection by two examples from the pig and two from kittens. The epignathous tumour mass represents a twin embryo, which, owing to the position and condition of the development, has to derive its blood supply from the head of the host fetus. The stalk of the tumour is attached to the base of the skull of the host fetus in the region of the basi-sphenoid—the region where the notochord, or primitive axis, ends (Fig. 19). When the face is developed the attachment of the epignathal twin becomes included in the septum of the nose and palate. The size and differentiation of such tumour masses vary widely. Fuller information regarding the nature of epignathous tumour will be found in Principal Windle's paper.[11]

BUCCAL FISSURES AND ALLIED CONDITIONS.

Occasionally clefts or open fissures are found on the cheeks of newly-born children passing from the angle of the mouth outwards towards the ear, which they may reach, as in a case recently published by Dr. Edgington, or they may stop short at the anterior border of the masseter muscle. Occasionally, as in cases noted by Ballantyne, these fissures run from some point on the upper lip and end in the lower lid of the eye. The fissures running outwards from the angle of the mouth, of which I have seen only two in London, one of which is now in the college collection, are usually supposed to represent an imperfect fusion of the mandibular and maxillary elements of the face. I am disposed to think—and the evidence on which I base my inference will be given more fully when I come to deal with supernumerary auricles—that these clefts represent not an arrest of fusion of normal elements, but fissures caused by bands which are supposed to be amniotic in origin and are apt to be formed, during morbid conditions of development, between exposed mucous surfaces such as the lips and ear, lips and eye, nares and exposed meninges. A true condition of macrostomia—of persistence of the fissure between the mandibular and maxillary processes in the human subject—is shown in Fig. 20. The external auditory meatus is present, but the external ear is represented merely by a cutaneous tag below that orifice. The orifice of the mouth extends almost to the meatus. The maxillary processes, owing to an arrest in their growth, have met internal to the orbits, thus leaving the eyeballs on the upper border of the buccal cleft. I have seen this condition in four specimens, two of them being human fetuses, and the other two malformed lambs.

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THE Third International Congress of School Hygiene will be held in Paris in Easter week (March 29th to April 2nd), 1910. Committees have been formed in all civilized countries, and these countries will be represented by delegates. All communications relative to the congress should be addressed to the General Secretary, Dr. Dufestel, 10, Boulevard Magenta, Paris.

A NOTE ON PROGNOSIS IN TETANUS.

By JOHN PATON, M.D.,
DISPENSARY SURGEON, AND SURGEON TO SEPTIC WARDS, VICTORIA INFIRMARY.

THE undernoted cases admitted to the septic wards present some points of interest. Both were under treatment or observation when symptoms of tetanus appeared. Anti-tetanus serum was used freely in each, and yet the course of the disease and the results of the treatment were quite different.

The following histories are founded on the notes made by Drs. Muir and Sinclair respectively:

CASE I.—J. K., aged 52, miner, was admitted on January 6th, 1909, with a large fungating mass on the outer aspect of the left thigh of two years' duration. He complained more, however, of pain in the stomach of a fortnight's duration. A large tender swelling was found in the hypogastric and left iliac regions. The patient looked ill and perspired freely. An enema was given with little result; the bowels had not moved for four days. Pulse 111, temperature 100.6. The patient gives a history of having been in the Royal Infirmary two months earlier, when he was advised to have the leg amputated. I found marked tenderness and rigidity of the abdomen, and rigidity also of the muscles of the lower jaw and of the extremities. He was given a dose of croton oil and an injection of antitetanus serum. Films were prepared from the surface of the epitheliomatous mass, which showed the tetanus bacillus in large numbers. Under treatment by antitetanus serum and the daily application of hydrogen peroxide the rigidity gradually passed away, and by February 9th we were able to disarticulate the leg at the hip. The patient is now well.

CASE II.—J. K., aged 38, calendar finisher, was admitted on April 18th, 1909, from the dispensary, complaining of stiffness of the jaw and back of the neck of one day's duration. On Saturday, April 10th, he fell on the point of his thumb, which he dislocated at the interphalangeal joint; the skin was broken, and the head of the second phalanx protruded through the aperture. Evidently the parts had been for about an hour in this state before he came to hospital. At the dispensary the finger was steeped for half an hour in 1 in 40 carbolic solution. The dislocation was then reduced and a wet dressing applied. The finger had been dressed daily since. Suppuration started in the finger, which became red, swollen, tense, and painful. On April 17th the opening at the joint was enlarged downwards to allow the pus to escape. On admission the patient was complaining of pain in the upper left part of the abdomen and there was marked rigidity of the abdominal wall. The legs and arms were not rigid. The bowels had not moved for three days. Pulse 120, temperature 99°. Nasal feeding was tried, but was unsuccessful. An enema was also given without result; 30 grains of chloral were administered per rectum, with a nutrient enema of peptonized milk. On April 19th, in the morning, he had a spasm. Chloroform was given, and during the administration pulse and respiration ceased, but were ultimately re-established. Nutrient suppositories were given every two hours. At 9.15 a.m. next day he had another spasm. He became cyanosed, and respiration was difficult. The pulse became weak and could hardly be felt. There was not marked opisthotonos. Shortly after this the pulse could not be felt and the respirations stopped. The patient died at 9.30.

On comparing these cases it seems evident that the difference in the result was due to the difference in the site of the infection and the resulting difference in the facility for multiplication afforded to the bacillus. In CASE II *on post-mortem* examination pus was found in the tendon sheath, extending to the elbow, a condition which could not be diagnosed clinically, and was not even anticipated by the pathologist, but found when looked for. In pus taken near the elbow the tetanus bacillus was discovered.

The conclusion to be drawn from these cases is that the synovial fluid of the tendon sheath is an excellent medium for the growth of the tetanus bacillus, and that steeping in 1 in 40 carbolic will not prevent the occurrence of tetanus if the tendon sheaths are exposed. When tetanus has occurred, also, the sheath of the tendon should be freely opened up, even although there is no apparent necessity to do this. From CASE I also it is evident that hydrogen peroxide is capable of destroying the tetanus bacillus when it can be reached. Whether the antitetanus serum was of any value or not it is impossible to say.

I am indebted to Dr. Robert Taylor for permission to publish CASE II, the patient being under his care.

The late Miss Annie Marples, of Broomfield, Sheffield, has bequeathed £2,000 each to the Sheffield Royal Hospital, the Sheffield Royal Infirmary, and the Hospital for Women at Sheffield.

THE STERILIZATION OF THE SKIN OF OPERATION AREAS.

By J. LIONEL STRETTON, L.R.C.P., M.R.C.S.,
SENIOR SURGEON, KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

MOST surgeons will admit that occasional cases of suppuration occur in their practice for which they are unable to account. The most frequent are small stitch abscesses. They are generally attributed to the suture material, but I venture to think that such blame is often misplaced. Of all our preparations the one least under control is the sterilization of the skin. It is impossible to perform or even to supervise the process, and we are therefore dependent upon the assistant or nurse who undertakes the duty. The results we obtain prove that it is efficiently carried out in the majority of cases, but it is improbable that amongst a large number occasional defects will not occur.

The ideal method is one which can be inspected by the operator or one which will leave visible proof that it has been thoroughly carried out. If a substance could be discovered which would render the skin sterile when painted over it and leave a visible stain there would be little chance of error.

Thinking of this I was much interested in an article describing the method of skin sterilization with iodine, as used by Dr. A. Grossich, of Fiume, in the EPITOME of the JOURNAL for November 21st, 1908. It was again brought before your readers by Major Porter on February 6th, 1909, and in the following week Mr. Goodwin informed us that it is used in the clinic of Professor von Eiselsberg in the Allgemeine Krankenhaus at Vienna. The method appeared to me exactly what I desired. I was, however, very sceptical as to its efficiency, and I could not bring myself to paint such a strong solution of iodine as recommended (10 per cent.) on the skin, especially as it was directed to repeat it twice. I have seen acute dermatitis follow a single painting—a condition I should not like to produce about an operation wound. It struck me that perhaps a weaker solution might be sufficient, and I accordingly decided to try the tincture of iodine *B.P.*, which is about a quarter of the strength.

I commenced with minor cases, but I was soon so well satisfied that I extended it to others. During two months I have used it in upwards of 50 cases, the particulars of which are given in the table on page 369.

Where a "perfect" result is recorded, there was primary union without any suppuration, stitch abscess, or inflammation. In two cases there was some separation owing to deficient skin, which caused a granulating wound, but otherwise they healed immediately. Three of the goitre cases were discharged from hospital in a week.

The cases described as satisfactory were septic at the time of operation. The two cases of appendicitis were suppurative ones, requiring drainage. The colostomy wound was, of course, immediately subject to faecal contamination, and the same applies to the three colotomies, as they had to be opened immediately. All of them healed with a minimum of inflammatory trouble.

The ages of the patients varied from 2 months to 84 years. In none of them did the iodine application cause the slightest discomfort. The cases are fairly representative, and include some of the most anxious—knee-joint, fracture, hernia, etc.

If we disregard the 6 septic cases, there remain 51 consecutive successes and no failure.

The method I adopt is to paint a wide area of the surface to be operated upon with the iodine solution previous to the administration of the anaesthetic. It is painted on very freely, especially over hairy parts, and allowed to soak in. It is again painted immediately preceding the operation. After the stitches are inserted they are painted over for a margin of an inch all round.

The first and only dressing is usually made on the eighth day; the stitches are then removed, and the line of incision with a margin of 1 in. is painted with the iodine solution. If for any reason the wound requires to be inspected at an earlier date, it is painted as above described.

No previous preparation of any kind is undertaken—no bath, no scrubbing, and no shaving. The latter is an

Operations Performed with Iodine Skin Preparation.

Operation.	No.	Result.
Amputation, thigh	1	Perfect.
Amputation, breast...	2	,,
Appendicitis	2	Satisfactory.
Appendicostomy	1	Perfect.
Colostomy	1	Satisfactory.
Colotomy	3	,,
Epithelioma of lip	1	Perfect.
Fracture, malunited	1	,,
Glands in neck	2	,,
Goitre	5	,,
Hernia, strangulated	1	,,
Hernia, radical cure	6	,,
Hydrocele, radical cure	2	,,
Incisions in fingers	2	,,
Injections of antitoxin	4	,,
Knee joint exploration	1	,,
Laparotomy exploration	1	,,
Laparotomy, mesenteric glands	1	,,
Laparotomy, ruptured tubal gestation	1	,,
Osteotomy, femur	1	,,
Paracentesis thoracis	1	,,
Plastic operations	2	,,
Trephining	2	,,
Tumours, subcutaneous	7	,,
Varicose veins	6	,,
	Total ... 57	

important point, because it saves the patient a good deal of after-discomfort. This is at variance with the method previously referred to, and combined with the weaker solution of iodine constitutes the difference.

The solution I use is made of 1 part of liq. iodi fort. *B.P.* and 3 parts of spirit. The spirit is made by mixing equal parts of spt. vini meth. and distilled water. It is practically the same strength as the tincture of the *B.P.*, but is cheaper, owing to the use of methylated spirit. This is a consideration not to be neglected in a hospital where large quantities are used.

I have no means of verifying my results by bacteriological investigations, but practically they are so uniformly satisfactory that I feel justified in bringing them forward. My reasons for advocating the use of iodine solution are:

1. That it is an efficient method of skin sterilization.
2. The surgeon can be absolutely certain that it has been applied.
3. It is quickly and easily applied.
4. It saves the patient the suffering of a preparation which is at present very lengthy and very disagreeable.
5. It obviates the necessity of shaving, which is unpleasant at the time and causes considerable irritation afterwards.
6. It saves an enormous amount of labour upon the part of assistants and nurses, and consequently a lessened expenditure.
7. It saves the cost of preparatory materials and dressings.
8. It can be used in emergency cases where preparation by the usual method is impossible.

Sir Frederick Treves has intimated that a scheme to bring the British Red Cross Organization into more intimate association with the Territorial Forces will shortly be issued. It is understood that the scheme will be carried out through the county associations and the county committees of the British Red Cross Society.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF NAVY, ARMY, AND AMBULANCE.

Fleet Surgeon John Lloyd Thomas, R.N., President.

PRESIDENT'S INTRODUCTORY REMARKS.

It is my proud privilege to extend, on behalf of the British Medical Association, a very hearty welcome to all who are present to-day at this Sectional meeting, and in particular to say how glad we are to hail, with friendly hand, those delegates who are amongst us from over-sea countries and who in that way join forces with us in what is the chief object of this—like all periodical meetings of the kind—research.

The British Medical Association, I need hardly say, is ever on the alert for and spares not any pains whenever and wherever the opportunity offers of improving the conditions which make for the advancement of medical and surgical science, and we of this Section, as a dutiful child of that Association, have our part to play, and I fervently hope that, during the next three days we shall have so conducted ourselves by inquiry and by free discussion of the excellent papers which are prepared for you on each day that the parent may not be disappointed in its offspring.

These papers show much devotion and keen perception on the part of the authors, and variety characterizes them.

For obvious reasons, individuality will be found in all such contributions, and sometimes the right meaning of the author may be a little clouded, and, of course, the opinions expressed are his own, and must not of necessity be accepted on that account; for these reasons, let us have free and friendly analysis, for wholesome criticism must make for betterment, even where a paper is originally good. The more the caloric the better the steel!

As the majority of those attending this Section are of the army or navy, and have in consequence been at one time or another closely associated with the medical officers of the various nations of the world, I take this opportunity of reminding the Section of the gigantic strides made, in this instance by our American cousins, in the realm of preventive medicine. It is only recent history how that Cuba, once the hotbed of yellow fever, has been lifted out of the Slough of Despond and been placed on a working footing with the other West Indian islands; this by the strenuous and most rigid observation of modern sanitary methods.

Much more recently, indeed at the present moment, the American Government is showing its comprehensive capabilities from the point of view of practical sanitation for stamping out once more that fell disease, yellow fever, on the arid and vast plains of Panama, where, in the days not far distant (when De Lesseps endeavoured to lay a course for its waterway), the white man found his grave, when the death toll generally was more appalling than we can afford to be reminded of with equanimity. Now, thanks to the glorious advancement of medical science, this veritable graveyard is again populated by white men (and women, too), who go about their business and make it possible for the engineers to face the problem of establishing a communication between the Western Ocean and the Far Eastern Seas.

Bacteriological research having taught us in recent years that *Stegomyia* mosquitos are the bearers of yellow fever, the destruction by the prevention of breeding of these pests, in addition to the most careful and studied protection

from their bites, has procured almost complete immunity from this fell disease, so that it is no longer seriously heeded.

Quite soon, then, we shall have an everlasting monument to medical scientific research in the shape of the completed canal, which is to bear its millions on its bosom and in that way joining East with West for the universal benefit of the earth.

The *Stegomyia* species of mosquito has been found in the Philippine Islands, and that brings us face to face with the knowledge that the spread of yellow fever to the East is, in all human probability, only a matter of time. The gigantic problem of how to protect those of the Eastern nations against this disease will therefore, before long, call for the closest attention of such as work in the domain of preventive medicine.

Incidentally, I would further remark that in the Philippines medical research and administration are almost exclusively confined to officers of the army and navy, and it will be seen how the methods of strict discipline, so absolutely essential in such circumstances, are provided for. We in our turn also glory in the various establishments which are devoted to medical research, and notably in the work which is being done by the Liverpool School of Tropical Medicine, which has contributed so freely, at the expense of valuable lives and much labour, towards the relief of the human race. Here it might be noted that the negro race has come in for a large share of the benefits which science has made practicable.

I submit to you that we in the medical services of the army and navy hold a unique position for observation and for research: but I am not without the knowledge that there is one thing that mars the enjoyment of the student of research, and that is due to the fact that whilst the book of research lies largely open before one, yet without years of arduous study it cannot be understood or read, for it is written in an unknown language and in a character not familiar, whilst it presents obstacles which are apparently insuperable.

For these reasons we meet together from time to time, hoping by combination the better to understand the more complex questions of our daily lives.

The papers which will be read for your benefit at this Section deserve lofty pedestals in conspicuous places; and all we to-day ask you is for a fillip which will lead to fruitful discussion, so that we may account this meeting amongst the finger-posts in Research Land.

AN ACCOUNT OF THE OFFICERS' TRAINING CORPS, WITH SPECIAL REFERENCE TO ITS MEDICAL BRANCH.

By Colonel H. E. R. JAMES, F.R.C.S., R.A.M.C.

FOR reasons of expediency and economy it is obviously unnecessary to maintain the medical establishment of the army at war strength during peace time, and upon the outbreak of war on a large scale a call will be made upon the civil medical profession for the completion of the medical establishment of the expeditionary force. About 50 per cent. of its medical complement would consist of medical men not of the regular Army Medical Service, but the existing reserve of medical officers is totally inadequate to produce this personnel.

A "Special Reserve of Officers" is designed to help to meet the case, but in the most favourable circumstances it is unlikely in the immediate future to produce the large body of officers required, as many men are apparently loth to bind themselves to undertake war service in prospective, although they would readily come forward upon the occasion arising.

It is also obvious that a medical man who knows nothing of the military service must be at a great disadvantage under conditions of field service for a considerable time after joining, and probably at a critical period of a campaign, whereas one who has received military medical training would be at once valuable to colleagues and patients. Therefore the giving of the opportunity of the necessary training with a free hand to schools and universities, without binding the recipients to service, is a measure which promises well, even if it should not fill the Special Reserve and the Territorial Force with officers as is hoped. And this is the function of the Officers' Training Corps.

The present strength of the medical branch is approximately 350 cadets and 13 officers, that of the Officers' Training Corps altogether being between 15,000 and 16,000, inclusive of senior and junior divisions. Practically all the former university volunteer corps, as well as the corps of public schools, have transferred to the Officers' Training Corps. It is probable that other universities, besides those which already contribute medical units, will do so when the advantages of the scheme are fully known.

The universities which possess medical units at the present time are Edinburgh, Cambridge, Oxford, and London.

The organization is as yet in its infancy, and until another year has passed it will not be possible to appreciate its value in the matter of supplying the material that is hoped from it; but at least it promises well, and even if it should fall short of finding officers for the Special Reserve and the Territorial Force it must make a considerable body of medical men conversant with army routine and methods, and so fit them to serve with armies in the field in an efficient manner.

The Officers' Training Corps is quite distinct from the Territorial Force, and, although the Officers' Training Corps and the Territorial Force are administered and financed from different sources, it is intended that, as far as possible, they shall co-operate in the most advantageous manner to both.

The general scope of the training is that of the medico-military training given to young officers of the Royal Army Medical Corps at Aldershot, and it will be seen that the possession of certificate "B" exempts its holder from the whole or part of the examination for promotion to the rank of captain in the case of a Territorial officer. Training is carried out under the general direction of the Director of Military Training, by the officers of the several units. In addition to financial help and the supply of arms and equipment, the Government appoints an adjutant, who is an officer of the regular forces, to the head quarters of a contingent to assist in the training and to co-ordinate work; also non-commissioned officers as instructors, in the proportion of approximately one per unit, to assist in the training. Officers of the various arms of the regular forces are temporarily attached to units to help in the preparation of cadets for certificate "B." Courses of lectures are also provided to help in such preparation.

The theoretical work and the ordinary drill parades take place during the winter term, and the field work and camps in the summer. In the case of the medical units, all of whose cadets at the present moment are working for certificates "A" and "B" concurrently, about fifty attendances are required in the first year and thirty-five in the second, in addition to the eight days in camp in each year required to cover the drills and parades necessary for efficiency, and the lectures and demonstrations which they have the opportunity of attending.

The unit which has been chosen as a training unit for the medical branch is a B or C section of a field ambulance,* and the following reasons have weighed in its choice:

1. It is the only unit which possesses its own means of transport when mobilized, and gives a knowledge of that important branch of work.

2. It follows the movements of the body of troops of which it is a part, and is the most actively mobile unit, giving experience in a variety of work and sustaining the interest.

3. Its work differs widely from the routine work of the medical student, and affords the variety and relief which constitute a recreation (a general or stationary field hospital or an evacuation unit's work is comparatively dull).

4. It can keep touch with the other units of the university contingent during training in camp, and so maintain social intercourse.

But although this is the training unit, the training is not confined to the work of it, or any other single unit, but is of wider scope, and covers the duties of medical officers at large.

The annexed programme of work in camp will show the type of field training of the medical units:

* There are three sections in the field ambulance: Section A is the head quarter section, and its equipment in respect of ambulance wagons differs slightly from B and C.

Syllabus of Training in Camp.

For the guidance of officers in preparing syllabuses for camps of instruction in the Regular Royal Army Medical Corps and for annual camps of field medical units in the Territorial Force. This syllabus may be adapted to camps of varying duration by repeating or omitting such stages or items as may be suitable. As a rule not more than two days should be occupied by Preliminary Training, which in suitable cases may be omitted or shortened. If the instruction would thereby be rendered more efficient, the stages may be transposed and the various items interchanged or varied.

Every opportunity should be taken of giving instruction in army organization; interior economy in peace and war; reports, returns, and indents; and in sanitation and prevention of disease.

	Preliminary Training.		Intermediate Training.		
	Stage A.	Stage B.	Stage C.	Stage D.	Stage E.
Morning, 1 hour	Squad and Company drill	Squad and Company drill	Hand seats and improvised carriage of patients	Preparing operating tent and tents for sick. Preparing G.S. wagons and country wagons for carriage of wounded	F. A. formation and movements.
Forenoon, 1 hr.	Stretcher exercises	Equipping, loading, and unloading ambulance wagons	Lecture on Geneva Convention and system of removal of sick and wounded from front to base	Preparing G.S. wagons and country wagons for carriage of wounded and practice in loading and unloading wounded	Collecting wounded (including improvised carriage, formation of dressing station), laying out F.A. encampment and reception of wounded. Preparation of bivouacs and shelters.
Forenoon, 2 hrs.	Checking equipment and examining contents	Packing and loading F.A. equipment	First aid and removal of wounded according to injuries and carriage required	Practical instruction in making field kitchens and latrines and in methods of refuse disposal	
Afternoon ...	N.C.O.'s and men—Tent pitching and instruction in guard and picquet duties Officers—Lecture on field medical organization and the rôles of medical units	N.C.O.'s and men—Tent pitching and preparing tents for patients Officers—Lectures on duties in camp, on line of march, and in the field. Combined training Ch. I, II, and III	N.C.O.'s and men—Demonstration of water purification and explanation of sanitary methods in the field Officers—Map reading and study of ground, selection of sites for encampments, billets, hospitals, etc.	N.C.O.'s and men—Packing and loading F.A. equipment. Forms and returns in the field Officers—Map reading and study of ground, estimation of distance with reference to the ordinary danger zones for rifles and shell fire. Selection of sites for dressing station	Coupling horses, mounting and dismounting wounded men Demonstration in stable management, in horse lines

The Transport Section of the Royal Army Medical Corps Territorial Force will attend such of above as are applicable, and in addition will be instructed in riding, driving, stable management, fitting saddlery and harness, and the care of horses.

Advanced Training.				
Stage F.	Stage G.	Stage H.	Stage I.	Stage J.
Exercise as a unit in the field, as if with troops holding a defensive position Large numbers of wounded to be collected, treated, and classified for disposal Reports and returns to be prepared	Do.; as if with troops during an attack on defended positions	Do.; as if with troops during a battle of encounter	Do.; as if with troops during a retirement	Exercise as a unit in the field with other troops, having regard to the size and nature of the medical unit represented.

The oral examination includes: The general system of organization of the army, the system of command, organization, discipline and administration of a squadron, battery, or company in peace and war; duties in the field as applicable to each arm; marches, outposts, map reading, reconnaissances (including rough field sketches), attack and defence, including engineering details contained in Part I., *Manual of Military Engineering, 1905*, with the exception of Chapters XII, XIV, and XVI; and any duty or work which a captain may fairly be called upon to perform in the field.

The medical certificate "B" requires a knowledge of the following subjects:

Written examination: War establishments and organization of field medical units; military law and King's Regulations as for lieutenant to captain. Oral examination: Work of medical units in the field; sanitation and other duties in barracks, camp, and on the line of march; map reading; general system of organization of the army; the system of command, organization, discipline and administration of a company in peace time, and a field unit in war.

Semaphore signalling may be taken as an optional subject for certificate "A," and the history of the British army (prescribed period) for "B."

The medical cadet has several courses open to him. He may:

1. Take certificate "A" in the junior division in his school corps, and certificate "B" in his university combatant corps, with the addition of medical subjects in both cases (this involves an extra year in the medical unit).

2. Take both certificates in his university combatant corps.

3. Take "A" in his school and "B" in his university medical corps.

4. Take both in his university medical corps.

The optimum training is obtained in case 3, as the cadet is thoroughly grounded in military matters, and can devote the whole of his energies to the medico-military subjects in his university medical unit.

Holders of these certificates have certain advantages, which are as follows:

	Certificate "A" will entitle the Holder—	Certificates "A" and "B" will entitle the Holder—
(i) Should he take a commission in the Special Reserve	(i) To a reduction of the probationary training by 4 months, or 14 days, according as the normal period is 12 months or 3 months	(i) (a) To a reduction of the probationary training by 8 months, or 1 month, according as the normal period is 12 months or 3 months. (b) To a gratuity of £35, payable at the same time as his outfit allowance.
(ii) Should he take a Territorial commission	(ii) To exemption from the whole or part of the examination for promotion to the rank of lieutenant	(ii) To exemption from the whole or part of the examination for promotion to the rank of captain.
(iii) Should he offer himself as a candidate for Woolwich or Sandhurst	(iii) To receive 200 marks in the competitive examination held by the Civil Service Commissioners for entrance to those establishments	
(iv) Should he offer himself as a candidate for a commission in the Royal Army Medical Corps	(iv) To receive 1 per cent. of the maximum number of marks allotted to the compulsory subjects in the entrance examination	(iv) To receive 2 per cent. of the maximum number of marks allotted to the compulsory subjects in the entrance examination.

Uniform, of a pattern chosen by the school or university, is supplied by Government, conditionally upon the recipient becoming an efficient, and arms and equipment

are supplied to the several units. The expenses of cadets in camp, and of their journeys from their head quarters to and from camp, are defrayed by Government at a fixed rate. Members, therefore, do not incur any personal expense by joining.

The training has two phases, and can be condensed into two years. In that case, which is only applicable to the senior division, the two phases are concurrent. Two certificates may be obtained: Certificate "A" at the end of the first phase, and "B" at the end of the second. "A" can be got in the junior or senior division; "B" in the senior division only, and cannot be obtained except by a holder of "A." A minimum of one year's service is required for "A," and of two years for "B," but, as already stated, the two may run concurrently. The cadet must have made himself an "efficient" in these years. To qualify as an efficient in the first year, attendance at thirty parades of not less than forty-five minutes of actual instruction, and at a camp of eight days' duration, and at the inspection is essential; in the second year fifteen drills and a similar camp and inspection are required.

The subjects of examination for certificates "A" and "B" vary according to the branch to which the cadet belongs; but the "A" obtained in the junior division is by examination in infantry subjects, and is accepted in all branches, with the addition of extra subjects for "B" in corps other than infantry. This "all arms" examination for "A" is written, oral and practical, and is in the following subjects: Infantry drill in training; squad and company drill; the tactical handling of a section of at least twenty-five men; care of arms; mechanism of the rifle; elementary musketry exercises.

The medical certificate "A" is obtained by examination in the following subjects, contained in the *Royal Army Medical Corps Training*: Elementary anatomy and physiology; bandaging, as for the instruction of soldiers of the Royal Army Medical Corps; treatment of wounds, etc. Field cooking; the construction of kitchens and latrines; corps exercises; squad and company drill.

The examination is partly written and partly practical and oral.

Certificate "B" in the different branches also varies in its subjects. Here, again, there is an "all arms" certificate, which is devised for infantry, and which is valid for other corps, with the addition of corps special subjects. The written examination for the "all arms" certificate includes field sketching, tactics, military engineering, map reading, scales, use of compass, attack and defence of a house, post, or position; a simple problem in tactics, engineering, and topography, entailing the employment of all arms; military law and King's Regulations as for promotion from lieutenant to captain (books allowed).

The general object of this organization is to provide officers for the regular army, for the Special Reserve of Officers, and for the Territorial Force; and its method of working is to give a standardized measure of military training to boys and young men of the educated classes at schools and universities.

The university contingents form the senior and the school contingents the junior division of the Officers' Training Corps. Training in the junior division is practically confined to that of infantry; in the senior division, cavalry, artillery, engineers, and medical service are also represented, in addition to infantry. For the purpose of training, training units are formed, for example, squadrons of cavalry, batteries of artillery, companies of engineers, and, in the medical branch, sections of a field ambulance. The infantry is formed into companies and battalions.

The contingent produced by a school or university may comprise one or more of such units, each of which, to obtain recognition by the Army Council, must number thirty cadets at least.

The Officers' Training Corps is under the immediate control of the War Office in point of finance, and the school or university producing a contingent makes itself responsible for the training of such contingent, the Director of Military Training at the War Office maintaining control over the training.

In the case of a university a military education committee must be formed, which comprises as members officers of the Officers' Training Corps contingent of the university.

The personnel of the Officers' Training Corps consists of officers of the Territorial Force seconded for duty with the Officers' Training Corps, and cadets who, as indicated above, are students of schools and universities or colleges, and others who are permitted to join contingents under the aegis of these institutions.

The training units of the Officers' Training Corps are not mobilized in time of general mobilization, nor are the cadets under military law nor under any obligation to join the army, Regular or Territorial, by reason of belonging to the Officers' Training Corps.

Cadets serve under a contract drawn up by the several universities and schools to whose contingent they belong. The contract is approved by the War Office, and contains clauses giving an undertaking to obey orders, and specifying the period of engagement to serve and penalties in default. The officers, in the case of schools, are usually masters, and in the case of universities members of the university staff and undergraduates. In schools there are also cadet officers, who are not, as in the case of other officers, of the Territorial Force.

Discipline is practically left in the hands of the school and university authorities, and the only penalty for misconduct is summary dismissal by the officer commanding; in case of failure to complete the proper term of service or to become efficient, or to obtain the necessary certificate, fines are inflicted to meet the loss which would be entailed on the corps fund by such default.

No physical examination is imposed by the regulations upon applicants to join, although it is within the power of the body offering the contingent to require such examination of recruit cadets for its contingent.

The only physical qualification required by the regulations is that the cadet should be physically able to perform his duties to the satisfaction of his commanding officer, by whom also he must be accepted before being allowed to join.

It will appear from this that the scheme is generous in its conception, as it gives training to men who may not be able to qualify physically for the Regular or Territorial services, and does not bind any one undergoing the training to join these services.

ON PHYSICAL TRAINING OF RECRUITS IN THE ARMY.

By Lieutenant-Colonel R. PORTER, M.B., C.M., R.A.M.C.

I ONLY intend to give a very short description of the methods employed in the physical training of recruits, as I think a practical demonstration will give you a more useful knowledge of the training employed than any description. I have a class of recruits here who have recently completed a three months' course of training, and the instructor will give you by means of this class a practical demonstration of how this system of physical drill is conducted.

The exercises are classified by tables, each table comprising a certain number of exercises requiring a certain time to complete, according to the physical development and physical fitness of the recruit. The lessons are progressive, and are arranged according to the capacity of the individuals for whom they are intended, increasing in difficulty from week to week so as to ensure steady and systematic progress throughout the whole course. The exercises are based mainly on what is known as the Swedish system, a system which was introduced into that country many years ago by Ling, and owing to its general adoption amongst the young population in Sweden it is said to have improved the general physique of the nation in a marked degree.

The object of physical training should be to increase intelligence, quickness of movement, power of endurance, and capacity for work; in other words, physical training means the gradual training of the heart and lungs to accommodate themselves to the demands of muscular exertion and the undertaking of fatiguing exercises without undue distress.

The recruit on joining the army at the age of 18 is not physically fit to undertake the duties of a soldier without considerable preparation, and it is by this system of physical training that he is prepared for the strenuous

and active life which is now required of a soldier. In carrying out these exercises his body is gradually and harmoniously developed, faulty postures are corrected, and at the end of his training his standard of physical fitness is enormously increased. All this is done without any undue strain to the body, and in practice it is found that generally recruits after three or four months' training improve in weight, chest capacity, and the harmonious working of heart and lungs is well seen in their power of running one mile without distress, as shown by their respiration and pulse-rate. The methods by which this training is carried out are based, as I have said, on the Swedish system: it has been introduced into our army within the last few years, and differs entirely from any system of physical training previously employed in England.

The methods of training in vogue in the army a few years ago, and indeed in our universities and schools, were very unscientific, and opposed to all physiological laws. The practical application of the old system of physical training tended to produce a state of abnormal muscular development. No attention whatever was paid to the circulatory or respiratory systems; the great object aimed at was to produce abnormally large muscles in legs and arms, and this abnormal muscular development often interfered with the natural movements of the body. I have seen the adductor muscle of the thigh so largely developed under the old system that a march could not be undertaken without constant chafing of the skin on the inner side of the thighs; thus the system defeated the very object which it ought to have kept in view. In addition, the strain caused by lifting heavy dumb-bells and bar-bells often caused serious and grave conditions of the circulatory system.

Under our present system of training this has all been changed, and what is aimed at now is the harmonious development of the whole body without strain to muscular, respiratory, or circulatory systems. The exercises are arranged in the following groups, namely: Group A, leg exercises: B, neck exercises; C, arm exercises; D, span bending; E, heaving exercises; F, balance exercises; G, lateral exercises; H, abdominal exercises; I, dorsal exercises; J, marching and running; K, jumping and vaulting; L, corrective exercises.

In the daily lessons exercises are selected from every group, easy exercises being employed at the commencement of the lesson to prepare the body gradually for stronger work. The stronger exercises are then taken, the more vigorous being taken towards the end, and the lesson is wound up with a few easy exercises, so that the circulation, which has been considerably accelerated by the stronger exercises, is sufficiently restored to its more normal state to enable the pupil to proceed to his other work without any feeling of undue agitation or fatigue.

Great care is taken to avoid hurry in physical training. It is impossible to obtain good results by cramming more work into the same or less time.

Application of the System.

Every exercise is performed from a certain position, termed the "starting position." For the simpler movements the position of "attention" is the starting position, but for complex movements other positions are indicated.

The position of attention occupies a very important place in the system of physical training, as to effect this attitude the spinal muscles must be engaged, and if the heels are kept together the maintenance of the position of attention, or the erect position, is one which requires a certain amount of muscular effort, and somewhat difficult for those whose trunk muscles are not properly developed. To maintain the equilibrium of the body in this position requires a certain amount of conscious effort at first, which after a period of training would be maintained by unconscious effort.

Standing erect, or at the position of attention, involves a large number of muscles, and the muscular effort is increased if the heels are kept together, for the base of support is a narrow one and the balance must be finely adjusted. From this position graded exercises are introduced to disturb the equilibrium of the body which will increase the muscular effort to maintain the erect posture. In this way the trunk muscles are developed, and the defects associated with insufficient development will be corrected and a natural erect carriage will be maintained without any effort.

Arm and leg movements are few and simple, and the same movements are applied to various exercises. Arm movements are classified as follows: "Outward," "upward," and "forward stretching," "raising," "swinging," and "flinging." The leg movements are "feet placing," "heels raising," and "leg raising" "forward" and "outward." Their chief purpose is to disturb equilibrium. At the practical demonstration you will be able to see these movements carried out by the class, but perhaps I can make it clearer by a little demonstration of what I mean.

The pupil is standing in the position of attention, and receives the command "Hips firm." The hands are placed on the hips, thus the weight of the arms is transferred to the pelvis; this increases stability. The command "Heels raise" follows. The movement is executed slowly, and as the body weight is gradually transferred from the feet to the toes the base of support, which was narrow at the commencement of the movement, is now narrower, and therefore equilibrium is made more difficult to maintain. Then the command "Full knees bend." The body placed on the toes is slowly lowered; when in position the pupil may receive the command "Arms outward," or "Upward stretch." The movement of the arms increases the difficulty of maintaining balance, and proportionally produces developmental effect in the muscles engaged in maintaining the erect posture.

The object we aim at in these physical exercises, particularly of the arms and legs, is not exactly the development of the different muscles engaged but their increased efficiency. We do not wish to increase muscular development to an abnormal degree, but what we aim at rather is to increase the efficiency of the muscles and their power of resisting fatigue. Abnormally large muscles in the extremities are a disadvantage, and are only produced by exercising a constant strain on the muscular fibres, which is entirely opposed to the principles for which the system is provided.

Generally speaking, in all recruits the trunk muscles require development to correct faulty postures acquired in civil life. Stability is necessary if work is to be performed efficiently and economically; therefore, the muscles which maintain stability must be systematically developed. Muscular activity is accompanied by an increase in the production of carbonic acid and heat, and the breathing is in consequence increased so that the additional carbonic acid and watery vapour, together with the surplus heat, may be discharged from the lungs. The increased breathing also enables the body to obtain more oxygen, and the heart beat is at the same time quickened, so that the blood is enabled the more rapidly to pass through the lungs, and there give up carbonic acid and take up oxygen. To enable this to be done, the heart must regulate its beats so that the blood may be sent rapidly through the lungs in accordance with the needs of the body. If the lungs and heart do not work properly together during exercise, breathlessness is the result. By progressive exercise, the harmonious working of the heart and lungs during exercise can be improved and the power of endurance developed.

Over-distension of the chest is injurious, as it is liable to diminish the elasticity of the lungs and render them less efficient. But exercise performed with a good carriage of the spinal column and directed towards securing the co-ordinate working of the heart and lungs is in the highest degree beneficial. The judicious and progressive employment of marching, running, jumping, and kindred exercises is the best means of obtaining this co-ordination.

In the course of the physical training, running and jumping exercises are performed, and at first running is always done at a moderate pace and for short distances, such as 60 or 70 yards, then marching in quick time until normal breathing is restored. Distances are gradually increased until a mile or more is covered at a moderate pace, and this can be generally done without undue fatigue or any distress. The running exercises are performed in squads composed of the same stage of training. These running exercises are occasionally changed and the men are made to race with each other at full speed for 75 or 100 yards. This practice is of great value in keeping the

men quick and active, and, moreover, introduces a spirit of emulation and keenness, with advantage to all.

The usual time occupied in training recruits so as to prepare them for the active work of a soldier is six months, namely, three months at the regimental depôt, and three months after joining their respective battalions. During this time they are constantly kept under medical supervision, and if it is seen that at any time the work is too severe or likely to produce strain in any individual, he is put back to a class where the exercises are more simple and the work less severe.

I would invite the special attention of those members present who are connected with schools, or who have had the experience of physical training amongst boys or girls, to the practical demonstration, as I think this form of physical training is eminently suitable as a part of school training. In the compilation of this paper I am indebted to the *Manual of Physical Training* used in the army and some articles recently written in the *R.A.M.C. Journal*, particularly one by Lieutenant-Colonel Bull, R.A.M.C.

DISCUSSION.

On conclusion of the paper a practical demonstration by a party of recruits of the 1st Battalion Royal Sussex Regiment (kindly sent for the purpose by Lieutenant-Colonel Scaife commanding the battalion in Belfast), was given in the grounds adjoining the university building.

Colonel T. H. HENDLEY said that he would like to ask whether the system they had seen so well practised was according to the pure Swedish method, or whether it was mixed with the Danish system or any other, and whether Colonel Porter considered it the best at present in use. Further, whether the increase of chest measurement, if any, was permanent, or whether there was undue strain on the heart and arteries. He thought he had seen cases where injury had been done. Lastly, was the system useful in the case of old men or injurious to them, or valuable in reducing obesity?

Staff-Surgeon E. Cox asked if there were any other system used for developing muscle. The system they had seen differed absolutely from, say, that of Sandow, who insists on some mechanical resistance to the movement. Was the Swedish system found sufficient for all purposes?

The PRESIDENT said that the present system of physical training would appear to be intended for universal development and for the making efficient of all muscles, and not the local and conspicuous development of special muscles, which had been the aim of many systems, chiefly for personal advertisement.

Colonel PORTER, in reply, said the system was founded on the Swedish system introduced by Ling. He might say that if an individual was sound, it was suitable for any age. He had known numbers of officers of 50 and more who had gone through the course with advantage, chest measurement and weight being increased. The system did not aim at great muscular development, but rather at efficiency of muscle and the harmonious co-ordination between heart and lungs. There was no apparatus necessary for carrying out the exercises.

CONTRAST BETWEEN THE TREATMENT OF THE WOUNDED UNDER THE MOGHUL EMPERORS AND KING EDWARD VII, EMPEROR OF INDIA.

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INDIA, for some centuries before the advent of the British was the theatre of so many wars and of so much strife that we may well inquire whether, amidst scenes of such universal violence, anything was done to relieve the wounded in battle, and, if so, how their treatment contrasts with that of the present day. Before the time of the Emperor Akbar (1556 to 1603) we have practically no information, and very little more during the whole of the Moghul period. Mr. Irvine, I.C.S., in his *Account of the Army of the Indian Moghuls* (1903), writes as follows: 'The wounded seem to have been left mostly to their fate; there was no organization for their succour, nor any attempt to heal their wounds; this was left to their relations and friends." He tells us, however, that commanders of from 2,000 to 4,000 horse had to maintain two leeches, surgeons, or jarahs, and for lower ranks one, or at a later time, none, as against from eight to two farriers. Such provision was, of course, wholly insignificant. I think this information can be supplemented, and especially from my own experience of twenty-seven years of the armies of native rulers in Rajputana.

Some writers hold that Indian battles were less sanguinary than those of Europe; others believe that the slaughter will in the future everywhere be much greater than formerly. The truth seems to be that a good deal of Indian warfare was on a small scale, and perhaps occasionally was somewhat unreal, as, for instance, when a noble went into rebellion. In the year 1872 I accompanied a force which the Maharajah of Jodhpur sent out to subdue a son who had risen against him. A large town was invested; regular daily raids were made by those inside the walls, and duly resisted by the besiegers, who in turn made demonstrations against the garrison, but rarely at mealtimes or at night, and after a few days, and accidental losses on both sides, the rebel yielded, and was forgiven. Such was no uncommon incident under native rule; but Indian as well as European histories are full of descriptions of terrible struggles and of fearful losses on an enormous scale. Perhaps of these the most striking and instructive is that of the great battle of Panipat, on January 1st, 1761, when the combined armies of the principal Mahratta leaders met and were overthrown by the famous Rohilla chief, Ahmed Shah Abdali or Durani. This conflict made an enormous impression on the age, not only for its political importance, but because of the awful losses which took place. An appalling account is given in the Asiatic Researches, 1782, by Casi Rajah Pundit, an eye-witness. He says that both sides fought with spears, swords, battle-axes, and even daggers for near an hour, but suddenly the Mahrattas collapsed and fled, "leaving the battlefield covered with heaps of slain. The victors pursued with the utmost fury and gave no quarter." The Shah at an early stage had even driven back with his household troops many of his own men who were endeavouring to retreat, going so far as to kill some. One of the Bengal rulers always employed one very strong man in ten to stir up his comrades in this manner. The Pundit adds that of every description of people, men, women, and children, there were said to be 500,000 souls in the Mahratta camp, of whom the greater part were slain or taken prisoners, and of those who escaped from the field and the pursuit many were destroyed by the peasantry. This latter action was, indeed, characteristic of the Mahratta wars. Nearly 40,000 prisoners were taken alive; 6,000 or 7,000 were protected by Shuja-ud-daula, of Oudh, the ally of the Shah, but the rest were nearly all killed by the cruel Duranis, who said in jest that when they left their own country they had promised their female relations that when they should defeat the unbelievers they would kill a few of them on their account in order that they also might possess merit in the sight of God. Thus, in the Durani camp every tent, except those of the Shah and his principal officers, had piled up before its door heaps of heads. Irvine tells us that even the Moghuls used to erect such ghastly trophies on the wayside. The Duranis wanted to stuff the body of Biswás Rão, a youth of 17, the nominal Mahratta commander-in-chief, in order to carry it to Kabul, but were restrained from so doing by the Nawab of Oudh, who represented that it was always the custom of Hindustan after a victory to give up the bodies of chiefs to receive the proper obsequies. This is some proof that the Hindustanis were more humane than the foreigners, but there is no indication that the lower orders received such consideration. The Nawab did, indeed, send some hundreds of watermen to wash the bodies of the slain and to look for those of the chiefs. The rest, it seems, were neglected. It is noted that the body of one of the great chiefs had no fewer than forty wounds upon it.

The Shah found 32 heaps of slain, most of them killed near each other as they fought. The ditch of the Mahratta camp and the jungles all over the neighbourhood were filled with slain. Even the women and children who had crowded into the town were butchered next day in cold blood by the Afghans. The Musulman army numbered 41,800 horse, 38,000 foot, and four times the number of irregulars; there were 70 or 80 cannon. The Mahrattas

had 55,000 horse, 15,000 foot, and irregulars innumerable; there were 200 cannon, with small arms and rockets in immense numbers. There had been preliminary skirmishes for three months, and on one occasion no fewer than 20,000 camp followers had been put to the sword when foraging, and their dead bodies were piled up into a mountain. Our own camp followers, owing to their recklessness, were massacred in the same way a century ago, and probably would be to this day in certain Eastern countries. The enemy often deterred them, as they thought, by cutting off their ears, noses, and hands, instead of killing them. For neither combatant nor non-combatant was there any hope, unless their comrades were able to drag them from the field into the villages or camps, where, perchance, they might find shelter. A favourite leader might be rescued by his men; but, as all persons of distinction wore jewellery or carried valuables, they were most frequently cut down and plundered by the soldiers or peasantry. As to the rich, there was little chance of their lives being spared for ransom, as in the days of chivalry in Europe. Colonel James Skinner, a famous soldier of fortune, tells us that Madhoji Sindeah was pursued for miles by a fierce Afghan, who cut him down and despoiled him. He was afterwards picked up by a waterman, ignorant of his rank, taken into Bhartpur, and tended until he recovered. Sindeah never forgot his preserver, nor did he forget the Afghan, whose fierce looks and persistent pursuit haunted him to his dying day.

The terrible picture of the battle of Panipat shows, on a large scale, what was always happening in the dark ages of India. The historian, Orme, depicts still greater horrors in the case of sieges. John Shipp gives even more graphic accounts of the terrible scenes on such occasions, as of the sieges of Damun, Hatras, and Bhartpur. On the former occasions even women and children suffered death and mutilation because the besieged would not allow them to leave the fort. The sufferings of our own men in the breaches at Bhartpur were appalling, and would not be believed, but far worse were the tortures inflicted by the Pindaris, or hordes of brigands who ravaged the country.

The Indian people, male and female, could hardly understand the efforts to save life and suffering which were made by European generals and their men. In many cases in the native wars little indeed could have been done because the losses were so great and so sudden. Thus, for example, General Briggs, quoting Skinner, writes that in the battle of Patan in 1798 between Sindeah and the Rajputs, 10,000 Rahtore cavalry rode down the brigade of Duderneque, leaving only 200 men out of 8,000, and even trampled over 1,500 of their own men who had been destroyed by the cannon of their opponents. They went on to attack 40,000 Mahratta cavalry of the second line, beat the whole, and chased them for miles, though at last they were overcome by another brigade. The famous Count de Boigne had even more astounding experiences at the battle of Mairta. It has been said that such acts as these were due to the universal custom of taking large doses of opium, but there is another side to that question. To take opium together is almost sacramental on certain occasions. It binds Rajputs to defend each other to the death. Moreover, as a young chief told me, it has its medical and religious uses, for not only does it tend to ease the pain of wounds and to support during the first shock, but its constipating effect is very beneficial, inasmuch as if a man should be fatally wounded and die while attacked with diarrhœa his soul might escape by an impure channel, whereas it should leave the body by an opening above the neck. This is a well-known objection amongst Hindus to death by hanging. Opium, no doubt, is also used for stimulation. Elephants, for war purposes, are given drugs by the Indians with the same object, and Shipp tell us that the Mahrattas fed their horses on mhowa (*Bassia latifolia*) berries, which enabled them to undergo incredible exertions.

We may now ask what was the character of the wounds which were inflicted in these desperate battles, and what kind of weapons were employed. Besides spears, swords, and daggers of great variety, and in later times firearms of many sorts, bows and arrows, steel quoits, maces armed with spikes, battle-axes and crowbills, swords with teeth for cutting chain armour, weapons shaped like tigers' claws, and every kind of lethal instrument which the mind and devilry of man could conceive were used. I myself have illustrated about 150 weapons of offence in one work alone. Irvine devotes 78 pages of his book to short descriptions of them, and observes that, "It is not to be supposed that the whole were carried by any man at one time; but a great number were so carried, and in a large army all of them were to be found in some way or another." Men often carried two swords, a spear, a matchlock, a pair of pistols, and a dagger or two; nor need any of them be unnecessary, because, as the present Maharajah of Idar explained to me, a warrior might be undermost and perhaps only be able to reach a dagger in his boot with which to disable his foe. In sport, again, many a man, when knocked over by a tiger, has been able to save himself by making a deep cut in his enemy's abdomen with the katár from his waist-belt. This is a flat dagger which is sometimes made to open like a pair of scissors. It is a national weapon of the Hindus. There is a small pillow sword, or zafr-i-takiya, which chiefs sometimes found useful in cases of sudden attack while seated in durbar. The Maharajah of Karauli received me in audience wearing a knife handy in his neck. Sivaji tore open the bowels of Afzul Khan, his enemy, with the wagnak, a weapon shaped like a tiger's claws, which he concealed in his hand. Arrows were barbed and poisoned, and could produce fearful wounds—as, indeed, could most of the weapons that have been named. The ordinary Indian cutting swords are capable, moreover, of inflicting large wounds in the hands of a determined man. I myself saw the bodies of several men and women which were slashed almost to pieces by an infuriated relative.

Such was the nature of the work which had to be treated if the victims of war ever got into the surgeon's hands. We may therefore ask at this point what kind of professional treatment was available. Even at the best it was that of the age, and that was much the same as in Europe before the time of Paré, or even as late as John Hunter. In the East, as in the West, surgery was left to quacks, or barbers, and in India to jarahs, who were combinations of both. They used salves, or plunged stumps into boiling oil, specially after gunshot wounds, which were regarded in India, as in Europe, as being poisoned. These practices and ideas subsisted in the armies of the native princes almost down to my own time. A case of the use of boiling oil had recently occurred when I arrived, in 1871, in the Bhil country, and jarahs were attached to all native regiments of the Jeypore State, who dressed wounds, shaved sepoys if required, or acted as chiropodists. Medical treatment was for Mohammedans in the hands of Hakims, who followed the Yunani or Greek system of Galen and Avicenna; and, for Hindus, of Vaids, who practised the humoral methods of the old Sanskrit writers.

Aid for the wounded, either on the field or afterwards, cannot be in advance of the general knowledge of the subject, though it might be worse. Brigade-Surgeon R. Gray, late of the Indian Medical Service, tells me that he was deputed at the time of the Kabul war of 1873 to examine the surgical equipment of the levies of the Punjab princes. He found a number of jarahs who were furnished with archaic instruments, such as are figured in the book on Aryan Medical Science, by the Thakur Sahib of Gondul, and which might have been used in the days of Xenophon. They had also numerous bags of drugs. Honiberger, who was physician at the court of Ranjit Singh seventy years ago, and, as such also perhaps in charge of his powder factories, states that the jarahs did not know how to bind up an artery, and amputation was a process of which they had not even heard. These illustrations afford some idea of the measure of the skill which was available even quite recently. The Moghuls, perhaps, realized that the surgical knowledge of that time might be improved, as the Emperor Aurangzeb, at the end of the eighteenth century, employed French surgeons and such a physician as the celebrated Bernier, who describes a great battle between Dara and Aurangzeb in which cannon linked together, swivel guns, and arrows in clouds were used. Garrisons were slaughtered in cold blood, and Dara's head was cut off. He has nothing to tell us of surgery, but he thought the medical treatment was effective. The mention of Xenophon by Dr. Gray led me to look up the *Anabasis*, in which I found a statement which seems to

explain the reason of the almost universal Eastern practice of mutilating the dead. He says the Greeks, of their own impulse, mutilated the dead bodies, in order that the sight of them might be as horrible as possible to the enemy. Xenophon appointed eight surgeons, for he had many wounded—and he remarks that surgeons cut and cauterized for the benefit of their patients. He might have been a Moghul or Mahratta general—indeed, he showed more care for his army.

Two things seem to have been in favour of the Indian wounded: they were, for the most part, temperate, and they seem to have been less sensitive to pain than we are in these days. I have noticed the latter to be the case with many of the warlike races in India. Many native writers mention cases of great endurance. I quote one only: At Panipat, ever the site of great battles for empire, Hemu, the opponent of Akbar, had been shot in the eye by an arrow—in his howdah—and though in great agony, he drew the arrow with the eyeball out of its socket and wrapped it in his handkerchief, and continued to fight to encourage his troops.*

The dangers to which the combatants were subject did not cease with those of the battle, nor were the duties of the surgeons confined to treating those who were wounded in fair fight. The victors and the peasants mutilated and plundered the fallen, and the prisoners were tortured or killed outright. Thus, Timur Shah or Tamerlane, in the fourteenth century, also at Panipat, ordered 100,000 of his prisoners to be put to death on the eve of the battle, because they were idolaters and had betrayed some signs of satisfaction at the sight of a skirmish, and he feared they might embarrass him. When Nadir Shah, in 1739, after his success, again at Panipat, took Delhi, he ordered three days' massacre of the population at Delhi, inflicting fearful tortures on men, women, and children alike.

Here, indeed, was work for the surgeons who had to treat those who survived such horrors. Some of the tortures showed considerable anatomical knowledge on the part of those who inflicted them, as in the case of impaling. A Mohammedan friend of mine told me that many of his ancestors had suffered in that way; but when I remarked that mercifully their sufferings were short, he said it was not so unless they were able to pay well. It appeared that the executioners could so apply the *suli*, or impaling pin, as either to kill at once or by graduated torture spread over several days. This explains the horribly fiendish act of Jehangir, who punished his rebel son Kushru by having him led through a double row of his followers who had been impaled, while persons who had been posted at short intervals cried out, "Behold your friends, your servants, do you homage!"

The horrors of a modern battlefield are as nothing compared to the sufferings and iniquities of those awful times, but the comparative humanity of the present day has been only gradually attained. Skinner describes his own terrible experience at the close of the eighteenth century. He was wounded at the battle of Uniara, and believes that only 50 out of 1,100 men escaped untouched. He fell about 3 in the afternoon, and did not regain his senses till sunrise next morning. When he came to himself he found that he had nothing on but his pantaloons. He crawled under a bush to shelter himself from the sun, and was found by two native officers of his battalion, one of whom had had his leg shot off below the knee, and the other had a spear wound through his body. They were dying of thirst, but not a soul was to be seen, and so they remained all day praying for death. So they continued all night. On all sides the wounded were crying for water, and the jackals were tearing the dead—and coming nearer to see if he and his neighbours were ready for them. They kept them off by throwing stones and making noises. The night was cold, adding to the horrors of their situation. Next morning a man and an old woman came out and relieved each of the wounded with a piece of coarse bread and a drink of water, and about 3 in the afternoon men arrived from the Chief of Uniara, who was on the side of the enemy, to bury the dead and take the survivors into camp, where the native doctors dressed Skinner's wounds and gave him a good dose of opium, which procured him a night's rest. He contrasts most favourably this humane treatment with that of the other native chiefs generally. It was altogether unusual, even a hundred years ago. What must have been the horrors of battles in earlier times? The dead were unburied, and so the land and the water were poisoned for years.

An interesting paper on The Ambulance in War: its Rise and Progress amongst Civilized Nations, was read at the Indian Medical Congress, 1894–5, by the late Surgeon-General Albert Gore, of the A.M.S., who showed that it was not until the early nineteenth century that organized methods of relieving the injured in the field, collecting them into hospitals, and nursing them when there, were established. He added that the world owes an incalculable debt for this conception and first organization of prompt aid to the wounded to Baron Percy, a leading surgeon in the armies of Napoleon. He it was who first had special men trained and designed to carry off the wounded instead of leaving them in the fighting line.

Many improvements were introduced by Sir James McGrigor in Lord Wellington's armies in the Peninsular war, especially in rapidly removing the sick and injured to the rear. Similar ideas soon prevailed in our armies in the East, where the necessity of quickly removing the wounded from the field was even more urgent than in Europe, for reasons which have already been indicated. The difficulties were immense, and still exist, as the establishment of men and animals required for this purpose is enormous, and very seriously hampers the conduct of a campaign. A distinguished surgeon once told me that a general, when urged to provide sufficiently for these demands, had said in his presence that if the doctors persisted it might be necessary to abandon the wounded, a decision which no one could tolerate under the conditions of Eastern warfare or climate.

The dooly, or palki borne by men, has always been the usual means in India for carrying off the sick and wounded, but it has been supplemented by camel panniers or khajawas, and vehicles of different kinds. As to the latter, I tried every kind used by men or women which was in the possession of the Maharajah of Jeypore, but few were comfortable. Even the ambulance carts of the Jeypore Transport Corps (perhaps, under Major Dhunpat Rai, C.I.E., the very best of the kind) are not easy to a tired, much less an injured, man when taken across country, though great care was taken to construct them to run in the ordinary cart tracks, a point not always attended to. In Moghul or Mahratta armies no provision of the kind was made. Every one who escaped, if not able to walk or ride off himself, had to be carried on an animal or in a country cart, and the friends alone—and not the State—could be depended upon to provide what was wanted.

The real difference between the old and new conditions in India is, that in the past there was no system; in the present the State has made itself responsible, though it must be assisted by individual effort. It was this which distinguished the armies of the Europeans in India from those of the native powers. The English and the French in the eighteenth century, in introducing disciplined troops instead of levies, first had the power and felt the need of providing for the sick and wounded. The military adventurers, whom the native princes employed to raise such disciplined forces, also generally adopted proper provision for the sick and wounded, and even for the first time introduced the system of pensioning the disabled. George Thomas, De Boigne, and others all followed the new plan, and in doing so gave their men confidence, and firmly attached them to themselves. Since those days there has been steady, though not always regular, progress, and, of course, the experiences of the Japanese and Boer wars have been the most recent and influential factors in development of the latest schemes.

The main principles of the present methods are to follow up the fighting line, so that the wounded may be succoured as soon as possible after they fall; their speedy and, as far as may be, comfortable removal to a place of comparative safety, and then to some place at which they can be properly treated, in view of returning them when fit at the earliest date to the front. When the casualties

* Even women were so courageous, and heedless of the pain of wounds, that we read of such an instance as the following in the *Seir Mutakherin*: "A noble Rajputni married a Mussulman of rank, and when he was called to war, took his dagger. Hearing of his death she cut open her own abdomen with it, removed her child, which she presented to the bystanders, and met her fate."

are few and not widely spread, relief can usually be quickly afforded by trained persons; but if a man falls at a distance from such skilled assistance, and the battle is a great one, it will be impossible to attend to all who fall even for some hours. In such cases, the only hope for the individual is that his comrades, or even he himself, may be able to afford what is so appropriately termed "first aid." Briefly, this is to stop haemorrhage, to apply first dressings to wounds, to put broken limbs into a position of safety, to relieve thirst, and to assuage pain by the use of sedatives, and then to arrange as soon as possible for removal from the danger zone.

My object in the present paper is to urge with special force the regulations which provide that every soldier should be taught so much. His own life and the lives of his comrades may depend upon his possessing such knowledge. If the "first aid" is properly understood and rendered, the experience of modern war, and especially of the Japanese war, shows the chances of recovery are enormously enhanced, and further that satisfactory "first-aid" treatment is usually sufficient to make a soldier safe until he can be transported to and reach base hospitals, even if they are at several days' distance. So important is this training that it should not merely be the standing order that every soldier should be afforded it. There should be no shirking it, and no desire to shirk it, for every man who has not acquired it is a danger to others, and a drag upon and a source of weakness to the army.

I have said nothing about the prevention and treatment of diseases peculiar to war. Nearly all now depends upon the soldier himself. If he is properly taught, and applies his knowledge, most of the disorders which are the scourge of armies—such as dysentery, enteric fever, and even cholera—disappear. The experiences of the Japanese and South African campaigns prove the truth of these statements up to the hilt. The successful preparation for and conduct of wars are now matters of science, and accident more rarely influences them; and those services in which both officers and men most clearly understand this will, other things being equal, inevitably be the victors.

DISCUSSION.

The President said that Colonel Hendley's comprehensive epitome of the methods of warfare as associated with medicine would, of course, be read by members of their profession with profound interest, although it might not lend itself to discussion in the ordinary way at that meeting.

Lieutenant-Colonel Porter said one point mentioned by Colonel Hendley was the teaching of first aid to all soldiers. He did not quite agree with that, as soldiers taught in that way during peace might in time of war fall out to relieve a comrade, and thereby deplete the fighting line. That was a danger which should be kept in view. The R.A.M.C. was now well organized, and he thought in future casualties should be left in the hands of the field ambulances.

Lieutenant-Colonel E. M. Wilson said there might be a tendency to teach the rank and file of the army more than was absolutely necessary in first-aid and ambulance duties. It would be best to limit the training to application of the first field dressing which every soldier carried; that done, the soldier should return to his own duties in the fighting line. Otherwise not only would the strength of the fighting line be diminished, but the result would be that having taught the infantry or cavalry soldier so much the authorities might say there was the less need for the Army Medical Corps itself, which would be a great misfortune. He would rather urge an extension in the teaching of the first principles of sanitation to the rank and file of the army. That was work which might properly be done by each individual recruit, but was now performed by small squads of R.A.M.C. on mobilization. Two, three, or four men of the R.A.M.C. were told off to first aid in the field whose services would be more usefully employed in hospitals and ambulances. He advocated an extension in that direction rather than in educating the fighting soldier in anything beyond the rudiments of first aid and ambulance duties.

Colonel Hendley, in reply, said that he thought Colonel Porter, Colonel Wilson, and he had really only one end in view, that being to afford immediate and purely primary assistance in cases of emergency, such as haemorrhage, in the field. Men should only be taught how to act in such emergencies, and the most important point was therefore to impress upon them that their services were only intended to be strictly applied in cases of great emergency, and in no way to take the place of the medical service.

THE DIAGNOSIS OF SYPHILIS BY SOME LABORATORY METHODS.

By Fleet Surgeon P. W. Bassett-Smith, R.N.

Frequency of the Disease.

The deplorable amount of disease in the navy caused by chancroids and syphilis is only fully appreciated when we come to study the actual figures as given in the statistical returns; that this, too, is only a part of the whole must be remembered, as many of the late conditions which show themselves in affections of the nervous system and arterial degenerations are not included, the true syphilitic origin having not been appreciated, or scientifically demonstrated. With the improved methods of diagnosis now available, it will be possible to get a better estimate of these late lesions, particularly if we employ the serum diagnostic reaction advocated and elaborated by Wassermann and his followers. This is a consummation greatly to be desired, for without accurate diagnosis treatment must be uncertain. I have here summarized the available official returns of the last three years.

In 1906 there were 1,672 cases of chancroids, of which 13 were invalided, giving a ratio of 15.4 per 1,000 of the effective force.

Of primary syphilis there were 1,888 cases, of which 10 were invalided out of the service, with a ratio of 17.4 per 1,000.

Of secondary syphilis there were 3,153 cases, with 631 invalided and 4 deaths, with an average of 29.1 per 1,000 of effective force.

For 1907 we have—chancroids, 1,905 cases, or ratio of 17.5 per 1,000 of effective force; primary syphilis, 1,461 cases, or ratio of 13.4 per 1,000 of effective force; secondary syphilis, 3,215 cases, with 163 invalided out of the service, and 6 deaths, giving a ratio of 29.5 per 1,000 men.

For 1908 I am only able to give the numbers for Haslar Hospital, which are: Chancroids, 316 cases; primary syphilis, 26 cases, with 2 invalided; secondary syphilis, 783 cases, with 43 invalided, and 2 deaths.

The relatively small number of cases of primary syphilis is due to the fact that all patients entered for primary infection who show any signs of constitutional symptoms are now classed as syphilis ii. These statistics of cases cannot fail to impress us with the enormous amount of actual loss of strength to the navy from preventable diseases, when one considers that so often it is not only the loss of time, but that we have to deal with a disease which produces lasting degenerative effects on the man himself as well as on the race, either causing sterility, or often congenitally affected children of that class from which our fighting strength is likely to be drawn.

We are fully alive to the fact that recent years have made great strides in the methods of combating the actual disease by scientific and well-regulated administration of anti-syphilitic remedies; and that efforts, not yet sufficiently complete, are made to ensure that this treatment shall, in the case of each man, be fully carried out by means of special reports sent with the man showing how much he has received, so that a cure may be attained. That such is not always the case I know, some men receiving too much, some too little, the result being detrimental to the patient; with this important point, however, I do not propose to deal further, as it is outside the scope of this paper. With regard to the importance of an early diagnosis, I should like to refer more fully, for all agree that if a man is suffering from syphilis the sooner he is put under antisyphilitic treatment the greater the advantage to the man.

From observation of cases during the past year I have been impressed by the number of those who, being admitted for chancroids, presumably on fairly good clinical grounds, have developed secondary symptoms; some who have only had a urethral discharge have later given evidence of syphilis; also what a number of cases there

are where the nature of the sore is doubtful, and only time and treatment is able to clear up the case; and without definite signs most men hesitated, and rightly, to put the man on a mercurial course. Then how many cases one meets in the wards in which it is doubtful whether a skin eruption, an ulcer, etc., are secondary manifestations or not. How important is it, then, to have some scientific method of proving or disproving the syphilitic origin!

Dr. Mott has lately called attention to the point that, because a man has had syphilis, we must not infer too rapidly that that is the cause of his existing symptoms; the two diseases may be coincident, not dependent. It is by modern methods that we are able to find out whether or not the syphilitic virus is still present in the blood, and whether it is necessary to use antisyphilitic remedies.

Besides the diagnosis of syphilis in its relation to early treatment, we are often doubtful as to whether the patient is cured by the energetic methods employed or whether a continuation of them is required; this can be ascertained, I believe, by the serum reaction, for as long as any antibodies remain in the serum, so long should the treatment be continued. My experience has shown that sometimes when clinically a man may appear to have quite recovered, the reaction may continue strong, showing that the virus is still present and active. On the other hand, when after prolonged treatment no reaction can be obtained, the continued administration of mercury is likely to do harm rather than good, both physically and mentally, to the patient. We do not know, however, whether the cure thus obtained (by cure I mean total absence of clinical signs and serum reaction) is always of a permanent character, or whether under unfavourable conditions a "latent" infection may not again manifest itself in so-called parasyphilitic form.

Methods of Scientifically Proving the Diagnosis.

Microscopic Method.

These may be (1) microscopical or (2) macroscopical. In the first we have the demonstration of the *Treponema pallidum*. That the presence of this form is positive evidence of true syphilis there is now little reason to doubt, from the abundant work that has been carried out both by direct examination and by animal experiment.

For the last year, at Haslar, I have made a very great many examinations to prove the presence or not of this organism, and, like others, have found the typical spiral body in the primary sores, buboes, condylomata, mucous patches, and roseolar spots. At one time it seemed to me that by gland puncture and appropriate staining of the film a ready method of diagnosis was possible. The procedure is so easy, the pain so slight, that it recommended itself as a good method. A very small glass syringe is used, and a little gland juice easily drawn out, taking care to move the needle a little in the gland to break up the tissue; this generally gets enough to fill the needle only, without drawing blood. I make three films, if possible, staining one by Leishman for half an hour, one by Giemsa for twelve hours over a watch-glass, and one by heated Giemsa as recommended by Preis,[1] who by his method states that he gets positive findings in 100 per cent. of cases—a "remarkable result."

The labour and eyestrain involved in such examination are very great, and with conscientious work, with full intent to succeed, I have failed to obtain anything like so favourable results. Very fine fibrous threads are common, but spirochaetes rare. Some cases with typical hard chancres and demonstrated spirochaetes, or with positive Wassermann, gave negative results. In all, I found spirochaetes in 38 per cent. of typical syphilitic cases, and never in chancroid infections.

This method does not appear to me to be of very great practical use, though if found, the presence of the spirochaete may be taken as positive proof of syphilis.

Macroscopic Method (Wassermann, Neisser, and Bruck's Complemental Fixation Method).

Although it is a little over two years since Wassermann suggested this method of diagnosing syphilis, there has already been a very large amount of research work done on these lines both at home and abroad, and very full papers lately have been published giving details of the results, proving its great value.

Since January last I have employed the test almos weekly, and the results are sufficiently numerous and interesting to be recorded. The method employed has been that recommended by Wassermann, slightly modified, using for antigen dried syphilitic congenital liver, kindly supplied to me by Fleet Surgeon Bankart, R.N.; from this an alcoholic extract was prepared, which keeps well.

The necessary factors required for each test are:

1. Syphilitic extract (or other antigen).
2. Serum of rabbit, which has been immunized by repeated intraperitoneal injections of washed sheep's blood corpuscles, and inactivated by heating for thirty-five minutes at 56° C. (amboceptor).
3. Fresh guinea-pig's blood to provide the necessary complement (alexine).
4. Inactivated serum of patient and serum of control.

The first three were standardized weekly, and if the specific blood and control reacted correctly the series of bloods to be tested were done.

My own blood was used as control in each series. In all cases the nature of the tested serums was unknown until the results had been read off, so that any unconscious bias was eliminated.

The test itself consists in mixing in a small test-tube correct proportions of saline solution, antigen extract, complement and patient's serum, deprived of complement by heating for half an hour at 56° C., incubating the whole at 37° C. for one hour, then adding the haemolytic rabbit's serum, and washed sheep's blood cells, and again incubating for an hour. If the syphilitic immune body is present in the serum the complement is taken up and no haemolysis occurs; if there is no specific immune body the complement remains free and is taken up by the amboceptor in the rabbit's serum and the sheep's blood cells are haemolyzed.

When satisfactorily performed the results are very definite and the reaction is easily read off. It is very important to standardize each factor weekly, and that in making the antigen dilution the alcoholic extract shall be mixed very slowly with the saline diluting fluid so as to give a turbid appearance.

The technique and quantities employed are further indicated in the tables on p. 379.

I have tested on these lines a series of 160 cases of disease, and an analysis of them shows that out of 66 cases of non-syphilitic diseases only 1 (a case of acute scarlet fever) gave a positive reaction—not a single case of soft sore in which secondary symptoms did not occur reacting. This is highly important, as they are the cases where there is generally most doubt.

In the series I have used the material in the hospital to test, as far as possible, a variety of other non-syphilitic diseases to eliminate any other condition which might possibly react and reduce the value of a positive finding, especially zymotic and skin diseases. It is interesting that during the acute stage of scarlet fever haemolysis was prevented, but in the same patient, when convalescent, it occurred normally.

Of the cases of true syphilis positive results were obtained in 83 per cent. in primary syphilis; in 96.5 per cent. in secondary syphilis; in 57 per cent. in tertiary syphilis; and in only 14 per cent. of cases with history, but without any symptoms; and, finally, in 60 per cent. of parasyphilitic cases.

An early diagnosis of syphilis was made in many cases of men admitted for chancroids in whom a double infection was present, as shown by the occurrence of secondary symptoms subsequently.

I should like now to refer to cases in detail in whom with syphilis a negative reaction was shown.

Primary Syphilis.—Three cases; two of these were admitted for chancroids. In one the examination was made two weeks after contracting the sore, before any induration had shown itself, and it was not until some weeks after that a secondary rash appeared. In the second it was two months after contracting the sore, which was typically soft and with a bubo; a secondary rash, however, came out three months after infection. The third case was that of a man with a chancre on the upper lip, date of infection probably three weeks, but the glands were considerably enlarged. He showed no trace of reaction; his blood was examined the next week, with still a negative reaction, although a secondary rash had come

	Saline Solution.	Complement.	Washed Blood Cells.	Haemolysis to test Complement.
	C.cm.	C.cm.	C.cm.	
1.	2	0.2	1	+
	2	0.1	1	−
2.	2	0	1	−

The strongest dose which causes no haemolysis. To test saline solution.

	Saline Solution.	Complement.	Amboceptor (1-100).	Washed Blood Cells.	Haemolysis to test Rabbit Serum.
	C.cm.	C.cm.	C.cm.	C.cm.	
3.	1.2	0.1	0.7	1	+
	1.5	0.1	0.5	1	+
	1.6	0.1	0.3	1	+
	1.7	0.1	0.2	1	+

* If complete haemolysis use 0·5 c.cm.

	Incubated for one hour at 37° C.				Incubate for one hour at 37° C., then stand in cold twelve hours.		
	Saline Solution.	Patient's Serum.	Complement.	Antigen.	Amboceptor (1-100).	Washed Blood Cells.	Haemolysis or Not.
	C.cm.						
4.	2.0	0.0	0.0	0.1	0.0	1.0	—*
	1.8	0.0	0.1	0.1	0.5	1.0	+
5.	1.8	0.2	0.1	0.0	0.0	1.0	—†
6.	1.7	0.1	0.1	0.1	0.5	1.0	—
	1.8	0.1	0.1	0.0	0.5	1.0	+
	1.6	0.2	0.1	0.1	0.5	1.0	—‡
	1.7	0.2 (control)	0.1	0.0	0.5	1.0	+
	1.7	0.1	0.1	0.1	0.5	1.0	+
	1.8	0.1	0.1	0.0	0.5	1.0	+

* To test antigen extract. † To test serum. ‡ Control test.

out in the interval. That he failed to produce any response to the infection by presence of immune body in his blood is remarkable, as at the same time another man with a somewhat older lip infection and secondary signs gave a strong positive reaction.

Secondary Cases.—Out of 57 cases tested, only 2 failed to give positive reactions. One of these contracted the disease in January, 1909, and developed secondary signs; he received ten mercurial intramuscular injections. When his blood was examined on April 1st he had a slight sore throat, but otherwise was well. The second case was that of the hard chancre of the lip, above referred to, after the secondary rash had come out; he is still under observation.

Tertiary Syphilis.—There were 7 cases, 3 of which showed no reaction. In the first of these infection dated eighteen years before. There was a chronic ulcer of the leg of serpiginous character. In the second case the man had a suspicious ulcer of the tongue, which cleared up under iodides; the primary infection was seven years before. In the last case the patient gave an indistinct history of syphilis ten years previously; he had motor aphasia and slight hemiplegia, probably specific.

History of Syphilis, but quite Well when Examined.—Of the 7 cases, only 1 gave a positive reaction. The 6 who did not were as follows:

1. Syphilis 6 years before ... 3 months' continuous treatment
2. ,, 3 ,, ,, ... 10 injections
3. ,, 1 year ,, ... regular treatment
4. ,, 1 ,, ,, ... ,, ,,
5. ,, 3 years ,, ... 9 months' regular treatment
6. ,, 7 ,, ,, ... 16 ,, ,, ,,

The majority of these cases were probably cured.

Parasyphilis.—There were 4 cases of locomotor; 2 gave no history of syphilis, 1 had probably secondary symptoms three years previously, and one sixteen years before. Reaction was given in 2 out of the 4. One case of general paralysis was tested; his blood gave a strong positive reaction.

Objects kept in View.

The chief points that I endeavoured to ascertain were. (1) how early is the reaction present? (2) does mercurial treatment prevent the reaction? (3) is it present in other diseases?

With regard to the *first* question, 3 cases showed the reaction fifteen or sixteen days after the *date of infection*, and four within three weeks. In one case the sore was contracted on February 10th, and the reaction was obtained on February 25th—fifteen days; a second on February 17th, and reaction on March 4th—sixteen days; a third in fifteen days, the hard sore just developing. Thus the reaction is obtained very early, and gives certain evidence of the nature of the disease. In 6 cases it was obtained later than five years after infection, one being after a period of ten years.

With regard to whether mercury prevents the appearance of the reaction, the following case is of interest: The man contracted the disease in January, 1909; he developed a sore-throat, but had no rash; he received ten injections, and then the blood was taken and gave a negative reaction. Was the man cured or was the reaction inhibited? I think the former, for he has remained free since; and in two other cases with early secondary signs after eleven and twelve injections, the blood still gave a strong reaction, and in one in a later condition of eighteen months' duration, after twenty-five injections. It will be seen that in most of the cases which showed no signs of present disease, but gave distinct histories of syphilis, regular treatment had been carried out, pointing to the likelihood that a cure had been obtained, but fuller observations on this point are required. It would also seem from these observations that the later the period after infection, the more variable are the results owing to a gradual disappearance of the immune body in the blood, brought about by lessened activity of the infecting organism.

In reply to the *third* question, whether the reaction is present in other diseases, we have seen that the reaction is practically a specific one for syphilis as regards conditions that are likely to be mistaken for that disease, and is therefore of the utmost value as a diagnostic method.

Since Wassermann elaborated his technique a great many modifications have been brought forward with the purpose of simplifying the process, the most important being that lately described by Fleming,[2] who has improved Hecht's process, using only a prepared extract of heart muscle, washed sheep's blood cells, and human serums, utilizing the fact that human serums have a haemolytic action on sheep's blood cells containing the necessary complement and amboceptor. If, therefore, the serum when mixed with the sheep's washed red cells in proper proportions produces complete haemolysis, then on replacing the saline solution by the antigen extract solution the complement present is taken up or deviated by the extract in combination with the immune body in a syphilitic serum, and no haemolysis occurs.

The technique given is beautifully simple, requires but little blood, and an extract which keeps well of such strength that it shall fix the immune body in the syphilitic blood but shall not absorb the complement and prevent haemolysis in normal blood. It, however, has the drawback that in 10 per cent. of cases (according to Fleming) normal blood does not haemolyze sheep cells, and either complement or amboceptor has to be added, and that, I think, owing to the small quantities used, indefinite reactions are frequent; also a percentage of normal serums cause a certain amount of autohaemolysis, which tints the serum and masks the reaction.

I have tested 154 samples of blood, giving me, not 10 per cent., but 30 per cent., of serums which normally fail to haemolyze sheep cells completely—a very serious drawback—and have also controlled a number of tests by the ordinary Wassermann's method with the following results:

154 samples of blood were tested: 108 caused complete haemolysis of sheep's blood cells; 46 caused incomplete or no haemolysis.

47 samples of blood were tested with the correctly standardized extract, controlled by the Wassermann test, which agreed with the clinical diagnosis in each case:—

Non-syphilitic blood (25):	
No reaction	20
Incomplete reaction	4
Complete reaction	1
Syphilitic bloods (22):	
Complete reaction	10
Incomplete reaction	8
No reaction	4

From these observations, which are, however, too few to dogmatize on, I believe that the method, though useful, is far less reliable than the more elaborate original technique, in which each factor is standardized before use. Dr. Mott states that "the original method of Wassermann is the most complicated, but is regarded by the majority of investigators as the *most specific* and *reliable*." McIntosh says that "most of the modifications for simplifying the technique have little to recommend them, and at present it does not seem likely that any modification which could be done outside a well equipped laboratory could have any practical value."

Conclusions.

The general conclusions reached by me are:

1. That almost all cases with evident primary syphilis give a marked reaction, this being obtained as early as the fourteenth day after infection in some cases.

2. That in many cases admitted for chancroids the presence of a double infection was early indicated by the test.

3. That in almost all cases of early secondary syphilis, with or without symptoms at the time, positive results were obtained.

4. That in late secondary stages or tertiary manifestations the results are more variable.

5. That in about 50 per cent. of parasyphilitic cases a positive reaction is present.

6. That in cases without symptoms and generally after much treatment, but with an undoubted history, a minority reacted.

7. That the reaction is specific for syphilis as far as other venereal diseases are concerned.

8. That mercurial treatment did not appear to prevent the reaction when symptoms were present.

9. That by this method we have a valuable aid in the diagnosis of syphilis, deciding the nature of many difficult cases, and early indicating the need of specific treatment.

References.

[1] *Poster. Med.-Chir. Presse*, November, 1908. [2] BRITISH MEDICAL JOURNAL, May 22nd, 1909. [3] Ibid., February 10th, 1909.

THE ARYLARSONATE TREATMENT OF SYPHILIS:

ITS PROBABLE FUTURE EFFECTS IN THE SERVICES.

By F. J. LAMBKIN, Colonel R.A.M.C.

In discussing the question of the treatment of syphilis by means of arylarsonates, it is no intention of mine to compare it with that by mercury. The position of the latter is perhaps stronger now than it has ever been, for, after having gone through various vicissitudes in the ups and downs of heated discussions, it has, especially during late years, been generally accepted as *the* specific for syphilis. Nevertheless, there were and are cases which resist mercury in any form, cases to which mercury cannot be given owing to their extreme susceptibility to it, and for such the necessity of finding a substitute was all-important.

At our last annual meeting at Sheffield I had the honour to read a paper on the treatment of syphilis by arylarsonate salts, recording up to that date 54 cases so dealt with and with favourable results. It is my intention now to bring further evidence to prove the utility of these salts in the treatment of the disease.

Since August, 1907, when I first began to use these arsenical compounds, my colleagues and myself have treated over 130 cases with them. In these cases syphilis was represented in all forms and stages—from the typical Hunterian chancre, accompanied by enlargement and hardening of the inguinal and cervical glands, to cases showing the different forms of syphilitic rashes, as also others in the later stages with various forms of syphilitic lesions, including signs of commencing tabes. Most of these did remarkably well. In the cases of Hunterian chancre this soon softened and passed away, the majority showing no signs of return, and in many there were no further developments of the disease. Syphilitic rashes rapidly disappeared, ulcers of the mouth and throat healed, whilst the gain of body weight was most marked from the beginning; at the same time, anaemia and cachexia cleared away.

The most interesting effects of the treatment were seen in cases in the later stages of the disease, of which the following are a few:

Case I.

A. C., aged 45. Disease contracted twenty-four years ago, when he had a chancre followed by a roseolar rash and sore throat, and later on a profuse papular pustular eruption broke out over the body. Received what appears to have been a very complete mercurial treatment by the internal method, and chiefly by means of hydrarg. c. creta. He has spent many years in the tropics. Says that he is obliged to take the specific almost continuously, otherwise the disease is certain to break out in one form or the other; this has been the case for years past. When I saw the patient he was much debilitated and anaemic, suffered from periodic nocturnal headache and was subject to a peculiar swelling and redness on the side of the nose, especially when he omitted to take mercury for any little time. On January 14th, 1909, I commenced treatment, giving 8 grains of arsacetin on that day. Continued to give same dose every second day until 100 grains had been reached. Under this the patient made rapid improvement, cachexia and anaemia disappearing, body weight increasing markedly, all swelling and acne-looking rash on nose vanished, appetite improved much. No further signs of the disease. Further course of arsacetin begun March 1st. Patient had to go abroad then. Up to date has had no return of the disease.

Case II.

E. H., aged 54. Good physique. Contracted disease (syphilis) thirty years ago. Denies ever having had a sore, but had a rash which was of a papular pustular nature. Was treated at Aachen, where he went through usual course. Since then has had frequent returns of the disease and much internal treatment. Two years ago the tongue began to get sore and spots to appear on the body. Went under further treatment in London, and has been taking medicine (hydrarg. c. creta) almost continually ever since, the symptoms clearing up and breaking out afresh from time to time. Condition when I saw him: Much pulled down in every way as regards general health; tongue deeply ulcerated on sides and dorsum and marked with leucoplasia, as were the inside of the cheeks. Profuse leucoderma on body.

Course of arsacetin begun on September 21st, 1908, and continued until 100 grains were administered. Under this treatment patient did extraordinarily well, all symptoms disappeared, and general health rapidly improved. No local treatment of any kind was applied to the tongue. Has had one course since then, but up to date there has been no further developments of disease.

Case III.

E. K., aged 45. Contracted a hard sore twelve years ago, which was followed by glandular enlargements and a papular rash. Went under treatment in London and took hydrarg. c. creta almost continuously for two years. Since then has had many fresh outbreaks of the disease, which he has combated by resorting to same treatment. Condition when seen by me: Cachectic and anaemic; papular rash on forehead and nose; suffered much from neuralgic pains in legs; reflexes normal.

Course of arsacetin begun January 16th, 1909, and continued until a total of 100 grains had been given. Patient rapidly improved in health and all rash disappeared. Gained 8 lb. in a fortnight. Went abroad, and when last heard of had had no further symptoms.

Case IV.

E. T., aged 34. Contracted syphilis in India eight years ago, having a chancre on penis, followed by a roseolar rash and sore throat. Went under specific treatment at once (hydrarg. c. creta). This he continued for one year in India and eighteen months at home. Went through a course of inunction at Wiesbaden, symptoms disappeared, but patient returned home much pulled down in health, and shortly after further symptoms of disease recurred; the latter consisted mostly of mucous patches and ulcers in mouth and tongue, with rupial-looking sores on legs. Came under medical advice in London as to the question of being allowed to marry. November, 1907, three months after the appearance of last symptoms, a nerve specialist examined his cerebro-spinal fluid, and both he and the usual medical attendant agreed that the patient was quite free from syphilis and could safely marry. This he did in January, 1908, and six months later rupial ulcers appeared on his face and legs. Consulted a medical officer, R.A.M.C., who sent patient to me. Saw him October 22nd, 1908. He was cachectic and much run down in health and had a partly-healed ulcer on face, whilst there were two undoubted rupial ulcers on calf of right leg. Went through course of arsacetin, and all above symptoms cleared. Course repeated in six weeks' time, and he has had no further return of disease.

Case v.

Aged 55. Contracted syphilis twenty-five years ago; suffered from a hard sore, followed by rash on body. Went under treatment (hydrarg. c. creta) at once, until all signs disappeared, when it was discontinued. A little later suffered much from palmar psoriasis, which eventually cleared under hydrarg. c. creta. Since then has had very many fresh outbreaks of the disease, consisting mostly of sore throats with mucous patches on the tongue. Took much mercury internally. Spent many years in India. Condition: On lower lip there is a small ulcer which is scabbed over; this he says has been present for more than ten years, and has been suspected for epithelioma more than once, but was eventually pronounced to be syphilitic. It sometimes almost disappears, but always recurs sooner or later. At angles of mouth are cracks and fissures and there is the undoubted snail tract of syphilis on dorsum of tongue (leucoplasia). The latter has been most persistent for last eight years. Began course of soamin, September 8th, 1908, and completed course of 100 grains. After the seventh injection had an attack of colic with nausea and vomiting. Injections omitted for three days, when they were resumed and course completed without any further untoward signs. The lesions in this case cleared up in a wonderful manner, more especially considering their chronic and persistent nature. Three months later patient had a further course of arsacetin, and up to date has had no further recurrence of disease.

The above are a few of the most interesting cases treated by the arylarsonate salts. The former are peculiarly interesting from the fact that hitherto their utility was doubted as regards syphilis in its later stages. In forming an estimate as to how far these compounds are capable of preventing further ravages of syphilis it would be necessary to watch the progress of a number of cases which had been treated solely by them, which is a matter of very great difficulty even in the army or navy, where men are continually being lost sight of owing to taking their discharge or to being transferred elsewhere. Among the cases treated I only saw slight toxic symptoms in two, and this was in two patients both over 55 years of age. The symptoms consisted in one of slight colic with nausea and vomiting, in the other of browache and dizziness. All the other patients underwent full courses without interruption.

Preparations used.—The preparations of arylarsonates which were used were as follows:

1. Atoxyl (arsonate of sodium).
2. Soamin (amino-phenyl-arsonate).
3. Arsacetin (acetylized arsenilate of sodium). } Professor
4. Arseno-phenyl-glycin (*in vacuo*). Not yet tried. } Ehrlich.

The first of these—that is, atoxyl—was the original compound of arsenic which was used for sleeping sickness and later for syphilis. With it I treated some 24 cases of the latter and with much success; no untoward symptoms occurred, nevertheless I was obliged to abandon it owing to the ill reports which came in concerning its dangers, as also after having seen 4 cases of total blindness which followed its use for sleeping sickness in Uganda.

The second preparation, that is, soamin, was introduced by Messrs. Burroughs Wellcome of London; it is a sodium amino-phenyl-arsonate, and almost identical with the old preparation atoxyl, except that, being of a definite chemical composition and arsenical strength (which atoxyl is not), it can be administered with much greater safety and confidence than a compound liable to variation in strength, as is the case with atoxyl; in other words, it is a staple preparation. Soamin has been employed very extensively at the Military Hospital, Rochester Row, and with very great success, and with the exception of the two cases above mentioned, none of them have been followed by toxic signs.

The salt is made up in solution for use, and is given either subcutaneously or intramuscularly. On account of its tendency to decomposition when kept for any time before use the solution needs to be made up afresh at least daily before use. The dose which I have been giving is 10 grains every second day until a total of 100 grains has been attained.

The third preparation which I have utilized, that is, "arsacetin," was introduced by Ehrlich as an improvement on the original atoxyl. He describes it as the acetyl derivative from the latter, and for short called it arsacetin. Of it Neisser remarks:

1. Arsacetin is certainly far less toxic than the old atoxyl, both healthy and diseased animals tolerating much larger doses of it than of the latter.

2. Its remedial action in syphilis is at least equal to the older preparation.

3. No decomposition of any kind in the solutions, even when stored for a long time, can be detected; even boiling daily does not alter the solutions in any way.

This preparation I use in 10 and 15 per cent. solutions. The latter has the advantage of not requiring so large a quantity of fluid for injection, consequently causing less pain than the weaker solution; on the other hand, it has the disadvantage that it deposits the salt when cold and requires to be reheated before being used, so as to bring the latter into solution again.

As regards the dosage of arsacetin, I have been giving 40 minims of the 15 per cent. solution, which represents 8 grains, at each injection every alternate day, until 100 grains have been totalled. Whether it is better to give injections on two consecutive days, or whether more favourable results would be obtained if they were given less often but in larger doses, has yet to be decided, but, judging from the analogy of experience in trypanosome disease, one is inclined to favour the former.

During the last year I have used the drug very extensively, both in hospital and private practice, and not one case has shown any toxic symptom. I find that in the majority of patients it promptly removes symptoms, and the general condition is much improved, whilst in others it fails, and recurrences take place during and immediately after a course of it; on the other hand, it very often succeeds where mercury fails. Its beneficial effects were most apparent in the older cases (late stages), some of which responded to it in a wonderful manner.

The Three Drugs Compared.

The great disadvantage of atoxyl is that it is not staple as regards strength, and its solutions are liable to decompose, thereby forming dangerous by-products; and it cannot be denied that if the risk of optic atrophy has always to be run, even after a moderate dose, one would hesitate before employing atoxyl.

Soamin is far preferable to atoxyl, although it is practically the same salt, the fact being that it is of staple strength, and consequently its toxic effects are very limited, always provided that certain points, such as using only freshly prepared solutions, are adhered to, and always remembering their liability to decompose on being stored for any time, and that they cannot be sterilized owing to chemical changes taking place on this being done.

Arsacetin, besides being less toxic than either atoxyl or soamin, has the great advantage that solutions of it do not decompose on being stored or boiled, hence it is practically free from the dangers of the latter salts.

Of the newest preparation—that is, arseno-phenyl-glycin—sufficient time has not elapsed to allow of anything like a definite opinion being given; at the same time, the fact of its requiring to be supplied *in vacuo* and the danger attached to it on its exposure to air, appears to me to put it out of count for anything like general use, more especially as the little glass tubes in which it is supplied are very apt to get cracked in transit, thus exposing the salt to the air.

For the present, I think that the advantages are decidedly on the side of arsacetin. As already stated, it has been used a great deal by myself, and with no untoward effects. As a rule, I have employed it alone, whilst in other cases I have made use of it in combination with mercury, giving both simultaneously with very good results. With more extended experience, the advantage of employing mercury and arylarsonates together in certain cases of syphilis is becoming daily more impressed on me. One thing is certain—that is, that many cases of syphilis which respond readily to one of these agents may be totally unaffected by the other, and vice versa, and this without any reference to their susceptibility to either, which leads me to the conviction that there are different strains of *Spirochaeta pallida*, which are affected differently by mercury and arsenic. The presence at the same time of these different strains in the same individual may explain the good which follows the employment simultaneously of mercury and an arylarsonate. On the other hand, there might be an advantage in giving these latter alternately. Perhaps there might be an advantage if arsacetin and mercury were employed alternately.

INDICATIONS AND USE.

For the present it is at least advisable to proceed cautiously with the employment of arylarsonates, especially in those cases where any parenchymatous organic changes are observable, as it appears that already diseased or enfeebled organs are more susceptible to their toxic action, hence cases showing signs of cardiac or renal organic disease should not be submitted to treatment by these salts.

The question as to how to proceed with the arylarsonate treatment—that is, as to when a second or third course should be commenced—has naturally been the subject of much thought, as it could only be decided by careful observation and clinical experience. The plan in vogue at present at Rochester Row is to repeat the course in three months' time in all cases after the cessation of the first (earlier in cases showing a recurrence of symptoms), and a third course is given in six months' time in all cases whether showing signs of the disease or not.

With regard to prophylaxis: At the meeting of the International Medical Congress at Berlin, 1907, Metchnikoff made the statement that by injection of atoxyl he had succeeded in preventing further developments of syphilis in cases of undoubted syphilitic chancre, and strongly advocated it as a prophylactic, the number of injections which he succeeded with was three of 10 grains each. His statement was very thoroughly tested in our army—that is, at certain of the largest military stations every second case of venereal sore, of whatever description, which was admitted into hospital received four injections of 10 grains of either atoxyl or soamin, and a careful record kept. The experiment showed that the injections did not prevent further developments of the disease in any way, so that from a prophylactic point of view I fear little importance can be attached to the remedy.

In considering the question as to the value of these arsenical compounds, either from a preventive or curative point of view, I would remark that to judge the efficacy of a syphilitic remedy from its symptomatic relieving action is wholly false, considering the proof which has been furnished by experiments on animals that these salts possess a reliable curative virus-destroying action. It is, therefore, our duty to utilize this experience gained with animals in the treatment of syphilis, although in the human subject we may at present not be able to produce proof that these arsenical salts are capable of eradicating the disease, and can but observe their influence on the symptoms; still, there being no justification for doubting this power, we ought to make the most of this possibility. There is no necessity to confine ourselves exclusively to the use of mercury or these arylarsonates, as both will be equally useful in certain cases, either alone or when employed simultaneously.

THE FUTURE OF ARYLARSONATES.

What effect the introduction of these salts in the treatment of syphilis will have in the services it is impossible to foretell, but that they are destined to supersede mercury is most unlikely; on the contrary, I believe that their introduction will strengthen more than ever the position of the latter, as by its combination with arylarsonates it will be feasible now to deal successfully with those cases which had hitherto for some reason or another resisted it when administered alone.

There is a class of case to which these arsenical compounds ought to be a veritable boon—that is, those to which it is impossible to give mercury in any form, owing in some cases to an idiosyncrasy, in others to the patient being debilitated and broken down from climate or other tropical influences, and especially to these cases of syphilis which are deeply tainted with malaria.

On the whole, I believe that the introduction of these arylarsonates in the treatment of syphilis will have an important influence in the services, as they will undoubtedly tend to lessen the admission rate, as also that for invaliding.

Our present knowledge of the power of these salts of arsenic over syphilis is only in a very elementary stage; but I look forward to further experience of them and improved technique leading us, with the help of mercury, to that goal in the treatment of syphilis which has already been attained in that of dourine.

ARSENICAL COMPOUNDS IN THE TREATMENT OF SYPHILIS.

By H. C. FRENCH, Major, R.A.M.C.

THE arylarsonates may be divided into three principal salts—namely, atoxyl, soamin, and arsacetin (orsudan)—used in the form of intramuscular injection.

Atoxyl (sodium amylarsenate), owing to its toxic qualities and the risk of causing blindness from optic nerve atrophy, is not now so much *en evidence*. It has given way to purer preparations, and has been given up in Germany.

Soamin (sodium para-aminophenylarsenate) has received an extended trial in the British army recently. The method employed has been ten injections of 10 grains of soamin every second day until 100 grains have been injected. Whilst admitting that, in many instances, it produces a gain of weight of 5 to 7 lb., owing to its tonic action in cases of primary and early secondary syphilis treated as in-patients on full dietary in hospital, yet the gain of weight is no greater than occurs under mercury judiciously used. The action of soamin on the induration of the chancre and the lymphatic glands within the first four to six months of contracting syphilis is not nearly so marked as that of certain mercurial preparations. Further, the results with soamin are of a "temporary" nature, relapses of rash and ulcers in the mouth being frequent and often severe. Mercury or other measures (local and general) have finally to be used to remove the external symptoms.[1] Soamin rapidly decomposes in solution, and is difficult to inject, except when the solution is very hot.

For this reason I pursued a series of investigations with the much more soluble salt—arsacetin (acetyl-amylarsenate)—the method employed being the same as with soamin—namely, ten injections of 10 grains each every second day, on the lines recommended by Heymann.[2] The gain in weight under arsacetin (orsudan) amongst patients treated in hospital in the early phases of disease was fairly constant—namely 5 to 10 lb. from the first to the tenth injection—but not more weight was gained than occurs under the judicious use of mercury. The effect of arsacetin on the induration of the chancre and on the lymphatic glands was commonly negative. A white line commonly occurred on the gums.

The skin lesions in some cases treated by arsacetin rapidly disappeared (but this, as is generally recognized, may occur without treatment). In other instances, in the case of more severe papular rashes, there was no change. Local applications were necessary to effect the resolution of lesions about the mouth and throat. Anaemia became less, and the patients stated they felt better. Relapse in the case of arsacetin was usual and of a grave character.

Blood counts, both red and white, and an estimation of the haemoglobin, were independently made in the pathological laboratory before beginning or on concluding a course of arsacetin. Haemoglobin and the red cells were usually increased.

I am of opinion that arsacetin used on patients in hospital exerts a tonic effect on the general condition, as does quinine, iron, phosphorus, cod-liver oil, sanatogen, diaphoresis, and hydro-therapeutics, but that it should not, in view of Heymann's opinion[3] as to its purely "temporary" action, entirely replace mercury in treating early syphilis. It should, I think, be used either in conjunction with mercury, as is now, I believe, the practice in Dr. Feibes's clinic at Aix-la-Chapelle, or possibly be used later, in the interval after the first thorough course of mercurial inunctions and baths.

I have found the combination of mercury with arsenic in the form of Donovan's solution, *B.P.* (liquor arsenii et hydrargyri iodidi), of considerable value in certain cases with late secondary or early tertiary manifestations. The well-known therapeutic action of arsenic, however, in treating some skin diseases is fully recognized, but the temporary removal of skin lesions in syphilis is not necessarily cure, since Nature, in many instances, can as rapidly effect this result without any drug. The test of benefit in early syphilis is the rapid reduction of induration in the chancre and in the lymphatic glands. I have not found

soamin or arsacetin nearly so valuable for this purpose as mercurial inunctions with baths.

References.

[1] *British Journal of Dermatology*, December, 1908. Major H. C. French, R.A.M.C., "The Treatment of Syphilis." [2] Epitome, British Medical Journal, May 15th, 1909, p. 80. [3] Ibid.

ON THE BENEFICIAL RESULTS OF RECENT SANITARY WORK IN MALTA.

By G. S. Crawford, Major, R.A.M.C.

A few years ago most service people looked upon Malta as a very undesirable station, and the chief reason for this opinion was the amount of sickness usually prevalent in the garrison. All this has been changed, and Malta is now known to be one of the healthiest of our foreign stations. A few notes on how this has been brought about will no doubt be interesting to this Section. There is another reason for bringing this matter before you, and it is this: If we can prove that by sanitary measures we are able to greatly reduce the number of sick, we shall then secure the active co-operation of all ranks in the army. In Malta we have proved this beyond any shadow of doubt.

There are many advantages in keeping the army healthy. It gives the regimental officers a much better chance of efficiently training their men and fitting them for active service. It is a great saving to the State.

The cost of having many sick in hospital and of invaliding is very great, and a man's service is lost to the State while he is on the sick list.

It improves the *morale* of the army. Nothing depresses men more than to see their comrades ill in hospital, especially when they think that the illness is due to an unhealthy climate.

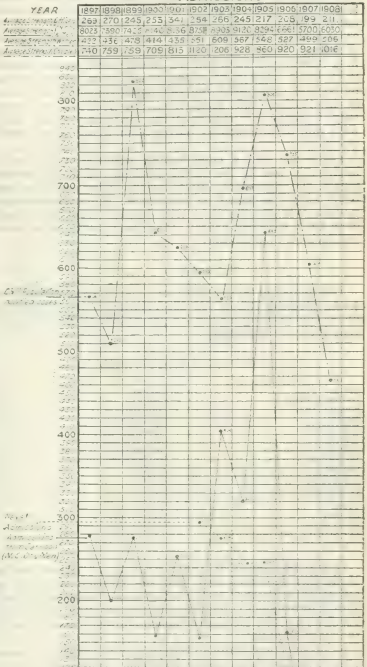
It helps recruiting. Nothing tends more to deter men from joining the army than the sight of many invalided soldiers.

Malta Fever.

Until quite recently Malta fever was the chief cause of sickness and invaliding both in the army and navy stationed at Malta. In 1887 the specific micro-organism, the *Micrococcus melitensis*, was discovered by Colonel Sir David Bruce, F.R.S. This discovery separated Malta fever from all the other continued diseases, and in 1896 it was included for the first time in the *Nomenclature of Diseases* as a distinct disease.

Owing to the prevalence of Malta fever a Commission was appointed by the Admiralty, War Office, and Malta Civil Government to investigate its cause. This Commission discovered that the goats of the island suffer from Malta fever, and when so infected secrete the germs of the disease in their milk, and such milk, if drunk unboiled, conveys the disease. The importance of these discoveries will become apparent when one considers that the goats supply practically all the fresh milk in the island. The Commission further discovered that cows kept for any length of time in the island also contract the disease and secrete the germs in their milk, so that the importation of cows to supply fresh milk for the garrison and fleet would be useless. The boiling of the local milk was tried, but experience proved that cooks could not be relied upon to do it. This was proved frequently by applying the "Ortol" test to milk which was stated to have been boiled. It was therefore decided to prohibit the use of all local fresh milk and its products—butter, cheese, and cream—in barracks, hospitals, and ships, and to import preserved milk, butter, and cheese.

These preventive measures were adopted in June, 1906, and the results have been most remarkable; a glance at the accompanying chart will show that since that date Malta fever has practically disappeared from both services. The majority of the 161 cases which occurred in 1906 were contracted before the use of local fresh milk was stopped. All the 11 cases which occurred in 1907 were traced to the use of unboiled goat's milk; in 4 out of the 5 cases which occurred in 1908 there was a clear history of having drunk unboiled milk, and in the other case there was good reason to believe that local cheese had been often used. These facts prove that the disease is disseminated by the goats and cows of the island. There is still further proof of the correctness of this theory to be found, if further proof were required, in the fact that amongst the civil population who still use goat's milk the



MALTA FEVER *in the* MALTA GARRISON *from* 1897 *to* 1908.

disease is prevalent. That it is not so bad as it was is due to the fact that an increasing number take the precaution to boil the milk.

Enteric Fever.

The decrease in the number of cases of enteric fever in recent years is as remarkable as it is satisfactory. The numbers fell markedly in 1906, and this coincided with the introduction of the system of giving lectures on sanitation to all officers, non-commissioned officers, and men by the medical officers in charge of troops. In 1907 there

The author supplemented his use of graphs in account of the history of each class of disease; a specimen is here reproduced.

were 14 cases in the command, and bacteriological examinations showed that 12 of these were due to infection by an organism of the paratyphoid group. In the investigation into the cause of these cases it was found that in the country districts of Malta vegetables are very often watered with liquid sewage from cesspits; such vegetables are often bought by soldiers, and when they are eaten raw, as is the case with lettuce, radishes, watercress, etc., are a likely cause of paratyphoid, especially when they are not carefully washed. It was found that, as a matter of fact, soldiers very often bought such vegetables from hawkers, and, after only slightly rinsing them under a tap, ate them. This led to the publication of an order drawing attention to the danger of this practice, and directing that vegetables eaten uncooked should be first thoroughly washed in water and then rinsed in a weak solution of vinegar. The reduction in the number of cases following the publication of this order is interesting and suggestive. In 1908 there were only 5 cases of enteric fever, and only 2 of these were due to infection by an organism of the paratyphoid group.

There are still a considerable number of dry-earth latrines in use in the Malta garrison and such latrines favour the spread of enteric fever. These latrines are being slowly replaced by latrines on the water-carriage system. When the dry-earth latrines are completely done away with, the control of outbreaks of enteric fever will be very much easier.

Tuberculous Disease.

The following tables, given on pages 305 and 306 of the Army Medical Report for 1907, showing the admissions under this heading for the ten years 1897-1906 and for the year 1907, are interesting.

Rates per 1,000 of Strength.

1897-1906.		1907.	
India	3·4	Ceylon	9·7
United Kingdom ...	3·1	Crete	5·3
South China	2·9	Mauritius	4·9
Malta)		South China	4·8
Gibraltar)	2·8	Gibraltar	3·5
Egypt)		Straits Settlements ...	3·1
Straits Settlements)		Bermuda	2·5
Bermuda	2·5	United Kingdom	2·4
Ceylon	2·3	Malta	2·4
North China (1903-1906)	2·0	India	1·7
South Africa (1902-1906)	1·9	Egypt	1·7
Mauritius	1·4	South Africa	1·4
Crete	1·2	Cyprus	0
Cyprus	0·9	West Africa	0
West Africa	0·7	North China	0
Jamaica (no information available).			

It will be seen that the percentage of admissions in Malta has decreased and that the position of Malta, as compared with other stations, has considerably improved. This improvement coincided with the erection of modern barracks and the increase of space allowed to each man in the older barracks.

At present practically all the cases of tuberculous disease come from the old casemate barracks. Improved ventilation of such of these barracks as must be retained would, no doubt, lessen the amount of tuberculous disease still further. Still better would be the provision of modern barracks. Tuberculous disease is not readily contracted in Malta by those living under healthy conditions. From the middle of March to the middle of June the climate of Malta is ideal, but during the remainder of the year it is, in my opinion, unsuitable for people suffering from tuberculous disease, owing to the hot depressing sirocco winds, combined with dust storms in the summer, and the frequent variations of temperature which are so common in the winter.

It is a pity that more people who wish to escape the severe spring weather at home do not come to Malta. There are many attractions, such as a good climate, plenty of amusements, interesting historical buildings, etc., and the cost of living is not nearly as great as in most other health resorts.

Pyrexia of Uncertain Origin.

There were 299 admissions under this heading during 1908. This number, although high, is low compared with previous years. The blood of every case of pyrexia is carefully examined, so that the possibility of including mild cases of enteric fever, paratyphoid, or Malta fever, is guarded against. These cases occur in the summer months when "sand-flies" and mosquitos are most troublesome, and this leads me to suspect that the disease is most likely spread by these insects.

A disease very much like pyrexia of uncertain origin met with in Malta has been investigated in Herzegovina, and has been proved to be spread by means of the *Phlebotomus papatasii*. I had specimens of the so-called sand-fly of Malta collected and submitted to Professor Newstead of the Liverpool School of Tropical Medicine, who stated: "They do not belong to the Simulidae. They belong to the Psychodidae, genus Phlebotomus." Is the illness met with in Malta the same as that met with in Herzegovina and spread by the same agency? The question is being investigated by Lieutenant-Colonel C. Birt, R.A.M.C.

Dysentery.

Cases of dysentery occur in all tropical and subtropical climates where the general hygienic conditions are bad, and Malta is no exception to this rule. But by attention to sanitary details and by having secured a pure water supply dysentery has been banished from the garrison and all the large towns. It is still to be met with in the village and country districts, where the water is obtained from shallow wells, and where the sanitary conditions are still unsatisfactory. Of late years practically all the cases which have occurred amongst the troops have been relapses, as in nearly every case the disease had been previously contracted in India or in some other foreign station. The decrease in the number of admissions for dysentery is most satisfactory and encouraging, as it shows how much can be done in the way of preserving the health of soldiers by attention to the ordinary rules of disease prevention.

Rheumatism.

The number of admissions under this heading has been steadily decreasing for several years. The first improvement was due to the erection of modern barracks, but the still greater improvement in the last three years is accounted for by the practical disappearance of Malta fever. One of the sequelae of Malta fever most frequently met with is pains in the muscles and joints very like rheumatism, and there is no doubt that in a number of very mild cases of Malta fever which did not necessitate admission to hospital these pains were shown as rheumatism.

Ophthalmia.

Perhaps the best example of the good results which follow attention to sanitary details is furnished under this heading. In the Sixties ophthalmia was one of the greatest scourges in the Malta garrison. Take 1861, for instance. The strength was 6,185, and the number of admissions under this heading was 593. In 1907 the strength was 5,700 and the number of admissions was 15; in 1908 the strength was 6,030 and the number of admissions was 18. This improved state of affairs is due to the improved ablution arrangements.

Infantile Enteritis.

The great cause of infantile mortality in Malta is enteritis. In 1905 there were 60 admissions and 13 deaths in the garrison from this disease. The highest admission-rate was at Imtarfa, which gave 20 admissions and 5 deaths. In 1906 the following steps were taken at Imtarfa to combat the disease:

1. The insistence of a high standard of cleanliness of quarters and their surroundings. The quarters were carefully inspected once a week, particular attention being paid to the condition of the waterclosets. Latrine brushes were put in every quarter, and their daily use recommended. Closet pans which were found to be coated with faecal matter were thoroughly cleansed with a weak solution of hydrochloric acid, and the seats were ordered to be kept up when the closet was not in use. All the gully traps in the vicinity of the married quarters were cleansed and flushed twice a week. The verandahs of the quarters were thoroughly scrubbed at least once a week, and accumulations of refuse in or about the quarters prohibited.

2. Protection of foodstuffs. Foodstuffs were covered with gauze to keep off flies and dust, and small wire gauze meat safes were provided for each quarter.

3. Regulation of milk supply. Tinned milk only was used, and arrangements were made with commanding officers to have both large and small tins of milk for sale at the grocery bars. Mothers were advised to open the tins by making two small holes in the lid, and to cover the tin with gauze, and to keep it in a vessel containing cold water when not in use.

4. Advice to mothers. Mothers were advised as to suitable clothing and food for children, and the necessity of reporting cases of sickness early was impressed upon them.

5. Isolation of cases and disinfection of stools, soiled linen, clothes, etc. The result of these measures was that in 1906 there were only 3 cases of enteritis, and no deaths, at Imtarfa, and this state of affairs is still being maintained. In 1908 the same sanitary precautions were advised for all married quarters in the island, and the results have been very satisfactory.

DISCUSSION.

Inspector-General R. Bentham, R.N. (retired), said that the number of cases of Malta fever contracted in the Royal Naval Hospital in 1905 was 105, and that after goat's milk was discontinued in 1906, and tinned milk substituted, not a single case of that disease had been contracted in the hospital.

Colonel Hendley said that Major Crawford's valuable paper showed the immense improvement which had followed modern scientific investigation of disease and the great part taken by members of the service in that matter. The discovery of the cause of Malta fever was perhaps the most brilliant of those discoveries. He remembered the time when Malta was practically prohibited to invalids and tourists: now they could reside there without risk.

ON THE PERMANENT ATTACHMENT OF TRANSPORT TO FIELD MEDICAL UNITS.

By P. Broome Giles, Colonel A.M.S.,
A.M.O., First London Division Territorial Force.

The history of wars in the past, and the experience derived from peace manœuvres, not only absolutely prove but emphasize the failure of detailed transport for the use of medical units. Detailed transport, whether supplied on requisition from the Army Service Corps or hired from civilian sources, has serious complications.

If the transport is detailed on requisition from the Army Service Corps considerable delay is often inevitable, due to the interchange of the requisite army forms between the two corps. These at Aldershot and on Salisbury Plain generally have to be sent in several days beforehand. Even in cases of emergency hours often elapse before the transport demanded is supplied.

Whatever may be said to the contrary, there is no escaping the fact that there is a very possible element of discord in respect to discipline; for the detailed personnel of one branch of the service cannot have the same intuitive feeling of obedience to officers of another branch that they have to those of their own. Moreover, the branch to which they are detailed often considers them more as a means to effect an end, which feeling would not exist if the transport were part of their unit.

With hired civilian transport you have greater trouble, as the civilians are strangers to discipline, generally unpunctual and accustomed to their regular hours of work at their own pace, and the R.A.M.C. personnel look down at them as inferiors.

The horses generally are unfit for the work they are wanted to do—badly broken, entirely untrained and unaccustomed to service environment, the harness faulty, of various patterns, and often in bad repair.

The very wretched and inadequate results of using hired civilian transport, so evident during summer drills and camp training, is intensified on manœuvres. During the autumn manœuvres in 1907 in Oxfordshire and Buckinghamshire I several times saw tired troops, dependent for their rations upon hired civilian transport, footless—because these casual civilian drivers failed to reach the bivouac; one saw civilian vehicles packed outside public-houses whilst the drivers were absent from their teams.

It is a most illusive idea to think civilian wagons and harness will do for medical units. The transport of medical units is in the first line, and may at any moment be subdivided; it is therefore essential that wagons and harness be of the best, and the various parts interchangeable. That being the case, there should be uniformity of harness and of the draught of the vehicles. This most certainly is not to be found either in civilian harness or wagons, for the variety of civilian harness is as great almost as the sets of harness are, and the angle of draught varies with each builder; the result frequently being that, though the horses may be used with their own collars, the harness is unsuitable to the vehicles, and the angle of draught upon the collar entirely different from the home work; the result—time cut to waste in adapting the harness to the horse and vehicle, and frequently after two or three days' work galled withers or shoulders, and horse useless for the remainder of camp training.

Personally I cannot imagine any one with practical experience advocating such procedure. The public money thus wasted would, I believe, pay for regulation breast harness and general service vehicles if purchased upon the hire system.

So much from the negative side. Now let us look upon the affirmative. The advantages of permanent transport are:

1. The transport sections recruited for each medical unit are homogeneous, part and parcel of the permanent personnel—practically of the same social ranks from which the unit is chiefly recruited. That factor is particularly noticeable in London and large cities. The transport officer is an officer of the medical unit, and under the immediate command of the officer commanding the unit, keen for the efficiency and the best interests of the unit.

These factors are most important with Territorial troops, whose very existence, much more their efficiency, is *esprit de corps*.

2. In Territorial medical units hired civilian transport can neither be popular nor successful; under the present conditions men have enlisted to the transport sections keen for work; but when they realize that their practical training will be with civilian wagons and harness, I feel sure this enthusiasm will dwindle away, chiefly for two reasons: First, because as transport men they want the same material that their co-ordinates of the regular Army Service Corps have; they dislike their association when soldiering with Mr. Jones's or Mr. Smith's wagons. Secondly, because there is so little the transport can do outside their drills and camp training. If each transport section had its general service wagons, harness, and saddlery, it would have work all the year mounting and dismounting wagons and harness.

If something on these lines is not done, I greatly fear the keen good men will languish, and their places be taken by those who, refused by the Yeomanry, and wanting to wear spurs, will join transport sections for that inducement.

This seems to me to approach the subject of this paper from the two practical sides—namely, with the result that permanent transport is requisite for each field ambulance, and to obtain the highest standard of efficiency it must be part of the personnel, and its material must be that of the regular force.

This at least is my experience, gained first as one with years of practical acquaintance with horses. Secondly, from my observations in training the present transport sections of the division.

The Territorial Force is a stage in the national development of the Volunteer. The better the head quarters, the more the club life that existed there, the more the Volunteer co-ordinated with his regular branch, the higher the efficiency and discipline.

So now with the Territorial. Give him suitable head quarters, encourage his presence at those head quarters, and give him the uniform and equipment which the corresponding branch of the regulars has, and he practically will make his unit his home, and in no case more so than with the transport sections of medical field units.

A BRITISH MAN-OF-WAR AT MESSINA.

By Staff Surgeon F. F. MAHON, R.N.

I WOULD preface these remarks by observing that relief work was carried out by the British Navy at several towns on the Calabrian coast involved in the earthquake by which Messina was destroyed, but the experiences described in this paper are those met with at the remains of the latter town, where the work came under my own observation.

On the evening of December 28th, 1908, wireless messages were received at Malta, telling of rumours that Messina had been destroyed by an earthquake, but that as all telegraphic communication was cut off from that place, definite news could not be obtained. Next morning the rumours were confirmed, and H.M.S. *Minerva* was ordered to take in various stores and to prepare for sea at once. Having during the day embarked four extra medical officers from other ships, and taken on board a large supply of medical stores, blankets, and provisions, the ship left Malta for the scene of the disaster on the evening of December 29th, and soon after arrival, at the request of His Majesty the King of Italy and by permission of the Italian Admiral, rescue parties were landed, and a central medical station established ashore.

As the houses were all more or less damaged and dangerous to stop in, difficulty was at first experienced in finding a suitable building for the purpose. The electric light station, a one-storied building close to the beach, was soon decided upon and taken possession of. A Red Cross flag was hoisted at the gate, and surgeons, sick-berth stewards, and stretcher parties installed there, with two men who spoke Italian to act as interpreters, and marines (unarmed) for gate sentries. A supply of surgical dressings was taken ashore, with stimulants, soup, cocoa, etc. Water was brought in barricoes, for all water-pipes being broken, no shore supply was available.

The rescue parties—some 180 men—were divided into bodies of 20 men, each under officers. These parties carried picks and shovels, a number of picks being made by the *Minerva's* blacksmiths for the occasion. Every man had a filled water-bottle, and with each party a supply of brandy was brought.

The wounded, as they were rescued from the collapsed buildings, were carried to the central station on stretchers, which were for the most part improvised from doors, planks, etc. There they were attended to by the surgeons, and then embarked on stretchers laid along the thwarts of the ship's boats; the boats as they were filled being towed to the *Minerva* by her steam cutter, the wounded on arrival being hoisted on board in cots, and placed on beds and folded blankets on the bluejackets' mess deck, between decks, the sailors camping out in other parts of the ship for the time being, a large number of them, as a matter of fact, spending practically all their spare time in attending to the wants of the unfortunate refugees, giving up both time and living space with the utmost cheerfulness. As the cases were seen on board, a label was attached to each, bearing his or her name and the nature of the injury, a nominal list being also kept.

Owing to the early hour at which the earthquake took place—about 5.20 a.m.—practically all the inhabitants were in their beds at the time, this accounting for the small proportion of the population who escaped serious injury or death; and although at other points of the town an Italian and a Russian dressing station had been established, much difficulty was experienced for the first few days in coping with the situation, both by the rescuing parties and at the central station. At the latter the wounded arrived at times in a continuous stream; and the five rooms available for patients soon having their floor space fully occupied, an outer yard was converted into a temporary ward, by the aid of a large deck awning, with which it was covered in.

As fast as ships became available for transport, all the wounded were sent off in batches for passage to hospitals at Naples and Syracuse; consequently little operative work of a major character was carried out at Messina. As the wounded, in addition to their injuries, were suffering from starvation when rescued, each when received was given hot bovril or cocoa, with stimulants or morphine, as their condition indicated.

On December 31st Her Majesty the Queen of Italy went on board to visit the wounded in the *Minerva*—an honour which was received with the utmost joy and gratitude by the unfortunate refugees.

The difficulties and dangers encountered by the men working amongst the ruins can scarcely be exaggerated. As an instance of the risks this work involved I may mention the case of a bluejacket who, having heard groans issuing from a house which had partially collapsed, with the aid of a Russian seaman, broke a hole through the roof: both then lowered themselves down through the narrow opening, and crawling along in the dark, broke through a partition wall, and eventually succeeded, after two hours' work inside the house, in extracting a woman who was the only survivor of four, the other three having been killed outright by falling masonry and débris; the rescued woman had one leg very badly crushed. This was the kind of work carried on all day, with "after shocks" recurring at intervals, and shaken walls and roofs collapsing.

During the five days H.M.S. *Minerva* was at Messina about 500 wounded were treated at the shore station, and a brief account of the nature of the injuries met with may be of interest, as giving some idea of the effects of an earthquake from a surgical point of view. The first of the rescued sufferers had been under the ruins for over forty-eight hours, suffering from wounds covered with dust and débris; many with fractured limbs pinned between broken beams or pieces of masonry, several of the fractures being compound. In these circumstances, as may be imagined, many of the wounds were in an extremely septic state. Gangrene was commencing in not a few of the cases, and it is not surprising that several cases of tetanus had subsequently to be dealt with at the Syracuse hospitals. The majority of the injuries consisted of severe and extensive contusions and lacerated wounds, many of the cases being literally bruised all over. This, combined with the trying conditions under which the patients had existed before being rescued, produced shock, which in several cases ended fatally.

Fifty-three of the wounded had sustained fractures, many of which were multiple, a number being compound. Several of what one may call the classical fractures were represented, such as those of Colles and Pott. Two cases of fractured pelvis were seen. Of the fractured skulls, only one was of the base. One man had his scalp partially torn off, exposing a clearly-shown stellate fracture. The dislocations included three of the hip and two of the clavicle, the latter being both of the inner end forwards. Twenty cases of severe burns were treated, many of the other injured being also burnt. Amongst the other cases seen was one of ruptured urethra, occurring in an elderly man, probably caused by his falling astride a beam when his house collapsed. A man who had been shot through the chest by an Italian soldier for looting was brought in by his friends for treatment.

The experience gained can scarcely fail to be of service to medical officers who may find themselves employed upon relief work under similar circumstances. There should be less difficulty in deciding the kind and amount of medical stores required; the supply of nurses, male and female; of water, splints, medical comforts, etc. The number of wounded to be dealt with make it essential that a very large supply of surgical dressings of various kinds should be available. Taking as a whole the work done at Messina, and at Reggio, Canitello, Scylla, and other places on the Calabrian coast, between which the available medical officers were divided, the following are some of the quantities of dressings expended by the British men-of-war engaged:

Bandages of various kinds—8,799.
Gauze—6,690 yards.
Lint—311 lb.
Wool of various kinds—over 3,000 lb.

The fact that there were at first no women to assist in the care of the female patients was a source of much inconvenience in the *Minerva*, as will be understood when I say that there were at times over 100 badly injured women on the mess-deck of that ship, the greater number of whom had been incapable of moving since the occurrence of the earthquake some days before, all the necessary attention to their bodily comfort and cleanliness

having to be carried out by sick berth stewards and blue-jackets, to the best of their ability. Consequently, great was the relief when, on January 1st, two sisters of the Naval Nursing Service arrived in H.M.S. *Duncan* from Malta Royal Naval Hospital, to join the *Minerva* by order of the naval Commander-in-Chief.

At each station the want of something in the nature of a recording office was felt. At Messina the rush of patients on the first day made it impossible to take even the briefest of notes: this difficulty being surmounted on succeeding days by landing a clerk, whose sole duty it was to take a note of all cases treated, from the dictation of the surgeon; in some cases a note being pinned to each on clothes or bandage, mentioning the injury, and sometimes a word as to its seriousness or otherwise. This was to save the time of the medical officer left on board, either one or two being left to receive the wounded sent off. The experience of the first few hours also led to the addition of a carpenter to the establishment of the central dressing station, for the purpose of sawing up and trimming wood, to keep up the necessary supply of splints.

On January 4th the situation had become sufficiently adjusted to enable the Italian authorities to carry on the work, and that evening H.M.S. *Minerva* left for Malta, bringing back naval medical officers and Maltese civilian doctors from Reggio; and two refugees, one a son of the British Vice-Consul who was killed at Reggio; and a Sicilian woman whose arm had been amputated in the *Minerva* on the last day, and whose state did not permit of her being moved before we left.

On the way the ship called at Syracuse to land the Maltese doctors for service at the hospitals in that town, where their help was urgently needed, and where I am informed they did splendid work.

THE EXISTING AMBULANCE ORGANIZATION OF THE HOME RAILWAY COMPANIES:

WITH SUGGESTIONS FOR ITS AMPLIFICATION AND UNIFICATION.

By J. M. CARVELL, M.R.C.S., L.S.A.,
Surgeon, St. John Ambulance Brigade.

THE course of instruction which railway ambulance men go through is in accordance with the syllabus of the St. John Ambulance Association. It extends over a period of five weeks. There are five lectures, with an interval of seven days between each, followed by an examination.

The first lecture treats of: (*a*) The principles of first aid; (*b*) a brief description of the human skeleton and of the muscles; (*c*) fractures—causes, varieties, signs, and symptoms; (*d*) treatment of fractures, general rules; (*e*) the triangular bandage and its application.

The second lecture covers: (*a*) Treatment of fractures, details of treatment; (*b*) dislocations, sprains, strains—signs, symptoms, and treatment; (*c*) the heart and blood vessels, the circulation of the blood; (*d*) haemorrhage and wounds, general rules for treatment; (*e*) the triangular bandage and its application.

The third lecture deals with: (*a*) Haemorrhage and wounds, details of treatment; (*b*) internal haemorrhage—signs, symptoms, and arrest; (*c*) haemorrhage from special regions—signs, symptoms, and arrest; (*d*) bruises, burns, and scalds, bites and stings, frostbite; (*e*) foreign bodies in the eye, ear, and nose; (*f*) the triangular bandage and its application.

The fourth lecture includes: (*a*) The nervous system; (*b*) the organs and mechanism of respiration, artificial respiration; (*c*) insensibility; (*d*) poisoning.

Finally, in the fifth lecture are described: (*a*) Improvised method of lifting and carrying the sick and injured; (*b*) methods of lifting and carrying the sick and injured on stretchers; (*c*) the conveyance of such by rail or in country carts.

The Examination.

The examination consists of a practical and a theoretical portion. The theoretical is either by a written paper or by *viva voce* questions. In the majority of railway examinations the written paper is dispensed with, owing to the fact that the premises are not suitable.

The examination consists of at least five tests. In the practical part each candidate must treat a case of supposed fracture and a case of supposed haemorrhage, and then do either stretcher or hand-seat exercise, or perform artificial respiration. In the *viva voce* two questions have to be answered.

The maximum number of marks is 20 per test, making a total of 100. For a pass for a certificate a candidate must obtain 50 per cent. For a voucher—that is, the first re-examination—twelve months having elapsed after obtaining a certificate, 55 per cent. of marks have to be obtained. For the medallion examination, taking place after a lapse of twelve months from obtaining the voucher, the pass standard is 60 per cent. For the label examinations, which can be entered for at intervals of twelve months, the first twelve months after obtaining the medallion, the standard is 60 per cent.

The textbook in use is the official manual of the St. John Ambulance Association, *First Aid to the Injured*, by Mr. James Cantlie, F.R.C.S.

Organization.

The classes are organized either as detached classes, got up by the employees themselves, or by a centre of the St. John Ambulance Association. In the majority of the classes the whole cost of instruction and examination is borne by the railway companies, especially those having centres. On other lines, where detached classes are held, a money grant is made, varying from three to four shillings to each man who obtains his first certificate, and in a few cases a further grant of one to two shillings is made to each man who passes his second or third examination.

Encouragement to take up ambulance work is given in different ways on different lines—such as rewards for proficiency, rewards for work done, additional passes, medals, certificates of honour, competitions, and prizes. Of course, the great incentive to railway ambulance work is the Inter-railway Shield, which is offered for annual competition by the St. John Ambulance Association. Each railway has the right to send a team, consisting of five men, to compete.

The preliminary competition is held at St. John's Gate about the end of April. The six highest teams in the preliminary compete again in the final during May. The members of the teams competing in the final receive handsome prizes, and the company represented by the winning team holds the shield for one year.

This competition necessitates the holding of competitions on each line to pick out its representative team. This year on the Great Western and South-Eastern and Chatham railways alone 150 teams competed.

For the purposes of this paper I communicated with most of the railway companies in England, and find that the first aid material usually supplied for use on the various lines consists of boxes, hampers, and haversacks containing splints, triangular bandages, roller bandages, lint, gauze, cotton-wool, antiseptics, tourniquet, strapping plaster.

The means of transport consists of stretchers, litters, and carriages.

CONCLUSIONS.

It seems to me that all railway ambulance men should be given an elementary knowledge of nursing and sanitation. The men's wives should also be encouraged to go through elementary instruction in home nursing and sick-room cookery.

As to transport, all guards' vans should be fitted with rings in the roof for the suspension of stretchers, and looped ropes should be carried for attaching the stretchers to the rings. On those lines on which corridor trains are run a percentage of stretchers should be provided with telescopic handles, as they can then be carried in the corridor compartments, when placed cornerwise.

The easiest method of bringing about unification between the companies would be through the St. John Ambulance Association. All railway companies who have not already done so should form centres of the association. Then a Home Railway Committee should be formed, which could meet at St. John's Gate, the members of the committee to be nominated by the railway companies and the St. John Ambulance Association.

DISCUSSION.

Captain W. SALISBURY-SHARPE said that there appeared to be little co-operation or unity of method between the

different railway companies respecting the way of keeping up the men's interest and efficiency in the work. The result of prize competitions was too often to develop a few teams of highly skilled men rather than a large number of competent ones, the latter being the result desired. A better plan appeared to be that in use in the South-Eastern and Chatham service, where an additional annual benefit in the way of holiday pass was granted only to such men as were up to date in their ambulance knowledge, as proved by a recent re-examination.

The PRESIDENT said that it was only fair to Dr. Carvell that the Section should know that the paper read that morning was not the complete paper originally sent in. That was much more elaborate and comprehensive, but on account of its length had to be curtailed.

Lieutenant-Colonel E. M. WILSON said he had listened with great interest to Dr. Carvell's paper, and agreed that it was more desirable to obtain a large number of efficient men than a few very highly trained squads for competition purposes. Probably, however, better results would ensue from consultation between those responsible for teaching in the different railways than by asking St. John's Gate to lay down additional rules and regulations. So far as the central authority at St. John's Gate was concerned, inducements were already offered by granting medallions after re-examination, and subsequently labels. In each re-examination a higher percentage of marks was required as a proof of higher efficiency. If some stringent rules were laid down at St. John's Gate the result might be rather to hamper progress and to interfere with the individual freedom and discretion left to the local instructors and examiners. He suggested that the committees of the various railway companies should consult among themselves with a view of obtaining rather more uniformity of procedure, and he felt sure that any representations and suggestions would be most carefully considered by the Central Executive Committee at St. John's Gate. The system mentioned whereby some railway companies granted additional facilities in the way of "passes" to men who maintained their efficiency seemed to him to be of the utmost value.

Colonel HENDLEY agreed with Colonel Wilson that St. John's Gate would welcome any such suggestions, but he also shared his opinion that it would be best if the railways could consult among themselves, in the hope that these might arrive at greater uniformity, and that the benefits of training might be more widely extended, for he thought with other speakers that improvement was needed, as there was a strong tendency for a few enthusiastic men to acquire skill, and for the great body of railway servants to be discouraged and not to keep up their knowledge. No men had such frequent opportunities for the practice of "first aid," but these opportunities occurred everywhere on the railways, therefore as many men as possible should be trained. As an illustration of the need of "first aid" knowledge, he mentioned a case in which the man at a railway dépôt had been called upon to give it within a few weeks. He thought that representatives of the railways with others from St. John's Gate, as for example Colonel Wilson himself, whose experience was very large, might soon effect the desired results. It was evident to all who had seen, as he had done, the keen enthusiasm of those who took part in the final competitions for the railway shield, that a great deal of good work was being done; and after all, as these represented more than 1,000 men throughout the country, there was a wide diffusion of useful knowledge. The railway and the police had especially benefited by ambulance training, but he agreed with the Commissioner of Police of London when he told him that a single course of training was insufficient.

RHINOLOGY AS AN AID TO DIAGNOSIS OF PULMONARY TUBERCULOSIS:

WITH SPECIAL REFERENCE TO THE PHYSICALLY SELECTED CASES.

By W. C. RIVERS, M.R.C.S., D.P.H.,

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EXISTING supplementary means of diagnosing consumption are mainly bacteriological; they proceed, that is, from study of the seed of tubercle rather than of its soil. Certainly many physicians, examining a suspected case of phthisis, will note the physical conformation, the presence or absence of characters like flat chest, light weight, winged scapulae, etc. But diagnostic indications furnished by the *habitus phthisicus*, as usually described, are far from definite, and predisposition to tubercle is generally deemed an enigma. A non-tuberculous abnormality of the consumptive, to which as yet hardly any attention has been given, is the state of the upper air passages above the larynx. It is indeed the fact that already there exists evidence (given in two previous papers[1]) quite establishing this much, at any rate—namely, that simple intranasal and post-nasal abnormality is much commoner among consumptives than in non-tuberculous subjects. What in addition is highly probable, what completer investigation will almost surely reveal, is that impairment of nasal respiration often acts as a predisposing cause of the disease. This conclusion could not fail to have an important bearing upon prophylaxis, and especially upon the medical examination in recruit enlistment. But the subject needs exploring further first, and meanwhile two practical applications of the neglected truth mentioned may be made at once—the first to treatment, the second to diagnosis.

Years ago Ziem[2] commented rather bitterly on the plan of treating certain consumptives with tuberculin, while leaving their considerable nasal discharges quite untended. Long before reading these remarks, the present writer had become of the opinion that with not a few sanatorium patients the very first measure of treatment indicated was to syringe out the nose. Clearly, from the therapeutic standpoint, it does not matter how a consumptive came by his post-nasal catarrh, his nasal obstruction, or his atrophic rhinitis; whether the rhino-pathological condition be the cause, or effect, or mere concomitant of the pulmonary one, it requires remedying all the same. And similarly with diagnosis. Whatever the significance of these frequent faulty nasal conditions, the truth remains that they are characteristic of the phthisical patient. Although the point has not been urged before, it is contended, to put the matter in plain language, that on the whole it is a distinguishing mark of consumptives to have something wrong with their nose, and that this should help in identifying them.

The evidence that the writer has here to offer is based on study of the following clinical material:

(*a*) 208 male sanatorium patients examined, and most of them also treated, during the last two years.

(*b*) 81 consumptives from the physically selected classes—namely, 20 of naval ratings, 57 soldiers, and 4 policemen. The majority of these and all the following cases were seen this year or last with a Cresswell Baber lamp at Haslar, Netley, Woolwich, and Millbank, and thanks are due for much courtesy received at these places.

(*c*) 135 non-tuberculous members of the physically selected classes—85 of naval ratings and 72 soldiers—the greater part suffering from mild gonorrhœa.

Obviously the ideal way of estimating the significance of the nasal lesions presented by consumptives is by comparison with the normal population. The comparison between B and C is a fairly near approach, barring the smallness of the numbers, to this ideal, for the cases are all of one sex, are drawn from the same social strata, and have been exposed to much the same conditions of life. Class C, the "control," was, however, rather a severe one—that is, it contained more than a fair share of rhino-pathological cases—for the reason that there was a larger contingent of naval stokers in it than in Class B. These men showed more nasal abnormality than those of seamen ratings. One stoker, a case of gonorrhœa, had the largest "posterior ends" the writer has ever seen. The left one overlapped the right, and together they hid the posterior edge of the septum almost completely, and nearly filled the lower part of the naso-pharynx. This occupation incidence is what might have been expected. Ropke[3] states that German naval stokers and engineers suffer oftener than the sailors from affections of the upper air passages, attributing the fact to the nature of their work. Then the tuberculous patients were rather older than the others. Further, in the services no men are enlisted who are obvious mouth-breathers, with the superior dental protrusion and characteristic facies seen, for example, in the photographs of consumptives appended to Galton and

Mahomed's[4] paper on the physiognomy of phthisis.* But practically these phthisical and venereal sailors and soldiers are good material for the purpose, much better than the consumptives and heterogeneous hospital patients of both sexes examined by Payson Clark[5] and Ducos[6]—the only other authors known to the writer to make a set comparison.

The chief points of difference—the points therefore of diagnostic importance—were found to be as follows:

I. *Nasal Obstruction from Septal Deformity.*

In A class 30 per cent. exhibited this condition; in B class 54 per cent.; and in C class 20 per cent.

Dislocated septal cartilage of varying degree occurred in 14 per cent. of A, 9 per cent. of B, and 5 per cent. of C. This frequent asymmetry of the nostrils, noticeable in any large collection of consumptives, especially easily when they are in bed, is commended as a verifiable observation to the attention of those who find the idea of intrinsic phthisical predisposition old-fashioned. To continue, it is not proposed to cite all the authors (going back at any rate to Piorry[7], who have recorded some manifestation of the fact that nasal obstruction is common in phthisis, but merely the available results of comparisons with the normal, which seem to be only four in number. This plan will be followed throughout. Payson Clark found marked nasal obstruction from septal deformity in 16 per cent. of consumptives, and not at all in control cases. Ducos's protocols show it in 51 per cent. of male consumptives and in 44 per cent. of male controls; Schönemann's[8] figures for septal deformity are 36 per cent. for the first class, 13 per cent. for adult non-tuberculous males (with Harke[9] they are 46 per cent. and 30 per cent. respectively). The two latter authors were investigating by autopsy quite other rhinological questions, and in point of fact this excess of septal deformity amongst consumptives escaped their notice.

II. *Intranasal Atrophic Conditions.*

These were present in 11 per cent. of A class, in 20 per cent. of B class, and in 5 per cent. of C class.

The criterion of atrophy adopted was visibility of the posterior wall of the naso-pharynx on anterior rhinoscopy. It is true some rhinologists maintain that in a wide nose this may be the normal condition, but the discrepancy noted above does not seem to support this view. Two previous workers, Payson Clark and Alexander,[10] have attempted to classify the amount of atrophy present, but most of their distinctions become subjective in practice, whereas the visibility or not of any part of the posterior naso-pharyngeal wall is quite definite. Sometimes atrophy was present on one side and obstruction on the other, suggesting over-use of one side of the nose as the cause of the former condition. Crusting was by no means always present. Clark found atrophy in 73 per cent. of consumptives, as against 43 per cent. in the non-tuberculous. Ducos also noted a large excess, but his figures cannot well be quoted because he grouped (arbitrarily, as it seems to the writer) certain other appearances together with atrophy into a complex styled "coryza pseudo-atrophique tuberculeux." Schönemann's protocols do not give intranasal atrophy commoner in phthisis, but Harke's, dealing with larger numbers, show 19 per cent. of male consumptives, but only 8 per cent. of non-tuberculous males, affected thus.

III. *Muco-purulent Secretion, or Crusts, in the Naso-pharynx.*

The A class showed 10 per cent. to be suffering from these conditions, the B class 12 per cent., and the C class 4 per cent.

Thickening of one or both sides of the posterior edge of the septum was also commoner in the consumptives.

The secretion in the naso-pharynx was in most cases due to post-nasal catarrh. This symptom, however, may, of course, sometimes result from sinusitis, which affection is excluded from the cases in A. Nasal sinusitis is probably relatively common in consumption, and it is perhaps significant that 3 per cent. of cases in B, but only 1 per cent. of C, were suggestive of this condition. Of course, in the absence of necessary full examination, a definite diagnosis could not be made. Of the four authors quoted, only Ducos can be said to make adequate notes of the condition of the naso-pharynx, or of the next point, the anamnesis as regards nasal condition. His male cases are few, but they work out at:

	Muco-purulent Secretion or Crusts in Naso-pharynx.	A History of Nasal Symptoms.
Phthisical ...	About 22 per cent.	54 per cent.
Control	About 8 per cent.	16 per cent.

IV. *A History of Nasal Symptoms.*

Class.	Nasal Obstruction. Unilateral or Bilateral.	Epistaxis.	Previous Rhinological Treatment.	Crusts from the Nose.
	Per cent.	Per cent.	Per cent.	Per cent.
A	28	7	5	3
B	38	8	2	9
C	13	2	1	(1 case)

This history often antedated the pulmonary one; further, the proportion of distinct nasal abnormalities, or indeed of each separate variety of abnormality (except small dry crusts in the nose, like those seen in rhinitis sicca, which seemed commonest in advanced phthisis), was about the same in those cases in Class A, with two lobes or less affected, as in the remainder. Ducos reports a large percentage of nasal lesions in cases of pleurisy only. All this is of interest because it is, of course, in early phthisis that diagnosis is most difficult and also most important. To sum up, then: Since the proportion of nasal defect in A, the sanatorium patients, was almost uniformly less than in B, the phthisical sailors and soldiers, there can be no objection to striking an average of both in order to make a comparison with C, the non-tuberculous members of the physically selected classes. The consumptive sailor or soldier, therefore, is likely to depart from the general or "normal" nasal condition in the measure indicated below:

Six times as frequent: A history of getting crusts from the nose.

Three times as frequent: An appearance of the posterior naso-pharyngeal wall on anterior rhinoscopy; a history of epistaxis.

More than twice as frequent: Dislocated septal cartilage; muco-purulent secretion or crusts in the naso-pharynx; a history of unilateral or bilateral nasal obstruction, constant or intermittent.

Half as frequent again: Nasal obstruction from septal deformity.

These facts, it is contended, should be utilized in the diagnosis of doubtful cases; and not only in the services, but universally.

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DISCUSSION.

The PRESIDENT said that the paper was to be welcomed in the Section chiefly because of its value where recruiting was concerned.

Captain W. SALISBURY SHARPE said the paper was valuable as additional evidence of what was fairly generally known, at all events among those practising rhinology, that nasal deformities, especially of an obstructive character, favoured the development of phthisis. It also further proved, what was fairly commonly known, that nasal deformities of all kinds were extremely common, both among the tuberculous and the non-tuberculous, and showed that point so well that it quite disproved the title of the paper, and showed that such deformities had no diagnostic value at all.

* It is true these authors claim only negative results. Nevertheless they mention "narrow open mouths with prominent upper teeth and short small chins" as "forming a frequent type in phthisis." Probably, if attention had been directed exclusively to the character of the nose and upper teeth, and to the disposition of the mouth, even without the aid of composite photography some quite positive results might have been obtained.

A DETAILED SCHEME FOR AN UNEXPECTED LANDING PARTY USING MATERIAL AVAILABLE ON BOARD SHIP.

By Staff Surgeon J. G. WALLIS, R.N.

I DO not propose to bring forward any new ideas to-day. I consider, however, that the question of an unexpected landing of an armed force from a man-of-war is so important that a detailed scheme, using material available on board ship, should be always ready to the medical officer's mind, and I hope this is sufficient excuse for bringing forward this paper.

The conditions, climatic and otherwise, under which we may be called upon to work are so various that it is not expedient to enter into them all, even if I had the time at my disposal. I therefore propose to take a working example, which will only require certain modifications to suit each particular case.

Let us suppose that orders are received one afternoon in a ship lying off a foreign port to land 150 men at 8 a.m. on the following day for the protection of the British Consulate. The ship is then to sail, and it is probable that no British ship will be available to go to that port for five days. The party is thus to be left to its own resources for that time. It is understood that while on shore a room will be placed at our disposal as sick quarters. Let us suppose that the ground chosen for the camp is half a mile from the landing place, and that the nearest water supply is from a stream a quarter of a mile further inland, the water being of a doubtful nature, and it will not be safe for the men to be constantly going to and from that stream to fetch water, on account of the enemy's fire.

In the first place, what personnel shall we require?

One medical officer and one sick berth rating will probably be all that can be spared from the ship. Twenty-four stretcher men, in charge of a petty officer, who might also carry ashore our stores, and act as a "sanitary squad." In *Rifle and Field Exercises for His Majesty's Fleet*, it is laid down that there should be not less than two stretchers for every fifty men, and four bearers per stretcher, which the twenty-four men will give. I mention this, as it is possible that it might be argued that twenty-four are too many non-effective units for a force of 150. I think, however, if we employ them as a "sanitary squad" as well, the estimate is a small one. In a case like this example, also, we must be prepared for sorties, when our stretchers and stretcher men may be severely taxed.

It is obviously desirable that all the stretcher men should have received instruction in "first aid to the injured." There will be no time for this to be done with such short notice, and therefore, it should be our duty to see that the men we have on such an occasion have received the instruction which is always given to some men in a ship. Special stress should be laid on the methods of obtaining and purifying water, and on the appalling risks of drinking water from an impure source.

I am supposing that we can rely on no help, neither in the way of material nor men, and I suggest, for this purpose, that such a "sanitary squad" might well be organized on board every ship. They should be under the control of the medical officer, and to them would fall the duties of making and keeping in order the field latrines, and of preparing and controlling the issue of the water, of generally assisting the medical officer in his work and in the camp sanitation, and of bearing stretchers.

In the morning, before landing, it would be advisable, when the men are fallen in, to issue first field dressings. This might be done by the medical officer, who could satisfy himself that the available dressings were attached to the men's clothing, and who could, at the same time, make a hasty medical examination of the men of the party, and give them a chance of making any complaint to him as to their fitness for landing.

Since only about one hundred such dressings are carried on board ship in ordinary circumstances, we shall have to use our judgement as to whom to attach them to, not omitting the stretcher men. Of course, if warning of the landing were obtained, the ship would be supplied with a quantity from the Naval Medical Depot.

The instruments and materials available will be considered under several headings.

1. Field chest No. 1 weighs 67 lb. and can be readily carried by two men, if slung on a pole. It contains chiefly drugs, and includes a hypodermic syringe with the usual tabellae for hypodermic medication, transfusion apparatus, and a candle and matches. Also it contains a bottle of brandy and some extract of beef.

2. Field chest No. 2 contains chiefly surgical dressings and instruments. It likewise weighs 67 lb. Among its contents may be mentioned a pocket case of instruments, a sterilizer for instruments, and an amputating case.

3. The medical field service valise weighs 12 lb., and would be carried by the sick berth steward. It contains some dressings and splints, some important drugs in tabloid form, a hypodermic syringe and tabellae for use therein, and some needles and silk sutures. It contains also a bottle for hypodermic injection of morphine. It must not be forgotten to have this filled before starting, as it may be wanted in large quantity, and dissolving the tabellae is a comparatively slow process.

4. No. 3 chest of emergency surgical dressings contains dressings, and is only to be opened on emergency. Four of them are supplied to a big ship, and each weighs 70 lb. It would be well to land one of them in a case like this, which would form a load for two men, if slung on a pole. The others might be opened to take out the first field dressings, unless these were obtainable from some other source.

5. The six stretchers would be landed by two men each—that is to say, twelve men in all.

6. The naval first field dressing is a compact parcel, with short directions on the outside. The parcel contains a pad of gauze and one of cotton, a piece of mackintosh, a bandage, and two safety pins.

7. The water test box weighs 4½ lb., and might prove a useful adjunct to one's outfit.

8. As regards personal equipment for the medical officer, as he should be lightly equipped, I think it unnecessary for him to take his own private pocket case of instruments. An excellent case is supplied in Field Chest No. 2, which can be taken out, as other instruments are left for operating.

Then two clinical thermometers are found in Field Chest No. 2, and a hypodermic syringe and morphine in the field valise, so the surgeon need not be hampered with these things, but a stethoscope should not be forgotten.

Brandy and candles are not found in the field valise, so the surgeon should not forget to carry these on his person. He must also not forget a clasp knife and matches, and the all-important morphine must be always handy, as should also a lantern for use at night time.

Eighteen men are thus employed carrying stores, and two more might carry blankets for the field hospital.

Next, as regards our field hospitals. No tents are carried on board ship. The number of sick and wounded to be provided for will probably be about 60 per cent. of the whole force, and we shall be unable to send them back to the ship, and therefore stretchers will have to be used as beds for the more urgent cases and for such operations as we might be called upon to perform. Of course, the wounded would be sent to the base hospital—in this case our ship—as soon as it could possibly be managed, and no operations would be done, except those of extreme urgency to save life. A large ship carries eleven stretchers. Considering the bulk of the operating table supplied, it is not advisable to land it on such an occasion as this.

Twelve blankets might be taken. These weigh 70½ lb., and would supplement those carried by the men. A mackintosh sheet might well be wrapped up in the same parcel. Then, in our hospital, we would have the contents of the two field chests and the emergency case of surgical dressings.

In the way of "medical comforts," we might supplement the daily ration for the wounded by a few tins of beef-tea and chicken broth, and some tins (say two dozen) of condensed milk should be landed for the hospital dietary. Then a couple or more of enamelled bowls might be taken for washing and containing antiseptic lotions. (The lid of the sterilizer would be the instrument tray, and the lids of mess kettles might be used for lotions, etc., if found necessary.)

Concerning the all-important subject of water, the ideal plan would be to have it all landed from the ship, unless we can be certain of the safety of the shore water; but in most cases this is impracticable, owing to its bulk and

weight. In the present case it is out of the question, and I would advise a kind of "sail bath" for storage—that is to say, tanks made of painted canvas on board the ship. A tank, 5 ft. by 4 ft. and 2 ft. high, would, allowing for 6 in. waste space at the top, contain 30 cub. ft. Four such tanks would contain 750 gallons, and would allow 1 gallon per man per day, as there are 150 men to be catered for for five days. Four small tanks are more manageable than one large one, and would allow for one or two of them being used for impure water and also for damage done by rifle fire or other means. Such tanks could easily be made out of material available on board ship.

For carrying the water from the stream to the camp I think the service mess kettle, perhaps, the best plan. The large kettle holds 5 gallons of water, and weighs 63½ lb. when full.

The naval water barrico holds 4 gallons, and weighs 52 lb. full, but would mean additional gear to be landed, and is, in the circumstances, unnecessary. The water, too, is apt to be fetid, and, when once infected, a barrico is very hard, if not impossible, to clean.

For carrying water on a march we must be guided by what extraneous aid we can obtain. A good plan is to utilize a seaman's painted bag, slung from a pole in a rope network. The ordinary allowance of water for drinking and cooking is at least 6 pints per diem. In the above estimate I have allowed for 8 pints.

The water will probably have to be purified by clearing and subsequent boiling. As some time will elapse before the water will be ready, the men should all land with their water bottles full, and not partially full, which is a mistake sometimes made. If circumstances permit, we might use some kind of a field service filter, such as one improvised with a smaller barrel inside a larger, the interspace being filled with sand, gravel, and charcoal. Unless we have the bed of a stream to place it in, it entails a lot of managing, and is useless for three days except as a simple clarifier.

The best means of clearing the water is by mixing alum, in the proportion of 6 grains to the gallon, or 2 oz. a day for the present case. Alum, with the lime in the water, forms a bulky precipitate of calcium sulphate and aluminic hydrate, which carries down with it mineral and organic matter.

The boiling of the water could be done in the mess kettles in the field kitchen; and this, together with the clearing, storing, and issuing, would be done by the "sanitary squad."

Field latrines would, of course, have to be built. For these, instead of the ordinary pattern, the "short trench principle," used in the army manœuvres, seems better. Such trenches are 3 ft. long, 1 ft. wide, and 1 ft. deep; parallel to each other, and 2½ ft. apart. There is no more labour entailed, and they are more manageable and safer, as water percolates through deep ones, and may pollute supply; 2 per cent. are required for a camp used for one day; 5 per cent. are required for a camp used for a longer period.

As for clothing, a "kit bag" made of Willesden canvas is now supplied. It can be carried across the shoulders or by the handle, and will hold the following articles: 1 blanket, 1 flannel, 2 pairs socks, 1 towel, serge suit (or white suit if the men land in blues), also soap. It weighs 4 lb. 6 oz. empty, and about 13½ lb. full.

Sailors' straw hats would be worn, or caps, according to circumstances.

Boots are an important point if any marching is to be done, especially for sailors, who spend so much of their time with neither boots or socks on. The uniform pattern of boot, with a broad low heel, should be insisted upon. Fancy boots, with high heels, should be rigidly opposed, to avoid intermittent pressure. It is important, too, to look to the boot laces. The accoutrements, rifle, sword bayonet, and field kit bag of a sailor on the march, without the clothes he is wearing, weigh nearly 38 lb.

In reply to an observation by the PRESIDENT, the author said that he wished to emphasize the suggestion of training a sanitary squad on board ship in peace time for the preparation of water for landing parties for a standing camp. For an actual march some notice would always be obtained, and then some means of dealing with water would have to be devised, since coping with the water supply question simply with material available on board ship would be impossible.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FRACTURES OCCURRING DURING EPILEPTIC FITS.

As fractures following epileptic fits are not common, I think the following will be interesting. The patient was a hard-working farm labourer, aged 43, with no previous history of injury, and no family history of epilepsy. He had had fifteen slight fits at different times before I first saw him about six years ago, when he was recovering from a violent fit, in which he had fallen on the ground and broken the lower jaw through the socket of the left canine tooth; the fracture healed soundly and in a good position. Six months later he had another fit, in which he fractured the lower jaw, this time through the right canine socket: the upper lip was so much cut that it required stitching. About six months later, during a fit, he fell on his left side, fracturing the arch of the left malar bone, leaving a marked depression. I did not raise the bone at the time, as I did not consider anything would be gained by elevating it except appearance.

Two years later he had a violent fit, falling upon his left side, fracturing the lower jaw through the left canine socket. A month ago he had another, fracturing the left side of the jaw in the same place.

Each time the jaw appears to have united quite soundly within a month, although the fracture was always compound; the mouth was irrigated with a lotion of 1 in 80 carbolic acid and a saturated solution of potassium chlorate. He has had occasional fits between the severe attacks mentioned. Most of the severe fits have occurred when he has been walking, usually on the road, without any warning, generally causing him to fall on his left side. The last fit occurred when he was upon a haystack; fortunately, he fell into a cart full of hay without hurting himself.

He responds readily to potassium bromide, and has not had any fits when under the drug, but unfortunately cannot be persuaded to remain under treatment for any length of time. He has been a total abstainer for five years.

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Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

CHRISTCHURCH HOSPITAL, NEW ZEALAND.

SAFETY PIN IMPACTED IN THE TRACHEA FOR TWENTY-FOUR DAYS.

(By P. CLENNELL FENWICK, M.D., Honorary Surgeon to the Hospital.)

A CHILD, aged 6 years, was admitted into hospital on March 7th with a history of having inhaled a safety pin eight days before. He had been driven over a hundred miles to reach the hospital.

On admission the child was in a very weak condition, unable to speak except in a hoarse whisper; the lips were blue and the lower ribs retracted. Stridor was present.

A hasty laryngoscopic examination brought on a severe fit of choking, and the child became collapsed. X-ray examination showed the pin to be closed, and lying up and down the trachea, the lower end reaching almost to the sternal notch. The dyspnœa became so urgent that low tracheotomy was performed. The pin could not be felt with a probe passed up and down the trachea, so the patient was put back to bed with a tracheotomy tube in the trachea.

My colleague, Dr. Bell, honorary ophthalmic surgeon to the hospital, kindly took charge of the case. For the next five days symptoms of pneumonia were present, with some emphysema of the tissues of the neck and upper part of the chest. On March 12th, Dr. Crooke, the resident

medical superintendent, while inserting a fresh tracheotomy tube, felt the pin. Dr. Bell attempted to remove it through the tracheotomy wound, but the pin was so firmly wedged into the trachea that he was unable to move it without using undue force. He therefore postponed further attempts until the wound, which was in an unhealthy condition, had healed, intending to perform thyrotomy, and not wishing to infect the new wound from the old. On March 14th the child could speak quite plainly, and the stridor was noticeably lessened. On March 18th a second *x*-ray photograph was taken, and the pin was seen to have shifted from its original position.

On March 22nd a third *x*-ray photograph showed the pin lying in the right bronchus, and Dr. Bell reopened the wound and removed the pin from this position on March 23rd. The pin was blackened in parts, and covered with muco-pus.

The child was discharged well eight days later.

The first skiagraph, taken by Dr. Crooke on March 8th, shows the pin lying antero-posteriorly over the fifth, sixth, and seventh cervical vertebrae. The second negative, taken on March 18th, shows the pin lying slightly sideways, the upper end lying on the third dorsal vertebra. The last, taken on March 22nd, shows the pin in the right bronchus (apparently), the upper end lying on the body of the fourth dorsal vertebra, and inclining downwards to the right. The points of interest are the length of time the foreign body was present in the air passages, the rapid subsidence of the pneumonic symptoms, and the quick recovery directly the pin was removed.

Reviews.

DISEASES OF THE LYMPHATIC SYSTEM.

Mr. Arthur Edmunds has written a book on *Glandular Enlargement and Other Diseases of the Lymphatic System* for the series of "Oxford Medical Publications."[1] The introductory chapter is on the general anatomy of the system, and is followed by one on the anatomy of the groups of glands which are amenable to local treatment. The latter is too lacking in detail to be of much use, and does not supply such an anatomical introduction as one has a right to expect in a scientific monograph. A short chapter on diagnosis enumerates many points of clinical importance, and includes a careful description of the differential diagnosis of the various types of glandular tumour. The subjects of cellulitis and erysipelas are considered next, and the author rightly draws attention to the necessity of preventing mixed infection in these conditions. He speaks highly of the value of irrigation in cases of cellulitis when the part is very brawny and painful, but disparagingly of treatment by baths; the cleanest method is irrigation through a bath. There is no mention of Bier's method of treatment—an extraordinary omission, in view of its undoubted value and its recommendation by the best authorities during the last three or four years. Chapter VI treats of acute infection of lymphatic glands, and gives a careful description of the condition and its treatment. There are considerable differences of opinion on the details of minor surgery, and if we venture to make some criticisms it must not be thought that we have any desire to dogmatize. The advisability of placing stitches at the extremities of a wound made to evacuate an acute abscess is questionable; infection along the stitch-tracks is inevitable, and would increase the unsightliness of the scar. There is a good deal to be said against the plan of opening an acute retropharyngeal abscess from the side of the neck according to the author's plan. It is not the case that a pharyngeal incision must entail the whole of the discharge being swallowed, if, as is proper, the abscess is opened with the head dependent. It is recommended that the surgeon should make a simple skin incision and work his way behind the carotid sheath towards the abscess cavity with a pair of sinus forceps, the position of which is determined by a finger in the mouth. It does not need the account of two cases of dangerous haemorrhage, one primary and the other secondary, which the author gives, to convince one that the method is distinctly dangerous. If sufficiently widely opened the ordinary acute retropharyngeal abscess follows an entirely satisfactory course when incised into the pharynx, nor is there any excuse for mistaking the acute abscess for a tuberculous abscess secondary to vertebral disease. Full consideration is given to the subject of tuberculous glands—in particular, tuberculous glands in the neck. The chapter on the latter deserves careful attention, and is the best in the book. The author discusses the commoner complications met with during operation; it is well to ask recognition of the fact that an extensive and advanced case calls for as much skill and care on the part of the surgeon as almost any other major operation. We do not agree with the author's use of silk as a suture material for nerves; sterile catgut is much to be preferred. The vaccine treatment of tuberculous glands is touched upon; $\frac{1}{10}$ mg. is surely rather a large initial dose, but carefully controlled by opsonic index observations is probably without risk. In the later chapters short accounts are given of diseases of the thymus gland, the surgery of the thoracic duct, oedema in its different forms, lymphangioma and the various types of new growth originating in the lymphatic system or affecting it secondarily. The author has contrived to cover an enormous area within a comparatively small compass, and the book is one that will be read with interest.

[1] Oxford Medical Publications. *Glandular Enlargement and Other Diseases of the Lymphatic System.* By Arthur Edmunds, F.R.C.S. London: Henry Frowde, and Hodder and Stoughton. 1909. (Post 8vo, pp. 238, figs 19. 5s.)

GASTRO-INTESTINAL DISEASES.

Nearly three years ago we reviewed (1906, vol. ii, p. 428) the first edition of Professor Schmidt's pioneer work on the examination of the function of the intestine by the use of test meals. The second edition,[2] which was published last year, is mainly a reprint, but contains six coloured photomicrographs of the microscopical appearances of normal and pathological stools. As we pointed out in our former review Dr. Schmidt's methods are simple, and easily applied by any practitioner who cares to take the trouble, but their value, apart from the scientific interest of the research, is not yet definitely settled. His preparation of cascara agar, which is sold under the name of "regulin," has not proved in all hands a thoroughly satisfactory means of dealing with constipation.

Dr. Max Versé contributes to Marchand's *Arbeiten* a monograph of extreme importance on new growths of the stomach and intestines.[3] Two years ago we noticed M. Lohlein's treatise on the glomeruli in nephritis, and Dr. Versé's work is also a product of clinical and laboratory labour in the great Saxon centre of science and literature. We must turn the attention of British writers on pathology, editors and publishers of medical works, to the fine microscopic illustrations appended to this monograph. No doubt illustrated medical literature in this country has made great advances in excellence during the present generation, yet for elegance, clearness and accuracy Dr. Versé's photomicrographs are, as published, much above the average of their homologues in the United Kingdom. They will prove of great assistance to the student and pathologist. Dr. Versé considers that polypus and adenoma generally develop in areas already the site of chronic catarrhal affections, and that these innocent growths are the most common origin of cancer. The method adopted in this monograph is admirable. Over one hundred cases are reported, and the clinical features of each case and the microscopic appearances of the new growth are given in full. The summary of each series is judiciously treated, and there is a very long table of references, of much assistance to the foreign worker so often troubled when searching out the very scholarly writings of Lubarsch, Ribbert, Hauser, Versé himself, and several other living writers on cancer, and on new growths affecting the alimentary canal.

[2] *Die Funktionsprüfung des Darmes mittelst der Probekost.* Von Professor Dr. Adolf Schmidt. Zweite vermehrte und verbesserte Auflage. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. (Imp. roy. 8vo, pp. 81; Taf. 5. 5s.)

[3] *Ueber die Entstehung, den Bau und das Wachstum der Polypen, Adenome und Karzinome des Magen Darmkanals.* Von Dr. Max Versé. Arbeiten aus dem pathologischen Institut zu Leipzig, herausgegeben von F. Marchand, Vol. i, pt. 5. Leipzig: S. Hirzel. 1908. (Imp. roy. 8vo, pp. 181; Taf. 7. M. 8.)

In his monograph on the *Operative Treatment of Chronic Constipation*[4] MR. ARBUTHNOT LANE sets out in detail the views on the pathology of chronic intestinal stasis which were more briefly stated in the address published recently in the BRITISH MEDICAL JOURNAL (June 12th, p. 1408), describes the symptoms which he holds to depend upon this condition, and explains the very radical treatment which, as is probably well known to our readers, he advocates for its cure. He prefers to speak of "chronic intestinal stasis," as being a more comprehensive term than "constipation," and he attributes this condition mainly to the formation of non-inflammatory adhesions which have developed to oppose the displacement of viscera. These adhesions are produced by the exercise of abnormal pressure or strain or are an effort of Nature to add to the efficiency of the skeleton. A most important factor in their production, according to Mr. Lane, appears to be the erect position which the genus *homo* has adopted; and he holds that the first stage in the development of chronic intestinal stasis is the dilatation and enlargement of the caecum, which, together with the ascending colon, becomes adherent to the posterior wall of the abdomen. These adhesions contract the lumen of the bowel, and bind down the appendix to the iliac fossa. When the caecum is full the appendix is dragged upon and becomes flexed abruptly, so that its lumen may become occluded and its secretions dammed up; inflammation follows, and if the appendix is approximated to the right ovary, it becomes a source of pain at each menstrual period. The transverse colon tends to drop and forms a loop with its convexity downwards, while the splenic flexure creates adhesions by which it is dragged upwards and backwards; the descending colon becomes adherent to the posterior wall of the abdomen, and the sigmoid flexure gets fixed and shortened while its muscular coat wastes, its lumen is reduced, and it often becomes adherent to the left ovary. The rectum becomes elongated, dilated, and hypertrophied; the stomach dilates so that its great curvature falls below the umbilicus, while the wall of the small intestine becomes thinned, its lumen narrowed, its coils adherent to one another and bands of adhesion form between adjacent loops. The kidneys become mobile in consequence of loss of fat, dragging of the large bowel, and weakening of the abdominal walls. Besides these mechanical results coprostasis produces a chronic toxaemia, revealed by pigmentation of the skin and conjunctivae, the skin of the hands becomes cold and clammy, the breasts tend to undergo cystic or even cancerous change, gastric and duodenal ulcers may develop, the gums are infected, and the teeth loosened. Mr. Lane's remedy is to exclude the large bowel, which, as a seat of toxin-producing processes, is wholly hurtful to its possessor. This may be done by anastomosing the ileum to the sigmoid or the rectum, or preferably by removing the whole of the large bowel. Except in very feeble people removal of the large bowel is said not to be accompanied by "any special danger to life," but early anastomosis obviates the necessity for this radical operation. The remedy is drastic, but it is interesting to note how many clinical observers approaching the subject from different points of view have become impressed with the importance in pathology of intestinal toxaemia.

SURGERY.

PROFESSOR BINNIE'S *Manual of Operative Surgery*[5] does not pretend to cover the whole range of the scalpel's activities. The first volume of this pregnant "little" book—its cubic capacity is deceptive—deals with operations on the head, neck, nerves, trunk, and genito-urinary system. The chapters on orthopaedic surgery and on the veins which appeared in the three previous editions of this volume have been deleted, to reappear in a new work that will form volume ii and contain operations on the extremities, the vascular system, etc. It is perhaps hardly necessary to remind readers that this is not a student's textbook. Routine procedures are deliberately neglected, and everything is written from the point of view of the operating theatre and not of the class-room. It is a compendium of surgical progress; all the newest operations that have attained acceptance at the hands of leading surgeons are included, with some few that seem hardly to have reached that point. We find practical accounts of Cushing's decompressive operations, of Killian's on frontal sinus, of Cushing's on the Gasserian ganglion, of Jonnesco's sympathectomy, of Halstead and Evans on the parathyroids, of recent surgery of the thorax, of the Mayos on gastric surgery, of Robson and Moynihan on the pancreas, and so on. In fact, it is a ready-reference book for the busy surgeon. Nor is it to be thought that it is merely a dishing-up of other people's labour; the author interjects many a shrewd remark upon abstracted accounts of original papers, and makes it quite evident that he speaks with the authority of large experience; it might be wished that at times he was a little more dogmatic, but he is eminently fair. The chapters on renal surgery and on the nerves have been entirely rewritten since the last edition, and contain a great deal of most interesting information. The outstanding feature of the book is undoubtedly the attention paid to every form of plastic surgery. Repair of defects in all the hollow organs is profusely illustrated, and means for the restoration of superficial parts, removed for or destroyed by disease, are described in considerable detail. Congenital defects, too, obtain ample space. There are over 700 illustrations, most of them good. It is a book to have by one.

Professor LESER'S volume on general surgery has been rewritten and enlarged for its second edition.[6] The scheme of the book is unchanged, and the various subjects are treated in lecture fashion; the whole forms a "course" in general surgery well suited to the needs of the student, and is also sufficiently detailed for use as a work of reference by practitioners. The enlargement of the work has considerably improved it; it does not now give such a general impression of condensation and an effort to say a great deal in a small compass as did the first edition. There is a new section in the earlier part on operations in general, and into this the section on amputations and disarticulations of the first edition is absorbed. The frequent use of the term "purulent infection," both in titles and text, conveys the suggestion of a pathology that is past, just as much as the "pyogenic" of the previous edition. The sections on infection (13–18) still require rearrangement before they can be considered to run in natural sequence. It would be better if a chapter on conveyance of infection, its extension, and the resistance of the body, were followed by others on the specific infections. As before, the subject of tumours is very fully treated. It is hardly necessary to say that throughout the book the teaching is sound and practical. Professor Leser's style is attractively simple, and the result is a work both easy and pleasant to read even for those whose knowledge of idiomatic German is not extensive.

The manual of *Surgical Handicraft*,[7] so long associated with the name of the late Mr. Walter Pye, has in its latest edition been subjected to free revision. Indeed, it has taken on a new form, as it has not only been largely rewritten by Mr. CLAYTON-GREENE, but includes also much new matter contributed by colleagues and friends. Although this division of labour must have caused the editor some difficulty in maintaining the character and style of the original work, full success has been secured in rendering it a complete manual of the technique of minor surgery under modern conditions, and an excellent guide

[4] *The Operative Treatment of Chronic Constipation.* By W. Arbuthnot Lane, M.S., F.R.C.S. New edition. London: J. Nisbet and Co., Limited. (Demy 8vo, pp. 70. 2s. 6d.)

[5] *Manual of Operative Surgery.* By J. F. Binnie, A.M., C.M.Aberd., Professor of Surgery, Kansas State University. Vol. i. Operations on the Head, Neck, Nerves, Trunk, Genito-Urinary System. Fourth edition. London: H. K. Lewis. 1909. (Post 8vo, pp. 845, illustrations 715. 14s.)

[6] *Lehrbuch der Chirurgie in Vorlesungen.* I Teil. *Allgemeine Chirurgie in 50 Vorlesungen.* Von Professor Dr. E. Leser. Second edition. Jena: G. Fischer. 1908. (Sup. roy. 8vo, pp. 804; 230 figures. M.18.)

[7] *Pye's Surgical Handicraft: a Manual of Surgical Manipulations, Minor Surgery, and Other Matter Connected with the Work of House-Surgeons and Surgical Dressers.* Fifth edition. Revised and largely rewritten by W. H. Clayton-Greene, B.A., M.B., B.C.Cantab., F.R.C.S. Eng., Surgeon in Charge of Out-patients, St. Mary's Hospital. Bristol: John Wright and Sons, Ltd.; and London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1909. (Demy 8vo, pp. 592; 343 illustrations. 12s. 6d.)

for junior practitioners. The new volume is handy and attractive, and is well illustrated, but it might, we suggest, have been improved by the omission of many details of surgical treatment that have in the course of a quarter of a century become obsolete.

In preparing the fourteenth edition of the work well known for nearly half a century as Heath's *Manual of Minor Surgery and Bandaging*,[8] Bilton Pollard has made it his endeavour throughout the new volume to elucidate the system of aseptic surgery, and to teach the practical details which are so essential for its successful employment. A glance at the plate facing the title-page of this recent issue will suffice to convince those who have long since ceased to be students in surgery that there is very little association between the last and the early editions of this book. In one all-important respect, however, the manual in its new form maintains its distinctive characters of thoroughness and utility, and may still be commended as being, under the much altered conditions of modern practice, an excellent guide to minor surgery.

MINING PRACTICE IN GERMANY.

Dr. Jannes, in giving an account of his twenty-five years' experience as a medical practitioner to the miners' society at Eschweiler,[9] speaks of the friendly and confidential relations which have existed between the miners and their doctor, and thinks that the system of the miner being able to choose his doctor freely, has contributed to this excellent result.

The progress of medical science during these years is noted, the development of antiseptics and asepsis, Roentgen rays, and the application of these to the injuries of miners.

The laws of assurance against accident and invalidity are mentioned with approval, but it appears that, in this connexion, the task of unmasking the simulator has not always been an easy one. Dr. Jannes believes that a knowledge of the science of psychiatry is a useful accomplishment to a medical man engaged in the examination of cases of traumatic neuroses, etc.

He speaks with satisfaction of the development of hygiene as applied to mines and miners, the improved air supply to workings, the value of first aid, and the use of oxygen in emergencies, and the importance of rapid transit by the ambulance to the hospital. The hospital at Eschweiler is well equipped for its purpose, having a Roentgen installation and a modern operating theatre, hot air baths, etc. The hospital is administered by the Sisters of the Order of St. Francis. The doctors of the district look after their own patients, and operate with the assistance of their colleagues, but in difficult cases specialists are called in. The number of cases of the various diseases and injuries treated is shown in a table.

DENTAL ANATOMY AND SURGERY.

Dr. J. S. Marshall's *Principles and Practice of Operative Dentistry*[10] is a very good book, in which the writer has, to an extent which we are sorry to have to say is unusual in American dental works, sought also to embody the opinions of writers of other nationalities, and has succeeded in offering an excellent summary of modern views, while at the same time the student is not left without guidance in a sea of more or less contradictory dicta. It may be doubted whether it was advisable to endeavour to incorporate in one work both dental surgery and dental anatomy, for each subject to receive full treatment would have required the whole space available, and we believe that we offered the same criticism upon a previous edition. But the book is so well done that it seems almost captious to raise this objection, and the book will be found useful for reference by the most advanced student of dental anatomy or dental surgery, as well as serving as a good textbook for the young student during his curriculum.

The author of *Golden Rules of Dental Surgery*[11] has very successfully followed the proper lines for a book that is to be a member of a series such as that to which it belongs. It is not an examination cram-book in any sense, but a set of dicta laid down by a practitioner of experience, many of them relating to little practical details such as a young practitioner is likely to overlook or disregard. The sections relating to anaesthesia, both local and general, are particularly good.

It is stated that these *Notes on Dental Anatomy*[12] are intended to be read over by the student after each lecture; but we very much question whether the possession of them may not tempt him to omit to take notes for himself—a proceeding much more valuable to him, even though his notes be far less complete than those here offered to him ready made. They are well done, concise, and generally correct, but they appear to be almost wholly derived from a very well known textbook. Sometimes the very words of this textbook are used, sometimes the words with slight alteration, the sequence of exposition being retained, and sometimes its substance differently arranged; occasionally something is added from other sources. But the use made of the particular book is so obvious and so copious that it ought to have been fully acknowledged.

In his work as dental tutor at Guy's Hospital the writer of *Dental Surgery Notes*[13] claims that he has felt the need of some abbreviated conspectus of dental surgery, and offers this explanation for proffering a book which lies open to the criticism that it is a "cram-book." It is very possible that such books may have their use in helping lame students over the stile of an examination, but we do not think them calculated to enable the student to acquire a sound and lasting knowledge of a subject, and should hesitate to put them into the hands of students. Still, if such books are to be written, this is as good of its kind as can well be. It is accurate, up to date, and well arranged.

Our Teeth is a book addressed to the public rather than to the profession,[14] and is an endeavour to bring home to educated people the necessity for due attention to the teeth as a means of improving the health of the community, in which direction considerable steps have already been taken by the treatment of the teeth of recruits and, in some places, of school children. The work, incidentally, deals to some extent with proper feeding, and gives simple directions for the hygiene of the mouth. Unlike many popular works its teaching is perfectly sound, it is well written, and well illustrated, partly by photomicrographs and partly diagrammatically. Perhaps in their desire to render it scientifically correct the writers have gone farther into questions of structure and development than the lay reader can, or will, follow them, but with this exception we have no criticism to offer on the conception and execution of the task the authors have set themselves.

[8] *A Manual of Minor Surgery and Bandaging* (Heath). Fourteenth edition. By Bilton Pollard, F.R.C.S., Surgeon to University College Hospital and Professor of Clinical Surgery. London: J. and A. Churchill. 1909. (Crown 8vo, pp. 506; 250 illustrations. 7s. 6d.)

[9] *Fünfundzwanzig Jahre knappschaftsärztlicher Praxis beim Eschweiler Bergwerks-Verein* (1884–1909). Von Dr. Jannes. Munich: J. F. Lehmann. 1909. (Roy. 8vo, pp. 70. Abbildungen 22. M. 2.)

[10] *Principles and Practice of Operative Dentistry.* By John Sayre Marshall, M.D., Dental Surgeon United States Army, President Dental Examining Board (Army). Third edition. Philadelphia and London: J. B. Lippincott and Co. 1909. (Roy. 8vo, pp. 689. 21s.)

[11] *Golden Rules of Dental Surgery.* By C. W. Glassington, M.R.C.S., L.D.S. Golden Rules Series. Bristol: Wright; and London: Simpkin, Marshall, and Co. (Demy 32mo, pp. 72. 1s.)

[12] *Notes on Dental Anatomy.* By G. A. Peake, M.R.C.S., L.D.S. London: Ash, Sons, and Co. 1908. (Roy. 8vo, pp. 112.)

[13] *Dental Surgery Notes.* By E. D. Dowsett, L.R.C.P., M.R.C.S., L.D.S. London: Dental Manufacturing Company. (Fcap. 8vo, pp. 158. 3s.)

[14] *Our Teeth, How built up, How destroyed, How preserved.* By R. Denison Pedley, F.R.C.S.Ed., L.D.S., and Frank Harrison, M.R.C.S., L.D.S. London: Blackie and Son. 1908. (Med. 8vo, pp. 100, 26 figures. 5s.)

HANDBOOKS FOR MIDWIVES.

MRS. SCHARLIEB, in her preface, claims for DR. VICTORIA BENNETT that she has "successfully translated scientific truth into homely language"; and with this we agree. The *Lectures to Practising Midwives*[15] explain in clear and simple words the things that a midwife ought to know. Dr. Bennett accepts most loyally and trustfully what other people have taught before her. Thus, as causes of uterine inertia she gives "malnutrition, constitutional weakness"—terms often used, but so vague as to be meaningless. We know nothing as to the cause or causes of uterine inertia; and this is recognized by the precept contained in nearly all practical midwifery books, not to predict when the child will be born. *Post-partum* haemorrhage is said to be caused by "excitement, worry, or alcohol drinking"; but we know of no evidence that alcohol drinking has any relation to the amount of blood lost *post partum*. Among the causes of septicaemia, according to Dr. Bennett, is "a general predisposition." Those who are old enough to remember hospital practice before Lord Lister's teaching was generally accepted know that there is no such thing as a predisposition to septicaemia. In the pre-Listerian age the strongest and healthiest patients succumbed after operations as frequently as those whose health in other respects was precarious. The predisposition theory was invented to shield the practitioner whose patient died from septicaemia because he had not taken adequate antiseptic precautions. We are rather inclined to cavil at giving the midwife the choice between three proprietary antiseptics of unknown composition, while the cheapest of antiseptics, sublimate, is also one of the most powerful as it is the most portable. True it is poisonous, but so are many others, and a midwife who is competent to attend labour ought to know how to avoid poisoning her patient. May we also say that we think that the daily bath and other things would be less insisted on if the persons who talk about it had to build their own fires, boil their own water, fill and empty the bath themselves, wash and dry their own linen? The illustrations are not all equally good—for example, Fig. 20 on page 129 might be replaced by a better one. Taken altogether, we consider this book one of the very best that a midwife can study.

We noticed the first edition of Dr. COMYNS BERKELEY'S *Handbook for Midwives and Maternity Nurses*[16] in our issue for January 12th, 1907, and the fact that a new edition has been called for is evidence that its merits have been appreciated. The author tells us in his preface that he has endeavoured to take advantage of the friendly criticisms passed upon his work when first published: a sensible attitude not always taken by irritable authors. The appendices which have been added are three: (*a*) On cancer of the uterus, written to help the midwife to urge early examination and, if necessary, operation on persons suffering from symptoms suggestive of that disease; (*b*) questions and answers founded on the rules of the Central Midwives Board; (*c*) obstetric rules of the City of London Lying-in Hospital, of which we notice Dr. Berkeley is the senior physician. These rules conclude with the following note: "If, after sterilization, the hands accidentally touch any object which has not been sterilized, the whole process of disinfection must be repeated." This note implies that sterilization and disinfection are the same thing. In our judgement, while sterilization implies disinfection, disinfection does not imply sterilization. Disinfection of the hands has been abundantly shown to be practicable; but there is doubt whether sterilization of the hands is possible. The practical tendency of the note is good, but we think it is well to use words with as close literal accuracy as possible.

[15] *Lectures to Practising Midwives.* By Victoria E. M. Bennett, M.B., B.S.Lond., Lecturer to Midwives for the London County Council, etc. With preface by Mrs. Mary Scharlieb, M.D., M.S.Lond. London: Bailliére, Tindall, and Cox. 1909. (Demy 8vo, pp. 270; 41 illustrations. 6s.)

[16] *A Handbook for Midwives and Maternity Nurses.* By Comyns Berkeley, B.A., M.B., B.C.Cantab., F.R.C.P.Lond., Obstetric Physician to the Middlesex Hospital, etc. With 58 illustrations. New and enlarged edition, with appendices. London: Cassell and Co. 1909 (Fcap. 8vo, pp. 315. 5s.)

NOTES ON BOOKS.

MR. ROBSON'S little book on *Social Disease and its Prevention*[17] is avowedly not intended to be regarded as a medical work, but as one "to be read by all and sundry." This being the case, it would have been well to have avoided the use of purely technical terms, such as *Spirochaeta pallida*, neuron, and numerous others, which the author habitually employs. With the best intentions on his part, the use of such terms in a work of the sort lays him open to the imputation of parading professional knowledge before the lay public. A large part of the work is occupied with commentaries from Hutchinson's *Syphilis*, and the opinions of many living authorities are freely quoted in the text. We cannot agree with the author that in Great Britain the medical profession "have failed to realize the importance of contagious disease, as regards its effects upon the happiness and welfare of domestic life, and also upon the physique and efficiency of the race." The statement, too, that syphilis is the "most common cause" of cerebral haemorrhage, "generally known to the public as apoplexy, a stroke, a fit, and so on," is only one of several the accuracy of which is doubtful. The main object of the work is the advocacy of prevention. For the prevention of syphilis the author advises the employment of a 33 per cent. calomel ointment, to be used as a lubricant, preferably before, or within eighteen hours after, the exposure to infection. A similar ointment, or one of mercuro-zinc-cyanide, introduced into the orifice of the urethra, is advised for the prevention of gonorrhoea, along with injections of protargol or potassium permanganate. We have sufficiently indicated the scope of the work, and do not feel called upon to express an opinion as to whether any advantage is to be expected from a publication of this nature.

[17] *Social Disease and its Prevention.* By H. N. Robson, M.R.C.S. L.R.C.P. London: Appleton and Co. (Cr. 8vo, pp. 164. 2s. 6d.)

INTERNATIONAL CONGRESS ON ALCOHOLISM.

(*Continued from page 339.*)

Alcohol and the Race.

As a result of a long-continued investigation, Professor TAAV. LAITINEN, of the Helsingfors Hygienic Institute, said he had arrived at the conclusion that alcohol, although consumed in small quantities, had an injurious effect on human offspring.

Dr. KARL KÖGLER, of Vienna, said 17 per cent. of tuberculous children were the offspring of alcoholic parents, and his experience as a nerve specialist convinced him that a similar percentage of nervous diseases was directly traceable to indulgence in strong drink.

Alcoholism and Tuberculosis.

Professor S. E. HENSCHEN (Stockholm) read a paper in which he said the use of alcohol led to poverty and overcrowding, and mortality in tuberculosis rose with the congestion of population. Alcoholism, therefore, must be combated as a potent cause of the poverty and misery which indirectly produced tuberculosis.

Liquor Traffic in Africa.

Dr. C. F. HARFORD (London) reminded the meeting that a far-seeing statesman like Mr. Joseph Chamberlain had, when Colonial Secretary, made a very clear pronouncement on the question of the liquor traffic. He proposed that the Congress dispatch the following telegram to Mr. Chamberlain:

This meeting of the Twelfth International Congress on Alcoholism, composed of members of divers nationalities and political opinions, recalls the noble words and earnest efforts which you have put forth to protect the native races of Africa from the liquor traffic, which, as you have said, is not only discreditable but disastrous to British trade. We appeal to you once more to support us in our united endeavours to protect the weak races of the world from this gigantic evil.

The resolution was unanimously carried amid applause.

Economic Effects of Production and Consumption of Alcohol.

On July 22nd Sir THOMAS WHITTAKER, M.P., delivered an address in which he said the total expenditure on alcohol in this country was £165,000,000 a year, and the test of the wisdom and the value of that expenditure must

be looked for from the point of view of the consumer and not from that of the producer or the revenue. The real tests of the wisdom and value of this expenditure were: (1) Were these liquors beneficial, or were they actively injurious? and (2) could the consumer afford the expenditure? Abstainers lived longer, were healthier, and discharged the duties of citizenship quite as well as non-abstainers. He doubted whether in individual cases the use of alcohol was innocent and innocuous, but he was certain that communities as a whole could not take it without hurt. Insurance statistics showed this fact conclusively. A company with which he was connected, and which had for a period of more than sixty years kept accurate statistics of the comparative mortality of abstainers and non-abstainers, found that each year the death-rate among the former had been markedly less than among the latter. The non-abstainers, furthermore, were very carefully selected, so that the average mortality among them was slightly less than the average mortality among the great majority of other insurance offices in the country. The difference amounted to something ranging from 25 to 30 per cent. per annum. Of 100,000 men of 30 years of age in the temperance section 55,000 would reach the age of 70; while of the same number at the same age in the non-abstaining section only 44,000 would reach 70. The very civilization of which we were so proud, the very progress that we were making involved and begot greater needs and a higher standard for our people. In his judgement the problems of employment were very largely problems of capacity in its widest sense, and nothing created incapacity like drinking. The results of the drinking habits were seen in the deprivation of the children of proper training and even a proper supply of food. People spoke of improved housing, but did they realize that those who lived in these houses generally spent more on liquor than on rent? Drink was the dominant factor in crime, pauperism, and disease.

Alcoholism and Workmen's Insurance.

A paper was read by Herr KARL KÖGLER (Vienna) on Alcoholism and Workmen's Insurance. He contended that alcohol led to a degeneration of the whole race, and thereby to a general increase of the risks for every class of workmen's insurance. The statistical investigation of the influence of alcoholism in regard to the frequency of illness, the number of accidents, and incapacity was still in its infancy. Notwithstanding, experience showed that alcohol was harmful to workmen's insurance.

The Effects of Alcohol on the Nervous System.

Dr. F. W. MOTT read a paper on the nervous system as exhibited in hospital and asylum practice. He referred to (1) the transient effects of the abuse of alcohol on the stable healthy nervous system; (2) the permanent effects of the continued abuse of alcohol on the stable healthy nervous system—(*a*) the subtle, unrecognizable changes which constituted a vicious habit, (*b*) the structural recognizable changes in the brain, spinal cord and nerves found in certain cases of chronic alcoholism, occurring especially in women. These changes might be correlated with a characteristic complex of symptoms known as polyneuritic psychosis. The tendency of these cases was to get well, and all the symptoms eventually to disappear under the influence of proper treatment and withdrawal of alcohol. In such, therefore, there could not be widespread permanent destruction of the nervous elements. The fatal termination in this disease might be due (*a*) to intercurrent complications—for example, pneumonia, bronchopneumonia, tuberculosis, septic infections, etc. Occasionally death might occur from heart failure or cerebral haemorrhage. These uncomplicated cases were infrequent, but obviously were the most useful for studying the effects of the alcohol *per se* on the nervous system. However, similar changes might be observed in chronic arsenic and lead poisoning; consequently, they did not know whether the changes found in the nervous tissues were due to the direct influence of the alcohol or to the effects produced by the derangement of various organs of the body and the production of autointoxication. The cases were sufficiently numerous to allow them to definitely associate the lesions with the alcoholic poisoning. Dr. Mott gave a description of an uncomplicated acute fatal case of alcoholic neuritis and psychosis with degeneration of the vagus nerves, fatty degeneration of the heart, and multiple cerebral haemorrhages; the description was illustrated by lantern slides. The literature of the subject and his own experience showed that alcoholic neuritis was due to a segmental and not a Wallerian degeneration of the peripheral nerves. In most of the recorded cases and in all his own cases changes in the spinal sensory and in the spinal motor nerve cells were found. Similar changes were also found in the ganglion cells of the cranial nerve nuclei. These cell changes might be accounted for in more than one way: (*a*) By a toxic action on the whole neurone; (*b*) a secondary reaction to the changes in the peripheral nerves; (*c*) a combination of both these causes. The last named was the more probable. He described the changes in the spinal motor and spinal sensory cells and the peripheral nerves. Speaking of the changes in the brain, he said that in chronic cases met with in asylums, where the dementia had become permanent they found thickening of the soft membranes, atrophy of the superficial cells and fibres of the cerebral cortex.

(*a*) Microscopic changes in the cortical cells: The most notable change was in the large psychiomotor Betz cells; the changes were similar to those in the spinal motor cells.

(*b*) Changes in the cortical fibres: These were not always present, but they were found in cases of permanent dementia. They consisted mainly of a disappearance of the myelin staining of the tangential and superradial fibres. Neuroglia proliferation was not marked, and might even be absent. There was, in his opinion, not sufficient evidence to show correlation between the mental symptoms of the disease as manifested in its intense form and the morbid changes found in the brain. This part of the paper was also illustrated by lantern slides.

The mental picture corresponded more with the toxic psychosis than with organic brain disease.

Alcoholism and Crime.

Lieutenant-Colonel A. B. MCHARDY (Edinburgh), dealing more particularly with the criminal statistics of Scotland, said last year there were 90,000 cases of public disorder due directly to the influence of drink. Out of 153 cases of murder, culpable homicide, etc., it was found that no fewer than 129 of the culprits had been "generally, directly, and immediately" under the influence of liquor. The chief constable of a large city recently reported that of the persons apprehended in one month, 70 per cent. owed their downfall to drink. These facts justified him in stigmatizing drink as "a crime producer."

The Detention of Inebriates.

Professor G. ASCHAFFENBURG (Cologne) recommended a number of legal measures, the chief being that if a drinker had committed some breach of the law, and if it had been ascertained by medical opinion that the accused was a habitual drinker, the law must sentence the man to be interned in an inebriate home. If the drinker showed himself to be incurable he should be sentenced to perpetual custody in an asylum.

Dr. R. WELSH BRANTHWAITE, representing the Home Office, said that every inebriate was either a potential criminal, a burden upon public funds, a danger to himself and others, or a cause of distress, terror, scandal, or nuisance to his family and those with whom he associated. Every inebriate, moreover, by precept, example, neglect of children, and possibly by direct procreation of his species, was contributing to the supply, reproducing his like to the detriment of national welfare in years to come. Interference with the liberty of the inebriate was, therefore, justified, and, to carry this out, legislation, amply protected against misapplication, was needed. Any law for inebriates must be elastic enough to permit the application of the mildest possible measures, and, at the same time, of stronger powers when the milder had proved ineffectual. Our existing Inebriate Acts were defective in these attributes, but there was reason to expect extensive changes in the near future. For the benefit of drunkards who had not become criminals the English Committee suggested as a preliminary measure an officially witnessed pledge to abstain from alcoholic liquors; on failure to keep this pledge the inebriate might be enabled to place himself under the care of a guardian or in a licensed retreat; failure of these measures to be met by the power to

enable certain friends of the inebriate to apply for a compulsory order of guardianship or committal to a retreat.

Lord Weardale referred to the prospect of further legislation for the control of inebriates, and suggested that the proposal of compulsory detention and guardianship raised a larger question—whether the useful precedent set by France and Holland in the "family council" could not be applied in this country, in cases not only of intemperance but of other forms of extravagance.

Next Meeting.

It was decided that the next meeting of the Congress should be held at The Hague in 1911.

BRITISH MEDICAL BENEVOLENT FUND.

At the July meeting 22 cases were considered, and grants amounting to £195 voted to 19 of the applicants, 3 cases being passed over. Four annuitants were elected to fill vacancies caused by deaths. Appended is an abstract of the cases relieved by grants.

1. Daughter, aged 70, of late M.R.C.S. No income; has been supported for several years past by a brother who is now compelled to withdraw his help. Relieved once, £10. Voted, £18.

2. M.B., C.M.(Glasgow), aged 56. Is not in very good health, and finds difficulty in obtaining suitable work. No children. Voted £5.

3. Daughter, aged 73, of late M.R.C.S., who practised as an army surgeon. Lost everything through the dishonesty of the family solicitor (since struck off the rolls), and has exhausted a small legacy received a few years ago. Voted £18.

4. Widow, aged 58, of M.R.C.S., L.S.A. Supports herself by letting lodgings, but is in arrears with rent owing to last year's bad season, and is now threatened with loss of her furniture. Voted £16.

5. Widow, aged 71, of M.R.C.S. Only income the Old Age Pension of 5s. a week, and is crippled by rheumatism and sciatica. Voted £12.

6. Widow, aged 43, of M.R.C.S., L.R.C.P. Quite unprovided for at husband's death in January last, and dependent on relations who can ill afford to help. Two children, aged 9 and 7, both candidates for institutions. Voted £10.

7. Daughter, aged 58, of late L.S.A. No income; lets lodgings, but finds the profits insufficient for her support. Relieved once, £12. Voted £12.

8. Widow, aged 52, of L.R.C.P. No income; is in ill-health and unable to follow any active employment. Only child barely self-supporting. Relieved twice, £24. Voted £12.

9. Widow, aged 40, of L.R.C.P.Edin. Supplements a small income by district nursing, but has incurred unusually heavy expenses through the illness of one of her children. Relieved twice, £10. Voted £5.

10. Widow, aged 65, of L.R.C.P.Edin. Has an annuity of £20 and earns a few shillings a week by addressing envelopes and needlework. Two sons, but neither able to help. Relieved twelve times, £126. Voted £5.

11. Daughter, aged 28, of late M.D.Dublin. Has never had good health, and at present is quite unable to follow any employment and dependent on mother whose income is less than £1 a week. Relieved four times, £25. Voted £5.

12. Widow, aged 48, of L.R.C.S.Edin. Income £16 a year, and receives assistance from her mother. Children unable to help. Relieved five times, £50. Voted £5.

13. Widow, aged 40, of M.R.C.S., L.R.C.P. Has supported herself as a working housekeeper, but is losing her post through the breaking up of the home. Two children, aged 18 and 14, the younger in bad health following influenza. Relieved five times, £35. Voted £10.

14. Widow, aged 48, of L.R.C.P., L.R.C.S.Edin. No income, and children only able to give very slight help. Relieved thirteen times, £141. Voted £5.

15. M.D.Lond., aged 67. Is quite incapacitated by hemiplegia, and dependent on friends who can ill afford to help. Relieved once, £18. Voted £18.

16. L.S.A., aged 63. Only income an Epsom College pension, and suffers from a nervous complaint which quite prevents practice. Children unable to help and wife dying from new growth. Relieved three times, £54. Voted £10.

17. Daughter, aged 65, of late M.D. Only income a few shillings a week, and has been obliged to give up post as companion on account of ill-health. Relieved twice, £24. Voted £12.

18. Widow, aged 73, of M.D.Glas. Lets lodgings, but has had one set of rooms vacant for six months. Children unable to help. Relieved six times, £31. Voted £5.

19. Daughter, aged 63, of late L.S.A. Only income a small annuity, and has to support an invalid sister who is entirely without means. Relieved eleven times, £103. Voted £12.

Contributions may be sent to the Treasurer, Dr. S. West, 15, Wimpole Street, W.

THE QUINCENTENARY OF LEIPZIG UNIVERSITY.

Leipzig is not a city richly endowed either with natural advantages or with those elements of artificial splendour that belong to some of its rivals, but perhaps it is the most representative city of any in the German Empire. Above all a commercial city, the seat of the book trade and of many other industries, its geographical position between the cities of Northern Italy and those of North Germany, and between the East and West, made it from time immemorial a great mart of international trade. It is not only the seat of one of the greatest of the universities of the world—a university great in achievements both literary and scientific, the home of music, the university of Leibnitz and Goethe. It owes its foundation neither to Pope nor King: its foundation depended on its magisters and its students, who five hundred years ago left the banks of the Moldau to settle on the great plain watered by the Pleisse, Parthe, and the Elster. Many hundreds of students and masters, representatives of the three great German "nations," left Prague in 1409 rather than submit to the domination of the fourth or "Czechisch" nation, to seek a new home and conserve their academic "Freiheit." Friedrich "der streitbare"—Fredericus bellicosus—became the protector of these wandering students, and under his fostering care and influence, and partly by means of his endowments, they found a home, which they and other successors have made one of the greatest seats of learning in the world. No wonder, therefore, that the King of Saxony, the good citizens of Leipzig, and representatives of learning from all quarters of the globe, met in Leipzig towards the end of July to celebrate fitly the five hundredth "Jubilaeum" of the university. The city itself has advanced and changed probably more than any other German town during the last forty years. In 1830 the number of inhabitants was 150,000; to-day it is nearly 600,000, and the number of matriculated students is over 5,000.

The Augustus Platz was the centre of the festivities, and the Augusteum — the Universitas litterarum — recently reconstructed at a cost of nearly M. 4,000,000, was the centre of some of the chief functions of the quincentenary, which began on Thursday, July 29th, at 9 a.m., with divine service in the university church. The King, Friedrich August, and his suite arrived early, and all through the festivities His Majesty participated from start to finish in every event. The great event of the day, the "*Festact*," in the new theatre, presented a brilliant scene, when delegates and representatives of universities and learned bodies or societies brought their tributes of congratulation or presented gifts to the university. A speech by the King, as "Rector magnicentissimus," and a discourse by the rector, Dr. Binding, were followed by presentation of the addresses. The previous evening delegates met in the university and chose representatives as spokesmen for the morrow. Professor Mahaffy was chosen to present the delegates of Great Britain and the Colonies. He spoke first in English and then in German, and won the hearty and spontaneous applause of the whole audience. The music of Weber, presentation of addresses, speeches, responses, and what not lasted until between 2 and 3 in the afternoon. Naturally, the University of Prague took first place, and its rector brought both greetings and something more tangible. There were 6 Swiss universities represented, 20 West European, 14 East and North European, 18 from Great Britain and the Colonies, and the same number from the United States and adjoining countries, and endless representatives of societies.

This function over, and after a short period of rest, the call came to dine in the Palmen Garten, where about 1,000 guests met at the invitation of the Saxon Government. After the dinner an evening garden party, to which several thousands were invited. Unfortunately, rain fell, but nevertheless fireworks and universal gaiety kept folks in the gardens until late.

On Friday there was a gathering in the Wandelhalle of the university, the event of this day being the speech of the veteran, Professor W. Wundt, who, in spite of his 77 years, spoke with ease and charm for just over one hour. Then followed the "promotions" to honorary degrees by the Deans of the four Faculties. The names of the new Doctors were read out, 15 in the Faculty of

Theology, 20 in Law, 18 in Medicine, and 33 in that of Philosophy. No English, Scottish, or Irish names occurred in the medical list, and only 1 American. After this took place the "*Festzug*," or procession of students, an immense cavalcade or pageant, representing the whole history of Leipzig University from the exodus from Prague to latter day events.

Then followed a concert and plays. But events were not at an end. The students, old and young, reigned supreme, and the call was for a "kommers" at 9 p.m., under the presidency of His Majesty the King in a "Fest Halle" specially constructed for the occasion, and capable of holding 10,000 people. Quite that number assembled for this great, imposing, and characteristic event. The students were in gala costumes. There was music, vocal and instrumental, and beer galore. Of beer some 188 hectolitres was consumed, which gave the modest computation of six glasses per head of the guests. This was the end of the general festivities.

On Saturday, His Majesty the King invited about 400 guests to dine at his palace at Meissen.

PREVENTABLE BLINDNESS.

THE Committee on Preventable Blindness appointed at the International Conference on the Blind, held at Manchester in July, 1908, has presented its report. It states that recent English literature has been summarized in the report of the British Medical Association Committee.[1] The gist of these papers is to the effect:

1. That more than one-third of the blindness found in British blind schools is due to this one cause—infants born with good eyes are blinded by the disease within a few days of their birth.
2. The risk of blindness is entirely preventable by prompt and efficient treatment.

To this end it is now almost universally agreed, by both medical men and laymen cognizant with the subject, that the disease known as "The Ophthalmia of the Newborn" should be scheduled as compulsorily notifiable. And it is believed that by such action this appalling source of misery and helplessness would be checked. In spite, however, of these urgent recommendations, no action has been taken by the British public health authorities, nor have these authorities, so far, availed themselves of their permissive powers to make the disease compulsorily notifiable.

At the International Conference on the Blind, held in Manchester in July, 1908, it was held that no sufficient steps had been taken to give publicity to the urgency of the matter. A representative committee was therefore appointed to consider the subject fully, and to make such recommendations as they might deem, not only advisable, but as likely to be of practical utility. At the first meeting of this Committee two ophthalmic surgeons were co-opted as members of, and advisers to, the Committee:—Mr. Robert N. Hartley (Honorary Surgeon, Leeds United Institution for the Blind and Deaf and Dumb), and Mr. N. Bishop Harman (Oculist to the London County Council Blind Schools). These gentlemen were expected to advise on matters relating to the North and South of England respectively. During the sittings of this Committee, another committee, instituted by the British Medical Association, has had this same matter under review. The two committees have acted upon quite independent lines, and the fact that they arrived at similar conclusions and make virtually the same recommendations adds greatly to the weight of their recommendations.

The following are the recommendations of the Committee appointed by the International Conference:

1. That in the opinion of this Committee the adoption by the public health authorities of the Early Notification of Births Act is urgent.
2. That in the opinion of this Committee the disease known as the "ophthalmia of the newborn" should be added to list of diseases compulsorily notifiable under the powers of the Infectious Diseases (Notification) Act of 1889.
3. That in the opinion of this Committee—
   (*a*) More definite teaching should be given to midwives on the seriousness of eye disease in children; and
   (*b*) They suggest that the Central Midwives Board should issue more stringent instructions on the danger of "whites" in lying-in women.

With a view to obtaining more exact knowledge of the incidence of "blindness" in subsequent census returns the Committee recommends that the Registrar-General should be requested to define and classify "blindness" in his schedules in some such way as the following:

1. Stone Blind—that is, the individual has no power to see the movement of fingers before the eyes.
2. Partially Blind—that is, in the case of:
   i. *Children.* Those who have not sufficient sight (even with the aid of glasses) to be taught in an ordinary school.
   ii. *Adults.* Those who have not sufficient sight (even with the aid of glasses) to earn a living by ordinary means.

In conclusion, the Committee emphasizes the fact that the question is at the present juncture, and is likely to be in the future, of much greater importance than in the past. For the introduction and extension of the operation of the Employers' Liability Act is seriously affecting, and is likely still more seriously to affect, the earning powers of adult workers with defective vision.

[1] BRITISH MEDICAL JOURNAL, May 8th, 1909.

MEDICINAL AND DIETETIC ARTICLES.

Dried and Powdered Milk.

WE have received for examination a sample of the dried and powdered milk supplied under the name "Trumilk," by Casein, Ltd. (Battersea, London, S.W.). It is in the form of a fine white powder; the directions are to mix the powder thoroughly with cold water, and trials showed that this reproduced the original milk with remarkable success. It is quite free from the "cooked" flavour of many powdered milks, and it would be difficult or impossible to distinguish from fresh milk the milk obtained on mixing it with water. For one quart of water it is directed to use 2½ times as much of the powder as will fill the lid of the tin in which it is supplied; this quantity was found to weigh 3½ oz., and the milk so prepared is weaker than undiluted fresh milk, so that if the equivalent of full milk is desired it would be necessary to use rather more of the powder than the amount stated. The composition of the powder, as shown by our analysis, and of the directed dilution calculated from those figures, are here given:

	Powder.	Liquid.
	Per Cent.	Per Cent.
Fat	26.9	2.17
Protein	27.8	2.24
Mineral matter	5.9	0.48
Lactose, by difference ...	37.4	3.02
Water	2.0	92.09

It is stated that the powder is sterilized, and it appears to mark a distinct advance in preparing milk in such a form.

MEDICAL AND SURGICAL APPLIANCES.

A Massage Vibrator.

THE "Arnold" electrical vibrator for massage purposes, which appears to have a large constituency in the United States, is being produced in this country by the General Electric Co. (Limited), 71, Queen Victoria Street, E.C. Opinions will differ as to the value of vibratory massage delivered by small, portable instruments, and unfortunately this field has been exploited by charlatans. The use of massage in stimulating the action of the tissues, however, is generally recognized, and inasmuch as the little apparatus in question only gives massage proper—that is to say, continuous motion externally applied—and not a succession of electrical shocks, there is no reason why, under competent advice, it should not answer some at least of the purposes of hand massage, while its convenience and the rapidity of its vibrations are advantages. The instrument has a tiny electric motor which causes an arm to vibrate, and the motion is communicated to adaptors of various forms for application to different parts. The apparatus can be used with direct or alternating current circuits, or, when these are not available, with dry batteries supplied for the purpose. The effect of the vibrations is certainly pleasant and refreshing. It is of course necessary that the limitations of such an instrument should be borne in mind, and it is also essential to insist that when localized vibratory massage is employed as a means of treatment in rheumatic or any other affections, it must only be applied under the original advice and instructions of a qualified medical practitioner. We are glad to know that the manufacturers make that stipulation.

THE ROYAL COMMISSION ON WHISKY AND OTHER POTABLE SPIRITS.

In February, 1908, a Royal Commission was appointed to inquire whether in the general interest of the consumer or in the interests of the public health, or otherwise, it was desirable—

(*a*) To place restrictions upon the materials or the processes which may be used in the manufacture or preparation of whisky in the United Kingdom;

(*b*) To require declarations to be made as to the materials, processes of manufacture or preparation, or age of any such spirit;

(*c*) To require a minimum period during which any such spirit should be matured in bond; and

(*d*) To extend any requirements of the kind mentioned to any such spirit imported into the United Kingdom,

and to make similar inquiry with regard to other kinds of potable spirits manufactured in or imported into the United Kingdom.

Whisky.

In June, 1908, the Commission issued a preliminary report which contained the following conclusions:

1. That no restrictions should be placed upon the processes of, or apparatus used in, the distillation of any spirit to which the term "whisky" may be applied as a trade description.

2. That the term "whisky" having been recognized in the past as applicable to a potable spirit manufactured from (1) malt, or (2) malt and unmalted barley or other cereals, the application of the term "whisky" should not be denied to the product manufactured from such materials.

The consideration of the question of the advisability of attaching special significance to particular designations such as Scotch whisky, Irish whisky, grain whisky, and malt whisky, and of restricting or requiring the use of such designation was postponed. These subjects, together with many general matters connected with the manufacture and sale of whisky and other spirits, are discussed in the Final Report of the Commission issued on August 9th.

The report quotes the general conclusion of the Select Committee of the House of Commons on British and foreign spirits which sat in 1890–1891 under the presidency of Sir Lyon Playfair. This committee recommended that increased restrictions should not be placed on blending spirits, that compulsory bonding was not necessary, that a limit of age should not be fixed, and that no provisions as regards adulteration were required beyond those already available.

Historical.

Although evidence derived from various statutes proved that spirit was distilled from grain in Scotland as early as the sixteenth century, and that in the seventeenth century the method in use did not differ essentially from that practised in the pot-still distilleries of Scotland at the present day, the statutes showed also that aqua vitae was not the exclusive product of malted barley, but that other substances, such as unmalted grain, were also used in the early days of distillation in Scotland. The term "whisky" is not used in any of the statutes, and does not seem to have been employed until the latter part of the eighteenth century. After reviewing the evidence as to the materials used, the Commission expresses the opinion that, though the flavour obtained by the distillation of spirit from a mash of which maize is the principal constituent differs materially from the flavour obtained from a mash of malt or malt and unmalted barley, there is no valid reason for excluding the use of maize in the manufacture of whisky, since there is no evidence that maize is not a perfectly wholesome material.

Manufacture.

As to its mode of manufacture, the Commission states that the claim put forward that the pot-still product alone has the prescriptive right to be called whisky is based upon the fact that until about 1830 all whisky was manufactured in pot-stills, but it holds that a product does not lose its name because an improved, or even altered, mode of manufacture is employed.

The three processes in common use for the production of whisky—the Irish pot-still, the Scotch pot-still, and the patent-still process—have certain points in common, since each involves the following three operations: (1) Mashing for the preparation of a liquor technically termed "wort"; (2) fermentation of the wort for the preparation of a liquor called "wash"; (3) distillation of the wash for the separation of the spirit.

Mashing.—The materials used have been restricted in practice to malt, and to unmalted cereals, such as barley, maize, oats, rye, and wheat. In the manufacture of pot-still whisky in Scotland, barley malt is generally the only material used, but in Ireland it is usual to employ a mixture of barley malt and unmalted barley, oats, wheat, and rye, maize being generally excluded; four-fifths of the whole usually consists of barley, malted and unmalted. In the patent-still process the materials employed in the mash are much the same in both Scotland and Ireland. Malt, maize, barley, rye (malted and unmalted), and oats being used in varying proportions. In one Scotch distillery the mash was made up of 25 per cent. malt, 72 per cent. maize, and 3 per cent. oats; in another of 30 per cent. malt, 30 per cent. rye, and 40 per cent. maize. In one Irish distillery it consisted of 35 per cent. malt, and 65 per cent. of a mixture of barley and maize; in another, malted barley, rye and maize were used in the proportions of 28, 36, and 36 per cent. respectively. The next stage is the same in all cases, the mixture is crushed and extracted with hot water, the starch of the grain being more or less converted into sugar by the diastase of the malt. Other substances are at the same time obtained in solution from which the secondary constituents of the finished whisky are both directly and indirectly derived. The exact nature of these substances is not yet thoroughly understood. Dr. Bell, from his investigations made for the Select Committee of 1891, concluded that some of the essential oils naturally existing in the malt and grain, and the pyro and creosotic bodies with which the malt becomes impregnated during the process of drying over peat, anthracite, or coke fires, pass through the operations in a more or less chemically unchanged condition, thus imparting distinctive characters to the whisky. This is especially the case when the usual forms of pot-stills are employed for the distillation. As already stated, the liquor resulting from the mashing process is technically termed "wort."

Fermentation.—The wort, cooled to a suitable temperature, is introduced into the fermenting vessels and yeast added. The yeast converts the sugar existing in the wort into ethylic alcohol, and under the combined influence of the yeast and the diastase left in the wort the whole of the products derived from the starch of the grain during the mashing process are ultimately fermented. At the same time certain other constituents of the wort undergo chemical change, giving rise to substances which influence the flavour of the finished whisky. Foremost among these substances are the higher alcohols, which have recently been shown by Ehrlich and others to owe their origin to the splitting up of certain nitrogenous substances (amino-acids) produced in the first place by the peptonizing action of the malt in the mashing process. The special nature of the yeast, the temperature at which it works, and the time occupied in fermentation are all factors which affect the ultimate result. The liquor resulting from the process of fermentation is technically termed "wash."

Distillation.—The wash is heated in a suitable vessel known as a still. The alcohol and secondary constituents pass over from the wash to a worm or cooling apparatus, are there condensed, and are finally received into another vessel. Originally, the report states, the object of distillation, as applied to potable spirits, was no doubt the separation of the more volatile constituents from the less volatile and non-volatile constituents of the wash. In the course of time, however, it came to be recognized that by modifying the form of still, by collecting the distillate in fractions and not as a whole, and by redistilling, the more valuable portions of the spirit could be obtained in a more concentrated form; and that, in addition, the quality of the whisky could be improved. Thus the distillation process not only involves the separation of the more volatile products of the wash, but the concentration and rectification of those bodies.

Scotch Pot-Still.—The simplest varieties of the pot-still are used in Scotland; usually they are heated by direct fire, though in some cases steam pipes and steam jackets are used. As to whether the one or the other method has an important effect upon the character of whisky opinions differ, some authorities holding and others denying that the open fire causes a charring of the organic substances

in the wash which has the effect of adding empyreumatic bodies to those already present in the wash. In Scotland two distillations are employed. The first distillate, called "low wines," contains all the alcohol and secondary constituents, together with some water. From the second distillation three fractions are obtained. The first is termed "foreshots," the second is the clean or finished whisky, the third is called "feints." The judgement and experience of the distiller determines the point at which the collection of foreshots is stopped and that of whisky commenced, and similarly that at which the latter is stopped, and the collection of feints begun. The strength at which the whisky fraction is run is of great importance to the character of the spirit; in Scotland it is generally from 11 to 25 degrees above proof. The foreshots and feints are mixed together and added to the low wines for the next distillation, the feints from the last distillation of the season being kept for adding to the low wines from the first distillation of the next season. In some distilleries in Scotland, especially those in the Lowlands, whisky is produced from three distillations, and the spirit is then run at 40 to 45 degrees over proof.

Irish Pot-Still.—The pot-stills employed in Ireland are generally much larger than in Scotland. Three distillations appear to be universally practised, and the whisky fraction is usually run at from 25 to 50 degrees over proof. Both in Ireland and in Scotland soap may be used to prevent frothing in the wash still, and charcoal in the low wines still for purifying purposes.

Patent-Still.—This still as used at the present day has two columns, called the rectifier and the analyser. Each column is subdivided horizontally into a number of wooden chambers with perforated copper floors. In the process of manufacture both columns are filled with steam and the wash is pumped to near the top of the rectifier and traverses a pipe which goes to the bottom of the rectifier, passing each chamber twice. The wash, which at the base of the rectifier is almost at boiling point, passes through a continuation of the same pipe to the top of the analyser, where it is discharged on to the perforated plate forming the base of the top chamber. As the ascending steam in the analyser is under pressure the wash cannot pass through the small perforations, but fills the top chamber and then overflows through a small drop pipe on to the plate of the next lower chamber. As it traverses the analyser the wash is gradually deprived of its alcohol and other volatile constituents. The alcoholic vapours mixed with steam are then conducted to the rectifier, where they are cooled, with the result that the less volatile constituents condense and fall to the base of the rectifier and pass thence into the "hot feints" receiver. At a certain point in the rectifier a temperature prevails which roughly corresponds to the condensation temperature of strong ethylic alcohol, which is collected in a chamber on a non-perforated plate called "the spirit plate"; in practice, if the still be working properly, the pure spirit when once it has commenced to flow, runs continuously until the close of the distillation. At the beginning and end of the distillation when the spirit is not of sufficient strength it is allowed to pass into the feints receiver and pumped back into the still. The hot feints, consisting of a mixture of weak ethylic alcohol with an excess of fusel oil, are pumped continuously throughout the distillation to the analyser and there redistilled. Each distilling period occupies two or three days, and at its end the fusel oil can be removed from the hot feints receiver by adding water when the fusel oil rises to the surface, and may be skimmed off.

On examining a sample of fusel oil which he obtained from a patent-still distillery producing "grain" whisky, Dr. Bell ascertained that it was composed as follows (Report of 1891):

Amylic alcohol	...	...	...	42.2 per cent.
Butylic alcohol	...	...	...	33.4 ,,
Propylic alcohol	...	...	...	18.9 ,,
Ethylic alcohol	...	...	...	5.5 ,,

Dr. Bell further found that the "hot feints" from a patent-still distillery are remarkable for the amount of alcohol compounds of palmitic and oleic acids which they contain, and which are no doubt derived from the essential oils contained in the grain used in the production of the wash. As the steam passes through the descending wash in the patent-still the oils become decomposed, and the fatty acids uniting with ethylic alcohol form palmitate and oleate of ethyl.

Analyses of Whisky.

The Commission, after considering analyses of large numbers of Scotch pot-still whiskies and of a few Irish presented to it by witnesses, states that chemical methods fail to establish any definite relationship between the composition of the different varieties and the particular character they possess as regards flavour and aroma, some of the secondary constituents which exercise an important influence upon these qualities being present in such minute quantities as to render identification impossible. Upon this point the Commission states that of those constituents which have been identified many are allied in chemical constitution and properties, and can consequently be grouped together as families of similar substances—for example, acids, aldehydes, esters (compound ethers), and "higher alcohols," that is, alcohols higher in the homologous series than ethyl alcohol, and it is the total quantities of these families of allied subtances that are ordinarily estimated in an analysis.

The analyses showed that there was a very wide variation between pot-still whisky, not only from different distilleries but also between whiskies from the same distillery in different years. No relationship, however, was discernible between the analytical results and the characteristic flavours of the spirits from which they were respectively obtained.

Owing to the nature of the process in the patent-still the secondary constituents in the whisky so made are fewer in number and generally less in total amount, and as a matter of fact the Commission states that the great bulk of patent-still whisky is specially manufactured for blending with pot-still spirits. One source of the loss of flavouring constituents in the patent-still process is the separation of fusel oil through the hot feints; but it is stated that Dr. Bell pointed out another as a result of the special investigations which he carried out for the Select Committee of the House of Commons. In the course of some experiments in connexion with the changes which go on in the secondary constituents in whiskies during maturation, he separated the empyreumatic and other substances from the new pot-still whisky, and from a series of samples of the same kind of whisky bonded for different periods, and he found that those in the new spirit possessed an unpleasant odour combined with a malt flavour, but that those from the bonded spirits became more and more agreeable with increase of time of bonding. On making similar experiments with patent-still whiskies, he found that they were practically free from empyreumatic bodies even when new.

Medical.

The Report then proceeds to review the medical evidence. It seems desirable to quote the whole of this part in full:

"A number of witnesses gave evidence with regard to the possible deleterious action of different varieties of whisky. This evidence may be divided into two groups, first, that in which the witness was expressing a mere personal opinion, or was stating that which he believed to be an opinion held by a number of other persons. These opinions were usually based on effects said to be observed as a result of the consumption of some particular variety of whisky. Certain witnesses stated that it was a matter of common knowledge that deleterious effects were attributable to particular varieties of spirit, but in support of such statement we were unable to elicit from any witness direct and conclusive evidence resting on observations conducted with any approach to scientific accuracy.

"In the second group may be included the evidence of a smaller number of witnesses who had conducted experiments with scientific methods. The general tendency of the limited evidence thus given was to show that no conclusive proof of any special deleterious action could be attributed to any special variety of whisky.

"The action of whisky or other spirit on the human subject is necessarily very complex, and depends, not only on the quantity consumed and on the fact or extent of dilution, but also on the idiosyncrasy of the individual consumer.

"Many witnesses were inclined to attribute differences in the action of the spirit, and especially the production of deleterious effects, to differences in the nature and quantity of the secondary products, such as higher alcohols, ethers, furfural, etc.

"There are great individual differences not only between 'pot-still' and 'patent-still' spirit in these respects, but also between different varieties of 'pot-still' and different varieties of 'patent-still' spirits. Although the differences between some of the 'pot-still' and 'patent-still' whiskies are very great, yet it is difficult to draw a hard and fast line between them, inasmuch as some patent-still spirit may contain a higher proportion of some of these secondary products than some varieties of pot-still. This adds materially to the difficulty of determining whether there are any broad points of difference in the physiological effects produced by pot-still and patent-still spirits respectively. Further, a highly flavoured spirit may cause effects not obtained from one of less flavour owing to the effects which may be produced indirectly by the flavouring agent on the nervous system of the consumer, since many substances are known to produce marked effects on the digestive system merely as a result of the sensation produced by their flavour. In addition, a difficulty presents itself in the fact that a highly flavoured spirit is often partaken of in greater dilution than one containing a smaller proportion of secondary products.

"The evidence before us failed to establish that any particular variety of whisky was especially deleterious. Statements were not uncommonly made that new spirits and the cheaper variety of spirits consumed, for instance, at fairs, were specially liable to be deleterious and to cause some of the more severe symptoms associated with intoxication. This evidence generally amounted to little more than a mere statement, and we were unable to obtain proof within the personal cognizance of the witnesses. In some instances we were informed that it was the custom in certain distilleries for the workmen to consume new spirit, and that no specially deleterious effects had been observed to follow. On the other hand, it would seem that spirit when new is apt to develop an unpleasant taste, and therefore would be rejected by many.

"Dr. Thorpe gave us information as to the composition of a large number of whiskies which had been obtained by excise officers at fairs and public-houses in low-class districts in England, Scotland, and Ireland. The majority of the samples appear to have been merely new patent-still whiskies of an ordinary type, but a few in parts of Ireland were pot-still whiskies. We were unable to obtain evidence pointing to the presence of any known deleterious substances in excessive quantity in these spirits, or that any foreign substances had been added to them.

"The general tendency of the evidence on these matters was to show that any specially evil effects observed were rather to be attributed to the excessive quantity consumed than to any specially deleterious substance.

"We also failed to obtain any evidence from medical witnesses with reference to the question whether particular diseases, known to be due to the excessive consumption of spirits, could be attributed in different degrees to any particular variety of spirit. There are many districts where large hospitals exist in the midst of a poor neighbourhood, where it is known that cheap varieties of spirit are sold, and although in such hospitals the evil effects of alcoholism are frequently observed, and there are many instances of disease due to alcohol, yet the medical men observing these cases have not associated particular diseases with varieties of spirits.

"Some of the witnesses made the statement that patent-still whisky might possibly in certain instances be deleterious owing to the fact that such spirit might be distilled from damaged materials, and that these damaged materials might contain injurious and poisonous substances, but this statement was not made on any direct evidence that such ill effects had in any instance been observed. Although poisonous substances are known to exist in some grains as a result of disease of the grain, yet there was no evidence that such substances can pass over in the distillate obtained from the product of the fermentation of such grain. We were unable to obtain any definite evidence pointing to the presence of poisonous ingredients in the distillate derived from damaged material.

"A further question still presented itself, whether, of the varieties of whisky produced by the pot and patent still, one could be said to be more unwholesome than the other. Several witnesses expressed the opinion that the products of the patent-still were injurious to health, or produced intoxication more readily or in a more violent form than pot-still whisky, and that this might in part be due to the fact, as they alleged, that patent-still spirit produced a greater craving and a greater thirst than the pot-still spirit. These statements appear, however, to be merely a general impression derived from hearsay. On the other hand, a number of witnesses stated, some from personal experience, that the consumption of pot-still whisky was liable to induce ill effects—such as indigestion and subsequent headache—and that this was specially to be observed in persons leading a sedentary life. The experience of most witnesses seemed to point to the conclusion, in which we concur, that whisky derived from patent and pot still induces much the same effects if taken in the same quantity and in the same alcoholic strength.

"The only constituent of great importance from a hygienic point of view was stated by most of the scientific witnesses to be ethylic alcohol, the secondary products being of importance mainly in giving flavour to the spirit. A few witnesses held the opinion that the secondary products might produce slight effects other than those dependent on the mere flavour, but there was a conflict in the evidence of scientific witnesses on this point, and it was agreed that such effects, if any, were slight in amount. Further, certain witnesses examined the effects of large quantities of secondary products upon themselves and found, not only no difference between those prepared from patent and pot still whisky respectively, but that such secondary products, even when taken in large quantity, produced little or no effect.

"A number of witnesses laid considerable stress on the fact that pot-still whisky could be drunk with greater degree of dilution than patent-still whisky, and that therefore pot still whisky might be a more satisfying and less dangerous beverage.

"It must also be borne in mind that the difference in the amount of secondary products present in the whisky produced by the pot-still and patent-still processes is not very great, and that therefore the actual amount of these secondary products in the quantity of whisky usually consumed is small, and hence the physiological effect produced by these secondary products must also be small compared with the effects produced by the ethylic alcohol itself.

"Although the higher alcohols which constitute a portion of the secondary products present in whisky have themselves a different physiological action from that produced by ethylic alcohol, and this action is a more harmful one, yet the actual quantity of these substances present in whisky is relatively so small compared with the quantity of ethylic alcohol, that the action of the spirit when consumed is almost, if not entirely, dependent on the ethylic alcohol. One witness was of opinion that the presence of secondary products in whisky led to the more rapid absorption of the spirit, but this conclusion did not seem to rest on any valid evidence.

"With regard to the medicinal use of spirits, it would seem that there has been a tendency of recent years to employ whisky to a larger extent than formerly; but the practice in different parts of the country and in different hospitals varies. Formerly, brandy was undoubtedly employed, both dietetically and therapeutically, in the treatment of disease to a greater extent than at present. Whisky has displaced brandy to a greater extent in dietetic treatment than in the treatment of acute diseases. In London from five to ten times as much brandy is ordered in hospitals as whisky, although, as the evidence shows, there is considerable variation in the practice of different physicians at different hospitals. The bulk of these spirits, if not the whole of them, would be prescribed in the course of treatment of acute diseases. In Scotland whisky is used to a greater extent even than in England. Most of the medical witnesses recommended that the spirits used in the treatment of disease should be of good quality and old. Some considered that pot-still whisky was preferable for this purpose to the patent-still variety, as they considered that more powerful medicinal properties were possessed by it

owing to the larger percentage of secondary products. The majority of medical witnesses attached no importance to the question whether the whisky were pot-still or patent-still, and considered that the value of it in the treatment of disease depended essentially on the ethylic alcohol. This view was held by the majority of observers who had directed their attention to the subject, and some adduced definite evidence in support of the statement that no difference in the results obtained could be attributed to the mode of preparation of the whisky. We concur in this view.

"With regard to the dietetic use of whiskies, all the medical witnesses were agreed that flavour plays a part of considerable importance, since a whisky that is unpalatable tends to interfere with digestion, while a whisky that is agreeable to the patient may increase the activity of the digestive processes, and also exert a favourable mental effect quite apart from the direct effect dependent on the alcohol itself. On this account they held not only that a mature whisky is preferable to a new whisky, but also that whiskies of different flavours may have a particular dietetic value in particular instances."

Blending.

The Commission states that blending, that is to say, the admixture of patent-still with pot-still spirit has been in use on a large scale both for the English and foreign markets for between thirty and forty years. It produces a more mildly flavoured and generally a cheaper article than the "self-whiskies," as the individual pot-still whiskies are commonly called, since the patent-still spirit costs less to manufacture. The Report adds that the market for blended whiskies is greater than that for the individual whiskies; so much so, that it would probably be safe to say that the majority of Englishmen who drink whisky seldom drink anything but a blend.

Conclusions as to Processes.

The Commission states that evidence given before it showed that in the year 1907, whereas 22,000,000 proof gallons of spirits were produced in patent-still distilleries in Scotland and Ireland, only 14,000,000 proof gallons were produced from pot-stills. There was evidence also that patent-still spirit, blended or unblended, has long been known as whisky, and that pot-stills differ so much that it would be difficult to frame a legal definition which would not either exclude certain types now commonly recognized as pot-stills, or include other types not looked upon as legitimate variations of the pot-still; on the other hand, there was no evidence that the form of still had any necessary relation to the wholesomeness of the spirit. For these reasons the Commission is unable to recommend that the use of the word "whisky" should be restricted to spirit manufactured by the pot-still process, and gives the following definition:

"Whisky" is a spirit obtained by distillation from a mash of cereal grains saccharified by the diastase of malt; "Scotch whisky" is whisky, as above defined, distilled in Scotland; and "Irish whisky" is whisky, as above defined, distilled in Ireland.

Declarations.

The Commission reports that it is not desirable to require declarations to be made as to the materials, processes of manufacture or preparation, or age of Scotch whisky, Irish whisky, or any spirit to which the term "whisky" may be applied as a trade description. "The customer," the Commission adds, "asks for a glass of whisky and gets it. As a rule, he does not ask for any particular description of whisky. The customer knows what he likes, and if he does not get it he seeks for it elsewhere."

BRANDY.

Of the total quantity of spirit imported into the United Kingdom from various foreign countries and British possessions in the year 1907, 2,194,748 gallons were shipped from France and only 149,014 from other countries.

French Brandy.

The French equivalent for the English word "brandy" is *eau-de-vie*, with this difference, that whereas in England grape spirit alone is generally meant by the term brandy, in France spirit made from wine, cider, perry, grape skins left after wine making, cherries, plums, or other fruit are included under the term *eau-de-vie*, which is also applied to any mixture of such spirits with industrial alcohol made from grain or beetroot.

Wine spirit proper—*eau-de-vie de vin*—is made in every part of France in which wine is made, but the Commission considers that there is no doubt that the best brandies, in respect of flavour and commercial value, are made in the Cognac region. Next in order of commercial merit come the brandies made in the Armagnac, including the Marmande district; a certain amount of brandy is made in the Nantes district; while large quantities are made in the Midi, in the Hérault, Gard, Aude, and Pyrénées Orientales, these brandies being commonly known as the "Trois-Six de Montpellier." The *Eaux-de-vie de Marc*, made from the residues of the wine-press, form still another class.

Cognac Brandy.

"Cognac," as the description of a spirit, is not expressly defined in the French law, but the name "eau-de-vie de Cognac," or "Cognac," simply can only be applied legally to spirits made in the Cognac region from wine grown therein. It has for some time past been generally accepted that the Cognac region comprises a certain part of the two departments of Charente and Charente Inférieure, and there has recently been a legal delimitation of the area. The region is locally subdivided into the Grande or Fine Champagne, the Petite Champagne, the Borderies, and the Bois, according to the quality of the wine produced. The soil is mainly calcareous; the grape grown is small in size and white in colour, and the wine is of inferior quality for drinking purposes.

Cognac brandy is manufactured in the Charentes both by the professional distiller and by the farmer, who grows his own grapes and makes his own wine. Several firms buy nearly all the brandy they need from the farmers.

Distillation.—The distilling apparatus in general use by both distiller and farmer is a simple pot-still, varying in size from 7 to 9 hectolitres, that is, 154 to 198 gallons. The still, which is built in brickwork, having only a small bulbous head exposed, is generally heated by means of a furnace; in a few distilleries the stills are heated by steam, and there is some controversy between distillers using these different heating agents as to the respective merits of each. Wood is very generally used in the furnaces, and is considered the best fuel. Attached to the still is a vessel called a "chauffe-vin," which acts as a wine-heater; being filled with wine, through which the pipe conveying the spirit vapour to the refrigerator passes, it does duty at once as a wine-heater and as a partial refrigerator; the wine being heated in the vessel is quickly brought to boiling point when passed into the still, and there is thus a saving of fuel. But the "chauffe-vin" is not always used, even though the stills are provided with the vessels. In the process of manufacture there are two distillations which may be compared with the process of whisky-making in the Scotch pot-still distilleries; the resulting spirits of the two distillations are termed "*brouillis*" and "*bonne chauffe*" respectively, descriptions equivalent to the "low wines" and "spirits" of the whisky distiller. In some distilleries, however, stills known by the appellation "*à premier jet*" are in use. These produce the finished spirit at one continuous distillation. Attached to and above the ordinary head of the still is a vessel into which the condensed spirit of the first distillation is conveyed, and this spirit is vaporized by the heat of the spirit vapour rising from the still itself on its way to the refrigerator. The best distillers do not consider that this still can produce the finest spirit; it is used for producing spirit of a higher strength than ordinary, and also in the manufacture of liqueurs. The stills are worked very slowly and regularly, ten hours being the normal time for completing the distillation of a charge of wine. The quality of the spirit depends greatly on the skill of the stillman in working the still.

The wine used in the manufacture of "Cognac" contains from 6 to 11 per cent. of pure alcohol, or, roughly, from 10 to 20 per cent. of proof spirit; the average strength is from 7½ to 8½ per cent. of alcohol or from 13 to 16 per cent. of proof spirit. The finished spirit is run from the still at a strength of about 25 over proof. The brandy is sweetened with cane sugar and slightly coloured, the object of colouring being merely, as in the case of whisky, to keep a given brand up to a given level of colour.

A large quantity of brandy is made in the Midi. It is of inferior quality to that produced in Cognac, but it is probably made exclusively from wine, and the comparatively slight difference between the prices of wine and of grain and wheat make it improbable that distillers in any part of the South of France would sacrifice the privilege of sending out their spirit under the special permit which is a guarantee that the brandy does not contain grain or beet spirit.

Eau de vie de Marc is a term restricted by French law to spirit derived from the distillation of the skins of fresh grapes from which the greater part of the juice has been extracted. Some such spirit is said to be very fine and to command a high price, but not much appears to be imported into this country. The Commission was informed that the "dop" brandy of South Africa is produced in this way.

Other Brandies.

The Commission states that Algerian brandies are said to be of high quality. They are distilled in Algeria from Algerian wine and sent to France, and an increasing quantity is reshipped from the Charente to this country.

According to the Customs returns, 13,048 gallons of brandy were imported from Spain during the year 1907, but the quantity has been diminishing during the last few years. There are brandy distilleries in many parts of Spain. The material used is said to be only fully fermented wine from fresh grapes, and the stills are of a comparatively simple type, similar to the "a premier jet" stills of the Charente. Spanish brandies are said to be similar in flavour to the French brandies, and to command a high price.

The grapes from which Egyptian brandy is made "are grown in Roumelia, and parts of Greece, Cyprus, and Asia Minor. The grapes are brought in fresh from the vines into Alexandria, where they are converted into wine . . . and from wine they are distilled as brandy." The Egyptian brandies apparently possess a very full flavour, and are very cheap. The Commission had evidence that, in addition to these brandies, there are some so-called Egyptian brandies which are not distilled in Egypt, and which, it was suggested, are probably made from currants grown in Greece; 57,712 gallons of brandy were entered by the Customs as imported from Egypt in 1907.

The Customs returns also show entries of considerable quantities of brandy from Germany, and small quantities from other foreign countries and British possessions.

Hamburg brandy is the name commonly given to a spirit stated to be manufactured in Germany from potato or beet spirit and flavoured so as to imitate grape brandy, and similar imitations are apparently made in the North of France, in Belgium, and in other foreign countries. British brandy is prepared by redistilling duty-paid spirits with flavouring ingredients or by adding flavouring materials to such spirit. It is often mixed with foreign, generally Cognac, brandy, and is sold largely for cooking purposes.

The conclusion of the Commission is that the term brandy is applicable to a potable spirit manufactured from fermented grape juice and from no other materials, but that the compounded spirit long sold by the name of British brandy is entitled still to be so named and sold.

RUM.

The evidence taken by the Commission was to the effect that there are two distinct types of rum, one being represented by Jamaica and the other by Demerara rum. The first type is the result of slow fermentation, lasting from ten to twelve days, of a wash set at a relatively high density; the second is the result of a rapid fermentation, lasting from thirty-six to forty-eight hours, of wash set at a low density.

For some years a cheaper imitation of rum has been made on the Continent, principally in Germany, and according to the recommendations of the Select Committee of 1891, rum is now entered under two heads:

Rum (imported from ports in sugar-cane producing countries).

Imitation rum (imported from ports in countries in which the sugar cane is not produced).

Imitation rum may not be blended or mixed in bond with "rum" for home consumption. Rum, or imitation rum and other foreign spirits, may, however, be mixed for exportation, but the word "mixed" must be marked on one head of each cask containing the mixed liquids.

The Commission defined rum as "a spirit distilled direct from sugar-cane products in sugar-cane growing countries."

GIN.

All witnesses agreed that gin should be made from cereals—maize, malt, and rye being the main materials used in the production of the original spirit; juniper berries are regarded as essential for the subsequent flavouring, but various herbs are also used by individual makers. The manufacturer of gin is generally a rectifier only, and buys the spirit he uses from patent distilleries. In the majority of cases the rectified spirit is distilled with the juniper berries and other flavouring materials in a kind of pot-still, but in some cases the flavouring materials are distilled separately and added to the alcohol afterwards. All the witnesses examined objected to the use of molasses on the grounds, first, that gin is essentially a British spirit, which the consumer expects to be made from grain, and secondly, that molasses yields a coarse spirit unsuitable for the production of gin. It was also stated in evidence that ordinary patent-still spirit flavoured with essences and not subjected to subsequent rectification was improperly sold as gin, and was often exported under the name of gin, and sold at a much lower price than the genuine article.

GENEVA (HOLLANDS).

Geneva, also called "Hollands," "Hollands Geneva," or "Hollands Gin," is imported into this country from Holland. The name "Geneva" is probably derived from the Dutch word "jenever," meaning juniper.

Although distinct in flavour, the spirit is similar in many respects to English gin, inasmuch as in both cases the genuine article is made from grain only and flavoured with juniper.

Geneva is now made from a mixed mash of malted barley, rye, and maize in more or less equal proportions. The whole mash is fermented together and is then distilled three times in a pot-still, the result being a spirit called "*moutwijn*," or maltwine. The *moutwijn* is then redistilled, and juniper berries and other flavourings added.

The Geneva manufacturers do not make the *moutwijn* themselves, this spirit being made, in Schiedam in the main, in small pot-stills and bought through brokers.

It would appear that a practice has grown up of selling under the name of Geneva a spurious spirit produced by a mixture of molasses spirit with a little Schiedam *moutwijn*. Some attempt was made by the Municipality of Schiedam to institute a form of control by which genuine Hollands Geneva could be guaranteed, but the system does not appear to have met with much success.

LIQUEURS.

The name "liqueur" is, as a rule, applied to imported sweetened spirits—that is to say, to spirits to which any matter has been added after distillation which imparts to it the quality of sweetness, and reduces the apparent alcoholic strength as determined from its specific gravity. British products of the same class are usually called "cordials."

Liqueurs and bitters have no defined alcoholic strength; the alcohol is merely a solvent for the flavouring essences. Liqueurs of the best quality are generally made with old spirit, but new spirit is probably used for the manufacture of the cheaper articles. Some foreign countries have placed restrictions upon the sale of certain liqueurs, owing to the toxic character of the materials used in their manufacture. The sale of absinthe, for example, has been entirely prohibited in Switzerland, and in France it can only be sold at a high alcoholic strength with a correspondingly small proportion of wormwood extract. The quantity of absinthe consumed in this country is very small.

LEGISLATIVE ACTION.

With regard to compounded spirits generally the Commission reports as follows:

We have been unable to recommend any restrictions upon the numerous materials used in the preparation of gin, Geneva, and other compounded spirits which are known to the British trade, or upon the processes which are employed in their manufacture. In the absence of information as to the nature of the materials

employed we can express no opinion on the wholesomeness or otherwise of particular compounds, but we received no evidence that any spirits of this nature (with the exception of absinthe) have a specially toxic action.

The Commission does not recommend the adoption of the ether standard—that is to say, the presence of a certain proportion of ethers as a test of genuine brandy. Dr. Fernbach, the Principal of the Fermentation Department of the Pasteur Institute, Paris, showed that the proportion of ethers in genuine Cognac brandies was sometimes below the limit proposed to be fixed by the standard. In order to form a reliable opinion it is necessary to take into account all the usual analytical data, and in addition the character of the spirit as regards flavour and any other information obtainable from the Excise Record as to the origin of the sample. On this point the Commission reports:

While admitting the possibility of highly rectified wine spirit, flavoured with essences, being sold as brandy, we doubt whether the practice is sufficiently common to warrant any attempt being made to limit the extent of rectification which may be permitted. But, even if it were so, we consider that it would be very difficult to enforce such a limitation, and we observe that no attempt has been made to do this under the French law.

Our conclusion, therefore, is that the determination of the application of the term "brandy" in this country cannot be controlled by the nature of the apparatus or process used in the distillation of the spirit.

Although, however, it is impossible, with our present limited knowledge of the composition and properties of the secondary constituents, to establish trustworthy chemical standards for controlling the description of potable spirits, we are nevertheless satisfied that chemical analysis is capable of affording very important assistance in many, if not in all, cases of suspected misdescription, when the results of analysis are taken in conjunction with other evidence, such as that of the expert taster, and Excise records when obtainable and when a common practice as regards methods is employed.

In order to assist in a more certain conducting of prosecutions under the Sale of Food and Drugs Acts it may be well to consider whether statutory provision may not be made for affording to the presiding magistrate assistance in determining the cases submitted to him by authorizing him to obtain, if he thinks fit, the assistance of two assessors, being persons of practical or scientific knowledge of the matters involved, to sit with and advise him thereon. And for such purpose it may also be desirable to form under authority a panel from which such assessors may be selected.

It is also desirable to consider whether a Committee of skilled persons may be formed under Governmental authority, who might assist in mitigating some of the difficulties mentioned above by advising on technical questions which affect the administration of the Acts by local authorities and the practice of public analysts.

LITERARY NOTES.

THE first number of *Heart*, a new periodical to which attention was called in the JOURNAL some time ago, contains much matter of first-rate quality. Professor Cushny contributes a paper on the irregularities of the mammalian heart observed under aconitine and an electrical stimulation. Dr. James Mackenzie discusses nodal bradycardia, and Dr. Thomas Lewis deals with paroxysmal tachycardia. Dr. Leonard Hill treats of the measurement of systolic blood pressure in man. The journal, which is published by Messrs. Shaw and Sons, Fetter Lane, E.C., is excellently printed, and the tracings and charts are very clear. We fully agree with what Dr. W. H. Gaskell says in his prefatory note that *Heart* "will be of great value to the medical man, as it will focus together the work of the laboratory and the work of the hospital ward; and to the physiologist, because during his investigations it will keep ever present to his mind the nature of the problems which, in the opinion of the medical man, are pressing urgently for solution." The editor is Dr. Thomas Lewis. Our new contemporary will occupy a place in the current literature of medical science, which, as far as English is concerned, has hitherto been unfilled.

Shakespeare refers to stage fright; perhaps he had personal experience of the feeling. In his Sonnets (XXIII) he says:

> As an imperfect actor on the stage,
> Who with his fear is put beside his part,
> * * * * *
> So I, for fear of trust, forget to say
> The perfect ceremony of love's rite.

M.D. writes: "Can nothing be done to improve the composition of writers on medical subjects? It would indeed be a mercy if, in these days, when new books are but too numerous, authors would refrain a little longer, and study their grammars. From a recent periodical I give some extracts:—

"'A Cambridge B.A.' writes:

In the former condition vaso-dilators will tend to *slow* the blood current, in the latter condition, *it* will lower the pressure.

No dictionary to which I have access gives a verb 'to slow' and the pronoun 'it' is obviously wrong. In the next article 'M.B., B.S.Lond.' writes:

For it may be said that the use of the one or the other determines the action taken by many in regard to the attitude they assume towards the employment of . . . .

Surely a fine example of obscure prolixity! In the article immediately succeeding, 'M.A., M.D.Camb.' begins as follows:

The diagnosis of arterio-sclerosis, apart from certain cases of raised arterial blood-pressure, which afford valuable evidence of early arterial changes, is, generally speaking, only made when the condition is obvious by aid of the finger and the eye.

I fear I am too stupid to understand what is meant. The same writer proceeds:

It would seem, however, to be a matter of high importance that the physician should be able to detect in its early stage the process which leads to arterio-sclerosis, a much to be desired result, which may possibly be achieved by studies of the alterations in function of the arteries in this pathological condition or conditions.

Please tell me, is arterio-sclerosis a much to be desired result?

"This article is followed by one on rheumatism by 'M.D., B.S.Lond.,' who writes:

To those who have kept themselves fully informed . . . . *one can hope to tell nothing new.*

I suppose he means 'one cannot hope to tell anything new.' And a little further on:

And even now we find it difficult *to accurately separate off* certain cases, etc.

Shade of Lindley Murray!

"Now, Sir, these four consecutive papers are one and all distinctly good in my poor opinion. At the lowest estimate they bear evidence of laborious research, and it does seem a pity that a little further trouble was not taken to make them as readable as they are valuable."

In his last book, *La Chemise*, Anatole France has some sly hits at the medical profession. King Christophe V complained of loss of appetite, pains in the loins, weight in the stomach, shortness of breath and palpitations of the heart, headache, giddiness, cramp—in short, of all the ailments catalogued in quack advertisements and Christian Science "testimonies of healing." Naturally his two chief physicians, Dr. Saumon and Professor Machellier made the diagnosis of "neurasthenia." The condition is described by one learned leech with judicious vagueness as an "imperfectly defined morbid entity." The other discourses on it in more eloquent if not more enlightening fashion as a "veritable pathological Proteus who like the Old Man of the Sea, transforms itself ceaselessly in the grasp of the practitioner and assumes the most grotesque and terrifying appearances; by turns the vampire of a gastric ulcer or the snake of a nephritis, suddenly it displays the yellow face of jaundice, shows the hectic cheeks of tuberculosis, or twines strangling hands which would make one believe that it has hypertrophied the heart; at last it presents the spectre of all the ills that afflict the human body, till, yielding to medical art and owning itself beaten, it flies away in its proper figure of ape of diseases." Saumon was handsome and popular with women; he recognized aristocracy even in a caecum and a peritoneum, and was careful in his regard of the social distances which separated one uterus from another. Machellier, short and stout, was copious in speech. He and his professional brother hated each other; but having noticed that in fighting they destroyed each other, they affected a perfect understanding and a full agreement in opinion; one had no sooner expressed an opinion than the other made it is own. Although having a mutual contempt for each other's intelligence, one was not afraid to borrow the other's opinion, "knowing that there was no risk in doing so, and that they would neither

gain nor lose by the exchange, as it was only medical opinions that were in question, so they agreed on a course of treatment for the King, but the unfortunate monarch got steadily worse. His courtiers urged him to call in Dr. Rodrique whose fame extended over the whole world. He charged fees of an amount that made millionaires recognize his merit. His brethren, whatever they thought inwardly of his knowledge and character, spoke with respect of a man who raised the medical fee to a height till then unknown. Many praised his methods, and professed to be able to apply them at a lower figure. Dr. Rodrique excluded the products of the laboratory and of the pharmacy from his therapeutic armament, and his methods of treatment had a disconcerting eccentricity and inimitable singularities. An instance of this forms the plot of the story. The King is unwilling to call him in, for, as he sagely observes, he knows that his official doctors do nothing, but he does not know what Rodrique is capable of doing. Nevertheless, after much intrigue and diplomacy he is induced to send for Rodrique whose prescription is that His Majesty shall wear the shirt of a happy man next his skin so that his dry integument may absorb the particles of happiness exhaled by the sudoriparous glands of the happy man. With some difficulty the King is got to consent to submit to this treatment; then the difficulty is to find a happy man. When found at last, he has no shirt!

The obituary notice of the late Dr. C. H. F. Routh, contributed by Mr. Alban Doran to the *Journal of Obstetrics and Gynæcology of the British Empire*, April, 1909, has been reprinted by Messrs. Sherratt and Hughes. It is interesting in itself, and important as a contribution to the history of medicine. Routh worked with Semmelweis in Vienna, and was the apostle of the new gospel in this country. He made Semmelweis's work known in a communication which was read before the Royal Medical and Chirurgical Society in 1848. The paper was followed by a lively discussion, in the course of which the President, J. Moncrieff Arnitt (according to the report published in the *Lancet* of December 9th, 1848), "inquired if it accorded with the experience of accoucheurs present that pupils from the dissecting room gave puerperal fever to their lying-in patients more frequently than midwives." *This appeal of the President was not responded to by a single accoucheur.* Semmelweis was deeply grateful to Routh for his support, and sent him a copy of his work *Die Aetiologie, der Begriff und die Prophylaxis des Kindbettfiebers*. In it the Vienna investigator states that Routh informed him, in a letter dated January 23rd, 1849, that he had expounded his views before the Medico Chirurgical Society. He gives a summary of the debate. The letter is written in Latin, which, if not exactly Ciceronian, and perhaps here and there inclining to the canine dialect, is perfectly clear. We quote it to show that Latin, so long the universal tongue of learning, might still be the international language of science if it were rationally taught in schools. We have taken the liberty to correct a few obvious misprints:

Comitiis in ultimis septimanis Novembris, 1848, convocatis illic discursus, in quo tuam inventionem enunciavi, reddens tibi, ut voluit justitia, maximam gloriam, praelectus fuit. Enim vero possum dicere, totum discursum optime exceptum fuisse, et multi inter socios doctissimos attestaverunt argumentum convincens fuisse. Inter hos praecipue Webster, Copeland et Murphy, viri et doctores clarissimi, optime locuti sunt. In *Lancetto*, Novembris, 1848, possis omnia de hac controversia contingentia legere. Credisne novos casus, qui in hospitio ex tempore mei abitus admissi sunt, opinionem tuam confirmant?

Febrisne puerperalis rarior est quam ante? Si morbus sic periculosus in cubilibus obstetricis non adsit ut ante, certe effectus magni momenti denuo firmatur. In Praga quoque, ubi febris puerperalis tum frequenter obvenire solebat, eisdem causis consecuta fuit ingenerari!

In another letter, dated December 3rd, 1849, Routh writes:

Jam inventionis tuae fama ac veritas in existimatione publica accrescit, et inter omnes medicorum societates quam res est maxime utilis percipiunt et agnoscunt, nec vero etiam temere, nam magna est veritas et praevalebit.

The readiness with which Semmelweis's teaching was accepted by the profession in England is in striking contrast with the prejudice and incredulity with which it was received in Vienna.

Medical News.

THE annual meeting of German bath physicians will be held in Mainz from September 9th to 11th.

STAFF SURGEON SERGE LENTOVSKY, Honorary Surgeon to His Imperial Majesty the Emperor of Russia, has been appointed by King Edward to be an Honorary Member of the Fourth Class of the Royal Victorian Order, on the occasion of the visit of the Emperor and Empress of Russia.

WE are asked to state that the address of the Secretary-General of the International Congress in Budapest is VIII. Eszterházy-utca, 7, Budapest, until August 19th, and after that date his office will be removed to VIII. Múzeum-Körut, 6–8, Budapest. The Central Travelling Ticket Office (V. Vigadó-tér, I. Budapest) has reserved a number of rooms for those who have not yet sent in their adhesions and subscriptions, but all intending visitors are advised to write at once in order to obtain the advantages offered by the railway and steamboat companies.

DR. ANTON BREINL, of the Liverpool School of Tropical Medicine, has been appointed Director of the newly founded School of Tropical Medicine in Western Australia. Dr. Breinl was at one time first assistant to Professor Chiara in Prague: he joined the Liverpool School of Tropical Medicine in 1904, and shortly afterwards was a member of the school's yellow fever expedition to Manaos, where he contracted the disease. More recently his attention has been chiefly given to the subject of sleeping sickness, on which several papers by him have been published in this JOURNAL.

THE Royal Sanitary Institute has issued prospectuses of the courses of lectures and demonstrations arranged for the next session, which begins in September. Full particulars can be obtained on application to the secretary at the new offices of the Institute, 90, Buckingham Palace Road, S.W., and it must suffice here to state that the arrangements include courses for sanitary officers in sanitary science as applied to buildings and public works, on hygiene in its bearing on school life, and for women health visitors and school nurses, and two courses on meat inspection.

THE Humanitarian League has forwarded to the President of the Local Government Board a memorial praying that steps may be taken to replace all private slaughter-houses in London by public abattoirs. It is pointed out that this course was recommended by a committee appointed by the Admiralty four years ago, by the Royal Commission on Tuberculosis thirteen years ago, and by the Public Health Committee of the London County Council, and other medical and sanitary authorities on various occasions. Among the signatures are the names of Sir Thomas Barlow, Sir Samuel Wilks, Sir Jonathan Hutchinson, and those of the medical officers of health for sixteen metropolitan boroughs, and many other medical men.

THE annual luncheon of the Continental Anglo-American Medical Society was held on Thursday, July 29th, at the Grand Central Hotel, Belfast, the chair being occupied by Professor Osler, one of the Honorary Presidents of the Society; over forty members and guests were present, among the latter being Professor Bryson Delavan and Dr. Emil Mayer (New York), Professor Fehling (Strasburg), Professor Calmette (Lille), Dr. Louis Wickham (Paris), Professor Jacobs, Dr. Bordet, Dr. Delsaux, and Dr. Toubeau (Brussels), Sir Lauder Brunton, Bart., Sir Malcolm Morris, K.C.V.O., Sir James Barr, and Dr. Edwin Rayner. Professor Osler proposed the toast of "Success to the Society," emphasizing the value of the Society not only as a bond of union among its members but for benefit to the profession in England and America, by giving them the names of physicians who speak their own language to whom they could with confidence entrust their patients travelling on the Continent of Europe and in North Africa. Dr. Brock returned thanks for the Society, and proposed the health of "The Guests," coupled with the names of Professor Calmette, Professor Delavan, and Dr. Walton Browne, who made appropriate replies. Professor Delavan speaking of the great usefulness of the small sheet lists of members of the Society, a copy of which he gave to each of his patients starting for abroad. Dr. Samways proposed the health of "The Chairman," which was enthusiastically received, and thus brought to a close a most successful meeting.

British Medical Journal.

SATURDAY, AUGUST 14TH, 1909.

PENSIONS FOR ASYLUMS OFFICERS.

When the "slaughter of the innocents" which marks the approaching close of a parliamentary session takes place, we trust that one bill, introduced by a private member, but which is now emerging from the careful consideration of a Select Committee, may at least be spared, and be put through its later stages with the assistance of the Government. We refer to the Asylums Officers' Superannuation Bill. This Bill was introduced by Sir William Collins in March of this year, and was "backed" by Colonel Lockwood, Sir Walter Foster, Sir Francis Powell, Sir John Batty Tuke, Sir John Jardine, Dr. Rutherford, Mr. Charles Roberts, and Mr. Ramsay Macdonald. It is clearly, therefore, a bill supported in all quarters of the House. It secured a second reading, unopposed, in April, and was at once referred to a Select Committee under the Chairmanship of Mr. J. M. Henderson. Evidence was taken, in public, from the Home Office and the London County Council, from Dr. Shuttleworth, Dr. Nolan, Dr. A. C. Johnstone, Dr. A. R. Urquhart, Dr. Bowie, Dr. C. H. Bond, and others. It is understood that no serious opposition to the bill was forthcoming, and that the Committee is just about to report to the House, suggesting a few amendments in detail.

The case for the bill is exceedingly strong. For some half-century asylum authorities have had discretionary powers in England and Wales since confirmed by the 280th Section of the Lunacy Act of 1890, under which many authorities have pensioned officers over 50 years of age after fifteen years' service, but on no uniform or recognized basis or scheme. Similar powers have for many years existed in Ireland, but in Scotland no such optional statutory sanction for superannuation exists. The object of the bill is to substitute for these discretionary powers, where they exist, and to provide where they do not exist, a system of assured pensions for asylum officers on a recognized scale and upon a contributory basis.

The Poor Law and the police services offer strong precedents for such a reform, and the principles underlying their methods of superannuation have, we understand, been imported largely into the bill. Under the present system, or lack of it, we hear of cases in which asylum authorities have exercised capriciously and inequitably their present optional powers; in nearly a dozen cases we know of authorities who refuse to exercise them at all, and in some instances even require officers on appointment to sign away any expectations that the statute might seem to hold out to them.

It is not surprising that witness after witness should have testified before the Select Committee—as, indeed the Lunacy Commissioners have, year after year, reiterated in their reports—that the asylum service and the care of the insane suffer for want of that attractiveness, security of tenure, and expectation of provision for declining years which a reasonable scheme of pensions would be calculated to ensure.

The Medico-Psychological Association and the Asylum Workers' Association have strongly supported legislation in this direction and have approved the bill of Sir William Collins; moreover, at the Annual Meeting of the British Medical Association at Belfast the Section of Psychological Medicine adopted a resolution expressing its approval of the principles of the bill. The Home Office and the London County Council (as well as many other local authorities) have welcomed it, and it would be piteous if, after the favourable position the bill has attained, it should fail to pass into law this session.

It is idle to say that asylum officers should wait for a general scheme of superannuation for all municipal servants. That is not the way that legislation has proceeded in the past. The more exacting services, like those of the police and fire brigade, have been picked out for early and special treatment, to mention only a few cases. And may we ask what service—municipal, or parochial, or any other—claims sympathetic treatment more deservedly than that of those who work among and for persons of unsound mind? Whether we have regard to the stress, and excitement, and peril of the acute wards to those in charge, or the dreary and repellent duty daily and nightly discharged by those entrusted with the care of chronic dements and paralytics, we challenge contradiction when we assert that for physical and mental strain this service is unsurpassed among pacific occupations.

When this assured pension scheme is backed up by the voluntary acceptance by those for whom it is intended of a compulsory contribution to be levied upon their salaries and wages, the bona fides and the urgency of the demand for such scheme become both obvious and irresistible.

We wish to urge alike on the Government and on legislators, wearied though they may well be by their assiduous application to the claims of high finance that they should not neglect in this minor sphere of financial reform the claims of some of the most deserving of officers charged with the care of the most pitiable of mankind.

ENGINE DRIVERS AND COLOUR TESTS.

The importance of excluding persons from service as engine drivers whose colour vision is not normal will not be disputed. The whole matter, indeed, appears so simple that the public perhaps believes any further discussion unnecessary, since it is known that colour-vision tests are employed, and it is naturally believed that these tests determine with certainty whether the men can distinguish red lights from green lights, which is all that is necessary for the travelling public. That this view is entirely false can be demonstrated, and it can further be shown that many engine drivers on the roads do not possess a colour vision which justifies the trust placed in them. Dr. Edridge-Green, who has studied this question deeply, has communicated his views to the Royal Society, the British Medical Association, and other societies. According to his researches and observations, the determination of normal colour vision cannot be safely conducted by means of the usual test by Holmgren's wools. Persons who are capable of passing a test of matching colours may yet

fail under given conditions to determine colours correctly, and may thus form a real danger to the public if entrusted with the driving of an engine. It is well known that engine drivers after a long run in an express train at a high speed are often so fatigued that they have to be assisted off their engines. Supposing that the driver possesses a limitation of colour perception which under the influence of good illumination and freedom from exhaustion enables him to distinguish the primary colours correctly, what will be the effect of a degree of fatigue such as that mentioned? It is highly probable that the man will become practically monochromatic. Von Kriess has suggested a classification of the different degrees of colour perception based on the Young-Helmholtz three-fibre theory. He assumes that every form of light, no matter of what colour, can be reproduced by a mixture of the three different lights, red, green and blue. The visual perception, therefore, is a function of an organ which receives impressions from three variables. Normal persons are therefore trichromatics. When the colour vision is less perfect, so that the colours appreciated can be reproduced by a mixture of two colours—for example, red and blue—the vision is termed dichromatic, while persons who are totally colour-blind are spoken of as achromatics. Edridge-Green, holding that the normal sighted distinguish six colours in the spectrum, proposes for them the term "hexachromic"; those who only see five colours he calls "pentachromic," those who see four "tetrachromic," and so on, while colour-blind persons are monochromic. In von Kriess's scheme, those persons whose vision lies between trichromatic and dichromatic are termed "abnormal trichromatics." This would correspond to the penta-, tetra-, and tri-chromics of Edridge-Green.

A striking instance of the importance of recent researches on this subject is afforded by a case reported by Dr. Schlodtmann.[1] He was asked to test the sight of a man who was employed as stoker, and was ripe for promotion to driver. Vision was perfect, and, on testing with Holmgren's wools, no gross mistakes were made, but it was noticed that the man selected the wools slowly and with some hesitation. Actual mistakes were limited to a confusion between greyish and brownish bundles. Tested with Nagel's cards, he made a few slight mistakes, but these revealed, in Schlodtmann's opinion, errors in colour perception. When tested with Stilling's pseudo-isochromatic tables he failed completely, save with the simulation tables, and he failed materially with Pflüger's contrast tables. Another ophthalmologist was consulted, and the man was passed as fit for driver's work. In order to determine whether the results obtained by Nagel's method were reliable, Dr. Schlodtmann requested the railway authorities to submit the man to an examination by an undoubted expert. The report of this gentleman stated that the man was an abnormal trichromatic, with defects in green perception. In view, however, of the fact that he had had experience of the road as stoker, it was considered safe to pass him as a driver. As the facts elicited by the expert coincided with his own observations, Schlodtmann undertook further tests. First he took the man out immediately after sunset and showed him railway signals. Out of twelve or fifteen signals, he mistook red for green or green for red twice. Both false replies were given definitely and repeated when the question was repeated. After this, the man's eyes obviously got accustomed to the conditions of light and no more mistakes were made. Next Schlodtmann and a railway official accompanied the man on an engine. As the engine approached a station a number of lights of varying intensities presented themselves and formed excellent objects for testing. The man made a large number of mistakes. Once he failed to see a green signal; several times he mistook white lights for green signals, and in several instances he took a considerable time to determine where red and green signals were placed. This experience naturally decided the man's fate, and excluded him from train driving. Some time later, when there was no longer any question of his suitability for driving, he was again examined. Tests by Holmgren's wools were faultlessly gone through, but Nagel's tests showed numerous failures. Schlodtmann discusses the physiological and physical aspects of the case, and draws the conclusion that Nagel's method is not too severe a test to apply to engine drivers, and that Holmgren's matching wools are insufficient for the detection of abnormal colour vision. There is no doubt that if the man had been tested by Edridge-Green's spectrum method, he would have exhibited the characters of a tetra- or even tri-chromic. That visual defects of this kind are not uncommon is certain, and it is for this reason highly important that the subject should be reconsidered by the railway and State authorities, and that higher standards of tests should be required for such persons as engine drivers and navigating officers to whose charge the lives of the travelling public is entrusted.

[1] *Deut. med. Woch.*, November 26th, 1908.

POTABLE SPIRITS.

THE final report, issued this week, of the Royal Commission on Whisky and other Potable Spirits does not add very much to information otherwise available, but it brings together in a short and on the whole very readable form facts with regard to most of the spirituous liquors in common use. Special attention is given to the manufacture and properties of whisky, for the Commission was appointed primarily in consequence of a decision in two prosecutions brought by the Islington Corporation, the main point at issue being whether patent-still spirit could be properly described as whisky. The magistrate held that it could not, but the Commission, in an interim report published rather more than a year ago, expressed the opinion that the term might properly be applied to any spirit manufactured from malt, or from malt and unmalted barley, or other cereals, whatever the nature of the processes or apparatus used for distillation.

It appears that the word "whisky" is not older than the end of the eighteenth century, the spirit which had been manufactured in Scotland at least two centuries earlier having apparently been known as *aqua vitae*. All whisky is made by mashing grain which is then crushed and extracted with hot water, yielding a "wort," which is fermented to produce a "wash." The difference in the mode of manufacture resides in the methods of distillation. In the old pot-still the fire is applied directly to the vessel containing the fermented liquor or wash and at least two distillations are required. The object of the patent-still invented in 1831 was primarily economy, the loss of heat being diminished and the clean spirit being obtained by a single process. The product of

the patent-still is more nearly pure ethylic alcohol than the product of the pot-still, the latter containing a larger proportion of savourous secondary products. These products, though present in very small quantities, appear to give to the whisky the qualities which the connoisseur finds palatable. But it would seem that the taste for an unblended pot-still whisky is acquired, and the Commissioners feel justified in asserting that the majority of Englishmen who drink whisky seldom drink anything but a blend, patent-still whisky being used mainly for diluting the flavour of the pot-still whisky; or, to put the matter the other way, it may be said that pot-still whisky is used for the most part to give the desired flavour to the patent-still whisky which is a more featureless beverage. Further, it appears, that a blended whisky kept in wood undergoes certain changes commonly called maturing, which do not take place or do not take place to anything like the same degree in the patent spirit.

We have reproduced elsewhere the passages of the report which discuss the medical aspects of the controversy which has arisen between the patent and the pot distillers. As to any value attaching to whisky in the treatment of disease, the Commissioners express the opinion that no difference in the results obtained could be attributed to the mode of preparation of the whisky, by which we understand that they hold that its effects are entirely due to the ethylic alcohol. This conclusion seems a little in conflict with that contained in the following paragraph of the report, in which it is said that in its dietetic use flavour plays a part of considerable importance, that a maturer whisky is preferable for dietetic consumption to a new whisky, and that whiskies of different flavours may have a particular dietetic value in particular instances. The most important observation under this heading is perhaps that suggesting that patent-still whisky is a more deceptive beverage than the more highly-flavoured pot-still whisky, since the latter is likely to be drunk in a greater degree of dilution.

The Commissioners do not recommend any additional provisions for the protection of the consumer of whisky. They think that he gets what he asks for, or, rather, what he is willing to pay for; and that it is a case for the application of the old precept *caveat emptor*. The general conclusion of the report is a definition of whisky as a spirit obtained by distillation from a mash of cereal grain saccharified by the diastase of malt, Scotch whisky being whisky so distilled in Scotland, and Irish whisky being whisky so distilled in Ireland. What should be the name applied to the whisky distilled in the 8 distilleries of England we are not told. Possibly, as there are 150 distilleries in Scotland and 27 in England, the Commissioners considered it unnecessary to suggest a special term, although there must be a good deal of English whisky on the market, probably, however, mainly used for blending with the genuine Scotch or Irish product. It appears that at the present time two-thirds of all the whisky distilled in Scotland and Ireland are distilled in patent-stills: so that, taking this fact along with the public preference for blended whisky, the Commissioners appear to have had no alternative save to arrive at the definition quoted above, with the corollary that if whisky is to be used at all, then the most palatable is the best.

With regard to brandy, the Commissioners have no difficulty in adopting the view that it must be the distilled product of the grape with the addition of some cane-sugar and colouring matter. But it would appear that, unless the consumer takes advantage of the provisions of the French law and purchases brandy with a warranty, he cannot be sure that the liquid he obtains may not be made in whole or in part from the fermented product of apples, pears, cherries, plums, or other fruit. At the same time, wine suitable for the manufacture of brandy is now so cheap and plentiful in France, the country which supplies 94 per cent. of the brandy imported into the United Kingdom, that the probability of other materials being used is small. The only exception to its definition of brandy which the Commission would recognize is a spirit sold as British brandy, a compound prepared by a rectifier or compounder by redistilling grain spirit with flavouring ingredients, or by adding flavouring materials to such spirits. British brandy seems to be used chiefly for mixing with foreign, generally Cognac brandy, the mixture being sold at a cheap price as "cooking brandy."

The name of rum, the Commission considers, should be limited to a spirit distilled direct from sugar-cane products in sugar-cane growing countries, and it holds that the Customs should not afford facilities for mixing in bond Colonial rum with the imitation rum made principally in Germany and commonly called "Hamburg imitation rum."

Gin is made by adding the flavour of juniper and other herbs to plain flavourless grain spirit. Some makers of gin distil the juniper berries and flavouring herbs with the spirit; others distil the flavouring materials separately and add the product to the grain spirit. The Commissioners appear to consider either method legitimate. Geneva or Hollands is made from a mixed mash of malted barley, rye, and maize, distilled three times in a pot-still, and then redistilled with the addition of juniper berries and other flavouring.

As to liqueurs, the Commissioners frankly give the matter up. The methods of preparation are trade secrets, and the products have no defined alcoholic strength, the alcohol being merely a solvent for the flavouring essences. Liqueurs of the best quality, it is said, are generally made with old spirit, but the method of preparation differs; cherry brandy, for instance, is made by infusion, and crème de menthe, a liqueur apparently very popular with ladies, with an essence prepared from the leaves and top of *Mentha piperita*, while curaçoa and anisette can only be obtained by distillation. The Commissioners do not recommend any special restrictions on the labelling or sale of liqueurs or cordials, the name still, it is said, applied to British liqueurs, but they state that the sale of absinthe has been entirely prohibited in Switzerland, and can only be sold in France at a high alcoholic strength with a correspondingly small proportion of wormwood extract. Although this is pointed out, no suggestion is made for legislation, probably because the quantity of absinthe consumed in this country is very small.

In its concluding sentences the Commission recommends that in prosecutions under the Sale of Food and Drugs Act the presiding magistrate should be authorized to obtain the assistance of two assessors, and suggests that a committee of skilled persons might be formed under Government authority to advise on technical questions which affect the administration of the Act by local authorities and the practice of public analysts.

SECRET REMEDIES.

The volume entitled *Secret Remedies: What They Cost and What They Contain*, which has just been published by the British Medical Association,[1] will, there can be no doubt, prove very useful to medical practitioners, who often find their patients taking nostrums, and are sometimes even asked to sanction their employment. The volume is based on analyses made for the British Medical Association and published from time to time in the British Medical Journal during the last few years. The secret remedies examined include the majority of the preparations commonly, but incorrectly, called patent medicines, which are at present being largely advertised in this country. They are classified in twenty chapters according to the kind of disorder for the cure of which each is more particularly vaunted. The claims made by some of the proprietors are so extensive that it has not always been easy to assign its proper place to the nostrum under examination, but the index of names and ingredients will facilitate reference. Probably the fact that will most strike a medical reader who turns over the pages of the volume will be the exceedingly commonplace nature of the ingredients in all or nearly all the nostrums examined. In some instances, indeed, it is difficult to see how the combination can have any medicinal action whatever unless it be on the principle expounded by the great inventor of Tono Bungay to his nephew, who had asked: "You don't "mean to say you think doing this stuff up in bottles "and swearing it's the quintessence of strength and "making poor devils buy it at that, is straight?" "Why not, George? How do we know it mayn't be "the quintessence to them so far as they're con- "cerned? There's Faith. You put Faith in 'em. . . . "I grant our labels are a bit emphatic. Christian "Science, really. No good setting people against the "medicine." The new volume may, indeed, be described as a kind of appendix to Tono Bungay, containing data justifying the picture which Mr. Wells has drawn with so much skill and humour of Uncle Ponderevo's proceedings in concocting and booming his "secret of vigour."

PROFESSOR PFLÜGER.

Pflüger, the doyen of German physiologists, has just celebrated his eightieth birthday, and although we are a little late, we join very heartily in the congratulations he is receiving. His vigour in research and in teaching appears to be unabated, and we sincerely hope he has still many years of useful work before him. Among the tributes of respect and affection he has received is the publication of a little pamphlet by his former pupil and now his colleague in Bonn University, Professor Nussbaum, *E. W. F. Pflüger, als Naturforschen*.[2] This gives a complete list of his publications, and an appreciative account of his work in connexion with the multifarious physiological subjects he has investigated in relation to histology, embryology, chemistry, metabolism, philosophy, psychology, and the nervous system. To the student of physiological textbooks, Pflüger is best known as the author of the law of contraction, and as the originator of sound views on the nature of protoplasm, and the part played by the living cell in metabolism. These, however, constitute but a small fraction of his many contributions to the progress of natural knowledge, for every subject he has taken up he has illuminated. His publications to date reach the number 199, stopping just short curiously enough of the second century, if we may borrow the phraseology of cricket. Like most cricketers, too, he is a good fighter, and his love of polemics is well illustrated in the list of his papers. No notice of Pflüger, however short, should omit to mention his celebrated *Archiv*, which has formed part and parcel of his life, and is now recognized as the standard physiological periodical in Germany. He founded this journal in 1868, and its 128th volume is now in course of publication. May it, like its author, long continue to flourish.

SANITATION IN WEST AFRICA.

Professor Simpson's report on sanitary matters[1] in various West African colonies and the recent outbreak of plague on the Gold Coast, shows how far sanitation is behind the times in many of these places. There were in all 344 cases of plague on the Gold Coast, with 300 deaths. In the first outbreak there were 302 cases, 258 proving fatal; 127 deaths occurred in Accra and 131 in other parts of the colony. The cases at Accra were mainly of the bubonic type and were associated with a plague epizootic among rats, but the outbreak in the villages was, with the exception of 3 cases, entirely pneumonic, and with no mortality or infection of rats. In the second outbreak which lasted from early in May to June 26th, there were 35 cases of pneumonic plague in the colony, all of which were fatal; 23 of these occurred in Accra and 12 in the neighbouring villages. There was no rat infection connected with any of these. In the third outbreak, from July 28th to August 17th, there were 6 cases of plague in Accra, all pneumonic and fatal. The Indian Plague Commission was of opinion that pneumonic cases play a very small part in the spread of epidemics, but figures such as these show that such a view must be accepted with great caution. It is also difficult to understand what part fleas could have played in the third outbreak, since the 6 cases were all pneumonic in type and there was apparently no infection of rats. To deal with the sanitation of the coast generally Professor Simpson advocates the creation of a special health organization which would consist of (*a*) a special health department in each colony, small in its constituent numbers, whose members should be specially trained, and whose whole time should be devoted to public health duties; and (*b*) the medical officer in each station, who is now designated health officer for the station, but who at present has no special expert guidance or control in sanitary matters. Professor Simpson thinks that the suggested health department in each colony would be best formed by making it a branch of the West African Medical Staff under the charge of a sanitary commissioner with separate functions, the officers not being transferable. His views, which were put forward with succinctness and exhibited a wide grasp of all sides of a very intricate problem, were laid before the recent departmental Commission on the West African Medical Staff, and seem, for the most part, to have been adopted by it.

LINGUAL ANALGESIA IN TABES.

In the review of Professor Grasset's work, *Le Tabes, maladie de la sensibilité profonde*, which appeared in the British Medical Journal of April 10th last,

[1] *Secret Remedies: What They Cost and What They Contain. Based on Analyses made for the British Medical Association.* London: The British Medical Association. 1909. (Cr. 8vo, pp. 218. To be obtained through any bookseller, price 1s., or from the offices of the Association, price 1s. 3d. post free.)

[2] *E. W. F. Pflüger, als Naturforschen.* Bonn: M. Hagar. 1909. (Roy. 8vo, pp. 40. M. 1.)

[1] *West Africa.* Report by Professor W. J. Simpson on Sanitary Matters in various West African Colonies and the Outbreak of Plague in the Gold Coast. Presented to Parliament by command of His Majesty, June, 1909. London: Printed for His Majesty's Stationery Office by Darling and Son, Ltd., 34-40, Bacon Street, E., and to be purchased, either directly or through any bookseller, from Wyman and Sons, Ltd., Fetter Lane, E.C., and 32, Abingdon Street, Westminster, S.W.; or Oliver and Boyd, Tweedale Court, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. 1909. (Cd. 4718. Price 2d.)

reference was made to anaesthesia, or rather analgesia, of the tongue as a sign of tabes dorsalis. Since that date we have been favoured with the copy of an article on "Lacrymal Reflexes: Pressure-sensibility of Head and Neck, and the Squeezed-tongue Sensation," by Dr. L. J. Kidd, which appeared in the *Review of Neurology and Psychology* for March, 1909. In this article Dr. Kidd writes that he has quite recently thought of applying diminution or loss of sensation of the tongue, on pressure, as a test for tabes dorsalis, especially in cases of the upper type; at the time of writing he had only applied the test to a single patient. In France, however, according to Professor Grasset, this sign of tabes has been recognized for some time; it was described in 1903 by Sicard and Carrez, and was present in 6 out of 16 tabetics, and to a minor degree in two more of them. Carrez concluded that this was a deep analgesia, in no way connected with any cutaneous anaesthesia of the corresponding superficies of the tongue. Professor Grasset, as was pointed out in the review of his book, is inclined to attribute this lingual deep analgesia to disorder of the sympathetic nervous system. Dr. Kidd discusses the question with some thoroughness, but without arriving at any very definite conclusion, although he is of opinion that the squeezed-tongue sensibility might show some diminution if there was a complete lesion of the twelfth cranial nerve, or if the lingual branch of the fifth were diseased.

TELEOLOGY.

As we meet with them and their exponents in this country, metaphysics and medicine, using the terms in their widest sense, have but little ground in common. Few of those who devote much time to the study of the one or to the practice of the other are in a position to combine the two, or to find a *modus vivendi* whereby the claims of each may be marked out and satisfied. No doubt this is because the British are before all a practical race by nature, apter for action than speculation, for experiment than theorizing, for applied and empirical science than philosophy. Very different is the state of affairs on the Continent, particularly, as everybody knows, in Germany, where a training in philosophical thought is as common among the educated classes as it is rare in England, and the writing of psychological or philosophical papers and metaphysical essays by the professors and teachers of every kind of science is a commonplace of daily—one might almost say of hourly—occurrence. There died in Frankfurt last summer one of the most promising of the younger generation of these gifted writers, a pathologist, Eugen Albrecht by name, in whom were combined the qualities of a man of science and of a philosopher to an unusual extent. Almost the last work of his own he lived to see through the press was on the subject of teleology and pathology, a brilliant piece of writing that should afford food for reflection to any of its readers. The craving for causality is so deeply implanted in the human mind, that any philosophical doctrine that offers to give "the reason why" in answer to any question, and will settle "the purpose" of any object or process submitted to its consideration, is sure to be widely welcomed. Such a doctrine is found in teleology; and, as Albrecht remarks, teleology has given rise to a vast amount of jejune and futile speculative writing, so simple it appears to be, so easily is its scope misunderstood. In the field of human pathology he would strictly limit the employment of teleology or "purpose" for the explanation of the processes that may be there observed. He points out that the so-called "purposive reactions" of the organism, such as the regeneration of injured tissues or the formation of antibodies, follow without variation along their own definite and rigid lines, frequently overstepping the limits of any possible utility. Once started, they tend to go on just so long as the stimulus that called them forth continues to be felt, quite irrespective of the "purpose"—the welfare of the organism—that is presumed to have first set them on foot. In a great many instances, too, reactions occur in which no useful purpose can be detected. While the majority of these appear to be indifferent, some to all seeming are positively harmful to the body as a whole, and all are called into action in response to some definite stimulus, and not to satisfy some "need" of the organism. Further, the human body shows no signs of adaptation, or of educational advance in the way of improvement or new combination, in the reaction called forth when the same stimulus is repeatedly applied. Want of space forbids us to go more deeply into Dr. Albrecht's well balanced and carefully reasoned exposition of the countless errors into which the goodwill and defective logic of many teleologists have led their possessors, or into the psychology and metaphysics of the position he himself adopts, or into the limits of human knowledge as he points them out. The problem that teleology sets out to explain, the "Everlasting Why," as Carlyle might have called it, is no more to be solved by attack from the side of pathology than from any other side. In ultimate analysis such problems must always be insoluble; and Dr. Albrecht's own carefully-worded reply to the questions so readily answered by the teleologists may, perhaps, be not unfairly summed up in the words *ignoramus, ignorabimus*.

A PREMIUM ON FECUNDITY.

THE old age pension already weighs heavily upon the taxpayer, and, if the Labour party has its way, it will weigh still more heavily in the future. But there may be even worse in store for us. Is it possible that the taxpayer may yet be called upon to pay, not only for the maintenance of aged citizens, but for the making of new ones? Our population, like that of most other civilized peoples, tends to diminish, and, as Napoleon said, Providence is on the side of the big battalions. There was, doubtless, a good deal of malice in his reply to Madame de Stael when she asked him whom he considered the greatest woman that ever lived: "She who had most children"; but, in saying that, he gave utterance to a feeling which found expression in his customary injunction to ladies presented to him, *Faites moi des soldats!* It is certain that the nation which does not increase is doomed sooner or later to extinction. Nowhere is this more clearly perceived now than in France, the country in which the artificial limitation of the family has till lately been practised most extensively and openly. Now there are States in America where the practice is not only prevalent, but where it is preached as a duty which civilized woman owes to herself. For years past American observers have been warning their countrymen that the Anglo-Saxon element was slowly but surely being eliminated from the population of America. But when President Roosevelt in his strenuous way called attention to the evil he was violently denounced by many women. Although the latest returns in France show a slight recovery in the downward curve of births, the statesmen of that country continue to be alarmed at the steady decrease of the population. They have for years been seeking a remedy. It is a considerable time since a law was passed giving parents with seven children the right to have one of them educated at the expense of the State. This measure seems to have

had little or no effect; the figure of productivity is much too high, especially in a country like France where the gentle art of regulating the output of progeny has been carried to the highest perfection. Even the privileges granted by the *jus trium liberorum* when the Roman Empire was beginning to decay would probably be ineffective in France where two children are considered the utmost limit of prudent parentship. A measure much more likely to promote the fertility of marriage has recently been suggested by Professor Charles Richet, the distinguished physiologist. He suggests, in fact, that a premium should be placed on fecundity, the State giving £20 for a second child, and £40 for each further addition to the family. He estimates that the result of this measure would be an increase of births to a million to twelve hundred thousand instead of seven hundred and fifty thousand, which is the present rate. The cost is estimated at £12,000,000 for the first year, and the amount would rise with the number of births. In four years Professor Richet looks for an increase of a million in the population which he thinks would be cheaply purchased at the price of a *milliard*. He proposes to raise the money by loan, or by taxing estate inherited by collateral relatives to the amount of 50 per cent. or more, while a tax of 25 per cent. would be levied on that inherited by an only child. It is estimated that this would yield a sufficient amount to meet the sum required for the bonuses on offspring. Professor Richet concludes his proposal by an emphatic statement that a substantial premium given by the State for every child after the first is the only remedy for decrease of population. The scheme as presented by Professor Richet is seductive in its simplicity. But the eminent physiologist does not seem to have taken into account in his calculations the fact that, apart from artificial limitation, a higher degree of civilization entails a diminution of fertility. The increase of population which his bonuses would bring about would be to a large extent an increase of the less desirable elements, physical as well as intellectual and moral, of the community. In this country the poor are far more prolific than the well-to-do. We have no data about what we hope we may without offence call the predominant partner; but there seems reason to believe on the whole that the higher education of women has a tendency not only to unfit them for the duties of motherhood, but to deprive them of the capacity of becoming mothers.

VACCINATION IN VENEZUELA.

The example of this country in relaxing the regulations requiring vaccination is not being followed in the Republic of Venezuela. Menaced by the perils of small-pox the authorities of that country are determined to profit by the results established by experience in other parts of the globe. Recently the President of Venezuela promulgated a decree which provides for a system of vaccination which is consistent with the almost universally admitted facts regarding vaccination in relation to small-pox. On page 430 some details of this decree are given, and it will be seen that every effort is about to be made to test the power of vaccination to stamp out and to keep out small-pox. The regulations as to revaccination are very complete and the penalties for non-observance are cumulative and severe. It will be noticed that the fines imposed are to be devoted to the development of the Institute of Vaccine. This is logical, for the vaccinated have to participate in providing the expense incurred through small-pox by those who have not complied with the regulations. The conscientious objector from these shores who wishes to enter Venezuela will have to stifle his conscience or find himself unable to disembark.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

This great national undertaking, the publication of the New or Oxford English Dictionary,[1] has reached another stage in its progress. With the present part a beginning is made with S's, the rubrics running from *S* to *Sauce*. There are so many medical terms between these termini that room can only be found for passing references to a few of them. Let us begin with two words which are often spelt erroneously, *sanatorium* and *sanitarium*. The former (*sanatorium*) is defined as an establishment for the reception and medical treatment of invalids; in recent use chiefly either of convalescent patients or of consumptives undergoing the open-air treatment. A quotation from a newspaper of the year 1899 says: "Quite a little shoal of companies for the establish-"ment of sanatoria has recently made its appear-"ance." A second definition is: "A place to which, "on account of favourable climatic and other con-"ditions, invalids resort for the improvement of "their health." To this definition an illustrative quotation from the *Pall Mall Gazette* of 1865 is added: "An English physician, who, as the "custom is, has taken one of the rising sanatoria on "the shores of the Mediterranean under his especial "patronage"; and the quotation illustrates more than the meaning of the term. It is to be noted that there is no such word as *sanatarium*. The second term is *sanitarium*, and it is used synonymously with *sanatorium* in both its ordinary meanings; the confusion has doubtless arisen by the first half of the one word being joined in common use with the second half of the synonymous term. In this connexion it is interesting to note that *sanity*, which of course comes from the same Latin root (*sanitas* and *sanare*) as sanitarium, at first meant simply health or a healthy condition without any special reference to mental health; that meaning, however, is now archaic. It is illustrated by the quotation (dated 1778): "His heart, "liver, entrails, and nutriment in each state bear "every mark of perfect sanity." *Sane*, as a transitive verb, meaning to cure or heal, is obsolete now in that sense, but was employed by Chaucer—for example, to "sane the vices of flesh and of the soul." A great many other words coming from *sanus*, *sanare*, and *sanitas* are placed, defined, and illustrated, but reference must be made to other parts of the Dictionary. The word *saphena* is very interesting. Dr. Bradley says: "The usual statement that the word is from the "Greek σαφηνής, 'manifest, clear,' is baseless. The "Greek word does not mean 'conspicuously visible,' "but is used only in intellectual senses." The correct derivation is the mediæval Latin *saphena*, *sophona*, adaptation of the Arabic *ṣafīn*, *saphena*; also "a vein lying deep in the arm" (Lane). The adjectives are *saphenal* and *saphenous*, but *saphenus* is erroneous. The medical term *sabulous* is not very commonly employed; it means sandy or granular—for example, certain secretions from the urinary organs are called sabulous; it is also applied to the gritty substance of the pineal body of the brain. It is derived from the Latin *sabulum*, sand; and from the cognate word *saburra*, sand, we have the term *saburra*, foul granular matter deposited in the body, especially in the stomach. *Saburration*, another

[1] *A New English Dictionary on Historical Principles*. Edited by Sir James A. H. Murray. *S—Sauce* (vol. viii). By Henry Bradley. Oxford: At the Clarendon Press; London, Edinburgh, Glasgow, New York, Toronto, and Melbourne: Henry Frowde. Double section, price 5s. July 1st, 1909.

medical term, means the application of heated sand to the body, sand-bathing, arenation. From *saccharum*, sugar, comes a long list of words—*saccharate*, *saccharic*, *saccharide*, *saccharriferous*, *saccharify*, *saccharimeter*, *saccharin* ("the intensely sweet substance "obtained from coal-tar, used in minute quantities "for sweetening the food or drink of persons to "whom sugar is injurious"), *saccharine*, *saccharinic*, *saccharo-* (in compound words), *saccharomyces*, etc. Among obsolete terms is *sacculus*, with its old meaning of a small bag containing medicaments, and not with its new one of a small sac or pouch-like dilatation of an organ. A great deal of old medical history can be read in the quotations which Dr. Bradley has chosen to illustrate the words *salivate*, *salivation*, and *salivative*. Another interesting group of words cluster round the Greek term for flesh—namely, *σάρξ*. There are *sarcine* (a base existing in the juice of flesh); *sarcoplasm* (the interfibrillar hyaline substance of muscle); *sarcocele* (a hard fleshy enlargement of the testicle); *sarcolemma* (the fine transparent tubular sheath investing muscular fibre); *sarcology* (the branch of anatomy which treats of the fleshy parts of the body, or, more recently, the therapeutic method or theory which involves or advocates the internal administration of the organs of animals for the purpose of affecting the corresponding organs of the human body); *sarcoma* (once simply a fleshy excrescence, now a tumour composed of embryonic connective tissue); *sarcoptes* (a genus of parasites, comprising the itch mite); and *sarcosine* (methyl-glycocoll). *Saturnine* has an interesting series of meanings: first, born under or affected by the planet Saturn; then sluggish or gloomy in temperament; then pertaining to lead: and, finally, caused by absorption of lead or suffering from lead poisoning (*saturnism*). Some very interesting terms belong to materia medica, such as *sassafras* and *sarsaparilla* (each with an interesting etymology), *sagapenum* (formerly used as an antispasmodic and emmenagogue), *sal-ammoniac*, *sal volatile* (volatile salt), *salicin* (from salix the willow), *salol*, *salipyrin* salicylate of antipyrin), and *sandal wood* or *sanders*. Related to pharmacy, also, is *salve*, which apparently has nothing to do with the Latin word meaning "be "in good health," but comes from the old English *sealf*, allied to the Albanian *galpe*, butter. It is impossible to exhaust the medical interest of this part of the Dictionary, but, as a last instance, we may refer to *salt rheum*, in this country an obsolete term meaning a running cold (as in Shakespeare's *Othello*, "a salt "and sorry Rheume"), but in use now in the United States as "a popular name for almost all the non-"febrile cutaneous eruptions which are common "among adults, except perhaps ringworm and itch."

A CASE OF VIPER BITE.

ON August 5th, Dr. H. Peck, Medical Officer of Health for the Chesterfield District of Derbyshire, who had been testing water on Ramsley Moor for peaty acids, was struck on both hands by an adder, which he had mistaken for a harmless grass snake. He sucked the wound, but almost immediately began to feel very ill, vomited, and suffered from dyspnoea, attributed in part at least to swelling of the lips, tongue, and fauces. The sufferer was fortunately—for the accident happened at a considerable distance from any habitation—assisted by the Duke of Rutland's gamekeeper, and Dr. Edleston was summoned from Baslow. When he arrived, two hours and a half after the bites had been inflicted, Dr. Peck's condition was very alarming; he was in a state of extreme collapse, with an imperceptible pulse, and cyanosis especially marked in the face and head. Under immediate treatment by strychnine and digitalis and free stimulation, the condition slightly improved, but two days later was still serious, the right arm and the thoracic and abdominal parietes being the site of brawny oedematous swelling. On the next day the general and local symptoms had greatly diminished in severity and it was possible to give a favourable prognosis. We hope to publish fuller details of an accident which is fortunately very rare in this country. The snake, which was 23½ in. long, and therefore full grown, was, no doubt, the common adder or viper (*Vipera berus*), the only poisonous snake of Great Britain. It occurs in all parts of England and Scotland, but not in Ireland, Man, Guernsey, or Sark. It may be recognized[1] by the dark brown or zigzag mark which extends along the whole length of the back, and by a V-shaped marking at the posterior end of the head.

THE FIGHTING AT TEHERAN.

DR. JOSEPH SCOTT of Teheran, while a refugee in the British Legation during the fighting there last month, organized a temporary hospital in the Minister's coach-house. Fighting in the immediate neighbourhood was very severe, and the place was soon filled. The wounds for the most part involved the chest, abdomen, head, and thigh; the lower part of the body escaped, as much of the fighting took place from trenches. The bullets, which were of the Mauser variety, did not as a rule produce serious wounds, and only four cases proved fatal. One of these cases was a bullet wound of the liver, another of the abdomen, another of the lung which became complicated by pneumothorax, while the fourth was a penetrating bullet wound of the knee. In one case, that of a child, the bladder was traversed, but recovery ensued; in another of perforation of the stomach, milk which was swallowed returned through the wound. Although nearly all the wounded did well the tribesmen recovered more rapidly than others. For a time the life of the city was disorganized and the dead lay in the streets for several days, the bodies being in an advanced state of decomposition before they were removed. Probably the killed and wounded numbered about 500; but the exact facts will never be known, as many of the dead were thrown into the nearest pit or eaten by dogs.

SLEEPING SICKNESS.

DR. HEARSEY'S diary[2] of sleeping sickness (Part VII) in the Nyasaland Protectorate indicates that there are few cases of the disease there. North Nyasa, the most northerly district of the Protectorate, with a population of about 27,000 natives, has now been fairly thoroughly investigated, but no case of sleeping sickness has been found, notwithstanding that about half the inhabitants have been examined; *G. morsitans*, *G. pallidipes*, and *G. fusca* are the only species of tsetse that have been met with. Dr. Stannus, who has been deputed to investigate the Mombera and West Nyasa districts, recently found an advanced case (somnolent stage) on the coastal border of Marimba. How this case became infected is not quite clear as no others have been seen, and *G. morsitans* is the only tsetse fly so far discovered. Two cases are now interned in the sleeping sickness camp at Dowa, Central Angoniland, this being the district where the late Captain Hardy unfortunately contracted the malady himself. As regards North Eastern Rhodesia

[1] Dr. Gerald Leighton in *Encyclopaedia Medica*, vol. ii, p. 255.

[2] *Nyasaland Protectorate—Sleeping Sickness. Diary.* Part VII. By the Principal Medical Officer. Zomba: Printed by the Government Printer. 1909.

things are not quite so hopeful. *G. palpalis* extends practically in an unbroken line all along the Luapala river, and Dr. Storr thinks that his efforts will be in vain as long as the lack of co-operation and indifference which obtains on the part of the Belgian authorities continues. This is a serious matter and the Home Government might well communicate with the Belgian Government on the subject.

THE WILLIAM MITCHELL BANKS MEMORIAL LECTURE.

The fifth William Mitchell Banks Memorial Lecture was delivered in the University of Liverpool by Dr. Harvey Cushing of the Johns Hopkins University on August 4th. The lecturer related recent observations on the pathology and surgical treatment of intracranial tumour, and referred in particular to the results of palliative and radical operations performed during the previous ten months on 64 cases. In discussing the symptoms he drew particular attention to the alterations in the fields of vision and of colour vision as among the earliest observable phenomena. In dealing with the morbid anatomy he went into detail regarding the experimental work which had been done to demonstrate the functions of the pituitary body, and pointed out that over-action was associated with acromegaly, and under-action with a characteristic form of obesity and sexual infantilism. He described a case of removal of the pituitary body from an acromegalic. Before concluding his lecture he demonstrated by numerous lantern illustrations the methods of operative technique employed in his clinic. The lecture was closely followed and much appreciated by a numerous audience of medical men, and at the close their thanks were accorded to the lecturer by the Dean of the Medical Faculty, who presided.

THE BARNATO BEQUEST.

The trustees appointed by the late Mr. Harry Barnato have resolved to devote the sum of a quarter of a million sterling, left by him for the purpose of founding some charity in the nature of a hospital or kindred institution in commemoration of his brother and nephew, to the building and endowment of an institution for the reception of patients suffering from cancer. The institution will be administered, except as regards its finances, in connexion with the Middlesex Hospital, and a suitable site has been acquired in Nassau Street adjoining the hospital's special cancer wards. It is stated that the new building will probably provide for about fifty patients and that clinical laboratories will be established. The scheme would appear to be an extension of the work already carried on at the Middlesex Hospital both in the special cancer ward and in the laboratories.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Registration of Nurses.—Mr. Field asked the First Lord of the Treasury whether he was aware that at the recent International Congress of Nurses, held in London, it was shown that many of the leading European and United States Governments had passed legislation for the registration of nurses; and, whether, in view of the fact that the majority of nurses and the volume of medical opinion in Great Britain and Ireland was in favour of similar legislation in the three kingdoms, the Government would introduce a bill on the subject. Mr. Field further asked whether the Irish Committee of the British Medical Association, at its recent meeting in Belfast, passed a resolution approving of the principle of State registration of nurses, with certain provisions; and whether, in view of this professional opinion, the Government would take measures to carry it into effect. The Prime Minister, in reply, said he could only repeat what he had said on a previous occasion with regard to the question of the State registration of nurses, that the Government would consider any representations that might be made on the subject. There was considerable diversity of opinion on this question amongst those qualified to judge; and in those circumstances he could not give any undertaking to introduce legislation.

Inebriates.—Mr. Charles Roberts asked the Secretary of State for the Home Department if it is intended to introduce the measure amending the law in regard to inebriates promised in the King's Speech. Mr. Gladstone said that they feared there was now no possibility of carrying legislation on this subject during the present session, and he did not think that in these circumstances it was desirable to introduce the bill. In reply to a further question by Mr. Roberts, Mr. Gladstone said he was open to argument, but he thought the balance of probability was against the introduction of a bill next session.

Pupil Teachers and Vaccination.—Mr. T. F. Richards asked the President of the Board of Education whether his attention had been called to the case of a Willesden pupil teacher whose father has a conscientious objection to vaccination, and who has been trained in the Middlesex County Council College without vaccination being imposed upon him; whether he is aware that this young man's retention as a teacher depends upon his submitting to this operation; whether he can take such action as will allow this pupil teacher the full rights of citizenship as enjoyed by persons not employed by public authorities; and what action he intends to take in the matter. Mr. Runciman said he was not aware of the case referred to. He might point out, however, that although the Board of Education did not require as a condition of their recognition that teachers should be vaccinated in cases where they had made a declaration of conscientious objection to vaccination, it was open to local education authorities to make vaccination a condition of appointment. He would suggest that the teacher in question should endeavour to obtain an appointment under an authority where this condition was not laid down.

Vaccination of Workhouse School Children.—Sir Maurice Levy asked the President of the Local Government Board whether the authorities of the Chase Farm Workhouse School had discontinued the practice of vaccinating children placed under their charge whose parents were opposed to vaccination. Mr. Burns, in reply, said he was informed that the guardians now obtained the consent of parents before children in the Chase Farm Schools were vaccinated.

Hanwell Ophthalmic Schools.—Lord Edmund Talbot asked the President of the Local Government Board if he had sanctioned a scheme whereby the managers of the West London school district would lease from the managers of the Central London school district the old ophthalmic schools at Hanwell, the buildings to be certified for the accommodation of from 300 to 400 young children of from 3 to 7 years of age, thus making a total of over 1,100 children reared on one site; whether such a scheme was in direct opposition to the recommendations of the Departmental Committee of 1896 that Poor Law schools be not enlarged and that the numbers for which they are at present certified be considerably reduced, and to the pledges repeatedly given by the Department that the certificates of existing schools should not be increased, and also to the recommendations of the Poor Law Commission that further provision of large institutions for children would not be made; and whether, if the consent of the Local Government Board had not been given to such a scheme, he would advise the school managers

concerned to provide other and more suitable accommodation for the young children in their care. The President of the Local Government Board, in reply, said that negotiations were pending between the managers of the two school districts with the object stated in the question. The building referred to was on ground belonging to the managers of the Central London School District. It adjoined the schools, but was entirely separate from them, and under the arrangement contemplated it would in no sense form part of these schools, but would be under entirely distinct administration by a different body. The scheme did not appear to be inconsistent with the recommendations of either the Departmental Committee of 1896 or of the Poor Law Commission, or with the pledges given by his department, and he saw no objection to it. Lord Edmund Talbot further inquired how many children would be accommodated in the schools. Mr. Burns said about 300, and the area of the ground was 11 acres.

Traffic in Old Horses.—Captain Faber asked whether the Board of Agriculture was going to take any further steps to suppress the traffic in old horses, either by the appointment of a special inspector or otherwise. Mr. J. H. Whitley said the Board had appointed a veterinary inspector to give his whole time to the supervision of this traffic, and to take such steps as might be necessary to secure the enforcement of the Order of the Board of Agriculture by the local authorities concerned. In reply to an inquiry by Mr. Arthur Lee, Mr. Whitley said that he thought one inspector would be sufficient. Captain Faber, on a subsequent date, inquired what steps, if any, foreign Governments had taken relative to the prevention of cruelty in the export of old horses from this country to foreign shores. Sir Edward Strachey replied that the export trade in old horses abroad from this country was practically confined to Holland and Belgium. The regulations in force in the former country required generally that horses landed there for slaughter were to be moved under veterinary and police supervision to slaughter-houses at the port, or, in specially authorized cases, elsewhere, and there slaughtered within eight days of arrival. The regulations in Belgium required the veterinary examination of all horses and the marking of those intended for food, which must be slaughtered at authorized slaughter-houses within eight days of arrival.

Dr. Lalcaca's Heroism.—Mr. Keir Hardie asked whether it was intended by the Government to in any way recognize the heroism of the late Dr. Lalcaca, who sacrificed his life in an effort to save that of Sir W. Curzon Wyllie. The Under Secretary for India asked that the question might be repeated at a future date, as the matter was under consideration. In reply to a subsequent question by Mr. Hardie, the Master of Elibank stated that the Secretary of State had considered whether the particular circumstances of the case were such that appreciation could appropriately be marked by a money grant; but, learning from the Government of India that Dr. Lalcaca was unmarried and that his surviving relatives were well to do, he felt that it was not necessary to take action in that direction. Sir G. Parker inquired whether the Government had communicated with the relatives of Dr. Lalcaca, expressing appreciation on behalf of the Government and the people of this country. The Master of Elibank said he was not able to say whether any specific representation had been made to the family itself. He would convey the hon. member's views to the Secretary of State.

Civil Surgeons in India.—Mr. Jeremiah MacVeagh asked the Under Secretary of State for India whether he was aware that the civil surgeons in India were usually military doctors belonging to the Indian Medical Service, and that their duties were very light, and left them ample time for private practice; whether the same work was done in the native states by doctors who did not belong to the Indian Medical Service at a much less cost and to the entire satisfaction of the Government and the public; and whether he could say when he would introduce his proposed scheme for the reform of the medical service of India. The Master of Elibank said the hon. member was correct in stating that the civil surgeons in India were usually officers of the Indian Medical Service. The Secretary of State had no detailed information as to the amount of time which they were able to spare from their official duties for private practice, nor was anything known as to the work of medical practitioners in native states. The Secretary of State was still in communication with the Government of India in regard to the best means of promoting the growth of an independent medical profession in India.

Indian Medical Service.—Mr. Ramsay Macdonald asked the Under Secretary for India whether Captain James had recently been appointed statistical officer in the sanitary department of the Indian Medical Service; and, if so, what qualifications were considered by virtue of which Captain James received his appointment. The Master of Elibank, in reply, said that Captain James had held the office in question continuously since February, 1907. His scientific qualifications were of a high order. He was associated with the Royal Society Malaria Commission, and was the author of valuable reports on tropical diseases and of a textbook on malarial fevers.

Cholera Deaths, Calcutta.—Mr. Rees asked whether the Government of Bengal had instituted inquiries into the ten deaths reported of cholera in the Presidency European Hospital, Calcutta; whether it had determined whether the deaths were due to cholera, ptomaine poisoning, or other causes; and, if such inquiries had not been instituted, would the Government have them made? The Master of Elibank said that an inquiry had been instituted and was still pending. The report of Mr. Haffkine, Government bacteriologist, was awaited.

Egyptian Sanitary Service.—Mr. Ramsay Macdonald asked the Secretary of State for Foreign Affairs whether any steps had been taken to reinstate Dr. H. C. Ross, of the Egyptian Sanitary Service, so as to fulfil the understanding come to between Sir Horace Pinching and Dr. Ross, before the latter left the naval service, that he should receive a regular appointment upon the permanent staff of the Egyptian Sanitary Service. The Under Secretary for Foreign Affairs said that as the post occupied by Dr. H. C. Ross was only a temporary one there could be no question of reinstating him. He had already explained in answer to a question from the hon. member on May 25th last that Sir Horace Pinching's successor did not feel justified in giving Dr. Ross a permanent appointment and that His Majesty's Goverment had no ground for interference with his decision. Mr. Ramsay Macdonald further asked if he was to understand that the Foreign Office denied that Sir Horace Pinching was one of their officers and made an agreement with Dr. Ross. Mr. McKinnon Wood replied that Sir H. Pinching was in the service of the Government of Egypt.

Shoreditch Infirmary (Lunatic Wards).—Mr. Cooper asked the President of the Local Government Board whether his attention had been drawn to the report of the inquest on William Cornish, who died in the insane ward of the Shoreditch Infirmary; whether he could state what were the duties of the night attendant and the number of patients in his charge; and whether he had had any training qualifying him for this position. Mr. Burns said that the duties of the night attendant referred to were to attend to the two lunatic wards. These wards had accommodation for thirty-two beds. One of them contained seventeen beds for epileptic and convalescent patients who could attend to themselves, except when they had fits. The work in the other varied considerably, and, when necessary, additional assistance was engaged. The night attendant had held his office since June, 1899, prior to which date he had experience in a county asylum.

Medicinal Spirits.—Sir Clement Hill asked the Chancellor of the Exchequer whether he could see his way to exempt spirits used for medicinal purposes only from the extra duty proposed by the Finance Bill. Mr. Lloyd George referred the hon. member to the reply which he gave on June 16th (BRITISH MEDICAL JOURNAL, June 26th, p. 1567).

Ireland.

[From Our Special Correspondents.]

Compulsory Notification of Tuberculosis in Dublin.

A special meeting of the Dublin City Council was held on August 9th to consider a motion, of which notice had been given, making tuberculosis of the lung a notifiable disease in the area of the County of Dublin from October 1st next.

Alderman Kelly, who proposed the resolution, said that Dublin was in the unenviable position of having the highest death-rate from consumption. Last year (1908) there were registered in Dublin 130 deaths from measles; small-pox, which was a notifiable disease, none; scarlet fever 13, typhus 3, whooping-cough 75, diarrhoeal diseases 275, typhoid fever (notifiable) 47, diphtheria (notifiable) 35, cerebro-spinal diseases 34, and consumption (which was not notifiable) 956. And these last-named were chiefly among the working classes. He was aware that there had been going on lately a great deal of letter writing on the subject, and he would not refer further to it. The Council had already adopted a recommendation to expend £200 in the provision of rooms wherein consumptive patients might be treated for a period. That consumption could be cured was certain; that it was preventable was equally certain, and if the public health authority did not adopt the proper method for prevention and cure they were only losing their time. He undertook that the notification would be carried out in such a manner as to give rise to no publicity.

Mr. Crozier seconded.

Alderman McWalter, M.D., opposed the motion. He held that this notification would hit the poor cruelly, as a man who was not supplied with a bed would be practically thrown out of employment. He suggested that they should wait until the completion of the municipal sanatorium. Alderman Kelly had no authority to say that the list would be kept secret, for the law said the list would only be kept secret so far as the public good was concerned. Only a few centres in England had adopted compulsory notification, and even then it was in places where particular kinds of manufacture were carried on.

Mr. Sherlock moved as an amendment that the question should be postponed pending a report from the Public Health Committee giving full details as to the action that would be taken to provide for patients after notification.

Mr. Quaid seconded the amendment.

After some discussion the motion was carried by 20 to 10.

In anticipation of the consideration of this question by the Dublin Corporation, Lady Aberdeen on Saturday addressed a letter on the subject to Sir Charles Cameron; in the course of it she said:

As the question of how it will be possible to properly treat the cases if notified is sure to come up, I think I ought to give you officially the following information:—Mr. Robert J. Collier has intimated to the Women's National Health Association of Ireland his intention of putting £1,000 a year for five years at their disposal in order that a tuberculosis dispensary may be founded as a memorial to his late father, Mr. P. F. Collier. The Women's National Health Association hope that they may be able to carry out the trust thus committed to them in close co-operation with the work which the Public Health Committee and the Corporation are proposing to do for the relief and prevention of consumption in Dublin. The Women's National Health Association Committee will be prepared to extend its work of home treatment in conjunction with the efforts which the Public Health Committee is sure to make in the same direction pending the time when the new sanatorium will be ready.

In a letter to the press Dr. McWalter says:

The Irish death-rate from consumption is now the lowest in the world, having regard to the fact that the emigration since 1864 is equivalent to our present population of 4½ millions, and that as no consumptive emigrants were allowed to land in America, whilst any who went to England or Scotland were sent back to die in our workhouses, the present nominal death-rate from consumption must be corrected to exactly one-half, because it is the consumption death-rate of nine millions.

A rough-and-ready test which shows our comparative freedom from consumption is this: The number of persons who die of pulmonary consumption in Ireland each year is about 10,000. The number of persons over 70 years of age is over 200,000. There is no other country in the world where the death-rate from consumption is only a twentieth of the population over 70 years of age. In New York it is calculated to be about one-fifth.

The suggestion that Ireland is a consumptive country constitutes the most stupendous libel of modern times.

Hundreds of children die in Dublin every year from whooping-cough and measles—thousands die from bronchitis, the direct result of these diseases—but neither of them are notifiable, though notification would do nobody any harm, and with proper isolation and disinfection they might be wiped out of the city. If the Public Health Department are content to look on helplessly at hundreds of lives being lost from these preventable diseases, why should it be so anxious to enforce a tyranny on our consumptive citizens greater than exists in the most disease-ridden cities of the world?

Home for Tuberculous Patients.

The opposition to the use, by the Women's National Health Association, Dublin, of the disused coastguard buildings at Sutton Howth for tuberculous patients has been successful. Lady Aberdeen has informed Mr. Calverwell, one of the opposing residents, that the Sutton Health Home will in future be called the Sutton Holiday Home, and is to be used for persons who may be in a weakly state of health, or who may have been living under conditions which might predispose to the disease, but who will probably be "set up" by a few weeks' rest and good air and good food, and that it will not be used for patients suffering from tuberculosis in any form.

Scotland.

[From our Special Correspondent.]

Health Conditions of Edinburgh.

The Medical Officer of Health for Edinburgh, in his annual report on the health of that city, states that the most striking and most important fact which first arrests attention is in regard to the general death-rate, which has during the year fallen to the lowest figure yet recorded—13.37 per 1,000 of the population. The special efforts which have been initiated in order to effect a reduction in the infantile mortality-rate have been attended with a considerable amount of success. The first step towards the attainment of this object was reached when the Notification of Births Act came into force. The next step was the important one of appointing a lady health visitor, and this was followed by the inauguration of the specially satisfactory efforts which are now being carried out by the large body of lady health visitors, who are carrying on so splendid a work in the visitation of all newly-born infants in the poorer districts of the city. The infantile mortality ten years ago was 147 per 1,000 compared with 121 last year.

Notifications of infectious disease during the year were rather beyond the average, due largely to an outbreak of scarlet fever. Another record has been attained in the case of enteric fever, and this disease, indeed, may safely be regarded in the light of a vanishing quantity; 55 cases occurred during the past year, compared with an average of 178 during the preceding five years. The inference to be drawn in connexion with these figures is that the sanitary administration of the city has considerably improved.

The compulsory notification of phthisis is being carried out in a most harmonious manner, both as regards the medical profession and citizens generally. The accommodation set apart at the City Hospital for the treatment of advanced cases of phthisis has been taken advantage of so fully that it has been decided to procure six open-air shelters, which will be located in the grounds close to the phthisis pavilions.

England and Wales.

[From our Special Correspondents.]

MANCHESTER AND DISTRICT.

Voluntary Hospitals and the Poor Law.

It is evident that the co-ordination of charitable hospitals and the Poor Law medical service will not be easily attained under present conditions. There is no doubt that there exists in Manchester and Salford the same "extraordinary antagonism" between voluntary hospitals and

the Poor Law as Miss Norah Roberts in her report to the Poor Law Commission found to exist in London. On several recent occasions the Salford Guardians have passed what amount to votes of censure on the Salford Royal Hospital for its treatment of patients for which the hospital thought the guardians ought to be responsible. A similar antagonism recently manifested itself on the part of some of the Chorlton Guardians towards the principal charitable hospitals of Manchester. A proposal was made that the annual subscription of the guardians to the Hulme Dispensary should be raised from 5 to 10 guineas and that to Ancoats Hospital from 10 to 15 guineas. The question of renewing the subscription to St. Mary's Hospitals had been left in abeyance because the hospital authorities refused to take cases from Gorton, and seeing that Gorton was part of the union the guardians did not think the ratepayers ought to contribute unless they got some return. One of the lady guardians proposed as an amendment that the list be referred back, and she said that whether these charities were good or bad she did not think public money should be given towards the upkeep of institutions over which the guardians, as public representatives, had no control. These charities, she said, including the Royal Infirmary, were not freely open to the destitute, for as soon as it was found that a patient could not pay he was sent to the Poor Law Union's hospital. Another guardian, who is a medical man, said that from his personal knowledge he was aware that those who were called the destitute poor rarely received any benefit from these charities. After some discussion the amendment was defeated and the list adopted. Two questions, however, still remain to be faced—first, ought the subscription to a charitable hospital by a board of guardians to entitle the guardians to some control in the management of the hospital? and, secondly, is the subscription to be regarded as an exact *quid pro quo?* It has been shown that in London at least 38 per cent. of the persons receiving treatment at the London general hospitals are similar in class to those receiving Poor Law medical assistance, and 11 per cent of the out-patients are actually Poor Law cases. If anything like this is true for Manchester (and there is no ground for considering Manchester different from London in this respect), then it has been argued that the subscription from the guardians is only a fraction of what it ought to be, and the amount given to the Ancoats Hospital ought to be trebled or quadrupled. But underlying this argument there is the assumption that charitable hospitals ought not to be expected to do any of the work that falls to the lot of guardians, and this assumption is itself open to doubt. As matters stand, however, the hospitals are in a position to do as they like; they can either treat or refuse to treat pauper patients at their discretion. On the one hand, the hospitals are wofully short of funds, and cannot stand the strain of treating freely large numbers of in-patients for whom the guardians are legally responsible. On the other hand, the guardians are eager to save the rates, and from that standpoint may hold that they are justified in demanding at least some return commensurate with any subscription from public money. The worst solution would be the needless and wasteful multiplication of Poor Law infirmaries, when, by proper arrangement and by the prevention of abuse, the present charitable hospitals might be found sufficient to deal with at any rate most of the acute and special cases needing indoor treatment, leaving the chronic cases not requiring special equipment to the Poor Law infirmaries. But until some co-ordinating machinery is adopted, such as might be attained under the Public Assistance Authority suggested by the Majority Report of the Poor Law Commission, there is little hope of anything except a continuance of the present miserable antagonism.

INFECTIOUS DISEASE AT STOCKPORT.

The annual report of the medical officer of health for Stockport states that there have been 574 cases of scarlet fever notified in the town during the year. "It is difficult to account for the very remarkable prevalence of this disease during this year. It has been shared with many other towns, and it is possible that the climatic conditions were favourable to its spread." There can be little doubt that the type of the disease has of late years become milder, and probably a number of cases are on this account overlooked and cause further spread of the disease. In fact, comparing Stockport with other towns, it would seem that the number of cases is almost in direct proportion to the mildness of the cases. The isolation hospital has been frequently overcrowded, and the medical officer of health has pointed out to the Health Committee the failure of the hospital to deal adequately with cases of infectious diseases in the borough. A scheme for extension is now under consideration. Some time ago a case of small-pox occurred which could only be attributed to infected cotton. It appears that in the process of manufacture the strands of cotton frequently break, and the operatives are accustomed to moisten their fingers with saliva, and to roll the broken ends together to piece them. Thus any infection clinging to the cotton may be carried directly to the mouth, and though the time that elapses between the gathering of the cotton when it is supposed to be infected, and the handling in the carding room or spinning room is probably sufficient to reduce the infectivity to a minimum, it must be distinctly dangerous to introduce it directly into the mouth of a susceptible person. Considering the careful guarding against infection during the gathering and importation, the attenuation that must occur, and the improbability that the strand should break just where the infection is present, the chances of any spread of small-pox by this means must be extremely slight. It is suggested that the operatives should dip their hands in a mixture of glycerine and water, the hygroscopic nature of which would keep the fingers moist, and prevent the need for moistening them with saliva. The most certain safeguard would of course be revaccination of every person engaged in the cotton mill.

DR. ASHBY MEMORIAL SCHOLARSHIP.

The scientific work of the late Dr. Ashby in diseases of children gained him a very eminent position as a children's specialist. For years he was lecturer in diseases of children at the Manchester University and Physician to the Children's Hospital, and he came to be regarded by the public bodies of Manchester as the principal authority on everything affecting the health of children. His untiring and unselfish interest in all public movements for bettering the lot of city children deserve to be permanently remembered. It is, therefore, peculiarly fitting that a number of his friends have just subscribed a fund of about £1,000 for instituting an Ashby memorial research scholarship in the Manchester University. The scholarship will be of the value of £100, and will be offered next year and be awarded every three years. It will be open to qualified medical men or women, and the scholar will be required to undertake research in the subject of diseases of children. A special committee of electors will award the scholarship, and the subject will be announced in March of the year of award.

ST. JOHN AMBULANCE ASSOCIATION.

The following notice recently appeared in the *London Gazette:*

Grand Priory of the Order of the Hospital of St. John of Jerusalem in England.—The King has been graciously pleased to sanction the following appointment to the Order of the Hospital of St. John of Jerusalem in England: Frederic Hibbert Westmacott, F.R.C.S., to be Knight of Grace (from Honorary Associate). Dated July 31st, 1909.

The service of Dr. Westmacott, who was made an Honorary Associate of the Order in 1903, for the St. John Ambulance Association has extended over a period of nearly twenty years as lecturer and examiner. He is a Major in the Territorial Royal Army Medical Corps, and is Honorary Treasurer of the Manchester Centre of the St. John Ambulance Association, of which the Dean of Manchester is President and Surgeon-Major Darwin Chairman.

WALES.

WEST WALES SANATORIUM.

At the adjourned annual meeting of the governors of the West Wales Sanatorium, held at Carmarthen on July 30th, the Treasurer reported the receipt of £40 for a bed at the sanatorium from the Aberystwith Council, the only one in the three counties that had not previously come into line. A sum of £150 would shortly be received from the

Carmarthenshire County Council. The report of the Executive Committee stated that the sanatorium maintained its full efficiency, with accumulating evidence of the benefits conferred upon the three counties, and of the warm appreciation of the patients. It was gratifying to have the assurance of the district collectors that the necessary funds were forthcoming again this year, and that the full amount was a certainty. The committee deserved the support of all benefit societies, such as the Oddfellows and Foresters and railway companies, to whose funds the matter was of vital importance. The estimated expenditure was £1,500, whilst the actual cost had been £1,491 9s. 9d. With the full agreement of the medical superintendent, it was considered that the services of a matron might well be dispensed with. The sanatorium was full, and there were numbers awaiting admission. The 20 or 22 beds now available were inadequate to meet the demand, and the earnest consideration of the governors must be given to the question whether the time had not arrived for a realization of the original intention of providing 40 beds for the three counties. The committee expressed its high appreciation of the able services of Dr. Adams, the medical superintendent. The physical results obtained and the admirable spirit prevailing were high testimony to the services of the staff. It was with profound regret that the committee heard of the impending departure of Dr. Adams to take up a more responsible position in Westmorland. Mrs. Davies Evans, Highmead, had in hand about £300, which she had collected, and a cheque for £200 was expected from another source soon; there was thus a nucleus of £500. It was decided to call a meeting of the executive committee to consider the question of providing more beds. The medical superintendent, Dr. Adams, submitted his report for the six months ending June 30th. Commenting on the steady progress made with the work, he stated that on December 31st, 1908, there were 20 patients undergoing treatment, and from the end of May last the sanatorium had been quite full. On June 30th the actual number undergoing treatment was 20. Since January 1st 29 patients had been admitted, 14 from Carmarthenshire, 7 from Cardiganshire, and 6 from Pembrokeshire, in addition to two private patients. With regard to the 30 patients who had been discharged during the same period the results were more than satisfactory. They were infinitely better than he, in the most sanguine mood, ever anticipated. Half of them were back at the work which they were doing before they broke down in health, 8 acting on his advice had changed their occupation, whilst there were three who were quite fit to work, but were not obliged to do so. One patient had died of a complication after leaving the sanatorium, and the other three were discharged as unsuitable cases, and were now practising at home the treatment they learnt at the institution. He was glad to report that not nearly so many hopeless cases were being recommended for treatment, and the importance of only sending early cases was being better realized. The report was unanimously adopted. On the motion of the treasurer two committees were formed in order to see, among other things, that discharged patients followed up the treatment they had received at the sanatorium.

Correspondence.

THE KINAESTHETIC AREA OF THE BRAIN.

SIR,—I have read with great interest Sir Victor Horsley's masterly and philosophical Linacre Lecture on "The So-called Motor Area of the Brain," in the BRITISH MEDICAL JOURNAL of July 17th, in which he brings forward good evidence for settling many long-disputed points concerning the functions of this region of the brain, and adduces both experimental and clinical evidence in support of the contention definitely formulated by me in 1886 that this region of the brain, instead of being a motor region, is in fact a sensory region for the registration of all the sensations resulting from movements of the limbs—a kinaesthetic area, in short, intimately concerned with the production of voluntary movements.

His own independent researches, carried on through so many years, so fully support my position that I only find myself at variance with him on a question of interpretation, which is, nevertheless, as I hold, one of considerable importance. I am the more impelled to call attention to this difference, because it is one which he and some others (including the writer of your leading article on p. 166) do not appear to recognize.

The following quotation from the lecture (p. 125) will help to show the nature of the difference between us:

> It is also time that yet another protest should be raised against the expression "motor area" as untrue scientifically, and, like many unfortunately convenient expressions, so misleading as to hamper the progress of knowledge. . . . Dr. Bastian's much more logical expression, "kinaesthetic area," has, unfortunately, not found general adoption, and yet none better expresses the fact that there is no such thing as a purely motor centre in the cortex cerebri, the whole structure being, in Dr. Hughlings Jackson's language, sensori-motor, or a combined mechanism for the record and execution of afferent and efferent nerve impulses.

Now, I do not at all agree that the kinaesthetic area is a "sensori-motor" area. It is, as I believe, a purely sensory area, and, as I contended in 1880,[1] it is a fundamental misconception to suppose, with Dr. Ferrier and others, in reference to cortical centres, that those "immediately concerned in effecting volitional movements" are "as such truly motor."

And how far I am from regarding the area of the brain in question as a sensori-motor region may be gathered from the fact that I have repeatedly expressed the view, first enunciated in 1880, that no motor centres exist in the cerebral cortex, as the following quotation will show[2]:

> The cerebral cortex is, in our view, to be regarded as a continuous aggregation of interlaced "centres," towards which ingoing impressions of all kinds converge from various parts of the body: here they come into relation with one another in various ways and conjointly give rise to nerve actions which have for their subjective correlatives all the sensations and perceptions, all the intellectual and all the emotional processes which the individual is capable of experiencing. From these terminal and complexly related "end stations" for ingoing currents and from certain annexes in connection therewith, outgoing currents issue, which are in definite ways the activity of the highest "motor centres" (the corpora striata and cerebellum) and through them evoke the properly adjusted activity of lower motor combinations, so as to give rise to any movements that are "desired" (willed), or which are accustomed to appear in response to particular sensations or ideas.
>
> The plan on which nerve centres generally are constructed, of whatsoever grade, makes it essential that the stimulus which awakens the activity of a "motor" ganglion or centre shall come to it through connecting fibres from a sensory ganglion, centre, or knot of cells—that is, from cells which stand in immediate relation with ingoing fibres.

The view expressed in the latter paragraph is a very different thing from saying, with Hughlings Jackson and with Victor Horsley (p. 126), that "every centre in the nervous system must be sensori-motor." Put in that bald way the statement seems to me to be distinctly misleading. If it is meant that a sensory centre never exists which is not in relation with a motor centre, and that a motor centre never exists without being in connexion with a sensory centre, I entirely agree: but to say that every centre must be sensori-motor tends, I submit, to convey an erroneous impression, because the separate components of the couple may be not contiguous or so as in effect to form one centre; the sensory and the motor parts of the functional couple may be, and often are, wholly separate and comparatively remote from one another, though connected by internuncial fibres—for instance, the sensory in the cerebral cortex and the motor in the spinal cord.

My view is, therefore, that the outgoing fibres which issue from the great ganglion cells or from smaller cells in the pre-central gyrus (that is, from this portion of the kinaesthetic centre) are simply internuncial fibres for the conveyance of appropriate stimuli to true motor centres lower down in the brain and in the spinal cord. The view that the actual nervous mechanisms for the production of co-ordinated movements are situated in the bulb and in the spinal cord, originally expressed by Volkmann and Müller about 1844, has been lately confirmed by Sherrington. This same view was, even last year, supported by Beevor in a valuable communication to *The Journal of the American Medical Association* (vol. li, pp. 89-95) in which he came to the conclusion that "all the evidence is in favour of the linkage of the ultimate constituents of a movement being in the spinal cord."

[1] *The Brain as an Organ of Mind*, pp. 581-600.
[2] Loc. cit., p. 584.

As I said in 1880,[3] it is possible "to explain the results of irritation and destruction of certain fronto-parietal areas of grey matter and of the white matter intervening between them and the corpora striata,[4] without in the least countenancing the supposition that 'motor centres' exist in the cerebral convolutions."

We have here, in fact, to do with a misconception very similar in kind to that which previously led Foville and others to regard the cerebellum as a sensory organ simply because "internuncial fibres" enter it from various sensory nuclei or ganglia. To argue that groups of cells have motor functions merely because stimuli issuing from them evoke movements when they impinge upon motor ganglia, is quite on a par with the argument that an organ has sensory functions because fibres come to it from sensory cells.

I had previously ("On the Muscular Sense," BRITISH MEDICAL JOURNAL, 1869) dealt with the question of the nature of volitional incitations and their relation to the nervous mechanisms in the spinal cord for the actual production of habitual and automatic movements. Such questions were discussed again in my work, *Paralyses, Cerebral, Bulbar and Spinal* (1886, pp. 108-114), while what had previously been a mere hypothesis on my part that the so-called "motor centres" of Ferrier were in reality kinaesthetic centres was gone into much more thoroughly, with attempts at actual proof, in the debate which I was asked to open before the Neurological Society in December, 1886,[5] and again in my presidential address to the same society,[6] on "The Neural Processes underlying Attention and Volition."[7] In the debate I attached much importance to Sir Victor Horsley's communication which appeared in the BRITISH MEDICAL JOURNAL a few months previously (p. 670), when he first dealt with the question which he has now elucidated in such a masterly manner.

—I am, etc.,

London, July 24th. H. CHARLTON BASTIAN.

A POINT IN THE USE OF KOLLMANN'S URETHRAL DILATOR.

SIR,—In the BRITISH MEDICAL JOURNAL of July 21st Dr. Alex. MacLennan draws attention to the use of rubber covers on these dilators. These instruments were originally made to be used with covers, and I have almost daily used them in this way for over twelve years. Lately, however, the tendency has been to discard the covers and use the instruments naked, and with this object the blades (four or eight) have been made with stout wire which do not approximate closely. It is claimed for the naked instrument that it can be used more aseptically, and that the rubber tends to prevent the escape of the contents of the diseased urethral glands and lacunae during a dilatation. The irrigating dilator, of course, cannot be used with a cover. I tried one of these instruments three or four years ago, but found that it badly nipped the urethral mucous membrane on closing previous to withdrawal. Dr. Wossidlo, of Berlin, assures me, however, that now he constantly uses the naked instrument and never experiences this trouble.

The rubber covers can be obtained from the makers of the dilators, and I always obtain mine direct from Heynemann of Leipzig. They can be sterilized by drawing over a metal rod, which Messrs. Down Brothers have made for me, and boiling for fifteen minutes in water containing a little carbonate of soda. The rod prevents the cover from getting wet inside, and at the same time sinks it. French chalk is used to facilitate the introduction of the dilator or rod into the cover. The cover, after using a few times, becomes flabby, and unless well pulled up over the dilator has a tendency on withdrawing from the urethra to ruck inside a tight meatus, and may give trouble. Just before use, with the cover *in situ* on the dilator, the latter should be rapidly expanded to its full extent as if trying to burst the rubber, and it should then be carefully examined for holes or other defects. Before closing it should be thoroughly rubbed with alcohol. Boiled vaseline and oil may be used as a lubricant, or, better still, where the meatus is large, aseptic glycerine jelly or boro-glyceride.—I am, etc.,

London, W., July 26th. W. WYNDHAM POWELL, F.R.C.S.

[3] Loc. cit., p. 587.
[4] At that date it was commonly supposed that the corpora striata were motor centres.
[5] *Brain*, April, 1887.
[6] Ibid., April, 1892.
[7] This last communication is not included in the list of papers quoted by Sir Victor Horsley.

THE TREATMENT OF SOME CHRONIC INFLAMMATIONS OF THE EYE.

SIR,—I was very much interested in an article on this subject by Dr. C. G. Russ Wood, which appeared in the JOURNAL of July 24th, p. 202, especially in his remarks about the diaphoretic action of guaiacol, because when I was at the Meath Hospital, Dublin, twelve years ago, this action of the drug was brought before the notice of the physicians by a fellow-student of mine in connexion with the reduction of high temperatures in enteric fever and acute rheumatism, and it was extensively used for this purpose for a short period in both diseases, but was finally discarded because it was found to be impossible to limit its action, and in some cases where the fall in temperature was very marked the patient suffered severely from collapse, although we never used more than 30 minims in any case. I believe Dr. Day used it in the Cork Street Fever Hospital on a large number of cases of enteric fever, and discarded it for the same reason. When I was up for my final M.B. I mentioned this in my paper, and I remember that in my oral examination I was closely questioned on this point by my examiner, and asked where I had seen it tried.—I am, etc.,

Lincoln, July 27th. A. S. GREEN.

THE FINANCE BILL.

SIR,—There is a provision in the Finance Bill to which I have not seen any attention drawn, but one worth serious consideration. It is, I believe, provided that an extra tax shall be paid on unoccupied land in or about any town, and I understand gardens above one acre in extent will be included in this category. It is important that the bearing of this should be considered from a medical point of view. It is a recognized fact that the larger the area of a town in proportion to the number of inhabitants—that is, the less the density of population—the better are the sanitary conditions.

It may at first sight appear a great luxury to surround a dwelling with large grounds in a district where land is valuable; but the general public benefits by the large air space, and the most undiluted selfishness cannot avoid improving the conditions of those living outside the fences, and proving an inestimable gain to all the inhabitants of the town.

Were the area on which a town stands circumscribed, as in ancient times, by walls, then something might be said in favour of throwing open all land for building purposes; but, under the present conditions of any place in this country, it is a retrograde policy to attempt in any way to curtail the large gardens which now lend a charm to our urban and suburban districts, and also are fresh-air centres from which all benefit. It is certainly not for the public good that any obstacle should be placed in the way of providing and increasing the area covered by cultivated garden ground. The creation of ground rents is always present as a powerful incentive to the builder to crowd houses on the land, and if, on the other hand, the holder who avoids the temptation to do this, and at the same time improves the health conditions of the neighbourhood, is to be penalized, I am afraid the effect of the measure will be very damaging to the public wellbeing. This proposal, put forward, I believe, as one of the aims of Socialism, will certainly not act for the social good of the people. It is, I think, fitting that this question should be ventilated in the medical press.—I am, etc.,

Leckhampton, July 26th. WM. MILLIGAN.

CANCER RESEARCH.

SIR,—It seems to be hopeless to convince Dr. Skene Keith that it is usual—at all events, in England—to refer to the source of inspiration when claiming a novel principle in scientific work. There does not appear to me to be much difficulty in looking up references when writing on any subject, and it is apparent from Dr. Keith's letter that he was in possession of what I have written upon the medicinal treatment of cancer. Now he claims to have introduced a new principle when the disease is under treatment—namely, that there should be blood examination. I fail to recognize any new principle in this. Dr. Keith appears not to understand what blood examination entails. The mere counting of corpuscles I have found to be of little real value, and I have attempted to

obtain laboratory investigations connected with the serum but without success. The normal condition of the serum should be ascertained by continuous observation before treatment, and continued during treatment if any practical result is to be obtained.

If Dr. Keith really desires to forward matters, he should, instead of making a hopeless, incompatible mud (quite unsuitable for injection) with soamin, green citrate of iron and ammonium, and sodium cinnamate for injection purposes, set to work to make a continued series of laboratory examinations of the blood of his patients, and publish the results.

In the present state of our knowledge of the chemistry of the blood and of living cells generally, he would indeed be a benefactor to the human race if he could advance our knowledge in this direction. As yet, it is impossible to assert that he has himself originated anything of value.—I am, etc.,

Hatfield, Aug. 9th. LOVELL DRAGE.

THE ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND AND THE SUGGESTED MEMBERSHIP QUALIFICATION.

SIR,—The holders of the licentiateship of the Edinburgh Royal College of Surgeons, either alone or conjoined with that of Glasgow, have for a long time laboured under a somewhat serious disadvantage in practice owing to the lack of a membership diploma. The matter has for some years engaged the attention of the Association of Medical Diplomates of Scotland, on whose behalf I venture to ask the publication of the following communication addressed to the Edinburgh College.—I am, etc.,

DAVID WALSH, M.D.,
London, W., July 21st. President, A.M.D.S.

To the President and Council of the Royal College of Surgeons of Edinburgh.

Gentlemen,

The Association of Medical Diplomates of Scotland beg respectfully to remind you of a Petition formally presented to your President and Council in 1905, praying that steps be taken, by extension of Charter if necessary, to secure an additional diploma of membership for your ancient College. It was shown in that Petition that the lack of an intermediate qualification between the licentiateship and the fellowship imposes a serious social and professional handicap upon your licentiates in various parts of the United Kingdom and elsewhere, inasmuch as the majority of their competitors hold the membership of other Colleges. The Council of the Association of Medical Diplomates of Scotland, therefore, as representing the interests of Edinburgh Diplomates in all parts of the world, would be glad to learn whether the Council of the Royal College of Surgeons of Edinburgh have taken any further steps in the matter. If nothing has yet been done they would venture to ask if there be any likelihood of this important, and, in their opinion, most salutary change being considered seriously by the Council of the College.

It need hardly be said that the Council of the Association would most willingly co-operate with the College in any way that might lead to the desired end. They presume the College will hardly require any further proof of the popularity of the proposed change than that afforded by the Petition already formally lodged with the College—a document that was signed by many hundreds of fellows and licentiates.

In conclusion, we venture to urge that the institution of the diploma of membership must infallibly lead to a great increase of the popularity and the usefulness of our ancient College; nor could it fail to establish a fresh bond of union between the College and its diplomates in all parts of the world, at the same time awakening old memories, interests and associations: while it would add to the material prosperity of the College for many years to come.

Awaiting the honour of your further reply to the considerations set forth in our former Petition,

We have the honour to remain, on behalf of the Association of Medical Diplomates of Scotland,

Yours faithfully,
(Signed) DAVID WALSH, M.D., President.
SKENE KEITH, M.D., Honorary Treasurer.
P. H. PARSONS, L.R.C.S. and P.Edin., etc., Honorary Secretary.

"THE DOCTOR AS A VICARIOUS PHILANTHROPIST."

SIR,—May I be permitted to relate one out of many experiences illustrating the question which is being ventilated in the columns of your JOURNAL concerning the doctor as a vicarious philanthropist? Some years ago, while practising in a little country town in the State of Illinois, U.S.A., I had, of course, my share of poor patients. One was especially destitute, and the postmaster, storekeeper, undertaker, etc. (he was all that and more in one), suggested that I would have to be very lenient with Mr. X., since he was so poor. I therefore offered to remit from X.'s account two dollars for every dollar's worth of groceries which the storekeeper would send him without cost. Needless to say, my offer was not accepted, since that "was different." Needless to say, likewise, that my munificence had to be exerted, while the storekeeper got full pay for his goods. And yet where is the difference? I am not good at conundrums, and give it up.—I am, etc.,

Asheville, N.C., U.S.A., July 23rd. H. J. ACHARD.

SIR,—Would it not be advisable that in this increasingly commercial age we should let the public, whether government, municipal or civil, know that we intend to run our profession on business principles in the same way that every one else does? Now that every one seems to try to get everything for as nearly nothing as possible, as shown by persons of position and wealth trying to join "lodges," the "humanity" lever should cease to be worked to the detriment of the profession, or at least the profession should cease to allow it to be worked in such a way. This "lever" is not only used by those who cannot pay, but by many who can.

The rider "That it was unwise of doctors to raise the question of fees" is the *reductio ad absurdum*, but shows the ideas that are gaining ground with the public. Their "humanity" does not cover the ground that the doctor and his dependants have to live too.—I am, etc.,

Ayr, Australia, June 22nd. J. BOOTH-CLARKSON.

THE POSTMASTER-GENERAL AND THE MEDICAL PROFESSION.

SIR,—Equality is the watchword of the Socialist. I regret to see a letter signed "Socialist" in the JOURNAL of August 7th, p. 352. I would point out to this gentleman that a Socialist Government is trying to impose upon medical men, and force them to perform skilled work without remuneration, and to place "Socialist's" patients in the hands of hospital physicians and surgeons, so that "Socialist" will soon have no *locus standi* among his poorer patients. Clubs do not pay medical men, except perhaps as an introduction to practice, and if we are to treat individual members of a State club at club rates, I do not think that any one will be anxious to undertake the work; or if any one does, he will be sorry ever afterwards. If, of course, the patient so values the services of "Socialist," he will still continue to seek his advice, and pay proper remuneration. The selfishness spoken of by "Socialist" is more often on the part of the patient than on the part of the medical man—patients who are in a club preferring to accept the services of the club doctor, even though they could well afford to pay any medical man his regular fee.—I am, etc.,

August 7th. ANTISOCIALIST.

SIR,—"Socialist" would seem to be oblivious to the fact that the Post Office is a large source of income to the Chancellor of the Exchequer, several millions of money being contributed by it annually to the public purse. Its sick-pay conditions with its staff are exceedingly generous—a generosity which would have been impossible had it not been that the Postmaster-General, when instituting it, relied upon the careful supervision of his medical officers. It is their faithful and fearless exercise of this supervision which is the primary cause of the complaints that emanate from the staff regarding the official medical officers, and there can be no question that if this supervision were withdrawn, as it undoubtedly would be if Dr. Bruce's or "Socialist's" proposals were ever adopted by the Department, and if present sick-pay conditions were continued, it would be at the cost of a very large reduction in the present day profits which accrue from the working of the Post Office. It is impossible to state an exact figure, but in my opinion, based upon prolonged experience, it would not be an exaggeration to calculate that this sum would not be far short of a million sterling. The result of the work of postal medical officers is that it enables the Post Office to concede generous sick-pay conditions to its staff;

to very materially swell the total profits it annually hands over to the Chancellor of the Exchequer, and to afford thereby facilities to the public which otherwise might be found to be impracticable.

If the question is viewed in this light, surely it cannot be maintained that any medical practitioner or any other member of the public is forced to pay his share of taxation for the benefit of postal medical officers. Is it not rather the reverse, and that if it were not for the loyal and fearless manner in which postal medical officers discharge their duty to the department and staff, "Socialist" and others would find themselves forced to pay considerably heavier taxation than at present obtains?

Surely, therefore, instead of "Socialist" owing postal medical officers a grudge he ought to realize that he owes them a big debt of gratitude.—I am, etc.,

August 7th. POSTAL MEDICAL OFFICER.

CONTRACT PRACTICE.

SIR,—In Dr. Williams's address, "Hercules and the Wagoner," reported in the JOURNAL of July 24th, he remarks that "the General Medical Council is the only body to keep us in the right line of conduct." Is it not equally true that those who engage in contract practice, under the present system, have strayed from the "right line," and have sold their birthright of freedom for a very small and unsavoury mess of pottage?

Since our unaided efforts to get out of the mire are so futile, would it not be wise to appeal to heaven (in the shape of the General Medical Council) to help us?

For years and years we have been talking about the injustice of contract work. Pages of correspondence have been written, conferences have been held, resolutions have been passed, and yet we are still in the same state of bondage.

I venture to think that, until it is made absolutely impossible for friendly societies, etc., to get men to slave for them, they will not let go their grip. Why should they?—I am, etc.,

uly 24th. F. W. S.

THE PSYCHOLOGICAL BASES OF ORATORY.

SIR,—The letters of your contributors on "oratory" have doubtless proved interesting to us all. As one who has done a deal of public speaking, perhaps I may be allowed a brief opportunity. To begin with, I think the wisest thing said in this discussion was that of your leader on the subject wherein one was advised to eschew oratory and stick to simple, clear, and direct statement. Though there must be cases of cerebral palsy, in which the speaker or would-be orator finds himself unable to extract either an idea from his brain or a word from his mouth, yet I really believe that most men would speak fairly well if they would but attend to a few necessary things. The subject on which one wishes to speak should be made familiar; the mind should concentrate upon the *essential* ideas, and find the clearest and most condensed form of expression it can—of course, all this beforehand. On rising to speak, one should as far as possible dismiss considerations of the *audience* and endeavour to speak as though arguing to empty benches. Alcibiades once complained to Socrates that he was nervous in speaking. "Well," said the latter, "are you afraid of the leather-cutter, or the potter, or the fishmonger?" "No," said Alcibiades, "of none of these separately, but of the people." "What nonsense," replied Socrates, "to despise each man individually and fear the mass!" As we know, the lesson was not lost on Alcibiades. A very bold course of practical instruction was taken by a schoolmaster a few years ago. The chairman of the county council had distributed the prizes and inflicted upon the boys a long-winded and valueless address. The next day the master assembled the boys, referred to what had transpired, and after pointing out to them the glaring faults of the speech, told them he hoped it would be a life's warning example to them of how not to do it.

Though both in writing (except in alleged poetry) and in speech there is a marked advance over former days in shunning the oratorical and exhibiting clearness and condensation, yet there is still a great deal too much empty talking and long-winded drivel. Perhaps on the whole those who find themselves unable to speak in public are public benefactors; would that their number were multiplied manifold if it could put the gag on such as cannot speak, but will insist on speaking. Of these are they who "mum-mum" in every sentence; who repeat words over and over; who, when they fail to find a word to enable them to go on, just begin over again; who get past the end and then feel around for twenty minutes (I have known it forty) in trying to find it; who care for nothing if they can but hear the sound (not, alas! always euphonious) of their own voice, and so drone away as though eternity were already upon us. From all points of view it is unfortunate that Parliament sets so bad an example.—I am, etc.,

July 17th. CANTAB.

SPEECH FRIGHT.

SIR,—In the discussion on "speech fright" which has been carried on in your columns none of your correspondents have yet pointed out what seems to me to be the *fons et origo mali*, and that is to regard it as a special instance of the nervousness which is produced by the habitual consumption of tea and coffee. These beverages are constantly found to produce a condition in which the person suffers from tremulousness of hands, and lips, and tongue, and a feeling of oppression rendering breathing and speech difficult, from palpitation, and from sudden temporary blankness of mind and momentary dimness of vision which patients appropriately term a "mazy bout." A feeling of insecurity and a dread of something evil impending, especially an anticipation of the failure of the powers of the mind, is often present. These symptoms come on at various times in the day or night, and constitute a disorder of the ordinary activity. Before they are experienced, however, and whilst they are incubating, the action of these beverages has been sapping what can be termed the reserve power, and when an unusual demand is made, such as that of making a speech, etc., which calls upon this reserve power, the damage which has been caused is shown by the symptoms termed "speech fright." What really occurs is this: The consciousness which is normally functioning in relation with apparently intact nerve tissue on these special and unusual occasions becomes temporarily related with the damaged reserve nerve tissue, and is correspondingly affected. The effect of opium, bromide, and other narcotics is to prevent the expansion of the consciousness by a process of narcosis, and to confine it to intact nerve tissue, so that no disorder occurs. But such limitation is a veritable intoxication, which curtails the highest powers of the mind of the individual, such as the judgement, mental consistency, and constructive ratiocination. The rational plan of treatment of "speech fright" is preventive, and consists in advising abstention from tea, coffee, and all other drug stimulants, so as to allow the reserve power to be perfectly healthy, and not palliative only, as in prescribing a narcotic, which makes the last state of the patient worse than the first. If a person's brain is perfectly healthy, when exceptional demands are made upon it, it will be able to meet them. The fact that opium, bromide, and other narcotics control these "nervous" attacks shows that they are due to the consciousness becoming related with *damaged nerve tissue*, and points clearly to the harmful effect which is produced by the stimulants such as tea, coffee, etc., in habitual use amongst us.—I am, etc.

Rock Ferry, July 14th. F. S. PITT-TAYLOR, M.B., Ch.B.

DENTAL TEACHING FOR MEDICAL STUDENTS.

SIR,—Since the publication in this JOURNAL of my paper on the "Medical Aspects of Dentistry and the Necessity of Dental Instruction of Medical Students," I have held in this university a class such as I indicated for senior medical students. It has been very well attended, and I was much gratified at the interest taken in the subject by the students. There were eight lectures supplemented by practical demonstrations. The ground covered included:

Pathology of dental caries, prophylactic treatment with special reference to diet. Remedial treatment (indications for, nature of, and details as to "first-aid" treatment).

Pathology and treatment of pyrrhoea alveolaris. Effects of systemic disorders upon the teeth. Relationship of dental disease to some systemic diseases.

The treatment of fractures of the maxillae.

Demonstrations were given upon the diagnosis of various conditions, extracting teeth, anaesthetics for dental purposes, and the application of various dressings.

The addition of such a short course to the medical curriculum of all schools cannot possibly be regarded as disadvantageous in any way: that it would prove of great value to students, and therefore should be adopted, I think is equally certain.—I am, etc,

H. PERCY PICKERILL.

University of Otago, June 4th.

EPSOM COLLEGE.

SIR,—As a doctor's daughter and a doctor's wife, I should like to call the attention of the members of the medical profession to the recently published annual report of Epsom College. In that report occur the following statements:

1. The council hope that friends of the institution will do their best to secure fresh annual subscribers, since death removes annually many who had been staunch supporters of the college from soon after its foundation. If members of the profession who are unable to contribute large amounts would subscribe a guinea, or even half a guinea, annually, and if all medical men would plead the cause of the foundation to their well to-do relatives and friends, the present number of fifty pensioners and fifty foundation scholars could be maintained without difficulty. The council are reluctant to reduce either of these classes of recipients, and such a regrettable course will not be taken unless it becomes an absolute necessity.

2. In an appeal recently issued by Sir Henry Morris, the honorary treasurer, attention was drawn to the fact that whilst the names of 39,827 persons are contained in the *Medical Register* there are under 2,200 medical practitioners—(that is to say, only one-eighteenth of the profession)—who are annual subscribers to the foundation.

I feel convinced that this truly lamentable discrepancy is the result of want of thought more than want of heart, and that the matter only requires bringing more forcibly and prominently before members of the medical profession for the state of affairs to be substantially improved. It is heartrending work to read the lists of candidates, both for the vacancies for pensioners, and especially, perhaps, for those for foundation scholars, so sad are the details of anxiety and struggle—so few the fortunate ones, for whom there is room.

I think that all prosperous and successful medical men should make it a point of honour to subscribe to this excellent school; there must be a large number who could, with the greatest ease, send their annual subscription of one or two guineas, and so ward off the danger of reducing the number of foundation scholars. I know of a subscriber who sends a guinea for each of his sons, as a thankoffering that his means enable him to help those who are in less fortunate circumstances. May I recommend this as a suggestion to many in a similar position, that by so doing the proportion between the numbers quoted above may be more satisfactorily and creditably adjusted?—I am, etc.,

Oldham, July 11th. S. MARTLAND.

Subscriptions may be sent to the College Office, 37, Soho Square, London, W., payable to the Secretary, J. B. Lamb. Cheques crossed to Barclay and Co., Limited.

HERMAPHRODITISM.

SIR,—A case that occurred in my practice helps to bear out Sir Samuel Wilks's theory "that in the large majority of cases it is due to the want of development of the male."

A. B. was one of "two daughters" whose father was English and mother Russian. They were both dressed, brought up, and educated as girls, with no suspicion of anything being abnormal until A. B. became engaged at the age of 17 or 18. For a reason, which is not necessary to state here, the intended husband became frightened and broke the engagement off; the parents then took "her" to the doctor to be examined, and it was found that she was hermaphrodital—that is to say, on examination there appeared to be a small vagina, but there was a penis 3 in. long bound down by loose tissue which was easily dissected back, and a testicle on each side, the mamma were partially developed. "She" is now a "handsome young man," with very scanty hair on the face. The general build is that of a man.

The word "hermaphroditism" means in Greek the union of male and female, as Sir Samuel Wilks states—a person of both sexes. It was the name of a mythological figure amongst the Greeks, who copied their mythology from the Egyptians, but they never understood the mythology or eschatology of the latter, and therefore could not comprehend the real meaning. In the *Ritual of Ancient Egypt*, ch. 115, Horus assumed the form of a female with the "side lock" of a child. He is portrayed as a male child with feminine breasts. In the Pyramid Text it says: "Hail, Unas, the nipples of the bosom of Horus has been given to thee, and thou hast taken in thy mouth the breast of thy sister Isis. It was the mystical divine male female of the gnosis—carried on by the Greeks as their Bacchus or Serapis. Horus with the ctes—Venus with the beard." In Egypt it was the effigy of In-em-hetep, the son of Ptah, who was the dual representative of the biune parent. The hermaphroditical shape of monstrous personality was not historical, or had it been "made flesh"; it was a symbolical figure in the religious doctrines of the Egyptians, and originated at the time of the Lunar-Solar Mythos, when the Fatherhood replaced the Motherhood, which had hitherto been the doctrine in their Stellar-Mythos, and was perfected when their eschatology, practised at Annu, finally replaced their Solar-Mythos, which the Greeks never understood; so the latter coined this word and made the image to bring it as near the Egyptian as their poor brains could conceive or understand those lofty ideas and beliefs of the old Theopneustics of Ancient Egypt; but the real meaning was lost to the Greeks, who perverted these doctrines, as a consequence, and have handed down a "smudge" of the real essence.—I am, etc,

London, S.E., July 7th. ALBERT CHURCHWARD.

SANITATION IN WEST AFRICA.

SIR,—Adverting to the articles on the Medical Service in West Africa and Sanitation, published in the JOURNAL on July 17th, p. 160, and July 24th, p. 224, it will interest your readers, and Professor Ronald Ross in particular, to read the following extracts from a letter I have received within the last few days from an official (not a medical man) occupying a very important position in a principal station out there. He writes:

Everything is sacrificed to the railway. There is not one penny of money for any work except the railway. I am glad to see Ross has at last spoken out about the criminal negligence of the Government in sanitary matters for the past ten years in West Africa. Every word he (Ross) says is true. It is scandalous and disgraceful the utter lack of interest the Government take in sanitary matters out here. A mere pittance of money is allowed to further sanitary works, and here in cantonments we are steadily going backwards. Every penny is grudged that does not go in the railway.

For obvious reasons I cannot subscribe my name, so I send my card.—I am, etc.,

July 29th. COLONEL, M.D., R.A.M.C.

Medico-Legal.

ACTION FOR ALLEGED NEGLIGENCE.

THE action Beattie *v.* Bryars and Mateer was heard on July 27th and 28th at the Assizes in Belfast, before Mr. Justice Dodd and a special jury. The plaintiff, John Beattie, a smith's finisher, sued Drs. John S. Bryars and Charles A. Mateer, both of Belfast, to recover £1,000 damages for personal injuries alleged to have been caused by the negligence and want of skill of the defendants. The defendants pleaded they had properly diagnosed the case, and joined issue with the plaintiff.

The plaintiff, a man aged 50, with a wife and six children, said he was now unable to provide for himself or his family. On May 27th, 1907, he was returning from an early morning bicycle ride, and trying to save his watch from slipping, he overturned and fell heavily on his left hip. Dr. Bryars, his society doctor, examined him. Dr. Bryars told him he had struck the sciatic nerve, and would be all right in a few days, and that no bones were broken. He prescribed a liniment and hot stupes. A week later Dr. Mateer was called in by witness's wife, and said Dr. Bryars was treating him wrongly, as there was nothing wrong with the sciatic nerve, but that he was suffering from joint trouble. A consultation was held between the two medical men, the talk of the doctors being about sciatica, joint trouble, and paralysis. In December he went to see Surgeon Campbell, but the latter was not there, and an *x*-ray photograph of his leg was taken. He afterwards saw Surgeon Kirk, and an operation was performed. His leg was now two inches short.

Mrs. Mary Beattie, wife of the plaintiff, deposed to the foot being turned out, to the leg being shortened, to the great pain, to the treatment by hot stupes, and to the inability to walk without the aid of crutches. She caused Dr. Mateer to be called in, who, she said, stated that the leg was shorter and would

require to be put up in splints. In July her brother advised that the plaintiff should be taken to hospital. Eventually a Roentgen ray photograph was taken in the hospital and the patient examined.

Dr. Allworthy said plaintiff came to him in February, 1908, and asked to be treated for sciatica; on examination, witness came to the conclusion that the neck of the femur had been fractured; he based his diagnosis on the history and the shortening; the pain and wasting suggested sciatica. It would not be possible to cure this fracture by splint. He took an x-ray photograph, which did not disclose the fracture.

For the defence, Dr. J. L. Bryars said that he had been qualified since 1886, and had practised in Belfast since 1892. When he first examined the patient he found no eversion of the foot, and no grating on manipulation and no shortening. In June he saw the patient with Dr. Mateer, and in July suggested that a radiograph should be taken, and subsequently made arrangements with the plaintiff's brother-in-law for his admission to hospital; plaintiff, however, did not go. In cross-examination he said that his diagnosis was contusion of the hip.

Dr. Mateer generally corroborated the evidence of Dr. Bryars. When he examined the patient on June 18th he found no evidence of fracture; two days later, when he examined the patient with Dr. Bryars, the first diagnosis was confirmed. In reply to the judge Dr. Mateer denied absolutely that he had told plaintiff's wife that the leg was shorter, or that the treatment adopted by Dr. Bryars was wrong. The patient improved so much that he was able to walk, but the witness detected a slight shortening about the end of December. In January he was examined at the hospital by Surgeon Campbell, who thought that the bone had been crushed.

Mr. Robert Campbell, F.R.C.S.Eng., Surgeon to the Royal Victoria Hospital, said he had examined plaintiff nine months after the injury. The limb was about 1½ in. shorter than the other, and there was a thickening at the upper end of the femur. He came to the conclusion that there had been fracture of a rare type—supercondyleal.

Mr. T. S. Kirk, B.Ch., Surgeon to the Royal Victoria Hospital, said that he saw the patient in February, 1908. The leg was shorter, and there was some wasting of muscle. He operated, laying bare the bone, and found that there had been no union, though the bones were in apposition; he cut away the loose bone, which still further shortened the leg. The man would be able to go about his work, although crippled in his walk. It was a rare form of fracture. The man did not attend when Dr. Bryars telephoned to him to make an appointment.

His Lordship put the following questions to the jury: (1) Was Dr. Bryars negligent? If so, what damages? (2) Was Dr. Mateer negligent? If so, what damages?

After considerable consultation the foreman asked what was incompetence or lack of reasonable skill on the part of the practitioner. A mistake was not incompetence.

His Lordship said it must be something that indicated a want of fitness for the profession. The jury should take into consideration the general standard of the profession in the neighbourhood and the opinion of the leaders of the profession.

The jury again retired, and in five minutes returned with a verdict answering the questions in the negative.

His Lordship said that was a verdict for the defendants.

X-RAY WORK AND UNQUALIFIED OPERATORS.

H. H. N. writes: In the matter of x-ray work done by unqualified but perfectly competent operators, can you inform me what risk the medical man employing them runs of an action being brought against him in the event of untoward results? The operators in question are attached to a large hospital and do this work in their spare time in my neighbourhood.

*** If the operators are competent, the doctor employing them would not be under any liability at law because they possessed no medical qualification. In the event of "untoward results," the patient might bring an action against the doctor, but in order to succeed would have to prove negligence. If the operators were competent, the fact that they were not medical men would be immaterial in this connexion, and such a charge might easily be rebutted.

MEDICAL OFFICERS TO CLUBS AND BONESETTERS.

THE correspondent whose inquiry was published in the JOURNAL of July 31st, p. 297, thinks that if he is required to visit every fortnight and certify a patient who is being treated by a bonesetter, this would be tantamount to covering an unqualified practitioner.

*** Our correspondent has two duties as club surgeon: (1) to attend a member when sick; (2) to certify that he is entitled to sick allowance on account of disablement. It seems that in this case he is only asked to perform one of these duties. As he does not recognize the bonesetter in any way the question of "covering" does not arise. That a medical practitioner is put in a very unpleasant position in such circumstances may be frankly admitted, but it is an incident of contract practice of this kind. It is to be feared his only remedy is to resign the appointment.

ENQUIRER.—Our correspondent's best course would be to bring the matter before the Ethical Committee of his Division.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

THE ADVERTISING OF MEDICAL SCHOOLS.

A CORRESPONDENT writes: I have lately received the detailed prospectus of a well-known school of medicine by post, marked on the outside "not to be returned," with the address and telephone numbers of the members of the staff printed in full. May I ask whether such a prospectus, issued under the conditions above detailed, may not constitute an advertisement?

*** Of course it is an advertisement, as is a door-plate or the printing of names in the *Medical Directory*. The question is whether it constitutes an objectionable advertisement contrary to the use and practice of the profession. In reply to the question so put, we should say that the procedure described is unusual, and we sincerely hope that it will not be imitated by other schools.

DENTISTRY BY MEDICAL PRACTITIONERS.

COUNTRY ASSISTANT asks whether it is in any way a breach of etiquette for a medical practitioner to undertake the filling of teeth. I am in a general practice in a country district, and the nearest dentist is four miles distant. I am often asked by patients who come to me with toothache whether I cannot stop teeth, and so give permanent relief without extraction.

*** There can be no ethical objection to a medical practitioner pursuing any branch of the art of dentistry, provided he possesses the requisite skill. Section 5 of the Dentists Act of 1878 evidently contemplates the practice of dentistry by medical men, and authorizes them to recover their fees or charges in any court.

The Services.

ROYAL ARMY MEDICAL CORPS.

At the recent examination in London, for which fifty-four candidates entered, for commissions in the Royal Army Medical Corps, the following were successful:

	Marks.
G. H. Dive, St. Bartholomew's Hospital, M.R.C.S., L.R.C.P.	632
L. C. Hawes, Birmingham University, L.R.C.P.(London), M.B.(Birmingham)	597.5
B. G. Goodwin, Birmingham University, M.R.C.S., L.R.C.P.	584
A. S. Cane, Cambridge and St. Bartholomew's, M.R.C.S., L.R.C.P., B.A.(Cambridge)	563
T. H. Dickson, Edinburgh University, M.B., B.Ch. (Edinburgh)	547
K. Comyn, Cambridge and King's College Hospital, M.R.C.S., L.R.C.P., B.C., B.A.(Cambridge)	542
F. R. Laing, Edinburgh University, M.B., B.Ch.(Edinburgh)	539
A. G. Jones, Guy's Hospital, M.R.C.S., L.R.C.P., M.B., B.S.(London)	536
J. M. Weddell, Cambridge University, M.R.C.S., L.R.C.P., B.A.(Cambridge)	535
P. C. Field, Bristol and Guy's Hospital, M.R.C.S., L.R.C.P.	528
V. P. Hutchinson, Guy's Hospital, M.R.C.S., L.R.C.P.	518.
T. W. Stallybrass, Newcastle-on-Tyne, M.B., B.S. (Durham)	514.5
H. G. Robertson, Glasgow University, M.B., B.Ch., B.Sc.(Glasgow)	513.5
R. C. G. M. Kinkead, Queen's College, Galway, M.B., B.Ch.(Royal University, Ireland)	511
C. M. Nicol, Glasgow University, M.B., B.Ch. (Glasgow)	511
H. V. Stanley, Trinity College, Dublin, M.B., B.Ch., B.A.(Dublin)	511
F. C. Stoney, Sir P. Dun's Hospital, M.B., B.Ch., B.A.(Dublin)	510.5
A. P. O'Connor, Catholic University, M.B., B.Ch., B.A.(Royal University, Ireland)	507.5
R. M. Davies, Durham University, M.B., B.S.(Durham)	506
R. Gale, Glasgow University, M.B., B.Ch.(Glasgow)	505

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

At the May examination in military subjects of officers of the Territorial Force and others, Lieutenant-Colonel R. H. LUCE, M.B., F.R.C.S., 1st North Midland Division Field Ambulance, passed in (d) ii, as required of regular officers before promotion to the rank of Major.

Obituary.

ALEXANDER FRASER, M.B., C.M., F.R.C.S.I.,

PROFESSOR OF ANATOMY ROYAL COLLEGE OF SURGEONS IN IRELAND.

It is with feelings of the most profound regret we have to record the death of Alexander Fraser, Professor of Anatomy in the Royal College of Surgeons in Ireland, which took place on Sunday, July 25th, at his native place, Lossiemouth, Elgin, whither he had gone with the object of recruiting his health.

Alexander Fraser was born in 1853, and received his early education at Kinnedar School in Lossiemouth, from which he proceeded to Glasgow University. As a medical student he had a distinguished career, obtaining the Medal in Anatomy, and subsequently graduating M.B. and C.M., with First Class Honours in Medicine in 1878.

While acting as Assistant for some time to the late Professor Allen Thomson, he paid special attention to the study of the development of ova. Subsequently he studied anatomy and embryology under Kölliker of Würzburg and His of Leipzig.

We next find Fraser as Chief Demonstrator of Anatomy in Owens College, Manchester, where his great abilities as a teacher early manifested themselves. In that post he did some excellent embryological work, the results of which were embodied in papers appearing in the *Transactions* and *Proceedings* of the Royal Society.



In 1883 the Chair of Anatomy in the Royal College of Surgeons in Ireland became vacant through the appointment of the late Professor D. J. Cunningham to the corresponding post in Dublin University. Fraser was offered and accepted the vacant chair, into the duties of which he threw himself with indefatigable industry and untiring energy. In a short time he amply justified his selection, for as a lecturer and teacher he had neither rival nor superior. From the first his enthusiasm for his work infected the students attending his courses of instruction. The mastery of his subject, the clearness of his exposition, and the ease with which he illustrated his lectures on systematic anatomy by drawings on the blackboard lent a peculiar charm to his teaching.

The amount of voluntary work done by Professor Fraser for the members of his classes is known only by those who attended or to those whose privilege it was to be intimately acquainted with him in the school. He was a true friend to the student; it may, indeed, truthfully be said that a father could not have taken a deeper interest in the welfare of his son than Fraser took in each member of his class. His advice was never sought by the student in vain, and in many instances his purse, too, was freely opened when necessity demanded it. Fraser was no stern disciplinarian, yet his control over the students was truly marvellous, a fact which must be attributed to the feelings of affection with which he was regarded by every member of his class.

His contributions to anatomy and embryology were numerous, the most important were: The Development of the Ossicular Auditus in the Higher Mammalia, *Trans. Roy. Soc.*, 1882; On the Inversion of the Layers of the Blastoderm in the Rat and Mouse, *Proc. Roy. Soc.*, vol. xxxiv; Photography as an Aid in Morphological Work, *Brit. Assoc. Rep.*, 1889; New Method of illustrating the Topography of the Brain, ibid.; Case of Porencephaly, *Journ. Ment. Sci.*, 1894. In 1890 he published his large work, *A Guide to Operations on the Brain*. Many other papers appeared from year to year in the *Transactions of the Royal Academy of Medicine in Ireland*.

All his work was undertaken in a truly scientific spirit; everything he saw and discovered was worked out clearly from the embryological and developmental standpoints until, as he would say, "it was as clear as the light of day." In this manner he had recently studied the sympathetic nervous system, the nervous supply of the viscera, and the distribution of the peritoneum. He had in this way completed the study of the entire body, and was about to record the result of his labours in a book when the hand of death was laid upon him. The loss to science, owing to his failure to publish the result of his work, is as great as is to the college his loss as a teacher.

Professor Fraser was of a most retiring disposition, averse from all manner of display, while his own high-mindedness and love of honesty and truth caused him sometimes to offend where offence would have been avoided by one no less honest but more diplomatic.

On the completion of his twenty-fifth year as Professor of Anatomy in the school, the President, on behalf of the college, on the evening of the last annual dinner, presented Professor Fraser with a cheque enclosed in a suitably inscribed silver casket. At the same time, his past and present pupils, together with some of his friends and colleagues, initiated a movement to present him with a testimonial in recognition of their appreciation of his distinguished position as an anatomist, and of his great ability as a teacher, as well as to show their respect and esteem for him as a man and a friend.

Fraser's fatal illness dates from February last, when he had an attack of influenza, which he neglected, with the result that the tubercle bacillus found a fertile soil in which to accomplish its deadly work. Contrary to the advice of his friends, he refused to take rest. It was only after some months that physical weakness compelled him to desist, so that there can be but little doubt that Fraser fell, like many another good and true man, a martyr to an over-conscientious idea of duty.

His untimely death will be deplored by the members of the profession not alone in Ireland but in Great Britain. To his widow we tender our heartfelt sympathy.

DR. A. FRANCIS DIXON, Professor of Anatomy in Trinity College, Dublin, writes: In the death of Professor Alexander Fraser Dublin has lost the last of the three men who did so much during the past quarter of a century to advance the study of anatomy in her medical schools. The names of Birmingham, Cunningham, and Fraser will always be honoured, not only in the schools whose interests they so faithfully served, but by all who appreciate and value scientific anatomical investigations. As a pupil and admirer of the late Professor His, Professor Fraser was perhaps most deeply interested in the embryological aspect of anatomical science, and in his teaching and conversation he was

always careful to emphasize the embryological point of view. His earlier papers are concerned with developmental problems, and include an important and well-known memoir, On the Development of the Ossicula Auditus in the Higher Mammalia, published in the *Philosophical Transactions of the Royal Society*, and a research On the Inversion of the Layers of the Blastoderm in the Rat and Mouse. In later years he devoted much of his time to the study of the nervous system and published his beautiful *Guide to Operations on the Brain* in 1890. The plates which illustrate this monograph are of extreme beauty, and are a testimony to his originality, manipulative skill, and tireless energy. These qualities are also manifested by his smaller writings, and in the routine work of his department they gained for him the admiration and esteem of his colleagues and students. In spite of the fact that Professor Fraser may be said to have lived for his students and for the advancement of his school, he was always most willing to place his advice and knowledge at the service of other workers. There are many in Dublin who have availed themselves of his assistance in carrying out anatomical and surgical investigations, and who speak in the warmest terms of his kindness and sympathy and of their indebtedness to him. To all who shared his friendship and regard his death has brought a sense of deep sorrow and irreparable loss.

Sir THORNLEY STOKER writes: From the time of his appointment as my co-Professor of Anatomy in the Royal College of Surgeons until my resignation of my Chair in 1889, I was in close daily relation with Professor Fraser. I had the most intimate means of studying his character and abilities, of learning to appreciate and love his simple and beautiful nature, and of growing into increasing respect for the ability, singleness of purpose, and earnestness of a man of whom I had increasing respect and admiration up to the day of his death. He came to Dublin with an anatomical reputation which has grown ever since. He had already published work of a high class, and ever since had been an ardent and enthusiastic worker and one who showed that high quality of Scottish character which made a day on which no work was done no day. He was indefatigable. The anatomy of the sympathetic system and that of the peritoneum were, in addition to embryological studies, matters to which he seems to have particularly devoted himself, and it is to be hoped that his material has been left in such a state that it may be preserved and utilized for the science to which his life was devoted. Alec Fraser rapidly became a great favourite and man of influence with his class. With a long experience of teachers, I can remember no man who was more beloved—none with a larger, higher, finer, or more tender influence with young men. He loved them, and they felt and knew it, and responded to it with that sweet devotion which is the pride and privilege of generous youth. Like most men of strong character, he had a shell, but it was easily broken—broken by the chick of his own kind and anxious nature; and it may be said that he lived in a huge family of student men and women who loved him, and to whom, outside his work, he gave all he had. As long as the generations of his pupils live his memory will be personal and dear, and I trust that the record of his work may find among them, or his colleagues and fellow-students, a recorder worthy of the man by whose death the school and teaching of anatomy in Dublin is poorer than, in my opinion, it has been made by any other death that I can remember. But, outside his work, we have lost a faithful, true, and tender gentleman; and, personally, I have lost a friend who was always true, and held his friendship high above the troublesome ripples of the stream of life.

Professor WINDLE, President of Queen's College, Cork, writes: As one who has been associated with Professor Fraser as co-examiner for several years, it affords me satisfaction to be allowed to add my tribute to his worth to those of others who knew him. It has been my privilege to act with a number of examiners in various parts of the three kingdoms in testing the anatomical knowledge of medical students, and with none of them have I ever had pleasanter relations than with the late Professor Fraser, nor have I ever been associated with any man who displayed a greater desire to elicit what the student knew or to ensure that his real merits or demerits should be fairly and carefully ascertained. The essential kindness of the man, sometimes hidden to the casual observer, never appeared more clearly than when he was dealing with the nervous candidate, anxious but unable to give evidence of his knowledge. Of Professor Fraser's profound knowledge of his subject it is perhaps hardly necessary for me to write. He was a most untiring worker, and one of the tragedies of his early and unexpected death is that I fear much of his unpublished work must perish with him. He showed me on one occasion vast sheaves of most exquisite photographs taken by himself and relating chiefly to points in embryology. These he hoped to publish some day when less oppressed by the burden of work than was usually the case with him. I earnestly hope that some means will be found of giving these to the scientific world, for it would be a thousand pities if they were lost for ever. The present year has seen the death or disappearance from active work of several men whose names are household words amongst anatomists, but I think it is safe to say that amongst these, by those who really knew him—and they were perhaps comparatively few—none will be more lamented than that large-hearted man to whose memory these few lines are consecrated.

Sir JOHN WILLIAM MOORE (Dublin) writes: In the death of my colleague and friend, Alec Fraser, I have experienced a personal sorrow. Closely associated with him in the Schools of Surgery of the Royal College of Surgeons in Ireland for the past twenty years, I had come to admire the untiring energy, the indomitable spirit, and the burning enthusiasm of the man in his professorial work. It fell to my lot to lecture throughout each Winter Session during the hour immediately succeeding Professor Fraser's anatomical demonstration in the lecture theatre of the college. His vivid discourses seldom terminated until his "hour" was well nigh exhausted. He would then apologize to me for leaving me so little time to write the heads of my lecture on the black board. Then I would

say to him, "Please draw me such and such an illustration"—it might be of the heart, or lungs, or liver—and in a few moments, with a few masterly strokes, an illuminating diagram would make its appearance on the board. During the lecture I would tell the class who the artist was, and the theatre would ring with plaudits, for he was universally liked, and even idolized, by the students of the college. Fraser literally killed himself by overwork, but his work was to him a labour of love. To the College of Surgeons and its Schools of Surgery his loss is all but irreparable.

Dr. J. Spencer Shrill, of Dublin, writes: Professor Fraser was in every sense of the word the real friend of the student. Even when his brow was wrinkled trying to solve some knotty problem of brain anatomy or peritoneal development, he was never too busy to answer the tiro's question, or to give there and then a short demonstration. His genial face, ever present in the dissecting room, made his association with the students one of almost comradeship, yet there was not a man amongst them who did not treat him with the greatest respect mingled with affection. He was called away just on the eve of a presentation to himself by the many hundreds of past and present pupils and associates with whom he was brought into contact during his twenty-five years as Professor in the Royal College of Surgeons, Ireland. A most brilliant and original anatomist, Professor Fraser was entirely devoted to his work, and of too quiet and retiring a nature to be an acute business man. He might have enjoyed more of the sweets of life and its honours had he been more selfish and less studious. He gained honour, however, where he sought it, and his memory will be long and affectionately treasured by the thousands of pupils who owe him a deep debt of gratitude. For myself, I can say that in the death of Professor Alex. Fraser I have lost an able teacher, a real adviser, and a dear friend.

A Student (Mr. T. Mather Thomson) writes: It was a sad day for the students of the College of Surgeons when the news came of the death of Professor Fraser. He kept in such close touch with us that the feeling which settled down deep in our hearts was one of personal loss. He had gained not only our respect and admiration as a teacher, but our affection as a friend—he was our master and friend. This was evidenced in many ways; when one met an old student, the first question he asked was about Fraser, and then followed happy reminiscences of sessions in the dissecting room. His presence at any gathering of students was the signal for an outburst of applause, and I remember on one occasion when the President in his address at the opening of the session referred to Professor Fraser, a spontaneous cheer, which lasted several minutes, broke out from the students. In all matters affecting our welfare he was intensely interested, and he was so identified with the college that it will never seem the same without him. As a teacher, no one was more successful. His lectures, so original, and delivered with such zest, were never a weariness; they were all too short. He anticipated our difficulties, and explained them so lucidly, that it was little wonder there were so few absentees from his class. He made us feel that the knowledge of anatomy was of vital importance, and poured scorn on the man whose only thought was to know enough to scrape through an examination. He had no patience with mere book knowledge, and insisted that the knowledge of anatomy which would prove useful could be obtained only in the dissecting room. His familiar figure will live long in the memory of his students. He had a passion for anatomy, and his enthusiasm for work inspired us. Fraser knew all his students, and if one approached who had been neglecting his work, "You'll no' do," was the familiar reproach, and sufficient to act as a spur. His influence was such that he got the best out of his men. We were all anxious to do well in anatomy, and when a man did badly, or "came down," he was sorry, because Fraser would be disappointed. At times he would be sarcastic, but he would never hurt the feelings of his men. I have known him often, after class, call over a student with whom he had been severe, "Was I too hard on you," he would say, and thus remove any bitterness, and encourage his pupil to greater effort. He was slow to praise. A word of commendation from "Alec," as we would call him amongst ourselves with great respect and affection, was a "sweet morsel." To be called a "modest man" was great praise. To be told that your dissection was "grand," was a compliment never to be forgotten. Under such a man it is little wonder that the two years of anatomy proved to be the happiest, though perhaps the hardest, years of the medical course. His death was directly due to unsparing devotion to his work. William, the anatomical porter, had died from sepsis, and that there should be no break in the work, Fraser himself prepared his subjects for dissection in damp surroundings. Thus he got a chill. Many were the attempts made to persuade him to relinquish his work for a while, and go away, but without avail. He would not give up his lectures—he would fight on to the end of the session. He drove down to his work each day, and it went to our hearts to see him look so ill. At last he had to give in. At home in his illness his thoughts were still of the college with which he had been so closely identified for over twenty-five years. Then he took a great longing to get to his home in Scotland. Nothing could persuade him to give up the idea of such a trying journey. It is difficult to write of those days. I accompanied him as far as Glasgow, and during the night, on the boat, he awoke from a doze and proved his thoughts were still of the college. "Did you say there were more entries than ever this year?" Later he said, "Cunningham is dying, and here am I, just a poor creatur'—there's to be a clean sweep of anatomists." It is hard to realize that our master is dead. With what fondness we shall cherish his memory, and we shall never forget how much we owe him.

Miss Kathleen Lynn, M.B., writes: I do not think any woman medical student will ever have reason to regret having taken out the anatomy course under Professor Fraser. One never can forget his kindness, his intense desire that every one should have the best possible chance of studying anatomy thoroughly. His wonderful knowledge of the subject struck with awe the new student, and at the end of the course one was still as much impressed with it as ever. With all his vast learning, he was as simple and unassuming as a child. Among college students "The Professor" always meant Professor Fraser—he held the first place in our affection and regard. He was always on the spot to help us in any difficulty, whether in dissecting or other matters. With a few bold strokes he could transform the most muddled dissection into something edifying and instructive. How many happy hours have we spent over his embryological specimens—his special pride! The professor's lectures were ever looked forward to with pleasure; he had the great gift of throwing himself into his subject, and making it intensely interesting, clear, and simple. We were quite carried away, and could have wished he would have gone on much longer—a feeling which is not often experienced. The professor was never a person who cared for creature comforts, and would go through his long day's work at the college without food. His keenest study was, I think, embryology. I remember well hearing how he constantly came back to the college after dinner and worked with the microscope till far into the night. On one occasion he never turned up at home for dinner, but this did not alarm Mrs. Fraser. However, when she waited in vain for him hour after hour, she started off at daybreak to look for him, and found him over his microscope, entirely oblivious of the fact that it was about 4 a.m., and that he had been at work since the previous afternoon. All who knew him will mourn his loss, but especially the women students to whom he was always such a staunch ally. It seems as if our own personal feelings were too deep for expression, while we offer our most heartfelt sympathy to Mrs. Fraser.

WILLIAM ARTHUR FOXWELL, M.A. M.D.Cantab., M.Sc.Birm., F.R.C.P., Lond.,

PROFESSOR OF THERAPEUTICS IN THE UNIVERSITY OF BIRMINGHAM; SENIOR PHYSICIAN TO THE QUEEN'S HOSPITAL.

We much regret to record the death of Professor Foxwell of Birmingham, which occurred at the Warneford Hospital, Leamington, on August 4th, as the result of a bicycle accident. According to the reports in the local papers,

Professor Foxwell was bicycling on the evening of August 1st near Warwick, when a dog rushed at the bicycle and threw him off so that his head struck the kerbstone. He was picked up and removed in an unconscious condition to the Warneford Hospital where everything possible was done for him, but he died on the morning of August 4th without having recovered consciousness. He was seen during his illness by his colleagues, Professor Bennett May, Professor Jordan Lloyd, and Dr. Kauffmann, and received the greatest kindness and care from the staff and authorities of the Warneford Hospital.

Professor Foxwell, who was 56 years of age, was born at Shepton-Mallet and was a son of Mr. Thomas Somerton Foxwell of Weston-super-Mare. His early education was obtained at Queen's College, Taunton, whence he passed to St. John's College, Cambridge, and there he graduated M.A. and M.D., taking a distinguished place in the Natural Science Tripos and in the medical examinations. He continued his medical studies at St. Thomas's Hospital and at Vienna. After graduating he became in succession House-Physician at St. Thomas's Hospital, Junior Resident Medical Officer at the Children's Hospital, Pendlebury, and Resident Clinical Assistant at the Brompton Hospital for Consumption. In 1884 he was appointed Resident Pathologist to the General Hospital, Birmingham, where he subsequently held the offices of Resident Medical Officer and Assistant Physician, but a vacancy occurring on the full staff at the Queen's Hospital he was elected Physician to that hospital in 1889. While at the General Hospital he was also Visiting Physician to the Jaffray Suburban Chronic Hospital, Pathologist to the Birmingham Hospital for Women, and Demonstrator of Medical Pathology at Queen's College. At his death he was Senior Physician to the Queen's Hospital and Professor of Therapeutics in the University of Birmingham. In 1896–8 he was Examiner in Medicine to the University of Cambridge.

He delivered the Bradshaw Lecture before the Royal College of Physicians in 1899, and the Ingleby Lecture at Queen's College, Birmingham, in 1892. He was the author of many contributions to the medical press and of a volume of well-written *Essays on Heart and Lung Diseases*, published in 1895. His Bradshaw Lecture on the Causation of Functional Heart Murmurs was well received, and the views expressed in it have been widely adopted. He was at one time Editor of the *Birmingham Medical Review*, and for many years Librarian of the Medical Institute, of which he was President when he died. He had recently the honour of being Vice-President of the Medical Section at the Annual Meeting of the British Medical Association at Belfast.

Professor Foxwell was a highly educated man, possessed of sound learning, and deeply interested in his profession; he was accustomed to think out and carefully expound the problems of the bedside, and those he taught appreciated his thoroughness and earnestness. Perhaps he was at his best as a clinical teacher, and the Birmingham School will feel his loss deeply. He took infinite pains with his clinical clerks, and insisted upon their work being done regularly and carefully, but it is pleasant to know that this strictness did not deter students from wishing to work for him, for there was no one whose appointments were more sought after. When the late additions were made to the buildings of the Queen's Hospital, it was due to Professor Foxwell's initiative that a roof ward, only partially covered and otherwise entirely open to the air, was constructed, and this experiment has now been tried for a year with a considerable amount of success in the treatment of many diseases other than tuberculosis.

Professor Foxwell married in 1889 Mrs. Pollock, daughter of the late Mr. Charles Hollins of Torquay, and leaves a widow and one daughter. He was buried at Olton Monastery Cemetery on August 6th, according to the rites of the Church of Rome. In addition to members of the family and personal friends, the funeral was attended by Professors Poynting and Saundby, representing the University of Birmingham; Mr. Albert Lucas, representing the British Medical Association; Mr. Leonard Gamgee, the Medical Institute; Mr. Hulme, the General Superintendent, Professor Jordan Lloyd, Professor Morrison, Professor Priestley Smith, Dr. Kauffmann, Dr. Stanley, Dr. Purslow, and Mr. Billington, for the committee and staff of the Queen's Hospital; Dr. T. W. Thursfield, for the committee and staff of the Warneford Hospital, Leamington; as well as a large number of members of the medical profession.

Professor Jordan Lloyd, Senior Surgeon to the Queen's Hospital, Birmingham, writes: It is only a few weeks short of twenty years since Arthur Foxwell and I became associated as colleagues on the staff of Queen's Hospital, and during the whole of that period our friendship has been imperturbed, and my affection for him has continuously deepened. He was one of the strongest members of the hospital staff—skilful as a physician, kindly as an attendant, thoughtful as an investigator, honest as a man, wise as a counsellor, loyal as a colleague, earnest as an administrator, and staunch as a friend. His ideals in all things were lofty and inspiring; his sense of duty rigid and inflexible. He delighted in the true and the natural; he fought the false and despised the meretricious. His faith in the future of scientific medicine was unbounded. Nothing was too small for his notice, nothing too large for his mastery. He was a great clinical teacher. Many of the best students of our medical school attached themselves to him in some capacity or other in his hospital work. Although of gentle and kindly disposition, he was a stern master; quick to appreciate and encourage industrious effort in a junior; intolerant of slackness or indifference in every one. His loss to the profession is great, and his place will not be filled by any one man.

Dr. Kauffmann, Senior Physician to the Queen's Hospital, writes: The early death of Dr. Foxwell is an enormous loss to the profession in Birmingham, and in particular to the Queen's Hospital. I have no intention of dilating upon Dr. Foxwell's eminence as a physician. Besides his published works, which bear ample testimony to his powers of observation, and of mature and judicious reflection, the experience of all who came into contact with him over medical matters must be unanimous as to his ability and deep learning; and his evident culture and refinement could not fail to strike one even in the shortest conversation. But as a man he stood even higher, if possible, than as a physician, and I feel impelled to say a few short words on this rare character. Dr. Foxwell was not endowed with the gift of "popularity," and at first meeting he might to some appear to be reticent. His fine qualities were reserved for those with whom he became more intimate, and the first revelation of them never afterwards disappointed one. Dr. Foxwell was humorous, and at times sarcastic; but his sarcasm was never unkind and never rankled. He was, indeed, too humane and sensitive and of too great self-control willingly to hurt another's feelings; and, if ever he did so unwittingly, it must have been rare indeed. Probably every one of his colleagues has had occasion to differ from him on one point or the other—strongly, perhaps—for Dr. Foxwell was not the man to yield from a position which he held to be right, and such a position he was used to maintain with all his power. But none ever came away from a fight with him bearing a feeling of rancour. Respect for his character and a tendency to revise one's own judgement in the light of his reasons were the feelings brought away from such a conflict. But, though he was stern and inflexible when occasion, to his mind, required it, he was essentially a most lovable man, and one to whom, when in a difficulty, one could appeal with the certain feeling that he would advise one on the course which was morally right. For he was an idealist who sought always for what is true and good and pure, and it is difficult to come across a man who in the pursuit of what is right so completely sinks all self-interest as did Dr. Foxwell. We mourn him deeply, not only as a wise physician, but as a faithful friend, a true guide in difficulties, and a man of rare courage and loftiness of aim.

ALEXANDER R. MACKENZIE, M.D.,

FORTROSE.

By the sudden death of Dr. Mackenzie, of Fortrose, on August 4th, the medical profession in the North of Scotland has lost one of its oldest members.

He was born in Inverness seventy-nine years ago, and studied medicine at Glasgow University, taking the degree of M.D. in 1851 and the diploma of L.R.C.S.Ed. in

the same year. After graduating it was Dr. Mackenzie's intention to proceed to China, but Dr. Tulloch, who was then practising in Fortrose, offered him an assistantship, which he accepted, and on Dr. Tulloch's death he succeeded to the practice, which at that time was a very extensive one, embracing the whole of the district known as the Black Isle, in Ross-shire. He practised in this neighbourhood for over fifty years, and to celebrate his jubilee as a medical practitioner the Northern Counties of Scotland Branch of the British Medical Association, of which he was for many years a member, entertained him at a complimentary dinner. He was Medical Officer of Health for the burgh of Fortrose, and parochial medical officer for it and several of the surrounding parishes. He was a keen volunteer, retiring as Surgeon-Lieutenant-Colonel several years ago. He took a deep interest in public affairs, having served for many years both on the town council and School Board, and was for many years chairman of the latter body. He was a Justice of the Peace for Ross-shire.

Dr. Mackenzie, during his many years of professional life, gained the esteem and affectionate regard of the community in which he lived. Mrs. Mackenzie died some years ago, but he is survived by one daughter, to whom the sympathy of the profession in the North of Scotland will be readily extended.

ANDREW JAMES DUNCAN, M.D.Edin.,

CONSULTING PHYSICIAN, DUNDEE ROYAL INFIRMARY.

The medical profession in Dundee has lost one of its senior and most esteemed members in the person of Dr. Andrew James Duncan, of Nethergate House, who died in the early part of last month from cerebral haemorrhage. He was a grandson of the Rev. Dr. Andrew Duncan, of Raths—a moderator of the General Assembly of the Church of Scotland, and for long its principal clerk—and was born in India, where his father was in the service of the old East India Company. His general education he received at home, and on its completion entered the medical faculty of the University of Edinburgh, where his career as an undergraduate was one of considerable distinction. He received the degree of M.D. in 1865, and in the same year became a Licentiate of the Royal College of Surgeons of Edinburgh. After this he put in a further year of study on the Continent, partly in Paris, partly in Vienna, and then, returning to Scotland, settled down in Dundee. In course of time he acquired an excellent practice and took a leading place among his professional brethren, and held several appointments. These included positions on the staff both of the Dundee Eye Institution and the Dundee Royal Infirmary. The former he held down to the time of his death, and ophthalmological work also occupied him for a time at the infirmary. He served the institution also in various other capacities, and at the time of his death was Consulting Physician and one of its eighteen directors or governors.

Dr. Duncan took a keen interest both in the scientific and practical sides of his profession, and attached considerable importance to frequent intercourse between medical men both on a social footing and for the purposes of professional discussions. His zeal, moreover, in this direction was not merely of the academic order: the Forfarshire Medical Association owes much of the position which it now occupies to the work which he did for it during many years as secretary, and to the ability with which he furthered its aims and objects during the earlier days of its existence. The British Medical Association likewise enjoyed a corresponding measure of his esteem and support, and at one time he held office as President of the Dundee Branch. Dr. Duncan was a careful and able physician and a most genial companion; a refined man, whose memory will always be held in the deepest respect by all who enjoyed his acquaintance and friendship.

CHRISTIAN WILLIAM BRANCH, M.B., C.M.Edin.,

MEDICAL OFFICER, KINGSTOWN AND COLONY HOSPITAL, ST. VINCENT, W.I.

Christian William Branch, M.B., C.M.Edin., was born in Basseterre, St. Kitts, on April 12th, 1870. His father and maternal grandfather took the degree of M.D. in the University of Edinburgh. The first colonial ancestor of the family to which he belonged settled in Barbados more than a century and a half ago. Christian Branch graduated in the Edinburgh University in August, 1893. At the end of the second summer of his curriculum he received the Senior Medal for Botany. He acted for a short time after his graduation as one of the Demonstrators of Anatomy in the University. He wrote numerous letters on various subjects to this and other medical journals, and was a contributor also to certain non-medical periodicals. His two longest papers were a monograph on Yaws, published by the Liverpool School of Tropical Medicine; and an essay on the Carib Tools to be found in the Lesser Antilles, printed by the Smithsonian Institution in Washington. He took great interest in hygiene, and wrote a *Primer of Tropical Hygiene* for use in West Indian Schools, which was printed at the expense of the Government of St. Vincent. Last year he attended the London School of Tropical Medicine, his fees having been paid by the St. Vincent Government, and obtained the Certificate with honours in Tropical Medicine. He was, during his short medical career, a District Medical Officer under the Governments of the Islands of Tortola, Nevis, St. Kitts, and Anagua, and was made the Medical Officer of the Colonial Hospital and Kingstown Medical District in St. Vincent in March, 1902. His death at the early age of 39, which took place in Kingstown, St. Vincent, on June 12th, was sudden, and was due to disease of the heart. He had operated at the hospital on June 9th, and fainted in the street in the evening of the same day. While talking with a friend three days after he suddenly fell back dead.

Christian Branch's reputation in both surgery and practice of physic was very high in the West Indies. He had had great success in ovariotomy and hysterectomy operations, and his method of treatment of ankylostomiasis by larger doses of thymol than had hitherto been considered safe has been generally adopted in those islands. It is mentioned in Dr. Senn's *Surgical Notes*, 1903, and Dr. Senn there spoke of him as "an earnest, enthusiastic and progressive man." He rendered good service to the people of St. Vincent in pointing out the real nature—anthrax—of an epidemic that broke out among the cattle soon after his arrival in that island, and he afterwards assisted Professor Annett in inculcating a knowledge of the causation of the malady and the precautions to be adopted against it. He was the delegate from St. Vincent to the Quarantine Conference, held in Barbados under the direction of Dr. Thomson, who represented the Colonial Office on that occasion. It was owing to Christian Branch's skill and devoted efforts that yellow fever, which had been imported from Barbados into St. Vincent, did not spread in the latter island. His arrival at St. Vincent, just before the eruption of the Souffrière, gave him his first chance of winning the love and esteem of the people of that island—a love which became stronger as each year of the seven that he was to spend with them passed by. In Vincent, as is well known, 2,000 lives were lost in the awful night of May 7th, 1902. The number of the wounded and dying brought into the town and crowded into the hospital was, of course, very great, and his devotion to the sufferers under his care appealed at once to the hearts of all classes of the community.

Dr. C. Branch gained the love of his colleagues and the people in every island in which he lived. During his short medical career he was presented with three addresses, expressing the regret of the people that he was leaving them.

His funeral was Masonic, and was attended by the largest procession of mourners, from the highest to the lowest classes in the community, ever seen in the island. Very many of the congregation inside the densely-packed little cathedral could not restrain their tears.

As a last proof of their love, the council of the island unanimously asked that a gift of £200 should be presented to his widow, as a token of the sympathy of the people of St. Vincent with her and of their appreciation of his worth.

The English Tuberculosis Exhibition is now at the White City, having been formally declared open by Lord Balfour of Burleigh on August 6th. The scheme of the exhibition remains unaltered, but the arrangement of the different object-lessons has been modified from what it was when the same exhibition was in progress at the Art Gallery, Whitechapel.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on July 21st.

Recognition of Teachers.

The following were recognized as teachers in the subjects and at the places indicated:

St. Bartholomew's Hospital Medical School.—Dr. Robert Jones (Mental Diseases), Mr. Sydney Richard Scott (Aural Surgery), Dr. Horatio G. Adamson (Dermatology).

St. Thomas's Hospital Medical School.—Dr. W. J. R. Simpson, C.M.G. (Hygiene).

London School of Tropical Medicine.—Colonel A. W. Alcock (Medical Zoology).

Lister Institute of Preventive Medicine.—Mr. J. C. G. Ledingham, Dr. G. F. Petrie, and Mr. J. Henderson Smith (Bacteriology).

Hospital for Sick Children.—Mr. Oswald L. Addison (Clinical Surgery).

National Hospital for the Paralysed and Epileptic.—Dr. G. Morgan Holmes (Clinical Medicine).

Royal London Ophthalmic Hospital.—Dr. William Ilbert Hancock (Ophthalmic Surgery—Clinical).

B.Sc. Honours Degree in Human Anatomy and Morphology.

The following special courses were approved as subjects of special study in connexion with the B.Sc. (Honours) degree in human anatomy and morphology for internal students in 1910 (see Red Book, September, 1908, p. 203):

I. *Special Subjects.*—Professor Peter Thompson (King's College), Development of the Heart; Dr. W. Wright (London Hospital) Craniology; Dr. C. Addison (St. Bartholomew's Hospital), Human Abdominal Morphology.

II. *Courses of Practical Embryology.*—Mr. R. Assheton (Guy's Hospital), Professor J. P. Hill (University College), Dr. R. J. Gladstone (Middlesex Hospital), Professor Peter Thompson (King's College.)

III. *Vertebrate Morphology.*—Mr. G. Parsons (St. Thomas's Hospital), Dr. H. W. M. Tims (Charing Cross Hospital), Dr. J. P. Hill (University College), Dr. W. Wright (London Hospital).

IV. *Cytology.*—Professor J. B. Farmer (Imperial College of Science and Technology).

D.Sc. Examination in Physiological Chemistry (Internal).

It was reported that the degree of D.Sc. in physiological chemistry had been conferred upon Mr. Percival Hartley, of the Lister Institute of Preventive Medicine, who had submitted a thesis, entitled "On the Nature of the Fat contained in the Liver, Kidney, and Heart, Part II." In addition to his thesis, Mr. Hartley submitted several papers contributing to the advancement of science.

Francis Galton Laboratory for National Eugenics.

A report by Professor Karl Pearson showing the progress of the Francis Galton Laboratory for National Eugenics during the past sixteen months was presented. It stated that much labour had been bestowed on the study of pedigrees and the collection and collation of information on various aspects of heredity and environment; numerous lectures had been delivered and papers published, not only by members of the laboratory staff, but by other contributors to its work. The Senate voted their cordial thanks to Sir Francis Galton for a further donation of £500 for the maintenance of the laboratory, and recorded their high appreciation of the services rendered by Professor Pearson, under whose supervision the work is carried on. Mr. David Heron and Miss E. M. Elderton were reappointed respectively Galton Research Fellow and Galton Research Scholar for a year from February next.

Date of Entry for the M.D. Degree.

It was resolved that in and after the session 1910–11 the regulations for internal and external students in the Faculty of Medicine be amended by the substitution for the regulation contained in the fourth paragraph on page 154 of the Red Book, and in the fourth paragraph on page 216 of the Blue Book, September, 1908, of the following:

> In Branches I and IV. candidates (other than those who present a thesis) for the July examination must apply to the Academic or External Registrar for forms of entry on or before May 20th, which must be returned not later than June 1st; and candidates (other than those who present a thesis) for the December examination must apply for forms of entry on or before October 20th, which must be returned not later than November 1st. The corresponding dates for application for, and return of, forms of entry for candidates in Branches II. III. V. and VI. and candidates in other branches who present a thesis, are April 20th and May 1st for the July examination, and September 20th and October 1st for the December examination. Forms of entry must be returned duly filled in and signed by the proper fee, and by certificates, as enumerated below, for the branch concerned.

D.Sc. Examination in Zoology (External).

The degree of D.Sc. in zoology has been conferred upon Mr. John Stephenson, M.B. (Victoria University of Manchester). Mr. Stephenson presented a thesis on studies on the aquatic oligochaets of the Punjab, together with some further paper contributing to the advancement of science.

King's College Transfer Commission.

September 1st, 1909, is the appointed day in so far as the King's College, London (Transfer), Act refers to King's College Hospital and its medical school.

Chairmen of Committees.

The following have been appointed chairmen of the committees indicated for the year 1909–10: *Council of External Students*, Dr. S. Russell Wells; *Brown Animal Sanatory Institution Committee*, Sir William Church, Bart.; *Committee of Medical Members*, Dr. Frederick Taylor.

Advanced Lectures in Physiology.

The following scheme of advanced lectures in physiology for the session 1909–10 has been approved:

The University (Physiological Laboratory): (1) Eight lectures by Dr. G. A. Buckmaster and Mr. J. A. Gardner during first term, October-December, 1909, on Tuesdays at 5 p.m. (Title not yet announced.) (2) Eight lectures by Mr. W. B. Hardy during second term, January-March, 1910, on Tuesdays, 5 p.m. (Title not announced.) (3) Eight lectures by Dr. N. H. Alcock on the physiology of the peripheral nerves, during the third term, May to July, 1910, on Tuesdays at 5 p.m.

University College.—(4) Eight lectures during first term, October to December, 1909, on Fridays at 5 p.m., by Dr. E. H. Starling, on recent advances in the physiology of digestion. (5) Eight lectures by Dr. W. M. Bayliss during the second term, January to March, 1910, on Fridays at 5 p.m., on fundamental phenomena in physiology. (6) Eight lectures by Dr. S. B. Schryver during the third term, May to July, 1910, on chemistry of chlorophyll on Fridays at 5 p.m. (7) Eight lectures during the third term, May to July, 1910, on physiology of the brain, by Dr. W. Page May on Thursdays at 5 p.m.

King's College.—(8) Six lectures by Dr. A. Dendy, F.R.S., and Dr. W. D. Halliburton on the pineal and pituitary bodies during the first term, November and December, 1909, on Mondays at 4.30 p.m., commencing on November 1st. (9) Eight lectures by Dr. O. Rosenheim and Dr. F. S. Locke on recent progress in physiological chemistry, during the second term, January to March, 1910, on Mondays at 5 p.m. (10) Three lectures by Dr. F. W. Mott during the third term, May to July, 1910, on the influence of the cerebrum on speech.

Guy's Hospital.—(11) Eight lectures by Dr. E. L. Kennaway and Mr. J. H. Ryffel on the physiological significance of variations in the chief constituents of urine, during the first term, October to December, 1909, on Wednesdays at 5 p.m. (12) Eight lectures on the physiology of the skin, by Dr. W. S. Fembrey, during the second term, January to March, 1910, on Wednesdays at 5 p.m. (13) Four lectures by Dr. J. S. Haldane. F.R.S., during the third term, May, 1910, on the secretion of urine, on Wednesdays at 5 p.m. (14) Four lectures by Dr. F. G. Hopkins during the third term, June, 1910, on the influence of organic chemistry on physiology, on Wednesdays at 5 p.m.

The date of the lectures will be announced later.

Courses numbered 1-7, 9, 11, and 12 of the scheme have been recognized as advanced lectures, which a candidate at the B.Sc. (Honours) examination in physiology may name for part of his practical examination.

THE following candidates have been approved at the examinations indicated:

SECOND M.B. (*Part II.*—Helen P. Barnes, G. Barratt, Margaret M. Basden, W. Butterfield, G. C. Chubb, D.Sc., A. J. Clarke, D. A. Davies, M. Davies, J. L. Davies, of M.C.P., Epsom, St. Mary's Hospital; G. E. Elkington, A. Evans, Maud F. Forrester-Brown, G. E. Gedge-Aminova, W. S. George, and J. T. S. Gibson, St. Mary's Hospital; W. M. Glenister, N. F. Graham, *née* P. C. Graves, University College; cG. Haddield, St. Bartholomew's Hospital; cT. E. Hammond (scholarship in Anatomy), St. Bartholomew's Hospital; H. W. Hills, B. W. Howell, cT. Insoldi, J. C. Jefferson, W. H. Kauntze, R. H. Liscombe, J. H. Lloyd, M. D. Mackenzie, P. H. Mitchener, W. H. Parry, D. B. Pascall, G. H. Pearson, T. H. Phillips, S. B. Radley, N. B. Rawson, H. Ross, S. P. Rowlands, G. W. Shore, H. K. V. Solan, D. E. Spence, cW. Steuart, St. Bartholomew's Hospital; J. Taylor, E. A. Tozer, Catherine V. Turner, A. W. Venables, T. D. Williams, E. L. Wilson, B. Woodhouse, W. W. Woods, cC. H. Attenborough, King's College; R. F. Bolt, P. V. Early, R. H. Hodges, C. E. S. Jackson, A. C. McAllister, V. E. Negus, W. Simpson, R. W. Spence.

M.D. (*Medicine*).—E. L. Ash, E. F. Finch, T. M. Hardy, P. Hick, G.M.J.S. Hinchin, B.S., St. Thomas's Hospital; E. J. Wyler.

M.D. (*Mental Diseases and Psychology*).—gH. De Vine, University College, Bristol.

M.D. (*Midwifery and Diseases of Women*).—gE. J. C. Dicks, St. Mary's Hospital; P. W. Hamond, Dorothea C. Maude, Marian Mayfield, Eleanor W. Perkins, Mary F. Taylor, Ida C. Tongely, Edith L. Young.

M.D. (*State Medicine*).—Dora E. L. Bunting, H. J. Cates, C. L. Lakin, G. E. Oates.

M.D. (*Tropical Medicine*).—J. C. M. Bailey, F. F. Elwes, I. D. Jones.

M.S.—S. G. Barling, V. Z. Cope, B.A., M.D., A. J. Walton, B.Sc.

a Passed with distinction in Anatomy.
b Passed with distinction in Physiology.
c Passed with distinction in Pharmacology.
d Awarded scholarship in Physiology.
e Awarded scholarship in Pharmacology.
f Awarded scholarship in Anatomy, and qualified for that in Physiology.
g University medal.

ROYAL UNIVERSITY OF IRELAND.

FIRST M.B.—*b*N. Beattie, P. E. F. G. Bennett, D. E. J. Burke, J. D. Carroll, *b*T. J. Costello, M. M. Davitt, W. S. Dixon, W. A. L. Dunlop, E. C. T. Emerson, T. J. Farrell, B.A., T. Fennessy, J. Garry, W. Gault, S. Gedding, *h*and G. J. Green, H. P. Hall, J. F. Herbert, T. W. G. Hogg, G. L. Kennedy, G. D. Latimer, J. H. Lawlor, T. J. Lydon, *f b*J. B. Lyle, W. S. Lynd, B.A., W. J. M'Cracken, W. M. H. M'Cullagh, W. MacDermott, *d*H. M'Donnell, H. M'Elroy, J. P. M'Laughlin, M. T. MacMahon, *i*G. C. Maguire, M. Neilson, Eveline M. Noble, Mary J. O'Connor, B.A., E. J. O'Keeffe, *c*J. I. O'Sullivan, Edith Robinson, J. P. Robinson, S.B. Shanahan, H. R. Sinclair, *b*et T. Walker, M. J. Walsh, T. H. Wilson.

D.P.H.—*m*W. D. O'Kelly, *n*J. R. Gillespie, M.B., B.Ch., B.A.O., *n*R. W. Fisher, M.B., B.Ch., B.A.O., F. X. J. Callaghan, M.B., B.Ch., B.A.O.

a First class honours in Botany.
b Second class honours in Botany.
c First class honours in Zoology.
d Second class honours in Zoology.
e First class honours in Chemistry.
f Second class honours in Chemistry.
g Second class honours in Experimental Physics.
h Exhibition of £20.
i Exhibition of £10.
m First class honours and special prize of £10.
n Second class honours.

UNIVERSITY OF ABERDEEN.

THE following degrees were conferred at a meeting of the Senate on July 21st:

M.D.—*a*Williamina Abel, *b*T. C. Boyd, M.A., E. K. Mackenzie, C. J. R. Milne, Major I.M.S.

a Honours for thesis.
b Commended for thesis.

M.B., CH.B.—W. Allan, W. J. Calder, M.A., R. W. Chalmers, W. Chapman, D. Cree, R. G. Davidson, H. Dugwid, R. W. Eddie, A. M. Geddes, W. I. Gerrard, Elizabeth McHardy, G. Macpherson, *c*G. S. Melvin, J. Rae, M.A., G. E. Shand, W. L. Stephen, F. W. Stuart, J. E. Thomson, R. Tindall.

c With second class honours.

The John Murray Medal and Scholarship was awarded to G. S. Melvin as being the most distinguished M.B. graduate of the year.

THE UNIVERSITY OF MANCHESTER.

ON Wednesday, July 28th, the medical graduation ceremonial took place in the Whitworth Hall of the Manchester University. The Vice-Chancellor of the University presiding. The following were presented for degrees by Professor J. Dixon Mann:

M.D.—*a*G. D. Dawson, *b*R. L. Ferguson, *b*A. E. Rayner, *b*Elsie M. Royle, F. P. H. Birtwhistle, T. M. Bride, H. R. Clarke, H. M. Crake, G. F. Porter, J. C. Smith, T. W. Walker.

M.S.—E. A. Smith.

M.B., CH.B.—*c*F. H. Diggle, *c*J. Gow, *c*T. T. Higgins, *c*H. Platt, H. E. Allanson, R. J. Batty, Elsie Brown, W. A. Bullough, S. J. Clegg, D. I. Connelly, N. M'Donald, S. Mahamadi, Edith M. Marsden, C. B. Marshall, G. E. Nicholls, A. A. Smalley, N. Tattersall, R. H. Titcombe, J. F. Ward, F. G. Wrigley.

a Awarded gold medals.
b Commended for thesis.
c Second class honours.

In a short address the Vice-Chancellor said that an important change had been made during the past year in the medical examinations. Hitherto the First M.B. Examination had been held in June or July, practically at the close of the academic year, but it had now been arranged that the greater part of the examination should be taken in March at the end of the students' first winter session. The result was to enable the student to take the examination soon after concluding his lectures in physics, organic chemistry, and biology. The organic chemistry could also be made of a more practical character, while the student would be able to begin anatomy in his first summer session. The Vice-Chancellor also referred to the great advantage that the medical school now enjoyed by the closer connexion with the great hospitals. The Manchester Royal Infirmary had made provision for students on a most liberal scale and the Eye Hospital had also excellent working arrangements. It was unfortunate that the new St. Mary's Hospital in Oxford Road, which was now finished, had not funds available to enable its admirable premises to be opened, the Whitworth Street Hospital was quite inadequate.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved in the subjects indicated:

SECOND M.B., CH.B. *(all subjects).*—G. S. Bate, G. E. Sawdon.

SECOND M.B. *(Anatomy only).*—H. Harrison, D. S. Jones, H. C. Wright.

THIRD M.B., CH.B. *(General Pathology and Morbid Anatomy).*—P. S. Green, W. H. Parkinson, J. P. Stallard.

THIRD M.B., CH.B. *(Pharmacology and Therapeutics).*—A. E. Ainscow, K. D. Bean, R. Brierciliffe, C. E. Butterworth, C. Davies, N. Dudman, A. W. Gaye, P. S. Green, H. Heathcote, A. H. Holmes, L. W. Howlett, R. C. Hutchinson, R. A. Jackson, R. B. Jackson, G. Lapage, W. H. Leslett, Jane C. Miller, M. Moritz, J. H. Nichol, W. Howarth Parkinson, W. Hoyle Parkinson, A. Reid, J. B. Scott, ***W. A. Sneath, W. Stirling, J. S. B. Stopford, G. K. Thomson, J. Walker, W. Warburton, Charlotte E. Warner, G. Whitehead.

* Passed with distinction.

THIRD M.B., CH.B. *(Public Health).*—A. E. Ainscow, K. D. Bean, R. Brierciliffe, C. Davies, N. Dudman, A. W. Gaye, P. S. Green, H. Heathcote, A. H. Holmes, L. W. Howlett, R. C. Hutchinson, R. A. Jackson, R. B. Jackson, G. Lapage, W. H. Leslett, Jane C. Miller, M. Moritz, W. Howarth Parkinson, W. Hoyle Parkinson, A. Reid, J. B. Scott, W. A. Sneath, W. Stirling, J. S. B. Stopford, G. K. Thomson, J. Walker, W. Warburton, Charlotte E. Warner, G. Whitehead.

D.P.H.—A. Baxter, F. Butterfield, R. J. Chapman, J. A. Fairer, D. P. M. Farquharson, C. C. Finlator, A. Grant, H. Herd, Harriet McCloghrey, Annie Mooney, Sheila M. Ross, Elsie M. Royle, B. Saul, H. G. Ward, H. Whitehead.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ORDINARY council, July 29th, 1909, Mr. Henry Trentham Butlin, D.C.L., president, in the chair.

Diplomas.

Diplomas of membership were granted to 86 candidates found qualified at the recent examination, and diplomas in public health were granted by the college in conjunction with the College of Physicians to 17 candidates found qualified at the recent examination. *(See list below.)*

Museum.

Mr. Cecil F. Beadles was appointed pathological assistant in the museum subject to re-election at the meeting of the council in July, 1910. Mr. Alban Doran was requested to advise regarding the gynaecological specimens in the museum in connexion with the revision of the pathological catalogue. An agreement between the college and the Royal Society of Medicine with regard to the odontological collection of the society was read and passed. By this agreement the above collection is to be transferred to the safe custody of the college. The specimens are to be kept with the odontological specimens already in the possession of the college as a separate series, and not dispersed through the museum. Mr. J. L. Payne, Mr. J. H. Mummery, Mr. W. A. Maggs, Mr. F. J. Bennett, and Mr. C. F. Billet were appointed trustees of the collection. An honorary curator of the odontological collection will assist in its maintenance and enlargement. All specimens added to the series are to become the property of the college; and, in the event of the society desiring the return of the collection, only the specimens found in existence at the time of transfer shall be returned, and not those added since the transfer. The college will be at liberty to terminate the agreement at any time after the expiration of five years on giving six months' notice to the society.

Egyptian School of Medicine.

Mr. R. J. Godlee was appointed visitor to the examinations of the Egyptian School of Medicine for the examinations to be held in December next.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Fellowship Examination.

THE following candidates have been approved at the examinations indicated:

FIRST FELLOWSHIP.—J. B. Dordi.

FINAL FELLOWSHIP.—J. Gordon, L. S. Machado, T. Murphy, F. Spicer.

CONJOINT BOARD IN ENGLAND.

THE following candidates, having been approved at all examinations, received the diploma of membership of the Royal College of Surgeons of England and the licence of the Royal College of Physicians of London on July 29th:

R. B. Abraham, G. G. Alderson, F. J. Aldridge, E. C. Alles, E. B. Anliott, F. L. Amdor, C. W. Archer, W. B. W. Aspden, J. D. Benjafield, R. H. Biarucha, T. K. Bonny, J. M. Brito-Salmon, S. S. Brock, A. J. Brown, W. H. Canaway, A. S. Cain, B. S. Carey, W. J. Chambers, K. S. Chasker, H. M. Cole, Constance M. S. Cowsslee, R. L. Crabb, J. W. Cropper, C. H. Cumin, F. J. Cutler, R. M. Dargan, G. V. Deshmukh, A. Maud Dew, E. S. Dewar, M. A. E. Dunivier, R. Fisher, R. H. Fisher, A. L. Fitzgerald, F. L. Foote, J. C. Fox, A. G. V. Freyer, S. Gerber, A. J. Grave, J. M. Hammond, T. R. Harvey, H. W. Hawksworth, J. S. Howard, A. H. H. Howard, D. Isaac, E. Jackson, G. Jefferson, T. J. Johnston, D. Kennedy, M. H. Langford, W. Leslie, E. L. F. Loney, J. T. Lloyd, H. McLean, R. B. S. Marshall, B. C. Maybury, E. Mayer, C. A. Meeden, J. C. W. Methven, W. J. Morton, J. A. Noble, P. D. Oakley, Paira-Mall, W. R. Parkinson, R. A. Parsons, F. C. Pridham, W. T. Quinlan, R. G. Riches, J. N. Robert, H. D. Rollinson, L. M. Routh, L. Russell, A. Roland T. Sicotegui, W. S. Simpson, H. Smale, W. J. Smith, W. D. Southern, C. G. Sprague, B. A. W. Stone, W. W. Treves, S. A. Vairakian, J. van Schalkwijk, J. M. Weddell, T. H. Whittington, D. P. Williams, S. S. M. Wood, C. R. Woodruff.

The following candidates have been approved in the subjects indicated:

FIRST COLLEGE.

PARTS I AND II *(Chemistry and Physics).*—A. D. Anderson, W. Andrew, *c*G. Aspinall-Stivala, *c*H. W. Barnes, G. A. Batchelor, M. Bayumi, *c*C. A. Bernard, *c*A. C. O. Brown, S. Caplan, F. H. Cleveland, G. M. Coope, *c*T. H. Cresswell, D. L. Davies, R. M. de Mowbray, E. R. Dermer, C. K. G. Dick, *c*A. J. Drew, S. E. Elphick, *c*C. L. Emmerson, *c*A. G. B. Fenwick, V. Fox, J. W. Gilbert,

E. W. Griffith, H. Gwynne-Jones, J. G. Hanafin, †W. R. H. Heddy, C. L. Herklots, R. B. Hick, †A. M. Hughes, F. E. Johnson, R. B. Johnson, J. Kinmear, F. W. Lawson, †C. G. L'Estrange, W. D. McDonald, †A. H. Manfield, R. C. Matson, C. J. D. May, †E. H. Morris, J. C. Mumph, †W. J. O'Kane, J. M. Parry, S. V. P. Pill, †K. C. Pitman, A. S. Plant, †A. A. Prichard, W. R. Pryn, G. Robinson, C. W. Roe, J. T. Samuel, C. P. C. Sargent, J. P. Shaw, R. V. Smith, V. R. Smith, F. L. Spalding, J. M. Stack, W. A. Stewart, G. Stoll, †W. H. R. Stower, †E. A. Sutton, F. Sykes, †H. J. H. Symons, T. H. Thomas, †E. G. Turner, †O. R. Unger, †A. R. Upton, C. N. Vaisey, P. P. Warren, †G. W. Watson, †G. H. D. Webb, †S. G. Wee, T. M. Wood-Robinson, F. V. Wynn-Werdinick.

* Passed in Part I only. † Passed in Part II only.

PART III (*Elementary Biology*).—A. W. C. Bennett, W. McH. Binning, S. Caplan, F. R. Chevreul, W. L. Cockcroft, D. L. Davies, J. E. Davies, R. M. de Mowbray, C. T. J. Drobig, A. Green, J. G. Hanafin, C. L. Herklots, A. M. Hughes, F. E. Johnson, H. D. Lamb, F. W. Lawson, A. H. Manfield, R. C. Matson, A. V. Moberly, A. S. Morgan, E. H. Morris, A. R. Muir, K. M. Nelson, W. J. O'Kane, W. L. Partridge, H. L. P. Peregrine, W. R. Pryn, P. J. F. L. Ralfini, du Vergé, C. A. Robinson, A. F. Salsbury, J. T. Samuel, V. R. Smith, F. L. Spalding, J. M. Stack, G. S. Stathers, G. Stell, R. R. Sy-Quia, C. N. Vaisey, V. C. W. Vickers.

PART IV (*Practical Pharmacy*).—W. G. E. Allen, E. B. Argles, E. W. Atkinson, R. A. Banbury, M. B. Barton, H. E. Bastard, W. A. H. N. Bell, H. J. Butterworth, R. B. Campion, K. B. Clarke, R. C. Clarke, F. H. Cleveland, R. W. Davies, W. A. Dunn, R. Gamlin, F. Garratt, S. S. Greaves, S. W. Green, J. Greene, E. J. Hallowes, W. H. Harris, J. G. Hanafin, W. R. H. Heddy, H. S. C. Hooper, J. Hughes, A. E. W. Idris, G. James, A. C. Jan, A. Jones, E. L. Jones, W. F. Jones, T. J. Kilard-Leevey, C. Kingdom, W. S. Leecy, J. G. L'Estrange, F. McG. Loughnane, J. M. McIntosh, R. V. Martin, W. G. Masefield, C. H. Medlock, F. Meinertzhagen, H. L. Messenger, J. Millard, J. Neal, J. H. Nicholson, H. B. D. Nicoll, J. M. Parry, G. S. Phillips, A. T. Pitts, G. W. Pool, W. A. Rail, H. J. Rawson, W. A. Reynolds, E. L. N. Rhodes, O. H. Richardson, G. D. Robertson, H. H. Shelin, J. O. Skee, E. J. Saddon, H. Steinbach, C. H. Symons, W. E. Tanner, A. R. Taylor, C. H. S. Taylor, F. C. Tibbs, J. St. A. Titmas, H. Topham, L. E. Van Geyzel, C. G. C. Vawdrey, F. H. Woods.

D.P.H. (Both Parts).—A. Allison, H. Barr, J. A. Beamish, H. B. Boles, C. H. R. Bradley, T. Evans, J. F. Barr, R. M. Feen, W. E. Fry, H. W. Harding, R. A. P. Hill, T. E. Holmes, H. E. Littledale, W. St. C. McClure, K. S. Mhaskar, R. A. O'Brien, P. W. Spaull.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—C. C. Forsyth, S. E. Jones, J. McCadie, M. R. Dalal, B. M. Nanavutty, W. K. Duncan, R. M. Feen, W. E. Fry, Neilson, C. H. N. Baker, Y. C. H. Dearden, J. M. Hiddleston, W. Ainsley, D. Chand, P. L. Manuel, A. Parker, J. B. Donaldson.

SECOND COLLEGE.—F. M. H. Sanderson, B. M. Nanavutty, H. W. M. Wallace, W. Elder, J. McFarlane, C. S. Ogilvy, W. C. Davis, N. S. Williams, G. E. H. Smith, R. Trotter, J. Mitchell, C. M. Willmott, W. S. Lindsay, H. A. Topalia, A. Hegarty, W. S. Durward, D. W. Woodruff, W. S. Rorich, R. Lockhart, W. L. Conilie.

THIRD COLLEGE.—M. B. Motafram, R. I. N. Martyn-Clark, E. D. Ellis, M. Greene, E. J. Fisher, P. C. Banerjee, E. F. Ghose, V. D. Nimbkar, H. E. K. Fretz, S. Hoashoo, H. G. Lamberty, C. K. Carroll, C. J. Evans, S. E. A. Achoeson, Z. A. De Cruz, G. F. Walker, P. G. Phillips, M. R. Dalal, R. L. Hughes.

FINAL EXAMINATION.—E. D. Ellis, J. Reid, A. J. Kelsey, F. W. Milne, W. G. Forde, J. J. Huston, J. Muller, H. G. Ramsbottom, W. Taylor, S. G. Tibbles, J. E. R. Ramdohll, E. Eccles, Maria S. Allen, K. Bhusham, E. W. Marsh, A. C. Tait, J. S. J. Stenhouse, J. K. Sharma, M. Henry, A. I. Luke, R. Massie, T. Sabastian, A. Singha, L. N. Robertson, N. C. Shierlaw, C. Trivedi.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

THIRD PROFESSIONAL.—*J. T. Duncan, A. E. Bedell, C. J. Bourke C. P. Corbett, J. Devine, I. A. Dowling, H. C. Gilmore, R. H. Hodges, C. J. Kelly, A. N. Lambkier, H. R. L'Estrange, H. M. E. H. McAdoo, P. McGrath, Miss A. H. Mullen, J. O'Kelly, W. A. Swan.

FINAL PROFESSIONAL.—*Miss A. H. Mullen, *H. S. Meade, R. H. Adams, F. H. Black, S. Blake, J. J. Corr, Miss I. M. Clarke, E. C. Deane, E. Dundon, J. Dunlop, J. W. Farrell, R. R. Fennsett, J. W. Flood, E. A. Gregg, F. N. Harvey, W. Hederman, L. C. Johnston, T. J. Lyons, E. C. MacDermot, D. McCormack, J. Marmion, J. Menton, J. J. Morris, J. J. O'Connell, T. P. Seymour, A. Sheridan, J. M. Smyth, P. T. Warren, Miss C. F. Williamson, R. S. White, O. W. J. Wynne.

D.P.H.—C. H. Browne, A. H. Hardcastle, W. W. L. McLean, C. D. Outred, J. L. Prichard, L. E. Smith.

* With honours.

APOTHECARIES' HALL OF IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST PROFESSIONAL.—S. Carroll, J. A. Moloney.

SECOND PROFESSIONAL.—G. M. Mayberry.

FINAL.—E. Murphy, J. Stuart.

Public Health
AND
POOR LAW MEDICAL SERVICES.

VENEZUELAN VACCINATION DECREE.

ON May 22nd last the President of the Republic of Venezuela, General J. V. Gomez, issued a decree dealing with vaccination. The official gazette publishes the terms of the decree, the main features of which are as follows:

Vaccination and revaccination are declared to be obligatory on all the inhabitants of Venezuela, and all children must be vaccinated before attaining the age of 1 year. If unsuccessful the first time it is to be repeated one month later, and again at the end of the year if the second vaccination is unsuccessful.

Revaccination is obligatory at the 8th year. If this should have no effect it must be repeated one month later and again at the age of 10 if the second attempt is unsuccessful. In the case of persons successfully vaccinated between the ages of 1 year and 20 years vaccination shall be repeated after the lapse of eight years from the first vaccination. Special provision is made for obligatory vaccination in the event of small-pox epidemics in any part of the country. The civil authorities are entrusted with the carrying out of the regulations through the Health Commission (*Juntas de Hygiene*): official vaccinators are appointed, but a person may employ the services of any doctor he may prefer. An institute of vaccine is to be established under the charge of a medical director appointed by the Minister of the Interior for the production and preservation of vaccine lymph, with a sufficient staff and all necessary apparatus for the preparation of lymph adequate for the needs of the whole Republic. Provision is to be made for the supervision of the institute and the inspection of the manufacture of the lymph. Doctors having private practices of their own may obtain gratis from the institute all the lymph they may require upon addressing a request in writing to the director. Sessions for the performance of gratuitous vaccination and revaccination must take place at least once a week in municipalities and parishes.

The health officers (Directores de Sanidas) in the ports shall not allow any passenger to disembark who is unable to produce evidence of vaccination successfully performed within the last eight years. No pupil who is unable to produce a certificate to the effect that he has had vaccination or revaccinated within the periods laid down in the decree shall be admitted to any public or private seminary. The penal causes enact that those of age and all parents, guardians of juniors, and heads of institutions who do not comply with the regulations or cause them to be complied with shall be liable to the following penalties: A fine of 50 bolivares for a first offence, and for every month that passes without the fault being remedied another fine to an equal amount or imprisonment of proportional severity at the rate of one day's imprisonment to 5 bolivares. The fines are to be imposed by the civil authorities, and devoted to the development of the Institute of Vaccine.

THE SANITARY AUTHORITY AND PRIVATE PRACTITIONERS IN CASES OF INFECTIOUS DISEASE.

GENERAL PRACTITIONER.—Under Section 131 of the Public Health Act, 1875, a sanitary authority may provide for the use of the inhabitants of their district temporary places for the reception of the sick, and under Section 133 they may, with the sanction of the Local Government Board, contract with any person to provide a temporary supply of medicine and medical assistance for the poorer inhabitants of their district. A medical man whose two scarlet fever patients were removed on the instruction of the medical officer of health to a tent erected close to the patient's home, and who continued his attendance because the patient's father refused to apply for an order for the parish doctor, ought to be able to convince a county court judge that the sanitary authority should pay for the attendance, notwithstanding the fact that no direct order for him to attend was given by the sanitary authority.

IN 1907, during the celebration in Mysore of the annual State ceremonial called the Dasara, a health exhibition was organized as a section of the Mysore Industrial and Agricultural Exhibition. The Sanitary Commissioner with the Government of Mysore (Lieutenant-Colonel J. Smyth, I.M.S.) is arranging to hold a similar exhibition this year, to be opened on October 11th. The main object of the exhibition is educational; the exhibits will be classified and their uses will be explained by a special staff. Foreign exhibits should be forwarded through Messrs. King, King, and Co., Bombay, or Messrs. Oakes and Co., Madras, and unless other instructions are given will be retained in the Health Museums of Mysore or Bangalore. Further information can be obtained from the Secretary of the Exhibition, Mysore.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

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2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

Disinfection of Rooms.

A CORRESPONDENT asks to be informed as to a spray apparatus for disinfecting rooms after cases of infectious disease. It should be capable of reaching the ceiling of lofty rooms without the use of a ladder, and should be portable.

Motor Cars for Medical Men.

CYMRO asks for advice in the selection of an 8 or 10 horse-power motor car for use in a rough hilly district.

Palatable Diabetic Bread.

CYMRO asks for suggestions as to a palable substitute for bread in diabetes?

*** Unfortunately diabetic breads are generally palatable in inverse proportion to their freedom from starch, but there has been a great improvement in such articles in recent years. Of course, there is no accounting for taste, and what one person likes another may declare to be uneatable, but we have found the Protene Company's diabetic biscuits, Callard's Casoid biscuits and Prolacto bread, and Peek and Frean's "Tilia" diabetic biscuits appreciated where it is necessary to give a diet containing a minimum quantity of carbohydrates. Where a certain amount of starch can be assimilated it is better to give a definite fixed quantity of ordinary white bread made into toast. It should always be remembered that the successful dieting of diabetic patients must be quantitative as well as qualitative.

ANSWERS.

LICENTIATE.—The degree referred to gives the same standing as that conferred in the usual way by an ordinary British university. It has the advantage over the other degree mentioned that it is registrable.

Meat Mincer.

DR. WILLIAM MAIR (Innellan) writes: "W. H." would probably find a Nye mincer useful. It can probably be obtained at any good ironmonger's: I know that it can be obtained through Messrs. Gray and Sons, George Street, Edinburgh.

DR. CHAS. H. CLARKE (Leicester) writes in reply to "W. H.": The masticator supplied by Westby, Humberston Gate, Leicester (5s. 6d.), would answer the purpose. I have three patients constantly using them. They are easily cleansed, not unsightly, and are used at the table.

La Bourbonne and Rheumatoid Arthritis.

DR. T. GERALD GARRY (Roncegno) writes, in reply to "P. J. M.," to say that excellent results are obtained at the natural arsenical iron baths at Roncegno, S. Tyrol, in the treatment of rheumatoid arthritis.

Necromancy, Charms, etc.

DR. PHILIP MIALL (Knaresborough) writes: If Dr. Simons consults *Primitive Culture*, by E. B. Tylor, he will find abundance of the information he wants, besides references to other works on the same subjects. *The Golden Bough*, by J. G. Fraser, will probably supply something.

Rodagen in Exophthalmic Goître.

J. D.—References to the use of rodagen (a white powder and tablets consisting of the dried milk of thyroidectomized goats, with 50 per cent. of milk sugar to improve its keeping qualities) will be found in the BRITISH MEDICAL JOURNAL, vol. ii, 1905, p. 1251, and vol. i, 1906, p. 326. (See also Martindale's and Westcott's *Extra Pharmacopoeia*, thirteenth edition, 1908, p. 903.)

Cocaine in Parturition.

DR. E. PARKER YOUNG (London) writes, in reply to "Stockton," that he has frequently used a 10 per cent. solution of cocaine soaked in cotton-wool and applied to a rigid os uteri with splendid results, the os dilating rapidly, and the patient able to bear down when the pains come on. He repeats the application occasionally as required, and has for years adopted the above treatment effectually.

DR. WILLIAM DONOVAN, M.D. (Birmingham), writes: May I venture to advise those who are thinking of using cocaine to relieve rigid os and other troubles arising in the parturient female to take *Mr. Punch's* advice to those about to marry —*Don't?*

DR. W. SMITH (Gateshead-on-Tyne) writes: "Stockton" will find the best results from cocaine in the cases he mentions if he uses it in conjunction with chloroform finally. I will give a description of a typical case in which I have used this combination: Primipara, aged 30. One is called at midnight and told that she has had pains for forty-eight hours, has lost two nights' sleep, is losing strength, and that the waters are broken, but the pains seem to be doing no good. On vaginal examination the os is felt to be about the size of a shilling, very rigid and hard, the waters are broken, and the head is in the first vertex position. The patient is very restless and irritable, asking somewhat forcibly if nothing can be done. She is kept in bed and given syrup of chloral 5ij. She will probably go to sleep and thus gain strength. On calling about four hours later the pains are more effectual, and the os is slightly more dilated. A 1-gr. suppository of cocaine is now rubbed well over the os, both inside and outside, and it is felt to dilate, sometimes in a manner which suggests a tear. The action of cocaine is to paralyse the nerve endings and thus abolish pain, and when the muscles do not feel pain they relax and dilatation is produced. A good dose of Bovril will now do good, and the head is soon on the perineum, and this looks like rupturing. Another suppository of 1-gr. cocaine is now used to it, and for about one-third inside the vagina, and the probability is that the child is born without a rupture of the perineum. Should this take place, it is an easy matter to stitch it, as sensation is abolished. In my opinion, the cocaine has again acted here by abolishing pain, and thus causing relaxation of the muscles. The advantages of this method are (1) a fairly strong and non-irritable patient, instead of a weak and irritable one; (2) no dilating bags are required, and thus one element of sepsis is done away with.

This is a typical case, but if forceps have to be used, these procedures tend to make it a less difficult task, and I have already mentioned the advantage in the case of a ruptured perineum. There is one disadvantage, not great, and that is that one's own finger becomes quite anaesthetic by the time the second suppository is used.

LETTERS, NOTES, ETC.

Corrections.

IN our report of the proceedings of the Central Midwives Board, on p. 181 of the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of August 7th, 1909, the third sentence of the leaflet on ophthalmia neonatorum begins "It generally arises," this should be "The disease generally arises."

IN the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 17th, page 178, column 2, line 21, the words "in the same part" should have been "in the same patient."

Intra-abdominal Haemorrhage Associated with Labour.

DR. PHILIP G. BORROWMAN, M.D. (Dunreggan, Troon) writes: With reference to Mr. Maurice Barber's case of intra-abdominal haemorrhage reported in the JOURNAL of July 24th, I remember twenty-six years ago receiving an urgent message to see a girl of 18 or 20 who had been taken suddenly ill. On arrival at the house I found that she was dead. I was told that while in apparently perfect health she complained of sudden pain in the lower part of the abdomen, became blanched, and fainted, and in a few minutes she was gone. At the *post-mortem* examination the abdominal cavity was found full of blood, and a longitudinal tear, about half an inch long, was discovered in the left common iliac vein. The vessel was apparently healthy, and no explanation was forthcoming.

Inoculation for Chicken-pox.

DR. JAMES C. HOYLE (Upham, Hants) writes: I cannot help thinking that Dr. Smallpeice's very interesting experiment related in the JOURNAL of July 31st, p. 268) does not prove as much as it might have done if one of the children had been inoculated on April 7th and the other not so treated. Then we would have had a definite example and a control case. The fact that the eldest child did not develop the disease at the same time as the youngest suggests a natural tendency to immunity in the absence of strict isolation, of which there is no mention; in fact, it is not certain that he

would have contracted the disease at all. Nevertheless, the value of inoculation—bearing in mind the case of the sister disease, variola—is worth remembering, particularly in severe epidemics.

RUBBER TUBING OVER URETHRAL DILATORS.

DR. W. S. DICKIE (Middlesbrough) writes: In the Memoranda on page 204 of the JOURNAL of July 24th there is a reference by Dr. A. MacLennan to the use of thin rubber tubing over the blades of Kollmann's urethral dilators. The use of these coverings has, I think, been customary for years, and the makers of urological instruments supply rubber sheaths in sizes to suit the various dilators.

AMENORRHŒA WITHOUT APPARENT CAUSE.

J. H. H. H. (Belize, British Honduras) writes: A. B., a Spanish woman, aged 35, first commenced to menstruate at 14½ years; three months later she was married. Her periods were quite regular until she was 20 years old, then she menstruated once every three months; when 24 years old they stopped entirely, and have been absent up to the present time. She is in excellent health. She has had no children, but sexual functions are good. She is magnificently built, and does not feel the slightest discomfort or pain at any time; she is robust, and far from anæmic. There have never been any signs of vicarious menstruation. A thorough examination revealed nothing abnormal. Entire absence of the menstrual periods for upwards of eleven years without apparent cause is most interesting, and the fact that there are no signs of constitutional disturbance goes to make this case unique.

AN OPERATION FOR VARICOSE VEINS.

MAJOR DUER, I.M.S. (Maymyo, Burma) writes: I saw this operation performed several times in the United States. It appears to have advantages, but I have had no opportunity of trying it myself. It requires one special instrument, which consists essentially of a wire ring about half-an-inch in diameter, set at an angle of about 120° on a slender shaft and handle of a certain degree of stiffness, about 18 in. long. It could be readily made out of a piece of moderately stiff wire. We will suppose the entire internal saphenous vein to be varicose. A small incision is made over the saphenous opening, and the vein is isolated and divided between two ligatures. The distal end of the vein is passed through the ring of the special instrument, which is then worked down subcutaneously along the vein, tearing through its tributaries, a manœuvre which is effected without difficulty. No appreciable amount of blood escapes from the ruptured tributaries. When the instrument has been worked down as far as can be done conveniently (a foot or more), a similar incision is made over its ring, and the isolated vein is withdrawn. It is again threaded through the ring, and the same procedure is repeated. In this way the entire internal saphenous vein is removed, only three or four small incisions being required.

COLD SPOTS AND TACTUAL SENSATION.

DR. JOHN J. HANLEY (Hull) writes: The following circumstance may prove more interesting to physiologists than to the profession generally, yet it will be noted as a possible basis for further observation bearing on the correlation of cold spots to tactual sensation. A patient of mine suffering from periodontitis, and who at my suggestion declined to have the tooth involved—the right upper lateral incisor—which had been but recently plugged with gold filling for a small cavity, extracted, as advised by his dentist, placed the matter entirely in my hands. My view that the tooth could and ought to be saved was justified by events. Owing to the great severity of the pain, I gave morph. sulph. gr. ¼ by the mouth hourly till the pain was moderated, so as to be just tolerable, prescribed hot antiseptic mouth lotions, and suggested, as there was a concomitant superficial facial neuralgia, the application of menthol in the form of the ordinary cone or pencil. At first the menthol gave the usual sensation of cold, but when five doses, that is, gr. ¾, of morphine had been taken, the patient observed to me that the sensation of cold seemed to no longer arise on using the menthol. I saw that the pupils were but moderately contracted, there was no drowsiness whatever, and just relief from the intense pain of the periodontitis. Thinking that tactual sensation was also abolished, due to the neuralgia or morphine, or both, I asked the patient to rub the menthol again. He did so, and said he could feel the rubbing "of course," but no longer did he perceive the cooling sensation so familiar to him. Time has passed, all pain has passed, and the tooth remains. I think that the sensation of cold is therefore not a quality of tactual sensation, as few I believe still advocate. In this case it was abolished, and the tactile sensation remained. Does it follow that morphinomaniacs are less sensitive to cold than others? The action of menthol on the skin, it is said, is due less to evaporation than to a stimulation of the cold spots in the skin, and as the cold spots are more numerous than the hot spots, its action is more readily appreciated. I hope that those who have large facilities for further observations on the interesting fact here noted will investigate the question further.

DISTURBED NIGHTS.

J. B. writes: In answer to "Night Bird," the same thing used to occur to me, as I had much night work early in my practice, and I found chloral hydrate 15 gr. dissolved in water by far the best thing. I tried sulphonal, and later on trional and veronal, but they were not so satisfactory as chloral. Of course, it is necessary to limit it to a safe dose. This never did me any harm, and preserved my health, for otherwise I was unfit for work the next day.

After a time my position improved, and I had less and less night work, and ultimately none. Nevertheless, sleepless nights occurred at intervals of about ten to fifteen days, and I continued the chloral. Later in life I noticed that it was producing slight conjunctivitis, chiefly evidenced by watering of the eyes when driving out, and I carefully studied the causes of the sleepless nights in order to get rid of the chloral. I found that one always followed a late evening talk with one particular friend, or indeed with any one lively, entertaining, and intellectual. I also noticed that when any night was going to turn out a sleepless one a heat seemed to rise in the body; I was conscious of a glow and unusual warmth about ten or fifteen minutes after lying down. I got my friend to come and see me in the afternoons, allured by a cup of tea and other inducements, and I took care always to be cool, or rather cold, for half an hour after lying down—only one thin blanket in summer and two in winter, with no counterpane. By thus preventing the occurrence of the heat I got rid of the necessity for the chloral.

Quiet evenings, with little or no conversation after eight o'clock, and a cool bed, will I believe cure most cases of insomnia, provided worry is absent. I find a little music conducive to sleep; it does not excite the brain like conversation, and diverts the mind from the thoughts of the day.

IS BRILLIANT ILLUMINATION DELETERIOUS TO THE SIGHT?

DR. ARTHUR TODD-WHITE writes: During the process of evolution of man and during the thousands or, according to most authorities, tens of thousands of years which he has taken to rise to his present state of civilization an interesting point arises: Has this evolution always been in the direction of advancement and improvement? I think that, at any rate in some ways at least, this is not the case; we often wonder how it is that the human infant is so helpless during the first few months after birth. Was this always the case or were the children of our primæval ancestors able to run about as soon as born? I think that probably this was the case. Civilization is affecting the sight; this especially occurs in urban districts where we live among houses and practically never, except on holidays, use our eyes for *distant vision*; moreover, the absence of green in our surroundings must be distinctly deleterious to vision. We ought to plant more trees and use green paint more freely. Many animals can see in the dark, and I am of opinion that this is one of the powers which we have lost and which must have been possessed in a high degree by our prehistoric man in the neolithic or cavedwellers, many of whom lived *in perfectly dark* caves or holes in the ground, this probably before the days of fire. There is little doubt those people did not have fires; even if they had, it would have been impossible to illuminate the caves in many cases by fire for fear of suffocation.

This may appear a trivial matter, but it all leads up to a very important question and one which is forced upon us by the number of people who to day require glasses—namely, is it better for the eyes to have a brilliant light or a more subdued light to work or read by?

Does the sight of a man who works beneath a brilliant light last as well as that of one who works by candle or some less powerful light, such as the miners who use candles or Davy's lamp?

How does the sight of the natives of a tropical or sunny country compare with that of the inhabitants of our own country? In Australia not only is there more sunshine but the atmosphere is clearer, enabling one to see great distances and to take much clearer photographs. If we find that our own people, living as they do in more brilliantly illuminated country, have as a race superior sight to our own, we can go ahead improving our already brilliant electric and gas lights; but if we find the sight of a race exposed to brilliant sunlight suffers, then how much worse must it be to be exposed to brilliant artificial light, and the human eye has not been *gradually* trained through the ages to stand the strain of such brilliance, and there is no doubt a point at which illumination reaches the maximum without strain on the sensitive retina; have we reached that point with incandescent lights, tantalums, osmiums, etc.? *I think we have passed it*, and still the cry "*more light*" comes, and the view is held that reading by a bad light, so-called nowadays, which would have been a good light 50 years ago is deleterious to sight; I doubt it; the "good lights" of to-day are *too good*.

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or in numbers.

A Lecture

ON THE

INFECTION OF CONSUMPTION.*

BY

C. THEODORE WILLIAMS, M.V.O., M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO KING EDWARD VII SANATORIUM, MIDHURST, AND THE HOSPITAL FOR CONSUMPTION, BROMPTON.

There are few subjects more difficult to deal with than that of the contagion of consumption, and yet there are perhaps none which call for more judicious and temperate handling. It is our duty to do all we can to protect the relations, friends, and attendants of the consumptive from danger, but at the same time we must not unnecessarily vex and harass him by cutting him off from all communication with his fellow beings and reducing him to the miserable condition of the leper of old.

There are many young men and young women in incipient stages of the disease who suffer but little from cough and have no expectoration: these carry out their occupations efficiently, and at the same time, especially if they have been inmates of a hospital or sanatorium for some months, live a hygienic life in their own homes and are gradually advancing to the condition of arrest. They often have been discharged from a sanatorium as fit for work and are probably now not infectious, or if they could carry infection, have been so carefully trained to deal with their secretions that danger from this source is practically eliminated. If, however, alarm is raised in the offices or institutions where they are employed, it might result in loss of occupation to these capable and active workers and their transference to the ranks of the unemployed, which would mean starvation to them. This is a very cruel proceeding, if unnecessary.

I propose in this lecture to examine the various sources of infection in pulmonary tuberculosis and to ascertain to what extent they are elements of causation or spread of the disease.

Husband and Wife Infection.

Sir Hermann Weber's[1] well-known cases, with those of Musgrave Clay[2] and of the Collective Investigation Record,[3] establish this form of infection beyond all doubt. I would shortly quote Wilson Fox's concise analysis of the evidence on this point, and some of his sensible remarks:

A. One phthisical man married several times, most of his wives becoming phthisical—13 cases.

B. Consumptive man, who died, transmitted to wife, widow infected second husband—3 cases.

C. Man infected wife and died. Widow re-married and also died of phthisis, as did her second husband after he had re-married. His widow lived and also married again, and her next husband died of phthisis.

D. Woman married in succession two phthisical husbands, and became phthisical after the death of the last—2 cases.

E. Wife, consumptive, died, having infected husband, who also infected a second wife—10 cases.

F. Consumptive wife before dying infected her husband, who later infected a second wife. This widow afterwards infected a second husband—1 case.

G. Woman died of consumption. The widower, not stated to be pathisical, married subsequently three other wives: total, four wives, of whom the first, second, and third died of phthisis, but the fourth wife, an apparently the husband, remained free from the disease.

In one out of three cases where consumptives married three wives, one wife survived, and out of nine cases where consumptive husbands married twice, the last wife survived in three instances, giving a total of thirteen husbands to thirty-one wives, of whom twenty-seven died and four lived in apparently good health. It would appear that the infecting husbands were often in an early stage of the disease when infection took place, and some survived their wives by many years.

Of course, in all these cases we must not lose sight of other sources of infection than coition, and must admit the possibility of the people living in insanitary houses containing tubercle bacilli laden dust on walls and floors, due to previous inmates having been consumptive and dirty, and we also know little about the adoption of measures employed to prevent contagion by inhalation or ingestion. In Sir Hermann Weber's cases the husbands appear to have been chronic cases of the disease in a quiescent state, and infection seems only to have taken place if the wives became pregnant, and then the disease assume a very acute form.

Infection through the Air Passages by Inhalation.

This, until recently, was generally accepted as the common method of infection of human beings, but as to the precise material of infection authorities differed, Flügge holding that it is by droplets which the consumptive expels during coughing, sometimes to a considerable distance from his mouth. These contain large numbers of tubercle bacilli, and are carried by inhalation into the smallest bronchia. Flügge[4] maintains that while infection of the lungs can take place through the ingestion of tubercle bacilli by the stomach, the commonest and most dangerous form is through the air passages. As regards the relative infective powers of pulverized dry sputum and spray, Flügge concluded from his experiments that "infection from pulverized dried sputum is doubtless possible; but it occurs relatively seldom, because particles fine enough to be readily conveyed by air can only be formed from completely dried sputum, and then in very limited quantities." B. Fraenkel's experiments on "droplets" are most interesting, and were carried out with great care.

Heymann carried out a most complete series of experiments to determine the local dispersion and limitation of the sputum drops.

He made consumptives cough on to glass plates, and from 4 patients he obtained abundant tubercle bacilli.

A patient was then placed for one and a half hours in an experimental chamber, in which plates were arranged in different positions to receive droplets. After the patient had left the chamber it was carefully closed and protected from sunlight for some hours. The deposits on the plates were then examined by inoculation experiments.

Where a patient held his handkerchief before his mouth when coughing it was found that out of 36 animals inoculated with material from plates taken out of the chamber, 11, or 30.5 per cent., were infected; and that of 34 animals inoculated from plates taken out of a chamber where the patient did *not* use a handkerchief, 24, or 70.5 per cent., were infected.

Heymann[5] found that infected particles are rarely carried more than one metre from the person coughing, so that protection against infection is easy to secure by keeping the patient at arm's length and by the latter using a handkerchief when coughing or sneezing.

The virulence of the tubercle bacilli from the natural spray, if kept in the dark, was lost within eighteen days at the most, but if exposed to the light was lost within three days. Heymann concludes that droplet infection is only operative in circumstances of closest intimacy, as in the intercourse of married people, of mother and child, among attendants on the sick and in factory rooms, workshops and offices. He is of opinion that spray and dust infection are equally important, one form taking precedence over the other according to circumstances.

Cornet,[6] in 1888, first clearly established that the dust in the vicinity of consumptives, especially dirty ones, frequently contains tubercle bacilli.

In England and among civilized nations more cleanly habits prevail than formerly, but as an instance of what is possible let me quote a letter just received from my friend, Dr. Quevli, of Tacoma:

During my eighteen years' practice in Tacoma, State of Washington, U.S.A., I have had quite a sprinkling of American Indians as patients, and the number of those suffering from tuberculosis was surprising.

My first visit to one of these tuberculous patients convinced me that their present mode of living was to a great extent the cause of it. The Indian to whose home I went was about the most intelligent of this tribe (the Siwash), and the patient was his wife. He, with his wife, two sons, and one daughter, live in a cabin about 16 by 20 ft., which was their only room. In one corner stood the cooking stove, covered by dirty utensils containing remnants of food, which would be eaten later on. In the middle of the room stood a table covered with dishes, which showed no sign of recent washing. On the floor in one corner lay a mattress covered by a couple of dirty blankets, which served as a bed for the boys, aged 8 and 14, while in

*This lecture was to have been delivered before the International Conference on Tuberculosis at Stockholm in July, but was omitted through the author being prevented by a severe accident from fulfilling his engagement.

another corner a daughter aged 16 slept in a small wooden bed equally dirty. In a double bed with its head placed in the centre of a wall lay the patient. This bed also served for the husband, and the bedclothes were exceedingly filthy.

The woman had been suffering from tuberculosis for over one year, and she died one month after my first visit. She used no cuspidor, and on each side of the bed were masses of old and fresh sputum, on which swarms of flies feasted. That this patient had not received proper food or care of any kind is a foregone conclusion. I immediately ordered the daughter to scrub the floor; the father and I assisted her. The few extra bedclothes they had were as filthy as those on the beds, so no improvement could be made in that way.

On leaving I gave orders about cleaning and keeping the house in a sanitary condition. I came back in one week, and found that few, if any, of my orders had been followed. On the floor on either side of the bed were masses of sputum, and everything else about the same as before. I made two more visits before she died, but could do very little with them, except to enjoin that they must be careful with the sputum and follow the directions that the doctor usually gives in a tuberculous case.

Within three years the eldest boy and the daughter died of the same disease. I have had very nearly the same experience with most of my other Indian patients, and other doctors have told me that theirs have been about the same.

Tuberculosis is common among the Indians, and still more among the half-breeds of North America.

Most of the Indians, as a rule, besides being filthy, are also very improvident, using their means lavishly as long as they last, and, as a result, often for a long time they must live on poor food. Liquor—when it can be obtained—also plays a big part in ruining their constitutions.

In seven hospitals where consumptives had beds the dust was inoculated by Cornet into 94 animals, and 21.3 per cent. of these became tuberculous. In the dwellings and workplaces of consumptives 62 tests were made on 170 animals, and in 20 per cent. tuberculosis was produced.

Coates[7] and Delépine found the dust of the dirty houses of consumptives, who used no precautions, capable of inoculating animals with tubercle in 66.6 per cent.

Niven also obtained similar results from the dust of dirty houses in Manchester.

With regard to the above important chain of evidence as to the probability of the infection of human beings through the air passages by inhalation there are two weak points. The proof of infection is based entirely on the inoculation of guinea-pigs, and not on instances of infection of human beings, by the entry of the tubercle bacilli into the air passages, which would be evidence not to be gainsaid. Secondly, we know that tubercle bacilli will enter the nasal cavities of healthy persons, and have been detected there by Strauss, for instance, in students attending the wards of the Charité and Laennec Hospitals in Paris, and among orderlies attending the consumptive wards.

But the tubercle bacilli appear to do no harm to these persons, probably because the constitutional resistance is too great to allow them to settle and multiply, which demonstrates how important a factor in the struggle the resisting power of the constitution or system is, and how much can be accomplished by assisting or supporting the same. When we reflect that the dust in our railway carriages, omnibuses, and trams is found to contain tubercle bacilli,[8] we must admit that the opportunities of inhaling it are not small.

According to StClair Thomson, in the healthy nose most of the bacteria inhaled are immediately stopped at the nostrils and the penetration of dust into the lungs is opposed in various ways, and is by no means easy. Angles are met with in the nostrils, the nasal cavities, the pharynx, and even in the larynx and bronchi, which oppose the full entry of the dried sputum into the alveoli, but perhaps the greatest protection is to be found in the structure of the trachea and primary bronchi. In the trachea a triple layer of columnar epithelium, the upper one furnished with cilia, promoting a strong outward movement, forms an important defence against intruders. The effect of this is to be seen when a crumb of bread goes the wrong way, or a little dust is inhaled, the reflex irritability is excited, and after a fit of coughing and sneezing the offending particles are speedily expelled.

Many years ago[9] I made a series of experiments on the introduction of various medicinal substances into the lungs, and I was able to show that it was very difficult to reach the lungs in this way, whereas through swallowing, by the stomach or by hypodermic injection they could be easily reached.

Though it is improbable that inhalation is the principal means of lung infection, there is every likelihood of some infection taking place through the upper air passages, and that the bacilli enter the lymphatics of the mouth and infect the lymphatic glands of this region and the tonsils, which are often the seat of tubercle. The frequent occurrence of strumous submaxillary and cervical glands may be due to this cause.

INFECTION THROUGH THE INTESTINES.

The question of the path of infection in pulmonary tuberculosis, whether by the lungs or the intestines, so ably discussed at the Conference of Tuberculosis at Vienna, has been definitely settled by the epoch-making experiments of Calmette, Guérin, and Breton, extended by Vansteenberghe and Grysez, and confirmed by a most interesting series, carried out on guinea-pigs, by Sir William Whitla and Professor Symmers of Belfast.[10] Finely divided emulsions of living bacilli ground up in an agate mortar with decoction of linseed were injected into guinea-pigs' stomachs, and were absorbed by the intestinal surface, producing extensive tuberculous deposits in the mesenteric glands, in the lungs and other viscera. When the animals lived beyond thirty days, the lungs were invariably found to be studded with caseous tubercle, and the broncho-tracheal glands also suffered. In the guinea-pigs which survived the injections from fifty to sixty days, the deep cervical glands were nearly always found to be decidedly tuberculous.

The involvement of the cervical lymphatics is of the utmost importance, as the usually accepted theory is that when these glands are found to be tuberculous in the human subject, they prove that the bacilli have effected an entrance through the mucous membrane of the mouth, tousils, or pharynx. A subsequent experiment by Calmette and his fellow workers, of injecting tubercle bacilli through a tube into the stomach of a guinea-pig, and killing the animal in ten days, showed the infection of the whole lymphatic system.

We know now, from the researches of Nicholas and Descos, Ravenel, Römer, von Behring, and others, that the tubercle bacillus can pass through the intestinal mucous membrane without causing any lesion or leaving any local evidence of its point of entrance.

Thus the possibility, and, indeed, probability, of the lungs and lymphatic system being infected through the intestines is proved without doubt, and the converse—that is, the improbability of lung infection by inhalation—is shown by an instructive experiment by Vansteenberghe and Grysez, who submitted rabbits and guinea-pigs to an atmosphere laden with fine carbon particles by keeping them in a glass cage in which a lamp fed by turpentine was burning. The upper air passages were found laden with carbon, some of which had also found its way into the pulmonary alveoli when the experiment was of long duration, but in no case was carbon found in the parenchyma of the lungs, and in the rabbit, which breathes through the nose, the carbon particles were never found to have reached even as far as the trachea. In another experiment with the carbon vapour one bronchus was plugged with cotton-wool and the other left free. The animal was exposed to a prolonged inhalation of carbon dust with one lung shut off from the air and the other exposed to it. The animal was killed and both lungs carefully examined. It was found that the free lung showed carbon deposits in the bronchi and in the external portions of the alveoli, whilst the lung isolated from the carboniferous atmosphere manifested intra-parenchymatous deposits, the alveoli and bronchi being free.

These observers were therefore justified in their conclusion that physiological anthracosis is due in such cases to intestinal absorption of particles arrested in the nasal and pharyngeal passages and afterwards swallowed with the saliva and nasal mucus, to be carried to the pulmonary parenchyma by the blood stream.

The most important item in this form of infection is that of milk and meat, and after the conclusive evidence of the British Royal Commissioners, confirmed by numerous other authorities, there can be no longer any doubt as to the danger to the human body, and especially to children, from bovine tubercle bacilli contained in milk. The danger of infection from the meat is not so great.

Infection through the Skin and Mucous Membranes by Wounds.

This is not a common method of infection, but sundry cases are on record which prove its possibility and indicate the undoubted danger from that source. A well-known instance was that of a nurse who accidentally cut her hand when she broke a spittoon containing tuberculous sputum, and was infected therefrom, and died eventually of phthisis.

At all the consumption hospitals certain porters are told off to destroy the sputum and sterilize the vessels containing it. In spite of every precaution being taken to prevent infection, these men occasionally get infected, generally through neglect of the proper precautions. At the Brompton Hospital there have been several cases, of which Mr. Stanley Boyd has published some examples;[11] later on I will give some cases.

Hospital Infection.

In August, 1882, shortly after the discovery of the tubercle bacillus by Koch, I read a paper at a meeting of the British Medical Association at Worcester on the "Contagion of Phthisis," which was[12] afterwards reprinted and had a large circulation. It was also translated into various languages. The paper contained the experience of the Brompton Hospital staff as regards the infection of phthisis for the first thirty-six years of the hospital's existence, the statistics being prepared by the late Dr. Cotton, Mr. Virtue Edwards, and myself, and related to several hundreds of individuals. This paper was very well received at the Worcester meeting, and at a later date was quoted by Dr. Wilson Fox, Professor von Hirsch, and Dr. Bulstrode as sound evidence on the subject.

Dr. James Andrew gave similar evidence with reference to the staff of the Victoria Park Hospital, and Dr. Robertson as regards the Ventnor Hospital, Isle of Wight. I was under the impression that the evidence of these great institutions, the largest in England, carefully collected by skilled observers, and all coinciding in the same conclusions, had settled the question of the rarity of infection to the resident staffs of hospitals from consumptive patients, but Dr. Arthur Newsholme, in a recent work,[13] has thrown doubt on these statistics as proofs of the rarity of infection in hospitals, and describes them "as examples of investigation in which the data are, possibly owing to insuperable difficulties, incomplete, and insufficient to justify any dogmatic statement."

I will now deal with that phase of Dr. Newsholme's objections which calls in question the after-histories of the Brompton Hospital staff. He says: "It is not certain how thoroughly the subsequent history of workers in those hospitals was traced. It is likely that such workers as had died were less completely traced than those still alive."

My paper states: "Of the four resident medical officers who have held office from 1846, when the hospital was founded, to 1882, all are alive and tolerably well. Mr. Virtue Edwards held the post for twenty-five years without any symptoms of lung disease, and still enjoys good health. Of the others, two showed at some period of their residence signs of hospitalism but none of consumption."

As regards the clinical assistants, or, as they are now called, "house-physicians," I state that of 150, 8 became consumptive at some time or another of their lives, and 5 died. The histories of the first 75 were traced by Mr. Virtue Edwards, who knew most of them during his long term of office, and kept them in view afterwards, and are as follows: Of the first 16, 1 became consumptive, of the next 59, 4 became so, but none of them, according to Mr. Virtue Edwards, showed any sign or symptoms of the disease during their residence of six months in the hospital. The history of the last 75 was investigated by myself, and I traced them all but 3. Of these 72, 1 had died from other causes than tuberculosis, 2 had died of consumption; the first of these had haemoptysis previous to residence, and in the other case the disease came on one, if not two, years after leaving the hospital, the clinical assistant being quite well during his term of office. Another, who was overworked, became consumptive while in the hospital, but has since recovered. The remaining 69 (including the last mentioned) are all well, and actively engaged in practice, many of them holding distinguished positions in the medical profession."

I do not propose to go into all the categories of those serving the hospital, but I think enough has been stated to prove that the evidence at my disposal was sufficient, and that the after-history of all these members of the resident medical staff was, with few exceptions, carefully and successfully traced.

It is quite possible that some of the 8 cases of consumption among the 150 house-physicians were due to hospital infection which developed at a later date, but what is that number in proportion to the total?

It would have been impossible to have investigated the after-history of many of the resident staff, if the hospital had not had the advantage of Mr. and Mrs. Virtue Edwards's valuable assistance, the former having been resident medical officer for twenty-five years, and the latter matron for twenty-four years, both keeping records of almost all the members of the staff and household.

Professor Cornet[14] also objected that the numbers of our statistics were too small, and that in the second place the persons constituting the material were kept under observation for far too brief a period. I cannot admit that 377 is a small number of persons to be exposed to infection, most of them for years, and the critics seem to have overlooked the fact that all the medical officers held office for at least six months and many much longer, and that we gave a complete history of the majority up to date.

I propose now to give some statistics of the Brompton Hospital medical staff resident *since 1882*, the date of my previous paper.

The hospital has largely increased its number of beds, and instead of 240 beds, to which my last statistics related, it numbers 318, while the Frimley Sanatorium has added another 140 beds, making a total of 458 beds. This increase in the patients has necessitated augmentation in the resident medical staff at the hospital and of new appointments at the sanatorium.

It is impossible to give complete statistics of the nurses and servants on account of their short periods of service and the frequent changes. There are, however, a number of nurses, and especially of sisters, who have been in the hospital for many years, some twenty-five, some twenty years, and the occurrence of infection of phthisis among them is almost unknown, but the newcomers do not remain long and are difficult to trace. I do not, therefore, intend to include the nurses, but to speak chiefly of the medical officers.

Resident Medical Officers.

Since 1882 there have been eleven whose period of office has varied from one to five years. Two have died, one from brain disease during residence, and one from pneumonia several years after leaving. The rest are well and actively engaged in different departments of practice, never having shown any symptoms of consumption either during their term of office or subsequently.

Assistant Resident Medical Officers.

Omitting those who only held office as substitutes or for quite short periods, there have been fourteen since 1882. The duties of this officer are to assist, and if needs be to act as substitute for, the resident medical officer, to assist in *post-mortem* examinations, and to draw up the hospital medical reports.

The assistant resident medical officer is generally selected from former house-physicians. None of the fourteen died during their residence in the hospital, which varied from three months to five years, but one contracted phthisis from a *post-mortem* wound during his term of office, and recovered completely under sanatorium treatment.

Five at a later date became resident medical officers, and of these two died (not of tuberculosis), but their deaths are included in the statistics of resident medical officers. The rest are all living, and busily engaged in the practice of their profession.

House-Physicians and Clinical Assistants.

Since 1882 there have been 181 of these officers, who are young qualified medical men residing in the hospital for six months, and during that time engaged in the treatment of patients and in recording cases.

I have succeeded in tracing 176 out of 181, and so will confine my statistics to this number.

None of these house-physicians died or showed symptoms of consumption during their residence, but in some instances they became consumptive later. Twelve have died since quitting the hospital—1 of apoplexy, 1 of appendicitis, 2 from enteric fever, 1 from pneumonia, 1 from pleurisy and pulmonary oedema, 1 from septic poisoning after a dissecting wound, 1 from an overdose of morphine, 1 from causes not tuberculous. One became resident medical officer and died from an acute non-tuberculous brain attack. Two became medical officers of a Poor Law infirmary and of a hospital respectively, and both died of phthisis some months after leaving the Brompton Hospital. It is possible the disease may have been contracted at Brompton, or else in the hospital and infirmary in which they died, in both of which institutions cases of advanced consumption were admitted. One house-physician became consumptive fourteen years after residence, and has quite recovered. Another became consumptive four years after leaving the hospital, and has recovered.

At the Frimley Sanatorium, opened five years ago, there has been one medical superintendent and four assistants in succession, all of whom enjoy good health. They have held office on an average for one year.

Porters.

There have been 57 resident porters and 79 non-resident since 1882, and of this number 6 have become affected with consumption and 3 of these have died. Three porters are told off to assist in the sterilization of the linen and in the destruction of the sputum, and are called sterilizing porters, and the three deaths include two of these, of whom I will give a typical case later. The other porters are employed in various occupations, but whether resident or non-resident, they all have to go into the wards from time to time to carry food, medicines, parcels, and at times patients. One porter acts as storekeeper, and of these storekeepers two in succession have been attacked with consumption and one died. The present storekeeper has been affected, but has recovered and has returned to duty.

Pathologist's Assistants.

These assist the pathologist in performing autopsies and making preparations for the museum. There have been four since 1832, of whom one has been affected with consumption, whose case is given below.

Physicians and Assistant Physicians.

There has been no case of consumption among the physicians since 1882; among the assistant physicians one has died of consumption. His lungs were affected before he was appointed, and he was only a few months in office.

Dispensers.

There have been twenty-three dispensers since 1882. These have to supply medicines to the out-patients through a hatch wall, and have nothing to do with the in-patients, as the medicines are conveyed to the wards by nurses and porters. None of these have been infected.

I will now give details of the two cases of infection alluded to before.

CASE I.

Alfred B., aged 41. No consumption in family.

History.

For twelve years served in the navy, and during the last seven years has been indoor porter at the Brompton Hospital, and enjoyed good health till February, 1903. His duties lay principally in the sputum and sterilizing departments, which he entered in April, 1896, and these duties were (1) to carry the mattresses of patients who had died of phthisis and the sheets and bedding of bad cases from the wards to the disinfector, all these being conveyed in bags, passed through the sterilizer, and returned to the wards in bags. Here the only possible period of infection was when these articles were removed from the bags and passed by hand into the sterilizer. The trays for the sputum cups were also placed in the sterilizer. (2) On Sundays (that is, on two out of every three) he had to remove the sputum cups from the galleries and convey them by lift and trolley to the sputum room. There the sputum was emptied from the cups into the steam boiler, and the cups having been washed with soda and water, were all sterilized by steam. For the handling of the cups india-rubber gloves are provided, and B. maintains that he always used the same.

In February, 1903, he complained of pains in his back, and was treated by the resident medical officer, Dr. Shrubsall, for lumbago, which subsided under appropriate treatment. He remained at work till June, when Dr. Shrubsall saw him again, and, examining his chest, detected slight signs of tuberculous disease. He was ordered to bed in the hospital, though he had no cough, and after two months' treatment he greatly improved, and gained 5 lb. in weight. In August he was sent to Frimley Sanatorium, where he remained four months, and, being put on walks and graduated labour, rose to the third standard of the latter, and was discharged as fit to return to work. At the end of November, 1903, he resumed his duties at the sterilizer and in the sputum room, and remained at this occupation till February, 1909, keeping well, but was then transferred to the lighter and more wholesome occupation of cleaning windows and sweeping the garden walks. Cough commenced during his stay at Frimley, and has continued ever since.

Present Condition.

He is much emaciated, especially over the thoracic walls. The chest is narrow and poorly developed. There are hectic spots on the cheeks, though the mouth temperature is subnormal, 97.1° F. Appetite good. Weight, 9 st. 2 lb. Pulse 96. Deficiency of movement over the front chest. On the right side of the chest crepitation is heard to the fourth rib, also above the scapula; dulness and bronchophony are detected to third rib. On the left side there are some wheezing sounds, but no dulness. Crepitation under the left clavicle can be detected.

This is a remarkable case of infection, because there is no proof, in spite of his occupation, of any wound in his hands through which the system might become infected. Infection must therefore have taken place through the lungs or stomach, by inhalation or swallowing the dried sputum. After the experiments of Ernest Oberworth and Lydia Rabinowitsch[15] on sucking-pigs, which show that tubercle bacilli pass directly from the intestines into the lungs, it is more probable that infection followed the swallowing of dried and powdered sputum rather than inhalation of the same, but we must not lose sight of the possibility of infection by the skin in a case where the hands come into play.

CASE II.

J. M., aged 71, formerly in the Indian Army Medical Service and for twenty-one years assistant to the pathologist of the Brompton Hospital. Here his duties consisted of performing autopsies, and specially of opening and sewing up the bodies of consumptives and others who had died in the hospital, and also of staining specimens of sputum and cutting lung sections. In the examination of the tuberculous sputum one day, to quote Mr. Stanley Boyd's excellent account of the case,[16] "he employed a steel pen to spread it upon a covering glass, and left it projecting beyond the side of the table and brought his hand forcibly against its point. The nib was driven into the proximal end of the flexor sheath of the ring finger. This occurred in the middle of June, 1900. He immediately tried to introduce fuming nitric acid into the wound caused by the pen, and possibly disinfected the *surface* by this means but not the *depths*. A hard lump gradually formed in the palm and extended down the ring finger, which became flexed, stiff, and painful. He was treated by means of a palmar splint, and was sent to Brighton for some weeks." He did not improve and returned to London.

In August Mr. Stanley Boyd found the finger contracted, and that the middle and little fingers also were being drawn down into the palm. "A long, low, tense swelling occupied the whole length of the flexor sheath of the ring finger. The diagnosis was tuberculous tendo-synovitis." Mr. Boyd split the tendon sheath almost completely open and cut down on to a quantity of granulation tissue, which showed no cheesy degeneration and was not vascular. The whole of this was removed and pure carbolic acid applied to the surface of tendon and sheath. He also removed a superficial gland. The result was absolutely satisfactory. Six months after the operation he was quite well, and although extension of the finger was somewhat limited by the long longitudinal scar on its palmar aspect, he enjoyed fair use of his fingers, and there had been no recurrence of the disease. A section of the granulation tissue removed showed several giant-cell systems in great perfection.

In April, 1904—or nearly four years from the date of the infection—cough and expectoration came on, attended by general malaise though not by fever, and he was admitted into the Brompton Hospital in May, when the sputum was found to contain tubercle bacilli. He had wasted very much. He improved considerably, gained flesh and strength, and after ten months' residence was discharged free from cough. The sputum had been examined several times, with negative result.

May 18th, 1909. I examined M. and found him fairly well. He had retired on a pension from the hospital, and seldom had

cough or expectoration; the last specimen, examined some months ago, gave negative results. His weight was 10 st. 8 lb. The left chest gave a smaller measurement than the right by ½ in. at the level of the third rib, and of 1 in. at the level of the fifth rib. There was marked dullness in the first interspace on the left side and bronchophony from the clavicle to the third rib. The palmar cicatrix was quite healthy.

There is but little doubt that this man was inoculated by the pen containing sputum, and that he suffered afterwards from tuberculous teno-synovitis, for the tissue removed by Mr. Boyd was of a distinctly tuberculous character—witness the giant cells found therein—but the curious feature of the case was that nearly four years elapsed before the lungs showed any symptoms of being attacked. We are driven to one of two conclusions: Either that the infecting material—that is, the tubercle bacillus—had been carried to the lungs through the lymphatics, and had remained dormant for years, until a depressed condition of the patient determined its manifestation, or that there was altogether a fresh infection.

Either of these is possible. In favour of the first there are many instances of caseous lymphatic glands being found in autopsies, which have given rise to no symptoms during life, and whose existence was unsuspected, and we know that the connexion of various parts of the body with the lungs through the lymphatic system is intimate and extensive. In favour of the second, it must be admitted, a pathological assistant at a hospital for consumption has abundant opportunities of fresh infection unless he scrupulously observes every precaution. The use of india-rubber gloves, which are indispensable, is not always carried out, and operators, when they want a firm grip of certain parts of the cadaver, sometimes for a while dispense with them, thus exposing themselves to grave danger. There are many instances of infection of the tendons of the hands with tuberculosis where a servant has broken the sputum receiver of a consumptive and got some of the sputum into her hand, and I would refer you to Mr. Stanley Boyd's paper for the same.

But to return to the Brompton statistics for the last eighteen years. Among the resident medical officers there were no cases of consumption; among the assistant resident medical officers one (from inoculation), and among the house-physicians none were affected during residence. Two subsequently died of acute phthisis, when holding resident appointments in hospitals where cases of consumption are admitted, and one was attacked with consumption fourteen years after he left the hospital, and recovered.

The figures do not testify to much danger of infection to those who have the care of consumptives, but show that with proper precautions such service is quite safe. At the same time occurrence of tuberculosis among the porters, especially among those who handle the sputum, demonstrates where the true danger lies, and inculcates the importance of dealing effectually with this element of danger.

These statistics are even more favourable than those of the Brompton Hospital published by me in 1882, and this might be expected under the circumstances, as the hospital has greatly improved its accommodation and built a fine sanatorium for early cases.

Saugman[13] gives some valuable statistics as regards infection of medical men engaged in sanatorium work, and he notes that in answer to inquiries he found very few medical men wore masks or took special precautions during the throat and lung examinations of their patients. Saugman applied to 112 institutions, and received answers from 65 sanatoriums in Germany, France, Austria, Hungary, Switzerland, Norway, Sweden, Holland, and Finland. Saugman only included doctors who had resided in the sanatorium and treated patients for at least three months, and he excluded six who were exclusively engaged in bacteriology. Out of 289 from whom he could obtain information, 107 had been previously tuberculous and 182 regarded themselves as healthy. Saugman excluded from his figures any doctor who had been tuberculous before entering the sanatorium, if the disease had shown a fresh outbreak in the sanatorium. Of these 107 old cases of tuberculosis 1 died of cancer of the sternum, 16 died of tuberculosis, 9 still show signs of tuberculosis, and 73 are healthy. The average period of duty of these doctors in an institution was three and a half years, and the average period under observation till death, or up to 1902, the date of the report, was six and a half years. Among these old cases of tuberculosis was one in which fresh symptoms appeared while in the sanatorium, which were found to be due to the presence of the Timothy bacillus, not of the tubercle bacillus. There was one instance of fresh infection in a second medical officer, who had laboured nine to ten hours a day for two and a quarter months among very bad cases. Of 174 healthy doctors who had spent an average of three years in a sanatorium and whose after history was traced for three and a half years, 2 or 3 were attacked with tubercle but quite recovered, and not one had died of tuberculosis; 5 died of other diseases, and 166 remain quite healthy. Saugman also gives statistics of 66 throat specialists from eight clinics, from which he had obtained facts. One previously tuberculous is, after seventeen years of great activity in laryngeal practice, in excellent health. The rest have been for a period of four years engaged in laryngeal work, and have never suffered from tuberculosis.

The result of these statistics showed that two or at most three of the 174 sanatorium doctors were affected with tuberculosis—that is, 1.78 per cent.—and none of the sixty-four laryngologists suffered at all.

I have reviewed the principal methods of infection in consumption and endeavoured to assign to each its proper value as an etiological factor, but when this is accomplished, it will be found that there is something behind all these factors, in the individual strength of constitution, on which mainly depends the question of infection or non-infection. The healthy individual can defy the tubercle bacillus, the same person depressed by want, impure air, or recovering from acute disease cannot, and falls a victim to his attack. But under improved conditions his constitution may rally, and after a long struggle overcome and expel the invader.

Concerning the sources of infection, ingestion of tuberculous material by the intestines is the commonest, inhalation by the air passages comparatively rare, except that which occurs in the upper air passages, affecting the lungs through the lymphatics. Infection through wounds of the skin and mucous membrane is not common, but occurs among those who handle sputum and other tuberculous material where proper precautions are omitted.

Infection by coition, though it occurs occasionally, is rare.

Finally, all infection from consumptive patients can be avoided if the well recognized precautionary measures are adopted and carried out thoroughly.

I must thank several former resident medical officers, Drs. Waugh, Felkin, Paterson, and the present resident medical officer, Dr. McNalty, with the secretary, Mr. Frederick Wood, for much assistance in the preparation of the recent Brompton Hospital statistics.

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Next year a Japan-British Exhibition will be held at the White City, Shepherd's Bush, and an appeal, signed by Prince Arthur of Connaught, Honorary President, and the Duke of Norfolk, President, has been issued to British manufacturers and art owners to help in making the exhibition representative.

Among certain new regulations issued by the Board of Health in Boston, U.S.A., relative to the conduct of the milk trade, is one which provides that on and after January 1st, 1910, all milk sold elsewhere than in hotels and restaurants shall be delivered in tightly-capped receptacles of a pattern approved by the board. Another regulation, which comes into operation immediately, forbids the sale of milk in the same room in which it is bottled, and prohibits any mixture of milk with skim milk or condensed milk, or water, for the purposes of sale, except in the preparation of modified milk.

Three Demonstrations
ON
CONGENITAL MALFORMATIONS OF PALATE, FACE, AND NECK.

GIVEN AT THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

BY

PROFESSOR ARTHUR KEITH, M.D., F.R.C.S.ENG.,
CONSERVATOR OF THE MUSEUM.

III.—MALDEVELOPMENT OF THE EXTERNAL EAR.

In Figs. 21, 22, and 23 are represented the more common forms of accessory auricular appendages. Fig. 21 is from one of the five examples in the college collection. There is here a very distinct arrest in the closure of the first visceral cleft on the sides of which the external ear is formed. The tragus, antitragus, and meatus are pulled towards the chin. The condition was associated with double cleft of the palate and absence of the auditory nerve. In all the three specimens figured the tragus is subdivided, each half projecting as a separate process to a varying degree. A process derived from a subdivision of the tragus is the most common form of auricular appendage. An appeal to comparative anatomy has provided no explanation to the condition. Another very common form of appendix is that shown in Fig. 22, c. It projects from the skin immediately in front of the ascending crus of the helix; when dissected its base is found to be connected with the ascending crus of the helix and to represent the spina helicis, which is usually buried in the subcutaneous tissues, but here projects on the surface. The pendulous process on the cheek (see Fig. 23) is also a form of auricular appendix. There are three specimens in this museum, and I have seen two others. The cheek appendages occur along the line marked in Fig. 23, a line represented by a fissure in cases such as those published by Mr. J. H. Morgan[1] and Dr. Edginton.[2] They are pendulous bodies, consisting of a fibrous core covered by skin. In two of our specimens we found a slight cartilaginous rod in the subcutaneous tissue at the point of attachment of the appendix, passing from the base towards the ear, showing that the cheek processes are really detached elements of the ear. As to the meaning of auricular appendages, I am altogether uncertain; all the specimens in museums show that they are associated with grave malformations, such as club-foot, cleft palate, atresia ani, spina bifida; the cause of the one condition is evidently the cause of the others. Auricular appendages, if they occur alone, are signs of an inherited tendency to grave malformation. The fissures which pass from the angle of the mouth to the ears, the processes which occur on the cheek, and the ventral extension of the tragus (Fig. 21) are probably caused, as Ballantyne has inferred, by the occurrence of amniotic adhesions.

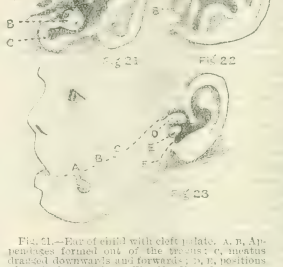


FIG. 21.—Ear of child with cleft palate. A, B, Appendages formed out of the tragus; C, meatus dragged downwards and forwards; D, E, positions of auricular fissulae. FIG. 22.—Ear of an anencephalic fetus, showing A, B, appendages developed from tragus; C, from spina of helix. FIG. 23.—A, B, C, Position of cheek appendages, along the position of a latero-auricular cleft; D, E, appendages of the tragus; F, position of first visceral cleft (from a photograph in the possession of Dr. William Wright).

Fistulae connected with the external ear, which were first described in this country by Sir James Paget,[3] are very imperfectly represented in our museum. There is evidently a relationship between auricular fistulae and auricular appendages, for I noted that one of the commonest sites for their occurrence is in front of the ascending crus of the helix, the point at which a depression or fistula would be formed if a prehelicial appendage became submerged during development (see Figs. 21, 22). The fistula which is found on the ascending helix occurs at the point where two tubercles fuse to form the anterior or mandibular part of the helix. When one remembers that the external ear is formed out of six tubercles which fuse together across the first cleft, one wonders that gaps or fistulae are not of more common occurrence. The external auditory meatus is a secondary formation of the first cleft. It is at first a solid plug of epithelium which afterwards (ninth week) becomes canalized. A specimen in the college collection shows an arrest in the opening up of the meatus, while the external ear is normally formed. In this case, too, the eighth nerve is absent, and it is observed that malformation of the external ear is frequently attended by a degree of deafness. In the two human specimens in the college museum, with absence or grave arrest of the external ear, there is absence of the auditory nerve.

Dermoids occur in connexion with the first visceral cleft. There are three specimens in the college collection, two of them being retro-auricular and one pre-auricular. I noted two specimens in school museums in which there was a retro-auricular fistula or depression; it is probable that dermoids are formed in connexion with such recesses, which are of uncertain origin.

TABLE IV.

	A.	B.	C.	Total.
Absence, more or less complete, of auricle	2	3	2	6
Accessory appendages of ear	5	2	0	7
Auricular fistulae	—	3	0	3
Cervical appendages	1	—	2	3
Auricular dermoids	3	1	0	4
Auricular fistula with teeth	—	—	2	2
Malformation of tongue	2	1	1	4
Sublingual dermoids	4	1	0	5
Cysts of cervical sinus	12	6	—	18
Cysts or tumours connected with median thyroids	3	2	—	5
Cysts from lateral aberrant thyroids	1	—	—	1
Congenital tumours of the neck	5	2	—	7

A. Specimens (human) in the Museum of the Royal College of Surgeons.
B. Specimens (human) in the museums of metropolitan medical schools.
C. Specimens from domestic animals, chiefly in the Museum of the Royal College of Surgeons.

Cervical Appendages.

The only representative of these abnormal structures in metropolitan museums is a specimen (535) presented to the college collection by Mr. Frederic Eve. He removed it from the neck of a boy, its situation being near the midpoint of the anterior border of the right sterno-mastoid. The lamina of cartilage which supported the process was continuous with a small irregular bar of bone. Mr. Bland-Sutton[4] states that the cartilage is elastic in nature, and that the appendix is usually associated with a cervical fistula. On the other hand, Rieffel,[5] who has collected 37 cases, found that a fistula was never associated with

[1] In 50,000 school children Dr. Francis Warner observed 55 with auricular appendages. In 2,000 people, Urbantschitsch (quoted by Paget) saw 12 with auricular fistulae.

the appendage. In the college collection there are specimens representing the cervical appendage in the pig and goat. It is usually believed that cervical appendages are really auricles developed in connexion with the second cleft. We know that there is a tendency in vertebrates for a segment of the body to assume the characters of an adjoining segment; the last lumbar vertebra, for example, may assume the characters of the first sacral. Here we may have a manifestation on the part of the second cleft to assume to some degree the characters peculiar to the first. There is a difficulty in this assumption which will be dealt with when speaking of cervical fistulae, namely, the second cleft has no separate opening on the neck; it opens in common with the other clefts through the cervical sinus.

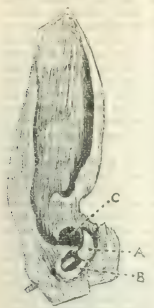


Fig. 24.—Ear of ewe showing accessory ostium (Preparation 331, presented by Mr. Bland-Sutton). A, Incisor like tooth; B, ostium distended by rod; C, external auditory meatus.

Accessory Ostia.

In Fig. 24 is represented the external ear of a sheep, given to the college museum by Mr. Bland-Sutton, who has also described and explained the condition shown by the specimen. Below the ear is a small meatus-like opening on the anterior margin of which is implanted a tooth, apparently an incisor. The abnormal opening may lead into the pharynx or end blindly. Although situated so closely to the ear there can be little doubt the opening really represents an accessory mouth. The duplication of the hind gut, and formation of two anal openings is a well known condition; duplication of the foregut leading to the formation of a double mouth is also well known. One of the mouths may undergo retrograde changes or imperfect development, and thus come to assume the form seen in these subauricular ostia.

Malformation of the Tongue.

Amongst the specimens at my disposal there are four—three of them in the college collection—which show malformation of the tongue. The head of a lamb (No. 186) shows a most interesting anomaly. On one side the lower jaw and all the parts developed in connexion with it are absent, so that the buccal cavity and tongue are fully exposed on the cheek. The basal part of the tongue—the part behind the foramen caecum and V-shaped sulcus—is fully formed. That part is formed out from the second and third arches, but the anterior or mandibular part of the tongue is only formed on the sound side; on the side of the defect the corresponding half is absent. The specimen demonstrates two things: (1) That even the anterior part of the tongue is bilateral in origin; (2) that the anterior part of the tongue is entirely derived from the mandibular arch of the embryo, for in the specimen under discussion the right half of this arch and all the structures derived from it are absent. The two other specimens of lingual malformations are to be found in the pathological series of the college museum, where they are classed as tumours of the tongue (Nos. A 2271 and A 2271a); they are exactly of the same type; one was obtained from a deformed, the other from an anencephalic child. One is represented in Fig. 25. At first sight it appears as if

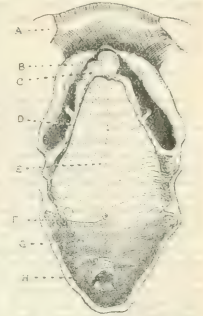


Fig. 25.—Congenital malformation of the tongue. A, Lower lip; B, gums; C, glandular mass distending frenum and extending backwards in paralingual fold; D, buccal part of tongue, developed from first arch; E, tonsil; G, pharyngeal part of the tongue, arrested in growth, developed from second and third arches; H, entrance to larynx and rudimentary epiglottis.

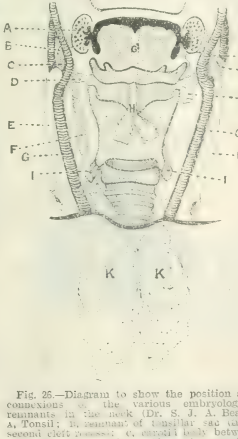


Fig. 26.—Diagram to show the position and connexions of the various embryological remnants in the neck (Dr. S. J. A. Beale). A, Tonsil; B, remnant of lingual sac about second cleft; C, remnant of cervical sinus between external and internal cervical arteries; D, stalk of thymus; E, cervical sinus; F, cervical thymus; G, common carotid artery; I, suprahyoid part of median thyroid; K, infrahyoid part of median thyroid; L, stalk of lateral thyroids; M, thymus in thorax.

have spoken of the downgrowth of a ledge of epithelium which occurs in the floor of the mouth on each side of the tongue, and thus separates off the submaxillary glandular area. It seems highly probable that the anterior part of the tongue were absent, but such is not the case; it is the basal part of the tongue, the part behind the V sulcus and derived from the second and third visceral arches, which is arrested in development. Combined with this there are two other anomalies: (1) The submaxillary gland has been arrested in its development, and forms a clustered glandular mass within the frenum and along the side of the tongue; (2) Meckel's cartilage has become ossified into a chain of bones, the chain ending behind in the malleus. The sublingual gland is normally developed; the sulcus or depression which is formed in the floor of the primitive mouth so as to cut away the submaxillary gland from the tongue has never opened out. There is in these cases a real condition of tongue tie, the frenum being distended by the glandular mass within it. There is a close relation between these specimens and the cases described by Mr. Barling,[4] Dr. G. W. Griffith,[5] Dr. Kettner,[6] and a case I saw at the London Hospital in a girl aged 2 years. In all of these cases the anterior part of the tongue is imperfectly separated from the floor of the mouth, and in two of them the anterior part of the tongue seemed to be divided, the line of division being occupied by a median mass, which I infer contained muscular and glandular tissue representing submaxillary gland. It is also possible that the median mass may represent the primary element described by His as the tuberculum impar, for Kallius[7] has shown that only a small part of the tongue arises from that element, the major part being formed from lateral elements which grow up from the floor of the mouth and submerge the primitive median element. The fourth specimen on my list (see Table I) is a child in the Museum of St. George's Hospital, which shows a median cleft of the lower lip and jaw, the cleft extending to, and involving, the apex of the tongue.

Sublingual Dermoids.

In the mass of glandular tissue lying by the side of the tongue, in the specimen shown in Fig. 25, there is a small cyst with a lining of mucous stratified epithelium, and in the interior of the cyst, débris of epithelial cells. The cyst has all the characters of a dermoid. I

that the cyst alluded to above is a product of the paralingual epithelial downgrowth, and that sublingual dermoids are derived from this downgrowth. There are four specimens of sublingual dermoid cysts in the college museum. Such cysts have been fully described by Mr. Butlin[10] and by Dr. Edginton.[11]

Embryological Remnants in the Neck.

Before proceeding to describe the various specimens which represent, or are believed to represent, congenital malformations of the neck, it will be well to enumerate, in the light of recent embryological researches by Hammar[12] and of Henry Fox,[13] the various vestigial structures which may assume a pathological form during the course of development and growth. These elements are shown diagrammatically in Fig. 26. They arise in connexion with the first, second, third, and fourth visceral clefts, the last two being clefts in which gill formations are developed in fishes. From the first cleft arises the median thyroid, the element which forms the isthmus and nearly a half of each lateral lobe of the thyroid in man. The stalk of this element normally disappears, but parts may persist and form tumours or cysts in the line of its formation (Fig. 26). The tonsil is developed at the pharyngeal orifice of the second cleft, but the fundus or outer part of the pocket (see Fig. 26) may persist.[14] In the figure this pocket ought to be shown passing between the lesser and greater horns of the hyoid bone (second and third arches), and ending in the fork between the external and internal carotid arteries. From the third cleft, represented by the thyro-hyoid space, arises the thymus and carotid body; the stalk atrophies in man as far down as the lower pole of the thyroid body, but it may persist, as is normally the case in the pig, and is occasionally the case in newly born children.[15] From the fourth cleft (represented in the interior of the pharynx by the pyriform fossa; see Fig. 27) arises the lateral thyroids and the parathyroids. The stalk of the lateral thyroid buds becomes reduced to a fibrous cord which emerges from the larynx behind the inferior cornu of the thyroid cartilage (Fig. 28, t), and forms in man a firm ligamentous bond (the suspensory ligament) which binds the thyroid body to the cricoid cartilage, but in carnivora, as may be seen in specimens prepared by the prosector of this college (Wm. Pearson) form free fibrous cords. Besides these four endodermal derivates of the visceral clefts—the stalk of the median thyroid, the fundus of the tonsillar clefts, the cervical stalks of the thymus, and the stalks of the lateral thyroids—there is also a fifth element, a derivative of the covering or ectoderm of the embryonic gill area, which may persist and give rise to new formations. That is the cervical sinus (see Fig. 26, E). We see repeated in the human embryo by this sinus, a modification of the gill chambers with which we have long been familiar in the air-breathing fishes—the Dipnoi—and in the more primitive amphibia. In these vertebrates the gill clefts open on the surface of the neck by a common chamber; there is now no doubt that the cervical sinus of the human embryo represents that common gill chamber. During the fourth and fifth weeks the endodermal pockets which give rise to the tonsil, thymus, and lateral thyroids abut on, and are attached to, the fundus of the cervical sinus. The lateral thyroid buds are the first to lose their connexion with the sinus, and the tonsillar pockets the last, because their attachment is the most firm and extensive. There is an especially close connexion between the cervical sinus and the carotid body—a derivative of the third cleft. The fundus of the cervical sinus persists in the mammalian embryo long after its orifice on the neck is closed and in the mammalian embryo becomes a temporary thymus-like body; lymphoid tissue develops in its wall. The question naturally arises: Why is the cervical sinus drawn out into a long fistulous passage (Fig. 26), and why is its orifice on the anterior border of the sterno-mastoid usually near the upper border of the sternum? The answer is to be found in the remarkable change undergone by the neck towards the end of the second month of development. Up to that period, although the cervical part of the spinal column is developed, the chin rests on the breast, the neck being indicated merely by a transverse depression or groove in which the cervical sinus opens on each side (Fig. 28). At the end of the second month and commencement of the third the head becomes extended so that the chin is lifted off the heart and thorax and a neck becomes demarcated. It is not the heart that has receded from the head, but the opposite. If the surface connexion of the cervical sinus has remained unbroken, then the sinus becomes drawn out into a long tubular structure along with the carotid arteries and trachea. The orifice of the sinus usually occurs on the anterior border of the sterno-mastoid an inch or rather more above the sternum, but under certain circumstances the orifice may be drawn up during extension of the neck to occupy a higher position. Cervical appendages occur at the orifice of the sinus.

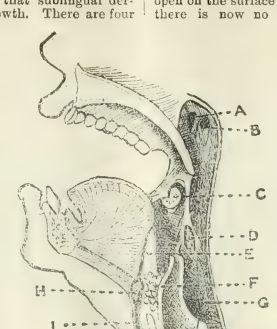


Fig. 27.—Diagram showing the position of the visceral clefts in the human pharynx. A, Eustachian tube (first cleft); B, lateral recess of pharynx; C, tonsil (second cleft); D, position of third cleft, with tonsillar body; E, suprahyoid part of median thyroid stalk; F, retrohyoid mucous glands; G, pyriform fossa (fourth cleft); H, hyoid; I, infrahyoid part of median thyroid stalk; J, right division of median thyroid, forming cyst and fistula; K, left division of median thyroid, forming isthmus.

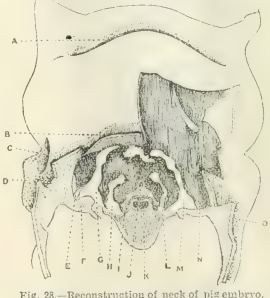


Fig. 28.—Reconstruction of neck of pig embryo, showing the development of the thyroid, thymus, and cervical sinus (after Henry Fox). A, Mouth; B, groove between mandible and thorax; C, external auditory meatus; D, cervical sinus; E, epidermal pocket from cervical sinus to tonsillar recess; F, epidermal pocket to thymus outgrowth; G, M, thymus outgrowths; H, I, lateral thyroids; I, median thyroid; J, trachea; K, œsophagus; N, epidermal process to tonsillar outgrowth; O, cervical sinus.

Cervical Cysts.

There is not, as far as I am aware, a single specimen in metropolitan museums representing a cervical sinus and fistula *in situ*, but, on the other hand, specimens of excised cervical cysts are numerous, two of which are said to have had a fistulous opening. From their structure and relations, it is evident that the majority of these are derived from the cervical sinus. They are sometimes described as dermoids, sometimes as sebaceous cysts, and sometimes as lymphoid cysts. I exclude those cysts which contained grumous matter or blood, because such specimens as have been minutely examined appear to be derivates of the thyroid—cysts formed in aberrant thyroids. Of the eighteen cysts which I regard as derived in part or entirely from

the cervical sinus, twelve are in the college museum. A specimen removed from the neck, opposite the thyroid cartilage, by Sir Felix Semon, may be taken as a typical example. A small bar of cartilage is embedded in its wall—such a cartilage as is occasionally found in the tag at the orifice of the cervical sinus—a product of the operculum which forms the outer wall of the sinus. The cyst is lined by columnar epithelium, similar to that which lines the trachea, but not ciliated. Very little lymphoid tissue is to be found in its wall. The contents are of a milky nature, containing epithelial products. The lining epithelium may be stratified and squamous, or columnar with cilia. Usually these cysts have a close connexion with the carotid sheath, especially near the point of bifurcation of the carotid artery into its internal and external branches. The cervical sinus may fuse and be continuous with the tonsillar recess, so that the cyst wall has both an ectodermal and endodermal lining.

Aberrant Thyroid Tumours and Cysts.

Such tumours and cysts are not well represented in metropolitan medical museums. In the college collection there is a fine specimen presented by Mr. Butlin of a double thyroid tumour, one part of which was removed from the tongue above the hyoid bone; the other part lay below the hyoid. Clearly they were derived from remnants of the median thyroid. Mr. Makins[16] recorded the removal of a thyroid tumour from the posterior part of the tongue in the neighbourhood of the foramen caecum, and recently Dr. Perkins[17] and Dr. T. B. Murphy[18] have been able to bring together about 50 cases of intralingual tumours formed of thyroid tissue, most of them in women. Such tumours frequently occur in the *right* submaxillary region;[19] none are recorded from the same region of the left side. Such tumours apparently represent the right division of the median thyroid. The median thyroids occupy a submaxillary position in the frog. There are two specimens of subhyoid cysts in the college collection, but one of these may be connected with a retrohyoid group of mucous glands which open in the larynx, and were first demonstrated to me by Wm. Pearson, prosector to this college (see Fig. 27). The right division of the median thyroid may be also arrested in development, and form a cyst which afterwards establishes a fistulous opening in the neck.[20] Schrager[21] has recorded 15 cases of cervical cysts derived from the lateral thyroids; they occur beneath the lower third of the sterno-mastoids.



Fig. 29.—Congenital tumour of neck replacing thyroid gland. The right half of the specimen is represented.

Cysts and Tumours connected with the Tonsillar and Thymic Outgrowths.

There are two remarkable specimens in the museum of Guy's Hospital, numbered 499 and 501. In the first specimen, the pharynx of a man suffocated by a foreign body in the pharynx, there is a recess in the position shown in Fig. 27, containing lymphoid tissue—a form of tonsil. The recess represents the inner orifice of the third cleft. In the second specimen (No. 501) a cystic tumour, occupying the subparotid region, opens at this depression; its position and connexion make it clear that this tumour is connected with the stalk of the thymic outgrowth. There is a similar tumour in the museum of the Westminster Hospital medical school. Dermoid cysts found in the anterior mediastinum and in the lower part of the neck may be derived from epidermal inclusions, carried down by the outgrowing buds of the thymus from the cervical sinus.

Congenital Tumours of the Neck.

Altogether I have seen six specimens of congenital tumour of the neck, four of which are in the college museum. In three of these the tumour is median in position, and has expanded into the neck like a huge goitre (Fig. 29), but in the fourth it has developed to the left side, spreading upwards under the ascending ramus of the jaw, zygoma, and temporal fossa, so as to indent the temporal fossa and compress the brain (Fig. 30), and expand the malar and superior maxillæ into thin bony plates which cover the tumour. In none of these specimens is any trace of the thyroid to be found; the tumour is the thyroid. On section these tumours are seen to be multiloculated and solid. On microscopic examination they are found to be composed of compressed cysts lined with columnar epithelium. At the bases of the columnar epithelium a layer of lymphoid tissue usually is found; indeed, a large part of the tumour is lymphoid in nature. In the septa between the spaces are found islands of cartilage. How the thyroid body of the fetus comes to assume such a structure and size is an enigma. The tumours resemble congenital sacral tumours, and in many ways have much in common with the tissues which form gills.

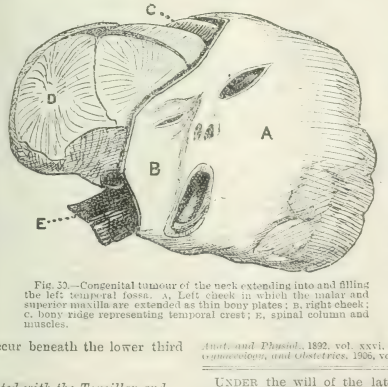


Fig. 30.—Congenital tumour of the neck extending into and filling the left temporal fossa. A, Left cheek in which the malar and superior maxilla are extended as thin bony plates; B, right cheek; C, bony ridge representing temporal crest; E, spinal column and muscles.

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UNDER the will of the late Mr. John William Day of Harrogate, Huddersfield Infirmary receives £1,000 for the endowment of a bed, and Harrogate Infirmary a sum of £100.

THE British Association for the Advancement of Science, which this year has gone to Canada, commences its sessions at Winnipeg next Wednesday. The President for the year is Sir Joseph Thomson, F.R.S., Cavendish Professor of Experimental Physics at Cambridge.

LIGHT, PIGMENTATION, AND NEW GROWTH.*

BY
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A CELL, or cells, of an otherwise healthy body may give rise, by fission, to "cancerous" progeny.

Cancer appears as an unregulated process of growth, the possibility of which has probably existed from the times of man's earliest ancestors. The process will be most fruitfully investigated when it is considered as one to which the whole community of metazoan life is liable.

Microscopically examined, the initiation of carcinoma proves to be a multiplication of epithelial cells in the *wrong direction*, of sarcoma, an *uncontrolled frequency* in the multiplication of connective tissue cells in all directions. Cancer, therefore, is a misbehaviour of the body cells in their function of multiplication: from the cytological standpoint it may be looked upon as a psychic phenomenon.

From the very dawn of life the cells of the body have been subjected to the discipline of a relatively fixed environment; the suggestion therefore arises that the cytodal misbehaviour indicated by cancer may be the result of some fundamental change in the long accustomed environment of the cells.

Cells from which a malignant new growth may arise have certain common characteristics: (1) Comparatively little morphological differentiation; (2) slight, if any, anatomical connexions with other cells; and (3) the performance of functions associated with frequent multiplication by fission.

Carcinoma and sarcoma appear to be due to one and the same cause. Primary carcinomatous stroma is probably sarcomatous in nature. Although sarcoma may exist independently of carcinoma, yet when it originates in the subcutaneous tissue, it seems to be frequently accompanied by some carcinomatous changes in the adjacent epidermis.

Every normal cell has, from the beginning, inherited certain fundamental physiological peculiarities, and its growth and multiplication by fission are instigated and influenced now as of yore. The activities of the cells of the higher animals are controlled more by the "habits" inherited from former times than by their present environment. These "habits" were originally acquired, and subsequently ingrained, under the compulsion of an environment which has now become so modified as to serve but as a "reminder" of former conditions.

My inference as to the causation of cancer has been drawn from a survey of the phenomena associated with the relations of the animal body to light. No living matter is indifferent to light. Many unicellular organisms, both animal and vegetable, are phototactic. The growing seedlings of the higher plants exhibit a phenomenon (heliotropism) akin to phototaxis, for they bend over towards a source of light in such a manner that their cells multiply towards it. Not only do green—that is, pigmented—plants grow towards the light, but their least differentiated cells—those of the mesophyll—are stimulated to fissional activity by a moderate illumination. If it be admitted that the individual cells which compose the spherical colonies of certain aquatic protozoans are similarly responsive to light—that they divide more freely when illuminated and possess the capacity for phototaxis—then the whole colony, so long as all the members are uniform in their response, will remain symmetrical and will not be heliotropic. If, however, the cells in one region of the surface of such a colony became more pigmented and less phototactic than the remainder, then a "heliotropic axis" would become developed, and the colony would set itself in such a direction as to present the less pigmented, more phototactic, cells towards the light. The result of this change would be that the less pigmented cells would divide more rapidly than, and tend to envelop, their darker and more sheltered neighbours. Such a colony would speedily become unsymmetrical, and would resemble the spheroidal larvae of Sycon and other primitive metazoans, for we find that these consist of a mass of small, colourless cells superimposed upon a few large pigmented cells.

These primitive anatomical peculiarities are found, I believe, in the morula stage of all animals and are even foreshadowed in their germ cells. The mature, impregnated ovum is darker (more pigmented) on one side than the other, and its subsequent segmentation, therefore, results in the appearance of two varieties of cell—light and dark. In all animals above amphibians the lighter cells multiply with relative rapidity and become the ectoderm, the darker cells form the endoderm. I am led to infer from these considerations that the primary cause of the differentiation of the embryonic layers may be an inheritance of those peculiarities of cell-fission which were the result of stimulation by light under the control of pigmentation. I suggest that the original function of pigment in early animal forms was to direct and restrain the fission of the cells; to produce, by originating a heliotropic axis, a more rapid multiplication—in a direction away from their pigmented neighbours—of the cells which become the enveloping ectoderm, whilst affording shelter to those which become the endoderm. A vitally important result of this pigmentary differentiation would be that the cells of the different embryonic layers would respect one another's domains, and thus the "integrity" of the tissues would be secured at the outset. The cells of the higher animals doubtless inherit the habits of orderly growth which were thus acquired by their ancestors.

The phenomena of the internal pigmentation of animals appear hitherto to have escaped inquiry, and may prove to be of deep significance.

The entrance of light into the bodies of the higher animals is very sedulously regulated. I believe that an inverse ratio may be shown to exist between the degree of external protection from light and that of internal pigmentation. Internal pigmentation is evidenced in the endoderm of the more primitive metazoans, and in the mesoderm (an offspring of the endoderm) of all animals, from the mollusca upwards. The blood of the higher vertebrates is a pigmented tissue of mesodermic origin. Among the lower vertebrates (fishes, amphibians, and reptiles) the mesodermic lining of the body cavity is commonly pigmented. This peritoneal pigmentation is almost invariably more marked upon the dorsal side of the sac (that is, towards the direction from which the light usually falls), and varies (inversely) in intensity with the degree of external protection from illumination.

Those regions of the body surface which are not liable to direct illumination do not need to be protected from it, and are therefore comparatively unprotected by pigment or other agency. A difference in the degree of pigmentation of the dorsal and ventral surfaces of the body is usually observed in the higher animals; the exceptions to this rule are in those animals the ventral surface of which is more freely exposed to light than in others.

I contend that the external pigmentation of animals is, primarily, but one of several agencies serving to protect the enclosed tissues from excess of illumination, that the pigmentation of certain internal tissues assists in controlling and directing the multiplication of those cells which habitually undergo fission, and that the "intention" of the particular colour selected for the blood of the higher vertebrates is similar to that with which we make use of ruby glass in the window of a photographic dark room.

The favourite colour scheme of the animal kingdom comprises that which will best arrest the more actinic rays of the sunlight, and is represented by the series black, brown, red, orange and yellow. This scheme is reproduced, in miniature, in the races of mankind—with the striking exception of the white man.

The production of pigment in response to increase of illumination is a vital and not a physical process, and is probably an inherent reaction to provide against some consequence dangerous to the organism.

Reflecting and dispersing surfaces, pigment, scales, feathers, hair, posture of body, and light-avoiding habits are among the agencies which protect the tissues of the animal body from excess of illumination. The protecting agencies in man are limited to the pigmentation of his skin. His erect attitude causes him to present the ventral surface—which has for countless ages been directed downwards—to direct illumination. In the matter of protection from light man stands isolated in the domain of biology. The white man is the last link in a chain, almost interminable in length, of pigment-controlled and pigment-

* An abstract of "An Essay on Cancer" to be communicated to the South African Medical Congress, August, 1909.

protected creatures, and—without hairy coat and without colour—he is fitted only for a nocturnal existence. It seems probable that no other animal in its natural state exposes its body so constantly to bright daylight and direct sunlight as does civilized man.

The cells of the body possess peculiarities which, for want of a better term, must be called psychic. They possess the "instinct" for orderly multiplication, and behave "instinctively" as their ancestors behaved. The direction of multiplication of epithelial cells was originally and for many ages dictated by the presence of pigment; the habit of multiplying away from the site of pigment, or away from connective tissue cells, has now become a very stable characteristic of epithelium. The protection afforded in past times against actinic stimulation has established a very firm habit of leisurely and orderly multiplication in the connective tissue cells. The traces of pigment in the dermis and epidermis of the white man, and the basement membranes of epithelial structures, probably perform a mnemonic function and serve to "remind" the cells of former conditions. The "physiological resistance" of tissues hypothecated by Cohnheim is identical with this principle of cell instinct for direction of multiplication.

We may look to find a relative increase of liability to cancer associated with a relative decrease in pigmentation.

My main proposition is that cancer is the result of the loss by the cell of its "instinct" for orderliness in multiplication, and that this "psychosis" of the cell is usually consequent upon undue actinic stimulation.

The relative frequency of sarcoma, as compared with carcinoma, in early life is an ontogenetic reproduction of a phylogenetic peculiarity.

To the penetration and stimulation of the tissues by radiant energy we shall apply the term "irradiation." The liability of an organ or region to be affected by cancer is in proportion to its liability to irradiation. Organs and regions (such as the superficial portion of the parotid and the dorsum of the trunk) which have been, in past ages, continuously liable to irradiation have acquired a partial immunity to cancer. This partial immunity is usually signalized by "latent malignancy" and chronicity of the process. Those organs which are best protected from irradiation are the least liable to cancer; those which were formerly well-protected and are now exposed are the most liable.

Mammary cancer in the woman is usually due to deficient protection of the breasts from light.

The specially frequent localization of cancer in those median pelvic structures which lie immediately behind and below the base of the bladder may be due to the dioptric effect of this organ, when distended, upon actinic rays penetrating the anterior abdominal wall. The light which can so penetrate must be (1) small in amount, (2) in excess of that to which the abdominal contents have been accustomed in all former states, and (3) although invisible, must yet, like visible light, be amenable to concentration in certain localities by spherical refraction.

The selection of the pyloric region of the stomach may be due to the fact that, when the organ is distended with gas, a large portion of this region is in close contact with the abdominal wall in the subcostal angle.

The face, being the most continuously illuminated region of the body, is specially liable to be affected. The marked predilection shown by rodent ulcer for a certain locality may be accounted for by a "retro-illumination" of the skin of this region by light reflected from the globe of the eye, and also transmitted through subjacent sinuses by transillumination. The relative frequency with which the lower eyelid and the lower lip are affected may be associated with the relatively greater protection of the upper. The "kangra" cancer of the Kashmiri is due to direct irradiation from an artificial source of light and heat.

The cell's environment usually requires very prolonged illumination from natural sources before the stability of its "instinct" is threatened.

External cancer originates, by preference, at or near the junction of unpigmented with pigmented surfaces, or at the junction of less with more pigmented surfaces, the difference in the degree of pigmentation being evident either in the individual affected or in his near ancestors. "Cell-instinct" is probably least stable in such border zones.

The relative immunity of transparent epithelial structures, such as the cornea, lens, and mucous lining of the trachea, may be due to the fact that a transparent substance arrests no light, and is not, therefore, affected by illumination in the manner in which translucent and opaque substances are.

The occurrence of subcutaneous (melanotic) sarcoma near the finger-nail or toenail of the white man is explained by reference to the pigmentation of the digits of the negro—in the latter we find that this region is a border zone between pigmented and unpigmented regions. Subcutaneous sarcoma has been observed with marked frequency upon the heel and the borders of the foot of the uncivilized negro. These regions are unprotected by pigment and are border zones.

The liability of the kidneys to cancer during infancy is perhaps due to the relative thinness of the posterior parietes at this period of life, and also to the fact that the characteristic attitude of infancy is the crawling one.

The preference shown by sarcoma for the femur and the neighbourhood of the knee-joint is probably due to the fact that of all regions of the limbs this one has experienced the greatest increase in illumination by the assumption of the erect attitude.

Congenital cancer, sarcoma of the placenta, and deciduoma malignum appear to be consequent upon irradiation of the gravid uterus and its contents.

The increased liability to cancer with advancing years may be due to the final yielding of the cells to long-continued stress of environment, to general depreciation of psychic peculiarities (including cell instincts), and to reduction in the agencies of protection—pigment and hair.

The essence of racial liability appears to be degree of deprivation of pigment. If the races of mankind be graded upon a basis of colour, the relative liability of any one race is represented by its position in the scale.

Cancer has been found to be slightly more prevalent among those who are the more exposed to actinic stimulation—seamen, dwellers beside lakes and rivers, agricultural labourers, masons, etc.

Cancer houses usually appear to be unwholesome dwellings, often affording special facilities in their immediate neighbourhood for the irradiation of their anaemic inhabitants.

The increase of cancer within the last seventy-five years is perhaps due to diminished protection from light and increased exposure to illumination. Woollen garments have been largely replaced by cotton, and black and brown clothes by those of a light colour. Narrow streets and dark houses are no longer tolerated, and suburban life has largely replaced that of the city. Artificial illumination has become greatly more actinic in its character. The habit of snuffing has yielded to the vastly more prevalent usage of smoking tobacco by means of a pipe.

A manifest deduction from the principles we have advanced is that cancer may be prevented by efficient protection of the body from light. Natural protections, such as hair upon face, to be encouraged. The clothing to be absolutely light-proof. The ventral surface of the thorax and abdomen to be specially protected. The tobacco pipe to be discarded at 35.

The essential difference between a simple (pathological) hyperplasia and a malignant hyperplasia is perhaps a psychic one—a question of inheritance or non-inheritance of orderly instincts by the principal actors. The sites of selection by cancer are also common sites for simple hyperplastic lesions. Prevention of irradiation may possibly obviate both disorders.

The *Liverpool Daily Post* calls attention to the fact that at the recent assizes in that city, in one of the cases heard in which medical evidence was required, three medical men in succession requested to have the oath administered in the Scottish way. Our contemporary calls attention to the fact that, on the motion of Mr. Frederick Lowndes, the Liverpool Medical Institution some time ago passed a resolution condemning the insanitary, and in many cases dangerous, custom of kissing the book, and adds: "The change is a very desirable one, and if the medical men themselves practise what they preach, the thinking portion of the community will not be long in following their example."

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF DERMATOLOGY AND ELECTRO-THERAPEUTICS.

WILLIAM CALWELL, M.A., M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

GENTLEMEN,—Allow me on behalf of my colleagues and of myself to offer this Section a hearty welcome to Belfast.

The few minutes during which your patience will be imposed upon I shall devote to a very brief outline of the rise of dermatology in its medical school. Up to the present, it might not inaptly be termed the Cinderella of the specialities, except that, unlike her prototype in the fairy tale, she has been denied the duster and the broom. Ringworm and impetigo are, I am afraid, unduly common in some of our national schools, and would be more so were it not for the intelligence of the schoolmaster. If, however, a somewhat superior air is meted out to dermatology, the ancillary science of electro-physics is feared as *un enfant terrible*, who keeps us in constant suspense as to what undreamt-of family skeleton he may reveal, or what uncanny prank he may play on our too sensitive tissues.

In 1865, the late Dr. H. S. Purdon instituted a small skin dispensary. In 1875, the Benn Hospital for Skin Diseases was built and partially endowed by one of Belfast's early philanthropists, whose name it bears, and Dr. Purdon was put in charge; he continued to execute the duties of Visiting Physician till 1896. Although both the Benn Skin Hospital and the Benn Eye, Ear, and Throat Hospital lay side by side, and both were within little more than a stone's throw from the old Royal Hospital, the clinical hospital of the day, they did not discharge the second great function of a hospital, the teaching of the medical student. The late Dr. McKeown had frequent visitors, graduates and undergraduates, to his eye clinics, and classes of the latter for some years, yet steady, systematic teaching cannot be considered a prominent feature in the history of either hospital. In 1896 Dr. Purdon was appointed Consulting Physician, and his son, Dr. E. B. Purdon, and Dr. Allworthy, who had acted as assistants for three years, were appointed Visiting Physicians. Further improvements have been made, an *x*-ray department fitted up, and the work of the institution is known and appreciated throughout Ulster.

When Physician to the Ulster Hospital for Children I devoted one day in the week in the extern department to patients suffering from skin diseases; and when I became assistant physician to the Royal Hospital I pursued the same policy. In 1903, on the recommendation of the medical staff, our board of management gave its imprimatur to the formation of an out-patient skin department; and in the same year, partly as physician in charge of this department, partly as honorary secretary of the staff, it fell to my lot to organize a Finsen light, Roentgen ray, photographic, and general electric department. Owing to multiplicity of duties, it was quite impossible for me to attempt to work it personally, and Dr. Rankin was invested with the responsibility. I need not say the choice has been more than justified; the original accommodation has already become utterly inadequate, and efforts are being made to obtain more ample space. Dr. Rankin is associated with Dr. Houston in a vaccine department, so that patients have the benefit of both these latest results of science. Some little time ago a public-minded citizen, Sir Otto Jaffé, presented to our college some radium; it was, however, in tube form, and so was unsuitable for clinical work.

In the Mater Infirmorum Hospital, which was rebuilt in 1900, a Roentgen ray equipment has been lately established and put under the charge of Dr. O'Doherty, who is already turning out admirable work.

In the Queen's College no special course of skin diseases was held; but in our Royal Victoria Hospital I gave an informal series of lectures during the summer session, and clinical teaching is carried on both winter and summer.

Inspired by the precepts and example of that veteran in dermatology, Sir Jonathan Hutchinson, I have for many years been making additions from the various publications to a private collection of illustrations, chiefly of skin diseases, but also of rare or typical pathological states that lend themselves to portrayal. These have now become as a private collection unwieldy from numbers; but through the kindness of our local Division, which has supplied two handsome cabinets, and of the Ulster Medical Society, which has undertaken to house them, a beginning of a pictorial museum has been made, which will be available for consultation to the medical men in the North of Ireland. To a Dermatological Section I need not advocate the advantages of such an institution. But as the collection has passed from private hands I do not, even at this early stage, hesitate to appear before you as a beggar and crave such duplicate illustrations as may be lying superfluous on your shelves. I shall personally for some time longer be engaged in the reclassification and cataloguing of the present collection, which I had allowed to lapse, and shall see that any contribution is fully acknowledged; and if already in hand promptly returned or exchanged for specimens that are missing.

In these revolutionary and evolutionary days the pertinent question may be asked, Does dermatology obtain its proper place in the education of the medical student? At present it comes as a hurried and scamped course at the end of the curriculum. This to my mind is a mistake, and is a remnant of the ignorance of the profession in times past in this class of disease. While we are teaching the student medical and surgical anatomy, while we are training his observation and the manipulative art of elementary surgery, could there be any better education in observation, in watching the change of disease, in taking note of the effects of remedies, than the study of dermatology, where everything lies open and clear before the observer? Therapeutic investigation is the most difficult of all investigations; estimation of results is practically impossible to the student, except as in skin diseases, where even patients can form a correct opinion of the value of our measures. Would not a student have a better idea of pulmonary tuberculosis if he had seen the several varieties of lupus—lupus with secondary infection, lupus with fibroid thickening, lupus with its scars and puckerings? The application of radium, of Finsen light or of Roentgen rays, the injection of tuberculin, would teach a student that treatment does not consist in writing a prescription or by force removing from sight the external diseased tissue. Does not the study of that large class of disease labelled "ezcema" give an insight into gastro-intestinal infections? I might mention many other examples; these will suffice to suggest the idea. I have been convinced now for many years that a course of elementary dermatology would constitute a valuable training for the student preparing for ward work.

DISCUSSION ON RADIUM AND RADIOTHERAPY IN SKIN DISEASE.*

OPENING PAPER.

M. LE DR. LOUIS WICKHAM,

Medical Superintendent of the Radium Institute, Paris.

PERMIT me, first of all, to offer my sincere thanks to the committee of the Section for the honour done to me by its invitation to speak on radium treatment. I should like to say that, if I have been able to make a little progress in this branch of physio-therapeutics, it is only due to my

* In the course of his paper Dr. Wickham gave a lantern demonstration, showing a large number of cases before, during, and after radium treatment. He also exhibited his apparatus, the filters of different substances and thicknesses which he commonly uses, and samples of radiferous materials, and of the ores from which radium is extracted.

good fortune in having had a large quantity of radium, together with improved apparatus, put at my disposal, and that, moreover, I am not forgetful of the excellent work done by earlier investigators and by my collaborators at the French Institute of Radium, which was founded in June, 1906, as the consequence of my previous work.

I will first touch on the subject of instrumentation, and you will then see wherein its improvement lies.

Amongst the earlier instruments, there is one that can still be utilized with great advantage, although it no longer plays its original, almost unique, rôle. It is here: this glass tube containing grains of radium, loosely piled like grains of corn in a sack.

A simple apparatus like this is of great service, though its application is limited. It can be introduced into passages, fistulæ, and natural or artificial orifices. For example, in the treatment of cancer of the rectum and of the prostate, the radium tube can be introduced into a catheter, which conveys it to the desired point. In the treatment of cancer of the intestines which is sufficiently accessible, I have profited in several cases by the orifice of an artificial anus. In the same fashion can be treated a tumour of the bladder or a cancer of the pylorus.

In short these tubes are useful in applying radium locally and to a limited surface, but not when it is desired to expose every part of a surface to radium action of precisely corresponding intensity. Such action is secured by the varnish apparatus, of which I will now speak. It was in March, 1905, that I used these for the first time. It will be observed that in these the radium grains are no longer loose, as in the tubes, but definitely fixed by varnish. There are two sorts of varnish apparatus: the rigid, formed by a metallic base, and the flexible, formed by a linen base; this we call in French "Appareil toile," or "Toiles radifères." They are especially useful in dermatology, in the treatment of skin disease, where the homogeneity of action to which reference has been made is necessary. It is quite easy to adapt these rigid and flexible applicators to any region. They can be made round, square, cylindrical, and placed alongside one another, or over one another as one pleases, so as to multiply their activity. Here, for instance, is a flexible applicator which will cover either a concave or convex region, for instance the neck of the uterus. This other flat form is very useful for treating the conjunctiva by slipping it under the eyelid. This cylindrical form is useful for inserting into cavities, and for this purpose superior to the glass tubes, when, as in treating metritis, homogeneity of action is essential. Equal distribution of the granules of radium in these applicators is of course a point of the highest importance in their manufacture; in default thereof the desired homogeneity of action will be lacking and prove highly prejudical to treatment.

FILTRATION.

Now that we know something about the form and the construction of the apparatus, let us see how the various rays emitted by them may be employed.

If nothing more were possible than utilization of the radiations exactly as they are emitted from an apparatus, their uses would be restricted; but fortunately they may be modified indefinitely.

This is done by filtering them through screens, and such filtration has completely changed the position and future of radium therapeutics. From the physical point of view filtration has been studied ever since the first discovery of radium by Pierre Curie and Madame Curie, and attempts have been made to differentiate the rays. In March, 1905, I was dealing with an apparatus giving a great number of rays of high activity, and realized the necessity of finding some means of changing the quantity and the quality of the rays emitted from one and the same apparatus. With this end in view I at first interposed, between the apparatus and the diseased parts, a wad of cotton-wool, tightly pressed together, and tied up with some gold-beaters' skin. These wads were of different thicknesses, according to the modifications which it was necessary to bring about in the radiations. Later on I tried sheets of aluminium, and then in January, 1907, when working with Dr. Degrais, I employed for the first time as a filter a sheet of lead of 1½ mm. thickness covered with indiarubber, which gave a screen of great thickness allowing only gamma rays to pass.

A little later the chief of the laboratory of physics at the French Institute, M. Beaudoin, studied methodically the measurement of the radiatus pass through a series of filters of aluminium of a thickness of 1 to 10 hundredths of a millimetre, and through filters of lead of a thickness of $\frac{1}{10}$ mm. to $\frac{5}{10}$ mm., and also those of a thickness of 1, 2, and 3 mm. Dr. Dominici, my colleague at the Radium Institute, availed himself of these researches for studying the therapeutical effects of gamma rays isolated by thick filters of lead, and thus has helped forward in that direction the progress of radium therapeutics.

I too, with Dr. Degrais, utilized these researches, and studied not only the very thick filters, but also the thin ones and those of medium thickness, especially those of $\frac{1}{10}$ mm. to $\frac{5}{10}$ mm. of lead, which permit the passage of the hard beta rays as well as the gamma rays. These I frequently find of exceeding use, specially if they are utilized by the method of cross-fire.

On account of the importance of this question of filtration it is necessary for me to dwell on it a little. What I wish, above all, to render clear is the utility and *raison d'être* of filtration. Every one knows that the rays emitted from radium are of three different groups—(*a*) the alpha rays, (*b*) the beta rays, (*c*) the gamma rays—and that the beta rays themselves are divided into the soft beta, medium beta, and hard beta. You will also remember that the alpha rays have very weak penetrative powers, and that very few of them are capable of being emitted by the varnish apparatus.

The beta rays have greater and greater penetrative power, ranging from the soft ones, which are the least penetrative, to the hard ones, which possess a very high power of penetration, and these beta rays are emitted through the varnish in an overwhelming preponderance, averaging from 80 to 90 per cent. of the whole. The gamma rays have considerable penetrative power; but they are in very small proportion, only about 2 to 10 per cent.

These facts once appreciated, it will be easy to understand that the radiation emitted by a naked varnish apparatus can, by the interposition of screens of increasing grades of thickness, be modified in two ways: (1) in point of quantity; (2) in point of quality. This needs, perhaps, a little explaining.

How is it possible to modify quantity?

As screen after screen of increasing grades of thickness and density is interposed, first the alpha and soft beta rays will be cut off and absorbed, then the medium beta, then the hard beta; thus in each case the number of rays having the power to filter through the screens is in decreasing quantity.

Secondly, how is it possible to modify quality?

As screen after screen of increasing grades of thickness and density is interposed, the rays in proportion to their number will have greater and greater powers of penetration; thus the quality of the radiation is changed, because the average of its penetrative power is increased.

Let us now see what advantage can be drawn from this knowledge for therapeutical purposes.

As the rays diminish in number in proportion as the screens increase in thickness, it is easy to understand that the duration of the applications must play a very considerable part, and that this duration must be increased in length in proportion as the rays are diminished in number and from this fact the following three general rules of treatment can be deduced:

1. Apparatus applied naked. Rays numerous: special action on the surface; duration of application short.

2. Apparatus with interposition of medium filter. Rays less numerous; action on a greater thickness of tissue; duration of application longer.

3. Apparatus with interposition of thick filter. Rays very few; action on a very great depth of tissue; duration of application very long.

I illustrate the application of each of these general rules or formulæ.

My first case is one of lichenoid eczema.

Here the lesions are superficial and sensitive. In accordance with the formula, I employed (without a screen) a powerful apparatus, radiating an activity of

500,000. Treatment was in one series, and lasted but a very short time—in all from ten to twelve minutes: these twelve minutes were given three minutes at a time, and were spread over a period of four consecutive days.

The result was very distinct; the itchings ceased, the inflamed cells were modified, and at the end of the third week there remained nothing. This cure took place two years ago, and there has never been any relapse.

Now for the second formula. Here is a case of superficial cancer of the forehead of somewhat large extent, where it was necessary to act on rather more deeply seated tissues. I again employed an apparatus radiating 500,000, but interposed a filter of $\frac{5}{10}$ mm. of lead in order to have only a few medium beta rays, hard beta rays, and gamma rays. The duration of the application was fifteen hours, or one hour each day for fifteen successive days. The cure took place very rapidly, and nine weeks after the completion of the applications nothing remained but tissues of good appearance.



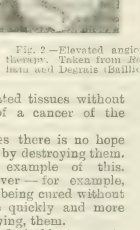


Fig. 1.—Acne keloid of the neck, ameliorated by radium therapy. Taken from *Radiumtherapie*, by Wickham and Degrais (Baillière et Fils), shortly to be published in English.

Here is now a case to illustrate the third formula. This was one of cancer of the glands of the neck, which, having spread and formed a large mass under the skin, remained intact, and made it necessary to act not on the superficial but on the deep-seated tissues. The same apparatus, radiating 500,000, was covered with a screen of 3 mm. of lead, and was applied for a hundred hours on three places in periods of ten hours. The apparatus was applied at night and taken off the next morning. The tumour has greatly diminished, and this work of amelioration was carried on underneath the surface without destroying or even affecting it.

It is thus possible by means of the screens to regulate the dosage in such a way as to act on the tissues at different depths. It must be noticed also what an important part is played by the duration of the applications.

When once the apparatus, the screen, and the dosage have been chosen, the duration of the applications depends on the reaction which it is desired to obtain, and whether or not it is necessary to produce a simple modification of the tissues without causing any inflammation, or, on the contrary, to obtain their inflammation and destruction. In deciding these points, it must be borne in mind that there are some pathological tissues on which radium has a specific action, and that to modify them the production of inflammatory reaction is unnecessary. For example, many forms of cancer, of mycosis fungoides, of lymphosarcoma, angioma, keloids, and chronic eczemas can be favourably influenced without being inflamed. On these lesions radium has a specific action, and this partly explains how it is possible to obtain an action on the deep-seated tissues without affecting the skin, as in the case of a cancer of the breast, or subcutaneous angioma.



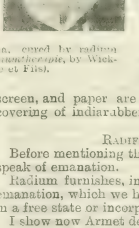


Fig. 2.—Elevated angioma, cured by radium therapy. Taken from *Radiumtherapie*, by Wickham and Degrais (Baillière et Fils).

For many other pathological tissues there is no hope of modification except by inflaming or by destroying them. The pigmentary naevi furnish an example of this. Certain pathological tissues, moreover—for example, cancer of the skin—though capable of being cured without any inflammatory reaction, are more quickly and more easily cured by destroying, not modifying, them.

Now, what must be done when it is desirable to create an inflammatory and destructive reaction? Simply prolong the duration of the applications. We can consequently return to our three rules, and apply them to destructive purposes, by making the applications of greater duration.

By the first formula we can destroy superficial lesions such as pigmented naevi, or superficial cancer.

By the second formula we can destroy a thicker layer of tissue, and by the third formula we can destroy the deep-seated tissues, but in this last case it is obvious that the skin will be affected during the process of destruction.

ILLUSTRATIONS OF FILTRATION.

Thus diverse are the technique and the methods; and it would be wrong to adopt any single method of filtration, whether that by thick screens or that by light screens. Each kind has its own therapeutical importance, and it is necessary to know, not only how to use all the different methods of filtration, but how to obtain from each one the desired result. Here is an example which proves the multiplicity of methods that can be employed in one and the same case.

This wax model represents an enormous cancer situated under the skin, and having its origin probably in the parotid gland. This tumour was as hard as plaster, and immovable. The skin covering it was everywhere intact, excepting at one point. I adopted for this case three different methods:

1. I applied to the ulcerated part an unscreened varnish apparatus which I left long enough to produce violent destructive effects.

2. I introduced a tube deep into the interior of the tumour by making a cavity in the middle of the ulceration.

3. On the surface where the skin was still intact I employed for many hours an apparatus covered with screens 2 mm. and 3 mm. thick, so as to protect the skin, and to act on the deep-seated tissues; these apparatus were applied opposite one another, so as to produce the cross-fire, which is a method I will speak of later on.

Up to this point we have discussed the apparatus and the ways of modifying the rays emitted; now let us see how to apply the apparatus. One point to bear in mind is the necessity of the operator avoiding radium dermatitis. For the rest, the mechanical utilization of the apparatus is easy. It can either be held in the hand, or fixed by pincers, or by bandages, and I have already spoken of the way of using the applicators in viscera.

Another point to remember is that, when using the rigid metallic applicator, it must not be allowed to come into immediate contact with the lesion which is being treated. The rays as they pass through metallic substances produce, as M. Sagnac, Professor at the Sorbonne, demonstrated, secondary rays very slightly penetrative, and cause irritation. They must be cut off by placing five to ten sheets of black paper under the metallic screen (this was suggested to me by M. Sagnac and M. Beaudoin): then apparatus, screen, and paper are kept together and protected by a covering of indiarubber.

RADIFEROUS SUBSTANCES.

Before mentioning the results I have obtained, I should speak of emanation.

Radium furnishes, in addition to its rays, a gas, called emanation, which we have often utilized. It can be used in a free state or incorporated in diverse substances.

I show now Armet de Lisle's apparatus used for obtaining it. A solution of radium is placed in a horizontal tube, so as only to fill half of it: in the upper half of the tube the gas emanation accumulates. By blowing, this gas can be expelled and enclosed in a receptacle, from which it can be extracted as it is wanted. Here is another apparatus for concentrating the gas emanation by means of liquid

air. In the lower reservoir of the apparatus is the substance on which we wish to concentrate the gas. After having introduced the emanation into the upper reservoir, the lower reservoir is plunged into liquid air, and immediately the emanation concentrates itself on the substance contained in the reservoir.

As you see, substances can be rendered rich in emanation by being thus brought into contact with the emanation itself. But there is another method, which consists in incorporating the substances with soluble or insoluble salts of radium.

It is pleasant to me at this point to recall the fine work of M. Jaboin, our chemist at the French Institute of Radium, who has succeeded in rendering a whole series of substances radiferous, in the desired proportions, and according to prescribed dosages. These include radiferous quinine at a degree of half a microgram, that is to say, half a thousandth of a milligram of pure radium, for 0.20 of quinine. There is also some radiferous mercury, and some other substances. The quantity of radium is, of course, very small; but, at any rate, it is greater than in the radio-active natural waters.





Fig. 3.—Cancer (tuberous) behind the ear, healed by radium therapy. Taken from *Radiumtherapie*, by Wickham and Degrais (Bailliere et Fils).

All these substances have been used for some time, and are perfectly well supported by the organism. In my work at the Hospital at St. Lazare, I have made a certain number of injections of radio-active grey oil and iodide of mercury, and the urine after each injection shows radio-activity.

Similarly, MM. Jaboin and Beaudoin have managed to incorporate with Bussang thermal water the exact quantity of radio-activity which exists in it at the moment that it bubbles out of the earth. The water thus rendered radio-active again can be transported without loss of its power. In all originally radio-active thermal water this quality can now be rendered permanent, instead of being lost as soon as the water leaves the ground. And I am of opinion that the radio-active bath may be of great help in general diseases of the skin.

A radiferous substance, which has been of service to me, and which M. Jaboin prepared after my advice and at my instigation, is a hard vaseline, rendered radiferous. This I inject under new growths, and by applying radium on the external surface at the same time I produce, by the double action, what I have called cross-fire.

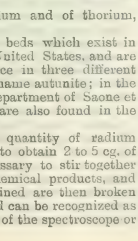
The radium I use is extracted at the works of M. Armet de Lisle, near Paris, under the direction of M. Danne, an assistant of M. Curie; Madame Curie herself carries on some of her researches at this manufactory.

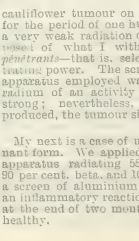
The ores from which the radium is extracted include an oxide of uranium, called pitchblende or pechurene; double phosphate of uranium, called uranite or autunite; double phosphate of uranium and of copper, called chalcolite; a vanadate of uranium, called carnotite; an oxide of uranium and of thorium, called thorianite.

These different ores come from beds which exist in Portugal, Saxony, Ceylon, and the United States, and are found in great abundance in France in three different localities: near Autun, whence the name autunite; in the province of Auvergne; and in the department of Saone et Loire, near Issy l'Eveque. They are also found in the colony of Tonkin.

The extraction of even a small quantity of radium needs considerable work. In order to obtain 2 to 5 cg. of pure bromide of radium, it is necessary to stir together 50,000 kg. of water, 5,000 kg. of chemical products, and 1,000 kg. of ore. The products obtained are then broken into fragments until the salt obtained can be recognized as pure. This is done either by means of the spectroscope or by means of Curie's electrometer. I have mentioned an activity of 100,000 and 500,000, and it is perhaps well at this point to explain what is meant by these numbers.

By the electrometer the radium is recognized as pure when it has an activity about 2,000,000 times greater than that of uranium, which is taken as the unit of measure. To diminish the force of the activity it is mixed with bromide of barium. Thus to have radium salts of an activity of 1,000,000—that is, half of the pure—it is mixed in equal quantities; for salts of 500,000—that is, a quarter of the pure—there must be three parts of barium for one of radium; and so on for all the other mixtures. Hence, when speaking of an apparatus, I say that it contains 20 cg. of radium at 500,000, it means that that apparatus contains a mixture of 5 cg. of pure radium and 15 cg. of bromide of barium. When I say that a radiation emitted through such and such a filter will be of an activity of 10,000, that will mean that that activity is 10,000 times greater than the activity of an equal quantity of uranium spread on an equal surface.





g. 4.—Cancer in large glands of the neck, cured by radium.

Therapeutic Results.

We are now prepared to follow, not only the clinical results that I have obtained, but also the working processes and the dosages that I have employed. But you must understand that in all the theory just passed in review I have only been able to give you certain indications, signposts, formulae, taken as types, and it is obvious that amongst these types and formulae there will be room for numerous intermediate formulae, and also for numerous exceptions. Certainly in radium therapeutics, as in everything else, side by side with the rule, there is room for the experience, the knowledge, and the sagacity of those who use radium. For radium is a double-edged weapon—well employed, it can render great services; badly employed, it may cause burns, excite or develop the pathological tissues, leave ugly scars, or cause blanching, telangiectatic scars, real naevi, and pigmentations.

I will pass in review the various groups of maladies that have been treated, and of which I have slides, leaving aside others, such as cancer of the breast, and deep visceral cancers, such as diseases of the uterus.

Let us first take cancers of the skin:

Case I.

Here is a case of exuberant epithelioma of the temple, and the four stages of its regression. This neoplasia was treated for ten hours with a varnish of colour applied naked, and giving radiations of an activity of 55,000, composed of 2 per cent. of alpha, 85 per cent. of beta, and 15 per cent. of gamma rays. Each day the patient received one hour's application. The regression was very rapid. The second photograph shows the tumour twelve days after; the third, twelve days after the second. The last is the healed skin, which has remained intact and healthy for three years.

Case II.

Here is an enormous epitheliomatous cauliflower tumour on which, on three different places, and for the period of one hundred hours on each place, was applied a very weak radiation of an activity of about 2,000, but composed of what I with Dr. Degrais call *rayonnements surpénétrants*—that is, selected rays of an exceedingly high penetrating power. The screen interposed was 2 mm. thick. The apparatus employed was a radiferous linen containing 0.05 of radium of an activity of 500,000. Here the dosage was very strong; nevertheless, not the slightest inflammation was produced, the tumour simply receding.

Case III.

My next is a case of ulceration of rapid evolution and malignant form. We applied during ten hours, one hour a day, an apparatus radiating 55,000, composed of 0 per cent. alpha, 90 per cent. beta, and 10 per cent. gamma rays, and covered by a screen of aluminium $\frac{2}{10}$ mm. thick. There was produced an inflammatory reaction and the formation of a crust, which at the end of two months came off, leaving the skin intact and healthy.

Here are some general rules which I might mention for treating cancer of the skin:

If the lesion be torpid, of non-malignant appearance and of small size, the very light filters can be used; a radiation of 50,000, composed of all the beta and the gamma rays, applied from two to four hours will suffice.

If the lesions be acute, with the periphery inflamed—in short, malignant, and of bad appearance—I prefer to treat them gently and cautiously by interspaced applications. The filters of $\frac{1}{10}$ and $\frac{1}{20}$ mm. of lead must be used, and act from twenty to thirty hours with a radiation of about 20,000, composed of "*rayonnements surpénétrants*," the hard beta and gamma, with a majority of the former.

If the lesion be very deeply spreading, and the cancer under the skin is to be treated, and the skin in that case at the same time protected, it is still more necessary to choose very powerful apparatus, covering them with from 3 to 4 mm. of lead, so as to have only very deeply penetrative gamma rays, forming an activity of not more than 2,000 to 3,000.

Each application is from ten to twelve hours. It is made during the night, and renewed every other night. After ten to twelve applications they must be stopped for from three to four weeks, and a second series then commenced.

I show two cases of leukoplakia, which greatly benefited by the treatment, but I must mention that in some cases the leucoplakia returned after a certain time. They were treated with very light filtering and short applications of ten minutes' duration, repeated ten times.

I will now show some of my keloid cases. Keloid tissue is exceedingly good ground for radium to work on. A keloid can be cured and the base of the tissues even rendered sufficiently supple to enable the skin to be easily wrinkled, without, at any moment, the slightest inflammation of the skin being produced. But in certain cases the keloid can, without any risk, be inflamed and destroyed. Indeed, it is exceedingly interesting that, when inflammation has been induced by radium, it occasions no injurious excitement, but, on the contrary, the keloid wears away at the same time as the induced inflammation weakens. I have some cases which have never suffered any relapse, although of distant date. I show here a case of keloid in the neck, and I may explain how I should treat such a case. I should take an apparatus of 500,000 activity, of large size, so as to cover the entire diseased surface; I should interpose a screen of 2 mm. of lead, and I should leave it in place for six successive nights—that is, sixty hours. After six weeks of rest, I should begin again, and so on, consecutively. The radiation coming through the 2 mm. of lead, would be formed of "*rayonnements surpénétrants*" of about 5.000 activity.

The question of the treatment of vicious cicatrices is more complex.

Radium, in any case, can only be useful when the cicatrix is prominent, and even then there are two points to be considered. If, in the cicatricial prominence, there be joined keloid tissue, then the treatment will be efficacious. If there be only sclero-fibrous tissue, it will be necessary to destroy it, and this destruction always involves the eventual possibility of the production of telangiectasis, which is entirely opposed to the aesthetic point of view, and dominates the question of treatment of vicious cicatrices.

The rule is only to treat cicatrices with prominent bridles, if they are supposed to be keloid, and not to treat other kinds, except when they are particularly unsightly.

Several slides illustrate some of the results that I have obtained in cases of vicious cicatrices. When these cicatrices contain keloid tissue the technique is the same as for the keloids.

Here is a case of an upper lip which was retracted by a vicious cicatrix; the treatment has restored to the lip its lost flexibility, enabling it to descend and to meet the lower lip and to close the mouth, thereby most advantageously changing the child's physiognomy.

We have now come to the large groups of angiomata. Here the action of the radium is heroic, and we must again know how to discern the cases which are particularly favourable. It is the projecting forms—cirsoïde and tuberous tumours—which benefit most by the treatment. I am going, first, to pass these cases in review.

Here is a case of a vascular tumour of the scalp projecting nearly 7 cm.

These forms of angioma are frequently met with in babies. The surface, as well as the deep-seated tissues, has to be treated. Then it is necessary to employ the rays of medium penetration, together with a sufficient number of "*rayonnements surpénétrants*," and yet carefully to avoid all irritation or ulceration of the skin which would risk causing a haemorrhage.

CROSS-FIRE.

This result is obtained by my method of "cross-fires," which I should like to explain.

An apparatus is placed on one side of the tumour, and another exactly opposite to it on the other side of the tumour. At each application these apparatus must be left in place sufficient time just to escape causing any inflammation of the surface. During that time the superpenetrative rays cross each other, and augment the intensity of their action in the deep-seated tissues. The whole application is repeated the following day. It is by that method that this baby was treated.

He received in the first series ten treatments, one each day, having two round varnish applicators 1 cm. in diameter, each containing 1 cg. of radium of activity 500,000. These applicators were covered with a screen of aluminium $\frac{2}{10}$ mm. in thickness, and the activity utilized was about 20,000, composed of all the beta and the gamma rays.

This first treatment was followed by four weeks' rest, at the end of which the tumour had diminished to such an extent that it was not possible to apply more than a single flat apparatus on the summit. A screen 1 mm. thick was interposed and left a whole night. This second method of treatment was repeated for two more nights, allowing a night's rest between each application. One month later the tumour had nearly disappeared.

This process of cross-fire, which augments the intensity of the very penetrative rays, and at the same time allows the less penetrative rays to act, constantly renders the greatest service. It reduces the length of the applications, and consequently the length of treatment. It can be employed with the apparatus either naked or covered with any of the series of screens. Every case and every region that lends itself ought to be treated by this process.

Some of the regions favourable to the action of cross-fire are the ear, above all the lobe; the nose; the cheek, one apparatus being placed in the mouth, and the other on the skin; the lip; the breast; cancer of the intestines, if it be possible to place on the tumour a tube in a catheter, introduced through an artificial anus, and at the same time place another on the abdominal part; hypertrophy of the prostate, treated by introducing at the same time one tube into the urethra and another into the rectum; and finally, all salient tumours such as I have shown you on the model, and all the vascular tumours. Here is a series of five cases which have all been treated by this method.

The angiomata of the mucous membrane, like those of the two latter cases, are sometimes cured with the greatest facility. Without forming actually salient tumours, the angiomata offer sometimes a raised surface, and are then also very favourable to the radium treatment.

A further four cases were treated by five hours' application of a round applicator, 6 cm. in diameter, containing 0.20 of radium, activity 500,000, and employed unscreened. This caused a fairly strong inflammation, resulting two months later in an absolutely level surface.

Angiomata will sometimes develop into veritable monstrosities, covering the whole of one side of the face. You will see on the five slides I will now present to you how the most favourable results have been obtained in these cases, abandoned until now by therapeutics. The last case shows an enormous angioma in course of treatment. The lower part alone has been treated and cured, and by comparison with the parts that have not yet undergone treatment you can estimate the extraordinary influence of radium on angioma.

We come now to the flat forms of angioma, with naevivascular tones; these are much more difficult of treatment. In the beginning we tried applications causing violent irritation; the results at first were exceedingly fine, but afterwards we found on one hand that the tissues became often too white, like scars, and, on the other hand, there sometimes unexpectedly occurred, after one or two years, some telangiectasis of new formation, which altered the aesthetic appearance of the first results. During the last

year and a half we have employed another method, that of radiferous linen, containing radium of weak radioactivity—50,000—and with interposition of a screen of aluminium from $\frac{1}{10}$ to $\frac{2}{10}$ mm. The linen is left in place for from twenty to thirty hours by applications of two hours each day. After one month's rest the treatment is recommenced.

This treatment is long, but it brings about the decoloration of the skin surely and by degrees, and without causing the slightest irritation, and is certain to produce neither too much decoloration nor any irregularities and inequalities of the decolorized surface.

Some results that deserve mention were obtained in cases of varieties of dermatic diseases. Chronic lichenous eczema yields admirably to radium treatment.

One such case had been treated for several years without the slightest result; it was cured in one month by the following method:

A large round apparatus, 6 cm. in diameter, containing 0.10 of radium of 500.000 activity, covered simply by a fine piece of indiarubber, was applied to each place for three minutes, for three successive days, which makes nine minutes in the three days. After one week's rest, the same treatment was recommenced, and again, after another week's rest. The superficial pruriginous inflammatory lesions were quickly healed, but there still remained a thickness of the tissues. I then covered the same apparatus with 1 mm. of lead and made twelve hours' application, two hours each day, and the complete cure was obtained.

Even on babies, where the skin is so delicate, it is possible in curing eczema to apply the most powerful apparatus unscreened, on condition that the apparatus is only left one or two minutes in place each time.

Here is a case of rebellious acne, which was most happily modified, but the result is not perfectly complete. Six months ago some elements reappeared, which we are now beginning to treat again.

In the following cases that I have now to show you the lesion needed to be destroyed in order to be ameliorated, for radium has no specific action. This case of ichthyosis hystrix required ten hours' application of a powerful and unscreened apparatus of 500.000 activity.

Here, again, are two cases of pigmentary tumours, which left after destruction a little trace of scars.

Gentlemen, I have now finished my demonstrations, which are the results of observations of 1,000 cases. In so short a time it has not been possible to do more than show the stepping-stones and point out the signposts of the methods I have employed.

Radium therapeutics has become a very extensive subject, and so, finally, I must ask you to grant me your indulgence for the insufficiency of many of my demonstrations, as well as for the very lengthy time I have retained your attention, and I thank you heartily for the patience you have shown me.

DISCUSSION.

Sir Malcolm Morris, K.C.V.O. (London), in moving a formal vote of thanks, said that these new therapeutic agents were extraordinarily difficult to put upon a working basis, and it was a matter for congratulation when the scientific establishment of one of them fell into the hands of a man who was, and had been throughout his career, trained scientifically. Dr. Wickham had had the good fortune to have a large quantity of radium placed at his disposal, but would any one else have made so much of a like opportunity? It was not exaggeration to say that, just as in general surgery there were two great epochs, the one "before Lister" and the other "after Lister," so in the application of radium in medicine there were also two epochs, "before Wickham" and "after Wickham." Many of those present had been using radium before Wickham began. Some of them had been using it since 1901, but empirically, and without any assurance that they had not in a particular case done more harm than good. But through the principle of radium filtration the danger had been reduced to a minimum. If it were not for this principle, they would still have this active remedy in their hands, but be incapable of using it. All the speaker knew of the scientific application of radium he had learnt from Dr. Wickham in Paris. Nevertheless, although he thought they might follow as closely as possible in the lines of the master who had given them the idea, yet when they worked alone and used it by themselves day after day for months they were bound to come across some new points and find themselves groping in the dark with regard to many others. With respect to the question of filtration, the three rules to which Dr. Wickham had drawn attention were really the key to the position at the present moment. The cases in which he was particularly interested were those to which Dr. Wickham's third rule applied. Recently he had a case in which the tuberculous glands had been removed on three different occasions, and in order to avoid another surgical investigation, which seemed likely to be equally unavailing, he thought he would try the effect of radium. There were three tuberculous glands. There could be no question as to the accuracy of the diagnosis, for there were the previous operations to go upon and the microscopical proof. He used a filter of 2 mm. of lead and gave long exposures, two hours a day for six days on one gland. At the end of three weeks there was not a trace of the gland left; moreover, the skin was untouched, and there was no sign of a burn. The other glands were treated in the same way, with the same result. Again, rodent ulcer in its early stages was a formidable matter, not only to the dermatologist, but also to the surgeon, especially when situated in the region of the eye and the nose. But wherever such rodent ulcer existed it could be removed by radium after several hours' application with moderate screening. A crust formed, and this, at the end of six or seven weeks, fell away. That, again, was an enormous advance. But in the case of early epitheliomas of the mucous membrane, they were standing on rather different ground, and in such matters he always safeguarded himself with the report of a skilled surgeon. If the surgeon said the case was inoperable, then he felt that it was justifiable to try this or any other method, but not otherwise. Although in certain cases life had been prolonged, pain reduced, and the severity of the symptoms mitigated, they had been disappointed in absolutely favourable results. There were cases affecting the mucous membrane—the very early ones—which might, he thought, be cured, but in these early epitheliomas of the tongue or the mucous membrane of the inside of the cheek they were in a difficult position. The surgeon would say that these were perfectly operable, and without great deformity or damage to the patient's tissues. Nevertheless, it was advisable to safeguard oneself with the opinion of the general surgeon before undertaking any case of this sort, as results with cases affecting the mucous membrane were not so favourable as those of superficial cases of the skin.

Dr. Robert B. Wild (Manchester), in seconding the vote of thanks, said his own experience of radium had been small, and belonged chiefly to the pre-Wickham era. Work done in that era would rank as pioneer work, but, as compared with it, Dr. Wickham's results represented the difference between science and empiricism. He had had the great advantage of possessing sufficient of the remedy to cover an adequate portion of the skin at one time. Others had results which promised much, but the area over which they could apply the radium was so small, that in the class of cases the speaker saw at the Manchester Cancer Hospital, the chief benefit lay in the treatment of isolated nodules. With these they succeeded in spite of the crudity of their apparatus. Nodules the size of a sixpence or a shilling, and ½ in. height, disappeared under the radium, and the fact that they could get rid of nodules of this size proved that the remedy had distinct possibilities. He had been much interested in the difference between skin lesions and mucous membrane lesions on which Sir Malcolm Morris laid stress. The speaker found no good results on the mucous membrane in the case of small epitheliomatous growths at the orifice of the salivary ducts just beneath the tongue. The impression previously formed in his mind was that the *x* rays would do practically all that radium would do, and that they were of greater therapeutic value because of the larger area that could be treated. But they must now conclude that there was a distinct difference between the *x* rays and radium. Dr. Wickham's slides had brought out that point in a most marked manner. The way in which some of the lesions involving cartilage healed up under radium was very wonderful. In several of the cases demonstrated by Dr. Wickham the cartilage was shown exposed in the one photograph, while in the other, after the radium treatment, the lesion had healed up in a manner that the speaker had never

seen equalled with the x rays in lesions of similar depth. That in itself was sufficient to demonstrate a difference between the action of the two agents. The deeply penetrative powers of the gamma rays, after being filtered as Dr. Wickham filtered them, were hopeful for secondary gland lesions of cancer hitherto inoperable and untreatable. The cross-fire method, offering as it did a favourable means of reaching the deep tissues, was likely frequently to be useful. When radio-activity came to be investigated some years ago, the speaker thought it would be interesting to test the influence of radio-active substances upon sensitive nerve-endings. The difficulty was the expense of testing radium by pharmacological means, but he carried out a series of experiments with salts of uranium and thorium, as well as solutions of thorium emanations, and watched their effect upon the heart of a frog; 16 mg. of pure radium bromide placed exactly opposite the vagus endings of a frog's heart and the intracardiac ganglia appeared to have a negligible influence. When it was remembered that the smallest quantities of atropine would depress the heart's action and that a minute electrical current would have an immediate influence, it was all the more remarkable that radium under these conditions, ¼ in. away from the vagus endings of the heart of a frog and with no screen, would not apparently alter it in the least. The same amount of radiation as was playing upon the frog's heart would, in a similar length of time, cause a severe burn upon the skin.

Dr. J. GOODWIN TOMKINSON (Glasgow) said that if he might find fault with Dr. Wickham it was because he did not sufficiently dilate upon the æsthetic quality of the cicatrices resulting from his method. From every point of view these were of striking cosmetic character. The speaker's attention had been particularly arrested by one of the first cases seen by him in Paris. This was a patient of Dr. Thibierge, treated by Dr. Dominici, suffering from very extensive malignant disease of the nose. After four applications, not only had the neoplastic tissue practically disappeared, but the original shape of the nose had been restored, while the cicatrix was smooth and flexible. The original conformation of the parts appeared to have been renewed, for the member, as it existed before treatment, bore little resemblance to the normal nose. This went to prove that they were dealing with a very different therapeutic agent from the x rays, for a lesion of that kind would defy x-ray therapy. He had become familiar with the therapeutic applications of the x rays, and, though excellent in ringworm and other conditions, they were not so satisfactory in the treatment of rodent ulcer. There might be an immediate improvement, but there was subsequent recrudescence. The discovery of a more potent therapeutic agent was therefore to be hailed with delight. There was one particular, however, in which these two physical agents approximated. When injudicious doses of either were given, telangiectatic scars developed. While on this subject he would point out that the disfiguring scars sometimes resulting from the x-ray treatment of lupus vulgaris might be obviated by giving several short series of small doses at long intervals, during which judicious cauterization was practised. The cicatrix then never showed telangiectasis to the degree of disfigurement.

Dr. J. H. SEQUEIRA (London Hospital) said he had found radium particularly valuable in dealing with small lesions, but it was only by the method of spreading the radium over a surface that they had been able to advance. He had treated some 170 cases, many of them in the pre-Wickham era, and had reached the conclusion that in radium they had rays which were of greater penetrative power than the x rays, or perhaps he had better say, manageable rays that could be used for greater penetration. He had been filtering the x rays for some time past. One of his assistants devised a filter consisting of lint soaked in sodium tungstate, and by this means it was possible materially to influence the course even of mammary cancer and cancer of the glands and tuberculous glands. He had also used a thin sheet of aluminium as the method of filtration in radium, and had followed up the infiltrated edges of rodent ulcer around the nose, where the involvement of cartilage was a very troublesome factor, and made it impossible to cope with it by means of x rays alone. In that type of case the x rays were markedly excelled by the radium. At one time he treated such cases by paring them down, curetting away the edges, and then using the x rays. When this method was followed, they would sometimes have an excellent superficial result but deep recurrences, some of them cystic in character and making big holes in the face. Those cases, he thought, were amenable to treatment by radium, and it was not necessary to put the patient through a disfiguring operation. He had very little radium, but he made it work day and night. And in the big infiltrated cases the results were very much superior to anything they had obtained by the x rays, which, however, were still available for superficial rodent ulcer. The good effects of radium were seen to the best advantage in those cases in which there were horrible caverns. He had treated a number of tuberculous glands by means of filtered x rays. With regard to epithelioma of the mouth, Dr. Wickham and he were interested in a case in which there had been great benefit under radium, but some recurrence in the palate. The speaker's radium was of small quantity, but it produced a distinct effect upon the patient, who had since been under Dr. Wickham's care, with most excellent results. He followed Sir Malcolm Morris, however, in believing it to be unjustifiable to interfere with the surgeon's decision in such cases. If the patient had a chance of having the growth nicely and swiftly removed by the knife, leaving a clean scar, it was not right to deprive him of it.

Dr. S. ERNEST DORE (London) endorsed the remarks of Sir Malcolm Morris as to the revolution which had taken place in radium treatment when it was placed on a scientific basis. He remembered a case of epithelioma in which he obtained most excellent results with a small quantity of radium. But in those days they used small quantities, short exposures, and no filters, and the results they obtained were not to be compared with the results obtained now. He had had the pleasure of seeing some of the results obtained by Dr. Wickham in Paris, and there was no doubt whatever as to the advance that had taken place in radium treatment. Dr. Sequeira had spoken of filtering the x rays. He (Dr. Dore) took it that the x rays were gamma rays, and these could not be filtered in the same way as radium. Radium could be split up into its component rays. Alpha and beta were probably material particles, but the gamma rays were quite different, and corresponded to the x rays; probably they were the same as the x rays, and were vibrations of ether. The thing that struck him particularly was the possible differences in effect upon the skin of the different rays. The alpha rays were easily cut off by various thin interposing substances, but there were bodies—he believed polonium was one—which only gave off alpha rays. By the use of screens the gamma rays could be used quite separately from the others, but the beta rays apparently could not be used without the gamma rays. He wished to know whether there had been any results as a consequence of using polonium for alpha rays, or whether alpha or beta rays could be deflected by means of a magnet for therapeutic purposes. Would any special therapeutic value attach to that course of action? Dr. Tomkinson had spoken of telangiectasis, and he (Dr. Dore) wished to ask whether it was the more superficial rays or the deeply penetrating rays, or both, which had this effect. He was by no means an alarmist, but if Dr. Wickham had any cases of chronic radium dermatitis or permanent alopecia occurring as a late result of radium treatment it would be very important to know of them. Finally, could radium rays be used for tinea and hypertrichosis?

Dr. TREASURE wished to know what was the present position of radium in the treatment of lupus. They had not heard anything about lupus that day.

Dr. J. METCALFE (Bradford) said that the point which had particularly impressed him was that referred to by Dr. Dore. They heard a great deal about the penetrative power of the alpha, beta, and gamma rays, and that the last-named had an effect upon the deep tissues, but was there any intrinsic difference in the actual results obtained? Was it simply a matter of filtration pure and simple, or a matter of the ray acting on the different tissues in a different way? In other words, if Dr. Wickham could get the gamma rays to act upon the skin, would there be any difference in the reaction from that produced by the alpha rays acting in the same way? The last speaker referred to radium in the treatment of lupus. He (Dr. Metcalfe) had used x rays and the Finsen-Reyn lamp in the treatment of a case of lupus of the septum cartilage

of the nose, and although the malady had not healed it had not increased with any rapidity. Some months ago he used some radium on six or seven occasions, and the hole, which had always shown an advancing ulcerated surface, had healed up. Dr. Sequeira had referred to his filters of lint soaked in sodium tungstate. Dr. Morton had told him about that method of filtration, and he had used it in a number of cases, with effects absolutely reliable and excellent. He had been wondering whether some similar method of filtration would be applicable to radium. It might be better even than lead or aluminium.

Dr. J. A. Codd (Wolverhampton) said that radium appeared to be more amenable to accurate measurement and adequate handling than the *x* rays. Was it possible in some way to co-ordinate the two sources so that results in radium might be expressed in terms of *x* rays, those who worked only in the latter being thus able to take advantage of the results obtained by the radium workers? If units of radium could be expressed in terms of *x*-ray units, it would be of very great assistance, and Dr. Wickham's filters could be used with equal accuracy and effect in *x*-ray work. He had been in the habit of using filters with *x* rays for some time past, and they had proved very successful, but with a more excellent system of filters, such as Dr. Wickham had at his disposal, the results, of course, would be much more satisfactory.

Reply.

Dr. Wickham said that it would be very difficult for him to answer all the questions which had been raised. It must be understood that radium science was only at its beginning; when they spoke about mensuration they were only taking the first steps, and might be very far from being finally right. He was not prepared to say what was the precise part played respectively by the beta rays or the gamma rays. It would be very interesting to know. They only knew that, using filters of a certain thickness —say .4 mm.—of lead, nothing but gamma rays could act, and those only after a long application. He had tried polonium, as one speaker had suggested, but the activity coming from polonium was very weak indeed. They were trying at present to concentrate the activity of polonium, and perhaps later on they would have something to say about it. Telangiectasis following upon radium treatment seemed to depend upon the tissues themselves. If rodent ulcer or pigmentary naevi or flat vascular naevi were treated by producing inflammatory conditions, they might see, after the inflammation had healed, telangiectasis appear, and after an apparently good result a new reddish scar would form and another naevus return. It was necessary to know what were the conditions of the tissues likely to give rise readily to telangiectatic scars. They had had a very instructive case of chronic radium dermatitis. It was that of a nurse who had had two of her fingers affected in exactly the same way as in the dermatitis following the *x* rays. She was now compelled to refrain from touching the apparatus, although she was allowed to give instructions to others. He had not tried radium upon tinea, the method of Sabouraud being so splendidly satisfactory. Of course, from the scientific point of view an experiment upon tinea would have an interest. In treating hypertrichosis it was necessary to have thick screens and rays with a deep power of penetration. This procedure never produced the least inflammation. In the case of lupus the Finsen treatment did so well that they naturally sent a patient first to that department. In lupus of the conjunctiva, radium apparently did well. In lupus erythematosus it did just as well as other treatments, but he could not say that it did better. In conclusion, Dr. Wickham expressed his thanks for the reception which he had been accorded, and mentioned the fact that, although a Frenchman, he had an English ancestry.

ON THE TREATMENT OF NAEVUS BY RADIUM.

(FROM NOTES OF TWENTY-FOUR CASES.)

By Henry Lewis Jones, M.D., F.R.C.P., M.A.,
Medical Officer in Charge of Electrical Department, St. Bartholomew's Hospital.

The fact that vascular naevi are favourably influenced by the radiations of radium is now well known, and cases of the successful use of radium in this condition have been recorded by numerous writers. Something still remains to be learnt of the details of the procedure to be adopted in the employment of radium in these cases, and the following observations are based upon the treatment of 24 cases in the electrical department of St Bartholomew's Hospital.

The specimen of radium at my command consists of 15 mg. of radium bromide, with a radio-activity of about 500,000—that is to say, of about one-quarter of the strength of the pure salt. It is enclosed in an aluminium capsule or button 1 cm. in diameter, and is so fixed in the capsule as to form an even layer, giving off a uniform radiation from the whole front surface of the button in any position. The application to a naevus is made by fixing the button on the part with a piece of adhesive plaster, and a layer of thin gutta percha tissue is generally placed between the button and the skin. The time of the application has generally been for one hour, but I now think that a somewhat longer time—say an hour and a quarter—would be better.

In order to simplify matters the naevi selected for treatment have been small ones of about the same size as the radium button, so that the whole area of the naevus might receive identical treatment. All have been actively-growing, florid naevi in young babies, and all have undergone retrogressive changes after the first application of the radium.

The general behaviour of a naevus after an application is that a reaction begins in the course of about five days. This reaction shows itself first by an increased redness of the surface, followed very soon by a gradual flattening of the naevus if it has previously been raised; then the surface becomes less florid, a little desquamation or the formation of a thin dry scab takes place, and this falls off and reforms several times, while the naevus continues to become paler and of more indefinite outline. At last it fades away and the skin assumes a natural appearance, retaining for some time a faint pink image of the original naevus.

No formation of a sore or moist oozing surface has been observed, and the part seems to need no after-dressing. The whole process of evolution takes a month or six weeks, the latter stages being somewhat slow. No pigmentation of the surface has been observed.

The action of the radium is very strictly localized to the surface in contact with the button, and probably this may be explained in part by the fact that the aluminium capsule containing the radium is fixed in a brass holder, which has the effect of encircling it with a ring of brass, which would certainly obstruct the passage of the rays through the rim thus formed. In several of the cases treated a portion of the edge of the naevus or a small satellite naevus has been outside the edge of the button, and has persisted or has even continued to grow, while the treated central part of the naevus has been retrogressing favourably.

When the naevus has been smaller than the button the healthy skin surrounding the naevus is acted upon, and an inflammatory reaction is produced, so that the mark of the button is made visible, and has usually remained as a red patch for about three weeks before clearing up.

An interesting point in support of the theory that radium acts more particularly upon young and actively growing tissues is to be found in comparing the effect of radium upon naevi with its effect upon the port wine mark of adults. Although radium is useful in the latter, I have found that longer exposures are required to obtain the desired result, and that the amount of reaction in the skin over a port wine mark is less than is seen in the skin of a baby.

In a case of stellate naevus in a girl of 11 years an application of the radium button for an hour produced a lively reaction in the skin, but when this had cleared up the stellate naevus was seen to be unchanged, and its little central vessel could be seen to pulsate as before, when the surface was viewed through a glass compressor.

Of the total number of cases under review, 12, or one-half, have been completed with a single application. Six have required a second application, 4 are not yet completed, but are markedly altered for the better, and 2 have been treated with a very low grade sample of radium for periods of two and four hours without any marked result as yet.

Two of the cases had a pair of naevi close together. Case 10 had two naevi of the shoulder, each about a centimetre in diameter, florid and raised. One was treated on May 4th, and on May 20th this was faded and flattened while its neighbour was still active. The second one, treated on May 20th, was also in a state of marked retrogression on June 4th. Case 21 was similar, except that the naevi were near the edge of the anterior fontanelle. One was treated on June 22nd and the other on July 6th. Both are now almost obliterated.

It is unnecessary to say much about the advantages of radium for the treatment of naevus. A method which is painless, needs no subsequent dressings, and leaves no scar, is of supreme importance, and I consider radium to be most valuable in naevus cases.

THE ETIOLOGY AND TREATMENT OF PRURITUS ANI.

By J. Goodwin Tomkinson, M.D.,
Medical Electrician, Glasgow Western Infirmary; Dermatologist, Glasgow Hospital for Diseases of Ear, Nose, and Throat.

Whilst the etiological factor in pruritus ani is often a local one, its causation is not infrequently to be found in some functional or organic defect in the complex processes of general metabolism. Its cause, however, is not always discoverable, even after the most careful and thorough examination. The affection is common to both sexes and at all periods of life. In children a frequent cause is the presence of intestinal worms. In women pregnancy or some morbid state of the reproductive system may be the causative factor, while in the aged it may be due to the degenerative cutaneous changes peculiar to that period of life.

Having excluded such conditions as haemorrhoids, vascular congestion from pelvic tumours, hyperidrosis, fissures, pediculi, intestinal worms, etc., and the indiscriminate use of unsuitable material for toilet purposes, the causes of pruritus ani and the other forms of localized pruritus are identically those of generalized pruritus, and are, as expressed by Professor Gaucher, diathetic and autotoxic. Diseases of the liver (often associated with haemorrhoids), diseases of the kidneys (albuminuria, diabetes, etc.), gastric and intestinal disorders, and the gouty and rheumatic diatheses may be cited. Indeed any morbid condition capable of disturbing directly or reflexly peripheral innervation may be regarded as a possible etiological factor.

Men are more frequently the subjects of pruritus ani than are women, and are perhaps more often attacked in the active period of life when occupational demands are greatest. These in themselves are doubtless an aggravating factor; but irregular and hurried meals and indiscriminate and excessive indulgence at table, especially in subjects of the gouty diathesis, are probably most directly concerned in its manifestation. In such cases spa treatment is often of distinct benefit, due not only to the increased elimination of effete matters through renal and intestinal stimulation, but to the adoption of a more restful and rational daily regime.

The dermatologist is confronted with few affections, if any, more distressing to the patient than pruritus ani. Whatever the daily condition, nocturnal exacerbations occur in all cases, and the consequent and continued interference with sleep leads, in some instances, to very grave disturbance of mental health.

The recognition of the actual causative factor is all-important in determining a rational course of treatment, but as previously indicated it is not always so obvious "that he may run that readeth it."

A strict inquiry into the occupation, habits and diet should be made, and in no instance should urinary examination be omitted. In the presence of haemorrhoids, anal fissure, pediculi and other local causes, appropriate treatment should of course be adopted. Max Joseph lays special stress upon the regulation of the bowels in all cases and recommends the application of a lotion of perchloride of mercury (1 in 1,000) after each defaecation. Of aperients a daily saline taken fasting is undoubtedly the best.

The diet should be regulated to suit the individual case, but alcohol and coffee should be generally proscribed. Game, pork, duck and other easy fermentescible foods should be forbidden, and highly-seasoned dishes and soups rich in extractive matters should be similarly proscribed. A milk diet for the first days of treatment is distinctly beneficial.

Gouty and rheumatic patients will require appropriate medication.

The careful administration of the tincture of cannabis indica is of value in all obscure forms of pruritus, it should be suspended in mucilage, freely diluted, and given after meals. Other sedatives, such as the bromides and phenacetin, may be employed.

Spa treatment—previously alluded to—is often of benefit. I have observed marked amelioration follow a course of Harrogate strong sulphur water. Other suitable spas are Strathpeffer, Vichy and Contrexéville.

While pruritus ani is described as a defect of innervation with no symptom other than itching, or similar sensation, and exhibiting no apparent structural change, yet, although the parts often show little evidence of scratching, excoriated and eczematous modifications of the parts do not infrequently occur as the result of frenzied digital attacks occasioned by the intensity of the exacerbations. The strength of local applications should therefore be regulated by the condition of the parts. To cite all the medicaments recommended for local treatment would be to give a list of every known drug claiming local anti-pruritic properties. Perhaps, however, the carbolic acid and the tar series are the most frequently employed. In cases of obscure causation Sabouraud advocates strong tar preparations. These often cause considerable smarting, which, however, is followed by almost immediate relief and in some cases a cure is claimed after a few weeks' treatment. In all cases the parts should be kept scrupulously clean. The application of water as hot as can be borne often affords temporary relief. This should be followed by the application of a lotion of tar and lead, carbolic acid or corrosive sublimate of suitable strength, and the subsequent smearing of the parts, after careful drying, with a cocaine ointment, or still better, in those cases where the itching extends into the rectum, with the introduction of a cocaine suppository.

Mercurial ointments when rubbed in, and in less degree when simply applied to the parts, are certainly absorbed, and marked relief often follows their exhibition.

Unfortunately there are many rebellious cases where the preceding remedies are but of the most temporary benefit. In these intractable cases the actual cautery or linear scarification has been employed. Such drastic measures, however, are much less frequently indicated since the introduction of radiotherapy and treatment by the high frequency current. Static electricity also has its advocates, and the continuous current—the + pole applied to the affected area—is also recommended. I have been particularly pleased with the result of high frequency treatment in a rebellious case of two years' duration which is now virtually cured. There are, however, occasional relapses, but these are becoming progressively less in intensity and quickly disappear after a short course with the vacuum electrode.

Judging from the good results recorded by MM. Wickham and Degrais in rebellious pruriginous conditions, radium therapy may prove to be of similar service in pruritus ani.

To sum up: the local drug applications which in my hands appear to have been the most useful are tar and lead lotion and the mercurial ointments, while of physical agents the high frequency current has certainly proved of conspicuous benefit. No one, however, with the smallest experience of this affection would depend solely upon external treatment.

DISCUSSION.

Dr. Howard Humphris (London) said that the benefits of static electricity in this complaint, although mentioned by Dr. Tomkinson, had not received the attention in this country that they deserved. He could recall some dozen cases of pruritus of the anus or vulva which had been referred to him, and in none of them did static electricity fail to effect relief. In some cases the vacuum electrode, in others the breeze or spray, relieved the itching, and in one case, he remembered, the indirect spark had to be applied before relief was obtained. As a rule, the second or third day would show the desired result, and the longest duration of an unrelieved condition after this electrical

treatment that he remembered was one of ten or eleven days. In all cases, however, he had seen static electricity give marked relief and apparently permanent cure.

Dr. J. METCALFE (Bradford) stated that his reason for joining in the discussion was to draw attention to the almost constant association of constitutional conditions with pruritus ani. But the specific constitutional irritant which he wished to show as a frequent source of pruritus ani was the small intestinal parasite, the *Oxyuris vermicularis*. The point was that many persons suffered from the irritation of this parasite during the whole of their lives. They were treated periodically by every possible and impossible means, but it seemed as if the parasite could not be permanently eradicated. For a time the patient might imagine that he was free from his trouble, but it would return and he would suffer for hours from intolerable pruritus ani until the *oxyuris* was removed. The parasite probably did not actually breed in the intestine, but reinfection took place by the ova being carried to the mouth by the patient himself, possibly after scratching the anus and then rubbing the nose. What could be done for this condition? The most useful method of treatment appeared to be the washing of the anus after defaecation, followed by the application of a germicidal lotion or ointment to destroy the ova. The intestinal antiseptics, such as petroleum emulsion, salol, or creosote, were the most generally useful internal agents.

Dr. W. A. LOXTON (Birmingham) said that pruritus ani had been one of the most troublesome varieties of disease he had ever been called upon to deal with. It seemed to him that very frequently they were unable to detect a local lesion giving rise to the irritation. In many cases there had probably been a general constitutional condition which had interfered with the nutrition—perhaps of the sensory nerve endings—and thus some local irritation had been enabled to come into much greater activity. All the varieties of treatment which were recommended had been tried, but he had not met with anything having the action upon these cases which was possessed by the high frequency currents. Recently some cases had been under his care in which the treatment of this condition by high frequency had been of the greatest benefit. One patient had suffered from the malady for two or three years. He came to the hospital, but no line of treatment touched him at all. He was sent to the *x* ray room, but the vacuum tube was equally without any effect. He then had a very slight amount of sparking, and within a week was perfectly free from his trouble.

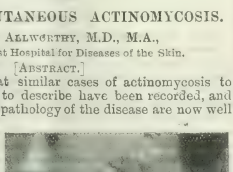
Dr. TOMKINSON, in reply, said that he was pleased to hear that Dr. Humphris had had such good results from static electricity. Brocq also strongly recommended it in pruritic conditions. As Dr. Metcalfe remarked, doubtless the physical agents, or some of them at least, acted constitutionally, and this would account in some degree for the good results that the last speaker was able to record.

A CASE OF CUTANEOUS ACTINOMYCOSIS.

By S. W. ALLWORTHY, M.D., M.A.,
Physician, Belfast Hospital for Diseases of the Skin.

[ABSTRACT.]

I AM well aware that similar cases of actinomycosis to the one I am about to describe have been recorded, and that the etiology and pathology of the disease are now well known. Nevertheless, I feel that complete histories of this comparatively rare affection may suggest new ideas and stimulate interest. In Ireland very few cases have been recorded, and until 1900 no case had been communicated to the Royal Academy of Medicine in Dublin.



Before treatment.

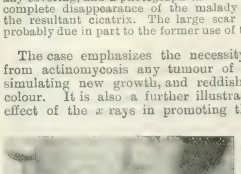
I have been unable to obtain statistics as regards the frequency of the disease in animals in this country, owing to the fact that it is not scheduled under the Diseases of Animals Act. During the past seven years only 2 cases have been detected in the Belfast abattoir. No authentic case is on record, I believe, of transmission of the disease from one animal to another, or from the lower animals to man, and consequently, after the removal of the affected parts, the flesh of actinomycotic cattle is, as a rule, admitted for sale.

CASE.—In July, 1908, a lady aged 25 years came to me and stated that in the first week of May, 1908, a small swelling began in the neighbourhood of some decayed teeth on the left side. It appeared to be an ordinary dental abscess. After a time it grew larger, and was lanced inside the mouth without any good result, and in a day or two the tumour was cut into from the outside, the only effect being the extraction of a small quantity of blood. Various lotions were applied, and some seven teeth extracted, but by this time several other small tumours could be felt. The nodules evidently continued to multiply in the subcutaneous tissue of the cheek, and after infiltration and softening of the cutis coalesced to form a mass of actinomycomata, as shown in the photograph taken on July 25th, 1908, which represents about two and a half months' growth. The lesion had a sharp, circumscribed margin, extending from immediately under the lower lobe of the left ear downwards along the course of the inferior maxillary bone to the chin, and in width from the sterno-mastoid in the neck to the middle of the cheek. The majority of the cutaneous and subcutaneous tumours were hard, firm, and elastic to the touch, and the whole surface was uneven and excruciatingly tender. The discharge contained minute grey granules and greenish-yellow particles which were easily detected by the eye when spread on a glass slide. Microscopic examination proved these to consist of colonies of the actinomyces or ray fungus. The characteristic long branching and finely interwoven mycelial threads of the streptothrix formation, with some radiating club or wedge shaped projections, were apparent in glycerine and stained preparations.

There can be little doubt as to how the disease originated, as my patient stated that she was in the habit of chewing and eating uncooked oaten meal in the form known as "flake-meal." The view generally held in such cases is that the awns of grain, covered with the fungus, penetrate between the teeth and into the gums and tongue. There was no derangement of the general health, but the case was complicated by the fact that she was a married woman six months pregnant, and consequently it was more difficult to decide upon the treatment to adopt. From the beginning of August until the middle of October I gave her about thirty exposures to the *x* rays, each exposure was of about ten minutes' duration, and there was an interval of three weeks in the middle of September owing to a slight reaction. The treatment, while not sufficing to alter appreciably the size of the tumours, gave relief by making the part less painful and sensitive.

Treatment was suspended until the end of November, owing to the birth of a daughter, and then, having arranged that the baby should be artificially fed, Thomassen's treatment by iodide of potash was begun. A 10-grain dose was administered three times a day for the first week, one of 15 grains the second week, and 20 grains the third week. The mass of granulation tissue immediately commenced to contract, and the granules in the discharge from the sinuses were not so easily detected. By the end of January no trace of the fungus could be discovered. The dose was subsequently increased to 30 and 35 grains three times in the day, given intermittently after the third week in January, with cessation intervals of about a week at a time. At the beginning of March only two small tumours remained over the parotid region. By April she was able to do without any covering, and a photograph taken on June 14th shows the complete disappearance of the malady with the puckering of the resultant cicatrix. The large scar on the lower side is probably due in part to the former use of the lancet.

The case emphasizes the necessity for differentiating from actinomycosis any tumour of subcutaneous origin simulating new growth, and reddish or purplish-red in colour. It is also a further illustration of the negative effect of the *x* rays in promoting the absorption of the swellings and the destruction of the fungus.



After treatment.

DISCUSSION.

DR. R. B. WILD (Manchester) mentioned three cases of actinomycosis which he had seen during the past three years. In all these cases the fungus was demonstrated microscopically. One of the patients died from ulceration extending into the blood vessels of the neck, another was still under treatment and improving, and the third was cured, and remained well when last seen, twelve months after treatment had ceased. He could not say that

exposures to the *x* rays produced much beaefit, and the good results were obtained by iodide of potassium, large doses of which were given for twelve months. For some weeks in succession, indeed, as much as 320 grains daily was employed in the treatment.

The PRESIDENT, referring to the comparative infrequency of cases of actinomycosis, said that sometimes a number of cases would be found together in the same district. A few years ago the surgeon to the Poor Law infirmary in the town of Lurgan discovered a regular mine of actinomycosis, and showed three or four cases in the course of the year.

THE SUPPOSED RISKS ATTENDING X-RAY TREATMENT OF RINGWORM.

By R. HIGHAM COOPER, L.S.A.,
Radiographer to University College and Evelina Hospitals, London.

[ABSTRACT.]

THE subject may be divided intc two parts: (1) Injury to the scalp; (2) injury to the brain. Dermatitis and permanent alopecia cannot be called "supposed risks," since most of us have unfortunately seen cases having one or both results. One or two points with regard to these conditions may, however, be mentioned.

Scalp Injuries.

In my experience injuries to the scalp occur in four varieties:

1. Visible dermatitis without any epilatory effect.
2. Visible dermatitis with temporary alopecia.
3. Visible dermatitis with permanent alopecia.
4. Permanent alopecia unattended by visible dermatitis.

The second and third of these are the varieties commonly described, but I have certainly seen instances of the first and fourth. All of them are avoidable if due precautions are taken, unless they result from idiosyncrasy.

The cause of an erythema which is not followed by depilation I believe to be the use of too soft a tube. Over-exposure is admittedly the cause of the second and third varieties, and I am inclined to think that this is frequently due to examining the pastille too often, thus exposing it to light and slightly bleaching it. The determination of the exact moment when the pastille matches the control is difficult, especially when working by artificial light, and I have tried to overcome the difficulty by taking a pastille which has been turned to tint B the same day, covering it from all light in a cryptoscope, and afterwards comparing it in the dark in front of an *x* ray tube with another pastille which I am using by artificial light. If the fluorescence of the two is equal I consider the dose correct. This experiment depends upon the fact that the fluorescence of a pastille diminishes in proportion to its change in colour. The period of examination must only be for a few seconds, as the exposure to *x* rays further turns the pastille.

Brain Injuries.

At the Berlin Roentgen Congress last April, papers were read by Professor Krause and Drs. Farsterling, Gocht, and Krukenberg on various injuries caused by the *x* rays, and, amongst other things, they noted perverted and arrested development in animals after prolonged exposure. Such experiments, however, cannot be compared fairly with the *x*-ray treatment of children suffering from ringworm. The skulls of the animals were smaller, the bones less thick, the exposures far more prolonged, and, I believe, repeated; moreover, the normal development of the animals upon which the experiments were made was infinitely more rapid than that of human beings, a fact which may be of considerable importance.

My own experiments confirm those of Dr. Macleod[1] in every particular. I placed a pastille, wrapped in a piece of black paper, and backed with lead foil, against the scalp of a child of 7, on the opposite side of the head to the patch under treatment. The same pastille, always placed in the direct path of the rays, was used for every exposure on that child and many others, until seventy-five exposures, each comprising the normal pastille dose, had been given. A pastille placed at a similar distance without the resistance of the head turns to tint B in sixteen normal pastille doses, but the pastille in question showed no appreciable change from tint A.

[The author here described some other experiments pointing to the same conclusion.]

Precautions Used.

In treating the scalp I am anxious not to have too soft a tube, and I make a rule that the person who is conducting the treatment shall turn off the current, not when the tube becomes blue, but when it shows signs of reversals. A more certain method which I have devised is this: A piece of metal is attached to the dial of an ampèremeter in the primary circuit in such a way that when a certain number of ampères are registered the circuit is completed and an electric bell is rung. (It may be used to cut off the primary current if a relay is introduced.) It is obvious that a hot-wire ampèremeter must be used, as the oscillation of the needle in other types would spoil the experiment. The *rationale* of this depends upon the fact that a greater ampèrage is registered as the tube softens. The converse being true, the same apparatus may be used to indicate excessive hardness, if one is employing tubes not fitted with mica regulators.

In conclusion, we are faced with these questions:

1. Have we any record of injury to the brain?
2. Is such injury possible?
3. If it is possible, how can we avoid it?

To the first question the answer is emphatically, No. Half a dozen workers between them have reported 12,000 cases, and not one instance suggestive of interference with development or other brain injury has been noted. For my own part, I have treated over 180 cases by the fractional method, and given 2,000 doses with Sabouraud's pastilles, and know of no injurious result to the brain.

With regard to the second question, we must first consider what is the smallest dose that could cause injury. My own experience has been that a smaller dose than one pastille has a temporary stimulating effect, while any dose over one pastille tends towards inhibition and destruction of function. Whether my figures are right or wrong, it is scarcely conceivable that any part of the brain could receive a full pastille dose, while if the figures are correct the dose is infinitesimal.

Granting, however, the possibility of such injury, I would limit such possibility to cases in which a hard tube is used. All possible risk is eliminated when the patient is treated with a moderately soft tube, especially if Adamson's five-exposure method is employed.

Lastly, what of idiosyncrasy? The only example I have encountered was a case in which the patient was first treated by the fractional method without result; then a pastille dose was given ineffectually, and after three months' interval a dose was given slightly exceeding tint B, and still neither epilation nor dermatitis occurred.

[1] *Lancet*, May 15th, 1909.

DISCUSSION.

Miss MARGARET DOBSON, M.D. (Bradford) said: My experience has been very limited: but I should like to suggest a cause for a danger attending the treatment of ringworm by means of *x* rays which I have not seen mentioned in the literature of the subject. The education authorities in Bradford have lately had installed an *x*-ray apparatus for the treatment of ringworm occurring among school children, and during the past four or five months I have treated 270 ringworm patches by means of the *x* rays. In all these cases a microscopical examination was made, and with the exception of 5 cases the ringworm was found to be due to the *Microsporon audouini*. In 3 of the remaining 5 cases the disease was due to the *Megalosporon endothrix*, and in the remaining 2 apparently due to the *Trichophyton ectothrix*. In all these cases practically the same *x*-ray dose was given, and those cases due to the *Microsporon* followed the usual course, epilation being successful in some cases; *not* in others. In the 3 cases due to *Megalosporon endothrix* the patches, in one case after twenty-four hours, and in a second after ten days, swelled up, the skin becoming raised, oedematous, and glossy. The hair follicles suppurated, the hairs becoming loose and falling out. (The hairs surrounding the patch were unaffected.) The glands of the neck became enlarged and painful. Apparently a bad condition of kerion was

produced. I should like to suggest that in those cases of ringworm in which the disease is due to the *Megalosporon endothrix* there is a greater risk of burning the scalp and producing permanent baldness, and I should like to know the experience of others in this matter. In the 2 cases in which the disease was due to the *Trichophyton ectothrix*, the disease at the end of four or five weeks cleared up without any epilation at all.

Dr. F. Howard Humphris (London) said: As to the infallibility of the *x*-ray treatment in ringworm, I may cite two cases at the West London Hospital—sisters—the one aged 5 and the other 6. Each case was given a full pastille dose; in one Dr. Arthur superintended the administration, and in the other the dose was given by myself. Total epilation followed in each case, and the children were allowed by Dr. Arthur to return to school. Some weeks later, however, they were brought back to the hospital, the mother stating that they had infected a neighbour's child. The child in question showed a distinct patch of tinea tonsurans. The two little girls had a new growth of hair of a most suspicious appearance. I sent them up to Dr. Abrahams of the Skin Department, who pronounced the patches to be infected. It may be urged that the fallacy consisted in an error of treatment, and though this is at all times possible, I would point out that the treatments were not given by the same man, and that they are the only two cases, in the course of the four or five months during which I have been working with Dr. Arthur, where this occurred. It will be asked whether any germicidal drug was used. A 10 per cent. iodine solution was prescribed, but I cannot guarantee that it was used, although the mother appeared to be careful and conscientious. But I would point out that if we are to rely upon drugs—or even use them—we must logically abandon our position of claiming a cure for ringworm by means of *x* rays, and simply say that the rays are a useful adjunct to the other methods of ringworm therapy.

Dr. James Metcalfe (Bradford) said: The preceding speaker has drawn attention to two cases of recurrence, but I should like to state that it is out of the question to obtain destruction of the spores in ringworm and freedom from the possibility of recurrence without energetic after-treatment. Solutions either of tincture of iodine or mercuric preparations should be applied daily for some time after the application. If epilation has been properly produced and the after-treatment is carried on continuously for some weeks no recurrence should take place.

Professor Robert B. Wild (Manchester University) said: I should like to call attention to Dr. Aldersmith's observations, made many years ago, that if we can produce in ringworm a condition resembling alopecia areata the ringworm is readily cured. By the use of the *x* rays such a condition of complete epilation is most readily produced and found to be a valuable addition to our means of treating the disease. It must, however, be remembered that it is easy to exaggerate the importance of scalp ringworm. Apart from the delay to the child's education, it is rarely serious, compared with some affections the *x* rays have to treat, and causes no great suffering or constitutional trouble. The proposed compulsory treatment by *x* rays is, in my judgement, a thing to be strongly resisted. The danger from the use of *x* rays in ringworm is occasional permanent alopecia, and in many cases a loss of brightness and a coarseness of the texture of the hair, which renders the radiated patches quite distinctive for some time after the hair has grown again. There is no evidence of injury to the brain, but probably it is unwise to give many exposures and epilate the whole head at the same time. The experience of *x* rays in treating lupus cases in children on parts where the brain is necessarily in the track of the rays—an experience which covers many years—shows that there is no danger of brain injury from the dose necessary to treat ringworm. I do not believe that the ordinary exposure for ringworm will do harm to the ordinary child. I remember a case of an anaemic boy who always fainted during a sitting, but this, I think, was to be attributed to the nervousness and excitement of a particularly nervous child.

Dr. J. H. Sequeira (London) said: I have had experience of nearly 1,400 cases of ringworm and favus treated by the single-dosage method at the London Hospital and privately. This means about 7,000 exposures (for only a part can be done at once), and I do not hesitate to say that the risk of injury to the brain is imaginary. I agree that it is unwise to expose a child's scalp to the rays if the fontanelle is not closed, and, indeed, until after the third year. But it is unnecessary to contemplate *x*-ray treatment in such young subjects. It may, of course, be urged that in a large out-patient clinic it is impossible to follow up the cases and to find out whether there is any brain trouble or not. I agree with this criticism, but no fewer than 267 of my patients have been inmates of orphan asylums, children's homes and schools, where the condition after treatment has been under the expert observation of the medical officers and teachers. In view of this discussion I have communicated with the authorities of these institutions, and their reports are perfectly unanimous. They have not observed a single case of abnormality in the mental condition following the *x*-ray treatment. In a considerable number of these cases the observation has extended over two years. This evidence so kindly given me by the officers in charge of the children is, I think, conclusive. Sabouraud and others confirm this. I have also made some experiments which confirm the experience of Macleod,[1] that the scalp and skull prevent the passage of all but a small fraction of the rays given off by the *x*-ray tube. Dermatitis does not occur if the Sabouraud pastille is used, but I have seen permanent alopecia in five instances. In two of this number it was due to an accidental overlapping of the areas treated, so that a small part of the scalp received a double irradiation. In a third instance the central part of the area treated, owing to excessive curvature of the skull, was too near the anode. In the fourth and fifth cases rather large areas have been permanently affected. They were both early cases, but both occurred in groups treated at the same time and under identical conditions without any similar results. In one of them there had been some rather severe treatment by irritants before the *x* rays were applied. It is, of course, possible that idiosyncrasy plays some part. Children with soft, fine hair require a less prolonged application than those with strong, wiry hair. There are two points upon which I desire to lay emphasis. One is that we are dependent upon the careful manufacture and testing of the pastilles. Pastilles have been put on the market with which it required 50 per cent. too much of the rays to produce the prescribed tint. The danger of this is obvious. The discs supplied by Drault have always proved satisfactory. Secondly, it is useless to rely upon time measurement and on the tachimeter. This instrument is useful as a guide when the condition of the tube is known and is steady, but it cannot replace the pastille as a measure of the dose of the rays. With a steady current and with the interrupter making 800 dips per minute, in successive experiments with the same tube we have obtained the Sabouraud B tint respectively in six minutes, five minutes, three and a half minutes, and two and a half minutes. Recently in experimenting with a new pattern tube we obtained the pastille change in two minutes. These conditions are, of course, dangerous for ordinary working, as an extra half-minute's exposure would mean an overdose of more than 50 per cent.—enough to cause permanent epilation, if not dermatitis. I advise working with a tube which will give the requisite tint in ten to twelve minutes or more. When the operator is expert he may possibly reduce the time by altering the condition of the tube, but it is not necessary or advisable. Under-exposure, though troublesome, is much better than running the risk of alopecia. Should an area be under-exposed and the defluvium be partial, I always wait for a month or six weeks before submitting the area to the rays. In conclusion, I venture to express the opinion that with proper apparatus, used with sufficient care and according to Sabouraud's instructions, the *x*-ray treatment is efficient, rapid, and safe. To cover the small risk of idiosyncrasy and to guard myself and my staff I insist on the parent or guardian of the patient familiarizing himself with the nature of the treatment, and giving a written undertaking that no liability is incurred.

Dr. Robert W. Mackenna (Liverpool) said: After the valuable experimental evidence which has been brought forward by Dr. Higham Cooper and others, I think that the possibility of permanent damage to the brain following on the *x*-ray treatment of ringworm may be definitely

[1] *Lancet*, May 15th, 1909, p. 1375

excluded. Still, it would be advisable never to irradiate the scalp of very young children whose fontanelles are not closed, and I would suggest as an age limit five instead of three years as suggested by Dr. Sequeira. It is well known that *x* rays exert their detrimental effect chiefly on cells in active metabolism and growth, and in a child the metabolic activity of the brain cells is not so great as that of some other cells of the body. I may point out that alopecia of long duration may follow ringworm which has not been treated with the *x* rays, and I believe that some of the cases of partial but not permanent alopecia following *x*-ray therapy without dermatitis may be independent of the treatment. In cases where an overdose has been administered with prolonged alopecia following, I would suggest that at puberty, when the hair follicles in other parts of the body awaken into activity, there might be a return of hair to the denuded scalp. I endorse Dr. Sequeira's suggestion that the risks of the treatment should be explained to the parents, and that before treatment the parents should be required to sign a paper exonerating the therapeutist from liability. I think that in the cases mentioned by Dr. Dobson, in which the infection was due to the *Megalosporon endothrix*, kerion would have supervened independently of the *x*-ray treatment.

Dr. J. Goodwin Tomkinson (Glasgow) said: All the unsuccessful results cited this morning would have been obviated had the regulations laid down by Sabouraud for the treatment of tinea tonsurans been accurately followed. Every point of technique raised in this morning's discussion is referred to by Sabouraud and Noire in their monograph,[1] and exhaustively dealt with. No gauge of dosage other than the pastille should be used, as the conditions of the tube, as pointed out by Sabouraud, vary not only daily, but from hour to hour; hence the only measure of the *x*-rays should be that made at their *exit* from the tube. The possibility of cerebral injury is entirely chimerical, as the vast number of cases treated, not only in this country but in Paris, where ringworm colonies have been suppressed, indubitably prove. If any dependable case of cerebral mischief resulting from such treatment were demonstrated, we might even then hesitate to abandon what is the only reliable method at our disposal. With respect to this method, Sabouraud puts the whole matter in a nutshell in saying, "*C'est vraiment parfaite quand on l'applique parfaitement.*"

Dr. Howard Pirie said: On one occasion I have seen bad effects follow the application of the rays for ringworm. In this case far too big a dose was given. It was my first attempt at complete epilation of the whole scalp. I had on several previous occasions produced epilation of one spot, and I then determined to attempt the whole scalp at one sitting. At that time there was no recognized method of epilating the whole scalp at one sitting that I knew of, and my attempt was not a success. I gave much too large a dose. The after-result is that the child has permanent baldness over a patch of her scalp. It is with regard to the general symptoms shortly after the application that I wish to refer. There was redness over nearly all the scalp and ulceration in parts. The child was weak and in a very low state of health for nearly two months. An intense rash, like severe scarlet-fever rash, came out on the body and limbs. It was raised more than the rash of scarlet fever and rather more discrete. It lasted intensely for nearly a week and then died away slowly. The child is now in good health, though still bald in a patch. Although the dose was such as would never be given by a skilled worker nowadays, yet the child has recovered, and there is no weakness of the brain. The treatment was about four years ago. This is the only case I have seen in which bad effects followed *x*-ray treatment for ringworm, and I have since treated many cases causing complete temporary baldness.

Dr. R. E. Howell (Middlesbrough) said: I started ringworm treatment with the *x* rays about two and a half years ago, and my first patient was a medical friend who had unfortunately acquired the disease by infection from a case. We had nothing but theoretical experience of the *x* rays to go upon, but it was quite a successful result except that the hair returned grey in colour. This is the only case I have seen having this outcome, and I should like to know whether it is at all a common experience among other workers.

Dr. S. Ernest Dore (Evelina Hospital) said: I think we cannot too strongly deprecate the exaggerated reports which have been promulgated in the lay press on this subject. In my experience the effect of ordinary exposures on the brain tissue in the treatment of ringworm is nil. It seems reasonable to suppose that what does not injuriously affect the skin will not affect the underlying cerebral tissue. If the brain tissue were affected at all one might suppose that the immediate effect would take place about the fourteenth or fifteenth day after the exposure, as it is at that time that the epilation occurs. An epilation dose, if it had any effect at all upon the brain cells, would cause symptoms about the date corresponding to the fall of the hair. This, I believe, has never occurred. It has been shown, moreover, that only 20 per cent. of the rays penetrate the skull. Lastly, the large number of children treated—I believe that 5,000 cases have been treated by Sabouraud within five years, and an even larger number by Colcott Fox, in London—without a single ascertained case of harmful effect upon the child's development is the best answer to the alarmist statements which have been made.

Dr. Higham Cooper, in reply, said: Most of the questions raised have been answered by one or the other speaker. Dr. Dobson's experience of the three cases due to the *Megalosporon endothrix* is interesting. I have always believed that the action of the *x* rays in ringworm lay to some degree in inhibiting the activity of the spores themselves and temporarily weakening their vitality. What bearing the question of the particular spore has upon this point I should not like to say. It may depend upon its greater or less vitality. I remember one case in which I had a very acute dermatitis, and being a private case I happen to remember the spore which caused it. It was *Megalosporon endothrix*. The use of germicidal agents is always indicated, especially when patients cannot be depended on to observe personal cleanliness afterwards. I do not think it is so necessary in the case of clean patients. At the Evelina we have a most terrible class of patients in this respect, and it is eminently necessary to use germicidal agents. We have been very much troubled with reinfection, and I think that the case which one speaker mentioned, when temporary alopecia was produced and the cure was not permanent, may be put down to reinfection from some other part of the head. Several speakers have mentioned the texture of the hair after *x*-ray treatment. Professor Wild said that he had often found the hair coarse and wanting in brightness, and someone else noted greyness. As to greyness, this, of course, may be produced by over-exposure. The hairs that grow after slight over-exposure are usually lacking in colour and somewhat brittle. I treated a medical man whose hair came back red, and he was exceedingly annoyed about it. When treating children I notice that usually the hair comes back stronger and thicker than before. I quite agree with Dr. Sequeira that the tachimeter is not a reliable instrument. The points to go upon are primarily the pastille, which should be carefully kept from light during exposure, and the regulation distance. Sabouraud's instructions cannot be carried out too carefully. I have often found people make a mistake by taking a tube of a different diameter from that for which the Sabouraud method was intended. Some workers use tubes with very large bulb, and if the pastille is put too close to the wall of the tube grave injuries may result because of the effect from the tube wall. I do not quite follow the speaker who said that smaller doses were necessary for fine hair. It is fair hair which requires the smaller doses. Of course, fair hair is usually finer than dark, but in this connexion the thing that matters is the colour of the hair rather than its texture. When treating a patient with hypertrichosis the fine hairs on the chin are much more difficult to remove than the coarser ones. Attention has been drawn to the faulty pastilles put upon the market by a certain firm some time ago. These, I believe, have now been withdrawn. I had a very bad case of permanent baldness after using a pastille which was sold to me as Sabouraud's. I always insist now upon getting the genuine Sabouraud. Some time ago a curious consignment of pastilles was sent to me direct from Paris. Immediately on arrival they

[1] *Le traitement des teignes tondantes par les rayons X.*

were placed in the safe in the secretary's room at the hospital, and when I took them out a day or two afterwards and tore off the cover I found that they were distinctly brown in colour. I returned them to the makers, who said that they must have been exposed to the *x* rays, but the *x*-ray apparatus was some hundreds of yards away on another floor. The only conclusion which could be arrived at was that they had been exposed to *x* rays or heat in the post.

OBSERVATIONS ON THE EXISTENCE OF AN IDIOSYNCRATIC SUSCEPTIBILITY TO ROENTGEN RAYS.

By JOHN HALL-EDWARDS, L.R.C.P.Edin., F.R.P.S.Hon.,
Surgeon in Charge of the X-ray Department, General Hospital, Birmingham.

IN the early days of the application of the *x* rays to diagnosis and treatment all ill results produced were accounted for by attributing to the patient a special susceptibility to the action of the rays. In the light of our present knowledge there cannot be the slightest doubt that in by far the greater majority of these cases the result was due to maladministration and over-exposure, and not to any inherent susceptibility possessed by the patient.

The *x* rays were then administered by men who were not only completely ignorant of their properties and effects, but were, moreover, in many instances, untrained in the management of the apparatus used, and ignorant of the first principles of electrical science. We had then no methods of measuring the output of rays, and as a consequence the length of exposure, as measured by the amount of rays absorbed, was an unknown quantity. Many of the early workers were ignorant of the rudiments of photography, and, as is always the case with beginners in this science, they frequently mistook over-exposure for under-exposure, with the result that frequently a second, third, and fourth attempt was made to secure a radiograph by means of a lengthened exposure, when, in the first instance, over-exposure was the direct cause of their inability to procure the desired result.

It can hardly be wondered at that under these conditions numerous cases were forthcoming in which the effects of over-exposure manifested themselves in the form of a radio-dermatitis.

I must admit, as I have previously said, that we had nothing to guide us to the assumption that the effects of such exposures might possibly bring disaster in their path, and some excuse can, therefore, be made for those who attributed to special susceptibility results which were due entirely to unscientific administration. Most of the early workers were forced to admit the existence of idiosyncrasy because they failed to imagine that any other direct and efficient cause could exist.

There exists, even at the present time, much difference of opinion in regard to this question, but there can be little doubt that the reaction produced by a measured quantity of the rays differs in severity in different individuals; and that a limited susceptibility does exist, although this can hardly be said to amount to idiosyncrasy. From the results published of the very early cases of radio-dermatitis, it might be assumed that a dose only sufficiently large to bring about the slightest possible reaction in one individual was capable of producing the most disastrous results in another. That this is not the case we are now well aware, and granting that the rays are administered with skill under perfect conditions, it is now possible to administer a dose capable of producing a desired effect without any fear of greatly transcending it, and we now know that it is impossible to produce in any individual a severe dermatitis by an exposure which in ordinary circumstances is only sufficient to produce a slight erythema. On the other hand, it is impossible by any known means to administer a dose which will produce exactly similar effects in two individuals.

In order to prove the existence of idiosyncrasy, we must be in a position to show that a dose which in one person would be only sufficient to produce a slight erythema may in another individual bring about a severe radio-dermatitis. We are certainly not in a position to prove as much as this, but there can be no doubt whatever that some persons react much more vigorously to the rays than others. Oudin says that in co-operation with Doctor Barthélemy he has made a long series of observations on the question.

For this purpose we made choice of subjects of the most varied constitution, differing in the coloration of the skin and hair, and also in temperament. These we submitted to irradiations of similar intensity for radiographic purposes. We came to the conclusion that there is no evidence that some individuals have a special vulnerability to the action of the rays. The most that can be said is, of two subjects equally irradiated, the weaker and less resistant will have a little stronger reaction.

Kienbock is of opinion that a special predisposition of the individual plays no part in the question of *x*-ray dermatitis, and that in every case the cause can be traced to over-exposure. He says:

Apart from slight differences, due to age, the sensitiveness o the healthy skin is the same in all individuals.

Carl Beck does not believe in the existence of idiosyncrasy.

Freund admits that there exists a special susceptibility, but he is not inclined to attach to it so much importance as he did in his earlier experiments. He says:

There is evidence of a sort of idiosyncrasy, each individual reacting to the rays in a special manner.

Dr. David Walsh says:

Predisposition of some kind appears to be an absolutely essential factor. Peculiarity may lie in the skin, but it seems more likely to be in the blood, especially as the latter is attracted to the skin in greatly increased volume in response to many external irritant influences. It may be that the focus tube rays, like the sun and other external irritants, stimulate the excretory function of the skin into unusual activity, and that the outward passage of some irritant from the blood sets up the dermatitis!!

Bearing in mind the fact that some of the effects produced by exposure to an *x* ray tube in action may be due to the electrically-charged atmosphere which surrounds such a tube, it is interesting to note that Kassabian in his work on electro-therapeutics, has drawn attention to the fact that there exists a special susceptibility of the patient to the static electric current. He says:

It has frequently been observed that certain patients are unusually susceptible to static electricity. I have seen many cases where a static breeze applied to the head was sufficient to cause fainting, or at least dizziness. For such patients it is necessary to diminish the strength of the current, also to shorten the length and lessen the number of the applications.

In dealing with the subject of special susceptibility and of the production of accidental burns, he says:

The individual "disposition" is an important factor in the relative frequency of *x*-ray burns, and this disposition varies according to the types of the pigment of the body. Different parts of the body react variously to the rays, the hairy regions being especially sensitive. In an examination of 3,000 patients for diagnostic purposes, I have met with but three mishaps—one case each of epilation, vesication, and ulceration.

Sjögren and Scaerholm are strongly impressed that blondes and brunettes react differently to the action of the rays, and they publish a table of 13 cases, in each of which from 12 to 35 exposures to the *x* rays were given. Strong and marked reaction was noted in the brunettes, whilst only mild reaction is reported to have occurred in the blondes.

H. Gocht has stated that in the Hamburg-Eppendorf Hospital, out of a total of over 2,000 exposures, there was only one burn.

Albers-Schonberg has stated that he is of opinion that the probability of producing an accidental *x*-ray burn is very small.

Hoffa says that the occurrence of a burn is in the proportion of 7 to 10,000, which small figure (0.7—per cent.) is not obtained in the statistics of even the most harmless operation.

Pusey and Caldwell, in discussing Kienbock's assertion that we are not justified in assuming an idiosyncrasy to the *x* rays, and that all individuals in good health react precisely in a similar manner, say:

In our judgement there is not the slightest suspicion o evidence to justify such a statement. The very fact that *x*-ray burns are comparatively so few demonstrates in the largest and most convincing way the inaccuracy of such a position.

They go on to state that although at the time of writing millions of *x*-ray exposures had been made, only 170 burns could be found recorded in the literature of the subject.

With the hundreds of thousands of *x* ray exposures that have been made, is it to be supposed that only 170 cases have been exposed beyond the point of safety? Or even suppose that only 1 in 10 cases of severe burn has come to light, is it to be supposed that only 1,700 cases of over-exposure have taken place? The superficial is an absurdity on the face of it. Probably in one month—three or four months after Roentgen's discovery was announced—over 1,700 cases were exposed in a way that we now know to be dangerous. Many cases of burn have unquestionably been caused by dangerous exposures; on the other hand, it is certainly true that thousands of what are dangerous exposures for some individuals have been made without injury, and the fact that in innumerable cases the individuals have escaped *x*-ray effects, while in a few cases under similar conditions injuries have occurred, can only be accounted for by the existence in a few individuals of certain factors rendering them more susceptible to *x*-ray influence. Such a statement as Kienbock's, founded as it is absolutely upon personal opinion, regardless of recorded facts, needs to be challenged. It is most mischievous in the influence which it may have upon technique; and there are enough *x*-ray injuries due to faulty technique without throwing out so well an established fact as personal idiosyncrasy to account for some of them.[2]

Sabouraud denies the existence of a special susceptibility to the *x* rays, and has stated that he has failed to notice any unfavourable effect, not even a headache, in one out of the large number of cases of ringworm in children which he has subjected to such treatment.

Freund has published an interesting case in which a female patient appeared to be more susceptible to the rays during the menstrual period than at other times.

Dr. Reginald Morton has stated that in his opinion, based on a number of years of observation, an occasional case has been met with in which there was a marked susceptibility to the rays. He could recall three particular cases at the London Hospital in an experience extending over a period of five and a half years, in which an unexpected acute dermatitis occurred.

Gassaman believes in certain differences of sensibility in individual cases rather than in true idiosyncrasy.

With such a marked conflict of opinion before us, it is difficult to decide the true facts of the case. From personal experience, however, extending over a period of ten years, I am convinced that there does exist a special susceptibility on the part of some patients, although I must admit that this susceptibility is far less common than a few years back I thought it to be. Hence, up to quite recently, I have administered frequently-repeated short exposures in preference to resorting to a full-measured dose. That there is reason for this is shown by the fact that the discoverer of the most perfect method of measuring *x* ray dosage had to pay heavy damages for producing a burn when carrying out his own methods.

In studying the question of chronic radio-dermatitis, I have been struck with the great difference in results shown in different individuals, and quite recently, after the publication of one of my articles on this subject, I received a letter from Mr. Russell S. Wright, of the firm of Messrs. Newton and Co., in which he says:

> I note you remark that as a rule those people are most sensitive who are easily burned by the sun. I am one of the fortunates who did a great deal of work with the *x* rays before any precautions were taken, and yet escaped any injury. In the early days I personally tested almost every *x*-ray tube the firm sent out, and for several months did practically nothing else, holding my hand behind the screen, but although I distinctly remember my eyes badly aching at that time, nothing else ever happened, and my eyesight is in no way impaired.
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> Curiously enough I am very susceptible to sunburn. An afternoon's cricket is enough very often to peel the skin off my face, and when on a holiday I have frequently had to resort to medical treatment.
>
> With regard to my immunity from dermatitis, I have often wondered at my escape, and have thought that it might have been due to the small tubes we were then using. We were the first firm to take up the original "focus" tube as designed by Professor Jackson, and with the conservatism of an old firm, we stuck to these small bulbs for years after the large German tubes had been almost universally adopted. In fact, all my continuous work was done with these small tubes. I have never seen any mention as to whether the size of the tube made any difference to the danger, but perhaps it would be worth while to look into this question. There is no doubt that soft secondary rays are emitted from the surface of the glass, as well as from the anticathode, and I think it might be worth while trying (if it has not been already done) to see if small tubes are safer than big ones.

Mr. Russell Wright is still engaged in testing *x* ray apparatus, and I have quite recently examined his hands, upon which I failed to notice any signs of dermatitis. In contradistinction to this case, I would draw your attention to one I have already published, in which an assistant in an *x*-ray laboratory in Australia contracted an acute dermatitis (from exposing his hands during one or two evenings for the purpose of testing various fluorescent screens), which rapidly assumed chronic characteristics, and resulted in the amputation of the limb as a necessity to saving the life of the patient. These two cases differ so widely in the results produced that one must be led to the conclusion that there must exist some factor apart from the actual *x*-ray technique which ought to be taken into consideration.

There can be no doubt that the amount of reaction which follows irradiation is to an extent dependent upon the bodily health of the patient, upon the position of the surface to which the *x* rays are applied, upon the age of the patient, and upon other causes. The question of complexion must not be overlooked, notwithstanding the fact that some investigators take up an entirely different view from others.

I have already mentioned a series of experiments in which it was stated to be proved that blondes are less susceptible to the action of the rays than brunettes. On this subject Belot states that it is a general and accepted rule that the blonde is more susceptible than the brunette. This opinion is also held by Holzknecht. Personally, I find that persons who are particularly sensitive to the sun's rays, be they blondes or brunettes, show the greater amount of reaction. Early pigmentation occurs, as a rule, only in dark people, and, although this to an extent prevents the early appearance of a radio-dermatitis, I find that when the reaction does set in, it is far more marked than in persons who show no tendency to pigmentation.

Pigmentation as a rule disappears after the lapse of time, but I have on record two cases in which the pigmentation appears to be permanent. I look upon early appearance of pigmentation as the danger signal, and always proceed with great caution after its appearance. Some few persons pigment after an exceedingly short exposure. Two years back a gentleman consulted me, and an *x*-ray examination was made with the object of localizing a renal calculus. He was exceedingly stout, and, although the radiograph produced was good, there was evidence of movement due to his coughing during the exposure. I therefore made arrangements to take another radiograph in a few weeks' time when his cough had disappeared. One minute's exposure was given at a distance of about 9 in. from a large German tube having a heavy anticathode, a compressor diaphragm being used during the exposure. On his presenting himself again three weeks later, I was surprised to note a well-marked patch of pigmentation with a clearly defined edge, which corresponded in size and shape to the outlet of the compressor. The patient had not noticed it himself, and had not felt the slightest inconvenience from the previous exposure. As I have not seen the patient again, I am unable to state whether or not the pigmentation has disappeared.

Quite recently a patient presented himself at the General Hospital, Birmingham, for the purpose of being radiographed for renal calculus. On examining his abdomen, I found a well-marked patch of pigmentation covering nearly the whole of the lower half, which had all the appearance of being caused by the constant application of mustard plasters. On my drawing his attention to this fact, he informed me that he had been radiographed nearly five years previously. A lady whose abdomen had been freely irradiated for enlargement of the spleen was tanned a deep brown colour, which showed no signs of disappearance up to the time of her death, which occurred several months after exposure to the rays had been abandoned. In all these cases I learned that the patients were exceedingly sensitive to the effects of the sun, and I have not the slightest doubt that, had an overdose been administered in either case, the reaction would have been most severe.

There is, as a rule, a more marked reaction in fine skin than in coarse, and children are more susceptible to the *x*-rays than adults, while old persons tolerate exposures of greater intensity than could be borne by adults. Though there can be no doubt that the measured dose is the most scientific and accurate method of applying the rays, it has its dangers, and so far I have adopted the plan of

administering a test exposure in order to guide me in arriving at a conclusion as to the degree of susceptibility of the patient before administering the doses which I considered necessary for the proper treatment of the case.

Not only do individuals react differently, but there is a marked difference in the sensibility of the skin in different portions of the body. The portions which are covered with hair are generally accepted as being those which are most sensitive, but inasmuch as the hair can be removed without producing any other form of reaction, I do not consider that this contention is proven, and in my experience the skin of the scalp shows more power of resistance than the skin on other portions of the body. Where the epithelial layer over the skin is thick, such as the palms of the hand and the soles of the feet, the surface is highly resistant, whilst the backs of the hands and the extensor surfaces of the limbs are particularly susceptible. Notwithstanding these facts, I advise that irradiation of the thick skinned portions of the body should be undertaken with great caution, for should an overdose be administered in these parts, the results will be found to be far more disastrous and more difficult to cure than if it occurs in the more susceptible parts.

The skin of the face is, as a rule, particularly sensitive, but there are exceptions which are difficult to account for. Quite recently there has been some discussion as to the danger which exists in exposing the eye to the rays. Personally, as I have previously stated, I have found the eye to be very resistant, and have seen no ill-effects follow long-continued frequent exposures over this organ.

With the improved apparatus at our command and our more accurate technique, I am of opinion that in actual practice there is little danger of producing a radiodermatitis by such an exposure as is necessary to bring about the most favourable therapeutic results, and there is no danger whatever in administering the exposure necessary for producing radiographs for diagnostic purposes. Owing to the free publication of the histories of cases of chronic *x*-ray dermatitis in workers with the rays, the public have been unnecessarily alarmed, and much misconception as to the dangers of the rays is rife. There is not the slightest necessity for the existence of fear, as there is no more danger attendant upon their scientific application—not even as much—than frequently exists in the administration of many drugs now in constant and daily use.

That there does exist a special susceptibility to the rays I am convinced, but granting that proper precautions are taken to avoid unnecessary and marked reaction, there is nothing to deter the careful operator from applying the rays in any case in which he is of opinion that benefit may be obtained. The knowledge of the fact that a special susceptibility occasionally shows itself, is rather an advantage than otherwise, for whilst on the one hand it does not deter the expert from doing his duty, it has, or should have, a deterrent influence upon those who might be inclined rashly to administer the rays without any knowledge of their properties.

Quite recently there has been an animated discussion in the lay papers in which it has been suggested that all sorts of dangers are likely to arise from the free administration of the rays in the treatment of ringworm in children. Questions have been asked as to the changes in the brain which may follow such exposures, and it has been suggested that the continuance of this practice may possibly lead to the wholesale manufacture of idiots and lunatics. So far, we have no cases recorded in which ill-effects have followed this treatment, although ringworm has been treated universally on the Continent by this method for a considerable number of years.

Apart from the allaying of pain, I have failed to note any effect upon the nervous system except in very advanced cases of chronic *x*-ray dermatitis such as my own. That the *x* rays have a marked analgesic action is proven, but the manner in which this result is brought about is at present unknown. Experiments on animals have proved that nervous symptoms only arise after exposures of such a length as would never under any circumstances be administered to a human being.

It is absolutely certain that no effects upon the nervous system can be set up in human beings by such doses as are now administered for therapeutic purposes, or for the taking of radiographs. The effects of the *x* rays upon neuritis and neuralgia are in all probability due to local action and not to any effect produced on the central nervous system.

REFERENCES.

[1] *The Roentgen Rays in Medical Work*, by Walsh, third edition, p. 213. [2] *The Roentgen Rays in Therapeutics and Diagnosis*, by Pusey and Caldwell, pp. 240-241.

DISCUSSION.

Dr. Howard Humphris (West London Hospital) said that when the *x*-ray tube was excited from a static machine a burn rarely, if ever, occurred during treatment. In the United States, where prolonged treatments were given with tubes excited by this agent, he did not remember any recorded case of a burn—at any rate, any serious one. This phenomenon suggested that the inverse current might have something to do with it, for the current from an induction machine, as opposed to one of the Wimshurst type, was almost entirely unidirectional, and the inverse current was practically non-existent.

Mr. Higham Cooper (Evelina Hospital) agreed with Dr. Humphris. Sabouraud used static electricity. Mr. Hall-Edwards had spoken of pigmentation, and on that point he (the speaker) had noticed that almost invariably he got pigmentation, even with a short exposure, if the patient, at the time of the application, was taking arsenic.

Dr. J. H. Sequeira (London Hospital) said that a student of his had suffered from psoriasis and took arsenic with the result that the parts irradiated six weeks afterwards showed a slight pigmentation. With regard to Sabouraud, he believed that the French investigator had burns when carrying out some of his *x*-ray epilations at the time when he was trying to discover the effect of the pastille. Not only had he burns but also persistent alopecia. But he did not think that he had had any since.

SOME PRACTICAL USES OF STATIC ELECTRICITY.

By F. Howard Humphris, M.D.Brux., F.R.C.P.Edin.,
Clinical Assistant, X-Ray Department, West London Hospital.

Two years ago I had the privilege of reading a paper before you on the Rationale of Static Currents.[1] To-day I propose to show how those principles apply in certain painful conditions. Static currents—that is, currents derived from a powerful static machine—find their greatest sphere of usefulness in the relief of pain, and this is due to the fact that almost every pain is caused or accompanied by some congestion or stasis, and, to quote Dr. Snow, who has done so much work in this subject, "Nothing so thoroughly overcomes the area of congestion as the static high-potential currents."[2] In static electricity we have an agent which gives patients immediate relief from pain in such affections as neuritis, lumbago, and other myalgias, and in synovitis. The pathology of lumbago is at present uncertain, but in my opinion static electricity drives out from the muscle tissue some infiltration which is causing a temporary stasis and giving rise to the pain.

When, however, we come to sciatica or any other neuritis, we have a definite pathology. We have a hypertrophy of the neurilemma, with a multiplication of new tissue elements and the presence of migrated leucocytes; this causing compression of the nerve tubules, pain naturally results. When we apply the Morton wave current over the affected area and separate the spark gap, we get a rhythmical tissue contraction, not only of the skin and muscle, visible to the eye, but also of the invisible tissue beneath, of the muscular wall of the arteries and arterioles, and even of the most minute particles of protoplasm. The current produces a cellular, protoplasmic massage under the influence of which stasis cannot exist, and the fluids from the infiltrated area are expressed, and with their dispersion there comes relief from the pain. And not only is the congestion temporarily removed, but this forced cellular activity paves the way for an improved state of metabolism, and therefore less tendency to the return of the pain. Not only do we get this local effect, but there is also an alteration in metabolism, as seen by an increased excretion of urea, an increase of perspiration, accompanied by lowering of arterial tension and a general

feeling of *bien-être*, all of which tend to relieve or prevent further trouble.

The details of the treatment are as follows: In the first place, let the patient indicate the seat of the maximum intensity of the pain; over this area place a piece of Crookes's composition—a soft metal combination of tin and lead—somewhat larger than the area the patient has marked out. At the back of this place an indiarubber bag, filled one-third with warm water; attach the electrode to one side of the positive side of the machine, and get a ground connexion for the negative side. The spark-gap being closed, the machine started, and everything in readiness, the spark gap should be cautiously and slowly opened, for at the beginning of the treatment pain as well as the resistance of the skin will prevent the patient taking much current. After the first moments a toleration more or less marked will be established, and the spark-gap should be lengthened accordingly; a 10 to 12 in. spark, not too fast, will often be easily borne. This should be administered for twenty minutes. At the end of this time the patient will be usually free from pain. The effects of a single administration are very gratifying to the patient.

The application should be repeated according to the length of time in which the pain returns. Sometimes it is necessary at the beginning to see the patient twice a day, but as a rule once daily is sufficient, and usually after the first six or seven days the use of the current three times a week will keep the pain away, and finally subdue it altogether. Pain is relieved from the first, and the total time taken to effect a cure would seem to depend upon the length of time that the disease has existed. There are some cases in which the patient will not stand the wave current; the brush discharge may be tried, but I have found that it does not compare favourably with the wave current in prompt efficacy. In some obstinate cases the indirect spark may be given, and this will often relieve the pain instantaneously.

The third and last condition to which I shall draw attention to-day is synovitis. The synovial membrane is perhaps more ready to inflame than any other tissue in the body, and with inflammation comes serous effusion. The majority of joint affections in adults begins in the synovial membrane; at the commencement there is an inflammatory congestion evidenced by loss of its polish, then the membrane becomes injected and thickened. The synovia is increased in quantity and mixed with inflammatory exudation, which is poured out with it. Time will not permit me to trace out the anatomical changes which take place when the disease begins in the bone, cartilage, ligaments, or soft parts in connexion with them, but in all of these we have stasis.

In static electricity we have an agent which will dispel that stasis and promote the absorption of the products. "If," says Erichsen, "the disease progress favourably, these products are completely absorbed."[3] Now, static electricity, by its macroscopic and microscopic massage, hastens the absorption of morbid products, and so compels the disease to progress favourably. The details of the application are as follows:

The anterior surface of the joint, or indeed all of it, is covered with a thin sheet of Crookes's composition, and made to fit the joint as accurately as possible. Sometimes, where good apposition is difficult, a canvas bag filled with kaolin, to which is sewn a piece of metal, will be found less painful and more adaptable to the uneven surface. This is attached to the positive pole and the negative is grounded as before. The number of applications required depends entirely upon the extent of the anatomical changes taking place, and should be continued until all pain and swelling have subsided and the patient is of the opinion that the injured joint is as good as it was before the trouble commenced.

The disrupto-convective current, or brush discharge, I have found very useful in these cases, especially with nervous or timid patients. Here the platform is connected with the negative side of the machine, while the positive side, as well as the wooden electrode (or it may be an ordinary whisk broom) is attached to two separate groundings. Each application of electricity should last for twenty minutes, and after each the patient experiences definite and decided relief. In joint affections the wave current is a valuable diagnostic agent, for while sprains, synovitis, gouty and rheumatic affections are improved by it, malignant disease, tuberculous and streptococcic infections are either uninfluenced or made worse, the treatment giving rise to much pain.

In conclusion, I would urge the claims of static electricity in the treatment of these painful affections as being rational and effective. Rational, for, depending on stasis as they do, we have in static electricity a powerful agent which will disperse that stasis; effective, since it relieves the pain. Static electricity is effective from its first application; one has not to wait and assure the sufferer that the pain will improve with continued treatment. To the patient the result is satisfactory and immediate, and we know that with the relief of pain we must have relieved that which was causing the pain.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, September 7th, 1907. [2] *Static Electricity and the Use of the Roentgen Ray* (Chatterton). [3] *Science and Art of Surgery*, vol. ii., p. 327.

DISCUSSION.

The PRESIDENT mentioned a case of very severe neuralgia which had come within his knowledge as having been cured by static electricity. He questioned whether the British climate was suitable for this modality.

Dr. F. H. MUNROE (Newark, U.S.A.) said that it gave him great pleasure to confirm the statements made by Dr. Humphris with regard to the use of static currents in the relief of congestions and stases and pain. In America they were now using these currents largely, and with good effect. He would like to mention one very troublesome condition—namely, prostatitis—which nine times out of ten would yield to the static wave current by rectal electrode. The results in such cases were all that could be desired. The field was practically inexhaustible, and the results positively brilliant.

Dr. JAMES METCALFE (Bradford) congratulated Dr. Humphris on having drawn attention to this subject. He himself had had considerable experience of this form of treatment during the past six years. Personally, he rather thought that where the condition was essentially due to a deficiency of metabolism high frequency currents were the more advisable, but when the trouble was due to a nerve lesion the static currents were the currents *par excellence* to be used in treatment. He quoted a case of periodic neuritis in a gentleman, occurring constantly in the course of several years. He suffered from the pain in the intercostal nerves with a violent gastralgia. The pain came on every three or four hours day and night, and was a source of great misery to the patient. He had been treated by all the recognized methods, but did not receive relief until after the static applications. He had now been cured for over two years. A second case was that of an intractable neurasthenia of seven years' duration. Insomnia, anorexia, melancholia, and a general feeling of misery were constant symptoms. After twenty applications of a general static bath, the patient was entirely cured, and had remained in perfect health for over two years. Cases of Bell's and post-diphtheritic paralyses were also quoted in which the patients were rapidly cured by static applications, general and local. He urged that this form of treatment should be more frequently adopted in this country, especially in cases in which ordinary therapeutic methods were unsuccessful.

Dr. HOWARD HUMPHRIS, in reply, said that he quite concurred with Dr. Munroe when he said that the field for static electricity was practically inexhaustible and that the results were brilliant. He (Dr. Humphris) had yet to meet any observer who, after honestly studying the question, and having the two essential requisitions—a powerful machine and an adequate knowledge of static electricity—held a contrary opinion. Dr. Metcalfe rightly said that it would be possible to quote many cases. The art of static electricity was long and the time of the Section was short, so he would conclude by thanking the members for the attention which they had given to a subject which probably had small personal interest for the majority of medical men.

"X" RAYS IN GYNAECOLOGY.

By E. B. Hazleton, M.D., R.U.I., L.R.C.P.,
Sheffield.

As very little attention appears to have been given in this country to the treatment of the diseases peculiar to women by the *x* rays, I propose to place before you a short summary of results obtained by Continental workers, and to draw certain conclusions from the published accounts of their technique.

There has always been a certain amount of dissatisfaction amongst Roentgenologists generally with the technique of Roentgen irradiation as hitherto practised in gynaecology. I allude to the application of the *x* rays to the uterus or uterine tumour through a speculum.

It is evident that a large portion of the cone of rays must be cut off by the speculum, and that a very small movement on the part of the patient will cause the distal end of the speculum to take up a faulty position.

An improved method of application has been inaugurated by Foveau de Courmelles in France, followed by Lengpelzer. Görl, Fraenkel, and notably Albers-Schönberg of Hamburg.

The technique consists in irradiating the uterus through the abdominal parietes. Dr. Albers-Schönberg recommends the following: The patient is laid horizontally on a couch, a compression cylinder of a diameter usually of 13 cm. is used, and the endeavour should be to irradiate the tumour and the uterus only, avoiding irradiation of the intestines.

Between the skin and the compression cylinder is placed a screen to filter out the soft rays. The screen is composed of six layers of tinfoil interposed between four layers of thin kid leather, each 1 mm. thick.

The focus tube should be kept at a hardness of 6 to 8 on Walters scale, and a current of 4 to 5 milliampères passed through it.

At a distance of 38 cm. tint B of Sabouraud and Noiré, or 5 H, is obtained in four sittings of six minutes each. If such a series is given twice a month the maximum dose of 10 H per month will not be exceeded.

Roentgen treatment on the above lines is indicated in all cases for which hitherto the only satisfactory cure has been extirpation of the uterus.

Excellent results have been obtained in cases of myoma, molimina menstrualia, metrorrhagia, and menorrhagia of the climacteric period.

Fraenkel reports good results in 23 cases of menstrual troubles treated by the *x* rays.

In cases of leucorrhœa the discharge ceased in a short time after the irradiation, without further treatment.

On reading accounts of these cases it may be noticed that one frequent result of irradiation of the uterus for myoma and other pathological conditions has been atrophy of the ovaries with consequent cessation of menstruation.

It has occurred to me to make use of this fact in connexion with some patients who have deformed pelves, and on whom the operation of craniotomy has been performed. Hitherto, in cases where natural labour is impossible, owing to a rachitic or otherwise deformed pelvis, one of the following methods of treatment has been followed—namely:

The induction of premature labour.
Symphysiotomy.
Craniotomy.
Caesarean section.

We are now, however, in a position to offer to the patient with contracted pelvis, for whom the birth of a living child is impossible, another form of treatment—namely, that of the *x* rays, by which we are enabled to produce atrophy of the ovaries, and thus permanently relieve her mind of all further dread of conception, and the resulting necessity for operative procedures. The *x* rays may thus be used as a substitute for oophorectomy.

It also appears probable that many tumours of the ovaries might be beneficially treated by irradiation, as, for instance, the early stages of proliferating cystoma; also fibroma and myoma, while the action of the rays on dermoid cysts of the ovaries would be at least to arrest if not to cause a retrogression of their growth.

DISCUSSION.

Mr. Higham Cooper (Evelina Hospital) asked whether Dr. Hazleton was sure that atrophy of the ovaries could be produced by the *x* rays. He had treated several cases of fibroma of the uterus, and in cases of malignant growth which had been treated with the *x* rays, the ovaries being most extensively irradiated, there was no sign of an atrophic condition at a subsequent *post-mortem* examination. Yet in certain instances the irradiation of the ovaries had extended over a period of nearly a year.

Dr. Howard Humphris (London) said that in all cases of inoperable uterine cancer the patient should be strongly advised to submit to systematic radiation. He had seen several such cases, one of which would always stand out prominently in his mind. The patient was an elderly woman, with whom the surgeons refused to interfere. She had intense pain, haemorrhage, and a foul discharge. The pain was relieved at the first radiation; the next day the discharge was less foul, and the haemorrhage diminished. At the end of two weeks the patient was comfortable, and her appearance markedly improved.

Dr. Hazleton, in reply, said he had a letter from Dr. Albers-Schönberg in which he said that he had certainly produced atrophy of the ovaries by means of the *x* rays. Judging from the action of the rays on the testicles, one would imagine that the ovaries would be affected in a similar manner. He proposed to carry out some tests upon dogs.

DEMONSTRATIONS.

Among cases exhibited during the meeting were the following:

The President (Dr. Calwell): (1) A case of adenoma sebaceum (with microscopical sections); (2) a case of pityriasis rubra pilaris in its early stages. He also exhibited a water-colour drawing of a case of erythrodermia with lymphocytosis, which ultimately became one of pityriasis rubra.

Dr. Campbell Rankin: Three cases, one of xerodermia pigmentosa, another of epithelioma of wrist and senile keratosis of face, and a third of lupus vulgaris, to show the results of plastic operation on the nose.

Dr. J. McLeish: A case of lupus vulgaris.

Dr. Stopford Taylor and Dr. MacKenna (Liverpool): Casts and photographs of skin diseases in the museum of the college.

The proceedings concluded with a vote of thanks to the President.

Dr. Calwell, in reply, said that thanks were due to the honorary secretaries of the Section, Dr. Sequeira, Dr. Dore and Dr. Rankin.

SECTION OF HYGIENE AND PUBLIC HEALTH.

Louis Coltman Parkes, M.D.Lond., President.

PRESIDENT'S OPENING REMARKS.

Dr. Louis Parkes, in initiating the work of the Section, said that one of the most interesting problems of the present day was the urbanization of the population. That urbanization led to several serious evils, the most serious of which was the deterioration of the physique of the people. There was also the question—rather a political one—of the multiplication of unskilled and unusual labour that urbanization led to, which was undoubtedly a cause of deterioration. As medical officers of health those present were chiefly concerned with the improvement of town life. They might say, without boasting, that a great deal had been done in the way of improving housing, drainage, and water-supply, and the death-rate had been greatly reduced. There had been a very notable reduction in infectious diseases and in some chronic complaints, such as tuberculosis. Up till a short time ago the rate of infantile mortality had not shown any improvement, but within the last four or five years a decided effort had been made to reach the working-class mother, and there had been a drop in infantile mortality from 140 to 105 per 1,000. It was a question how far that

decline was due to human efforts or to the exceptionally cool, showery summers of the last four or five years, but he thought something had been done by health visitors. There was still one feature in which cities were behind the country. That was in the air the people had to breathe. Impure air was very largely responsible for physical deterioration. Something, of course, was due to the prejudice amongst the lower classes against ventilation, but he was glad to say that the open window at night was becoming more popular. In Ireland, by such societies as the Women's National Health Association, of which Lady Aberdeen was President, the common-sense of hygiene was being taught to the people. The late Professor de Chaumont, as a result of his experiments, had shown that there should not be more than 6 parts of carbon dioxide in 10,000 parts of air; but so defective were the conditions in factories and workshops that a Departmental Committee of the Home Office allowed as much as 12 parts of CO_2 per 10,000. That showed that the conditions in factories were not such as could meet with their approval. An enormous number of their fellow-citizens had to live in an atmosphere in which the pure air supply was only one-third of what it should be. The real improvement in the air of towns as regarded freedom from air pollution would not come from legislation, but from economical causes. In London there had been a great improvement in the atmosphere, not only in summer, but also in winter, and that was very largely due to the fact that more people were using gas for cooking purposes. There was also the fact that architects of large buildings were taking up the question of central heating by hot water or steam without the use of open fireplaces, though he thought more attention should be paid by them to ventilation. They should look forward to the adoption of these methods of heating for all large buildings, and with that and the introduction of gas for both heating and cooking, a considerable improvement would take place in the air of towns.

With regard to tuberculosis, it was a question how much tuberculosis amongst the young was due to milk and how much to insanitary homes. Superficially, one would think there was not much in the milk question, because it was the children of the poor, and not the children of the rich, that suffered from tuberculosis. It was quite possible, however, that children of the rich suffered from the deposition of tubercle, but that owing to their better conditions of life and greater resisting power, they were able to throw off the infection. Another question was, What was the capacity of tubercle for remaining latent in the system, and what was the determining cause of the disease manifesting itself at a later period? Research should be undertaken with a view to finding out the facts in regard to these points.

In conclusion, the President expressed his thanks and those of his colleagues to Their Excellencies for honouring that Section by a visit. They believed that by the efforts of such associations as that over which Lady Aberdeen presided they would be able to reduce the death-rate from tuberculosis in Ireland to something like the figures for England and Scotland.

NOTIFICATION OF TUBERCULOSIS OF THE LUNG IN SHEFFIELD,

AND THE INCIDENCE OF TUBERCULOSIS ON MALES, FEMALES, AND CHILDREN IN VARIOUS TOWNS.

By H. SCURFIELD,

MEDICAL OFFICER OF HEALTH, SHEFFIELD.

I PROPOSE to give a short account of the use which is at present made in Sheffield of the information obtained by the provisions of the Sheffield Corporation Act, 1903, by which tuberculosis of the lung is compulsorily notifiable.

In order to facilitate notification the Corporation has made arrangements with the Bacteriological Department of the University of Sheffield for the examination of the sputum from a person who is suspected of having tuberculosis of the lung; 1,518 specimens were examined last year, at a cost of £196.

Two special inspectors are engaged in visiting houses where cases of consumption are notified. On his first visit the inspector obtains as much of the history of the case as possible. He leaves a copy of printed "advice" with the relatives or with the patient. He particularly insists on the benefits of keeping the windows open as much as possible, and supplies the poorer of the patients with pocket spittoons free of charge. The pocket spittoons are of simple pattern, and consist of blue-glass flasks with rubber bungs, and are supplied by Messrs. Beatson and Co., of Rotherham, at £2 17s. per gross. The inspector revisits at regular intervals, and in all cases where the house is dirty or the patient is much confined to the house by his illness he disinfects the room at the time of his visit with a formalin sprayer. It is generally possible to get the patient to vacate the room for the time necessary for the disinfection being carried out. The inspector, of course, advises that the room should be as free from hangings, etc., as possible.

In a small number of cases, about 1 to 2 per cent., the medical man at the time of notification expresses the wish that the inspector should not call. This request is acceded to on condition that the medical attendant takes upon himself the responsibility of giving all the necessary instructions with regard to precautions for avoiding the spread of infection. The medical attendant is also asked to fill in a form giving some particulars with regard to the history of the case.

The Corporation has now provided hospital accommodation for both males and females. A house standing on an elevated site in the city, with about 1½ acres of ground, has been adapted for sanatorium treatment for 20 males. There is a garden in which the patients who are able to work are employed for so many hours a day, according to their strength.

The principal objects of the hospital are as follows:

1. For the purpose of teaching the patients to live an open-air life, to use pocket spittoons, and generally to take such precautions as will minimize the danger of the spread of infection when they return home.
2. For the purpose of giving the relatives a rest and enabling the homes to be thoroughly disinfected.
3. For selecting such cases as may be found suitable for sending to a sanatorium.

No cases are sent on to a sanatorium until they are fit to do some hours of gardening daily.

At the beginning of May of the present year the small-pox hospital was opened for the reception of female consumptives on similar lines. It is not intended that the patients should remain in the hospital for more than a few weeks.

In admitting cases to the Corporation hospitals we do not stipulate that the sputum should have been examined and found to contain tubercle bacilli. In most cases up to the present time, however, the sputum has been examined, with a positive result. If we made this an absolute *sine qua non* we would be putting obstacles in the way of sanatorium treatment of cases at the earliest stage, as it is generally recognized that the presence of tubercle bacilli in the sputum is evidence that there is some breaking down of the lung in progress, and that the disease is not absolutely in its earliest stage.

If patients are thought suitable for sanatorium treatment they are usually sent away for a period of about four months. Cases have been sent from Sheffield to various sanatoriums. At present there is a considerable number of Sheffield patients at the convalescent home at Withernsea, half of which is devoted to the use of consumptives.

The hospital for males was opened on June 22nd, 1908, so that we have not been greatly faced with the difficulty of finding work for the consumptives after their discharge from the sanatorium. There is no doubt that this will be a great difficulty. It is hardly necessary to point out that the difficulty will be greatly decreased when a proper system has been devised for providing against the unemployment of healthy workers. It stands to reason that while it is difficult to find work for a healthy unemployed, it must be ten times more so to find work for the consumptive unemployed. There are, however, many consumptives who can return to their ordinary occupation without having to learn a new one.

Hospital treatment on modern lines is also provided for consumptives at the Sheffield Royal Infirmary, and at the hospitals belonging to both boards of guardians. The cases that come into the hands of the boards of guardians

are generally too far advanced for sanatorium treatment. Arrangements have been made with the other hospitals by which cases thought to be suitable for sanatorium treatment may be sent to the Corporation hospitals, and subsequently to a sanatorium if found to undergo the work test satisfactorily.

By means of a conference between the various medical men concerned, arrangements have been made by which similar instructions will be issued to prevent the spread of the infection in the case of all patients, whether treated at the Corporation hospitals, the Royal Infirmary, or the workhouse hospitals. At all institutions they will be supplied with similar pocket spittoons, and taught to clean them in the same way.

In passing, I may draw attention to the fact that since the notification of consumption was adopted, and the public have been taught that the disease is infectious, an increased effort has been made to get the poorest consumptives to enter the workhouse hospitals. This is shown by the following table, which gives the percentage of consumptives dying in the workhouse hospitals during recent years.

The percentage of deaths from phthisis which have occurred in hospital has gone up from 11.2 in 1889 to 38.2 in 1908.

Phthisis Mortality in City and Workhouse Hospitals.

Year.	Number of Deaths from Consumption in Workhouse Hospitals.	Number of Deaths from Consumption in the City.	Percentage occurring in Workhouse Hospitals.	Death-rate per 100,000 from Consumption in Sheffield.
1889	62	552	11.2	168
1890	75	618	12.1	192
1891	81	551	14.7	169
1892	59	459	12.9	139
1893	74	562	13.4	165
1894	72	502	14.3	147
1895	76	473	16.1	136
1896	56	453	12.4	128
1897	90	522	17.2	146
1898	98	448	21.9	123
1899	117	502	23.4	136
1900	135	539	25.0	143
1901	142	580	24.5	141
1902	121	491	24.6	117
1903	142	560	25.4	134
1904	154	536	28.7	124
1905	133	486	27.4	110
1906	126	452	27.9	101
1907	146	521	28.0	112
1908	214	560	38.2	121

In considering the table, it has to be remembered that voluntary notification was begun in November, 1899, and compulsory notification came into force in November, 1903.

The information obtained by the inspector on his visits is used in other ways. Of course, if there is any sanitary defect about the home of the consumptive, it is reported to the district inspector of nuisances, who deals with it in the ordinary way. The place where the consumptive works is ascertained, and the information passed on to the workshops inspector. The workshops inspector visits the place of work with a dual object—first, to see if there are any sanitary defects, such as darkness or bad ventilation; and, secondly, to see if the consumptive at his work is so placed as to be a danger to his fellow-workers. If the consumptive works at a factory, and there are sanitary defects which require to be dealt with, the matter is reported to H.M. Inspector of Factories.

The inspector also ascertains the particulars with regard to the family history, and if there are any delicate children attending school. The delicate children in the family of a consumptive are reported to the school medical officer, who pays particular attention to them on his visit to the school. An open-air school has just been opened for dealing with delicate children, and it ought to be possible by means of this system to deal with children belonging to consumptive families at a very early stage.

In the six years that have passed since the Compulsory Notification Act came into force in Sheffield there has been no opposition on the part of the public or the medical practitioners. I have no doubt that there has been some little failure to notify on the part of the medical practitioners. This, however, is only what one would expect with a new Act.

The following is a statement of the number of deaths from consumption in the city of Sheffield, together with the number of persons who have died without being notified in the eleven half-years which have elapsed since the Act came into force:

Period.	No. of Deaths from Tuberculosis of the Lung.	No. of Persons who have Died from Tuberculosis of the Lung without being Notified.
Nov. 1, 1903, to April 30, 1904	315	19
May 1, 1904, to Oct. 31, 1904...	241	19
Nov. 1, 1904, to April 30, 1905	272	19
May 1, 1905, to Oct. 31, 1905...	232	11
Nov. 1, 1905, to April 30, 1906	217	13
May 1, 1906, to Oct. 31, 1906...	211	19
Nov. 1, 1906, to April 30, 1907	285	21
May 1, 1907, to Oct. 31, 1907...	240	20
Nov. 1, 1907, to April 30, 1908	306	12
May 1, 1908, to Oct. 31, 1908...	235	11
Nov. 1, 1908, to April 30, 1909	320	15

The provisions of the Act are being carried out smoothly and without friction, and I am of opinion that the work is doing a considerable amount of good; but it is too soon to speak as to any effect on the death-rate.

There are various matters in the Sheffield scheme which I have just described which require comment.

The visiting of the consumptives is done by male inspectors. The success of the visiting has no doubt been largely due to the tactfulness of the senior inspector. All patients are examined before admission to the Corporation hospitals in order to avoid taking in moribund cases. The inspector notifies the patients who are to come up for examination, and also attends on the examination day, and does everything possible to keep up friendly relations with the patients and their relatives.

Other authorities may prefer to employ only medical men or qualified nurses for the visiting of consumptives. I can only say that the employment of male inspectors for this purpose has worked quite satisfactorily in Sheffield. Owing, however, to the large number of consumptives on the list the revisiting is not carried out sufficiently frequently, and an increase of staff is necessary. The inspectors wear a uniform of an inconspicuous character. Theoretically this may be objectionable; in practice it has not been found so.

As regards sputum prophylaxis—most of the consumptives are supplied with pocket spittoons free of charge. While in the Corporation hospitals they are taught how to cleanse them. In some cases no doubt the patients do not continue to use them, even after being drilled in hospital, as they are afraid of making themselves conspicuous. I am inclined to think that later on it will be necessary to obtain powers to prohibit consumptives from spitting, except in spittoons.

I am strongly of opinion that, if notification is made compulsory, hospital treatment and sanatorium treatment should be provided for suitable cases, to compensate the consumptives for being put under discipline. If this assistance is provided I think it is reasonable to enforce sputum prophylaxis. An additional provision is also needed requiring the patient to notify a change of address. If this is not done several of the notified consumptives temporarily disappear from the "ken" of the health

office. At present we supply postcards to the patients for notifying changes of address, but have no power to compel the use of them.

As regards the sanatorium treatment, two points seem to be of great importance. The first is, that the patient should be taught to cleanse his own spittoon so that he may acquire the habit and continue it after leaving the sanatorium. The second is, that the principle of "working" the patients should be developed. For some time it has been recognized that unless work was provided for the patient there is considerable risk that in curing a consumptive you may create a "loafer." A recent visit to Frimley Sanatorium shows that we have now got a stage further, and that graduated labour is to be regarded as "medicine" for the consumptives. I do not think sufficient importance has been attributed in this country to the work of Dr. Paterson, of Frimley, and I would recommend all who are interested in the subject to visit Frimley and see what is being done there.

In order to make the Sheffield scheme more complete I think it would be advantageous to adopt what is known as the "march past of the contacts" of the Edinburgh Dispensary scheme. When a consumptive is reported in Edinburgh, a medical man visits and examines all the other members of the family for the purpose of detecting early cases.

In the second part of my paper, I wish to put in a plea for the study of the varying manner in which local populations are affected by tuberculosis as regards the mortality among males, females, and children under 5.

My interest in this subject has been aroused by the peculiarities of the Sheffield death-rate. There is nothing suggestive about the Sheffield total tuberculosis death-rate, but when it is split up we find that the male rate from phthisis is much bigger than the English rate and the female rate is much smaller. A further study of the matter shows that over 25 years of age nearly three men die from phthisis to one woman. It is also found that it is only after 35 that the death-rate among men from phthisis becomes excessive, and that among women the phthisis death-rate is only excessive at age periods beyond 55. Further investigation shows that the excessive death-rate among the Sheffield males is due to the excessive prevalence of phthisis among the grinders, and to a less extent among the cutlers. A census of these workers has recently been taken by the Home Office and the death-rates are shown in the following table. The populations of the other workers are based on the 1901 Census.

Mortality in Certain Trades among Male Workers during Seven Years (1904-7) from All Causes and from Phthisis and Diseases of the Respiratory System.

Trade.	Workers. No.	Workers. Age.	Mortality. All Causes. No.	Mortality. All Causes. Rate per 1,000 Living.	Mortality. Phthisis. No.	Mortality. Phthisis. Rate per 1,000 Living.	Mortality. Respiratory Diseases. No.	Mortality. Respiratory Diseases. Rate per 1,000 Living.
Grinder	3,866	18 and over	837	30.9	407	15.0	153	5.6
Cutler	3,889	18 and over	816	30.0	162	6.0	190	7.0
Tailor	941	15 and over	141	21.4	9	1.4	27	4.1
Printer	487	20 and over	59	17.3	13	3.8	9	2.6
Joiner	2,286	15 and over	223	13.9	28	1.7	41	2.6
All males (years 1905-6-7)		20 and over		16.2		2.6		2.1

Although nearly half the grinders die from phthisis, the average age of the grinder at death during recent years has been 50. This seems to suggest a long preliminary period of exposure to dust inhalation before the worker becomes infected with tuberculosis. The slight excess found among women in Sheffield at advanced ages may be due to the wives becoming infected by their husbands at a still more advanced age.

By the courtesy of the medical officers of health I am enabled to give two tables showing an analysis of the death-rate among males, females, and children from tuberculosis, in many of the provincial and metropolitan boroughs, the English rates being also given for the purpose of comparison.

For the purpose of avoiding errors caused by different ideas as to certification or different methods of classification it might have been better to have given simply the total male and female and children's tuberculosis death-rates. The two former, however, can be readily constructed from the table, and the total children's rate is

Tuberculosis of the Lung (including Phthisis) and Other Forms of Tuberculosis in England and Wales and the Large Towns with over 100,000 Population," also in Four Largest Scottish Towns. Average Mortality-rates per Annum per Million Persons living during Ten Years 1898 to 1907 (except where otherwise stated).

Towns.	Estimated Population (1907).	Tuberculosis of Lung. Males (All Ages).	Tuberculosis of Lung. Females (All Ages).	Other Forms of Tuberculosis. Males (All Ages).	Other Forms of Tuberculosis. Females (All Ages).	Other Forms of Tuberculosis. Children (Under 5).	Remarks.
England and Wales	34,945,660	1,445	1,033	582	487	2,839	
Birkenhead ...	118,441	1,611	1,240	336	234	1,820	
Birmingham ...	553,155	1,818	886	494	394	2,354	4 yrs., 1904-7.
Blackburn ...	134,438	1,330	883	737	572	3,956	
Bolton	182,917	1,748	1,094	471	344	2,549	
Bradford ...	290,323	1,616	920	561	420	2,550	8 yrs., 1900-7.
Brighton ...	129,023	1,889	1,021	657	437	3,062	
Bristol	367,979	1,233	981	—	—	1,681	3 yrs., 1905-7.
Burnley	103,947	1,568	1,145	446	336	2,627	
Cardiff	187,620	1,341	1,162	660	585	2,976	
Croydon ...	154,342	1,293	781	528	432	2,605	8 yrs., 1900-7.
East Ham ...	136,421	827	718	419	437	2,070	7 yrs., 1901-7.
Gateshead ...	125,783	1,623	1,199	588	488	2,557	6 yrs., 1902-7.
Hull	266,762	1,287	997	560	445	1,990	
Leeds	470,268	1,675	1,028	801	671	4,337	
Leicester ...	236,124	1,523	990	571	402	3,015	
Leyton	120,000	1,161	745	478	367	2,191	5 yrs., 1902-4, 1906-7.
Liverpool ...	746,144	2,055	1,361	662	524	3,239	
London	4,758,218	2,075	1,168	668	515	3,681	
Manchester ...	645,158	2,433	1,425	800	655	4,265	
Norwich ...	119,191	1,474	994	863	640	4,661	
Nottingham ...	257,492	1,581	1,025	581	398	2,907	
Oldham	147,730	1,987	1,202	605	465	2,813	
Plymouth ...	120,063	1,443	1,201	681	522	2,980	
Portsmouth ...	208,291	1,696	1,389	373	249	2,235	5 yrs., 1903-7.
Salford	236,670	2,189	1,333	860	648	4,526	
Sheffield ...	455,553	1,756	769	661	564	3,721	
Southampton ...	119,745	1,644	1,004	522	455	3,028	
South Shields ...	113,460	1,756	1,365	792	697	3,246	
Stockport ...	100,986	1,665	1,170	699	652	3,961	8 yrs., 1900-7.
Sunderland ...	155,859	1,664	1,337	834	711	3,887	
West Ham ...	302,484	1,523	1,007	664	571	3,160	
Willesden ...	144,376	1,087	856	422	326	2,065	
Wolverhampton ...	101,500 (1906)	1,182	643	545	436	2,406	5 yrs., 1902-6.
Aberdeen ...	174,579	1,452	1,405	782	617	3,328	
Dundee	165,748	1,785	1,834	1,099	764	4,647	
Edinburgh ...	345,967	1,753	1,239	824	637	4,360	
Glasgow ...	847,584	1,856	1,665	944	793	4,377	

* Eight of these towns were unable to supply the statistics asked for.

Tuberculosis of the Lung (including Phthisis) and Other Forms of Tuberculosis in the Administrative County of London and Certain of the Metropolitan Boroughs. Average Mortality-rates per Annum per Million Persons living during Ten Years 1898 to 1907 (except where otherwise stated).

Boroughs.	Estimated Population.	Tuberculosis of Lung.		Other Forms of Tuberculosis.			Remarks.
		Males (All Ages).	Females (All Ages).	Males (All Ages).	Females (All Ages).	Children (Under 5).	
Administrative City of London	4,758,218	2,075	1,168	668	515	3,681	
Battersea ...	181,736	1,638	1,108	605	440	2,657	
Bermondsey ...	127,856	2,417	1,364	789	728	4,561	4 yrs., 1904-7.
Chelsea	74,857	2,231	1,062	467	412	3,082	7 yrs., 1901-7.
Hampstead ...	91,137	1,081	572	401	248	2,278	
Islington ...	347,017	1,901	1,134	494	378	3,010	
Kensington ...	180,500	1,703	883	689	413	4,081	
Lewisham ...	152,532	1,118	685	459	331	2,181	6 yrs., 1902-7.
Paddington ...	149,542	1,485	791	530	377	3,084	
Shoreditch ...	114,700	2,588	1,512	1,005	799	5,191	
Southwark ...	209,781	2,891	1,723	756	683	4,092	7 yrs., 1901-7.
Stoke Newington	51,247	1,666	938	612	318	3,117	7 yrs., 1901-7.
Wandsworth ...	325,859	1,197	820	477	324	2,503	
Woolwich ...	129,336	1,632	1,134	458	406	2,058	5 yrs., 1903-7.

Thirteen only of the metropolitan boroughs were able to supply the statistics asked for.

not appreciably altered by the addition of the small number of phthisis deaths which are certified under 5 years of age.

In the English population it will be noticed that:

1. The male death-rate from tuberculosis of the lungs is nearly half as much again as the female.

2. The male death-rate from other forms of tuberculosis is higher than the female (as 6 to 5).

3. The death-rate among children under 5 from "other forms" is nearly twice the female death-rate from all forms of tuberculosis.

Before attempting to make any general deductions from the tables I would like to make particular reference to the death-rates in the two towns with which I have been officially connected as medical officer of health, namely, Sunderland and Sheffield.

If the excess death-rate known to be caused among the Sheffield males by the special trades of Sheffield is deducted, it will be seen that there is a factor operating in Sunderland to produce tuberculosis which does not operate in Sheffield. The probability is that this is the effect of climate, subsoil, and situation. Sunderland is mostly built on stiff boulder clay of considerable thickness. The town is comparatively flat, and the climate on the north-east coast is generally considered to be trying as regards respiratory complaints. This is borne out by the fact that pneumonia and bronchitis are always excessive in Sunderland. Sheffield, on the other hand, is extremely hilly; the soil is not of such a clayey nature, and is better drained owing to the hills; the climate is not so trying, and although there is a slight excess of bronchitis and pneumonia, it is found that this is practically among the groups of males over the age of 35, and is probably due to industrial conditions rather than to climatic conditions. The climate is supposed to be bracing, and the many hills enable the air to circulate well round the houses, an advantage which is not found in the case of Sunderland. The frequent climbing of hills is probably good for the lungs of the Sheffielder!

In Sunderland the effect of the clay subsoil is probably exaggerated by the fact that so many of the houses are one story, and the bedrooms are therefore right down on the clay. Until recently there has been no provision for covering the site with concrete.

Sheffield, on the other hand, has a large proportion of back-to-back houses, probably about one-sixth of the whole. Recently I have had some particulars taken out with regard to the Sheffield houses in which notified cases of consumption began. The particulars are as follows, and have reference to all the cases of consumption notified during 1906 and 1907 for which the information was available:

Of 702 males the disease began in a back-to-back house in					233
,, 350 females	,,	,,	,,	,,	111
,, 108 grinders	,,	,,	,,	,,	33
,, 30 cutlers	,,	,,	,,	,,	14
,, 40 smiths, etc.	,,	,,	,,	,,	18
,, 10 filecutters	,,	,,	,,	,,	5
,, 25 silverworkers	,,	,,	,,	,,	8
,, 8 painters, plumbers, etc.	,,	,,	,,	,,	3
,, 215 women engaged in household duties				,,	54

As already mentioned, one-sixth of the houses in Sheffield are back-to-back houses. It is not surprising, however, that one-third of the cases of consumption, instead of one-sixth, should begin in the back-to-back houses, seeing that the back-to-back houses are the cheapest houses in the city, and are occupied, as a rule, by the poorest class of the community.

Sunderland and Sheffield resemble one another in both giving high death-rates for other forms of tuberculosis among children under 5 years of age. Each of them is worse than London. Sheffield has a good climate, as judged by the small amount of consumption in women. The high death-rate among the children would seem to point to bad home conditions, in which, perhaps, the back-to-back houses bear their part. It is quite likely that bad home conditions are more potent in affecting the children than in affecting the women. The women, many of whom may have survived bad home conditions in their infancy and childhood, are probably, on the average, more resistant to home infection than the children. In both towns there is probably a considerable amount of overcrowding, intensified during times of trade depression. The census returns give the following percentages of overcrowding in the two towns at the two last census periods:

	1891.	1901.
Sunderland	32.85	30.10
Sheffield	11.58	9.50

The definition of overcrowding used in this instance is any excess of two persons to a room.

In Sheffield the death-rate among males is more than double the female death-rate. In my annual reports I have shown that this is due to the special trades—chiefly in connexion with the grinders. In Sunderland there is much less difference between males and females, and this is a feature common to most of the ports in the kingdom. The industries of Sunderland are largely in connexion with shipbuilding and coal exporting, and a considerable number of colliers live in the town. It is notorious that colliers are not specially prone to consumption, the coal dust being considered more or less antagonistic to the tubercle bacillus. Many of the occupations in the shipbuilding and engineering yards are practically outdoor occupations, and do not produce any special liability to consumption.

There is no great difference between the death-rate from other forms of tuberculosis in children in the two places, but while in Sheffield three children die to one female at all ages, in Sunderland less than two children die to one female. It is obvious that, as regards consumption, while Sheffield and Sunderland are equally bad places for children, Sheffield is much better for women. I imagine this to be due to the fact that there is in neither case any occupation which is specially liable to cause consumption in women; that the climate and subsoil and physical features of the town are the reasons why Sheffield is superior to Sunderland for women; and that, as mentioned before, the home conditions, which are probably equally bad in both towns, affect the children more than the grown-up women. I have no evidence as to whether there

is any particular difference as regards the prevalence of tuberculosis among the cattle supplying the two towns.

It will be noticed that in the case of many of the towns the figures have not been obtained for the whole of the ten years, and I have thought it advisable, for the sake of giving a fairer comparison, to have new tables constructed for the five years, 1903 to 1907, in which the male and female death-rates from tuberculosis of the lung and from other forms of tuberculosis have been added together. The new tables show that, as a rule, there has been a considerable improvement in the second half of the decade.

Tuberculosis in England and Wales and the Large Towns with over 100,000 Population," also in Four Largest Scottish Towns. Average Mortality-rates per Annum per Million Persons living during Five Years 1903 to 1907.

Towns.	All Forms of Tuberculosis.		All Forms of Tuberculosis except Phthisis.
	Males (All Ages).	Females (All Ages).	Children (Under 5).
England and Wales	1,936	1,444	2,566
Birkenhead	1,879	1,359	1,373
†Birmingham	2,312	1,280	2,354
Blackburn...	1,963	1,325	3,539
Bolton	2,004	1,321	2,704
Bradford	2,069	1,379	2,222
Brighton	2,632	1,480	3,468
Burnley	2,142	1,504	2,989
Cardiff	1,938	1,592	2,427
Croydon	1,863	1,256	2,418
East Ham	1,482	1,235	2,163
Gateshead...	2,128	1,647	2,613
Hull	1,730	1,377	1,726
Leeds	2,344	1,605	3,904
Leicester	2,104	1,424	2,662
‡Leyton	1,639	1,112	2,191
Liverpool	2,566	1,746	3,028
London	2,514	1,555	3,141
Manchester	2,996	1,864	3,669
Norwich	2,412	1,645	4,136
Nottingham	2,110	1,383	2,878
Oldham	2,512	1,545	2,842
Plymouth	2,006	1,659	2,660
Portsmouth	2,069	1,538	2,235
Salford	3,027	1,883	4,181
Sheffield	2,245	1,199	3,167
Southampton	2,045	1,305	2,805
South Shields	2,354	1,972	3,021
Stockport	2,235	1,734	4,140
Sunderland	2,421	2,024	3,597
West Ham...	2,135	1,518	2,971
Willesden	1,562	1,138	1,851
§Wolverhampton	1,707	1,079	2,406
Aberdeen	2,137	1,803	3,124
Dundee	2,781	2,613	4,568
Edinburgh	2,181	1,674	3,931
Glasgow	2,667	2,327	4,203

* Nine of these towns were unable to supply the statistics asked for.
† The figures for Birmingham are for four years only (1904 to 1907).
‡ The figures for Leyton are for the five years 1902–4 and 1906-7.
§ The figures for Wolverhampton are for the five years 1902 to 1906.

Tuberculosis in the Administrative County of London and certain of the Metropolitan Boroughs. Average Mortality-rates per Annum per Million Persons living during Five Years 1903 to 1907.*

Boroughs.	All Forms of Tuberculosis.		All Forms of Tuberculosis except Phthisis.
	Males (All Ages).	Females (All Ages).	Children (Under 5).
Administrative County of London	2,514	1,555	3,141
Battersea	2,102	1,443	2,297
†Bermondsey	3,206	2,092	4,561
Chelsea	2,651	1,498	2,818
Hampstead	1,317	863	2,072
Islington	2,170	1,458	2,905
Kensington	2,285	1,214	3,651
Lewisham	1,524	966	2,071
Paddington	1,887	1,075	2,569
Shoreditch	3,586	2,445	5,258
Southwark	3,492	2,320	3,996
Stoke Newington	2,217	1,258	2,881
Wandsworth	1,551	1,008	2,134
Woolwich	2,090	1,540	2,058

* Thirteen only of the metropolitan boroughs were able to supply the statistics asked for.
† The figures for Bermondsey are for four years only, 1904-7.

It will be noticed that there is a very wide difference between the rates in the various towns. Thus, the following are the six worst and six best towns for males:

Worst.

Salford, with a rate of 3,027 per million living.
Manchester, ,, 2,996 ,,
Dundee, ,, 2,781 ,,
Glasgow, ,, 2,667 ,,
Brighton, ,, 2,632 ,,
Liverpool, ,, 2,566 ,,

Best.

East Ham, with a rate of 1,482 per million living.
Willesden, ,, 1,562 ,,
Leyton, ,, 1,639 ,,
Wolverhampton, ,, 1,707 ,,
Hull, ,, 1,730 ,,
Croydon, ,, 1,863 ,,

The following are the six worst and six best for females:

Worst.

Dundee, with a rate of 2,613 per million living.
Glasgow, ,, 2,327 ,,
Sunderland, ,, 2,024 ,,
South Shields, ,, 1,972 ,,
Salford, ,, 1,883 ,,
Manchester, ,, 1,864 ,,

Best.

Wolverhampton, with a rate of 1,079 per million living.
Leyton, with a rate of 1,112 ,,
Willesden, ,, 1,138 ,,
Sheffield, ,, 1,199 ,,
East Ham, ,, 1,235 ,,
Croydon, ,, 1,256 ,,

The following are the six worst and six best for children under 5 years of age:

Worst.

Dundee, with a rate of 4,568 per million living.
Glasgow, ,, 4,203 ,,
Salford, ,, 4,181 ,,
Stockport, ,, 4,140 ,,
Norwich, ,, 4,136 ,,
Edinburgh, ,, 3,931 ,,

Best.

Birkenhead, with a rate of	1,373	per million living.
Hull, with a rate of	1,726	,,
Willesden, ,,	1,851	,,
East Ham, ,,	2,165	,,
Leyton, ,,	2,191	,,
Bradford, ,,	2,222	,,

It would be idle for any one not intimately acquainted with the various towns to speculate at length as to the causes of the great variations shown in the death-rates, but one is perhaps justified in drawing attention to some of the salient features of the tables.

It will be noticed that in the case of seaport towns the difference between the male and female rate is usually much less pronounced than in the inland towns, probably owing to the greater proportion of outdoor occupations for men. Among the most extraordinary figures in the tables are the low rates for women in Wolverhampton and Sheffield, and the low rates for children in Birkenhead and Hull.

Salford and Glasgow are among the worst six towns for males, females, and children; and Manchester for males and females. Dundee is among the worst six for all three rates, and is peculiar in having a male and female rate nearly equal; I suppose this is due to the large number of women employed in the jute trade. Dundee is also the worst for children; I understand that about one-quarter of the women employed in the jute trade are married. Possibly the neglected homes and the greater proportion of infants bottle-fed and exposed to the risk of bovine tuberculosis, resulting from the employment of so many married women, are the causes of so heavy a mortality among the children.

Edinburgh and Glasgow are both among the six worst towns for children. Is this due to the difficulty in children getting an adequate amount of fresh air under the flat system? It is difficult to understand how children under 5 years living in flats several stories from the ground can possibly get a proper amount of outdoor life. Norwich comes among the six worst towns for children, and its bad position is no doubt partly due to the practice of the medical officer of health in assigning deaths from marasmus in children over 4 months of age to tuberculous disease. Norwich, however, occupies a bad position, both for males and females. It is a little better than London for males and worse than London for females.

The table is full of conundrums! Leeds is appreciably worse than Bradford, both for males and females, but the proportion between these death-rates in each place is similar. When we turn to the children's rate, however, we find that the Leeds rate is nearly double the Bradford rate!

The three worst London boroughs are:

Males.

Shoreditch, with a rate of	3,586	per million living.		
Southwark ,, ,,	3,492	,,	,,	
Bermondsey ,, ,,	3,206	,,	,,	

Females.

Shoreditch, with a rate of	2,445	per million living.		
Southwark ,, ,,	2,320	,,	,,	
Bermondsey ,, ,,	2,092	,,	,,	

Children Under 5 Years of Age.

Shoreditch, with a rate of	5,258	per million living.		
Bermondsey ,, ,,	4,561	,,	,,	
Southwark ,, ,,	3,996	,,	,,	

One of the most noticeable figures in the London table is the high death-rate among the children in Kensington compared with the low death-rate among women.

The children's rates are probably less reliable than the male and female, owing to errors of diagnosis, so that even if it were possible to obtain information as to the relative prevalence of bovine tuberculosis in different parts of the country, it might still be difficult to trace the effect on the death-rate.

Unfortunately in Guernsey, where bovine tuberculosis has been almost absent, statistics have been also absent, and there was no proper certification of death until the year 1907. In 1907 and 1908 the deaths from tuberculosis among children under 5 years of age in Guernsey were 15 in number, while the total deaths from tuberculosis during the same period were 106—that is, a proportion of about 1 to 8. The proportion of deaths from tuberculosis under 5 years of age in London and in England from 1900 to 1907 to the total is almost exactly one-fifth. The Guernsey figures are, however, much too small to make any deductions from.

In the June issue of *Public Health* there is a paper on infant mortality by the Medical Officer of Health for Malta. The Maltese statistics are extremely interesting owing to the fact that goats' milk is the only milk sold on the island, and that tuberculosis is comparatively rare among goats. The Medical Officer of Health, however, reports that the statistics are probably unreliable owing to the want of proper designation of disease, and to doubtful diagnoses. The following figures are taken from one of the tables in this paper:

Proportion of Deaths to 1,000 Births.

	1901.	1902-3	1903-4	1904-5	1905-6	1906-7	1907-8
Tuberculous meningitis, tuberculous peritonitis, other tuberculous diseases	10.78	4.94	3.63	4.28	2.87	3.19	2.28

Dr. Critien suggests that the sudden drop in the figures for 1902–3 is partly accounted for by the separation of "leucocythaemia" from "tubercle." If the figures for 1901 be eliminated, we obtain an average infantile death-rate from tuberculous diseases in Malta of 3.53 for the six years 1902–7 compared with 5.03 for England and Wales.

The chief point in the second part of this paper is that *we do not know the nature of the local problem until we have analysed the tuberculosis death-rate.* I have always been of the opinion that the prevalence of tuberculosis in a town or district is one of the guides to its sanitary condition. I cannot help thinking that it would be a good plan for the Local Government Board to require in the tables drawn up by the Board for use by medical officers of health in connexion with their annual reports an analysis of the tuberculosis death-rate similar to that given in this paper. This would be a means of giving to the subject the importance which it deserves. As a natural sequel, if a town or district showed a consistently high death-rate from tuberculosis among males, females, or children, a Local Government Board inquiry would take place, just as it does now in the case of an excessive prevalence of typhoid fever.

In the *Lancet* for June 19th reference is made to a paper by the Medical Officer of Health for Calcutta on Tuberculosis. It is shown that the death-rate for males is 2 per 1,000 and the death-rate for females 3.5 per 1,000, and, further, that the death-rates among Mohammedan and Hindu females are 5.8 and 3.0 respectively. The high rate among the women is attributed largely to deficiency of fresh air, and the need for improvement is pointed out. A comparison is made with the population of England and Wales, but a glance at the tables in this paper shows that the Hindu female population of Calcutta is not much worse than the female populations of Dundee and Glasgow.

A second suggestion which I have to make is that means should be taken to get a more accurate census of the workers in the various trades, in order that the excessive prevalence of tuberculosis among any group of workers may be more readily detected. Whether this could better be done by means of more explicit instructions to the census enumerators or by having the Home Office triennial return of workers made according to sanitary districts, I do not know. In Sheffield the enumeration of the workers is peculiarly difficult owing to the number of tenement factories; but in most places, if the triennial return were made according to the sanitary districts, the Home Office would be able to supply the number of workers and the sanitary authority the number of deaths among the workers, a correction being made where necessary when an appreciable number of the workers lived in one sanitary district and worked in another.

DISCUSSION.

Dr. MCWALTER (Dublin) said that he was a strong opponent of compulsory notification. Dr. Scurfield's paper showed that whereas formerly 11 persons out of every 1,000 died of consumption in the workhouse, now 38 persons out of the same number died there—apparently as a result of compulsory notification of tuberculosis. This was not desirable. It might possibly be necessary to notify in a city like Sheffield, where such a large proportion of the population worked at grinding and the cutlery trades, where hundreds of men worked within a few inches of each other, but he considered that it was quite undesirable in cities like Dublin or Belfast, or in the country at large. To register a man as a consumptive branded him as a leper and hurried him into the grave. There were superstitions in science as well as in religion, and the cult of terror for the tubercle bacillus was a twentieth century superstition. The matter was one of great interest in Ireland at the present day, because a Tuberculosis Prevention Act had been passed for Ireland; but the compulsory notification clause was voluntary, and might be adopted or rejected by the local authority. For the purpose of carrying out the Act an Order in Council had been made, and this Order in Council was the most imbecile order the mind of man could conceive. It laid down, not that every case of tuberculosis should be notified, but it applied only to the poor and not to the rich—that is to say, the doctor was to notify only if the person habitually slept in the same room with others not affected. Obviously, it was impossible to ascertain whether the other occupants of the room were affected or not, especially in Dublin, where 30,000 out of 50,000 families lived in single-room dwellings. In the very interesting volume on consumption, published by the Women's National Health Association, it was stated on the authority of the President of the College of Physicians that it had been found that at least 50 per cent. of old men showed signs of tuberculosis. If these cases had been notified, and they had become aware of their disease, probably they would never have reached old age; the fear of the disease and the mark of the leper would have hurried them into the grave far sooner. In every other disease in which there was compulsory notification, the local authority provided hospital accommodation for the patient; but there were 100,000 cases of tuberculosis in Ireland, and hospital accommodation for them would cost £2,000 000 a year. It would be impossible to afford this, and it was an offence against the liberty of the subject to adopt the methods of the Holy Inquisition in the twentieth century, when the effect of notification would be to deprive the worker of his work, and not give him a home.

Sir CHARLES CAMERON (Dublin) regretted that he was not in accordance with Dr. McWalter on this occasion, although he recognized that no one was more interested in the welfare of the dependent classes, or had done more to promote it. If some inconvenience was caused by notification, it was nothing to the good achieved thereby. In Dublin the deaths from tuberculosis exceeded by three times those from any other disease. Something had to be done with regard to that dread disease, and it appeared to him that the provisions for notification were fair and reasonable in the Act. It had, however, one blemish which he regretted, namely, that notification was optional. There were two kinds of Sanitary Acts—the "may" and the "shall." He disliked the former, as they were not generally acted on. If it was desirable that certain things should be done to improve the public health, then the word "shall" and not "may" should always be used. He dissented from the belief that compulsory notification of tuberculosis would be resented. There had been voluntary notification for some years in Dublin, and in hundreds of instances action had been taken similar to what was provided under the new Act, and yet no one had complained, whilst all were grateful. Literature, spittoons, and disinfectants had all been thankfully received. Now in Ireland all laws which the people believed just were obeyed. He addressed his remarks to the English present. In their country the vaccination laws were not always respected—in Leicester, for example—whilst in Ireland no one, except by mere negligence, failed to get his child vaccinated. He was glad to say that the Corporation of Dublin had accepted the recommendation of their Public Health Committee to adopt the Act. He would like to know what those who opposed notification proposed, for up to the present he had heard nothing practical from them.

Sir JOHN BYERS (Belfast) said that in Ireland they had a condition of affairs that hardly existed in any other country, and the first question they had to face was, "Where was the disease?" They could only get at that by compulsory notification, and then they might proceed a little further. Good work had been done in Belfast by Dr. Bailie under a voluntary notification system, but it only reached a very small proportion of tuberculous patients. The reason the Irish Act was not as strong as he would like was owing to the opposition to it when it was before the Parliamentary Committee; but it was a beginning, and he hoped that in Belfast and other places they would adopt the Act and find out how it worked, and thus help to rid their country of a preventable disease.

Dr. NASMYTH (Edinburgh) said that as a medical officer of health for thirty years he was a warm supporter of compulsory notification. There was a great deal of intentional misapprehension about the meaning of notification. This misapprehension was sometimes meant to prevent the working of a perfectly easy thing. For twenty years they had had compulsory notification of certain infectious diseases, and in those cases compulsion did not cause any friction. He was perfectly astonished by the difficulties which were put in the way of the compulsory notification of this most destructive, deadly, and worst of diseases. Phthisis occurred in every country, and in every age, sex, and occupation; and to say that notification should apply only to certain places was a manifestly illogical contention. Voluntary notification was only a way of introducing compulsory notification, without which we could not hope to completely eliminate phthisis. International congresses had again and again advocated it. What would the antagonists to notification suggest in the case of outbreaks of small-pox or typhus? What would they do without notification? At the same time, notification was not everything, and they must not neglect the well-known methods of hygiene, and especially such pioneer work as had been carried out by the open-air treatment and dispensary treatment of phthisis in Edinburgh.

Dr. A. GILCHRIST (Nice) said that Sir Charles Cameron had asked what alternative there was to compulsory notification of tuberculosis. He should say—imperial climatic colonization. Races and communities had the diseases they deserved, according as they elected to evolve. Was their ideal Darwinian or Lamarckian? Would they accept their environment, and allow selection to choose the fittest, or would they modify their environment, and create the race that adapted itself to the form? Or, in Nietzschian language, would they be slaves or supermen? He thought Englishmen, using the word in its broad sense, should be supermen. He had more or less utopian conceptions as to how this ideal should be realized. They were not altogether those which had been discussed that day. In view of the recent description by Professor Poncet, of Lyons, of an important variety of tuberculosis which he had designated as inflammatory, a form so similar to rheumatism that the condition could be called tuberculous rheumatism, the difficulties of notification became theoretically insuperable. Compulsory notification should be limited to the open germ-producing forms. The French advocated the preventorium, the Germans popular sanatoriums and compulsory insurance. What should be the English method? Englishmen should obey the instincts of their race, which were migratory. They should change their environment, and spread into every colony, as their ancestors spread into every clime. Instead of notification he would suggest the colonization of all forms of pre-tuberculosis.

Dr. RENTOUL (Lisburn) said that it was the general practitioner who knew most of tuberculous manifestations. The district he came from had a very large proportion of tuberculous patients. Medicine *per se* had done little for the consumptive, and it was not until State aid was given in the shape of compulsory notification that the death-rate would be reduced. Instead of spending State money on sanatoriums he would endeavour to turn the people's houses into sanatoriums by improving their sanitary condition. He believed that the majority of Irish practitioners would approve of compulsory notification.

Dr. Herbert Jones (Hereford) referred to the fact that the Irish Act required only infective cases of consumption to be notified, so that Dr. Gilchrist, in approving of the notification of "open" cases, really expressed approval of the Act. He emphasized the importance of some provision being made for the families of consumptive men who were being treated in sanatoriums.

SCHOOL MEDICAL INSPECTION.

By Edward Magennis, M.D., D.P.H.,
Dublin.

By the seventy-fourth report of the Commissioners of National Education in Ireland, it appears that the total number of pupils on the rolls of the ordinary national schools was 675,471; in model schools, 9,186; and in convent and monastic schools, 112,833, making up a total of 797,490—about 60,000 less than there were six or seven years ago. For these there were provided 8,538 schools. Public interest has of recent years become somewhat aroused with regard to the sanitary condition of these schools and the hygienic surroundings of about 800,000 children. The importance of this question and the consequent duties it entails cannot be gainsaid, for it concerns intimately the health and development of our youth—and that the youngest portion—who spend six hours or upwards daily in the schoolroom.

It is my purpose in the present paper briefly to review some of the conditions which prevail therein, and to point out the necessity for systematic medical inspection of Irish schools and scholars. If you allow me, I shall occupy your time for just a few minutes by reading to you some extracts from the most recent reports of the inspectors of these schools, and I think they will prove to you, if proof indeed were necessary, that some of the national schools in Ireland are in a deplorable condition and quite unsuitable to be used as such.

On page 15 Mr. McGlade says: "The heating of the rooms is very far from satisfactory." Mr. Bradshaw says:

The supply of fuel is frequently inadequate, and although there is generally a nominal fire, the schoolroom is often cold.

On page 37 Mr. Stokes reports:

Forty-seven schools have no playgrounds, and sixteen of the others have bad ones. The heating arrangements are not satisfactory in more than a quarter of the schools. The children bring some turf, but most of the expense of providing it falls upon the teacher.

On page 38 Mr. Horan reports:

The sanitary condition of the schools is not satisfactory. Even in vested schools the closets are not cleaned with sufficient frequency and are scarcely ever deodorized. In non-vested schools matters are much worse. In many of them there are no closets, and it is difficult to see that the children can grow up with any regard to delicacy and the observances of the decencies of life.

On page 55 Mr. Beatty reports:

Again, as to the eyesight, I have little doubt that in a good many cases permanent injury is done to children's eyesight by working in the gloom of many of the schoolrooms. Till medical inspection of school children is introduced there can be no certainty on such points, but there can be no doubt that some startling facts will then be disclosed, as have been disclosed in every other country where such inspection has been introduced.

The following figures may, however, be given as the result of casual inquiries. In three schools, with a total of 169 on rolls, I find there were 3 children using spectacles, 1 suffering from cataract, 1 with watery or suppurating eyes, 1 under medical treatment, 3 suffering from pains in the eyes, 3 with weak sight, 3 short-sighted, 5 very short-sighted, or a total of 20 with defective sight.

I may add that these were all obvious cases, which had attracted the attention of the teachers.

On page 102 Mr. Connolly reports:

Several schools are unprovided with out-offices, and where out-offices do exist, I regret to say there is much neglect. In some instances the neglect was so great that the out-offices became a menace to public health. In one case legal proceedings had to be instituted to abate the nuisance. I have little doubt that such neglect is a source of the many epidemics that occur so frequently in this circuit. Within the past two years schools have been closed in one locality or another from outbreaks of scarlatina, typhoid fever, measles, diphtheria, etc.

On page 103 Mr. Lavelle says:

There are sixteen very unsuitable houses. These structures are placed in low lying and badly-drained situations. Some of them have mud walls, and they are usually thatched and unceiled. The floor is either earth, or boards laid on the earth. During the past winter I have frequently seen the children in such physical discomfort from cold that it was unreasonable to expect them to work effectively.

On page 118 Mr. T. P. O'Connor says:

In the "Teacher's Return," which the manager signs, there is the query, "How is the cost of heating defrayed?" The usual answer is, By the teacher and the children; or, The children contribute a little and the teacher the rest. Rarely do we find the answer, By the manager. Yet it ought to be the universal answer, for surely the heating, as well as the repairs, equipment, and renewals, ought to be a charge upon the management.

On page 149 Mr. Morgan says:

The majority of the schools are old and defective from an educational standpoint. At least a dozen are situated in graveyards. Many of them are without playgrounds.

These are extracts from the reports of the inspectors men whose duty it is to investigate such matters. How can any one, in the face of these, maintain that these schoolhouses in Ireland are fit places in which tender youths are to be housed up five or six hours of the day?

What is the condition of the vast majority of these children on entering the schoolroom any morning? Many of them are obliged to walk, perhaps two or three miles, it may be through rain, sleet, or snow, and when they arrive their clothes may be soaked with water. They enter a bleak, cold room, in which there may not be a fire, or, if there be, it is most inadequate, and here they are compelled to remain for hours, shivering with cold and altogether in a most pitiable condition.

There is no provision made by which the outer garments, at least, may be dried during their stay. The schools are, as a rule, placed on unhealthy sites, their general construction is bad, and the sanitary or insanitary state of the out-offices seems to be undreamt of by anybody except the inspectors. The lighting, ventilating, and heating are nearly always defective, and the seats are constructed without regard to age or size.

Sir W. Whitla, speaking recently at the opening of new national schools, said that he did not know at the present hour of a more serious question than the condition of the national schools in Ireland. With, he feared, but few exceptions, these were in a deplorably unsatisfactory state from a sanitary point of view. The most serious defect was the scandalous deficiency of the ventilation, whereby he was morally certain many lives were sacrificed and many children were permanently crippled or rendered unfit to take a proper place in their future life struggle through the physical delicacy permanently inflicted upon them by being compelled to respire the rebreathed and foul air of the crowded schoolroom. The languishing wail of the pining school child doomed to breathe daily such a tainted atmosphere as prevailed in too many of the classrooms rose to heaven, though they failed to hear it, drowned as it was by the din of party strife and the clamour of political agitation, the shrieks of the suffragettes, the hysterics of the antivivisectionist, and other well-meaning but misguided people. Every function of the child was depressed, and every organ starved and stunted in its development by the polluted air, so that their death rate in Ireland from tuberculosis had become a standing disgrace.

If the parents realized the insanitary condition of these schoolrooms, and the grave risks their children incurred, they would speedily take an active interest in school matters, public opinion would be centred on this vital question, and a complete and radical reform would be effected.

The inspection of all such matters should be in the hands of a medical sanitary expert, and, in addition, he should also inspect the children themselves. On the Board of National Education in Ireland, consisting of twenty members, there is not a single medical man On the Intermediate Board of Education in Ireland, consisting of fourteen or fifteen members, there is not a single medical man. These are the two principal educational boards in Ireland, and yet the powers that be effectually exclude the medical profession from representation on them.

The following are some of the points on which a medical inspector should advise:

1. School—Site, construction, ventilation, lighting, and heating.

2. Scholars—Overcrowding, posture, games, and play. Cleanliness, signs of fatigue, neglect, mental deficiency, defective vision, defective hearing, defective teeth, and communicable diseases.

Attached to each of the boards of education there should be a sanitary department, with medical officers to examine and certify every school. The science of hygiene, especially that part of it that pertains to school life, should be taught, and every teacher should possess a certificate for teaching this subject.

How many clever, brilliant children are brushed aside and neglected because of some physical defect in their sight or their hearing! What disastrous results to the ears might have been averted by the timely removal of adenoids! How many children are handicapped by the numerous ocular defects! How many squinting deformities might be remedied, without operation, simply by the timely use of proper glasses, if these defects had been recognized in early life!

All the preceding points the medical officer would take cognizance of, but the major portion of his duties would be the prevention and detection of the many contagious and infectious diseases, of which our schools are the principal media of dissemination. I have seen children in schools with an unmistakable rash of measles upon them, and I have also seen children with the skin peeling off after an attack of scarlatina, and I know of one school where a child of about eight years took a "fit" of whooping cough, and the teacher asked one of the other children to hold the hands of the little sufferer during the spasm. How is it that we in Ireland pay so little heed to the matters affecting the public health, whether of adults or of children?

During the passage of the Local Government Act of 1898 there were ample opportunities for making appointments in Ireland, as are made in England, of superintendent medical officers of health for each county, but no effort was used in that direction. One of the many reforms which Australia has initiated without waiting for a hint from the Mother Country is the special inspection of school children, with special reference to sight. In his most recent report the doctor who acted on behalf of the South Australian Government reported that he found that only 39 per cent. of the children had absolutely normal eyesight, but amongst the remainder, cases of gravely defective sight were not very common. There were 65 per cent. who suffered from enlarged tonsils, post-nasal growths, or both. About half the children had never been vaccinated, and in general the condition of their teeth was deplorable.

With a declining and enfeebled population can we view with other than extreme anxiety and apprehension the future physical and mental condition of the school children of Ireland? The whole question of school life must be brought prominently before the public and precautions taken that our few remaining youths will be properly provided for when in the schoolroom and their physical development in no way impeded. We should stimulate our people to fall into line with other countries, where the preservation of youthful health is looked at from a national standpoint.

Our legislators seem to value the farm stock more than they do the children. If an outbreak of an infectious or contagious nature occurs amongst our cattle urgent and strict methods are immediately adopted to stamp it out, and all necessary directions for this purpose emanate from a staff under the direction of the Minister of Agriculture. When the State recognizes its serious responsibility in the matter and appreciates the noble efforts of our sanitary reformers, when a Minister of Public Health is appointed, as I suggested at the Folkestone Congress of the Royal Institute of Public Health in 1904, and when our schools are placed under Government medical inspection, then the health and well-being of our children will be properly looked after, and the State will be compensated by a lessening of the mortality from infectious diseases propagated in the schoolroom, and by a radical improvement in the general health and physique of the people.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

NELSON HOSPITAL, NEW ZEALAND.

AN UNUSUAL CASE OF TETANUS.

(Reported by W. J. MACKAY, M.D., Surgeon to the Hospital.)

THE following case of tetanus presents no extraordinary features, but in a disease which has such an enormous mortality, any case of recovery, throwing however little light upon questions of prognosis or treatment, becomes of interest and importance. For this reason I venture to publish the following details. I may say, in parenthesis, that Babes states the mortality to be about 77 per cent. in patients with an incubation period of from ten to twenty days. The incubation period in this case was thirteen days.

P. D., aged 10 years, and small for his age, was admitted on Monday, April 26th, 1909.

The history was that thirteen days before the first symptom was observed he had been out paddling with bare feet in a tidal mud flat, and received a small wound in the sole of one foot. (On admission, the wound was healed, but its site was marked by a discoloured cicatrix.) On April 24th he complained of difficulty in opening his mouth, but his people thought it was from "cold." On April 25th the difficulty increased, but even then excited no apprehension, and it was not until more general spasms began to develop on April 26th that a medical man was called in, who immediately sent the boy to hospital.

On admission, he was able to separate his teeth about one-sixteenth of an inch, and risus sardonicus was present. The muscles of the back were becoming rigid, and he suffered from occasional painful spasms. These symptoms increased in severity. Opisthotonos became marked, the abdominal muscles became rigid, the painful spasms more frequent, and trismus became absolute. The temperature was highest on the fourth and fifth days of treatment, but did not exceed 99.8°; it was 99° on admission. The pulse, which was 90 on admission, attained its greatest frequency on the second day, being then 112. He was given one dose of 10 c.c.m. of tetanus antitoxin each day for five days. On the sixth day he was given one dose of 30 c.c.m., when the temperature fell and did not materially rise again. The antitoxin was that of the Lister Institute, and was given hypodermically. In addition he was given by enema 20 grains each of chloral and potassium bromide in water (ʒ iv) every eight hours; its retention was ensured by giving previously tincture of opium, ♏v, in water (ʒij). On the third day it became evident that the painful spasms were diminished in severity by the enemata, which I reduced to one a day on account of his pulse. I now gave hypodermically every two hours a drachm of a ½ per cent. solution of carbolic acid. It was given alternately on each side of the spinal column, beginning at the neck. Finding the painful spasms become more marked, I was obliged to increase the frequency of the chloral and bromide enemata, and for the next six days they were given about twice a day, the severity of the spasms determining their administration, and after that only occasionally. The hypodermic injections of carbolic acid were stopped on May 6th; for the previous four days the strength had been increased to 3 per cent., half a gram of which was given every three hours during the day.

On May 4th, the ninth day of treatment, finding the symptoms persist in such a degree of severity as to threaten exhaustion, I gave him hypodermically a final dose of 60 c.c.m. antitoxin. There was a slight reaction after this dose, the temperature rising to 99° on two days. The after-progress was steady and rapid, the tonic spasm gradually passed off, and the painful exacerbations ceased. He was able to protrude his tongue in five days, and on May 10th could masticate bread. He was free throughout from any marked involvement of the muscles of respiration

or deglutition, and owing to an irregularity in his teeth it was easy to introduce fluid nourishment by means of a tube. His food consisted of eggs beaten up in milk with a small quantity of brandy. When the spasms were most severe he rested on his occiput and heels, and short of this the spasms were sufficiently severe to make him cry out and induce perspiration.

It may reasonably be asked why I did not begin treatment with the large dose of antitoxin. As a matter of fact I began with greater confidence in other methods and up to a certain point retained this confidence, but ultimately fearing exhaustion, I decided to give the large doses. The result was most satisfactory.

In conclusion, from careful observation of the case, I have no doubt as to the beneficial effects of the chloral and bromide enemata in reducing the frequency and severity of the spasms and securing sleep and rest. It is more difficult to form an opinion as to the effects of the carbolic acid, but it seemed to have at least the effect of easing the muscles subjacent to the hypodermic injections; it may also have been the result of the carbolic acid that the tonic spasm relaxed first in the cervical and dorsal regions where most of the hypodermics had been given.

I would further note the very rapid improvement after the large doses of antitoxin, and the complete absence of any evil effects.

Reviews.

SUTURE OF ARTERIES.

Mr. Archibald Smith's report[1] of his experimental research on the *Suture of Arteries*[1] sees the light as one of the Oxford Medical Publications. It recounts a very creditable piece of work on a matter of pressing interest, and is presented in a simple and straightforward way very pleasant to read. The first section gives a summary of the early history of the subject, from Lambert's account to Hunter of Hallowell's first successful suture, up to Jensen's paper in 1903. The list of operations on the human subject quoted from the last-named author is not quite complete, as may be judged by the article published last year in the *Beitrage zur klinischen Chirurgie*, by Faykiss, but that is a minor matter.

In the second section he describes the various methods that have been employed for end-to-end union; Gluck's "cuff" method, Murphy's invagination device, the protheses of Payr, made in metallic magnesium in two forms —a grooved cylinder and a double flanged cylinder, one face of which is provided with spikes and the opposed face with holes to receive them—together with the U-suture of Briéau and Jaboulay which affords the simplest means of approximating intima to intima. In the third chapter there is a discussion of the sources of failure, followed by an account of the technique devised by the author and tested in the animal experiments that formed the basis of this research.

The chief dangers connected with artery suture are, he says, haemorrhage, sepsis, thrombosis, and aneurysm. All experimenters are agreed that aneurysm is a rare sequela of suture; haemorrhage need not be feared, it appears, if fine round needles be used together with suture material that completely fills the needle holes, and is not too tightly tied. Thrombosis, the commonest cause of failure, is almost always due to sepsis, and the most rigid precautions possible are essential to success, but it seems to be desirable to exclude suture material from contact with the blood stream, whilst perforating all the coats. Putting on one side mechanical appliances of all descriptions, for obvious practical reasons, the author adopted the U-suture as the ground-plan of his technique, but modified it by laying a quill suture of chromicized catgut through all the loops on the distal side and tying all the knots over another thread on the proximal side, taking care to cross the two limbs of the suture in their passage through the tissues. He has invented a neat holder for the fixation sutures employed at opposite points of the circumference in end-to-end suture, but this would be unnecessary in actual operating with skilled assistance. The experiments were all performed upon dogs, and the results were satisfactory and instructive.

In section four, on the histological results, very interesting observations are recorded, tending to show that *restitutio ad integrum* may be attained. Not only muscular fibres, but even new elastic fibres could be traced in the site of the cicatrix, the intima having been re established very early in the course of healing. The author thinks that thrombosis of microscopical dimensions is unavoidable as a temporary phase of the healing process, and that it is probably actually favourable to repair. There is at present no evidence of the efficacy of the method as applied to man, but the ground is thoroughly prepared for trial when suitable opportunity offers, and the surgeon who wishes to be ready for the event—often an emergency—cannot do better than study this little volume, in which he will find excellent diagrams and many suggestions as to details of technique. There are some good figures of photomicrographs of the histological appearances. The research was carried out under the direction of Professor Hochenegg.

[1] Oxford Medical Publications. *Suture of Arteries: An Experimental Research.* By E. Archibald Smith, M.B., Ch.B., F.R.C.S. London: Henry Frowde, and Hodder and Stoughton. 1909. (8vo, pp. 68, 18 illustrations.)

IMMUNITY AND SPECIFIC THERAPEUTICS.

The second and concluding portion of volume ii of the work on the technique and method of immunity investigation,[2] edited by Professor Kraus and Dr. Levaditi, contains several articles on subjects which are of general interest. In Dr. Levaditi's chapter on phagocytosis we have no fault to find with the technical portions, but we consider that his introductory pages on the classification of the phagocytes are not particularly helpful. They are little more than a repetition of Metchnikoff's well-known theory, and fail to elucidate obscure and difficult points, such as the precise nature and origin of the various cells ambiguously described as "macrophages." In a work such as this, which aims at treating its subject exhaustively, regardless of the amount of space required, we are surprised to find that opsonins are dismissed in the short space of twenty-three pages, which cannot be regarded as presenting the German reader with an adequate review of the extensive and important contributions which have been made to this subject by many English pathologists. After a lengthy and important article by Dr. Böhme on bacteriolytic serums there follows a series of chapters on the preparation of various specific antitoxic serums. Agglutination and clinical serum-diagnosis by means of the agglutination test are dealt with by Drs. Volk and Kreissl. The application of the precipitin method for the biological differentiation of albumens and the employment of this procedure for the purposes of forensic medicine are described by Drs. Uhlenhuth and Weidanz, and occupy over a hundred pages. Here we think the authors enter more fully than is needful into quite elementary details of technique, such as how to weigh a rabbit, how to make an intravenous and an intraperitoneal inoculation, and the like. We may remark, with reference not only to this but to many other articles in these volumes on immunity, that the editors would have saved much space and many needless repetitions if they had concentrated into one chapter an account of the ordinary routine technique of the experimental laboratory and instructed the writers on special subjects to restrict themselves to details of manipulation not included therein. Amongst other interesting matters discussed in the present volume are anaphylaxis, the Bordet-Gengou reaction, and the serum diagnosis of syphilis.

Owing to the rapid accumulation, both in bulk and in complexity, of the literature on immunity, it is increasingly difficult to keep pace with it, and it is therefore desirable to have a general survey of the subject as it now stands condensed into the space of a reasonably small volume. Dr. Emery's *Immunity and Specific Therapy*[3] represents an endeavour to fulfil this need. In addition to giving us the general outlook, it is critical without being too controversial; and though the subject is necessarily technical and intricate, it is treated with sufficient simplicity to

[2] *Handbuch der Technik und Methodik der Immunitätsforschung.* Herausgegeben von Professor Dr. R. Kraus und Dr. C. Levaditi. Zweiter Band. Zweite Lieferung. Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 279-1219. With illustrations. M. 25.)

[3] *Immunity and Specific Therapy.* By W. D'Este Emery, M.D., B.Sc. London: H. K. Lewis. 1909. (Demy 8vo, pp. 448, with illustrations.)

render it comprehensible to the beginner, who will be particularly glad to find that there is a glossary at the beginning of the volume in which the meanings of the more important technical terms are explained. In the earlier chapters, which enter into the more difficult theoretical problems of the relations of toxin to antitoxin, bacteriolysis, and the formation of precipitins and agglutinins, Dr. Emery is conspicuous for his impartiality. Only too often we find that writers on this subject are, perhaps unconsciously, the victims of bias in favour of some particular view, and are so anxious to detect the weak points in their opponent's case that they are unable to appreciate its merits. Dr. Emery gives fair play to both sides, and this is undoubtedly the right method of treatment; though it gives an air of inconclusiveness to some of his chapters, that is not his fault but is due to the impossibility of arriving at final conclusions from the data at present available. The chapter on phagocytosis commences with an account of the researches which were initiated by Metchnikoff. This leads us to a consideration of the extracellular influences which affect the vitality of bacteria, and is followed by a general discussion of the value of vaccine therapy and the significance of the opsonic index. Speaking from his own experience, Dr. Emery does not find that the results of vaccine treatment are always encouraging. In this method of dealing with tuberculosis he says:

> I can only report a moderate degree of success, and this only in small lesions, such as tubercle of the iris or cornea and of tuberculous ulcers. I have had but one or two encouraging results and numerous failures with tuberculous glands, bone disease, etc., though others have apparently been more successful. In phthisis there appears to be some slight benefit when combined with other treatment, and tuberculous sinuses sometimes heal very quickly. I should only recommend the treatment myself as an adjunct to other methods, or when surgical interference is impossible or inadvisable.

He has found, however, that with infections due to staphylococci, pneumococci, *B. coli*, and some other organisms, the results are most beneficial. Vaccine therapy, when successful, does not, he remarks, necessarily prove the truth of the opsonic theory regarding the control of dosage.

> The more carefully the opsonic index is considered the more certain will it appear that a high index is not an indication of immunity; it neither proves that the lesion is undergoing cure nor that a fresh infection will not occur.

A low index, again, is not any proof of lack of immunity, since, as he has found by personal observation, patients may show decided improvement during a prolonged negative phase. Against the argument put forward by some of the opsonists that in such cases the clinical signs are unreliable, the author makes the pertinent remark that this deduction "is logical only if we regard the raising of the opsonic index, and not the cure of the patient, as the object of treatment." Amongst the chapters in the concluding portion of the volume may be mentioned one on "the colloidal theory of antibodies," which gives a very interesting epitome of recent work on the interpretation of immunity by the light of colloidal chemistry.

In his book on opsonins and the opsonic therapy,[4] Dr. RENÉ GAULTIER sketches for French clinicians the main outline of the theory and practice of Sir Almroth Wright. In France vaccine treatment has not made the progress which it has made in England. To most doctors even its terminology is scarcely familiar, and it has not yet advanced from the region of scientific experiment into the domain of practical therapeutics. This little volume, therefore, in the series of Les Actualités Médicales, should do good service by calling attention to the reality of the benefits which vaccination renders in so many infections. A sketch, necessarily very brief, of some of the more fundamental facts of immunity is given, followed by an account of the nature of opsonins, the method of determining the index, the nature of vaccines, the effect of injections on the index, with illustrative curves; and, finally, by a chapter on the use of vaccines in practice. Written primarily for the clinician, the book does not enter in any detail into theoretical questions and avoids current controversies. To say, however, that "opsonins are, in the phrase of English authors' bacteriotropic substances, substances analogous to alexins, which, interposing themselves between the bacteria and the phagocytes, further the ingestion of the former by the latter," is rather a confusion than a conciliation of opposing views. It seems a pity, since it is the clinician to whom the appeal is addressed, that no information as to the results achieved by the use of vaccines is included. The limited experience of the author, confined to four cases of general gonococcus infection, is no doubt partly responsible for this omission. There are, however, statistics available which might have been quoted to show that the results are really noteworthy and would have greatly strengthened the general argument of the writer. As it is, the reader is left without information on such important points as the frequency of successful inoculation in the various diseases, the permanence or otherwise of the cure, and the practical necessity in some cases of using the patient's own organism in the preparation of the vaccine. Dr. Gaultier, indeed, states that his two chief reasons for recommending the method in general practice are, first, that in a large group of diseases the laborious index determinations can be dispensed with and the correct intervals and sizes of dose inferred accurately enough from clinical signs; and, secondly, that by the use of stock vaccines the necessity of obtaining the patient's own organism can be avoided. Some disappointments, however, might have been saved if it had been more clearly pointed out that stock vaccines are not by any means always effective.

In *Vaccine and Serum Therapy*[5] Dr. SCHORER presents an interesting review of his subject within a very reasonable compass. So much work is being done just now on these lines that the practitioner cannot possibly keep pace with the development of knowledge, and such books as this serve a very useful function by collecting and condensing the bewildering mass of scattered observations. Dr. Schorer, however, does more than merely collect; he criticizes sanely and temperately, and even includes some original work in his limited space. It was perhaps inevitable that the more general aspects of immunity should be treated in as compressed a manner as possible; but so complex a matter cannot be reduced to small bulk without loss of lucidity, and it is at least arguable that the reader would have got a more intelligent grasp of the detail had a fuller treatment of the main principles been given. Dr. Schorer is more generous than most in his introductory matter, and speaks from wide knowledge, which is not always the case. One third of the whole book is occupied by a discussion of opsonins and the opsonic index. The author, while recognizing in full the value of bacterial vaccines in the treatment of many infections, emphasizes the importance of other immunizing bodies than opsonins, and concludes that "the results obtained in determinations of opsonic index in health and disease are so variable that its importance as a means of diagnosis, prognosis, and indication of actual immunity must be doubted." It is unfortunate that this otherwise excellent little book is disfigured by so many misprints.

DISEASES OF CHILDREN.

DR. STILL's contributions to the knowledge and literature of children's diseases have been so numerous and valuable that a new work by him is sure of a ready welcome and appreciation. We may say, however, that in our opinion the title he has chosen for it, *Common Disorders and Diseases of Childhood*,[6] is scarcely a happy one. The foundation of the work was lectures he had delivered at King's College and the Hospital for Sick Children, along with papers published in the current medical journals and the transactions of various societies. These have been amended and added to, with the result of the present volume. Dr. Still was under the difficulty in the choice of a title for what he terms his "farrago

[4] *Les opsonins et la thérapeutique opsonisante par les vaccines de Wright.* By Dr. René Gaultier. Paris: Baillière et Fils. 1909. 16mo, 78 pp. Series of Les Actualités Médicales. Fr.1.50.)

[5] *Vaccine and Serum Therapy.* By Edwin Henry Schorer, B.S., M.D. Mosby St. Louis. 1909. 8vo, 153pp. 2 dols.)

[6] Oxford Medical Publications. *Common Disorders and Diseases of Childhood.* By George Frederic Still, M.A., M.D.Cantab., F.R.C.P., Professor of Diseases of Children, Kings College, London; Physician for Diseases of Children, King's College Hospital; Physician to Outpatients, Hospital for Sick Children, London: H. Frowde, and Hodder and Stoughton. 1909. (Demy 8vo, pp. 745. 15s.)

libelli," in that he was already the joint author, with Dr. Goodhart, of a treatise on children's diseases, with a well-established reputation. He might well, then, deem it superfluous to publish another work on his own account with a title in any wise akin to the one of which he is the joint author. We quite admit the difficulty he was placed in, but nevertheless consider the title a misleading one. It led us to expect a treatise on the minor ailments of children, and we were totally unprepared to find that, with the exception of the specific fevers and skin diseases, *Common Disorders and Diseases of Childhood* deals with every disorder of childhood, both common and rare. The work is indeed an excellent treatise on the usual maladies of children, with some arrangements that are novel. As examples of such arrangements we would instance the chapters on such subjects as "Abdominal Pains in Children Beyond the Age of Infancy," "Bilious Attacks, So-called, in Children," "Fever of Obscure Causation," "Jaundice in Children," and several others. There can be no doubt that such groupings, and the dealing at length with a single prominent symptom, has many advantages in the case of children, and such a plan is likely to be of the utmost service to many practitioners in times of difficulty. All with experience will echo Dr. Still's advice as to the careful examination of the abdomen in cases of "bilious attacks," as recurrent appendicitis is apt to be ascribed by mothers to "biliousness," and so to be lightly regarded. Whilst the chapters on infant feeding are concise but ample, the author perhaps overrates both the disadvantages of barley-water and the advantages of citrate of soda as additions to cow's milk. Dr. Still is one who believes that pyloric stenosis in infants is much more frequent than is usually supposed, and has met with no fewer than 42 cases in his own practice. Coming from one of his large experience, his remarks on treatment are deserving of the closest attention. He is of opinion that a considerable proportion of such cases can be cured without operation, but is equally of opinion that in some operation is the only resource which will save life. Debatable questions Dr. Still discusses at length and impartially, but in most cases does wisely to leave his readers in no doubt as to his own views upon them. On the vexed question of the etiology of chorea, for instance, he writes: "For my own part, I may say at once that I regard chorea as just as good evidence of rheumatism as a gumma is of syphilis, but I am not blind to the arguments which may be advanced against this view." Of recent years, again, the theory that an infant can only inherit syphilis from an infected mother has attained some prominence, but Still is of the opinion that clinical evidence seems to show that a syphilitic father can beget an infected infant without giving the disease to the mother, and that it is "no uncommon occurrence." On points like these and others there are reasonable grounds for differences of opinion, but in a work founded mainly on his personal experience it is an advantage to have a definite pronouncement of his views from the author. A valuable feature of the work is the space devoted to treatment, which is clearly and fully discussed. Its misleading title apart, we have nothing but commendation for the book. Like the rest of the Oxford Medical Publications, its get-up could hardly be improved upon.

La pratique des maladies des enfants, diagnostic et thérapeutique, is a large and comprehensive work in six volumes by a number of French writers, under the general editorship of Dr. R. Cruchet. The first volume, *Introduction à la médecine des enfants*, by Drs. Marfan, Andérodias, and Cruchet,[7] deals with hygiene, feeding, growth, puberty, and diseases of the newly-born. In the ample space allotted to each, all the subjects are adequately dealt with. Under the head of Hygiene Dr. Cruchet not only treats of the usual subjects of feeding, clothing, bathing, and sleep in children at different ages, but of those less frequently dealt with—such as studies, games, holidays, journeys, and general matters of education. On the whole his views are sound and judicious, but the advice to keep children away from others in public places on account of the danger of infection would seem not only difficult of attainment, but prejudicial to the general interests of the children. The disadvantage of the occasional incurrence of disease by the few is small as compared with the advantage and pleasure gained by the many from mixing with their fellows. The sections on diseases of the newly-born, by Dr. Andérodias, are excellent, and more complete than in most works of the sort. In dealing with the question of a seemingly healthy mother suckling her infant, who is the subject of inherited syphilis, Dr. Andérodias states his belief in the occurrence of undoubted exceptions to Colles's law. Such exceptions are, however, he considers, so extremely rare that the slight risk of contagion ought to be incurred by the mother on account of the great advantage to the infant from maternal feeding. The subject of growth is, perhaps, overdone. The elaborate tables in this and in some other recent works dealing with the growth of every part and organ of the body at each year of age have more interest for the anthropologist and statistician than advantage for the practical physician. Dr. Cruchet regrets that the important epoch of puberty has received insufficient attention at the hands of most authors, and has taken care that no such charge can be laid against himself. The list of disorders he associates with puberty reads almost like pages from a nomenclature of diseases. We cannot think, moreover, that such complaints as salpingitis, ovaritis, uterine flexions, vulvo-urethritis, and mammary abscess in the female, and balanitis, urethritis, orchitis, and spermatorrhœa in the other sex, are much more frequent at times of puberty than mere coincidence would account for. The first volume has led us to expect with interest the remaining parts of the work.

In *Surgical Diseases of Children*[8] Dr. Samuel Kelly has put forth a treatise on the present aspect of surgery as applied to children. His attempt is ambitious, and he has evidently sought to include in this rather bulky volume every affection and every kind of disease which either specially affects children or acquires certain characteristics in the child. The result is that the treatment of the subject is unequal. It is obviously impossible to compress, even within the limits of a treatise like this, and to do full justice to, all the observations which have accumulated so rapidly in recent years. A careful perusal of the work, however, with the object of ascertaining if the most modern views of treatment are adequately described, convinces us that Dr. Kelly has been at the greatest pains to bring his work fully up to date. We may instance the discussion on the value of tuberculin, the seven pages devoted to the opsonic treatment of infective diseases, the clear description of Bier's methods, the results of tendon transplantation and nerve transference, and the capital summary of the recent literature on the status lymphaticus. The book shows certain defects in orthography. For instance, we notice that Dr. Barlow is described as being of "Great Ormand Street," Furneaux Jordan is spelt "Furneux-Jordan," and Nélaton is spelt "Nelaton." We confess, however, to a sympathy with these slight errors, for who that has gone through the sustained weariness of writing a book does not know how difficult it is to avoid them? The work bears the impress of much personal observation and careful work, and the author's conclusions are expressed in crisp and concise language. Speaking of the treatment of spinal caries, after alluding to the necessity of complete rest, he says:

> In practice various modifications are in vogue, concessions to the wishes of the friends or of the patient, but that does not alter the principle involved, and I am quite certain from personal observation that many a case of spinal caries which might have been cured within a reasonable time with a little suffering and slight resulting deformity, has been dallied with in half-way measures until abscess, kyphosis, and nervous phenomena have demonstrated serious advances of the disease, and for ever precluded a satisfactory course and termination.

We have already remarked that on account of the diversity of subjects treated the book is unequal in parts, and deformities is the subject which receives the least attention. We venture to think it would have been wiser to have dealt with these in a separate volume. However, our criticisms are of slight importance compared with our

[7] *La pratique des maladies des enfants, diagnostic et thérapeutique.* Vol. I. *Introduction à la médecine des enfants.* Par A. B. Marfan, J. Andérodias, et Rene Cruchet. Paris: J. B. Baillière et Fils. 1909. (Roy. 8vo, pp. 480; 71 figures. Fr.10.)

[8] *Surgical Diseases of Children.* A Modern Treatise on Pediatric Surgery. By Samuel W. Kelly, M.D., Professor of Diseases of Children, Ohio Wesleyan University; President of the Section of Children, American Medical Association, 1901. New York: E. B. Treat and Co. 1909. (Large octavo; 738 pages; 295 illustrations. Price 5 dollars.)

sense of appreciation of the value of the work, which, we believe, will take a high place in the literature dealing with surgical diseases of childhood.

THE CAMBRIDGE NATURAL HISTORY.

AT last volume IV of the *Cambridge Natural History* has appeared,[9] and the whole series of ten volumes is now complete—fourteen years after its commencement. The greater delay in the appearance of this volume has been due principally to the untimely death of Professor W. F. R. Weldon, who was writing the section on the Crustacea. The volume deals with the Crustacea and the fossil Trilobites, and with the Arachnida and allied groups, such as Tardigrada, Pentastomida, and Pycnogonida.

On the death of Professor Weldon, the editors commissioned Mr. Geoffrey Smith of New College, Oxford, to carry on the unfinished work on the Crustacea, and his task was rendered the more difficult owing to the fact that Professor Weldon had written a part, but had not sketched out a definite plan for the whole of the work. Mr. Geoffrey Smith has, however, done his work exceedingly well. Professor Weldon's bionomical notes on the Branchiopoda—the only group upon which he had written—serve to show what a superb naturalist was lost in him. The chief defect in the essay on the Crustacea is, we think, the want of a detailed statement on the life-history, and from one or two references in the chapter upon the Branchiopoda it seems to us that Professor Weldon had intended to include such a statement in his introductory chapter. Mr. Geoffrey Smith has distributed this important subject under the different sections, so that the general questions of development and metamorphosis and the significance of the moult have been passed over.

It is strange how frequently an expert upon a group either fails to recognize the importance of, or is ignorant of, the "Britannic" distribution of his more interesting species. Professor Weldon states that the only recorded British Phyllopods are *Chirocephalus diaphanus*, *Artemia salina*, and *Apus cancriformis*, although *Lepidurus* (*Apus*) *glacialis* has been found in the Scottish lake deposits. Mr. Geoffrey Smith mentions that *Mysis relicta* occurs in Lough Erne, although its best known habitat is Lough Neagh, and it has also been found in, and recorded from, Loughs Corrib, Derg, and Ree. The woodlouse *Platyarthrus hoffmannseggii*, which lives in ants' nests, is referred to as occurring "in England and Northern Europe," although it has been recorded also from two localities in Scotland, and at least five in Ireland. On the other hand, the general subject of the distribution of the Crustacea has been dealt with very well in Chapter VII by Mr. Geoffrey Smith.

With regard to the Arachnida, a short general introduction is followed by two excellent chapters dealing with the King-crabs and their allies the Eurypterida. The scorpions, spiders, mites, etc., are discussed in about 170 pages, and this part of the work is too much cut down. For instance, the Hydrachnida, about which a considerable amount is known, are dismissed in eight lines. The description of the habits of *Atypus*, the nearest British relation of the "trap-door spiders," is most meagre. After stating that the spider spends almost the whole of its existence in its tube, "the extremity of which is always found to be closed," it is mentioned that its food is probably almost entirely earthworms, a statement which we venture to think is not correct, as Enoch and others describe its food as consisting of insects, especially flies. How the spider catches its prey by piercing the tube and insect with its chelicerae, and how, after pulling in the captive, she repairs the rent in the tube, is not mentioned, and the reader is left to wonder how a spider inside a closed tube catches earthworms which are outside the tube! The statement (p. 373) that spiders which mimic ants are enabled by their disguise to approach their prey, which take them for harmless ants, seems to assign to the insect brain a greater power of discernment than is warranted, especially as we do not yet know to what extent an insect "sees" with its compound eyes.

The originators of this splendid series, the *Cambridge Natural History*, have given us ten volumes covering the whole of the animal kingdom. But "natural history" is not limited to zoology. Could not the editors commission a few expert botanists to give us a few botanical volumes on the same lines? Such a botanical treatise would be extremely welcome, and would, like the zoological volumes in their sphere, fill a very obvious gap in botanical literature.

[9] *Cambridge Natural History*. Vol. IV. Crustacea, Arachnida, etc. London: Macmillan and Co. 1909. (8vo, illustrated. 17s. net.)

THE POOR LAW COMMISSION'S REPORTS.

SIR OLIVER LODGE in his introduction to PROFESSOR MUIRHEAD'S book *By What Authority?*[10] rightly describes it as "a careful and balanced summary" of the proposals of the Majority and Minority Reports of the Poor Law Commission. But it is even more than that, for Professor Muirhead, taking a perfectly unbiassed and philosophic standpoint, first analyses the ground principles on which the two reports are founded and afterwards in a very practical way criticizes the strong and the weak points in each. He sets aside entirely ideas that so readily occur on a superficial view of the two schemes, such as the statement that the Majority is determined to free the new public assistance authority from all electoral control, and is only a replica of the Charity Organization Society, and the suggestion that the Minority Report is simply socialism; and he finds the real line of division in the proposal of the Minority for a "break-up of the Poor Law" by division of the functions of the present Poor Law authority. In discussing the rival proposals, Professor Muirhead groups under four heads the questions that present themselves:

1. Is an authority appointed on the analogy of the Education Committees the best to deal with poverty, or would the duties best be divided between existing committees of the councils?

2. Ought voluntary agencies to have separate functions co-ordinate with the public authority, or ought they to be strictly subordinate to the official machinery?

3. In medical relief, ought a large place to be assigned to voluntary institutions, or ought the public health authorities to take over the whole of medical relief to the obliteration of the distinction between medical inspection and medical attendance?

4. Ought the municipal authorities to be responsible for all forms of poverty, or are there some forms that can only adequately be undertaken by the nation?

On these questions the reports fall widely apart, as the Majority is said to prefer the former of each pair of alternatives and the Minority the latter. A considerable part of the book is devoted to the causes of poverty and unemployment. It is, perhaps, to be regretted that the subject of medical relief is only dealt with in a scanty way, but Professor Muirhead points out that the two reports start from a radically different standpoint. This fundamental difference is well summed up as follows:

> Both reports adopt the public good as the criterion of efficiency; the difference is that the horizon of the Minority is filled by the immediate consequences to society of the efficient treatment of cases as they occur, the Majority holds that the public good will be best served in the long run by setting up in individuals and classes a certain attitude of mind towards their own and their children's health and towards the opportunities of medical assistance that modern society affords.

In conclusion the author suggests a combination of the separate merits of each report and hopes that discussion will be maintained on the high non-political level on which the Commissioners have placed it. The book is exactly what is needed by any one who approaches the subject without any preconceived bias of individualism or of collectivism. A useful bibliography is given of works dealing with the subject and of the appendix volumes to the reports.

NOTES ON BOOKS.

MOOR AND PARTRIDGE'S *Aids to the Analysis of Food and Drugs*[11] is a third edition of Pearmain and Moor's little book of the same title. In a prefatory note the authors state that so many new processes and improvements have

[10] *By What Authority? The Principles in Common and at Issue in the Reports of the Poor Law Commission*. By J. H. Muirhead, LL.D., Professor of Philosophy at the University of Birmingham, with an introduction by Sir Oliver Lodge, LL.D. London: P. S. King and Son. 1909. (Demy 8vo, pp. 90. 2s.)

[11] *Aids to the Analysis of Food and Drugs*. By C. G. Moor, M.A.Cantab., F.I.C., and William Partridge, F.I.C. Third edition. London: Baillière, Tindall and Cox. (16mo, pp. 249.)

appeared since the last edition that revision has practically amounted to rewriting. It is, of course, impossible in a small book of this kind to give anything like a complete account of the analysis of all the substances dealt with, which include most ordinary articles of food, some drugs, soaps, disinfectants, and urine: but good judgement has been shown in selecting the essential matters to be included under each heading, and a very useful little work is the result. We have not found any section in which the information is not fairly abreast of current knowledge.

NOTES ON HEALTH RESORTS.

VERNET-LES-BAINS, PYRENÉES ORIENTALES.

By G. H. Brandt, M.D.

I have had the good fortune during my autumn holiday of visiting a most interesting part of France, that which lies at the extreme south and eastern part of the department of the Pyrenées Orientales bordering on the Spanish frontier. Vernet, the most southern of the winter resorts of France, is situated in a winding valley at an altitude of over 2,000 ft. in the midst of a circle of mountains, and sheltered from the Roussillon winds by the Canigou, 9,000 ft. high.

The Romans have left traces of their passage, and in the twelfth century the Abbots of St. Martin du Canigou had at Vernet a small thermal bathing-place. Since that remote epoch Vernet, with its numerous thermal sulphurous springs, owing, no doubt, to its proximity to the celebrated medical school of Montpellier, gradually developed, but it is only within the last few years that the late Count Henry de Barnay took it up, and by his intelligent outlay made it one of the most luxurious spas in France.

If we consider its altitude, its sheltered position amongst mountains covered with pine forests, its sunny aspect and dry atmosphere, one may claim for it the title of a temperate climate in summer and a mild and reposeful climate in winter. Snow and frost are rare.

Vernet possesses twelve springs of mineral water, varying in temperature from 47° F. to 150° F. The waters are unctuous to the touch and almost inodorous; the taste is not disagreeable. All the twelve springs agree in being sulphurous and alkaline; one is also ferruginous.

The climatic conditions and waters of Vernet are especially serviceable in cases of rheumatic arthritis and of chronic rheumatism, nervous and general weakness, and in catarrhal affections of the respiratory tract.

At Vernet-les-Bains there are, in a well laid-out and finely-timbered park, beautiful hotels, furnished villas and flats, with all the comforts that modern science has devised—perfect drainage and abundance of pure spring potable water, central heating, electricity, lifts, etc. A dairy is attached to the establishment, with healthy cows. Excellent walks, fishing, and shooting can be found in the neighbourhood. Picnics, excursions, dances, and musical entertainments frequently take place during the season. A library of French and English books is maintained by the establishment; and games, both indoor and outdoor, are provided.

During the last ten years there have been per annum 37 wet days, 44 cloudy, 121 with some clouds, and 163 without clouds. The sudden change of temperature and the damp and chilly sensations felt on the Riviera do not occur, a fact which may, I believe, be accounted for by the dry, porous granite soil with a dry atmosphere and the absence of wind and fog at an altitude of over 2,000 feet.

The vine, the fig, the olive, the pomegranate, the clematis, the zeutique of Algeria and the Grecian Isles, the oleander as well, and many other plants from Italy, Malta, and Algeria, with a variety of palms, thrive, and the delicate mimosas are in blossom almost all the winter in the Alzina Gardens.

Vernet-les-Bains is not an expensive place, and is easily got at by through carriage from Paris (Quai d'Orsay). The managers have made arrangements to suit all purses, giving most excellent and comfortable accommodation with the best food, and are always ready to supply full information to all inquirers.

MEDICAL ORGANIZATION IN CASE OF INVASION.

ENGLAND AND WALES.

The Secretary of State for War issued on August 16th to secretaries of Territorial County Associations in England and Wales a Scheme for the Organization of Voluntary Aid for sick and wounded in the event of war in the home territory.

The scheme proposes to make use of the existing organization of the British Red Cross Society and to develop it on a large scale, so that it shall comprehend every district in England and Wales. The help of the St. John Ambulance has also been secured for the training of detachments. A county system has been adopted because it is that upon which both the Territorial Force and the British Red Cross Society are organized.

Each County Association is charged with the responsibility of organizing voluntary aid in the county, and is required, through the local branches of the British Red Cross Society, to form Voluntary Aid Detachments. There need be no limit to the number of such detachments, but those in each county would be under the command of a County Director.

The whole organization is intended to provide supplementary aid to the Territorial Medical Service to meet the needs of war at home, and is modelled to a large extent on the Japanese system, a memorandum on which by Lieutenant-Colonel W. G. Macpherson, C.M.G., R.A.M.C., is given in an appendix to the scheme. In another appendix is given a sketch of the existing military organization of the Territorial Force, which it will be useful to reproduce in full:

Existing Organization of the Territorial Medical Service.

"The medical service of the Territorial Force is modelled on that of the Expeditionary Force of the army, with the essential difference that it is organized for active service in home territory only. Its ranks include all that highly-trained personnel which is necessary for the preservation of the health of troops in the field and for the professional treatment and care of the sick and wounded. Being an integral part of the medical service of the army as a whole, its technical training is in the hands of the Director-General, Army Medical Service, assisted by his representatives, the Administrative Medical Officers of Territorial Divisions; these latter being themselves Territorial Officers, who are each allowed a retired officer of the regular Royal Army Medical Corps to assist him.

"To give expert advice on sanitary matters, and to assist the Administrative Medical Officers in the prevention of disease, officers who, from the nature of their civil duties, have special knowledge of the science of public health and sanitation, are appointed to the head quarters of each Territorial Division. In addition, over 100 sanitarian and medical officers of health throughout the United Kingdom have been given commissions and will be available in war for duty as sanitary officers with the Territorial Force within their own areas.

"In the Expeditionary Force each battalion has one officer, one corporal, and four privates Royal Army Medical Corps, attached to it. In addition to this medical establishment in the Territorial Force, a battalion has an extra medical officer. This—the only difference in the organization of the Territorial medical service with combatant units—is in order that by arrangement between two medical officers, the requirements of their practices may not be unduly interfered with in time of peace by their military duties. The medical officers examine the recruits of their battalion, train the regimental stretcher-bearers and men for sanitary duties, and supervise the duties of the Royal Army Medical Corps attached. In camp and in the field, the medical officer with the battalion is assisted in the prevention of disease by the Royal Army Medical Corps rank and file attached, whose special duty it is to purify the drinking water, and who also assist him in carrying out the work of disinfection as well as his duties towards the sick. The battalion provides him with a lance-corporal and a private, the latter to

drive the cart containing the regimental medical equipment, the former to act as his orderly. Also from the battalion come 16 stretcher-bearers (2 per company), and 1 non-commissioned officer and 8 men trained in sanitary duties; these latter supervise the disposal of refuse, sullage, etc., and act as sanitary police. Other units have a similar regimental medical organization in proportion to their size. Two special companies for sanitary duties only are organized in the London divisions.

"The sick and wounded in the field are taken over from the regimental medical service by the field medical units, that is, mounted brigade field ambulances specially organized for service with mounted brigades, 1 to each; and field ambulances for divisions, 3 to each. Each consists of a portion designed especially for rendering first aid and carrying wounded (the bearer division), and a portion organized more on the lines of a hospital in the field (tent division). Both are divisible into self-contained sections, capable of working independently.

"Each mounted brigade field ambulance has a personnel of 6 officers (one may be a non-medical transport officer) and 103 non-commissioned officers and men of the Royal Army Medical Corps, to which are added 2 drivers of the Army Service Corps. A field ambulance has 10 officers, of whom one is a quartermaster, and one may be a non-medical transport officer, and 220 other ranks Royal Army Medical Corps, with 3 drivers Army Service Corps. Both units have in peace time sufficient equipment and transport to ensure the training of the personnel in their duties. These, in general terms, are the collection and removal of sick and wounded from the battle-field, but it is an essential part of the requirements of the fighting force that the ambulance wagons of a field ambulance must never be detached in removing wounded to such a distance as would prevent them rejoining their unit the same day.

"In the Expeditionary Force, but *not* in the Territorial Force, wounded are taken over from field ambulances by a special mobile unit, the Clearing Hospital, mobilized in the proportion of one to each division. Its special duties are to receive the wounded and care for them until they can be evacuated by road, rail, or water transport to hospitals at the base.

"The remaining unit to be described is the General Hospital. Of these there are 23, located in centres where large civil hospitals or medical schools already exist. Recognizing that much of the work required from such an institution is very similar to that of a civil hospital, the medical and surgical staff, as well as the female nursing staff, are not called upon for duty in time of peace, and the number of these staffs commissioned or enrolled, is largely in excess of requirements on mobilization for reasons similar to those which permit two medical officers to a Territorial battalion. On the other hand, being a military unit, and as such responsible that the needs of the army are fulfilled, a special nucleus staff of three officers and 43 non-commissioned officers and men is trained in time of peace in the administration of large military hospitals, with special regard to the functions of a general hospital in war. As this nucleus undergoes annual training in military hospitals, it does not require equipment for instructional purposes in peace time. Similarly, the matrons of the nursing service go through short courses in the management of the nursing arrangements of a military hospital. The remainder of the personnel required to bring a general hospital up to war strength is 66 privates, who do not necessarily require to have been trained in military duties in peace time. A general hospital in the Territorial Force has neither equipment nor buildings in time of peace."

Local Organization of Voluntary Aid.

This organization, it is considered, is sufficiently complete and elastic to meet the immediate requirements of the combatant troops on the march and in action, and to provide for many of the requirements of the hospitals to which sick and wounded will be conveyed. But the organization lacks several of those parts which are provided for in all other home defence armies and also in the Expeditionary Force. This incompleteness is intentional, because it was desired that every opportunity should be given to the British Red Cross and other Societies to take a share in the work appropriate to those who in all civilized countries seek to mitigate the lot of the sick and wounded in war. Speaking generally, there is at present no personnel for organizations connecting the field ambulances with railway lines, ("clearing hospitals"); there is no personnel organized for rest stations or temporary hospitals, ("stationary hospitals") along routes of evacuation; no personnel for the expansion of general hospitals, and for the most part, buildings for such hospitals have not been chosen.

The scheme now issued is devised specially to provide a system for the removal of the sick and wounded from the field ambulances to the lines of railway, and thence to the general hospitals.

Removal of Sick and Wounded from Ambulance to Hospital.

The duties connected with the removal of sick and wounded from field ambulances to general hospitals are enumerated as follows:

1. The preparation of country carts and other vehicles provided by transport authorities for the removal of patients lying down.

2. Improvising stretchers, etc., for the transport of very severe cases by hand.

3. The conversion of country houses, farms, public buildings, or, in fact, whole villages or small towns into temporary hospitals for the care and shelter of sick and wounded until they can be placed on railway trains for conveyance to general hospitals.

4. Similar utilization of local resources for the care of trivial cases of sickness or wounds in the vicinity of field operations.

5. The formation of rest stations along lines of evacuation, either by road, rail, or water, where sick and wounded may receive rest and refreshment, or, if necessary, accommodation over-night; or where they may be made comfortable while waiting to be loaded on trains, or after they are taken off trains.

6. The formation of evacuating stations at rail-head or its vicinity, where sick and wounded can be classified as regards the kind of accommodation required on ambulance or other trains previous to being sent away to the general hospitals. These evacuation stations are practically expanded rest stations.

7. The formation of similar stations at points where it may be necessary to redistribute the sick and wounded, in order to send some to one general hospital and some to another. These distribution stations are also expanded rest stations.

8. Local arrangements for transport of sick and wounded from railway stations to hospitals or other medical posts, and vice versa.

9. The provision of a personnel for accompanying the sick and wounded during conveyance by road or rail.

10. The fitting out of empty goods vans or other rolling stock for the transport of sick and wounded by rail.

11. The collection and distribution of material for clearing hospitals and rest stations, and management of depôts of such material.

Voluntary Aid Detachments.

The Voluntary Aid Detachments are to supply the personnel for the discharge of these duties. The detachments should be of two classes, consisting respectively of men and women, and should be so arranged that each could be divided into two. The training and equipment of the detachments is to be carried out in a manner to be prescribed by the British Red Cross Society, but they will be inspected periodically by military authorities. The training of the detachments should be such as to enable them to utilize local resources for improvising accommodation and transport of wounded, and for providing for their temporary care and treatment until they reach the general hospitals. Men's detachments would therefore be specially trained in transport of wounded, and women's detachments in the preparation of food and in nursing duties.

Each local Voluntary Aid Detachment is to be organized on the following system:

Men's Detachment, British Red Cross Society.

*1 Commandant.	
*1 Assistant Commandant.	(To command half detachment in event of detachment being divided into two.)
2 Medical Officers.	
1 Quartermaster.	
1 Assistant Quartermaster.	(Quartermaster of half detachment in event of division.)
2 Pharmacists	(One of each for each half detachment.)
2 Assistant Pharmacists ...	
4 Under Officers	(Two for each half detachment, and 1 for each of 4 sections of 12 men.)
48 Men.	

* If possible an officer R.A.M.C. or R.A.M.C.(T.), or other officer with military training.

Women's Detachment.

1 Commandant (Medical Officer).
1 Assistant Commandant (Medical Officer).
1 Quartermaster.
1 Assistant Quartermaster.
2 Lady Superintendents.
20 Women (of whom two should be fully-trained nurses).

The detachments should be trained to make use of local resources for improvising stretchers and means of carrying wounded on various kinds of vehicles, and for converting local buildings into suitable shelters for sick and wounded, the manual entitled *Royal Army Medical Corps Training* (1908) being used as a guide until a special manual is issued. A squad of four men so equipped should have with it material for preparing improvised stretchers out of local material, for fitting out vehicles according to improvised methods for carrying wounded lying down, for putting together any number of improvised cots for the temporary accommodation of wounded in empty buildings, halls, or other suitable shelters, during the period that must elapse before better and more suitable hospital equipment can be brought up, and for any kind of improvised work of this nature.

On mobilization an officer, preferably a retired officer R.A.M.C., would be appointed to each Division of the Territorial Force to act as Director of Clearing Hospitals, and would be assigned to the lines of communication, a certain number of Voluntary Aid Detachments being placed at his disposal in the proportion of one detachment at least for every field ambulance to be cleared by him; those first appointed would be drawn from the immediate neighbourhood; but other detachments from counties behind the operations should, according to circumstances, be available for reinforcing them. The detachments not so employed would be available at other places throughout the country for carrying on the functions of rest station and of local transport from the railway station to the general hospitals, or for providing a personnel to ambulance trains, etc. They might also be employed in connexion with the establishment of convalescent depôts, in preparing means of transport by road, in converting local buildings, villages, etc., into suitable clearing hospitals, evacuation stations, etc., and in establishing hospitals for the slightly wounded near the area of operations. The men should be trained as stretcher bearers, and to a certain extent as male nurses; others should be trained as clerks and in sanitary work—such as disinfection of buildings—and each detachment should include some men who are expert carpenters or mechanics.

The women's detachments would be employed chiefly in forming railway rest stations, for preparing and serving meals and refreshments to sick and wounded, during process of evacuation by railway, and for taking temporary charge in the evacuation stations or temporary hospitals of severe cases unable to continue the journey. The members should therefore be trained not only in cooking and preparation of invalid diets, but in arranging small wards for patients in suitable buildings, preferably near a railway station, and in such nursing as is necessary for the temporary care of patients until they can be transferred to a hospital. Half detachments might be employed for duty in ambulance trains. A women's detachment should also be available for nursing and cooking duties in clearing hospitals prepared by men's detachments.

Summarizing the duties it will be seen that if fully trained in time of peace, voluntary aid detachments will be capable of fulfilling three separate functions:

1. The formation of clearing hospitals if they are in the immediate neighbourhood of the fighting forces (say, within ten miles).

2. The formation of temporary hospitals, rest stations, or collecting and evacuating stations.

3. Affording supplementary aid to clearing hospitals in advance of them, and nearer the scene of action.

It is pointed out that without instruction, training, and practice in time of peace the detachments could not be immediately efficient, and immediate efficiency is of the greatest importance. A complete acquaintance with the work to be done and the method of doing it will alone, it is pointed out, produce that absence of confusion and uncertainty which is the purpose of organization in time of peace. It is imperative, therefore, that every county should form many Voluntary Aid Detachments, that those who undertake their formation should first make themselves acquainted with the details of similar organizations in other countries; that courses of lectures should be given frequently on (*a*) improvisation of apparatus for the transport of sick and wounded; (*b*) first-aid nursing; (*c*) practical demonstrations in the several varieties of work to be done, depending, of course, upon local opportunities.

Local Committees.

It is suggested that some members of the County Association should be co-opted on to the committees of the local branches of the British Red Cross Society, and the Ambulance Department of the Order of the Hospital of St. John of Jerusalem in England is prepared to organize a special branch in connexion with its centres and various other units throughout the country to meet the preliminary educational requirements of the Voluntary Aid Detachments. County Associations in England should, therefore, arrange that all persons wishing to join a Voluntary Aid Detachment should be in possession of both first aid and field nursing certificates of the St. John Ambulance Association.

Members of aid detachments will not be required to wear any specific uniform, but to each individual will be issued an identity certificate, and will be entitled to wear a brassard, without which he or she will not be "recognized" by belligerents.

General Hospitals.

With regard to the organization of general hospitals, certain information is now given supplementing that given in the Circular Memorandum No. 31. A County Association may delegate the selection of buildings in time of peace for the general hospitals to be established on the outbreak of war, but the choice must be made after consultation with administrative medical officers, sanitary officers of the Territorial Force, as well as with the organizing matron; and the concurrence of the Commander-in-Chief is essential; for the conditions to be satisfied (nearness to railway, width and number of staircases, water supply, lighting, drainage, etc., ease of reappropriation, grounds surrounding for hut annexes, sanitary annexes, etc.), are numerous. Buildings selected as suitable must be equipped immediately on the mobilization of the Territorial Force.

The County Associations responsible for the formation of the twenty-three hospitals should therefore be prepared to equip buildings, and have their hospitals ready to receive patients in one week from the date of mobilization. This can only be accomplished by a perfectly organized system. The minimum equipment required is given in an appendix. The source from which this equipment is to be provided is a matter which will now rest with County Associations. The question is often asked as to whether non-perishable articles of equipment should be stored in time of peace. No purchases should be made from Government funds in time of peace, but provisional arrangements should be made for the supply of the required equipment or mobilization of the Territorial Force in time of national danger. It is understood that in this direction something has already been done. The County Association should satisfy itself that the conditions are efficient, and it is considered that the ideal system is to be prepared to store articles of equipment, the gifts either of individuals or societies, and any local organization desiring to collect and store equipment in time of peace, and to defray the expenses incidental thereto, should be encouraged. The feeding of patients in Territorial general hospitals does not concern the voluntary aid organizations, being a duty devolving upon the Army Service Corps, but arrangements should be made for the reception of food or clothing which the Red Cross Society may supply. With regard to the transport of sick and wounded, the provision of vehicles, whether by rail, road, or water, rests with the transport branch of the Quartermaster-General's department in consultation with administrative medical officers. When vehicles have been supplied, it is the duty of the trained personnel to adapt them at once to the requirements of the sick and wounded if they have not already been provided with the necessary appliances, and so that this can be quickly accomplished, training and education of the aid detachments in time of peace is essential. Aid detachments should be well acquainted with the various methods which have been devised, as well as with

the method of loading and unloading. While, however, the aid detachments are not concerned with the provision of vehicles, etc., there is no reason why local effort should not provide for the organization of a complete sick transport service of ambulance wagons, horsed or motor, cycle stretchers, ambulance trains, etc., if the zeal and earnestness of individuals and societies are equal to perfecting such a system. But whenever proposals which proceed beyond the supply and technical training of transport personnel are made to County Associations, these should be submitted for the sanction of the Army Council, and all the arrangements made by a County Association will, when complete, be inspected by an officer deputed by that Council.

Training.

The St. John Ambulance Association has issued a memorandum embodying a scheme for the preliminary instruction of voluntary aid detachments. It is proposed to establish in each county a section of the Territorial Branch of the St. John Ambulance Association for the purpose of forming classes for instruction in first-aid and nursing. The section will be double, for men and women respectively, the former being presided over by the Lord Lieutenant and the latter by his wife. The duties in which the members of the Voluntary Aid Detachments will be instructed under the scheme are as follows:

(*a*) Preparing vehicles provided by the military authorities for removing patients lying down.
(*b*) Improvising stretchers and other means for severe cases carried by hand.
(*c*) Converting country houses, farms, public buildings (whole villages and small towns) into temporary hospitals while waiting for transport.
(*d*) Utilizing local resources for trivial cases.
(*e*) Forming rest stations *en route* for refreshment or accommodation over-night while waiting for transport.
(*f*) Forming evacuating stations (expanded rest stations) at rail-head for classifying sick and wounded for transport.
(*g*) Forming redistribution stations (expanded rest stations) where required—that is, chiefly at railway junctions, for transport of sick and wounded to selected general hospitals.
(*h*) Making local arrangements for transport from railway stations to hospitals and medical posts and vice versa.
(*i*) Providing personnel for accompanying sick during conveyance.
(*j*) Fitting out empty vans and rolling stock for transport by rail.
(*k*) Collecting and distributing material for clearing hospitals and rest stations, and managing depôts thereof.
(*l*) Conducting convalescent homes.
(*m*) Caring for invalided men at their own homes.

THE BRITISH RED CROSS SOCIETY.

The British Red Cross Society, formed by the fusion in 1905 of the British National Society for Aid to the Sick and Wounded in War and the Central British Red Cross Council, was incorporated by Royal Charter last year. The National Aid Society gave assistance to the wounded of all nations, whether the British were concerned in the war or not, but the British Red Cross Society, owing to the improved organization in foreign countries, confines its activities to the British Empire. The society is governed by a council appointed by the King and Queen, of which Lord Rothschild is president, and Sir Frederick Treves is chairman of the executive committee. The society has branches in 39 counties in England, in 3 counties in Wales, and in 12 counties in Ireland. In Scotland there is a Scottish branch with a representative council appointed by Her Majesty the Queen. The Scottish branch has local branches in 31 counties and 5 cities, and the organization of the society in Scotland is probably better developed than in England or Ireland. The society has also a Canadian branch and a Cape of Good Hope Branch.

THE FUTURE OF PREVENTIVE MEDICINE.

AT the recent Health Congress at Leeds, Dr. Arthur Newsholme, medical officer to the Local Government Board, delivered an address on social efficiency in relation to public health administration. With wider and more exact knowledge of hygiene, it was, he said, becoming increasingly realized that the whole range of the mental, physical, and to a large extent the moral, life of mankind might be brought within the range of preventive medicine; and that as medical knowledge grew the number of diseases that could be regarded as preventable would increase, and public administration extend beyond its present limits.

The Interdependence of Social Evils.

A wide outlook, as well a high ideal, was needed if social amelioration was to be secured to the extent well within reach. A worker in local health administration was concerned with the remedial treatment and prevention of all forms of distress, whether mental, physical, or moral, these being so closely inter-related as not to be completely separable. Instances of the need for this wider outlook would occur to every one (medicine itself had furnished many—charlatans without exact knowledge, and specialists who knew one thing almost too well but ignored the relationships of their special knowledge to the individual patient); but all were now realizing such points as that the treatment of the underfed and ill-clad child was merely a part of a larger problem concerning family and industrial conditions, and that alcoholism likewise was connected therewith and not simply an outcome of conviviality and the number of public houses.

Owing to this interdependence of social evils, the medical officer of health most successful in his work was one who impressed upon all the local authorities—sanitary, educational, and parochial—of his district, the inter-relation of their work, and called to his aid the united effort of those authorities and of the numerous voluntary agencies who were seeking out the evils of municipal or domestic uncleanliness, of overcrowding and defective housing, of insufficient and belated care of the sick, and trying to secure the beneficial results obtainable from the best methods of education and recreation.

The more accurate knowledge of to-day—and this wider outlook—would mean the abandonment of the old hand-to-mouth and empirical method of dealing with social evils. Poverty and destitution were a complex compound, not, as had been believed, a simple element, and with this erroneous idea would disappear the sort of administration which supplied doles to relieve symptoms of destitution, without making efficient effort to investigate its varying causation or to prevent its recurrence.

The Evolution of Preventive Medicine.

After showing that a desire to see such causal treatment of social evils undertaken was evinced in the Poor Law Commission's report, Dr. Newsholme remarked that preventive medicine had passed through two stages. First came the crude idea that local sanitary conditions, irrespective of specific infection, caused epidemic diseases. Then came a recognition of the need for medical organization for the treatment of infectious diseases by way of protecting the community. A point had now been reached when the distinction between communicable and non-communicable diseases was being disregarded, since both were of equal interest to the community. Social inefficiency was caused by every form of sickness in proportion to its duration and severity, and since the prompt and early treatment of disease was one of the chief means of securing social efficiency, the chief object of the preventive medicine of the future must be the better communal organization of the treatment of the sick.

After further discussing the inter-relations of poverty, sickness, and like conditions, Dr. Newsholme said that it was evident that administration was evolving in the direction of a medical service in which treatment would be regarded as a part of preventive medicine, the economic justification of any increase in first cost being found in the decrease of sickness which must follow and be followed in its turn by a lessened aggregate of poverty and social inefficiency.

To secure efficient and economic administration the whole ground must be covered, and there must be no overlapping of effort. The most active and complete co-ordination of workers must be secured, and the officers employed must be efficient. In respect of sanitary officers, efficiency in most instances implied the confinement of their efforts to discharge of public duties and their freedom from subjection to the disturbing and sometimes incompatible distraction of private practice of any kind. In this connexion it was an anomalous and remarkable fact that while district medical officers and others could only be removed from office with the consent of the Local

Government Board, the majority of the medical officers of health throughout the country were subject to election at intervals. The arrangement in many instances endangered the re-election of efficient officers at the expiration of their limited term of office. Conditions of appointment which enabled more satisfactory sanitary work to be accomplished had been secured for medical officers of health in London, and in a certain number of combined districts, and in respect of county medical officers the same result would follow the passing of the Housing Bill. Efficient sanitary administration demanded the extension of similarly satisfactory conditions of tenure of office for medical officers of health throughout the country, and the most satisfactory settlement of the problem would come in connexion with the establishment of efficient units of local government.

Combination of Duties.

In further allusion to the future, Dr. Newsholme, after mentioning the anomalous fashion in which the public medical work of the country is split up amongst the officers of various authorities, said that in the past the combination of the posts of medical officer of health and of district medical officer in one person had commonly not worked well, but there had been, he believed, no attempt in districts of suitable size to place the combined duties of the two offices in the hands of a whole-time officer possessing the D.P.H. and security of tenure of office, and doing his work under the chief medical officer of health of the country. The present stumbling-block in the way of action in this direction was the common non-coincidence of sanitary and Poor Law areas.

Happily active co-operation had been arranged between medical officers of health and school medical officers, and thus had opened up prospects of extending the work in preventive medicine, the full importance of which had not hitherto been realized. There was even greater scope for economical combination of officers and active co-operation among non-medical public health workers and in scattered districts. In the latter the qualified inspector of nuisances, for instance, might often with advantage be also relieving officer, or vaccination officer, or assistant registrar of births and deaths. At present one often found in the same district a school attendance officer (who, outside autonomous education areas, was under the County Council), an inspector of nuisances, who was under the local sanitary authority, and a vaccination officer who might also be relieving officer, and who was under the board of guardians; whereas for these four or more part-time officers one or two whole-time men might often be substituted with great advantage to the district. Similarly, the duties of school attendance officer and of school nurse might occasionally be combined in country districts, for a common cause of absence from school was sickness, and in all cases the school attendance officer and the school nurse were valuable aids to success in the work of school and general hygiene when this was properly organized. With the sanitary inspector and the health officer they formed important links in the chain of public health administration. Furthermore, as public hygiene had now taken its place in administrative work, the health visitor was becoming increasingly important. In some districts the health visitor and school attendance officer might advantageously be one and the same person.

Volunteer Health Centres.

In aiming at efficiency the discovery and application of the best means of combining voluntary and official effort was of great importance. There were those who feared the extended rule of bureaucracy, but they did not sufficiently realize that in British self-government, whether central or local, the elected amateur always had the controlling power. This British method, though occasionally irritating to the expert, was, in the speaker's view, a satisfactory compromise. Out of the often tedious conflict of public discussions came real progress, and although it might not be so great as the expert officer might desire, it was less likely to be out of perspective with other branches of work than the expert's original proposals.

No official worker, certainly no medical officer of health, could be said to be doing everything he should for the sanitary and social improvement of his district unless he took stock of all collateral and non-official efforts having the same end in view, and unless he strained every nerve to secure complete co-ordination, to avoid overlapping and hiatus of effort, and to obtain the regular exchange of information, so as to secure the greatest possible return for the given expenditure of energy.

Nova et Vetera.

GRADUATES AT EDINBURGH A HUNDRED YEARS AGO.

In 1809, on June 24th, as the *Edinburgh Medical and Surgical Journal*[1] records, "the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine upon the following gentlemen, after they had gone through the appointed examinations, and publicly defended their respective inaugural dissertations":

OF SCOTLAND.

John Thomson	*De Dysenteria.*
Thomas Elliot	*De Phthisi Pulmonali.*
David King, Surgeon	*De Typho.*
Henry Walker, Surgeon	*De Apoplexia Traumatica.*
John Sanders Shand, Surgeon ...	*De Hydarthro.*
Samuel Burd	*De Hydrope Anasarca.*
John Lauder, Surgeon, R.N. ...	*De Diarrhœa Mucosa.*
David Hay, Surgeon	*De Colica Pictonum.*
Adam Robertson	*De Scrofula.*
Alexander Ross, A.M.	*De Intemperantia.*
James Stenhouse	*De Hydrocele.*
William Sibbald, Surgeon	*De Capitis Injuriis.*
Walter Graham, Surgeon	*De Dyspepsia.*
Robert Greig, Surgeon	*De Digitali Purpurea.*

FROM ENGLAND.

William Sainsbury	*De Apoplexia Sanguinea.*
B. F. Outram, Surgeon, R.N. ...	*De Febre Continua.*
Thomas Haines Banning, Surgeon	*De Angina Pectoris.*
William Bromet	*De Hydropum Causis.*
Charles Mackenzie	*De Asphyxia.*

FROM IRELAND.

Samuel Allen	*De Rubiola.*
George Gillichan	*De Carcinomate.*
John Holmes	*De Dyspepsia.*
Thomas Carey Osburne	*De Hepate.*
Thomas Callanan	*De Febribus Intermittentibus.*
Richard Dancer	*De Cinchona.*
James Doneghan	*De Hæmoptysi.*
Edward Dowling	*De Hydrargyro.*

FROM PORTUGAL.

John Climac dos Reys	*De Febribus Intermittentibus medendis.*

FROM THE WEST INDIES.

J. H. Cutting, Surgeon, Barbadoes	*De Rheumatismo Acuto.*
Joseph Carey, Jamaica	*De Arthritide.*
Jas. T. B. Watt, Jamaica	*De Dysenteria.*
Dan. Wane Huggins, St. Vincent	*De Hepatide.*
Patrick Mackenzie, Grenada ...	*De Usum Vi in Morbis, inducendis et curandis.*
Samuel Woodcock, St. Christ. ...	*De Febre Flava Indiarum Occidentalium.*
J. Daniell, Nevis	*De Podagra Regulari.*

FROM AMERICA.

William Bruce Almon, A.M., Nova Scotia	*De Galvanismo.*
John Watts, A.B., New York ...	*De Morbo Coxario.*
John B. Strachan, Virginia ...	*De Chlorum Assimilatione.*
Robert Bayard, Nova Scotia ...	*De Opii et Venæsectionis effectibus in puerperas.*
William Gibson, Baltimore ...	*De Forma Ossium gentilitia.*

It is a list of forty names in all, and the *Journal* goes on to report a second list of seventeen names of gentlemen who graduated on September 12th. On the next page are the names of eight gentlemen (3 from Scotland, 3 from Ireland, and 2 from England) who received the degree of Doctor in Medicine from the University of Glasgow "within the last twelve months." These lists, uninteresting as they appear at first sight, can on scrutiny be made to yield some food for thought. First, in regard to the graduates themselves, it does not appear that it was a very brilliant year. No doubt there were many good men and

[1] *Edinburgh Medical and Surgical Journal*, vol. v, p. 486.

true amongst them, and they played their part worthily in the Royal Navy and in private practice at home and abroad; but a somewhat hurried look through the pages of the *Dictionary of National Biography* seems to show that only one of them has found a place in that British Valhalla. This was the gentleman called B. F. Outram, Surgeon R.N., in the list, and he had already distinguished himself in the navy. Sir Benjamin Fonseca Outram, as he afterwards became, was born in Yorkshire in 1774—that memorable year when Louis XV died, as Carlyle graphically tells us, of small-pox, when Massachusetts called a Congress, when Wilkes was allowed to take his seat in Parliament, and when Priestley discovered oxygen. He was the son of Captain William Outram, and was educated as a surgeon at the United Borough Hospitals in London. He entered the Naval Medical Service in 1794, and was made surgeon two years later. He saw active service also, being surgeon on board the *Superb* on July 12th, 1801, when Admiral Saumarez with five ships defeated a Franco-Spanish squadron of six sail, off Cadiz. In 1805, with a view to entering upon civil practice, he went to Edinburgh, and there graduated Doctor of Medicine on June 24th, 1809. The following year he began practice in Hanover Square, London, as a physician, and lived there for more than forty years. In 1841 he became Medical Inspector of Her Majesty's Fleets and Hospitals, and ten years later was nominated a K.C.B. He died in 1856, and was buried at Clifton.

Turning next to the geographical aspect of the list, we note with interest that one graduate was a native of Portugal. That country, as will be remembered, was Britain's ally in 1809, when so many other countries were leagued against her. In January Moore had won his last victory at Corunna, and a few weeks after this graduation ceremony took place Wellesley was to gain the battle of Talavera. The Portuguese medical student was amongst friends in Edinburgh in 1809. Further, it is noteworthy that while 14 of the graduates were Scots, 5 came from England, and no fewer than 8 from Ireland. The West Indies were well represented with 7, 2 coming from Jamaica, and 1 each from the Barbados, St. Vincent, Grenada, St. Christopher, and Nevis. Finally, there were 5 from America, 2 of whom were from Nova Scotia, and 1 each from New York, Baltimore, and Virginia. It is to be observed, and it is perhaps of some significance, that these places are all grouped under the name of America, no distinction being made or recognized between the United States and the British possessions to the north. It is to be noted by the way that the gentleman from Virginia—the State, it will be remembered, from which McDowell, the ovariotomist, had earlier found his way to Edinburgh—writes his name in the way now so often done by our Transatlantic cousins, initialling the second Christian name—namely, "John B. Strachan." Further, considering the somewhat strained relations existing between Great Britain and the United States at that time, it is perhaps remarkable that there should have been any American students studying at Edinburgh at all.

Finally, the titles of the inaugural dissertations which these forty graduates had "publicly defended" threw an interesting sidelight upon the state of medical science. There were two theses on dysentery, two on dyspepsia, two on intermittent fever, two on apoplexy, two on liver disease, four on medicinal substances (cinchona, mercury, digitalis, and opium), and two on therapeutic means (venesection and galvanism). The graduate from Grenada was perhaps the Christian Scientist of his day, for he wrote on the influence of the mind in inducing and curing diseases. Dr. Woodcock of St. Christopher took for his subject yellow fever in the West Indies, and the surgeon from the Barbados dealt with acute rheumatism. Most of the other dissertations took symptoms rather than diseases for consideration—for example, angina pectoris, dropsy, colic, asphyxia, mucous diarrhœa, etc. Dr. William Gibson (Baltimore) took an anthropological subject—the racial forms of the bones. It is possible that this was the William Gibson who in 1818 succeeded Physick in the Chair of Surgery in the University of Pennsylvania, and was the first to tie the common iliac artery. If so, then he and Outram were the two distinguished men of their year, of the Americans and English respectively; but perhaps, like Darwin and Walter Scott, they were not so considered by their contemporaries.

LITERARY NOTES.

A DISTINGUISHED correspondent writes that "'M.D.,' who criticizes the use of 'slow' as a verb, should extend his researches in the dictionaries. The usage is universal (going back to Shakespeare), and for boats and pulse is indispensable." The word is recognized as a verb in the *Encyclopaedic Dictionary*, where it is stated to be used both in the transitive and intransitive. In Shakespeare it occurs in *Romeo and Juliet*, Act iv, Sc. 1, where Paris, after explaining to Friar Laurence why her family desires that he should marry Juliet at once, concludes with the words: "Now do you know the reason of this haste." On this the Friar says, in an aside: "I would I knew not why it should be slowed."

"M.D.'s" criticisms have also brought us a letter from Dr. W. J. Shee, of Duncannon, who objects to the expression "arterio-sclerosis." He says:

> I write with great diffidence, as the term is almost invariably used in the same form in the medical journals and textbooks, and a large amount of literary bravery is necessary when one attacks such a well-fortified position. My view—and I advance it in all humility—is that the term came into general use in this form because of its abbreviation from the term "arterio-capillary sclerosis," but that in the shortening process the adjectival quality of "arterio," which should have been preserved and the word changed into "arterial," was lost. The correct expression is undoubtedly "arterial sclerosis." The simple word "arteriosclerosis" (that is, without a hyphen) may, I dare say, be correctly used, but with the intermediary hyphen the term is an abomination. One might as well write "spinio-sclerosis" or "spinal cordio-sclerosis." Either would be, in the words of Euclid, "absurd."

Dr. Shee is probably right in wishing to delete the hyphen. In the New Sydenham Society's *Lexicon* it is not used. Gould's *Dictionary of Medicine* is not quite consistent, as the hyphen is employed in one place and not in another. Authority for "arterio-capillary sclerosis" may be found, but the term introduced by Gull and Sutton was arterio-capillary fibrosis.

The picture of the American country doctor painted by James Whitcomb Riley in his *Rubáiyát of Doc Sifers* may be compared with Ian Maclaren's "Weelum Maclure" and the real man—Dr. James A. Innes of Dufftown, of whom an account was given in the JOURNAL of July 24th, 1909. Like him, "Doc Sifers" was a local institution:

> He's rid these woods and roads—er *seem* 'em now and then
> And practised in this neighborhood sence hain't no tellin' when
> . . . . . .
> In radius o' fifteen mile'd, all pints o' compass round,
> No man er woman, chick er child, er team, on top o' ground,
> But knows *him*—yes, and got respects and likin' for him too,
> For all his so-to-speak dee-fects o' genius showin' through!

Rough hewn and often absent-minded as he is, he is trusted and beloved by all.

> 'Mongst *all* the women—mild er rough, splendifferous er plain,
> 'Er them *with* sense, er not enough to come in out the rain—
> Jes ever' shape and build and style o' women, fat er slim,
> They all like Doc, and got a smile and pleasant word fer *him!*

Horses, dogs, birds all love him; even bees will not sting him.

> But, gittin' back to *docterin'*—all the sick and in distress,
> And old and pore, and weak and small, and lone and motherless—
> I jess tell *you* I 'preciate the man 'at's got the love
> To "go ye forth and ministrate!" as Scriptur' tells us of.

"Doc" has an all-embracing love of Nature. Barks of trees, vines and moss are an open book to him; he can find his way through the woods at night by the stars; he can tell by "underbresh and plants" how far off water is; he can cook; he can make fishing nets; and in his own way he is a sportsman. He is religious, though he does not feel called upon to "testify":

> Without a-claimin' *any creed*, Doc's rail religious views
> Nobody knows—ner got no *need* o' knowin' whilse he choose
> To be heerd not of man, ner raise no loud, vainglorious prayers
> In crowded marts, er public ways, er—i jucks, *anywheres*!—
> 'Less 'n it *is* away deep down in his own heart, at night,
> 'Facin' the storm, when all the town's a-sleepin' snug and tight—
> Hfim splashin' hence from scenes o' pride and sloth and gilded show,
> To some pore sufferer's bedside o' anguish, don't you know!

A childless man, he loves the little ones.

And Childern.—*Children?* Lawzy-day! Doc *worships* 'em!—You call

Round at his house, and *ast* 'em!—they're a-*swarmin*' there—that's all!—

They're in his *Lib*'ry—in best room—in kitchen—fur and near,—In office too, and I p'sume, his operatin'-cheer!

His library consists of half a dozen shelves full of books. One whole shelf is set apart for medical works. The rest are given up to history, biography, travels; besides these

And Doc's got all the *novels* out,—by Scoot and Dickison And Cooper,—And I make no doubt, he's read 'em ever' one!

Asked for his secret of happiness he answers:

"Go he'p the sick, and putt your heart in it."

And then, "A-talkin' furder 'bout that line o' thought," says he, "Ef we'll jes do the work cut out and give' to you and me, We'll lack no joy, ner appetite, ner all we'd ort to eat, And sleep like childern ever' night—as puore and ca'm and sweet."

Though he has a "scrap o' farmin' land, a garden, an orchard, a stable, a chicken lot, and eighteen hive's o' bees," all of which he loves, his heart is in his professional work:

Doc loves his practice: ner don't, wilful, want to slight, No call—no matter who—how fur away—er day or night.— He loves his work—he loves his friends—June, Winter, Fall, and Spring:

His *lovin*'—facts is—never ends; he loves jes *ever*'thing. . . .

'Cept—*keepin' books*. He never sets down no accounts.—He hates.

The worst of all, collectin' debts—the worst, the more he waits.—

I've knowed him, when at last he *had* to dun a man, to end By makin' him a loan—and mad he had n't more to lend.

He has a wholesome dislike of the "Jabberwock," if we may venture to apply one of Lewis Carroll's verbal inventions in a way which perhaps he did not intend.

Doc says: "I 'spise, when pore and weak and awk'ard talkers fails,

To see it's them with hardest cheek and loudest mouth prevails—

A' all-one-sided quarr'l 'll make me *biassed*, mighty near—

'Cause ginerly the side I take's the one I never hear."

The whole picture is charming as a study of a doctor of a kind that is the salt of our profession, one with the strength of a man, with knowledge ripened by experience and guided by common sense, full of the love of all living things, above all of his fellow-men, and with the heart of a little child.

With perfect faith in God and man a-shinin' in his eyes.

Tobias Smollett was a physician, though probably, owing to his haughty and irritable temper, not a very successful one. He has left portraits of the doctors of his day—from the surgeon's mate in the navy to the physician proud of his book learning and ever eager to overwhelm rivals with quotations from the classics—which will live as long as the English language. He was familiar with the "tricks of the trade," though incapable of practising them. It is in *Ferdinand Count Fathom* that we are initiated into the arts by which notoriety was sought by doctors in the eighteenth century. In his many shifts for a livelihood, Fathom turns to physic without taking the trouble even to buy a degree. He is called to a young lady at Tunbridge Wells in the absence of her regular adviser, who on his return tries to thrust him aside, saying that he is resolved "never to consult any physician who has not taken his degrees at either of the English universities." (Smollett, it may be remembered, was a graduate of Aberdeen). Fathom makes the effective retort that "in the English universities there is no opportunity of studying the art; no, not so much as a lecture given on the subject." He presses the point home by adding that there is not one physician of note in the kingdom who has not derived the greatest part of his instruction from foreigners. To this his antagonist has nothing better to reply than that his education cost him fifteen hundred pounds, which brings upon him the stinging retort, "Never was money laid out to less purpose." The further course of the quarrel, amusing as it is, does not concern us here. We give Smollett's accounts of his hero's endeavours to gain a footing as a doctor in London. Having obtained permission from some of the families with which he had contrived to scrape acquaintance at the Wells to call upon them in London, he resolves to make his first medical appearance in the capital with some *éclat*. For this purpose, says the novelist:

He not only purchased an old chariot, which was new painted for the purpose, but likewise hired a footman, whom he clothed in laced livery, in order to distinguish him from the common run of his brethren.

This equipage, though much more expensive than his finances could bear, he found absolutely necessary to give him a chance for employment; as every shabby retainer to physic, in this capital, had provided himself with a vehicle, which was altogether used by way of a travelling signpost, to draw in customers: so that a walking physician was considered as an obscure pedlar, trudging from street to street, with his pack of knowledge on his shoulders, and selling his remnants of advice by retail. A chariot was not now set up for the convenience of a man sinking under the fatigue of extensive practice, but as a piece of furniture every way as necessary as a large periwig with three tails; and a physician, let his merit, in other respects, be never so conspicuous, can no more expect to become considerable in business, without the assistance of this implement, than he can hope to live without food, or breathe without a windpipe.

The requisite is so well understood that, exclusive of those who profess themselves doctors, every raw surgeon, every idle apothecary who can make interest with some foolhardy coachmaker, may be seen dancing the hays in all places of public resort, and grinning to one another from their respective carriages.

* * * * *

None of these observations escaped the penetrating eye of Fathom, who, before he pretended to seat himself in this machine, had made proper enquiry into all the other methods practised with a view to gain the wished-for end in motion. In his researches, he found that the great world was wholly engrossed by a few practitioners who had arrived at the summit of reputation, consequently were no longer obliged to cultivate those arts by which they rose; and that the rest of the business was parcelled out into small conclaves occupied by different groups of persons, male and female, who stood in rings, and tossed the ball from one to another, there being in each department two sets, the individuals of which relieved one another occasionally. Every knot was composed of a waiting woman, nurse, apothecary, surgeon, and physician, and sometimes a midwife was admitted into this party; and in this manner the farce was commonly performed:

A fine lady, fatigued with idleness, complains of the vapours, is deprived of her rest, though not so sick as to have recourse to medicine. Her favourite maid, tired of giving her attendance in the night, thinks proper, for the benefit of her own repose, to complain of a violent headache, and recommends to her mistress a nurse of approved tenderness and discretion: at whose house, in all likelihood, the said chambermaid hath oft given the rendezvous to a male friend. The nurse, well skilled in the mysteries of her occupation, persuades the patient that her malady, far from being slight or chimerical, may proceed to a very dangerous degree of hysterical affection, unless it be nipped in the bud by some very effectual remedy. Then she recounts a surprising cure performed by a certain apothecary, and appeals to the testimony of the waiting-woman, who, being the gossip of his wife, confirms the evidence and corroborates the proposal. The apothecary, being summoned, finds her ladyship in such a delicate situation that he declines prescribing, and advises her to send for a physician without delay. Upon examination, of course, fails to find him, and doctor being called, declares the necessity of immediate venesection, which is accordingly performed by a surgeon of the association.

This is one way of beginning the game. Though the commencement often varies, and sometimes the apothecary, and sometimes the physician, opens the ball; but be that as it will, they always appear in a string, like a flight of wild geese, and each confederacy maintains a correspondence with one particular undertaker. Fathom, upon these considerations, set up his rest in the first floor of an apothecary in the neighbourhood of Long Acre, to whom he was recommended by a letter from a friend at Tunbridge, and who, being acquainted with his ability and scheme, promised to let slip no opportunity of serving him; and, indeed, seemed to espouse his interest with great alacrity. He introduced him to some of his patients, on the strength of a gratis visit, sought forth his quack bills, and all the good women of his acquaintance, and even prevailed upon him to publish advertisements, importing that he would every day, at a certain time and place, give his advice to the poor for nothing, hoping that by means of some lucky cure his fame might be extended and his practice grow into request.

In the meantime his chariot rolled along through all the most frequented streets, during the whole forenoon, and at the usual hour he never failed to make his appearance at the medical coffee house, with all the solemnity of feature and address by which the modern sons of Esculapius are distinguished; not but that he was often puzzled about the decision of his diurnal route. For the method of driving up one street and down another, without halting, was become such a stale expedient, that the very 'prentices used to stand at the shop doors, and ridicule the vain parade. At length, however, he perused the map of London with great diligence, and having acquired a

distinct idea of its topography, used to alight at the end of long narrow thoroughfares, and paved courts, where the chariot was ordered to wait till his return; and walking with great gravity through the different turnings of these alleys, regain his carriage by another passage, and resume his seat with an air of vast importance. With a view to protract the time of his supposed visits, he would, at one place, turn aside to a wall; at another, cheapen an urinal: at a third corner, read a quack advertisement, or lounge a few minutes in some book-seller's shop; and, lastly, glide into some obscure coffee-house, and treat himself with a dram of usquebaugh.

The other means used to force a trade, such as ordering himself to be called from church, alarming the neighbourhood with knocking at his door at night, receiving sudden messages in places of resort, and inserting his cures by way of news in the daily papers, had been so injudiciously hackneyed by every desperate sculler in physic, that they had lost their effect upon the public, and therefore were excluded from the plan of our adventurer, whose scheme for the present was to exert himself in winning the favour of those sage sybils who keep, as it were, the temple of medicine, and admit the young priest to the service of the altar: but this he considered as a temporary project only, until he should have acquired interest enough to erect an hospital, lock, or infirmary, by the voluntary subscription of his friends, a scheme which had succeeded to a miracle with many of the profession, who raised themselves into notice upon the carcasses of the poor.

Yet even this branch was already overstocked, insomuch that almost every street was furnished with one of these charitable receptacles, which, instead of diminishing the taxes for the maintenance of the poor, encouraged the vulgar to be idle and dissolute, by opening an asylum to them and their families, from the diseases of poverty and intemperance. For it remains to be proved that the parish rates are decreased, and the bills of mortality lessened, the people more numerous, or the streets less infested with beggars, notwithstanding the immense sums yearly granted by individuals for the relief of the indigent.

There is nothing new under the sun, and it will be seen from this description that the simple devices of Sawyer late Nockemorf had been discarded as spoilt by overuse nearly a century before his day. Even hospital abuse was not a new thing, and the opening of "fresh medical institutions" was recognized as a short cut to professional success.

THE VITALITY OF THE TYPHOID BACILLUS.

MAJOR J. C. MORGAN AND CAPTAIN D. HARVEY[1] direct attention to an important difference between the vitality of the typhoid bacillus when grown on artificial culture media and the capacity of the same organism for survival under natural conditions, when excreted from the human body. From many investigations which have been published it would appear that the bacillus is capable of a fairly prolonged existence in soil, clothing, or other contaminated material. Firth and Horrocks, for example, have been able to recover the bacillus from soil after two months and from fabrics such as khaki, drill, and serge for as long as eighty-seven days. But Major Morgan and Captain Harvey, whilst not disputing the accuracy of these observations, point out that most of the experiments were performed with cultures, and that their results may be erroneously interpreted unless it is recognized that culture bacilli are possessed of much greater vitality than bacilli obtained directly from excreta. In illustration of this difference they quote some examples recorded by the Enteric Fever Commission in 1908. A convalescent's urine containing enormous numbers of typhoid bacilli was kept in a glass at room temperature; in seventy-two hours typhoid bacilli could no longer be recovered from it. Infected faeces containing 10,000,000 typhoid bacilli to the gram were spread between pieces of blanket and kept on a dark shelf, with the result that the bacilli were found to have lost their vitality on the sixth day. And from a sample of the same faeces which was emulsified in normal saline solution and kept at room temperature no typhoid bacilli could be recovered after the fourth day.

The authors of the present report then proceed to record their own observations, which were made on bacilli obtained from chronic carriers who had suffered from enteric fever more than six months previously, and, though daily passing the bacillus in their excreta, were in excellent health.

One series of experiments was designed to ascertain the vitality of the bacillus in soil contaminated with infected urine. A "carrier" micturated on a selected area of dry ground when his urine contained 6,000 typhoid bacilli per cubic centimetre. Twenty-four hours later he micturated again on the same spot, and this time his urine gave a count of 26,000 bacilli per cubic centimetre. Six hours after the second pollution 2 grams of the soil were examined, and were found to contain some hundreds of typhoid bacilli. But when a similar test was made twenty-four hours subsequently no typhoid bacilli could be recovered; and all the tests made at later periods gave negative results, although on one occasion, three days after the second pollution of the soil, as much as 50 grams of earth were examined. In experiments where the "carrier" was requested to micturate in the dark corner of a small wooden hut with an earthen floor, no typhoid bacilli could be recovered from the soil after the second day subsequent to contamination. As a check on the experiments conducted in the open air, a box was filled with garden soil, 150 c.cm. of urine containing 50,000 typhoid bacilli per cubic centimetre were poured on to the surface, and the box was then kept in the laboratory with the surface of the soil exposed to daylight, but not to sunlight. Typhoid bacilli were recovered twenty-four hours after contamination, but tests made the following day and afterwards all proved negative.

In the case of another chronic carrier, the authors endeavoured to ascertain how long the faeces remained infective after excretion. Their experiments showed that under the conditions which obtain in a dry-earth closet, and in dry-earth methods of dealing with excreta, the typhoid bacillus can readily be recovered up to the end of a week, and that in the interior of a dried faecal mass it may remain alive for as long as eighteen days. Endeavours to cultivate the bacillus at later periods after excretion proved negative, but these positive results, as they remark, indicate how easily the infection could be conveyed by flies from faecal material left exposed in a latrine pan.

When blankets are soiled with infective faecal material, it appears that the bacillus may sometimes remain alive for much longer periods. In one experiment, it is true, the period of survival was only four days. In this case faeces, obtained from the last-mentioned patient, were thickly smeared between two pieces of blanket which were placed in a Petri dish and kept in a press exposed to daylight, but not to sunlight. But in a second experiment of similar nature the faeces from the same patient yielded typhoid bacilli at every examination up to and including the fortieth day, though not afterwards. In this experiment the sample used was a liquid stool, and portions of blanket fibre were pulled out from the soiled area and used for the culture tests.

Experiments were also made with cotton fabrics soaked in infective urine. When the fabric was exposed to daylight, typhoid bacilli could be recovered up to and including the fourth day after pollution, but not later; and when the same material was kept in the dark bacilli were recoverable for eleven days, but then disappeared.

A few experiments were made for the purpose of testing the vitality of the typhoid bacillus in water. About these the authors remark:

> On only two occasions were we able to recover the *B. typhosus* from water richly infected with the urine of a chronic bacillus carrier. On one of these occasions numerous typhoid colonies were found on a plate prepared from the water shortly after pollution, and on the other a few colonies were found on a plate prepared two hours after pollution. These experiments tend to confirm the already accepted impression that the life of the typhoid bacillus in water is an exceedingly short one.

Still more interesting is the apparent difference between pasteurized and fresh milk as media for the growth of the typhoid bacillus. Two flasks, each containing 50 c.cm. of fresh, unboiled milk were taken; one of these was heated to 80° C. for twenty minutes and then rapidly cooled. To both a few drops of infective urine were added, and the flasks were then incubated. The typhoid bacillus was recovered in practically pure culture from the pasteurized flask; but from the unsterilized flask, though there was almost a pure growth of *B. coli*, no typhoid colonies could be obtained. The authors say:

> This experiment demonstrates the well-known fact that the growth of a delicate organism, such as the *B. typhosus*, is favoured in a medium freed from antagonistic bacteria, and also is inhibited by the free growth of the same, and, incidentally, shows the danger of the subsequent contamination of pasteurized milk by pathogenic organisms.

Major Morgan and Captain Harvey disbelieve in the alleged therapeutic value of urotropine for the treatment of typhoid bacilluria. *Post hoc* is not necessarily *propter hoc*, and they suggest that the many cases in which this drug has been thought to effect a cure are merely instances of the well-known fact that typhoid bacilluria often disappears spontaneously. One of their chronic carriers was

[1] *Journ. of the R.A.M.C.*, June, 1909.

put on 10 grains of urotropine three times a day, but, although he received in all 450 grains, there was not the slightest diminution in the numbers of typhoid bacilli excreted in the urine. They considered it unwise to push the drug in larger doses owing to the danger of haematuria.

MEDICAL AND SURGICAL APPLIANCES.

The Loop Developer.

THIS machine, manufactured by Jonas Woodhead and Sons, Leeds, consists of a flat steel spring, bent into the form of five-sixths of a circle of about 9in. diameter. A force of 50 lb. is required to close the circle, when applied to the two handles, which are fixed to the ends of the spring. A graduated plate and sliding indicator show how much force has been exerted in each effort. The vendors claim that this appliance is superior to the ordinary "chest expander," of which it is obviously the converse. In the former the user has to exert force in order to separate his hands from one another, or one of them from a fixed point; with the loop developer, force has always to be applied to bring the hands nearer together. In all the exercises which can be done with it the greater part of the work must be done by the two pectoral muscles, the muscles of the arms and shoulders taking only a very minor part in them, and those of the back, head, neck, and lower limbs being scarcely called into action at all. The usefulness of the appliance is therefore, in our opinion, likely to be rather limited, but it might be profitably employed in conjunction with the extension exercisers to develop those muscles which these latter are likely to spare. The apparatus would be improved by the substitution of larger wood-covered handles for the thin metal ones, which are apt to twist in the grasp. The prospectus states that weaker and stronger springs than the one which we have examined are also made.

Portable Urine Test Case.

Dr. A. OGIER WARD (London, E.C.) writes: Most men are occasionally compelled to test urine away from home, and it is then that a pocket test case, which has been lying by for some time—months, it may be—is usually found to be disorganized. Ferrocyanic tablets crumble; citric acid tablets deliquesce; compressed tablets of Fehling's solution decompose quite quickly, and, with acids in the liquid form, leakages are very prone to occur, to the detriment of the case. He has therefore designed a pocket case, not open to these objections, which he describes as follows: The spirit lamp supplied will not leak, for it has a thoroughly tight screw cap. The test-media are tablets, which will keep almost indefinitely. The test for sugar is free from all reservations, and is applicable when the salicylates are being administered, nothing but glucose giving the indigo reaction. In testing for albumen with salicyl-sulphonic tablets the reaction, if it occur, indicates a proteid of some sort, which implies a pathological condition; it is practically an instantaneous test, and both it and the sugar test are extremely delicate. The case contains a urinometer, two test tubes, litmus paper, spirit lamp, test tube holder, pipette, tubes of tablets, and a card with complete directions; extra tubes, pipettes, and tablets can be procured at any time for a few pence. The complete case costs 10s. 6d., and measures 4 in. by 3 in. by 1 in. It has been put together at his suggestion by Messrs. Allen and Hanburys.

AN official bulletin issued by the Treasury Department of the United States shows that a proposal made last spring for the organization of a coloured Anti-Tuberculosis League is making good progress. This plan contemplates the organization of a State league in each of the United States with a branch in every coloured church. A special feature is the issue of a certificate, a large parchment containing printed information relative to the cause, prevention and cure of tuberculosis, and other information for the prevention of disease. Five State leagues have already been organized, and great interest is being manifested in the movement by persons of negro blood. The plan has been endorsed at a conference of State and Territorial Boards of Health, which passed a resolution to the effect that it was the best scheme suggested for dealing with tuberculosis among the coloured community and that it should receive the support of all Boards of Health. Tuberculosis is predominant among the coloured residents in the United States and is deemed to threaten not only their own race, but to constitute a serious menace to the white people with whom they come in contact.

Medical News.

DR. ARGYLL ROBERTSON left estate valued at £30,000, and the net personalty of the late Dr. Rayner W. Batten, of Gloucester, was £46,000.

THE old students' dinner of St. Thomas's Hospital will be held at the Hotel Cecil, London, on Friday, October 1st, with Mr. J. B. Lawford in the chair.

AT Hastings, on August 17th, a milkseller, against whom two previous convictions were recorded, was sentenced to two months' hard labour, without the option of a fine, for selling adulterated milk.

A RAILWAY traveller has written to the Dublin papers to call attention to the ineffective cleansing of third class railway carriages. The law, he says, compels the disinfection of cattle wagons, and "one would imagine that the life of a man counted for more than that of a beast."

THE King conferred the Royal Victorian Order, Fourth Class, on Fleet Surgeon C. J. Mansfield, M.D., on board the Royal Yacht *Victoria and Albert*, on August 5th, at Cowes. Dr. Mansfield was Fleet Surgeon of R.N. College, Osborne, during the time that H.R.H. Prince Edward of Wales was a cadet there.

ACCORDING to a statement in the *Daily Telegraph*, the Japanese Minister for Home Affairs has issued an order, under the authority of a law recently passed by the Japanese Parliament, forbidding physicians, surgeons, dentists, and all those who conduct hospitals or other institutions for medical consultations and treatment, to advertise anything except their names, qualifications, addresses, and charges.

AT an inquest in Holborn on August 13th, the jury returned a verdict of death from misadventure in the case of a child stated by the medical witness to have died from delayed chloroform poisoning. The child underwent an operation under chloroform on July 10th, and made what was apparently a normal recovery. On the following afternoon, however, symptoms set in which suggested delayed chloroform poisoning. Death took place the same night, and the view formed before death was confirmed on autopsy.

AT the Cheltenham Liberal Club, on August 11th, Dr. Richard Davies was the recipient of an illuminated address and a motor car. For many years past he has played a very active part in the public affairs of Cheltenham, and for some ten years has held a seat on the Town Council. The subscribers to the presentation were upwards of five hundred of his constituents and fellow townsmen, who desired in this way to express their gratitude to Dr. Davies for his services to the town, their continued confidence in him, and their sympathy in respect of some legal troubles in which Dr. Davies was involved by an incident during the elections last autumn.

IT would appear from an article in *Le Progrès medical* that the numerous medical men who do their work in connexion with the Assistance Publique of Paris are about to lose one of the small advantages they gain thereby. Being all either occupants of positions on the staffs of various hospitals, or on the lists of those ready to answer urgent calls from public officials to attend cases of injury or sudden illness in the streets or elsewhere, the Post Office authorities have hitherto deemed it just to remit in their favour 25 per cent. of the ordinary telephonic charges. They have now, however, received notice that from October 1st they will have to pay full rates.

ACCORDING to statistics recently issued by the United States Bureau of Education there are altogether in the United States 2,298 libraries which possess upwards of 5,000 volumes. Thirty-two of them are of a medical character, the largest being the library at the Surgeon-General's Office, which contains 162,000 volumes. Next comes that of the New York Academy of Medicine, which has 85,000 volumes; and, third, the library of the Medical Society of Brooklyn, with 65,000 volumes. Medical libraries containing upwards of 5,000 volumes are distributed as follows: The State of New York is credited with 7; Pennsylvania and Massachusetts with 5 each; Illinois, Ohio, and Maryland 3 each; Missouri with 2; and Rhode Island, Louisiana, Texas, and California with 1 apiece.

British Medical Journal.

SATURDAY, AUGUST 21st, 1909.

THE POOR LAW REPORT AND THE SANITARY SERVICE.

We cannot help feeling that in his Presidential address to the Birmingham Branch, on the reports of the Poor Law Commission, Dr. Manley has unwittingly fostered the idea, which he himself would probably regret, that there is some tendency for the sanitary service to find itself in conflict with the interests of general practitioners. There can be no hesitation in saying that any such conflict between two branches of the profession would be suicidal. We are quite convinced that disputes that may have arisen have been practically all personal between individuals, and there is not and never has been any opposition to the sanitary service on the part of either the Association or the Journal, nor has the possible danger of any collision between that service and general practitioners been unnecessarily accentuated.

But even if we regard the interests of medical officers of health apart from those of the profession at large, it is by no means clear that they would be in any way furthered by the adoption of the suggestions of the Minority Report of the Poor Law Commission. On the contrary, there is considerable danger that the sanitary service would become far less attractive if the Minority suggestions were carried out. On the other hand, under Dr. Downes's scheme for a reformed board of guardians, partly elected publicly *ad hoc* and partly consisting of nominated members, it would probably be considered necessary to concentrate under the reformed board all the medical treatment now undertaken by the health committees, including the management of fever hospitals and sanatoriums, and to leave to the health committees only their strictly sanitary duties. Dr. Downes is strongly of opinion that any amalgamation of the sanitary service with medical relief "would be detrimental and contrary to "the public interest." With this reservation, Dr. Downes's scheme would not touch the medical officer of health.

Under the Majority scheme of a single statutory committee of county or county borough councils as the Public Assistance Authority, the authority would act by two committees, one for general and the other for medical relief. The advantages of putting the whole of medical assistance into the hands of one committee are obvious, especially as the authority itself is constituted to co-ordinate the work of its own two committees. Here the position of the medical officer of health would be no worse but rather better than at present. With the object of defining the limits of the work of each committee and preventing overlapping, members of the Health Committee are to be elected on the Medical Assistance Committee. The medical officer of health would thus be freed from any uncertainty as to what his duties were, and there is nothing in the scheme that would in any way injuriously affect his position.

But when we come to the Minority scheme, we are bound to point out some features which need serious consideration by medical officers of health. In the first place, no less than four separate committees of the councils would be concerned directly and indirectly in dealing with the non-ablebodied—the Education Committee for children of school age, the Health Committee for birth and infancy, treatment of the sick and institutional treatment of the aged, the Pensions Committee for home treatment of the aged, and the Asylums Committee for the feeble-minded. The overlapping that would result between so many committees would be so serious that the Minority Commissioners have thought it necessary to make a special provision, which goes far to vitiate the whole scheme—that is, the appointment of a special paid official, to be called the Registrar of Public Assistance, with almost autocratic powers, quite independent of the four committees, and only responsible to the General Purposes Committee of the Council; while the Finance Committee would have to arbitrate between the registrar and the four relief committees. It would sometimes happen that the members of a single family would be each under a different committee at the same time, and apart from the difficulty of deciding whether a person were ablebodied or not—that is, whether he should be dealt with by the national organization for the ablebodied or by one of the local committees—there would be frequent disputes as to which committee should deal with a particular person. It is accordingly provided that the registrar should decide such disputes between committees. If the Health Committee, for example, after carefully considering a case with the advice of the medical officer of health, should decide to grant home treatment and home aliment, the registrar is to be invested with power absolutely to veto such decision. The Health Committee's remedy would then be either to send the case to an institution—a privilege which it is to retain, though it might think it better treated at home—or to appeal to the Finance Committee to arbitrate between it and the registrar. It is easy to imagine that the Health Committee would bitterly resent having to submit its carefully considered resolutions to a single paid official who had the power to override them, and the position of the medical officer of health would be far from enviable. This is no fanciful picture; it is actually contemplated as happening by the Minority report and is fully described in Part I, Chap. XII, 3, d. We are also told that "mixed" cases occur which the registrar would receive into a "receiving home" provided for him, where they would get any immediate treatment required until the registrar decided which committee must deal with them, and we read, "It "would be obligatory that the registrar's instructions "in this respect should be obeyed; but the committees "concerned would be free to bring the cases before "him at a subsequent sitting and to show cause why "they should be transferred to the care of some other "committee," etc. Could officialism be carried further, and would any Health Committee, acting presumably on medical advice, tamely submit to be dictated to by a non-medical paid official?

But this is not all. There are in England and Wales 74 county boroughs and 62 administrative counties, 26 of which have no county medical officer. Thus, there are now about 110 county and county borough medical officers. At present each one of these is administrative head of his

department. He would possibly, even probably in most cases, remain so under the Minority scheme. But there is no certainty about it. Numerous rivals are to be introduced. The report provides that, in the so-called "unified service," *that* one of all the medical men in the service "should be placed in "administrative control who had developed most administrative capacity," and Mrs. Sidney Webb, in appealing for the support of the Poor Law Medical Officers' Association, drew an alluring picture of district medical officers as possible heads of the service.

Again, there are some hundreds of medical officers of non-county boroughs, urban and rural districts, each one also the head of his department; but under the Minority scheme all of them would become subordinate to the future county medical officer, who might, we are told, be a clinician, not a sanitarian. Further, the report suggests that all boroughs with less than 10,000 population, urban districts with less than 20,000, and all rural districts should be "encouraged" to cede their present health duties to the county and be merged under the county medical officer. To assist in thus "encouraging" them, they are not to receive any share of the future grants-in-aid. But the report strongly advises that rural district councils should be abolished altogether, and even their sanitary and other work given to the county. It is not said what is to become of the present rural medical officers. Simple extinction seems to be their fate, as they have no security of tenure.

It must be evident from the above that, looked at solely from the point of view of the ambitions with which medical officers of health are credited, the result of the Minority scheme would very probably be calamitous. There would be a greatly increased number of competitors for such public health appointments as were not abolished, and amid the host of new rivals competing for the posts, existing assistant medical officers of health would be swamped.

It must not be inferred from these remarks that unqualified approval is given to the rival Majority scheme. The dangers of unlimited contract practice and provident dispensaries are very evident, and the proposals will need careful criticism and investigation though they only remotely affect the medical officer of health. We have said nothing of the effects of the Minority scheme on the public and on general practitioners, and, reserving this for the present, will merely observe that even greater risks to their interests may arise. We thoroughly agree with Dr. Major Greenwood in his letter published this week, when he says that the almost inevitable tendency of the Minority scheme is towards a free medical service to all applicants; or, in other words, it will foster parasitism instead of self-providence.

Sufficient, however, has been said to show that, in urging that the Minority scheme should be most carefully and critically analysed before being accepted, we have not overlooked the interests of medical officers of health, which are as distinctly threatened as those of district medical officers. One fact is beyond dispute, that no one branch of the profession can stand by itself, and unless there be united action through the British Medical Association, which includes not only general practitioners but district medical officers, medical officers of health, and every branch of the profession, the reform of the Poor Laws will bring disaster to the profession, with far too little compensating benefit to the public.

RAY THERAPEUTICS.

Against medicine, as against every other profession, gibes are ever forthcoming, and among the more popular are statements to the effect that its therapeutics are not less ruled by fashion than are other matters mundane, and that in the face of what eventually prove really great advances it is sceptical. To a certain extent these charges are mutually destructive, and in neither of them, when traced to such a basis of truth as they possess, is there anything of which medicine need feel ashamed. When good evidence of the efficacy of some new line of treatment is forthcoming it is natural and creditable that medical men should be anxious to adopt it promptly and widely for the benefit of their patients, and it is equally creditable that they should be unwilling to pay homage to gods of unproved divinity—to believe forthwith that by their untested power mountains hitherto impassable can readily be traversed.

Instances in point formed indirectly the main subject of consideration at the two discussions of the Section of Dermatology at Belfast of which an account is published in this issue. When radium first came upon the scene seven or eight years ago, some medical men were ready to claim that a therapeutic millennium had arrived; but the majority asked for proofs. Their scepticism proved justified, for little by little it became clear that for the moment, at any rate, radium therapeutically considered could do little as compared with *x* rays, and did that little dangerously. Steady investigations of its properties, physical and therapeutic, were, however, conducted on scientific lines, so that real progress has been made, and during the past year or two hopes have revived. The present position of matters was fully set forth in the discussion at Belfast, and it is clear that a sound basis for therapeutic utilization of radium has at length been laid; there is now sufficient evidence to prove that in some conditions this powerful element presents therapeutic advantages greater than those possessed by *x* rays, and that as time goes on very material benefits from its extended use may reasonably be expected. Methods have been devised by which it is claimed that precise dosage can be secured, and the rays be made to act at any particular point and depth desired. In other words, the radium-therapist can gauge the force of his weapon with precision, and can hit a distant mark, leaving intermediate objects untouched.

In the estimation of dosage the radiation strength of uranium is taken as the unit, and that of pure radium as two millions, intermediate strengths depending upon the amount of bromide employed in the preparation of the radium for use. Of equal importance in dosage is the duration of application, since any salt of radium, however weak, may destroy, not merely modify, tissues, if applied sufficiently long, and this may not always be desirable.

The quality or carrying power of the charge to be used must also be determined, for on this depends the success of the orator in bringing his weapon to bear at the right distance. He must be able, according to the nature of the case under treatment, to act at will either on the surface alone or on the tissues immediately beneath the skin, or on growths lying at considerable depths. This is effected by taking advantage of the fact that the emanations are made up of rays of at least five kinds—alpha rays, soft, medium, and hard beta rays, and gamma rays—which all differ in

power of penetration. Hence the rays are filtered, so to speak, by the interposition between the applicator and the body surface of leaden screens of different thicknesses according to the effect desired.

A further advance is of a mechanical nature; the modern method of employing radium is to spread whatever quantity of it is used evenly over the surface of the applicator, attaching it by varnish. An amount which, when bulked together in a glass tube, would affect merely a very limited surface is thus made to act on a large extent of tissue. This is a great advantage, because not only does it make the treatment of any individual case more rapid, but by enabling more work to be got out of a given quantity of radium it makes the sparsity of the total amount of this element at present isolated less detrimental to the progress and extension of radium therapeutics. In the same connexion may be mentioned the device which its inventor has called the "cross-fire" application of radium, or the bringing of a tissue or a growth under the influence of radium from opposite directions simultaneously.

Radium therapeutics are, of course, still in their infancy; but decided progress has been made, and the whole subject of radium therapy is in a very different position from what it was some three or four years ago. A great deal of the credit for this advance is due to Dr. Louis Wickham, of Paris, who was the principal speaker on this subject at Belfast, and who on the same occasion recorded a number of excellent results obtained by him in dealing with abnormal tissues and growths hitherto little amenable to treatment. It is true that he has been fortunate in having at his command much greater quantities of radium than any one else, but it is owing solely to his personal merits as a scientific investigator that his opportunities have been turned to such excellent use. Furthermore, radium therapy is to be congratulated on having in Dr. Wickham not only an earnest student, but a modest exponent of its merits in relation to analogous lines of work. When asked, for instance, as to its utility in ringworm, he replied that he had not tried it, because the results obtained by *x* rays in this disease were so splendid, and he spoke of lupus and Finsen light in much the same way. This makes it clear that as the chief exponent of this new science, he sees no present antagonism between it and other forms of ray treatment, and the probability is that none will arise. If further experiments prove the right of radium therapy to a permanent and important place in therapeutics, it will no doubt before long become easy to distinguish cases best treated by Roentgen rays, Finsen light, and those for which radium should be reserved. Meantime, it is to be remembered that Roentgen ray work is itself but a half-fledged science, and much may result from the introduction into it of the principle of filtration, with which experiments have already been conducted by several investigators in this country.

The other subjects on which very interesting discussions were held in the Section of Dermatology were the *x*-ray treatment of tinea tonsurans, and the question of the existence of special susceptibility to *x*-ray light. Sabouraud's successful use of *x* rays in the treatment of ringworm in France was adopted so rapidly and widely in other countries as to evoke in some quarters the foolish gibe to which allusion has already been made—namely, that the *x*-ray therapists were guided by fashion, not by science; and in England the same special department of medicine incurred considerable obloquy owing to a somewhat misguided proposal to make this form of treatment obligatory in respect of elementary school children. The ground of attack was not that the treatment was ineffective, but that it was dangerous, since on the analogy of some experiments conducted with animals abroad arrest of the mental development of the children thus treated might, it was feared, occur. On turning to the report of the proceedings, it will be found that this aspect of the question was well threshed out. Some members took the view that, in order to be on the safe side, children under 3 years old, whose brains are not yet thoroughly protected by an osseous covering, should not be submitted to epilation by *x* rays; but all agreed that, in regard to others, the treatment was free from risk of injury to the brain and brilliant in its results. The conclusion was based not only on theoretical grounds, but on the very large amount of practical experience which has accumulated, and it is the more convincing because not all present were prepared to admit that *x*-ray treatment should invariably be substituted for treatment by drug applications. On the other hand, while it was freely admitted that in the past a certain number of cases of dermatitis and permanent baldness in patches had occurred, it seems to have been agreed that these were generally, if not always, due to lack of adequate experience, and that in future that beautiful word "idiosyncrasy" can rarely be accepted as an excuse for the occurrence of untoward results in *x*-ray work of any kind. On this point the view at present held among Roentgen-ray experts would seem to be that nothing which can truly be called *x*-ray idiosyncrasy exists. Though the precise effects of an exposure differ in every individual, the limits of variation are too small to account, as a rule, for what would be a proper dose in one person producing a harmful result in another.

AN EFFICIENT AMBULANCE SERVICE FOR LONDON.

The long-discussed question of the provision of an adequate ambulance service for cases of accident and illness in streets and public places in London appears to have suddenly entered upon an acute stage during the hot wave, and has engaged the active attention of the House of Commons. Last April Sir William Collins introduced a bill virtually reproducing in a single clause the powers sought by the London County Council in 1906 to enable that authority to establish and maintain a rapid ambulance service in London, summonable by telephone calls. These powers passed the Commons without any opposition, after full inquiry by the Police and Sanitary Committee, but were thrown out in the Lords at the instance of a Committee presided over by Lord Camperdown. The Home Office at that time considered that a conference between the Police, the Home Office, and the County Council might be the means of improving upon the County Council's proposals, which were criticized by the Lords on the grounds of finance. Ultimately a Departmental Committee was set up, consisting of three members—Sir Kenelm Digby (Chairman), Lord Stamford, and Sir William Collins. This Committee, which reported in February last, was unanimous in condemning the *status quo* in London (outside the City); it found that no use was made of the telephone to summon the ambulance, that wheeled litters were the conveyance in favour with the police, but that cabs and ordinary vehicles were used in some 60 per cent. of the cases conveyed to hospitals. The result, the Committee

said, was not infrequently detrimental to the persons thus conveyed, and in something like a third of the graver cases definite fault was found with the mode of conveyance employed. The Committee was unanimous also in approving the magnificent object lesson given to London by the City, which, possessing control of its own police, had, after opposing the County Council's bill, wisely adopted a scheme on the same lines. By means of the City electric ambulance, summoned by telephone, street accidents are now dealt with and in hospital in nine minutes, on an average, instead of eighteen as formerly. Moreover, the experience gained with the ambulance stationed at St. Bartholomew's Hospital has induced the City to commission a second to work in connexion with the London Hospital.

The Departmental Committee was unfortunately divided in opinion as to the authority which should be entrusted with ambulance duties in the County of London—two of its members favoured the Metropolitan Asylums Board while one recommended the London County Council.

The Asylums Board had in 1903 passed a resolution excluding the dealing with street accidents from the contemplated extension of its service, since at that time the County Council was anxious to undertake such duty. Since the Moderate Party came into power at Spring Gardens, the Council would seem to prefer, mainly on grounds of economy, that the Asylums Board should add street accident work to that of its infectious ambulance service—and has generally approved of the recommendations of the Home Office Committee. Mr. W. Peel, the leader of the Moderate Party in the Council, accordingly introduced a bill into the House of Commons last week to carry out this policy. Meanwhile the bill of Sir William Collins had secured a second reading and been referred to a Standing Committee. On Tuesday this committee passed the bill of Sir William Collins, and by 28 to 1 approved of the London County Council as the future ambulance authority for London.

We deplore this squabbling over the relatively subordinate question of the body to carry out the work while street accidents are increasing by thousands in London, and now exceed 14,000 a year. A vast amount of totally unnecessary and easily preventable suffering is occasioned by the present lack of an efficient service, as the report of the Home Office discloses in its valuable appendix, based on information derived from London hospitals. London is seriously in default in this matter in comparison with other large towns. The Home Secretary, in his speech before the Standing Committee, urged the need of prompt and decisive action, and while duly weighing the *pros* and *cons* decided definitely for the County Council as the authority to be entrusted with this municipal duty. It is not surprising that he should have come to this decision. Since the Home Office Committee reported, the Report of the Royal Commission on the Poor Law has threatened the existence of the Metropolitan Asylums Board. Great and beneficent as the work of that body has been in dealing with infectious disease, it would be unwise in view of its uncertain future and anomalous composition, to entrust it with these additional duties, involving new rating powers. We are also disinclined to urge, even on grounds of economy, that it is desirable to set up a non-infectious ambulance organization in close relation with an infectious service. By strict precaution, risks may be reduced, but they cannot be so effectively safeguarded as by relegating the two duties to entirely separate departments. Whatever real risk there may be, the public are not likely to minimize it, and it would be unfortunate to prejudice the new service by any such possible but avoidable occasion for unpopularity. Mr. Gladstone's decision is, therefore, welcome, and it is to be hoped that it means that prompt effect will be given to his views, and a satisfactory legislative solution speedily found for this needlessly and harmfully prolonged controversy.

INVASION.

THE idea of invasion, long foreign to the minds of the inhabitants of these islands, is becoming as familiar to us at the beginning of the twentieth century as it was to our forefathers at the beginning of the nineteenth, and the result of the appeal which the Secretary of State for War has made this week cannot be doubtful. The people of the country, men and women alike, are asked to fill up a gap in the organization for dealing with sick and wounded in case of invasion. The medical service of the Territorial Force actually engaged in the field—for the fighting units—has been planned out, and, though much remains to be done, a good beginning has everywhere been made, while in not a few districts the cadres are full. The general hospitals, to which the sick and wounded will be removed, have been organized to the number of twenty-three in the chief centres of the country—that is to say, the staffs have been appointed, for the military conception of a hospital is a staff and not a building; the task of selecting buildings which can be adapted to the purpose has been begun, but is still far from complete. Between these two extremes, however—between the fighting force where the man is struck down by bullet or disease, and the general hospital where he is to be nursed back to health—is the gap to be filled in by this new system of voluntary aid detachments, organized on a county basis by the county associations of the Territorial Force with the assistance of the British Red Cross Society and the St. John Ambulance Association. A certain amount of imagination is required to picture the state of things which would come about in this country so soon as an invasion became effective. It is not difficult to imagine the immediate results of an action, the wounded who demand first aid and rapid transit to some place where they can enjoy all the advantages of surgical skill. It is less easy but not difficult to realize that within twenty-four hours of a territorial division being on foot to oppose the enemy a large number of sick would require treatment, and that within a week their numbers would probably amount to at least 10 per cent. of the force. It is easy also to picture the reception of these sick and wounded into the specially organized military general hospitals: but it requires a greater effort of imagination to realize the scenes which would attend the transport of the sick and wounded from the field ambulances, to which they would be at first conveyed, to the general hospitals. The scheme now put forward proposes the organization in time of peace of Voluntary Aid Detachments in every town, and indeed in every village, of the country, trained to make use of improvised material, to make country carts and vehicles possible for the transport of wounded, to establish rest houses pending their transmission by rail to the general hospital; the magnitude of the service required fully justifies the general appeal now made. The Territorial Force being organized on a county system, with associations in

each county responsible for its efficiency, it is natural to place this new service upon the same basis, and already the British Red Cross Society has organized county committees in England, Wales, Scotland, and in some parts of Ireland, which will be able at once to give valuable assistance. The reason why Scotland is not dealt with in the scheme issued this week would appear to be that that country has, not for the first time, stolen a march on her sisters, and has already gone so far forward in the task of filling up the gap, that only a few planks are needed to bridge it. However this may be, it is certain that in Scotland, as in England and Wales, no scheme can be successful unless the hearty co-operation of the women of the country can be secured. Their assistance will be required not only to stimulate the mere male to realize what would come about if the country were invaded, but their personal services are needed also as nurses, as cooks, and in many other capacities in which a woman who understands housekeeping and men is supreme.

BUSINESS IN THE HOUSE OF COMMONS.

THE course of business in Parliament is gradually shaping itself for the closing of the session. On Monday the Lords adjourned till August 30th, when they will come back to consider some smaller bills which by that time may be ready for them before the Irish Land Bill and the Budget engage their attention. In the Commons the Finance Bill, with its land clauses, will occupy several more days. The Irish Land Bill will be taken after the land clauses are finished, and the Finance Bill resumed with the licensing clauses early in September. On these and the remaining clauses of the Budget proposals there is likely to be more rapid progress, and in many quarters it is expected that the session will close early in October. The Housing Bill has not been referred to in discussing the course of business, but it will certainly be taken whenever the opportunity may arise. If it cannot be taken before September 2nd it may very possibly not get its chance till the Budget is being discussed in the Upper Chamber. This bill will require some days for its Committee stage, inasmuch as there are thirty-seven pages of amendments on the paper. The valuation proposals of the Budget will greatly facilitate the passage of the Housing Bill, and equally help its working when passed. One of the most contentious points to be discussed is Clause 30, which has four pages of amendments to itself. From a public health point of view this clause with its quinquennial census of houses, is absolutely necessary to make the bill work effectively, and the only alternative to this clause—the proposal to give security of tenure to medical officers of health, as proposed in Sir Walter Foster's Bill—does not, so far, find favour with the Local Government Board. An endeavour will be made by an instruction to extend the scope of the Housing Bill so as to include district and borough medical officers and give them the same security and position as county medical officers, but there cannot be much hope of carrying such an instruction in opposition to the Government.

PRESCRIBER AND DISPENSER.

THE relations of prescriber and dispenser have long been difficult, ambiguous, and often unsatisfactory, but only because circumstances keep thrusting the functions of the one upon the other. If the members of the medical profession were polled we have little doubt that a large majority would be in favour of release from the troublesome burden, and the inevitable commercialism of dispensing, on any terms that would leave them a reasonable living from the exercise of their purely professional activities. On the other hand, we think it likely that the better class of pharmaceutical chemists would be glad to be saved from the false position of "counter prescribers" if they were relieved from the competition of doctors who dispense. In these circumstances, a paper entitled "What Shall I Do? A Dispenser's Dilemma," read some time ago before a meeting of the Pharmaceutical Society by Mr. Donald McEwan, is interesting. No reasonable medical man will regard Mr. McEwan's paper as an arraignment of his profession, although it cites cases in which it was alleged that medical men had committed errors in prescribing in the first instance and had afterwards received the courteous representations of the dispenser in a wrong, sometimes even in a discourteous, spirit. As Mr. McEwan says, the relations of prescriber and dispenser should be those of "courtesy and respect." But his title is a query, and, in a sense, the whole of his paper is a query, and one of the questions in his mind is apparently this: How is the responsibility to be apportioned in the case of a disaster happening through the compounding of a prescription by a chemist, which contains an apparently dangerous dose of any drug? We have no hesitation in saying that the chemist is doing his duty in calling the attention of the prescriber to the unusual nature of the prescription; and this course is, we believe, very usually followed by responsible pharmacists. Mr. McEwan's further suggestion, that an apparently dangerous dose in a prescription should be initialled by the prescriber and the prescription retained by the dispenser, is reasonable, and has often been made before; for the results the prescriber must be solely responsible, provided the dispenser can prove that he carried out his instructions. It is not only common sense, but it is the law that the prescriber should be responsible for his prescription and the chemist for its compounding. But these are questions which comparatively seldom arise. Practically, the medical men who attain to a purely prescribing practice, whatever their importance intellectually and socially, are in a numerical minority. But there are medical men who not only dispense mixtures, but derive a profit from the sale of syringes and trusses, *et hoc genus omne*. May not the dispensing chemist ask: "Why not sell toothbrushes, as I do? Why object to your surgery being called a shop, any more than my place of business?" The obvious fact is that a section of the public still believes that "the bottle" is the essential thing in therapeutics. Young men enter into practice, and soon find themselves helpless against this prejudice. They do what they can for their patients as professional men with a scientific training, but too often the only basis on which they dare to estimate their fees is the number of "bottles" supplied. The whole system is indefensible. It is derogatory to the medical men who are compelled to adopt it, and the pharmaceutical chemists, with whom we ought to be in a position to work hand in hand, consider that it is commercially injurious to them. The remedy is to be found only in combination, and assertion of their professional status by the members of the medical profession as a whole, and in the education of the masses, who have already been taught by the legal profession that expert advice without any material symbol is worth paying for.

A BLAMELESS BONESETTER.

A STRANGE example of the perversity by which coroners' juries, the members of which no doubt merely reflect the opinion of the class from which

they are drawn, are sometimes afflicted, was afforded by an inquest held at Crickhowell, Breconshire, last week. A young farm labourer was knocked down by a runaway horse and sustained a compound fracture of the thigh. Dr. A. E. Jones was sent for, but his attendance was almost immediately countermanded, and it was not until about forty-eight hours later that he saw the patient, who was then evidently dying. In the interval the man had been attended by a bonesetter, who applied some sort of splint and bandaged the limb. Dr. Jones found the limb greatly swollen and the bandages very tight: on cutting them off, discharges escaped accompanied by a hissing noise, so that it seems probable that the wound had become infected by one of the gas-forming bacteria. Dr. Jones attributed death to acute septic poisoning following the compound fracture, shock, and collapse. The bonesetter stated in evidence that he had said that he feared blood poisoning would occur, but, so far as appears from the reports before us, he took no steps to prevent it. The jury returned a verdict in accordance with the medical evidence, but added a rider to the effect that no blame attached to the bonesetter. This is an odd rider to be returned in the twentieth century, some forty years after the institution of compulsory education. The Welsh are not naturally a slow-witted people, and one would have supposed that by this time some knowledge of the fact that septic poisoning in compound fracture can and ought to be prevented would have filtered through even into the sequestered but beautiful valley where this tragedy occurred. Possibly it may be an instance of what theologians call invincible ignorance, but, even if we adopt that charitable view, the moral seems to be that the time has come when the elementary truths of physiology and hygiene should be taught in the elementary schools, so that the next generation at least may not follow false shepherds. Perhaps some patriotic Welsh doctor will set about the preparation of a primer in the native tongue which the educational authorities of the principality may be induced to adopt.

THE EARLY TREATMENT OF INSANITY.

The Commissioners in Lunacy in their sixty-third annual report draw the attention of the Lord Chancellor to Dr. Henry Maudsley's munificent offer to provide a sum of £30,000 for the foundation in London of a hospital for the treatment and study of mental disease. They remind the Lord Chancellor that in previous reports they have indicated the great importance of early and individualized treatment of insanity, and have constantly pressed for the provision of institutions such as that which Dr. Maudsley now proposes to create. His offer, therefore, and the scheme of working by which it was accompanied, seem to them equally admirable, for together they represent a serious and comprehensive attempt to afford additional facilities for the study of mental diseases in their more acute forms, and to subject to skilled treatment at the earliest possible moment cases of incipient insanity. Many of these it should be possible to arrest if dealt with sufficiently early. They see, however, that two difficulties will have to be faced if such an institution as that which Dr. Maudsley proposes to bring into existence is to be put in a position to fulfil its purpose adequately. One is the question of site, which should be easily got over; the other, that of certification. To deal with the latter a modification in the English law respecting insane persons is required, and should not prove impossible to obtain. Legislation of the kind desired has already been initiated both in the House of Lords (in 1899 and 1900) and in the House of Commons (in 1904 and 1905), but abandoned for lack of time. The bills introduced enacted that if a medical man certified that a person was suffering from unconfirmed mental disease, and that it was expedient with a view to his recovery that he should be placed under the care of a person named in the certificate for a period specified (which could not exceed six months) then during that period Section 315 of the Lunacy Act, 1890, would not apply, though the Commissioners would be notified of the giving of such certificate and of the reception of such patient and be at liberty to visit and examine him if they thought fit. The Commissioners can see no valid reason why this principle and practice should not be made applicable to the proposed hospital, and they think that the time has arrived when there might be, in the early stage of acute mental disorders, some such relaxation as has been indicated of the properly stringent regulations in confirmed cases which safeguard the liberty of the subject and endeavour to insure the kind and proper treatment of the patient. If such relaxations of the present law were allowed, the need of the judicial order and two formal medical certificates involved by Section 315 of the Lunacy Act would in many cases never arise, since recovery would ensue before the lapse of time should have rendered them necessary. In that case the patient would be free from what is unquestionably, even if unreasonably, regarded as a stigma—namely, formal certification as a lunatic. A law of the kind in question has existed in Scotland for many years past, and there is no evidence, the Commissioners find, that anything but good has resulted from it. They are, therefore, as ready as at the time the bills mentioned were introduced to recommend the extension of the principle to England and Wales, and that it should be made applicable to institutions such as Dr. Maudsley's contemplated hospital, which, without such modification in the existing law, would not be able, they think, to fulfil its purpose. The ordinary contents of the Commissioners' report will be dealt with in a later issue.

RADIOGRAPHY AND PERI-URETERAL PHLEBOLITHS

We mentioned in the Journal of July 24th Proust and Infroit's case where right pyonephrosis and calculus in the ureter were diagnosed. By the aid of radiography a shadow was detected corresponding to the course of the right ureter, a little above its termination in the bladder. The patient died after nephrotomy, and it was then discovered, after repeated radiography and careful dissection, that the shadow, really double, indicated not a calculus but two small phleboliths in a vein in a sheath of the ureter. We mentioned Dr. Mackenzie Davidson's caution to surgeons about deceptive appearances, and we think it fair to add that Dr. G. Harrison Orton dwelt on the same subject in his interesting paper on the use of the *x* rays for the detection of renal and ureteral calculi, read at a meeting of the Electro-Therapeutical Section of the Royal Society of Medicine in November, 1907.[1] He referred to a case in Sydney, where an operation for ureteral calculus was performed on the strength of *x*-ray evidence, but the shadows were found to be due to "shotty" bodies outside the ureter. Dr. Orton observes that the shadowgraph bougie would probably have settled the question in this case, and that as the shadows were very small a course of expectant treatment with careful watching of symptoms would have

[1] The X-Ray Diagnosis of Renal and Ureteral Calculi. *Proc. Roy. Soc. Med.*, vol. i, part i.

given valuable information. Orton exhibited a negative showing shadows which he believed might be due to phleboliths, though they might indicate a calcified gland. On the other hand, there were two shadows, side by side, which did not look like stones in the ureter, and there were no symptoms pointing to renal or urachal trouble. The patient was perfectly well, excepting that she suffered from persistent œdema of the lower extremities. She was *x*-rayed with a view to determining whether anything could be found which might be exerting pressure on the common iliac veins, as she was rather too stout for examination by other means. Dr. Orton's case shows what difficulties may attend the diagnosis of diseases of the urinary tract by the aid of radiography, particularly in fat patients.

THE TRACHOMA QUESTION.

UNDER the heading "Trachoma and Emigration" A. Beauvois contributes to the *Recueil d'Ophtalmologie* for May, 1909, an article dealing with the increase in the number of trachoma cases coming to the Paris ophthalmological clinics, an increase due almost entirely to cases which have immigrated from Palestine, Syria, Roumania, and Russia. The majority of these individuals have arrived in Paris *en route* for the United States or Canada, but have been unable to get a passage owing to the stringent examination enforced by the large steamship companies. The article is one of very great interest, because every word of it applies not only to the conditions in France, but in even greater degree to those prevailing in England to-day. Fifteen years ago trachoma was quite an infrequent disease in London, and is now almost unknown in many of the smaller provincial towns. But at the present time at our largest ophthalmic hospitals a junior house-surgeon spends a great portion of his time in treating granular lids, and on Saturday morning a considerable proportion of the patients are aliens afflicted with trachoma and its sequelæ. Beauvois points out the terrible ravages of trachoma in Italy, in Russia, in Spain, and in Ireland, and contrasts these countries with France, where trachoma is infrequent. He then tells us how the United States, Canada, Mexico, and the South American States have enacted most stringent laws to exclude trachomatous aliens; so severe, indeed, are these measures that even an individual whose lids are scarred by healed trachoma is not admitted. The result is that the diseased are weeded out, first at the home ports, and then in America, and in most cases remain in France—and, we may add, in England—being herded together in the most squalid conditions, waiting for the cure which never comes, to enable them to join their compatriots in America. The result is a terrible danger of the diffusion of the infection at home. Beauvois has so far been unable to convince himself that at present trachoma is spreading from the alien to the indigenous race. He believes there is a special race proclivity, and that some nations are partially immune. Trachoma is a disease of poverty and squalor, and is most prevalent among the Jews, the Russians, and the Syrians and Egyptians. There is very probably some truth in this view; but unfortunately there are many exceptions. Europeans who go to live in Egypt and in Palestine occasionally contract trachoma of a severe type, and there is no doubt whatever that trachoma among the London children is far more common than it was twenty years ago, and yet their general health has improved and hygienic conditions are far better. The cause is quite obvious. The Aliens Immigration Act, never severe as regards trachoma, is now practically a dead letter. A flood of trachomatous aliens reach our shores, and many settle in our larger towns. The results of our policy make themselves evident in every large ophthalmic hospital in the country.

THE CORONER'S JURISDICTION.

AN instance of the curious extent of the jurisdiction of the ancient office of coroner was afforded by an inquiry held this week at Yeovil. The proceedings, which took place under an Act of Henry III, were to determine what a certain gold ornament found was, and by whom it was found; the jury solemnly decided that the article was an ancient British torque, that it was found by Henry Coles, and that the owner was unknown. Coles described how he found it surrounded by clay, and sold it to the Somerset Archæological Society for £40, and half its additional value, if any. The Curator of the Somerset County Museum said that the torque weighed 5 oz. 7½ dwt., was of purely British manufacture, and dated probably from five to eight centuries before the Christian era. To whom the torque belongs will have to be determined by the higher court, but if precedent be followed the Treasury, even if it establishes a claim to the ornament, will restore it to the local museum. Some years ago a very fine collection of Irish torques, which are thin gold plates shaped to the form of the crescent moon, and worn, there can be little doubt, round the neck, came into the possession of the British Museum, but a protest from Ireland led to the specimens being sent to Dublin, where they now form one of the most interesting parts of the national museum.

A NOTICE appeared in the *London Gazette* of August 17th stating that the Privy Council has approved for a further period of one year from September 30th, 1909, the rules framed by the Central Midwives Board in pursuance of Section 3 of the Midwives Act, 1902.

THE General Secretary of the International Medical Congress informs us that 3,000 members have already expressed their intention to be present, of whom 92 are citizens of the British Empire. The first number of the official journal of the Congress, which will be issued on August 28th, will contain the programme of fêtes and receptions; among these will be a ceremony of welcome and conversaziones given by the President of the Congress, the municipality of Buda-Pesth, and the ladies' committee. There will also be a reception at the Royal Hungarian Court, and the presidents of the twenty-one sections will hold conversaziones.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

State Sick Fund.—Mr. Leverton Harris asked the Chancellor of the Exchequer whether, in view of the fact that the Government was going to establish a sick fund and pay probably four millions towards it, and would give a million a year towards insurance against unemployment, he could say when legislation to give effect to these promises would be introduced. Mr. Hobhouse replied that no legislation of this kind would be introduced during the current session.

The Royal Commission on Sewage Treatment.—On Tuesday last Mr. Clough put a question as to the history and cost of this Commission, and Mr. John Burns replied that the Royal Commission held its first meeting on June 21st, 1898. There had been 93 formal meetings for taking

evidence, in addition to a large number of other sittings. Six reports had been issued in several volumes, varying in cost from a few pence to 14s. 9d. Up to July 31st last the total cost of the Commission was £57,578, including the net cost of stationery and printing, but excluding the cost of accommodation. He understood that it was hoped that the final report would be issued in the course of the next eighteen months, and that it was possible that in the meantime there might be a further report on standards for sewage effluents. He was informed that an estimate could not at present be framed of the further expenditure which might be required.

Frozen Meat from China.—Mr. Stanier asked the President of the Local Government Board if he could publish the report of the medical officer of health on the consignment of frozen meat landed by the Peninsular and Oriental steamer *Palermo* at the Royal Albert Docks from China. Mr. Burns replied that he had no doubt that the Medical Officer of Health for the City would ultimately deal with this matter in a report to the Sanitary Committee of the Corporation, which would be printed and issued in the usual way. No general report could be made for some time, as the carcasses would not be thawed and examined all at once, but only as they were required for trade purposes. So far less than 5 per cent. of them had been thawed and examined. Mr. Stanier further asked why a report could not be published at once as the medical officer was examining these carcasses, and Mr. Burns said that it was perfectly true that the Port Sanitary Medical Officer was making a close examination of these carcasses, and he had also instructed the Medical Inspector of the Local Government Board to pay special attention to this subject.

Tetra-chloride of Carbon as a Hair Wash.—In reply to Sir William Collins, the Home Secretary said that his attention had been called to the use of tetra-chloride of carbon as a hair wash; it was not a poison within the meaning of the Pharmacy Acts, and there were, therefore, no restrictions as to its sale. As regards the steps to be taken in the matter, he could only say that the Director of Public Prosecutions had the question of a prosecution now under his consideration.

Royal Army Medical Corps.—Mr. Ashley asked the Secretary of State for War what was the average time that captains and lieutenants of the Royal Army Medical Corps in the British Isles were left in a station without a move during the three years ending March 31st, 1909. Mr. Haldane said the statistics available at the War Office did not enable him to give the required information. The information existed no doubt in the various commands, but it would take a great deal of labour to get at it. Mr. Ashley then asked how many officers of the Royal Army Medical Corps on the active list were serving in the British Isles on March 31st last; how many of these officers, during the year ending March 31st last, received their full leave of sixty-one days; how many over one month, excluding those who were granted their full leave; and how many under one month. Mr. Haldane said that in reply to the first part of the question, the number was 518. As regards the rest of the question, the details of leave granted to officers were not recorded at the War Office. When further pressed he said that there was no record so far as he knew as to the exact amount of leave. If in every command the officer had a record of leave granted it might or might not be accurate. At any rate it would be an enormous trouble to get at it. In reply to a further question put by Mr. Ashley on Tuesday, Mr. Haldane said that 48 officers were serving at Dublin, Belfast, Cork, Kildare, and the Curragh on March 31st last. Of these, 6 had received their full leave, 21 had more than one month, and 21 had less than one month. Some of the last-mentioned had only recently joined the corps, and some officers had returned during the year from stations abroad, where they had already had the leave to which they were entitled.

Typhoid Carriers.—Sir William Collins asked the Secretary of State for War whether he would state what was the nature of the later treatment to which the soldiers treated at Millbank Hospital as typhoid carriers, on whom experimental methods with antityphoid injections had been made, had been submitted; and whether he would lay upon the table papers showing the results obtained by the various methods employed in these cases, in continuation of (Cd. 4609). Mr. Haldane answered that the later treatment alluded to consisted in treating the urinary cases with sodium benzoate and acid sodium phosphate. X-ray treatment was being tried in one of the intestinal cases with marked gall-bladder symptoms. It was yet too early to speak of results, but he would be prepared to lay papers on the subject at a later period.

Anthrax Cases.—Mr. Stanier asked the hon. member for South Somerset, as representing the President of the Board of Agriculture, if he could give the number of cases of anthrax in horses, cattle, sheep, and pigs respectively, reported in 1906, 1907, and 1908; and how many deaths occurred through these cases in human beings. Sir E. Strachey, in reply, gave the following table:

Number of Animals Reported as Attacked with Anthrax in Great Britain in the Years 1906, 1907, and 1908.

Years.	Cattle.	Sheep.	Swine.	Horses.
1906	999	83	213	35
1907	1,165	66	190	37
1908	1,107	34	220	58

He had no information as to the number of deaths of human beings attributable to the cases included in the table.

Sleeping Sickness.—Last week Mr. Rees asked whether measures were being taken to prevent the spread of sleeping sickness from German East Africa and the Congo to Northern Nyasaland. Colonel Seely replied that the further investigations which had been made since he answered a similar question on April 28th had failed to reveal the presence in Nyasaland of the tsetse fly which transmits the disease, and, in these circumstances, there appeared to be little risk of the disease spreading from German East Africa and the Congo to the Protectorate. The matter was being closely watched by the local authorities, and, should the occasion arise, they would no doubt take such preventive measures as were possible. In answer to Sir Gilbert Parker, Colonel Seely said that he was not sure whether a report on the whole question of sleeping sickness had been issued. A good many documents had been issued about this very important matter, but he did not know whether there had been one issued concerning Nyasaland. There had been several cases in Nyasaland. When a disease of this frightful character occurred in a district not very far from Nyasaland, sporadic cases might arise; but fortunately the investigations had proved that the tsetse fly, which was the only method of propagating the disease, did not exist in Nyasaland. Big game were not the only home of this particular fly. In answer to a further question last Monday, Colonel Seely said the relation between big game and tsetse fly in Central Africa was a much debated question. A strong committee had been recently appointed by the Colonial Secretary to organize entomological research in tropical Africa, and he had no doubt that this question, among others, would receive its earnest consideration.

Dublin Post Offices.—In reply to Mr. Nannetti, the Postmaster-General stated that the medical officer to the Post Office in Dublin had inspected the head office and each of the branch offices on several occasions within the past twelve months. No record was kept of the dates on which the medical officer did not attend personally at the head office. The medical officer attended regularly at this office, except when on leave or on the rare occasions when special circumstances necessitated his absence.

Scotland.

[From Our Special Correspondent.]

Ancient Monuments of Scotland.

The first Report of the Royal Commission on the Ancient and Historical Monuments of Scotland, just issued, contains an inventory of monuments and constructions in the County of Berwick. From an antiquarian and archaeological point of view it is a most interesting document. The Commission was appointed to make an inventory of the ancient and historical monuments and constructions connected with or illustrative of the contemporary culture, civilization, and conditions of life of the people in Scotland, from the earliest times to the year 1767, and to specify those which seemed most worthy of preservation. They chose Berwick as the first county on which to work, and found no fewer than 260 objects worthy of notice, of which number 70 had not previously been described. This year the Commissioners propose to review the monuments in the county of Sutherland, and if possible those in the county of Caithness.

The Commissioners acknowledge gratefully the help received from the clergy and schoolmasters of Berwickshire. A brief notice of some of the more important and historical monuments, many of which are closely associated with the history and fortunes of the Scottish people, may be interesting:

Ecclesiastical Structures.—Remains of four monastic establishments are noted: (1) The Abbey of Dryburgh, though much ruined, is distinguished by the fine transitional and first pointed details, and for the considerable remains of the conventual buildings. (2) The Priory of Coldingham is the successor of a much earlier structure. A portion of the church alone survives, a transitional building showing details of great beauty. (3) Of the Convent of Cistercian Nuns at Eccles only a mere fragment, of Norman and transitional style, is left. (4) The Priory of St. Bothan is represented by the east wall and by a portion of the north wall of the existing church, and also by the recumbent figure of a princess lying therein. There are remains of Norman churches in other parts of the county, many of them being perfect specimens of Scottish church architecture—mention may be made of Lady Kirk, Cockburnspath, and Lauder.

Castellated and *domestic remains*, though numerous, are mostly unimportant. Some houses of the seventeenth century are still inhabited, as, for example, Wedderlie, Thirlestane, and The Hirsel.

Prehistoric Remains.—(1) Defensive constructions on the ordnance survey maps are noted under the heading of forts. These, for purposes of observation, fall naturally into four geographical divisions: (1) Those in the vicinity of the coast; (2) those inland; (3) those in the hilly districts; (4) those that are occasionally to be found on isolated eminences or other defensible sites throughout the south-eastern or lowland half of the county. An enclosure on Ewieside Hill may be mentioned; it is surrounded by three ramparts, for the greater part in excellent preservation; it shows unusual features at the entrance to the interior. In the region around St. Abbs Head and Coldingham Loch lies a remarkable group, whereof the survival is no doubt due to the fact that many of the enclosures occupy the summits of small rocky eminences unsuitable for cultivation.

There are a remarkable series of enclosures beginning at Warlaw Hill and running along the ridge of Bunkle Edge. The most noteworthy among them is the fort at Preston Clench, surrounded on two sides by three ramparts, which here and there are 10 ft. to 12 ft. in height. In the third division of the county prehistoric defensive constructions are both numerous and important. The most conspicuous examples of these are Longcroft, containing numerous foundations; West Addiston, where the inner rampart on the north-west is still 17 ft. high, and at the entrance shows curious crescentic depressions traversing the roadway with circular foundations in the interior; Tullis Hill, a circular construction in good preservation, with a well-defined rampart of 12 ft. or 13 ft. high above the bottom of the ditch, and a stony rampart on the top of the counterscarp. The defensive enclosures in the southern half of the county are few and unimportant, and have suffered much from the plough.

2. *Sepulchral Constructions.*—Few of these remain intact, and the total number noted in the county is only ten. One of them, however, calls for very special remark—namely, the Long Cairn at Byrecleugh, known by the name of the Mutiny Stones. From its external features this appears to be representative of a type that frequently occurs in the north and west of Scotland in connexion with stone-age burials, but it is the only one of its class hitherto noted in the south-east. There is only one single stone circle in the county, that situated on the moor to the north of Lauder; it is of a large diameter, has the greatest number of its upright stones still *in situ*, and does not appear to have been excavated. Mention is made in the report of the earthhouse at Broomhouse. The entrance has been covered with earth for the preservation of the structure. The village cross at Cockburn's path is a handsome structure, bearing on the four faces of its capital alternately thistles and roses, and is kept in good repair.

Ireland.

[From Our Special Correspondents.]

The Tuberculosis Prevention (Ireland) Act.

A deputation of the Public Health Committee of the Belfast City Corporation, consisting of the Chairman (Alderman Dr. King Kerr, J.P.), the Vice-Chairman (Councillor Gageby), and Councillor Dr. Trimble, recently had an interview with the Local Government Board in Ireland regarding the adoption of this Act. The principal points dealt with were the compulsory notification of certain prescribed forms and the position to be occupied by the Medical Superintendent Officer of Health (Dr. Bailey) in the administration of the Act. The board said the medical officer would be supplied with ample powers to make himself thoroughly satisfied that the person notified as suffering from tuberculosis was likely to be a danger to others, and that everything was being done to prevent the spread of the disease. Subsequently the deputation had the honour of receiving a special invitation to lunch with Her Excellency Lady Aberdeen. At the meeting of the Public Health Committee on August 12th on the motion of Dr. King Kerr (Chairman), seconded by the Vice-Chairman, it was unanimously resolved to approve the adoption of Part I of the Tuberculosis Act.

Belfast Abattoir.

The necessity for providing a fully-equipped abattoir in Belfast has long been admitted by those responsible for the public health administration of the city. Before finally deciding upon detailed plans, a visit was paid by several members and officials of the Corporation to public abattoirs in Holland and Germany and to that which has been recently established in Islington. An interesting report has been issued, giving an account of the conditions which were found in Rotterdam, Hamburg, Berlin, Dresden, Cologne, and Islington, and, among other recommendations made to the Corporation in connexion with the proposed slaughterhouse, are the establishment of a fully-equipped laboratory for the veterinarian and his assistants; that power should be obtained to enforce the stamping or otherwise identifying all meat which has been passed by the inspector as fit for food, and that only men who have had instruction and experience in methods of slaughter should be allowed to kill, while provision should be made whereby a few capable men would slaughter for a moderate fee. This last recommendation appears to be the outcome of certain practical experiments made in the existing Belfast abattoir, in order to decide the respective merits of what the members of the committee who made the report describe as "stunning" and "shooting." The precise signification of these two terms is not quite clear; what we imagine is really meant is "poleaxing" and "shooting," for the results attained by the adoption of either of these methods is to stun. This being so, the different results arrived at when the two methods were

adopted in Belfast are difficult to understand. The flesh of the "shot" animal was said to bleed less readily, and to show signs of putrefaction twelve or fifteen hours before that of the "stunned" animal; on microscopic examination the blood vessels of the "shot" animal were gorged with blood corpuscles, while those of the "stunned" animal were perfectly emptied of blood. These results are not quite in accordance with those obtained by observers elsewhere. At the recent Animal Congress held in London, Herr Heiss, Director of the Straubing Abattoir, stated that, in the slaughterhouse there, 30,000 animals were killed by the shooting method in one year, and it is inconceivable that such a well-recognized authority should continue this system if attended by the drawbacks set out by the Belfast Committee.

Infected Clothing.

A curious question of sanitary law has arisen in County Tipperary. The Nenagh Urban Council has protested against the use of the disinfecting chamber of the workhouse by the Thurles Guardians to disinfect the clothing of fever patients from the last named union. The Nenagh Council having informed the Local Government Board that it would seize and burn all such clothing, the Board expressed the opinion that "no danger can arise if suitable precautions are taken," and warned the urban council that it should be careful to make certain that it had the power to seize or destroy clothing sent for disinfection.

England and Wales.

[From Our Special Correspondents.]

LANCASHIRE.

County of Lancaster Health Report.

In his quarterly health report for the administrative county of Lancaster, the Medical Officer, Dr. Sergeant, says that the death-rate for the quarter ending June 30th was 13.4 per 1,000. There was a somewhat marked increase in the epidemic death-rate compared with the same quarter last year. Measles contributed no less than 267 deaths, while there was a slightly increased prevalence of scarlet fever. Three cases of small-pox were reported. One case at Middleton and another at Farnworth occurred in persons working in the carding room of a cotton mill, both of whom had been vaccinated in infancy, but not revaccinated. These may be compared with the cases that have occurred at Stockport in cotton workers noticed in our last issue. The third case was an unvaccinated negro, and the origin of the infection could not be traced. Measles was extensively prevalent, and a considerable number of schools had to be closed. In some cases over 50 per cent. of the children were attacked. Several schools were closed also on account of mumps, in one instance 38 per cent. of the scholars being attacked. One school was closed for a month on account of diphtheria, and two or three for scarlet fever. Much attention has been given to river pollution by sewage, and the condition of the river Alt from sewage contamination apparently needs some drastic remedies. The report gives some interesting details of the public health legislation promoted by the Local Government Board. Objection is taken to the clause in the Milk and Dairies Bill which enables a medical officer of health to inspect a dairy outside his own district, and to make an interim order prohibiting the sale of the milk if there is reason to suspect that any cow is suffering from tuberculosis. It is pointed out that the County Councils Association recommended that no local authority should have jurisdiction within the area of any other local authority. It is suggested that it would be a less complicated procedure if the county council were required to take action in respect to any cowshed within its area on complaint from an outside medical officer of health concerning tuberculous milk. Dr. Sergeant also thinks that "a mistake has been introduced in continuing, except in large urban districts, the supervision of dairies and cowsheds by local sanitary authorities, for in the past such administration has not been satisfactory as regards efficiency or uniformity." Attention is also drawn to a new feature in the bill allowing certain sanitary authorities, not being rural districts, to establish and maintain dépôts for the sale of milk specially prepared for consumption by infants under two years of age.

The Midwives Act in Lancashire.

In his report to the Midwives Act Committee, Dr. Sergeant says that at the end of the June quarter the county register contained the names of 964 midwives whose qualifications were as follows: Obstetrical Society of London 70, Liverpool Lying-in Hospital 38, St. Mary's Hospitals, Manchester, 63; certificate by examination of the Central Midwives Board 72, various hospitals 4, and in bona fide practice before the appointed day 717. Of these 853 are actually practising, while 111 have temporarily, for various reasons, ceased to practice. There were 421 records of sending for medical assistance, against 415 in the corresponding quarter of last year. Of these, 11 were for abortions or abnormalities of pregnancy, 332 for difficulties during labour, 44 for complications in the lying-in period, and 34 for the infants. In only 3 cases was medical aid summoned for inflammation of the eyes of infants, and we are told that in no case was the midwife to blame. The number of cases of puerperal fever reported was 37, with 11 deaths, giving a case death-rate of 29.7 per cent. for the quarter; in several instances midwives were reprimanded or cautioned in connexion with puerperal fever cases, the offences consisting in delay in obtaining medical aid, failure to send record to the supervising authority, non-compliance with letter of suspension, etc. One of the lady inspectors reports that in the great majority of cases the midwives' bags and appliances were in a cleanly state and the registers well kept considering the standard of education of many of the "bona fide midwives," and it is said that "a large number of these women are really excellent practical midwives, though they have not the capacity to grasp the requirements of the rules as to keeping books and sending notices." Another inspector says that in some cases much ignorance is displayed and the work of many of the untrained midwives is still very rough. In one of the puerperal fever cases the perineum was badly ruptured and medical aid was not called in until the temperature rose several days later. In one case a midwife had attended a case of miscarriage without suggesting that medical aid should be called in, and the placenta was not expelled until a fortnight later.

WALES.

Shortage of Water.

While Swansea is on short service of water, and the inhabitants are bearing with commendable patience a condition of things which leaves them with only three hours' supply a day, the new reservoir at Cray is full to overflowing. At least the wide expanse of water which has been enclosed in the Cray watershed at a cost of £500,000 is only inches from the overflow, and out of its 1,000 million gallons' capacity there are more than 900 millions enclosed and available. The explanation of the shortage is as follows: Before the Cray reservoir was opened Swansea had three other reservoirs in the Velindre area. These provided the ordinary requirements of the town, but the necessities of the future required further provision. This the Cray supplies, and more than supplies; but it was not thought prudent to incur the expense of £100,000 in taking full advantage of the Cray till it was absolutely necessary. Thus, at first a pipe line of 17 in. diameter was laid between the reservoir and the town. This carries 2,500,000 gallons daily, which, with 3,000,000 gallons a day from the older reservoirs, would amply meet all requirements save in case of drought. But the present year is the driest since that year of drought 1887, and while the Cray is still sending down its 2,500,000 gallons daily, and can do so for a whole year if there is not another drop of rain, the older reservoirs have run dry. Thus it is that Swansea is suffering. The Swansea Corporation on August 12th paid a visit of inspection to the Cray Reservoir. The Mayor and Town Clerk were able

to report that the work of laying a second pipe track from the Cray is well in hand. This second line will be 24 in. in diameter, and will carry to Swansea 6,000,000 gallons in addition to the 2,500,000 gallons carried down by the existing pipes. The cost will be £100,000, and the work is being pushed on with such dispatch that, although it has only been in hand for a fortnight, already there are four openings along the route, and half a mile out of the twenty-four miles has been laid. So long as the fine weather prevails, it is expected that about three-quarters of a mile can be laid weekly.

There is practically a water famine at Burry Port also, and if the present drought continues the position will become serious. The inhabitants have been inconvenienced for some weeks past, and the supply at Clyndu appears to have been almost exhausted. Some time ago it was said to be plentiful, the flow of water in June last being about 10,000 gallons per twenty-four hours, but before the end of the month it dropped to 6,000, and in July it was only 4,000. At the present time it is not more than 2,000 gallons, and this is insufficient for the Graig district alone. Several parts of the district are supplied by the urban council water cart. Precautionary measures are being taken to tide over the drought. The position is engaging the serious attention of the council, which, although it has been endeavouring to find a scheme for some years, has not yet succeeded in doing so. Under the provisions of the Llanelly Water Bill, which was recently passed, power was given to the Llanelly Urban Council to lay mains to Burry Port upon application.

Sydney.

[FROM OUR SPECIAL CORRESPONDENT.]

PROGRESS OF CREMATION.

A CREMATION society has recently been established in Sydney with the Hon. Dr. Creed, a member of the Legislative Council, as President. He has addressed a letter to the Hon. C. G. Wade, the State Premier, setting forth the various arguments in favour of the adoption of this practice. In the course of this letter the writer remarks that:

> The health of the people is the most potent factor in the material prosperity of a country, and no government can prudently neglect to adopt any precautions, though possibly incomplete, which tend to its preservation. The State Government is therefore approached to provide the necessary funds for the erection of a crematorium, in a central position, because it would be available for all persons whose death occurs within a reasonable distance of the railway, and because the number of persons desiring to cremate in any one district might not, in the immediate future, be sufficiently great to justify the expenditure of the municipal funds, urgently required for other public purposes, in this direction. When the custom grows, as the experience of all highly civilized countries shows it will, future crematoria might be left to be provided by the local authority.

The Cremation Society recommends that when a crematorium is established no incineration shall take place unless the death is registered, the cause having been certified by a medical practitioner who has been in attendance on the deceased for at least forty-eight hours immediately prior to death, and that the reliability of the certificate has been confirmed by a second doctor, preferably a Government medical officer, who has made fitting inquiry. These certificates having been given and the death registered, a permit to cremate may be granted; such permit, should any suspicions circumstances be afterwards discovered, may be suspended by a stipendiary magistrate or police magistrate, until doubt as to the cause has been set aside, either by further inquiries or a *post-mortem* examination. In default of the medical certificates being forthcoming, no cremation shall take place until after the cause of death has been determined by *post-mortem* examination, except by the special leave of the Minister of Justice. This is to provide for cases of sudden death from obviously natural causes.

So far no reply to this communication has been forthcoming from the Government.

THE BUBONIC PLAGUE.

Two or three further sporadic cases of bubonic plague have occurred in the city. The Board of Health, through its President, Dr. Ashburton Thompson, has made an appeal to the citizens, and especially to those in occupation of business premises in the city, to co-operate earnestly in rendering their premises secure from infestation by rats. With one or two exceptions, all the cases of plague reported this year received the infection on business premises which were so imperfectly protected as to be infested with rats. The long experience of the health authorities goes to show that if the rats were kept outside the houses there would be no epidemic of plague. Unless the citizens do their part, the united efforts of the authorities cannot prevent the spread of contagion. The situation is one that is causing the health authorities much anxiety.

ROYAL PRINCE ALFRED HOSPITAL, SYDNEY.

The annual report of this institution was presented to a meeting of the subscribers last month. The number of beds available at present is 318, and the total number of in-patients treated during the year was 4,778, an increase of 225 on the year 1907. The total number of operations performed was 2,932 as compared with 2,912 in 1907. Professor Anderson Stuart, the Chairman of Directors, in commenting on some features of the report, pointed out that although the total number of patients treated was larger than in the previous year, the average daily number of patients in the wards was less. This was accounted for by the fact that the average stay of patients in the wards was less by one and one-fifth day than in the year 1907. This represented nearly 6,000 days of treatment altogether, and showed what an important thing it was not to keep patients longer than was absolutely necessary. The hospital staff had been increased by the appointment of an honorary pathological chemist and two honorary assistant pathologists, whose work was necessarily having a considerable effect upon the pathological department. The board of directors had been so impressed with the necessity for improving the facilities for work of this kind, that three further rooms had been made available for clinical-pathological work, and £325 was being spent upon the improved equipment of the department, which was being made one of the most complete south of the line. Reference was also made to the proposed transfer of patients from the Coast Hospital to this institution. Last year Sir Joseph Carruthers promised that the Government would remove the Coast Hospital general beds to the Royal Prince Alfred Hospital. The present Government, however, refused to ratify this arrangement, and the Board of Directors found themselves with 150 beds on hand all ready to receive patients, and patients clamouring for admission, but with no means to open the beds. During the past year the board had been in communication with the Minister with a view to the possible opening of 100 beds for the reception of the more important surgical and medical cases now sent to the Coast Hospital. The Government finally decided against this proposal, but promised to allow the directors to draw £ for £ subsidy on subscriptions and donations up to £5,500 a year instead of £4,000 a year as formerly. In consequence it was hoped to open 30 or 40 more beds at an estimated cost of from £45 to £50 a bed. The necessity for enlarging the Nurses' Home was referred to. The home was full, and nearly one-half of the nurses employed at the hospital were at present accommodated in unused wards and other parts of the hospital. There was an overdraft of £1,329 on the Nurses' Home, and a special committee had been appointed to take steps to clear off this debt.

HOSPITAL FOR CHRONIC CONSUMPTIVES.

In consequence of repeated representations to the Government on the necessity for making some better provision for the large number of cases of chronic consumption, a hospital has been erected at Waterfall, a site on the South Coast Railway line some twenty miles from Sydney. Only a part of the original plan has so far been completed, but accommodation for about 150 cases has been provided, and this number has been transferred from the Liverpool asylum, where all destitute chronic cases of pulmonary consumption have hitherto been accommodated. The erection of this new institution will be of immense benefit to the patients themselves as well as an important aid in the crusade against tuberculosis.

PURE FOOD ACT.

The Pure Food Act recently passed in this State comes into force on July 1st. The Advisory Committee appointed in terms of the Act has held sixteen meetings for the

purpose of setting up standards of quality, and is at present engaged in fixing the standard for milk and milk products. One feature of this new Act which is of special importance to doctors and pharmacists is that under it no chemist is to be allowed to repeat the dispensing of prescriptions containing certain drugs, such as opium and its derivatives, without a fresh initialling of the prescription by a doctor. The object of this provision is of course to try to check the drug habit, and to shield the chemist who refuses to dispense indefinitely prescriptions containing drugs which might lead to the patient acquiring a drug habit.

A Valuable Concession to Students.

The manager of the Orient Royal Mail line of steamers has offered to the Senate of the Sydney University three first-class return passages in favour of graduates of the university who desire to proceed to Europe for the purpose of continuing their studies. The object of the offer is stated to be to multiply the opportunities for education by travel, and the wish is expressed that the privilege will preferentially be conferred on graduates who though wishful to go to Europe are debarred from so doing by reason of the expense involved, rather than on the holders of any particular university distinction as such, or on graduates who are able to dispense with such assistance, and go in any case. The passages will be available during the months from May to September to Europe, and from March to July outwards from Europe, and the limit of time allowed for the return passage is three years. The Senate has expressed its thanks to the company for this very generous offer.

New Zealand.

Lunacy.

The annual report for the year 1907 of Dr. Frank Hay, Inspector-General of Mental Hospitals in New Zealand, shows that on December 31st, 1906, there were 3,206 certified insane on the register, and 3,240 on the corresponding date in 1907, giving an increase of only 34 for the year, as compared with 94 in 1906 and 89 for the previous ten years. These figures do not exactly represent the number in the mental hospitals, but include patients absent on probation, of whom there were 37 at the end of 1907. The proportion of total insane to total population was 33.15 per 10,000, or 1 in every 302, or, exclusive of Maoris, 34.47 per 10,000, or 1 in every 290 of population. This is the lowest ratio of insanity in the Dominion since 1900. Also in 1907 there was a sharp fall in the ratio of admissions to population, this dropped from 7.16 for 1906 to 6.39 per 10,000, the average for the previous ten years being 6.56 per 10,000. In his report for 1906, Dr. Hay discussed at considerable length the interesting fact that the incidence of insanity among immigrants is not only much greater than that of the European stock born in New Zealand, but considerably greater than the ratio of insanity obtaining in the countries from which the immigrants had come, giving due consideration to age periods. This year Dr. Hay is content merely to call attention to a fact which should be borne in mind when considering New Zealand's insanity rate. Incidentally, the high insanity rate of immigrants into New Zealand and the United States of America affords a curious commentary upon the views of those who maintain that the home countries are being depleted of their best stock by emigration, and who would thus explain their increasing insanity rates.

With regard to the nationalities of the 3,240 remaining on the register at the end of the year, and not counting 36 Maoris, only 1,054 were natives of New Zealand and 106 of Australian States. There were 823 of English, 612 of Irish, and 383 of Scottish birth. Other European countries contributed 130, China 21, and other countries 75. The total cases under care during the year numbered 3,906, and the average number daily resident 3,136.

Admissions.

During the year 700 were admitted, of whom 495 were first, and 205 not-first, admissions. Although the number of admissions was greater than that of 1906 (678), the ratio of first admissions to population was 5.04, as compared with 5.82 per 10,000 for 1906, or with the decennial average of 5.31. As to the duration of disorder on admission, in 304 the attacks were first attacks within three, and in 57 more within twelve months; in 136 not-first attacks within twelve months; in 162, whether first attacks or not, of more than twelve months, and in 28 of unknown duration. No table is furnished giving the forms of mental disorder among the admissions, but, regarding probable causation, alcohol or drug habit was assigned in 85, or 14.83 per cent., syphilis in 15, critical periods in 89, previous attacks in 71, epilepsy in 31, parturition and the puerperal state in 21, moral causes in 37, and the remainder were distributed over the other usually assigned causes. Hereditary influences or congenital defect were ascertained in 132—that is, in 23.01 per cent. of the admissions.

Discharges, Deaths, etc.

During the year 299 were discharged as recovered, giving a recovery-rate on the admissions of 49.67 per cent.; 50 as relieved, 85 as not improved, and 232 died. The deaths, giving a death-rate on the average numbers resident of 7.39 per cent., were due in 62 to cerebro-spinal diseases, including 19 deaths from general paralysis, or only 8.1 per cent. of the total deaths; in 33 to chest diseases (excluding phthisis); in 11 to abdominal diseases; in 8 to accident or violence; and in the remainder to general diseases, including 62 deaths from senile decay, and in 20, or only 8.6 per cent. of the total deaths, to tuberculosis. The high recovery-rate—notwithstanding a progressive increase in the proportion of aged admissions—and the comparatively low death-rate, particularly from general paralysis, dysentery, and tuberculosis, are all favourable features of this report. Dr. Hay shows, however, that the death-rate has been slowly increasing for some years, owing to the accumulation of aged people in the hospitals, the proportion of deaths from senile decay having risen from 6.58 in 1882-6 to 25.52 per cent. in 1907.

Cost.

The total yearly cost per head in the mental hospitals was £34 7s. 9½d., or, deducting repayments for maintenance, £26 14s. 6¼d.

Since Dr. Hay's last report a new Act has been passed which makes insanity, if deemed to be incurable and which has existed for ten years in the twelve preceding the file of the petition, ground for divorce. Dr. Hay regrets the passing of the Act from the standpoint of the patients. He says that it has been argued that it would tend to limit the procreation of the unfit; but that, in his opinion, "in so far as a serious attack upon heredity is expected to be one of the consequences of the Act, the Act is merely paring the nails of the monster." He points out that in the year under review 299 persons were discharged as recovered, and of this number, including 4 at the age of puberty, 256 were able to reproduce their kind, and of these only one unmarried man and one married Chinaman fulfilled the condition of having been insane for ten of the preceding twelve years. Dr. Hay thus emphasizes the nugatory character of the Act so far as heredity is concerned, and the probability of its exceedingly limited application. Possibly, however, the framers of the Act had no intention of combating the effects of heredity, and meant it to apply only to very exceptional cases.

Queensland.

Lunacy.

The annual report of Dr. James B. Hogg, Inspector of Asylums for Queensland, for the year 1907, shows that at the close of 1906 the total number of insane persons under the care of the State was 2,052, and on the last day of 1907 2,078, giving an increase for the year of 46, which is less by 10 than the average annual increase for the preceding ten years. The population at the end of 1907 was estimated at 546,467, the ratio of the insane to population being thus on that day 1 in every 262. Of the number remaining at the end of the year 9 were in the reception houses at Brisbane, Rockhampton, and Townsville, and 2,069 in the hospitals for the insane at Goodna, Ipswich, and Toowoomba. The total number of cases under care during the year was 2,373, and the average number daily resident 2,023. With regard to the nationality of those in the State hospitals at the end of the year, 634 were Australian, including 10 aborigines; 484 were natives of England and Wales, 531 of Ireland, 134 of Scotland, and 12 of other British possessions; 22 of other European

countries, 19 of India, 11 of China, and the small remainder belonged to America, Asia, and the Pacific.

Admissions.

During the year 344 were admitted to the State hospitals, 297 being first and 47 not-first admissions, being 17 less than in 1906. Notwithstanding a great increase in the population within recent years, the number of annual admissions, Dr. Hogg says, has been practically stationary. The admissions were classified according to the various forms of mental disorder into: Mania of all kinds, 120; melancholia of all kinds, 81; dementia, 105; general paralysis, 8; epileptic insanity, 21; and imbecility and idiocy, 9. As to causation, the principal of the assigned etiological factors were: Alcohol in 54, or 10.5 per cent.; venereal disease in 21, epilepsy in 19, old age in 17, previous attacks in 23, bodily ill-health in 19, and moral causes in 14. Hereditary influences were ascertained in 49, and congenital defect existed in 7, whilst in 89 no cause could be assigned.

Discharges, etc.

During the year 141 were discharged as recovered, giving a recovery-rate on the admission of 40.99 per cent., 30 as relieved, 3 as not improved, and 1 escaped. During the year 129 died, giving a death-rate on the average numbers resident of 6.38 per cent. The deaths were due in 31 to cerebro-spinal diseases, including 10 from general paralysis; in 54 to chest diseases, including 9 deaths from pulmonary tuberculosis and 21 from pneumonia; in 29 to abdominal diseases; in 11 to general diseases, including 7 from senile decay; and in 4 to accident, including 1 death under chloroform anaesthesia.

Cost.

The cost of each patient per year, after deducting collections, was £21 11s. 7d., or approximately 8s. 3¼d. per head per week.

Reception Houses.

One of these houses is situated at the coastal end of the three main trunk lines of railway, so as to intercept patients and, by timely treatment, save their admission to the hospital. About one-seventh of the patients annually admitted to the houses are discharged after treatment, the remainder being sent to Goodna.

On January 1st, 1907, there were 5 patients in the houses; during the year 250 were admitted, of whom 36 were discharged, 206 transferred to Goodna, and 2 died, leaving 9 in the houses on the last day of the year. Of those admitted 155 were cases of mania, 19 of melancholia, 60 of dementia, 10 of delirium tremens, and 3 each of imbecility and epileptic insanity.

MEDICAL LEGISLATION.

We learn from the *Australasian Medical Gazette* that a deputation from the Queensland Medical Board and the Queensland Branch of the British Medical Association waited upon the Home Secretary in Brisbane recently to urge the importance of the passage of a new medical bill by the legislature. The principal provisions of the bill are the raising of the minimum training required for registration to five years instead of three, as fixed in 1867; the obtaining of power to remove from the *Register* the name of any man convicted of crime, and to charge a fee of five guineas for registration so as to provide the necessary funds for administration. These points were all approved of by the Chief Secretary, and he suggested that the bill might be introduced in the Legislative Council and he would take charge of it in the Assembly. He was prepared further to advise that a small sum should be paid from the consolidated revenue to supplement the funds of the Board to enable it to administer the Act with efficiency.

Special Correspondence.

VIENNA.

Deaths of eminent Physicians.—Abnormalities of Weather. —Warnings as regards Anaesthesia.

THE Medical Faculty of the Vienna University has within a short time suffered the loss of three eminent men who occupied a prominent position amongst their comrades. The eldest was Professor Augustus Vogl, Ritter von Fernheim, Professor of Pharmacology and Pharmacognosy in Vienna, who died aged 75, after forty years of teaching, and when he had attained the highest distinction a medical man can reach in the faculty—Rector of the University and President of the Chief Board of Health of Austria. He was the pioneer of modern research in his branch; the number of his pupils working on the lines laid down by him is a very large one, and they are scattered all over Europe and America, and even in China and Japan. The other professor, who shortly afterwards passed away, was Dr. G. C. Lott. Professor of Gynaecology and Obstetrics. He was well known as the author of many writings on important anatomical and histological points of the female genito-urinary organs. Knowledge of the pathology of the lower uterine segment, so important in determining when active interference is necessary in labour, is mainly due to his researches. He was a self-made man, who had to struggle hard when beginning his career, but by force of energy and tact, as well as by his knowledge, he gradually gained a very influential position. He died at the age of 66 years. The third in the series is Dr. Alfons von Rosthorn, likewise Professor of Gynaecology and Obstetrics. He was appointed successor to Chrobak only in 1907, and during the short time of his directorship of the clinic he has shown himself to be a splendid surgeon and an unusually gifted teacher. He was only 52 years of age; he had obtained the "Venia legendi" nineteen years ago, and was appointed professor of his speciality in Prague in 1898. Thence he was called to Graz, later to Heidelberg, and his scientific and personal achievements prompted the faculty to select him to succeed the famous Professor Chrobak on his retirement. He was the first man to take over the new clinics, the pride of the Vienna hospitals, but it was not his fate to enjoy for many years work in this palace of research. An attack of angina pectoris caused heart failure, and he succumbed to it whilst out on a shooting tour, his favourite recreation.

The abnormal weather conditions that have prevailed in this country for more than a year have had a marked effect upon the reports of the Board of Health as regards morbidity and mortality among the population. Thus, whilst the winter of 1908–9 was unusually dry and cold—Vienna has suffered severely under a water famine in winter time—spring and summer have already not only made up for the deficiency of rainfall, but have even far surpassed their normal figure. The amount of sunshine has been, on the other hand, exceedingly low; March and April have had 30 per cent. less hours of sunshine than the average of the last 115 years, and, whilst May was nearly normal, June had 24 per cent. less, July 56 per cent. less than is due to them. The number of hours of sunshine in July was 123 out of a possible 368. The result is visible in the returns of agricultural labour, and in the absence of diseases of the intestinal organs, especially amongst children. Rheumatic and other "refrigeratory" diseases (affections of the respiratory organs) are, however, increasing, also infective fevers; but still the public health is much better than usual in summer time. The reports from health resorts coincide also in this respect. The practitioners agree in their assertions that the financial aspects of the summer are much worse than in other years owing to the favourable conditions of health. Perhaps the actual influence of the lack of sunshine will show itself a few weeks later.

Several unpleasant occurrences during anaesthesia, coupled with the news of fatal issues of a similar nature abroad, have found their way into the lay press and caused much comment in this country. Partly to reassure the public, partly to call the attention of the profession to the dangers, the "Oberste Sanitätsrath" (Chief Board of Health) has issued an instruction to all hospitals and out-patient departments to have each patient specially examined before putting him under the influence of an anaesthetic. General anaesthesia is to be resorted to only when absolutely necessary. In all other cases, local or partial anaesthesia should be preferred. Surgeons have also been reminded of their responsibility during operation, and special clauses deal with the person who is entitled to administer the anaesthetic. Thus, under no condition may the same doctor anaesthetize and operate on a patient, and the profession is earnestly requested to allow only fully qualified men to do this kind of work. Special classes for students are to be instituted, and the purity of the chemicals is to be ascertained before allowing them to be used. As a rule, the public submit here easily to general narcosis, but the articles in the press have already effected a change in the attitude of the hospital patients.

Correspondence.

THE REPORTS OF THE POOR LAW COMMISSIONERS.

Sir,—I think the concluding section (12) of Chapter 6 of the Minority Report deserves the closest scrutiny of the profession:

"That we do not agree with the suggestion that the establishment of a unified medical service on public health lines necessarily involves the gratuitous provision of medical treatment to all applicants. It is clear that in the public interest neither the promptitude nor the efficiency of the medical treatment must be in any way limited by considerations of whether the patients can or should repay the cost. But we see no reason why Parliament should not embody in a clear and consistent code definite rules of chargeability either relating to the treatment of all diseases, or of all but those specifically named, and of recovery of the charge thus made from all patients who are able to pay. In our chapter on 'The Scheme of Reform,' we propose new machinery for automatically making and recovering all such charges that Parliament may from time to time impose."

While admitting that a much closer approximation of the Poor Law and Sanitary Medical Services might not necessarily involve a gratuitous provision of medical treatment to all applicants, the more the dominant ideas of the Minority Commissioners are considered and their reasoning dissected, the more difficult it becomes to imagine anything but gratuitous medical attendance for all applicants among the poorer classes. It would be hard to deny that it is for the public interest that neither the promptitude nor the efficiency of medical treatment should be limited by the cost; but, as in the case of more than 50 per cent. of the working and lower middle classes of the country it is to be feared the cost does materially affect these points, it is not illogical to suppose that if among the population generally cost is not to interfere with the promptitude and efficiency of medical treatment, the State would be put to rather heavy charges. Indeed, without the socialization of the greater part of the medical profession, such a consummation might seem to many impossible.

Even with a State medical service of the true Socialist type some might object that the "promptitude" and "efficiency" would not necessarily be better than under the present system. If the Minority Commissioners have in their minds that this "promptitude" and "efficiency" at the State expense is only to apply to a limited class denominated "poor persons," they give no idea how the line is to be drawn; and it might be fairly asked why the lower classes of the nation should get their medical attendance with greater "promptitude" and "efficiency" than the class immediately above them, or why the latter, if it thinks fit, should not "qualify" for this "promptitude" and "efficiency" by endeavouring to enroll themselves in the class beneath. If they did I can see no insurmountable obstacles in the "scheme of reform" to prevent this from taking place.

Even if Parliament were to embody in a clear and consistent code definite rules of chargeability it does not seem to me necessarily to follow that the State would be able to recover more than a small fraction of what it had advanced to improper recipients. The present law with regard to the recovery of ordinary debts in the county courts of the country is neither wanting in clearness nor consistency; but I know too well from experience that it is often of little use to me in recovering ordinary professional charges from many who, I have very good reason to believe, can well afford to pay. The State might be better able to recover debts than a private suitor, but I do not think experience quite bears it out. The Minority Commissioners only propose that charges should be recovered from those "able to pay," and it is to be presumed that the "clear and consistent code" would accurately define that class. I think most medical practitioners in large centres of working-class populations will agree with me that many of their patients from whom they have hitherto derived the bulk of their incomes would have no insuperable difficulty in supporting a plea of inability to pay which the State might find exceedingly hard to refute.—I am, etc.,

London, E.C., August 7th. Major Greenwood.

A RATIONAL PUERPERIUM.

Sir,—Will you allow me to make a few remarks on an article entitled "A Plea for a Rational Puerperium" (August 7th, p. 307)? For almost a year now I have been acting in the way this article suggests, and I can corroborate in all details the conclusions arrived at and the benefit derived by the patients. I did not adopt this line of treatment—or, rather, I should prefer to call it the care and attention incident on parturition—until I had sufficient reason to justify me in relinquishing what is to my mind an antiquated and erroneous doctrine—namely, nine, fourteen, or twenty-one days' confinement to bed following childbirth. The population in Ireland numbers over four millions. Of this number probably two millions are monetarily unable to pay a fee to any medical man for attendance at that time, so they come under the care of the dispensary nurse. This portion of the population has been and continues to be the most prolific, or at all events the number of children per family is larger than in any other part of the United Kingdom. And yet we find that amongst this class of the people it is customary to remain not more than three days in bed, or even less, after childbirth, in fact I understand that in training nurses, the bodies issuing certificates direct nurses to attend extern cases for six days if required; why not more if the powers that be act up to the principles enunciated so long ago and still regarded as essential?

In respect to this section who cannot afford to give a fee, we find that in Dublin there are two special hospitals—the Rotunda and the Coombe—to meet the requirements of the middle, south, and west of this country, and the Samaritan Hospital in Belfast, where the Poor Law class from the north are admitted on payment of a fee by the local authority who sends patients.

How can this meagre hospital accommodation meet the needs of the poor if so many cases of flexion, procidentia, and other sequelae, as is claimed, occur when the care of the puerperium is limited to three or four days?

The other side of the picture shows the number of "homes" opened for the reception of patients in Dublin and Belfast, and the number of specialists who can eke out a very respectable existence in this branch of medicine. Surely, if the nine, fourteen, or twenty-one day authorities could show that the number of "homes" was unnecessary for the care of the better class, who carry out the empiricism of the puerperium, then we could accept their teaching; but such is evidently not the case when attention is directed to the statistical side of the question.

I may add that I have had no unsatisfactory results, and all my patients are well pleased and delighted at escaping from the irksomeness of this hitherto trying period.—I am, etc.,

Armagh, Aug. 10th. Hampton A. Gray.

"HOME CONDITIONS AND EYESIGHT."

Sir,—I should like to call Professor Karl Pearson's attention to an investigation on myopia in school children recently published by Professor Straub of Amsterdam.[1] In all, 10,278 eyes were examined by retinoscopy. The children came from four classes of public elementary schools: (1) Where the parents pay at most 1d. a week, and where the children do no home lessons, and are not prepared for continuation schools; (2) schools where the parents pay about 4d. a week, a few children being prepared for continuation schools, but no home lessons being exacted; (3) schools where the parents pay £2 to £5 a year; and (4) where they pay £7 10s. a year. In both these latter classes of schools home lessons are set. Many of the children attending the third class of school, and practically all attending the fourth class, pass on to continuation schools, and have to go in for examinations. These four classes of schools, therefore, form an ascending scale in respect of the amount of book-work required. Straub's statistics show that there is a corresponding ascending scale in the growth of myopia among the

[1] V. Graefe's *Archiv für Ophthalmologie*, vol. lxx, part I.

children of the same ages attending them. Here is his table:

Schools.	6-7 years.			8-9 years.		
	No. of Eyes.	Myopic Eyes.	Per-centage.	No. of Eyes.	Myopic Eyes.	Per-centage.
1st Class	1,445	19	1.3	1,570	34	2.1
2nd Class	420	2	0.4	424	5	1.1
3rd Class	492	2	0.4	568	18	3
4th Class	513	2	0.6	287	13	4.5
	10-11 years.			12-13 years.		
1st Class	1,244	34	2.7	743	29	3.9
2nd Class	431	12	2.7	285	18	6.3
3rd Class	550	29	5.2	443	38	8.5
4th Class	322	30	9.3	263	25	9.5

It will be seen that, with one exception, the prevalence of myopia corresponds to the amount of book-work to which the children's eyes have been subjected. The exception is that up till the age of 10 the poorest class of children include an undue proportion of myopes. This is explained by the fact that cases of infantile myopia are relatively common among the poor. They can obviously have nothing to do with school work, and are generally associated with a strong hereditary tendency. The figures prove that for the ordinary form of myopia school work, and especially home lessons, are largely responsible, though no one would deny that heredity is also a factor. It is one, however, which the public authority is powerless to influence, whereas in school conditions directly, and in home conditions indirectly, its influence is great. Professor Pearson disclaims the wish to discourage attempts to check the intensification of myopia in the schools. I am afraid that his arguments, if they were accepted, would have just that tendency.—I am, etc.,

A. HUGH THOMPSON, M.A., M.D.

RADIOGRAPHERS AND TREATMENT.

SIR,—With the advent of radiography and radiotherapeutics a new class of specialist has arisen, specially expert in radiographic diagnosis and in the treatment of such diseases as are benefited by exposure to *x* rays, radium, Finsen light, etc., and most important hospitals now have medical men on the honorary staff who devote themselves to these special subjects. These appointments being of comparatively recent date, however, the exact relationship that should exist between these experts and their colleagues on the honorary medical and surgical staffs has not in some cases been fully determined, and a pronouncement by the BRITISH MEDICAL JOURNAL as to what the relationship should be would be of great value. Of course it goes without saying that in this, as in all professional relationships, mutual courtesy and consideration for each other and for the welfare of the patient should be the rule and guide of conduct. But difficulties arise occasionally which are apt to cause a little friction. For instance, cases are sent from the medical and surgical wards for *x*-ray examination. What is the proper course for the radiographer to adopt? Is he to make a screen or skiagraphic examination and send a written report, giving concisely an account of the conditions he has observed as the result of his examination, and also his diagnosis?

This would seem the more reasonable course to pursue, more especially seeing that the screen examination is frequently more instructive than a skiagram, and is also the part of the examination which cannot be communicated to another otherwise than verbally. Some surgeons and physicians, however, look upon the radiographer as a sort of superior bottle-washer, and resent his report and diagnosis, requiring only a skiagram from which they hope to draw their own conclusions. This attitude would seem unreasonable for various reasons: first, because the interpretation of a skiagram is a matter requiring as much, if not more, experience and expert knowledge as, say, the interpretation of the appearances seen by ophthalmoscopic examination of the fundus oculi; and this expert knowledge is much more likely to be present with the radiographer than with the surgeon or physician, who examines a mere fraction of the number of skiagrams the radiographer does; and, secondly, because in many cases only the person who takes a skiagram and knows the relative positions of tube, patient, and photographic plate at the time of exposure can possibly read it aright.

Then, again, with regard to radio-therapeutics, when a patient is sent to the radio-therapist, from one of his medical or surgical colleagues, for treatment, should the former, who has usually most expert knowledge on the subject, have the case handed over to him to treat according to his own discretion, as, say, a surgeon has, when a case is transferred from the medical to the surgical wards, or should he receive his instructions for treatment from his medical or surgical colleague, who sends the case to the electro-therapeutic department for treatment, and who often has but a very hazy knowledge of the treatment?

These are matters which require clearing up.—I am, etc.,

August 4th. RADIOLOGIST.

SIR,—The general practitioner is groaning under the opposition of hospitals in London, but at the same time he should remember that the medical men attached to hospitals are in thorough sympathy with him. The want of union between medical men is shown in its worst light by the way they send their patients to instrument makers and chemists to have *x*-ray photographs made, while they avoid sending them to the medical men who are engaged every day at hospital at that work. The instrument makers and large chemists have found in some cases that it pays them better to hand on the patients sent to them to an independent layman in order to have *x*-ray photographs made. This, of course, is a business transaction, and commission is required by the wholesale chemist or instrument maker, so that no qualified *x*-ray worker gets any of these cases. They also go to those *x*-ray workers who advertise in doctors' diaries. The qualified *x*-ray worker, of course, cannot advertise, and the general practitioner thus may not know to whom to send his patient. There is, however, no need for him to have any doubt about that, as nearly every hospital has an *x*-ray department, and the medical officer in charge of it is ready to welcome a patient in private for *x* rays. The lay *x*-ray workers are usually expert photographers, and frequently turn out triumphs of photographic art. These are in every case prints; such prints, except for gross fractures, are valueless. The temptation to an expert photographer to improve the shadows he gets on his plate must be very great. He knows how to touch up, whereas the medical man does not, and therein lies a safeguard to the patient. The writer has seen these touched-up prints more than once, and while admiring the photographic skill displayed has felt sorry for the patient. The last one he saw was a hip-joint in which the roughened edges of osteoarthritis had been beautifully removed and an apparently normal joint shown, while a skiagram which he himself took showed a typical osteoarthritic joint.

The general practitioner is not, however, the only one who sends his patient to a layman. The staff of a hospital would be expected to support their own *x*-ray worker; yet very often they pass him over and a layman takes his place.

I enclose my card.—I am, etc.,

X RAYS.

THE PROFESSION AND THE STATE.

SIR,—DR. Williams's letter (BRITISH MEDICAL JOURNAL, July 10th, p. 110) is well-timed. It is quite useless as well as unpatriotic to urge a private interest against a public benefit.

The true cause of all this bickering and heaping up of grievances is, as I have pointed out before, the unequal pressure on the profession of the law of supply and demand. If there were not too many of us for the requirements (or at any rate the resources) of the population, we should

hear nothing of reduction of vaccination fees, disputes with guardians, clubs, and postmasters-general. With plenty of work we should simply decline underpaid contracts, and cease to tumble over each other to reach the illusory gold mine. "One who has Suffered," for instance, with scope to increase his practice in other directions, would meet his employer with a simple *non possumus*. As it is, I presume the presence of a rival not fully employed forces him to submit to the increase of work without extra remuneration, the ignominy and cruel hardships he laments.

Why does the law of supply and demand press unduly on our profession? Again our own fault. We make a show of being a greater success than we are. With unphilosophical adherence to the dictum of this mammon-worshipping age that success in money-getting is the true standard of ability, we pretend to have work though all our actions cry loudly the reverse. Has one ever heard of a medical man (outside one's own private acquaintance) who was not "getting on splendidly"? Yet for every wretchedly-paid appointment there are scores of eager, and even unscrupulous, applicants.

So the students pour in to qualify to share the rich rewards of medical practice, to find later on that "the unorganized medical profession (unorganized because organization is impossible among the unemployed) is being crushed and tyrannized over to meet the demands of organized labour"; to find also that in spite of appearances and of what their teachers tell them, there is no effective demand for more doctors, and to realize that the struggle for a mere existence must take precedence of the humanity-serving ideal.

Of course the plight of the medical profession is but a phase of the general unemployment problem that affects all the workers of the nation. There are not really too many doctors for the needs of the people, any more than there are too many bootmakers, but only more than the people have money to support; but I think that the foregoing is the reason why the disease of unemployment, gradually extending from one class of worker to another, has reached the doctors rather earlier than the other professions.

The investigation now proceeding in the JOURNAL into the actual conditions of medical practice would be productive of real benefit to the profession if the information it elicits could be widely diffused among the public from whom the profession is recruited; and the letters of the Lancashire Division to head masters of public schools were also a move in the right direction. Give us a little ease in the competition for a livelihood, and all grievances will right themselves. Complaints and disputes are only useful in so far as they enlighten the middle-class public as to the disadvantages under which the profession labours from overstocking.—I am, etc.,

OVERCROWDED.

THE DOCTOR AS A PHILANTHROPIST.

SIR,—As one who has lived in Australasia for many years, I should like to express my opinion of the present position of the profession in England and its cause.

I have always been in the happy position of being able to refuse all contract work, and to refuse to reduce my fees unless just cause was shown for doing so; as a result I always earned a comfortable living and more, at fees from 15 per cent. to 25 per cent. more than my neighbours who were prepared to cut fees to catch work. My experience of accidents has been that, unless the patient was known to me in a "street" accident, I never yet received a fee; therefore, I persistently refused to go out when called unless to the patient's own house if he was unknown to me, and never to a "street" accident. I have travelled much, and make a rule of charging all those who request my services, unless I am ship's surgeon, and find that the fees are forthcoming without comment, but are "never offered voluntarily."

I find the position of medical men in England far worse than it was sixteen years ago, and, though an apparent rise in fees has taken place, the actual rise is not in the same proportion as the rise in the cost of living, which I should put at 25 per cent.

The position of medical men to-day is simply due to insane competition. I daily see examples of what men are prepared to do for so-called charity, but which is really a means of advertisement.

The advice given to a young man is always, Start with the poor, and be content to work for nothing at first. This advice has been adopted so as to include attendance on any one who is mean-spirited enough to accept it, who can pay for their attendance by sending paying patients and "recommend the doctor."

It is this so-called charity that lowers the profession and has degraded it in the eyes of the public. I have frequently in Australia been threatened with an appeal to the police when I have refused to attend some well-to-do working man who systematically swindled every one, but I never heard of him lacking attendance and medicine.

There is a hospital near here with fourteen beds and no out-patient department; there are twelve honorary medical officers, and the board wish to add to the number; there are plenty of applicants. If a comparison between the salaries offered to town clerks, secretaries of boards, and other positions requiring little more than a clerical training be compared with the salaries offered for fully qualified medical men the disproportion is enormous. A member of my own family is now earning £450 per annum whose sole qualification for the post was a knowledge of drill for school children, whereas I should find it difficult to earn more than £300 a year examining these same children under the new Act.

It seems to me that if the profession is entered by men who are prepared to work for the ridiculous fees with which they are discontented, they only have themselves to blame.

Charity is very well in its proper place, but to say that the charity of the medical profession of to-day is anything but mainly compulsory owing to the degraded value of the profession in the eyes of the public is absurd, and the degradation is due to the action of the profession itself. Apart from the awful wastage of life and health that occurs in those who enter the profession, from the commencement of their student days, the life of incessant drudgery for most and the "on-the-end-of-a-string" existence demands high recompense.

That old saying about the noble profession and the miserable trade is all very well, but my experience is that unless the profession learn also that the labourer is worthy of his hire, they will continue to be slaves to a dread of the opinion of a public which has learnt to despise the profession as a pack of fools.

I wonder, too, whether the public appreciate that it is a law of commerce that you can only buy a certain value for a certain price.—I am, etc.,

ANGLO-COLONIAL.

THE PROFESSION AND POLITICS.

SIR,—Under the heading of "The Postmaster-General and our Profession," "Observer" raises a point of vital interest to the medical profession. He speaks of the "Utopian notions as to the objection to the profession using its vote to advance its own selfish interests." Are the interests of the profession selfish? I think not. If these interests are neglected good men will not care to enter the ranks, and this would in itself be a loss to the nation. Again, are not the so-called *selfish* interests the interests of the next generation of medical men? Are we not to consider them? Is it not selfish of us, for fear of being considered ourselves selfish, neglecting those who follow on? As a profession we are too fond of taking a back seat, as the saying is. In many countries the medical men are often great leaders in the political world, and I contend that should be the case here. We have through our work a vast knowledge of the lives of the people, of their wants, of their work, and yet year after year our noble profession neglects a most sacred duty by not taking an active part as a whole in, at any rate, the domestic politics of the nation. Is there a single member of Parliament (non-medical) who knows the lives of his constituents as well as any practitioner in the district? Is there any clergyman who has as intimate knowledge of the needs, social and physical, of his parishioners as the general practitioner who works amongst them? The needs of the community at large, both rich and poor, physical, moral, and social, are known better to the doctors than to any other class of men. Are we always

to content ourselves with giving advice to one here and there, and collecting our fees, and giving a few subscriptions to churches and children's outings? Are we never going to join hands and become prominent in politics, bringing our great knowledge of the nation to aid in the counsels of the Legislature?

Is it not a matter of shame that we have no "Minister of Public Health"? And yet the most powerful body of men in the world, if they only would realize it, is not represented by one of the heads of the State.

The attitude of most medical men towards politics was summed up by a picture in *Punch*, when the doctor informed his patient that his politics depended on who he was attending. Is not this selfish? hiding our political opinions in a politic manner for fear of losing a few guineas.

We have a Labour Party in Parliament. Why not a Medical Party? It would have much to do even in its own department—the ambulance arrangements throughout the country in many big towns are a disgrace to a civilized nation, civil pensions of eminent medical men, administration and enforcement of Food and Drug Acts, housing of the poor, physical education of children, development and encouragement of "back to the land" schemes, garden cities, Factories Acts, miners and eight-hour day, child labour, temperance questions.

These and other political matters it is the duty of the medical men of the present day to take an active part in, even if it means a slight pecuniary loss.—I am, etc.,

Leytonstone, Aug. 15th. ARTHUR TODD-WHITE.

CHARGE FOR MEDICINES AND DRESSINGS AT HOSPITALS.

SIR,—It might be replied to those who raise objection to payment from out-patients that these are the first steps towards contributory payments, as the rule, for all but extreme paupers. Had a professional man and not a director or banker invented the plan in force at the London Hospital and elsewhere, he would have put it differently. He would have said to the out-patients, "This small contribution will show (1) that you are not paupers, and (2) that you are grateful to the doctors for their skilful advice. You can have the needful medicine for nothing. The amount of your payments will be given, nine-tenths to the funds of the hospital, and one-tenth to Epsom College and the British Benevolent Fund."

Allowing, however, that it is permissible to charge for medicine, there is another way. A few weeks ago the report of a provident dispensary came into my hands. There is a contributory payment of one penny a week from every patient, which all goes to the doctors. The doctor writes a prescription and the patient takes it to one of three local chemists. The cost of this with all expenses of administration is defrayed by voluntary subscriptions. I would like also to refer to a correspondence on the question, Whether as a measure of hospital reform if no medicines, but prescriptions, were handed to out-patients, ordinary pharmaceutical chemists would undertake the work. This appeared in the *Pharmaceutical Journal* of April and May. I am of opinion that the road to reform lies in this direction, which would appear from that correspondence to be quite practicable from the chemists' standpoint.—I am, etc.

Kensington, August 7th. G. CRICHTON, M.D.

THE DANGER OF FLIES.

SIR,—I have long been convinced that the *Musca domestica* plays a vastly more important part in the dissemination and propagation of pulmonary tuberculosis than is usually suspected. Spillman and Haushalter of Nancy have recently published some striking evidence in support of the contention that phthisis may be contracted from the house fly. They made a very large number of experiments with and examinations of flies caught in the rooms of consumptive invalids, and in the ward of a hospital where tuberculous patients were under treatment. Living tubercle bacilli were found not only in the bodies of the insects, but also in fly specks and excremental matter scraped and collected from the windows and walls. It is very certain that this microbe-laden material, when reduced to the form of dust, would have no difficulty in finding entrance to the human system through both respiratory and alimentary tracts. I should here like to place on record an experience that occurred in my practice a short time back.

On visiting a sick cottager I found the bedroom infested with flies; it was an ordeal to remain in the apartment more than a few minutes. The patient was suffering from a mammary abscess which had burst, and which the nurse in attendance was treating with applications of pledgets of lint dipped in "sanitas." On leaving the cottage the nurse asked me if I could suggest anything for getting rid of the flies, and I told her to spray the walls, ceiling, floor, and furniture freely with sanitas. When I visited the case a few days later not one fly could be seen in the sick room. Probably *propter* as well as *post hoc* may be inferred in the clearance effected.—I am, etc.,

July 27th. MEDICUS.

ARYLARSONATE TREATMENT OF SYPHILIS.

SIR,—Colonel Lambkin in his interesting paper on the arylarsonate treatment of syphilis, in the BRITISH MEDICAL JOURNAL, August 14th, p. 380, recommends in certain cases the simultaneous use of mercury and the arylarsonates.

It has been stated by Professor Hallopeau of the St. Louis Hospital, Paris,[1] that corrosive sublimate dissociates atoxyl. Were the two drugs administered simultaneously this might give rise to accidents. He advocated, before beginning mercurial treatment, to wait fifteen days until the atoxyl was eliminated from the system.

I have for several years used mercury perchloride, $\frac{1}{12}$ grain three times a day, as the routine treatment for cases of syphilis, and I expect there are a good many others who follow a similar course, preferring a soluble mercurial salt to an insoluble one. It would therefore be important and useful to know whether the more recent arylarsonate preparations, namely, soamin and arsacetin, are not affected in the same way as atoxyl by corrosive sublimate.

It may not be out of place to add a few words on the small experience I have had in the use of atoxyl. By itself this drug does not seem to have any material effect on the early secondary manifestations of the disease, nor do injections of the drug prevent the onset of secondary symptoms, as stated by Professor Metchnikoff at the Berlin Medical Congress in 1907. The fact that it produced unpleasant symptoms in one of my cases (headache, dizziness of vision, numbness and pain in the arms and legs), and the published reports of cases of optic atrophy following its administration, caused me to abandon its use.

The papers read by Colonel Lambkin and Major French indicate that the newer preparations are more stable and constant in composition, and therefore less liable to cause untoward accidents.—I am, etc.,

FERNAND L. DE VERTEUIL,
M.D. (Edin.), M.R.C.S., L.R.C.P., Surgeon R.N.

Sheerness, August 16th.

*** Soamin and atoxyl are two names for the same drug. (See BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 370.)

CANCER RESEARCH.

SIR,—Dr. Drage still does not seem to wish to understand that the principle I advocated of regulating treatment by the blood count has nothing to do with sodium cinnamate, though, as he is evidently aware that the count is not very materially altered by its use, I am surprised at his saying that I have been inspired by him.

The three drugs mentioned are not of necessity incompatible, and there is more than one way of mixing them.

To make it, I hope, quite clear, the principle I advocated was to try and rectify the condition of the blood cells and haemoglobin known to be caused by cancer, and the practice was to give soamin, green citrate of iron and ammonium, and sodium cinnamate, but not as "incompatible mud." That the use of the cinnamate goes against the theory I am quite willing to allow. Dr. Drage is entirely in error; but if he had any foundation for his

[1] BRITISH MEDICAL JOURNAL, June 15th, 1907.

complaint, what is it all about? The use of the cinnamate is, perhaps, one little step in advance; the regulation of treatment by the blood count is, perhaps, another. Could any one claim more at present?—I am, etc.,

London, W., Aug. 16th. SKENE KEITH.

THE KINAESTHETIC AREA OF THE BRAIN.

SIR,—I suppose no one disputes the fact that the so-called motor area of the brain includes the termination of association and sensory fibres, as well as the cell bodies of neurons whose axonal prolongations constitute the pyramidal tract. In other words, it contains efferent as well as afferent elements. I presume Dr. Bastian will agree to this, but if so, his position appears to be somewhat paradoxical. The coexistence of both afferent and efferent elements justifies us in calling this area sensorimotor. If Dr. Bastian does not regard the efferent system as motor to carry nervous impulses to the motor cells of the spinal cord, etc, perhaps he will be kind enough to render his position clearer to your readers by stating what he considers to be the function of the pyramidal tract.—I am, etc,

London, S.E., Aug. 17th. W. H. B. STODDART.

Medico-Legal.

THE LIABILITIES OF HOSPITALS TOWARDS PATIENTS.

At page 876 of the JOURNAL for April 3rd, 1909, an account was published of an action brought by a late patient of St. Bartholomew's Hospital, against its Governors, the Lord Mayor, the Commonalty and Citizens of the City of London. The case was one in which the plaintiff, who had returned from the West Coast of Africa in a bad state of health, was admitted in order that the cause of a neuritis of the sciatic nerve might be determined. He was placed under an anaesthetic and alleged that during the examination one of his arms was burned by a hot-water can, and the other compressed against the side of the table, with the result that both his arms became paralysed.

Mr. Justice Grantham, after hearing the plaintiff's case, decided that the real cause of the condition stated to exist after the examination remained as obscure as before the evidence of the plaintiff and that of his witnesses was given, that no negligence on the part of the surgeon had been proved, and that even if it had been the surgeon was admittedly not a person for whose actions the governors were responsible. Mr. Justice Grantham therefore entered judgement for the defendants without submitting the case to the jury. An appeal was lodged, mainly on the ground that the question of negligence should have been left to the jury and was heard in the Appeal Court by the Master of the Rolls, and Lords Justice Farwell and Kennedy, and their reserved judgement, dismissing the appeal with costs, was delivered on July 23rd.

In the course of his judgement in which the other judges concurred, Lord Justice Farwell, after a summary of the more specific facts of this particular case, made an important statement as to the general law concerning the liabilities of hospitals towards patients. It was now, he said, settled that a public body was liable for the negligence of its servants in the same way as private individuals, notwithstanding that it was acting in the performance of public duties like a local board of health, or of eleemosynary and charitable functions like a public hospital. The extent to which their property could be made liable to execution was another question. In the present case the first question was: Were any of the persons present at the examination servants of the defendants? It was, in his opinion, impossible to contend that the surgeon or the assistant surgeon, or the house-surgeon, or the administrator of anaesthetics, or any of them, were servants of the governors in the proper sense of the word: they were all professional men employed by the defendants to exercise their profession to the best of their abilities according to their own discretion; but in exercising it they were in no way under the orders or bound to obey the directions of the defendants. The true relations of the parties were well stated by Vice-Chancellor Bacon in "Gheen v. Rhode Island Hospital": "The physicians or surgeons are selected by the corporation or the trustees. But does it follow from this that they are the servants of the corporation? We think not. If A out of charity employs a physician to attend B, his sick neighbour, the physician does not become A's servant, and A, if he has been duly careful in selecting him, will not be answerable to B for his malpractice. The reason is that A does not undertake to treat B through the agency of the physician, but only to procure for B the services of the physician. The relation of master and servant is not established between A and the physician. And so there is no such relation between the corporation and the physicians and surgeons who give their services at the hospital. It is true the corporation has power to dismiss them, but it has this power not because they are its servants, but because of its control of the hospital where their services are rendered. They would not recognize the right of the corporation, while retaining them, to direct them in their treatment of patients." The only duty, continued Lord Justice Farwell, undertaken by the defendants was to use due care and skill in selecting their medical staff, a duty similar to that undertaken by trustees, namely, to bring such skill and care to bear on the affairs of their trust as the reasonable man of business brings to his own. It was not suggested that there was any negligence in this particular respect; indeed, the plaintiff went to the hospital on purpose to be under the care of the particular surgeon who had attended him. The three nurses and the two carriers stood on a somewhat different footing, and he would assume that they were the servants of the defendants. But although they were such servants for general purposes, they were not so for the purposes of operations and examinations by the medical officers. If and so long as they were bound to obey the orders of the defendants, they were their servants, but as soon as the door of the theatre or operating room had closed on them for the purposes of an operation or examination they ceased to be under the orders of the defendants, and were at the disposal and under the sole orders of the operating surgeon until the whole procedure had been completely finished; the surgeon was for the time being supreme, and the defendants could not interfere with or gainsay his orders. This was well understood, and was indeed essential to the success of operations; no surgeon would undertake the responsibility of operations if his orders and directions were subject to the control of or interference by the governing body. The nurses and carriers, therefore, assisting at an operation ceased for the time being to be the servants of the defendants, inasmuch as they took their orders during that period from the operating surgeon alone and not from the hospital authorities. Nor was the contract of the hospital one by which it undertook to nurse during the operation. It merely undertook to supply nurses and others, in whose selection it would take due care. The relation of the hospital to the patient in respect of nurses and attendants supplied by the former for an operation on the latter was the same as that of an association of nurses to the patient supplied by it with a nurse, as decided by the Appeal Court in the case of Hall *v.* Lees. The nurses were not put in the place of the hospital, to do work which the governors of the hospital undertook to do themselves, because the governors had not undertaken to operate or assist in operating, but only to supply qualified persons to act as nurses and assistants under the control of the operating surgeon. He would test the point by enlarging the case put by the American Chief Justice. Suppose that a good Samaritan, not only employed a surgeon, but took the patient into his own house, and gave him the services of his own servant, whom he believed to be a skilful nurse, in order to assist the surgeon in an operation; the same reasoning would apply—there was no more undertaking by A to assist the surgeon in the operation than the case was to operate: the undertaking was the same in both respects—to procure the services of surgeon and nurse reasonably believed by him to be competent. He was therefore of opinion that the defendants were not liable at all to the plaintiff. But even if the nurses and carriers were persons for whose negligence the defendants would be liable the plaintiff would still fail, because it was clear that they were not liable for the negligence of the surgeon. The plaintiff had to prove his case against the defendants, but he did not do so by showing that he had been injured by the negligence of either A, B, C, or D, or of one of them, when the defendants were liable for the negligence of C and D only, and not for that of A and B. He must prove that the defendants were liable, and did not do so by showing that if C and D were the negligent persons the governors would be liable; but if it were A and B then they were not. He must prove affirmatively that the negligence was that of the persons for whom the defendants were liable.

DEATHS UNDER ANAESTHESIA.

An inquiry was held in Southwark on July 16th into the circumstances attending the death of a boy who died at Guy's Hospital under anaesthesia. The operation in view had not been commenced. The boy was suffering from extensive heart disease, and it was hoped that his condition would be improved by the removal of portions of two ribs. The anaesthetic was A.C.E., and was administered by one of the staff of visiting anaesthetists, who chose this mixture in preference to pure ether, and gave it on folded lint. Dr. Spilsbury, pathologist to St. Mary's Hospital, who performed the *post-mortem* examination, said that death was due to syncope, brought about partly by the extensive heart disease, partly by a condition of status lymphaticus. The jury returned a verdict to the effect that death was due to misadventure, and that all due care had been taken in the treatment of the case.

Another inquest on a further death under anaesthesia at the same hospital took place on July 30th. The patient in this case was a woman aged 44, and she, too, died before the operation—radical treatment of breast cancer—had been commenced. The anaesthetic was given by one of the visiting staff of anaesthetists, who chose chloroform because the stoutness of the patient made ether undesirable. When respiration failed ether was injected into the heart muscle, and the heart itself massaged through an incision in the middle line of the abdomen. Artificial respiration was also tried. On autopsy the heart was found to be the seat of fatty degeneration, and death was ascribed to the failure of its action under the influence of chloroform. The jury returned a verdict of accidental death, adding that every care had been taken in the administration of the anaesthetic.

In response to questions put to him by Dr. Waldo, the coroner, one of the surgeons of the hospital stated that the steps taken in this case in the hope of saving the patient's life were necessary, but that they, of course, could only be properly carried out by a qualified medical man with an adequate knowledge of anatomy and surgery. Similarly no dentist, unless a fully qualified medical man, would be able to perform the tracheotomy sometimes rendered necessary during nitrous oxide gas administration, owing to a tooth falling into the air passage. The anaesthetist stated that the chloroform used was prepared from acetones which he personally considered as safe as the more expensive forms of chloroform. To this the coroner replied that other anaesthetists had informed him that the more expensive methylic and ethylic chloroforms were pleasanter for the patient and safer to use than acetone chloroform.

In the course of this and the previous case Dr. Waldo also drew the attention of the juries to the general subject of anaesthetic administration and to the bill recently introduced in the House of Commons. During the past eight years he had held inquests on forty-one deaths under anaesthesia at Guy's Hospital. In thirty-three of them the anaesthetic was chloroform. Eighteen months ago one of his juries added to a verdict a rider to the effect that the authorities of Guy's Hospital ought to ensure that in all serious operative cases the anaesthetic should be administered either by, or under the direct superintendence of, one of the staff, and that, failing such a staff, that specially qualified resident anaesthetists ought to be appointed at large institutions such as Guy's, since it was often at night that the more difficult cases had to be dealt with. Since then they had until the past fortnight no deaths under anaesthesia at this institution. There were no reliable statistics at present as to deaths from anaesthetics; their occurrence was not invariably reported, and in the Registrar-General's returns the particular anaesthetic used was not disclosed. There were two defects in the bill regarding administration of anaesthetics now before the House of Commons. It was unfair to restrict dentists with their limited clinical, anatomical, and surgical knowledge should be allowed to administer general anaesthetics unless they were fully qualified medical men, and nothing was said about the giving of local anaesthetics by injection. Cocaine, for instance, was a powerful poison, uncertain in its action, and in unskilled hands often dangerous in its effects. Co-operation in such cases between dentist and doctor would be to their advantage, and, what was of still more importance, would conduce to the safety of the public.

The Deputy Coroner for Bournemouth held an inquiry on July 24th into the circumstances attending the death of a woman aged 51, while undergoing a dental operation. The patient turned a bad colour when five or six teeth had been removed, and was promptly laid on the floor and subjected to artificial respiration. The anaesthetic was administered by a medical man, who said he had been giving anaesthetics for ten years successfully. In this case he gave nitrous oxide, followed by ether, and finally "two or three whiffs of chloroform" to keep her under a little longer. Shortly after the extractions had begun collapse occurred, and the patient died in spite of all his efforts. The medical man who made an autopsy said the condition of the heart showed that it had failed in its action. A sister of the deceased, a trained nurse, who was present at the operation, deposed to the anaesthetic having been carefully, and as it appeared to her, skilfully administered. The jury returned a verdict of death from heart failure, exonerating the medical man from all blame.

In the Westminster Coroner's Court, on August 4th, another case of the same order was investigated, the deceased being a boy aged 15, the only son of Lord Lilford. It was stated that he had been in good general health, but three medical men in consultation had advised the removal of adenoids from the back of his throat and nose. The anaesthetist said that he had examined the patient on the day previous to the operation, and, except for the adenoids, found everything was normal, and the boy was quite confident and very cheerful. The anaesthetic (one part chloroform and two parts ether) was given on an open Skinner mask. It took about six minutes to get the boy under. One set of adenoids were then removed, and by way of preparing for the removal of the next, the witness was pumping the anaesthetic through a nasal tube, when breathing suddenly ceased. Oxygen was administered, and artificial respiration kept up for four and a half hours, but proved unavailing. Dr. Salisbury Trevor, pathologist to St. George's Hospital, said that on autopsy he found that death was due to failure of respiration in a patient suffering from the condition known as status lymphaticus, such failure being precipitated by the administration of the anaesthetic. The jury returned a verdict of accidental death.

ACTION FOR DAMAGES AGAINST AN EDINBURGH HOSPITAL.

AN action by a patient against the Edinburgh Hospital and Dispensary for Women and Children for £100 damages, in respect of injury, has been decided by Sheriff Guy. The pursuer, Mrs. Margaret Smith, claimed damages in respect of an injury received through being burned on the leg by a hot-water bottle while under the influence of an anaesthetic in the defenders' hospital. Sheriff Guy found for the pursuer, and awarded £25 damages. In a note he states that it is regrettable that the defenders should have allowed the case to go to a judgement, for it appeared to him that they had taken a completely erroneous view of the pursuer's legal position and claim, and endeavoured at all hazards to clear the hospital from any blame in the matter. When the case came to be defended the defenders were forced to admit that the pursuer was burned by the hot-water bottle, and their defence had been confined to showing that there was no negligence on the part of any one for whom they were responsible. All the witnesses for the defence excluded carelessness from their view, and were driven to account for the burn by the imaginary special susceptibility for burns which the pursuer possessed, but of which there was absolutely no proof. The defenders produced a hot-water bottle cover, as showing the kind of cover used in the hospital. It was, of course, impossible to expect that they should produce the actual cover; but if this cover was to be taken as a sample of the covers in actual use, he did not wonder that the pursuer was burned. He was not, of course, proceeding upon the condition of the wretched sample produced, but all that he could say was that if those responsible for the conduct of affairs in the defenders' hospital were careless enough to produce such a sample in a court of law, then it was to be presumed that they would be careless enough to use a cover in as bad a condition as the sample.

EXAMINATION OF INJURED WORKMAN.

SANITAS submits the following question: An insurance company recently asked C., a general practitioner who acts as referee for the company, to visit A., an injured workman, who was claiming compensation. On calling, C. was informed that A. was in the hospital, and on interviewing the house-surgeon and asking permission to see the patient, the house-surgeon demurred, suggesting that the company should arrange a consultation between C. and himself with a view to a joint report. C. thereupon wrote to the company explaining the situation.

*** We are of opinion that C. is entitled to a fee for his visit to the patient's home. It would perhaps have been better if C. had reported to the company the removal of the patient to the hospital and awaited instructions. If C. had received directions to visit and report on the patient at the institution and the house-surgeon had demurred, the patient's right to compensation or the proceedings under the workmen's compensation might be suspended until the examination had taken place.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

NOTICE has been issued that preparations sent in competition for the Barker Anatomical Prize (£21) must be placed in charge of the Curator of the Museum on or before April 30th, 1910. The competition is open to all students whose names are on the anatomical class lists of a school in the United Kingdom; the part named for dissection being the cervical plexus. The marking scale is 60 for merit of dissection, 20 for excellence of setting, and 20 for originality. Unsuccessful competitors whose dissections show sufficient merit may be refunded such amount of the cost of their production as the examiners think fit. In virtue of the terms of the will of the late Dr. Barker, formerly curator of the museum of the college, the judges of the competition are the President and Curator of the College of Surgeons and the Professor of Anatomy at Trinity College, Dublin. Further particulars as to the conditions of the competition can be obtained on application to the present Curator, Mr. A. H. White.

Obituary.

OLD students of King's College must have read with regret the announcement of the death of ALFRED PHILIPPS, who, for more than thirty years held the responsible position of Resident Medical Officer of the Finsbury Dispensary. Dr. Philipps was painstaking, hardworking, and diligent; his chief aim—the goal of his ambition—was to relieve pain, to cure disease, and to prolong life: how far he succeeded, the thousands of patients whom he attended could testify. By his colleagues he was held in affectionate regard, and by the Committee of Management and Governors of the Institution he loved so well the highest respect and esteem was entertained for this eminently efficient officer. Dr.

Philipps, who took the diploma of M.R.C.S. in 1863, and that of L.S.A. in 1864, died at the age of 68, at Savoy Mansions, and was buried at Bridgwater, Somerset. *Multis ille bonis flebilis occidit.*

The Services.

ROYAL ARMY MEDICAL CORPS.

Examination for Promotion.

Stations Abroad (except India).

The following candidates were successful at the May examination in technical subjects for promotion of majors of the Royal Army Medical Corps:

Major A. E. Master, (*d*) ii; .75. Has yet to pass in Technical Subjects.

Major A. C. Fox, (*d*) ii. Has yet to pass in Technical Subjects.

Major P. Evans, Technical Subjects; .8 in Medical History, etc. Already passed in (*d*) ii.

Major John M. Buist. Technical Subjects; .8 in Sanitation and Epidemiology and in Medical History, etc. Already passed in (*d*) ii.

Captain E. A. Bourke, (*d*) ii; .75. Already passed in (*h*).

Lieutenant R. G. Archibald, (*h*) ii. Already passed in (*d*) ii, and in (*h*) i and iii.

Lieutenant G. B. Edwards, (*d*) ii; and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant J. H. Spencer, (*d*) ii; and in (*h*) ii and iii; .8 in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenant J. A. B. Sim, (*d*) ii; .75. Has yet to pass in (*h*) i. Already passed in (*h*) ii and iii.

Lieutenant R. C. Galgey, (*d*) ii; and in (*h*) ii and iii. Already passed in (*h*) i.

Lieutenants W. K. Beaman and H. G. Gibson, (*d*) ii; and in (*h*) ii and iii. Already passed in (*h*) i; .75 in (*d*) ii.

Lieutenant H. M. J. Perry, (*h*) ii and iii. Has yet to pass in (*d*) ii. Already passed in (*h*) i.

Lieutenant J. C. Hart, (*d*) iii; and in (*h*) ii and iii; .75 in (*d*) ii, and .8 in (*h*) ii and iii. Already passed in (*h*) i. Special Certificate.

Public Health

AND

POOR LAW MEDICAL SERVICES.

REPORT OF MEDICAL OFFICER OF HEALTH.

Doncaster Urban Sanitary Authority.—The report of Dr. Lechmere Anderson for the year 1908 deals with an estimated population of 31,108 persons, the density of the occupied area being 18.3 persons to an acre. He also gives some particulars concerning Wheatley and Balby-with-Hexthorpe, and as these places form, he says, with Doncaster a compact township of 34,579 persons, he gives in some instances a combined figure for the three areas. Thus, the combined birth-rate was 26.1 per 1,000, which closely corresponds with that of England and Wales as a whole. The birth-rate of Balby, however—a place which has a population of between 8,000 and 9,000 persons—was very much higher, being 35.8 per 1,000 living. The general death-rate for the whole township was 13.5, and it is noticeable that Doncaster, which had much the lowest birth-rate, had also the highest death-rate. The infantile mortality figure was equally unfavourable to Doncaster, for while for the combined township it stood at 152.3 per 1,000 registered births, the rate in Doncaster was 147. Dr. Anderson appears to be paying special attention to tuberculous disease, and returns the death-rate from all forms as 1.9 for the combined township, this being some improvement on the average of the past eight years. Voluntary notification of phthisis has been in force in the area since the beginning of the year 1903; it does not, however, appear to be a very effective procedure, and it may be gathered that Dr. Anderson would favour the introduction of compulsory notification of this disease. There are two isolation hospitals in the area, and one of these, which hitherto has been reserved for small-pox, has now been set aside for consumptive patients. From the details given, the building would appear to be well suited to the purpose in view, and Dr. Anderson congratulates his authority on being the first in the West Riding, to the best of his belief, to provide a building for the open-air treatment of this disease.

Under the will of the late Mr. George Edward Crawhall of Newcastle-on-Tyne, which has now been proved, the Royal Victoria Infirmary, Newcastle, and the Natural History Society, Newcastle, are made residuary legatees. The amount which they will divide between them is upwards of £2,000.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

The offices of the British Medical Association and of the British Medical Journal are at 429, Strand, London.

Communications respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the Journal, etc., should be addressed to the Office, 429, Strand, London, W.C.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Attiology, London.* The telegraphic address of the British Medical Journal is *Articulate, London.*

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* British Medical Journal *alone unless the contrary be stated.*

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look at the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any circumstances be returned.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

Manaos asks for advice as to the cause and treatment of several constant "twitchings" or spasmodic contractions of the legs when going to sleep each night. His patient is a woman, aged 36 years, healthy, active, married, no children. She is kept awake night after night for an hour or more with these involuntary movements of the legs. He was told the movements continue some time after sleep ensues.

Hospital for the Tropics.

H. W. T. (Liverpool) wishes to know where he can procure plans or ideas for a small hospital. It is for Europeans, and must be adapted for the tropics, preferably bungalow style.

*** We can hear of no publication dealing specifically with this subject, but Professor Simpson's *Principles of Hygiene in Tropical and Subtropical Countries*, which contains a chapter on the construction of houses, might be consulted.

Infectious Hospitals and Personal Disinfection.

M. O. H. writes: Having been recently appointed medical officer to a small isolation hospital, and being engaged in private practice as well, I am anxious to know what other members occupying a similar position do to ensure that they shall be free from infection (especially streptococcal) when leaving the hospital. This seems to me of great importance with regard to midwifery.

ANSWERS.

S. R. Vaikom.—The Leonard Hill sphygmometer is made by Messrs. Hicks according to Dr. Hill's instructions, and is, we are informed, a reliable instrument.

Perplexed.—Upon the facts stated there is no reason why the lady should not become pregnant. An opinion as to whether any treatment is desirable could only be formed after examination.

Disinfection of Room.

Dr. S. G. Sloman writes in reply to an inquiry (August 14th, p. 431) as to a spray apparatus suitable for disinfecting lofty rooms after infectious diseases, that he has just bought a spraying apparatus for killing aphides on fruit trees which he thinks would answer the purpose. Mr. J. Alfred Eggar, c/o Farnham, Alton and Districts Farmers' and Hopgrowers' Co-operative Association, Limited, 74, Castle Street, Farnham, would supply particulars about the apparatus which is described as spray pump with bamboo extension, £1 16s.

Recovery of the Abatement of Duty on Petrol.

D. P.—The abatement of the duty on petrol to be allowed to medical men will in the ordinary way be claimable by way of repayment through the local officer of Customs and Excise. A certificate must have been obtained from the vendor of the motor spirit in the following form: "Sold to A. B., of Y., *x* gallons of motor spirit on which full duty has been paid to the Crown." This may be written on an invoice or delivery note. Under the present regulations relating to the use of motor spirit for non-dutiable and half-dutiable purposes the spirit must have been received in quantities of not less than 2 gallons at one time, and the claim must be made for not

less than 6 gallons and within six months of the time when the spirit is used. The certificates must be kept and delivered to the local officer of Customs and Excise with an application for repayment of duty and a declaration on an official form to be obtained from him and signed in his presence, stating the quantities used and the use to which the spirit has been put.

LETTERS, NOTES, ETC.

UNSATISFACTORY RESULTS OF THE TREATMENT OF PNEUMONIA.

DR. ARTHUR J. MATHISON (Wood Green, N.), in a note on this subject, writes: Dr. Osler's eloquent and suggestive address on "The Treatment of Disease," recently reported in your columns, has again drawn attention to the truly remarkable lack of progress in the therapeutics of pneumonia. The number of deaths attributed to pneumonia, and the fatality of the disease in people previously quite healthy, should rouse us at length to make a special effort to discover what surely must be discoverable—an efficient means of treating a patient attacked by pneumonia.

The possession of extensive clinical opportunity of research is a talent of the use of which the public has a right to demand an account, and this talent is in the hands of a few leading clinicians. This being so, I would suggest a pneumonia conference for London, and would appeal to our leaders to attend and make it a success. Let all methods of treating pneumonia be tried simultaneously, each plan applied to the same number of cases, and each by a different physician. At the conference to be held at the conclusion of these trials, reports in each case should be given as to (1) mortality, (2) relapses, (3) complications, and (4) length of convalescence. Only methods of treatment with average or less than average mortality should be persevered with.

I feel that probably some definite progress would be assured by some such organized scheme; and at the very least the medical conscience would be appeased, and the ground cleared for future action. The want of extensive clinical opportunity prevents the accumulation of convincing cases. I advocated in the BRITISH MEDICAL JOURNAL of 1906, vol. i, a treatment of acute lobar pneumonia, and I still practise it. The mortality is at present *nil*. Both as to hospital appointment and no club practice, does this absence of mortality mean much to the casual eye? for I firmly believe that several cases aborted through early treatment, and thus the actual number of cases of pneumonia is small even after the lapse of years. Dr. Osler has given us in his address a list of the requirements in an efficient remedy for pneumonia. Would not such a combination as that I advocated in 1906 fulfil all these wants when given with care and the effects carefully watched? Let us remember Hunter's crisp remark, "Don't think, but try!"

RUPTURED BASILAR ARTERY: PROFUSE FROTHING FROM MOUTH AND NOSE.

DR. FREDERICK D. WELCH (Wood Green, N.) writes: The following case is, I think, worth recording on account of the extraordinary amount of froth which kept welling out from the patient's mouth and nose for several hours after she was first taken ill. I was called to see the patient, a woman aged 32, on January 2nd, 1908. I was told that she had suffered from headaches for several weeks, but was always able to do her housework; she had complained of sudden severe pain in her head about ten minutes before my arrival, and had at once fallen unconscious. The bowels had acted daily. She gave no cry, and there was no history of fits of any sort. At this time she was frothing most profusely from nose and mouth; when the froth was wiped from her mouth it filled again in a few seconds, completely filling the cavity of the tongue and back of throat. As the pulse was only just to be felt I gave her a hypodermic injection, and on getting her on to a bed and examining her carefully, I found that there was no paralysis or twitching of arms, legs, or face. The tongue was not bitten, and on both faces and hands had been passed. The pupils were equal, semidilated, and reacting sluggishly to light the face was not flushed, and nothing abnormal was to be found in heart or abdomen. The respiratory murmur was loud all over the chest, but otherwise there was nothing abnormal in the lungs. There was no oedema of legs, and urine was stated to have been normal in quantity and appearance. She remained completely unconscious, and did not alter in any way (except that the pulse gradually improved, and continued to beat about 85) until 5.30 p.m., when she vomited about a pint of fluid, as I could guess, about 6 pints of dark-brown liquid, with no solid matter in it. Soon afterwards she regained partial consciousness, being conscious for four or five minutes at a time, and able to speak faintly and move her limbs. I found then the pupils reacted to accommodation, and there was no paralysis of the tongue. These intervals of partial consciousness of a few minutes at a time continued till 8.30 next morning, when she lapsed finally into complete unconsciousness. The profuse frothing continued welling from her mouth till 2 p.m., the day after the attack, when it stopped rather suddenly, and she died at 6 p.m.

I concluded it was a case of ruptured basilar artery, but no *post-mortem* examination was made. The tremendous amount of frothing from the mouth and nose was very extraordinary, and I have never seen anything like so large a quantity in any other case in hospital, asylum, or otherwise; if collected, it would have amounted to a considerable number of pints, as it saturated pillows and seemed never going to lessen. The single vomit shot out without any warning 5 ft. or 6 ft. out beyond her mouth.

QUININE IN SYPHILIS.

DR. ARTHUR LOXTON (Birmingham) writes: May I call to mind that the severity of any given case of syphilis depends largely upon the financial and hygienic circumstances of the individual? A poor man may be expected to fare much worse at the hands of syphilis than the rich, provided the rich man uses his fortune to accelerate the cure. In Birmingham we see practically no malignant syphilis, but in common with all large centres we have a great deal of severe syphilis associated with anaemia and other forms of tissue degeneration depending upon bad food and faulty hygiene. It is among the poor chiefly that the value of iron as an adjunct to the treatment of syphilis is so apparent. In my hospital work the addition of 5, 10, or more grains of ammonio-citrate of iron and the mercurial is almost a routine measure; and this practice has grown up insensibly in the course of years, because it has been forced upon me that the tissues of the poor are so frequently unable to respond to the specific action of mercury until their nutrition has been improved. The more acute the patient the larger the dose of iron I prescribe; and the more severe cases of ulceration always receive the iron in the form of the liq. ferri perchlor. Frequently it is a good plan to stop all mercury by the mouth, and to give it by inunction—with intelligent patients this is always better—reserving the daily dose for tonic and wholesome food. The ointment I have used for years is the ung. hydrarg. oleatis (*B. P.*), 1 drachm, to be rubbed into a non-hairy part of the body each night; and a holiday taken once or twice a week is usually sufficient to prevent salivation, and interferes only little with the clothing, and is quite as effective and much less disagreeable than the old-fashioned blue ointment. It is a mystery to me why text-books continue to recommend this time-honoured abomination. Finally, let us remember that treatment of syphilis by tonic drugs is part of the larger treatment by hygiene. In our student days we are taught to associate syphilis with mercury and iodide of potassium; hygiene is possibly thrown in as an after-thought. I often wonder if we should not do well to reverse the position and dwell upon hygiene and proper food, throwing in the mercury and iodide to round off the paragraph.

IODINE FOR STERILIZATION OF THE SKIN OF OPERATION AREAS.

MR. J. W. LINDSAY (of Belén, Paraguay, South America) writes: During June last I was present at various operations for radical cure of hernia done by the surgeons of the Aberdeen Royal Infirmary. After one such operation the surgeon said to me: "Have you seen the articles on the use of iodine in preparing the skin for these operations? I should think it would be a good 'tip' for you to use in your cases abroad." "Oh!" I replied, "I was using the same method long before I saw any notice of it." "Then why did you not write about it?" "It might have been thought this time." On May 13th, 1908, I painted the line of my proposed incision in a hernia case with linimentum iodi. I did it to mark where I was going to cut on the following morning, and with no idea of using it as an antiseptic measure. The wound healed by "first intention." Later I used the same method in a mastoid operation, in an appendicitis case, and in another hernia case, and always with, to me, surprising results. I used linimentum iodi, which produced practically no irritation in the Spanish-American Indians who form the bulk of my clinical material. I have been very interested in reading of the more general use of this method, and hope that surgeons resident in tropical climates will find it as reliable a measure as I have done.

TOUCHING FOR THE KING'S EVIL.

DR. S. D. CLIFFENGHOLE (London, W.) writes: I send you a copy of a notice I found in an old newspaper at the Guildhall Library to-day. It refers to the ceremony of "Touching for the King's Evil," and the royal physician is claiming a respite:

"This is to give notice, That His Majesty hath declared his positive resolution not to *heal* any more after this present April until Michaelmass next. And this is published to the End that all Persons concerned may take notice thereof, and not receive a disappointment."—(*The Intelligencer*, April 17th, 1665.)

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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An average line contains six words.

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N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

An Address

ON THE

PERIPHERAL CIRCULATION AND ITS TREATMENT.

Delivered before the Annual Meeting of the British Balneological and Climatological Society, 1909,

BY

SIR JAMES BARR, M.D., LL.D., F.R.C.P., F.R.S.E.,
SENIOR PHYSICIAN, LIVERPOOL ROYAL INFIRMARY.

The arterioles and capillaries and venules pervade every tissue and organ of the body, and specialists in this line can never be accused of poaching on another man's preserves. The importance of the capillaries has been aptly described by Leonard Hill, who says:

> The blood is brought into intimate relation with the tissues by diffusing through the endothelial wall of the capillaries, and this wall is of great tenuity: thereby takes place that change of material which maintains the combustion of the body and the fire of life.

It is the resistance in the arterioles and capillaries which maintains the mean or diastolic pressure in the aorta and large arteries, and any increase in this resistance has to be overcome by greater work on the part of the heart. The arterioles constitute the first line of defence, and, as I said in my Toronto address,[1] it is exceedingly fortunate that there is this first line of defence created by the action of the vasomotor nerves in the small arteries and arterioles, because if this were wanting, as at present constituted we would either have to go about on all fours or constantly run the risk of fatal syncope. Moreover, the blood would gravitate into the most dependent parts, the cooling surface would be enormous, the capillary velocity would be diminished, the blood would become surcharged with CO_2, and we would become cold-blooded animals. When the vasomotor nerves of a rabbit are paralysed it appears all right until you suspend it by the ears, and then it immediately dies. The arteriolar resistance saves us from such risks. When you get vasomotor paralysis the resistance is transferred to the capillaries, and you get a more gradual fall in the pressure gradient, the velocity of the blood in the capillaries is diminished, the pressure increased, and transudation readily takes place. In severe cases of Addison's disease in which the vasomotor nerves are deprived of their usual stimulus, the patient may not be able to assume the erect posture. The wonderful regulative mechanism of the vasomotor system enables the blood to be driven from the high-pressure main, the aorta and its principal branches, to the organs or systems that immediately require it. Witness the great supply to the extremities during exertion, and to the abdominal viscera during digestion. Increase of pressure within an artery improves its tone and raises its coefficient of elasticity. It is probably owing to these facts, as well as to the intervention of the vasomotor nerves, that the arteries of the lower extremities often contract when they are dependent and dilate when they are raised. This, of course, happens most readily when the arteries are healthy and the arterial blood pressure high. Under such conditions the common carotid can be felt contracted when the body is inverted. The arteries of the upper extremities obey the usual law and dilate under increased pressure. This increased tone under heightened pressure is probably a determining factor in the production of claudication of the arteries—a condition almost confined to the lower extremities, and one which is very difficult to remedy when once established. Perhaps other causal factors are excessive amount of lime salts, overaction of the suprarenal glands, and defective action of the thyroid.

The Arterioles.

It would be difficult or impossible to estimate the ever-varying capacity and sectional area of the arterioles and the velocity of the blood passing through them. What we do know is that on an average a similar quantity of blood passes through a section of the arterioles to that which passes through a section of the aorta in a unit of time. The resistance in the arterioles is directly as their length, and inversely as the square of their cross-sections or the fourth power of the diameter, and directly as the square of the velocity. The total sectional area of the arterioles is perhaps considerably less than that of the small arteries, and the velocity of the blood in them correspondingly greater. In cases of local syncope the arterioles shut down, and therefore the pressure and velocity in these particular vessels fall to zero. When the arterioles are contracted we know that the energy of the blood is to a large extent converted into velocity with a corresponding diminution in the lateral pressure. If you take a cold hand, there may be a difference of 50 mm. of mercury between the lateral pressure in the radial and that in a digital artery, but if the arterioles are dilated there is a much less abrupt fall in the pressure gradient. Moreover, in *post-mortem* examinations there is very seldom anything found wrong with the arterioles, except that they may be hypertrophied, but this is evidence of overaction rather than of lateral strain. The general arterial blood pressure can only be raised by the contraction of a large tract of arterioles, such as those of the splanchnic area, the skin, or muscles, and generally in health when one set is contracted another is dilated, so that a uniform mean arterial pressure is maintained. As a rule, the more contracted the arterioles the higher the arterial pressure in the arteries; and, again, this high potential in the arteries drives the blood with great velocity through the arterioles, and, of course, the greater the velocity the less the lateral pressure. A small area of arterioles, such as that of the hand, may be contracted without any effect on the general arterial pressure, and in this case the velocity of the blood in the contracted arterioles is not increased but diminished, owing to the increased friction and heightened viscosity of the blood. The blood may almost come to a standstill, and then the energy is largely that of pressure. When the arterioles of any local area are dilated, as at the commencement of an inflammation, or after the removal of an Esmarch's tourniquet, the whole of the capillaries are opened up and engorged with blood, and with this increased mass the pressure is raised, but the velocity is also heightened owing to the arterial potential remaining high and the resistance in the enlarged vessels being diminished. These little muscular vessels are well endowed with vasomotor nerves, and are subjected to postural variations in pressure. It is entirely due to their intervention that the capillaries are protected from the full hydrostatic effect of the blood when the body is in the erect posture. The potential increases in the arteries of the limbs when they are dependent, and if the arterioles are dilated from any cause the pressure in these little vessels and in the capillaries is much augmented, so that you may readily get petechial haemorrhages, but on the other hand, if the arterioles are much contracted, the potential in the arteries is largely converted into kinetic energy in the arterioles and capillaries.

The Capillaries.

The capillaries through which the interchange of nutritive pabulum and gases takes place between the blood and the tissues play a most important rôle in the animal economy; they constitute a vast filter bed for conveying nutritive material and oxygen to the tissues, and for removing waste products therefrom. These little vessels are of extreme tenuity and delicacy, consisting of a single layer of endothelium, yet they are capable of standing considerable internal pressure; they vary from about 0.5 to 1 millimetre in length, and from 7 to 15 micromillimetres in diameter. They are to a certain extent elastic, or at least they have the capacity of adapting themselves to the amount of blood which is driven through them, and they are supported by the surrounding tissues and intercellular fluids. So numerous are these little vessels that it would be difficult to stick the point of a needle in any vascular area without wounding one or more, but in neurotic individuals you may wound many such vessels without drawing blood.

In cases of polycythaemia the capillaries of the body are fairly replete, but in ordinary mortals, especially in those of neurotic temperament, perhaps not a third are full at any one moment, and in a very cold extremity there may not be a twentieth of the number patent. Apply a sinapism to a very pallid skin, and you may wonder where

all the turgid capillaries have sprung from. By warm baths, friction, and general massage the arterioles are relaxed, the capillaries opened up, and hence there is a general fall in the arterial blood pressure. The energy in the capillaries is derived from that in the arteries and arterioles, and is a compound of lateral pressure and velocity. You will find all these problems discussed in my Toronto address, and I am here only concerned with the practical application of our science. The more dilated the arterioles and the more vascular the area, *caeteris paribus*, the greater the pressure and the less the velocity, and vice versa. The lateral pressure depends on the statical condition of the blood, and just in proportion as you introduce movement you convert the force of pressure into that of velocity. If you wish to drive a certain quantity of fluid through a set of tubes, the velocity will depend on the force of propulsion minus the obstruction to the outflow, with the inertia or viscosity of the blood (there is no fluid perfectly mobile) and the friction of the tubes; and the lateral pressure will increase as the outflow is obstructed—in short, as the statical condition is maintained.

The Capillary Pressure.

For estimating the pressure in the capillaries, perhaps the most convenient method is that of von Kries. I use three sizes of glass plates, measuring 20, 100, and 400 sq. mm., so a gram pressure on each of these plates represents respectively 50, 10, and 2.5 mm. of H_2O. The pressure stands in direct relation to the freedom of the inflow and the obstruction to the outflow. When the body is erect the dependent capillaries are largely protected from the brunt of the increased hydrostatic pressure by the intervention of the arterioles, but, notwithstanding this intervention, the pressure in the capillaries of an immobilized foot when the subject is standing, becomes very great, but, if you move the foot, the capillaries are compressed, the blood is driven onwards and the statical pressure is converted into velocity. The increased potential in the dependent arteries is thus partly converted into pressure and partly into velocity in the capillaries, and the velocity is further heightened by movement. The inversion of the body for a comparatively short time each day over a lengthened period should be sufficient to give rise to marked arterio-sclerosis of the cerebral vessels owing to increased statical pressure, because in the brain you could not introduce movement to hurry on the circulation. Moral, "Keep your head above water." All occupations which involve much standing or sitting must be injurious to the vessels of the lower extremities, hence such individuals should be encouraged to keep their lower limbs as restless as possible. Kentish fire relieves the monotony when you are listening to a wearisome speaker. Probably if an audience in church could indulge in this form of recreation their brains would be better supplied with blood, there would not be so many asleep, the hypnotic influence of the sermon would not be so effective, and possibly the Nonconformist conscience would not be so paralysed as it usually is to all extraneous influences for good.

All agents, such as dry heat, warm baths, and to a less extent massage and passive exercises which relax the arterioles, increase the freedom of flow into the capillaries and raise the lateral pressure in them and lower the arterial pressure. In proportion as the general arteriolar resistance is relaxed the resistance to the output from the heart is transferred from the arterioles to the second line of defence. This increases the bed of the arterial river and so lessens the resistance to the systolic output, but it does not necessarily lessen the total work of the heart, because the venous pressure is also raised and with it the diastolic tension in the ventricles, and consequently the systolic output. If the arteries be at all rigid, and not capable of adapting themselves to the altered conditions there may be a great waste in the cardiac energy. Hence the injudicious use of baths and vasomotor relaxants in the aged very readily gives rise to weariness, languor, faintness, and sickness. Those who think that warm baths are a panacea for all ills to which flesh is heir should be careful when administering them to those with sclerotic arteries to cloak their ignorance by keeping the patients afterwards for a long time in the recumbent posture until the arteries and arterioles have had time to regain their tone. After a warm bath, dry or moist, a cold or cool douche is usually a valuable adjuvant.

The Velocity of the Blood in the Capillaries.

In textbooks of physiology the capillary velocity is usually put down as 0.2 to 0.75 mm. per second, but in my opinion this is much too low an estimate of the average velocity, and I have said that anyone with a capillary velocity at the level of the heart which physiologists set down as normal might appropriately take up the refrain, "The hour of my departure's come." My method of calculating the capillary velocity is to take a glass rod 10 mm. in diameter and with the flat end compress the blood out of the capillaries, then with a stop-watch recording fifths of a second I time the period of the return of the blood. If you divide the radius of the rod (5 mm.) by the time, you get the apparent velocity per second. When fluid is circulating in a capillary tube the axial velocity is double the mean velocity. Now, the erythrocytes travel in the axis, but as they occupy at least four-fifths of the lumen of the vessel the mean must be about 0.8 of the apparent velocity. Under this method of calculation I have observed the capillary velocity to vary from about 0.4 mm. per second when the patient is dying to about 20 mm. per second in the great toe when the patient is standing and there is very high arterial potential. We know that in the large capillary bed the current is chiefly onwards to the veins, but in many of the capillaries the current is often reversed, and this lowers the mean onward velocity, but even if you half my estimates you are still a long way above the estimates of physiologists. In making your observations you must select some spot where there is a network of capillaries which you can completely empty, such as those in the back of the hand or finger, and you must also choose a spot where the return current flows from all parts of the circumference to the centre of your compressed area. You cannot estimate the velocity in the palmar surface of the finger end, because the small arterioles run up to the papillae at right angles to the surface, and when the blood is driven out it returns to all parts of the compressed area at the same time. For the sake of uniformity and comparison it is well to estimate the velocity in the hand, or other part, at the level of the heart, because the velocity is much increased by raising the potential in the arteries; you can often double the capillary velocity in the finger by lowering it 300 or 400 mm. below the heart level. The velocity of the blood in the capillaries stands to that in the arterioles inversely as the square of their cross sections, but as we do not know the sectional area of the arterioles there will be some difficulty in arriving at that of the capillaries. The velocity in these vessels depends on the arterial potential, minus the obstruction to the outflow with the friction against the tubes and the viscosity of the blood. I find the capillary velocity a valuable aid in forming an opinion as to the viscosity of the blood; if at the level of the heart—except, perhaps, in cases of polycythaemia—the velocity be high, you may conclude, without drawing a drop of blood, that the viscosity is not abnormal.

If there be a great difference between the systolic pressure in the aorta and the resistance, such as occurs in free aortic regurgitation or very advanced arterio-sclerotic changes, the arterial wave may be carried to the capillaries and give rise to pulsation in these vessels. This implies great waste of cardiac energy, and under such circumstances vasomotor relaxants must work mischief; yet many of your fraternity ignorantly prescribe their favourite baths without any knowledge of or regard for physical consequences. Vasomotor tonics and such agents as diminish the lime salts and improve the muscular tone constitute the best treatment.

Any obstruction to the outflow from the capillaries diminishes the velocity in them. Hence the congestive treatment of joints and other local lesions which is now known as the Bier treatment, but which was long ago carried out by the late Hugh Owen Thomas of Liverpool, while it lessens the velocity, it increases the statical pressure and transudation from the capillaries to the tissues. The extra-capillary pressure is about one-fourth of that within the vessels, and largely contributes to the onward movement of the lymph; this is also aided by muscular contractions, in the same way as assistance is thus given

to the capillary circulation. The Bier treatment retards the circulation of the lymph and blood and increases transudation, while massage has the opposite effects. Dr. Barry at the beginning of last century advocated the use of the suction pump to prevent the introduction to the system of the venom of snake-bite.

The Viscosity of the Blood.

The viscosity varies greatly, and is no doubt the great cause of the resistance in the capillaries. Normally it is about five times that of distilled water. This subject has been very ably investigated by Dr. John H. Watson and Dr. A. du Pre Denning, who have shown how an increase in the number of corpuscles greatly increases the viscosity. It is diminished by fever and increased by carbonic acid, and I have shown that when the capillary velocity falls to 1 mm. to the second or less the blood becomes surcharged with CO_2.

The viscosity is much increased by the salts of calcium, magnesium, manganese, and strontium, and hence these salts lessen transudation, and are thus useful in cases of orthostatic albuminuria, eczema, and urticaria. It is diminished by citric and phosphoric acids, the salts of potassium, ammonium, and sodium, thyroid and iodine. An increase in viscosity produces a most definite rise in the internal resistance, but we must remember that the living capillaries are more or less elastic, and offer much less resistance to the flow of blood than would be caused by rigid tubes of the same diameter. Moreover, it has been shown by Watson and Denning that "a given increase of pressure exerts a much greater accelerating effect on the rate of flow through tubes of fine calibre than through tubes of wide bore." This is corroborated by my observations on the great increase in the velocity in the capillaries produced by an increase in the arterial potential. By lessening the viscosity of the blood you lower the arterial resistance and diminish the work of the heart. In many cases the viscosity is too low, and this is, as a rule, easily remedied by the salts of calcium and magnesium.

The Interchange of Materials through the Capillary Walls.

There are some physiologists who would raise the endothelial cells of the capillary walls to the high level of secreting structures; not that they have any evidence, either from analogy or otherwise, in support of such a contention, but simply because they think that the physical properties of diffusion, osmosis, and filtration cannot account for the phenomena. They hold that the capillary pressure is low, and is more than counterbalanced by the endosmotic equivalent of the albumen and salts in the blood. When they recognize the enormous variations which take place in the pressure and velocity of the blood in the capillaries, they will have less difficulty in admitting the problem of filtration as applicable to the capillary wall. Moreover, the capillary walls do not form a semipermeable membrane, but are just as easily permeated, *ceteris paribus*, in one direction as in the other. In a network of capillaries the pressure must necessarily be higher in the efferent or distributing vessels connected with the arterioles than it is in the afferent or collecting tubules which unite to form the venules. You can thus have filtration and absorption going on side by side, just as in a hole in the wall divided by a midriff you can have strong currents of air flowing side by side in opposite directions. The fall in the pressure gradient in the capillaries must be fairly uniform from arteriole to venule; but, as there is usually a considerable fall from the capillaries to the venules, there must be a corresponding difference between the efferent and the afferent capillaries, and thus transudation and absorption in different parts of the same network can be readily explained. In the intestinal capillaries the larger and deeper vessels supply the secretory structures and the smaller and more superficial vessels are the absorbants.

Physiologists usually infer that some healthy capillaries are more permeable than others, and here, again, they are content with inferences rather than proofs, because they find a greater transudation, say, from the capillaries of the liver than from those of the foot; but they forget that in the foot, compared with the liver, the capillary bed to each arteriole is much less, the velocity is enormously greater, and when the foot is moving the pressure may be less, and the exuded lymph is moved on as quickly as it is formed. Surgeons often find the permeability of the capillaries of an immobilized limb too great to their liking. In filtration the concentration of the filtrate is greater at lower than at higher pressures, hence the lymph from the liver capillaries often contains 6 to 8 per cent. of albumen. In alcoholics the arterial blood pressure falls, the diastolic pressure in the heart rises, the right ventricle gets dilated and tricuspid valve incompetent, and the blood is thus dammed back in the liver. From the fall in the arterial pressure, the pressure in the portal vein also falls, and consequently there is a fall both in the velocity and filtration pressure in the portal capillaries; this gives rise to a concentrated transudate both in albumen and leucocytes which soon leads to a multilobular cirrhosis. This obstructs the portal circulation, which raises the pressure in the intestinal capillaries and gives rise to increased filtration from them. The liver becomes of a deep purple colour when the circulation in it is sluggish from any cause, owing to the blood being surcharged with CO_2. The indications for treatment in these cases are: Stop the alcohol, lessen the input of fluid, and raise the arterial pressure. An intestinal antiseptic and a colon bacillus vaccine are often useful. There is no use in washing them out with any mineral spring, unless it be some concentrated saline which runs through the intestinal tract without being absorbed. In my opinion a dose of Epsom or Glauber salts in a smal quantity of water is better than any imported saline.

In 1904 Dr. George Oliver published his admirable work on the tissue lymph circulation. He showed that during the first hour of digestion there was a rise in the blood pressure—arterial, capillary, and venous—with a flow of lymph into the tissues. His conclusions were:

1. That the food constituents hemselves (proteids, fats, and carbohydrates) do not possess the power of starting the mechanism by which lymph is dispensed to the tissues through the body.

2. That Nature, however, associates with our foodstuffs small quantities of very active substances which bring into play that mechanism, though these substances themselves are practically devoid of food value, and that man frequently increases this natural lymph by the use of salt, and beverages containing bodies which also incite the flow of lymph. Such bodies as uric acid, creatin, creatinin, xanthin, glycogen, and sodium chloride perform an important function in nutrition, for during digestion they act as distributors of lymph to all the tissues—an office which the nutrient constituents themselves (proteids, fats, and carbohydrates) are incapable of discharging.

He associated the action of these lymphagogues with a rise in the capillary pressure, and not, like Heidenhain, to any specific excitation of the secretory activities of the endothelial cells. He also accepted the dictum of Starling and other physiologists, that an increased lymph concentration was due to increased permeability of the capillaries, and here I differ from them. No doubt capillaries damaged by inflammation or by any solution of continuity will readily permit of the exudation of albumen, but the variations in the quantity and concentration of lymph from healthy capillaries is readily accounted for by variations in the capillary pressure and velocity. When there is great pressure and high velocity, there may be great transudation of thin lymph from the efferent or distributing capillaries, and an equally rapid absorption by the collecting or afferent capillaries. When the pressure and velocity are low, as in the liver, you get a concentrated lymph and practically no absorption. The interchange of gases takes place by diffusion.

The Venules.

These little veins are smooth, capacious vessels which offer little or no resistance to the circulating blood. They are slightly elastic and attain their maximum distension at a low internal pressure. They are contracted by cold and mechanical stimulation and dilated by heat. The energy of the blood in them is a compound of pressure and velocity, and depends on (1) the energy transmitted through the capillaries, (2) the hydrostatic pressure, and (3) the aspiration of the thorax. There is a gradual fall of pressure from the venule to the right auricle. Although the circulation of the blood has been known for over 300 years, I believe it was left to me to discover that the venous blood runs more quickly up the hill than it does down it, and this is due to the increased energy in the

arteries and capillaries in a dependent limb. We will now consider the principal local circulations.

THE SPLANCHNIC AREA.

We have already referred to the circulation in the liver. The arterioles of the digestive tract are very muscular and well supplied with vasomotor nerves of the constrictor type. These nerves and vessels are the chief regulators of the arterial blood pressure. The capillaries are very fine, and form an exceedingly close network. The resistance to the outflow is very slight, except in cases of portal obstruction; hence the velocity is usually great and the lateral pressure slight. This is just what would be expected in vessels where absorption is an even more important function than secretion. The bright pinkish hue affords a marked contrast to the dark purple liver where the circulation is sluggish.

When you get complete vasomotor paralysis, as in severe shock, the greater part of the blood of the body may drain into the splanchnic area. From this there may be all degrees, down to a slight paresis, which has been described by Albert Abrams under the title "cardio-splanchnic paresis." Witness the pale, pasty, flabby youths who are often treated for anaemia, but whose haemoglobin is not deficient, and when they are laid flat the colour of the face at once improves. These cases are more frequently young males than females, and I believe in the majority of cases the paralysant is nicotine. There is occasionally a deficiency of lime salts and slight albuminuria. These cases are closely allied to orthostatic albuminuria, or the so-called albuminuria of adolescence, where, in addition to cardio-splanchnic paresis, there is always a deficiency of lime salts. From the very time that this condition began to attract attention I taught that it was entirely circulatory in origin, and was quite independent of any disease of the kidneys. When resting the patient should be quite horizontal, with a low head. When erect he should not stand or loll about, but take plenty of exercise and wear a tight abdominal belt. He should get the glycero-phosphate or lactate of lime, and, when a purgative is required, sulphate of magnesium. He should be on a liberal dry diet, consisting of beef, mutton, chicken or fish, vegetables, milk puddings, a little tea, coffee or buttermilk, little or no salt, and no acids. In all these cases tobacco and alcohol should be forbidden.

In these cases there is often an attempt on the part of Nature to compensate for the cardio-splanchnic paresis by contraction of the arterioles of the skin and muscles, and you can roll the arteries of the extremities, like thick elastic tubing, under your fingers. This raises the general arterial pressure, but it works mischief by further congesting the splanchnic area. There is often epistaxis, and there may be slight haemoptysis without any disease of the lungs. General massage, the Aix douche, or Nauheim baths are beneficial; but whatever course of treatment be adopted, physical exercises must not be neglected, and certainly the patient must not be drenched with mineral waters; all such are abominable in these cases.

Each infective process requires its own specific treatment, but in all such cases it is well to keep the bowels open and as aseptic as possible. Sour buttermilk is a good antiseptic for the intestinal tract.

THE ARTERIOLES AND CAPILLARIES OF THE KIDNEYS.

We have just seen how the deficiency of lime salts in the blood, and the increased pressure in the abdominal aorta and inferior vena cava gives rise to orthostatic albuminuria when there is paresis of the splanchnic vessels, but these conditions are quite different in granular kidneys. Here the muscular arterioles, which are well supplied with vaso-constrictor nerves, are contracted and protect the capillaries of the glomeruli from any excessive pressure, but the high potential in the aorta drives the blood through the arterioles with great velocity, and this energy is expended in the Malpighian corpuscles, partly as pressure and largely as velocity; hence we get a large dilute filtrate. The glomeruli are further protected by the endothelial lining of Bowman's capsule, which in these cases becomes much thickened, and is not easily permeable to the large molecules of albumen, but readily allows the transudation of water and salts. There is nocturnal diuresis, because in the horizontal posture, although there is a slight fall in the general arterial pressure, the arteries of the kidneys are dilated and the total amount of blood circulating through them increased. In these cases the lime salts are usually excessive, and hence milk is not a suitable diet, though many medical men think it is the only proper diet in all diseases of the kidneys. The nitrogenous elements must be cut down and salt almost eliminated from the diet. The patient can have plenty of hydrocarbons, carbohydrates, fruit and vegetables, except such as contain oxalic acid. Medicinally, he should have the benzoates, the citrates, and any decalcifying agents.

In acute inflammatory disturbance of the kidneys the velocity in the capillaries is diminished and the lateral pressure relatively high; hence we get a concentrated filtrate. In healthy capillaries about a fourth, or less, of their pressure is transmitted directly to the surrounding tissues in which they are imbedded, but in the large congested, chocolate-coloured kidneys, when the capsule is stretched to its utmost capacity and the kidneys are nearly twice their normal weight, nearly the whole of the arterial and capillary pressure is transmitted and stops all secretion. The only salvation for such kidneys and their possessor is to freely incise the capsules and kidneys, as was ably and persistently advocated by the late Reginald Harrison. When the tension is relieved the secretion at once starts. A similar condition is often seen in cases of adenitis.

In acute tubular nephritis the lime salts are not, as a rule, excessive; hence, from this point of view, milk is admissible, and it has also the advantage of being poor in chlorides, but it is far too nitrogenous to be commended. I prefer fruit and carbohydrates, on which the patient can subsist for a long time. Medicinally, the following drugs are useful: Antimony, the benzoates, the citrates, the acid tartrate of potassium, saline purgatives, hot-air baths.

THE ARTERIOLES AND CAPILLARIES OF THE SKIN.

The arterioles are very muscular and well supplied with vasomotor nerves, chiefly of the constrictor type; frequently they are so contracted that the capillaries are almost empty, and in cases of local syncope quite empty, and the pressure and velocity fall to zero. These vessels are reciprocal to those of the splanchnic area. Usually when one set contracts the other dilates, and thus the mean arterial pressure is regulated; and they are also largely concerned in regulating the temperature of the body and the watery exhalations from the skin. When there is general vasomotor paralysis the blood travels in the direction of least resistance and largely accumulates in the splanchnic area; but if in addition you have general plethora it also stagnates in the extremities and other dependent parts and gives rise to general oedema. When there is merely local vasomotor paresis, such as that produced by a sinapism, the capillaries are engorged and the pressure and velocity increased. Witness also the effects following the application and removal of an Esmarch's tourniquet. Of this method of treatment Dr. William Ewart has made good use in rheumatoid arthritis.

The capillaries form an exceedingly close network in the corium and send loops up into the papillae, and the pressure and velocity vary enormously. After a liberal meal—especially one containing ingredients which dilate the arterioles, raise the diastolic arterial pressure, and thus provide an abundant supply of blood to, with increased pressure in, the capillaries—there is a free outpouring of lymph. In my opinion, a good deal of the work which has been done in the so-called digestion leucocytosis has been rendered worthless by the work of George Oliver on the tissue-lymph circulation. Those observations were made on the blood obtained from a prick of the finger, and this consists of a mixture of blood and lymph. The white cells are increased—the increase being in the lymphocytes—in proportion to the dilution with lymph, and the red cells are proportionately diminished. If the lymph be compressed out of the tissues and then a drop of pure capillary blood be obtained, there will be found in it an increase of red cells, and the white cells will be much less than in the mixed blood, and scarcely any more than would be obtained by an ordinary puncture three or four hours later, when the lymph had been reabsorbed. This so-called digestion leucocytosis is therefore no evidence of any increase of white corpuscles in the circulating blood,

but merely that lymph has transuded from the vessels, and in this lymph there is a considerable number of lymphocytes, probably obtained from the tissues as well as from the capillaries. There is no doubt a digestion leucocytosis, but it is not what has been usually described.

Baths.

These arterioles and capillaries offer an extensive area for the practice of the bath physician; if he cannot here cultivate fresh fields and pastures new, he is not worth his salt. A little washing does every one good, especially those who only take an annual tub. The nature of the bath depends on the objects which you want to accomplish. Heat relaxes and cold contracts the arterioles, effleurage causes dilatation, but pétrissage and tapotement rather contract the skin arterioles and dilate those of the muscles. The light or hot-air bath—if not overdone—followed by gentle massage and a cool douche, has often a very stimulating effect. The warm alkaline bath has a sedative, and the carbonic acid bath a stimulating, effect on the nerve endings. In the Nauheim bath the increased specific gravity has a primary effect of raising the peripheral resistance, which is afterwards followed by reaction, and the effervescence has a stimulating effect, but it is a piece of absurd twaddle and unreasoning credulity to attribute any specific effects to the chloride of calcium; fortunately this salt is not absorbed, otherwise it might work irreparable mischief. Baths of all kinds are, I think, powerful agents for good or evil, and should be used with care and discrimination. In advanced arterio-sclerotic changes they do good in great moderation, but it is extremely easy to work mischief. There is no use in telling your patients, as is often done, that they will feel the benefit of the baths when they return home; this, in my opinion, is equivalent to saying that the patient would have been better without the baths as administered at your particular spa. Any beneficial effect should be observed under administration. I do not like this hope deferred, and I think under such circumstances the patient on his return home should thank God for his escape.

The Arterioles and Capillaries of the Muscles.

The arterioles are supplied with vaso-dilator nerves and are thus reciprocal to those of the splanchnic area. The capillaries are arranged in a fine longitudinal network, from which lymph readily transudes. Dr. George Oliver has shown that during the height of the digestive flow of lymph tension exercises of the muscles do not further raise the arterial pressure. The lymph in the limbs is not concentrated and is readily absorbed. Sir Lauder Brunton and Dr. F. W. Tunnicliffe showed that after the cessation of muscular contraction the intermuscular arterioles dilate and thus lessen the resistance. Healthy muscular exercise is necessary for the maintenance of a vigorous circulation, and when such exercise cannot be taken, we should use such substitutes as massage, passive exercises, and douches.

The Cerebral Vessels.

As the circulation in the brain is carried on in a closed box, and owing to the atmospheric pressure, the total amount of blood varies very little. The arteries and arterioles are thin-walled, the inner coat is well formed, there is a moderate amount of muscle fibre in the middle coat, the external coat is rather defective, but it is strengthened by a lymphatic sheath. The presence of vasomotor nerves is not generally acknowledged, but Dr. Alexander Morison says that he discovered them. Owing to stress and strain these vessels are liable to atheromatous and calcareous degeneration, and in the smaller vessels there are frequently miliary aneurysms. The capillaries are small, short, well-supported vessels, which seem to be able to bear a considerable amount of strain. When the body is inverted—not a desirable method of treatment for any affection, except that of syncope—the carotid arteries contract down to about half their usual calibre, and thus the quantity of arterial blood is lessened, but its kinetic energy increased. The arteries are subjected to great strain from higher potential, but in the capillaries this is largely converted into velocity. The cerebro-spinal fluid, which represents the lymph, is very deficient in proteid, from which we may infer that under ordinary circumstances the capillary velocity is relatively great and pressure slight. In cases of meningitis the proteid in the fluid is increased. In alcoholic plethoric individuals there is frequently a deficiency in lime salts, transudation takes place into the ventricles, and so serous apoplexy is not such an uncommon event as textbooks make out. In cases of high arterial pressure the arteries are very liable to atheromatous and calcareous degeneration; such cases are often terminated by the rupture of a degenerate vessel or miliary aneurysm.

The treatment is that of the cause; frequently a timely free blood-letting saves the patient. Turkish baths are especially to be condemned in such cases, and other forms should only be used with great circumspection.

The Coronary Vessels.

The arteries and arterioles which supply the heart closely resemble the cerebral vessels in being thin-walled, rather deficient in muscular fibre, and in having very few, if any, vasomotor nerves. They are also exceedingly prone to atheromatous and calcareous degeneration of the intima. Newell Martin, Roy and Adami, and Alexander Morison found some evidence of vasomotor nerves, but, on the other hand, Schäfer, Dixon, Brodie, and Elliott have failed to get any response to adrenalin, which acts on all muscular fibre innervated by the sympathetic. Recently Dr. W. H. Harvey has found that the pituitary gland contracts these vessels and causes atheroma in them. These arteries are terminal, and this would seem to be one of the very few mistakes which Nature has made, as we might be inclined to think that here, if anywhere, a free anastomosis is desirable. We must, however, remember that the two sides of the heart are two distinct organs only linked together for convenience and mutual support. Perhaps, also, Nature is more concerned with the species than with the individual, and to her the loss of a person from a blocked coronary artery is a matter of no great moment. The terminal portions of the arteries which are imbedded in the muscle remain fairly healthy as a rule, so when a coronary is blocked the heart may be supplied with blood from the venous side. In cases of tricuspid stenosis the coronary veins are much dilated, and form regular sinuses in the cardiac muscles.

I have dealt with the treatment of chronic degenerative lesions of the heart and with the pulmonic circulation in previous addresses.

I have not spoken about the climate because in this country we have got to take it as we find it, but, such as it is, if it were not for the greed of the hotel proprietors, it could be had at a very reasonable price. Moreover, there are the advantages that the atmosphere is frequently washed, the sewers flushed, and the sanitation, as a rule, perfect.

Reference.
[1] British Medical Journal, 1906, vol. ii, p. 401.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

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In the extensive investigation of the physical signs and symptoms of cardio-vascular disease which is going on at the present day the rhythm of the crescendo murmur of *a-v* stenosis is apparently playing a very important part. Theories to explain perverted action of the heart are being promulgated; interpretations of jugular pulse tracings, normal or abnormal, deductions for prognosis, and indications for treatment are being made, books are written, and papers published, all being based in part or wholly on the supposed fact that the crescendo murmur of *a-v* stenosis is presystolic or auricular systolic in rhythm. As I have been of the opinion from 1897, when I first wrote on the subject, and am more strongly of the same mind now, that this theory has not only never been proved, but that it is fallacious, I think it worth while to remind observers of the alternative view, and to draw attention to some recent work, because it provides most valuable evidence as to the actual time of onset of this characteristic murmur.

In the first place, however, I should like to review the main theories concerning the rhythm of the crescendo murmur of mitral stenosis (for convenience I will speak of

mitral stenosis only as being the *a-v* lesion most commonly met with).

RHYTHM OF THE CRESCENDO, OR PRESYSTOLIC MURMUR.

There are two chief theories:

1. *That the murmur is a direct current murmur, and occurs whilst blood is passing from the auricle into the ventricle, and is caused in part or wholly by systole of the auricle.*

2. *That it is a regurgitant murmur, and due entirely to systole of the ventricle.*

Definition of the Murmur.

To be quite clear, it will be well to define exactly what is meant by the crescendo murmur. It is that murmur which has for its essential characteristics a pitch which rises progressively, and a force which increases progressively, and a sudden termination with an abrupt first sound when at its highest pitch and maximum vigour. It only occupies the terminal part of the interval between the second and first heart sounds, and is probably not more than 0.1 second in duration, and generally less than this. It may occur alone, or be continuous with a true diastolic mitral murmur, with a true systolic murmur, or with both these murmurs.

The A-S or Presystolic Theory.

To the writings of the late Sir William Gairdner is due in great part the almost universal acceptance of this theory at the present day. He assumed from the undoubted position of the murmur in relation to the first sound of the heart that it occurred just before *v-s*, and was coincident in time with *a-s*. But he had no indisputable proof to support his belief that the murmur must be coincident with *a-s*, the only universally acknowledged fact being that the murmur precedes and is terminated by the first sound. Nevertheless, the explanation seemed to be very obvious and appealed successfully to minds of clinicians, as compared with the *v-s* rhythm theory which was supported by Ormerod, Barclay, and Charlewood Turner in the Seventies, and by Dr. Howship Dickinson in 1887.

Gairdner's Case.

In 1893 Gairdner published the notes of a case of tricuspid stenosis which he had followed up clinically and seen *post mortem* in 1872, and which he and his disciples considered to be proof positive that the crescendo murmur is *a-s* in rhythm. I have criticized this case before, but I should like to refer to it briefly again, first, because, even if Gairdner was correct in believing that the crescendo murmur was synchronous with *a-s*, the case affords strong evidence in favour of the *v-s* rhythm of the murmur in mitral stenosis; and, secondly, to point out that there is another possible explanation of the causation of the murmur which altogether destroys the value of the case as the definite proof of the *a-s* rhythm theory which Gairdner believed and which nearly all modern observers assume it to be.

Clinically the case showed a murmur which began "immediately after the second sound, continued diminuendo throughout the pause, and then went on crescendo up to the first sound, at which it stopped abruptly." The obstruction was caused by a pedunculated tumour in the right auricle, which, from its position, was forced during auricular systole into the tricuspid orifice and interfered with the flow of blood through this valve. In Gairdner's opinion the tumour "could only have been obstructive during ventricular diastole and auricular systole, and could by no possibility become the physical cause of a murmur of regurgitation." He also further believed that the murmur occurred "under circumstances which render it impossible to suppose that there should have been any difficulty or delay in the closure of the valve, any more than in a normal heart. And even had there been regurgitation, the obstacle, not being fixed but movable, would not have been in the way any more than the ball valve of a syringe is in the way of the current generated by suction."

In the first place, then, let us assume that Sir William Gairdner was correct in his supposition that the terminal part of the murmur, namely, the crescendo, rising-pitch portion, was caused, in part or wholly, by the contraction of the auricle, and we must ask the question, How were the characteristics of the murmur, namely, rising pitch and increasing force, produced?

The rising pitch could have been produced, as I shall explain later, by the tumour being forced, partly or wholly by the systole of the auricle, further and further into the orifice of the valve, until it finally completely obstructed the latter. Whilst this was going on, that portion of the murmur which was undoubtedly produced by the obstruction to the passage of blood into the ventricle, would become progressively of higher and higher pitch synchronously with the progressive obliteration of the blood-way into the ventricle, and would terminate when at its highest pitch. If not in this way, how was the rising pitch produced?

My point can be seen at once, if whilst air is being sucked in or blown out through the pursed-up lips the tip of the middle finger be more or less rapidly used to block up the air passage in the lips. A rising pitch "murmur" is produced at once. If the air be blown or sucked with increasing force during the insertion of the finger a complete crescendo character is at once imparted to the "murmur."

This explanation of the production of the crescendo murmur in Gairdner's case, paradoxical though it may seem, is strong evidence in support of the early *v-s* rhythm of the crescendo murmur of mitral stenosis, as I shall show later. The crescendo or increasing force of this murmur must, if the latter were due to *a-s*, have been caused by a progressively vigorous, suddenly terminating contraction of the auricle.

But there is another possible explanation of the causation of Gairdner's crescendo murmur, and so, adopting a legal method, I will submit alternative pleadings. There are two disputable points in Gairdner's interpretation of the significance of the case:

(1) There is no analogy between the ball of a ball-valve syringe and the tumour in the auricle which *interfered with the normal action of a flap valve.*

(2) It is not impossible that the crescendo murmur was caused by blood escaping through the tricuspid valve at the onset of ventricular systole before the tumour, which was forced into its orifice by auricular systole, could be dislodged and the valve curtains come together in competent apposition. I may illustrate this criticism by the simple experiment of placing the tips of two of one's fingers into the mouth between the lips whilst the atmospheric pressure in the mouth is increased, and then suddenly withdrawing or blowing out the fingers and allowing the lips to come together and prevent the escape of air. During the withdrawal of the fingers a greater or less amount of air escapes through the lips, according to the way the fingers are removed from the lips, and gives rise to a bruit, which is of ascending-pitch type, owing to its being produced at an aperture of rapidly and progressively diminishing area. It also terminates abruptly with the final closure of the lips, which prevents any further escape of air. The lips in this experiment represent the valve curtains, and the tips of the fingers the foreign body.

Whether Gairdner's interpretation of the rhythm of the murmur or my own be correct, both afford strong evidence in favour of the early *v-s* rhythm of the crescendo murmur of mitral stenosis, because they both depend on the fact that the rising-pitch characteristic was imparted to the murmur at a closing valve orifice.

The V-S Rhythm Theory.

Dr. Howship Dickinson in 1887 wrote an important paper on "The Presystolic Murmur, falsely so-called." In this paper, Ormerod's and Barclay's views were supported by very powerful arguments, derived from much clinical experience. It is impossible to do justice to Dickinson's views in a short abstract of his paper, but I may note that one of his strongest reasons for believing that the "presystolic" is really a *v-s* murmur is the frequently repeated observation, that "if a finger be pressed between the ribs, particularly in a thin person and when the heart is not too rapid, and if, at the same time, the double stethoscope be adjusted to the murmur, the beginning of the murmur will be found synchronous with the beginning of the impulse."

As Dickinson looked upon the "short sound which immediately follows the special murmur—up to which the latter runs—as marking the conclusion of ventricular

systole," it is not to be wondered at that his view was not accepted.

I was brought up on the *a-s* rhythm theory, and accepted it until in 1895 I was converted to the rival theory as the result of experimenting in the production of imitation murmurs with a piece of drainage tubing. I found that I could produce a perfect imitation of a crescendo, rising-pitch murmur by blowing with increasing force through a piece of drainage tubing of about ¼ or ⅓ inch diameter of lumen and obliterating the lumen of the tube with the fingers, or by bringing the teeth together on the tube whilst doing so.

As this simple experiment is the key to the whole question, giving, as it does, a bed-rock of fact to build upon, I will state precisely what happens.

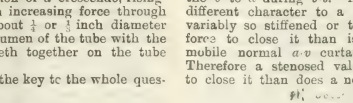


Fig. 1.—A, Mitral valve unclosed; B, Mitral valve closed; C, Mitral valve incompletely closed.

Production of an Imitation Rising-Pitch, Crescendo-Force Murmur.

A sound of crescendo force, rising pitch, and abrupt cessation at the point of maximum vigour and highest pitch is produced if you blow with increasing force through a piece of drainage tubing, and obliterate the lumen of the tube whilst doing so. A similar series of events occurs with water instead of air as the sound-producing medium, as can easily be seen with a Higginson syringe without its nozzle, a binaural stethoscope, and the washbasin of a bathroom.

This "crescendo" murmur varies as regards its force, pitch, tone, and length of duration, according to the force used to produce the murmur, the diameter of lumen of the tube, the capacity for vibration of the wall of the tube, and the rapidity of the obliteration of its lumen. Similar variations of the murmur occur, *mutatis mutandis*, in the *a-v* valves. The murmur is identical in essential characteristics with crescendo murmurs heard in mitral and tricuspid stenosis. A similar sound can be produced in a similar way by phonating the word w-h-i-p through the lips, or by placing the tip of a finger between the lips into the mouth, when you raise the atmospheric pressure in the mouth, and then withdrawing the finger more or less suddenly. I can find no other way than by obliterating an orifice at which a murmur is produced, by which you can can impart the progressively rising-pitch character to the murmur.

The rising-pitch character of the crescendo murmur of *a-v* stenosis must, therefore, with the greatest probability, if not absolute certainty, be acquired by the act of the valve closing while a murmur is being produced at it.

Gairdner's observations, even if allowed to be accurate, support in a very suggestive way the "closing-orifice" production of the murmur, and also the admissibility of the principle of the "closing-orifice" murmur being applied to the intracardiac conditions.

The character of the crescendo murmur will vary in mitral stenosis according to the condition of the valve. If there be any vibration of the curtains during regurgitation, a rough blubbering or burring sound, will be produced; if the curtains be entirely rigid, only a smooth crescendo rising-pitch sound will be heard.

If the above explanation of the mechanism of production of a rising-pitch murmur in mitral stenosis be fallacious, I shall be glad to be corrected.

Assuming that the murmur be so caused, it could arise during the direct flow of blood through the heart, that is, from *a* to *v* during *v-d*; or by regurgitation, that is, from the *v* to *a* during *v-s*. A stenosed *a-v* valve is of very different character to a normal valve; it is almost invariably so stiffened or thickened that it requires more force to close it than is necessary to float the thin mobile normal *a-v* curtains into competent apposition. Therefore a stenosed valve requires more *i-v* pressure to close it than does a normal valve, and this can only be produced at a later phase of *i-v* pressure than that at which the normal *a-v* valves are closed. If the diseased valve remains opened during any part or the whole of increased *i-v* pressure—that is, *v-s*—blood will regurgitate through it and cause a murmur unquestionably systolic in rhythm. If the valve is so distorted and stiffened by disease that the *i-v* force cannot close it at all, a *v-s* murmur is heard throughout the systole of the ventricle; but if the valve is in such a condition that it only requires rather more *i-v* force to close it than a healthy valve does, it will be closed at a later period of *v-s* than normal, and during this delay blood will escape back into the auricle and cause a murmur to which a rising-pitch character is imparted by the act of closing of the valve. The terminal abrupt first sound is probably caused by the sudden and forcible impact of the hardened, thickened jaws of the diseased valve.

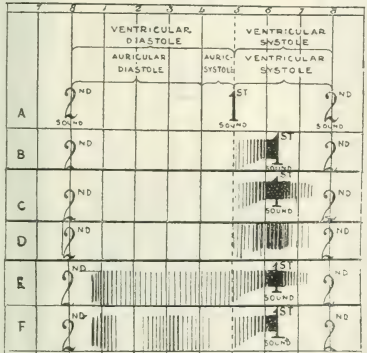


Fig. 2.

The mitral valve is closed in health when the *i-v* pressure rises above that of the *i-a* pressure through the contraction of the ventricle. In mitral stenosis there is no reason to suppose that anything different happens. No one will maintain that the auricle can raise in the ventricle a higher pressure than that in its own cavity. If any one should hold this view, the onus of proof rests with him.

The preceding arguments can be restated in a few lines: The rising-pitch characteristic of a crescendo murmur is caused at a closing *a-v* valve; the *a-v* valve is closed by *v-s*, therefore the murmur is *v-s* in rhythm.

Careful, and certainly more than a cursory, consideration of this question—it occupied very closely my own thoughts for two years before I published my views—and the taking into account of the clinical variations of the murmur and the pathological conditions of the stenosed valve, auricle, and ventricle; and, finally, both the explanations of the production of the murmur in Gairdner's case will, I venture to think, convince others of the fact that it is the ventricle and not the auricle which alone can produce the crescendo murmur.

Application of the Early *V-S* Theory to the Explanation of the Chief Auscultatory Signs of Mitral Stenosis.

Early Stage—Accentuated First Sound Alone.—The thickened margins of the diseased valve are connected at

their junction by mobile hinges, which allow the jaws of the valve to snap together easily and early in *v-s* and before blood has time to regurgitate.

Later Stage—Crescendo Murmur Alone and Accentuated First Sound.—The mobile hinges become stiff and the murmur is formed by blood regurgitating under pressure through the valve whilst its stiffened jaws are being closed by the rising *i-v* pressure developed at an abnormally later stage of *v-s*. (See accompanying diagram, Fig. 2, published in 1899.) An accentuated first heart sound terminates abruptly this murmur, and is due to the collision of the thick hard jaws which guard the stenosed orifice (Figs. 1 and 2, B).

Crescendo Murmur Continued by Ventricular Systolic Murmur.—In this case the former bruit is produced in the same way as when it is heard alone, but the coaptation of the jaws is imperfect, and fails to make the valve watertight or blood-tight, so a small stream of blood continues to regurgitate through one corner or side of the valve orifice whilst *v-s* persists, and gives rise to the uniform systolic murmur. A more or less abrupt first may divide these two murmurs (Figs. 1 and 2, C).

Crescendo Murmur and Accentuated First Sound, Alternating Systolic Murmur and less marked or no First Sound.—The occurrence of a crescendo murmur and sharp sound indicates that the *i-v* blood pressure is raised by *v-s* sufficiently high to produce a transient regurgitant murmur before it closes the stiff valve with a snap; whilst the production of a *v-s* murmur, but no sound, means that the heart beat is weak, sufficient pressure is not generated to close the valve anything like completely, no crescendo murmur or abrupt first sound can be produced, and an ordinary *v-s* regurgitation goes on, producing the uniform, true, mitral systolic murmur. There is no change of rhythm with the alternation of these murmurs, both occurring during *v-s*, and within a few beats of a heart often as a result of change of position from lying down to sitting up. The final change to an accentuated first sound only, if a patient walks about, is due to the increased force and quickness of beat closing the valve before regurgitation can take place, or producing a crescendo murmur of too short duration to be heard. This point may also be illustrated by the well-known clinical fact that an overworked ventricle in mitral stenosis, which can only contract feebly and cause a systolic murmur whilst the patient is up and about, will often, on rest in bed, with or without drugs, recover its strength again sufficiently for the production of a crescendo murmur.

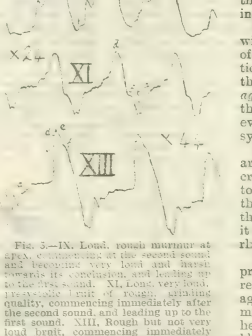


Fig. 3.—IX. Loud, rough murmur at APEX, commencing at the second sound and becoming very loud and harsh towards its conclusion, and leading up to the first sound. XI. Loud, very loud, harsh systolic murr of rough, grinding quality, commencing immediately after the second sound, and leading up to the first sound. XIII. Rough but not very loud bruit, commencing immediately after the second sound, and leading up to the first sound, accompanied by a thrill. A, Auricular systole; B, Closure of semilunar valves. (Reproduced by kind permission of Dr. Galabin and Editor of *Guy's Hospital Reports*.)

Diastolic, Crescendo, and Systolic Murmurs Forming One Long Continuous Bruit.—In this case the diastolic murmur is formed by blood being driven through the stenosed orifice, under those forces which fill the ventricle and by the contracting auricle (when it is able to join in); the crescendo murmur, by blood regurgitating through the closing valve during the earlier half of *v-s*; and the systolic murmur, by blood escaping through a leak in the somewhat imperfectly closed valve during the latter half of ventricular contraction. The two last murmurs may be separated by the abrupt tapping first heart sound, caused by the impact of the jaws of the orifice of the closing valve (Fig. 2, B).

The *systolic murmur* alone is caused by the *i-v* pressure being unable to coapt the edges of the diseased valve during any part of *v-s* (Fig. 1, A, and Fig. 2, D).

The *ordinary diastolic* mitral murmurs, early, middle or late, always decrescendo, are produced as indicated in the preceding paragraph but one.

An *accentuated second sound* heard over the pulmonary area will always be heard in mitral stenosis.

The tone of any murmur will vary according to whether it is produced by a fluid vein, or whether a diseased valve is thrown into vibrations. In the latter case the murmur will be harsher or more "blubbering."

It will be seen from the above that, in my opinion, a crescendo murmur in mitral stenosis means efficient contraction of the left ventricle, and is of good prognostic import.

Does the *a-s* rhythm theory explain these points as simply or as satisfactorily?

There are a couple of points made by *a-s* theorists in support of their views to which I should like to refer.

Visible Pulsation in the Second Left Intercostal Space.

This argument was especially used by Balfour. He stated that in many cases of mitral stenosis the *appendix of the left auricle* is greatly dilated and lies close to the anterior chest wall in the second left intercostal space, and when this is the case, contraction of the auricle against the chest wall may be felt by the finger to coincide with the auricular systolic (presystolic) murmur heard with the stethoscope.

But it has been shown conclusively by various observers that the left auricle never occupies the position in mitral stenosis described by Balfour. It lies well back and away from the chest wall, and its contraction never can be felt, but the pulsation to which Balfour refers is caused by the movements of the *base of the right ventricle*, which lies behind the second costal interspace on the left side of the sternum. Keith says that the left auricle is behind the ascending aorta.

Balfour's clinical evidence, taken with the pathological investigations of other observers—who, I may mention, are all upholders of the presystolic theory—yields an important fact *against* and not in favour of the theory which he advocated. This evidence, in truth, supports the early systolic rhythm theory.

Again, Sansom and other observers argued that the fact that the crescendo murmur is heard and felt to exactly precede the maximum of the cardiac movement is proof that the murmur is *a-s* in rhythm, whereas it is really in favour of the early *v-s* rhythm.

There is one question which I have previously asked, and as I have never received any answer to it I will put it again. Why is not a crescendo murmur heard at the aortic orifice if that heard in mitral stenosis be caused by blood being forced by auricular contraction through the narrowed valve? It is not unreasonable to wonder why the much stronger ventricle never produces any suspicion of a crescendo murmur when it drives blood through an entirely analogous obstruction—namely, that of stenosis of the aortic valve. Here it must be noted that the action of ventricular systole is that of a gathering force, and that the blood is forced through the aortic valve with increasing vigour.

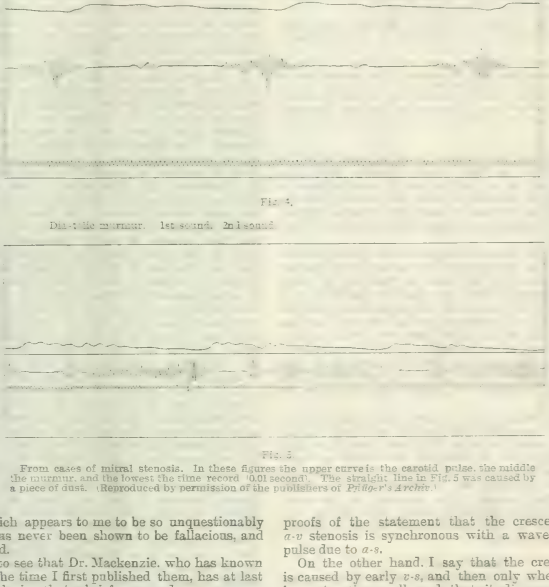
Here, then, we have practically an ideal condition for the production of a crescendo murmur, and yet one is never produced. On the other hand, it is allowed that a crescendo murmur is produced at times by blood regurgitating through an incompetent aortic valve (Flint's murmur). I have never seen an explanation of how it is that no crescendo murmur is heard in aortic stenosis offered by any supporter of the presystolic theory.

Cardiographic Evidence.

If the early *v-s* theory of the crescendo murmur be true, it is obvious that the first sound of the heart will occur at a later phase of *v-s* than is normally the case, for there will be contraction of the ventricle for a longer or shorter time before the closure of the valve; in other words, there will be a lengthened presphygmic interval (Fig. 1, B). There will also be a longer or shorter time of preliminary movement of the apex beat, during which blood is slipping back through the open valve, before the strong impulse

denoting the forcible contraction which drives blood through the semilunar valves. This preliminary movement, synchronous with blood passing back through the diseased valve, and with a crescendo thrill, when one is present, ought, with a good cardiograph, moving more rapidly than those much used now, to impart to the cardiogram a more or less gradual rise, to be terminated suddenly by a wave and notch caused by the jerk of the closure of the stenosed valve, and from this point there ought to be a more vertical upstroke like that of a normal cardiogram. If a crescendo thrill be present the preliminary gradual rise ought to be more or less wavy or serrated according to the fineness or burring character of the thrill. With a prolonged ordinary systolic murmur of mitral regurgitation, and no closing movement of the diseased valve, there will be an abnormally long presphygmic interval, and the upstroke of the cardiogram ought to be abnormally gradual throughout its whole extent.

Many good cardiograms taken from cases of mitral stenosis to prove the *a-s* theory show these points clearly. Thus, Fig. 5 is a reproduction of three adjacent tracings from Galabin's paper on the subject. There are several others of similar nature. The letter *a* is supposed to indicate *a-s*. If it is, what is all the irregularity in XI and XIII tracings before the final upstroke due to but ineffective ventricle contraction? The clinical notes appended to the figure are taken from Galabin's paper.



From cases of mitral stenosis. In these figures the upper curve is the carotid pulse, the middle the murmur, and the lowest the time record (0.01 second). The straight line in Fig. 5 was caused by a piece of dust. (Reproduced by permission of the publishers of *Pflüger's Archiv*.)

So much for the early ventricular systolic rhythm theory of the crescendo murmur of *a-v* stenosis, which appears to me to be so unquestionably sound that it has never been shown to be fallacious, and is usually ignored.

I am pleased to see that Dr. Mackenzie, who has known my views from the time I first published them, has at last come to the conclusion that a brief crescendo murmur can be caused by slight regurgitation through the mitral orifice at the beginning of ventricular systole; but he still thinks that it is indisputable that auricular systole can produce a pre-systolic or crescendo murmur.

Recent Investigations.

Through close attention to other work I have not been able to follow all the work in recent years on cardio-vascular investigation, but I have read a certain amount and cannot see any new and indisputable evidence in favour of the *a-s* theory. Many of the observations are not as satisfactory from a scientific point of view as they might be, inasmuch as the tracings often show too little detail and are taken on too slowly recording surfaces with time marks of 0.20 of a second. In some tracings there is no time record at all. Much quicker movement and more delicate instruments are required to bring out the niceties of cardio-vascular waves and movements, and so to permit of more accurate estimation of synchronism. We ought to think and observe in 0.02 second at most, not 0.20 second, in this work. Such tracings can as a rule only be taken in hospitals, but if they were obtained cardiological inexactitudes would be avoided and many knotty points more quickly unravelled. I have no doubt. I quite agree with what Dr. Thomas Lewis has written about cardiographic record making (p. 361). His diagrammatic representation of the cardio-vascular events is drawn in 0.01 second.

The *jugular pulse* argument, which is used so much now as a basis for deductions in cardio-vascular work, is that a wave synchronous with the *a-s* is present in cases of *a-v* stenosis when a crescendo murmur is heard and marked by hand on the tracing as occurring synchronously with this wave, and that the wave disappears when the crescendo murmur is not heard; therefore the crescendo murmur must be due to *a-s*. This line of argument has been used by Dr. Lewis to prove, in a case in which, at one time, there was a crescendo murmur which disappeared, that since there was an auricular wave in the jugular pulse at the time there was a crescendo murmur, which was still present when there was no crescendo murmur, there must have been contraction of the right auricle to cause the auricular venous wave with synchronous paralysis of the left auricle. I have been unable to find any indisputable proofs of the statement that the crescendo murmur of *a-v* stenosis is synchronous with a wave in the jugular pulse due to *a-s*.

On the other hand, I say that the crescendo murmur is caused by early *v-s*, and then only when the ventricle is contracting well, and that it disappears temporarily when the ventricle muscle acts quietly, and permanently when the muscle fails. A greater or less degree of ventricular disability accompanies auricular muscle failure, and when the latter is marked, and there is no auricular wave in the jugular pulse, the muscle failure of the ventricle is also so considerable that the *v-v* pressure cannot close the mitral valve, and we get in consequence no crescendo murmur, probably only an ordinary regurgitant murmur. So absence of the auricular wave in the jugular pulse will probably be noted in a case in which the ventricle muscle is incapable of producing a crescendo murmur, as is always so towards the end of *a-v* stenosis.

As part of his argument Dr. Lewis stated that some observations of Weiss and Joachim finally settled the question of the actual time of onset of the crescendo

murmur in favour of the *a-s* rhythm. I was much interested in seeing this opinion, and turned to the paper in question, feeling quite sure that if the observation established anything definitely, it would be the early *v-s* rhythm. I now beg to ask those readers of the JOURNAL interested in the matter to look at the paper in *Pflüger's Archiv* and say what they do tend to prove. I give the essential points here.

Weiss and Joachim have devised a most ingenious instrument called the phonoscope, by which they can record in a wonderful and unmistakable way the normal sounds of the heart and any murmurs louder than the very softest blowing type. They publish several tracings, of which two are appended, showing the murmurs of mitral stenosis. The points they make are:

1. The distance from the beginning of ventricular systole to the rise of the carotid pulse in a normal heart is 0.08 to 0.09 second.

2. In mitral regurgitation this is increased to from 0.125 to 0.15 second, according to the degree of muscle failure present. This fact appeared to the writers to be strange, but they explain it by suggesting that blood escapes back through the incompetent valve at the beginning of *v-s*, and delays the development of sufficient *i-v* pressure to open the semilunar valves. This is exactly what I say happens in the development of a crescendo murmur, causing delay of the first sound (see Fig. 2).

3. The crescendo murmur of mitral stenosis occurs well within 0.15 second of the carotid rise (Fig. 4). Time vibration 0.01 second.

4. Weiss and Joachim make a special note of the fact that if the time of commencement of contraction of the auricle before the rise in the carotid artery (0.20 second) be marked off on the tracings, no noticeable sudden alteration of the curve is seen there (Fig. 5). In Fig. 4 they point out that the first vibrations of the murmur are only 0.13-0.14 second removed from the carotid pulse.

Weiss and Joachim do not state what appears to be the obvious conclusion to their work, namely, that the crescendo murmur is *v-s* rhythm, but I have written to them drawing their attention to this, and asking them to examine their records to see if they afford similar support to the early *v s* rhythm theory, an account of which I have sent them.

In my judgement these tracings are not proof positive that the auricle has nothing to do with the production of the crescendo murmur. As there is wanting on them a definite indication of the exact time of onset of *a-s*, it may be argued that the auricle contracts nearer to the carotid pulse in mitral stenosis than 0.20 second; but, on the other hand, one of the chief doctrines of the modern school of cardiology, advanced partly on the assumption of the synchronism of *a-s* and the crescendo murmur, is that the *a-c* interval (between the onset of *a-s* and the carotid pulse) is often increased in mitral stenosis even to 0.40 second.

In conclusion I submit that I have shown that the *a-s* rhythm of the crescendo murmur is not only highly disputable, but even entirely fallacious, and that the murmur is early *v-s* in rhythm. It would be very instructive for all interested in the matter if Dr. Mackenzie will produce his "indisputable" evidence that the murmur is, in part or wholly, caused by *a-s*, so much of the superstructure of modern cardiology being founded on this belief. Then the two discordant views can be compared by readers of the JOURNAL.

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OBSERVATIONS CONCERNING THE BLOOD IN CHOREA AND RHEUMATISM.

BY

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THE association which is generally supposed to exist between rheumatism and chorea is very difficult to understand, and I think we may fairly say that the question of their actual relationship is hardly settled yet. Rheumatism itself is a disease which has a much narrower interpretation to-day than it had some years ago, and a good many cases formerly classed as rheumatic fever are now known to belong to an entirely different category.

In the *Liverpool Royal Southern Hospital Reports* for 1902 I referred to this fact, and directed attention to a series of cases which closely resembled rheumatic fever clinically, but were quite uninfluenced by treatment with the salicylates, and were found to result from toxic absorption from one or another of the mucous tracts. In chorea we have another disease which, although it frequently occurs in children who have suffered from antecedent rheumatic or rheumatoid conditions and is associated with endocardial and pericardial complications, cannot be said to be more than an ally of true rheumatism, and this supposed alliance rests only upon certain clinical similarities and effects which may possibly result from an entirely independent toxin.

It is upon this point that I have been endeavouring to gain some information recently by means of experiments with the bloods of the two diseases. I have also tried to discover whether any evidence can be found to prove or disprove that chorea is to be regarded as an infective disease. The infectivity of chorea is certainly suggested by the remarkable way in which it tends every now and then to become so prevalent as to appear to be epidemic. In November, 1907, there were 5 cases in the wards, all admitted within a few weeks. In 1908, of 18 indoor cases, May and October furnished more than half the admissions; and during May of this year I have had under my care no less than 8 cases, of which 4 presented themselves in one day. It has more than once happened in my experience that two children in the same family have developed the disease in succession, and on one occasion the return home of a convalescent child was followed by the admission of a sister with whom she slept. On making inquiries, I have sometimes found that two or more children in a school have had chorea in succession or simultaneously, and it seems possible that the old impression that children get the disease by imitation may have arisen through the unsuspected infection of one patient from another.

H. C. Ross's method of telling whether leucocytes are living or dead[1] by examining the blood on an agar film containing atropin and a stain, has enabled us to investigate the effects of placing the leucocytes of healthy people in the plasmata of patients suffering from various diseases. He has shown that if the leucocytes of one healthy person are placed in the plasmata of other healthy persons they live a somewhat shorter time than they do in their own plasma, whereas if they are placed in the plasmata of persons suffering from diseases which are due to or associated with certain toxins in the blood, their lives are greatly shortened. This fact has proved useful inasmuch that it has (so far as we can tell up to the present) placed in our hands a method of estimating to a considerable extent whether a disease of uncertain nature is accompanied by a toxin in the blood, and it was this general principle which led to my suggesting that we might employ it to throw some light on the problem of the relationship between chorea and rheumatism.

I need not enter into all the details of the experiments, but shall very shortly explain their nature:

1. The first research had for its object the determination of the presence or absence of a toxin in the blood of chorea patients. The chorea blood was mixed in a capillary tube with an equal volume of citrated solution, centrifugalized, and the corpuscles removed. To the remaining plasma a small volume of the blood of a healthy person was added. Simultaneously another tube was prepared by adding the same healthy person's corpuscles to another healthy person's plasma. Both tubes were kept at 30° C. and samples of the contained corpuscles were

examined from time to time on the agar films. The numbers of living and dead corpuscles were counted and averages taken.

2. The same experiment and control were repeated with the blood of persons suffering from acute rheumatism.

3. The effect of placing chorea leucocytes in the plasmata of other patients suffering from chorea was tested against a control.

4. The result of adding rheumatic leucocytes to chorea plasma was observed.

The results of these experiments show (1) that there appears to be in the blood plasma of patients suffering from chorea a poison which is toxic to the leucocytes of healthy persons, and (2) that in the case of rheumatism the plasma does not appear to be so uniformly toxic; in fact, it seemed to be hardly at all poisonous to healthy leucocytes.

Next comes the question, Does any immunity exist between the two diseases? If I place the corpuscles of a chorea patient in the plasma of another chorea patient, they will live nearly as long as the corpuscles of a healthy person's will live in another healthy person's plasma, showing that to some extent the blood cells have become immune to the toxin. This being so, if the toxin in acute rheumatism is similar to that in chorea, the same evidence of immunity should exist when the corpuscles of the rheumatic patient are placed in the plasma of a patient suffering from chorea. When this experiment was carried out, however, it was found that their lives were invariably shortened, and one may infer from this that at all events some difference exists between the poisons in the two conditions.

H. C. Ross has recently made a very instructive experiment showing the value of this method of estimating cellular immunity. I had in the Royal Southern Hospital some time ago a man who had been a morphinomaniac for years, and who habitually took large doses of the drug. His arms presented a mass of cicatrices caused by hypodermic punctures. It was found that his leucocytes lived longer in a citrated solution of morphine than a healthy man's leucocytes did in the same solution under exactly the same conditions, and the lasting properties of this immunity appear to be demonstrated by the fact that the leucocytes of another patient who had been addicted to morphine, but who stated that she had taken none for five months, still appeared to be more or less immune.

We have not been able to tell experimentally whether the immunity in chorea is similarly lasting, but clinically we know how apt the disease is to recur. We hope some time hence to repeat our observations on the bloods of the same patients to test this point. In all probability we shall find that immunity of a lasting character is manifest when the corpuscles of people who have scarlatina—or other infectious diseases which confer immunity—are placed in the plasmata of patients actually suffering from these diseases, whereas the same plasma will prove exceedingly poisonous to the corpuscles of those who are unprotected.

There is just one other point to note with reference to the blood conditions found in chorea and acute rheumatism. In the first two cases of chorea which were investigated there was a marked eosinophilia. The counts showed 20 per cent. of eosinophiles in one and 16 per cent. in the other. I thought this might possibly have been due to some unsuspected intestinal parasites, but examination of the stools for eggs, etc., gave absolutely negative results. Six or eight chorea bloods have been examined since then, and, with one exception, they have all presented this peculiarity.[2] There has been no eosinophilia in any of the numerous cases of acute rheumatism we have examined, and we have here another important distinction between the two diseases. It is noteworthy that this eosinophilia was present in the blood of the child who developed the disease in hospital, and who has been already referred to as occupying a bed next to a chorea patient.

The observations which I have made in my opinion tend to confirm the suspicion that there is less real association between chorea and rheumatism than is generally thought to be the case, and that chorea may be due to an infective toxæmia of distinctive character.

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A CASE OF ENTEROSPASM SIMULATING ACUTE OBSTRUCTION.

BY

F. E. WYNNE, M.B., LEIGH, LANCS. and F. P. STURM, CH.B., LEIGH, LANCS.

CASES in which the existence of enterospasm has been demonstrated during operation are still sufficiently rare to justify the publication of the following:

Mrs. G., aged 45, was seen by us in consultation on June 19th last, and was found to be suffering from symptoms which pointed to acute obstruction.

History.

Several similar attacks in the past had been diagnosed as biliary colic. Three years previously acute obstruction had apparently supervened, but while arrangements were being made for immediate operation the bowels acted naturally and all symptoms subsided.

State on Examination.

When we saw her there had been no motion for four days, there was incessant vomiting, and intense pain which could be localized neither by the patient nor by palpation. The abdomen was distended and tympanitic, with some dullness in the right iliac region. Abdominal respiration was present, but impaired. The temperature was normal, the pulse 150, the facies typically abdominal. The diagnosis appeared to lie between obstruction from an impacted gall stone and appendicitis. The patient was in an extremely critical condition. Operation was offered and accepted.

Operation.

The abdomen was opened in the middle line between the umbilicus and pubes. Coils of distended small intestine immediately crowded into the wound.



These being protected by hot sterile cloths, a hand was introduced and a careful examination made of the abdominal cavity. The gall bladder was empty, the hernial orifices free, and the large intestine normal from the hepatic flexure to the rectum. The cæcum was obscured by adhesions. Upon withdrawing the examining hand a coil of collapsed and almost bloodless small intestine followed into the wound. The distended jejunum was traced downwards in search of a constricting band or other cause of obstruction. About 2 ft. beyond the ligament of Treitze the jejunum merged suddenly into the coil of collapsed gut. There was no band nor any other constricting cause. The gut below the constricted coil was normal. The constriction was moving slowly but distinctly upwards—a fact that was confirmed by each of us and also by Mr. Pickup who was administering the anæsthetic. One of the distended coils was opened and evacuated. It was then found possible to return the intestines and examine the appendicular region. An enlarged and congested appendix containing a concretion which proved ultimately to be a gall stone, was with difficulty dug out of the usual nest of adhesions deep in the pelvis. The accompanying photograph shows the appendix slit open, with the gall stone in a pouch of the swollen mucous membrane.

Death.

The wound was closed and the patient put back to bed. She never rallied from the shock of the operation, in spite of intravenous transfusion of saline, but died at 8 o'clock the same evening.

The following points of interest emerge:

1. The association of old appendicular trouble with enterospasm suggests a reflex origin of this curious condition, and a possible explanation of certain cases of faecal vomitiig, as the peristaltic action was reversed.

2. The history of repeated attacks of biliary colic is curious since only one gall stone was found, and that in the appendix. Many other gall stones must have succeeded in passing the trap.

3. A similar, though much less severe, attack three years previously had been relieved by a natural action of the bowels.

4. The case was a perfect clinical picture of acute abdominal mischief, but without the abdominal rigidity usually associated with such conditions.

5. The unexpected collapse and death suggests that even a moderate amount of abdominal manipulation in these spastic conditions of the bowel involves an inordinate degree of shock, a conclusion that is confirmed by the results of the majority of the other few cases of enterospasm that we have seen recorded.

ACHONDROPLASIA OCCURRING IN A CHINAMAN.

By GORDON MOIR, SURGEON, R.N.

THE following notes, and the photographs by which they are illustrated, were obtained with some difficulty in Shanghai, where the man resides. The family history was very meagre, but he stated that his father and mother (natives of Hankow, 500 miles up the Yang-tse-Kiang) were of normal size; both of them are now dead. He is married, and has a son and a daughter, but neither could be observed.





The man himself is 58 years of age, quite intelligent, bright and alert. He earns his living (chiefly on account of his small size) by dancing, buffoonery, etc. He talks English to a slight extent.

The physical conditions are entirely due to achondroplasia, there being no signs of rickets. The head is large and globular, the occipital bones being well developed. The bridge of the nose is depressed, the lips and eyelids are not thickened: the teeth are nearly all gone; the vault of the palate is normal in appearance. The lower limbs are short, but remarkably well-developed muscularly. He is somewhat flat-footed; the legs are well formed; there is bowing, and no nodosity present.

The umbilicus is altered from the normal position of $\frac{1}{1}$ to $\frac{42.75}{19}$ or $\frac{2.35}{1}$. Hair, especially pubic, is very scanty, but this is common among the Chinese. The ribs are normal, no beading being present. The arms are very short; when they are hanging down the side, fully extended, they only reach the crest of the ilium, instead of halfway down the thigh, as in the normal individual. The radius has no enlargement on its lower end; the shortness of the radius (2½ in.) gives a great increase to the normal radial curve.



The following measurements were obtained:

1. Height, 42½ in.
2. Umbilicus from ground, 19 in.
3. Circumference of head, 22½ in.
4. Clavicle, 2½ in.
5. Tip of mastoid to tip of mastoid, 7 in.
6. Radius, 2½ in.
7. Olecranon to ulnar spine, 5 in.
8. Anterior superior spine of ilium to internal condyle, 9½ in.
9. Internal condyle to internal malleolus, 8 in.
10. Chest expanded, 27 in.

A CASE OF "DERCUM'S DISEASE."

By G. McMULLAN, M.B.,

WALLINGFORD, BERKS.

THE following case appears to me to be of sufficient interest, if only as a clinical curiosity, to warrant its publication, presenting, as it does, almost all the characteristic symptoms of adiposis dolorosa, as described by Dr. Dercum in 1892 at the Neurological Society of New York.

History.

Elizabeth N., aged 61, married, with ten children (height, 5 ft. 6¼ in.; weight, about 12 st.), enjoyed good health until five years ago, when she commenced to suffer from numbness of the hands and arms, followed later by pain of an aching character, and subsequently by symmetrical fatty deposits in both upper arms. The condition led her to consult a medical man, who told her they were fatty tumours, and not to worry, and this I have since confirmed, being informed by another practitioner that he had seen the case four years ago, and at that time one arm, at least, presented a circumscribed fatty tumour on its upper and outer aspect.

These deposits in course of time attained considerable dimensions, the pain and numbness being also increased to such an extent that she was unable to undertake even the lightest household duties, and was obliged once more to seek medical advice.

With the aggravation of the symptoms referred to the arms, pain and numbness were experienced across the back and chest, and lately in the thighs just above the knees. There is nothing noteworthy in the family history.

Previous Illnesses.

Two years before I saw her the patient had severe haematemesis on several occasions and nine months ago uncontrollable haemorrhage following upon the extraction of a tooth: save for these haemorrhages and the present condition with which they are probably associated, patient has always enjoyed good health. Her habits are satisfactory at present. She has probably consumed more than an average amount of alcohol in the past.

Present Condition.

She is pale and sallow, and evidently suffers from debility and some anaemia. The conjunctivae and mucous membrane of the mouth and gums is paler than normal, and the latter seem spongy. The skin is dry and harsh, perspiration being very deficient. The temperature is 98° F., and the pulse 76. On inspection the observer is struck by the large diffuse deposits of fat, pendulous and flabby in consistence, which involve both upper arms, and to a lesser extent the upper portions of the forearms on both their extensor and flexor aspects.

Measurements.

Upper right arm, 24 in. at thickest portion.	
Upper left arm, 22½ in.	"
Right forearm, 11½ in.	"
Left forearm, 11 in.	"

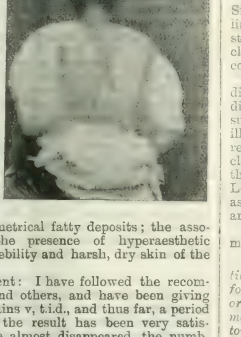
Furthermore, there is a pad of fat over the manubrium sterni extending for a few inches across the second and third costal cartilages at either side. The back also shows symmetrical fatty deposits over either scapular region and extending as low as the tenth or eleventh rib.



Below the waist the patient shows no pathological increase of fatty tissue, her legs being more slender than one would expect in such a large woman. The hands and feet are normal. There are no fatty deposits about the neck.

The patient complains of numbness and tingling, with aching pains at times, principally in the upper limbs, but also across the chest and between the shoulder blades behind. To a lesser extent these symptoms occur in the thighs, just above the knees to the inner side. The pain is very much aggravated by using the limbs.

The arms are tender wherever the fatty tissue is present, and even slight injuries cause bruising and discoloration. There are marked hyperaesthetic areas over both arms, principally on the outer and posterior aspect of the limb, but no areas of anaesthesia can be demonstrated.



The patient is fairly bright and intelligent, but complains of some loss of memory. There is, however, nothing about the case to suggest myxoedema.

The following characteristics of adiposidolorosa are, however, present: The history of numbness and pain, followed by diffuse symmetrical fatty deposits; the associated haemorrhages; the presence of hyperaesthetic areas; and the general debility and harsh, dry skin of the patient.

With regard to treatment: I have followed the recommendations of Dercum and others, and have been giving the patient thyroidin, grains v, t.i.d., and thus far, a period of scarcely two weeks, the result has been very satisfactory. The pains have almost disappeared, the numbness and tingling have been very much alleviated, and there is a distinct reduction in the size of the right arm of almost ½ in. She herself states that she feels very much better, and can sleep and do a little work much better than she could for several months previously.

THE latest addition to the many societies in Paris connected with medicine has given notice of its intention to organize next November an exhibition of painting, sculpture, and engraving. This society, l'Esculape by name, is devoted to a combination of art and medicine, and to meet its purposes it proposes to hold literary, dramatic, and musical conferences. Among its council are Richelot, Widal, Gilbert, Gariel, and Labbé, all professors in the medical faculty of the University of Paris. The president is M. Bezançon, another officer of the society being Dr. Cabanès, editor of *La Chronique Médicale*.

INHALATIONS of oxygen have been used with good results in thirty severe cases of whooping-cough by Weill and Mouriquand (*Lyons Médical*, cxiii, p. 309). The severity but not the number of the kinks was diminished, yet the relief was so great that some of the children learnt to ask for the inhalation when they felt that a kink was coming on. The authors believe also that the risk of bronchopneumonia is lessened and its severity diminished if the oxygen is given every hour so soon as symptoms of the complication are suspected. Otherwise the gas is given at or, if possible, just before the beginning of the kink, as much as 10 or 20 litres being administered on each occasion through a funnel.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF HYGIENE AND PUBLIC HEALTH.

LOUIS COLTMAN PARKES, M.D.Lond., President.

DISCUSSION ON LATENT INFECTIONS BY THE DIPHTHERIA BACILLUS.

OPENING PAPERS.

I.—PATRICK WATSON WILLIAMS, M.D.Lond.,

Lecturer on Diseases of the Nose and Throat, University of Bristol; Laryngologist, Bristol Royal Infirmary.

THE CLINICAL SIDE OF THE QUESTION.

SINCE my share in the introduction of this discussion is limited to consideration of the question from the clinical standpoint, I propose merely to direct attention to various clinical phases of latent diphtheritic infections, giving concrete examples when required.

If diphtheria may be defined as any pathological condition, local or general, due to infection by specific diphtheria organisms, then diphtheria is "latent" when such pathological conditions are unaccompanied by obvious illness or by symptoms sufficiently characteristic to be recognizable as those of diphtheria. With regard to the classification of such cases I cannot do better than retain that which I made in introducing a similar discussion at Leicester at the annual meeting in 1905, more especially as my grouping has been accepted in the main by Nuttall and Graham Smith in their recent monograph.

From the clinical standpoint cases of latent diphtheria may be grouped under three heads:

A.—Patients who afford none of the usual clinical indications of diphtheria, are not definitely ill, and yet are found to be anaemic, or have increased pulse frequency, or are simply poorly in association with nasal catarrh, membranous rhinitis, faucial redness or slight subacute tonsillitis, otorrhoea, sores, etc., which on bacteriological examination prove to be diphtheritic.

Of such cases I present two examples:

CASE I.

G. B., aged 2 days, prematurely born (about seven and a half months' gestation), was admitted with her mother to the Bristol Royal Infirmary October 11th, 1908, weight 4½ lb., yellow and wizened.

About December 24th it was noticed she had some nasal discharge, and as it did not clear up I saw her on January of this year and took it to be simple rhinitis. On February 6th cultures were made from the nasal discharge, that is, after it had persisted for six weeks, more as a matter of interest than because it was thought to suggest diphtheria, which, however, it proved to be.

The child died very shortly after. It was a good example of latent diphtheria, for no symptom pointed to the true nature of the case. There was no evidence of any sore throat, and, as the child was only 4 months old, I confess my inspection of the nasal passages was not satisfactory. A case of primary nasal diphtheria is reported by Kuhn[1] in a baby aged 2 weeks, probably contracted from the maternal genitals in parturition.

CASE II.

MRS. V. O., a lady whom I had been attending a long time for asthma and accessory sinus suppuration, mentioned on March 29th, 1909, that her throat was uncomfortable. On the left tonsil was a small pocket with some exudation from one or two crypts, and the area of tonsil around was a little reddened. She

[1] *Journal of Laryngology*, February, 1909.

said she had several times had the same before as a child and since. I took a swab, which Professor Walker Hall examined by culture and reported on the 31st as yielding an almost pure growth of organisms presenting the chief morphological characters of Klebs-Loeffler bacilli, but showing a number of atypical forms. As the patient had no symptoms I had contented myself with local antiseptic applications, but on seeing the slide with many typical beaded bacilli of medium length, I gave 10,000 units of antitoxin.

Meanwhile, a girl aged 12, who had come to stay with her, and who had a slight nasal catarrh, was examined, and although I could find nothing abnormal except a little increased redness and fullness of the nasal mucosa, like slight hypertrophic rhinitis, and she was very well indeed, I had cultures made from the nose and throat, and Dr. Russell, the city bacteriologist, found typical diphtheria organisms (Westbrook C.) in the nose. This child had had regular diphtheria a few years before. As she seemed to have a cold on arrival, two or three days before Mrs. V. O.'s sore throat, Mrs. V. O. had refused to kiss her; but the child declared she would give her a hundred kisses, and was lavish in her embraces. On April 1st, the day after the antitoxin injection, Mrs. V. O.'s throat appeared practically normal, except a little localized redness of the tonsil; but several times cultures were taken subsequently. On two occasions Dr. Russell found typical Klebs-Loeffler bacilli (A_1, C, C_1, D, D_1, D_2). Her health was affected to the extent of being worried and sleepless, and her heart's action weakly with a pulse of 110 when up, but this was in part accounted for by her chronic nasal trouble.

Shortly after this she motored off to her country house, and was under the care of her own medical attendant there. Cultures from throat swabbings, taken April 27th, submitted to the Laboratory of Pathology, New Cavendish Street, London, were reported by Dr. Eastes as follows:

"Swab from left tonsil, fairly numerous Klebs-Loeffler bacilli. Swab from right tonsil, culture contaminated with large bacillus of *subtilis* type which obscures all other growths."

Meanwhile, however, former cultures were being tested for virulence by Professor Hewlett, and one culture (made April 4th) was reported to be practically non-virulent, and a second culture, which gave ordinary barred and beaded diphtheritic organisms, was purified by subculturing, and Professor Hewlett reported that the result of inoculation was that 0·5 c.cm. of a forty-eight-hour broth culture killed a 300 gram guinea-pig within forty-eight hours, so that the organism was at least of fair average virulence.

By this time the patient had motored back again and for the greater part of the time had been getting about. She was free from organisms in throat or nose (two separate cultures) by May 27th. The little girl, who was always in excellent health and spirits, soon lost all organisms from the nose, after the use of antiseptic sprayings; whether they will reappear I cannot say.

B.—Cases with local diphtheria lesions, but presenting no general symptoms of ill health.

This class comprises cases that are indisputably "latent," and I propose to cite two examples in point.

I will briefly refer to a Bristol example (reported at greater length in the report of the medical officer of health, Bristol, 1903, "Diseases of the Mouth and Nose," p. 139).

A lady had an indefinite sore throat, and three weeks later gave a children's party. Two children who were kissed by her developed membranous rhinitis, one eleven days and the other sixteen days after the party, and although apparently in perfect health, Dowson and Klein found virulent diphtheria bacilli in cultures from their noses. After two months' treatment they were declared free, but after another two months their own mother, after kissing them, developed diphtheria, and the children were then again found to have nasal diphtheria.

I may recall, too, the case of pharyngo-keratosis of five months' duration, following an attack of follicular tonsilitis, in a schoolmaster, recorded by H. J. Davis.[2] The condition was typical of pharyngo-keratosis in a man in excellent health though pale. The secretion was swarming with Klebs-Loeffler bacilli. For some months there had been outbreaks of tonsillitis amongst the children of the school; some of these were proved to be diphtheria, but with the isolation of the master the outbreaks of sore throat ceased.

Other examples have occurred of virulent diphtheria organisms found in otorrhœa, conjunctivitis, stomatitis, cancrum oris, external rhinitis (Todd), and in sores on the lips, cheek, finger, vulva, vagina, and rectum. Some years ago a boarder at Clifton College had a diphtheritic sore round the orifice of the rectum, which I considered arose from infection from other cases developing in the house. He went home, and a culture by his medical attendant proved negative; nevertheless, his sister developed diphtheria.

Cases of purely local diphtheria are of considerable importance, as the few examples I have cited sufficiently prove.

C.—The third class comprises persons who present no local lesions and no departure from normal health, but in whom diphtheria organisms have been discovered by culture tests, for example, healthy infected contacts.

Speaking at Leicester, I stated that it had yet to be shown that such infected contacts were liable to spread diphtheria, or were actively infectious, till they developed local symptoms, and on this statement Graham Smith offers a fair criticism when he points out that diphtheria is usually most prevalent at seasons of the year when "colds" are common. Consequently, a member of this group may at any time by developing a "cold" be converted into a member of Group 2; but I do not agree with him when he goes on to state that:

Even if Watson Williams's opinion is correct, it is therefore almost as necessary to guard against the possibility of the spread of the disease by members of Group 3 as of Group 2, and for the simple reason that it is impossible to carry out such precautions in practice.

A few of the examples collected by Graham Smith appear *a priori* sufficiently reliable to upset my position; but no contact has been properly examined unless the nasal passages have been explored, and no cultural test for the presence of diphtheria is complete or safe which does not include the nose as well as the throat; and in none of the instances cited by Graham Smith is it stated that the nose was ever investigated.

Cultures from the nasal passages of house-surgeons and nurses who have been in attendance on diphtheritic patients, especially when no precaution is taken to avoid contact of the swab with the vibrissae of the vestibule, will often show the presence of virulent diphtheria organisms, without any local symptoms or signs. I do not pretend that they cannot, under such conditions, possibly convey diphtheria, for it is proved that diphtheria organisms on clothes, or on a cat's fur, may infect; but, Mr. President, I may be permitted to refer to your own and Dr. Hewlett's researches, which long ago proved that organisms inhaled and merely coming into contact with the nasal mucosa were quickly removed by natural means in healthy subjects. When the organisms are retained and multiply, we have no longer a contact, but a local infection, and if no general symptoms arise, the case becomes one of "latent diphtheria" in my Group 2.

DIAGNOSIS.

For the diagnosis of latent diphtheria we have to depend on bacteriology, and notwithstanding "the discovery by Davis, Anna Williams, Ruediger, and Hamilton and Horton of diphtheria-like bacilli which were virulent and yet not neutralized in their pathogenicity by the true diphtheria antitoxin,"[3] I suggest that the most practical criterion at our disposal, which stamps a case as clinically true diphtheria, is a virulence test, morphological tests being unreliable. In support of this statement I relate the following very interesting case:

C. G., a boy aged 13, a boarder in a house of forty-four boys at Clifton College, on November 23rd, 1905, had a slight sore throat, but was otherwise, then and subsequently, in excellent health. There was no other case of diphtheria in the school. The tonsils were slightly enlarged and abnormally red, but there was no false membrane.

Cultures from the throat yielded a few Klebs-Loeffler bacilli; nose negative. He was sent home under my care. The history of the case was as follows:

November 23rd, 1905, throat, few D_1, D_2; nose negative (Kent).
November 28th, throat, few D_1, D_2 (Kent).
December 8th, throat, free growth, C, D; C_1, D_1; D_2 (Kent).
Virulence test (two weeks from onset), report non-virulent (Kenh).
December 30th, 1905, throat, numerous Klebs-Loeffler bacilli (Clinical Research).

Opinion sent in a letter, dated January 1st, 1906, from the Clinical Research Association: "You will see from its inspection that the organism present is identical in its morphology with the long variety of Klebs-Loeffler bacilli. We are surprised to hear that inoculation experiments have shown it to be non-virulent, because this type of organism is generally markedly virulent. We are preparing a pure culture of the

[2] *Proc. Roy. Soc. Med.*, 1909, vol. ii, No. 7, p. 127.

[3] A study of the diphtheric groups of organisms, Libusser. Studies from the Department of Pathology of the College of Physicians and Surgeons. Columbia University, XI, 1906-1908.

organisms." This pure culture was sent without comment to Professor Delépine, who tested it for virulence, and reported on January 22nd: "The culture has been tested by inoculation. There is no evidence that it is now virulent."

Needless to say, it was not from any lack of confidence in the then Bristol City Bacteriologist that I had separate cultures sent to the Clinical Research Association; but it was of paramount importance to have a very strong support in my contention that these virulent-looking organisms were harmless, and it adds greatly to the value of the case that two independent authorities prepared and reported on the cultures, and that two independent tests for virulence proved negative. On my recommendation the boy was received back in school as a boarder, with organisms still in his throat, and without any bad consequences. The only treatment employed was local antisepsis, but that had no appreciable effect.

For further evidence that non-virulent diphtheria bacilli when transferred from one person to another do not become virulent or give rise to disease, I will refer to examples reported by Graham Smith, Cobbett, and Park and Beebe,[4] and I have myself reported an instance in my practice of a boy who had nasal diphtheria in December, became free, returning to school in February, had further negative cultures taken, yet four months after his first attack the nose yielded a positive culture. But no cases of diphtheria arose amongst his fellow-boarders from his return to school and mixing freely with them before the last positive culture was taken. No virulence test was made, because the boy had pleurisy and passed out of my hands.

TREATMENT.

Latent diphtheria being essentially a local diphtheritic infection, one might naturally expect that the application of antiseptics would afford satisfactory results in causing the disappearance of the bacilli, yet unfortunately clinical experience leads to the conclusion that, although the infectivity of the patient is diminished while superficial organisms are killed or rendered less virulent while antiseptics are used, the period of infectivity is not shortened, for the organisms will reappear after the antiseptics are left off just as long as they would appear if no antiseptics had been used. The fact is we cannot get the antiseptic to the organisms which have invaded the superficial layers of the mucosa; and we cannot even apply antiseptics to the deepest pockets of the lymphoid crypts, or to the lining surface of the accessory sinuses when the nasal passages are involved. In clinical cases the removal of tonsils may be a helpful method, advocated by Pegler[5] in 1905, and the same may be said of irrigation of the maxillary antra.

Antitoxic serum probably has some antimicrobial effect, and attempts have been made (L. Martin) to prepare an antimicrobial diphtheria serum, and to use it dried, in the form of pastilles, for its local action to decrease the number of living bacilli in the throat. Dr. Davis's case of pharyngo-keratosis received five injections without amelioration, but he has recently written to tell me that after four more large injections absence of diphtheria bacilli to culture tests was shown after several cultures. But I think that in a large percentage of cases antitoxin serum injections fail, possibly because the proportion of bactericidal substance varies, and because it is necessary to use larger quantities of the serum than is necessary for antitoxic effects.

Vaccines may be employed. As long ago as 1897 Van de Velde[6] used injections of dead bacilli to produce antimicrobic properties in the blood of goats, and L. Martin,[7] by injecting bacillary bodies into a horse, prepared serum which, he stated, when applied locally, caused a rapid decrease in the number of bacilli in the mouth. More recently Petruschky,[8] of Dantzig, has used injections of cultures mixed with physiological salt solution (1 to 100) in six cases of chronic latent diphtheria, in every case with favourable result. The injections were from 0.1 c.cm. to 0.5 c.cm. of the diluted culture, and varied from one to several injections in the different cases.

[4] The Bacteriology of, Diphtheria, Nuttall and Graham Smith *Journ. of Laryng. and Rhin.*, November, 1905.
[5] BRITISH MEDICAL JOURNAL, 1905, vol. ii, p. 651.
[6] Beitrage zur Kentniss der antitoxischen und anti-infectiosen Kraft des Antidiphtherieserums, *Cent. f. Bakt.*, xxii, 527. Cited by Nuttal and Graham Smith.
[7] Loc. cit.
[8] *Arbeiten a. d. Geb. der pathlog. Anatomie*, Bd. 6, Heft 2, 1908.

In one case that was referred to me my colleague, Professor Walker Hall, has been employing vaccines that he prepared himself.

I will refer to one other method that is worthy of consideration—namely, cataphoresis. In a case of local chronic diphtheria of the ear resembling in clinical appearance eczema of the external meatus Dr. Tayler, of Trowbridge, has been employing cupric ionization.

Miss D. N., aged 30, was referred to me by Dr. Pearse of Trowbridge on January 27th, 1909, complaining of discharge from the left ear of five months' duration, with acute onset of earache, followed by thin purulent discharge. Dr. Pearse had found Klebs-Loeffler bacilli. The left external meatus was almost filled with scaly discharge, and the skin of the concha for half an inch round the meatal orifice was covered with scaly crusts. I found she had well-pronounced chronic atrophic rhinitis, with crusts of inspissated secretion in both nasal passages. She was very dull and apathetic, with slow cerebration, and her hands were cold and doughy, and the skin slightly cyanotic. Dr. Pearse had got the ear to clear up, but it always broke down again.

Professor Walker Hall identified Klebs-Loeffler bacilli in cultures from the meatal discharge.

Dr. Tayler saw her on April 18th, 1909, when almost the whole of the left pinna was covered with a thick crust, which oozed pus on pressure. Cultures from the pus showed varied flora. Klebs-Loeffler bacilli were present.

April 19th, ionized with copper, 10 m.a. for ten minutes.				
April 27th.	..	..	..	..
May 8th.	..	..	..	..
June 8th.	..	8 m.a.	..	..

Each time the patient came up for ionization the case showed distinct improvement, and on the last occasion the greater part of the ulcer had healed, and the patient's general condition had become much more satisfactory.

II.—R. M. BUCHANAN, M.B., C.M.Glas.,
City Bacteriologist, Glasgow.

THE BACTERIOLOGICAL ASPECTS.

AFTER some introductory remarks, Dr. Buchanan said Latent infection may be regarded from the bacteriological standpoint as the presence of an infective agent unaccompanied by any obvious pathological change. It may even be said that in every part of the body there is latent infection—in other words, infective agents which are only held in check by what we call vital resistance on the part of the tissues, or diminished virulence on the part of the specific microbe. In this sense, when an individual harbours a well-defined pathogenic germ without betraying its presence by any symptoms, such an individual has come to be regarded as a carrier of infection, and in that respect a potential danger to his fellows.

The experience of recent years has given some bounds to the distribution of the diphtheria bacillus. It has been ascertained that the cases admitted to hospital as diphtheria include a very large number of individuals with no bacteriological evidence of diphtheria. The results of the bacteriological examinations of 30,000 certified cases quoted by Graham Smith showed that the bacillus was present in only 71 per cent. My own experience of systematic examination of a series of hospital cases, numbering 1289, showed that the bacteriological evidence of diphtheria was present in only 76 per cent. Again, the specimens presented for diagnosis in the routine work of a bacteriological laboratory afford a relatively small proportion of positive results. Since this work was inaugurated in the Public Health Laboratory of Glasgow nine and a half years ago, 9,935 specimens have been submitted, and only in 31 per cent. was a positive result obtained. The clinical evidence, therefore, of the distribution of the diphtheria bacillus must be very indefinite, and renders the diagnosis of the disease, apart from bacteriological methods, difficult and uncertain. If these facts have unsettled the clinical conception of the disease, the distribution of the bacillus in healthy persons has in like manner revolutionized our ideas of its epidemiology.

CHARACTERISTICS OF THE BACILLUS IN LATENT INFECTION.

Type.—The identification of the diphtheria bacillus in routine diagnostic work may be said to depend on the morphological characters of the organism. The exigencies of the work demand expedition, and while this may be at the expense of accuracy in a small proportion of cases, it is to be borne in mind that it is the only method as yet

available to meet the requirements of prompt administrative action. At the same time it is quite understood that morphology in itself is not sufficient to place the recognition of the bacillus beyond doubt, and that it is necessary for this purpose to resort to cultural and inoculation tests involving four to six days as a minimum period of time.

The great variety of forms presented by the diphtheria bacillus in cultures from the throat has led to repeated attempts to arrange these forms in definite classes or types. The result has been that each observer has evolved a classification of his own—an indication that the problem is a difficult one, and that the interpretation of morphological characteristics is a matter into which the personal equation of the trained observer largely enters. Nevertheless, morphological classifications of an organism possessing such a wide range of polymorphism are essential, even though they are to some extent arbitrary, serving the useful purpose of facilitating description. The strains of bacilli from different individuals, whether cases or contacts, may show differences of form, as observed in cultures on ordinary ox serum, which differences they tend to maintain throughout residence in the throat. Thus the form may be (*a*) uniformly cylindrical with deeply staining round or oval terminal granules, and the rod may be of different length in different cases, or (*b*) very irregular in size and staining, and may be slightly curved. In addition to this persistence of one or other of these forms in individuals there has been found something like a seasonal prevalence, inasmuch as the cylindrical form, while it may prevail throughout the year, appears to predominate in winter, and the irregular form in summer. On this point, however, further observation is necessary.

While recognizing these as the two chief types in which the bacillus is met with in cultures, other forms are frequently seen which appear as modifications of the bacillus induced by environment. Thus, there are spindle forms, described by Eyre as the "sheath bacillus," tapering to a point at either extremity, and having in its centre a mass of deeply-stained protoplasm; forms in which the protoplasm is beaded or barred; and elongated clubbed forms with one or both ends swollen, and suggesting arrested cell division. There is evidence to show that multiplicity of form is largely due to the influence of the artificial nutrient medium. How much morphology is influenced by the human body, by season, and by locality has still to be determined. Some types at least can be produced at will in artificial cultures by using different media. For example, a given strain of the bacillus on ox serum with saccharose produced in eighteen hours cylindrical forms; ox serum with glucose, cylindrical and cuneate mixed; a mixture of serum-water (Hiss) and nutrient agar (equal parts) produced all spindle forms; serum-water with 1 per cent. agar produced very short forms resembling Hofmann's bacillus; and ordinary nutrient agar produced a mixture of spindle, cuneate and acuminate forms.

With the view of giving support to bacteriological diagnosis based on morphology, various culture tests have been devised, but hitherto they have been attended with the disadvantages of delay. The use of media containing different sugars, with an indicator to show the presence or absence of acid production, has given the best results. I find that a fluid medium which is a modification of Hiss's serum-water gives excellent and rapid results. It is made by coagulating ox serum in an equal quantity of water, filtering, adding to one half 1 per cent. glucose, and to the other half 1 per cent. saccharose, and tubing—using neutral red as an indicator. In twenty-four hours a marked acid reaction is produced in the glucose tube by *Bacillus diphtheriae*, in both the glucose and saccharose tubes by *Bacillus xerosis*, while no change is produced in either tube by the bacillus of Hofmann.

Virulence.—The virulence of the diphtheria bacillus in apparently healthy subjects, whether designated contacts or carriers, is only slightly less than the virulence of the organism in patients. Since the beginning of 1907 the virulence of the bacillus from 21 contacts has been tested by the inoculation of guinea-pigs, with positive results in 14, or 66 per cent. The test as applied to the bacillus isolated from 56 patients in the same period showed virulence in 74 per cent. It is important to remember that the *Bacillus diphtheriae* is most tenacious of its virulence. Attempts have been made by a number of observers to reduce the virulence of the organism by the usual means of heating, drying, and prolonged cultivation, without any conspicuous success. On the other hand, it is possible to increase the virulence of a particular strain experimentally. We have, then, to deal with a microbe that does not readily lose the quality of virulence and that shows the capacity of recovering it to some extent in the event of attenuation.

Virulence of Bacillus Diphtheriae isolated from Contacts and Clinical Cases.

	Contacts.		Patients.	
Year.	Examined.	Virulent.	Examined.	Virulent.
1906	—	—	2	2
1907	6	[illegible] 2	23	15
1908	9	7	24	19
1909 (six months)	6	5	9	7
	21	14*	58	43†

* = 66 per cent. † = 74 per cent.

Persistence.—When the bacillus gains a lodgement in the throat it appears to remain for a varying length of time, whether it produces disease or not. The period of residence of the organism in the sick and the healthy is probably determined by the same factor; at any rate the presence of the morbid process, while producing antagonism to the toxin, has apparently no effect on the vitality or virulence of the bacillus itself. This is further exemplified in the futility of antitoxin administration as a means of getting rid of the bacillus. It is further to be remembered that the duration of persistence is not influenced by age, sex, or season.

This persistence of the organism in convalescents has been the subject of much investigation, and all observers are agreed that they disappear in the majority of cases well within the usual six weeks of isolation. Beyond this time there is a varying residuum of cases, difficult to estimate in amount, but ranging from 1 to 10 per cent., which retain the bacillus for longer periods. A comparison of clinical cases and contacts reveals the fact that there is no marked difference between them in the average period during which the bacillus is harboured in the throat. Taking 33 clinical cases followed out till the disappearance of the bacillus (in most cases two or more consecutive negative results being obtained), it was found that the average period was twenty-two days. On the other hand, 27 contacts similarly gave an average period of eighteen days. These observations are much too limited to found upon, and only serve to draw attention to the fact that the residence of the bacillus in the throat is much the same, whether attended by clinical symptoms or not.

Duration of the Persistence of the Bacillus.

Period of Persistence of Bacilli in Weeks.	Clinical Cases.	Contacts.
1	1	4
2	15	8
3	2	6
4	3	4
5	7	2
6	2	3
7	1	—
8	—	—
9	2	—
	33	27
Average period	22 days	18 days
Over 6 weeks	9 %	—

The observations of Cobbett and Graham Smith[1] strongly emphasize that fact. In a table constructed by the latter the mean period for notified cases was 31.6 days for virulent bacilli and 18.5 days for non-virulent bacilli, and for infected healthy contacts 36.4 days for virulent bacilli and 30 days for non-virulent bacilli.

Frequency of Infection in Contacts and School Children.

Contacts.—The systematic examination for evidence of *Bacillus diphtheriae* in persons who have been in more or less intimate contact with cases of diphtheria has now become a recognized preventive measure in public health administration. It has been in operation in Glasgow for over three years. The number of examinations during that time has been 2,305, with a positive result in 211, or a little over 9 per cent.

Diphtheria Contacts.

Year.	Diphtheria Contacts Examined.	Number Found Positive.	Percentage Positive.	Test of Virulence.		
				Number Tested.	Positive.	Negative.
1906 (10 months)	322	34	10.5	0	—	—
1907	692	48	6.9	6	2	4
1908	841	78	9.2	9	7	2
1909 (6 months)	450	51	11.3	6	5	1
	2,305	211	9.2	21	14	7

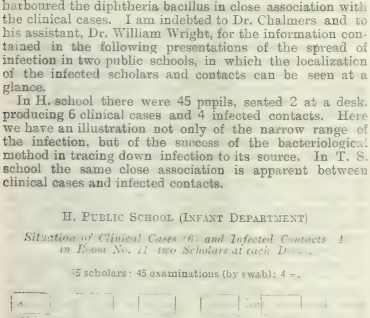
School Children.—There have been few opportunities of examining outbreaks of diphtheria in schools and institutions. In the few instances that have occurred bacteriological examination of the contacts revealed those who harboured the diphtheria bacillus in close association with the clinical cases. I am indebted to Dr. Chalmers and to his assistant, Dr. William Wright, for the information contained in the following presentations of the spread of infection in two public schools, in which the localization of the infected scholars and contacts can be seen at a glance.

In H. school there were 45 pupils, seated 2 at a desk, producing 6 clinical cases and 4 infected contacts. Here we have an illustration not only of the narrow range of the infection, but of the success of the bacteriological method in tracing down infection to its source. In T. S. school the same close association is apparent between clinical cases and infected contacts.

H. Public School (Infant Department)

Situation of Clinical Cases (+) and Infected Contacts (−) in Room No. 11 two Scholars at each Desk.

45 scholars: 45 examinations (by swab): 4 +.



+ Clinical case. − Infected contact.

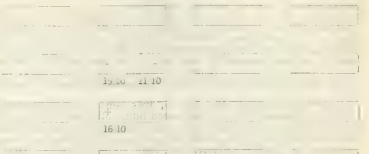
[1] *The Bacteriology of Diphtheria*, 1908, p. 421.

T. S. Public School (Infant Department).

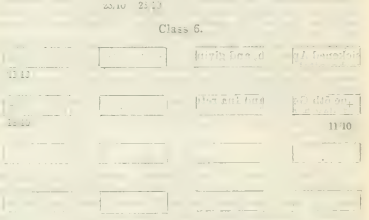
Situation of Clinical Cases (+) and Infected Contacts (−) in Classes 5 and 6.

153 scholars: 15 examined (by swab): 3 +.

Class 5.



Class 6.



+ Clinical case. − Infected contact.

Return Cases.

The carriage of infection by patients who have recovered and have been discharged from hospital is well recognized, but, speaking generally, the experience of the fever hospitals in Glasgow is that the spread of infection in this way appears to be very limited. In the last three and a half years the return cases of diphtheria have amounted to 30, giving an average of 8.5 per annum. On the total cases admitted to the hospital in that time this only represents a percentage of 0.8 which is just five times less than the percentage of return cases of scarlet fever. These cases may be said to stand in the same relation to the community as infected contacts. It is interesting to observe that the period in which infection takes place from the return cases which I have cited ranges from 1 to 43 days, and averages 12 days. In scarlet fever, which may be mentioned by way of contrast, this average period is found to be 7 days. Taking four families in which there were return cases this year, an analysis shows that the number of days between date of return from hospital of first case and the sickening of the second case was 32, 6, 9 and 1. In the Mason family (I) it will be observed that there is a very clear case of infection, but delayed for about a month. In the Hogg family (II) two return cases resulted from a first case harbouring the bacillus (virulent) in both throat and nose. In the Barclay family (III) we have one clinical case and three contacts infected from first case, affording another example of nasal infection. In the Bannerman family (IV) the first was a missed case, which gave rise after more than a month to two clinical cases, one of whom in due time brought back the infection from hospital to a child in a neighbouring family.

Record of Return Cases of Diphtheria.

Year.	City Fever Hospitals.
1906	12
1907	4
1908	6
1909 (six months)	8
	30

This represents 0.8 per cent. of the cases admitted to hospital.

Return Cases.

CASE I.—James M., aged 9, was admitted to hospital, February 3rd. Swabs taken, February 6th, from his mother and his brother Charles proved negative. On March 27th James M. returned home, and Charles fell ill a month later, swabs examined April 28th proving positive. Swabs taken from the five contacts with this return case were all examined about a week later, May 3rd, and all proved negative.

CASE II.—Thomas H., aged 5, fell ill on March 18th; was sent to hospital with diphtheria on March 22nd, and returned home May 1st. A week later his sister, Helen H., aged 5, fell ill; the following day (May 8th) swabs from the throat showed virulent bacilli, and she was sent to hospital, where she was followed by her mother next day. Meantime swabs were taken from the throat and nostrils of her brother Thomas and showed virulent bacilli.

CASE III.—William B., aged 4, was sent to hospital with diphtheria March 23rd, and returned home May 1st. Nine days later David B. sickened, and was likewise sent to hospital. Swabs were then taken of the whole remaining family—seven persons. William B., the original case, showed virulent bacilli in his nose, but the throat swab was negative. His mother likewise showed virulent bacilli; and also a sister and brother, but the swabs taken from the remaining three members were negative. One of the children showing virulent bacilli was a twin; swabs from its fellow were negative.

CASE IV.—Jeannie B., aged 14, sickened March 27th. Ina B. sickened April 4th, and giving a positive swab April 8th was sent to hospital, where she was followed by George B., who gave a positive swab April 9th, swabs taken from three other members of the family on the same date proving negative. On June 6th George and Ina returned from hospital, and the following day a child living near the family fell sick; one of the children sent back from hospital swabbed five days later gave a positive result.

CARRIER CASES.

Infecting Power.—The infecting power of a positive contact or carrier appears to be very limited, as has already been indicated in connexion with return cases and school children. In the school children we see as it were the infection of the contacts, but very little evidence that they in turn passed on the infection to others. In this connexion it may be observed that infected contacts rarely develop the disease themselves—a fact which accords remarkably with my experience of cerebro-spinal fever contacts, 26 per cent. of whom were positive without in a single instance developing the disease. The positive contact's power to infect has been amply demonstrated, but it must be admitted that the accident is much more rare than might be anticipated from the large proportion of infected contacts in the community. The number of possible infectors is also considerably reduced when we consider that it is only likely to be persons harbouring virulent bacilli that are capable of infecting others with disease-producing bacilli.

Segregation of Carriers.—In a disease of such a short period of incubation and rapid clinical course the development of prophylactic measures is always a matter of importance. The segregation of infected contacts and other carriers of infection has accordingly aroused the keenest interest and even controversy, for however desirable it may appear in theory it is attended with much difficulty in practice. Any hard and fast procedure is not warranted from our present knowledge of the subject bacteriologically, nor so far as I can gather from clinical experience.

In each of these sections and in others relating to infectious disease it is specified that the person must be "suffering from" the infectious disease, and prima facie definite illness seems to be implied. A strict interpretation of the words "suffering from," however, might lead to awkward consequences. In our fever hospitals many cases of scarlet fever and diphtheria are detained, not because there is any clinical manifestation of disease, but because, in our opinion, they remain in an infectious condition. If any such patient left hospital against advice prosecution would probably follow, although he is not suffering from the disease. When one remembers that the diphtheria carrier is like the above-mentioned fever patient—in an infective state although not suffering from the disease—one considers that legal powers are equal with regard to the two classes. As a matter of fact one takes no action excepting peaceful persuasion with healthy diphtheria carriers. This is not only because of the weakness of the legal position, but because no difficulty is experienced in having a large majority of known cases isolated, the few who refuse to take precautions being after all only a small percentage of diphtheria carriers at large. The more dangerous of these few are school children, and one always excludes such carriers from school and in this way considerably reduces their infective powers (Public Health Amendment Act, 1907, Section 57, or other powers).

Hitherto one has talked of healthy carriers who have had no illness; in carriers, on the other hand, who have a history of *recent sore throat or cold* one makes an effort, usually a successful effort, to get the general practitioner to notify. One works on the theory that diphtheria carriers with sore throats or nasal catarrh are much more infectious than healthy diphtheria carriers. Up to the present one has always been successful in having such cases fairly well isolated.

In concluding what has to be said regarding the legal aspect one would hope that in future Acts the word "*suffering*" will be omitted and be replaced by the phrase "*in an infective condition.*" This would give the necessary discretionary power to medical officers of health and clear away the present ambiguity.

Swab Taking.

The next matter of general interest is the taking of swabs. In a majority of cases swabs from the throat only are taken. Graham Smith[1] gives a table showing the proportion of persons infected with morphologically typical diphtheria bacilli in the nose, the throat being free, according to which 1.9 per cent. of contacts in schools had the nose infected while the throat was free.

Consideration of such a table alone should convince any one of the necessity of taking swabs from both throat and nose. In this connexion the obvious fact that diphtheria bacilli lying on tonsils have much fewer chances of passing to another person than bacilli on the nasal mucous membrane should be considered. Up to the present too little attention has been given to the probability that nasal diphtheria is much more infectious than throat diphtheria.

During the taking of swabs a careful study should be made of the parts from which they are taken. This is especially so in the nose; one cannot fail to see one-sided nasal soreness, and naturally inquires as to the presence of blood-stained secretion. These signs arouse grave suspicion, but one may easily miss fibrinous rhinitis if one does not examine the nose carefully. The membrane or exudate in many cases of fibrinous rhinitis is crowded with diphtheria bacilli; but if one does not rub the swab on the membrane in such cases one may find no diphtheria bacilli in the culture. Apart, therefore, from the risk incurred by not having such cases isolated at once,[2] there is the additional chance of no diphtheria bacilli being found in the culture and the case being missed altogether.

Where much secretion is coming from the nose this should be wiped away before the swab is applied to the mucous membrane. It has frequently been found that the swabs from the secretion contain no diphtheria bacilli, whilst swabs direct from the mucous membrane do. In

[1] Page 196.

[2] In presence of diphtheria, cases of fibrinous rhinitis, and also cases of unilateral sore nose in contacts, should be isolated at once without awaiting the swab results.

III.—DUNCAN FORBES, M.D.Edin.,

Medical Officer of Health, Brighton.

THE ADMINISTRATIVE POINT OF VIEW.

THE clinical and bacteriological aspects of latent diphtheria infections having been ably brought before us, it only remains for me to deal with the matter from the administrative point of view.

Legal Powers.

All administrative action depends to some extent upon legal powers, and the first essential is to have clearly before our minds how far one can legally proceed. Section 126 of the Public Health (England) Act, 1875, and Section 56 of the Public Health (Scotland) Act, 1897, give powers with regard to "Any persons who, while *suffering from* any dangerous infectious disorder, expose themselves," etc. Section 52, Part 4, of the Public Health Acts Amendment Act, 1907, is as follows: (1) "If any person knows that he is *suffering from* an infectious disease he shall not engage in any occupation . . . unless he can do so without risk of spreading the infectious disease."

taking throat swabs, if a spatula is not objected to it should always be used, the swab being applied to the tonsils and adjacent parts only; in children who are afraid however, a more satisfactory swab is got without the tongue depressor, the doctor being better able to control the movement of the child's head.

A practical question which sometimes leads to friction is, On whom should devolve the duty of taking swabs?

My routine has been to personally take swabs in the school, to take swabs also from absentees at their own homes who were not at the time being attended by a doctor. In cases notified from public dispensaries the dispensary doctors usually prefer me to take any necessary swabs from other members of the family. In practically all other cases the general practitioner is asked to take swabs.

Contacts.

The administrative measures for dealing with contacts depend on the situation of the primary cases. A few examples are given:

1. *Primary Cases in a Children's Hospital.*—In such cases the immediate orders are: (*a*) Keep all patients in bed; (*b*) keep the same staff on duty; (*c*) admit no new cases; (*d*) if possible exclude visitors; (*e*) use no douche or spray until after the swabs have been taken. Having thus prevented in great measure contact between the infected and non-infected, one proceeds to swab the patients and staff. All patients found to be diphtheria carriers are isolated. If one could regard the swab result as an infallible guide, one would at once admit fresh cases to the ward, but in ordinary practice one discharges all cases as quickly as possible, cleanses the ward and reopens it for fresh cases.

2. *Primary Cases in the Home.*—If one takes it that from 10 to 50 per cent.[3] of contacts in families are diphtheria carriers, one at once realizes with what large numbers one has to deal. In Brighton contacts in the home are swabbed only under exceptional circumstances. All members of families are swabbed: (*a*) If any member is a teacher or other person associating with children outside the home; (*b*) if any member sells or handles milk. Individuals are swabbed (*a*) if they are known to have had cold or sore throat; (*b*) if suspicion rests upon them as probable carriers—for instance, four cases of diphtheria had occurred in a Brighton school; a case was notified of a child of 3 who was not at school, but whose sister attended the school in question. A positive swab was obtained from this sister.

By taking swabs from such a small percentage one is well aware that many diphtheria carriers are missed; therefore, exclusion from school is enforced for four complete weeks after the removal of the case to hospital, and the parents are advised to keep the children separate from others during that time.

3. *Primary Cases in School.*—In schools in which diphtheria has occurred, according to tables collected by Graham Smith,[4] over 8 per cent. are diphtheria carriers.

Our first action in such cases is to make inquiries at the school as to absentees from the same class who returned shortly before the onset in the patient. If such are found, and if a history of sore throat or cold is elicited, swabs are taken. Swabs are also taken from all scholars present or absent in whom there is a history of sore throat or cold. [All absentees from the class are visited and inquiries are made as to the nature of their illness.]

Even if the swabs are returned negative all persons with sore throat are excluded for a clear fortnight. The theory on which this action is based is as follows: A diphtheria carrier who has a sore throat, because of the presence of other virulent infective organisms (usually cocci) in the throat, is much more infectious than a carrier of diphtheria bacilli alone. I believe indeed that in the absence of other virulent organisms diphtheria bacilli seldom infect. It is obvious that if the above is our working hypothesis we must exclude children with sore throats for a time, even although their swabs show no diphtheria bacilli, as these sore throats might provide complementary infecting agents.

In the presence of only one or two cases no further action is taken, and usually no further cases occur. On the occurrence of more than two cases in an infants' class one considers the advisability of swabbing and clinically examining the whole class, and this is frequently done.

Instructions given to the school teacher include the use as far as possible of separate pencils, etc., by each child, and at times instructions are given to stop singing lessons.

Isolation of Infected Contacts.

Having described the administrative procedure used in the discovery of diphtheria carriers, one now proceeds to make a statement regarding the action taken by various authorities with regard to isolation.

In Brighton infected contacts are sent to the diphtheria wards. Except in the case of adults, antitoxin is usually injected on admission, and generally the contact is treated similarly to diphtheria patients, three negative swabs being obtained from nose and throat before discharge. During the last year fourteen such contacts were removed to the Infectious Diseases Hospital for periods varying from 9 to 80 days, the average stay being 33 days. Six of these, aged 5, 12, 14, 21, 27, and 30, had no antitoxin during stays of 25, 20, 20, 16, 16, and 9 days respectively, with no bad results, the remainder, aged 8 months, 2, 3, 6, 6, 7, 10, 12, had 4,000 units on admission, and their lengths of stay were 52, 54, 29, 64, 26, 24, and 20 days respectively.

If objection is raised to removal to hospital the child is left at home, the parent is advised to keep the child apart from other children, and four weeks' exclusion from school is enforced. At the end of that time the child may return, after two sets of swabs from nose and throat giving negative results have been obtained.

In Cambridge a private house was rented in 1900 for the isolation of carrier cases. One takes it that this was done in order that parents might more readily consent to have their children isolated, and also that these might not pick up fresh infection from acute cases. When one considers the inconvenience and expense caused in the providing of nurses and maids when this home is in use, and also the yearly rent of the house, one would look for substantial benefits to recompense for such an outlay. During my stay in Cambridge, acting on my Manchester experience, I introduced the method of treating diphtheria carriers along with diphtheria cases in the Infectious Diseases Hospital, and in most cases found no difficulty in having such persons isolated. I believe that at present the rented house is simply used as an overflow from the hospital. Below a note is given of the number of contacts isolated at the private home and their length of stay there:

Weeks isolated...	-1	-2	-3	-4	-5	-6	-7	-8	-10	-10	
Actual numbers	16	55	53	26	14	11	9	4	5	5	196

The 5 cases over ten weeks stayed for periods of 74, 97, 110, and 122 days respectively.

Of the 196 cases, 141 had 500 units of antitoxin on admission, 17 had 2,000 units, and 38 had none.

Twelve of the cases were for a longer or shorter period nursed in the diphtheria wards.

None of these 196 cases developed clinical diphtheria.

The Bristol methods can perhaps best be grasped by perusal of Dr. Davies's Annual Report for 1902, pp. 49–52.

The unsuspected cases upon bacteriological examination resolve themselves into two groups:

1. Those in which the bacillus is found in characteristic growth, needing care in hospital (diphtheria "carriers").

2. Those in which the short forms (Hofmann, pseudo?) are found, mostly in the nose. . . . They are not in our opinion suitable cases for isolation. . . . Home treatment amongst a working-class population in the case of a disease producing no obvious illness is apt to be imperfect, and for these "suspected carrier" cases we arranged at Avonmouth an out patient service at the isolation hospital for the proper application of antiseptic washes, . . . each child being furnished with a card spaced for a fortnight, at the end of which a further bacteriological examination is made to determine readmission to school.

In Bristol diphtheria bacilli bearers are isolated in the Infectious Diseases Hospital or by their medical attendant; children who have been in direct association with cases of clinical diphtheria (in home or at school), and who are Hofmann bacilli carriers, attend an out-patient department at the Infectious Diseases Hospital or elsewhere. The establishment of special out-patient departments is only in force during epidemic prevalence of diphtheria. The difference in administrative procedure between Brighton

[3] Graham Smith, page 185

[4] Page 187.

and Bristol is that whilst Hofmann's bacilli contact[5] carriers are disregarded in the one they are medically attended in the other.

In both towns morphological and cultural characteristics are the main relied on to distinguish true diphtheria bacilli from allied forms.

In disregarding Hofmann carriers, although contacts of true diphtheria cases, one relies on the facts ascertained by the bacteriologist.

The principal of these are mentioned below:

1. The immunization of animals with Hofmann's bacillus does not confer any protection against diphtheria bacilli injected subsequently.

2. The local reaction in guinea-pigs produced by the subcutaneous injection of large doses of pseudo-diphtheria bacilli is not influenced by the injection of antitoxin.

3. Considerable doubt is thrown by Petrie[6] on the production of toxoids by Hofmann's bacillus.

Again, one would be inclined to attach more importance to Hofmann's bacillus were it not that so great a number of true diphtheria bacilli carriers are present during every outbreak of clinical diphtheria, and those appear rarely to give rise to clinical cases. In this connexion a letter of May, 1909, from Claude B. Ker of the Edinburgh City Hospital is of considerable interest.

It is the case that return cases of diphtheria were practically unknown in Edinburgh during the period that no cultures were taken before the patients were discharged. Nevertheless, when five years ago our laboratory was opened, it was felt that cultures were necessary, if only to keep in touch with medical opinion. Since then, therefore, cultures have been taken as a routine, and the object has been to obtain two negative cultures (consecutive) before the patient is allowed home. We have not hesitated, however, in the light of our previous experience, to discharge the small minority of patients in whom, after six weeks' detention, the cultures remain steadily positive. One or two "alleged" return cases have resulted, certainly not more than 4 in five years, and in every case as it happens negative cultures had been obtained from the discharged case.

J. H. Meikle[7] mentions the discharge of 27 diphtheria bacilli carriers without the occurrence of a return case (in five cases, however, experiments on rabbits gave no proof of virulence). In Manchester, where until recently only one negative swab was obtained from the throat and nose before discharge of diphtheria cases, and where therefore many diphtheria carriers were discharged, Dr. Niven tells me that the number of return cases was trifling. In view of the Edinburgh and Manchester experience one cannot regard it as a rash line of action to take no notice of Hofmann carriers; indeed one would go further, and disregard morphologically typical organisms avirulent to guinea-pigs were it not that at present the work of proof of virulence cannot be overtaken.

Prophylactic Use of Antitoxin.

One now passes to the question of the prophylactic injection of antitoxin. The main object in avoiding such injections is in order that carrier cases may not be created. It has been proved that antitoxin has no influence on length of infectivity. It is, however, probable that attacks of diphtheria in contacts are rendered milder by such injections, and are therefore the more readily overlooked. It follows that extensive injection of antitoxin would lead to the non-isolation of certain highly infective individuals. Other deterrents to such injections are the expense, the trouble, and the friction likely to be caused by adopting such measures. Neither must it be forgotten that itching rashes with temperature and joint pains may follow even small doses; more recently attention has been called to the disadvantage of "sensitizing" contacts. One at present warns the parents of the great danger of not calling in a doctor at the *onset* of even slight illness in any other member of the family.

A natural question which arises is, If prophylactic injections of antitoxin in the home are not advised, why should one give healthy carrier children any injection on admission to the diphtheria wards? It would, in my opinion, be much better not to do so, but as one usually states to the parent that there is practically no risk of even slight illness, one has in these cases to consider the individual rather than the public health of the community. No carrier case has in my experience ever developed diphtheria during isolation, but if any one of them had developed an attack and no antitoxin had been injected, one might have been accused of taking unnecessary risks.

Before concluding, it should be mentioned that the administrative procedure outlined is that which appears suitable for urban districts in which whole-time medical officers of health are employed; in my experience the action recommended produces a maximum of benefit with a minimum of labour and expense.

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[5] Contact with true diphtheria cases.
[6] Graham Smith, p. 224.
[7] *Edinburgh Medical Journal*, December, 1906.
[8] Two consecutive negative swabs are now required from throat and nose.

IV.—DR. R. VEITCH CLARK,
Assistant Medical Officer of Health, Leeds.

LATENT DIPHTHERIA AND ITS ADMINISTRATIVE CONTROL.

DR. R. VEITCH CLARK described certain outbreaks with which he had had to deal. They fell into three classes: (*a*) Latent diphtheria in elementary schools; (*b*) latent diphtheria in institutions, for example, orphanages; (*c*) latent diphtheria in members of individual families.

Latent Diphtheria in Schools.

Of the first class he described[1] two instances, saying: The course of the first outbreak was as follows. The outbreak began in December; in January there were 16 cases in the two schools; under the ordinary administrative measures the case incidence fell to 7 in February, to 5 in March, to 3 in April and to 1 in May. In June and July, however, there occurred a sudden recrudescence; the cases rising to 15 in June and to 27 in July. In August, again, there occurred 20 cases, although the schools were closed on vacation. The two schools were, therefore, kept closed until the beginning of October, and during September the noses and throats of the children were swabbed and the swabs examined for the diphtheria bacillus. Seven hundred and sixty-nine children were so examined; in 18 of these, or 2.3 per cent., the diphtheria bacillus was found; 11 of these 18 children were found to have albuminuria and had probably, therefore, suffered from a mild unrecognized attack of clinical diphtheria. All the 18 children were isolated. In October and November the case-incidence continued to diminish, but in December there was a slight rise again.

The recognition and isolation of these eighteen infected cases probably prevented a great increase in incidence of diphtheria in the latter part of the year, so that the procedure adopted was thereby justified. I think, however, that the diminution of case-incidence should have been much greater in October, if all the infected persons had been got hold of. The most likely reason for the continuance of the disease appears to me to be that other members of the families than the children at school were infected.

The second of the school outbreaks I will not give in detail. It will suffice to say that for several weeks from two to five cases of diphtheria occurred amongst the school children each week. An attempt at bacteriological examination of the children was rendered futile, owing to the great number of absences resulting from the very severe weather. Only thirty-seven children were so examined, and of these only in one case was a positive result obtained.

The sequel to this second outbreak was very interesting; about a month later the district in which the children of the school referred to lived was visited by an outbreak of very infectious sore throat. Clinically, the condition was very transient—the patient suffering from general indisposition and a slight sore throat, with or without patches, for only one evening in the majority of instances. When one member of a family was so attacked the condition, as a rule, spread through the household. In one street of thirty-three houses only three families escaped. Only a few of these cases came within the ken of the public health authorities, but of these a considerable percentage were proved to be diphtheria bacteriologically.

Latent Diphtheria in Institutions.

Investigations were made into the occurrence of latent diphtheria in a union infirmary, and in an orphanage. These differ from schools in that the people dwell in the

[1] The author illustrated the first of these outbreaks by a graph.

buildings, the conditions of life approaching more nearly those of a family. In the infirmary there occurred two cases of diphtheria. The throats of all the residents—115 in number—were then examined bacteriologically; 18 positive contacts—that is, about 16 per cent.—were found, and these were isolated forthwith. No further case occurred. In the orphanage four cases of diphtheria occurred in one month, all the inmates, of whom there were 91, were examined, and a positive result was obtained in 16, that is, about 17 per cent. The positive contacts were isolated, and no further case was recorded.

Latent Diphtheria in Families where a Case of True Diphtheria has occurred.

Graham Smith has shown that where a case of ordinary clinical diphtheria has occurred in a family the percentage of positive contacts amongst them is larger than it is in school infection. I have found it difficult to obtain accurate statistics on this point, but my experience supports strongly this view. Thus, in one family, three members had true diphtheria, and the remaining three gave positive results on bacteriological examination; in another family of seven, two cases occurred, and the other five members were positive contacts; in a third instance, in a family of twelve, six had diphtheria, and other five had the bacilli in their throats; again, one child in a family of eight suffered from diphtheria, and two out of the remaining seven had the latent form of infection. Other instances might be given. I do not give a percentage for these cases, as the basis of calculation is too small to justify it.

Administrative Treatment of Positive Contacts.

All positive contacts should be isolated. Isolation was practised in all the instances mentioned in this paper. Where isolation is impossible at home, contacts should be removed to the isolation cottages, not the wards, of the fever hospital; such isolation should always be practised in school and institutional outbreaks. The necessary period of isolation, along with local treatment, varies in my experience from one to seven weeks; the length of the period of isolation depends evidently upon the virulence of the bacillus. In most cases, where the period of detention exceeds three or four weeks, I have found that there is other evidence pointing to an unrecognized attack of mild clinical diphtheria.

Conclusions.

The outstanding conclusion to which the preceding observations lead is that the incidence of cases of latent diphtheria is greatest where personal contact is closest.

We know also that the method of passage is the most effective way of increasing the virulence of an attenuated bacillus; given, therefore, a feebly resistant victim infection from a case of latent diphtheria may at any time give rise to an acute attack. To control the spread of diphtheria by latent cases, therefore, I am of opinion that the only thoroughly efficient procedure is to examine bacteriologically the throats of every member of a family where a true case of the disease has occurred, and to isolate those from whom a positive result is obtained. I have always found the members of the profession willing to help by taking the swabs. The great objection, of course, is the cost to the local authority; this would, I am convinced, only be great at first. I have made a calculation based on the returns for one year of six large English towns, and find that about 150 cases of diphtheria occur for every 100,000 of population in the year. If the average family be taken as consisting of six people, that would mean 900 swabs examined per annum, which at 2s. 6d. per swab means between £110 and £115 per 100,000 of population per annum. The cost of isolation of contacts is to be added to this, but both of these sources of expenditure would be diminishing ones, for the procedure advocated would very greatly lessen the total diphtheria case incidence, and should absolutely abolish large outbreaks. It is not desired in any way to minimize the importance of general disinfection for the spread of diphtheria by contaminated objects, even after the lapse of considerable intervals of time, is proved beyond a doubt, and must always be provided against. In conclusion, the necessity must be emphasized of never certifying a diphtheria convalescent as free from infection until two consecutive bacteriological examinations have given negative results.

DISCUSSION.

Dr. Knowles Renshaw (Manchester) said he would like to say a few words in support of the taking of a virulence test, as advocated by Dr. Watson Williams, and would refer to an illustrative case in which if this had been done much mental distress would have been prevented. At a private school there was an outbreak of diphtheria. The school dispersed, and before the scholars returned, when the epidemic had subsided, cultures were taken from all the throats (only) and found to be negative. A fresh outbreak occurred within a fortnight, and on cultures being taken from every nose and throat in the institution it was discovered that one of the scholars, who had only suffered from a slight rhinitis, had virulent Klebs-Loeffler bacilli in his nose. To make matters worse the head master himself took diphtheria. When he had recovered and again wished to reopen the school it was found that, although perfectly well in health, he had still Klebs-Loeffler bacilli in his nose, and, despite vigorous local treatment, the presence of the bacilli in his nasal cavity was demonstrated every time a culture was taken. At last, after waiting several months in despair, he determined to reopen his school, and did so without any further epidemic occurring. Had the virulence test been applied in this case he would probably have been able to reopen his school with a clear conscience at a much earlier date, and would have been saved much pecuniary loss.

Dr. Dan McKenzie (London) thought that two lessons of great importance were conveyed by what had been said. In all cases suspected of diphtheria swabs should be taken from the nose as well as from the throat; and when diphtheria bacilli were found in "carriers" the virulence test should be adopted before the individual was submitted to isolation, etc.

Dr. E. W. Goodall (Homerton Fever Hospital) considered return cases of diphtheria not worth discussion. In the treatment of convalescents it did not matter a bit, in his opinion, whether swabs were taken or not. He only did it himself in order to comply with the requirements of the medical officer of health. He considered it unnecessary to empty and disinfect wards in general hospitals when an accidental case of diphtheria occurred. He believed prophylactic injections of antitoxin to be quite unnecessary, and he was sure that they were occasionally dangerous.

Dr. Herbert Jones (Hereford) said that his experience in Herefordshire led him to agree with Drs. Davies and Heaven of Bristol, that in the presence of an outbreak of diphtheria Hofmann's bacilli must not be ignored. It seemed to him that in connexion with the spread of diphtheria through schools the best thing would be, when there was even a single case, to make that school an open air school. More and more they were coming to the conclusion that infection was personal, and they were more likely to have it spreading in crowded schools. If they got the children in such a crowded school into the playground, no doubt it would not be altogether necessary to isolate the actual diphtheria contacts.

Dr. StClair Thomson (London), President of the Laryngological Section, asked for clearer directions as to the duty of the private practitioner as regards (*a*) the danger of carriers, and (*b*) their treatment by antitoxin. Was the latter useless both in shortening the sojourn of Klebs-Loeffler bacilli in the nose and pharynx, and also in mitigating the risk of their spreading infection?

Dr. Clements (Batley) referred to the value of the morphological test in determining whether a bacillus was a true diphtheria bacillus or not. For ordinary routine work he found that an examination by microscope after twenty-four hours' incubation in blood serum was sufficiently accurate. Westbrook's classification was a useful working one, and all bacilli conforming to the C, D, and D$_1$ types could be safely regarded as true diphtheria bacilli. Those which could be grouped under the D$_2$ type, the Hofmann type, could be disregarded. Occasionally he had met with a virulent case of diphtheria which on repeated swabbing revealed only the Hofmann type of bacillus. The differential culture test which he regarded as of most value was the production of acid. He had never found the Hofmann type of bacillus capable of producing acid in sugar media. Prophylactic injections were of some value, but owing to the low degree of infectivity of this disease, it was difficult to come to accurate conclusions on this point.

He had never seen bad results after injecting with horse serum a patient who had previously received a sensitizing dose. He was aware that experiments on animals showed the danger of giving a second injection of horse serum after an interval from the first injection; but although he had given attention to this aspect he had never seen any evil results.

Dr. ANDREW WYLIE (London) said he would like to ask Dr. Watson Williams if he would operate on a mastoid or sinus case if the diphtheria bacillus was found in the discharges. Would it not be inadvisable to operate on account of the danger of complications occurring from infection?

Dr. ROBERT MOWBRAY (Castlederg) said he desired to point out that the less an epidemic was interfered with the quicker was the susceptible material exhausted. The fact that diphtheria cases were now almost always with them in sporadic rather than epidemic form was due to susceptible persons being carefully guarded. Lately an epidemic of epidemic roseola occurred in his neighbourhood, and it took some time before the cases were diagnosed from diphtheria.

The PRESIDENT (Dr. Louis Parkes) said he agreed with Dr. Goodall's views as to administrative methods, and thought that it was not justifiable to send contacts to diphtheria wards. The diphtheria bacillus was much more virulent in times of epidemic prevalence of the disease than under ordinary conditions; and, while special measures might be required to cope with an epidemic, in ordinary circumstances he did not consider that either isolation of contacts or systematic swabbing of throats was necessary.

Dr. WATSON WILLIAMS, in his reply on the discussion, said that as to performing a radical mastoid operation in a part infected with diphtheria he had had no actual experience to go by, but that he would certainly avoid doing an operation in an infected area unless the circumstances rendered such an operation urgent. He would except from this statement cases in which the organism present was proved to be non-virulent and those in which the infection was chronic. He had heard of a case in which the radical mastoid operation was performed on a diphtheritic ear, but neither the true nature of the supposed diphtheritic organisms nor their virulence had been tested. He always ignored Hofmann's bacillus in cultures of contacts. He had found them in the noses of many patients in wards exposed to a chance case, but there was an equal proportion of Hofmann cultures taken in other wards where the patients had not been exposed to infection. He thought that the suspicions of Hofmann's bacillus that were entertained by some of his Bristol colleagues arose from their unfortunate experience with so-called Hofmann's cases at a time when the organism was less readily identified, the cases being probably true diphtheria. As to what should be done with contacts found to be infected by cultural tests but otherwise healthy, he was strongly opposed to placing such persons in diphtheria wards, because they might be acutely infected by the other patients, and certainly they ran the risk of organisms reinfecting their nasal passages. Such persons should be isolated at home or watched for a few days. He had had no experience of diphtheria in fever hospitals, but was convinced that cultural tests were essential in controlling outbreaks of diphtheria in public schools. The spread of diphtheria was more readily controlled than was sometimes believed, for at the Bristol Royal Infirmary and at many other large general hospitals, up to a few years ago diphtheria cases were treated in the common wards, and never once in his experience did diphtheria spread there from one patient to another. He advised, and had practised, the administration of antitoxin serum by the mouth for prophylactic purposes; it could be given with a little peppermint water, and the patient need never know that it was anything but an ordinary dose of medicine, while the risks, if any, of giving the serum hypodermically were thereby avoided.

Dr. BUCHANAN, in reply to Dr. Clements's question as to the value to be attached to morphological tests, said that routine diagnosis depended upon them entirely. When it was necessary to have absolute diagnosis the virulence test was necessary. The form of the bacillus, as he had shown, depended to a great extent on the medium. When the morphological test was in doubt a tentative opinion was given until the virulence test had been applied. He attached no importance to the Hofmann bacillus.

Dr. FORBES, in reply to Dr. Goodall, said that in outbreaks of diphtheria in a scarlet fever ward where one had direct control of the patients, one might admit other cases of scarlet fever, but in children's hospitals not under the charge of the medical officer of health it was safer to clear the ward before admitting fresh cases.

ON THE ENDEMICITY OF INFLUENZA.

By A. W. GILCHRIST, M.D.,
Nice.

[ABSTRACT.]

IF any doubt existed last year as to the expediency of reading a paper in this Section on so commonplace a subject as influenza, it would disappear, I think, on considering the disastrous effects, economic even more than vital, that accompanied the recrudescence of the affection during the past winter.

1. A disease generally recognized as influenza has prevailed continuously over a wide extent of the civilized world for the last twenty years.

2. Although bacteriologists have failed to assign a distinct specificity to the disease there is no doubt of its being susceptible of clinical recognition and characterization.

3. At the Toronto Meeting in 1906 the writer pointed out a certain number of general analogies between tuberculosis and influenza. The form of the latter disease which has been observed and described during the last winter, a form often involving the lymphatic system and affecting children who have hitherto enjoyed a comparative immunity from the disease, tends to confirm the views then developed.

4. It is incumbent upon those responsible for the public health to inquire into the conditions that are presiding over the transition of influenza from the pandemic and epidemic into the endemic stage, and discuss the degree of permanency this affection is likely to display.

Bacteriologists have failed to assign a distinct specificity to the disease. This is, perhaps, not surprising. Professor Chauveau of Lyons has recently been investigating the pathogenic properties of invisible microbes, known only by their effects; and Doerr, prosecuting his epidemiological researches in the Austrian Army Medical Department in Herzegovina, has traced a widespread influenzal affection to a *filtrable*, though invisible, virus. These labours point to probable developments in the future. The entity of influenza is being seriously threatened. Professor Curschmann considers there is no doubt that there exists a form of influenza of pneumococcic origin, since cultures from 46 out of 49 cases produced pneumococcic septicaemia in guinea-pigs. Sir F. Semon claims autonomy for a pneumococcal invasion of the throat, "a hitherto unrecorded affection." Dr. Elliott of Chester observed a small outbreak of pneumococcal disease, differing in several essential characters, one would think, from that described by Sir F. Semon, but he also differentiates it from influenza. And so with many other investigations, the tendency being to attribute to micro-organisms with small morphological differential characters a distinct nosological aptitude.

Dr. Emery, in an admirable contribution to a recent number of the *Practitioner*, assumes, I may venture to say, the most philosophical attitude on the subject. Disdaining neither Hippocratic hygiene, nor the venerable authorities of a previous generation, as the impulsive bacteriologist is wont to do, he recalls what we have recently learnt concerning the rôle of the gases of the atmosphere in the virulence of microbes, and implies that some such influence as Sir T. Watson invokes as the origin of influenza may be the underlying specific cause. He supposes for influenza some etiological factor similar to that which is the efficient cause in diseases like scarlet fever.

I have stated that influenza is of sufficient economic interest to command the attention and study of this Section. There is another reason why State medicine should be concerned with the question. It is, as I have already intimated, because influenza, as essentially a disease of the respiratory functions, is allied in importance to tuberculosis. Influenza is the respiratory affection which accompanies, so to speak, the anaërobic tendencies of modern civilization. Like tuberculosis, it is a disease of urban aggregation, and of that life in common which is a growing characteristic of the age. It is the respiratory disease of well-being and plenty, just as tuber-

culosis is the disease of indigence and physiological poverty (*misère physiologique*).

In what way can hygiene contribute to diminish the dangers of influenzal incidence? By a due appreciation of the importance of dietetics and of aëration. By such reflections as Dr. Parkes has presented for our consideration. Maurel has been led to the conclusion that the quantity of nitrogenous substances consumed by France is sufficient to *overfeed all its population;* and if a part of this population is not overfed it is because the other part is doubly so. It is the same with other nations. Erasmus, writing, as is well known, to Cardinal Wolsey's physician, speaks of the deplorable hygienic habits of the English common people. He said that they were utterly regardless of that ventilation so much recommended by Galen, and that they indulged in large quantities of salt provisions, the English people being amazingly fond of salt.

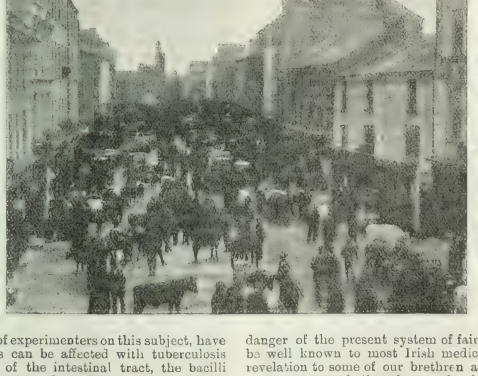
This question of salt, as Widal, von Noorden, and others have taught us recently, is of very great importance. During last winter influenza was characterized, in addition to the disturbance of the cardio-vascular and nervous circulation, by hepatic and renal inadequacy displayed by chloride retention. I saw a fatal case of influenzal bronchopneumonia, in which the chlorides, previously equal to 80 per cent. of the normal, fell to 2 per cent.; and in a case that recovered, but is still convalescent, a fall from 140 per cent. to 4 per cent. Retention of chlorides, I may add, with a high nitrogenous excretion, is of very serious prognostic import.

ON THE CONNEXION BETWEEN CATTLE FAIRS AND TUBERCULOSIS IN IRELAND.

By J. Darley Wynne, M.B., D.P.H.,
Clonmel.

Our views on the causation of tuberculosis, especially of pulmonary tuberculosis, have undergone considerable modification in recent years.

Practically up till the close of the nineteenth century the "inhalation theory" held the field, and it was believed that pulmonary consumption was solely caused by the inhalation of tubercle bacilli adhering to minute particles of dried sputum from the lungs of consumptive human beings. Those who believed in a distinct type of bovine tuberculosis were satisfied to confine the operations of this type of bacillus to cases of abdominal tuberculosis, chiefly occurring in children.



But there were many observers who were not satisfied with this theory, and the researches of Calmette and Guérin in France, von Schering, Oberwatih, and Rabinowitsch in Germany, and Schroeder in America, to mention a few among the host of experimenters on this subject, have shown that the lungs can be affected with tuberculosis through the medium of the intestinal tract, the bacilli passing through the stomach and intestines without causing any disease of those organs.

I do not intend to weary you by repetition of facts and experiments with which you are all no doubt well acquainted. I only wish to emphasize the added importance which bovine tuberculosis has assumed owing to all these recent researches. The experiments of Dr. Schroeder of the United States Department of Agriculture have drawn special attention to the infectiveness of the faeces of cattle. He points out that cows do not suffer much from intestinal tuberculosis, but that as they do not expectorate, when they suffer from pulmonary tuberculosis, the tubercle bacilli pass out in their faeces.

Dr. Schroeder has published several interesting pamphlets dealing with his experiments, and the following quotation is an abstract of a paper read by him at the International Congress on Tuberculosis held in Washington, September, 1908.[1]

Tubercle Bacilli in Cows' Faeces.

Dr. E. C. Schroeder, of the Department of Agriculture, Washington, read a paper on his investigations, showing that about 40 per cent. of cattle apparently healthy, and known to be tuberculous only because they had reacted with tuberculin, intermittently passed tubercle bacilli with their faeces. When a number of such cattle were kept under continued observation, the percentage that expelled tubercle bacilli per rectum was found to double in about eighteen months; and both the frequency with which bacilli occurred and the number found in individual animals also showed an increase. Among twelve cows, bacilli in the faeces were at first found in five, but before the end of two years the number had risen to ten. The proof that the acid-fast bacilli demonstrated by microscopic examination actually were tubercle bacilli was established by (1) producing fatal generalized tuberculosis in guinea-pigs inoculated with the faeces; (2) causing fatal generalized tuberculosis in hogs by feeding them with the faeces; and (3) causing fatal generalized tuberculosis in guinea-pigs by inoculating them with milk soiled with small quantities of such faeces, and with butter made from such soiled milk. Pure cultures of tubercle bacilli isolated from the infected guinea-pigs caused fatal tuberculosis in cattle on subcutaneous inoculation. Dr. Schroeder further observed that with rare exceptions commercial milk could be shown on examination to be contaminated with cows' faeces, and he concluded that, considering the wide prevalence of tuberculosis amongst cattle, the presence of faecal material in milk was frequently associated with the presence of virulent tubercle bacilli. Cream and butter were also exposed to this danger.

Dr. Schroeder's conclusions from his experiments prove the contamination of milk and milk products by the faeces of tuberculous cows. I think it is generally admitted now that such contamination is a very real danger. But I believe that other articles of food also may be contaminated by the faecal evacuations of cattle. This brings me to the subject of this short paper, namely, the connexion between cattle fairs in Ireland and the prevalence of tuberculosis. I have not noticed any allusion to this subject in all the flood of literature that has been poured out since the inauguration by the Countess of Aberdeen of the campaign against tuberculosis. In a paper on tuberculosis in the South of Ireland which I wrote and published in the British Medical Journal on May 28th, 1904, I referred to these cattle fairs as a possible cause of the excessive prevalence of tuberculosis in Ireland. The experiments proving the existence of tubercle bacilli in the faeces of cattle confirm my opinion as to the danger of the present system of fairs. This system must be well known to most Irish medical men, but may be a revelation to some of our brethren across the Channel. I am not aware whether the march of civilization and progress has succeeded in stamping out the street cattle fairs in the north of Ireland, but I know that they are almost universal in the South.

The accompanying photograph gives a good idea of the state of affairs. Once a month these fairs are held in the principal thoroughfares of Clonmel as well as in other towns. "From early morn to dewy eve" the streets are a struggling mass of cattle and humanity, and the air

resounds with the lowing of cows and the shouting of men. The shops, in many of which food is exposed for sale, are kept open, though their doors are usually barricaded to prevent the actual incursion of cattle into the premises, but no barricades can prevent the bringing in of filth and faeces on the customers' boots and clothes. Hundreds of cows are herded in the streets, as I have said, for most of the day. They are constantly passing faecal evacuations, which, if Dr. Schroeder's experiments are correct, must contain a large number of tubercle bacilli. Even by the most careful cleansing and disinfection, it would be impossible to banish every one of these bacilli. Knowing full well the habits of the Irish lower orders, it can be no exaggeration to say that after every fair day there must be millions of tubercle bacilli floating about in the dust of the atmosphere, ready to fasten themselves in suitable soils, and thus aid in the spread of the great white plague. Whether we believe that consumption is caught by inhaling the germs of the disease or through the medium of germ-laden food, we can hardly shut our eyes to the fact that these cattle fairs provide a plentiful supply of those germs.

I think I have said enough to establish a case against the holding of cattle fairs in the streets of our towns. The remedy is simple—namely, the relegation of the cattle to properly constructed fair greens outside the towns, where the surface on which the cattle stand should be concreted and the excreta thoroughly disinfected after the conclusion of every fair. The carrying into effect of this remedy may not, however, be so simple, as any proposal of the kind has always met with the strong opposition of the local publicans, who reap a fine harvest every fair day owing to the prevalent custom of clinching all bargains with a drink.

The problem, however, should not be insuperable, and, in my opinion, is one which ought to be tackled at once by suitable legislation.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, October 24th, 1908.

SECTION OF HAEMATOLOGY AND VACCINE THERAPY.

Sir ALMROTH WRIGHT, M.D., F.R.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

SIR ALMROTH WRIGHT initiated the proceedings of the Section in an address in which he reviewed the brief past history of vaccine therapy, and discussed its future prospects. Incidentally he expressed much satisfaction that the British Medical Association had thought fit to devote part of a Section to this particular line of work. He commenced his survey of the history of the subject by a reference to Jenner, indicated the parts variously played by its leaders from Pasteur onwards, and showed the fashion in which present methods of dealing prophylactically and curatively with bacterial infections had developed from attempts to produce immunization by use of living but weakened microbes. He held strongly that the employment of tuberculin and all other vaccines should be controlled by blood examinations. It was the systematic use of opsonic tests that had revealed the great importance of the negative phase and the necessity of using very minute doses. The therapeutic results obtained were very encouraging, but the prospects of vaccine therapy being applied still more widely and still more successfully—until it included bacterial infections of all characters—depended on the proofs afforded by future work of the truth of the assumption that a suitable dose of an appropriate vaccine would invariably call into action the natural machinery by which immunization is brought about. A very great deal of work still remained to be done in connexion with this subject. The speaker, in concluding his address, showed that progress was much handicapped by lack of interest in medical research on the part of the public in this country, or, at all events, lack of sufficient interest to induce it to aid it in every way in its power. It seemed absurd that sportsmen were ready to found leagues for the purpose of investigating the cause of grouse disease and lessening its prevalence, in order that grouse moors might not lose value and their pleasure might be interfered with, whereas innumerable persons who suffered from chronic and probably curable maladies—such, for instance, as asthma and some forms of bronchitis—showed no inclination to form antiasthmatic or antibronchitic clubs for the investigation and prevention of the diseases from which they were such grave sufferers.

THE EARLY DIAGNOSIS OF TUBERCULOSIS:

ITS IMPORTANCE IN REGARD TO EFFICACY OF TREATMENT.

By Dr. A. CALMETTE,

Director of the Pasteur Institute, Lille.

THE experimental researches effected during the course of the last few years by J. Bartel, Orth, and Rabinowitsch, by myself, in collaboration with C. Guerin, and recent clinical observations, have established the following facts:

1. The tuberculous infection remains generally localized for a time, long or short, in the groups of the lymphatic glands which collect the lymph from the organ or from the region into which the introduction of the tuberculous bacilli takes place.

2. The rapidity and the intensity of the infection depend to a great extent on the number and virulence of the absorbed bacilli.

3. When the absorbed bacilli are neither numerous nor very virulent, the lymphatic glands which have retained them finish either by destroying them, unless they have produced granulomata, or by a process of apparent cure by calcification, or by fibrous transformation around granulomata already existing.

4. Serious tuberculous lesions result either from a single infection in bulk (acute miliary tuberculosis), or from numerous infections, generally frequently repeated at short intervals: this is why they are very common among bovines in contaminated stables, and with mankind, among subjects constantly exposed to the contagion in the family.

From the preceding, and from clinical teaching on the possibility of cure of tuberculosis at the beginning, it follows that this disease can only be efficaciously treated by establishing a diagnosis as early as possible after the origin of the bacillary infection, that is to say, long before the disorders of function (modifications of the respiratory rhythm, enlargements of the glands, irregularities of the temperature, etc.) have become apparent. For a still stronger reason we ought not to wait for the appearance of the bacilli in the expectorations, for then the extent and the gravity of the lesions are such that they become extremely difficult to cure.

Accordingly we ought to employ the different processes of early diagnosis which are now available. Among these processes we should choose those which, without injuring our patients, are capable of supplying us with the most exact information.

We should then be generally compelled to put aside the employment of subcutaneous injections of tuberculins, because:

1. The general febrile reaction which they produce is accompanied ordinarily by a local congestive reaction around the tuberculous foci which can result in a dangerous diffusion of the bacilli.

2. They can never be utilized among the febrile patients nor among those who present irregularities of temperature.

3. In case of aggravation of the disease it might be, wrongly or rightly, attributed to the injection of tuberculin.

The inconveniences and danger which this method can produce, restrict it to exceptional circumstances in which local tuberculin reactions have only furnished very insufficient information.

More often, it will be advisable to apply one's self, at first, to the cutaneous test (or cuti-reaction) of von Pirquet. If this is positive, we may conclude that the patient is the bearer of either old or new tuberculous lesions.

But the latent lesions and the old lesions which are calcified or fibrous, which present the appearance of being quite cured, are revealed by this test, and this is not sufficient, except among young children up to the age of 3.

We know, in fact, according to statistics recently published, that the number of positive reactions to von Pirquet's test, among the patients apparently healthy, is about 55 per 100 among adults, whilst it is only 4 per 100 among children under 3.

In case of positive cutaneous reaction, it will then be necessary, among adult patients and children of more than 3 years of age, to apply the conjunctival reaction or "*ophthalmo-diagnosis*" test of Wolff-Eisner-Calmette. This test enables us to disclose with more precision the existence of tuberculous lesions actually in evolution. It permits us even to appreciate, to some extent, the degree of the infection, because the reaction is so much clearer and more intense when this infection is more recent, and when the patients defend themselves more vigorously from it.

I shall make no reference at all here to the already well-known technique of this test. So large a number of clinicians of all countries have tried it, and so many works have been published on this subject, that I shall limit myself to stating, in this short address, how it is convenient to interpret its results.

It is now well established that the positive conjunctival reaction reveals in the organism the existence of a tuberculous focus actually in evolution or incompletely cured—that is to say, in which there exists still some living bacilli. The rapidity and intensity of the reaction is in direct ratio to the vigour with which the organism defends itself against the tuberculous infection. The proof of this is furnished by the fact that the more intense the reaction is, the more antibodies does the serum of the patient contain which are capable of fixing the tuberculin *in vitro*, which indicates clearly the reaction of Bordet-Gengou. Among patients who are carriers of lesions which have been caseous for a long time, or which are either very extensive or very virulent (acute miliary tuberculosis and at times meningitis and peritonitis), the conjunctival reaction appeared late or even completely failed. It is almost always negative, as are also the cutaneous or subcutaneous reactions, among the old cachectic tuberculous patients. Among patients apparently healthy the conjunctival reaction is positive in about 18 per cent. of cases. This proportion indicates the average number of the latent tuberculous cases not clinically revealed. Among the clinically tuberculous patients the conjunctival reaction is positive in about 92 per cent. of cases. The foregoing figures are based on more than 20,000 observations.

Accordingly, if the absence of reaction does not allow us to determine the absence of tuberculous lesions, the positive reaction points out the almost certain existence of a bacillary focus of a large or small extent and of more or less gravity. It constitutes, then, a valuable warning for the clinician.

I do not believe that it furnishes, as Wolff-Eisner thinks, any prognostic indications from which we can come to a conclusion, because among certain patients the production of antibodies, which governs the intensity of the reaction, is nowise in relation with the gravity of the disease. But it appears certain that when it becomes negative among patients who formerly reacted positively, and when at the same time we have determined the disappearance of clinical symptoms, it also permits us to determine the anatomical cure of the tubercles. Among children above 3, and among adults, the conjunctival reaction gives us information much more exact and more rapid than the cutaneous reaction of von Pirquet on the presence or absence of active tuberculous foci. Among the febrile patients, it is the only one which can be employed without inconvenience and danger.

It is not correct to say that it is dangerous. Without doubt its use requires many precautions. It is necessary at first to assure ourselves that the eye is in good condition, and to use a tuberculin aseptically prepared and as pure as possible, and to prevent the patient putting any dust under the eyelids or on the conjunctiva with his fingers; and to stop, if necessary, the reaction, if it is prolonged for more than forty-eight hours, with an antiseptic and occlusive dressing. But these measures have nothing exceptional, and when we observe them we can be assured that the ophthalmo-diagnosis presents less danger than the employment of Roentgen rays, or the puncture of a vein for the analysis of the blood.

From more than 20,000 observations already published, I could only find 80 relating to accidents by ulcerative keratitis, or serious conjunctivitis, attributed to the tuberculin conjunctival reaction. And in almost all those cases, it appeared quite evident that the required care had not been given to the patients. Such a small number of bad cases (four in one thousand) should not at all prevent doctors, and their patients, using so valuable a means of information, and which can furnish them with a method of which every one is agreed in recognizing its precision, its simplicity of execution, and its elegance.

Some authors have observed that healthy subjects among whom the instillation of tuberculin into the same eye has been repeated at intervals, react to the second or third instillation, in consequence of a sensibilization or special anaphylaxis of the conjunctiva. From this fact there might result a false interpretation. Nevertheless, experiments on animals, and attentive clinical observations of men and of children certainly not tuberculous, show that in reality this anaphylaxis of the conjunctiva does not exist.

It happens that some patients, who have not reacted to a first test, some days after furnish a positive reaction if we again impregnate their conjunctiva with tuberculin. But then, these patients are surely carriers of a tuberculous lesion, very minute, perhaps, but nevertheless existing; the proof of it can always be furnished by a subcutaneous injection of tuberculin, when the thermic reaction is clearly shown. On the contrary, it is not doubtful that the conjunctiva of the tuberculous patients becomes more and more sensitive to tuberculin if we repeat upon them the conjunctival reaction. At each new instillation, even when they are repeated at intervals of several weeks only, the reaction becomes more and more intense. In very exceptional circumstances, where it would be impossible to employ the conjunctival reaction, we might substitute, instead of this, the methods recently described under the names of "dermo" or "intradermo reaction" (Lautier, Moro, Lignières, Mantoux and Moussu, etc.). But these methods, like the cutaneous test of von Pirquet, appear to have the inconvenience of revealing the latent lesions *non-evolutive*, then consequently we should not be able generally to establish our diagnosis exclusively on the information which they furnish.

It is, then, often necessary and always useful to complete these methods:

1. By the research of the reactions called "reviviscent," which consist in making reappear, among patients who are carriers of tuberculous lesions, a conjunctival reaction, or a local cutaneous reaction, by the subcutaneous injection of a dose of tuberculin unable of itself to produce a febrile reaction (Slatineanu, C. Guérin, Guinard, etc.)

2. By the study of humoral and phagocytic reactions:

(*a*) *Activation of cobra venom* by the serum or by the milk of tuberculous subjects (Calmette, L. Massol, and M. Breton).

(*b*) Deviation of the complement—that is to say, the research for tuberculous *antibodies* in the serum, by the reaction of Bordet-Gengou, made with a tuberculin or with a bacillary extract prepared by the cold method, by concentration in vacuo (the tuberculins precipitated by alcohol after evaporation by heat, and the crude tuberculin of R. Koch being unsuitable for this use).

(*c*) Determination of the opsonic index by Wright's method.

The employment of the preceding methods, judiciously combined, associated and controlled one by the other, furnishes us now a sum total of information sufficiently exact to allow us to fix, before the appearance of any functional symptom, our diagnosis with assurance. In a great number of cases these methods will help us also to establish our prognosis, and especially to verify the effects of the treatment introduced by us.

If it were possible to apply them periodically—every six months, for example, from youth—to each member of a family, to each pupil of a school, we should be able to disclose the tuberculous infection after a few days or weeks from its beginning, among the subjects whose health has been entrusted to us. We should then be able to isolate the carriers of bacilli; we should prevent then the repeated contaminations which, as I have shown with C. Guérin, are the chief causes of the aggravation of their disease; consequently, we should put them on the way to a definite cure, and perhaps to an antituberculous immunity, if this can be obtained with mankind, as we have seen it occur among some bovines, by the entire resorption of bacilli.

DISCUSSION.

Professor W. S. SYMMERS (Belfast) said that one great advantage of attending the meetings of the British Medical Association was that they had an opportunity of seeing

and meeting men whose writings had been familiar for years. They had all known Professor Calmette by his writings ever since the old Cochin-China days, when Calmette wrote his articles on dysentery. The paper just read by him that morning would attract the attention of every member of the Association, and perhaps would tend to relieve the doubts of those who more or less dreaded the untoward symptoms that at times arose in the conjunctiva after the instillation of the tuberculin.

Professor WILLIAM OSLER (Oxford) called attention to a practical point in the early diagnosis by the new method. Calmette's and von Pirquet's reactions had been of extraordinary value in the recognition of obscure cases. But the widespread existence of the reaction in apparently healthy persons had been the cause of a certain embarrassment. If Professor Calmette tested those present, it was certain that hardened old veterans like the Chairman and the speaker would react strongly. The difficulty arose in the routine inspection of school children, where the percentage of cases of tuberculosis would depend on the care taken and the methods used. If these were the newer ones of Calmette and von Pirquet, the percentage would be very high. What was to be done with this group? It must be recognized that many members of it were not dangerous, and a clear distinction should be drawn between those with open lesions and those with closed lesions. The former required to be dealt with in a very different way. Those with closed lesions were not dangerous, but the reaction gave a valuable indication for hygienic and dietetic treatment.

Dr. WILLCOX (London) said he had tried the reaction in about 20 cases and regarded it as extremely delicate and a very reliable test. In some cases of tuberculosis in which the disease had been quiescent for years a positive reaction to the test was given. Thus in a healthy adult in whom there were no symptoms of active tuberculosis, and who had had tuberculosis of bone in childhood, a positive reaction was given. In two cases in which the reaction was tried a severe conjunctivitis resulted and lasted two or three weeks, causing some alarm. On the whole he preferred for diagnosis the opsonic index to Professor Calmette's test. In using the former test autoinoculation from the infected area, if one existed, should be brought about. Thus in doubtful phthisis if breathing exercises, such as the blowing of water from one Wolff's bottle into another, were undergone, then a definite variation would be shown if a series of opsonic indices was taken. Physical examination of the lungs was also capable of producing a definite autoinoculation, and if pulmonary tuberculosis was present an abnormal variation was usually shown half an hour after the examination. In cases of local tuberculous lesions such as enlarged glands, joint disease and the like, massage or Bier's method might be used to bring about autoinoculation; a series of opsonic indices would give a sure indication of tuberculous disease if present.

Professor MCWEENEY (Dublin) said that two years ago he had carried out a series of diagnostic inoculations at the Mater Misericordiae Hospital, Dublin, on fifty cases, in most of which tuberculosis was suspected. In each case he had applied both the Calmette and the von Pirquet reaction, using one eye and the opposite arm. He had not the figures with him, but could say that the cutaneous reaction yielded positive or doubtful results in a number of cases that were not clinically tuberculous. But he had never obtained a typical Calmette reaction in any save clinically tuberculous cases, or those which were subsequently shown to be tuberculous. For the Pirquet reaction he used 25 per cent., and for the conjunctival test 2 per cent. Koch's old tuberculin. He had observed unpleasantly vigorous reaction in a few cases—early cases of tuberculous glands in children—and now used 1 per cent. tuberculin for conjunctival instillation. In consequence of the less troublesome application of the Calmette test, he deemed it more suitable for diagnostic work in hospital practice than the opsonic determination. Moreover, a single application was usually sufficient, whereas a series of opsonic determinations had to be made in order to exclude the presence of tubercle. The speaker went on to refer to the case of a young man who had been cured of early pulmonary tuberculosis by open-air treatment on ordinary lines combined with injections of tuberculin in what would now be regarded as enormous quantities. After seven years there had been no reappearance of tubercle bacilli in the sputum. The inference appeared to be that, if the case were taken early, good results could be achieved with what would, in the light of the present discussion, be regarded as obsolete methods of treatment.

Professor ARTHUR H. WHITE (Dublin) considered that many cases of local tuberculosis which seemed to begin insidiously really started with an attack very similar to a typical influenzal one, during which the blood, if examined, would show a high opsonic index to tubercle bacilli. Such attacks might be considered to end in three ways: in general miliary tuberculosis, in a local tuberculosis focus with a low opsonic index, and in complete recovery.

THE INFLUENCE OF THE SITE OF INOCULATION.

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THE mere possibility of successful therapeutic inoculation depends on the fact that the inoculator can regulate the doses which he gives, so as to obtain a preponderance of stimulating effect, with the minimum toxic result. In the natural course of a bacterial infection recovery depends largely on the immunity developed in response to the infection. The stimulus exciting this immunity is provided by the products of bacterial growth within the organism; but the supply of such bacterial matter is not regulated with this end in view, and consequently the immunity produced is often defective. An opening is thus offered to the therapist, who can throw in appropriate supplementary stimuli when necessary. These exogenous inoculations have the advantage that they can be regulated accurately as to dosage, as to time, and as to the site of inoculation.

I wish to speak of the site of inoculation as it affects the immunity produced.

There are three alternative views which may be suggested as to the origin of the antibodies, upon the presence of which antibacterial immunity chiefly depends, and according as we are inclined to one or other of these views so we shall attach a different kind of importance to the selection of the site for inoculation. First, it may be held that the antigen must be absorbed into the circulation, and that the antibodies are formed either in the blood stream or in some as yet undefined tissue which has this special function. On this view the site of inoculation would only be of importance as it determined a more or less rapid absorption into the circulation. Secondly, we may suppose that the power of reacting to the presence of bacterial matter by the elaboration of a specific antibody is one common to all the tissues; so that the chief centre of the activity excited by an inoculation will be found at the site of inoculation, where the stimulus has the greatest intensity. Or, thirdly, the leading rôle may be assigned to the leucocytes, in which case the chief factory of antibodies may be found at the site of inoculation, if this is favourable to a rapid local collection of these cells, or it may be referred back to the blood stream or the leucogenic tissues, if the inoculated material is easily and quickly absorbed. On either of the latter assumptions the site of inoculation is a matter of paramount importance, because it becomes possible to excite an increased immunizing activity, by the application of a localized stimulus, without allowing the inoculated vaccine to circulate through the whole system, with the consequent danger of injuring tissues already poisoned by disease. The two alternative views last mentioned are those best supported by experiment.

It is already an ancient observation that a strictly local infection can confer an immunity in which the whole body shares; one need only mention the old method of smallpox inoculation and preventive inoculation against pleuropneumonia of cattle. More recently a large amount of experimental work has been directed to the object of gaining a rigid proof of the local production of antibodies, by Wassermann and Citron, P. Roemer, v. Dungern, and others; but, though the results all point in the same direction, the required proof is, perhaps, not yet convincing.

With these considerations in view it seemed that one might obtain some useful information by making inoculations at different sites and observing the differences, if any,

between the responses obtained by the various methods. The plan of the experiments was to inoculate normal animals subcutaneously, intravenously, and intraperitoneally with a bacterial vaccine, and to compare the effects produced on the opsonic index. I have left on one side the method of immunization by the gut, as this method has been the subject of a considerable amount of experiment by Colonel Sir William Leishman and his colleagues of the R.A.M.C., who obtained apparently rather disappointing results.

The vaccine used was an emulsion of the *Bacillus pseudo-tuberculosis rodentium* in saline solution, killed by heating to 60°C. for about one hour. Rabbits showed a very striking toleration of subcutaneous injections: the doses given ranged up to 80.000 million per kilogram of body weight, and neither adverse clinical symptoms nor opsonic negative phase were produced. Intravenous inoculation, on the other hand, of only 10.000 million bacilli produced profound shock and an opsonic negative phase. A dose twice this size brought on a marked negative phase. These conditions did not last long, and after an interval of two or three days the animals became lively again, while the negative phase gave place to an energetic immunizing response. It is clear that the larger intravenous doses either paralysed for the time the normal production of opsonin, or else absorbed its opsonic content from the circulating blood. The second alternative appears inadequate to explain so great a fall, because, when we make the experiment *in vitro*, a proportionately much larger quantity of bacterial emulsion is required to deopsonize a sample of normal blood serum; and also because the lowest point of the curve is only reached after a considerable interval of time. I conclude that intravenous injections can temporarily lessen the normal production of opsonin, and that this action is, in part at least, responsible for the negative phase here obtained. However this may be, no such marked negative phase is produced after subcutaneous inoculation—a fact which may be explained by supposing that the vaccine, in this case, is localized in the subcutaneous tissues, and only reaches the general circulation in small quantities.

Now let us pass on to consider the immunizing reaction which follows after the first few days. There is not much difference to be made out here between the two methods of inoculation. In both cases a good response is obtained. That following on intravenous injection seems in most cases to reach a higher level. But I dare not insist too much on this difference, because experiments made at different times are not strictly comparable in this respect. The cultures used in estimating the opsonic index alter in virulence, and this change has a considerable effect on the numerical height of the indices measured. If any conclusion were to be drawn from the greater height of the intravenous curves it would be that there is, somewhere in the body, a tissue more active in producing opsonins than the subcutaneous tissue. But until we know where to find this tissue, and how to reach it without having recourse to the dangerous procedure of intravenous inoculation, it must remain out of court for therapeutic purposes.

It follows from this that subcutaneous inoculations produce a fairly good reaction, whilst at the same time they minimize the risks of inoculation. Intravenous doses, on the other hand, more easily produce harmful results, but also may perhaps give greater possibilities of exciting a high level of immunity. When we come to examine the results of intraperitoneal injections we find a third condition prevails; by this method the disadvantages are emphasized with no corresponding set-off of advantages. The opsonic charts show a predominance of the negative phase, with a very marked diminution of the immunizing reaction. In contradistinction to the curves presented before, these show the possibility of producing a negative phase not followed by any positive phase. It is only by a fortunate choice of dose that a positive phase is obtained at all by this method of inoculation. The vaccine introduced is in a situation favourable to the abstraction of opsonin from the blood because of the abundant circulation of lymph through the peritoneal cavity; it also exerts its toxic effects upon important and delicately organized structures, at the same time it reaches no tissue able to respond to its presence by an energetic production of antibodies.

The point of theoretical and practical importance, which I think is brought out by these experiments, is the possibility of separating the different phenomena generally recognized as integral parts of the response to inoculation. Taking the condition of the blood serum as an index to the state of the body as a whole, it is not necessary that a phase of lowered immunity should precede every immunizing reaction, and on the other hand a negative phase is not always followed by a reaction. We must recognize that the site chosen for inoculation has a considerable influence on the type of response obtained. It must not be expected, however, that this separation of effects is to be so easily demonstrated in the case of every antigen that may be chosen for experiment; it will depend, as a necessary condition, upon the localization of the material at the site of inoculation, and this must, of course, be influenced by its solubility and diffusibility as well as by any selective affinity which it may exercise towards the tissues. Vaccines prepared from the pseudo-tubercle bacillus appear to be exceptionally favourable in these respects, so that the results obtained by the three methods of inoculation with which I have dealt are sharply differentiated. Now, this differentiation is what we aim at in the therapeutic use of vaccines. We wish to produce a reaction such as those I have just shown produced by subcutaneous inoculation, and characterized by a raised immunity with no preceding negative phase. But most of our vaccines are—in part, at least—readily absorbed, so that we run the risk of bringing on a negative phase, or even symptoms of intoxication. The readiest way out of the difficulty was to reduce the dose, and this was the measure actually adopted as soon as the opsonic method had provided a means of testing the effect of inoculations. After the injection of a small dose a larger proportion of the vaccine material was held at the site of inoculation and less was absorbed, so that it was found possible in practice to define a small range of doses in every case, which were effective and at the same time moderately safe.

One more consideration suggests itself on this point. If it is true that subcutaneous inoculation remains free from disadvantageous results, so long as the vaccine material is localized and is not absorbed into the circulation, then a vaccine which is only slowly absorbed has obvious advantages, and it may become possible to prepare such a vaccine of reduced solubility which will give us a wider range of safe dosage than we can command at present.

DISCUSSION.

Dr. A. Butler Harris (Loughton) emphasized the importance of the site of inoculation in the treatment of localized infections. In the case of tuberculous glands he found that quicker results were obtained by the introduction of minimal doses of tuberculin as near the site of infection as possible. He referred to the use of Berausch's tuberculin, which was used locally in progressively increasing doses with good effect. He had had a case of rapidly-spreading erysipelatous infection of the leg from a gnat-bite, the progress of which was completely arrested a few hours after the introduction of five million streptococcic vaccine into the infected area itself.

A REVIEW OF THE INOCULATION TREATMENT OF TUBERCULOSIS;

WITH SPECIAL REFERENCE TO LESIONS OF LYMPHATIC GLANDS.

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During the last five years the use of vaccines has attained to very wide application, and has made many converts. It remains, however, a new method, and while the more conservative of our profession are aware of reports of isolated cases successfully treated, they regard vaccine therapy as being still in an experimental stage and hesitate to employ a method of which, as they say, they know so little. A sufficiently large number of cases of tuberculosis have now passed through the therapeutic inoculation department at St. Mary's Hospital to enable a fair estimate to be made of the general utility of inoculation in the treatment of this infection, and I have obtained permission to use its records for the purpose of a critical review. I have taken

no part in the treatment of any of the patients, but I have been familiar with many of the cases, and I have made clinical examinations of a number of them either at the outset or during the course of their treatment.

In this paper the different sites of tuberculous infection, such as the lymphatic glands, the skin, or the genito-urinary tract, are considered separately, and inquiry is made as to which varieties do best, and as to circumstances which influence treatment for good or ill. The object is to enable one to say from past results what reasonable prospect there is of success in any given case. It is, in fact, an attempt to establish prognosis. No effort is made to advocate vaccine therapy as against any other method of treatment, as for this purpose a parallel series of cases treated by the alternative method would be necessary, and these are not available. Notice is taken only of actual clinical results, and the opsonic index is given a well-deserved rest.

The total number of cases of tuberculous disease treated in the department is 367. They all attended as out-patients, and though they included more well-to-do persons than usual in such practice, there was a large preponderance of the very poor. Out-patient treatment is not an ideal method at any time, involving as it does irregularity of attendance and absence of control over the patients' conditions of life, which are so often vitiated by the combination of ignorance and lack of necessaries comprised in the term poverty. Out-patient records, too, are necessarily imperfect, more especially with regard to results, since patients generally cease to attend at their own discretion without being formally discharged. On the former grounds, any method which achieves good results in out-patient practice deserves very full credit.

The numbers of each kind of case treated are as follows:—Lymphatic glands 155, joints 70, ulcer, sinus and abscess 50, genito-urinary tract 34, lupus 23, lungs and pleura 10, bone 8, dactylitis 7, peritonitis 5, eye 3, and larynx 2. Joints are discussed elsewhere at the present meeting, and will not be further considered here. Lymphatic glands, it will be observed, supply by far the most numerous cases, and these are considered in greater detail. Every patient treated for glands has been written to, and 87 of them have been personally interviewed, and the estimates of results are made from the cases thus examined. The estimates of results in other sites are taken from the records only, which are, I believe, sufficiently accurate, but less full.

Lymphatic Glands.

To consider, then, the cases of tuberculous lymphatic glands. In 8 of the 87 cases, inoculation was employed as an adjunct to removal by operation, in every case with satisfactory result and with no recorded recurrence. There remain 79 cases in which inoculation has been the chief method of treatment. Of these 37 are males and 42 females. In 10 of the cases the affected glands were either in the axilla, arm, or groin; in all the rest they were in the neck.

The treatment of these patients has consisted in inoculating them subcutaneously with Koch's emulsion of tubercle bacilli, generally known as B.E. The doses are minimal at the outset, and are repeated at intervals of ten days, a dose not being increased till it has ceased to have a therapeutic effect. The minimal dose is usually $\frac{1}{1000}$ or $\frac{1}{10000}$ mg., the smaller dose being always used for children. The maximal dose for children under 5 is $\frac{1}{10000}$, for older children and adults it rarely exceeds $\frac{1}{1000}$; in a few instances $\frac{1}{100}$ has been used, and $\frac{1}{10}$ is recorded. Secondary infections are treated with appropriate vaccines. In any case where fluid is detected in a gland it is drawn off by a syringe and needle. It is of great importance that sources of irritation, such as carious teeth, pediculi or aural discharge, should receive local treatment.

The results are classified in the following way: When glands have disappeared altogether, or have been reduced to a size not larger than cherry-stones, and then remain hard and do not vary in size, they are considered "cured." When there is marked diminution, but the glands are of larger size than the foregoing—say as large as raisins—they are considered "much better." When the reduction is slight only, they are called "better," and others are described as "unchanged," or "worse."

Of these 79 cases, 27 are cured, 22 are much better, 18 are better, 8 are unchanged, and 4 are worse. For purposes of comparison these results are collected in three groups. No. 1, described here as "good," includes those which have shown marked improvement—the cases which are "cured" and "much better"; No. 2, called "moderate," includes cases slightly improved—those classed as "better"; and No. 3, called "bad," includes those which have not improved—the "unchanged" and "worse." I have tried to find reasons for these variations in result, and have considered the age of the patients, the duration of the disease before treatment, the period of treatment, the presence of tubercle elsewhere, the presence of secondary infections, and the dose. The same variations of dose have been employed in every class; the different results cannot depend on this. Tuberculous lesions elsewhere as well as in the glands are rare in this series (only 12 in all), and these are evenly distributed; they do not much affect prognosis. Secondary infections also occur irregularly in the three grades. The duration of the disease before treatment was begun and the duration of treatment have both a slight relation to the results, the advantage being on the side of short duration and long treatment; but the difference is not sufficiently marked for either to be a potent cause.

The age incidence is as follows: In the first age period—namely, children up to 5 years of age—there are 8 cases, in the second 16, in the third 10, in the fourth 13, in the fifth 14, in the sixth 7. Over the age of 30 there are 11 cases.

The *proportion* of cases in each 5 year age period up to 30 years of age which have undergone the varying degrees of improvement is as follows: In the first period, there are 6 out of 8, or 75 per cent., *good*; 2, or 25 per cent., *moderate*; and none *bad*. In the second period, 5–10 years, there are 8 out of 16, or 50 per cent., *good*: 7, or 44 per cent., *moderate*; and 1, or 6 per cent., *bad*. Third period, 5 out of 10, or 50 per cent., *good*: 20 per cent. *moderate*; and 30 per cent. *bad*. Fourth period, 11 out of 13, or 84 per cent., *good*; 2, or 16 per cent., *bad*. Fifth period, 10 out of 14, or 70 per cent., *good*; 1, or 7 per cent., *moderate*; 3, or 23 per cent., *bad*. Sixth period, 3 out of 7, or 43 per cent., *good*: 43 per cent. *moderate*; and 1, or 13 per cent., *bad*.

The figures indicate clearly the important influence which age has upon results in this disease.

Immunization occurs satisfactorily in the first period; there is then a fall till after the age of puberty, after which there is a marked rise in resistance, which is well maintained for ten years. During the period from 10 to 15 not only is the curve of improvement low, but that of failure is higher than at any other time.

Before leaving the subject of tuberculous glands, reference should be made to that series of cases in which the glands have entirely disappeared under treatment. These cases are 11 in number; with 4 exceptions they were all between the ages of 18 and 23. 7 of them had had enlarged glands for less than a year, 5 for less than six months, and only 2 for more than a year. It would seem, then, that for complete recovery the most suitable cases are those occurring at about the age of 20, and coming under treatment early; such recovery occurs in a few months; in only 3 instances has treatment exceeded a year's duration. The method of aspirating fluid is a successful one; it was practised in 9 cases in this series, often more than once, and 4 times in the 11 cases of complete recovery. Relapse after attaining to some degree of improvement has occurred in 11 cases.

It should be made clear that these cases of glands were, on the whole, decidedly bad ones. An indication of this is the fact that of the 79 cases, 43, or more than half, had been operated on previously, and 21, or one-quarter, had had more than one operation; 5 of them had had ten operations or more. Of the cases cured 9 out of 27 had been operated upon; of those much better, 14 out of 22; of those better, 11 out of 18; and 9 out of 12 of those unchanged or worse. If one may venture to suggest prognosis from these data, it would seem that in any 8 cases in which inoculation is adopted, with correct dosage, 5 will show marked improvement, of whom 2 or 3 will be cured, 2 will probably improve slightly, and 1 or 2 will fail. The best results are to be anticipated in young children and in young adults from 15 to 25, after which

they gradually deteriorate; the worst results occur between the ages of 10 and 15. Success will not be attained unless secondary infections are appropriately treated.

Ulcer, Sinus, and Abscess.

The second variety of tuberculous infection to be studied is a group in which are included ulcer, sinus, and abscess, 50 cases in all. The results show 10 cures, 20 much better, 9 better, 8 unchanged, and the rest doubtful. The age-incidence is distributed evenly throughout the first twenty-five years of life, after which there is a rapid fall. As in the case of glands, the degrees of improvement are arranged in three groups for comparison, and the proportion of these in each period of five years is as follows:

First period, 85 per cent. *good*; 15 per cent. *moderate*; and none *bad*. Second period, 70 per cent. *good*; 15 per cent. *moderate*; and 15 per cent. *bad*. Third period, 15 per cent. *good*; 35 per cent. *moderate*; and 50 per cent. *bad*. Fourth period, 85 per cent. *good*; 15 per cent. *moderate*; and none *bad*. Fifth period, 40 per cent. *good*; 20 per cent. *moderate*; and 40 per cent. *bad*. Sixth period, 63 per cent. *good*; 13 per cent. *moderate*; and 13 per cent. *bad*.

Here, again, the lack of resistance at puberty is very evident, for during this period not only is success lowest, but failure is highest, and the unsatisfactory result of "better" is also at its highest.

The dose employed among cases cured has averaged $\frac{1}{12000}$ mg. minimum and $\frac{1}{7000}$ mg. maximum for children, and $\frac{1}{12000}$ minimum to $\frac{1}{5000}$ maximum for adults. Secondary infections, chiefly staphylococcus, are common: they occurred in 28, or more than half the cases, but if treated they do not militate against good results. The duration before treatment began has frequently been long, 3 of the cured cases were of four years' duration. For cure, treatment requires to be long continued, the shortest period leading to cure lasted eight months, and 4 lasted more than a year. In the treatment of tuberculous ulceration great improvement may be looked for in 3 cases out of 5, the best results will be attained in young children and young adults, the worst in older children from 10 to 15. Treatment will probably last a year, and secondary infections will require attention in more than half the cases. Relapse has occurred in 6 of this series.

Genito-Urinary Tract.

Thirty-four cases of tuberculous disease of the genito-urinary tract have been treated, 9 of the testis, 8 of the kidney, and 17 of the bladder. The age of incidence is higher than in the case of glands or ulcer, nearly all cases occurring between 20 and 40, and being evenly distributed through that period. Of the testis cases 3 are cured, 2 much better, 2 better, and the rest doubtful. Of the kidneys 2 are cured, 2 much better, 3 better, and 1 dead. The death occurred after childbirth, and at a time when the renal symptoms were improving.

Of the cystitis cases 2 are cured, 4 much better, 8 better—that is, have had some relief of either their pain or their frequency of micturition—1 is no better, 1 worse, and 1 unknown. Relapse has occurred in 5 cases. Secondary infections, chiefly by the *Bacillus coli*, have been treated in 13 cases.

The dose should be a very small one at the outset; in 10 out of 15 of the successful cases the initial dose has been less than $\frac{1}{12000}$ mg., often $\frac{1}{24000}$; it may in time be brought as high as $\frac{1}{4000}$, but very bad results may follow excessive initial doses. Treatment in the successful cases has averaged one year and two months, though 5 cases have been treated for six months or less. In tuberculous disease of the genito-urinary tract great improvement may be anticipated in 3 cases of 7, and slight improvement in 2 more. The initial dose should not exceed $\frac{1}{24000}$ mg., and treatment will probably last a year. Secondary infections occur in about half the cases.

Lupus.

Lupus has been treated in 23 cases, chiefly between the ages of 15 and 25, under 15 years cases have been rare. It should be stated that great difference of opinion exists in the department as to the degree of improvement which certain of these patients have undergone. But, fools and angels notwithstanding, I prefer to leave this estimate for the present as, at any rate, an attempt at prognosis. Three cases are cured—this is agreed, 8 much better, 9 better, 1 unchanged, and 2 unknown. The doses employed are large; of the successful cases only 3 began with $\frac{1}{12000}$ mg. or less, and the average minimum is $\frac{1}{7000}$. Maximal doses vary between $\frac{1}{2000}$ and $\frac{1}{3000}$. Secondary infections are common, and often multiple; they occurred in half this series. Treatment has averaged nearly two years in the successful cases, and relapse has occurred five times.

Other Sites.

The other forms of tuberculosis treated may be briefly referred to: Of 10 cases of phthisis or pleurisy, 4 are reported cured or much better, 4 are unchanged. The dose is very small; $\frac{1}{24000}$ to $\frac{1}{12000}$ mg. is the initial dose. Of 8 cases of bone disease, 2 are cured and 3 much better; the dose is the same as in cases of adenitis. Of 7 cases of dactylitis, 2 are cured, 2 better, and 1 unchanged. One case of peritonitis is cured, 2 are better, and 1 unchanged. Three cases of ocular tuberculosis in the cornea, choroid, and retina respectively are all described as much better. Both cases of laryngitis are unchanged. Of the various forms of tuberculosis of which we have sufficient experience to form an opinion, it appears that tuberculosis of lymphatic glands is the form most amenable to inoculation treatment, nearly 1 in 3 being cured, and (including cures) 5 in 8 much improved. Next comes ulcer, with 1 in 5 cured and 3 in 5 much improved. In the genito-urinary tract 1 in 5 are cured and 3 in 7 much improved, and in lupus 1 in 8 are cured and 1 in 2 much improved. With such results obtained among out-patients it may fairly be claimed that inoculation has proved its value as a remedy for this scourge.

BACTERIOLOGY AND VACCINE TREATMENT OF ACNE VULGARIS.

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When dealing with acne vulgaris, one has to be very careful to distinguish from it the other diseases to which the name "acne" has been applied, and especially not to confuse it with acne rosacea. It may seem rather absurd to mention this, but I have very frequently been called on to treat rosacea cases in which there was a certain amount of pustulation, they having been sent as true cases of acne vulgaris.

Acne vulgaris may be said to occur in four stages. First, there is the greasy skin, from which can be squeezed-out plugs of sebum; then there is the stage of comedo formation followed by the indurated stage, when, as the result of mild inflammation, the nodules become markedly indurated, while, lastly, there is the pustular stage. If these various stages are examined bacteriologically they will be seen to vary somewhat. The seborrhoeic plugs of the early stages show a mass of sebaceous débris, and myriads of small Gram staining bacilli which I shall refer to as the acne bacilli. The comedo differs in the superficial and the deep parts to some extent, the deep parts showing enormous numbers of the acne bacilli to the exclusion of everything else, while in the superficial parts are to be seen as a rule a fair number of staphylococci, and in some cases a large number of those peculiar organisms—the bottle bacilli. The indurated nodules show the same organisms as the comedo as they are merely a further stage in the same process. In these nodules there is a small central bead of pus surrounded by a very thick layer of inflammatory tissue, and in the pus many of these bacilli are to be seen taken up by the phagocytes. The pustules may be divided into three varieties: First, there are the small, very superficial pustules which are of very rapid origin, and which in most cases show very many acne bacilli without any other organisms being present; secondly, there is the very indolent pustule which takes a very long time to form and which does not show the common white head till a late stage when it has been infected with pyogenic cocci. This will show not true pus but broken-down tissue and sebaceous matter, with clumps of bacilli scattered about. The third variety of pustule is the acutely inflamed, painful, and tender, and is to be seen especially where there has been some friction on some previously-existing acne lesion. This last is due to a secondary infection with staphylococci.

When cultivating the acne bacillus one must always plant out the pus *en masse* on the media, as if one spreads it out even on the most favourable media, it has such feeble powers of vitality that it will not grow.

The acne bacillus is a Gram-staining organism, which, when seen in pus films, is arranged very irregularly and is frequently to be seen inside the polynuclear cells. In pus films it is not, however, so firmly Gram-positive as it is when it is seen in a film from a comedo where it is in general shorter and stouter than when seen in pus. This possibly indicates a certain amount of degeneration in the bacillus in the pustule. It may be found alone or it may be found in conjunction with staphylococci; both of these organisms may indeed be found inside the same pus cell.

The bacillus grows well in ordinary broth and on agar which has been rendered faintly acid either with acetic or hydrochloric acid. The best medium I have found for the bacillus has been, however, ordinary agar to which has been added 1 to 5 per cent. of oleic acid. The medium thus made is cloudy but it yields a much more vigorous growth than any of the others I have tried. After subculture on one of these various media for some time the bacillus will grow on ordinary agar, but only on one occasion was I able to obtain any growth of it on ordinary agar direct from the lesion.

The colony is white and raised rather more than staphylococcus from the surface of the medium and in very old cultures the edges become crenated and there is considerable heaping up of the colony; if glycerine is present in the medium then the old colonies will acquire a very distinct dark brown hue.

There is thus no doubt of the presence of a bacillus in these lesions of acne vulgaris which is difficult of growth and which is often but not always associated with staphylococci; the question which remains to be answered is: What is the rôle of this organism in the production of the lesions? The same bacillus is to be seen in the sebaceous matter which one can squeeze out from almost any person's skin, and it is almost always present in seborrhoeic conditions of the scalp and in oily seborrhoea of the body. Unna, who first described the organism but who did not obtain cultures, maintained from histological reasons that it might be the cause of all the lesions of acne. Sabouraud, who described the bacillus later in full detail, put it down as the causative agent in oily seborrhoea, and positively stated that acne was a condition superadded on a seborrhoeic foundation, and was due to pyogenic cocci. Gilchrist, some years later, redescribed the bacillus and ascribed to it all the lesions of acne. Whitfield, who has done most work in this connexion in England, states that while it is the pathogenic agent in the formation of the comedo it is not able to cause the pustulation which is so characteristic of the later stages. In an earlier communication I adduced evidence to show that the bacillus was capable of causing all the lesions of acne vulgaris. One of the cases which quite convinced me of the pyogenic nature of the bacillus in certain cases was a man who suffered from pustular acne of the back and shoulders, and from whom I obtained films time after time without seeing any cocci, and from whose pustules I obtained on five occasions out of eight pure cultures of the acne bacillus, while of these eight cultures only one grew staphylococci, the remaining two being sterile. This person had been treated for over two years with staphylococcus vaccine without any perceptible result, but within three months of his having a vaccine of the bacillus the pustulation had practically disappeared.

The details of the experiments on which I based my conclusion that the acne bacillus was a pyogenic agent in some cases I have already published, so I need not here describe them, but there seems no doubt that in some of the cases of acne the pustulation, or an aggravation of the pustulation, is due to pyogenic cocci. It is possible, however, that an organism which is to be found exerting little pathogenic action in most people, although present in considerable quantities, may yet, owing to some diminution in the resistance of the host, exert some more powerful influence, and I contend that such is very well illustrated in the case of the acne bacillus. Thus it is to be found in the sebaceous matter of some people in whom it apparently causes no discomfort. Others, again, whom we may suppose to be in some way less resistant to its action, show, as the result of its presence, an oily seborrhoea; others will show marked comedo formation, while some, in whom possibly the resistance is still further reduced, will react to the infection in the shape of pustulation. What the ultimate cause of the reduction in the resistance is we do not know, but it is probably, as many authorities have suggested, some form of toxaemia, but until we know something of the nature of this we must, I think, regard it as being an infection with a specific microbe, the acne bacillus, sometimes pure, sometimes mixed with other organisms, and treat it as such.

This brings us to the treatment of acne by means of vaccines. Early in the history of vaccine therapy cases of acne were published by Sir Almroth Wright and others in which the pustulation had been alleviated in a remarkable manner by means of staphylococcus vaccine. These first cases were probably, as such experimental cases are apt to be, not typical but exceedingly aggravated cases of acne of very old standing which had resisted all treatment for years. In such cases one would expect, and the expectation is borne out when one examines such cases bacteriologically, that staphylococcal infection plays a larger part than in the milder cases.

When one treats an ordinary case of acne with staphylococcus vaccine alone, one finds that some cases are not affected by it one way or the other; more commonly the case improves up to a point beyond which it will not go, however one modifies the dose. When, however, one combines with the staphylococcus vaccine a small dose of a vaccine made from the acne bacillus the beneficial effect is to be seen much sooner and it is much more complete.

There may be some difference of opinion as to whether the acne bacillus is the cause of pustulation, but there is no doubt that in the stages of the disease up to the formation of the comedo it plays the chief part. Thus, whether I am right or not in saying that it may cause all the lesions, the proper treatment, provided one is going to use vaccines, is to use a vaccine of the acne bacillus, which we know is the primary infection, combining it with staphylococcus vaccine in those cases where as the result of bacteriological examination we find that this organism is present in sufficient numbers to exercise its pathogenic effect.

As regards the dosage of the vaccines, I find that of the acne bacillus one gets best results with doses ranging from 5 to 10 million organisms. If larger doses be given, then a few days after there is an exacerbation of the pustulation indicating the occurrence of negative phase, and in one or two cases where I gave very large doses this negative phase was very marked and prolonged. The dose of staphylococcus that may be given with safety is comparatively large, about 200 to 500 million, although here again the exhibition of too large doses will have a deleterious effect. The inoculations should be repeated about once a week, although in some cases I think that they might be given more frequently, about every five days.

The results we have obtained in the inoculation department of St. Mary's Hospital since we started using the vaccine of the acne bacillus (usually in combination with staphylococcus) are far in advance of what we had been accustomed to when using the staphylococcus vaccine alone.

THE BACTERIOLOGY OF COMMON COLDS.*

By C. H. BENHAM, M.D., M.R.C.P.Lond.,
Hove.

COMMON colds are not only a source of great inconvenience to nearly all the inhabitants of these islands, and of annoyance to the general practitioner who is called upon occasionally to treat them, but they lay the foundations for many of the graver respiratory diseases which are such an important item in the death-rate. No really satisfactory classification being possible in the present state of our knowledge, I have used the term "common cold" to imply generally any mild catarrhal disorder of the upper air passages. But I do not wish it to be understood that a common cold is a clinical entity, any more than "jaundice" or "asthma." Common colds exhibit a very

* This paper was illustrated by lantern slides, which it has not been convenient to reproduce.

great variety of types, some mild and purely local, others severe, and occasioning profound symptoms of general disturbance.

The micro-organisms which naturally inhabit the nasal cavities and throats of healthy individuals are legion, and it is a problem of no small difficulty to unravel the labyrinth and to decide which of the many bacteria present are to be considered pathogenic. It seems quite probable that during the seasonal epidemics of catarrh quite a number of the common saprophytes found in the naso-pharynx can acquire a certain degree of virulence, and therefore the list I am giving you may have to be increased as our knowledge of the subject grows. A considerable weight of evidence is accumulating with regard to the first four organisms which I shall mention. They are *M. catarrhalis*, *M. paratetragenus*, *B. septus* (*B. coryzae segmentosus*, Cautley), *B. friedländer*, and probably *B. influenzae* and the pneumococcus.

The *Micrococcus catarrhalis* is well established as a cause of common colds, and also of much more serious conditions, such as influenza, bronchitis, and pneumonia. In Kolle and Wassermann's[1] *Pathologegen Mikro-organismen* there is an article by Neisser giving a considerable list of observers who have recorded its occurrence both in normal throats and noses and in various pathological conditions. Dr. M. H. Gordon[2] examined a number of cases occurring in an epidemic simulating influenza which broke out in Hertfordshire in 1903–5, many cases of which were fatal with pyrexia, pneumonia, and symptoms simulating meningitis. Dr. Allen[3] has found it in both acute and chronic colds, and has drawn attention to the frequency with which it causes a very irritable cough, with scanty, very viscid expectoration from the pharynx.

My own observations entirely confirm this, and I have seen cases caused by the *M. catarrhalis* in which the cough has been so violent as almost to suggest a paroxysm of whooping-cough. As for its morphology,

it is a large coccus occurring in pairs. It is negative to Gram's stain, and being frequently found in leucocytes is not unlike the gonococcus. It is, however, rather more rounded in shape, and is readily distinguished by its cultures. Its colonies are whitish-yellow and opaque, and attain a considerable size. They are raised from the medium, to which they adhere very firmly. It grows best on blood-agar or nasgar, but a good virulent strain can be readily subcultured in ordinary agar. It usually fails to grow on gelatin. In broth containing 1 per cent. of glucose, lactose, saccharose, maltose or mannite no acid reaction is produced in a week. This distinguishes it readily from the *M. paratetragenus*, from the gonococcus, and from all the staphylococci, which all produce acid in one or more of these media. Subcultures may be kept alive for some weeks on nasgar. In making a subculture it is necessary to remove a visible portion of a colony, the growth being so adherent that it is quite possible to touch a colony without removing any of it.

The *Micrococcus paratetragenus* has received little attention from British observers. Attention was first called to it by Bezançon and De Jong,[4] who found it very frequently in association with the *M. catarrhalis* during the mild catarrhal attacks occurring in Paris in the winter of 1904–5. Bezançon[5] has also found it in the blood in a case of fatal pulmonary gangrene, and I have found it in the pus from a very foul-smelling empyema. It has been very frequent in the epidemics I have observed during the last two winters, and it is a point of some interest that Brighton is very closely in touch with Paris, and two of my patients clearly became infected with it while on a visit there. I find it very common in pharyngeal cells, and masses of it can be seen in the sputum in many cases of phthisis and the pulmonary affections.

In respect of morphology, the *M. paratetragenus*

is a coccus of extremely variable size, as seen in the sputum. It consists of large, deeply staining tetrads, embedded in a mass of smaller tetrads, diplococci, and minute bacillary forms, which are feebly stained. The large elements are Gram-positive, but the smaller elements fail to take the stain. A capsule or zoogloea is often present. These characteristics appear to a lesser extent in the subcultures. The zoogloea is usually lost, but the characteristic variability in size of the cocci and the peculiarity of their staining reaction are usually very well marked.

These variations in morphology and staining distinguish it, according to Bezançon, from the ordinary *M. tetragenus* of the mouth, but I am not entirely convinced of this point myself. Colonies of *M. paratetragenus* may be readily obtained on ordinary agar in a very short time (eight to twelve hours). They are creamy-white, glistening, rounded, and tend to coalesce. They are softer and less adherent than colonies of *M. catarrhalis*. Acid is formed in all the carbohydrate media above mentioned under *M. catarrhalis*.

The *B. septus* has only so far as I can ascertain, been described by British observers. As long ago as 1695 Cautley[6] recorded 3 cases of common cold, in 7 of which a diphtheroid bacillus was present which he named *B. coryzae segmentosus*. Of all the germs described as occurring in common colds this bacillus has least claim to be a cause of coryza, and I think those who have investigated it are now agreed that it causes rather a mild pharyngitis, with painful throat, muscular pains, and often severe nervous depression, but with no temperature and little or no nasal catarrh. I believe it to be a common cause of "stiff neck," "muscular rheumatism," and various transient muscular pains. Dr. Edmund Cautley did not pursue his investigation, or, at any rate, did not publish any further results, and in 1905, quite unaware that any work had been done on the subject, I rediscovered the germ, which was in danger of being forgotten. I then found that Dr. Prosser White,[7] of Wigan, had also been working on the subject, and in his book on catarrhal fevers you will find not only a very complete review of the evidence of the infective nature of common colds, but numerous experiments on Cautley's bacillus.

Morphologically considered the *B. septus*

is a diphtheroid bacillus. It is found both in the noses and throats of patients suffering from pharyngitis, but its most common situation is in the flat cells of the pharyngeal epithelium. Cultures can be readily obtained if the case is virulent. The best growth is on serum, but it grows well on agar or nasgar. The colonies are rounded, transparent, and finely granular, and do not readily stain a larger size than the head of a fair-sized pin. It is grown readily in broth, and produces acid in glucose, lactose, saccharose, and maltose. In this respect it resembles the diphtheria bacillus, but differs from it in forming no indol. The *B. xerosis*. In cultures the bacillus appears first as a very short oval rod, almost like an oval coccus, but by the third day the typical appearance of the bacillus is shown. It is then a short bacillus with rounded ends, about 1·5 μ in length by 0·3 μ in breadth. The protoplasm in the ends of the bacillus stains deeply, but there is a band or segment of unstained protoplasm running across the middle of the bacillus. This, I think, indicates a line of division, and one frequently sees the appearance of a diplobacillus. Involution forms occur, clubs, and pear-shaped forms, but these are not so common as in the case of *B. diphtheriae*. No granules are shown by Neisser's stain. Gram's stain is positive.

The Bacillus of Friedländer has been demonstrated by R. W. Allen as occurring in many acute and chronic colds. He considers it to be a cause of very profuse coryza, and records an epidemic occurring in the laboratory at Guy's as the result of the spilling of a broth culture on the desk. All the workers in the laboratory had violent coryza, and the *B. friedländer* was recovered from their noses.

Pfeiffer's Bacillus and the Pneumococcus are probably present in some cases of mild catarrh. I have seen small bacilli resembling Pfeiffer's bacillus in a good many swabs, but only in small numbers, and I have not succeeded in isolating them. Pneumococci are also often present in swabs in small numbers, but I have not succeeded in getting them to grow in pure culture. Dr. Butler Harris has, however, told me of a case in which the pneumococcus was obtained from the throat of an asthmatic patient with what appeared to be a common cold, who some days later developed an attack of typical pneumonia.

Opsonic Work. — Common colds, which are usually a localized infection of the upper air passages, should, according to our President's theory, be amenable to treatment by vaccine therapy. That this is the case R. W. Allen's papers published in the *Lancet*, October, 1903, give ample evidence.

His work proves, I think, two main facts: (1) That the *B. septus*, *M. catarrhalis*, and the *B. friedländer* are all pathogenic in certain cases of common colds. (2) That patients infected with these germs can be successfully treated by vaccine therapy.

I am at present engaged in a series of observations of the opsonic index in cases of common cold, and my results tend to confirm those recorded by Allen, at any rate as far

as the *M. catarrhalis* is concerned. The following are cases in point:

CASE I.

The patient was a throat and ear specialist. Subject to acute colds, usually lasting three weeks. His existing cold was of less than twelve hours' duration when first seen.

There was dryness and tickling of left nostril, the nasal mucous membrane and pharynx were red and glazed. The *M. catarrhalis* was seen in the throat swabs, and 250 million of a stock vaccine prepared from another case were injected within twenty-four hours of the onset. On the third day the symptoms had completely aborted. A second dose on the eighth day was given, the patient feeling quite well at the time. A second acute attack, however, occurred five weeks later. I found both the *M. catarrhalis* and *M. paratetragenus*. An injection of 250 million was given twenty-eight hours after the onset. The patient had a rigor and a temperature of 104° F., and had to stay in bed all the next day. This cold, however, also cleared off rapidly, though not so thoroughly as the first. As he was feeling better and had some important engagements which made him unwilling to risk a severe negative phase I did not inject the autogenous vaccines which had been prepared.

CASE II.

The patient was a dispensing chemist, who had an acute attack with symptoms of influenza—sudden onset, severe headache, nervous prostration, backache, stiff neck. Temperature 103° F.

Autogenous vaccine of *M. catarrhalis* prepared. On sixth day the patient was better, and temperature normal in the morning, but on the seventh day it rose to 102.4° F. in the morning, and there was acute pain and feeling of tension in the right ear and an enlarged gland in the right anterior triangle; 250 million of the vaccine were injected on the seventh day, which was followed by a rapid rise in the opsonic index, accompanied by a fall in the temperature and disappearance of all pain in the ear and resolution of the glandular swelling. His convalescence was more rapid than usual.

CASE III.

This was a medical practitioner who has had winter cough for fifteen years, lasting from the first cold weather to the spring. Slight emphysema is present, and the patient has been advised to winter in Egypt. The existing attack began in October, 1908, with an acute cold, very irritable cough, and scanty viscid expectoration in the morning.

The *M. catarrhalis* and the *M. paratetragenus* were both isolated, and an autogenous vaccine made of *M. catarrhalis*. Subsequently a mixed vaccine was made from all the organisms found in a specimen of washed sputum. Treatment extended over three months. His chart shows a very definite negative phase following the first two injections, and then a rise. The patient rapidly lost his irritable cough, the expectoration became loose and easy, and there was no very severe attack all the winter. Mild naso-pharyngeal catarrh continued, and it is probable that the posterior ends of the middle turbinals will have to be removed before the patient is completely cured. But the results, so far as they go, are encouraging, having regard to the very chronic nature of the case.

In conclusion, I should like again to emphasize the importance of those slight deviations from the normal which are roughly described as common colds, believing that in studying them we have the key to the etiology of many of the graver respiratory diseases, and that if a rational prophylactic treatment on general and bacterio-therapeutic lines can be devised a very important step will have been taken.

I have to thank the Science Committee of the British Medical Association for grants of £2 and £10 towards the expenses of the research.

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DISCUSSION.

Dr. BUTLER HARRIS (Loughton) stated that he had tabulated the results of the investigation of 55 cases of infections of the throat and respiratory tracts. *Micrococcus catarrhalis* occurred in 33; *catarrhalis* and *septus* in 13; 9 of these cases were those of epidemic influenza. Out of 6 cases of acute throat, 4 showed *catarrhalis* only on the swabs. The tonsils were covered with a pseudo membrane. A vaccine of 100 million of *catarrhalis* was given in 3 cases with curative results within eight hours; 1 case had had a similar throat attack six months previously which was not treated by inoculation, and which lasted six days. He was attempting to establish a clinical picture of the various infecting organisms of the mouth and throat or their groups.

Dr. BENHAM, in reply to questions put to him, said he considered the *B. septus* to be quite distinct from the diphtheria bacillus, from the pseudo-diphtheria bacillus, from Hofmann's bacillus, and from *B. xerosis*. Dr. Mervyn H. Gordon had put the reasons for differentiating these organisms very fully in his report to the Medical Officer of Health to the Local Government Board, 1901-2. With regard to the dosage, he quite agreed with Dr. Butler Harris that the best doses had yet to be ascertained.

SECTION OF PHARMACOLOGY AND THERAPEUTICS.

Professor RALPH STOCKMAN, M.D., F.R.C.P.Edin., President.

PRESIDENT'S OPENING REMARKS.

THE PRESIDENT, in opening the work of the Section, limited himself to the extending of a welcome to all present, whom he reminded that it was in Belfast twenty-five years ago that the Section had come into being, and that its inauguration was due to the energy of the present President of the British Medical Association, Sir William Whitla.

DISCUSSION ON THE TREATMENT OF OEDEMA.

OPENING PAPER.

By H. D. ROLLESTON, M.A., M.D.Cantab., F.R.C.P.Lond.
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CONSIDERATION of the pathological problems concerned in the causation of oedema would be out of place here, but since oedema is, like purpura, a manifestation of several distinct conditions, the different forms of oedema must be mentioned as a preliminary to considering their appropriate treatment.

1. The oedema of venous obstruction and cardiac disease is primarily mechanical and due to hydrostatic factors, as is partly shown by the influence of gravity, hydraemia and malnutrition of the capillary endothelium being active agents in the production of oedema.

2. Renal dropsy, though in some instances mainly cardiac, as in granular kidney, is in its proper sense of complex pathology; toxic factors are probably predominant, but hydraemia and retention of chlorides must also be taken into consideration. Indeed, it is probable that oedema of renal disease should be regarded as due to different factors, or combinations of factors, in different cases.

3. Toxic oedemas other than those due to manifest renal disease; for example, the universal oedema sometimes seen in infective diarrhoea in children, and the critical oedema seen in rare instances of pernicious anaemia.

4. Inflammatory oedema.

5. Oedema due to thrombo-phlebitis, depending on combined venous and lymphatic obstruction.

6. Oedema due to lymphatic obstruction.

7. Oedema due to nervous factors: (*a*) oedema associated with peripheral neuritis, beri-beri; (*b*) hysterical oedema.

8. Oedema of doubtful origin; for example, chronic trophoedema (Milroy's disease).

The remarks on treatment will be almost entirely confined to cardiac and renal oedema.

I.—CARDIAC DROPSY.

If it be assumed that this is primarily mechanical and that the change in the capillary wall which allows the increased transudation is due to malnutrition and not to toxaemia, the problem of rational treatment is easier to solve than in cases in which a toxic factor is active. It must be admitted, however, that the problem is not so simple in all cases of cardiac dropsy, and that from intestinal toxaemia or renal insufficiency a toxic factor may be superadded.

The mechanical breakdown is primarily met by rest and digitalis; and, as Professor Dixon has shown that the tincture may be devoid of any active principle, it is important to be certain that we are using a physiologically active sample, such as the fluid extract prepared and tested by Parke, Davis and Co., which is eight times stronger than the official preparation. Nativelle's granules are often successful; the combination of digitalis and caffeine, as advised by Sir James Barr, often acts well, as does a similar combination of theocin or diuretin with digitalis. The irritating properties of theocin on the stomach must be borne in mind, for vomiting in advanced mitral disease is in my experience a very bad prognostic. Theocin acetate appears to be better borne. Baillie's pill, called by Addison *the* pill, and sometimes spoken of as Addison's or Guy's pill (1 grain each of digitalis leaves, squill, and blue pill), has a deserved reputation.

To obviate hydraemia and to diminish the work of the heart, restricted fluid—the amount in the twenty-four hours being 25 to 30 oz.—is an important part of the treatment. It is better to restrict the intake than to remove the excess of fluid by purgatives, a process which to some extent necessarily interferes with nutrition. The restriction of fluid should be gradual and progressive, so as to avoid the discomfort and bad effects of thirst and constipation. The amount of salt should also be restricted. Gentle massage may be useful in cases with moderate oedema, and probably acts in several ways, by improving the nutrition of the tissues as well as by shifting the oedema fluid. The abstraction of fluid by means of hot-air and other baths does not appear to be of anything like the same value in cardiac oedema as it is in renal dropsy. The influence of gravity in preventing oedema is much more in evidence in cardiac than in renal dropsy. Puncture of the legs and drainage may be necessary in some instances, but its use is not dictated by the same argument—namely, the removal of toxins—as in the case of renal dropsy. In cases with chronic polyserositis repeated tapping of the abdomen or pleurae may be necessary, and at the end of the paracentesis adrenalin may be injected into the serous cavity (Barr).

II.—Renal Dropsy.

The complicated etiology of the oedema and the variations in the excretory capacity of the damaged kidney make treatment much more problematic and its effects more difficult to estimate with accuracy than in cardiac dropsy. There are, therefore, difficulties in any given case in choosing the proper remedy to employ, and it must be borne in mind that sudden improvement may be independent of the treatment employed. To illustrate the occurrence of "urinary crises" and their relation to treatment, three cases may be quoted. A man with chronic tubal nephritis and general oedema had had almost every form of recognized treatment without any response, when suddenly profuse diuresis and diaphoresis set in, and in four days he lost all his oedema and 4 st. 3 lb. in weight; at the time of this urinary crisis he was not on any special form of treatment.[1] Another patient, with chronic nephritis and universal dropsy, was put on caffeine citrate, and in sixteen days lost all his dropsy and 4½ st. in weight.[2] The urinary crisis was naturally put down to the caffeine, but in view of the failure of caffeine in other apparently similar cases and of the occurrence of an even more signal urinary crisis in the case quoted above, the question must arise whether the profuse diuresis was due to or independent of the caffeine. In a small boy, with chronic tubal nephritis and universal oedema, the scrotum became so excoriated that he was put into a hip bath, and after this the oedema rapidly disappeared—an event which was almost certainly due to some factor other than the bath. It may also be mentioned that the famous Dr. Samuel Johnson had a urinary crisis, of 20 pints of urine in the twenty-four hours, after taking an infusion of broom.

As in most obstinate diseases, there are many remedies for renal dropsy; the problem is to find indications for the appropriate remedy in each case. The reduction of dropsy in renal disease is very largely the treatment of a symptom, and it is obvious that the dropsy may be removed, by incising the legs, for example, without any benefit to the underlying renal disease. In the second place, the extremely rapid absorption into the circulation of a large amount of oedema fluid is a possible cause of danger, for toxic matters contained in the fluid may act on the nervous tissues and induce uraemic symptoms; further, it is conceivable that the occurrence of dropsy in renal disease is a conservative process in so far that toxic bodies which the kidneys cannot eliminate are excreted into the tissue spaces, and thus prevented from causing uraemic manifestations. There are therefore cases in which treatment directed to remove dropsy may do harm rather than good; probably this holds good in acute nephritis.

In considering the treatment of renal dropsy it will be simplest to recite the means at our disposal for combating the factors concerned in the causation of the oedema.

(*a*) *Means of Diminishing Toxaemia.*—The poisons may be (1) in the circulation as the result of their diminished excretion by the kidneys; (2) in the tissue spaces and so outside of the circulation, there having been excessive metabolism due to absence of the restraining influence of an internal renal secretion (Bainbridge); or (3) in both these situations.

The presence of toxins in the circulation damages the walls of the capillaries, and so leads to increased transudation of fluid. Removal of these toxins may be attempted by free drinking, so as to wash them out of the body; or the copious fluid regimen, especially milk, may be combined with purgation. This plan may succeed when the kidneys are able to deal with the increased amount of fluid; but if they are not capable of this, hydraemia results, and the retained toxins are not radically diminished. Copious water drinking, which may be successful in some cases of chronic nephritis, should, as von Noorden insists, be avoided in acute or subacute nephritis—conditions in which the kidneys require as much rest as can be obtained with safety to the rest of the body. Purgation alone will tend to prevent increased toxaemia from intestinal sources, and to favour excretion of toxins from the intestinal vessels. The use of diuretics in the treatment of oedema requires care, for the kidneys may not be in a position to respond to the call for increased activity, and, further, the diuretic drugs may irritate the kidneys. Diuretics, though not debarred, must be employed in selected cases in which there is no evidence of acute or recent subacute nephritis, and the effects must be carefully watched. The list of diuretics available is long, and it would be tedious to repeat them all. Caffeine, it seems to be generally agreed, should be given in small doses and for short periods only; I have, on the whole, found it more successful than diuretin, and I also prefer it to theocin. Diuretic drugs are probably more successful in removing dropsy in patients with renal disease in whom the occurrence of the oedema depends on the heart rather than on renal toxaemia. It is probably in such cases that digitalis and Baillie's pill act successfully.

Hot-air, vapour, and hot-water baths diminish hydraemia by increasing the perspiration, and, it has often been assumed, lead to some vicarious excretion of toxins. The main basis for the belief that poisons are excreted by the skin is that in extremely rare instances an efflorescence of urea has been seen on the skin of uraemic patients. Von Noorden, who has not been able to detect more than traces of urea in the perspiration of renal cases, considers that the good effect of sweating in renal disease is due to diminution of the fluid contents of the blood, and that this can be effected more satisfactorily by restricting the intake of fluid by the mouth. I have often compared the results of hot-air baths and of restricted fluid, and it appears to me that renal patients feel much better after the baths than they do as a result of a restricted fluid intake, thus suggesting that in some way perspiration diminuishes toxaemia.

Removal of toxic substances from the tissue spaces might conceivably be effected by diaphoresis, but of the efficacy of this there is no satisfactory proof. Probably the most satisfactory method of removing toxins and salts from the tissue spaces is the old-fashioned one of incising the legs and obtaining free drainage. In this way the tissues are washed out, and the oedema fluid, and the bodies which attracted the fluid out of the vessels by osmosis, are removed together. When the legs have been punctured the fluid intake, if previously restricted, may, I think, be safely increased. Massage to the legs is useful in increasing drainage. As this plan of puncturing the legs is perhaps sometimes regarded as a mainly mechanical

[1] Rolleston and Golla. British Medical Journal, 1909, i, 330.
[2] Rolleston and Attlee, *Lancet*, 1905, ii, 1394.

and therefore temporary means of relieving oedema, it is important to insist on the possibility of its action in reducing the toxin-content of the tissue spaces. With regard to the actual procedure the legs may be incised, a cut being made on the dorsum of the feet in their long axes, a number of small pricks may be made in the skin, or Southey's tubes may be inserted under the skin. Probably the best method is a single incision on the dorsum of each foot; it is rather more of an operation than a number of small pricks from the point of the knife, but my experience is that with a number of small punctures there is more risk of infection of the skin.

(*b*) *Means of Avoiding Hydraemia.*—This may be effected by restricting the amount of fluid taken, by increasing the excretion by the skin, and by the intestines and by diuresis.

The obvious method of restricting the fluid taken by a dropsical patient is still a matter for debate; and just as the strict diet formerly employed in grave or composite cases of diabetes has been relaxed on account of its bad results, so with regard to the plan of restricting fluid in renal dropsy it has been thought that it may be a source of danger (Strauss). In the oedema of acute nephritis restricted fluid appears to be the most satisfactory treatment, for it economizes the labour of the kidneys in the matter of excreting water, and so enables them to rest and recover. With regard to the oedema of chronic nephritis we must recognize the very considerable differences manifested by different patients. In some the kidneys are incapable of dealing with more than a restricted amount of fluid, whereas in others the kidneys show an ability to deal with an increased ingestion of fluid hardly below that of the healthy organs, and yet there is oedema. In the first group restricted fluid may be desirable to prevent hydraemia, but in the second group a restricted fluid regimen is unnecessary. Each case must therefore be treated on its own merits, and no hard-and-fast rule can be laid down as to the advisability of restricting the fluid intake.

The removal of fluid from the skin by means of free perspiration induced by hot-air, vapour, or hot-water baths is of some value, and there is room for doubt whether von Noorden's opinion—that it is simpler to curtail the amount of fluid taken by the mouth—is justified in practice. Removal of fluid from the subcutaneous tissues by incising the skin and allowing free drainage has been referred to as a means of reducing the local toxic accumulation in the tissue spaces. Its purely mechanical effect in the removal of fluid is undoubted. With regard to removing fluid by saline and mercurial purgatives, it is important not to deplete the patient very freely, otherwise absorption of food will be interfered with and general nutrition will suffer. The question of diuretics has already been referred to.

(*c*) *Diminishing the Permeability of the Walls of the Capillaries.*—Since oedema depends to a considerable extent on increased permeability of the walls of the vessels, it might conceivably be obviated by diminishing this condition. It is obvious that this can most logically be effected by removing the causes—especially toxaemia—of this change in the vessel walls; this has already been considered. Even if it were possible by the action of some drug, such as the salts of calcium, it is doubtful if it would be advisable to render the walls of the vessels in the subcutaneous tissues less permeable, for the drug might also render the vessels in the glomerular tufts of the kidney less permeable and so interfere with renal excretion.

(*d*) *The Restriction of Chlorides.*—That chlorides may be retained in cases of parenchymatous nephritis with dropsy is undoubted, but it is not proved that in all cases the relation of cause and effect is the same. Whilst in some instances the damaged kidneys are unable to excrete sodium chloride, which therefore accumulates in the tissues, and as the result of osmosis is responsible for the oedema, in others the chloride retention is caused by the dropsy. In cases of the first category a salt-free diet is clearly indicated, and is often most successful in diminishing and controlling the oedema. The good effect of some drugs, such as caffeine, theocin, diuretin, on dropsy has been ascribed to the increased percentage of sodium chloride found in the urine. It must, however, be clearly recognized that a salt-free diet is often disappointing, and that this may be because the salt retention is the result, not the cause, of the dropsy.

To the treatment of the other forms of dropsy time will allow only the briefest reference. Bryant's extremely interesting case of dropsy in an otherwise normal man who took large quantities of salt, and became free from dropsy after this indulgence was curtailed, proves that in some instances sodium chloride is a most important factor. Most toxic oedemas other than those of renal origin subside with the amelioration of the underlying condition, and are seldom of such duration and degree as to call for special treatment. In some of these cases calcium salts, preferably lactate and not the chloride, may be tried. For dropsy due to lymphatic obstruction Mr. Handley's operation of lymphangioplasty is on trial.

DISCUSSION.

Sir JAMES BARR (Liverpool) said that he still adhered to the classification of dropsies which he adopted in 1886. 1. Those cases in which there was an abnormal transudation from the capillaries without apparent obstruction in the absorbents (as occurs in inflammations, in vasomotor paralysis, in anaemia, in Bright's disease, etc.). 2. Those cases in which there was obstruction to the return current, whether local or general, such as the occlusion of a vein or lymphatic portal obstruction, or general venous obstruction from mitral or tricuspid regurgitation, or obstructive lung disease. He discussed in turn the part played by the three factors concerned in abnormal transudation, namely: (*a*) The condition of the capillary walls; (*b*) the condition of the blood; (*c*) the pressure within the capillaries. In dropsy due primarily to defective absorption there was also present, as a rule, increased transudation because of the over-pressure in the capillaries caused by the obstruction. The afferent capillaries and venules were the chief absorbents, and venous obstruction was therefore a more common cause of oedema than the occlusion of the lymphatics. In lymphatic obstruction with no venous obstruction and a high velocity in the capillary bed, there might be a certain amount of brawny oedema but the watery portion of the effusion was usually readily removed by the venules. The treatment of oedema was theoretically one of the simplest problems in medicine. All that was necessary was to remove the cause and to restore the balance between intake and output. It was in the removal of the cause that difficulty was at times experienced.

Dr. LAZARUS-BARLOW (London) felt that he needed to apologize for speaking, since it was fifteen years ago that he had made his experiments upon oedema, and from what he had heard that day the question appeared to be even more complicated than it was. He would confine himself to the question of the so-called mechanical oedema. Nothing was more certain than that pressure as such was unable to increase the outflow of fluid from the capillary blood vessels; indeed, since the skin might be regarded as a rigid wall in comparison with the walls of capillaries and lymphatics, it seemed to him that any increased capillary pressure would of necessity increase the pressure within the lymph spaces and lymphatics outside the capillaries. With regard to the changes in "permeability" of the capillary wall, which were said to account for variations in the amounts of fluid and their composition found in the tissue spaces, he remarked that an increased outflow of more highly albuminous lymph was said to be due to increased permeability of the capillary wall, while the only test for "increased permeability" was that same character of the lymph; it was a glaring instance of reasoning in a circle. After all, the *raison d'être* of blood, blood vessels, lymph and lymph vessels was the tissue elements, and he adhered to his original view that the fundamental causes of oedema were starvation and poisoning of the tissue cells. In respect of treatment he only wished to refer to Sampson Handley's operation of lymphangioplasty for oedema of the arm in carcinoma of the breast. Several cases had been thus treated at the Middlesex Hospital, some of them with marked relief, oedema disappearing, pain being relieved, and use of the fingers being regained. The operation was still on its trial.

Dr. F. J. CHARTERIS (Glasgow) briefly referred to the limited value of the so-called diuretic drugs in the treatment of renal oedema. Cases varied very much in character, and it was consequently difficult to come to general conclusions. The impression left in his mind

after going through a series of over 100 cases was that drug treatment was very unreliable. Diuretin was, on the whole, more reliable than caffeine in stimulating the kidneys in disease. Mercurials, even in comparatively small doses, seem to be very badly borne, and in most of the renal cases rapidly produced salivation. With regard to the use of Southey's tubes, he had found it of great value to disinfect the skin and then paint it over with zinc-ichthyol gelatin or some other impervious dressing and insert the tubes through this coating. This plan had proved of great value in preventing inflammation or erythema round the punctures.

Sir Lauder Brunton (London) said that he had found benefit in cardiac cases from salt-free diet. He had repeated many years ago Ranvier's experiments on oedema. These showed that venous obstruction by ligature might not produce oedema, but it would do so in one leg if the sciatic was divided. If the motor roots of the sciatic were cut the oedema did not occur, but it did so if the vasomotor nerves were divided. The nervous element in oedema was well shown in some cases of angio-neurotic oedema. He had seen one case in which the whole of one side of the face swelled up in half an hour, so much that the right eye was almost closed, while the left half remained normal. He had once involuntarily produced acute oedema all over the body in a case of ulcerative endocarditis by the injection of antistreptococcic serum. Calmette had found that the addition of lecithin to cobra venom conferred on it a haemolytic power like that of viperine venom, and this suggested that possibly in the future we might be able to convert any toxin which produced oedema into one having a contrary action.

Dr. H. C. Cameron (London) said that he thought that too little had been said in the discussion in praise of the treatment of oedema, whether cardiac or renal, by means of a salt-free diet. He was surprised that more emphasis had not been laid upon the necessity of accurately recording the body weight in these cases. He believed that the only way by which the success or failure of any line of treatment could be estimated was by making such a record. In certain cases of anasarca, though not in all, the curve of the body weight followed the curve representing the retention of sodium chloride in the body so exactly that the correspondence could not be due to coincidence. In these cases a diminution in the intake of salt, whether by a milk diet or by a salt-free diet, was followed by rapid decline of the anasarca. Diaphoresis was generally recognized as more effective than purgation in renal dropsy, and it was interesting to note that recent analysis had shown that while the sweat was rich in sodium chloride, the watery evacuations from the bowel contained only a trace of the salt.

Dr. W. C. Sillar (Edinburgh) wished to draw special attention to the possible cause of some cases of oedema being the absorption of toxic substances from the intestine, and compared the action of certain poisons which appeared to cause injury to the tissues, and therefore allowed of permeation of fluids through them—for example, through the wall of the heart and of the blood vessels independent of the amount of pressure. The advantage gained by the clearing of the intestine, the efficacy of fasting and low diet in many cases, the occurrence of rapid absorption of calomel in many cases from the intestine, afforded additional evidence that in some of these cases the condition was caused by absorption of toxic products from the intestine; and it was obvious that in the treatment of the condition this possible cause must not be overlooked.

Dr. John Haddon (Hawick) recommended a course of fasting as often curative in Bright's disease as well as in other conditions.

The President, in the absence of Dr. Rolleston, replied. He said that the difficulty of estimating the success of treatment was very great, because the pathological processes concerned were so different. Statistics were therefore to a great extent devoid of meaning. In some cases of temporary cardiac failure—in mitral regurgitation for example—the oedema was so transitory and so amenable to treatment, that the condition could hardly be due to any widely spread toxaemia. Although calomel in small doses was of great service in the treatment of oedema, he agreed that the drug was badly borne by patients with renal insufficiency.

FACTS AND FANCIES IN PHARMACOLOGY.

By W. E. Dixon, M.A., M.D.,
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[Abstract.]

It cannot be doubted that the man who makes experiments and draws his deductions from them does more for the advancement of medicine than he who is content to make speculations as an interpretation of facts; yet many of our explanations of disease and the action of drugs have been formulated by members of the latter class, and hence it is not surprising that so many of our adopted maxims should be found to have no foundation in truth. All of us, unfortunately, have been brought up in a school of dogmatism, and taught to accept certain views and statements as proven, and such is the adherence to early teaching that for the most part we have received the current hypotheses without questioning the validity of the evidence upon which they are based. Dr. Hale White, in his address on medicine at the annual meeting in 1907, has given many examples of how explanations of the phenomena of disease which have no foundation in fact have been accepted and adopted by our profession.

It is, however, strictly with pharmacology that I now wish to deal, and desire first to point out how even in our teaching of this subject we still adhere to ancient precedent, laying special emphasis or even confining our whole time to that part of the subject the necessity and use for which has long since disappeared.

In the early days of medicine, in the absence of scientific knowledge, the preliminary medical subjects consisted largely of anatomy and materia medica. Both these subjects were taught at considerable length and with much minuteness, and still no undue burden was placed upon the student. With the rise of scientific knowledge the importance of these old subjects has diminished; but anatomy is still taught with a minuteness of detail quite out of proportion to the needs of the medical student, and there are even those who assert that this has not been improved during the last ten or twenty years by substituting for the surgeon as teacher the professional anatomist. And materia medica, using the term in its strict sense, is still taught by us, as in the past, often to the exclusion of really useful knowledge of the action of drugs. We no longer collect our own simples or prepare our galenicals; we have long since handed over this branch to the expert druggist and pharmacist, and yet we have not materially altered our teaching. Huxley, writing on medical education as long ago as 1870 said: "I must confess that if I had my way I should abolish materia medica altogether." Because we happen to use drugs, why should we be cognizant of their origin and mode of preparation any more than that of our stethoscope or clinical thermometer? It is with their use only that we are essentially concerned. To make the student of medicine commit to memory the heterogeneous mixtures in the *Pharmacopoeia*, many of which are unreasonable and have arisen by ignorance or misconception, to make him detail the various official preparations of drugs and their strength, generally by the aid of *memoria technica*, is a piece of stupidity unworthy of the age. These facts can be looked up when required in a few seconds in the same way as we look up a table of logarithms or time-table. The only part of the materia medica which I would retain for the student of medicine is such elementary chemistry of drugs as would enable him to understand the endless new synthetic bodies placed upon the market, so as to protect him as far as possible from the wholesale drug manufacturer.

Passing now from the influence of custom and tradition on the subjects taught under the title "Pharmacology" to the effects of these influences in other directions, we find the ancient association of our subject with astrology is still in evidence in the terms Mercury, Lunar caustic, and the like; Saturnine lotions and Martial tinctures, phrases of yesterday, are happily now extinct, but the sign ♃, the symbol of the planet Jupiter, still heads the orthodox prescription.

Many drugs have been credited with some virtue, which has been copied from book to book until the origin of its supposed action is lost. Opium was supposed to have value as a local anaesthetic, and the *Pharmacopoeia* contains a plaster, a liniment, and the ointment of galls and opium, all apparently for the purpose of a local effect; but

opium and its alkaloids have no local anaesthetic action. Opium was further contraindicated in cardiac and renal disease, although it has no action on either the heart or kidneys; it is excreted by the alimentary canal and induces constipation, and this may afford some reason against its employment in renal disease. Hydrocyanic acid is another drug largely prescribed as a local anaesthetic for the relief of gastric pain, although the amount of acid given is too small to have any of the local effects credited to it.

In the case of some other drugs, such as digitalis and lead, we have in recent times completely changed our view of their action. Thus, Neligan, in the third edition of his his book, 1851, states that digitalis is a sedative to the heart, that it diminishes the force and frequency of the pulse, and enfeebles the action of the heart; and, speaking of lead acetate, he says it is "employed with benefit in the treatment of disease where the indication is to lower the circulation." We now know from the work of experimental pharmacology that both digitalis and lead raise blood pressure and increase the tonus of the vessels and heart; our views as to their action have entirely changed. Unfortunately the same cannot yet be said of ether and strychnine. Both these drugs are still employed, on the supposition that they excite the heart to increased activity. The effect of ether is to depress nerve tissues; in very large doses it tends to depress muscle tissue, including cardiac muscle, but it never excites. Strychnine likewise has no direct stimulant action on the heart; by exciting the vasomotor centre it may slightly increase the cardiac activity indirectly, but it should never be put in the same category with digitalis, lead, or other cardiac drugs. In this class also I would place atropine and the plants owing their activity to it. These drugs have been employed, amongst other things, to stop the secretion of milk and to allay the sensation of griping in the intestines. Both these uses are relatively new, and were apparently the result of deduction and not experiment. Atropine paralyses certain nerve endings to glands and stops secretion. But there are no nerves excitation of which causes a secretion of milk, and therefore *a priori* atropine should have no action in this direction. This has been vindicated by Cushny, who showed that the action of the belladonna plaster in allaying secretion of milk was no different from an ordinary plaster. Nor have I been able in any way to satisfy myself from the literature or obtain evidence to show that atropine relieves griping, although I have performed a number of simple experiments for this purpose. This is a case where generalization from incomplete scientific evidence has caused us to go astray.

Of the significance of cholagogues we know nothing, and it is doubtful if any pathological condition which we can diagnose exists in which we are able to say that it is desirable to increase the secretion of bile. Furthermore, there is only one cholagogue worthy of the name, and that is "bile salts." Yet the use of ox gall is almost extinct.

Without dilating further on such examples, I will give finally three examples of how ignorance of absorption and excretion have led to the action of a drug being incorrectly defined. Potash salts are usually regarded as depressant to all living tissues, especially to the heart and circulation, and for this reason we are even warned against the use of potash water, and give our patients sodium bromide instead of potassium bromide. Now it is quite true that potash salts have such an action on living tissue when the salt is present in sufficient amount. But we have to correlate this fact on the one hand with the fact that vegetarians frequently take 60 to 80 grams—that is, about 2 oz.—of potassium chloride by the mouth in the twenty-four hours, and no special depression is, so far as we know, the result. Potash, then, cannot be regarded as poisonous when taken by the mouth, though it is extremely poisonous to living tissues in a certain concentration. The explanation of these facts I made clear by two experiments. In the one a large dose of potassium chloride (5 grams) was administered by the mouth to an anaesthetized cat; the circulation during the next two hours showed no signs of failure. In the second the administration of a like dose was made to a similarly anaesthetized cat, but which had previously had the renal arteries tied. In this animal the blood pressure fell 30 mm. of mercury in ten minutes, and death rapidly ensued from cardiac failure. Potassium is poisonous in a certain concentration, but when given by the mouth it is more rapidly excreted than absorbed, so that the concentration in the blood increases very little. By the mouth potassium is an excellent diuretic, but not a cardiac depressant; to produce the depressant effect it must be injected, when the rate of absorption exceeds that of excretion. The same facts are true of ammonium; the stimulant effect of ammonium salts on the central nervous system, and medulla especially, are only observed when their solutions are injected. Given by the mouth the excretion of ammonium salts is more rapid than their absorption.

Lastly, calcium is a drug which is well known to facilitate the coagulation of the blood. Yet in many cases careful experiments have shown that the administration of calcium by the mouth does not alter the rate of coagulation. Both facts are true. Calcium given by the mouth is absorbed to a slight extent only and very slowly. It is excreted about as rapidly, so that in a normal person the calcium content of the blood does not increase much; if the drug be given under the skin the effect is entirely different, the calcium content of the blood is increased, and the coagulation time under fixed conditions is diminished. Thus, in my own case calcium chloride or lactate taken by the mouth had little effect on blood coagulation, but injected under the skin the time of coagulation was reduced in fifteen minutes from three and a half minutes before injection to one and three-quarter minutes after.

DEMONSTRATION ON THE ACTION OF THE PRESSOR SUBSTANCES IN PUTRID MEAT, PLACENTA, AND ERGOT ON THE HEART AND UTERUS.

BY

W. E. DIXON, M.A., M.D.Cantab., Professor of Materia Medica and Pharmacology, King's College, London.

and H. HALLETT DALE, M.A., B.C.Cantab., Director, Wellcome Research Laboratories.

As a preface to the demonstration, Dr. DALE said that Abelous was the first to find indication of the presence of certain pressor substances, having an action like adrenalin, in putrid meat. Later, Professor Dixon and Dr. Taylor found similar substances in placenta, and with Dr. Rosenheim came to the conclusion that these substances were not present unless a small degree of putrefaction had taken place. Barger and Walpole were successful in isolating two substances, iso-amylamine and parahydroxyphenyl-ethylamine from putrid meat, probably identical with those which Rosenheim had obtained from placenta. The same substances were formed when a culture from human faeces was added to broth which contained tyrosin, so that it was not unlikely that those bodies were actually formed in the body during life, in conditions of constipation and stagnation of the intestinal contents. The same workers came to the conclusion that the activity of the liquid extract of ergot in raising the blood pressure was due to their presence also. The point of action was the same as that of adrenalin, the peripheral ends of sympathetic nerves. Unlike ergot, the pressor action was produced when the drug was taken by the mouth. He himself had produced a great and prolonged rise of his own blood pressure by a moderate dose taken by the mouth. The action, though less marked, was invariably much more prolonged than that of adrenalin.

Professor DIXON then showed the effect upon the excised heart of a rabbit, perfused through the coronary arteries with Ringer's solution, of the injection of $\frac{1}{2}$ mg. of the active principle—marked acceleration and increased amplitude of beat. The tracing resulting was later compared with that obtained by injecting a solution of adrenalin, when it was seen that the effect obtained continued for a very much longer time.

Dr. DALE showed a similar effect upon a strip of the excised pregnant uterus of a cat. The muscular contractions became much more active and the muscular tone greatly increased.

DISCUSSION.

Sir William Whitla (Belfast) thanked Professor Dixon and Dr. Hallett Dale, whose demonstrations seemed to him to prove their point with clearness.

Dr. J. C. McWalter (Dublin) said it was interesting to note that alcoholic extracts of ergot were clinically inert, and that ordinary fluid extracts of ergot underwent a kind of putrefaction. Even when the fluid extract had undergone apparent decomposition it remained as active as ever. This suggested some identity between its active principle and that of putrid meat.

Dr. H. C. Cameron (London) suggested that the substances whose action they had seen demonstrated might be of use in the symptomatic treatment of Addison's disease. Treatment with adrenal extract had been unsuccessful because it could not be given by the mouth and because its effects on injection were so short-lived. He noted that it was just in these very points that the substances under discussion differed from adrenalin—they acted when taken by the mouth and the action was long continued.

THE EFFECT ON THE LEUCOCYTE COUNT PRODUCED BY THIOSINAMINE INJECTIONS.

By F. J. Charteris, M.D.,

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[Abstract.]

We owe the introduction of thiosinamine into medicinal use to Hebra, who in 1892 advised its use in lupus, claiming that it exercised a beneficial action upon the lupus tissue and obviated the formation of disfiguring cicatrices. The pain and discomfort following the injection of the drug in alcoholic solution—the method at first used—was obviated by the introduction, by Merck in 1904, of a soluble double salt, which, under the name of fibrolysin, has been very widely used and recommended. It consists of two molecules of thiosinamine combined with one molecule of sodium salicylate. Extravagant claims have been made for this preparation, and it has been recommended in such widely different conditions as Dupuytren's contraction, in pyloric obstruction, in urethral stricture, in chronic arthritis, in myositis ossificans, and even in locomotor ataxia and in optic neuritis. My own experience has not substantiated the favourable accounts of others.

I have used it in a number of cases, but have never seen any benefit result, though it has always been associated with local mechanical measures. Several forms of administration have been tested, but inunction, oral administration, and injection, have been utterly useless in cases of chronic fibrous adhesion of joints, and in diffuse fibrous formation in rheumatism.

Let me give typical illustrative cases. The inunction was tried for several months in fibrosis of the subcutaneous tissue without any benefit in two well-marked cases.

In a case of fibrous ankylosis of various joints following an attack of rheumatoid arthritis, the drug was tried for seventeen weeks in doses of 1 grain thrice daily by the mouth. Despite the fact that the adhesions were broken down under chloroform, and that massage, passive movements, and weight extension were used, almost no effect was produced; and as soon as these mechanical measures were stopped, the ankylosis became as bad as ever, despite the use of thiosinamine. In another case of older standing, in which rheumatoid arthritis had resulted in very firm fibrous adhesions of the wrist and fingers, the use of daily fibrolysin injections for three weeks produced no benefit, though combined with massage and electrolysis of sodium iodide.

In another case of fibrous ankylosis of the shoulder-joint, the adhesions were twice broken down under chloroform, but even with this fibrolysin injection failed to prevent the recurrence of fixation.

Investigations into the pharmacological action of the drug do not bear out the alleged selective action on fibrous tissue. Tyrode, the most recent investigator, found, in animals to which large doses had been given, rapid loss of weight and increased proteid metabolism, with fatty degeneration of the heart and kidneys, but he particularly noted that no histological alteration could be detected in the fibrous tissues of these organs. Leonardo states that he could find no histological changes in scar tissue, but that he obtained a marked leucocytosis in dogs.

Leonardo, Wolf, and others believe that thiosinamine is an energetic lymphagogue, which attracts leucocytes and produces local hyperaemia. During the past few months I have made many observations of the effect of thiosinamine upon the blood of individuals receiving the drug. First of all, I attempted to discover if it had any chemotactic influence. Thus, sterile glass capillary tubes were partially filled with the drug, in solid form and in solution, and introduced into the peritoneal cavity of pithed frogs. At the end of twenty-four hours the tubes were withdrawn and examined under the microscope to determine whether there was any accumulation of leucocytes in the tubes. In no instance could the presence of leucocytes be demonstrated inside the tube.

This finding is quite in accord with that of Winternitz, who found that thiosinamine caused no focal necrosis or local accumulation of leucocytes at the site of injection.

In an attempt to determine whether or not the drug has the power of causing any marked leucocytosis I have made numerous counts upon patients and upon healthy men. As a rule, after the injection of considerable doses no leucocytosis could be demonstrated. Sometimes there was a trifling increase in the number of white cells, and in a single instance an increase of 100 per cent. was recorded. The counts were made at first at intervals of forty minutes, and counting in some cases was continued for forty-eight hours.

A NEW MEMBER OF THE SAPONIN-DIGITALIN GROUP OF GLUCOSIDES.

BY

Benjamin Moore, M.A., D.Sc.,

Johnston Professor of Bio-Chemistry, University of Liverpool,

Fred. W. Baker-Young, M.B., and Miss S. C. M. Sowton, Liverpool.

[Abstract.]

The seeds of *Bassia longifolia*, popularly known as mowrah seeds, are imported in large quantities from India on account of a high yield of an excellent oil used in making the better classes of soaps. The residue left after the expression of the oil is valueless for the usual economic purpose of such seed residues—namely, the manufacture of feeding cake for cattle—because of its bitter taste. The attention of the authors was first called to the substance by the highly irritating action which it exerted when in contact with a cut surface or with the mucous membranes of the workers who were engaged in the manipulation of the meal after the oil had been expressed. At this time they were not aware of any similarity between the active substance and digitalis, but discovered it later when they came to perfuse the heart with the isolated glucoside. That the local action of digitalis was also highly irritating did not appear to be as well known as it should be. It was this action which led them to an investigation of the chemical and physiological properties of the active substance.

Regarding the chemical properties of the active substance, they found that it was readily soluble in water or alcohol, but practically insoluble in ether. It was therefore easy to obtain it in fairly pure condition by taking out in saturated alcoholic solution from the meal, decolorizing with charcoal and precipitating with excess of ether, filtering rapidly and drying in the desiccator over sulphuric acid; this process on repetition two or three times yields a pure white product. Analysis of this showed it to consist entirely of carbon, hydrogen, and oxygen, nitrogen being entirely absent. The mean of a number of combustions gave carbon 51.9, hydrogen 6.85, oxygen (by difference) 41.25 per cent.

The substance was shown to be a glucoside by its yielding about one-third of its weight as glucose on hydrolysis with acid, and determination of the sugar effected by weighing the copper oxide it was capable of reducing in a Gooch crucible. This sugar proved to be a hexose, yielding typical glucosazone crystals. Another one-third approximately consists of an organic acid, which the authors have named "mowric acid"; it possesses all the active properties of the mother-glucoside, "mowrin," although in somewhat lessened degree, when tested in equi-molecular solution.

The authors have not yet been able exactly to locate the remaining factor in the composition of the glucoside, but have ascertained that there is a certain amount of pentose present in addition to the hexose above mentioned, as shown by the strong furfurol odour on distilling, and by obtaining markedly the furfurol test in the distillate.

One of the most interesting properties is the powerful laking effects upon blood corpuscles in a saline suspension. This property is possessed much more strongly by the glucoside than by the salts of the separated mowrie acid. The latter is quite a strong haemolytic, but the former is rivalled only by saponin. It is an important fact, to which reference has been made elsewhere, in relationship to the bio-chemistry of haemolysis, that as soon as the acid has been saturated with bromine it loses this haemolytic property.

Either the glucoside or the acid is poisonous when given hypodermically, the glucoside, again, being more powerful than the acid. Thus, 0.005 gram of the glucoside will kill a rat of 150 grams weight in about three hours; and 0.006 gram of the sodium salt of the acid did not kill.

Examination of the organs after death of the rats killed by mowrin shows that the blood is black, probably due to laking, and that the whole area of the small intestine is engorged with blood and covered over with capillary haemorrhages. The intestinal mucous membrane is sloughed off, and the lumen is filled with blood and débris of the mucosa.

A dose short of the lethal one causes slowing of the heart, accompanied by a certain amount of dyspnoeic condition or air hunger. Tested on the isolated mammalian heart, in very dilute solution, the chief effects are slowing, with increased force of beat; the tracings showing a strong resemblance to that produced by digitalis.

In conclusion, the authors suggested that the drugs of this group which possess a common, well-marked collection of characteristics, probably produce their effects upon the heart muscle in a kindred way, and that the bio-chemical basis for their action is an affinity of a physico-chemical kind between the glucoside molecule and the molecule of the heart lipoid.

SECTION OF DERMATOLOGY AND ELECTRO-THERAPEUTICS.

WILLIAM CALWELL, M.A., M.D., President.

DISCUSSION ON THE MUCOUS MEMBRANE LESIONS IN CUTANEOUS DISEASE.

OPENING PAPER.

By Sir MALCOLM MORRIS, K.C.V.O., F.R.C.S.Edin.,
Consulting Surgeon, Department of Diseases of the Skin, St. Mary's Hospital, and Surgeon to Skin Department, Seamen's Hospital.

THE subject proposed for discussion is a very large one, and naturally falls into two main divisions, according as the affection of the mucous membrane is primary—that is to say, a forerunner of disease which manifests itself later on the skin—or secondary. Secondary affections of the mucous membrane may again be subdivided into two groups, according as the disease develops on the mucous membrane independently or spreads to it by extension from the skin. These divisions, however, represent sets or sequences of clinical facts having distinctive characters. Logical as this classification may be, it is in the present state of knowledge impossible to follow it without being led into confusion. It will be simplest to deal with the lesions of the mucous membranes as they are seen in practice associated with the principal kinds of skin affections.

GENERAL INFECTIONS.

The rashes of the acute exanthematous fevers (scarlet fever, measles, rotheln, chicken-pox, and small-pox) do not concern the dermatologist so much as the general practitioner. Nothing, therefore, need be said here about them, except that in all of them the mucous membrane of the mouth and throat, and sometimes that of the nose, is usually congested and sometimes ulcerated. In erysipelas the erythematous rash sometimes starts from an orifice where skin and mucous membrane meet; or it may extend into the mouth, throat, and nose from the skin.

Drug Eruptions.

Drug eruptions are analogous to those of the acute exanthematous fevers; in both cases they are probably the result of toxic action. Arsenic has, perhaps, the most marked effect on mucous membranes. This shows itself in inflammation of the conjunctiva, throat, and mucous membrane of the stomach; in the nose the inflammatory process may be so severe as to cause ulceration, and even perforation of the septum. The rash caused by chloral may be papular, urticarial, vesicular, and petechial; the most general form is diffuse erythema. Sometimes it is scarlatiniform, and there is usually no sore throat; but not infrequently the mucous membranes are affected as well as the skin. Belladonna may produce congestion of the throat. Stomatitis is a familiar effect of mercury; sore throat is also sometimes caused by salicylic acid, salicylate of soda, and the iodides. I have mentioned but a few of the most common instances. The mechanism of drug eruptions need not be discussed here; they are a part of the physiological effects of the drug.

Syphilis.

Returning to general infections, syphilis, which spares no region or tissue of the body, and which imitates almost every form of disease, stands out on the foreground. I need not describe the primary lesion beyond recalling the fact that the most common sites of the hard sores are: In the male, the inner surface of the prepuce, the orifice of the meatus and the mucous membrane of the urethra; and in the female the inner surfaces of the labia majora and the nymphae, less frequently the clitoris. The vagina seems to be protected by the thickness of its epithelium. The anus and the lip may also be the site of primary syphilis. "Soft" sores are scarcely ever seen except on the genitals. In the secondary or eruptive stage, congestion of the mucous membrane of the throat often accompanies the characteristic roseola of the skin. Grooved ulcers may form on the tonsils; these present something of the crescentic outline of secondary syphilitic lesions on the skin, with a yellowish floor and grey-white borders. At a later period mucous patches and tubercles or condylomata may form on the mucous membrane. The most frequent site of condyloma is, in both sexes, around the anus. Condylomata sometimes spread inwards to the mucous membrane of the rectum. They also occur on the cheeks, tongue, lips, pharynx, and larynx. It is scarcely necessary to recall here that condylomata of the vulva are very contagious or that inoculation may be conveyed from mucous patches in the mouth and lips, either directly as by kissing, or indirectly, by pipes, glasses, etc. Among the "reminders" of syphilis—that is to say, lesions intermediate between the secondary and the tertiary forms—are sores on the sides of the tongue and white patches with thickening of its dorsum, resembling leucoplakia, which, strictly speaking, is an independent disease having nothing to do with syphilis, though presenting very similar characters. In the tertiary stage the mucous membrane may become the seat of chronic inflammation and ulceration; the consequent cicatrization may lead, as every one knows, to great narrowing of the pharynx, rectum, and vulva. Gummata may form on the tongue. The characteristic symptom of congenital syphilis is the peculiar inflammation of the lining membrane of the nose causing "snuffles." Other common lesions in this stage are condylomata about the anus and sores about the corners of the mouth. I have seen ulceration of the pharynx, accompanied by an eruption on the face somewhat resembling lupus, as a late manifestation of hereditary syphilis.

Lupus Vulgaris.

Among the manifestations of tuberculosis on the mucous membrane the most important is lupus vulgaris. The starting point of the disease is certainly, in a large proportion of cases, in the nose, from which it spreads to the face. According to Finsen, in 70 to 80 per cent. of the cases treated at the Copenhagen Light Institute the mucous membrane of the nose or mouth was also involved. The characteristic apple-jelly nodule can often be seen in the skin within the nostrils on which hairs are found, after pressing the surface with a flat glass. Dr. St Clair

Thomson tells me that the application of adrenalin with cocaine blanches the surface of the mucous membrane of the nose, so that the nodules of apple-jelly become visible. From its point of origin in the nose the disease often spreads up the lacrymal duct, appearing later on the face. The mucous membranes of the cheeks, soft palate, pharynx, and larynx, and of the anus and vaginal canals are sometimes invaded by extension from the neighbouring skin. Occasionally the larynx is attacked primarily. In cases of primary lupus of the throat the eruption may, according to Stelwagon,[1] consist of an insignificant or moderate diffused infiltration, with slight papular or tuberculous elevations or papillary excrescences, or the area may be studded with whitish epithelial opacities. Superficial ulceration is not uncommon and may assume a serpiginous configuration, or it presents the aspects of a raw granulating patch.[1] It is said that the tympanic membrane may be invaded through the Eustachian tube from the throat. Primary lupus of the tongue has been observed by Darier, but it is very rare. In an old-standing severe case, in which the palate was extensively affected, the tongue became affected. I have seen in a lady past middle age, who had suffered for years from lupus of the face and other parts of the body, a secondary development of the disease in the vagina and on the os uteri.

The following statistics collected by Max Bender throw light on the frequency with which mucous membranes are attacked by lupus and on the sites affected. In 380 cases lesions of the mucous membrane co-existed with disease of the skin in about 45 per cent. (173 cases), but in only 6 cases was the disease limited to the mucous membranes. Of 147 of these cases it was ascertained that in 46 cases, or 31.2 per cent., the mucous membrane was the part originally attacked. While in a number of instances but one mucous surface was invaded (nose 75, tear duct 9, conjunctiva 8, lips 12, palate 11), in many several regions were the seat of the disease. The observations are summarized as follows: The mucous membrane of the nose was found implicated in 115 cases, conjunctiva in 21, tear duct in 24, lips in 43, palate in 31, tongue in 1, larynx in 13, rectum and vulva in 1.

Leprosy.

In leprosy it is now thought probable that the disease tends to show itself first on the mucous membrane of the pharynx and upper air passages; hence, an early symptom is the hoarseness which was looked upon with such suspicion in the Middle Ages. The disease may also begin in inflammation of the mucous lining of the nose. When characteristic skin leprosy is fully developed nodules often form on the conjunctiva and the mucous lining of the nose, mouth, pharynx, and larynx. In these situations the nodules have a red or grey colour, and may resemble syphilitic lesions. The tongue may be greatly infiltrated, the nodules being separated by fissures recalling those of syphilis. As infiltration proceeds in the throat the voice is reduced to a whisper, there is increasing difficulty in breathing, and tracheotomy is often called for, owing to the sudden occurrence of oedema of the larynx. In the anaesthetic form of leprosy the mucous membrane of the mouth, soft palate, and back of pharynx often lose sensibility, with the consequence that swallowing becomes difficult and regurgitation of food and drink often occurs. I have recently seen a patient sent to me from one of the West Indian islands with very early signs of anaesthetic leprosy on the skin. In the left nostril is an ulcer, swabbings from which I have had examined by Dr. G. L. Eastes. He reports that the films from the ulcer contain numerous acid fast bacilli, which are presumably the *B. leprae*. He states that the bacilli are more numerous per unit of material than tubercle bacilli would usually be in similar material. I have thought it worth while to mention this case, as it proves from a bacteriological point of view and exhibits the fact that the mucous membrane is often early involved, and its recognition is a great aid in diagnosis.

Diseases of the Tegumentary System.

Erythemata.

Coming to skin diseases proper, we can only glance at the most common of them. It would be out of place, even if I had time, to describe the cutaneous lesions or to discuss the etiology and pathology of the diseases. The erythemata claim the first place; they correspond in many respects to the eruptions in zymotic diseases, and are, in many cases at least, the result of toxaemia from the intestines. Speaking generally, erythema is a congestion due to vasomotor disturbance, either transient or lasting a longer or shorter time, and taking variously-shaped, circumscribed patches of redness, punctiform or finely papular on the surface. Erythema multiforme is the only variety of erythema that need be touched upon here. Congestion of the pharynx is often one of the symptoms ushering in the eruption on the skin; in the developed disease the mucous membrane of the mouth and pharynx and conjunctiva may suffer, and at the height of the attack the tongue is sometimes greatly swollen.

Urticaria.

Passing to urticaria, the mucous membranes of the eyelids, lips, mouth, tongue, pharynx, and vulva may be the seat of wheals. In these situations oedematous swellings may occur, and if the glottis is attacked difficulty of breathing, and even actual suffocation, may result. I have a patient, a medical man, who has suffered from periodical attacks of urticaria of the mucous membrane of the mouth for the greater part of his life, the swelling affecting the palate and the tongue. It is said that wheals may develop in the Eustachian tube and middle ear. The mucous lining of the bronchi may also be the seat of the eruption; this probably explains the frequent association of urticaria with asthma. The asthma may accompany the appearance of the disease of the skin or may alternate therewith. Some believe that the stomach and digestive canal are also occasionally attacked. In urticaria pigmentosa the eruption may extend into the mouth and on the palate.

Pemphigus.

In pemphigus, the mucous membrane of the nose, mouth and pharynx are often attacked. Characteristic bullae may be seen on the mucous surface of the larynx and trachea causing suffocative symptoms. Sometimes they develop on that of the bronchial tubes. Kaposi says the eruption may appear first on the mucous surface and may be the forerunner of the cutaneous disease. Dr. J. A. Fordyce says[2] that an eruption in the mouth may precede the development of general pemphigus by several months and he relates a case in illustration. I am unable from my own experience to confirm the observation that pemphigus may begin on the mucous membrane of the mouth. Ulcers resulting from pemphigus bullae have been noted on the vagina, and Cheadle has recorded a fatal case in which ulcers apparently traceable to the same cause were found in the intestine. Pemphigus of the conjunctiva is associated with "essential shrinking" of that structure, an example of this was reported by Leslie Roberts and myself, and we gave references to twenty-seven similar cases.[3] In pemphigus vegetans the first points attacked may be the labia majora and minora; in other cases it begins in the mouth, on the soft palate in the neighbourhood of the lips or nostrils, or around the anus. Later it may appear on any part of the skin. When the mouth is attacked the mucous membrane becomes dry and cracked, and swallowing is so painful that the patient will not take food. This hastens the fatal ending of the disease, which is caused by exhaustion.

Dermatitis Herpetiformis.

In dermatitis herpetiformis the mouth, throat, nose, the pharynx and larynx, and the conjunctiva may be the seat of lesions. I have seen a case in which there were very severe lesions in the vagina as well as in the mouth. Blebs in the mouth lesions sometimes precede those of the skin.[4] I have seen a case in which the disease first showed itself on the tongue; this was followed by an outbreak of vesicles on the face and arms, and afterwards by a more general distribution.[4] Fordyce says that, as the result of pyogenic infection, a vegetating dermatitis sometimes develops secondarily to dermatitis herpetiformis, and that in those cases it is not uncommon to see erosions and ulcerations about the mouth and lips. He has had a man under observation for some time, and when

[1] Stelwagon: *Treatise on Diseases of the Skin.* Fifth edition. Philadelphia and London.

[2] *New York Medical Journal*, March 6th, 1909.

[3] *British Journal of Dermatology*, 1889, vol. i. p. 175.

[4] Ibid., 1897, ix, p. 213.

the dermatitis herpetiformis was at its height, in addition to the eruption on the skin, there were erosions, cracks, and ulcerations on the palate and lips; even partial atresia of the mouth was caused by inflammatory infiltration, which had extended to the subcutaneous muscular tissue. In the relapses which occurred in the course of the disease the lips were always more or less involved.[5]

Epidermolysis Bullosa.

In epidermolysis bullosa there is often a hereditary tendency to the formation of bullae as the result of slight injury, and the lesions may form on the mouth and lips. I have watched three children in one family almost from their birth who were subjects of this disease. All had lesions of the mucous membrane of the mouth. In one the disease also affected the intestinal tract, any food in the least bit hard causing bleeding. One died, worn out by the disease, at the age of 18. I have recently seen a typical case in which the disease had existed for twenty-eight years. Among the lesions are bullae under the tongue, which the patient said was caused by biting hard substances.

Herpes.

Herpes is often symptomatic of a febrile condition; its occurrence on the lips and about the nares in pneumonia is familiar to all. The tongue may be affected in connexion with the lips. The vesicles break rapidly, forming shallow ulcers. On the lips the vesicles usually end in scabs. More often herpes is caused by local irritation. Its most common form is in coryza where it occurs on the lip as a result of the discharge from the nostrils. It also frequently attacks the mouth and throat. The mucous membrane of the genitals in both sexes is especially prone to herpetic eruptions. In men the points of selection are generally the internal surface of the prepuce, the sulcus, the glans, and the meatus; in women the labia and the cervix.

In women the eruption is apt to become confluent, and in some cases not only the vulva, but the perineum, and the inside of the thighs, and the mons veneris, may be invaded. The labia majora and minora and the mucous lining of the vagina become greatly swollen, and covered with macerated epithelium, which, as it separates, leaves extensive excoriations. Genital herpes is more common in men than in women. Genital herpes is often brought on by the first attempts at sexual intercourse after marriage. It may also be the result of irritating discharges (leucorrhoea, gonorrhoea), or it may be related to the menstrual function.

Herpes Zoster.

Herpes zoster often attacks the conjunctiva and the eyeball, and sometimes leads to serious mischief owing to the scarring which it produces. It is occasionally seen in the mouth, especially on the tongue. Head says that, although the eruption is frequently bilateral and is thus of the nature of symptomatic or irritant herpes, he has sometimes, though rarely, seen cases in which the eruption on the tongue was unilateral, and was not associated with an eruption on the lips or palate. Such cases may, he thinks, be examples of true zoster. The hard palate may also be the seat of herpetic eruptions.

Eczema.

Eczema, which is a catarrhal inflammation of the skin, presents analogies with catarrhal conditions of mucous surfaces. In ordinary eczema the mucous membrane is never, as far as I know, solely the seat of disease; but it often spreads from the skin to adjoining surfaces, such as the lining membrane of the nose, the eyelids, the lips, the glans penis, the vulva, and the anus. The membrane becomes dry and thicker than normal; sometimes there is a muco-purulent discharge. Crusts may form, with subsequent cracking. On the other hand, eczematoid eruptions may be produced on adjacent parts of the skin by the trickling discharge from the nose, the mouth, or the genitals.

In eczema seborrhoicum the red part of the lips may be involved, and the disease may sometimes (according to Stelwagon) be limited to that part. In 2 cases under his care the vermilion of the lips was the seat of persistent and repeated thin exfoliation; hence he calls the condition cheilitis exfoliativa.

[5] *Journ. Cutan. Diseases*, xxiv, p. 543.

Lupus Erythematosus.

Lupus erythematosus may affect the margin and inner surfaces of the lips and cheeks, the conjunctiva, the hard and soft palate, and the larynx may also be attacked, usually by extension from the skin. When the lips are attacked they are swollen and purplish-red; at a later stage they become dry and scaly; finally, the lesions show an atrophied greyish centre surrounded by a hyperanaemic zone (Fordyce). On the cheeks the patch is sometimes an abrased surface, varying in colour from a bright red to pale. On the conjunctiva the surface is congested, and there may be slight thickening. In a case recorded by Stelwagon in which a patch extended from the skin to the lining membrane of the nose there was considerable infiltration in that part. On the cheeks and tongue the lesions often bear a close resemblance to leucoplakia, or to lichen planus In the case of a gentleman whom I saw, coincidentally with patches of lupus erythematosus on the skin of the face, there was a crack extending through the whole substance of the lower lip, with thickening around. There was also a white patch of leucoplakia on the left side of the mouth, which had been diagnosed as syphilitic. It had exactly the appearance of lichen planus.

Wilfred Warde holds[6] that lesions of the mucous membranes, especially of the mouth and nose, are comparatively frequent in lupus erythematosus. In particular he says that rhinitis is often associated with the cutaneous affection. In 15 cases of lupus erythematosus he found 9 of rhinitis, in 6 of which there was ozaena. He adds that atrophic changes in the tympanum and external auditory meatus are frequent concomitants of lupus erythematosus. In 8 of his 15 cases the lining of the auditory meatus and the drums presented the well-marked appearance of atrophy. In 4 cases he found atrophic patches in the mouth, swelling of the whole mucous membrane with increase of stratified epithelium in 4, and retention cysts in 3. In only 4 of the whole number of cases did the mucous membrane appear healthy, and even in these Warde seems inclined to say with the poet that things are not what they seem, as from a careful examination of them he got the impression that "there might be a general atrophy corresponding to that in the nose and yet extremely hard to detect." I have seen the lining of the meatus and the drum scarred from atrophy after the lesion of lupus erythematosus had disappeared from these situations.

I have myself seen lupus erythematosus in the vagina in the case of a woman who also had a "raspberry tongue."

Lichen Planus.

In lichen planus the mucous membrane is not infrequently attacked. The part generally affected is the mouth, most often opposite the function of the upper and lower teeth. The whole surface of the cheeks, with the palate and fauces, may be invaded. The lesions have the appearance of white dots and patches. On the tongue they closely resemble leucoplakia. I have had a case under my care in which lichen planus in the mouth was diagnosed as that condition. The true nature of the disease was shown by the presence of lichen papules on the skin—arms, wrists, palms, abdomen, legs.

The red of the lips when they are affected looks as if tattooed with some white substance (Brooke). The eruption in the mouth may precede any manifestation on the skin, or it may appear when these have cleared up. I have observed a case of a woman aged 51, who had white patches on the tongue and cheeks for two years. There was neither history of syphilis or alcoholism, and the patient had never smoked. About two years later she had an attack of general lichen planus, which lasted a year. The lesions of the mouth disappeared when the skin lesions ceased. In some cases the eruption in the mouth may be the only symptom of the disease, but the diagnosis, in my opinion, is impossible without lesions on the skin. The mucous membrane of the genitals is not often attacked, but the characteristic milk-white patches are sometimes seen on the inside of the labia.

Leucoplakia.

It is necessary to lay stress on the fact that leucoplakia, or "white patch," of the tongue is often quite independent

[6] *British Journal of Dermatology*, September, October, and December, 1902; May, 1903.

of syphilis. It occurs not only when there is no history or evidence of syphilis, but when the patient has never smoked. It is not, as far as I have observed, connected with gout or rheumatism. It is a troublesome condition, the white patches often being associated with thickening and with painful fissures. In a certain proportion of cases it is followed by the development of epithelioma. I have not observed the association of leucokeratosis of the mouth with lichenization, which Fordyce says he has seen. In connexion with the tongue, I may mention that I have never observed the so-called "Wandering rash" of that part associated with lesions of the skin, although I have watched some cases for years.

Psoriasis.

In psoriasis most observers deny that the mucous membrane is invaded, but it is said to have been found in the lining of the genital passages, and Fordyce has seen it on the lower lip. I cannot confirm this statement from my own experience.

Other Affections.

I have left myself but little time to speak of other conditions. They can therefore be touched upon only very lightly.

Impetigo contagiosa, which is due to the inoculation of a staphylococcus, may be accompanied by pustular eruption inside the mouth in children, but it is rare. According to Payne, the original source of infection is always some form of suppuration, not necessarily on the skin. He has traced the connexion of the cutaneous disease with conjunctivitis, otorrhœa, purulent rhinitis, ulcerative stomatitis, and even purulent vaginitis. Conversely, he has seen these conditions originate from impetigo on the skin.

In impetigo herpetiformis, a disease characterized by a circinate eruption of small pustules on a red base, which appear on the groins, navel, breasts, and armpits, Kaposi says that in some cases circumscribed grey patches depressed in the centre are seen on the mucous membrane of the tongue and palate, uvula, and posterior wall of the pharynx.

In tinea circinata of the face the disease has in rare cases spread to the mucous membrane of the mouth by extension from the skin of the face; and the mucous membrane of the vulva may be attacked secondarily in cases of eczema marginatum.

In sclerodermia the induration has in a few cases extended to the mucous membrane of the mouth, pharynx, eyelids, and vagina. Rhinoscleroma—a new growth which thickens and hardens the parts in which it develops and blocks up the nasal passages and sometimes the larynx—usually appears first at the junction of the nose and upper lip. It may spread downwards over the upper lip, or upwards into the nose, involving the mucous membrane of one or both nostrils and the septum; it also spreads along the naso-pharynx, and may affect the soft palate and the mouth. In some cases the palate or fauces may be the primary seat of the growth. According to Kaposi the larynx may be the primary seat of the disease, whence it may extend to the trachea.

In acanthosis nigricans—a disease characterized by a peculiar pigmentation of the skin with warty growths—the mucous membrane of the mouth is dry and wrinkled, and the characteristic warts are seen on the palate, gums, tongue, and inside the cheeks. The tongue is swollen and cracked, and the thickening of the mucous membrane lining of the mouth causes discomfort. The vagina may also be covered with warts. The growths on the mucous membrane have not the characteristic dark staining seen on the skin.

Xanthoma begins generally on the eyelids. The mucous membrane of the mouth, pharynx, respiratory passages, gullet, and bile duct may be affected.

Diagnosis.

Though this paper is little more than an enumeration of conditions in which the mucous membrane may be affected, it will, at any rate, serve the purpose of impressing upon practitioners how important it is that in all cases of skin diseases the mucous membrane of the mouth and nose should be examined. If there is any symptom to direct attention to other mucous surfaces, these too should be carefully inspected. As has already been said, the lesions of mucous membranes in skin diseases are seldom sufficiently characteristic to form the basis of a diagnosis. Hence the recognition of their true nature in the absence of any skin affection which may throw light upon the case presents enormous difficulty. On the mucous membrane we lose the variety of colour, which is so useful a guide in skin disease. The difficulty arises when mucous membranes alone are the seat of lesions. In such cases, syphilis is always the first thing to be thought of. But it is most important to remember that, as has been stated, there are conditions not uncommonly met with, notably herpes of the prepuce or vagina, lupus, and true leucoplakia—which are wholly independent of syphilis. It has been stated that by proper examination the apple-jelly nodules of lupus can often be seen on the little strip of skin which extends inwards from the surface of the nostrils. It may not be amiss to say in passing that a well-known authority in diseases of the nose has declared that this small territory belongs not to the rhinologist but to the dermatologist.

In pemphigus the shreds of the broken blebs, and in herpes zoster the ragged fringes of the ulcer partly covered with the remains of vesicles, may reveal the nature of the disease. But, unfortunately, as a rule, the lesions themselves do not, like those on the skin, tell their own story, even to the most experienced eye. Hence, the history of the case and the nature and distribution of the skin lesions, or the absence of cutaneous eruptions, must be taken as guides. This, of course, is all very vague and unsatisfactory; but I suppose it is precisely because the subject is one about which little is known that it has been chosen for discussion. I have only brought together a few materials of which I confess I cannot form a body of doctrine. If even a definite beginning is made here towards the achievement of that object, this discussion will contribute greatly to the advance of dermatology.

Treatment.

The treatment need be referred to only in the most general way. It must be directed to the cutaneous disease of which the lesions of the mucous membrane are an extension, or to the constitutional state of which they are manifestations. In the mouth and vagina it is most important that no caustics should be used. This is the first impulse of the practitioner, but unless there is a definite mass to be destroyed it should be resisted. The use of caustics has led to grave irritation causing difficulty in diagnosis; it may even tend to the development of malignant disease. The applications should be in the vast majority of cases gentle and soothing in their action. In the mouth mild disinfectant washes are most generally useful. In the anus and vagina the contact of contiguous surfaces should be prevented.

In the treatment of mucous patches and warty syphilitic growths on the tongue, chromic acid in a 5 per cent. solution, as employed by Butlin,[1] is most useful. I can testify to the good effect of the same remedy in painful conditions of the tongue caused by tobacco. In old patches of leucoplakia and other precancerous conditions, as well as malignant disease, radium is the most serviceable agent. Dr. Louis Wickham relates[2] some cases in which great improvement resulted from its application. He says, however, that observations of its effect on the buccal mucous membrane are still few in number and too recent to allow any definitive conclusion to be drawn from them.

Discussion.

Dr. Louis Wickham (Paris) said that the relation of lesions of the mucous membrane to skin diseases was a very important one. In syphilis, to take only one example, both in diagnosis and in treatment, it was necessary to bear in mind this relationship. At the beginning of his practice a man came to him with apparently polymorphous erythema of the skin. The characteristic lesions made the case easy to diagnose. But, after the diagnosis had been made, several lesions on the mouth and tongue and mucous membrane of the cheek made their appearance, and these so evidently had the aspect of syphilis that he was obliged to alter his diagnosis. Some days afterwards, however, lesions appeared upon the feet of the patient, and these were of a character at once to bring

[1] *Diseases of the Tongue*. London, 1900, p. 137.
[2] *Médicin Thérapeut.* Paris, 1909.

back his former diagnosis of polymorphous erythema. He brought the case before his colleagues, and they, looking only at the patient's body and mouth, said, "That is syphilis without a doubt"; but when they saw his feet, they said, "It is polymorphous erythema." The case was really polymorphous erythema, with the exception that the lesions of the mouth had exactly the aspect of those of syphilis. Therefore, especially when the lesion came in the mouth, there was often likely to be confusion between these two conditions. The question of treatment when the mucous membrane was involved was also very difficult and delicate, and sometimes, when there were lesions both of the skin and mucous membrane, it was possible to cure the one without curing the other.

Professor R. B. WILD (Manchester) said that the point of greatest importance in Sir Malcolm Morris's paper was his insistence upon the need of looking for lesions of the mucous membrane in all cases of skin disease. Cases were met with frequently in general practice in which, to outward appearance, there were only a few spots of lupus vulgaris, while deeper examination showed that the lupus had eaten away a large portion of the nasal mucous membrane, and had perhaps been going on for years. Sir Malcolm Morris had called attention to the fact that these mucous membrane lesions might even begin before the skin lesions, and much good could be done prophylactically if the mucous membrane were systematically inspected. With regard to the association of these mucous membrane lesions with skin lesions, there was no hard-and-fast line to be drawn between the epidermic tissues of the involuted mouth and the general epidermic tissue which formed the surface of the skin. Such lesions could, indeed, be divided into groups: (1) Lesions of the mucous membrane and skin together might frequently be associated with certain general diseases—such as purpura with haemorrhage from both skin and mucous membrane, and measles with diarrhoea and bronchitis, as well as nasal catarrh and skin eruptions. The skin eruption might be part of a general disease affecting the whole system of the body, and the poison might manifest itself either on the skin or the mucous membrane, not picking out any one part particularly. (2) Another group of lesions might be set down to those cases in which both tissues were governed by one nerve supply. Here, again, the frequency with which eruptions of the skin trespassed on those parts of the mucous membranes influenced by the same trophic nerves might be explained. Thus they had two groups of mucous membrane lesions in relation to skin lesions which could be regarded as possessing some anatomical or pathological-anatomical basis. In addition to these, one or two other special conditions remained to be considered. One of these related to skin diseases in which the mucous membranes only were involved. Every one knew how frequently leucoplakia was mistaken for lichen planus. It was difficult to diagnose from the appearances of the mucous membrane alone, and he believed that several cases which were stated to be leucoplakia were in reality cases of lichen planus in which the mucous membrane alone was affected. The publication of Sir Malcolm Morris's paper would do great service in drawing attention to this subject.

DR. J. H. SEQUEIRA (London Hospital) said that the importance of the subject under discussion had been impressed upon him particularly with regard to lupus vulgaris. He had seen a very large number of cases at the Finsen Light Department of the London Hospital, and he had been impressed with the importance of early diagnosis of lupus of the nose. The general practitioner, and even the specialist, overlooked a good many of these cases. He would mention one interesting case—that of a member of their profession who had been attending an ophthalmic surgeon for epiphora. For several years he had been undergoing various examinations, until at last a few spots of lupus on the outside of the nose led to an investigation which showed that this patient had an extensive nasal lupus. He (Dr. Sequeira) was continually meeting cases in which the earliest symptom of lupus of the nose was epiphora. The disease began probably by local infection in the inferior meatus, with consequent obstruction of the nasal portion of the lacrymal duct. He wished, therefore, to lay stress upon epiphora as one of the earliest symptoms of lupus of the nose. Another point of interest was that lupus vulgaris of the palate was very often directly secondary to lupus of the nose. There was frequently a patch in the palate in the situation of the anterior palatine foramen. He believed that in this type of case the primary seat of the disease was again in the inferior meatus; local infection was carried probably by the finger-nails and spread through the anterior palatine foramen. With regard to the frequency of lupus of the mucous membrane, out of nearly a thousand lupus cases at the London Hospital about half had lesions in which the mucous membrane was involved. He thought he was right in saying that the type of case in Finsen's clinic in Copenhagen, where the frequency was 80 per cent., was rather worse than in London. Naturally, Finsen attracted the bad cases from all parts of Northern Europe; therefore a fairer average might be obtained in the clinic of the London Hospital, where it worked out at about 50 per cent. With regard to lupus erythematosus, Dr. Thomas Smith found that out of about 60 cases, 28 per cent. had mucous membrane lesions of the kind that Sir Malcolm Morris had described. He (Dr. Sequeira) had been in communication with Dr. Turtle, the medical officer of Hackney, who had to inspect a large chemical works where arsenical dyes were manufactured. These dyes were largely used by Canadian farmers for weed killing, and as it was necessary to have green dyes they used copper arsenite. Lesions of the nose were very common among the workers in this factory, and Dr. Turtle stated that sometimes in the course of a week or ten days the workers became subject in many cases to a perforation through the soft part of the nose. Nearly every man who had worked in that factory for a considerable length of time had a perforated nasal septum, and the hole was sometimes large enough to admit the finger. The interesting case mentioned by Dr. Wickham illustrated the difficulty, especially felt in the early days, of diagnosing between syphilis and polymorphous erythema or erythema multiforme. He was asked frequently to see cases of mucous membrane and skin eruption in which a diagnosis of syphilis had been made. One case of syphilis was very similar to that which Dr. Wickham had described. There were a few erythematous blisters, and a very large eruption of bullae in the mouth. The case was diagnosed as syphilis, and the patient was put on mercury, which made his mouth very much worse. They would do well to focus a considerable amount of attention upon the subject which Sir Malcolm Morris had brought forward.

MR. M. M. CUNNINGHAM (Belfast) said that in his practice as a dental surgeon he occasionally saw peculiarities in the mucous membrane of the mouth which, inasmuch as it was his duty not to increase the irritation if possible, caused him some anxiety. The last speaker had referred to the use of arsenic and its effect upon the mucous membranes. In the practice of dental surgery they were almost compelled to use arsenic, because it was practically the only method they had. Of course, they used it with great caution, because it acted in such a highly destructive way. It was so penetrating and so difficult to control that they had to exercise the greatest care, and this care might not always be exercised by unqualified men. In using arsenic they were careful to employ a varnished dressing of some kind, but within a couple of days if left alone the arsenic would penetrate through this dressing and affect the tongue, cheek or pharynx, causing difficulties in swallowing. Sometimes considerable local disturbance was set up in that manner. He had never noticed any serious constitutional disturbance, but arsenic was so constantly used by dentists—by unqualified as well as qualified practitioners—that it was worth while to know of this local action and of the possibility that disturbance might be caused by the indiscreet use of the drug. He would be glad if the use of arsenic in the mouth could be abolished, but at present this seemed hardly possible.

DR. J. GOODWIN TOMKINSON (Glasgow) said that the importance of invariably exploring the mucous membranes, more especially the buccal and nasal, could not be insisted upon too dogmatically. The rule should be followed, not only when the practitioner was dealing with cutaneous affections, but also when he was brought into touch with any other morbid manifestation. He was fully aware that many observers described a non-specific as well as a specific form of leucoplakia. There were others, however, who inclined to the view that it was

always a manifestation of syphilis, and in the vast majority of cases syphilis of the acquired type. In a very suggestive monograph by Lacapère, entitled *La Leucoplasie*, a series of consecutive cases of leucoplakia was etiologically dealt with, and in every instance a definite or probable syphilitic cause was mentioned. He believed he was correct in saying that Fournier stated that at least 80 per cent. of cases of leucoplakia were undoubtedly due to syphilis. Doubtless the remaining 20 per cent. were of identical origin, some of them occurring in patients who were reluctant to admit that they had had syphilis, while others might be regarded as a heritage from parental delinquency. In referring to cheilitis exfoliativa, it was of interest to record that the brother of one of his (Dr. Tomkinson's) patients suffering from that affection was the subject of psoriasis. Both exhibited symptoms of gastro-intestinal disturbance and moderate anaemia. He was not prepared to state that these affections were generically related, as in view of the probable microbic origin of the former he would be very reluctant to dogmatize. The amenability of tuberculous lesions of the mucous membranes to radiotherapy appeared—at least in so far as his experience went—to vary somewhat with the region affected. Certainly he found the nasal mucous membrane much more responsive than the buccal to *x*-ray therapy. In the latter he found that daily applications of lactic acid were of distinct value. These should be made by the physician himself. Upon this last point he could not too strongly insist. Reverting to the diagnostic value of mucous membrane lesions, one was often enabled to diagnose accurately cutaneous cases by a thorough examination of the buccal mucous membrane. Apropos of obscure etiology, he well remembered Dr. Beurmann once saying that in the presence of a case of doubtful origin one should always think of possible syphilis or tuberculosis. They were agreed that to mistake the former might be fraught with horribly disastrous consequences. On that account it would be well invariably to regard every patient with whom they as dermatologists were confronted as a sufferer from syphilis until they had excluded that affection.

Dr. S. Ernest Dore (London) said that another important factor that arose out of Sir Malcolm Morris's paper was the advisability of conferring with their colleagues of the Laryngological Section, as the particular knowledge possessed by laryngologists of the conditions affecting the mucous membrane was of great importance. Sir Malcolm had spoken of lichen planus. He (Dr. Dore) had looked for lichen planus in the mucous membrane of the nose, believing it not unlikely that such a condition might occur. Dr. Osler's group of cases, in which certain affections of the skin were associated with visceral conditions, was most interesting and important. Why should not lichen planus affect the intestinal canal and give rise to certain symptoms? Sir Malcolm had also referred to nasal lupus. They should always be on the look-out for those conditions so as to get clues to diagnosis.

The President (Dr. Calwell) said that in his presidential address he had suggested that the study of dermatology was of such great profit that it might very well be put among the earlier studies of students. His idea was that it would, by analogy, illustrate the processes of general disease. After what had been said by Sir Malcolm Morris and others, however, it seemed that, not only in analogy, but actually and in fact, the relation of dermatological phenomena to certain general diseases was very close indeed. He wished that Dr. Campbell Rankin had been present, as he and his colleague, Dr. Craig, had drawn up particulars of a number of most interesting cases bearing upon this subject. In some of the cases of lesions of the mucous membrane the anatomy of the part affected made the treatment difficult, and at times—particularly in children—an otherwise trifling affection of the mucous membrane would, by reason of its seat, give rise to considerable anxiety.

Reply.

Sir Malcolm Morris, in replying, referred to the fact that he was the secretary of the first Dermatological Section of the British Medical Association which met in Ireland—at Cork—thirty years ago. He recognized the fact that his had been a loose, discursive paper, merely dancing over a vast subject. But if it impressed upon practitioners the need for examining the mucous membrane it would be the means of saving them from frequent mistakes. Only recently a general practitioner sent him a case of what was thought to be slight lupus in a young girl. The disease was believed to be limited to the three or four nodules which had made their appearance, but as a matter of fact the lupus had been going on in the nose for some time, and there was perforation of the septum. If practitioners only had a routine method such mistakes would not occur, and probably a great amount of secret destruction would be prevented. He was glad to hear a dentist take part in the discussion. In this matter they as dermatologists needed the co-operation of dentists as well as that of laryngologists and rhinologists. It sometimes happened that the rough edge of a tooth would start leucoplakia, and this would run on to epithelioma if neglected. The person must have something with which to masticate, and it was not easy always to get a perfectly rounded surface. The irritation from the plate of false teeth was also sometimes a matter of considerable importance. He wished to know whether there was any difficulty in the composition of such plates. A red one which he had seen from time to time had made him suspicious. Now and then the arsenic was a source of irritation. It might be possible to give up the use of arsenic in dentistry. There was a time when Vienna paste and other arsenical preparations were the only things used for the skin, but to-day, although these were still used by quacks, they had very largely gone out of favour among legitimate practitioners, and such things as salicylic acid had taken their place. Why not in dentistry also? He was glad to hear the statistics which Dr. Sequeira had to bring forward. Dr. Sequeira was attached to the skin department of the largest hospital in London, and his statistics were perhaps more valuable, because more normal, than those which came from Finsen's clinic. They were well aware that in cases of progressive lupus people would go to the uttermost ends of the earth to be cured, and therefore Finsen's clinic attracted the most advanced cases in Northern Europe. With regard to what Dr. Tomkinson had said, the great desideratum in all these cases was to have in mind a logical idea of the order of disease, and always to consider that people had all the possible diseases until it was proved that they were free from them. This negative process of elimination was the most valuable that could be followed. They were sometimes charged by the general physician, and even by the general practitioner, with being people of only one eye—only looking for one thing. That, of course, was a mere *façon de parler*. They first knew their general medicine, and then came to the department. And the rule he had always followed was always to have syphilis or general infections in mind, and to exclude these before coming to dermatology. He thanked Professor Wild, who had a very large clinic in Manchester, for his encouragement to observe the mucous membranes as a matter of routine practice; and also Dr. Wickham for his interesting remarks on diagnosing syphilis from skin affections such as erythema multiforme.

Mr. Cunningham, in reply to the dentistry question raised by Sir Malcolm Morris, said that owing to the competition which they as dentists had had to meet on the part of unqualified practitioners, there was no doubt that many plates had in the past been made with inferior rubbers, and the colouring matter introduced was sometimes of poor quality. Their methods were now so far advanced, however, that in most cases metallic plates could be used, and it was only a question of the dentist taking care and trouble to make a very clean and wholesome plate. With regard to the use of arsenic in the mouth, they had tried very hard to get a substitute, but up to the present it had seemed almost impracticable.

A CASE OF ACANTHOSIS NIGRICANS.

By Robert B. Wild, M.D., M.R.C.P., M.Sc.,

Professor of Materia Medica and Therapeutics, University of Manchester; Honorary Physician, Manchester and Salford Hospital for Skin Diseases, and to the Christie Hospital.

[Abstract.]

Acanthosis nigricans is a rare disease, first described in 1890 by Pollitzer and Janowsky in the *International Atlas of Rare Skin Diseases*. Dr. Radcliffe Crocker gives an

excellent account of the disease in his textbook. In some of the reported cases the disease is associated with carcinoma of the abdominal viscera. This was apparently present in the following case; but as no *post-mortem* examination could be obtained, it was impossible to ascertain the situation of the primary carcinoma.

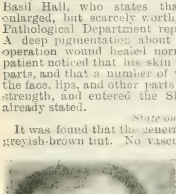
CASE.

X. Y., sugar boiler, aged 39; married; three children. Employed in sugar boiling for twenty years, and exposed to great heat in the course of his work. Out-patient at the Skin Hospital from August 15th, 1908, to October 5th, when he was made an in-patient. He was discharged at his own request on October 24th, and died at Bradford within a month.

The patient, whose life is thus briefly outlined, had good health until 1905, when he was in bed for six weeks with a severe attack of pneumonia on the left side. He recovered completely, and remained well until February, 1908, when he noticed a lump in his neck on the left side, just above the clavicle. In May, 1908, having increased in size in the meantime, it was removed at the Bradford Infirmary, under Dr. Basil Hall, who states that the glands were moderately enlarged, but scarcely worthy of the name of tumour. The Pathological Department reported that they were malignant. A deep pigmentation about the armpits was noticed. The operation wound healed normally. After the operation the patient noticed that his skin was rough and dark-coloured in parts, and that a number of warts made their appearance on the face, lips, and other parts of the body. He gradually lost strength, and entered the Skin Hospital on October 5th, as already stated.

State on Admission.

It was found that the general colour of the skin was a peculiar greyish-brown tint. No vascularity was visible on the cheeks.



On the face were a large number of warts, varying in size from projections that were just visible to flat filiform growths 5 mm. in height and about the same in diameter. The eyelids were much thickened, the external meati of the ears were filled with warty growths, and the nose, lips, and mucous membrane of the cheeks presented the same warty appearance; the tongue was clean; the skin of the neck was of a dark brown colour, almost black in parts; the left side was the darker, and presented a livid red scar, surrounded by swellings which were apparently enlarged glands. The pigmented skin was firm to the touch, thickened, but not markedly indurated. The axillae were deeply pigmented, and the skin of the body was sallow in tint, rather harsh to the touch, and dry. The groins presented a slight thickening of the skin and patches of brown pigmentation. The genitals were darkly pigmented, but both groins and genitals were less deep in colour, and less thickened than the neck and the axillae. The knees, legs, and feet were normal. The skin on the arms down to the wrists was normal in colour, but the hands and fingers presented a thickened papillomatous and pigmented skin. The pigmentation was most marked over the metacarpo-phalangeal joints, and over the interphalangeal joints. The skin of the hands was not cracked or fissured, and the patient could use them without pain. Though dry as a rule, the affected skin sometimes sweated freely.

The lungs were found to be moderately emphysematous, and there was some lack of resonance at the back, thought to be due to a thickened pleura from the previous attack of pneumonia. The heart was normal, pulse regular, temperature slightly subnormal, liver and spleen dullness normal, and there was no tenderness or pain in abdomen, nor anything abnormal on physical examination; the nervous system was also normal; the urine was dark-coloured and loaded with pink lithates. The blood count showed nothing distinctive, although there was a slight deficiency of small lymphocytes in favour of polymorphonuclears.

Progress and Treatment.

While in the hospital he had *x*-ray sittings three times a week, the scar and glands in the neck being exposed. Some diminution of size occurred. The skin of the neck exposed to the rays became of a coal-black colour, but the texture remained unaltered.

The patient gradually became weaker and his bronchitis worse, but there was no rise of temperature. The condition of the skin was unchanged when he left the hospital, after twenty-eight days' stay, to return home. No fresh symptoms occurred, but he lost strength and died, apparently from the bronchitis, a few weeks afterwards. No *post-mortem* examination was allowed.

Sections of the glands removed at the operation in May, 1908, on microscopical examination showed infiltration by a carcinomatous growth of a glandular type. While in hospital permission was obtained to remove a wart from the left ear, which caused some irritation, and the microscopical appearances of the serial sections agreed with those described in other cases—namely, great increase in the horny and prickle cell layers of the skin. The wart was not on a deeply pigmented part.

REMARKS.

There are several points of interest in this case; one is the association of the skin changes with the carcinoma of the left supraclavicular glands and the prior appearance of the latter. In the absence of any *post-mortem* examination it is impossible to say what organ was involved in this case, as there were no symptoms of disease in any abdominal viscus, but the probabilities seem to be in favour of the cardiac end of the stomach, where carcinoma may exist for a considerable time without localizing symptoms. The pancreas, however, cannot be excluded, and suprarenal disease is possible, although the condition of the blood seemed to be against it.

A second point of interest is the condition of the blood. At first sight any observer would have called the patient anaemic, save for the redness of the lips and the mucous membranes. Closer examination of the skin showed this appearance of anaemia to be due to the obscuration of the superficial blood-vessels by the opacity of the thickened skin. The blood-count showed only slight anaemia, and beyond the deficiency of red corpuscles the blood was practically normal within a few weeks of death. There was no marked leucocytosis.

Finally should be pointed out the predominance of the lesions on the upper half of the body and hands and the freedom from any sign of disease on the feet and legs below the thighs. In Janowsky's case exposure to great heat is mentioned as the apparent cause, and it is interesting to note that in his work as a sugar-boiler my patient was continually exposed to heat, and the hands and upper part of the body much more so than the lower part.

ACANTHOSIS NIGRICANS.

BY

GEORGE ST. GEORGE, M.R.C.P.I., L.R.C.S.Edin., Surgeon, County Antrim Infirmary, and G. MONCRIEFF MELVILLE, M.D.Edin., Late House Surgeon and House Physician, Royal Infirmary, Edinburgh.

[ABSTRACT.]

THE authors of this paper supplied a detailed review of the literature of this disease and demonstrated and described the following case, which has been under the observation of one of them since May, 1905, at the Thompson Memorial Home, Lisburn.

GENERAL HISTORY.

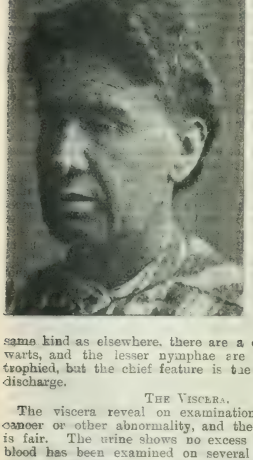
The patient was a woman, aged 42, who, up to the time of the commencement of her illness, had been in good health. At the age of 17 she had a child which died at birth. Her illness commenced with what was deemed to be a severe form of acid dyspepsia. Concurrently she noticed that menstruation was growing scanty, and it finally ceased, while an offensive leucorrhoea commenced. Her hair became brittle and began to fall, and her skin became discoloured, but it was not until about a year after the commencement of her illness that definite pigmentation was observed. It appeared first on parts normally exposed to light. Meantime warts and warty outgrowths began to make their appearance all over the body, especially on the face and hands. One large growth in the axilla began to discharge in about three months' time and decrease somewhat in size.

THE SKIN.

The face suggested that of a middle-aged rugged featured man. The normal lines were marked by black pigmentation; such pigmentation appeared in patches on the face, but otherwise the colouring was of a deep coffee hue, quite different from the bronzing of Addison's disease. The warts on the face and scalp were single and sessile, looking like enormously developed papillae. The ears showed some warting and pigmentation, but the lumen of the external meatus was not occluded. Under the semipendulous breasts there was deep blackening of the

skin and outgrowths between the skin surfaces somewhat like condylomata, though dry and scaly. In the right axilla is a pink cauliflower mass which discharges a fetid, straw-coloured fluid. It has round it a black circle of pigment, but otherwise is unpigmented. On first sight this growth looks like an ulcerating scirrhus, but on closer examination is seen to be in the skin, and not glandular. The bend of the elbow is pigmented, but few warts are visible in this situation. There are many on the hands, wrists, and fingers, while the skin between the latter is hypertrophied, and shows a dry, very typical scaliness. The feeling of the skin is very peculiar, it gives a sensation like that caused by rubbing rough textured plush velvet. The nails are dry, brittle, uneven, and cracked transversely.

On the abdomen the pigmentation is less well marked; but some of the darkest specimens of pigmentation may be seen round the gluteal region and natal fold, where there are good examples of pseudo-condylomata. There is also pigmentation on the front of the legs, and hypertrophied, scaly skin behind the knees. The state of the feet resembled that of the hands, though there were fewer warts. The iron-grey, scanty hair is short and dry, and almost as stiff as bristles.



The Mucous Membranes.

The tongue is dry, rough, and deeply furrowed, its mucous membrane and the soft palate of an orange tint and covered with outgrowths of the size of mustard seeds. The lips, deeply fissured, show a well-marked brown line at the junction of the skin and mucous membrane. In the pubic region, over which the hair has undergone changes of the same kind as elsewhere, there are a certain number of warts, and the lesser nymphae are somewhat hypertrophied, but the chief feature is the fetid leucorrhoeal discharge.

The Viscera.

The viscera reveal on examination no evidence of cancer or other abnormality, and the patient's appetite is fair. The urine shows no excess of pigment. The blood has been examined on several occasions, and at early examination a certain degree of lymphocytosis was indicated by the blood count; on all others it has been that of an ordinary healthy person.

Histology of the Skin.

Microscopically the skin shows papillomata with a connective tissue core and a covering of stratified epithelium, and there is no tendency whatever for the epidermis to invade the underlying corium. The connective tissue is made up of fibrillae with spindle-shaped cells. The tissues are well organized, and there is no round-celled infiltration. Scattered throughout it are discrete brownish quantities of pigment, mainly intercellular in position. The Malpighian layer of the epidermis is of normal thickness, but a few of its cells are pigmented. The basal layer is uniformly pigmented, and forms a well-marked line of demarcation between the epidermis and the cutis. There is so much pigment in the cells of this layer as to obscure the nuclei. The horny layer is thick, and when stained with haematoxylin and eosin appears light blue, whereas normal keratinized layer stains a deep red.

Treatment.

Numerous drugs were used without avail, but at last a combination of potass. iodidi gr. x and syr. trifolium (Parke Davis) ʒij, thrice daily, furnished good results. The dose was gradually increased up to 30 grains of the iodide of potassium and ʒss of the trifolium syrup. There was a gradual decrease in the size of the growths, especially marked in the case of the axillary tumour. However, at the end of ten months the improvement stopped, and a large cauliflower growth appeared in the left axilla, similar in size and appearance to that which was first observed in the right armpit; it was, however, much more darkly pigmented. Recently, calcium iodide gr. xv and salol gr. x once daily have been administered, ½ oz. of Epsom salts being given every third morning with the idea of removing any fermentation from the intestinal canal. This appears to have brought about a cessation of the progress of the disease, there being no increase in the papillomatosis or in the pigmentation. But although the condition appeared to become stationary, no other improvement can be recorded. Indeed, at the present time, the patient is on the whole losing ground. Her spirits are not as good as formerly, and increase in the pigmentation is recommencing.

General Observations.

With regard to the disease in general, the authors consider that both its etiology and its pathology are at present quite obscure. Cases completed by *post-mortem* examination are few, and none of the theories put forward by various authors apply equally to all the recorded cases. Women suffer more frequently than men, in the proportion of ten to three. The majority of cases are in people over 40 years of age, though instances of the disease in children as young as 7, and even 2 years old, have been noted. Abdominal cancer is held by some authors to be nearly always an associated factor. Traumatism of the abdominal sympathetic system has also been suggested as a cause, and by others exposure to extremes of heat and cold has been held accountable. In the authors' own case hyperchlorhydria was the only prodroma. Apart from the rarity of the condition, diagnosis is not difficult; the only condition for which it might be mistaken is Darier's disease, or keratosis vegetans, in which the enlarged papillae are quite different in appearance from the warty growths of acanthosis nigricans. Moreover, in Darier's disease the skin dryness is absent and the pigmentation less marked. Although the cases often last a long time, the prognosis must be regarded as bad, and there is no drug on which dependence can be placed for a cure. Apart from the treatment of symptoms and observance of general hygienic principles nothing can be done. The authors concluded their paper with the following bibliographic references:

Crocker: *Clin. Soc. Trans.*, xix, 1881; *Diseases of Skin*, vol. i, p. 45.
Darier: *Annales de Dermatol. et de Syph.*, 1895, vol. vi.
Guerault: *Etát actuel de la question acanthosis nigricans*, 1893.
Janowski: *Med. Chir.*, xi.
Morris: *Diseases of Skin*, ed. 1904, ch. xxiii; *Medico-Chirurg. Trans.*, vol. lxxvii; ibid., third series, vol. vi.
Politzer: *Internat. Atlas f. seltene Hautkrankheiten*, No. x.
Unna (Norman Walker translation).

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE PREVENTIVE TREATMENT OF PUERPERAL ECLAMPSIA.

I believe the toxaemia in this disease to be of an acid character, from the success of the following treatment in twelve consecutive cases of albuminuria, varying in quantity from a half to fifteen-sixteenths of the total amount of the urine secreted; in one, my last case, I could actually turn the test tube on to its side without the contents leaving the tube, so thick was the deposit upon boiling and the addition of nitric acid.

I examine the urine in all cases of pregnancy at the seventh month. If this is not done, my experience has been to be called in when the patient is in convulsions, or, if the convulsive attack has temporarily passed off, when she is in a state of unconsciousness, from which, even with

the best consultative aid, the patient, in 50 per cent. of the cases, dies some time after delivery of the child without regaining consciousness.

If upon examination albumen is found, I order the patient to bed immediately, and keep her there until after confinement. The diet is principally milk; all other nitrogenous diet is forbidden. The preventive treatment is the use of potassium acetate (a neutral salt which becomes alkaline when taken) in sufficient doses to keep the urine alkaline.

My test of this is to boil the urine, and, if I get no deposit of albumen, I add nitric acid, and, if I then get a deposit of albumen, I keep the urine in this state. I then examine the urine every three days until labour sets in. From my experience of twelve consecutive cases, no convulsions will occur during labour or after delivery of the child.

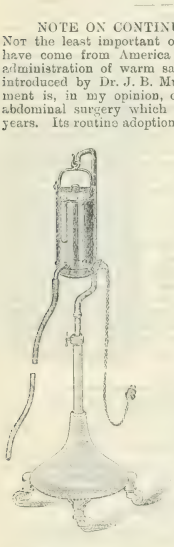
The potassium acetate does not cure the patient of her albuminuria—in fact, in many cases does not reduce the albumen at all—but it does prevent eclampsia.

I have not found it of any use in cases in which convulsions have actually begun, labour having set in, even if the patient recovers consciousness sufficiently to take the medicine.

Wolverhampton. ALEX. MILNE BANKIER, M.D.

NOTE ON CONTINUOUS PROCTOCLYSIS.

Not the least important of the many good things which have come from America is the plan of the continuous administration of warm saline solution by the rectum, introduced by Dr. J. B. Murphy. This method of treatment is, in my opinion, one of the greatest advances in abdominal surgery which has been made within recent years. Its routine adoption leads, I believe, to more rapid and certainly to more comfortable convalescence after coeliotomy, and its beneficial effects in cases of general septic peritonitis would have surprised me had I not been prepared for them by hearing from Dr. Murphy's own lips of the wonderful results which he has obtained in the treatment of this serious condition since the adoption of the practice of continuous proctoclysis.



Success in using the Murphy method depends on attention to detail, and the two most important points are, first, the regulation of the flow from the supply can by gravity alone, and not by constriction of the delivery tube; and, secondly, the maintenance of the saline at a constant and appropriate temperature. To obviate the latter difficulty, I have had an apparatus made which does away with the necessity for constant supervision. It consists of an electro-plated douche can which holds about five pints. In the front of the can are a thermometer and a gauge glass, and the can is graduated in half-pints, so that the amount of saline entering the rectum can be readily estimated. The saline leaves the can through a delivery tube with a half-inch bore, to which is attached three feet of rubber tubing connected with a large rectal tube. Under the bottom of the can is an electric heater, which can be connected with any electric supply of suitable voltage by means of a flexible cord and wall plug. The can is suspended on an adjustable stand mounted on castors so that it can be readily wheeled up to the bedside. I have found by experiment that with a ward temperature of from 65° to 70° F. the solution in the can must be kept at a uniform temperature of 106 F. in order to ensure that the saline enters the rectum at a temperature of from 99° to 100° F. The electric heater is so made that if the saline solution is put into the can at a temperature of 106° F., the temperature remains almost constant so long as the current is switched on. The apparatus, which has been made for me by Messrs. Allen and Hanburys, can be left for several hours without any attention.

HERBERT J. PATERSON, M.B.,
London, W. B.C.Cantab., F.R.C.S.

SOAMIN (SODIUM PARA-AMINOPHENYLARSONATE) IN SYPHILIS.

ONE or two points of interest in regard to the action of a drug which is still on its trial is my excuse for bringing the following case to the notice of your readers.

J. B., aged 24, came to me in the end of 1908, having contracted syphilis three years previously. He consulted me concerning acute sloughing of his penis. The organ had been eaten away to within 2 in. of the pubis. Around the stump the skin was deeply ulcerated and the central portion embracing the urethra was one dark gangrenous slough. There was a copious, foul-smelling pustular discharge from the wound. I administered internally and locally the usual antisyphilitic remedies, but without improvement. By the end of February, 1909, the penis had disappeared and the stump was level with the pubis. The ulceration had spread somewhat over the scrotum. I stopped the treatment and proceeded to try soamin. I injected into the gluteal muscle 5 grains of soamin every alternate evening until 50 grains had been administered. I then increased the dose to 7½ grains every alternate evening until 120 grains had been given. The progress of the disease was just perceptibly slowed, but not being well pleased with the result, I put the patient on large doses of iron iodide and discontinued the soamin. A month later, in spite of the iodide, the disease showed signs of a fresh and more active lease of life. There was by this time a circular area of ulceration (taking the urethra as the centre) of from 2 to 3 in. in the suprapubic region of the abdominal wall and also over the scrotum. I then resumed the injection of soamin, beginning with 10 grains every alternate evening. An improvement was at once apparent, and, when 50 grains had been injected, healing of the ulcerated surface took place most rapidly from the scrotum upwards. By the time 100 grains had been administered the whole surface was completely filled up, firm, and solid, and has since remained so. On the second occasion 160 grains in all were given.

May I draw attention to the following points?

1. The dose of 5 grains or even 7½ grains was incapable of influencing the disease to any great extent, but the contrast was most marked and most rapid on adopting 10 grains.

2. In the literature on soamin that I have come across the value of the drug has been chiefly shown in syphilis in its earlier manifestations, especially in ulcerations of the mucous membrane of the mouth and throat. The case here recorded was a virulent type in the later stage uninfluenced by the usual antiluetic remedies.

3. With regard to the toxicity. There were no unpleasant symptoms during the first course of the treatment. But on resuming with 10 grains as the dose, after 50 grains had been given the patient complained of pain in his legs, especially in the back of his thighs and calves. This pain was limited to the days following each injection. The injection was usually administered about 8 p.m., and within eight or nine hours after each injection, that is, about 5 a.m., he suffered from severe epigastric pain and a feeling of nausea which passed off usually in about six hours.

After 70 grains had been given, on a further injection of 10 grains, he within an hour became faint and giddy, then cold and collapsed, and was obliged to lie down for several hours. On the reduction of the dose to 7½ grains no further untoward effects ensued.

Queen's Park, Manchester. ALEX. FRASER, M.D., C.M.

THE Emperor of Japan has conferred on Dr. Brander, of Fort William, the Sixth Order of the Sacred Treasure. After the Japanese-Chinese war Dr. Brander was also decorated by the late Emperor of China with the Third Order of the Double Dragon for distinguished medical services to the Chinese wounded soldiers from Korea.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

KING EDWARD VII HOSPITAL, WINDSOR.

CASE OF HERNIA OF VERMIFORM APPENDIX.

(By E. T. Norris, M.A., M.B.Cantab., Senior Surgeon.)

The patient in the following case, a married woman, aged 36, was seized with sharp pain in the right groin at 11 a.m. on June 8th, 1909. At about 1 p.m. the bowels acted naturally. The pain, though severe, was not bad enough to prevent her walking to a neighbouring town three miles distant the same afternoon, and she also accomplished the journey home on foot, though apparently suffering a good deal. She felt a lump in the right groin when she undressed for bed, and, the pain being no better, she sent for her medical man, and was seen at 11 p.m. There was a painful fluctuating swelling, irreducible about the size of a small hen's egg, in the right groin. There had been no vomiting, and she did not look ill. She said that she was sure that no swelling existed there before.

Operation.—The following day she was moved to hospital, and I operated upon her at 2 p.m. The femoral sac was a fluctuating swelling, and contained dark blood-stained fluid. The sole remaining content of the sac consisted of the tip of the appendix, about the size of a finger-nail, which being tightly strangulated at the femoral ring was black and to all appearances gangrenous, but proved not to be. The femoral ring was incised, and the appendix drawn out and an inch removed; the stump was returned into the abdomen.

Result.—The after-history was uneventful, recovery being rapid and complete.

In a paper by Mr. McAdam Eccles, in vol. xxxii of *St. Bartholomew's Hospital Reports*, I find some similar cases published.

The notes of the case were kindly taken by Dr. Elgood, Windsor.

Reviews.

HAEMODYNAMICS.

Dr. Johann Plesch has worked out in the laboratory of Professor v. Zuntz of Berlin measurements of the amount of blood and haemoglobin in the body, the volume of the output of the heart per minute and per beat, the circulation time, the velocity of blood flow, and the work of the heart.[1] These measurements, applied as they are to normal men and to cases of anaemia, heart disease, kidney disease, and exophthalmic goitre have yielded results of very great interest, and may be accepted with considerable confidence, as they have been arrived at by exact physiological methods and under the guidance of Professor Zuntz, who is one of the first authorities—if not, indeed, the first—in Europe on respiratory problems. The determinations of blood volume, haemoglobin content, and oxygen capacity of the blood have been carried out by Haldane's method, which depends on the inhalation of a small and non-toxic quantity of carbon monoxide of known volume, and the determination of the percentage of CO haemoglobin in a blood sample taken from the finger of the subject. From the total amount of CO absorbed and the amount found by a calorimetric method in the measured sample of blood the total amount of blood in the body is arrived at. By means of a haemoglobinometer containing a standard solution of CO haemoglobin (the oxygen capacity of which was determined by Haldane's method of displacing the oxygen by ferricyanide) the oxygen capacity and percentage of haemoglobin are measured. Dr. Plesch uses a modification of Barcroft's blood gas analysis apparatus, and determines the CO in the blood not only calorimetrically, but by displacing it with with ferricyanide, burning it into CO_2 by means of an incandescent spiral, and measuring the volume of CO_2 so produced. The saturation of the haemoglobin to one-third of its capacity with CO is said to be quite harmless. The absorption of 150 to 170 c.cm. CO by a man of 70 kg. weight produces, according to Dr. Plesch, no symptoms. Some unpleasant results, however, were met with, we believe, by Professor Lorrain Smith during the course of an inquiry into the blood volume of various cases of anaemia.

The presence or absence of salts (Barcroft), just as the presence of more or less CO_2 (Bohr), modifies the dissociation curve of an oxyhaemoglobin solution in a marked manner. It is almost certain, therefore, that the presence of CO also modifies the dissociation curve. The taking up of CO in the lungs by the undiluted blood may be, and probably is, different to the taking up of CO by blood diluted *in vitro* with water to 1 in 100. The determination of oxygen tension in the blood made by Haldane's method will probably require considerable modifications in the light of the recent results which Barcroft communicated to the Oxford meeting of the Physiological Society. The exchange of oxygen between blood and lungs, which, according to Haldane and Lorrain Smith, does not follow the physical laws of diffusion, may yet be found to do so by the CO method when its effect on the dissociation curve has been allowed for. All other evidence is in favour of the exchange in the lungs being a simple physical process, and Haldane and Bohr, alone among eminent physiologists, assert that oxygen is forced in and carbonic acid out by a vital secretory process of the pulmonary epithelium. We do not see, however, that Barcroft's results can modify the determinations of blood volume by the CO method, and no error comes to light in Dr. Plesch's careful analysis of this method. He has employed another method as a control—namely, that of injecting a measured quantity of isotonic salt solution into a vein, and determining the variation in the haemoglobin percentage so produced. The accuracy of this method, he says, depends on the exact isotony of the solution used, for this, he says, prevents the salt solution leaving the blood. Dr. Plesch does not give any convincing proof that the isotonic salt solution does not leave the blood in the interval between its injection and the collection of the blood sample, but his results show a surprising agreement with those obtained by the CO method.

He agrees with Haldane in estimating the blood volume as 5.3 per cent. or one-nineteenth of the body weight—less in fat people. The haemoglobin he estimates at 0.70 per cent. of the body weight, the total oxygen capacity of the blood as 10 c.cm. per kg. of body weight. The blood volume is diminished after repeated and severe haemorrhages, is increased up to twice its normal value in chloresis (confirming Lorrain Smith) and in nephritis without oedema. Dr. Plesch determined the minute volume of the heart by the method of Zuntz, that is, by arriving at the following factors: the oxygen content of the arterial blood, the oxygen content of the venous blood, and the oxygen use of the body per minute. The first factor is obtained from the alveolar tension of oxygen of the subject and the dissociation curve of haemoglobin. The alveolar oxygen tension can be measured easily by Haldane and Priestley's method, or calculated from the composition of the expired air and the known average volume of the dead space in the air tubes. The oxygen in the venous blood is got at in a very ingenious way. The subject breathes in and out of a 10l. bag of pure nitrogen for two breaths. This is to wash most of the oxygen out of the lungs. He then breathes in and out of a small bag (3l.) for ten to fifteen seconds. The contents of the small bag then represent the composition of the alveolar air, and the oxygen tension of this air will be in equilibrium with that in the venous blood. From the tension the volume of oxygen in the venous blood can be calculated. The whole experiment, lasting fifteen to twenty-five seconds, is quite harmless, and can easily be carried out with a subject of some intelligence. Dr. Plesch finds on the average (few cases have been done) the following figures:

Oxygen in Arterial Blood.	Oxygen in Venous Blood.	
18.75	12.9	Normal.
6.99	4.25	Pernicious anaemia.
15.71	8.73	Nephritis.

[1] *Hämodynamische Studien.* By Dr. Johann Plesch. Berlin: August Hirschwald. 1909. (8½in. roy. 8vo, pp. 248, illustrations 16. M. 7.)

The oxygen use per minute can be determined by Zuntz's method of breathing through a meter and collecting and analysing a sample of expired air continuously collected by the rotation of the meter. The determinations have to be made successively, but it is arranged that the patient remains in a resting posture and under the same conditions. The minute volume obviously can be reckoned if we know the volume of oxygen taken up per minute from the lungs, and the difference between the oxygen content of the venous and arterial blood. The heart-beat volume is got by dividing the minute volume by the number of pulses per minute. The circulation time is got from the total volume of blood and the minute volume. The work of the left ventricle is got from the minute volume and the mean arterial blood pressure. The right ventricle may be taken as doing one-third the work of the left. The velocity of blood flow can be got from the heart-beat volume, if we know the time spent in outflow, and the average cross sectional area of the aorta. The outflow time can be calculated from known data, and from a pulse tracing. It is somewhat astonishing to realize that all these determinations can be arrived at by such simple and harmless means on a normal man. The average minute volume in normal man (70 kg.) is found by Dr. Plesch to be 4.3 l. or 62 c.cm. per kilogram. In the greatest work it may rise to 47 l. The heart beat volume is 59 c.cm., and may rise to 240 c.cm. The velocity of flow is 42 cm. per sec., and may rise to 200 cm.; the circulation time is 55 sec., or 65 pulse beats, and may fall to 4½ sec. in the greatest work. The work of the heart per minute is in rest 9.27 m. kg., and may rise to 100. In anaemia the minute volume is much greater, but smaller in nephritis. The velocity of flow is much greater in anaemia, and hence the murmurs heard over the heart in these cases. The work of the heart is increased in Graves's disease, and in nephritis with high arterial pressure. Such are some of the conclusions of this interesting research.

VARIATION, HEREDITY, AND EVOLUTION.

THE necessity for the production of a second edition of Mr. R. H. LOCK'S book on *Variation, Heredity, and Evolution*[2] at so short an interval as three years after the appearance of the first, which was twice reprinted, is in itself a proof that the book has satisfactorily filled a vacant place in the literature of modern science. Mr. Lock has brought this new edition thoroughly up to date, not merely by amplifying the subjects formerly dealt with, but by the insertion of much new material, including an entirely new chapter on eugenics and by the addition of a short but useful bibliography. The author's scientific work and attainments are such as would lead to the expectation of good material in a book dealing with subjects of such vital and increasing importance to the whole community, and those who read the present work will not be disappointed. It is an admirable summary of the subject, well and lucidly written.

The inclusion of a chapter on eugenics is most useful, and will enhance the value of the volume, since every advance in sociology, to be of any real and permanent advantage, must be based upon the teachings of this branch of modern science. "Modern civilization and humanitarianism have effectually set aside the action of natural selection," and all efforts to bring about race improvement by legislation and by a saner public opinion must have their foundations laid upon sound eugenic principles. The difficulty at present lies in the practical application of those principles. Professor Biffen and Mr. Walter Heape (the latter in his book on *The Breeding Industry*) have shown the importance of the adoption of scientific data by the agriculturist and the cattle breeder; and though it is recognized that the human race cannot be run "on the principles of the stud farm," it has been shown that Mendelian laws are probably as applicable to certain disorders of the nervous system and other organs as to the tallness or shortness of sweet peas. Whatever may be the individual judgement in the Mendelian controversy, we cannot but admire the eminently impartial manner in which Mr. Lock has set forth both sides. The aims of the biometrician and the breeder are the same though the methods differ. The arguments of the latter are always likely to attract greater attention, as they appear to the uninitiated to have more practical bearing and are much more easily understood. It is but natural, therefore, that more space should be devoted to that aspect of the problem. The evidence upon which the biometrician bases his conclusions lies in regions of mathematics beyond the ken of the average person, but the author has made a heroic attempt to explain this very difficult subject in an understandable manner. He has succeeded to a degree to which few other writers could have been able to attain. The chapter on recent cytology is excellent. Reference is made to the bearings of cytology and Mendelism on the intensely fascinating problems of sex-production and sex-heredity. In conclusion it may be said that this is a sound, readable, and reliable work, which will well repay perusal. We can only hope that Mr. Lock will find time to continue the production of new editions in order to keep his readers abreast of new facts and inferences.

[2] *Variation, Heredity, and Evolution.* By R. H. Lock, M.A., Fellow of Gonville and Caius College, Cambridge; Assistant Director of the Royal Botanic Gardens, Peradeniya, Ceylon. Second edition. London: John Murray. 1909. (Post 8vo, pp. 348. 5s.)

SEXUAL PSYCHOLOGY.

"IN letzter Reihe ist der Mann. ist das Weib, was seine Geschlechtsdrüsen sind" wrote Arndt in his textbook of psychiatry. Although this is a manifest exaggeration of the truth, there can be no doubt that the reproductive instinct is one of the deepest and most potent springs of conduct; second, perhaps, only to that of self-preservation. The study of abnormal forms of sexual gratification, therefore, should throw considerable light on the psycho-physical constitution of the subjects exhibiting these abnormalities, and should result in practical gains, such as a knowledge of the connexions, if any, between definite types of abnormality and specific types of nervous disorder; therapeutic and prophylactic principles; and, finally, these should bring in their train the doubtless much-needed alterations in the judicial view and disposal of such cases. But a mere account of sexual anomalies, however carefully arranged and classified, such as is contained in Dr. GEORG MERZBACH'S volume,[3] and particularly, as in this case, when mainly composed of detailed descriptions of particular examples, has at best a purely documentary value, and at worst becomes a veritable pornographic calendar.

A book of a very different character on sexual life and nervous disease,[4] by Dr. L. LÖWENFELD of Munich, was first published in 1891. It is now in its fourth edition and has grown to considerable size. It is composed of seventeen chapters, only one of which is directly concerned with the anomalies of sexual desire, and even in this chapter a wise reticence is observed as to non-essential details. Another chapter is supplied by Professor Freud of Vienna, describing his well-known theories concerning the sexual causation of the neuroses and psychoneuroses. In the remaining chapters the whole matter of sexual life, so far as this has a bearing on the causation of nervous disorders—the physiological and pathological effects of puberty, child-bearing, and the climacteric, onanism, and anticonceptional measures, particularly the *congressus interruptus*, to which Professor Löwenfeld attaches great importance as one of the most fertile causes of neurasthenia—are all ably discussed in scientific and calmly dispassionate fashion. In the last, and perhaps the most valuable, chapter of the book prophylaxis and treatment are considered, and the many and varied forms of treatment of sexual neurasthenia which have been advanced in America and the Continent critically examined. We can cordially commend this book as an interesting, well-informed, and thoroughly reliable guide through somewhat difficult country.

In the two books mentioned above, sexual functions, whether perverse or not, are considered either as being in themselves or as occasioning morbid processes. In a recently issued reprint from the valuable series of *Juristisch-psychiatrische Grenzfragen*, edited by Professors Finger,

[3] *Die krankhaften Erscheinungen des Geschlechtssinnes.* By Dr. Georg Merzbach. Vienna and Leipzig: Alfred Holder. 1909. (Cr. 8vo, pp. 478. M.5.20.)

[4] *Sexuelleben und Nervenleiden; Die nervösen Störungen sexuellen Ursprungs.* By Dr. L. Löwenfeld. Wiesbaden: J. F. Bergmann. 1906. (Roy. 8vo, pp. 404. 7s.)

Hoche, and Bresler, upon the influence of sexual functions upon female criminality,[5] Dr. Siegfried Weinberg—a doctor of law, not of medicine—limits his discussion to the questions of what influence the normal organic changes of puberty, child-bearing, and the menopause have upon female criminality. Dr. Weinberg's paper is partly a review of the literature bearing upon this point, and for the remainder a purely statistical study. Although he has not satisfactorily eliminated or even considered factors, apart from sexual functions, which may have weighed in producing results which he deduces from official figures, the figures are interesting. Briefly, by means of statistics—not only those of Germany but also from the official publications of Austria and Italy—he shows that at the age periods 12 to 15, 20 to 30, and 40 to 50 there are very considerable increases in female convictions, coinciding with the most general periods of puberty, most numerous pregnancies, and most usual incidence of the climacteric. Further, although unable to bring documentary evidence in favour of the great influences of menstrual periods in conducing to female criminality, the author quotes several authorities in support of this contention, and regards with approval the conclusions of Krafft-Ebing to the effect that the mental integrity of the menstruating woman is forensically questionable; that in such cases a mental examination should be made, and that, even when a menstrual psychosis is not provable, punishment should be mitigated. Dr. Weinberg is of the opinion that because of judicial ignorance or neglect of the influence of these normal processes on female conduct injustice is often done. This may possibly be true; but it is not, as Dr. Weinberg appears to contend, because every menstruating or gravid or involuting woman is more or less mentally unbalanced, but because insufficient care is taken to eliminate the presence of actual though it may be transitory psychoses in the accused persons.

WATER SUPPLY AND SEWAGE DISPOSAL.

The eleventh volume of contributions from the Berlin institute for investigating questions relating to water supply and sewage disposal[6] is devoted to a report by Dr. A. Schiele on the disposal of trade effluents and of sewage containing trade refuse. A similar report by Bredtschneider and Thumm formed the third volume of these publications (see this Journal, October 29th, 1904, p. 1175), and the two reports are especially interesting to English readers from the fact that they are both based upon information obtained in this country. The intervening volumes have contained much valuable information contributed by the scientific workers of the institute and others.

In the preface we are informed that the volume is the outcome of a visit paid to this country towards the end of 1905 by the author and Professor Thumm at the joint instigation of the above institute and the association for water supply and sewage disposal, with means found by the latter. This association pays an annual contribution to the funds of the institute, and in return suggests subjects for investigation. Although the institute is conducted on lines similar to the "central authority" recommended for this country by the Royal Commissioners on Sewage Disposal and Salmon Fisheries, it carries out work upon payment for associations, local authorities, and private individuals, and the Governments of Bavaria and Würtemberg have lately inaugurated similar institutions, corresponding somewhat with the American State Boards of Health. Nearly four years have elapsed since the visit of the author, but the work has been brought up to date by the inclusion of information obtained from official sources. It is not a mere description of the tour, but a compendium of what is known of the problem of trade refuse disposal, and deals more with technical than purely scientific aspects of the question. Such information is not easily accessible, for it is largely contained in blue books and in reports to local authorities which have not the wide circulation the present volume will, it is to be hoped, attain.

Part I (pp. 3–130) is devoted to the historical aspect of the subject and general considerations which distinguish England from Germany, such as volume of rivers, rapid development of industrial districts, and legal enactments. The labours of the various Royal Commissions, the Local Government Board, and of local joint committees (rivers boards), are given in detail. It is stated that there is a tendency on the part of manufacturers to discharge their trade refuse into the sewers of the local authority, and that the most varied treatment is meted out to the manufacturer by the local authority. In some districts the local authority receives the trade refuse without payment or preliminary treatment, whilst in others these are insisted upon, and the Reports of the Royal Commission on Sewage Disposal are cited to show that a change in the law is necessary.

Part II (pp. 131–392) contains very full descriptions of the fifteen sewage works visited. The works visited included Blackburn, Bradford, Devizes, Hanley, Leeds, Manchester, Rochdale, and Salford, and the works of twenty-eight other towns, including Birmingham, Burton-on-Trent, Halifax, Huddersfield, Leicester, Rothwell, Sheffield, Trowbridge, and Yeovil, are described from reliable sources. The works for the purification of trade refuse visited dealt with the woollen industry, bleaching, dyeing, calico printing, paper works, and breweries.

The general conclusions to be drawn from the information obtained are given in Part III (pp. 393–816) which deals with the refuse from textile factories, paper works, breweries, tanneries (only in conjunction with domestic sewage), coal washing, gas and coke works, cellulose factories, chemical works, metal-working industries, and sugar works. Each industry is dealt with separately. The processes giving rise to polluting liquids are described at length, and then the general methods applicable for their purification are described. A very important part of this section is concerned with the various methods of distribution which have been tried at sewage works, and another part is devoted to the sludge question. Details are given of experiments carried out in this country and in Germany to burn sludge, either obtained from the Rothe-Degener process or from ordinary processes and then mixed with coal, and also to gasify sewage sludge. In discussing the question of cost of sewage purification and making a comparison between Germany and this country the author comes to the conclusion that although the cost of food, rent, heating, and clothing, is lower in this country, the total cost of sewage treatment is, on an average, the same. The information as to the cost of treating trade refuse is very scanty. Even with the data at the author's disposal the figures are very variable, but stress is laid upon the fact that it is cheaper to design and construct works at the time the factory is built than to add these afterwards at perhaps great inconvenience. The author insists upon careful management of works and upon the very great value of keeping a daily record of flow, purification, etc. He concludes that it is, generally speaking, better to treat trade refuse along with sewage, and that manufacturers are regarding this as the best solution of their difficulty.

In Appendix I the English legal enactments are traced historically and are classed in three periods. During the first period (1842-1857) it was regarded as preferable to carry sewage into streams rather than allow it to accumulate in the neighbourhood of dwellings, solids being first removed. The second period (1858-1870) may be termed the era of utilization of sewage on land, whilst the third period, from 1870 to the present time, is characterized by developments of Frankland's intermittent filtration, culminating in present day biological methods, by more attention to rivers pollution, and by the formation of rivers boards. Two other appendices contain the regulations which have been formulated in various English and German towns for the admission of trade refuse to sewers. The book is furnished with very complete and useful indexes, arranged under the headings of subject matter, place names, and authors' names.

[5] *Über den Einfluss der Geschlechtsfunktionen auf die weibliche Kriminalität.* By Dr. jur. Siegfried Weinberg. (Reprinted from the *Zeitschrift für Strafrecht*. Bd. vi, Heft. 1.) Halle a. S.: Carl Marhold. 1907. (Med. 8vo, pp. 34. M.1.)

[6] *Mitteilungen aus der Königlichen Prüfungsanstalt für Wasserversorgung und Abwasserbeseitigung zu Berlin*, vol. xi. *Abwasserbeseitigung von Gewerben und ausgewählten Städten unter hauptsächlicher Berücksichtigung Englands.* By Dr. Albert Schiele. Berlin: Julius Springer. 1909. (Roy. 8vo, pp. 960, 173 illustrations and plans. M 24.)

NOTES ON BOOKS.

IT would appear from the preface of the last number of the *Archives of the Middlesex Hospital*[1] that this publication will in future appear in a double series. The one, of which the new number is an example, consists of clinical reports; the other will deal with the special work of the Cancer Department. The latter will be produced under the direction of the Cancer Investigation Committee, while the editors of the clinical reports are Mr. Sampson Handley and Dr. Victor Bonney. The fasciculus now issued comprises some sixty pages, and contains a set of papers, for the most part clinical, although one, the last, by Mr. Sampson Handley himself, is mainly pathological. It gives an account of the nature and structure of De Morgan's spots, which are supposed to be indicative of cancer, or, at any rate, to occur more frequently in patients so affected than in non-cancerous persons. Mr. Sampson Handley's microscopical investigations show that the spots, which are of the nature of small naevi, are phenomena of senile atrophic degeneration of the skin, and that they are due to the invasion of the epithelial layer by connective tissue; a curious inversion, as Mr. Handley points out, is the process which produces the epithelioma of the skin; the connective tissue after a time becomes vascularized, and the capillary vessels undergo marked ectasis. The fully developed spot consists, in fact, of a mass of dilated capillary vessels with a network of supporting connective tissue. Mr. Handley would bring the condition into relation with the degenerative changes occurring in the skin in old age, to which Mr. Lenthal Cheatle in the paper published in the BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 1411) applied the term "biotripsis," or life-wear. Mr. Handley believes that it will be found that the spots occur more frequently and in greatest number about the umbilicus, and are relatively rare upon the limbs. The first paper in the volume is a short note illustrated by a pencil drawing made by the late Mr. T. W. Nunn, consulting surgeon to the hospital, of a case of gunshot wound of the hand received at the battle of Corunna in 1809. The drawing was made in 1847, and is interesting as affording a curious link with the past.

The importance of dieting in Indian maladies fully justifies Mrs. BYRDE and Miss PEARSON, who have already published several pamphlets on Indian cooking, in adding *A Handbook of Cookery for the Sickroom*[2] to the series. The work is divided into three parts, Part I treating of invalid drinks. Part II of food for convalescents, and Part III of light sweet dishes. The directions for preparing the various articles included under these heads are plain and practical, and the materials recommended are easily procurable in India. Some of the recipes, such as shinai misri, bael drink, issing-gol, mangosteen tea, and tamarind drink, are peculiarly oriental, and are used with advantage in the treatment of dysentery. The preparation of oatmeal gruel, plain and peptonized, is described, but that of oatmeal porridge, which requires careful cooking, and is often relished by convalescents, is omitted. We have also failed to find mention of *pish-pash* (chicken and rice) which is a favourite food for infants in health and sickness in India.

The issue for June of the *Proceedings of the Royal Society of Medicine* is the penultimate fasciculus of the second volume which will appear in October. This fasciculus covers one or more meetings of the eleven sections of the society, and most of the papers which it contains have already either been noticed or published in this JOURNAL. The one which demands the most serious study is the elaborate review by Mr. H. J. Paterson of cases in which jejunal ulcer has followed gastro-jejunostomy. He places the probability of this occurrence in any given case as 1 in 50, and goes deeply into its etiology. The expenses of the investigation in which the paper finds a basis were defrayed by a grant from the British Medical Association.

The Cape of Good Hope (Western Province) Branch of the British Medical Association, like the majority of its congeners, does not publish volumes of transactions, but the happy thought occurred to Dr. LUCKHOFF that the addresses of its presidents might well be preserved. He has, therefore, published as many of them as could be collected under the title of *Presidential Addresses*.[3] There are fourteen in all, and the compilation is of interest, inasmuch as it throws a sidelight on the course of medical thought in South Africa. As far back as 1888 we find Dr. Charles Murray calling upon his fellows to head a crusade against alcoholism, and in the year following giving convincing reasons for the establishment of a health department. In point of permanent interest the palm must be awarded to the two addresses delivered by Dr. J. H. Meiring Beck, dealing as they do with the history of medical work at the Cape. The existing Branch of the British Medical Association only came into existence some twenty years ago, and the South African Medical Association, which it replaced only some five years earlier. Long before this, however, in the second decade of the nineteenth century, there came into existence and flourished for nearly thirty years a very successful medical society, of which a certain number of records are still in existence.

The precise object and intention of *Children of the Poor*,[4] by Dr. A. D. EDWARDS, is not quite clear, but since this little volume has been written, it may be safely commended to all lovers of children; likewise to all those whom the recent legislation either pleases or displeases. It contains as clever a series of pen pictures of child life as we have seen for a long time. Most of them serve to illustrate the advantages of measures which have come into existence during the past few years, and which, whether that be their first intention or otherwise, tend to improve the conditions in which the children of the poor commonly live. In all the fights which have brought about these reforms, this JOURNAL can claim to have played its part, and to those disposed to demand already further legislation, it may be suggested that they should ask themselves whether they really go quite far enough back in their premisses. Every one will concede that it is the birthright of children to be saved, as far as may be, from suffering for the sins of their parents; but it may be asked whether the preventable sufferings of children can entirely be prevented so long as men and women, however unfit to be parents, however debased their lives, remain free to propagate as many children as they please?

[1] London: Macmillan and Co. 1909.
[2] *Invalid Cookery: A Handbook of Cookery for the Sickroom.* By Mrs. Byrde and Miss Pearson. Calcutta: Thacker, Spink and Co., and London: W. Thacker and Co. (Cr. 8vo, pp. 68. 1 rupee or 1s. 6d.)
[3] Capetown: Townshend, Taylor and Snashall.
[4] *Children of the Poor.* By A. D. Edwards, M.B., B.S. Lond., B.Sc., D.P.H. London: Hammond, Hammond and Co. 1909. (Cr. 8vo, pp. 74. 1s.)

MEDICINAL AND DIETETIC ARTICLES.

"*Vindevie*" *Grape Juice.*

UNFERMENTED grape juice appears to be increasing in favour as a beverage, and has certainly much to recommend it. Messrs. Schweppes, Limited, have submitted for examination samples of their "Vindevie," which is a preparation of this nature. Our analysis shows that 100 parts by measure contain a total of 17.1 parts of solids, of which 15.5 consist of grape sugar and 0.3 of ash; the acidity is equivalent to 0.9 part of tartaric acid, and examination of the ash showed that about one-fourth of this is present as acid potassium tartrate. The preparation is described as non-alcoholic, and it is stated that no preservatives are used. Our analysis showed these statements to be correct, formaldehyde, salicylic, benzoic, and sulphurous acids and other preservatives, as well as alcohol, being absent. This grape juice is exceedingly palatable, and makes a refreshing and healthful beverage either alone or mixed with effervescing waters.

THE fifth International Dental Congress was opened in Berlin on August 23rd, under the presidency of Professor Walkhoff, Professor of Dental Surgery in the University of Munich. The congress was welcomed by Professor Waldeyer, Director of the Anatomical Institute in the University of Berlin. The congress is meeting in the Reichstag buildings, where a large exhibition of dental specimens and appliances has been brought together.

MESSRS. SIEMENS BROTHERS AND CO., LIMITED, of Caxton House, Westminster, have issued two supplements to their 1908 catalogue. From one of these we learn that the present market price of pure bromide of radium is £16,000 per gram, strictly net. By arrangement with the Banque du Radium of Paris, of which Messrs. Siemens are the sole agents in this country, the costly substance may, however, be hired by the day at a certain cost per centigram. Particulars are also given of the supply of radio-active earths, either for treatment by means of baths or, when made into a suitable pad, for local application. The other supplement describes the clinical temperature-recording outfit shown by this firm at the recent annual meeting of the British Medical Association.

DIETS FOR CHILDREN'S HOMES.

A correspondent wrote to us recently asking whether the following diet, which he states to be used at an orphan home for girls of ages from 4 to 17 years, is adequate:

Breakfast.

8 a.m.—Milk and water and bread and dripping.

Dinner.

Monday.—Vegetable soup only.
Tuesday.—Pea soup only.
Wednesday.—Suet pudding and treacle only.
Thursday.—Bread and cheese only.
Friday.—Rice pudding only.
Saturday.—Fried fish (bought cooked from a shop).
Sunday.—Bread pudding only.

Tea.

4 p.m.—Cocoa nibs and bread and dripping.

Supper.

None.

Our correspondent does not mention the quantities of the materials used for making the soups, and it would no doubt be possible to sustain life upon a sufficient quantity of bread and dripping and milk and water and the other unappetizing dishes mentioned, but it is quite certain that this dietary is altogether inappropriate, and, if correctly stated, reflects no credit upon the common sense of the benevolent persons who maintain and administer the home.

The whole subject of diet is still in the empirical stage, and the uncertainty which surrounds it has been materially increased by the results of the recent researches of Chittenden and his colleagues. It seemed worth while, therefore, to make a few inquiries to ascertain the diet empirically arrived at by persons who, not unduly trammelled by financial considerations, desire to do their best in the matter of food by children under their care.

In the first place, having recently had an opportunity of inspecting the remarkably interesting convalescent and surgical home at Baschurch, in Shropshire, founded and administered by Miss Hunt, we applied to that lady for her views of the diet quoted above; she has kindly expressed them with a degree of force and directness which precludes us from quoting them at length, but the nature of her opinions may be gathered from the fact that the diet she herself gives in the home mentioned, most of the inmates of which are children, is as follows:

Breakfast.

Porridge with new milk; or sausages; or eggs; or fried eggs; or liver and bacon; or cold ham; or dried fish.

Dinner.

Monday.—Cold beef and lamb; mince for little ones; potatoes, salad, pickles; milk pudding, pastry, or stewed fruit.
Tuesday.—Irish stew with carrots and onions; suet pudding, milk pudding.
Wednesday.—Roast mutton or lamb, mint sauce; mince for little ones; potatoes, cauliflower, Genoese paste sandwiches; milk pudding.
Thursday.—Rabbit or veal pie, cabbage; open tarts, milk pudding.
Friday.—Fish; beans and bacon; or stew; pastry, stewed fruit, milk pudding.
Saturday.—Cold meat: mince for little ones; mint sauce, salad, pickles; cornflour shapes with jam; cheese.
Sunday.—Roast beef; mince for little ones with plenty of gravy; peas and new potatoes; fruit tart, or stewed fruit with milk; milk pudding.

Tea.

Tea or new milk; bread and butter and lettuce, or raw onions; or jam; or cake.

Supper.

Cold meat and cold milk pudding; milk; bread and butter; or dripping; or jam; or soup.

This diet scheme probably errs on the side of excess; this is the view expressed by a gentleman who has had long experience in the conduct of preparatory schools for the upper classes, where young boys from 8 to 13 or 14 are received. The diet which he found satisfactory was as follows:

Breakfast.

8 a.m.—Porridge and milk; eggs; or bacon fried or cold; or sausage; fish twice a week (generally fresh).
11 a.m.—Milk and biscuits.

Dinner.

1 p.m.—Joint, hot or cold; potatoes; vegetables or salad; tart; or suet pudding with treacle or jam; or a fruit pudding; or milk pudding.

Tea.

6 p.m.—Bread and butter and jam; or cake.

Bed-time.

Milk and biscuits.

INSECTS AND DISEASE.

Appointment of an African Entomological Research Committee.

In view of the intimate relation which is recognized as existing between certain insects and the propagation of diseases of both man and animals in tropical Africa, and of the similar relation between insects and economic plants which is becoming more evident as settlement in the continent progresses, the Earl of Crewe has appointed a scientific committee, whose object it will be to further the study of economic entomology, with special reference to Africa.

This body will be known as the African Entomological Research Committee, and the Earl of Cromer has kindly consented to act as chairman. The other members of the committee are:

Colonel A. Alcock, C.I.E., F.R.S., of the London School of Tropical Medicine.
Mr. E. E. Austen, of the Natural History Museum.
Dr. A. G. Bagshawe, Director of the Sleeping Sickness Bureau.
Dr. J. Rose Bradford, F.R.S., Secretary of the Royal Society.
Colonel Sir David Bruce, C.B., F.R.S.
Dr. S. F. Harmer, F.R.S., Keeper of Zoology, British Museum (Natural History).
Dr. R. Stewart MacDougall, Entomological Adviser to the Board of Agriculture.
Sir John McFadyean, Royal Veterinary College.
Sir Patrick Manson, K.C.M.G., F.R.S.
Mr. R. Newstead, of the Liverpool School of Tropical Medicine.
Dr. G. F. Nuttall, F.R.S., Quick Professor of Biology, Cambridge University.
Professor E. B. Poulton, F.R.S., Hope Professor of Zoology, Oxford.
Lieutenant-Colonel D. Prain, C.I.E., F.R.S., Director of the Royal Botanic Gardens, Kew.
Mr. E. J. Read, C.M.G., representing the Colonial Office.
The Hon. N. C. Rothschild.
Dr. D. Sharp, F.R.S.
Dr. A. E. Shipley, F.R.S., Cambridge University.
Mr. S. Stockman, Chief Veterinary Officer to the Board of Agriculture.
Mr. F. V. Theobald, of the Agricultural College, Wye.
Mr. C. Warburton, Cambridge University.
Mr. A. C. C. Parkinson, of the Colonial Office, is acting as Secretary to the Committee, and Mr. Guy A. K. Marshall as Scientific Secretary.

Arrangements are now being made to dispatch a trained entomologist to the east side of tropical Africa and another to the west for the purpose of stimulating official and other residents to collect and observe noxious insects, and of affording instruction in the use of scientific methods. By this means it is hoped to obtain throughout these territories an organized body of investigators who will communicate all their collections and observations to the Committee. These collections will be classified by a number of British, and, in some instances, Continental entomologists, and named specimens will be distributed to such institutions as may require them for purposes of instruction, both at home and in Africa. The Committee will also keep in touch with the work which is being done in this branch of science in Egypt and the Soudan and in South Africa.

The scientific results, including all observations and experiments made by the collectors, will be published from time to time in a journal or bulletin to be issued by the Committee.

It is hoped that by such organized co-operation the knowledge of these matters will be materially increased, so as to render possible the application of effective remedial measures. Offers of cordial assistance have been received from such institutions as the British Museum (Natural History), the London and Liverpool Schools of Tropical Medicine, and the leading universities, in all of which valuable work has already been done in the same direction.

By direction of the Public Prosecutor, proceedings on a charge of manslaughter have been commenced against the manager of the hairdressing department of Harrod's Stores and the operator in the case of a lady who died while her hair was being dry-shampooed with carbon tetrachloride, as reported in the JOURNAL of July 24th, p. 243. At the hearing on August 24th the counsel for the prosecution made an opening statement, and the evidence of Mr. A. J. Pepper was taken. The case was adjourned until Thursday, September 2nd.

MIDWIVES ACT COMMITTEE.

THE Report of the Departmental Committee appointed by the Lord President of the Privy Council on December 6th, 1908, to consider the working of the Midwives Act, 1902, was presented to Parliament last week and was published on August 25th. The members of the Committee were: Sir Almeric W. FitzRoy, K.C.V.O., Clerk of the Privy Council (Chairman); Mrs. Charles E. Hobhouse, Chairman of the Executive Committee of the Rural Midwives' Association; Dr. F. H. Champneys, Chairman of the Central Midwives Board; Mr. J. S. Davy, Assistant Secretary and Chief General Inspector, and Dr. A. H. Downes, Senior Medical Inspector for Poor Law Purposes to the Local Government Board in England and Wales; Dr. F. E. Fremantle, M.O.H., Hertfordshire; and Mr. J. Pedder, Principal Clerk, Home Office; with Mr. H. J. Stanley, Private Secretary to the Lord President of the Council, and Mr. F. J. Welch, Clerk in the Local Government Board, as secretaries.

The report is signed by all the members.

TERMS OF REFERENCE.

The Committee was instructed to consider the working of the Midwives Act, 1902, more particularly with reference to the supply of midwives and the cost of training, the remuneration of medical men summoned on the advice of midwives under the rules in pursuance of the Act, and the delegation of their powers by county councils under the Act.

The Committee held 21 meetings and examined 37 witnesses, 18 of whom were medical practitioners and 8 qualified midwives.

Value of the Act.

The report commences by citing testimony as to the value of the Act and the general goodwill with which it has been received. It is shown that coincident with its operation there has been a notable reduction in the death-rate from puerperal fever from 118 per million females living in 1902 to 81 in 1907, and the opinion is expressed that there can be no reasonable doubt that the Act has contributed to this. It is not quite so clear that the Act has contributed except indirectly to the lowered infant mortality.

The Supply of Midwives.

After stating its opinion that the power of county councils to delegate their powers under the Act to district councils should be withdrawn, the Committee proceeds to discuss the supply of midwives. It is stated that the total births in England and Wales in 1908 numbered 942,611, and the proportion attended by midwives taken all round was about 50 per cent., but varied to a remarkable extent in different localities. In Newcastle only 11 per cent. are attended by midwives, in London 25 per cent., in the West Riding 35 per cent., in the county of Lancaster 49.9 per cent. Liverpool 52 per cent., Manchester 60.9 per cent., Salford 76.5 per cent., Gloucester 83.6 per cent., and St. Helens 93 per cent. The average percentage in the urban districts of Lancaster was 50.8 and in the rural districts 30.9. The total number of midwives on the roll has gradually risen from 22,308 in 1905 to 27,234 in 1909, but not over 15,000 are actually in practice. Notwithstanding the large demand for midwives in Lancaster as shown by the figures for Salford and St. Helens, Sir William Sinclair showed that there are too many to make a living. A shortage of midwives is anticipated after March, 1910, in 15 out of the 50 English counties, and in 12 out of the 71 county boroughs. The question, however, appears to be one of distribution mainly, and the evidence was almost unanimous against postponing that part of the Act which comes into force after March, 1910. There was not the same unanimity on the question whether in sparsely populated rural areas annual licences based on a modified examination might not be issued to meet the deficiency, but it was felt that great confusion would arise from two standards, and that there would be danger of compromising the minimum of safety at present secured; the Committee considered that the powers possessed by the Central Midwives Board would enable it to deal with any exceptional circumstances. The following paragraph is especially important, as bearing on the employment by medical men of women not certified as midwives, who after March, 1910, will be debarred, under a penalty of ten pounds, from attending confinements habitually and for gain otherwise than under the direction of a qualified medical practitioner:

> The Committee are alive to the fact, which was pointed out by several medical witnesses, that the words in Section 1, "otherwise than under the direction of a qualified medical practitioner," might be used in unscrupulous hands to foster the objectionable practice of "covering" the action of unqualified women by the assumption of a purely nominal responsibility on the part of the doctor, but they do not believe that such practices could become common without attracting public attention and bringing the doctor concerned within the disciplinary powers of the General Medical Council, who, they are advised, would treat cases of the kind as examples of "infamous conduct in a professional respect," in the same way as they at present deal with the employment of unqualified assistants.

On the whole, so convinced was the Committee that the problem of supply of midwives is one of their distribution, that it considered that there is no need for any subvention from the State, and that the needs may be met by co-ordinated action of local authorities and voluntary agencies. The cost of midwifery training has greatly increased since the Act came into force, and usually amounts to between £20 and £30. As this is almost prohibitive for working-class women, the Committee considered that the powers of county councils should be extended so as to enable them to contribute where necessary towards the expenses of training midwives for their own districts. At present the councils can only have recourse to funds for higher education for this purpose.

As to training in Poor Law institutions, there is said to be no ground at present for the impression that the Central Midwives Board looks with suspicion on it. The small number of births at such institutions has been the cause of their non-recognition as training schools, and the Committee thinks that their use might be developed, and where the number of births is small arrangements might be made for the nurses in training to attend extern cases under the supervision of the medical officer.

Remuneration of Medical Men.

The report says that when the bill was before Parliament in 1900 Mr. Cohen moved an amendment to provide payment for medical men, but the question does not appear to have come up again in 1902, when the bill finally became law. Later on the Central Midwives Board asked that the Local Government Board should give to a midwife's summons for aid the same legal effect as an order by a relieving officer to the parish doctor, but this was refused. Still later, however, in a letter to Dr. Taylor, of Salford, the Local Government Board pointed out that payment might be made under the Public Health Act of 1875 or the Poor Law Amendment Act of 1848. Four or five councils have availed themselves of the Public Health Act, but the Local Government Board rather discouraged the use of that Act for the purpose. In May, 1906, the General Medical Council urged the necessity of some provision for payment, and, finally, the Local Government Board issued a circular to boards of guardians calling their attention to their powers under the Poor Law Amendment Act. This circular was also sent by the Privy Council to 21,000 practitioners in February, 1908, but we read that "so far as the fact is of any importance the Department has received complaints from only a few medical men that they are unable to obtain payment." At the same time the evidence goes to prove that the absence of any general provision for the payment of medical fees has been a serious obstacle to the realization of the full intention of the Act. In June, 1908, the Central Midwives Board submitted to the Privy Council a memorandum showing the difficulty experienced by midwives in obtaining the assistance of practitioners, owing to the absence of a fee and the danger to the mothers and infants in consequence. It was shown, too, that boards of guardians, in spite of the circular of the Local Government Board, had only used their powers to a limited extent; for instance, in the West Riding, with a population of one and a half millions, out of thirty-three unions, only nine had made any arrangements. In some places the doctors had simply taken their chances of getting paid; in others nursing associations had made themselves responsible for the doctor's fee, while in some places the midwives had paid the fee of any doctor they

had summoned to assist them. In referring to the evidence given on behalf of the British Medical Association on this question, the report says:

It is satisfactory to note the assurance that the British Medical Association, as the body representing organized medical opinion, is in no way hostile to the Midwives Act, and would certainly discountenance any refusal to attend simply because a midwife had previously been in attendance.

. . . Without seeking to justify the violent language or callous action of certain practitioners, upon which the Committee have no wish to lay undue stress, Mr. Smith Whitaker testified to the prevalence of a widespread irritation which had resulted in a growing reluctance to recognize the special obligations created by the Act.

Dr. Newsholme and other witnesses also laid stress on the importance of the matter, and the conclusion of the Committee is that:

Under this weight of evidence the Committee are unanimously of opinion that the Act should be amended by giving the practitioner summoned by a midwife in cases of emergency a secure expectation of payment.

The further questions remaining to be answered were in whom the duty to pay the fees should be vested, by whom the fees payable should be fixed, and on what scale. The objections to county councils paying the fees are the very wide area over which their administration often extends, that they have no machinery for determining the capacity of the patients to pay, and that their power of recovering payment from patients is generally in abeyance throughout the country. The Committee therefore thinks that the Public Assistance Authority ought to pay the fee, and notes that in this it is in agreement with the Majority Report of the Poor Law Commission and the expressed opinion of the Local Government Board. The authority should also be empowered to charge the fee to patients as "relief on loan," which it appears cannot be done at present. Payment, too, is only to be made for emergencies, and the authorities concerned are to draw up a list of conditions coming under this head.

As to the amount of the fee, the evidence varied greatly; but the Committee states that the plan of one fee calculated on a mean scale for cases of varying complexity, with mileage for scattered rural districts, is most satisfactory, and further that the fee should cover "any ordinary after-attendance." A fee of one guinea is said to have given satisfaction in Liverpool, and seems to be favoured by the Committee, though it is left to be fixed by Order of the Local Government Board. The doctor is simply to be required to state that he has been unable to obtain payment from the patient or her representatives. Much evidence was given as to the possibility of collusion between doctors and midwives, and with a view to detect this the guardians are to send a quarterly list of payments to the supervising committees. The question was also raised as to the reciprocal obligation on doctors to attend if the State guarantees a fee. Any idea of making it compulsory on all doctors to attend on the summons of a midwife was stoutly opposed by the witnesses for the British Medical Association, but it was agreed and the Committee finally recommends that a list of those who express themselves as willing to attend should be circulated to midwives.

Miscellaneous Amendments.

It will be seen in the summary of recommendations that the British Medical Association is to nominate one member of the Central Midwives Board, and one reason given for this is that with adequate representation of general practitioners on the board "the superiority of their claims to act as examiners for the board would more readily be recognized," and the Committee thinks this is expedient on general grounds.

The finances of the Central Midwives Board receive careful attention. At present any balance against the board is apportioned between local authorities according to the number of midwives returned as practising in their areas. This places a premium on neglect in sending returns, and those authorities which are most lax get off the best. Hence it is proposed to make the population the basis for the charges, and the effect on each county and county borough is shown in an appendix. The proportion of midwives in practice varies in a remarkable manner in different areas; London notifies only one for each 10 000 population, while the county of Hereford notifies 15 to each 10,000. Taken on the whole the counties notify 10,074 midwives in practice to a population of 22,850,504. Assuming that about £2 000 is required, the counties would pay £1,595 if assessed on the number of midwives, but if assessed on the population they would pay £1,428. The county boroughs notify 2.890 midwives to a population of 9,677,000; they now pay £457, but on a population basis they would pay £604. The effect is specially marked for London, which now pays only £77. but on a population basis will pay £283. Cheshire, on the contrary, with eight midwives to every 10,000, pays £74, but assessed on population will only pay £37. It is further recognized that country members of the Central Midwives Board are at a disadvantage in attending, and the Committee recommends that their reasonable travelling expenses be paid.

The machinery of the Act is thought to offer the most hopeful means of dealing with prevention of blindness from ophthalmia neonatorum. Midwives are therefore to regard it as an emergency for which medical aid must be advised, and it is to be included among the notifiable diseases. The Committee agreed with the suggestion of several witnesses that the Notification of Births Act should be more widely adopted.

An Appendix from the Irish Local Government Board explains the Irish dispensary system of the appointment of salaried midwives by Poor Law authorities, and several witnesses spoke in favour of it, while Sir William Sinclair favoured an analogous system under county councils. The Committee, however, hardly recommends the system, but would prefer an extended use of voluntary agencies by the public relief authority, and only where this cannot be done would it recommend the Local Government Board to authorize such appointments. Outside the Midwives Act the Committee agreed with several departmental committees in recommending statutory provision for registration of still-births.

The witnesses appointed to give evidence on behalf of the British Medical Association were Dr. Flemming of Bradford-on-Avon, Dr. McManus of Battersea, Dr. Taylor of Salford, and Dr. J. Smith Whitaker; the report of their cross-examination extends over thirteen pages of the Blue Book.

SUMMARY OF RECOMMENDATIONS.

The following is the Committee's summary of its recommendations:

"(*a*) SUPPLY AND TRAINING OF MIDWIVES.

"(1) The Committee deprecate any postponement of the date (31st March, 1910) after which uncertified women will, under section 1 (2) of the Act, be prohibited from attending habitually and for gain women in childbirth, except under the direction of a medical practitioner, or in cases of emergency.

"(2) With regard to the suggestion that in sparsely populated rural areas annual licences to practise, based upon a modified examination might, if a serious deficiency occurred, be issued to uncertified women, the Committee, while loth to recommend any departure from uniformity, think that the matter may be left to the discretion which the Central Midwives Board are empowered to exercise in regulating the conditions of admission to the roll.

"(3) The Board might properly consider the expediency of giving another opportunity of enrolment to such trained women as were qualified for admission under section 2 of the Act, but failed to apply before the appointed day (31st March, 1905).

"(4) The Committee, regarding the provision and maintenance of an adequate supply of midwives mainly as a question of organization and distribution, are of opinion that there is no need of any subvention from the State.

"(5) The organization and distribution of the supply should be undertaken by the co-ordinated action of local authorities and voluntary agencies.

"(6) As the most suitable machinery for giving effect to this recommendation, the Committee advocate the establishment of county nursing associations throughout the country, working in co-operation with the local supervising authorities, and affiliated, wherever possible, to

some central body such as Queen Victoria's Jubilee Institute.

"(7) The details of method will necessarily vary in different districts, but the Committee are of opinion that, in general, the formation of county training homes, and of emergency homes, from which midwives can be drafted temporarily to places where their services are required, will be found a hopeful basis of organization.

"(8) The powers of county councils should be extended so as to enable them to charge upon the county fund contributions in aid of the training of midwives for work in their areas.

"(9) Boards of guardians should be encouraged to exercise their powers to subscribe to the support of nursing associations in return for services rendered.

"(10) The general introduction into this country of the Irish dispensary midwives system appears to be unnecessary: but, in places where arrangements cannot be made for the utilization of voluntary agencies, it might be advisable that boards of guardians should be authorized to appoint district midwives.

"(11) The Committee consider that in rural districts the practice of midwifery might, with safety and advantage, be combined with district nursing, provided that the requirements of the medical officer of health and the Rules of the Central Midwives Board are carefully observed. In certain areas the system of cottage resident nurses would be found suitable.

"(12) The possibility in some cases of combining with the functions of a district nurse-midwife the duties of health visitor and, perhaps, also of school nurse, should be borne in mind by local authorities.

"(13) The Committee desire to lay stress on the importance of fostering any provident arrangements by which the classes among whom midwives work could insure, through maternity clubs or otherwise, against the expenses incident to childbirth.

"(14) All possible facilities should be given by the various authorities concerned for the utilization of Poor Law institutions as training centres. The suggestion, that the material available for this purpose might be increased by permitting nurses in workhouses and infirmaries to attend extern maternity cases, is commended to the consideration of the Local Government Board.

"(15) In fixing the standard of training and examination, the Central Midwives Board should, subject to the requirements of safety, have due regard to the needs of the country with respect to supply. The present standard is understood to aim only at ensuring that the women certified thereunder shall be safe and competent midwives, and in existing circumstances the Committee consider that it should not be raised.

"(16) An increase in the number of examination centres is recommended with a view to a reduction in the cost of training.

"(17) On general grounds, the Committee desire to call attention to the expediency of employing as examiners general medical practitioners who have had the necessary training and experience.

"(18) A more extended use of women as examiners might tend to give greater confidence to nervous candidates.

"(19) In this connexion the importance should not be overlooked of framing the examination questions in simple language, with a view to adapting them, so far as possible, to the educational level and restricted vocabulary of the class of women likely to present themselves from rural districts.

"(20) The Central Midwives Board might consider the propriety of accepting, either wholly or partly, in lieu of their own examination, the certificates of examining bodies outside England and Wales, who maintain an adequate standard of qualification.

"(b) REMUNERATION OF MEDICAL MEN SUMMONED ON THE ADVICE OF MIDWIVES.

"(1) A secure expectation of payment should be given to a medical practitioner summoned on the advice of a midwife in a case of emergency.

"(2) The Poor Law authority should be responsible for the payment, and should be empowered to charge the fee paid as "relief on loan" to the patient.

"(3) A quarterly return of cases in which payments have been made should be sent by the guardians to the local supervising authority.

"(4) The scale of fees should be fixed by Order of the Local Government Board on a systematic basis, having due regard to local conditions.

"(5) The conditions which should be deemed to come within the category of emergency should be scheduled in the regulations. The Committee suggest that, in addition to cases comprised under the heading of 'labour' in the Rules of the Central Midwives Board, loss of blood during pregnancy, secondary *post-partum* haemorrhage, or septicaemia during the lying-in period, and any inflammation of the child's eyes should be included.

"(6) In emergency cases, the system of a uniform fee, which should cover any ordinary after-attendance, is recommended for adoption, with the addition, perhaps, in scattered rural areas, of some allowance for 'mileage.'

"(7) The medical practitioner, in applying to the public authority, should be required to state that he has been unable to obtain payment of his fee from the patient or her representatives.

"(8) A list of practitioners willing to respond to a midwife's call should be prepared and circulated in every area.

"(9) For cases not scheduled as emergencies, the ordinary machinery of Poor Law medical relief would usually be sufficient.

"(c) DELEGATION OF THEIR POWERS BY COUNTY COUNCILS.

"The power of delegation to district councils under section 9 of the Act should be withdrawn; and, in cases where it is still exercised, the delegation should be revoked.

"(d) MISCELLANEOUS.

"(1) *Constitution of the Central Midwives Board.*

"(i) The number of members should be increased from nine to twelve, by giving an additional nominee to the Lord President of the Council, and a representative each to the Local Government Board, the British Medical Association, and the Society of Medical Officers of Health. The member appointed by the Incorporated Midwives Institute should in future be a certified midwife, instead of a medical practitioner, and the representation of the Royal British Nurses Association should be discontinued.

"(ii) Following the model, and subject to the safeguards, provided by Section 10 of the Medical Act, 1886, His Majesty in Council should be empowered to consider and, if approved, give effect by Order to any representations received hereafter from the Central Midwives Board for further changes in its constitution.

"(2) *Finances of the Central Midwives Board.*

"(i) Section 5 of the Act should be amended by providing that any balance shown against the Central Midwives Board in their annual financial statement should, after approval by the Privy Council, be apportioned among the local supervising authorities on the basis of population according to the most recent census return, instead of on the basis of the number of midwives who have notified their intention to practise.

"(ii) The Committee recommend that the members of the Central Midwives Board should be paid, in respect of their attendances, such reasonable travelling expenses as may be allowed by the Board.

"(3) *Midwives Roll.*

"(i) With a view to ensuring the accuracy of the roll, every midwife, whether intending to practise or not, should be required to notify annually, in the month of January, her address to the local supervising authority of the district in which she resides; any change of address during the year to be notified immediately, and, in the case of a woman commencing a new practice, the notification to be made at the date of such commencement.

"(ii) The local supervising authority should within the first fortnight of the year send to every midwife in their area a form on which, in addition to the notification of her name and address and the number and date of her

certificate, she should have to state whether she intends to practise or not.

"(iii) It should be made clear in the form of notification that, unless it be duly returned, the midwife's name would be removed from the roll, and would not be restored without the payment of a fee.

"(iv) A list of all midwives from whom notifications have been received should forthwith be transmitted by the local supervising authority to the Central Midwives Board.

"(v) The Board should be empowered to act in the place of any local supervising authority making default in this matter, and to charge them with the expense incurred.

"(4) *Disciplinary Functions.*

"(i) The existing power, vested in local supervising authorities under section 8 (3) of the Act, to suspend a midwife from practice in order to prevent the spread of infection, should be limited strictly to actual cases of infection and to the time necessary to remove all risk of infection.

"(ii) Local supervising authorities should further be empowered to suspend a midwife for any breach of the provisions of the Act or of the Rules of the Central Midwives Board, pending the prosecution of the woman before a court or the adjudication of the case by the Board.

"(iii) This power of disciplinary suspension should only be exercisable when the authority proceed forthwith to prosecute the woman or to submit her case to the Board.

"(iv) A power of suspension in lieu of, or as a preliminary to, striking off the roll, should be conferred on the Central Midwives Board.

"(v) The Board should, at their discretion, have the power to pay the whole or part of the expenses of a midwife who has been required to appear before them in her own defence.

"(vi) When a woman's name has been removed from the roll, she should be required, under penalty, to surrender her certificate without delay, and she should thereafter be prohibited from attending professionally on a lying-in woman in any capacity.

"(vii) In order to prevent any evasion of the disciplinary restrictions of the Act by certified women, who abstain from giving notice of intention to practise, and claim merely to be acting as monthly nurses under a doctor, an amendment of the provisions of section 10 is recommended

(5) *Private Lying-in Homes.*

"The suggestion that lying-in homes conducted for gain should be specially registered seems worthy of consideration, and the Committee think that the powers of local supervising authorities should be extended, so as to include the inspection of the work of certified midwives in such homes, whether kept by them or not.

(6) *Prematurely-born Children.*

"The Rule of the Central Midwives Board, requiring midwives to ask for medical aid in cases of 'dangerous feebleness' of the child, might be strengthened by the insertion of an explicit reference to premature births.

"(7) *Ophthalmia Neonatorum.*

"(i) The Board should also prescribe that medical help should be summoned whenever a midwife notices symptoms in the mother or child indicating any risk of ophthalmia neonatorum.

"(ii) This disease might with advantage be made notifiable under the Infectious Disease (Notification) Acts by inclusion in the list of the diseases specified in section 6 of the Act of 1889.

"(8) *Notification of Births Act.*

"The general adoption of the Notification of Births Act, 1907, throughout the kingdom is recommended as a valuable supplement to the operation of the Midwives Act. Failing this, the addition of a column in the Register of Births, for entry of the name and status of the person who actually delivered the mother, would probably help to promote efficiency and check abuses in the practice of midwives. It would be desirable that such particulars should be required in all notifications under the Act of 1907, and, if necessary, the Act should be amended in this sense.

"(9) *Still-births.*

"Statutory provision should be made for the registration of still-births.

"(10) *Inquiries by the Local Government Board into the effects and working of the Act.*

"(i) The medical staff of the Local Government Board might with advantage investigate the relation between the administration of the Act and the rate of puerperal mortality in different areas.

"(ii) The Committee also suggest that the working of the Act should be reported upon whenever a special inquiry into the general sanitary condition of any district is instituted by the Department.

"(11) *Minor Amendments of the Act.*

"(i) It should be made the duty of the Central Midwives Board to present to the Privy Council an annual report of their proceedings.

(ii) The medical officers of counties and county boroughs should be required to report annually to their authorities on the administration of the Act in their areas; copies of these reports should be forwarded to the Privy Council, the Local Government Board, and the Central Midwives Board, who should include a digest in their own report.

"(iii) Midwives should be supplied with stamped forms for all notifications which they are, or may be, required to make to the local supervising authorities or the Central Midwives Board, and any books prescribed for their use should be provided gratuitously by the authority.

"(iv) For the purposes of section 3 of the Act, the General Medical Council should be empowered to act through their Executive Committee, instead of through the English Branch Council."

Conclusion.

"The Committee believe that, if these recommendations, none of which present any considerable difficulty, are adopted in a spirit of sympathy with the objects of the Act, they will go far to dissipate the prejudice that attaches to it in certain quarters, and materially reduce any obstacles to its operative success, now attributable to lack of information, obscurity of purpose, or administrative apathy."

LITERARY NOTES.

Messrs. J. and A. Churchill are about to publish *A Textbook of Nervous Diseases*, by Drs. A. Aldren Turner and T. Grainger Stewart. This work will cover the whole range of nervous disorders and their treatment, and will contain a large number of original illustrations. The same publishers also announce a small *Textbook of Experimental Physiology*, by Drs. N. H. Alcock and F. O'Brien Ellison, with an introduction by Professor E. H. Starling, a short illustrated handbook on *Sight Testing*, by Dr. W. W. Hardwicke, and a second edition of Dr. A. A. Warden's *Guide to the Paris Medical School*.

Messrs. William Hodge and Co., Edinburgh and Glasgow, will shortly publish a work entitled *Construction, Equipment, and Management of a General Hospital*, by Donald J. Macintosh, M.B., M.V.O., Medical Superintendent of the Western Infirmary, Glasgow. The book will deal with the theory and practice of hospital construction and administration, and besides plans of the most approved types of wards and auxiliaries, will contain over sixty carefully reproduced illustrations showing wards, operating theatres, laundry and special departments, and all kinds of hospital furniture and requirements. The book is intended for the use not only of architects, but of medical men and laymen interested in hospital construction and administration

The net profits of the recent fête at Olympia on behalf of the Great Ormond Street Hospital for Sick Children amount to £2,610.

THE MEDICAL SERVICE OF THE TERRITORIAL FORCE.

GENERAL HOSPITALS.

In the scheme for the organization of Voluntary Aid issued by the War Office on August 16th, a full account of which was published in the British Medical Journal last week, the subject of general hospitals is frequently mentioned. A memorandum (Circular Memorandum No. 31) which was issued by the War Office in May, 1908, gave information and instructions with regard to the establishment and staffing of these hospitals, and it will be useful now to give a general account of their purpose and of the mode in which they are to be organized.

Their personnel will consist of officers forming the medical and surgical staff, and of nurses, in addition to other officers, non-commissioned officers and men, who undergo training in time of peace for the duties which they will have to perform on mobilization. There are twenty three selected localities for the establishment of these general hospitals.

It is obvious that, having regard to climatic conditions, tented hospitals should be exceptional, while having regard to the rapidity with which these hospitals would be called into being and required to begin their work, huts are out of the question. Moreover, buildings of a suitable kind could be easily transformed into military hospitals for temporary purposes.

In the scheme the County Association is primarily concerned with the selection of suitable buildings, but it may delegate the selection to the British Red Cross Society. Whichever agency undertakes the selection of buildings, and before any building is deemed suitable, the concurrence of the Administrative Medical Officer, the commanding officer, the sanitary officer, and the organizing matron must be obtained, for the fitness or otherwise of a building for the use of the hospital can only be determined with due regard to administrative, sanitary, and nursing arrangements.

The Administrative Medical Officer of the Division, who is the staff officer for medical purposes of the General Commanding, would naturally, in reporting upon a building, fortify himself with the knowledge and experience of the members of the administrative staff of the hospital, that is to say, the officer in charge, the registrar, and the quartermaster.

It should be remembered that a military hospital is something more than merely a hospital. It may be regarded as the depôt for war casualties. It is upon this point that the flotsam and jetsam of an army is concentrated. It is in the hospital that the fitness or otherwise of officers, non-commissioned officers and men to return to their corps is determined. It is here that the soldier is re-equipped for the field and there are branches of the hospital specifically connected with the business of the soldier, and the maintenance of connexion with the unit to which he belongs. These hospitals maintain touch with the several fighting units of the army, and their discharge depôts are scenes of constant activity throughout a war.

It is manifest, therefore, that in selecting buildings for military hospitals, the requirements of the sick are not the only consideration. If in the scheme and the memorandum these things are but slightly touched upon, it must be because it is taken for granted that the officers concerned in the selection of buildings possess an intimate acquaintance with the subject. The main points to be attended to in selecting buildings are the provision of accommodation for arms stores and military equipment, pack stores, stores for new clothing for issue to men rejoining their battalions, rooms for company officers, and accommodation for the clerical staff which maintains the records upon which pensions and compensations depend. The administrative staff of the hospital is trained specifically in the duties pertaining to these several departments in a military hospital in time of peace. As to the method to be pursued in making the selection, the scheme contains the following paragraph:

> As regards general hospitals, County Associations should either themselves or through the British Red Cross Society proceed to select the necessary buildings in consultation with administrative medical officers, officers commanding the general hospitals, and sanitary officers of their Territorial division; and plans should be drawn up showing how the buildings will be arranged for hospital purposes, the organizing matron also being consulted regarding these.

Circular Memorandum No. 31 contains the following paragraph:

> The medical corps of the Territorial Force will train in peace a nucleus of men, consisting mainly of those to whom duties of a highly specialized nature would be entrusted. Local branches of the Red Cross Society could render very valuable assistance if they would undertake the task of providing the balance of establishment of the hospital, mainly consisting of men to whom those duties which do not demand a very special training could be allotted. The local knowledge possessed by the representatives of the Society would be of the greatest value as enabling them to draw up lists of individuals who would be prepared in case of national emergency to aid their country's cause in the hospitals, though precluded by unavoidable circumstances from undertaking serious responsibilities in times of peace.

It is with the object of obtaining the necessary intimate acquaintance with the work that the training of the Medical Service of the Territorial Force has become so strenuous, not only for the field units but also for the administrative hospital staffs. As the personnel of these institutions become familiar with the subject, the necessity for training in large military hospitals in time of peace, rather than in the camps, is becoming daily more appreciated.

The guiding principle of all medical organization should be the fact that the non-effectives of an army are in the custody and care of the medical branch of that army from the moment that the individual falls out of the ranks until he returns thereto. Every item of his well-being, his feeding, his clothing, his transportation and his accounts, are in the hands of the medical authorities. If these principles are remembered, the importance of the Territorial general hospitals to the Territorial Force must be appreciated.

COMPULSORY INSURANCE AGAINST SICKNESS AND INVALIDITY.

It will be within the recollection of many of our readers that the Chancellor of the Exchequer, when making his Budget speech this year, travelled beyond the ordinary limits of a financial statement and sketched in some detail the proposals of the Government in regard to social reform. He foreshadowed legislation intended to remedy a number of admitted evils, evils which have been scarcely touched by the passing of the Old Age Pensions Act of 1908. He indicated the distress among the working classes due to unemployment and sickness as a problem which would be dealt with almost at once.

With regard to unemployment, the initial steps have already been taken to provide a remedy by the introduction of a bill for the establishment of labour exchanges. This bill passed its second reading in the House of Commons without a division, and is expected to become law before the end of the present session. It is intended that the labour exchanges shall bring employers and workmen together, and by the interchange of information between one part of the country and another a demand for labour in any particular district will, it is anticipated, be met without difficulty. The unemployed workman will be brought into touch with work which is waiting to be done, no matter where the demand has arisen, and although work will not be created by this means, the system should at least put an end to the possibility of the prevalence of distress through unemployment in one locality at a time when employers in other districts are unable to obtain sufficient workmen for their needs. The next step in the Government scheme—a step which will commend itself to thinking members of the community, as tending towards the separation of the idle from the industrious, of the "unemployable" from the "unemployed"—is the introduction of compulsory insurance against unemployment, extending at first to all persons engaged in certain selected trades, and ultimately, it is hoped, to all trades throughout the country.

We have not sufficient space to enter further into the details of the proposals which are intended to meet the evil of unemployment. There is, however, another portion of the Government programme of social reform

which more directly affects medical practitioners—namely, provision for times of sickness and invalidity.

It is a well-known fact that, in spite of the efforts of the friendly societies, there are at the present time several millions of persons in this country who have made no substantial provision for periods of sickness and consequent unemployment, and who, if overtaken by ill health, are liable to suffer acute distress or to depend upon the provisions of the Poor Law and upon private charity for relief. Few persons are better acquainted with the extent of this evil than the medical practitioner who carries on his profession in a working-class district. He is brought into frequent contact with the incapacitated workman, and is virtually compelled, in certain circumstances, to provide him with free medical attendance. A partial remedy has been provided by the coming into operation of the Old Age Pensions Act, under which all persons over 70 years of age may be spared the worst horrors of extreme poverty. This Act, however, is of no assistance to incapacitated persons who have not reached the age of 70, and it is to meet the case of this latter class that the Government proposes to establish a system of compulsory insurance against sickness and invalidity.

In launching a vast scheme of social reform it is necessary to proceed with extreme caution. The effects of a far-reaching proposal are seldom fully appreciated at the outset, and the removal of one long-standing grievance is too frequently accompanied by the unintentional introduction of evils in other directions. To quote but a single instance. The passing of the Old Age Pensions Act has undoubtedly ameliorated the lot of many thousands of deserving persons who had been left without adequate means of support in their declining years. But the condition that the income of the would-be pensioner must not exceed a certain sum per week, while in itself not unreasonable, must have a direct effect in discouraging thrift among the very class of people which it is desired to benefit. This effect of the Old Age Pensions Act is particularly felt by members of the great friendly societies, who, by rigid self-denial during the greater part of their lives, have contributed sums intended to secure a provision for their old age, and now find that the modest provision which they have made for themselves effectually debars them from receiving old age pensions which are awarded to their careless and unthrifty neighbours, who, with equal opportunities, may never have attempted to provide for the future.

Until the Government proposals respecting insurance against invalidity are explained in detail and embodied in a bill, it is impossible to say exactly how far they will go, or whether they are likely to provide a satisfactory remedy for the evils they are intended to remove. Several authoritative, or at least inspired, statements have, however, been made and reported in the press, and from these and other sources of information it is possible to outline the shape which the system will probably take.

In the first place, it is to be a compulsory, self-contributory, and State-aided scheme, modelled to a considerable extent on the system at present in operation in Germany. The benefits to be provided are for temporary and permanent sickness and invalidity, and include a weekly money payment, medical and surgical aid, and sanatoriums. The payment during sickness is to be not less than 5s. per week, provided that the incapacitated person is not receiving payments under the Workmen's Compensation Acts. The contributions will necessarily vary according to the age of the person insuring, who may be either a male or a female between the ages of 16 and 70 years. Employers will deduct from the wages of their workmen the weekly contributions payable by them, which may possibly average about 3d. per head per week. To the amount so deducted the employer will be required to add 1d., and a further penny will be added by the State. The aggregate of these contributions—say, 5d. per week per head—will constitute the premiums set aside to form the insurance fund.

The benefits indicated above are the minimum benefits to be insured, and insurance for these minimum benefits will be compulsory. It will, however, be open to members to insure for larger amounts than 5s. per week if they wish to do so.

It has from the outset been plain that any scheme of the kind referred to would be doomed to failure if it interfered materially with the work of the great friendly societies. These societies already cover the ground of the Government proposals as far as their own members are concerned, and the mere suggestion of a competing system has stirred them to their depths. At the conference of the Manchester Unity of the Independent Order of Oddfellows, held at Bradford in June this year, the Grand Master of the Order, Mr. B. Kilvington, expressed in strong terms the feeling of apprehension which exists among the members, and went near to repudiating the Government scheme without knowing of what it is to consist. His views received a general support at Bradford, but other friendly societies have taken up a more moderate attitude, an attitude rather of benevolent neutrality than of hostility. Some further light has been thrown on the Government proposals since the Bradford conference, and it is now evident that the intention is to work with and through the best friendly societies, and not in opposition to them. It is stated that solvent friendly societies of a permanent character will be to some extent reorganized and "recognized" by the Government. The worker who is a member of a recognized society will present to his employer his contribution card, or other evidence that his subscription is not in arrear, and will then be exempt from deduction from his wages. The pennies of the employer and the State will be paid to the society in aid of its sickness funds, which will be correspondingly strengthened. Inasmuch as the sick benefits receivable by the members of friendly societies usually exceed those proposed to be granted under the Government scheme, it is not anticipated that the latter will compete with the work of the societies, while the element of compulsion will operate to bring in the large number of persons who are at present not reached by any optional system of insurance.

Assuming that the Government proposals follow the general lines indicated above, it is evident that members of the medical profession who practise in working class districts will be materially affected. No authoritative statement has, so far as we are aware, been made as to the extent of the medical and surgical aid that is to be provided for the incapacitated workman. It has been freely stated that there are nine millions of artisans in the United Kingdom who are not members of any friendly society, and who would consequently be affected by the Government scheme. It is clear that the provision, by the State, of medical and surgical treatment in times of sickness for so large a number of persons would be a huge task, and one requiring to be thoroughly thought out before it was undertaken. Medical practitioners, if called upon to take part in a great national scheme intended to contribute materially to the welfare of the community at large, and especially to that of its poorest members, may be relied upon to respond whole-heartedly, and to afford their services ungrudgingly where they are required. It would, however, be unreasonable to expect that skilled service should be given without adequate remuneration, although it is by no means certain that adequate remuneration would invariably be offered, especially if the settlement of the question were placed in the hands of local bodies. It therefore behoves the profession to keep a watchful eye on the development of the proposals of the Government, and to see that the legitimate interests of its members are safeguarded. It is not unlikely that the local medical officers of health will in many districts be called upon to assist in carrying out the scheme, and, if so, they owe it to the profession as well as to themselves not to accept work either at salaries or at contract rates which are below the recognized standards. If a workable scheme of compulsory insurance against sickness and invalidity, controlled by the State and accepted by the community generally, can be evolved by the Government, and the support of the medical profession as a whole obtained for it, a great advance will be made towards the solution of one of the most pressing of the social problems of to-day. The opportunity is great; may the achievement be not unworthy of the opportunity.

THE children's institute established some thirty years ago at Bad Nauheim has recently taken possession of a new building with 200 beds, wherein it is hoped to treat some 1,200 children in the course of the year—1,000 in summer and 200 in winter. The age limits are 3 and 16 years, and the diseases treated are for the most part cardiac disorders, scrofula, rickets, anæmia, and malnutrition.

THE

COMPOSITION OF SOME PROPRIETARY FOOD PREPARATIONS.

III.—VARIOUS RESTORATIVES AND TONICS.

In addition to the meat wines and medicated wines already dealt with, a number of other preparations are put forward for use as stimulating and restorative foods in convalescence, conditions in which digestion is impaired, etc. Certain of these, although not called wines, are decidedly vinous in character, while others have nothing in common with wines. A few of the best-known examples of the different kinds are here described.

It may be well to repeat that the object of the analyses recorded is to give data for the comparison of these preparations in respect to certain characters, such as alcoholic strength, percentage of nitrogenous constituents, etc. It is evident that complete comparisons could be based on such figures only if the qualitative composition of all the articles were identical, which is far from being the case. It would not be possible, within the limits of the present investigation, to determine the relative amounts of the different nitrogenous constituents, peptones, albumoses, extractives, etc., in each preparation described, and the value of such information would not be commensurate with the time and labour which it would require. It will be readily seen that of two preparations the one containing the smaller quantity of nitrogenous constituents may have the greater food value if all the nitrogen in it is present as peptone, but as extractives in the other. Nevertheless, the figures here given enable some useful comparisons to be drawn.

When reducing sugar has been found present, the amount has been determined, and, for the purpose of calculation from the results, it has been assumed to be all glucose. In each case in which glucose is named it has been proved to be present, but it does not follow that the whole of the reducing sugar present was glucose; some part of it may have been either maltose or lactose. The percentage of nitrogen found is given, as also the corresponding amount of protein; but in most cases a part of the nitrogen, and in some the principal part, was present in the form of extractives.

A.

The first five preparations form a group with certain characters in common.

CARNRICK'S LIQUID PEPTONOIDS.

This preparation is to be obtained from Carnrick and Co., Ltd., London. A bottle costing 3s. 6d. contained just over 9 fluid ounces. It is described on the label as "Beef, milk, and gluten, perfectly digested. Contains the albuminoid principles of beef, milk and wheat, entirely digested and ready for assimilation."

Dose: For an adult, one or two tablespoonfuls three to six times a day.

One hundred parts by measure were found to contain:

Alcohol	20.0	parts by measure.
Total solids	18.8	parts by weight.
Nitrogen	0.8	,,
(equivalent to protein	5.0	,,).
Ash	0.8	,,
Reducing sugar, calculated as glucose ...	7.7	,,
Cane sugar	2.4	,,

ARMOUR'S NUTRITIVE ELIXIR OF PEPTONE.

This elixir is made by Armour and Co., Chicago, and the price of a bottle containing 16½ fluid ounces was 4s. It is described on the label as "A palatable liquid food presenting the entire digestible substance of specially selected fresh Lean Beef in readily absorbable form."

Dose: One dessert to one tablespoonful three times a day and at bedtime.

One hundred parts by measure were found to contain:

Alcohol	15.4	parts by measure.
Total solids	7.1	parts by weight.
Nitrogen	0.3	,,
(equivalent to protein	1.9	,,).
Ash	0.6	,,
Reducing sugar, calculated as glucose ...	2.2	,,
Glycerin	13.0	,,

PANOPEPTONE.

This preparation, sold by Fairchild Bros. and Foster, New York, at the price of 2s. for a bottle containing about 6 fluid ounces, is described on the label as "the nutritive constituents of Beef and Wheat in a soluble and freely absorbable form."

Dose: For adults, from a dessert to a tablespoonful several times a day and at bedtime.

One hundred parts by measure were found to contain:

Alcohol	20.0	parts by measure.
Total solids	26.9	parts by weight.
Nitrogen	1.14	,,
(equivalent to protein	7.2	,,).
Ash	1.1	,,
Reducing sugar calculated as glucose ...	7.8	,,

CARNABYN.

Carnabyn, sold by Hooper and Co, London, W., at the price of 2s. 6d. for a bottle containing 12 fluid ounces, is described on the label as a "nourishing digestive and restorative compound."

Dose: From half to a wineglassful three times a day.

One hundred parts by measure were found to contain:

Alcohol	17.2	parts by measure.
Total solids	13.4	parts by weight.
Nitrogen	0.26	,,
(equivalent to protein	1.7	,,).
Ash	0.7	,,
Reducing sugar, calculated as glucose ...	9.2	,,

VINSIP.

This preparation is to be obtained from Vitalia, Limited, London, S.E. A bottle containing 3½ fluid ounces cost 1s. 6d. "Liquor Haemoglobin Co." is given on the label as an alternative name.

Dose: Adults, one to three teaspoonfuls twice or thrice daily.

One hundred parts by measure were found to contain:

Alcohol	8.6	parts by measure.
Total solids	20.2	parts by weight.
Nitrogen	2.9	,,
(equivalent to protein	18.2	,,).
Ash	1.0	,,

The liquid coagulated on heating, and haemoglobin was found to be present. It contained no glucose or other reducing sugar.

B.

The next two preparations show many resemblances to some of the medicated wines described in the preceding article.

COCA-BYNIN.

This preparation, sold by Allen and Hanburys, Limited, London, at the price of 2s. 6d. for a bottle containing 10 fluid ounces, is described on the label as "a combination of the active principles of the Coca leaves with Bynin, Liquid Malt. It thus possesses the valuable diastasic properties of malt, or the power of digesting and promoting the assimilation of farinaceous foods, with the stimulating and exhilarating effects of the Coca plant."

Dose: A dessertspoonful added to a glass of sherry or other wine.

One hundred parts by measure were found to contain:

Alcohol	10.7	parts by measure.
Total solids	54.2	parts by weight.
Nitrogen	0.6	,,
(equivalent to protein	3.8	,,).
Ash	1.2	,,
Acidity, calculated as lactic acid	0.8	,,
Reducing sugar, calculated as glucose ...	35.7	,,
Or calculated as maltose	57.6	,,
(Glucose was present in considerable quantity).		
Alkaloid	0.025	parts by weight.

The alkaloid produced a slight numbness when applied to the tongue. After neutralizing some of the original liquid and removing the alcohol at a low temperature, the diastatic action was tested for by means of gelatinized starch; no digestion of starch was observed.

MARIANI ELIXIR.

This elixir, prepared by A. Mariani, Paris, and sold in this country at the price of 4s. 6d. per bottle containing 12½ fluid ounces, is described in the circular accompanying

it as "more alcoholic, very agreeable, and three times as highly charged with the active principles of the Peruvian Leaf as the Vin Mariani."

Dose: One liqueur glass after the principal meals.

One hundred parts by measure were found to contain:

Alcohol	36.3	parts by measure.
Total solids	30.3	parts by weight.
Ash	0.2	,,
Reducing sugar, calculated as glucose ...	9.8	,,
Cane sugar	17.5	,,
Alkaloid	0.025	,,

The alkaloid produced considerable numbness when applied to the tongue.

C.

The next preparation is not alkaloidal, and is more of the nature of beer than wine.

PABST EXTRACT.

The Pabst Brewing Co., Milwaukee, U.S.A., describe this preparation on the label as "a liquid preparation of malt and hops, combined with calcium hypophosphite and iron pyrophosphate. Alcohol 5 per cent." A bottle, price 1s. 1½d., contained 14½ fluid ounces.

Dose: A wineglass at each meal, and one before retiring.

One hundred parts by measure were found to contain:

Alcohol	6.2	parts by measure.
Total solids	9.4	parts by weight.
Nitrogen	0.12	,,
(equivalent to protein	0.76	,,).
Ash	0.3	,,
Dextrin	4.1	,,

No sugars were present. The total phosphate in the ash, calculated as phosphoric acid (H_3PO_4), was 0.18 per cent. of the original liquid; this would include any hypophosphite and pyrophosphate originally present.

The next preparation is of a different character from most of those here dealt with, but presents no very abrupt transition from the liquid just described.

KHOOSH BITTERS.

This preparation, described on the label as "a never-failing appetizer. The only bitters that act on the liver," is to be obtained from Khoosh Bitters, 1906, Limited, London, W.C.

A bottle costing 2s. 6d. contained about 6 fluid ounces.

The dose appears to be from 20 drops to one teaspoonful.

One hundred parts by measure were found to contain:

Alcohol	14.4	parts by measure.
Total solids	0.14	,,

The residue agreed in its characters, behaviour with solvents, etc., with the residue of tincture of quassia. The bitter substance quassin cannot be distinguished from some other neutral bitter principles by any tests which were applicable in this case, and it is not possible to state positively that this preparation is made from quassia.

D.

The remaining preparation differed from the others in containing no alcohol, but, as its application is intended to be similar, it is included here.

VIGOBAL.

This is made by Armour and Co., Chicago, and a bottle costing 1s. 9d. contained 3½ fluid ounces. It is described on the label as prepared from "extract of beef with the addition of other nourishing and muscle forming constituents. For strength, nourishment, and refreshment."

One hundred parts by weight were found to contain:

Total solids	50.8	parts by weight.
Nitrogen	3.8	,,
(equivalent to protein ...	24.0	,,).
Ash	16.0	,,

The chief constituent of the ash was sodium chloride. Sugars were absent.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE seventy-ninth annual meeting of the British Association for the Advancement of Science began at Winnipeg on August 25th, the first act of the session being the installment of Sir J. J. Thomson, F.R.S., in the office of President, in succession to Dr. Francis Darwin. The meeting is to last a week, and during its course two formal addresses are to be delivered in addition to those of the President of the Association and of the presidents of the eleven sections among which the work of the meeting is divided. Two "Popular" Lectures are also to be given, dealing with the chemistry of flame and the pressure of light respectively.

PRESIDENT'S ADDRESS.

Sir Joseph Thomson gave an account of recent advances in physical science, more especially in relation to electricity, but devoted about half the time at his disposal to questions of education. He had come, he said, to the conclusion that there was a good deal in the system of the older English universities which those of younger date, both at home and abroad, had been wise not to imitate. Cambridge suffered from the excessive competition for scholarships. Preparation for these competitions dominated the education of the great majority of the cleverer boys, for to make his boys win scholarships was often deemed the best test of the efficiency of a schoolmaster.

Evils of Early Specialization.

Preparation for scholarship-winning too often meant that for about two years before the boy expected to go to a university he began to specialize in the branch of work in which he hoped to prove a scholarship winner, and on entering the university he spent three or four years studying the same subject.

The net result of adhering to one subject only for so long was that, though the student became often very remarkably acquainted with it, he began research work with much of his early enthusiasm evaporated. Research work was difficult, laborious, and even disheartening, so that hardly any quality was more essential for success than enthusiasm, and no greater evil could be done than to dull that enthusiasm in a young man. Furthermore, premature specialization injured students by depriving them of adequate literary culture, and by tending to isolate one branch of science from another retarded the progress of science as a whole. The boundaries between the sciences were arbitrary, and tended to disappear as science progressed; and one science often found most striking and suggestive illustrations in the phenomena of another.

Physics and Mathematics.

Again, the specialization prevalent in schools often prevented science students acquiring sufficient knowledge of mathematics; it was true that most of those who studied physics did some mathematics, but in general they did not do enough, and were not as efficient physicists as they would have been if they had acquired a knowledge of that subject. He did not suggest that a physicist should confine himself to looking at his problems from a mathematical point of view; but two points of view were better than one, and the physicist who was also a mathematician possessed a most powerful instrument for scientific research, and one by which many of the greatest discoveries had been made: electric waves, for instance, were discovered by mathematics long before they were detected in the laboratory. Similarly, the full significance of physical discoveries was often not appreciated until they had been subjected to mathematical treatment. Finally, the man who was a mathematician as well as a physicist had at his command a language clear, concise, and universal, and there was no better way to detect ambiguities and discrepancies in ideas than by trying to express them in this language. The mind by itself was comparatively unproductive and the most fruitful groups of scientific ideas arose from cross-fertilization between the mind and some definite fact. The origin of the most comprehensive and important scientific ideas could be traced back to attempts to find an explanation of some apparently trivial and very special phenomenon. Once started the ideas grew to such generality and importance that their modest origin could hardly be appreciated. Just as water vapour

would refuse to condense into rain unless there were particles of dust to form nuclei, so would ideas before taking shape seem to require a nucleus of solid fact around which they could condense. Most people required to tackle some definite difficulty before their minds developed whatever powers they might possess. This was true even of the youngest, and the moral to be drawn was that an endeavour should be made to make education as little bookish and as practical and concrete as possible. It was possible to read books and to pass examinations without the higher qualities of the mind being called into play, but it was not possible for boys to make boats or for girls to cook dinners without using their brains.

Similarly, it was the need for thought and action which gave to research an educative value, even in the case of those who did not intend to become professional men of science. In the same connexion the speaker advocated interchange of students among the universities of the empire. There should be a recognition of each other's examinations, residence, and degrees. He did not mean that all universities in one country should be under one government, for he was a strong believer of the individuality of universities, but such individuality was in nowise inconsistent with the policy of an open door from one university to every other in the empire.

The Structure of Matter.

Dealing with the problems of the future, the speaker pointed out that considerable progress had been made in the task of discovering the structure of electricity. It was known that negative electricity was made up of units all of the same kind; that they could be obtained from all substances; that in point of size they were no greater that $\frac{1}{1700}$ part of the mass of an atom of hydrogen; and that with suitable conditions they moved with enormous speed, approaching that of light. On the other hand, comparatively little was known about positive electricity, but on the whole it seemed likely that it would eventually be proved that a unit of positive electricity was quite different to a negative corpuscle, and in point of size equal to an atom of hydrogen. A knowledge of the mass and size of the two units of electricity would afford material for constructing a molecular theory of electricity which would be a starting point for a theory of the construction of matter. As a provisional hypothesis, the most natural view to take was that matter was merely a collection of positive and negative units of electricity, and that the forces which held atoms and molecules together, the properties which differentiated one kind of matter from another, all had their origin in the electrical force exerted by positive and negative units of electricity, grouped together in different ways in the atoms of the different elements.

Sources of Energy.

Since the energy associated with a given charge varied inversely as the size of the body on which this was concentrated, the energy stored up in the negative corpuscle must be far greater than that stored up by a positive unit. The amount of energy stored up in ordinary matter in the form of the electrostatic potential energy of its corpuscles was not generally realized. All substances gave out corpuscles, and it might be assumed that each atom of the substance contained at least one corpuscle. On this supposition he calculated that the potential energy of a gram of hydrogen equalled seven times the heat developed by one gram of radium or by the burning of five tons of coal. Thus even ordinary matter contained enormous stores of energy kept fast bound by the electrical corpuscles. This was fortunate, for if an appreciable fraction at any time got free the earth would explode and become a gaseous nebula.

Such matter, however, formed but an insignificant fraction of the universe, mere islands in the great ocean of ether, which was not a fantastic creation of the speculative philosopher, but as essential as the air we breathe. It transmitted the energy of the sun, which practically did all the work of the world, and it must contain something which, like ordinary matter, could store up energy in addition to much other work.

The Age of the World.

The nature of radium and radiation was also discussed; alpha rays had been shown by Rutherford to be positively electrified atoms of helium, moving at about one-tenth of the speed of light; beta rays were negatively electrified corpuscles, moving at nearly the velocity of light; and gamma rays were unelectrified, and analogous to the Roentgen rays. One special significance of the discovery of radio-active bodies was in relation to the age of the earth. The discovery had annihilated one method of calculating this age, but had supplied another, namely, by measuring the amount of helium given out by all radio-active bodies. On this basis the age both of particular rocks and of the crusts of the earth could be calculated, and the total age of the earth shown to be more than twice as much as that at which Lord Kelvin had previously estimated it, namely, about a million years.

Finally, said Sir Joseph Thomson, recent discoveries in physics and potentialities suggested by them had had an effect upon progress of science akin to that produced in literature by the Renaissance. Enthusiasm had been quickened, and there was a hopeful, youthful spirit abroad, which led men to make with confidence experiments which would have been thought fantastic twenty years ago. As peak after peak was conquered, regions full of interest and beauty were seen, and in the distance still higher peaks, which would yield to those who ascended them still wider prospects and deepen the feeling, whose truth was emphasized by every advance in science, that "Great are the works of the Lord."

Medical News.

DR. E. ARTHUR DANDO has been appointed by the Lord Chancellor to be a Justice of the Peace for the Borough of Dudley.

THE Imperial Cancer Research Fund has received a donation of £1,000 from the Duke of Bedford to meet an overdraft at its bankers.

THE seventieth birthday of Duke Karl Theodor of Bavaria was celebrated at his castle of Possenhof on August 9th. The duke, in spite of advancing years, still maintains his Ophthalmological Clinic at Munich.

THE plans of the new Examination Hall of the Royal colleges in London have yet to be settled, but preparation of the new site in Queen Square, Bloomsbury, is to be taken in hand forthwith. The houses which the two Colleges have jointly acquired are on the west side of the square, close to the Alexandra Hospital for Hip Disease, and nearly facing the opening of Great Ormond Street.

THE Local Government Board has granted an application from the Stoke-on-Trent Town Council for permission to include ophthalmia neonatorum among the diseases notifiable within its area. The new Order will come into operation in the district on August 28th, and remain in force for twelve months. Other sanitary authorities in the pottery district are taking steps towards the same end.

A TELEGRAM to the *Times* announces that the report of the International Opium Commission which sat in Shanghai in February last was issued there on August 24th. It consists of two volumes, the first containing minutes of the transactions, and the second reports put in by the delegates regarding opium legislation in the various countries represented, and statistics relating to opium growing, the opium habit, the opium trade, and the revenue derived from opium culture or trade, together with the international agreements respecting traffic in the drug.

IT was recently announced that the Orient Line had granted free first-class tickets between Australia and England to selected scholars of the Australian universities, and the three first nominations have now been made by the Chancellor of the Sydney University. Messrs. H. J. Swain, Science Research Scholar, S. G. Lusby, Barker Mathematical Scholar, and H. K. Archdale, Woolley Classical and Philosophical Scholar, the three gentlemen selected, will travel to England by the Orient Line R.M.S. *Omrah*.

THE asylums committee of the Surrey County Council has addressed a circular letter to boards of guardians in the county stating that provision has been made to receive, on and after September 1st, some 36 paying patients from the county of Surrey at the new County Lunatic Asylum at Netherne, Merstham, at rates from 25s. a head a week. It is believed that this course will check the number of patients claiming admission to the asylum as paupers, and the committee suggests that boards of guardians should carefully inquire into the financial position of all patients, with a view to preventing further abuse of the accommodation provided for the pauper class.

British Medical Journal.

SATURDAY, AUGUST 28TH, 1909.

THE REPORT OF THE MIDWIVES ACT COMMITTEE.

THE report of the Departmental Committee on the Midwives Act, which is summarized on another page, must be regarded on the whole as satisfactory. The Midwives Subcommittee of the Medico-Political Committee spent much time in reviewing from every point of view the whole working of the Act, and the memorandum of evidence which it drew up, and which appeared in the Supplementary Report of the Council, set out at length the points in which the Association considered the Act required amendment. The fact that the Departmental Committee contained no representative of general practitioners, though it did contain representatives of every other interest, ought to convince the most sceptical that in granting the chief demands of general practitioners the Committee was in no way biassed. At the same time, it is perfectly clear that the Committee would have been all the stronger in discussing certain details if it had contained a member fully conversant with general practice. The reception accorded to the witnesses for the British Medical Association was most cordial, and the keen cross-examination through which they were put was welcomed as showing a full appreciation of the value of their evidence in matters affecting the community; and, though we shall have to criticize some of its findings, it is in no captious spirit, for we fully recognize the evident desire of the Committee to be fair all round.

In unanimously recommending that the State should guarantee a fee to medical men answering the call of midwives in emergencies, the Committee has formally sanctioned the great principle that services rendered by the profession to the community should be paid for by the community. This principle, so obvious in theory, but so difficult to establish in practice, has had to be fought for by the British Medical Association against a whole army of vicarious philanthropists. It has still to run the gauntlet of Parliament, though we can hardly imagine that the Government can hesitate to press on the Legislature a principle recognized by its own committee as equitable: it is, indeed, strange that its equity should ever have been disputed.

Another fact recognized by the Committee is that general practitioners have some rights which Government departments ought to regard. This is shown in the recommendation that a general practitioner nominated by the British Medical Association should have a seat on the Central Midwives Board, and that they have "superior claims to act as "examiners for the board."

A third point in which the Committee acceded to the wishes of the British Medical Association was that the fees to be paid "should be fixed, by order of the "Local Government Board, on a systematic basis, "having due regard to local conditions." The Midwives Subcommittee of the Association felt that to fix a fee by Act of Parliament would practically prevent any regard being paid to local conditions or to any future alterations in the rules of the Central Midwives Board. An order of the Local Government Board can be altered at any time as circumstances require, whereas experience shows there is the greatest difficulty in altering an Act of Parliament. The arrangement, too, will prevent to some extent the numberless disputes with local authorities, which "think in thousands of pounds" in some matters, but when the medical profession is concerned are often seized with a spirit of parsimony. As to the amount of the fee, the Committee makes no recommendation of any sum, but apparently favoured one guinea for all cases, under the idea that simple cases would compensate for difficult cases. That could hardly be the case, as *ex hypothesi* practically all the cases are difficult. But probably opportunity will be given for further representations on the matter to the Local Government Board. Another point granted is that the fee is to be paid by the local authority on the statement of the medical man "that he has been unable to obtain pay-"ment of his fee from the patient or her representa-'tives." There is no intention that the doctor should be put to the extremity of taking county court proceedings before the authority pays his fee. This, at any rate, seems to be the natural interpretation from the wording of the recommendation, though the point will have to be kept in mind when legislation is proposed. It would be intolerable were an authority to refuse a fee on the ground that the doctor had not fully exhausted every legal measure to recover it from the patient.

An important point raised in the examination of the witnesses was whether if the State guaranteed a fee, it ought to have a reciprocal right to compel under legal penalties the attendance of any medical man summoned by a midwife, physical obstacles alone being excluded. It was pointed out that, even if a fee were offered, no profession would acquiesce in any such compulsion to render its services whenever called on, and, moreover, that it would be impracticable to make any such enactment, as some medical men—for instance, specialists in other branches than midwifery, consultants, and practitioners who had given up midwifery—could not be expected to attend a midwife's summons. The only way was to circulate to midwives a list of medical men who had previously expressed their willingness to attend. This suggestion was finally adopted as one of the Committee's recommendations, but we are bound to point out that medical men will need to be extremely careful in signing any undertaking to attend whenever summoned, or they may assume a serious responsibility. It may possibly be found advisable, if this suggestion of a list be carried out, that the Association should take legal advice as to the form of such undertaking. It is evident that there is some ground for fear that an attempt may be made to put the profession under some legal obligation to go to cases whenever summoned if there is no physical obstacle: probably this would not stop at midwifery, but would be extended to all cases in which the least urgency could be pleaded. All the four witnesses were somewhat severely questioned as to the inhumanity of medical men in refusing to attend without a guarantee of a fee. Dr. Smith Whitaker put the matter that though in individual cases refusal to attend might not always be justifiable, "what we resent is the idea that the "community should rely on the sense of humanity "in the medical practitioner as a means of compul-"sion to compel him to do work gratuitously."

Dr. McManus gave some striking instances in which he himself had been thus exploited. Dr. Flemming also related similar experience, and Dr. Taylor felt bound to remind the Committee that what it had to face was not the theoretical or logical question as to whether doctors were humane or inhumane, but the practical question, Could the Act be properly carried out without the co-operation of medical men, and would that co-operation be forthcoming under present conditions? On the whole the witnesses made it clear that things have got to such a pass that to mince matters further is useless; unless the present conditions are altered the Act will be a failure. No one would regret this more than the members of the British Medical Association, but medical men simply cannot live on what they give away. It is plain from the findings of the Committee that the arguments of the witnesses had much weight on this matter, as could not fail to be the case with practical men.

A further point, on which the Committee appeared to agree with the British Medical Association, was that the standard of examination for midwives ought not to be lowered at present. The suggestion for annual licenses on a modified examination was not received with favour either by the witnesses or the Committee; and though it was thought right to leave the matter to the discretion of the Central Midwives Board, it was on the distinct understanding that any examination shall ensure that the women certified shall be "safe and competent midwives."

Some regret will probably be expressed that the Committee did not accede to the request of the Association and of the Central Midwives Board, that the payment of fees should be dealt with by the health authorities rather than the guardians. Dr. Downes, however, pointed out that in the event of a reform of the Poor Laws, some weight must be attached to the arguments of the Majority Report of the Poor Law Commission, which go to show the danger that might result from giving such work to the sanitary authorities. There can be no doubt that these facts ought to weigh in making any permanent arrangements. The Association and the Central Midwives Board, in making their request, did so in view of present conditions of the Poor Law service, especially its deterrent aspects, which may prevent parturient women accepting aid from the guardians, even when it is important that they should have such aid. Of course, the Committee could say nothing definite about the reform of the Poor Law, but it seemed to be taken for granted that some reform would come before long, and the witnesses agreed that there could not be any objection to a reformed public assistance authority undertaking the payment of the fees.

On another point we fear that a serious mistake has been made, or rather, that unless every precaution is taken in drafting any amendment of the Act, there is a risk that great injustice to medical men will result. The Association asked that any fee paid should only cover attendance at the actual emergency, and "should not include any subsequent attendance 'nor relieve the midwife of the charge of her patient." The Committee, however, recommends that the fee should cover any ordinary after-attendance." Everything here depends on the interpretation of the word "ordinary." An ordinary attendance on a case of puerperal fever might extend to several weeks or months, and might include curetting or other more serious operation, and it would be a distinct hardship if a doctor were expected to give such attendance for a fee of one or even two guineas. It is quite certain that, unless the responsibility subsequent to attendance on the emergency be properly defined so as to prevent hardship, there will be serious risk of annulling the beneficial effects that other recommendations of the Committee would have.

Reviewing the report as it directly affects medical men, it is undoubtedly a distinct move in the right direction. If the Act be amended in accordance with the recommendations, it will go a long way towards ensuring that its beneficent intentions shall be realized.

THE RESULTS OF NERVE DIVISION.

IN *Brain* (vol. xxxi, p. 324 et seq.) Dr. Head and Dr. Rivers record in detail the sensory changes observed during a long period of recovery following the excision of short pieces of the radial and musculo-cutaneous nerves near the elbow. Dr. Head had decided to make himself the subject of observation in order to obtain reliable data, owing to the difficulties in the way of eliciting the required information from patients suffering from accidental nerve division. Such untrained subjects do not possess the necessary power of introspection to interpret what they feel, nor can they afford the time necessary for an extended series of observations.

The operation was carried out by Mr. Dean, assisted by Mr. Sherren, on April 25th, 1903. On the morning after the operation the radial half of the back of the hand, the dorsal surface of the thumb, and extensor aspect of the forearm were insensitive to stimulation with cotton-wool, pricking with a pin, and all degrees of heat and cold. The area insensitive to cotton-wool extended slightly further towards the ulnar aspect of the back of the hand than that of cutaneous analgesia, and between the two lay an area of hyperalgesia, but on the anterior surface of the forearm the loss of sensation to prick and to cotton-wool corresponded exactly. The most striking fact was the preservation of deep sensibility of the whole of the affected area to touch with the finger or a pencil, so that an unskilled observer would have overlooked the presence of cutaneous anaesthesia.

Deep sensibility is, in fact, independent of the cutaneous nerves, and travels most probably by those afferent nerve fibres which, as Sherrington had shown, lie in the muscular nerves. This discovery was at the time quite novel, but, in view of Head and Sherren's previous work on deep sensibility, not entirely unexpected. The recovery of other forms of sensibility returned gradually, though not simultaneously, over the whole affected areas; thus 56 days elapsed before the thumb responded to a prick, 86 before it responded to cold, and 161 before it reacted to stimulation of its hairs, while sensibility to heat was later in its return (166 days), and, like sensibility to cold, was found to be associated with definite spots.

The last form of sensibility to return was light cutaneous tactile sensibility, and its return possessed such characteristic features that it must be regarded as a separate variety of sensibility; moreover, there was a small area from the first that possessed this form of sensibility, but was insensitive to pain, cold, and heat. It possessed, however, deep sensibility.

To summarize the results, we may say that from the first there was present deep sensibility; then the stage of protopathic sensibility; and, finally, epicritic sensibility returned.

Protopathic sensibility implies response to heat and cold over heat and cold spots (but there is no reaction to temperatures between 26° and 37° C.), response to tactile hair sensation and hair pulling, and to pricks. The tests were carried out by Dr. Rivers, Dr. Head keeping his eyes closed during the examination; every influence that might disturb the passivity of the subject had to be eliminated, and Dr. Head was never allowed to know by suggestion what was being done or to know whether his answers were correct or otherwise. All his answers were the direct result of introspection exercised during the period occupied by the application of the stimulus, for it was discovered that like most people Dr. Head is a strong visualizer—that is, while he can reproduce the image of a thing seen with such accuracy that it can be searched for details, he cannot reproduce any other sensory impression in the same way.

The methods of examining cutaneous sensibility and painful spots, etc., are fully described in the paper. The complete analysis may be studied under the subdivisions of deep, protopathic, and epicritic sensibility, and a short account of the more definite results is of interest, not only owing to the new conceptions to which the reader is introduced as to the nature of sensation, but because it shows that these conditions are real entities and not stages in recovery, gradually merging into normal sensibility.

Deep sensibility requires careful distinction, as already mentioned, owing to the liability of its being mistaken for cutaneous sensibility. It consists in the power of appreciating moderate pressure, roughness of an object, and localization of a touch sufficiently heavy to cause a sensation. Head and Sherren had previously shown that the recognition of passive movements was possible when the nerves to deep parts were alone intact. When deep sensibility is alone present excessive pressure will cause pain. Discrimination between the two points of a compass is impossible if they are applied to the skin simultaneously; there is no sense of shape on contact with an object, nor is there any power of appreciating differences of temperature. It may be readily shown that the pain on heavy pressure is due to deep sensibility by pinching up a fold of the skin, when no sensation is felt.

The study of protopathic sensibility forms one of the most interesting chapters of the whole paper. As regards painful cutaneous stimuli, the back of the hand became sensitive eighty-six days after operation. The minimal stimulus or threshold as measured by von Frey's hairs was higher at first than over a corresponding area of the normal hand, but diminished after a considerable period, eventually becoming slightly less than normal, but there was no preceding sense of contact with a sharp point. Certain spots called pain spots can be mapped out over a protopathic area, but they are very numerous, increasing in number with the intensity of pressure. The pain produced is diffuse, and referred to distant parts of the protopathic area—for example, from the hand or wrist to the forearm—and it is more unpleasant, and was usually said to be more painful than the pain produced over normal skin, although the minimal stimulus required was, as already mentioned, not greater than in the case of normal skin. Sensibility to heat and cold was found to be dependent on and limited to the area of heat and cold spots. The former are less numerous than the latter, and both are present in normal skin, but heat and cold sensibility in normal areas is not limited to these spots, so that we may conclude that temperature sensibility is ordinarily dependent on two varieties of end organs. The cold spots are, at any rate, specific, inasmuch as they can be stimulated to give a sensation of cold by the application of heat at a temperature of 45° C. As in the case of pain, stimulation of heat and cold spots is more intense than such stimulation in normal tissues, but nevertheless the limits are more restricted, for no sensation of temperature results in protopathic areas by application of rods between 26° C. and 37° C. Radiation and reference are the rule, just as for pain sensibility. In normal skin the areas between the protopathic temperature spots are sensitive to a much wider range, but require the application over a larger area, such, for example, as a test tube would afford. Normal skin exhibits a wide range of adaptability to heat or cold, so that, after placing the hands in warm water, a test tube of water that under ordinary conditions gave a sensation of heat now feels cold, and vice versâ. This adaptability is practically entirely wanting in the case of protopathic areas. Reference has already been made to another feature of the protopathic condition, namely, hair sensibility or reaction to pulling the hairs and stroking hair-clad parts with cotton-wool. This form of sensibility is quite independent of ordinary tactile sensibility and stroking with cotton-wool produces no sensation after shaving the hair. It appears later than sensibility to prick or application of cold; it presents the peculiarities of protopathic sensibility in its being diffused locally and referred to distant parts. Its independence of ordinary tactile sensibility is proved from the circumstance of its disappearance when the skin is first shaved, and then stimulated with cotton-wool. The features of protopathic sensibility are exactly reproduced in the skin of the normal glans penis, a fact which cannot be altogether a surprise, for we must all be more or less familiar with its insensibility to light touch; but we owe to Dr. Head the demonstration of the other features of protopathic sensibility. We may conclude from this fact and also from the occasional persistence of protopathic sensibility for many years in an area of recovery that this form of sensibility is due to a special mechanism in the skin, and not to a defective restoration of the mechanism of sensation.

The return of epicritic sensibility first made its appearance 366 days after the operation in the proximal part of the forearm, but the improvement here as elsewhere was apt to recede when the weather became cold, or when the part was artificially cooled by immersion or other means. It required 567 days for epicritic sensibility to return to the greater part of the hand; but even after five years there remained a portion of the back of the hand between the knuckles of the index and middle fingers insensitive to all epicritic stimuli: here the threshold for pain was identical with that over a normal area, but it was much more unpleasant, it radiated widely, and was localized in remote parts.

Epicritic sensibility consists in the recognition of the "pointedness" of a needle or pin, which involves the power of distinguishing the point from the head, response to temperature between 26° and 37° C.; spacial discrimination as tested by the simultaneous application of two points of a compass, and diminished pilomotor reflex (which is exaggerated in the protopathic stage). The return of epicritic sensibility inhibits the tendency to refer stimuli to remote parts and introduces less vivid sensation restricted to the immediate neighbourhood of the point of contact. There is, accordingly,

along with the introduction of cutaneous sensibility to light stimuli—for example, stroking the part, after shaving in the case of a hair-clad part, with cotton-wool—abolition of the diffused and referred sensations so characteristic of protopathic sensibility. The skin is, in fact, supplied by two anatomically distinct systems called "protopathic" and "epicritic," which regenerate at different periods after complete nerve division. All epicritic organs have a low threshold, protopathic organs have a high threshold; the threshold for pain is, however, the same over normal and highly protopathic parts—that is, parts that have been in the protopathic stage for a long period—but contact with a sharp object produces pain alone in protopathic areas, whereas in normal areas pain is preceded by a sense of contact with a pointed object.

Internal organs of the body are probably innervated from the deep and protopathic systems; their sensibility is evidently low; heat and cold spots must be scanty, or even absent, from most parts of the stomach and intestine, and they are totally devoid of epicritic sensibility. A stimulus consisting of pressure or muscular movement may therefore be correctly localized (deep sensibility), but when the stimulus evokes pain the sensation will tend to be referred to remote parts, just as occurred in the case of the protopathic part of the affected areas in Dr. Head's case, while the protopathic condition persisted.

THE HOUSING BILL AND THE MEDICAL SERVICE.

AMONG the bills which the Government has decided to attempt to pass this session is, as we stated to be probable last week, the Housing and Town Planning Bill; and as at present arranged it will be considered in Committee of the whole House on August 30th and 31st, and may come up for third reading on September 10th.

When the bill passed through a Standing Committee of the House last session, there was added to it an important clause—30—which provides for the systematic inspection of the houses in every district at least once in every five years, and also—which is of paramount importance—that a record shall be kept of the conditions which are found upon inspection. In every well-administered sanitary area such an inspection is already made and every medical officer of health of experience attaches the highest importance to "house-to-house inspection." The duty of making the inspections is cast by the bill upon the metropolitan borough councils and county boroughs and urban districts having a population of over 10,000 and elsewhere upon county councils. There will doubtless be some difference of opinion as to the last named authority being entrusted with the duty of inspection instead of the rural and small urban authorities, who already have the necessary staff to carry out the work, whereas the county councils would have to make entirely new appointments.

In one other particular the bill was amended in its passage through the Standing Committee. It was provided that a medical officer of health of a county should not be appointed for a limited period. So far as we are aware, a county medical officer of health never is or has been appointed for a limited period, although, as is well known, the contrary is the case with medical officers of health of districts, whose usefulness for years has been impaired owing to the periodical lapsing of their appointments and the uncertainty of their re-election. Those who consider that the county official should be removable from office only with the consent of the central authority, but that the district official should continue to be subject to the risk of capricious removal by the district authority, may be reminded that the duties of the county medical officer are purely administrative and general, whereas those of the district officer are executive and particular. He it is who has to come to close grip with the local authority and with individuals, and in doing so he must of necessity come into conflict with private interests. Indeed, if there is one official more than another who should be protected in the carrying out of his duties it is the district medical officer of health. We trust that when the bill is debated next week full opportunity will be given for placing the full facts before the House, when we have every confidence that district medical officers will be placed in the same position as that which it is admitted should, in the public interest, be accorded to county officers.

INCREASED DIRECT REPRESENTATION.

THE Medical Act of 1886, which put an end to a variety of inconsistencies, contained a clause rendering an increase in the number of Direct Representatives of the profession possible. It even went so far as to arrange the machinery for securing this addition, and merely left the General Medical Council to move the lever at its will. Until this year, however, the General Medical Council showed little disposition to use this power, in spite of its knowledge that there was a strong feeling among medical men resident in England and Wales that they ought to be further represented. On sundry occasions the feeling in question was reduced by existing Direct Representatives to the concrete form of definite motions, which, though strongly advocated by, among others, Mr. George Brown, Mr. George Jackson, Professor Saundby, Sir Victor Horsley, and Sir Thomas Myles, were rejected. This year the British Medical Association asked all Divisions within whose area a member of Council resided to address him on the subject, and on May 25th a resolution in favour of one being added to the number of Direct Representatives of medical men resident in England and Wales was carried. It was moved by Dr. Langley Browne, seconded by Dr. McManus, and supported by Dr. Latimer. Only five members voted against it, though eight refrained from voting either way. Thereafter nothing remained but to make the necessary application to the Privy Council, and the *Gazette* of August 20th contained an announcement that the King has assented to the proposal. It will take effect at the next ordinary election of Direct Representatives, when medical men resident in England and Wales will have to elect four instead of three Representatives as heretofore. The original motion proposed immediate election, but the mover accepted an amendment that in order to avoid the great expense of an election the addition should not be made until the next ordinary election. All those who have worked for the accomplishment of this end are to be congratulated, for the addition was certainly required. At the beginning of this year the proportion of Direct Representatives to medical men in England and Wales was only 1 to 8,389, against 1 to 3,845 in Scotland, and 1 to 2,656 in Ireland. The General Medical Council, constituted by the Medical Act of 1858, was formed mainly of representatives of licensing bodies, but the propriety of securing something like independent representatives of the medical

profession seems to have been appreciated at that time, for the Act prescribed that of the six nominees of the Crown four were to be chosen from medical men resident in England, and one each from those in Ireland and Scotland. Under the Act of 1886 the Crown nominees were reduced to five, and the stipulation as to residence omitted, but, on the other hand, it was ordered that five Direct Representatives of the medical profession should be elected, three for England and Wales, one for Ireland, and one for Scotland.

PHYSICAL EXERCISES IN ELEMENTARY SCHOOLS.

THE Board of Education has had under revision the official *Syllabus of Physical Exercises for Public Elementary Schools* issued in 1904, and reprinted with slight alterations in 1905; the revised syllabus[1] will be published about the third week in September next, but in view of the fact that a special summer course is being organized by the Board for the benefit of certain members of the teaching staff of certain training colleges, some advance copies of the revised syllabus have been printed off, and we have been favoured with one of these. In an introductory chapter on general principles, special stress is laid on the important physiological effect of physical exercises in promoting functional activity of the various parts of the body, directly or indirectly. The second chapter consists of general directions to teachers, and the third describes simple exercises and positions and affords practical illustrations of the principles laid down in the first and second chapter. The fourth chapter deals with marching, running, jumping and breathing exercises, and the fifth with the arrangements of the class. In the sixth chapter the order and progression of exercises are discussed, and it is pointed out that the following fundamental principles must always be kept in mind by the teacher: "(1) The "exercises must be selected for their nutritive, cor- "rective or developmental effects on the body as a "whole, and not merely to encourage the enlargement "of certain muscles. (2) The exercises must be "adapted to the age, physical condition, and general "requirements of the pupils. (3) They must be "arranged on a certain definite, systematic plan, each "exercise having its special object in the lesson in "order that the greatest effect may be obtained within "the available time. (4) The physical training must "be above all things progressive, and this progression should be maintained throughout the entire period." The next chapter, which occupies over fifty pages, consists of detailed instructions for exercises arranged in series of tables suitable for children at the ages of 7 to 9, 9 to 11, and 11 to 14 years. There are five appendices, the first on supplementary physical exercises, the second on class-room exercises, the third on physical exercises for infants, and the fourth on a suitable dress for girls, while the fifth consists of suggestions on the construction of tables of exercises. It may be said at once that the publication is very well printed on glazed paper, so that the large number of photographs of children doing the various exercises by which, in addition to diagrams, the instructions are illustrated, are very clearly reproduced. With regard to infants—that is to say, children under 7 years of age—the book contains some very excellent and common-sense observations; it is pointed out that whereas in very young children the natural free movements supply all that is required, this instinct is restricted when they enter school, and must be compensated by frequent opportunities for free movement, which should generally take the form of play. The lessons, if they should be so called, must be extremely short and varied: the infants should not be expected to sit still for long, should not be allowed to stoop over their work, and should not be given work on a small scale, such as fine sewing or writing between narrow lines. Sir Robert Morant, in a short prefatory memorandum, says that the Board does not feel called upon to encourage mere conformity to gymnastic standards, and insists that all lessons in physical exercises should be thoroughly enjoyed by the children, freedom of movement and a certain degree of exhilaration being essentials of all true physical education. In this connexion it is advised that suitable games should be encouraged, including skipping and dancing exercises, upon which some notes are given in the first appendix. In the discussion of general principles special stress is laid upon the necessity for giving attention to the needs of the individual child, and should a child not develop normally, of submitting him to medical examination by the school medical officer. The syllabus marks a distinct advance, not only in the details of the exercises, but in the spirit by which the introductory chapters are informed. Again and again the great fact is impressed on the teachers that the child must be studied as a living, growing creature—growing in mind and body—and that excellence in the one cannot be successfully cultivated if the other be neglected. Most teachers are already well aware of the truth of this principle, but it is difficult to break with old habits and ways of thought. We hope that the syllabus, when published at the end of next month, will quickly find its way into the hands of every elementary school teacher, old and young.

[1] *The Syllabus of Physical Exercises for Public Elementary Schools*, 1909. London: Eyre and Spottiswoode, Ltd., or Wyman and Sons, Ltd.; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. To be purchased through any bookseller, price 9d. (Demy 8vo, pp. 176).

IRISH INDUSTRIES AND CONSUMPTION.

FOR some time past rumours have been circulated throughout Ireland, and have even found their way into the newspapers, that the public attention which had been drawn to the existence of tuberculosis in Ireland was in a measure injuring the industries of that country by making people afraid to purchase Irish materials lest they might convey the disease. Her Excellency the Countess of Aberdeen, the President of the Royal Irish Industries Association, which she established, and the President of the Women's National Health Association of Ireland, which she also initiated, wisely determined to meet these absurd statements, and fortunately the annual meeting of the Royal Industries Association, at which she occupied the chair at Dublin on August 19th, gave her the opportunity of emphatically denying that there was the least ground for the theory that there had been a diminution in the sale of lace and crochet in the United States and Canada because of the health work that was being carried on in Ireland. On the contrary, the greatest interest was being shown in the work and in the effect it was having, so much so that a desire had been expressed that some delegates should visit Ireland and see for themselves what was being done. She was able to state, on the authority of the directors of the Irish Lace Dépôt, that there had actually been a distinct and definite increase in the trade, and especially with the United States and Canada, during recent months. While recently when on a visit to Canada she had noticed one great store in Montreal full of Irish goods, with placards in the windows directing attention to the fact. But, with her usual practical good sense, Her Excellency determined to give a demonstration in order to dissipate the idea that there could be any possibility of infection being conveyed by these goods; so, on August 20th, at her suggestion, a large company,

including a number of the medical men of Dublin, visited the depôt, and were made acquainted with the conditions under which the work is carried on and with the methods adopted for the disinfecting of all goods. The medical men present who had inspected the place being asked to give their opinions on this subject, Sir Francis Cruise said he had seen the means taken in the depôt to prevent any danger of infection, and in his opinion the work sent up from the poorer parts of the country was disinfected in a most absolutely perfect way. Sir Charles Cameron endorsed what Sir Francis Cruise said. There was no doubt, he said, that clothing was occasionally the medium of spreading infectious diseases, especially scarlet fever, but there was less scarlet fever in Ireland than in England or Scotland. He was quite satisfied that there was not the least possibility that any article treated in the way followed at the depôt could convey infection to anyone. It was well to realize that, because one-third of the total quantity of lace exported from Ireland came through that emporium. Lady Aberdeen pointed out that the output of lace and crochet work in Ireland was about six times as much now as it was twenty years ago, and for the past ten years the wages bill for workers amounted to between £250,000 and £300,000. It was also stated at this meeting that in the event of infectious disease appearing in the homes of those producing lace in the West of Ireland in connexion with classes under the Congested Districts Board, notification was at once made to that Board's inspector. It is hoped that after this thorough and practical proof that there are no reasons for a scare about Irish materials conveying the germs of consumption, those who circulated these rumours without in any way examining the facts will publicly withdraw their statements.

THE TERRITORIALS ON SALISBURY PLAIN.

THE whole of the 2nd London Division Territorial Force, with the exception of the engineer units, the cyclists, and the two general hospitals, have this year had their annual training at West Down Camp, North and South, Salisbury Plain, and recently returned after a fortnight's useful and instructive work. The medical units were encamped at West Down North, and comprised the 4th, 5th, and 6th Field Ambulances and the 2nd Sanitary Company, which all mustered very satisfactorily, the greater number of officers and men remaining in camp the full fifteen days. The main object of having the medical units in camp is for their own instruction, but they are also expected to look after the health of all the troops in camp, and in order to cope satisfactorily with the accidents and emergencies that might arise the 4th and 5th Field Ambulances established a non-dieted hospital on the North Down where the artillery were encamped, and the 6th a similar hospital on the South Down, where there were fourteen battalions of infantry; the medical officers of both were kept well occupied, and though there were fortunately few serious cases, and these were speedily forwarded to the military hospital at Bulford, a large number of minor ailments were dealt with and the men returned to their battalions. Most of the ailments were due to the excessive heat of the second week, but there were a considerable number of cases of sore feet; there were very few cases of sore throat, and though an incubator had been provided to make cultivations in doubtful cases it was not found necessary to use it. The three field ambulances worked separately, being instructed by their own officers, except on one day in the fortnight, when each had the help of the school adjutant and his staff. It is to be hoped that another year the division will have its own school and adjutant, and not have to share with the 1st Division and Mounted Brigade, as is now the case, for more can be learnt in the fortnight in camp than during the rest of the year. Notwithstanding this drawback, however, the men made excellent progress, and before they left, the majority had a fair knowledge of field work, and were able to pitch and strike their field hospitals, arrange their dressing stations, render first-aid to and convey from the front wounded men, in an expeditious and satisfactory manner, and in necessary cases make the preparations for operations in the field hospital. On one occasion—a very hot day—when the attack was being practised by three infantry brigades combined, two field ambulances sent out with them had a very realistic experience, for a number of men, one after another, fell as if they had been hit by a bullet, overcome, as it seems, by the heat. The stretcher parties were on the alert, and conveyed the fallen men to the field hospital, where they received appropriate treatment, and the majority were able to march home with their battalions, the remainder being carried in the ambulance wagons. Another novelty to most of the men was introduced this year. On two occasions a mobile column was sent out with its transport, commissariat, etc., and bivouacked at Netheravon, returning the next day; on each occasion it was accompanied by a field ambulance, and though the medical work was practically nil, the experience gained was very valuable. The Sanitary Company did useful work, besides acquiring much useful information, both theoretical and practical, as to what it is expected to do. Every morning an officer and a squad of men attended the ration board and inspected the meat. Squads also visited the various camps, and were instructed in their duties in connexion with camp sanitation and their relations to regimental fatigue parties. Squads also accompanied the mobile columns, and their services, especially in connexion with the water supply, were found very useful. The men were also exercised in building refuse destructors in their various forms with bricks, earth, etc., in preparing the various forms of camp kitchens, the preparation of trenches for the disposal of excreta, and for the prevention of soil pollution in connexion with kitchen refuse, both solid and liquid. Opportunity also occurred of demonstrating the practical method of tent disinfection, as on the second day of the camp a case of measles occurred, and the men saw the proper steps taken to prevent any spread of the disease. It may also be mentioned that not only the Sanitary Company but also between twenty and thirty men of the 6th Field Ambulance—which, having completed its establishment, has already enlisted men for regimental water duties—were fully instructed in the use of the field service filter tank, as well as other methods of purifying water. The camp of 1909 will not soon be forgotten, for, not only was it very instructive, but the weather conditions of the fortnight were an agreeable contrast to the rest of the summer; though most of the troops arrived in the rain, no more fell during the fifteen days.

THE LIABILITY OF HOSPITALS.

By a coincidence there were published last week (August 21st, page 501) accounts of two actions directly bearing on a question to which fortunately a legal test has not been often applied—namely, whether damages can be exacted from a charitable institution for an injury shown to be due to carelessness. In each of them the ground of action was an alleged injury of a patient by a hot-water can during operation

From the detailed judgement of the Appeal Court in one of these actions, it would appear that the implied contract between a patient and the governors of the hospital whose portals he enters is strictly limited; the governors do not undertake to treat and nurse the patient, but merely to employ other persons to do so. Hence, provided they can show that they have exercised reasonable care in the choice of such persons, they are free of all liability for any carelessness or inefficiency alleged to have occurred. It is true that the governors of a hospital are responsible, like other people, for the acts of their agents and servants, but in the majority of cases in which actions for negligence are brought against hospitals the alleged injuries arise out of work done by persons who are either never the agents or servants of the governors, or who cannot be regarded as having been their servants at the moment of the alleged careless or inefficient work. In this connexion the Court of Appeal laid down that members of the medical and surgical staffs of a hospital were never the servants of its governors; they were liable to be discharged from their office by the governors, because the governors were responsible for the control of the institution in which they worked, but the way in which they did that work was a matter in which the governors could not interfere, and for which, therefore, they were not responsible. Allied considerations apply to other professional employees, such as nurses. These in a general way are the servants of the governors, and to that extent the governors are responsible for anything they may do; nevertheless, so soon as they begin to take part in an operation or other treatment of a case under the orders of a member of the medical staff they cease to be servants of the governors, and the latter incur no liability towards a patient through their conduct. This decisive enunciation of the law by the Appeal Court is of considerable interest, for during the past few years there has been apparent a certain tendency for aggrieved patients to threaten reprisals against institutions which have extended to them their hospitality. This judgement, however, makes it clear that the occasions on which such actions can be brought successfully must be exceedingly few.

A FRESH RIVAL FOR GENERAL PRACTITIONERS.

Probably no greater compliment to preventive medicine has ever been paid than that which is forthcoming from sundry life insurance societies in the United States. Some of them are seriously considering the desirability in their own interest of bringing the more individual methods of preventive medicine to bear on their own clients with a view to lessening their expenditure by postponing the date at which they will be called on to pay up sums insured. One of them has already established a department specifically devoted to this purpose, and proposes to get into touch with all its policyholders and to keep them coached up in ways of preserving their health. Its plans include an arrangement by which the policyholders can, if they desire, be overhauled by the society's own medical officers from time to time, receive warning as to any weak points and advice as to how to avoid ill consequences, and, generally speaking, defend themselves against the wear and tear of life and the risks of advancing age. Actual medical treatment, commonly so called, does not nominally come within purview of the new department, but it is clear that work of the kind in question is scarcely distinguishable from it. It has yet to be proved that an insurance society can effectively engage in an enterprise of this sort and improve thereby the life-expectation of the general body of its policy holders to such an extent as materially to reduce its own expenditure, and no conclusion on this point could be drawn before the plan had been in operation for at least ten years. It is clear, however, that should the policy eventually prove to be one of real financial value it is capable of indefinite extension and might be taken up by insurance societies in Europe. That result would mean the introduction of a further great addition to the various forces which at the present time are rapidly changing the practice of medicine as a whole and annually increasing the difficulties by which medical men in general practice already find themselves faced.

THE PROPERTIES OF THE CANCER CELL.

An essay on the specific properties of the cancer cell, by Drs. Hess and Saxl, forms the first of a series of reports on cancer research which is being published under the editorship of Dr. Salomon.[1] From their observations on the proteolytic ferments of malignant tissue, the authors find themselves at variance with the view that the cancer cell possesses a special proteolytic activity which distinguishes it from all other cells of the body. They maintain that the proteolytic ferments of cancer cells are similar to those possessed by normal cells, and hence they do not regard the peculiar features of malignancy and its associated cachexia as attributable to the action of special ferments. The authors also record certain experiments in which they have found that phosphorus, whilst producing fatty degeneration of normal adult tissue, does not bring about this change either in embryonic cells or in the cells of malignant growths. These observations support the anatomical evidence of a biological parallelism between malignant and embryonic tissue.

DEATH OF DR. RADCLIFFE CROCKER.

We have to announce with profound sorrow the sudden death, on August 22nd, while on a holiday at Engelberg in Switzerland, of Dr. Radcliffe Crocker, Physician to the Skin Department of University College Hospital. Dr. Crocker had won a foremost place among physicians engaged in the speciality to which he devoted himself, but his death will cause a special sense of loss to the members of the British Medical Association who knew the energy with which he gave his great organizing abilities to the work of the Association. He was Honorary Secretary of the Metropolitan Counties Branch from 1889 to 1891, represented that Branch on the Central Council from 1890 until 1904, and was elected Treasurer of the Association in 1905. We hope to publish a full biographical notice in a subsequent issue.

CHOLERA IN HOLLAND.

It has been proved by bacteriological examination that the deaths of four children in Rotterdam, at first attributed to eating poisoned sweets, were in fact due to Asiatic cholera. The source from which the infection was derived does not appear to have been ascertained, but a Dutch steamer from St. Petersburg arrived in the port of Rotterdam on August 13th with cholera on board, and was detained at the quarantine station at Naaldwijk. The captain of a ship has died in the port from an illness which has raised a suspicion of cholera. The disease has been present in Russia for several months

[1] *Beiträge zur Carcinomforschung.* Herausgegeben von Dr. H. Salomon. Heft 1. *Zur kenntnis der spezifischen Eigenschaften der Carcinomzelle.* Von Leo Hess und Paul Saxl. Berlin und Vienna: Urban und Schwarzenberg. 1909. (Sup. roy. 8vo, pp. 28, 2 illustrations in the text. M.2.)

past to a serious extent, and at Riga this month two or three cases occurred every day. In the two weeks ending July 31st, 1,714 cases of cholera were notified in Russia, with 732 deaths. In Rotterdam some 25 persons, of whom 14 are children, are under observation. The precautions which have proved effective on previous occasions are being taken at British ports, and it is recognized that in view of the shortness of the passage from Rotterdam to the east coast of England and Scotland special vigilance is necessary.

MR. S. G. LUSHINGTON, who has acted for some years as legal assessor to the General Medical Council, died last week in his fiftieth year. Mr. Lushington edited three editions of *Lumley's Public Health* and two of *Archbold's Lunacy*.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Massacre of the Innocents.—On August 20th the Prime Minister made his statement as to the bills to be dropped and those which must be passed before the session can close. The "innocents" sacrificed absolutely were the Welsh Disestablishment Bill, the two Milk and Dairies Bills, the Building and Engineering Works Bill, the Houses of Parliament Bill, and the measures dealing with shops, hops, county courts, London electric supply, and the enfranchisement of places of worship. The controversial bills that must, he said, be passed were the Finance Bill, the Irish Land Bill, and the London Elections Bill. Among the seven bills which the Prime Minister sanguinely classed as non-controversial were the Housing and Town Planning Bill and the House-letting and Rating (Scotland) Bill. The latter occupied most of the afternoon of August 20th, and led to several divisions, in spite of its so-called non-controversial character, but finally passed its last stages. The Housing and Town Planning Bill will be considered early next week under a closure resolution, and will only be allowed two days for Committee and one day for report and third reading. If it passes without much change in the Commons, it is likely to be amended in the Lords, and so may, after all, have a perilous time before it. Mr. Asquith, with great hopefulness, mentioned other bills not yet introduced, which might be passed, including the Development Bill for carrying out some of the proposals of the Budget. Ten minor bills are to be dropped if seriously opposed, including the Lunacy (Ireland) Bill, and no facilities will be given to private members' bills unless they are generally accepted. The Scottish Temperance Bill, the Prime Minister said, had exceptional claims, and the Government hoped to pass it. There was, after the Prime Minister's statement, a more general feeling that September would see the end of parliamentary work, or nearly so.

Medical Officers' Duties under the Superannuation Bill.—Sir William Collins asked whether, in the event of the draft regulations prepared by the Treasury under Clause 3 of the Superannuation Bill becoming operative, medical officers attached to public departments would be required to fill up the forms prescribed in the draft regulations in regard to civil servants as part of their ordinary duties. Mr. Hobhouse replied that medical officers were employed under different conditions in different departments, and he was not at present in a position to make any general statement upon this question. The Superannuation Bill was read a third time in the Commons at the close of Thursday's sitting last week.

Workhouse Hospital Patients and Pensions.—Mr. Field asked the Secretary to the Treasury whether free residence and treatment in a union workhouse hospital would disqualify an old age pensioner; and whether an old age pensioner who had had to be removed to a workhouse hospital could draw his pension while there. Mr. Hobhouse replied that as regards the first part of the question, he understood that the view taken by the Local Government Board in cases which had been decided upon appeal was that disqualification did not arise when the medical or surgical assistance preponderated, and the maintenance was altogether subsidiary. On the other hand, when the medical or surgical relief appeared to be incidental to ordinary relief, the pensioner would be regarded as disqualified. Pension officers, in reporting upon such cases to the pension authority, were guided by these decisions. A pensioner who was not disqualified could draw his pension while in the workhouse hospital.

Daylight Saving Bill.—The Select Committee on this bill, which held its final meeting on August 24th, has reported against the bill and against any legislation of such nature on the ground that the principle if applied compulsorily would cause serious dislocation in certain industries, such as agriculture and railways. The chairman had drafted a report in favour of the principle of the bill, and the report as finally adopted contains the expression of a hope that the principle may be voluntarily adopted in cases where it is found feasible.

The Sick Poor in Hinckley Workhouse.—Last week Mr. Talbot asked the President of the Local Government Board whether his attention had been called to the report of Mr. Walsh, Inspector of the Board, on the condition of the sick poor in the Hinckley Union Workhouse, the insufficiency of the nursing staff, the mixture of children with adults in the sick wards and elsewhere in the workhouse; and whether he proposed to bring about a remedy for this state of things. Mr. Burns said that he was aware of the report referred to in the question, and he had for some time pressed upon the guardians the need for their making further provisions for the accommodation of the indoor poor of the union. In particular, he recently urged upon them forthwith to remove the children from the workhouse and to provide a temporary infirmary for the sick and a temporary laundry. This the guardians had now agreed to do, and he was in communication with them with respect to the details of the arrangements.

Chinese Pork.—In reply to Mr. Boland, the President of the Local Government Board stated last week that prior to the arrival of the carcasses in this country he caused inquiries to be made both of the importers and of the Consul-General at Hankow. The latter reported that the animals exported were entirely different from the ordinary scavenger pig, and were of a special breed fed on rice in the valley of the Yangtse. This agreed with the statement made by the importers. The carcasses were subjected to a strict examination under the Public Health (Foreign Meat) Regulations. A preliminary examination was made on the arrival of the ship. The carcasses were now in cold store, and were examined by the officers of the Corporation before they were placed on sale. Retail vendors were not required to disclose the origin of the pork.

Civil Service Candidates (Vaccination).—Mr. Pointer asked the Secretary to the Treasury what provision of the Order in Council of June 4th, 1870, gave power to the Civil Service Commissioners to demand proof of primary vaccination as a test for candidates for admission to the Civil Services, irrespective of conscientious objection. Mr. Hobhouse replied that the Civil Service Commissioners acted in this matter under the general powers given to them by the Orders in Council to test the qualifications of candidates for employment in the public service, and he was not prepared to interfere with this exercise of their discretion.

The Metropolitan Ambulances Bill.—This bill, proposing to impose on the London County Council the duty of instituting and maintaining an ambulance system for the removal of cases of accident or sudden illness occurring in the streets, was read a third time in the House of Commons on August 19th.

Scotland.

[From Our Special Correspondents.]

Glasgow Royal Infirmary.

At the Glasgow Dean of Guild Courts, on August 19th, plans were passed for buildings in connexion with the Royal Infirmary, to cost £89,000. This is a further development of the great scheme of reconstruction and extension commenced fully two years ago.

Scottish Milk and Dairies Bill.

Amongst the "innocents" slaughtered by the Government this session is this bill. Further progress with this measure was postponed some time ago in order that the Government might make a statement as to financial assistance to be given by the State in respect of the destruction of tuberculous cows. The abandonment of this bill is to be regretted, as such a measure was greatly required.

Reversionary Bequest to Edinburgh University.

Dr. Edmund Wearne Clarke, Chesterfield, Derbyshire, has left the ultimate residue of his property to the Lord Rector, Chancellor and Senatus for the time being, of the University of Edinburgh upon trust, to found and endow a bursary to be called the Wearne Clarke Bursary, "in honour of my university and for the help of others that come after me in my profession."

Domestic Balconies.

At the end of last May the Stirling Medical Society by invitation submitted to the Public Health Committee of the borough a resolution stating that the immediate erection of a hospital for consumption was, on financial grounds, inexpedient. Since then Dr. John Drew has written to the papers in praise of the design of a brick building newly erected in Friar Street, Stirling. It has four stories on the street elevation and an exposure due south; an attic story faces the east. The three upper front stories have a recessed balcony built in the form of an inverted oriel; each is separated from the adjoining room by a partition with doors on either side, and is large enough to afford room for a bed, small table, and chair. On inspection during heavy rain he found the balcony practically dry, and he thinks that privacy could be secured by a sheet of metal lattice-work extending 3 to 5 ft. upwards from the sole of the window. He believes that the erection of such buildings would afford an inexpensive method of treating consumption and other tuberculous diseases, and could also be used for preventive treatment in children and for patients who after a course at a sanatorium require further supervision and treatment. There is no doubt that a good deal might be done in the direction suggested by Dr. Drew. Experience in open-air sanatoriums and hospitals has shown that British architects have been unduly deterred by the proverbial fickleness of the British climate from providing dwelling houses with balconies and verandahs. The chief fear has been the entry of rain, but it is surprising how completely a roof at a proper angle would protect even a narrow balcony from all but very hard driving rain. What the relation of the width of the balcony to the slope of the roof ought to be we cannot say, but it seems to be a point to which architects might give attention.

Ireland.

[From Our Special Correspondents.]

Queen's College, Cork.

In the report on the condition of Queen's College, Cork, for the session 1908–9, recently presented to Parliament, the President (Dr. Windle) states that the general work of the college has proceeded satisfactorily, and that all departments, with one exception, have been up to, or over, their usual number of students. The exception to which he alludes is that of Irish history, which during the past four years, since it was attempted to revive the teaching of that subject, has been most disappointing. In the first of these years four students entered for instruction, of whom two withdrew before the course had long been in existence; in the second year two entered; in the third year, and in the year which has just been completed, there have been no students at all. When the President reported previously on this matter the point was taken, in a speech by a very eminent Irishman, as an indication, not of an absence of interest in Irish in the Cork district, but of the unsatisfactory position which the college then occupied in relation to the public. During the past session this unsatisfactory relation has ceased to exist and therefore can no longer be cited as the reason of the failure of this department.

The fact of the matter is, the President remarks, that it must be regretfully admitted that the statements which I have made, and others who could be quoted in connexion with classes for the teaching of Irish in this city, conclusively prove that there is but little enthusiasm for the study of the language in this district. This conclusion is strengthened by the following fact: Four years ago Irish was made an alternative subject with other modern languages for scholarships, entrance or otherwise, in this college. During these four years no single candidate has ever presented himself or herself in Irish for any scholarship. It seems very disappointing that these facts, which have been very disappointing to me personally, should be made public at the present moment.

England and Wales.

[From Our Special Correspondents.]

WEST YORKSHIRE.

Bradford Municipal Sanatorium.

At a recent meeting of the Bradford City Council it was determined to acquire a site suitable for the erection of a sanatorium for the treatment of pulmonary tuberculosis in women. Fifty beds are to be provided, and in the choice of a site regard is to be had to its suitability for giving opportunity for graduated open-air labour. Some provision is already made by the city for the treatment of male tuberculous cases, and the Education Committee is held to be the proper authority to deal with children suffering from consumption. The Education Committee will probably provide a children's sanatorium in which a certain amount of tuition will be given to the inmates, Government grants being earned. It is thought that the cost of the new sanatorium for women will be about £15,000 and the annual upkeep probably nearly £6,000 a year. The whole cost to the ratepayers of the various sanatoriums will in the future be a very considerable burden, but it is hoped that, in addition to the prevention of a great deal of misery, they may conduce to civic fitness and indirectly to economy.

Bradford Fever Hospital Extension.

A new home for nurses and a new observation block in connexion with the Bradford Municipal Fever Hospital were opened last month by the Lord Mayor. The additions include a new mortuary and some other minor changes, and have altogether cost about £9,000. The hospital now has accommodation for 180 patients and 35 nurses and the building used in the past by the nurses will be utilized as quarters for the domestic staff.

Proposed New Infirmary for Bradford.

The proposal for a new general infirmary for Bradford, which has been talked about for a considerable time, has now taken concrete form. The Lord Mayor has issued an appeal for £100,000, which is to be raised before any building operations are undertaken. Three local gentlemen have each promised £5,000, and there is little doubt that with a determined effort, the remainder of the £100,000 will be quickly raised. Any one who is acquainted with the present Royal Infirmary knows well the urgent necessity there is for the erection of a new modern hospital: not only is the provision of beds insufficient for the needs of the city, but the building is sadly out of date and the medical staff are constantly working at a serious disadvantage.

India.

THE DEFICIENCIES OF THE BURMAH MEDICAL DEPARTMENT.

A courageously outspoken report on the hospitals and dispensaries of Burmah, from the pen of Colonel W. G. King, I.M.S., Inspector-General of Civil Hospitals of the Province, has just been published. It reveals a lamentable state of affairs. In the first place, the establishment of hospital assistants is much below the sanctioned strength, and in spite of the recent formation of a medical school in Rangoon for their training, their pay is so inadequate that sufficient recruits are not obtainable; until something is done to improve their prospects the whole department must continue to be seriously crippled. Two years ago Colonel King submitted a memorial on their grievances, with recommendations for their amelioration, but no action has yet been taken by the Government. In the second place, the hospitals and dispensaries throughout the province are situated in utterly inadequate and unsuitable buildings, and devoid of the necessary surgical equipment, with the solitary exception of the new Rangoon General Hospital, and even this is still without clinical and pathological laboratories or an adequate casualty department and office accommodation. The hastily constructed buildings run up during the military operations when the enormous area of Upper Burmah was added to the empire still remain the only hospital accommodation in many important towns. Colonel King quotes the remarks of a high official who went to one of these hospitals for a minor operation, which had to be performed in the verandah in front of an admiring crowd, because it was the only place which afforded sufficient light. In 1907 a Provincial grant of Rs.50,000 was given, which was expected to be annually available until the present antiquated equipment of the hospitals was put on a satisfactory basis, but in the following year only one-fifth of this sum was available, and even this amount disappeared from the next budget. Colonel King points out that although imperial grants are made for sanitary purposes, they are never made for hospitals, and he very rightly suggests that the special backward circumstances of Burmah hospitals warrants a substantial imperial grant for their improvement. Another serious deficiency is the absence of a bacteriological institute in Burmah; it should be established in connexion with the Pasteur Institute already supported by the public, but would require Government aid for its adequate equipment. There is a precedent for assistance from imperial funds, as the Calcutta Physiological and Pathological Laboratory was largely built by a grant from the Government of India. If imperial funds are not available, the urgent need might, perhaps, be met by the levy of a special tax on each town to equip its hospital; a few pence a head would probably be sufficient for the purpose.

CHOLERA AMONG CALCUTTA EUROPEAN HOSPITAL NURSES.

On July 30th a terribly virulent outbreak of cholera occurred among the nursing staff of the European General Hospital at Calcutta; at the same time three children were attacked in one of the wards. During three days nine nurses developed the disease, of whom six died, in spite of the most assiduous attention on the part of the resident medical officers, sisters, and nurses. Extreme collapse set in with terrible rapidity, and although this was successfully combated by repeated intravenous saline transfusions, the reaction stage was so severe as to run on into the justly dreaded hyperpyrexial form, which no treatment served to control, the toxaemia being of an extreme degree. Mr. Haffkine and Major Clemesha have been closely investigating the origin of the outbreak, and although their report is not yet complete it is understood that cholera bacilli were found in the dregs of a milk jug, the contents of which had been taken by the nurses on the day before the outbreak, while a sweeper, who may have consumed some of the remains, also died of cholera at the same time. It is clear that the infections were all contracted at the same period, no fresh cases having occurred for some days past. There is strong reason to believe that the infection was carried to the food in the kitchen of the nurses' quarters by flies, either from a neighbouring servants' latrine, or more probably rom some native huts just over the wall of the hospital compound. Very numerous flies were found in the cook house, and had no doubt been bred in the manure which had recently been laid down on the racecourse close by.

A specially sad fact in connexion with this outbreak is that several cases of cholera which occurred in the wards of the hospital only last year were attributed to fly infection from the native huts just behind the main block. The Government accordingly sanctioned the clearing of these huts as soon as funds were available, but the stringency caused by the recent famine has prevented this improvement being yet carried into effect. Several of the nurses who succumbed had previously been in poor health; one of these was a lady who was engaged to be married to an officer of the Indian Medical Service (for whom much sympathy is felt at his tragic loss), but would not give up her work, and thus fell a martyr to duty.

Correspondence.

PRESCRIBER AND DISPENSER.

SIR,—The article in the BRITISH MEDICAL JOURNAL of the 21st on "Prescriber and Dispenser," deserves, and, I hope, will attract, the attention of the whole medical profession. The system of medical dispensing is peculiar, I believe, to England, of all civilized countries. It cannot be said to have increased the efficiency of treatment. Its effect has been rather the contrary. That it is disliked by dispensing chemists is not surprising, since it operates against them as a protected anachronism professing to do what they can do better. Yet the chief barrier to its extinction is not the counter prescribing practised more or less by all chemists, sometimes almost unavoidably. There is probably much less of this than is commonly believed, and I am certain that the great majority of chemists at the present day would be only too ready to come to terms with medical practitioners on this question if, and where, they were guaranteed the dispensing functions which are properly theirs.

On the other hand, there is no strong popular feeling against medical prescribing, unless, perhaps, among the poor, and not always among them, since an adjustment of terms is usually possible.

The one real obstacle that I have been able to recognize arises out of the fact that medical men expect by prescribing to lose touch in some degree with the treatment of their patients. The objection is not a trivial one, though its force is limited by qualifications. Not every patient is careful to stock his prescriptions, but a good many do, and these are prone to continue using them without resort to the original guide of their treatment, the practitioner, and even to carry them on from one illness to another. In some cases, and to a limited extent, never exceeding the duration of one illness, this proceeding may be defensible. Yet there are others, even though they be of quiet course, which require not only drugging but supervision. It is for the medical man to instruct his patient in this sense and as a rule he should be successful. It should also be clearly understood that prescriptions ordered in the course of one attack of disease are not to be employed in another, as otherwise a faculty of diagnosis is implied which the practitioner alone can safely exercise. With all these provisions, human nature and social conditions being what they are, there may still be some financial loss to the practitioner under this head. Such loss will consist largely of that portion of practice as now constituted in England which is non-professional, that is, of charges on drugs supplied.

Yet the practitioner who prescribes is not without compensations. He has saved on the actual cost of drugs which ought to be considerable in these days, he has much less anxiety and greater security in the administration of medicines, he is on more neighbourly terms with the chemist, his patients respect him more, he has time for the scientific pursuit of his profession and for rational relaxation. There is profit in all this, even commercial profit. Closely associated with this subject is the question of fees. There must always be greater difficulty in introducing such a change as this contemplated so long as ordinary fees are at a relatively low level.

This is the case in many parts of the country, notably in London, where the cost of living has increased considerably during the last twenty years, while fees, where they have not been seriously reduced, remain as they were. It is noteworthy, at the same time, that in some of the better-class districts the prescriptive method is displacing that of medical dispensing.

In your article you have rightly described the latter system as indefensible, and you have appealed to combination as the only remedy against it. There are not many medical men who will not endorse your statements. If combination towards this end can be brought into use by the British Medical Association, not as a weapon of compulsion, but as a means of amendment, there can be little doubt of its beneficial effect.—I am, etc.,

Highbury, N., Aug. 23rd. B. G. Morison.

Sir,—Adverting to your article on the eternal question of prescribing and dispensing, a method which works very well here is that the pharmacist shall do all the dispensing for a certain proportion of the sum which the doctor receives—say 25 per cent.

Thus, where a doctor attends a society for £10 per annum, the chemist supplies all the medicines for £2 10s. Of course this needs a deal of tact on both sides, but the pharmacist finds that when patients come into his place they buy various articles for the sick, whilst the doctor sees that the patients prefer going to the chemist because they believe he will not then limit them to the drugs which he might happen to have in his own surgery.—I am, etc.,

Dublin, Aug. 21st. J. C. McWalter, M.D Brux.

RADIOGRAPHERS AND TREATMENT.

Sir,—The interesting problem raised in the two letters under the above heading in the British Medical Journal of August 21st, p. 498, has a wide application to many branches of professional work. It certainly deserves the most serious attention of all medical men if grievous disappointment is not to overtake us in our efforts to serve the public by strenuous devotion to the numerous special departments of our science.

The questions that many a man is asking himself to-day are these: "How is it that, after having spent many years in perfecting myself in radiography, electro-therapeutics, bacteriological diagnosis, or vaccine therapy, and having fitted myself to give valuable assistance to my professional colleagues, I find these men either altogether indifferent to the class of help I can give them or endeavouring to secure it at the hands of laymen whose experience and skill are, without doubt, altogether inferior to mine? How is it that such practice as I have comes to me from the public, who frequently ask my assistance in matters for which my speciality is really of little avail, whilst I see highly suitable cases being treated by my colleagues on old-fashioned and less efficient lines, or being sent abroad or to lay institutions to secure the very treatment which I have studied so hard to make myself proficient in?"

The answer to these questions is, I believe, quite simple. The general practitioner cannot afford to introduce to his patients fellow-practitioners who are liable to become his competitors in practice. Rather than do this, they must forego such assistance as the specialist can afford or must endeavour to obtain it at the hands of those who cannot, from the absence of medical qualification, undertake the independent treatment of patients. The most scrupulous care to deal loyally with patients actually introduced will not avail to allay the general practitioner's quite reasonable fears of competition so long as the specialist undertakes any independent practice. Nor will the knowledge that the specialist will use no other method of treatment than that wherein he specializes suffice to establish confidence, for the tendency of all forms of treatment is constantly to become more widely applicable.

For the moment it is not necessary to inquire whether the fear of the general practitioner as to the danger to his practice of calling in specialists in consultation is well grounded or not. Such a fear has long existed with regard to the original specialists in medicine and surgery called consulting physicians and consulting surgeons, and is certain to increase as specialism increases. The questions I desire to submit for the consideration of your readers are:

1. Is not this fear the chief cause of the failure of the profession to make adequate use of the well-qualified specialists amongst its ranks?

2. Cannot this fear and its evil effects best be overcome by a sufficient number of specialists combining together to make known to their colleagues in general practice that they will not in any circumstances undertake the independent treatment of patients?

Finally, I would commend to the notice of your correspondents, "Radiologist" and "X Rays," a report "on the establishment of a special class of consultants," which was ordered by the Representative Meeting at Belfast to be submitted to the consideration of the Divisions of the British Medical Association, and which will shortly be circulated.—I am, etc.

August 21st. Professional Union.

THE DIAGNOSIS OF SYPHILIS BY SOME LABORATORY METHODS.

Sir,—The recent article of Dr. Bassett-Smith (p. 377) seems to place an element of doubt on the utility of the technique described by Dr. Fleming as a method of serum diagnosis of syphilis.

The simplicity and ease with which this reaction can be done in the hands of others than trained laboratory men makes it exceedingly valuable providing it will give results as accurate as some of the more complicated methods.

The principal objections to Dr. Fleming's technique, as Dr. Bassett-Smith contends, are that he fails to find haemolytic power for sheep's corpuscles in 30 per cent. of human serums, and that in 22 known syphilitics he failed to find the reaction by this method in over 50 per cent. Dr. Fleming in his paper stated that 10 per cent. of the serums of human beings possessed no haemolytic power for sheep's corpuscles, and in this he simply quotes the conclusions of Continental observers. My experience has been that in a series of over 500 observations with his technique the number of serums which do not possess any haemolytic power for sheep's corpuscles is less than 5 per cent., so that this cannot be a factor which will detract from the value of the technique, especially in view of the fact that to supply any deficiency it is only necessary to add a small amount of normal haemolytic serum in these cases.

Dr. Bassett-Smith finds that only 10 out of 22 known syphilitics give definite positive reactions with Fleming's method, whereas Dr. Fleming's figures show that over 90 per cent. of his cases show complete fixation. Many of the reactions on which he based his paper I have had the opportunity of confirming independently, my results in all cases agreeing with his, and, in addition, I have done a considerable number of observations since the publication of his method, and find that in practically all cases of syphilitic lesions, whether primary, secondary, or tertiary, a positive reaction can be obtained by this simple technique, provided a suitable heart extract is used.

As regards controls, out of several hundred only about 3 per cent. gave positive reactions, and on inquiry the histories of these patients left more than a suspicion in my mind that they might have been infected with syphilis.—I am, etc,

F. J. Clemenger, M.D.,
Assistant in Inoculation Department,
August 19th. St. Mary's Hospital.

HOME CONDITIONS AND EYESIGHT.

Sir,—With reference to Professor Pearson's article in the Journal of July 17th, I am told that it is a very general experience of Christian workers, philanthropists, and school teachers that better-class parents in poor districts keep their children more indoors. As to the effect of this restraint on eyesight, I agree that it requires investigation.

With regard to the blind, let us hope that Professor Pearson will find time to consider whether their inclusion would modify the result.

The relative effects of certain home conditions and of inheritance upon another quality, namely, stature, may be estimated by reference to the report of Dr. Mackenzie and Captain Foster on the physical condition of children attending the public schools of the School Board for

Glasgow (Wyman, 1907). Thus, for boys of 10 they give the following figures (see Table 61 totals):

Number of Rooms per House.	Number of Boys Measured.	Mean Height of these Boys in Inches.
1	348	48.3
2	2.507	49.3
3	1.070	50.1
4	425	50.8

In order to compare these figures with statistics of inheritance, we require to find the correlation between rooms per house and stature. This may be done by the correlation ratio method introduced by Pearson. The correlation ratio between two characters A and B = (standard deviation of mean values of A corresponding to all existing B's) ÷ (standard deviation of A in general). Now taking A as height and B as rooms per house, the standard deviation of the above mean heights works out to 0.63 in. The standard deviation of height of the boys in general is unfortunately not given by Mackenzie and Foster, but we shall probably err on the side of making the effect of environment appear too small if we put it equal to the S. D. for adult stature, which is about 2.7 in. (*Biometrika*, vol. ii, p. 370). Then the correlation ratio between stature and rooms per house is $\frac{0.63}{2.7} = 0.23$. This is certainly smaller than the paternal correlation of 0.5, but also it is markedly greater than the correlations found by Barrington and Pearson between persons per room and either keenness of vision or refraction. The fact that all the four mean heights quoted from Mackenzie and Foster are below the Anthropometric Committee's standard average makes the above comparison with standard deviations and inheritance statistics drawn from a wealthier class of society rather uncertain.—I am, etc.,

Hampton Wick, Aug. 3rd. L. F. RICHARDSON.

LIGHT, PIGMENTATION, AND NEW GROWTH.

SIR,—In an article by Dr. Wilfred Watkins-Pitchford on Light, Pigmentation, and New Growth, appearing in the JOURNAL last week, he makes several statements remarkable, at any rate, for their ingenuity.

Apparently he thinks that cancer is due to too great stimulation of cells by light, and twists facts, and even anatomy, to suit his purpose.

To explain the great preponderance of cancer of the uterus, an organ especially protected from light, he claims that, lying as it does, behind the bladder, the urine in this organ exercises a dioptric effect on the actinic rays passing through the anterior abdominal wall. Why does he not go a step further and explain the frequency of carcinoma affecting the hepatic and splenic flexures of the colon by the dioptric effect of the urine contained in the renal pelves on the actinic rays entering the loin, as the sun does occasionally shine on the back? Again, the pylorus, according to *Gray's Anatomy*, lies behind the left lobe of the liver, and does not bear nearly as close a relation to the anterior abdominal wall as the fundus of the stomach, yet Dr. Watkins-Pitchford brings forward the frequency with which cancer affects the pylorus as evidence of his theory.

How does he explain that the situation of cancer of the œsophagus is almost invariably opposite the cricoid or the bronchus, or at the cardia of the stomach, and why do we hardly ever see cancer of the small intestine? The small intestine is freely exposed to these rays if they exist, and all parts of the œsophagus equally.

Again, a frequent site of cancer in animals, if not the commonest, is the breast; the part in which, according to Dr. Watkins-Pitchford, cancer "is usually due to deficient protection of the breasts from light." He does not adduce any evidence in support of his theory, but confines himself to statements, some of which are inaccurate. For instance, he says, "The preference shown by sarcoma for the femur and the neighbourhood of the knee-joint is probably due to the fact that of all regions of the limbs this one has experienced the greatest increase in illumination by the assumption of the erect attitude." Now how is this? Surely in the positions of squatting, crawling on all-fours, and climbing, the femur and knees are equally exposed as in walking. I should have said the clavicles and ribs and sternum were the most exposed by the change.

Finally, he recommends us all to go about in light-proof clothes. But why not adopt the time-honoured theory of irritation, causing proliferation of epithelial cells, which are obviously likely to be less stable than normally produced cells, probably the real cause of carcinoma?

At any rate, if not the real and only cause, it is the important factor, else why do we see it at all places where there is most irritation—the lip in the clay pipe smoker, the tongue opposite bad teeth, the tonsil, the three situations mentioned above in the œsophagus, the pylorus, the papilla of Vater, the appendix, the cæcum (there is a sharp bend here), the hepatic, splenic, and sigmoid flexures (all bends), the rectum, and anus? Look at the association of cancer and gall stones, cancer and scars, cancer and tumours and mastitis of the breast, and we can dispense with actinic rays and dioptric effects.—I am, etc.,

Great Yarmouth, Aug. 23rd. R. LEONARD LEY, M.B.Cantab.

THE REPORTS OF THE POOR LAW COMMISSIONERS.

SIR,—The fact that there were no less than thirteen columns of the JOURNAL and SUPPLEMENT of last week devoted to the consideration of the Reports of the Poor Law Commission is evidence that you, Sir, are well aware of their importance. It is with great regret that I, and I know many others, see that you have already made up your mind that the proposals of the Minority Report are inimical to the interests of the profession.

The proposals of the Majority seem to me to recommend a system which is fatal to the best interests not only of the profession, but also of the poor and destitute who need medical relief, and therefore would, if adopted, injure the community at large. However, I do not think I need to point out the faults of the Majority Report, as I believe from your article you are well aware of these.

The Minority Report in the first place shows a complete knowledge and also, what is more important, an appreciation of the conditions of medical practice amongst the poorer classes. The authors know the conditions of the hospital out-patient departments, the dispensaries, and the work of the medical officers of the Poor Law, both in town and country. Their statements as to matters of fact are, I believe, absolutely correct, and I would earnestly ask those who are interested to read and reread the chapters dealing with the conditions.

The evidence which they have epitomized there shows the overlapping and abuse that is prevalent, the huge gaps in other directions, and the hard conditions under which the majority of practitioners do their work.

The scheme which they propose will, if adopted, ensure at any rate that the treatment of the poorer classes will be on a much larger scale, that it will be more efficient, and that the practitioner will in no case have to find the dressings or medicines. Since such a large mass of disease, and especially incipient disease, goes untreated at present, we may at any rate be certain of this—that a far greater number of people will be treated, and that this will take place under more favourable conditions. It follows that the remuneration of the profession engaged in this work will be largely increased. A greater number of men will be employed by the authorities, and it will lie largely with ourselves as to the salaries which will be given and accepted.

You appear to think that the official who is to be called the Public Registrar will be in a position to exercise autocratic powers, and you quote a paragraph which appears to bear out your fear. If, however, your readers will take the trouble to read the whole of the paragraphs bearing on his duties, I think there is no doubt whatever that such exercise of arbitrary power is not likely, or, if exercised, would speedily be cut short.

Again, with regard to "overlapping": the great fault of present day conditions *is* overlapping, and the scheme of separate committees to control separate departments, whose decisions are registered by the Public Registrar, is admirably calculated to ensure complete supervision and avoid both overlapping and omission.

With regard to the rural medical officers in the smaller districts, I doubt whether they care much about their appointments. Some seven or eight years ago, when I did for several successive summers a number of "locums," I was particularly struck with the unremunerative character of this work, and the admitted reason given for taking it: "I must not let any one else in this district." In any case there is no reason to postulate their extinction.

I do trust that the profession will hesitate before pronouncing against a scheme which, in the opinion of its authors and of many practitioners, will, if adopted, ensure that the medical attendance of the poorer classes will be put on a basis where the practitioner will be in a position of independence and authority which at the present time in his club, dispensary, and Poor Law practice he certainly is not.—I am, etc.,

London, August 23rd. H. Beckett-Overy.

*** We do not think that wise men can yet have made up their minds as to the effect of either the Minority or the Majority Report, and we trust that, *pro hac vice*, we may number ourselves in that class. Broadly, the view we have ventured to express is, that the recommendations of the Minority Report would, if carried out, bring about a revolution in the relation of the profession not merely to the municipalities and to the State, but to the community, individually as well as collectively, and that they therefore call for the very fullest consideration by the profession. There seems to be a certain risk that the picture drawn in the Minority Report, and still more highly coloured in the subsequent utterances of one of the Commissioners, may tend to prevent this full consideration being given to defects in the Minority Report, and to merits in that of the Majority.

THE POSTMASTER-GENERAL AND POST OFFICE APPOINTMENTS.

Sir,—Dr. Todd-White, in the Journal of the 21st inst., seems to have entirely misunderstood my letter on Post Office appointments. I had no intention of being understood as objecting to medical men taking an interest in politics. What I and, I trust, the major portion of our profession do object to is that these appointments should be political ones.

The choosing of Post Office surgeons ought to be in the hands of the permanent staff of the Post Office, and professional qualifications should be reckoned as a prior claim rather than political work done for the party in power.

Any one at all conversant with the making of these appointments knows well that such is not the case. The result of this course has been that appointments very unpopular with the Post Office staff have been made. Under present conditions, the candidate having the best chance is the one who can directly or indirectly most effectually influence the political party in power.—I am, etc.,

August 24th. Observer.

THE TREATMENT OF OPHTHALMIA NEONATORUM: NOTIFICATION AND THE POTTERY DISTRICT.

Sir,—In the towns of Fenton, Newcastle-under-Lyme, Longton, Stoke-on-Trent and Burslem, ophthalmia neonatorum is now a notifiable disease under the Infectious Disease Notification Act, 1889. In the Blue Book about to be published, regarding the midwives question, it is recommended that ophthalmia neonatorum should be a notifiable disease, and there is no doubt that it will shortly be notifiable throughout the kingdom.

The Royal Commission on the Blind, the Deaf and the Dumb, which reported to both Houses of Parliament in the year 1889, estimated that about 7,000 persons in the United Kingdom had lost their sight from ophthalmia neonatorum, and assesses the cost to the State of each of them at £50 a year, on a basis of £25 for keep and £25 for loss of useful work. That is, the cost to the State for these cases of preventable blindness is £350,000 a year. Now the medical profession is about to save the State this money, because the State is about to make it a notifiable disease, and has already done so in the towns mentioned above, thereby making it possible for the disease to be treated in its earliest stage.

The question which arises is, Ought the medical profession to save this yearly waste of £350,000 without any reward or remuneration? Clearly and emphatically, no. This is the principle we have most strenuously fought for in Liverpool, and Dr. Westby, the representative of the Liverpool Southern Division, at the Annual Meeting at Belfast, moved, in connexion with the treatment of ophthalmia neonatorum:

That the public authorities should not be relieved, at the expense of the charitable and of the medical profession, of duties which appropriately belong to such public authority.

This, I am very pleased to say, was agreed to. I would therefore ask the members in the towns in question to look immediately to their interests, and to act now. It is quite certain nobody will pay us for our services if we do not ask for it. The members would not only do themselves a good turn by obtaining what is right and due to the profession, but they would benefit the next generation of medical practitioners, and would be pioneers in this movement which would help members in other towns to obtain the same.

The important point I wish to emphasize on the members in the districts in question is, to act now, and with such just demands they will most assuredly be successful.—I am, etc.,

Liverpool, August 24th. A. Stanley Parkinson.

CANCER RESEARCH.

Sir,—I understand Dr. Keith and his principles perfectly. The incompatibility of the drugs is easily ascertained, and he might with advantage state the method of mixing them together, by which he is able to obtain a solution suitable for injection. He might also with equal advantage give an account of the results which he has obtained from the blood examination in his series of cases.

As a matter of fact, sodium cinnamate was the first of a series of chemicals with which I have been working, and in a paper read before the Second International Congress on Surgery, and published in the *Lancet*, September 24th, 1908, the basis upon which my work rests is explained. A reference to this paper will show how very closely Dr. Keith has followed my footsteps, and I certainly have desired to protest against the appropriation of my work without acknowledgement.—I am, etc.,

Hatfield, August 24th. Lovell Drage.

THE KINAESTHETIC AREA OF THE BRAIN.

Sir,—As an old and deeply indebted pupil of Dr. Bastian I am indeed sorry that I have apparently not realized the special limitation of the interpretation which he gives to the word "kinaesthetic." That term from its derivation has always seemed to me to be the more euphonious Greek equivalent of the clumsier "sensori-motor."

Possibly the misunderstanding has arisen from our commonly but wrongfully using the expressions "sensory" and "motor" when we ought to employ the terms "afferent" and "efferent." Since all nerve centres receive afferent and emit efferent impulses, I must confess that to me the spinal centres are as truly kinaesthetic as those in the central gyri, and to this generalization must be ascribed my failure adequately to appreciate Dr. Bastian's restriction of his term.—I am, etc.,

Ronsay, Orkney, Aug. 24th. Victor Horsley.

The Services.

THE INDIAN MEDICAL SERVICE.

A correspondent, who is in a position to know how the matter strikes newly-commissioned officers of the Indian Medical Service when they arrive in India, thinks that it ought to be understood in this country, both by possible candidates and by the teachers in the medical schools, that their feeling is usually one of keen disappointment. He reiterates the statement that private practice among natives has almost vanished for the Indian Medical Service. He considers that the position of an officer of the R.A.M.C. in India compares favourably with that of an officer of the Indian Medical Service, and in support of this sends us the following table, adding that reference to the Indian Army Regimental Monthly Pay Registers will show that the medical officer is the worst paid officer of

his rank in the regiment. He adds also that, though the system of the native station hospital for Indian troops has been introduced, the senior medical officer I.M.S., who is put in charge sometimes of as many as five hospitals, aggregating 250 beds, draws no extra charge allowance, although the medical officer R.A.M.C. does draw an allowance for a similar charge (vide A.R.I., vol. i, para. 155 [d. iii]).

(D) I.M.S. AND R.A.M.C.ORPS.

(i) *Unemployed Pay.*

Administrative ranks—	R.	a.	p.
P.M.O., H.M.F.'s, and Surgeon-General	1,200	0	0
Colonel	1,000	0	0
Other ranks—	I.M.S.		
Captain	475	0	0
Lieutenant	420	0	0

(ii) *Grade Pay.*

	I.M.S.			R.A.M.C.		
	R.	a.	p.	R.	a.	p.
Lieutenant-Colonels, specially selected	1,000	0	0	1,250	0	0
Lieutenant-Colonels	900	0	0	1,150	0	0
Major	650	0	0	789	3	0
After 3 years as a Major	750	0	0	—		
,, 15 years' total service	—			825	11	
Captain	400	0	0	475	0	0
After 5 years' total service ...	450	0	0	—		
,, 7 years' ,, ,, ...	500	0	0	530	0	0
,, 10 years' ,, ,, ...	550	0	0	650	0	0
Lieutenant	350	0	0	420	0	0

(iii) *Charge Allowance to the S.M.O. in Charge of a Station Hospital.*

	I.M.S.	R.A.M.C.
		R. a. p.
300 beds or over	Nil.	240 0 0
200 beds ,, ...	,,	180 0 0
100 beds ,, ...	,,	120 0 0
50 beds ,, ...	,,	60 0 0

TERRITORIAL FORCE.

CANDIDATES FOR SPECIAL RESERVE OF MEDICAL OFFICERS.

A CORRESPONDENT calls our attention to paragraph 232 of the regulations for officers of the Special Reserve, and suggests that it permits a man to be performing the duties of a medical man though unqualified. If he will read the paragraph again he will see that it applies only to those who are already in the Officers' Training Corps, which they join as students. Until they obtain their professional degree or diploma they will not be confirmed in a commission in the R.A.M.C., and consequently not regarded or treated as medical officers.

Paragraph 232 is as follows: "In the case of a candidate for the Special Reserve of Officers of the R.A.M.C. who is already in the Officers' Training Corps, but who has not yet obtained his professional degree or diploma, the period of probation will continue (for a period not exceeding two years, except under special circumstances) until such degree or diploma is obtained, when, other conditions being satisfied, he will be confirmed in his commission. During the extension of the probationary period the candidate will be shown as a lieutenant of the Special Reserve of Officers of the R.A.M.C. on probation, but will be required to undergo the annual or other training prescribed for a commissioned officer of his branch."

A PORTABLE FIELD KITCHEN.

A PORTABLE field kitchen of a very practical nature, the invention of Lieutenant and Quartermaster A. Sykes, of the 87th Royal Irish Fusiliers, is now under trial. It is in the form of a range, so closed that no light or flame is visible, and with it a hot meal for 1,000 men can be cooked on the march in any sort of weather and in a very short time. Oil is the fuel used; but to render it universally useful the inventor is considering a scheme to burn coal or wood also. No smoke or smell is emitted from the oil during the cooking; spray burners vaporize the oil before reaching the flame, so that the heat is greater and more widely distributed. The range weighs a little more than half a ton, so that with its complement of oil, food, and accessories it does not make more than a very light load for two horses in a general service wagon. It can be readily lifted out of the wagon and placed on the ground to cook in camp, or in a regimental cookhouse for ordinary use. It bakes, boils, grills, and fries separately or simultaneously, and to cook for a battalion for a day with oil at 6d. a gallon the cost is about 8s. Only one man is required to look after it, and a soldier of ordinary intelligence can learn its use in an hour. The range is balanced on an axle longitudinally, so that it swings freely, while each of the boilers is balanced on a transverse axle, so that, no matter what angle the cart may assume in passing over rough ground, the contents of the boilers keep a uniform level. To prevent any splashing a narrow concave flange is fitted inside the boilers, whose contents are protected from dust and dirt by a tightly fitting lid fixed by a lever movement. In this a small sliding panel is arranged to enable the cook to stir or add to the contents without taking the lid off. The kitchen has been at work during the recent divisional operations, and has been highly praised. A photograph of the kitchen, with a full description of it, appears in the *Military Mail* of August 20th, and to that article we are indebted for this abbreviated account.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

ATTENDANCE ON THE FAMILIES OF MEDICAL MEN.

ABERDEEN asks whether B. would be right in sending an account for attendance on the wife of C., a medical practitioner who, although he has a plate on his gate, is blind and is not generally recognized as being in active practice. He is married to a lady who is apparently of independent means. When C. asked B. to attend nothing was said about fees. B. is a young practitioner dependent on his earnings. The usual fees in the neighbourhood are three visits for a guinea.

*** As we have pointed out repeatedly there is no obligation to attend the families of medical practitioners without payment. It is at best a gracious custom. It is a pity that B. did not have an understanding at the beginning, as by this time the fees may amount to a considerable sum. We should advise him to see C. and have a friendly explanation, as if he were to send in an account without doing this he might be accused of behaving inconsiderately.

THE OBLIGATION OF A SUBSTITUTE.

EMERGENCY ATTENDANCE asks for an expression of opinion as to whether a practitioner who has attended the patient of another medical man in an emergency is thereby debarred from attending the patient or other members of the household at any future time.

*** This question has frequently been considered in the JOURNAL. What seems to be the general opinion is that the introduction obtained in that way should not be taken advantage of to the detriment of the original medical attendant, but that after an interval of time which has been suggested as two years, but which should not be interpreted too strictly, such an emergency attendance should constitute no bar to practice.

Medico-Legal.

OBSTRUCTION OF A MEDICAL OFFICER OF HEALTH.

At the Thames Police Court, on August 20th, a milk-seller was summoned for obstructing the medical officer of health for Stepney in the performance of his duty, and was fined £5 and costs, or, in default, one month's imprisonment. The defendant was a man whose name had been taken off the list of milk-sellers last March, but information being received that he was still selling milk, the medical officer of health visited his premises. He was refused admission, and during the discussion heard the sound of a milk pail being moved. A constable was fetched, but the defendant still refused to allow the medical officer to enter the shop. The medical officer said that he did not produce a written authority showing who he was, but the defendant knew him. The defendant admitted in court that he knew the medical officer of health, but denied that he had received any milk on the day of his visit.

DEATH UNDER SPINAL ANAESTHESIA.

IN Clerkenwell, on August 20th, a coroner's jury returned a verdict of death from misadventure in the case of a child, aged 16 months, which died at Great Ormond Street Hospital just before the commencement of an operation for the removal of a malignant growth. The child was under spinal anaesthesia, the drug used being stovaine. Death was ascribed to respiratory failure, but the medical superintendent of the hospital said that he could not say that the drug used took no part in accelerating death.

DELAYED CHLOROFORM POISONING.

At an inquest on August 24th on a child aged 14 which died in the Royal Free Hospital, the cause of death was stated by the medical witness to be delayed chloroform poisoning. The child underwent an operation on August 16th, being anaesthetized by a mixture of which chloroform formed a part. Three days later she became delirious and afterwards comatose, and remained in this condition until her death on August 21st.

COMPENSATION CASE: FEE FOR CONSULTATION.

A. K. writes: I have been attending a woman who was injured in a bus accident and is claiming damages from the bus company. One morning I received a letter from the company's doctor asking me to meet him at the case that afternoon. I had no time to arrange previously about the payment of my fee, but did as he requested. Am I not right in claiming a special fee for this interview, and, as it was at the request of their doctor that I went, in holding the bus company responsible for its payment?

*** It appears to us that, in the circumstances, no fee is due to our correspondent from the company. The request of the medical officer was probably made out of consideration for the medical etiquette of the matter. A fee is due from the patient to the medical attendant, as his presence at the consultation may properly be taken to be in the interests of the patient.

Universities and Colleges.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Surgery.—*H. S. Brown, *‡J. A. Byrne, *‡J. P. Henderson, †B. A. Keats, *S. K. Poole, †B. Robertshaw, *S. H. Scott, *‡T. A. F. Tyrrell, *A. Whitby, **F. H. P. Wills.

Medicine.—*H. S. Brown, *‡J. M. Burke, *‡J. A. Byrne, *‡J. P. Henderson, *‡G. Holmes, ‡W. E. North-Smith, *‡G. Tate.

Forensic Medicine.—J. A. Byrne, A. C. Dickson, C. S. Foster, J. P. Henderson, H. R. Ibbotson, B. W. Loewenberg, J. K. Nariman, G. Tate.

Midwifery.—J. P. Henderson, C. P. A. de L. Pereira, G. Tate, C. J. Thompson.

*Section I. Section II.

The diploma of the Society has been granted to Messrs. J. A. Byrne, J. P. Henderson, B. A. Keats, and F. H. P. Wills.

Obituary.

WILLIAM BROWN, F.R.C.S.E.,

CONSULTING MEDICAL OFFICER OF HEALTH FOR CARLISLE.

Mr. William Brown, who for twenty-five years and until his retirement last year was Medical Officer of Health for Carlisle, died at his residence at Craiglockhart, Edinburgh, last month. Mr. Brown, who was born at Wintershields, received his medical education at the University of Edinburgh; he obtained the diploma of M.R.C.S.Eng. in 1872, and seventeen years later was admitted a Fellow of the Royal College of Surgeons of Edinburgh. In 1873 he became L.R.C.P.Edin., and shortly afterwards was appointed House-Surgeon to the Cumberland Infirmary. A year later he took over the practice of his elder brother, the late Mr. Robert Brown, of Carlisle, who had been incapacitated by illness. He assisted the late Dr. Elliot in his work as medical officer of health, and succeeded him upon his death in 1883. Last year the town council having decided to appoint a medical officer of health to devote the whole of his time to the duties of the office, Mr. Brown retired and was appointed Consulting Medical Officer for a period of four years. Soon after his appointment as medical officer of health he called special attention to the insanitary condition of certain private slaughterhouses, and to the existence of a virulent form of typhoid fever in their neighbourhood: as a result a public slaughterhouse was erected in 1887, and the private slaughterhouses abolished. He also brought about the abolition of ashpits and pigstyes in the town with resulting great improvement in the health of the city, especially in respect of typhoid fever. More than twenty years ago Mr. Brown studied the subject of the infection of milk by tuberculous cattle, and the importance of milk as a vehicle for typhoid fever. On his advice the Health Committee instituted systematic inspection of dairy cattle within the city, and the notification of tuberculous disease in man. He gave valuable evidence before the Royal Commission on Tuberculosis in 1897, and in many other ways took an active part in the advance of sanitary science. When the annual meeting of the British Medical Association was held in Carlisle in 1896 he was a Vice-President of the Section of Public Medicine. But he did not confine himself to this branch of medicine, and achieved considerable distinction not only as a general surgeon, but also in ophthalmology. He gave an interesting demonstration of cases before the Section of Ophthalmology in 1896. He was a Fellow of the Royal Microscopical Society, and at one time President of the Carlisle Microscopical Society.

He was a man of unassuming disposition, and all who knew him, either as medical officer of health or in his capacity as a private practitioner, formed a high opinion of his abilities and disinterestedness.

The death is announced of Mr. Robert G. Coombe, formerly of Burnham, Essex, in his 92nd year. Mr. Coombe was admitted a Member of the Royal College of Surgeons in 1841, and was elected a Fellow in recognition of his high professional attainments in 1884.

Dr. Otto v. Bollinger, Professor of Pathological Anatomy in the University of Munich, died on August 13th, after a short illness. Professor Bollinger, who was in his 67th year, made many contributions to the knowledge of the etiology of actinomycosis, tuberculosis and cardiac hypertrophy, and to the causes and phenomena of meat poisoning. He joined the staff of the *Muenchener medicinische Wochenschrift* in 1879, and the eminent position which that periodical has now attained was largely due to his energy and ability. He took a great interest in questions affecting the social welfare of the profession, and was particularly active in promoting the local society for providing pensions for the widows and orphans of medical men.

Public Health
AND
POOR LAW MEDICAL SERVICES.

CERTIFICATE OF SUFFICIENT WATER SUPPLY.

J. P.—When the owner of a newly-built house in a rural district applies, in accordance with Section 6 of the Public Health (Water) Act, 1878, for a certificate that there is a sufficient water supply, the application is made to, and the certificate is obtained from, the sanitary authority, and not from the medical officer of health. The owner of the house cannot be called upon to pay a fee either to the sanitary authority or to the medical officer of health.

DISPENSARY FOR POOR LAW PATIENTS.

Delta writes: Is a district medical officer living within his own district in a large provincial town in England at liberty to open a surgery or dispensary within that district for the purpose solely of his Poor Law patients?

*** The objection to such a course would be that the guardians might fear it was part of a plan to differentiate between pauper and other patients—a differentiation which might extend further. If this objection be waived, there must be many Poor Law districts where a central surgery at which the pauper patients might attend would be a great convenience to them.

At an inquest on a baby on August 24th, Dr. Waldo, the Coroner for Southwark, drew attention to the dangers involved by the Government stamp on secret remedies. These stamps, in his experience, did a great deal of harm, because poor and ignorant mothers and other persons thought that the medicine must be good because it bore a Government stamp. It was true that the words "no Government guarantee" appeared on the labels, but it was often in small type, and many of the persons who used these remedies overlooked these words, or could not read them. The Government received £240,000 in one year from these stamps, and now, with a Free Trade Government in office, there ought to be a good opportunity for getting rid of them.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DEAFNESS wishes to know of a school which would admit a girl, aged 6 years, who is quite deaf, following otorrhoea three years ago. Most institutions known do not take cases under 7 years of age.

C. E. W. asks for advice in the treatment of a lad, aged 14, whose ankle twists over very readily on rough or slippery ground. He has strapped and bandaged it, given him a laced anklet and a "Holland's" sock (valgus). All these are of great service to him, but fail to prevent side-slip entirely. He is a weedy-looking boy.

TUBERCULOUS SINUS.

SINUS asks for advice in the treatment of a patient who, as the result of a tuberculous abscess two and a half years ago, has a sinus running from the outer side of the middle of the thigh behind the femur. Examination by the *x* rays shows no disease of the bone. The condition has been treated by incision, by complete excision twice, by injection of tuberculin (Koch's old and also T. R.), by scraping and packing, by syringing with various antiseptics, including peroxide of hydrogen, iodide dissolved in ether, iodoform emulsion, and enzymol, and also by dry cupping, but all to no purpose, although the patient is otherwise in good health.

PRIMULA RASH.

PRIMULA asks for the experience of other members in respect of primula poisoning. His patient, a gardener, aged 53, suffered ten years ago from an intense irritation of his hands and arms, due to working with primulas, and two months ago began to suffer again. When seen then the condition was acute, and sedative lotions were prescribed. The patient failed to present himself again for several weeks, and the condition then found was as follows: The skin of both forearms and backs of the hands was thickened, slightly scaly, and intensely irritable, having a dry eczematous appearance, interspersed with hard subcutaneous lumps, the size of a pea. The irritation was greatly aggravated when working near the stoves. There was also a similar condition on the forehead, ascribed by the patient to rubbing his face with his hand during work.

ANSWERS.

INCOME TAX.

F.R.C.S.E.—If the surveyor of taxes requires an allocation of expenses between income from appointments and that from general practice, the best method will be to divide such of the professional expenses as are common to both branches roughly in the proportion that the receipts from the two branches bear to one another. When the expenses relating to the "public offices" have so been ascertained the remainder of the total expenses should be set against the fees received in the course of general practice. The life assurance premiums should not be deducted as expenses, but shown separately in the space provided in the income tax return.

TWITCHING OF LEGS.

DR. C. E. W NCKWORTH writes: In reply to "Mannos" I would advise him to give his patient 60, or even 80, grains of potassium bromide about half an hour before bedtime, or if that fail, 20 to 30 grains of chloral hydrate. It is often difficult to diagnose the cause of the "twitchings" and whether they arise from some special irritability of the spinal cord, set up by too much sexual indulgence or whether they are caused by disease of the spinal cord.

ANTIDIPHTHERIA SERUM IN ASTHMA.

LIEUTENANT-COLONEL JOSHUA DUKE, I.M.S.(ret.), writes: With reference to the treatment of asthma by antidiphtheria serum, in 1901-2 in the Punjab, during a number of inoculations for plague with Haffkine's preventive serum, it came out that several *cures* of patients suffering from asthma had occurred. Whether the relief was permanent, or how long it lasted, cannot be stated. One other instance of relief afforded by the same serum happened in the case of a married woman (a multipara) who had suffered all her life from acutely painful dysmenorrhœa. The reaction of the serum in her case was very severe. But this woman assured me that she had passed two subsequent periods without any suffering whatever. Whether the relief to this person was continued cannot be stated, as such cases are lost sight of. Speaking from memory after a lapse of years, the curious and inexplicable action of Haffkine's serum in cases of asthma made a strong impression on my mind.

DUTCH DROPS.

F.R.C.S.—Two formulæ are given for Dutch drops in the *Pharmaceutical Journal Formulary*:—

1. Resin, 1 pound; sulphur, ½ pound; linseed oil, 20 fl. oz.; oil of turpentine, 10 fl. oz.; strong solution of ammonia, 20 minims. Mix.
2. Balsam of sulphur, 1 fl. oz.; oil of turpentine, 1 fl. oz. Mix.

SPARKING PLUGS.

WE have on more than one occasion published warnings with regard to the sale of sparking plugs by agents who call upon doctors, but it appears that the scheme is still pursued. Dr. Lavery, of Dundalk, writes to advise any medical man who may be called upon by a person giving the name of A. C. Goodwin, and his address as 47, Oxford Street, W., to make full inquiries before parting with money or entering into any agreement to purchase plugs. There may be only one agent who possesses several names, and it is possible that any one who cares to communicate without delay with the police will find them not only ready but anxious to take a share in the inquiries.

SHIP DISINFECTION: PARATYPHOID INFECTION.

EASTERN.—(1) We do not know the Marot process. It is perhaps a modification either of the Clayton process (sulphur fumes) or of the French method (CO gas). In both of these the gas is generated either on board the ship or in barges alongside, the fumes being conveyed to the holds by pipes. Accidents have happened with the CO method, and, on the whole, the sulphur method is preferable. (2) The differentiation of the paratyphoid bacillus from the typhoid bacillus is a very large subject, and for further information our correspondent should consult any recent work on bacteriology. There are two principal varieties of paratyphoid bacilli, (*a*) the paratyphoid A., (*b*) the paratyphoid B. (Conradi-Drigalski). Gaertner's bacillus is also now included in this group, and the *Bacillus psittacosis* might be added. Paratyphoid bacilli are distinguished from colon bacilli by the following characters: They do not ferment lactose, or at least only to a very slight extent, and no indol is produced; they are more motile, and possess about twelve cilia each. From typhoid bacilli they differ in fermenting certain hydrocarbons, such as glucose, maltose, dextrose, etc. It is often quite impossible to distinguish paratyphoid infection from typhoid, except by the serum reaction. Leclercq states that a more sudden onset, an irregular temperature chart, and a more rapid progress are in favour of paratyphoid. According to the particular organism which is agglutinated by the patient's serum, so should it be concluded that the infection is due to this particular organism, though some serums may agglutinate several forms of the bacillus, and thus give rise to difficulty. The etiology of paratyphoid resembles that of typhoid, water being the chief source of infection. Infected meat and oysters have also been blamed.

LETTERS, NOTES, ETC.

ERRATUM.

IN the BRITISH MEDICAL JOURNAL of August 14th, page 374, line 20, for "Lieutenant-Colonel Bull, R.A.M.C.," read "Lieutenant-Colonel Butt, R.A.M.C."

A CASE OF GALACTORRHŒA.

DR. WM. B. ARTHUR (Wingate) writes: J. H., aged 19, primipara, well formed, pale, subject to periodic attacks of asthma (cause unknown), was delivered on February 8th, 1909, of a full-term male child. The child's throat and pharynx were malformed, it could not swallow, and died on the thirteenth day. The mother's breasts were treated in the usual manner with belladonna plaster and magnesium sulphate and tincture of belladonna were given internally, and continued until the end of the fourth week, at which time the milk secreted during the night was sufficient to soak three large bedroom towels. Painting the breast with liquor atropinæ sulphatis, cold applications, the internal administration of ergot, ammonium chloride, and opium, and the limitation of liquid drunk to half a pint a day, entirely failed to diminish the secretion to any appreciable extent. At the end of the seventh week compression by means of a broad band of holland adhesive plaster passing over both breasts and round to the back of the chest, the two ends crossing, was tried; the band could thus be tightened each day from behind. At the end of the fifth day the secretion had entirely ceased, without pain or other complication.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	6
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication; and, if not paid for at the time, should be accompanied by a reference.

N.B.—It is against the rules of the Post Office to receive letters *Postes Restantes* addressed either in initials or numbers.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, SEPTEMBER 4TH, 1909.

EDUCATIONAL NUMBER, SESSIONS 1909-1910.

The Profession of Medicine.

IN accordance with annual custom, the Educational Number of the BRITISH MEDICAL JOURNAL is devoted to the publication of information as to the various ways in which a registrable qualification to practise medicine and surgery can be obtained. Notes also are given as to the various special diplomas, and information about medical schools and hospitals and the public services. The particulars given are founded on the most recent information; but as regulations may vary from time to time, the official syllabus or calendar of any selected university or school should be consulted for further details.

THE practice of medicine in the United Kingdom, as in all other civilized countries, is regulated by the State, but in the case of Great Britain and Ireland the State has not proceeded by the direct road followed in the German Empire, where every aspirant must pass an examination held by the State, the *Staats Examen*, before he has the legal right to practise. The Medical Act of 1858 called into existence the General Council of Medical Education and Registration of the United Kingdom, and entrusted to it the duty of keeping a *Medical Register*, laying it down that the words "legally qualified medical practitioner," or "duly qualified medical practitioner," or any words importing a person recognized by law as a medical practitioner, shall be construed to mean a person registered under the Act. A person employed by or under the State in any medical capacity must be registered, and a valid medical certificate required by any Act of Parliament can be given only by a registered person. Further, only persons so registered can recover in a court of law charges for medical or surgical advice, attendance or operation.

The General Medical Council must, on application and on payment of certain fees, enter upon the *Medical Register* the name of any person possessed of a qualification—that is to say, a degree or diploma granted by those universities or colleges enumerated in a schedule to the Act, but since the Act was passed certain colleges have come to an understanding to grant their qualifying diplomas only on the result of examinations conducted by a joint examining board. This has come about in part because the General Medical Council requires that a qualification shall show that the person is qualified to practise all and each of the three chief branches of medicine—namely, medicine, surgery, and midwifery.

The General Medical Council at present contains 34 members, 24 being representatives of the qualifying bodies—that is to say, the universities and the medical and surgical colleges or corporations; five being representatives directly elected by the members of the profession in the three kingdoms (three in England and one each in Scotland and Ireland), and five being persons nominated by the Crown. The Council has power to require any body granting a qualification for registration to furnish it with full information as to its course of study and examinations, and to visit and inspect the examinations. The Council systematically exercises these powers, and has laid down in general outline the course of study which a medical student must follow, from whatever body he may desire to obtain a qualification for registration. In this way a certain amount of uniformity in training and examination is obtained, and the Council takes considerable pains to ensure that no examination falls below the minimum it has laid down. In one respect there is absolute

theoretical uniformity, inasmuch as a qualification for registration cannot be obtained in a shorter period than five years; in practice, as we shall see, this period is, as a rule, very much exceeded.

CHOICE OF A MEDICAL QUALIFICATION.

A young man who intends to enter the medical profession has thus a considerable latitude of choice with respect to the body from which he shall eventually obtain his qualification for registration. We venture to say, however, that he will be well advised to seek a medical degree from a university, and should require very clear reasons for taking any other course. There are now ten universities in England granting medical degrees, four in Scotland, and three in Ireland. In the case of the universities of Scotland and of Ireland, and of those of England, except Oxford and Cambridge, the student will find that he can obtain the whole of his medical education from matriculation to final graduation within the university, but in all cases he must take care to matriculate, at least, before entering at a medical school. He may also with advantage in many cases prepare himself for the first examination in the preliminary sciences of physics, chemistry, and biology at any one of the colleges and schools recognized for this purpose; this, in many instances, on grounds of economy alone, will be found the wisest course. If either Oxford or Cambridge be selected, the student will remain there until he has passed through that stage of his career which is devoted to the study of the institutes of medicine, the chief of which are comprised in the sciences of anatomy and physiology. Thereafter he will proceed to London or some other centre possessing large hospitals, where the practical study of medicine and surgery can be prosecuted with greater advantage. As to the relative advantages of possessing a medical degree from a university or a diploma granted by one of the qualifying bodies which are not universities, we would say no more than that the possession of a university degree is, as a rule, a considerable advantage in after-life.

COST OF EDUCATION.

It is not easy to compare precisely the cost of medical education at the various medical schools. The fees of universities for degrees are generally lower than those of other qualifying bodies for diplomas, but in either case these fees are only a small part of the total expenses. The fees for teaching and hospital privileges vary from under £100 to about £150. The cost of living also varies considerably, being higher in London and Oxford than in Aberdeen or Dublin, but all comparisons are vitiated by the varying length of time that students take to obtain a qualification.

Official statistics of the General Medical Council about 1,111 students show that the average curriculum was three weeks under seven years. Only 14 per cent. qualified in the minimum period of five years, 35 per cent. qualified in the sixth year, 18 per cent. in the seventh, and 13 per cent. in the eighth year, while there is no record that the remaining 20 per cent. ever qualified. In other words, less than half the students had qualified at the end of six years, and only two-thirds at the end of seven years, while those who took eight years were almost as numerous as those who only took five. Comparing the three kingdoms, in Scotland 23 per cent. qualified in the minimum period of five years, in Ireland 12½ per cent., but in England only 7 per cent. Broadly speaking, six years may be taken as the average length of the curriculum, while no surprise need be felt if seven years are required by ordinary students.

At a moderate estimate we may put the cost of board, lodging, clothing, travelling, subscriptions and pocket money at not less than £100 a year. Multiplying this by six or seven, and adding about £200 for fees for education and examinations, we get a total of about £900, and probably shall not be far wrong if we reckon about £1,000 as the total cost of the curriculum.

Of course, an eager young student with a fair share of brains will make up his mind that he will accomplish his course in record time, and he will view with a sort of scorn the large percentage of students who take six or seven years to obtain a qualification. He must remember, however, that the study of medicine nowadays is no dilettante's occupation; it means hard work and serious calls on his mental and physical powers. Statistics show that of those who begin the study of medicine, 4 or 5 per cent. die while still students, and this is an index of a far larger percentage of illness, more or less serious. In the later years of the course the student is exposed to special risks of infection: an attack of diphtheria may mean the loss of three months, and the curriculum is so arranged that such loss may involve an addition of six months, or even a year, to the period of pupilage.

PROSPECTS.

We next turn to the all-important question, What are the prospects of success when a qualification has been obtained? Forty years ago Sir James Paget studied the after-career of 1,000 men who entered at St. Bartholomew's Hospital, and he found that 41 died while students and 87 more within twelve years of commencing practice, 56 failed entirely, and 96 abandoned the attempt to enter the profession. Of the remaining 720 who continued in practice, 23 attained "distinguished success," 66 "considerable success," 507 "fair success," and 124 "very limited success." By "considerable success" was meant not merely pecuniary success, but account was taken of the general esteem in which they were held in the neighbourhood in which they were in practice. By "fair success" was meant a moderate practice, enough to live on, with a good professional reputation, while "very limited success" denoted those who had not even a moderate practice but only made a bare living, much less than they should have achieved with their education. Much more recently similar figures were obtained by Dr. Squire Sprigge from an examination of the after-career of 250 students at a metropolitan school of medicine. Of these, 63 never qualified at all, and almost exactly half the number achieved "some measure of success."

PRIVATE PRACTICE.

Probably over seven-eighths of the men who obtain a medical degree or diploma enter private general practice, and there seems to be very little doubt that the prospects in general practice are not so good as formerly. Complaints of lessened income and increased expenses come from general practitioners all over the country. Nor is it difficult to see why this must be the case. The subject is dealt with very fully in two articles on "The Financial Prospects of Medicine," which appeared in the BRITISH MEDICAL JOURNAL for June 12th and July 17th, 1909. Dealing first with the question of overstocking of the profession, the population and the number of medical men in England and Wales was given for every year from 1881 to 1908. In 1882 there were 15,383

medical men, and the population was 26,334,942, so that if the work had been equally divided each medical man would have had 1,710 possible patients. By 1908 the medical men had increased to 25,092, while the population had increased to 35,348,780, giving only 1,407 possible patients to each medical man, the increase of medical men having been much greater in proportion than the increase of population. This shows a loss of 300 patients out of every possible 1,700—that is, almost 18 out of every 100. The fall in the number of possible patients was continuous from 1882 to 1901, though since then there has been a slight, almost negligible, rise from 1,381 to 1,407. These figures give prima facie proof that the supply of doctors has increased more rapidly than the demand. But it might be objected that the 1,400 possible patients of to-day provide quite as much work as the 1,700 of twenty-eight years ago. But a reference to the statistics published by the Registrar-General shows that the mean expectation of life has distinctly risen, and that the general mortality-rate has much decreased—two facts which give presumptive proof that there is less average illness now than formerly. This is specially the case with the infectious diseases: small-pox has practically disappeared, the scarlet fever death-rate is scarcely one-sixth of what it was, and the enteric fever rate not one-quarter. It must be pointed out further that cases of fever now commonly go to fever hospitals, and are lost to general practitioners. Neither can it be argued that the lower death-rate means not less disease, but better treatment, for though therapeutics have progressed, the advance has not been so great as to account for the enormous decrease in the death-rate from scarlet and enteric fever. There must be fewer cases as well as less mortality. Again, the birth-rate has fallen from 34.2 to 26.3 per 1,000. This has a double effect—there are fewer confinements for medical men to attend, and in the second place babies give rise to a good deal of medical work, and if the number is lessened the demand for medical work must lessen accordingly. We may add the fact that the proportion of confinements attended by midwives has constantly increased.

To sum up, the articles in question prove: (1) Doctors have increased in numbers at a greater proportionate rate than the population. (2) There are on the average only 1,400 possible patients now to each doctor against 1,700 twenty-eight years ago. (3) Not only is the number of possible patients less, but each one of those that remain needs less medical attendance than formerly, especially for the zymotic diseases, which used to furnish so much work. (4) The lowered birth-rate has considerably reduced the work of medical men. In addition to all this we may mention the counter-prescribing by chemists, the enormous growth in the sale of quack remedies, pills, and tablets, the growth of badly-paid club practice and of hospital abuse, all of which have taken away from medical men former paying patients. Not only so, but the stress of competition between medical men themselves has produced a tendency to lower fees, though working expenses and taxation have both increased. The increase of sixpenny doctors is notorious, and many practitioners who used to receive 5s. for a visit and medicine have now to be content with 2s. 6d.

One other fact that not only lessens income but causes the greatest annoyance is the way in which the public exploit medical men. No other profession or trade has so large a proportion of bad debts as medical men. The newly-qualified practitioner often thinks he is making a practice quickly, judging by the number of patients that soon come to his surgery, but too often he is disillusioned as soon as he sends out his bills. He dare not press for payment until he is well established: if he does, the growth in his practice soon ceases, and, what is still more irritating, the very patients who had seemed to regard him as an angel of mercy not infrequently spread charges of incompetence or neglect which, however fully disproved, invariably damage his practice.

It must not be supposed that this state of things is confined to England or Wales. Practitioners in Scotland and Ireland suffer in the same way, while in France it is stated that 45 per cent. of the medical men do not realize annually £100 in fees. So serious, in fact, is the state of affairs in France that many medical associations in that country have combined to issue letters of warning with an appeal to young men carefully to consider before embarking on a career which offers so few chances of financial success, and it may be mentioned that some similar steps are in contemplation in England by the British Medical Association.

From these general considerations we may pass on to notice the special branches of the profession which are open to the newly-qualified man. Only few can hope to become distinguished as consultants or specialists. Success involves years of weary waiting, during which not even a bare living is made from practice, and, in fact, only those who have private means at their disposal can afford, as a rule, to wait, while in any case the result is extremely uncertain and success only for the few.

PUBLIC SERVICES.

For the average man there is apparently a wide choice, though as a rule circumstances combine very much to limit it. At the outset he has the choice between private practice and the public services.

The Military Services.

The three great military medical services, the Royal Navy Medical Service, the Royal Army Medical Corps, and the Indian Medical Service, offer attractions which should not be lightly ignored. The conditions of pay and service in the two first named have in recent years been considerably improved, but the prospects in the last have distinctly deteriorated, owing to various causes, among which the most important would seem to be the fall in the value of the rupee, and the diminution of the opportunities for private practice (see p. 633).

The Colonial Services.

The Colonial Medical Service, or rather Services, need only be mentioned in passing; they are organized for certain Crown Colonies and dependencies: the West Indies, certain districts of West and Central Africa, the Straits Settlements, and a few others. The number of medical men so employed is limited, and though the pay and allowances have been improved, the general opinion seems to be that they are inadequate when the unhealthy character of the climates in which the service has often to be rendered is taken into account (see p. 639).

The Prison Service.

The Prison Medical Service is another State medical service, but the number of whole-time appointments is not large, for in the case of the smaller prisons the medical officer is usually a local practitioner, while the prospects of promotion are bad, owing

in some measure to the fact that the total number of prisoners is not increasing in proportion to the population (see p. 639).

The Public Health Service.

The Public Health Service, strictly speaking, is for the most part a municipal and not a State service. The Local Government Board in England employs twenty-three medical officers and inspectors, and the corresponding Board in Scotland and Ireland employ a few more. These appointments are made by the political chiefs of the several boards, and need hardly be taken into consideration. In England, Wales, and Scotland, though the number of medical officers of health is large, the vast majority are engaged in private general practice, and only give a small part of their time to the duties of their office, to which a correspondingly small remuneration is attached. The county boroughs, many of the counties, and a good many of the larger boroughs, including the metropolitan boroughs and some combinations of rural districts, have medical officers of health who devote their whole time to the work, and receive an inclusive salary which varies very much—say, from £300 to, in a few instances, £1,000 or over. The income is, of course, a net income free from uncertainty, and not subject to any deductions for working expenses. The appointments being made by county or city authorities independently of each other, and of the Local Government Board, whose approval is necessary only after an appointment has been made, there is no regular system of promotion, and a medical officer of health who seeks a better paid and more important appointment has to stand his chance of election by the county or borough council in competition with his fellows. The career is rendered still more uncertain by the fact that in England and Wales, save in the case of metropolitan and certain other boroughs, the medical officer of health has no security of tenure, being elected only from year to year or for a short term of years; instances occur from time to time, and several have occurred within the last few years, in which the zealous discharge of his duties has rendered a medical officer obnoxious to certain members of the local council, who, finding their pockets, as house or slum owners, affected by his activity, have combined to oppose his re-election at the expiration of the term for which he had been appointed. Undoubtedly, however, this is little likely to happen in the case of counties and the large (county) boroughs, where public opinion is stronger, and where a clique bound together solely by personal interests is less likely to be formed or to be successful. The career is one which offers many great opportunities for useful work on behalf of the community, and it seems probable that the scope of the work and the nature of its rewards, especially those which depend on public esteem rather than public liberality, will tend steadily to increase from year to year (see p. 630).

OTHER PUBLIC SERVICES.

Another county and municipal service in which the mode of appointment and prospects of advancement are very similar is that responsible for the care and treatment of lunatics. The junior officers are for the most part ill paid, and the position of a man who has reached middle age without obtaining an appointment as medical superintendent of an asylum is far from fortunate. The prizes in the services are the superintendence of the larger county and borough Asylums, and the office of Visitor or Commissioner in Lunacy.

The Poor Law Service.

The conditions under the Poor Law Medical Service can only be described as deplorable. There are two classes of appointments—resident, at one of the Poor Law infirmaries, and non-resident part-time appointments as district medical officers. To show the condition of the service, we need only quote a few sentences from the recently issued report of the Poor Law Commission. We read, "It is undeniable that "the majority of the medical officers, in or out door "are paid salaries miserably inadequate." The posts are only taken "to keep somebody else out." Even where the salary nominally paid seems inadequate, it is diminished by the fact that the district medical officers "in the great majority of unions have to find "their own drugs and medicines, and any dressings or "bandages that are required." "The conditions under "which they carry on their duties are as unsatis- "factory as their remuneration is demoralizing." As to the resident officers, we are told that in the rural workhouses "the conditions under which medical "attendance is afforded are such as to make curative "treatment almost impossible." Even in the best Poor Law infirmaries in the large towns there is "a policy of sweating both as to the amount of work "required and as to the payment made for it." "The "infirmaries are often terribly understaffed," and we read of places with 600 or 800 patients with only one resident medical officer. As a rule, the indoor posts are only taken to get a little experience before settling down in practice, while the outdoor posts are taken either to keep out competitors or to eke out a small private practice. Add to all this the fact that there is no chance of any advancement after long service, and it must be evident that the Poor Law Service offers no inducements worth taking into account by any one just beginning practice.

There is one other consideration which ought to be borne in mind. Wide-reaching suggestions have recently been made in the Poor Law Commission Report which forebode the most radical alterations in the conditions of general practice. Whether the alterations take the form of a great extension of provident dispensaries, or something in the nature of a State medical service, the greatest uncertainty exists as to the effect on general practitioners. Everything is in a state of transition, and unless the profession can be united, far more than it has ever been in the past, to protect its own interests, there are grave doubts as to the future prospects of medical men. This furnishes an additional reason why any young man who ventures to take his chances in the medical profession should join the British Medical Association as soon as he is qualified.

COMMENCING PRACTICE.

It is almost universally acknowledged that the mere possession of a legal qualification does not necessarily fit a man to commence practice at once with the best prospect of success. Any man who can afford the time ought to seek to hold a resident appointment in a hospital, preferably, perhaps, in the hospital at which he was educated, but if that be not possible, at some other; he will be a much better man for the knowledge and experience, and the self-reliance which he will gain as house-physician, house-surgeon or resident medical officer. But even after this he will have a good deal still to learn about the actual conduct of a general practice, and probably the best way of getting this practical training

his by acting as an assistant to a general practitioner for a year or two. The time thus spent will give a young practitioner not only experience in the medical work of a general practice but in its management from a business point of view, and this will stand him in good stead when he begins to practise as a principal. There is no rule against a medical man setting up in any locality he chooses to select, and if he acts fairly and honourably he will be received with courtesy, if not precisely with enthusiasm, by the members of the medical profession in the district. Such a course is, however, open to many objections from several points of view. A newcomer cannot reasonably expect immediate success: time is needed to acquire the confidence of the public, and during this time, for want of practice, he must tend to grow rusty, and he must have enough money to live upon. In England and Wales, at any rate, he will probably expend this money to better advantage, and with much greater satisfaction, in purchasing a share in a practice already established. There are always, as our advertisement columns bear weekly witness, many opportunities of purchasing such a share.

THE VALUE OF A PRACTICE.

It is usual to base an estimate of the value of a practice on the gross receipts, as ascertained by an inspection of the books, for some years. If the new partner wishes to buy a third of the practice he will be asked to pay down, say, two or three years' purchase, that is to say, two or three times the amount of one-third of the gross annual receipts as ascertained. The multiple fair to both parties depends a good deal on the class of practice, it being easier, for instance, to retain or transfer a practice in a middle-class or country neighbourhood than in an artisan district.

Another point which demands consideration is the length of the introduction, the conditions being obviously different when the senior intends to retire altogether in a few months or in a year or two, and when he proposes to continue to work in partnership for many years; in fact, if the senior intends to retire in a short time, the junior is not really buying a share in a practice, but the goodwill of a practice, which is, of course, less valuable. Great care should be taken in drawing the agreement and deed of partnership, which should be in proper legal form, and should be adjusted by a person having special experience in the transfer of practices. The agreement should contain clear provisions to come into effect on the termination of the partnership, and should specify the terms on which a larger share or the whole may be purchased at a subsequent date. The agreement should also make arrangements for holidays and locumtenents in case of sickness, as well as for the payment in a proper proportion between the two partners of expenses of the practice, such as the cost of stables, motors, etc.

It is, of course, most essential in estimating the real value of a practice to ascertain as nearly as possible the working expenses. These must vary a good deal, and we need only mention the one question of the distances to be covered; if the work or most of it can be done on foot, or with the help of public conveyances, as in the poorer parts of large towns, there is, of course, a great economy. But this cannot often be the case, and most men whose practices are at all large, whether judged by the number of patients or the area to be covered, must either keep a stable or a motor car or habitually hire or job, although undoubtedly, in country districts and in some towns, a great deal may be done on an ordinary bicycle. From information kindly supplied by several practitioners of experience in different districts, town and country, it would appear that, speaking generally, working expenses are seldom less than a quarter, often amount to a third, and may reach a half, of the gross receipts. Where these higher ratios are reached, however, there is usually some want of experience or adequate supervision.

It is the established custom for a newcomer to pay a visit of courtesy at once upon all the medical men in the immediate neighbourhood. This excellent rule not only conduces to a feeling of brotherhood, but enables the newcomer to acquaint himself with local customs and the tariffs in vogue, to which he should, of course, conform. A young practitioner who is not already a member of the British Medical Association will be well advised to join it, as the meetings afford many opportunities of keeping abreast with the progress of medicine and of friendly intercourse with other practitioners.

The foregoing remarks apply specially to the United Kingdom; in other parts of the British dominions the conditions are materially different. Especially is it to be noted that registration on the British *Register* does not necessarily give the right to practise outside the United Kingdom. The regulations of different Colonies vary in this respect, and information on this head is given in other parts of this issue. Secondly, it may be pointed out that in the case of Canada and Australia, at least, there are flourishing universities which annually give degrees to a considerable number of medical graduates.

Before concluding it will be well to outline the scheme on which this issue of the JOURNAL has been compiled. No educational number would be complete which limited its scope to supplying the information required only by neophytes, for it is at once the pride and the disadvantage of the medical profession that never can those who belong to it cease to be students, for the practice of medicine is constantly developing in new directions. Hence this issue furnishes information not only as to the education which a medical student must undergo and the facilities offered him for obtaining it, but as to the opportunities which exist for formal post-graduate study; it includes, too, articles dealing with various special careers which entail separate study or the acquirement of additional diplomas.

First comes a description of the general principles on which all students alike are educated, followed by an account of the normal career of a medical student, whatever the degree or licence he is seeking; then a descriptive list of licensing bodies in England, Scotland, and Ireland respectively, followed by a section, similarly classified, giving information about the schools undertaking to prepare students for the examinations of the aforesaid licensing bodies. This first part ends with a list of institutions offering opportunities for study both to ordinary students and to qualified men, and with information for women who desire to adopt medicine as a profession. Afterwards follows a series of articles, dealing in turn with degrees for qualified men, institutions for post-graduate study, and careers in tropical medicine, psychology, and preventive medicine. Then come descriptions of the public services; of the conditions under which British practitioners can establish themselves in the Colonies and abroad; and, lastly, an article dealing with dental surgery.

THE GENERAL MEDICAL COUNCIL.

THE profession of medicine, including for the moment in that term the practice of dentistry, is ruled as a whole by the GENERAL MEDICAL COUNCIL, which holds its sessions at its head quarters in London (299, Oxford Street, London, W.), and has branch offices in Scotland (54, George Square, Edinburgh) and in Ireland (35, Dawson Street, Dublin).

Besides supervising generally the practice of medicine, surgery, and dentistry, it guards the portals of admission to the profession by regulating the education which medical students must receive, the minimum number of years for which it must be carried on, and the general nature of the examinations by which its proficiency shall finally be tested by the universities and corporations which have authority to issue degrees, diplomas, and licences, entitling the holder legally to practise as a medical man or as a dentist.

Regulations in respect of these matters have been compiled, and a summary follows of those which have more particular application to the intending medical student: it should be carefully studied. The primarily important things to note about the regulations are that they entail (1) the production of proof of a certain degree of proficiency in preliminary or general education; (2) and, as a rule, registration as a medical student either at the head-quarter office in London or at one of the branch offices in Edinburgh and Dublin.

PRELIMINARY EDUCATION.

The subjects, of which proof of efficient knowledge must be produced by applicants for registration as medical students, are as follows:

(1) *English:* Grammar; paraphrasing; composition; questions on English history and geography.

(2) *Latin:* Grammar; translation into English from unprescribed Latin books; translation into Latin of a continuous English passage, and of short idiomatic English sentences. In the case of natives of India or other Oriental countries, whose vernacular is other than English, a classical Oriental language may be accepted as equivalent to Latin.

(3) *Mathematics:* Arithmetic, including easy quadratic equations; geometry, including the subject matter of Euclid, Books i, ii, and iii, and simple deductions.

(4) One of the following subjects:

(*a*) *Greek:* Grammar; translation into English from unprescribed Greek books; translation into Greek of short idiomatic English sentences; or

(*b*) *A modern language:* Grammar; translation into English from unprescribed books; translation of a continuous English passage, and of short idiomatic English sentences.

The Council considers it a sufficient testimonial of proficiency in these subjects if the applicant can show that he holds a degree in Arts of any university of the United Kingdom or of the Colonies or of such other universities as may from time to time be recognized for the purpose, or that he has passed one or other of the following tests:

I.—UNIVERSITY EXAMINATIONS HELD IN THE UNITED KINGDOM.

A.

Final Examination for a Degree in Arts or Science of any University in the United Kingdom.

B.

University of Oxford.—Junior Local Examinations.[1] Senior Local Examinations.[2] Higher Local Examinations.[3] Responsions.[4] Moderations.[5]

University of Cambridge.—Junior Local Examinations.[1] Senior Local Examinations.[2] Higher Local Examinations.[3] Previous Examination. General Examination.[4]

Oxford and Cambridge Schools Examination Board.—Higher Certificate Examinations.[3] School Examinations, Higher Certificate.[3]

University of Durham.—Matriculation Examination of the Faculties of Science, Letters, and Music.[3] Senior Local Examinations.[3]

University of London.—Matriculation Examination.[3]

Victoria University of Manchester, University of Liverpool, and University of Leeds.—Matriculation Examination.

University of Birmingham.—Matriculation Examination.[3] Senior School Leaving Certificate.[3]

University of Wales.—Matriculation Examination.[5]

[1] Certificate to be endorsed as fulfilling the Council's requirements.
[2] Certificates to be endorsed as fulfilling the Council's requirements.
[3] Certificates to include the required subjects.
[4] Certificates to be supplemented by others showing that the required mathematical subjects have been passed.
[5] The required subjects to be passed at one time.
[6] The required subjects to be passed at one or not more than two examinations.
[7] Certificates to be signed in approved form by the Medical Registrar of the University.

Universities of Scotland.—Preliminary Examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Medicine and Surgery.[6] Preliminary Examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Arts or Science.[7]

University of St. Andrews.—Final Examination for the Diploma of LL.A.

University of Dublin.—(*a*) Junior Freshman Term Examination, exclusive of Trigonometry. (*b*) Special Preliminary Examination to be held in March, the standard and subjects of which shall be those of a Junior Freshman Term Examination, exclusive of Trigonometry. (*c*) Senior Exhibition Examination on obtaining marks of sufficient merit in the subjects of (*a*) or (*b*). Examinations for the First, Second, Third, or Fourth Year in Arts.[7]

Royal University of Ireland.—Matriculation Examination.[3]

II.—GOVERNMENT EXAMINATIONS HELD IN THE UNITED KINGDOM.

Scottish Education Department.—Leaving Certificate Examinations: passes in Lower Grade.[4] Leaving Certificate Examinations: passes in Higher Grade or Honours.[3] Intermediate Certificate.[3]

Intermediate Education Board of Ireland.—Middle Grade Examination.[3] Senior Grade Examination.[3]

Central Welsh Board.—Senior Certificate Examinations.[3]

III.—EXAMINATIONS BY CHARTERED BODIES HELD IN THE UNITED KINGDOM.

College of Preceptors.—Examinations for First-class Certificate.[6] Preliminary Examination for Medical Students.[5]

Educational Institute of Scotland.—Preliminary Medical Examination.[5]

Royal Colleges of Physicians and Surgeons in Ireland.—Preliminary Examination.[5]

Certain examinations held by authorities not within the United Kingdom also suffice—namely:

The Matriculation Examinations of the Universities of Malta, Bombay, McGill (Montreal), Manitoba, New Brunswick, Dalhousie University (Nova Scotia), Melbourne, Sydney, and Cape of Good Hope; the First Examination in Arts at the Universities of Calcutta, Madras, and Sydney; the Intermediate Examination in Arts at the University of Allahabad and the Punjab University; the Preliminary Examination of the Ceylon Medical College; the Preliminary Medical Examination of the University of Otago, of the University of New Zealand, of the Medical Boards of Nova Scotia, Newfoundland, and of the Colleges of Physicians and Surgeons of the Province of Quebec and of New Brunswick; the Senior Public Examinations of the Universities of Adelaide, Sydney, and Tasmania; the Arts Matriculation in the Province of Ontario. Other Examinations which are sufficient are the German *Abiturienten Examen* of the Gymnasia and Realgymnasia; Examinations entitling to the French Diplomas of Bachelier ès Lettres and Bachelier ès Sciences, and other corresponding Entrance Examinations to the Universities in Europe; and, finally, Examination for the Secondary Education Certificate held by the Egyptian Government. It should be noted, however, that no Certificate from the Indian and Colonial Bodies in the foregoing statement is accepted unless it shows that the Examination has been conducted by or under the authority of the Boy granting it, includes all the subjects required by the General Medical Council, and states that all the subjects of examination have been passed at one time; and copies of the form of the required Certificate are supplied by the Registrar of the Council for the purpose.

REGISTRATION OF MEDICAL STUDENTS.

In addition to showing that he has passed one of these examinations, any person applying for registration as a medical student must (1) produce satisfactory evidence that he has attained the age of 16 years; (2) show that he has commenced medical study at a university or school of medicine, or at a scientific institution recognized by one of the licensing bodies and approved by the Council. The commencement of professional study will not be reckoned as dating earlier than fifteen days before the date of registration.

Application for registration should be addressed to the Registrar for the division of the United Kingdom in which the applicant is residing—England and Wales, or Scotland, or Ireland. It must be made on a special form, which can be obtained on application at the offices either of the Medical Council itself or of one of the various licensing bodies and medical schools, and when forwarded it should be accompanied by the certificates as to age and general education.

The regulations with regard to registration apply equally to medical and dental students, with the exception that in the case of the latter pupilage with a registered dental practitioner may be regarded as a commencement of professional study, and that applications for registration should be addressed to the London office only.

PROFESSIONAL EDUCATION.

It is only from the date which appears against his name in the *Students' Register* that the medical student's career officially begins; thereafter five years must pass before he can present himself for the final examination for any diploma which entitles its lawful possessor to registration as a qualified medical practitioner under the Medical Acts.

There are, however, certain important exceptions to this rule: thus (1) to meet the circumstances brought about by the dates at which sessions of the medical

schools commence and end, the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration. (2) The Council will also recognize as the first of the five years one passed at certain approved universities and scientific institutions, a list of which is hereafter given, where the subjects of physics, chemistry, and biology are taught. (3) Those also are deemed to have completed the first of their five years who are graduates in arts or science of any university recognized by the Medical Council, and who, having spent a year in the study of physics, chemistry, and biology, have passed an examination in these subjects for the degrees in question. In any case the period of five years must be one of bona fide study, and during its course education in the following subjects must be pursued and examinations passed:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(ii) Chemistry, including the principles of the science and the details which bear on the study of Medicine.
(iii) Elementary Biology.
(iv) Anatomy.
(v) Physiology.
(vi) Materia Medica and Pharmacy.
(vii) Pathology.
(viii) Therapeutics.
(ix) Medicine, including Medical Anatomy and Clinical Medicine.
(x) Surgery, including Surgical Anatomy and Clinical Surgery.
(xi) Midwifery, including Diseases peculiar to Women and to newborn Children.
(xii) Theory and Practice of Vaccination.
(xiii) Forensic Medicine.
(xiv) Hygiene.
(xv) Mental Disease.

As regards these subjects, it should be noted that the Council has recently decided that the practical study of Subject (xi) shall not commence until the student has held the offices of Clinical Clerk and Surgical Dresser, and it has defined the way in which the work is to be done. It also now recommends licensing bodies to require of candidates at their final examinations evidence of instruction in the administration of anæsthetics and in infectious diseases, and of sedulous attention in hospital wards, out-patient departments, and *post-mortem* rooms, as clerks and the like.

The study of these subjects may be commenced and the first year passed at any of the following universities, colleges, and schools:

I.

The Universities of *Oxford, Cambridge, Durham, London* (including all its constituent Medical Schools and Colleges, and also Bedford College, Royal Holloway College, and the Royal College of Science), *Manchester, Wales, Birmingham, Liverpool, Leeds, Sheffield, Aberdeen, St. Andrews, Edinburgh, Glasgow, Dublin, Royal University of Ireland.*

II.

Bristol: University College.
Edinburgh: School of Medicine of the Royal Colleges, Surgeons' Hall School, Medical College for Women.
Glasgow: Anderson's College, St. Mungo's College, Western Medical School.
Dublin: Catholic University Medical School, Royal College of Surgeons' Schools of Surgery.

III.

Bradford: Technical College.
Brighton: Technical Day College.
Bristol: Merchant Venturers' Technical College.
Cambridge: Garton and Newnham.
Cheltenham: Ladies' University College.
Derby: Technical College.
Dublin: Royal College of Science for Ireland.
Exeter: Royal Albert Memorial College.
Halifax: Municipal Technical School (Day Classes).
Huddersfield: Huddersfield Technical College (Day Classes).
Hull: Municipal Technical School (Day Classes).
Leicester: Municipal Technical and Art School (Day Classes).
London: Birkbeck Institute, East London Technical College, Central Technical College, Westfield College, Polytechnic Institute, Battersea (Day Classes), City of London College (Day Classes).
Norwich: City of Norwich Technical Institute (Day Classes only).
Nottingham: University College.
Plymouth: Municipal School of Science (Advanced Day Classes).
Portsmouth: Municipal College (Day Classes).
Preston: Harris Institute.
Reading: Reading College.
Southampton: Hartley College.
Swansea: The Swansea Technical College (Day Classes).
West Ham: Municipal Technical Institute.

Capetown: South African College.

In addition to these places, it may be noted that there are a number of ordinary schools which certain of the licensing bodies recognize as providing efficient education in chemistry, biology, and physics: they therefore admit persons who have attended courses at such schools to their own examinations in these subjects without demanding further proof of study. The time, however, which these students thus spend is not allowed to count as part of their five years' professional education unless they have previously passed an approved examination in general education, and in no case is more than six months allowed to count.

Wherever the first of the five years is spent, the next three must be passed at one of the schools of medicine recognized by any of the licensing bodies enumerated in the Schedule to the Medical Act of 1858. The final or fifth year the Council recommends should be devoted to clinical work, and it may be passed at any public hospital or dispensary at home or abroad which is recognized by any of the licensing bodies.

SPECIAL CONSIDERATIONS.

The requirements of the General Medical Council in respect of the education of those who desire to enter the medical profession have now been given in sufficient detail, but before leaving this part of the subject the steps which the aspirant should take may finally be rehearsed in their due order:

(1) Pass an examination in arts;
(2) Enter himself at a medical school or other scientific institution recognized by the Council;
(3) Get himself registered as a medical student;
(4) Study for a minimum of five years certain prescribed subjects;
(5) Meanwhile pass sundry intermediate examinations, and, finally, at the end of the fifth year, one which will entitle him to receive at the hands of a licensing body a legal authority to practise.

The Arts Certificate.—There are, however, other important considerations; thus, it is not a matter of indifference what certificate of proficiency in general education, or arts, the student obtains. The General Medical Council, it is true, will accept any of those which have been mentioned at page 586, and this, too, is the case with practically all the college corporations in England, Scotland, and Ireland. But all the licensing bodies are not equally accommodating; some of the universities require that their own ordinary matriculation should be passed, others have special matriculation examinations for those wishing to join their medical faculty, and a third and larger number will accept any arts degree and certain matriculation examinations, as well as several other of the tests entered in the Council's list.

The first thing, therefore, the future medical student should, if possible, decide, is at what degrees or diplomas he intends to aim, and then find out what arts certificate will be required. If he cannot decide this question in advance, the best course probably would be to matriculate at London University, choosing as two of his optional subjects Latin and one other language, so as to meet the requirements of the General Medical Council with respect to general education. It is a troublesome examination in some respects, but, as now rearranged, gives a wide choice of subjects, and has the advantage of being accepted as sufficient testimony to general education by a larger number of bodies than in any other analogous examination.

The Minimum Period.—Another point to remember is that the period of five years mentioned is a minimum: a good deal more will almost certainly be required even by the man of good abilities and reasonable industry. Besides these qualities, a student to obtain a registrable qualification in the minimum period of five years, or fifty-seven months, must have a considerable amount of good luck: in other words, he must keep in good health through every term, and never fail at a single examination. Otherwise it is almost inevitable that his career as a student should be prolonged for a greater or smaller number of months beyond the possible minimum. Thus, for instance, a student before presenting himself for any examination has to get what is called "signed up" for the subjects covered by that examination; this means that his teachers have to certify that he has attended the required number of lectures or classes in the subjects in question. If, however, the

student happens to be ill during the term when such lectures or classes are taking place, he may miss a sufficient number of them to make it impossible for him to be "signed up."

Then, again, should a student fail to satisfy the examiners at some examination, he cannot present himself again for re-examination for at least three months. This fact generally entails further consequences, because, apart from the student's success at the next stage in his career being imperilled by his having to give up some time to restudying the subjects in which he has failed, the majority of examining boards insist upon a definite interval elapsing between a student passing one examination and his presenting himself for that which should follow it. For instance, the Conjoint Board of England demands that at least twelve months must pass between success at the examination in chemistry, physics, and biology, and that in anatomy and physiology. Then, again, many boards refuse to recognize lectures and classes which have been attended at a date anterior to that at which the student has passed the requisite examination in earlier subjects. Failure at an examination may thus not only mean deferment of the date of examinations, but deferment of the commencement of the student's study of certain subjects. It is thus exceedingly easy for a student to fail to qualify in five years, and, as a matter of fact, the vast majority of students take very much longer than that period.

Furthermore, in speaking of the minimum period, it is to be remembered that that time is only sufficient to gain a registrable qualification, such as a Bachelorship of Medicine and Surgery or a diploma of one of the Royal Colleges. These are quite sufficient for the purposes of general practice or for entering the Services, etc., but those who wish to take a higher qualification, for instance, the F.R.C.S Eng., must prolong their work for another year or more. So, too, must they who desire to convert their Bachelorship into an M.D., if doing so entails further formal examination. This is not always the case, for at some universities the M.D. is obtainable on presentation of a thesis when the Bachelor has attained a certain age and has practised his profession for a certain number of years. However, a student's career proper may be considered, perhaps, to have ended at the time he obtains his first registrable qualification, for while preparing himself for any further tests he can, and usually does, hold some junior appointment which, more or less, covers his expenses.

The Normal Course.—In conclusion, it may be convenient to sketch the general fashion in which the student will pass his five years or more, but discussion of this need not be prolonged, because once a student has entered at a school, and decided at what degrees or diplomas he wishes to aim, the dean of the school will guide his steps in every particular.

Whatever the precise final goal, the path thereto is in all cases identical in broad outline. Practically it is divided into three stages, the conclusion of each being marked by an appropriate examination. In the first stage the student acquires a more or less extensive knowledge of the preliminary sciences, chemistry, physics, and biology; in the second he studies anatomy and physiology; and the third he devotes to the real work of his future life, medicine and surgery and their branches. During each of these stages the student must attend not less than the prescribed number of lectures and classes to ensure getting "signed up" in the subjects of the stage, and do a certain amount of practical work. As for the examinations at the end of the stages, these are known by different titles by different examining bodies, but "preliminary science," "intermediate," and "final" are in common use. Some bodies demand that the student should pass in all the subjects of one stage at one time; others allow the candidate to present himself in each of the subjects separately, thus multiplying the actual number of examinations but limiting their scope. There are also differences in the requirements of the different licensing bodies as to the length of each stage, but practically all demand that the second shall be longer than the first, and the third than the second. By the length of the allotted stage the candidate may gauge the comparative importance the licensing body attaches to the subjects within the stage, and the difficulty of the tests it will impose, and he may feel certain that the time allotted is none too much.

In any case it should be the aim of the student to get through his first two stages as quickly as his abilities and the regulations will allow; and, as a rule, he should have completed the first stage by the end of his first year, and the second stage not later than the end of his third year. He will then have two years in which to prepare for his final examination, and it will prove a very crowded period, for he has to get into it not only medicine and surgery proper, but many other allied subjects, such as midwifery, pathology and bacteriology, forensic medicine, gynaecology, therapeutics, and many others. In the first of the final two years he should complete his formal lectures, and thus have the fifth year at his disposal for entirely practical work and private study; during these two years, too, he will really take part in the work of his hospitals by holding clerkships and dresserships in the wards and out-patient department for the periods laid down by the licensing bodies. Then at length, after perhaps a few weeks of special coaching, he will be ready to present himself for his final examination, which the regulations of most bodies will allow him to divide into two or more parts. The final examination passed in its entirety, he will be able to claim registration as a qualified medical practitioner at the hands of the General Medical Council and become an independent personage. There is still room for him to continue a student's career if he will, for, apart from the higher qualifications to which reference has been made, it may seem to him worth while to devote time to acquiring greater knowledge of some particular branch of medicine, such as ophthalmology or laryngology, or to undergo the courses of study necessary to obtain a diploma of special proficiency in questions of public health (page 630) or in tropical medicine (page 628). Points such as these, however, the student will be fully capable of deciding for himself when he has reached the stage to which our account has now brought him.

The next matters to be considered, therefore, are the requirements in detail of the different licensing bodies, and what they have to offer in the way of degrees and diplomas.

The English Universities.

THERE are now eleven universities in England and Wales, and nine of them have fully developed Medical Faculties, of which an account is here given. The other two are the University of Bristol and the University of Wales. The former came into existence this year, and has grown out of the old University College of Bristol, an institution which for many years past has taken an active part in medical education. It is now in a position to confer medical degrees, but the regulations respecting them will not be ready for another six months. Meantime the old medical school continues its work, and provides a full curriculum both for those who are proceeding to the degrees of the University of Bristol and of other licensing bodies. An account in detail will be found under the heading Medical Schools at page 611. The Medical Faculty of the University of Wales, whose constituent colleges are those of Aberystwith, Bangor, and Cardiff, is not yet so far advanced; but nevertheless the university provides thorough training for medical students in the preliminary sciences at its School of Medicine a Cardiff, of which an account will be found at page 612.

UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of

Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in State Medicine.[1] On receiving the B.M. the candidate is entitled to registration by the General Medical Council. Under favourable circumstances it and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, however, the candidate must have taken a degree in Arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period: for some of the subjects chosen for the final stage of the Arts course may be the same as those in which examinations would in any case have to be passed for the medical degrees.

THE B.A. DEGREE.

A candidate may obtain the B.A. degree in either of the following ways:

(*a*) By passing Responsions (or one of the Examinations which are accepted as equivalent); Moderations, a Scripture Examination, or, in the event of a candidate objecting, an examination in some substituted book; and the Final Pass School in three subjects, two of which may be the same as two in the Preliminary Examinations in Natural Science.[2]

(*b*) By passing Responsions; an additional subject in Responsions, the Scripture Examination; some of the Preliminary Examinations in the Natural Science School,[2] or the Preliminary Examination and the School of Jurisprudence, or the Honour School of Mathematics in the First Public Examination; and one of the Final Honour Examinations.

Responsions and the additional subject may be passed before a candidate is a member of the university;[3] Moderations and Scripture can be passed in or after the second term; the Final Pass School may be taken any time after Moderations; a Final Honour School may be taken at the end of the third or within the fourth academical year—that is, twelve or sixteen terms respectively; the Preliminary Examinations of the Natural Science School may be taken as soon as Responsions have been passed.

PROFESSIONAL DEGREES.

To obtain the B.M., B.Ch. degrees the candidate must first pass in four of the subjects of the Preliminary Examination of the Natural Science School—namely, Physics, Chemistry, Zoology, and Botany.

He then has two further examinations to pass, the First B.M. and the Final Examination. These take place twice a year on the Thursday of the eighth week of Michaelmas and Trinity terms. A candidate at the First M.B. is examined in Human Anatomy, and also Physiology and Organic Chemistry, unless he has previously taken a first or second class in these subjects. Once passed this examination he can, on production of certain certificates, be examined as soon as he pleases in Pathology, Forensic Medicine, and Hygiene, Materia Medica, and Pharmacy (subjects of the final examination), but cannot present himself for the remaining subjects—Medicine, Surgery, and Midwifery—until the twenty-fourth term from the date of his matriculation, and he must take all the three subjects at one and the same time.

D.M. AND M.CH. DEGREES.

A Bachelor of Medicine who wishes to proceed to the M.D. must have entered his thirty-ninth term and present a dissertation for approval by the appointed examiners. If a candidate for the M.Ch., he must have entered his twenty-seventh term and pass an examination which is held in June.

TEACHING.

The several colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the university provides certain courses of instruction, including lectures, demonstrations, and practical work which cover all the subjects of the Preliminary Examination and First M.B., and in part those of the Final Examination.

SCHOLARSHIPS.

The several colleges grant scholarships of £80 a year, tenable for four years, in Natural Science, Chemistry, Physics, and Biology. Exhibitions of varying value are also awarded in these subjects. Particulars can be obtained on application to the college tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually; candidates must have taken the B.M. degree. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in Pathology, as also the Rolleston Memorial Prize, of the value of £70, for research in Natural Science (including Pathology).

FEES.

An annual fee of £2 is paid to the university for the first four years, being reduced to £1 when the B.A. has been taken. For the degree the fees are—the B.A., £7 10s.; the B.M. and B.Ch., £14; the D.M., £25; the M.Ch., £12. College fees, varying in amount, are paid for the first four years of membership and in taking degrees. Tuition fees run from £21 to £30. The minimum annual cost of living during the four university terms may be regarded as not less than £120.

UNIVERSITY OF CAMBRIDGE.

THE professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.C.), which entitle the possessor to admission to the *Register* by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in State Medicine and Tropical Medicine to persons who are registered medical practitioners, but not necessarily graduates of the university.[1] A candidate for the M.B., B.C. degrees need not possess a degree in Arts; it is sufficient if he has passed the *Previous Examination* or some other examination accepted by the university as its equivalent.

PROFESSIONAL EXAMINATIONS.

To obtain the M.B., the candidate must pass three examinations, of which the latter two take place twice a year, in Michaelmas and Easter terms; those who are finally successful receive the B.C. degree without further examination.

First M.B.—This comprises (1) Chemistry or Preliminary Scientific Examination, (2) Physics, (3) Elementary Biology. The parts may be taken together or separately. In either case the candidate before admission to examination must have satisfied the requirements in respect of the *Previous Examination*, paid the Matriculation Fee, and entered on his first or some later term of residence. The examination is held three times a year—in October, December, and June.

Second M.B.—This examination, which cannot be passed until the first examination has been completed, deals with Human Anatomy and Physiology. The candidate must be signed up in both subjects and have dissected for six months.

Third M.B.—This is divided into two parts, to neither of which is the candidate admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with pharmacology and general pathology, must be signed up in these subjects and have attended the practice of a recognized hospital for six months.

Before admission to the second part the candidate must have completed five years of medical study and be duly signed up in all subjects. He must also possess certificates showing that he has fulfilled all the recommendations as well as the requirements of the General Medical Council respecting vaccination, administration of anæsthetics, midwifery, *post-mortem* examinations, and practical hospital work, etc. He may present himself for examination in all three sections together, namely, (1) the Principles and Practice of Surgery, (2) Midwifery and Diseases of Women, (3) the Principles and Practice of Physic, or take any two first and the third later.

Act for the M.B.—Before receiving his degree, a candidate who has been successful at the Final M.B. has to write a thesis. This he reads in public on an

[1] See page 632.

[2] The four subjects of the Medical Preliminary Examinations are four of the subjects in the Natural Science Preliminary, and can be commenced directly after passing Responsions.

[3] Membership is constituted by Matriculation, and by becoming a member of a College or Hall, or a non-collegiate student.

[1] See p. 628.

assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of Medicine. If approved at this test he is then certified as having "kept the Act" satisfactorily, and in due course receives his degree.

THE HIGHER DEGREES.

The M.D. degree may be taken by an M.B. of three years' standing after keeping a further Act and writing a short extemporary essay, in which he may deal at his choice with either Medicine, Physiology, Pathology, or State Medicine. The M.C. degree may be granted to a candidate who has qualified for the B.C. at least three years previously; he is then examined in Pathology, Surgery, Surgical Anatomy, and Surgical Operations, or submits books or writings of his own which constitute original and meritorious contributions to the science and art of surgery.

FEES.

In addition to college fees, tutorial fees, and the expenses of living, the following examination fees are payable: First M.B., £2 2s.; Second M.B., £2 2s.; Third M.B., £3 3s. A student who has passed in two of the subjects of the second part of the Third M.B. only pays £2 2s. on admission or readmission to the examination in the third subject. For schedules referring to the examinations, lists of schools recognized by the university, and other information, application should be made to the University Registrar.

UNIVERSITY OF LONDON.

UNDER the regulations of the University of London, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery, and Doctor of Medicine in six different branches.

All students of the university are divided into two classes, Internal students and External students. An internal student is one who, having matriculated at the university, or otherwise obtained registration as an undergraduate, is pursuing a course of study approved by the university in a school or schools of the university, or under one or more teachers recognized by it. An external student is an undergraduate who is pursuing his education in some other way.

The standard of education required from those who present themselves for degrees, whether as internal or external students, is, as far as possible, the same; but the regulations which affect them differ to some extent. The information which hereinafter follows applies to those who propose to proceed to medical degrees as internal students, and who have not yet commenced their work.

Those who propose to study elsewhere than at one of the constituent schools of the Faculty of Medicine of the university should obtain the regulations which apply to them from the External Registrar. There are a few conditions under which exemption may be obtained from examination in certain subjects, or the intervals between examination abbreviated, but to the vast majority of students they have no application.

It should be stated here, moreover, that under on circumstances whatever can a degree after examination be granted to any one in less than three years after the date at which he passed the matriculation examination or obtained registration in some other way, and that all students alike of the Faculty of Medicine, unless they are registered medical practitioners of a certain age and standing, must pass not less than five and a half years in professional study subsequent to matriculation. Four and a half of those years must be passed after the First Examination for Medical Degrees at one or more of the medical institutions or schools at home and abroad recognized by the university for the purpose; and one year at least of those years must be passed at one of the schools of the university situated within the United Kingdom.

MATRICULATION.

The Matriculation Examination takes place three times in each year—namely, in the months of January, June (or July), and September. Application for admission to it must be made on a special form about six weeks beforehand, and must be accompanied by a certificate showing that the candidate will have completed his sixteenth year at the date on which the examination commences. It is a written examination, but the examiners are not precluded from putting viva voce questions to candidates if they should think fit. To pass the examination candidates must show a competent knowledge of five subjects, of which one must be English (one paper of three hours), another Elementary Mathematics (two papers of three hours each), and a third either Latin or Elementary Mechanics or Elementary Physics (Heat, Light, and Sound), or Elementary Chemistry or Elementary Botany. The other two may be selected from any of those in the following list, except, of course, those in which the candidate may have already been examined. (Unless Latin has already been taken, one of them must be a language), Latin, Greek, French, German, Modern Dutch,* Arabic,* Sanskrit,* Spanish,* Portuguese,* Italian,* Hebrew,* Chinese, Ancient History, Logic, Modern History, Physical and General Geography, History, and Geography (which cannot be taken as well as either of the two preceding), Geometrical and Mechanical Drawing, Mathematics (more advanced than in the compulsory examination), Elementary Mechanics, Elementary Chemistry, Elementary Biology (Botany), Elementary Biology (Zoology),* Elementary Physics (Heat Light, and Sound, or Electricity and Magnetism). Candidates who desire to be examined in the subject against which an asterisk is affixed must give at least two months' notice. The names of the successful candidates are published in two lists, a first division and a second division. Communications concerning this examination must be addressed to the Principal of the University.

It may be added that there are a certain number of high standard examinations held by various authorities at home and abroad which the Senate regards as the equivalent of its own matriculation examination, and those who can show that they have passed them are admitted to registration as internal or external students on payment of the matriculation fee of £2. Appendix II to the Matriculation Regulations should be consulted on this point.

PROFESSIONAL EXAMINATION.

There are now only three examinations for the M.B., B.S. degrees, but the two last are subdivided.

The First Examination for Medical Degrees takes place twice in each year. It consists of two papers in Inorganic Chemistry, two in General Biology, and two in Physics, and there are practical examinations in Inorganic Chemistry and in Physics, not exceeding three hours each, and in General Biology not exceeding six hours; examiners are also at liberty to test candidates viva voce. A student must present himself for examination, on first entry, in all of the three subjects together. It is a pass examination only, and the list of successful candidates is published in the alphabetical order of their names, but with a note as to any subject in which a candidate has distinguished himself.

The Second M.B., Part I. takes place twice a year, but cannot be passed within six months of the passing of the first M.B. It consists of one three hours' paper in Organic and Applied Chemistry and three hours' practical work, the examiners being at liberty also to test any candidate by viva voce questions. It is a pass examination, but the names of those who have distinguished themselves are specially marked.

The Second M.B., Part II. takes place twice a year, commencing on the third Monday in March and the first Monday in July. Candidates must have passed the first M.B. Examination at least eighteen months previously, and also have passed Part I. The subjects of examination are Anatomy, Physiology, and Pharmacology. In Anatomy there are two papers, dissection, and an oral examination. In Physiology, two papers and a practical examination not exceeding six hours in length,

which will include the preparation and identification of histological specimens, and the performance of simple experiments illustrating points in physiology and elementary physiological chemistry. In Pharmacology there will be one paper and an oral examination, which may include recognition of the more important substances in the *British Pharmacopœia*. It is a pass examination, and the names of the successful candidates will be published in alphabetical order, but any subjects in which a candidate may have distinguished himself will be appended to his name if he has passed in all the subjects at one time. Candidates who have failed in one subject only at this examination may offer themselves for re-examination in that subject, if permitted to do so by the examiners. Three scholarships, one of the value of £40 in Anatomy, another of the same amount in Physiology, and one of £30 in Pharmacology, may be awarded by the examiners to any candidate who, having passed the whole of the examination at one time, has been awarded marks of distinction in one or more subjects: as a rule, no candidate will be allowed to receive the income of more than one scholarship at the same time.

The Final M.B., B.S. Examination takes place twice a year, commencing on the last Monday in October and on the first Monday in May. No candidate will be admitted to this examination unless he has completed the course of study prescribed in the schedule or within three academic years from the date of passing the Second Examination, Part II, in Anatomy, Physiology, and Pharmacology.

The subjects of the examination are Medicine (including Therapeutics and Mental Diseases), Pathology, Forensic Medicine and Hygiene, Surgery, and Midwifery and Diseases of Women. The subjects may be divided into two groups, one of which shall comprise Medicine, Pathology, Forensic Medicine and Hygiene; and the other Surgery and Midwifery and Diseases of Women. Either group may be taken first at the option of the candidate, or the groups may be taken together. The examination in Medicine will consist of (*a*) two papers—each of three hours' duration, (*b*) a viva voce examination on cases, (*c*) an examination of a patient with a written report on the case, and (*d*) an oral examination on the whole subject. In Pathology there will be a paper, a viva voce, and a practical examination in clinical laboratory work, while in Forensic Medicine and Hygiene there will be a paper and an oral examination.

In Surgery there are (*a*) two papers, each of three hours' duration, one on Surgery and the other on Surgical Anatomy and Pathology, (*b*) a clinical examination on cases, and (*c*) an oral examination on Surgical Pathology, (*d*) another on Surgical Appliances and Surface Marking. In Midwifery and Diseases of Women there will be one paper and a viva voce. Only candidates who show a competent knowledge of all the subjects comprising a group will be passed. There will be no separate examination held for honours, but in the list of successful candidates the names will be divided into an honours list and a pass list, in each of which the names will be placed in alphabetical order. Only those, however, who have passed the whole examination at one time will be entitled to a place in the honours list. In this list the subjects in which they have distinguished themselves will be appended to the names of the successful candidates. The examiners will be empowered to recommend the award of a university medal to the candidate who has most distinguished himself in the whole examination.

A diploma under the seal of the university, constituting a licence to practise, will be delivered to each candidate when he has passed in both groups of the examination.

DOCTOR OF MEDICINE.

The examination for the degree of Doctor of Medicine is held twice in each year, commencing on the first Mondays in December and July. Every candidate must have passed the examination for the M.B., B.S. of this university unless he became M.B. before May, 1904. Candidates may present themselves for examination in any one of the following branches: (1) Medicine, (2) Pathology, (3) Mental Diseases, (4) Midwifery and Diseases of Women, (5) State Medicine, (6) Tropical Medicine; and, if they wish, may pass also in another branch at a subsequent examination. Candidates for Branches 1 to 4 who have taken honours at the M.B., B.S. Examination in the subject in which they present themselves for the M.D. degree, or who subsequently to taking the M.B., B.S. have conducted a piece of original work approved for the purpose by the university, or have had such exceptional experience in the branch in which they present themselves as may be approved by the university, may present themselves for the M.D. examination one year after taking their Bachelor's degree. Other candidates must show that they have taken the degree of M.B., B.S. not less than two years previously; and as regards candidates in Branches 1 and 4, either that they have held for at least six months a resident or non-resident medical appointment at a hospital approved for this purpose, or that they have been in qualified practice for not less than five years; or that as regards Branches 2 and 3 they have held in the one case a pathological and in the other an asylum appointment in an institution approved by the university. In each examination for the M.D. in Branches 1 to 4 there will be (1) two papers on the special subject of the branch; (2) a Clinical Examination; (3) an essay to be written on one of two given subjects connected with the branch. In Branch 1 there will also be a paper on Pathology, and in Branches 2, 3, and 4 a paper in Medicine, while in Branch 2 a Laboratory Examination will be substituted for the Clinical Examination held in the other branches. As regards the essay, the candidate is expected to set forth his ideas in a clear and orderly fashion, and to examine critically various views that have been put forward on the subject. Account is taken not only of knowledge of detail but of the power shown to construct a lucid and well co-ordinated essay.

The regulations concerning candidates in Branch 5 (State Medicine) and Branch 6 (Tropical Medicine) will be found in their appropriate places in the articles devoted to these subjects (page 630 and page 628).

Finally, it should be noted that exemption may be obtained from part or the whole of the written examination which would otherwise be necessary by presenting a thesis or published work embodying independent research in the branch of medicine in which the candidate presents himself for the M.D. In the case of candidates in Branch 2 (Pathology) the exemption may apply likewise to laboratory work, though in this case a reasoned report on a subject presented by the examiners may have to be submitted within a given period.

In any branch of the M.D. Examination a gold medal may be awarded.

MASTER IN SURGERY.

The examination for the degree of Master in Surgery will take place twice in each year, commencing on the same dates as the foregoing, and the general regulations already quoted with regard to the M.D. will practically apply to it, surgery being substituted for medicine. In addition, the candidate must produce evidence that he has held a surgical appointment at an approved institution for at least six months. The examination will consist of (1) two papers on Surgery (one of which may be a case for commentary); (2) an essay to be written on one of two subjects which may be selected from any branch of surgery; (3) two papers on Surgical Pathology and Surgical Anatomy; (4) a clinical examination; (5) operations on the dead body; (6) an oral examination at the discretion of the examiners. Competent knowledge in every subject of the examination must be shown in order to pass.

FEES.

For Matriculation.—£2 for each entry.

Preliminary Scientific Examination.—Part I: £5 for each entry to the whole examination, and £2 for each subject when less than the whole examination is taken at one time. Part II: No fee for first entry, £2 for each subsequent one.

Intermediate Examination.—£10 for each entry to the whole examination, and £5 for re-examination in one subject.

M.B., B.S. Examination.—£10 for each entry to the whole examination, and £5 for examination or re-examination in either group.

M.D. and M.S. Examinations.—£20, and £10 on re-examination.

UNIVERSITY OF DURHAM.

To its own graduates, who may be of either sex, this university grants the degrees of Bachelor and Doctor of Medicine (M.B. and M.D.) and Bachelor and Master in Surgery (B.S. and M.S.); it also grants special degrees and diplomas in State Medicine and Dental Surgery.[1] To become a graduate at this university, however, it is not necessary to pass the major portion of the five years' curriculum within its precincts, or even to commence that period by matriculation. It is sufficient if, before he presents himself for his final examination, the candidate has passed at least one year in study at the University of Durham College of Medicine, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while a student elsewhere, but not less than a year must elapse between the time that the student satisfies the requirements of the university as regards matriculation and his presenting himself for the Final M.B., B.S. Examination.

MATRICULATION.

The university has its own matriculation examination, but accepts the following as an equivalent:

A degree of Arts of any university in the British Empire.

The Examination for Responsions of the University of Oxford.

The Previous Examination of the University of Cambridge.

The Matriculation Examination or the School Leaving Examination of the University of London.

The Preliminary Examination of the Joint Board of the Scottish Universities.

The Joint Matriculation Examination of the Victoria University of Manchester, the University of Liverpool, the University of Leeds, and the University of Sheffield.

The Matriculation Examination of the University of Wales.

The Preliminary Examination of the University of Birmingham.

The Senior Local Examination of the University of Durham, provided the subjects required by the university are included.

The Senior Local Examination of the University of Oxford, provided the subjects required by the university are included.

The Senior Local Examination of the University of Cambridge, provided the subjects required by the university are included.

The Higher Certificate Examination of the Joint Examination Board of the Universities of Oxford and Cambridge, provided the subjects required by the university are included.

The Leaving Certificate of the Higher Grade of the Scottish Education Department, provided the subjects required by the university are included.

The Senior Certificate or the Honour Certificate Examination of the Central Welsh Board, provided the subjects required by the university are included.

In addition, those who have satisfied the requirements of the General Medical Council, as regards general education, by some test other than one of the above, will be exempted from matriculation, provided that they satisfy the Durham examiners in any three of the subjects set at the Durham Matriculation Examination, and provided that one at least of these is a language other than English.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degree. They are held twice a year, in March and July. The first deals with elementary anatomy and biology, chemistry, and physics; the second with anatomy, physiology, therapeutics, and pharmacology; the third with pathology, medical jurisprudence, public health, and elementary bacteriology. At the final M.B., B.S. the candidate is examined in medicine and clinical and psychological medicine; surgery and clinical surgery; midwifery and diseases of women and children.

M.D.—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and satisfy the university that he knows either Greek or German. He then submits a typewritten thesis dealing with original work or observation of his own, and is examined in its subject. If the candidate is not an M.B. of the university, he must be a practitioner of fifteen years' standing and submit to special tests.[2]

B.S.—A candidate for this degree must have passed the examination for the M.B. of the university, and have attended courses on operative surgery and regional anatomy. He must then perform operations on the dead body before the examiners.

M.S.—Candidates for this degree must, like those for the M.D., satisfy the authorities as to their knowledge of Greek or German, and must have been engaged in practice for at least two years subsequent to becoming B.S.Durham. They are submitted to an examination which covers the whole range of surgical knowledge.

FEES.

The following fees are payable: Matriculation or its equivalent, £1 10s.; First, Second, and Third M.B. Examinations, each £5; Final M.B., £10; M.D., B.S., and M.S., £5 for each examination and £6 6s. for each degree. Further information respecting the examinations and degrees may be obtained from Professor Howden, at the University of Durham College of Medicine, Newcastle-on-Tyne.

VICTORIA UNIVERSITY OF MANCHESTER.

THIS university grants the four ordinary degrees in Medicine and Surgery, M.B. and Ch.B. and M.D. and Ch.M.; a Diploma and a Degree (B.Sc.) are granted in Public Health; and a Degree and Diploma in Dental Surgery. Candidates for degrees must pass the special Matriculation Examination prescribed by the Faculty of Medicine (or some equivalent Examination accepted in lieu thereof; see the Prospectus of the Joint Matriculation Board), and study at the university itself for at least two years of the five years' curriculum, one such year being subsequent to the passing of the First M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) Mathematics, (3) the English Language, its literature and history; (4) two subjects at choice, one of which must be a language, Greek, French, German, or some other modern language approved by the Joint Board, and the other either Elementary Mechanics, Chemistry, Geography, or Natural History. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are four examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. At all examinations the subjects, or groups of subjects prescribed, can be taken separately or together, as the candidate pleases. The First M.B. is divided into: Part 1, Inorganic Chemistry and Physics; Part 2, Biology, including Animal and Vegetable Morphology, Physiology, and Laboratory work; Part 3, Elementary Organic Chemistry and Bio-chemistry. The parts may be taken separately or together. At the Second M.B. the candidate is examined in Anatomy and Physiology; at the third in Pathology, Hygiene, and Pharmacology and Therapeutics (including Materia Medica and Practical Pharmacy). The final examination includes Medicine, systematic and clinical (separate papers being given on Mental Diseases), and Diseases of Children, Surgery (systematic, clinical, and practical, with a separate paper on Ophthalmology), Obstetrics and Gynaecology, and Forensic Medicine and Toxicology.

M.D.—A candidate for this degree must be an M.B. of at least one year's standing. He has a choice between presenting an original dissertation or undergoing a written (practical and clinical) examination in Medicine, and a written and practical examination in Pathology, and in one other subject to be selected by the candidate.

Ch.M.—A candidate must have held, since becoming Ch.B., and for not less than six months, an appoint-

[1] See page 572.

[2] See p. 624.

ment in a public institution affording opportunity for the study of practical surgery, and produce certificates of having attended certain courses of study. The examination comprises the general field of surgery, including Ophthalmology and Bacteriology.

FEES FOR EXAMINATIONS.

The following fees are payable: Matriculation, £2; on readmission, £1 10s. Each M.B. Examination, £5; on readmission after failure, £2. M.D., including the conferring of the degree, £10. Ch.M., £5 each for the examination and degree. Application for further information should be addressed to the Dean of the Medical Faculty.

UNIVERSITY OF BIRMINGHAM.

THIS university confers the ordinary medical and surgical degrees—M.B., Ch.B., M.D., and Ch.M.—and also diplomas and degrees in State Medicine and Dentistry. It has a plan, too, by which, extending his study to six instead of five years, the M.B., Ch.B. candidate may become a Bachelor in Science as well. Of the five years' curriculum, the first four must be spent, as a rule, at the university itself, the fifth being passed at any approved school or schools. Occasionally, however, the Senate will reduce the period of enforced residence to three years and exempt from the first M.B. those who have passed elsewhere an examination considered to be its equivalent.

All students in the medical faculty must (1) either matriculate in Mathematics, in Chemistry or Experimental Mechanics, in the English Language and Literature and History, and in Latin and one other foreign language; or (2) show that they have elsewhere passed an examination deemed an equivalent. Subject to certain provisos, the following are at present thus regarded:

(*a*) The Previous Examination of the University of Cambridge. (*b*) Responsions of the University of Oxford. (*c*) The Matriculation Examination of a recognized University. (*d*) The Higher Certificate of the Oxford and Cambridge Boards. (*e*) The Oxford or Cambridge Senior Local Examination.

PROFESSIONAL EXAMINATIONS.

The candidate for the M.B., Ch.B. degrees has five examinations to pass. In the second and fourth and final examinations the candidate must pass in all the prescribed subjects or undergo the whole examination again.

First M.B.—This deals with Chemistry, Physics, and Elementary Biology; it may be passed before the student commences residence at the university, provided the regulations as to matriculation have been met.

Second M.B.—This deals with Anatomy and Physiology, and the student must pass in both simultaneously.

Third M.B.—This deals with Pathology and Bacteriology, Materia Medica, and Practical Pharmacy.

Fourth M.B.—This takes place at the end of the fourth year, the subjects being Forensic Medicine, Toxicology, and Public Health.

Final M.B.—This comprises Medicine, Surgery, Midwifery, Gynaecology, Therapeutics, Ophthalmology, and Mental Diseases. The candidate, in addition to more ordinary certificates, must be prepared with a certificate showing that he has personally taken notes of not less than six cases of fever, and of having acted as a *post-mortem* clerk for three months, and received special instruction in anaesthetics and clinical instruction in diseases peculiar to women, asylum ward work, and ophthalmology. The latter must show that he has learned refraction work. He also has to present to the examiners reports drawn up by himself on six gynaecological cases, and certificates filled up by himself regarding four actual cases of lunacy, and notes respecting two others.

M.D.—An ordinary candidate for this degree must be an M.B., Ch.B. of not less than one year's standing. He presents an original thesis for approval, and then passes a general examination in the principles and practice of medicine. From the latter the Board of Examiners may exempt a candidate whose thesis is of exceptional merit. The regulations respecting the Ch.M. are of the same general character. Subject to certain requirements as regards special research or other post-graduate study, the graduates of other universities may obtain the M.D. and Ch.M. in the same way as the holders of the Birmingham M.B., Ch.B.

FEES.

The fee for matriculation is £2, and that for each of the first four professional examinations the same amount. M.B., Ch.B. degree fee, £8; M.D. and Ch.M. examination, £10 each. For further particulars application should be made to the Dean of the Medical Faculty.

UNIVERSITY OF LEEDS.

THE degrees granted in the Medical Faculty of this university are Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master in Surgery (Ch.M). It also gives a Diploma in Public Health and two Degrees in Dental Surgery.

Candidates for the M.B. must have attended courses of instruction approved by the university for not less than five years, two at least of such years having been passed in the university subsequently to the date of passing the First Examination. They must also have matriculated by satisfying the examiners in (1) English (language or literature); (2) English history; (3) Mathematics; (4) Latin; (5) two of the following, one of which must be a language: (*a*) Greek, (*b*) French, (*c*) German, (*d*) some other modern language approved by the Board, (*e*) either Mechanics or Physics, (*f*) Chemistry, (*g*) Geography, (*h*) Natural History. Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., Ch.B. number three. The first deals with (1) Physics and Chemistry, (2) Biology. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation, and at least two terms' approved work in the respective subjects indicated.

Second M.B.—This may be taken in two parts, (*a*) Anatomy and Physiology, including practical work; (*b*) Materia Medica and Pharmacy, including actual compounding of drugs. The candidate's certificates must show, among other things, that he has dissected during at least five terms.

Final M.B.—This, too, may be divided into two parts, but for neither can the candidate present himself until he has completed ten terms of study. If divided, he must first take Pathology and Bacteriology, Forensic Medicine and Toxicology, and Public Health, and must pass in these before proceeding to the second division. The latter cannot be taken before the end of the fifth year, and before being admitted to the examination in its subjects the candidate, in addition to ordinary certificates, must produce proof that he has done both intern and extern maternity work, and received clinical instruction in gynaecology, and in eye, skin, oral, and laryngeal diseases, and in the administration of anaesthetics. This division covers all branches of surgery, medicine (including mental diseases and diseases of children), and obstetrics and gynaecology. Passages for translation from French and German are included in the papers on medicine. First and Second Class Honours may be obtained in this division.

M.D.—A candidate for this degree must be an M.B., B.Ch. of at least one year's standing. He presents a dissertation embodying the results of personal observation or original research, and, if this is approved, passes an examination which consists in the writing of an extemporary essay, and questions on the history of medicine and the subject of the dissertation.

Ch.M.—The candidate for this degree must have been admitted to the M.B., Ch.B. not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public

institution affording full opportunity for the study of practical surgery. In addition he must have attended certain special courses, including one on ophthalmology and one on bacteriology: he is then examined in the subject of surgery in all its branches.

FEES.

The Matriculation fee is £2, and on readmission £1. For each of the other examinations £5, and £2 on readmission. On conferment of the degree of Ch.M. £5 is payable, the same remark applying to the M.D. degree.

UNIVERSITY OF LIVERPOOL.

THIS university, besides granting degrees in Medicine (M.B. and M.D.) and in Surgery (Ch.B. and Ch.M.), gives a degree in Dental Surgery[1] and also diplomas in the same subject, as well as in Tropical Medicine.[2] Public Health, and some other minor subjects. For the degrees no study is recognized anterior to matriculation and registration as a medical student.

MATRICULATION.

As regards Matriculation the university has its own examination, but accepts the tests of several other bodies as its equivalent. These include the Final Examination for Graduation in Arts of any university in the United Kingdom, the Matriculation of London University, the Senior Local Examination of Oxford and Cambridge, and the higher certificate of the Joint Oxford and Cambridge Board. Of the five years' curriculum, not less than two must be passed in the university itself, one such year being subsequent to the date of passing the First M.B. examination.

PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) Chemistry, Inorganic and Organic; (2) Biology, including Zoology and Botany; (3) Physics. Section 2 may be taken alone or passed in conjunction with Sections 1 and 3.

Second M.B.—This test covers (1) Anatomy and Physiology, including Physiological Chemistry and Histology, and (2) Materia Medica, Pharmacy, and Pharmacology; these two sections may be taken separately.

Final M.B.—This examination deals with six subjects, which may be taken all together or divided into three parts, the first consisting of (1) Pathology and Morbid Anatomy; the second of (2) Therapeutics, and (3) Forensic Medicine, Toxicology, and Public Health; the third of (4) Obstetrics and Diseases of Women, (5) Surgery, (6) Medicine, including Mental Diseases and Diseases of Children.

M.D. and Ch.M.—Candidates for these degrees must have received the B.M. and Ch.B. at least a year previously. The M.D. candidate submits an approved dissertation covering original work, the M.Ch. candidate undergoing an examination in all subjects of Surgery, including Ophthalmology. Other information concerning the diplomas of this university and its medical school will be found on page 609.

UNIVERSITY OF SHEFFIELD.

THE degrees of this university (M.B., Ch.B., and M.D. and Ch.M.) and a Diploma in Public Health are open to candidates of either sex. The matriculation examination must be passed, and included in it must be the subjects required by the General Medical Council; the university accepts a certain number of other tests as the equivalent of its own matriculation.

PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 21 years on the day of graduation; that he has pursued the courses of study required by the university regulations during a period of not less than five years subsequently to the date of his registration as a medical student by the General Medical Council, three of such years as least having been passed in the university and one year at least having been passed in the university subsequently to the date of passing the first examination. He or she has eventually to pass the following examinations in due order:

First Examination.—The subjects are Chemistry, Physics, and Biology. The examination is divided into two parts: Part I (*a*) Chemistry, Physics, (*b*) Biology; Part II. Organic Chemistry; and candidates may pass in each part separately. The Intermediate Examination in Science—Chemistry, Physics, and Biology—will, on payment of the required additional fee, be accepted instead of Part I of this examination, but the candidate, after matriculation and registration as a medical student, must have attended courses of instruction (lectures and laboratory work) in Chemistry, Physics, and Biology, for one year each, and in Special Organic Chemistry (lectures and laboratory work) for one term.

Second Examination.—The subjects are Anatomy, Physiology, Materia Medica, and Pharmacy. The examination is divided into two parts, (*a*) Anatomy and Physiology, and (*b*) Materia Medica and Pharmacy; and candidates may pass in either part separately. The candidate must have completed the third Winter Session of professional study, must have passed the First Examination, and must have attended (1) lectures on Anatomy and dissections during two Winter Sessions and one Summer Session; (2) lectures on Physiology during two Winter Sessions, Practical Physiology during two Winter Sessions, and Histology during one Summer Session; and (3) Materia Medica and Pharmacy for three months.

Final Examination.—The subjects are divided into two parts—namely, (A) Forensic Medicine and Toxicology, Public Health, and Pathology, and Morbid Anatomy; and (B) Medicine, including Pharmacology and Therapeutics, Mental Diseases, and Diseases of Children, Surgery, Obstetrics, and Gynaecology. Candidates may present themselves for examination in both parts on the same occasion or separately, but Part A may not be passed before the completion of the fourth year of study. Candidates for the whole examination, or for Part B, must have completed the fifth year of study.

M.D.—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, must present a thesis embodying observations in some subject approved by the Professor of Medicine, and must pass an examination in the Principles and Practice of Medicine.

Ch.M.—Candidates for the degree of Master in Surgery must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, and must, since taking the degrees of M.B., Ch.B., have held for not less than six months a surgical appointment in a public hospital or other public institution affording full opportunity for the study of Practical Surgery. The subjects of examination are Systematic, Clinical, and Operative Surgery, Surgical Anatomy, Surgical Pathology, and Bacteriology.

Other information concerning this university will be found in the section devoted to Provincial Medical Schools.

English Medical Corporations.

THERE are three medical corporations in England, the Royal College of Physicians, Royal College of Surgeons, Royal Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the "Conjoint Board." Details concerning this body, its component colleges, and the third licensing body here follow.

THE CONJOINT BOARD.

This body deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London, and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who satisfy it for the Licence and diploma of

[1] See p. 612. [2] See p. 623.

Membership respectively. The successful candidate is then entitled to admission to the *Medical Register* as an M.R.C.S.Eng., L.R.C.P.Lond. It performs the same task in connexion with a diploma in State Medicine jointly issued by the two Colleges in question. It obliges all candidates to pass one of a large number of examinations which it considers satisfactory tests of general education, and thereafter to pass five years in professional study at a recognized medical school, allowing, however, six months to be spent at any institution which may be recognized by the Board as giving efficient education in chemistry and physics. A list of such institutions, as also of the tests accepted in regard to general education, can be obtained from the Secretary of the Board at Examination Hall, Victoria Embankment.

PROFESSIONAL EXAMINATIONS.

There are three examinations for the Conjoint diploma, or M.R.C.S., L.R.C.P., which are commonly known as First College, Second College, and Final.

First College.—This examination is in four parts: (1) Chemistry, (2) Physics, (3) Elementary Biology, (4) Practical Pharmacy.

A candidate must present himself for examination in Parts I and II together until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts III and IV separately, or he may present himself for the whole examination at one time.

Before admission to either part the candidate must show that he has undergone certain courses of theoretical and practical instruction, but these courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in Chemistry, Physics, or Biology he must produce evidence of further instruction. Those who are already graduates in medicine, or who have passed an examination in the same subjects before a university board for a degree in medicine, may obtain exemption from re-examination in those subjects at this examination.

Second College.—This examination deals with Anatomy and Physiology, and both subjects must be passed at the same time. A candidate must have attended during two Winter Sessions and one Summer Session (or fifteen months during the ordinary sessions) at a recognized medical school lectures on Anatomy, Physiology, and a course of Practical Physiology and Histology, and have dissected for twelve months during the ordinary sessions. The study of Anatomy and Physiology before passing in two of the first three parts of the First Examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies at a recognized medical school for not less than three months.

Final College.—This examination consists of three parts: Part I, Medicine, including Medical Anatomy, Pathology, Practical Pharmacy,[1] Therapeutics, Forensic Medicine, and Public Health; Part II, Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances; Part III, Midwifery and Gynaecology.[2] The examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of attendance on twenty labours. The candidate must have passed the Second Examination two years previously, and have spent five years in professional study subsequent to passing the required Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

NOTE.—A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scottish, or Irish university are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their university the subjects included in the First and Second Examinations of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign university recognized for the purpose, who shall have passed at his university in the subjects of the First and Second Examinations will be eligible for admission to the Third or Final Examination two years after passing in the said subjects.

FEES.

First Examination, £10 10s. Re-examination, Parts I and II, £3 3s.; Parts III and IV, each £2 2s. *Second Examination*, £10 10s. Re-examination, £6 6s. *Third Examination*, £21. Re-examination, Part I, Medicine, £5 5s. Practical Pharmacy, £2 2s. Part II, Surgery, £5 5s. Part III, Midwifery and Diseases of Women, £3 3s. Members of an English, Scottish, or Irish university, £5 5s.; for the diplomas, £36 15s.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THIS College has three grades—its Licentiates, its Members, and its Fellows. The Licence is only issued through the Conjoint Board, as already stated, unless the candidate already holds a registrable qualification issued by some other body. Its Membership is only granted to persons who are already registered, or who have passed the final examinations for the Licence; otherwise they must be Graduates in Medicine of a recognized university; in any case they must be persons over 25 years of age, who do not practise in partnership, dispense medicines, or engage in trade. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce. Those under 40 are also examined in Latin, and either Greek, French, or German. The examination fee is £6 6s., the Membership fee being £42, or the difference between that sum and what the candidate has already paid if a Licentiate. The body of Fellows is maintained by election from among the Members.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in Anatomy and Physiology, which may be passed after the third Winter Session; the second, chiefly directed to Surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of Graduates in Medicine and Surgery of not less than four years' standing, of universities recognized by the College for the purpose, who are required to attend for one year the Surgical Practice of a general hospital recognized by the College, after obtaining their degrees. The College also issues a Diploma in Dentistry.[3]

Fees.—At First Examination: £5 5s. At Second Examination: £12 12s. Diploma fee: Members, £5 5s.; non-members, £15 15s.

SOCIETY OF APOTHECARIES OF LONDON.

THIS body confers a registrable diploma in Medicine, Surgery, and Midwifery, now known as the L.M.S.S.A. There are nominally only two examinations, but both are subdivided.

[1] Candidates who have previously passed in Practical Pharmacy will not be re-examined in that subject at the Third Examination.

[2] Candidates may present themselves for examination in Midwifery and Diseases of Women at any time after the completion of the fourth year of professional study at a medical school, and not less than one year after the passing of the Second Examination, on production of the required certificates.

[3] See p. 642.

Primary Examination.—Part I includes Elementary Biology, Chemistry, Chemical Physics, Practical Chemistry, Pharmacy, and before passing it the candidate should have been registered as a medical student and undergone certain courses of tuition. Part II includes Anatomy, Physiology, and Histology. This examination cannot be passed before the completion of twelve months' Practical Anatomy, with demonstrations. These subjects cannot be taken separately, except in the event of the candidate having previously passed in one. Candidates will be excused any or all the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in Anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination.—This is divided into two sections, the first section being again subdivided into three parts. The first part includes the Principles and Practice of Surgery, Surgical Pathology, Operative Manipulation, Surgical Anatomy, Instruments and Appliances. Part II includes: (*a*) The Principles and Practice of Medicine (including Therapeutics, Pharmacology, and Prescriptions), Pathology, and Morbid Histology; (*b*) Forensic Medicine, Hygiene, Theory and Practice of Vaccination, and Mental Diseases. Part III: Midwifery, Gynaecology, and Diseases of Newborn Children, Obstetric Instruments and Appliances. A candidate cannot present himself for this section before the expiration of forty-five months after registration as a medical student, during which time not less than three Winter Sessions and two Summer Sessions must have been passed at one or more of the medical schools connected with a general hospital recognized by the Society. Section 2 consists of Clinical Surgery and Clinical Medicine and Medical Anatomy, and a candidate before appearing at it must have completed five years of medical study.

FEES.

Primary Examination, £5 5s.; Final, £15 15s. Further information may be obtained from the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C. It is worth noting that Licentiates of this Society are eligible for admission to its membership, a position conferring the advantages commonly accompanying membership of a City guild. Information on this point should be sought from the Clerk of the Society at its Hall, Blackfriars.

The Scottish Universities.

THERE are in Scotland four universities, each of them possessing a Faculty of Medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are on all-fours with one another, so that an account can be given of all of them together.

The universities in question are, of course, those of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and in point of standing and repute it is not easy to differentiate between them. What provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that degrees in medicine from Scotland as a whole have always enjoyed an excellent repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor in Surgery (Ch.B.), Doctor of Medicine (M.D.), Master in Surgery (Ch.M.). The two former are not separably obtainable one from the other. Besides these degrees a diploma in Tropical Medicine and Hygiene is obtainable from the University of Edinburgh, and registrable degrees in Public Health from the same university and from Glasgow, and diplomas in Public Health from the universities of St. Andrews and Aberdeen. Information as to these will be found in the appropriate sections dealing respectively with Preventive Medicine and Tropical Medicine.

MATRICULATION.

Matriculation is effected by signing the statutory declaration, or *sponsio academica*, and paying a fee of £1 1s., but to make it effective enrolment as a student at some class of the university is necessary; moreover, to make matriculation a step to a degree a preliminary examination must be passed. This for medical students is an examination in English, Latin, Elementary Mathematics, and either Greek or French or German. Candidates are required to pass in all these subjects either at one or at not more than two examinations, but they can present themselves as often as they please. These preliminary examinations are held twice a year, in Spring and Autumn, and in point of standard are believed to correspond to that set at the examinations for the lower certificate of the Oxford and Cambridge Schools Examination Board. The universities accept as the equivalent of the preliminary examination a large number of corresponding tests held by other bodies. The fee is 10s. 6d. Compliance with the regulations of the General Medical Council as to registration as set forth on p. 586 is necessary.

PROFESSIONAL EDUCATION.

The regulations as regards the subjects to be studied comply in all respects with the requirements and recommendations of the Medical Council, and in addition necessitate definite study for stated periods of diseases of children, of the larynx, ear and nose, of the skin, of ophthalmology, and of mental diseases.

In respect of midwifery, the student must either conduct personally twenty-five cases of labour or attend a lying-in clinic for three months, and personally conduct twelve deliveries. He must also attend the medical and surgical practice of a hospital recognized for the purpose for at least three years. In each of the prescribed subjects of study the student must attend one or more courses of definite length, those in the more important subjects lasting not less than five months, and in the minor subjects half that time. In respect of these courses certificates must be obtained showing that the student has not only attended the courses regularly, but has duly performed the work of the class.

Out of the necessary five years of medical study, not less than two must be spent at the university whose degrees the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there are two sessions, one lasting from the beginning of October to the middle of March, and the other from the beginning of May to the middle of July.

PROFESSIONAL EXAMINATIONS.

The distinctive feature of the Scottish curriculum is that though nominally there are only four examinations, each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, in the middle of the first Winter Session the student may get rid of Physics, and at its end of Chemistry. At the end of the first Summer Session he can finish with Botany and Zoology, and at the end of the second Summer Session with Physiology. In the middle of his third Winter Session he can finish with Anatomy, and at the end with Practical Materia Medica. Pathology he will pass at the end of the third Summer Session, and so on, until the Final Examination at the end of the fifth Summer Session in Clinical Medicine, Clinical Surgery, and Clinical Gynaecology. At each examination the candidate may pass "with distinction," and a record is kept of the merit displayed, so that, when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with first or second class honours. A

further point in the system is that the student's own teachers commonly take some part in his examination.

Of the four examinations, the first deals with physics, botany, zoology, and chemistry; the second with anatomy and physiology; the third with materia medica and pathology; the fourth with medicine and surgery (clinical and systematic), midwifery, forensic medicine and public health, and clinical gynaecology. Each of these examinations is held three times a year.

Exemption from the first professional examination can be obtained by candidates who have passed an examination at any recognized university in its subjects qualifying for a degree in science or in arts. There are no set periods which must elapse between passage of the different examinations, but in every case the student must have attended the necessary course of lectures in each subject and have satisfied the examiners in all the subjects of the previous examination. When a candidate presents himself for an examination in several of its parts, but is not successful in all of them, he is credited at the next examination with those subjects in which he has previously been approved.

THE HIGHER DEGREES.

It is open to those who are already M.B., Ch.B. to proceed either to the M.D. or the Ch.M. A candidate for the former must have been engaged for not less than one year at work in the medical wards of a hospital or in scientific research in a recognized laboratory or in the Naval or Military Medical Service, or have been at least two years in general practice, and he must be 24 years of age. He has to write a thesis on a subject not exclusively surgical, and is examined in medicine and in some one or other of its special departments. The regulations for candidates for the Ch.M. are of corresponding character, a period of surgical work in a hospital or elsewhere being substituted for medical work, and his thesis being on a surgical rather than a medical subject. He is examined in surgical anatomy, clinical surgery, operative surgery, and in some of the special departments of surgery.

FEES.

It is estimated that the class examination and other fees for the M.B., Ch.B. come altogether to £150, the separate fees included in this calculation being as follows:

	£	s.	d.
Preliminary Examination ...	0	10	0
First Professional	6	6	0
Second Professional	5	5	0
Third Professional	4	4	0
Finals	7	7	0

Re-entry in any subject in which the candidate has failed entails a fresh payment of £1 1s. Candidates for the M.D. and Ch.M. pay £10 10s., and on re-entry £5 5s.

More detailed information with regard to the University of Edinburgh can be obtained from the *Medical Programme*, price 2d., which is published by Mr. Thin, South Bridge, Edinburgh, or on application to the Dean of the Faculty of Medicine. Similar information about Glasgow should be sought from the Assistant Clerk, Matriculation Office, Glasgow. With regard to Aberdeen, application may be made to the Secretary of the Medical Faculty, Marischal College. In respect of St. Andrews, information can be obtained either from the Secretary of the University or, alternatively, the Secretary of the United College, St. Andrews, or the Secretary of University College, Dundee, these being the two constituent colleges of the University of St. Andrews.

Finally, it should be mentioned that, in connexion with all the Scottish universities, including St. Andrews, there are valuable bursaries and scholarships, some information as to which will be found in the article on Medical Schools.

The Scottish Corporations.

THERE are three medical corporations in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow. Their Licences can be separately obtained only by persons who are already in possession of a recognized qualification—in surgery in the case of the College of Physicians, and in medicine in the case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

THE CONJOINT BOARD IN SCOTLAND.

THIS body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, and the Royal College of Surgeons of Edinburgh. Those who are approved at its examinations are entitled to registration and to the initials denoting the Licences of the three bodies concerned—namely, L.R.C.P.Edin., L.R.C.S.Edin., and the L.F.P.S.Glasg. It requires all candidates to comply with the regulations of the General Medical Council as regards registration of medical students set forth on page 586, and to pass a preliminary examination in Arts.

It has an examination of its own of this character which is conducted for it by the Educational Institute of Scotland, but is prepared to accept any of the educational tests approved by the General Medical Council, a list of which will be found on page 587.

PROFESSIONAL CURRICULUM.

Subsequent to the passage of the preliminary examination for registration as a medical student the candidate must pass not less than five years in medical study, each comprising a Winter and a Summer Session. On this point and all others connected with the curriculum the regulations of the Board are in keeping with the recommendations and requirements of the General Medical Council as already set forth. The Board does not exact that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held six times every year; four times in Edinburgh and twice in Glasgow; and it is open to candidates to present themselves for examination either at one place or the other. The first examination deals with Physics, Chemistry, and Elementary Biology. The second with Anatomy and Physiology, including Histology; the third with Pathology and Materia Medica, including Pharmacy, and the final with (1) Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; (2) Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eyes; (3) Midwifery and Diseases of Women and of Newborn Children; (4) Medical Jurisprudence and Hygiene. Candidates may also be examined on Diseases of Children, Diseases of the Ear and Throat, Insanity, Vaccination, etc.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. On the other hand, the examinations can be broken up by the student and each of its subjects taken separately. If a candidate takes up several subjects of an examination or the whole examination in its entirety, but fails in some of them, he is credited at the next examination with those subjects in which he has been approved. As regards the final examination, a candidate can present himself in Medical Jurisprudence

and Public Health at any time after completion of the previous examination and of his study of these subjects: but in Medicine, Surgery, and Midwifery a candidate cannot present himself until the completion of five years' study, and he must complete the whole examination within fifteen months of his passing in any one of the three subjects named.

Finally, it should be mentioned that a person who holds a qualification conferring a legal right to practise in the country from which it was obtained, and granted after courses of study and examination deemed by the Board to be the equivalent of its own, may be exempted from the three earlier examinations in whole or in part; but to no examination can a candidate be admitted within three months of his rejection by some other licensing body.

FEES.

It is estimated that the total cost of lectures and fees for the conjoint examinations is about £152. The separate examination fees are as follows: Preliminary, £1; First, Second, and Third Professional, £5 each; and the Final, £15. On re-entry for all divisions of the first three professional examinations payment of £3 is required, and on re-entry in all divisions of the Final Examination, £5. Smaller payments are necessary when re-entry is only in one or two subjects.

Information concerning this Board should be sought either from Mr. James Robertson, solicitor, 54, George Square, Edinburgh, or from Mr. Alexander Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS college has two grades—its Licence and its Fellowship. Licentiates may be of either sex, but for the Fellowship women are not eligible. The general qualifications demanded of a candidate for the Licence have already been sufficiently indicated in the earlier paragraphs of this section. He has to pass a written, oral, and clinical examination in Surgery, and may be asked to operate on the dead body. The fee is £15 15s., of which £10 10s. are returned to unsuccessful candidates. On due cause shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Candidates for the Fellowship must be not less than 25 years of age and have been in practice subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the college, or an approved diploma obtained as the result of an examination which includes surgery as well as medicine. Candidates are examined in surgery, including clinical and operative surgery, surgical anatomy, and one other subject which they may choose from among the following: Ophthalmology, laryngology, including aural and nasal surgery, dental surgery, midwifery, gynaecology, surgical pathology, and operative surgery, advanced anatomy, advanced physiology, pathology and bacteriology, medical jurisprudence and public health. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice, his application for admission being supported by two Fellows of the college, one of whom must be a resident in Edinburgh, or, in default, by testimonials.

Licentiates of the college pay £30, and others £45. For further information application should be made to the Clerk of the College, Mr. D. L. Eadie, 54, George Square, Edinburgh.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

THIS college has three grades—Licentiateship, Membership, and Fellowship; to the two latter women are not admissible. The regulations applying to candidates for the Licentiateship have already been generally indicated. If desirous of receiving it apart from those of the other two corporations, they must be holders of a surgical qualification recognized by the college, and must pass an examination corresponding to the medical part of the final examination of the Conjoint Board and conditioned in the same way, and also an examination in Materia Medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly, except in September and October. A candidate for the Membership must be either a Licentiate of a Royal College of Physicians or a graduate in medicine of a British or Irish university, and in either case not less than 24 years of age. He is examined in medicine and therapeutics, and in one further subject at his choice. This may be either (*a*) one of the departments of medicine specially professed: (*b*) psychology; (*c*) general pathology and morbid anatomy: (*d*) medical jurisprudence; (*e*) public health; (*f*) midwifery; (*g*) gynaecology, or (*h*) diseases of children. Licentiates of the college pay £21, others £36 15s. A candidate who is not less than 40 years of age, and who has been in practice not less than ten years, may be exempted from part or all of the examination, provided he is highly distinguished for his scientific attainments. The latter is held quarterly, and application for admission to it must be made a month previous to its date. For the Fellowship, the candidate must have been a member of the college for at least three years, and, if accepted, pays fees amounting altogether to a little less than £65. Any further details required can be obtained on application to the Secretary of the College.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THIS body possesses two classes—Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. They are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing or 24 years of age and pass an examination. Candidates approved thereat are then eligible for election as Fellows. The Faculty can also elect two Fellows annually without previously submitting them to examination, and merely "in virtue of distinction." They must be of not less than ten years' standing and 40 years of age. Further information can be obtained from Mr. A. Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

The Irish Universities.

IT might have been said any time in the last two or three centuries—ever since, in short, the foundation of Trinity College, Dublin—that the opportunities for obtaining a university education in Ireland were good; and the only addition that could be made to that statement at the present time would be that the opportunities are still good, and are about to be even better. To be more precise and to say exactly how many universities there are is less easy, for at present things are in a state of transition.

Up to the time of the passage of the Irish Universities Act last year there were only two universities—Trinity College, both a teaching and an examining university, and the Royal University of Ireland, a purely examining body, likewise seated in Dublin, but with its constituent and teaching colleges at Belfast, Cork, and Galway respectively. Under the new Act Trinity College will in every respect remain unchanged, but the Royal University of Ireland will cease to exist after the end of the current year. That fact, however, will not diminish but increase the number of universities in Ireland, for while one of the constituent colleges of the old university, Queen's College, Belfast, will develop into an independent

university, the National University of Ireland will come into existence and have at least two, probably three, and possibly more, constituent colleges. One of these constituent colleges will be at the head quarters of the new university in Dublin, and be formed, so far as its medical side is concerned, by the absorption of the medical school in Dublin long known as the Cecilia Street or Catholic School of Medicine; the other two will certainly be, and indeed already are, Queen's College, Cork, and Queen's College, Galway. These institutions will change their names to University College, Cork, and University College, Galway, and in addition to continuing their present work as medical schools will also act as examining bodies—at all events in the case of the students in their medical faculties. All these, however, are matters with which the prospective medical student need little concern himself, for if he joins Trinity College, Dublin, he will, as now, develop eventually into a graduate of that university; while if he joins the Belfast school he will eventually become M.B., B.Ch.Belfast; and if, on the other hand, he prefers to do his work either in Cork or Galway, or in Dublin (but not at Trinity College), the fact that the Royal University of Ireland is about to decease need not disturb him; though he may commence his work as one of its undergraduates he will automatically pass on to the rolls of the National University. As for the regulations of the new universities, those of Queen's University, Belfast, have already been formulated and are here given, while those of the National University still have to be settled. As, however, they seem likely to be founded on those of the existing Royal University of Ireland, and it seems still more probable that in any case those regulations will be held to apply to students who commence their work at the present time, an account of them is published in the following columns.

UNIVERSITY OF DUBLIN.

THIS university, equally well known, perhaps, as Trinity College, Dublin, grants two degrees in Medicine (M.B. and M.D.), two in Surgery (B.Ch. and M.Ch.), two in Midwifery (B.A.O. and M.A.O.), and diplomas in the same subjects and in Public Health. It also confers a degree and diploma in Dentistry. The degrees it only grants to those who, besides having passed the Professional Examination, have graduated in Arts.

PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student of at least five years' standing, and though he need not have taken his degree in Arts before admission to the Professional Examination, he cannot take his Medical degrees until he has been admitted a B.A. As a rule, at least three years of his medical study must be pursued at the university, but the Board has power to accept one year at a recognized London or Edinburgh hospital as the equivalent of one year's attendance at a recognized Dublin hospital, or two years at a recognized country or Colonial hospital as one year of metropolitan work. The examinations which he has to pass are the Preliminary Scientific, Intermediate Medical, and the Final, and of course before admission to any of them he must be duly signed up as regards study in the subjects involved.

Preliminary Scientific.—This covers (*a*) Chemistry and Physics, (*b*) Botany and Zoology; the two divisions may be taken together or at different times.

Intermediate Medical.—This is divided into two parts: (*a*) Anatomy, Physiology, and Histology; (*b*) Applied Anatomy and Applied Physiology. The two parts may be taken separately, but in each part all subjects must be passed at one time.

Final Examination.—Part I: Hygiene and Medical Jurisprudence, Pathology, Materia Medica, and Therapeutics. *Part II:* (*a*) Midwifery, Gynaecology; (*b*) Medicine, Clinical Medicine, and Mental Diseases; (*c*) Surgery in all branches, including Clinical Ophthalmology. The three sections of Part II may be divided, any two being taken at one examination, and the third later. In either case, the full curriculum must have been completed, nor can the final subject be taken until at least the end of the fifth year.

M.D.—The candidate must have passed all the qualifying examinations in Medicine, Surgery, and Midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

M.A.O.—The candidate must have passed the qualifying examination in Medicine, Surgery, and Midwifery. The examination is specially directed to Obstetrics and Practical Gynaecology.

For the university diplomas mentioned the candidate must have completed two years in Arts and five in Medical studies. The examination and courses required are the same as for the degrees.

FEES.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11. Further information may be obtained from the Registrar of the School of Physic, University of Dublin.

QUEEN'S UNIVERSITY, BELFAST.

THE degrees to be granted by the Medical Faculty of this University are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Doctor of Surgery (D.Ch.), Master of Obstetrics (M.A.O.). The university will also confer a diploma in Public Health. The first three mentioned are degrees serving as a qualification for admission to the *Medical Register*, and will be conferred at the same time and after the same course of study. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have been a registered medical student for five years, and have passed three of those five as a student at the Belfast School of Medicine.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O., are four in number. The first deals with: (1) Inorganic, Organic and Practical Chemistry, (2) Experimental and Practical Physics, (3) Botany and Practical Botany, (4) Zoology and Practical Zoology. It is divided into two parts, of which Botany and Zoology form one. The Second Examination covers Anatomy and Physiology, and may be taken at the end of the second year of the student's career. The Third Examination includes: (1) Pathology, (2) Materia Medica, Pharmacology and Therapeutics, (3) Medical Jurisprudence, and (4) Hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done subsequent to passing the First Examination.

The Final Examination includes (1) Medicine, (2) Surgery, (3) Midwifery, (4) Ophthalmology and Otology. The student may pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) Systematic, (2) Clinical, Practical, and Oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year. No certificate in regard to study of the subjects of this examination will be valid unless the work was done subsequent to passage in all the subjects of the Second Examination.

M.D.—Candidates for the degree of Doctor of Medicine must be graduates in Medicine of at least three years' standing, unless they hold also a degree of the university in Arts or Science. In that case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may be prescribed. The degree may be conferred either (*a*) after a formal examination, or (*b*) in recognition of the merits of a thesis or of some piece of original study

or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of Medicine, (2) a commentary on a selected Clinical case, (3) a Clinical and viva voce examination, and (4) a written paper and Clinical or practical and viva voce examination of a subject chosen from the following list: (1) Human Anatomy, including Embryology, (2) Physiology, (3) Pathology, (4) Pharmacology and Therapeutics, (5) Sanitary Science and Public Health, (6) Forensic Medicine and Toxicology. The regulations for the degree of M.Ch. and M.A.O. are of the same general nature.

In the case of students who have already matriculated or passed any of the examinations of the Royal University of Ireland, the regulations are duly modified so as to meet their case. Other information concerning this university will be found in the article on Medical Schools in Ireland.

ROYAL UNIVERSITY OF IRELAND.

Although this university will cease to exist at the end of this year, an account of the regulations is here given for the reasons stated in the general preface to this article.

The Professional degrees conferred are those of Bachelor and Doctor of Medicine (M.B., M.D.), Bachelor and Master of Surgery (B.Ch., M.Ch.), Bachelor and Master of Obstetrics (B.A.O., M.A.O.). It also grants diplomas in State Medicine and in Mental Diseases. The candidates must matriculate, and then pass in due succession four professional tests. Not less than a year is allowed as a rule to elapse between the passage of one examination and admission to the next; but, provided that three years have elapsed since success at the second examination, the third and final tests may be passed in the same examination period.

Professional Examinations.

First M.B.—This may be taken a year after the matriculation, provided the candidate has completed his first year of medical work and passed the First University Examination. It deals with Natural Philosophy, Chemistry, Botany and Zoology, and, except in Chemistry, includes in each subject a practical examination to which special importance is attached.

Second M.B.—At this are taken Anatomy, Physiology, and Practical Chemistry. The second year's studies must have been completed.

Third M.B.—This deals with Anatomy and Physiology again, and with Materia Medica, Pharmacology, and Therapeutics.

Final Examination.—No part of this can be taken until the whole medical curriculum is complete. It consists of the following parts: (*a*) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology; (*b*) Surgery, Theoretical, Clinical, and Operative, including the use of instruments and appliances; Surgical Anatomy, Ophthalmology, and Otology (candidates at this examination must exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope), Surgical Pathology; (*c*) Midwifery and Diseases of Women and Children. A candidate must enter for and go through the entire examination, but is credited with any of the above-mentioned parts in which he satisfies the examiners and passes in the remainder subsequently. Special Examinations for honours are held in connexion with these examinations.

M.D. Degree.—A candidate for this must be an M.B., B.Ch., B.A.O. of three years' standing, unless he holds a degree in Arts, in which case two years suffice. Of the time that has elapsed since he became M.B., at least two academical years must have been passed in Hospital or Private Medical Practice or in the Naval or Military Medical Service. He undergoes a written, practical, and oral examination in the general subjects of Medicine and Pathology.

M.Ch. Degree.—The same general rules as the foregoing apply to candidates for this degree, Surgery taking the place of Medicine, and Ophthalmology and Otology being included.

M.A.O. Degree.—Besides being of the same standing as candidates for the M.B. and M.Ch. degrees, candidates for the M.A.O. must produce evidence of a special study and experience in Midwifery and Obstetrics, and then undergo a written, oral, and clinical examination in these subjects.

Fees.

The fees are: for Matriculation and the three subsequent professional examinations, £1 each. Final Examination, £2; M.B., B.Ch., and B.A.O. degrees, £10; the other degrees, £5 each.

The Irish Corporations.

There are in Ireland, as in London, three licensing bodies other than the Medical Faculties of Universities, and, just as in London, there are two Royal Colleges of Physicians and of Surgeons and an Apothecaries' Hall. The similarity is still more complete, for in Ireland also the two colleges have formed a Conjoint Board, as in London, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall gives its licence separately. The Conjoint Board also holds examinations for the Diploma in Public Health granted by the two colleges.

THE CONJOINT BOARD IN IRELAND.

This body requires of candidates the passage either of its own preliminary examination in the subject of general education or proof that the candidate has passed one of the tests accepted by the General Medical Council.

Professional Examinations.

There are four professional examinations, the first of which cannot be passed earlier than the end of the first Winter Session, nor the fourth before the conclusion of full five years of medical study, and before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The First and Second Examinations deal respectively with (*a*) Chemistry and Physics and (*b*) Biology; and (*a*) Anatomy, and (*b*) Physiology and Histology. All parts of these examinations, as also of the following one, which deals with (*a*) Pathology, (*b*) Materia Medica, Pharmacy, and Therapeutics, (*c*) Public Health and Forensic Medicine, may be taken separately.

Final Examination.—This is divided into three divisions, which cannot be completed until at least four years have passed in medical studies other than those for the first examination, and five years, at least, since the beginning of the curriculum. The divisions are (*a*) Medicine, including Fevers, Mental Diseases, and Diseases of Children: (*b*) Surgery, including Ophthalmic and Operative Surgery; (*c*) Midwifery, including Diseases of Women and Newborn Children, and the Theory and Practice of Vaccination. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the divisions (*a*), (*b*), or (*c*), provided he has completed his curriculum as far as concerns the division in which he presents himself.

Fees.—Preliminary Examination, £2 2s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; Re-examination fee is £2 2s. for each division.

Further information can be obtained from Alfred Miller, Esq., Secretary of the Committee of Management, 6, Kildare Street, Dublin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

THOSE whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this college, and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the college are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and licentiates in medicine of Royal Colleges of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members.

Fees.—For the Licence in Medicine, 15 guineas; for the Licence in Midwifery, 5 guineas; or 16 guineas for both if they are taken within an interval of a month. Special examinations cost in each case 5 guineas extra. For the Membership, 20 guineas to a Licentiate of the College; 35 guineas to others; a special examination costing 5 guineas extra. The Fellowship £35, in addition to stamp duty £25. Information as to special examinations and other points can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THIS body, besides its Licence in Surgery, grants a Diploma in Midwifery, and under certain conditions admits those possessed of registrable surgical qualifications to its Fellowship. Its licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification, provided that the College is satisfied that adequate courses of study have been pursued and that its own examination is passed. Similar conditions attach to the Diploma in Midwifery.

The Fellowship.—Candidates for admission as Fellows must lodge a petition supported by evidence as to study and testimonials as to character. Should these be approved, the candidate is permitted to attend for examination. If he is a Licentiate or Graduate in Surgery of less than ten years' standing he has to pass two examinations, one covering Anatomy, Physiology, and Histology, and the other Surgery (Systematic, Clinical, and Operative) and Surgical Pathology. Candidates of over ten years' standing pass at present one examination only, its subjects being the same as the ordinary second Fellowship Examination, with the addition of Surgical Anatomy. The Primary Fellowship can be passed at the end of the third winter of the ordinary curriculum.

Fees.—The Licence Examination, £26 5s., £5 5s. being retained if the candidate does not pass; for a Special Examination, £31 10s. For the Midwifery Examination, £15 15s., of which £5 5s. is retained if the candidate does not pass. For the Fellowships, those already Licentiates pay £15 15s. for the Primary Examination, £10 10s. for the Final. Licentiates in Surgery of other bodies: Primary, 25 guineas; Final, 15 guineas. Those who enter as students pay £5 5s. for Primary Examination, 20 guineas for the Final. Licentiates of the College of over ten years' standing pay 25 guineas, and others 40 guineas. A Special Examination costs 10 guineas extra. In case of rejection, 10 guineas in addition to the special fee, if such has been paid, are retained. Other information can be obtained from the Registrar of the College, Stephen's Green West, Dublin.

APOTHECARIES' HALL OF IRELAND.

A DIPLOMA is granted by this Hall which entitles the holder to be registered as a practitioner of Medicine, Surgery, and Midwifery, and confers also the privileges of an Apothecary. Candidates must tender evidence of having complied with the requirements of the General Medical Council as regards preliminary and professional education, certificates in respect of such studies being accepted from all recognized authorities. Two periods of Dissection, each not less than six months, must be included, and twenty-seven months of Hospital attendance, or its equivalent. Four professional examinations have to be passed; they are held quarterly. The first examination deals with Biology, Physics, and Chemistry, Practical and Theoretical; the second examination is in Practical Anatomy and Physiology, and Histology; the third Pathology, Pharmacy and Materia Medica, Forensic Medicine, and Hygiene. A candidate who has passed tests in any of the subjects of these examinations before another Licensing Body is exempt from further examination in such subjects. The final examination deals with Medicine, Surgery, Ophthalmology, Midwifery, and Gynaecology. The Hall's own examination in all these subjects must be passed, except in the case of candidates who have already been admitted to the *Register*. These are only examined in subjects not covered by their previous qualifications. Women candidates are eligible.

Fees.—For each of the first three examinations, £5 5s.; for the final, £6 6s. If the third and final, or final alone, are passed before the Hall, the other examinations having been passed elsewhere, the fee is £15 15s. Application for other information should be made to the Registrar, 40, Mary Street, Dublin.

MEDICAL SCHOOLS AND COLLEGES.

LONDON.

As has already been pointed out, the student who selects a London medical school has three courses open to him, and it is very important that what this means should be clearly understood at the very outset, as a mistake may be the source of lifelong regret.

1. The natural course would seem to be to take the medical degree of the University of London. All the medical schools in London are now constituent colleges of that university, University and King's Colleges in all faculties, and the other medical schools in the medical faculty, and all undertake to prepare students for its medical degrees. Unfortunately the university has not yet taken down the antiquated barbed-wire fence called the Matriculation Examination. Unless the would-be student has cut his way through this on leaving school, he must look elsewhere for a degree. If he has got through this obstruction there ought to be no more difficulty in going on to a degree than in taking the third of the course here described. There are, however, other examinations to be passed before entering on medical studies proper; these deal with the Preliminary Sciences, and have their equivalent in the two other courses. These subjects at the University of London are divided into two parts, and it should be noted that the student may prepare himself at any one of a long list of schools and colleges scattered over the length and breadth of the United Kingdom, and, indeed, of the Empire. There are many advantages about this course if the student has once started on the road.

2. If he has not done so, but yet desires to take a university degree, he should study the regulations of the Universities of Oxford and Cambridge (pp. 588 and 589). By joining one or the other he will be in the way to obtain an admirable education in the earlier subjects of the medical curriculum, while looking forward to enjoying the great opportunities which the London hospitals are able to provide in the matter of clinical instruction and practical training in medicine, surgery, and obstetrics. He will find his road very plainly marked. He will spend three years at the university in the study of chemistry, biology, anatomy, and physiology, and when that stage is passed will find any medical school in London ready to receive him with open arms, and even offering him inducements in the shape of scholarships. There are many advantages in this second course also.

3. The student may make up his mind not to seek a university degree, in which case he will enter at any

one of the medical schools as a full student, and end by taking the diploma of the Royal Colleges of Physicians and Surgeons, granted after a series of examinations conducted by the Conjoint Board of the Colleges (p. 594) or the Licence in Medicine or Surgery granted by the Society of Apothecaries of London (p. 595). If the would-be student is going to enter the Royal Navy Medical Service, the Royal Army Medical Corps, or the Indian Medical Service, he cannot do better than follow this course, inasmuch as a university degree will be no particular advantage to him in these services, and to have entered as young as possible will often make a great deal of difference by preventing him from being counted out on a small pension under the age rules. Again, if he is quite sure that he is going to be a great operating surgeon, he may follow this third course, but while doing so pass the special examination in anatomy and physiology at the Royal College of Surgeons of England known as the First Fellowship. If he does not pass this as a junior student and side by side with the ordinary examination in these subjects, his prospects of ever becoming a Fellow of the College will be considerably diminished, and his whole career as a student may be retarded. Finally, though we have described this third course, we apprehend that the only sound general advice that can be given to a young man who contemplates entering the medical profession by way of London, but without any intention of joining one of the services, is to lay himself out to take a degree at one of the three universities mentioned.

Choice of a School.

Little guidance can be given in these columns as to choice of one school rather than another, for such choice must depend largely on personal factors. In a general way, however, it may be said that while to the student of to-day it may, perhaps, be almost a matter of indifference to what school he belongs, there is often in after-life a certain advantage in having been an alumnus at one of the more celebrated schools. On the other hand, there are, perhaps, more opportunities in some respects, especially for obtaining the coveted posts of house-physician and house-surgeon, at the smaller schools.

Information as to the fees at the different schools and the scholarships, prizes, and junior appointments which they offer will be found in the following pages, and should be carefully studied by those who have no personal reason for preferring one to the other. The courses which they provide are fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board or the Apothecaries' Society not less than of those who have London or other university degrees in view. At all, too, as has been said, special facilities are offered to men who have commenced their professional education at the older universities, Oxford and Cambridge. Apart from these facts, the only point to which attention can usefully be directed is that on personal inquiry and investigation reason may perhaps be found for regarding the teaching accommodation and general arrangements for students at some schools as superior to those at others.

St. Bartholomew's.

This institution fills one side of Smithfield and Giltspur Street, sharing with the Post Office buildings a large island of ground separated practically from all other buildings: it is on the edge of the City, and easily reached from all parts of London. The hospital contains 744 beds. Extensive new buildings, opened some two years ago by the Prince of Wales, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the place as one of medical study. The library and the chemical, physical, biological, and physiological laboratories have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, and luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the kingdom. In addition there has been completed during the past twelve months a second block of new buildings. These form the Pathological Department, and include large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. Within the precincts of the hospital also there is a residential college for a large number of students. The Students' Union owns, moreover, grounds of some 10 acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other Examinations for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same universities, including the M.S. Lond., First and Second F.R.C.S., M.Ch.Oxon., and M.C.Cantab. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London, is also given.

Appointments.—Clinical Clerks to the Physicians and to the Physician-Accoucheur, and dressers to the Surgeons and in the Casualty Department are chosen from the students: Clerks and Dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Laryngological, Aural, Dermatological, Electrical, and Dental) and in the *post-mortem* room. Chief Assistants and Clinical Assistants are selected from qualified men and appointed yearly to help in the special departments just named. Ten House-Physicians and ten House-Surgeons are appointed annually. During their first six months of office they act as "Junior" House-Physicians and House-Surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" House-Physicians and House-Surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident Midwifery Assistant, an Ophthalmic House-Surgeon, and a House-Surgeon for diseases of the throat, nose, and ear, are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two Assistant Anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An Extern Midwifery Assistant is appointed every three months, and receives a salary of £80 a year.

Scholarships.—Five Entrance Scholarships will be awarded after an Examination to be held on September 23rd, 1909, and following days. The subjects of examination and conditions of eligibility for these Scholarships are: (1) Two Scholarships, value £75 each, in not fewer than two nor more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology and Anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One Scholarship, value £150, in not fewer than three of the following subjects—Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) The Entrance Scholarship in Arts of the value of £100 will be given in Latin and Mathematics, with one other language. (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £50. The value of the Scholarships and Prizes is nearly £900 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical School, St. Bartholomew's Hospital.

Charing Cross.

This school, with its hospital, is situated in the very centre of London, and easily accessible from all parts. It is within three minutes' walk of the Royal Dental Hospital of London, and gives instruction in all subjects of the medical and dental curriculum. The Lectures are given at hours to suit both General and Dental Students. The Hospital, with its Convalescent Home at Limpsfield, contains 200 beds. Over 2,000 cases pass through its wards each year, and some 23,000 out-patients and casualties are treated. There are Special Departments for Mental Diseases, Midwifery, Diseases of Women, of Children, of the Skin,

Eye, Ear, Throat, Nose, and Teeth, for Orthopaedic Cases, X-Ray work, and for Electrical Examination and Treatment. Biological and Physics Laboratories have been established in the school, and the Pathological Laboratory has been considerably enlarged.

Appointments.—In the Medical School Demonstratorships and Assistant Demonstratorships (when they fall vacant) are open to students of the school and carry honorariums. The Curator and Pathologist is appointed annually, and receives £100 a year. Medical, Surgical, and Obstetric Registrars to the Hospital are appointed annually, the two former of whom receive £40 a year each, with luncheon in the Hospital. Six House-Physicians, six House-Surgeons, and two Resident Obstetrical Officers are appointed each year on the recommendation of the Medical Committee, after competitive examination. They are provided with board and residence in the Hospital. Assistants in the Roentgen-ray and to the Electrical Departments are appointed every six months. They receive an honorarium of 12 guineas, with luncheon at the Hospital. Clinical Clerks and Dressers are appointed in all the general and special departments of the Hospital. Arrangements can be made for students who have not entered for the entire medical curriculum to hold the posts of Clerk and Dresser. Every student holds in turn the appointment of Pathological Assistant, and assists at the necropsies. The above appointments are open without any additional fee.

Scholarships.—There are five Entrance Scholarships, of the respective value of 75, 50, 30, 20, and 30 guineas. The first, third, and fourth are open to all candidates ready to join the school for the whole curriculum; the second is reserved for the sons of medical men, and the fifth for Dental students. They are awarded at the beginning each Winter Session after a competitive examination in (1) English, including English Language and Literature, English History with alternative questions on the History of the British Empire, and Geography, including elementary questions in Physical Geography; (2) Latin, and any one of the following three languages—Greek, French, or German; (3) Mathematics, including Arithmetic, Algebra, and Geometry, with Mechanics, including Statics and Dynamics; (4) Inorganic Chemistry and any three of the following branches of Experimental Physics: Acoustics, Heat, Magnetism, Electricity, and Optics; and (5) Animal and Vegetable Biology. A Candidate may offer himself for examination in not more than *three* of the above groups of subjects, but group (1) must be one of the three. Each group is worth 1,000 marks. Students who join in the Summer Session have the same privileges as regards scholarships, medals, and prizes as those who join in October of the same year. Candidates must be under 25 years of age on the first day of the examination, and must give notice to the Librarian of their intention to compete and of the groups in which they offer themselves for examination before 10 a.m. September 18th, 1909. The examination commences the following Monday, September 20th, at 9 a.m., and continues the two following days.

One Epsom Scholarship, giving a free education, is, each Winter Session, placed at the disposal of the Head Master of Epsom College, to be competed for by foundationers who have passed the Preliminary Scientific M.B. Examination in the University of London. Failing this, a scholarship of 50 guineas is awarded to a non-foundation scholar who has already passed this examination.

Two University Scholarships, of the value of 50 guineas and 40 guineas respectively, are open to students from the University of Oxford who have passed the first M.B. Examination, to students of the University of Cambridge who have passed the second M.B. Examination, and to students of the University of London who have passed the Intermediate Examination in Medicine, and who have not entered at any London Medical School. Subjects: Anatomy and Physiology, including Histology. The examination for these Scholarships, which will be partly practical, will be held at the school on September 20th and 21st. Candidates must give notice to the Librarian of their intention to compete on or before Saturday (at 10 a.m.), September 18th, 1909. The successful candidates will be required to enter forthwith at the Hospital for the completion of their curriculum.

Fees.—These may be paid in one sum as a composition fee of 115 guineas for general students, 55 guineas for dental students, and 74 guineas for university students, or for general students by sessional payments of 15 guineas every Winter Session and 10 guineas every Summer Session as long as the student remains in the school, with an entrance fee of 10 guineas; and for dental students 31 guineas on entry and 30 guineas at the end of the first twelve months.

Further information may be had of the Dean, Charing Cross Hospital Medical School, Chandos Street, Strand, London, W.C.

ST. GEORGE'S.

THIS school is at Hyde Park Corner, and carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the Convalescent Hospital founded by Atkinson Morley at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centres of London University established at King's College and University College. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an Amalgamation Club, with smoking and luncheon rooms on the hospital premises, and other students' clubs. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments, and a list of medical men and others willing to receive St. George's men as boarders, may be seen on application to the Dean.

Appointments.—Dresserships to the Surgeons and Clinical Clerkships to the Physicians are open without fee to all students of the Hospital. There is a large number of House Office Appointments, which may be held for six, twelve, or eighteen months, and are open without fee to every perpetual student of the Hospital, and are made strictly in accordance with the merits of the candidates. Besides this, after the student has held House Office, the following paid appointments are, among others, open to him: Medical Registrarship at £200 per annum; Surgical Registrarship at £200 per annum; Curatorship of the Museum at £200 per annum; Assistant Curatorship at £100 per annum; Obstetric Assistantship, Resident, at £50 per annum; the post of Resident Anaesthetist at £100 per annum; the post of Senior Anaesthetist at £50 per annum; the posts (2) of Junior Anaesthetists, each at £30 per annum.

Scholarships.—Two Entrance Scholarships in Arts, and 2 in Science, each of the value of 50 guineas, and 2 University Entrance Scholarships in Anatomy and Physiology (70 guineas and £50) are awarded at the commencement of each Winter Session. The William Brown Exhibition of the value of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the Hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the Hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the Hospital.

Fees.—First year (Preliminary Science or First Conjoint) £26 5s., or £21, according to course. Second and third years, £63 in two equal instalments. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £31 10s. No entrance fee is payable by St. George's students who have studied at King's and University Colleges.

Further information may be obtained from the Dean of the Medical School.

GUY'S.

THE Hospital contains 608 beds in constant occupation; an additional 50 beds have been opened on the medical site of the Hospital. Thirty one beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of Gynaecological disease and for cases of difficult labour. Beds are also allotted to the Throat and Ear Departments, and it is proposed shortly to institute a department for the treatment of diseases of the genito-urinary system.

It has a College fronting the east gate of the Hospital, providing accommodation for 60 resident students. This contains a dining hall, reading rooms, library of general literature, and gymnasium for the use of the residents and of the members of the Clubs

Union. The athletic ground at Honor Oak Park is reached from the Hospital in twenty minutes.

The new Gordon Museum of Pathology, the Wills Library, and the school buildings in general afford excellent opportunities for a liberal education and or research.

Special classes are held for the examinations in the preliminary sciences held by the University of London and for the first F.R.C.S.Eng.

Special teaching is provided to meet the requirements of the Universities of London, Oxford, and Cambridge in General Pathology and Pharmacology.

Appointments.—All appointments are given to students without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Eight Assistant House-Physicians, 8 House-Physicians, 24 Assistant House-Surgeons, 8 House-Surgeons, and 2 Ophthalmic House-Surgeons are appointed annually. The House-Physicians and House-Surgeons hold office for six months each, and receive free board and lodging in the college, as also do the Resident Obstetric Assistants, of whom 6 are appointed annually, each holding office for six months. Every student is provided with rooms and commons in the hospital during the period of his "take in" as Dresser. In addition to the Clerkships and Dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.

Scholarships, Prizes, etc.—There are two Entrance Scholarships in Arts: One of the value of £100 open to candidates under 20 years of age, and one of £50 open to candidates under 25. Subjects: English, Latin, Arithmetic, Algebra, Euclid, and either Greek, French, or German. Three Open Scholarships in Science: One of £150 and one of £60, open to candidates under 25, and one of £50 to university students who have completed their study of Anatomy and Physiology. Subjects: Anatomy, Physiology, Chemistry, Practical Chemistry, Biology, and Physics. These examinations begin on September 23rd; names must be sent in on or before September 14th. Junior prizes for general efficiency, £20, £15, £10; Hilton prize for Dissection, £5; Michael Harris prize for Anatomy, £10; Sands Cox Scholarship for Physiology, £15 for three years; Wooldridge Memorial prize for Physiology, £10; Beaney prize for Pathology, £34; Treasurer's gold medal in Medicine, Treasurer's gold medal in Surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology and the Beaney Scholarship in Materia Medica, of the annual value of £150 and £51 10s. respectively, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially.

Fees.—There is a system by which composition fees are paid, information as to which should be sought from the Dean of the School.

KING'S COLLEGE.

THE curriculum at King's College Medical School is now divided into two parts: (1) For Preliminary and Intermediate subjects of study; (2) Advanced or Final studies. The subjects under the first head are taught in the class-rooms and laboratories at King's College; those under the second at its hospital.

There are special classes held in the college for the primary and final examinations of the Royal College of Surgeons. A special class for the Matriculation Examination will commence on September 27th. Classes for the science subjects are held by the Professors of the Science Faculty of King's College, and students avail themselves of their laboratories.

There is a large athletic ground at Wormwood Scrubbs, managed by the Students' Union Society.

The Hospital contains 220 beds in daily use.

Appointments.—Resident Medical Officers, Clerks, and Dressers are chosen from the students, and the former have rooms and commons free. Two Sambrooke Registrarships, Medicine and Surgery, of the annual value of £50 each, are open to students who have held resident posts in the hospital. There are also Senior Medical, Surgical, and Gynaecological tutors. Clinical assistants are appointed in the Ophthalmic, Ear, Throat, Skin, and Dental Departments.

Scholarships.—The Entrance Scholarships are: 1. Two to four Warneford Scholarships, each £100 value; subjects—Mathematics, Classics, Divinity. 2. One Sambrooke Exhibition of £100, open; subjects of examination—Mathematics, Elementary Physics, Inorganic Chemistry, Botany, and Biology. 3. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training. 4. Medical Entrance Scholarship, of £50, instituted for students who propose to take their degree at Oxford, Cambridge, or other British university, having already passed the examination of that university in Biology, Chemistry, and Physics. During the curriculum Scholarships and Prizes of the value of £300 are open to students.

Fees.—The fees for the two parts mentioned may be paid separately. Information as to the first should be sought from the Dean of the Medical Division of the Faculty of Science at the College; and as to the second, from the Dean of the Hospital. These officers attend daily, except Saturday, for the purpose of receiving students and their friends.

For conditions of scholarships and subjects of examinations apply to the Deans, or the Secretary, King's College, who will send a full prospectus post free. Examinations commence September 21st, and names should be sent in to the Secretary by September 8th.

THE LONDON.

THIS hospital (which contains 922 beds) and its Medical College are in Mile End Road, Whitechapel. All the arrangements are very complete and modern. The new departments of Bacteriology, Public Health, Chemistry, and Biology, the new Pathological Institute at the Hospital, and new Out-patient and Special Departments have been added within the last few years. New Students' Rooms have been added, and a Garden and Fives Court opened for the use of the members of the London Hospital Clubs Union. The College Athletic Ground is at Highams Park, and is open to all members of the Clubs Union. A special course for the D.P.H. will commence at the beginning of the Winter Session. Special classes for the Preliminary Scientific and Intermediate M.B.Lond., the Primary and Final Fellowship, and other examinations are held. Those for the Final and Primary F.R.C.S. commence early in September.

Appointments.—The salaried appointments open to students are those of Medical Registrars (3), Surgical Registrars (3), Obstetric Registrar, Medical, Surgical, and Obstetric Tutors; Senior Dressers to Out-patients; Clinical Assistants in the Medical, Surgical, Ophthalmic, Aural, Light and Skin, Orthopaedic, and Electrical Departments. There are also 5 Resident House-Physicians and 7 Resident House-Surgeons, 2 Accoucheurs, 7 Receiving-room Officers, 2 Emergency Officers, 1 Assistant Director of the Pathological Institute, and 3 Pathological Assistants. Also paid and unpaid Clinical Assistants in the various special departments. In addition there are numerous Assistantships and Clerkships, and Dresserships in the various departments.

Scholarships and Prizes.—The following is a list of Scholarships and Prizes: *At Entrance:* Price Scholarships in Science, £120; in Anatomy and Physiology, £60; Entrance Scholarships in Science, £60 and £35; Epsom Scholarship, £126; Buxton Scholarships in Arts, £30 and £20. *After Entrance:* Anatomy and Biology Scholarships, £20; Anatomy and Physiology Scholarship, £25; Letheby Prizes, £30; Scholarships in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40; Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Out-patient Dressers' Prizes, £60; Practical Anatomy Prizes, £10; Douro Hoare Prize, £5; Wynne Baxter Prize, £5 5s.

Fees.—The composition is 120 guineas. A reduction of 15 guineas is made to sons of medical men.

Other information may be obtained from the Warden, Mr. Munro Scott, at the London Hospital Medical College, Mile End, E.

ST. MARY'S.

THIS school and its hospital are situated in Praed Street, in the neighbourhood of the residential districts of Paddington, Bayswater, and North Kensing-

ton, and are thus especially convenient to students who wish to reside in the immediate vicinity. A register of approved lodgings is kept in the office of the Medical School. The Athletic Ground (eight acres) is situated at North Kensington, and is easy of access from the Hospital.

The Hospital at present contains 301 beds, of which 31, situated in the New Wing, are devoted to treatment by Vaccine Therapy. This Wing also contains the Department for Therapeutic Inoculation, which consists of a large block of consulting rooms, waiting rooms, and laboratories under the direction of Sir Almroth Wright, F.R.S. The Out-Patient Department, situated on the ground floor, has been in use for some years, and an additional operating theatre has recently been opened. The Physiological Department comprises a Lecture Room specially constructed for practical demonstrations, and a series of five laboratories for practical classes and research, including a photomicrographic department.

In addition to systematic courses of Lectures and Demonstrations, special tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford, Cambridge, and London, and for the Primary and Final F.R.C.S. A complete course of instruction in Chemistry, Physics, and Biology, recognized by the University of London as an approved course for Internal Students, is held throughout the year, and students may join in October, January, or April.

All clinical appointments in the Hospital are free to students of the Medical School, the term of office in each case being of four months' duration, and the Resident Medical Officers are chosen by competitive examination. Six House-Physicians, six House-Surgeons, four Obstetric Officers, and two Resident Anæsthetists are appointed each year, and receive board and residence in the Hospital.

A large number of salaried appointments are open annually to qualified students, including those of Medical Registrar, Surgical Registrar, Casualty Physician, Casualty House-Surgeon, Assistant Curator, together with several demonstratorships.

In the Inoculation Department there are nine Assistantships, the salaries of which amount to £1,600 per annum.

In appointing to these posts preference is given to students of St. Mary's.

Scholarships.—There are Entrance Scholarships in Natural Science. One of £145, two of £50, one of £25, and two of £52 10s. (open to students of any British university) are awarded annually by competitive examination in September.

Fees.—The composition fee for students is £140 if paid in one sum, or £145 if paid in four instalments. University students who have completed their examinations in Anatomy and Physiology are admitted on payment of a composition fee of 60 guineas (£63) paid in one sum, or 65 guineas (£68 5s.) if paid in two annual instalments. University students, prior to completing their examination in Anatomy and Physiology, pay an annual fee of 25 guineas (£26 5s.). Separate courses of Lectures, Laboratory Work, or Hospital Practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

THE MIDDLESEX.

THIS school and its hospital are in Mortimer Street, W., and close to Oxford Street and Portland Place. It possesses a resident college for a limited number of students which overlooks the hospital garden. The hospital contains 340 beds. A wing containing 40 beds and special research laboratories is entirely devoted to patients suffering from cancer. It offers unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects.

Special Maternity Wards to enable students to obtain indoor instruction in Obstetric Medicine have recently been added to the Hospital.

In addition to the arrangements for teaching ordinary students all subjects of the medical curriculum, a bacteriological and public health laboratory has been added for the purpose of providing instruction for women medical practitioners preparing for the examinations for the diploma in Public Health and for the M.D. in State Medicine of the University of London, and of affording facilities to them and other women students desirous of carrying out research work in Public Health, Bacteriology, and General Pathology.

Appointments, etc.—Eighteen Resident appointments are open annually to competition among pupils of the Hospital. The officers reside and board in the Residential College free of expense. There are two Casualty Medical and two Casualty Surgical Officers appointed annually. Six House-Surgeons are appointed every year at intervals of two months, after examination; the six House-Physicians are also appointed annually at similar intervals; they must have a legal qualification, or hold a Broderip Scholarship. An Obstetric House-Physician (qualified to practise) is appointed every six months. Non-resident Physicians' Assistants are appointed in the various out-patient departments. In the out-patient department the appointments are: Dresser to the Surgeons to Out-patients and to the Dental Surgeon, Clerk to the Physicians to Out-patients, Dresser to the Ophthalmic Surgeon, Clerk in the Department for Diseases of the Skin, Clerk in the Department for Diseases of Women, and Dresser to the Throat and Ear Department. There are also Extern Midwifery Clerks and *Post-mortem* Clerks. The appointments are so arranged that every student may during his course hold all the Out-patient and In-patient Clerkships and Dresserships. Each student must have held an out-patient clerkship and dresserships before being eligible to hold in-patient clerkships or dresserships. No student can be appointed to any office until he has passed the Second Examination of the Examining Board in England or its equivalent. Clinical Assistants are appointed in the Children's Ophthalmic, Skin, and Throat and Ear Departments.

Scholarships.—Three Entrance Scholarships, value £100, £50, and £25 respectively, are open to students commencing their medical studies in May or October, 1909. An Annual Entrance Scholarship, of the value of £50, is open to students of the Universities of Oxford and Cambridge who have completed the curriculum for, or passed the examinations in, Anatomy and Physiology. Subjects: Anatomy and Physiology, including Histology. The examination for these and the foregoing takes place on September 20th, 21st, and 22nd. Application for admission must be made on or before September 11th. Students joining the school in the previous May are eligible. *The Freer Lucas Scholarship* is annually awarded on the nomination of the head master to a pupil of the Epsom College who has passed the Preliminary Scientific M.B. Examination. There is also a Scholarship, value £50, awarded annually to students from New Zealand.

Fees.—The composition fee is 145 guineas for London University students. For students who have passed the Preliminary Scientific (London University), 120 guineas. For students taking the Conjoint diploma, 135 guineas. For members of universities and others who have completed their anatomical and physiological studies, 70 guineas; dental students, 54 guineas.

Further information may be obtained on application to the Dean.

ST. THOMAS'S.

THIS school, and the hospital in connexion with which it works, is situated in Lambeth, the joint buildings on the Thames, facing the Houses of Parliament, and forming one of the well-known architectural features of London.

The School Buildings, which are separated from the Hospital by a quadrangle containing a lawn-tennis court for the use of the residents, comprise numerous theatres, laboratories, and class-rooms, and are well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A large library and reading room and a very complete museum are open to all students from 9 a.m. to 5 p.m.; Saturdays, 2 p.m. The club premises contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium.

A cloak-room with lockers, and a lavatory with bath-rooms, are in the main school building. Students are thus able to spend the whole day at school, all meals being obtainable at a moderate tariff, and they are further provided with facilities for exercise and recreation. A ground of more than nine acres in extent is provided at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports. It is provided with a pavilion, where refreshments can be obtained.

The Hospital contains 605 beds, and in addition to the ordinary provisions of a great hospital has connected with its out-patient department two large well-ventilated Clinical Theatres provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff. There is another Clinical Theatre centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient rooms; it is arranged also for lantern demonstrations.

Appointments.—All Hospital appointments are open to students without charge. A Resident Assistant Physician and a Resident Assistant Surgeon are appointed annually at a salary of £100 each, with board and lodging. Two Hospital Registrars, at an annual salary of £100 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. Six Resident Casualty Officers and Anaesthetists are appointed. An Obstetric Tutor and Registrar is appointed each year at an annual salary of £50. Five House-Physicians, four House-Surgeons, two Obstetric House-Physicians, one Ophthalmic House-Surgeon, and eight Clinical Assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Clinical Clerkships and Dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Scholarships.—There are five entrance Scholarships offered: Two in Arts, giving one year's free tuition; one of £150 and one of £80, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy, Physiology, or Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the universities of the United Kingdom, and have not entered as students in any London medical school. Numerous scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

Fees.—The entrance fee for Second Year's Students is 20 guineas: for Third Year's Students 10 guineas. The annual Composition Fee is 30 guineas. For Preliminary Science Students the fee is 15 guineas. No extra charges are made for materials required in practical courses. Special courses of instruction are given for various examinations, and a register of lodgings is kept at the School. A list of medical practitioners, clergymen, and others who receive students is also available. Further information may be obtained from the Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.

UNIVERSITY COLLEGE.

THE school conducted in connexion with the North London Hospital, otherwise known as University College Hospital, is in immediate proximity to the hospital in University Street and opposite University College. Its work is carried on in a new building specially erected for the purpose, which contains an ample supply of rooms for lectures and demonstrations in all the subjects which the school undertakes to teach. These are the final subjects of the medical curriculum as distinct from the preliminary sciences and anatomy and physiology, and instruction is given in such fashion as to meet the need of students, whatever the degree or diploma at which they are aiming. Though the school is primarily intended for those who have passed all the early examinations and are preparing for their final test, it is open to students to join the school who have still the whole of their medical studies before them. In this case the school provides for their education in the preliminary sciences and in anatomy and physiology at University College, where work in all these subjects is carried on. University College being now one of the common teaching centres in these subjects for the constituent schools of the Medical Faculty of the University of London. The school possesses a large library, and has set aside for its Medical Society four rooms for reading and recreation. There are also a gymnasium and, at Perivale, an athletic ground.

Scholarships.—The following scholarships and prizes are open to competition: Two *Entrance Exhibitions* of 80 guineas each, awarded after a competitive examination in anatomy and physiology; the *Atkinson Morley Scholarship* of £45 a year for two years, awarded after examination in the theory and practice of surgery; the *Atchison Scholarship* of £55 a year for two years for proficiency in pathology and surgery; the *Fillitter Exhibition* in pathology of £30; four *Fellowes Medals* in clinical medicine; the *Bruce Medal* in pathology and surgery; two *Take Medals* in pathology, and the *Erichsen Prize* for practical surgery.

Appointments.—All the apointments at the hospital are reserved for students of the school, the dresserships and clerkships being open, of course, to those who have still to qualify. The qualified appointments, in addition to a number of posts as House-Physicians and House-Surgeons and Obstetric Assistants, include appointments as Resident Medical Officer, as Surgical Registrar, as Obstetric Registrar, as Casualty Medical Officer, as Casualty Surgical Officer, and as Deputy Anaesthetists.

Fees.—The fee for the full course of final studies at the school is 80 guineas if paid in one sum, or 82 guineas if paid in two instalments.

Students who do their work in the preliminary sciences and anatomy and physiology at University College, and then pass their examination before entering for their final studies at an ordinary medical school, pay 79 guineas for the work required for the examination in these subjects of the Conjoint Board and the Society of Apothecaries, and 84 guineas for the courses required for the First and Second Examinations for Medical Degrees of the University of London. These fees may be broken up into payments for different parts of the courses required, but do not cover tuition for more than a stated period. The scholarships and other rewards obtainable at University College include the Bucknill Scholarship of 135 guineas in Chemistry, Physics, Botany, and Zoology. The successful student must complete his work in University College Hospital Medical School. There are also two Entrance Scholarships in the same subjects, each of the value of 55 guineas. Also the Sharpey Physiological Scholarship for proficiency in Biological Sciences; its value is £105. Smaller rewards are the Schäfer Prize in Physiology, value £18, awarded triennially, and the Cluff Memorial Prize for proficiency in Anatomy, Physiology, and Chemistry, value £15, which is awarded biennially.

A register of boarding-houses suitable for students is kept at the medical school, but they are not under the control of the school authorities. University College Hall, Ealing (Warden, S. H. Wood, B.Sc.), provides collegiate residence for about 40 men students. Full particulars can be obtained on application to the Warden. Further information about the school may be obtained on application to the Dean of the Medical School, University Street, Gower Street, W.C.

Further particulars about the course for Preliminary and Intermediate Medical Studies at University College can be obtained on application to the Secretary, University College, London (Gower Street, W.C.).

WESTMINSTER.

THIS school with its hospital, situated in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the medical curriculum at the teaching centre of the University of London, established at King's College. The rest of the work is done

in the school buildings near the hospital, which contains upwards of 200 beds, and affords most ample facilities for instruction in all branches of Medicine and Surgery.

Appointments.—A Medical and Surgical Registrar are appointed annually, each with a salary of £50. Two House-Physicians, three House-Surgeons, one Assistant House-Physician, one Assistant House-Surgeon, and a Resident Obstetric Assistant are appointed after examination, and are provided with rooms and commons, except the Assistant House-Physician and the Assistant House-Surgeon, who are provided with commons only. The Assistant House-Physician after three months' service becomes House-Physician for a further period of six months, and the Assistant House-Surgeon after two months' service becomes House-Surgeon for a further period of six months. Clinical Assistants to the Assistant Physicians and Assistant Surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of Out-patient Dresser for four months, and afterwards hold the office of In-patient Dresser for four months. He is also required to serve two terms of four months each as Clinical Clerk to an In-patient Physician. Two Pathological Clerks are appointed every four months to assist in the *Post-mortem* room. No student is eligible as an In-patient Dresser or Clinical Clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and Dressers in the Special Departments of Hospital Practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to In-patients' Dresserships or Clerkships.

Scholarships.—The following Scholarships are offered for competition during the year 1909-10: *In September, 1909:* Three Scholarships in Arts, £50, £40, and £30; Scholarship in Arts for Dental Students, £20; two University Scholarships in Anatomy and Physiology, 70 guineas and £60; two Natural Science Scholarships, £60 and £40; Free Presentation, open to pupils of Epsom Medical College. *In April, 1910:* Two Scholarships in Arts, £60 and £40; one University Scholarship in Anatomy and Physiology, £60; two Natural Science Scholarships, £60 and £40.

Fees.—The composition fee is 120 guineas for the course required by the Conjoint Examining Board, and 130 guineas for that of the University of London. Special terms are given to the sons of medical men. These fees include subscriptions for membership of the Clubs Union.

Further information can be obtained on application to the Dean at the Westminster Hospital Medical School, Caxton Street, Westminster, S.W.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

THIS school is carried on at 8, Hunter Street, Brunswick Square, in connexion with the Royal Free Hospital, and it is, like all the other London schools which have so far been mentioned, one of the constituent schools of the Medical Faculty of London University. The new school buildings, among the best of their kind, were completed in 1900 at a cost, with equipment, of over £35,000. The laboratories are large and well-lighted, and are fully equipped for the First and Second Medical Examination courses of the University of London. A large Library and Common Room are provided for the use of the students, and sets of chambers to accommodate seventeen students.

The Hospital has 165 beds, all of which are available for clinical instruction. There are also separate departments for Gynaecology and Obstetrics, and Diseases of the Eye, Ear, and Skin. Instruction is given in Anaesthetics, Bacteriology, etc., in addition to the ordinary Clinical Lectures and Demonstrations and Tutorial Classes. Students also attend the practice of one of the Fever Hospitals of the Metropolitan Asylums Board, and receive special instruction in Lunacy at Bethlem Hospital; they are also admitted to the practice of a number of special hospitals.

The work of the School includes preparation for the M.B., B.S.Lond., the degrees of the Royal University of Ireland, the diplomas of the Royal Colleges of England and of the Conjoint Boards of Scotland and Ireland, and the Society of Apothecaries, London: also for the greater part of the course required by the University of Durham and the other Universities of England which admit women to their degrees, and the University of Glasgow.

Appointments.—Qualified students of the school can obtain appointments as House-Physician and Surgeon, Surgical and Medical Registrars, Anaesthetists, Medical Electrician, Radiographer, Curators of the School and Hospital Museums, and Clinical Assistants and Demonstrators in various subjects.

Scholarships.—An Entrance Scholarship value £30, and the St. Dunstan's Medical Exhibition value £60 a year for three years, extensible to five years, are offered for competition at the end of September in each year. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London. The holder of the Scholarship must enter the London School of Medicine for Women. The John Byron Bursary of £20 a year for two years, the Helen Prideaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £14 10s. a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. Various Missionary Societies also offer scholarships on certain conditions, and assist ladies who wish to go to India and other countries as medical missionaries.

Fees.—University of London. First Medical Examination Course, £25; course for Second and Third Medical Examinations, £135; course after Second Medical Examination, £85. Composition Fee for course of study for other qualifications, £140.

Full particulars as to Curriculum and Scholarships can be obtained from the Secretary, Miss Louie M. Brooks, 8, Hunter Street, W.C.

COOKE'S SCHOOL.

THIS school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages both as regards anatomy and physiology. The fees, we are informed, are but slightly in excess of current charges. The operations of surgery are performed on the dead body. Such courses are recognized for army promotion, for the Indian Medical Service, etc.

The School, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S.Eng., M.B.Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects.

THE PROVINCES.

THERE are in England and Wales, not counting London, ten medical schools, each of them forming part of the Medical Faculty of one or other of the English and Welsh Universities already described, and each, with one exception, supplying instruction in the full medical curriculum. Accounts of them here follow, these being placed more or less roughly in the order of their foundation. In several cases there is appended to the accounts given of the Medical Schools information concerning other hospitals than those directly connected with the School in question; such Hospitals, officially and unofficially, play a part in the education which the students of the School receive, and in any case are useful as places of additional or post-graduate study.

OXFORD AND CAMBRIDGE.

THE medical schools of these ancient seats of learning play year by year an increasingly important part in medical education. At both there are unsurpassed opportunities for obtaining a good knowledge of the Preliminary Sciences and of Anatomy and Physiology, and the same might be said with equal, if not greater, truth in respect of Pathology. All the laboratories are most thoroughly equipped, and the teaching staffs most distinguished. Each of these schools provides a full medical curriculum, and there is no essential reason why the student should not complete his career at

either of them, but this is not commonly done. The local hospitals are comparatively small, so the authorities encourage the students, so soon as they have completed the earlier examinations, to join some London school, and thus spend the time of their preparation for the final examination in a city where the opportunities for gaining clinical knowledge are greater and more varied. Most of the London schools make for such students special arrangements, information as to which can be obtained from the respective Deans.

University of Durham College of Medicine.

This, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-on-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the preliminary sciences at Armstrong College, also part of the university, and then carry on their studies in the new Royal Victoria Infirmary, an institution with over 400 beds, opened in 1906 by the King. It has special accommodation for the benefit of students, while to the general buildings of the school has been added in late years a new wing for the departments of Bacteriology and Physiology. This also contains the students' gymnasium and a set of rooms for the use of the Students' Union.

Appointments.—Assistant Demonstrators of Anatomy and Prosectors for the Professor of Anatomy, Assistant Physiologists, Pathological Assistants, Assistants to the Dental Surgeon, and Assistants in the Eye Department, Throat and Ear Department, and Department for Skin Diseases, are elected annually. Four times in the year Clinical Clerks and Dressers are appointed for three months.

Scholarships.—A University of Durham Scholarship, value £100, for proficiency in Arts, open annually at the beginning of the Winter Session to intending students. The Pears Scholarship, value £150, for proficiency in Arts (when vacant). The Masonic Scholarship, value £45, for proficiency in Arts (when vacant). The Dickinson Memorial Scholarship, interest £400, with a gold medal, for Medicine, Surgery, Midwifery, and Pathology, open to perpetual students in their fifth year. The Tulloch Scholarship, interest of £400 annually, for Anatomy, Physiology, and Chemistry, for students at the end of their second year. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of Medicine, at the end of their fourth or fifth winter. The Gibb Scholarship, interest of £500 annually, for Pathology, at end of the Summer Session. The Goyder Memorial Scholarship, proceeds of £325; subjects: Clinical Medicine and Clinical Surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best essay in some subject in Comparative Pathology. The Scholarship is open to all graduates in Medicine or Hygiene, and candidates for these degrees who have spent at least six months at the University of Durham, and whose age does not exceed 30 years. The Stephen Scott Scholarship in Surgery, interest on £1,000 annually. The Heath Scholarship, established by the late Dr. George Y. Heath, President of the University of Durham College of Medicine, who bequeathed the sum of £4,000 to found a scholarship in surgery, the interest to be awarded every second year. First award in 1896. The Gibson Prize in Midwifery and Diseases of Women and Children, interest on £225. The Turnbull Prize and Medal for Surface Anatomy.

Fees.—The composition fee for the university course is 72 guineas. Other information should be sought from the Secretary of the School at Newcastle.

Other Hospitals.—(1) In the *Hospital for Sick Children* there are 70 beds, besides an isolated block for infectious and doubtful cases. There is a large out-patient department. The practice of the hospital is open free to all students or qualified practitioners. The number of in-patients in 1906 was 779. The out-patient department is carried on in buildings specially erected in the central part of the city, which are being at present extended at an outlay of £10,000. The number of out-patients in 1908 was 16,415, with 30,821 attendances. (2) At the *Infirmary for Diseases of the Eye* there are 20 beds. Its out-patients number 6,600 annually. Clinical instruction is given daily from 11 a.m. to 1 p.m.

Birmingham.

The Medical School in this city is carried on by the Medical Faculty of the University of Birmingham, its students having an adequate number of good laboratories, class-rooms, and other necessaries devoted to their use by the university. The clinical work is done at the General and Queen's Hospitals, which are amalgamated for this purpose. Between them they have upwards of 500 beds for medical, surgical, and special cases, together with an array of special departments of all kinds, including a large maternity department. Clinical instruction is given in the wards and out-patient and special departments daily, and formal clinical lectures delivered weekly throughout the Winter and Summer Sessions. Special tutorial classes are also held alike for the degrees of Birmingham and some other universities and for the diplomas of Licensing Corporations.

Appointments.—The large number of appointments open to past or other students include the following: At the General Hospital: One Resident Medical Officer, salary £70 a year. One Resident Surgical Officer, salary £100 a year. One Resident Pathologist, salary £50 a year. Two non-resident Casualty Assistant Physicians, salary £50 a year. Three non-resident Surgical Casualty Officers, salary £50 a year. Two non-resident Anaesthetists, salary £50 a year. Five House-Surgeons, office tenable for six months, £50 a year. Two Assistant House-Surgeons, salary at the rate of £40 a year. Three House-Physicians, post tenable for six months, £50 a year. One Resident Medical Officer at the Jaffray Branch Hospital, salary £150 a year. One Resident Assistant at the Jaffray Branch Hospital, tenable for three months. At the Queen's Hospital: Three House-Physicians (posts vacant in January and April). Three House-Surgeons (posts vacant in January and April). One Obstetric and Ophthalmic House-Surgeon (post vacant in April and October). These appointments are tenable for six months. Salaries at the rate of £50 per annum, with board, lodging, and washing. One Resident Dresser, tenable for three months; candidates must previously have attended all their lectures, etc., and need not be qualified. At the Maternity Hospital: One House-Surgeon, salary £50 a year. At the City Workhouse and Workhouse Infirmary: Five Resident Medical Officers. At the Birmingham General and Branch Dispensaries: Twelve Resident Surgeons. At the Birmingham Lunatic Asylums: Five Assistant Medical Officers. At the City Fever Hospitals: Three Assistant Medical Officers. At the Children's Hospital: One Resident Surgical Officer, one Resident Medical Officer. At the Birmingham and Midland Eye Hospital: Three Resident Surgeons. At the Orthopaedic and Spinal Hospital: Two Clinical Assistants (non-resident). At the Ear and Throat Hospital: One House-Surgeon, £70 a year, four Clinical Assistants (non-resident). There are also four non-resident Poor Law appointments in the gift of the Board of Guardians.

Scholarships.—There are numerous money and other awards for Students of sufficient merit, among them being the following: The *Walter Myers Travelling Studentship* of £150; the *Sands-Cox Scholarship* of £42 (an Entrance Scholarship in the Faculty of Medicine, awarded on Matriculation marks); four *Queen Scholarships* of £10 10s. each, awarded annually at the second, third, fourth, and final university examinations respectively; one or more *Sydenham Scholarships*, allotted on entrance to Students who are the sons of deceased medical men. The *Ingleby Scholarship* of £10 for proficiency in Midwifery and Gynaecology. There is also an Entrance Scholarship of £37 10s. for Students proceeding to a degree in Dental Surgery, besides prizes in money for successful class work by senior and junior Students.

Fees.—The composition fee is £85. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State Medicine and some other special work. Other information should be sought from the Dean of the Medical Faculty.

Manchester.

The staff of the Medical School in this city constitutes the medical faculty of the Victoria University,

all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains about 592 beds, and has associated with it a very large convalescent home and the Royal Lunatic Asylum at Cheadle. The Associated Hospitals, under the same management, contain 1,158 beds.

Instruction in Practical Gynaecology and Midwifery is given at the Royal Infirmary and St. Mary's Hospital.

Appointments.—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: A Surgical Registrar, at £80 per annum, with an additional £30 when acting as Surgical Tutor; a Pathological Registrar, at £100 per annum; a Medical Registrar, at £70 per annum; A Director and Assistant Director of the Clinical Laboratory, at £200 per annum; Assistant Medical Officer, at £105 per annum; three Assistant Surgical Officers, each at £35 per annum; five Anaesthetists, at £50 per annum each; Medical Officers for Radiography and Electricity, £100 per annum; Medical Officer for Home Patients, one year, £150 per annum; Resident Medical Officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; Resident Surgical Officer, one year, £150 per annum; an Assistant Medical Officer at the Convalescent Hospital at Cheadle, appointed every six months, at a salary of £80 per annum; eight Senior and eight Junior House-Surgeons and ten House-Physicians appointed during the year for a term of six months. Resident Officers are appointed to the Accident Room, the Gynaecological, the Ear and Throat Departments, every six months. Four or more Clinical Clerks are attached to each Physician and Assistant Physician, and to the Obstetric Physician, and four or more Dressers to each Surgeon and Assistant Surgeon, and to the Ophthalmic Surgeon, and four or more Clerks to the Pathological Registrar, two Clerks to the Director of the Clinical Laboratory, and a number of Clerks, not exceeding six, is appointed to assist the Medical Officer for Home Patients. Accident Room Dressers are appointed every three months. Additional Clinical Clerks are appointed to assist in the departments for the Diseases of the Eye, Ear, and Throat.

Entrance Scholarships. — The following are among the Scholarships obtainable by students of the School: *Rogers and Seaton Scholarships* in Arts (in alternate years), £40 per annum, tenable for two years. Two *Dalton* (entrance) Scholarships in Mathematics, tenable for two years, value £40, one being awarded annually, except in such years as a Cartwright Scholarship is awarded. *Cartwright Scholarship*, £55 per annum, tenable for three years. Three *Hulme* Scholarships, of £35, tenable for three years, one being awarded annually for proficiency in subjects of general education. Two *Samuel Scholefield Scholarships* of £35, tenable for two years, one being awarded annually for proficiency in the branches Mechanics and Chemistry. A *Dora Muir Scholarship*, £25 per annum, tenable for three years, and open to the competition of Women students only. This is awarded triennially; next competition in May, 1911. *Sir J. P. Kay-Shuttleworth Scholarship*, £30 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Subjects: Mathematics, Chemistry, and Mechanics. *Dreschfeld Memorial Scholarship*, value £30, awarded annually on the results of the Matriculation Examination. A *Theodores Modern Languages Exhibition*, £15, awarded annually. Two *Dauntesey Medical Scholarships*, value £35, tenable for one year, for candidates who have not attended lectures in a medical school. Subjects: Zoology, Botany, and Chemistry, tenable for three years. Two *Entrance Scholarships in Medicine*, value £100, awarded annually for proficiency in Arts or Science respectively. Two *Robert Platt Physiological Scholarships* of £50, tenable for two years. A *Robert Platt Zoological and Botanical Scholarship*, £50. A *Leech Fellowship* of £100 for proficiency shown at the Second or Final M.B. Examination. A *Graduate Scholarship in Medicine:* One of £25 to £50, tenable for one year, awarded annually for proficiency shown at Second M.B. Examination. The *Tom Jones Memorial Surgical Scholarship:* Value £100, tenable for one year, awarded usually triennially; next award in September, 1910. The *Turner Medical Scholarship:* Value £20, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The *John Henry Agnew Scholarship* of £30, awarded annually for proficiency in the Diseases of Children. The *Bradley Memorial Scholarship* in Clinical Surgery of £20. The *Ashby Memorial Scholarship*, tenable for one year (£100), for research in the Diseases of Children. Next award in 1910.

This does not complete the whole list of monetary and other awards, which at this school are particularly numerous, but it is sufficient to give some idea of their number and character.

Fees.—The composition fee for the university courses in Medicine is £70, payable in three instalments of 30, 20, and 20 guineas, but this sum does not include the fee to cover the work required for the First B.M. Examination. This is £25, payable in one sum. A prospectus and further information about the school and scholarships may be obtained on application to the Registrar.

Other Hospitals.

1. The *Royal Eye Hospital* contains 160 beds. Clinical instruction is given daily to students. Further particulars can be obtained from the Secretary, Mr. W. S. Prophet.

2. The *Manchester Northern Hospital for Women and Children*, situated in Cheetham Hill Road, near the centre of the town, containing 22 beds and 45 cots. Out-patients are seen daily at 8.30, and the wards are visited at 9 a.m.

3. The well-known *Hospital for Children* at Pendlebury, near Manchester, contains 168 beds, and 24 beds at the Convalescent Home, St. Anne's-on-the-Sea. The visiting staff see out-patients daily at the Out-patient Department, Gartside Street, Manchester, at 9.30 a.m., and visit the hospital daily. The practice of the hospital and out-patient department is free to students accompanying the visiting medical and surgical staff.

4. *St. Mary's Hospitals for Diseases of Women and Children, Whitworth Street West Branch.*—This has 100 beds, including 20 for the reception of lying-in cases, especially those attended with difficulty or danger. The new hospital in Oxford Road is rapidly approaching completion. When this is opened a large number of additional beds will be available for maternity cases. In the out-patient departments students are taught the various methods of examination and diagnosis, and the use of gynaecological apparatus, while in the wards they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing more important gynaecological and obstetrical operations. The number of maternity cases attended annually is over 4,000. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 5,000 volumes, chiefly on subjects connected with obstetrics and gynaecology. There is also a museum, containing a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynaecological practice of the hospital is free to fourth and fifth years' students. The fees for the midwifery practice are as follows: During terms, per month—first month, £8 8s.; second month, £7 7s.; third month, £6 6s.; per term of eleven or twelve weeks, £18 18s. During holidays—minimum period of three weeks, £8 8s.; extra week, £2 12s. 6d. Only eight students are received at one time, thus allowing each one ample opportunity of attending the number of cases of labour required by the examining bodies. Application must be made to the Secretary at the hospital.

LIVERPOOL.

THE Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is particularly well provided with special laboratories, as well as with ordinary spacious and well-equipped class-rooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratories and other rooms are situated close to one another and intercommunicate, together forming four large blocks of buildings. The anatomical department is very complete, and includes a large and well-stocked museum and a well-lighted dissecting room on the upper floor measuring 70 ft. by 40 ft. The departments of Physiology are accommodated in the block provided by the generosity of

the late Rev. Thompson Yates. Comparatively fresh additions are the Johnston laboratories for Experimental Medicine, Bio-chemistry, and Comparative Pathology, and the building for Surgery, Toxicology, and Dental Subjects. The work of the students at the later periods of their study is arranged upon equally satisfactory lines, the teaching hospitals, of which an account is given below, having amalgamated to form the Clinical School of the University.

Appointments.—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming its clinical department.

Scholarships.—The awards made each year to successful students total over £1,000. They include the following: Two Fellowships of £100, one in Pathology, the other in Physiology; a *Robert Gee Fellowship* in Anatomy, value £100; an *Alexander Fellowship* for Research in Pathology; a *Johnston Colonial Fellowship* in Pathology and Bacteriology; a *John W. Garratt International Fellowship* in Physiology and Pathology, value £100 and renewable; an *Ethel Boyce Fellowship* in Gynæcological Pathology, and a *Thelwall Thomas Fellowship* in Surgical Pathology, all of the value of £100 and all renewable; a University Scholarship of £25, awarded on the results of the Second M.B. Examinations; two *Lyon Jones Scholarships*, of the value of £21 each for two years, one for the junior and the other for senior students; the *Derby Exhibition* of £15 in Clinical Medicine and surgery alternately; the *Clinical School Exhibition* of £15; the *Torr Gold Medal* in Anatomy; the *George Holt Medal* in Physiology; the *Kanthack Medal* in Pathology; the *Robert Gee Prize*; two *Robert Gee Entrance Scholarships*, value £25 per annum for two years, and other Entrance Scholarships.

Fees.—Information as to the fees paid for the courses of instruction provided by the school should be sought from the Dean of the Medical Faculty.

The Clinical School.

The following hospitals form the Clinical School of the university:

1. The *Royal Infirmary* contains altogether some 300 beds, and is immediately adjacent to the university; it covers in its work all branches of clinical study. The wards are arranged in separate clinics, with a physician or surgeon, and a resident medical or surgical officer attached to each; each clinic having a "clinical room," in which to interview patients and conduct microscopical and chemical tests. The assistant physicians and assistant surgeons conduct the medical and surgical out-patient department, and take charge of the wards in the absence of the physicians and surgeons. There are four theatres for surgical operations, and one for clinical lectures, and there is a theatre and a laboratory for Morbid Anatomy. There are two electrical rooms, with three Roengten-ray installations and a high-frequency apparatus, and there are provisions for the employment of various kinds of baths. There is also a room for the Medical and Surgical Registrars, and for the records kept by them. There is a special laboratory for the investigation of morbid products, and another for the investigation of cancer. Separate cloak-room accommodation is provided for women students. The eight resident medical and surgical officers have each their own bedroom and private sitting-room, in addition to common rooms for meals and recreation. Two senior students are appointed resident casualty officers. They attend to accident cases brought to the hospital, accompany the ambulance, and help in the clinical work. A large waiting-room is set apart for the use of students, for whom there is, besides, ample cloak-room and lavatory accommodation. A new out-patient department is in course of construction.

2. *The David Lewis Northern Hospital*, rebuilt some five years ago, and possessing 246 beds, is situated in Great Howard Street. There are three Surgical and two Medical Clinics and a large Out-patient Department with suitable rooms for examination and an operation theatre. A fully-equipped clinical laboratory provides means for clinical investigation and research, in addition to those afforded in the clinical rooms of the various wards. Among the other departments is one for Electro-therapeutics and *X*-ray examination, and one for Orthopædic exercise and gymnastics. Excellent accommodation is available for students, including a common room and cloak-room. In the common room is a reference library for the use of students. Facilities are offered for Post-graduate work.

The five Resident Medical Officers receive salaries at the rate of £60 per annum; they each possess a separate bedroom and sitting-room, in addition to a common room for meals.

3. The *Royal Southern Hospital* contains over 200 beds, and is fully equipped for clinical instruction. There are three medical and three surgical clinics. Various changes have been carried out lately, in particular the opening of a new clinical laboratory for chemical and bacteriological work close to the site of the pathological laboratory. The electrical department has been reorganized, and a new and complete installation for *x*-ray work and light treatment has been made. A Resident Pathologist has recently been appointed to conduct investigation in connexion with the hospital work and to instruct the students. The hospital is easily accessible from all parts of the city.

4. The *Stanley Hospital* contains 106 beds, divided into two medical and two surgical clinics. There are two modern operating theatres and a well-equipped clinical room and gynæcological ward. The Resident House-Surgeons are appointed periodically at salaries ranging from £60 to £90 per annum. There is a large out-patient clinic in each of the special departments of Ophthalmology and Laryngology. The large Medical and Surgical Out-patient Departments provide a considerable amount of clinical material. There is a complete *x*-ray installation.

5. *The Infirmary for Children*, recently rebuilt, is now open and occupied. The number of beds is 100. The new out-patient department is complete and in daily use. Students are admitted to the practice of the hospital for periods of three months, such practice including attendance both in the wards and the out-patient clinics. Students are invited to become out-patient clerks for a period of three months during the fifth year, and to attend two afternoons each week at 2.30.

6. *The Hospital for Women* contains 55 beds. Students who take their course of Clinical Gynæcology in the hospital receive instruction in the wards and out-patient department. The Honorary Surgeons attend daily at 1 p.m.

7. *The Eye and Ear Infirmary* contains 65 beds. Evening courses of Lectures on Refraction and Ophthalmoscopy and Diseases of the Ear are delivered during the winter months by the honorary medical staff. Students who take out their course of Clinical Ophthalmology in the hospital receive clinical instruction in the out-patient department. The Surgeons attend daily at 1.30.

8. *St. Paul's Eye and Ear Hospital* contains 46 beds. The Surgeons attend daily at 1.30. Complete arrangements are made for instruction in clinical ophthalmology to students for periods of three months.

9. *St. George's Hospital for Diseases of the Skin* has a large dermatological out-patient clinic. Demonstrations are given by the Honorary Medical Staff on Mondays, Tuesdays, and Wednesdays, at 12.30.

LEEDS.

THE School of Medicine in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well-arranged laboratories for Physiology, Pathology, and Bacteriology, three lecture theatres, and several smaller class-rooms. In addition there are a library and reading-room and two museums, one being devoted to Pathology and the other to Anatomy. The comfort of the students is secured by a common room and a refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this university is £195, plus, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has over

482 beds in constant use, and includes gynaecological and ophthalmic wards and a large out-patient department. The Ida Semi-convalescent Hospital and Robert Arthington Hospital, Cookridge, attached to the Infirmary, has over 40 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of Mental Diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary (where the practical instruction in dental subjects is also given), the City Fever Hospitals (100 beds), the Hospital for Women and Children, and the Leeds Maternity Home.

Appointments.—Senior Anaesthetists, £50; Five Anaesthetists, £25 each. Medical Registrar and Surgical Registrar, at £25 each per annum. The Resident Medical and Surgical Officers, each at £150 per annum. The Casualty Officer, at £125 per annum. The Resident Ophthalmic Officer, at £100 per annum. A Resident Obstetric Officer at £50 is attached to the Gynaecological Ward and an extensive external maternity department. A Resident Medical Officer is appointed every six months for the Ida Semi-convalescent Hospital (honorarium, £30). Six House-Physicians, each holding office for six months, and seven House-Surgeons, holding office for six months. Physicians' Clerks and Surgeons' Dressers are appointed for six months; Ophthalmic and Aural Dressers, Gynaecological Ward Clerks, Gynaecological Out-patient Clerks, Maternity Clerks, Assistant Physicians' Clerks, Laryngological Clerks, and Assistant Surgeons' Dressers, Assistant Ophthalmic Surgeons' Dressers, Dressers in the Casualty Room. *Post-mortem* Clerks, and Laboratory Assistants for three months. A Clinical Pathologist (£200 per annum) has charge of the pathological laboratory. Appointments are also open to students at the Leeds Public Dispensary (three Resident Medical Officers, with salaries commencing at £80), at the Hospital for Women (House-Surgeon, honorarium £120, and Anaesthetist £25), and at the West Riding Asylums.

Scholarships.—The university awards annually a Scholarship on the results of the July Matriculation Examination in the form of a free admission to the lectures and classes given in the university, which are covered by the composition fee. The Infirmary also awards a Scholarship on the results of the First Examination, of the value of 40 guineas, in the form of a free admission to the clinical teaching of the Infirmary.

Fees.—The composition fee for the university course is £73 2s. 6d. (for students who have passed the Second Examination £48 16s. 6d.), and for the clinical work at the Infirmary £42.

Further information can be obtained from the Dean, School of Medicine, Leeds, or from the Secretary of the Medical Faculty, General Infirmary, Leeds.

SHEFFIELD.

In this city the medical school is one of the departments of the university, being conducted and controlled by its Medical Faculty; the entire north wing of the quadrangle of the university buildings overlooking Weston Park is devoted to it. The Laboratories and Lecture Rooms connected with the subjects of the First and Second Examinations—namely, Chemistry, Physics, Biology, Anatomy, and Physiology—are, both as regards structural arrangements and scientific equipment, on the most modern and satisfactory lines. No expense has been spared in the matter of apparatus for teaching or research work, and the facilities for practical study in these subjects are as excellent as all the other arrangements of the school.

For students of Pathology and Bacteriology there are laboratories replete with everything necessary for the most advanced work and a large Pathological Museum, which is open daily. In addition, there is a museum devoted to Materia Medica specimens and a large library and reading room. There are a number of Recreation, Athletic, and other Societies, all under the management of an annually elected Students' Representative Council, and large and comfortable common rooms both for men and women students.

In the university buildings there is a refectory open to all students of the school, in which luncheon, dinner, and other meals may be obtained at extremely moderate prices. A university journal, *Floreamus*, edited by a joint committee of the staff and students, is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction. Between them they provide 427 beds for the treatment of medical, surgical, and special cases, each having both an in-patient and out-patient department for diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of Diseases of the Skin and Ear, with beds assigned to them, whilst at the Royal Hospital there are special Out-patient Departments for Diseases of the Throat, Ear, Skin, Orthopaedics, and Mental Diseases. During last year over 6,000 patients passed through the wards of the two institutions, while those attending as out-patients numbered over 45,000. The Medical and Surgical Staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical Lectures in Medicine and Surgery are given weekly. Instruction in the practical administration of Anaesthetics is given at either institution by the anaesthetist, and the *post-mortem* examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. In addition, the students have the advantage of being able to attend the practice of the *Jessop Hospital for Diseases of Women*, an institution which takes in yearly some 500 gynaecological patients and about 250 cases of confinement, and has as well large out-patient clinics for both classes of patient, the extern maternity work numbering about 250 cases a year. Special courses on Fever are given at the City Fever Hospitals (547 beds), and on Mental Disease at the South Yorkshire Asylum (1,610 beds).

Appointments.—The following appointments are open to all students who have passed their examinations in Anatomy and Physiology: (1) Casualty Dresserships, (2) Surgical Dresserships, (3) Medical Clerkships, (4) Pathological Clerkships, (5) Ophthalmic Clerkships, (6) Clerk to the Skin Department, etc. Except in the case of Casualty Dressers, these appointments are made for three months, commencing on the first days of October, January, April, and July. The Casualty Dresserships last two months, beginning on the first of any month. All students are required to hold them before being eligible for any of the other appointments.

Scholarships.—Medical Scholarship, value £100, open to women only. *Entrance Medical Scholarship*, value £116, open to both sexes. Two *Stuff Medical Scholarships*, one value £157 10s., the other value £52 10s., open to both sexes. One *Town Trustees' Scholarship*, value £50, tenable for three years, for girls under the age of 19 years, having had a two years' residence in Sheffield immediately prior to becoming scholars or educated in a Sheffield school. Two *Town Trustees' Scholarships*, value £60, for boys or girls under 19 years of age, on conditions similar to the last-mentioned scholarship. *Town Trustees' Fellowship*, value £75, tenable for one year. *Mechanics' Institute Scholarship*, value £50, tenable for one year and renewable for a second year. The *Frederick Clifford Scholarship*, value £50, tenable for two years. *Kaye Scholarship*, for proficiency in Anatomy and Physiology, value £22 10s. Gold and Bronze medals are also awarded for proficiency in various subjects.

Fees.—The composition fee of £80, payable in three instalments, covers attendance on all the courses of Lectures and practical classes, except Pharmacy, Vaccination, and instruction in Anaesthetics, required for a Degree Course in the university, or for the ordinary qualifications in Medicine and Surgery of the Examining Boards. It does not include clinical work or practical instruction in Mental Diseases, Diseases of Women, and Infectious Diseases. The fee for the full course of clinical work is £42 in one sum. For a general prospectus and other information as regards the school, application should be made to the Dean of the Medical Faculty of the University.

BRISTOL.

THE courses given at the medical school of the university and at its allied hospitals provide full instruction for the degree and diploma examinations in Medicine, Dentistry, and State Medicine. The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them 470 beds and very extensive out-patient departments.

besides special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to arrangements for dental work, and large outdoor maternity departments. The students of the school also have the advantage of attending the practice of the Royal Hospital for Sick Children and Women, containing 104 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is therefore 614. Very exceptional facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of Medical and Surgical work. Each student has the opportunity of personally studying a large number of cases and of acquiring practical skill in diagnosis and treatment. All classes are open to women.

Appointments.—The posts open to past and other students of the school are those of House-Physician, House-Surgeon, Junior House-Physician, and Junior House-Surgeon at the Royal Infirmary; Clinical Clerks and Dressers, also Ophthalmic, Obstetric, and Pathological Clerks being appointed. At the General Hospital, House-Surgeon, Assistant House-Surgeon, Assistant House-Physician, and Casualty House-Surgeon, and Clinical Clerks, Dressers, and Obstetric, Ophthalmic, and Pathological Clerks are appointed. In each case the Dressers reside in the Hospital in rotation free of expense.

Scholarships.—The following are among the Scholarships and other awards open to students of the school: *Medical Entrance Scholarships* of £75 in Arts; two *Martin Memorial Pathological Scholarships*, of £10 each; the *Tibbits Memorial Prize*, value 9 guineas, for proficiency in Practical Surgery; the Committee's Gold and Silver Medals for fifth-year Students for general proficiency; the *Augustin Richard Prize*, value 7 guineas, for proficiency in Anatomy; the *Henry Clark Prize*, value 11 guineas, for general proficiency; the *Crosby Leonard Prize*, value 7 guineas, for proficiency in Surgery; the *Suple Surgical Prize*, a gold medal and 7 guineas; the *Suple Medical Prize*, a gold medal and 7 guineas; the *Henry Marshall Prize*, value £12, for Dressers; the *H. M. Clarke Scholarship*, value £15, for proficiency in Surgery; the *Sanders Scholarship*, value £22 10s., for general proficiency.

Fees.—The composition fee for all the courses required for the medical curriculum, including hospital practice, is 133 guineas. A prospectus and other information can be obtained on application to the Dean of the Medical Faculty, University of Bristol.

CARDIFF.

THE school in this city is carried on at University College, one of the constituent colleges of the University of Wales, and devotes itself principally to training students during the first three years of the medical curriculum, all classes being open to women students. The courses of instruction given are recognized as qualifying for the examinations of practically all the licensing bodies in Great Britain, and after passing the tests corresponding to the first three years of the curriculum, the student can complete his course, for whatever degree he is aiming at, in London or elsewhere; besides this, there is an arrangement with the Managing Committee of the Infirmary by which students at the school can take advantage of the opportunities for acquiring experience afforded in the wards of this large, well-ordered hospital. Hence many students, especially from Wales and Monmouthshire, find it convenient to avail themselves of the opportunity of pursuing the earlier part of their medical curriculum near home. They can also obtain instruction in the administration of anaesthetics, and with a little additional work can qualify for the B.Sc. degree of the University of Wales. There is also a Department of Public Health, in which all the work for Diplomas in State Medicine, whether for the University of Wales or other Examining Boards, can be done.

Post-graduate Vacation Courses are carried on in association with the Cardiff Infirmary.

Scholarships.—There are a considerable number of scholarships connected with the college, and open to students of the School of Medicine, information as to which can be obtained on application.

Fees.—The composition fee for the courses required as students proceeding to the degrees of the University of London is £57 10s.; that for students proceeding to a diploma of the licensing corporations being £41 10s. Further information may be obtained on application to the Dean of the Faculty of Medicine.

SCOTLAND.

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a university degree or to a diploma. To the descriptions of its different medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified or offer valuable opportunities for post-graduation work.

ABERDEEN.

THE school is conducted by the Faculty of Medicine. This comprises twelve chairs, from which instruction is given in all the main branches of medical science—namely, Botany, Zoology, Physics, Chemistry, Anatomy, Physiology, Materia Medica, Pathology, Forensic Medicine, Surgery, Medicine, and Midwifery. Special opportunities for practical instruction are afforded in the laboratories and museums attached to these departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 230 patients), the Royal Lunatic Asylum (700 patients), the Sick Children's Hospital (85 patients), the City Fever Hospital (100 patients), the General Dispensary, etc. (10,000 out-patients annually), and the Ophthalmic Institution (1,600 patients annually). Courses of practical instruction are given in Diseases of Children at the Sick Children's Hospital; in Fevers at the City Fever Hospital; in Insanity at the Royal Asylum; in Diseases of the Ear and Larynx at the Dispensary; in Diseases of the Eye at the Infirmary and Eye Institution; in Diseases of the Skin at the Royal Infirmary.

Bursaries.—Scholarships and Fellowships, to the number of fifty, and of the annual value of £1,180, may be held by students of medicine in this university. They range from £8 to £100 per annum, and are tenable in most cases for two or three years.

Fees.—The fee for each university course is, as a general rule, £4 4s.; and for a second attendance, £3 3s. Matriculation Fee, both sessions, £1 1s.; Summer Session alone, 10s. 6d.; Royal Infirmary, Perpetual Fee, £6; or, first year, £3 10s.; second year, £3. The Winter Session begins on October 14th, 1909.

EDINBURGH.

THERE are three Schools of Medicine: the School of the University, the School of Medicine of the Royal Colleges, Edinburgh, and the Edinburgh School of Medicine for Women.

THE UNIVERSITY SCHOOL.—This school, of course, furnishes a full curriculum, and, in addition to other resources of the university, has the following means for practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum; Physiological Laboratory, Medical Jurisprudence Laboratories; John Usher Institute of Public Health; Materia Medica Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary and University Pathological and Bacteriological Laboratory; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery; and the practice of the hospitals, of which some account is given on p. 614.

Fees.—The Sessional Fee for Zoology, Botany (Garden Fee, 5s.), Chemistry, Anatomy Lectures, Physiology, Pathology, Materia Medica, Medical Jurisprudence, Surgery, Medicine, Midwifery and Gynaecology, Clinical Surgery (Winter), Clinical Medicine (Winter), is £4 4s. each. Second Course £3 3s. Third Free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, Practical Chemistry, Advanced Practical Physiology, Practical Pathology, Clinical

Surgery (Summer), Clinical Medicine (Summer), Practical Anatomy (Winter), Operative Surgery, Obstetric Operations, Practical Materia Medica, including Pharmacy, Pathological Bacteriology, Experimental Pharmacology, Vertebrate Morphology and Comparative Embryology, are £3 3s. Practical Botany (besides Garden Fee of 5s.). Elementary Practical Zoology (besides charge of 10s. for Laboratory expenses), Practical Physiology (Experimental), Practical Physiology (Histological), Practical Botany (Advanced), Practical Zoology (Advanced), Practical Anatomy (Summer), Anthropology. Anatomy Demonstrations, Diseases of Children, Diseases of the Eye, Diseases of the Larynx, Ear, and Nose, Diseases of Tropical Climates, Clinical Instruction on Diseases of the Skin, Regional Anatomy, Physiological Chemistry, Invertebrate Zoology, Organic Chemistry, Mental Diseases, £2 2s. Applied Anatomy (Medical and Surgical), £1 1s. Vaccination, £1 1s.

Scholarships and Bursaries.—The following are the awards open to competition. FELLOWSHIP: *The Allan Fellowship in Clinical Medicine and Clinical Surgery*, of about £52, awarded annually, after competitive examination of the six candidates who obtained the highest marks in the subjects named in the Final Examination. PRIZES FOR RESEARCH: 1. *The William Dickson Travelling Fund*, of the annual value of £90, usually divided into grants of varying amounts. 2. *The Earl of Moray Fund for the Promotion of Original Research.* The annual income is about £630, available for payment of the actual expenses of original research. 3. *Carnegie Post-graduate Scholarships* (£100), *Fellowships* (£150), *and Grants in Aid for Research in Medicine.* Application forms from the Secretary to the Trust, 22, Hanover Street, Edinburgh. These to be returned by May 1st. 4. *Four M'Cunn Medical Research Scholarships*, each of £100 for one year, but may be renewed for a second year, open to all graduates of not more than two years' standing, after examination in Therapeutics, Public Health, Physiology, and Physiological Chemistry. Nomination necessary. Forms and particulars can be obtained from M'Innes, M'Kenzie, and Lochhead, 7, Gilmour Street, Belfast. SCHOLARSHIPS: 1. There are *Three Vans Dunlop Scholarships*, of £100, tenable for three years, to the candidate who at the Medical Preliminary Examination obtains the highest number of marks, one at the end of the first winter, and one at the end of second winter. 2. *Sibbald Medical Scholarship* of £40, tenable for three years, for highest marks in Chemistry, Botany, Zoology, and Physics. 3. *Two Crichton Scholarships for Research*, each of the value of £100, with an allowance not exceeding £25 for expenses of research, tenable for one year, with power of reappointment, one in Anatomy, and one in Physiology. 4. *The Mouat Scholarship in Practice of Physic*, of about £57 (partly in money and partly in the form of a bronze medallion) for the highest marks in the class of Medicine, and in that subject in the Final. 5. *The Murchison Memorial Scholarship*, annually. Proceeds of £1,000 for proficiency in Clinical Medicine. 6. *The Buchanan Scholarship*, £40 annually, for proficiency in Midwifery and Gynaecology. 7. *The James Scott Scholarship*, about £34 annually, for proficiency in Midwifery. 8. *The Ettles Scholarship in Medicine*, £52 annually, to the most distinguished graduate. 9. *The Hope Prize Scholarships*, each £30, for one year, for excellence in Chemistry. 10. *The Houldsworth Scholarship*, £49 annually, tenable for one year, with power of re-election, for promotion of research in Pharmacology in that department in the university. 11. *The Grocers' Company of Edinburgh Settlers* Scholarships of £300 a year, with an allowance to meet cost of apparatus and other expenses in connexion with Research Work, tenable for one year, but renewable for a second or third year. Apply to the Clerk to the Grocers' Company, Grocers' Hall, London, E.C. BURSARIES: 1. *Town Council Bursaries.* Annual value are vacant. Apply City Clerk, Council Chambers, Edinburgh. 2. *The M'Cosh Graduates' Bursary*, of about £172, and *M'Cosh Medical Bursary*, of about £12 7s. 10d. Tenable for one year. Both for research. 3. *Two Sibbald Bursaries*, of £30 a year, tenable for three years. 4. *Two Thomson Bursaries*, £25 each, tenable for four years. 5. *Five Grierson Bursaries.* Three of £20 and two of £10. Preferential in the first place. 6. *Two Mackie Bursaries*, each of about £29, tenable for two years, one awarded at the end of first, and the other at the end of second *annus medicus*. 7. *Two John Aitken Clyde Bursaries*, each £29, tenable for one year. 8. *Four Mackenzie Bursaries*, each of £8, awarded annually in Practical Anatomy. 9. *Renton Bursary*, £20, tenable for one year, with restrictions. 10. *Two Crichton Bursaries*, £50 each, tenable for four years, for Scottish students. 11. *Wood Bursary*, £60 per annum, tenable for three years, for high proficiency in Latin, Greek, Mathematics, and English. Examination in Royal College of Physicians, October, 20th and 21st, 1909. PRIZES: 1. *The Medical Faculty Gold Medals*, given to M.D.'s whose theses are deemed worthy. 2. *The Neill Arnott Prize*, £39 annually. 3. *The Beaney Prize*, for highest awards in Anatomy, Surgery, and Clinical Surgery in the Professionals, £32 annually. 4. *The Cameron Prize*, £80, awarded annually for "any highly important and valuable addition to Practical Therapeutics" in the course of the five years preceding the award. 5. *Two Gunning Victoria Jubilee Prizes*, one in Practice in Physic and one in Physiology and Public Health; each of the value of £50, awarded at graduation in July, 1908. 6. *The Conan Doyle Prize*, of about £32, awarded annually to the most distinguished graduate of the year from South Africa. 7. *The Wightman Prize in Clinical Medicine*, £15 annually. 8. *The Pattison Prize in Clinical Surgery*, £11 annually. 9. *The Robert Wilson Memorial Prize in Chemistry*, silver medal and about £7 annually. 10. *The Dorothy Gibillan Memorial Prize* of about £11 annually to the most distinguished woman student in the Final M.B., Ch.B. 11. *Gray Prize Essay Fund.* Subject, number, and amount of prizes will be posted at the University gate in March. 12. *The Lord Rector's Prize*, £25 5s.

Full particulars on all subjects will be found in the University *Calendar* for 1909–10, price 3s. net, or in the *Medical Programme*, price 2d. to be had from Mr. Thin, 55, South Bridge, Edinburgh.

THE SCHOOL OF MEDICINE OF THE ROYAL COLLEGES.—This School of Medicine is composed of Lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the University through their *licentia docendi*, who, for the sake of convenience, lecture in separate buildings near at hand to the Royal Infirmary. The Lecturers form one body, are all subject to the same rules and regulations, and enjoy the same privileges. A constitution and set of regulations have been drawn up, in virtue of which a medical corporation has been formed, recognized by both Royal Colleges; the government of the School is placed in the hands of a Governing Board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the Lecturers in the School. This Board, with the assistance of the Standing Committees of the School, supervises the whole management, and specially the maintenance of the efficiency and discipline of the School. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) Nicholson Square; (3) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the School. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the Triple qualification, amount to about £115. Other information can be obtained on application to the Dean of the School, 11, Bristo Place, Edinburgh.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.—The Edinburgh School of Medicine for Women provides all the classes required for a complete curriculum. The classes qualify for the University Degree in Medicine, for the Diploma of the Royal Colleges, and for the Triple qualification. The lecturers of the school are specially recognized by the Court of Edinburgh University for the education of women who propose taking the Degree in Medicine of the University of Edinburgh. Most of the classes are held in Surgeons' Hall. The office of the school, and a sitting-room and other conveniences are provided in the same building for the use of the women students. The clinical instruction of the students is conducted in the wards of the Royal Infirmary, specially set apart for the purpose; in the Royal Hospital for Sick Children, in the City Hospital for Infectious Diseases, at Bangour Asylum, and at the various public dispensaries. The fees and the regulations as to the course of study are the same as for the students at the School for Male Students. Further particulars are obtainable from the Dean of the School of Medicine for Women, Surgeons' Hall, Edinburgh.

THE MEDICAL COLLEGE FOR WOMEN.—This hitherto has been the principal school for women, and is under the control of the Scottish Association for the Medical Education of Women. Its head quarters, however, having been sold over its head, it has suspended operations for the time being. Information respecting it should be sought from the Clerk and Treasurer of the Association, Mr. A. T. Hunter, C.A., 66, Frederick Street, Edinburgh.

Clinical Hospitals.

1. *Edinburgh Royal Infirmary.*—There are over 900 beds and 80 at the Convalescent House at Corstorphine. For last year the in-patients numbered 11,754 and the out-patients 36,892. Instruction is given in all the special departments of medicine and surgery, in gynaecology, eye, ear, throat, and nose affections, diseases of skin, dental work (extraction, stopping, and artificial cases), the administration of anaesthetics, electro-therapeutics, hydro-therapeutics, and *x*-ray work, etc. Women are admitted and receive special and separate tuition on both the medical and surgical sides. Nine resident physicians and ten resident surgeons (three of whom are entirely set apart for the out-patient department) are appointed every six months. They live in the hospital free of charge, save for laundry. They must be registered. Thirty non-resident clinical assistants are also appointed for six months in the various departments. The Physicians and Surgeons appoint their own clerks and dressers, and assistants in the Pathological Department are appointed by the Pathologist. Fees: Six months, £4 4s.; one year, £6 6s.; perpetual ticket, £12 if paid in one sum, or £12 12s. if by separate payments.

2. *Royal Victoria Hospital for Consumption.*—Excellent opportunity is afforded for the clinical study of Tuberculosis and Diseases of the Chest. Special clinics by the staff are arranged from time to time, both in the hospital itself, which contains about 100 beds, and in the extensive outdoor department, which has its head quarters at the Royal Victoria Dispensary for Consumption, 26, Lauriston Place, close to the University. The number in attendance at these clinics is limited. Application for places has to be made some time in advance. Two medical appointments in connexion with the hospital are vacant every six months: (1) Resident Physician; (2) Non-resident Clinical Assistant for the Dispensary. The vacancies occur usually in April and October.

3. *Royal Edinburgh Hospital for Sick Children.*—The hospital is in Sciennes Road, about seven minutes' walk from the Medical School and Royal Infirmary. It contains over 120 available beds. There are some 2,275 in-patients and 27,000 out-patient attendances yearly. The out-patient department is conducted in a building adjoining the hospital, and is well equipped. Systematic clinical courses of instruction, which qualify for the university and other examinations, are given at various times throughout the year by the ordinary physicians and surgeons. Students may enter at any time. Four resident appointments are made half-yearly. Further information should be sought from the Registrar of the Hospital.

4. *Edinburgh Eye, Ear, and Throat Infirmary.*—Open daily at 6, Cambridge Street, at 1 p.m., for Eye Diseases; on Monday, Thursday, and Saturday at 12, and on Tuesday and Friday at 4, for Ear, Nose, and Throat Diseases. There is a small infirmary of ten beds in male and female wards. In-patients, 134; out-patients, 4,966.

5. *Edinburgh Royal Maternity and Simpson Memorial Hospital* has 44 beds, about 549 in-patients and 663 out-patients yearly. A Nursing Home in Leith is worked in connexion with the hospital, and last year supervised the deliveries of some 437 out-patients. Daily clinics are given by the physicians and assistant physicians. Two House-Surgeons are on duty, one being appointed each quarter. The Milne Murray Home in connexion with the hospital is a residence for students taking their midwifery practice. *Fees:* The hospital fee is £4 4s. per month, and the residency fee 25s. per week. There is accommodation for twelve students.

6. *Edinburgh City Hospital for Infectious Diseases* at Colinton Mains contains 600 beds, a large number of which are available for teaching purposes. Qualifying courses of instruction are given by the Consulting Physician and the Medical Superintendent during the Winter and Summer Sessions. The fee is £1 1s.; 3,457 patients in 1908.

7. *Royal Asylum, Morningside, Edinburgh.*—There is a clinical field of 400 beds, comprising all the wards except those for private patients. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of dealing with patients suffering from mental disease; they are exercised in diagnosis and the drawing up of certificates, the aim being to enable them to recognize its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. The course extends through the last month of the Winter Session and most of the following Summer Session, and the fee is £2 2s.

GLASGOW.

THERE are four medical schools in this city: the two schools of the university, one of which (Queen Margaret College) is for women students; St. Mungo's College (the school of the Royal Infirmary), and Anderson's College.

THE UNIVERSITY SCHOOL FOR MEN.—The whole course of study required for graduation at the University of Glasgow can be passed here. Besides work of a practical and clinical kind in the hospitals, practical courses are conducted in the laboratories of the following departments: Surgery, Pathology, Public Health, Pharmacy, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany, the Botanic Garden and the Hunterian Museum being also open to students. New buildings and equipments have recently been provided for Botany at a cost of £20,000, for Practical Anatomy at £14,000, for Operative Surgery at £9,900, as well as for Pathology, while very large additions, costing nearly £12,000, have been made to the Chemistry Laboratory, rendering it probably the most extensive in Scotland. New class-rooms and laboratories have been erected for the departments of Physiology, Materia Medica, and Medical Jurisprudence and Public Health, to cost, with equipment, upwards of £60,000. The university has of late been making efforts to extend and improve the accommodation, especially the laboratories, of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work. Three very extensive General Hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (543 beds), near the university, and attended by the bulk of the men students; the Royal Infirmary (588 beds); and the Victoria Infirmary (260 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick Children (74 beds), the Maternity Hospital (34 beds), the Glasgow Eye Infirmary (100 beds), the Fever Hospitals at Belvidere (660 beds), and Ruchill (540 beds), and other institutions, afford facilities for the practical study of special branches.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any Faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in Arts. Some of the bursaries are described below.

Fees.—The matriculation fee for each year is £1 1s. In most cases the fee for each university class is £4 4s., but in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £3 3s. for each winter and £2 2s. for each summer clinical course; while at the Royal Infirmary the fees for the first year are £10 10s. and the total fees £21. The university fee for the four professional examinations is £23 2s. (£6 6s. for each of the first and second examinations, and £5 5s. for each of the third and fourth). For the whole curriculum, the fees for matriculation, class attendance, hospital attendance, and professional examinations, amount to about £150.

For further information apply to the Secretary, the Matriculation Office, Glasgow University.

BURSARIES.—The following Bursaries are open to undergraduates of both sexes: The *Gibson Bursary*, annual value £36, tenable for four years. This is open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland, and will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One *Logan Bursary*, annual value £16, tenable for four years; appointment by the Senate.

It is now vacant. The *Mackintosh Mental Science Bursary* in Medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of Insanity, who stands first in an examination in that subject, to be held in June—the Bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The *Gardiner Bursary*, annual value £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in Physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in Chemistry and Physics of the First Professional Examination is the highest. Next vacancy, 1909. The following are tenable in any Faculty: Two *Pratt Bursaries* (each £20 and tenable for four years), both open in 1909; and two *Taylor Bursaries* (each £10, tenable for four years), one open in 1909 and the other in 1910. Three *Armagh Bursaries* (£52 each), one open in 1909 to students taking honours in Mental Philosophy in the Final Examination for the degree of M.A., tenable for three years. *Andrew and Bethia Stewart Bursaries* (£50 each, tenable for three years, in Medicine or Law); one is vacant in 1909; candidates must have taken the M.A. degree of Glasgow. There is a special Examination. Nine *Glasgow Highland Society Bursaries*, for students of Highland descent, of the annual value of £25, and tenable for five years: two are vacant in 1909. The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the university ordinary class fees of students of Scottish birth or extraction, under conditions given in the *University Calendar*. The *Dobbie Smith Gold Medal* is awarded annually for the best essay on a prescribed subject within the Science of Botany. The *Brunton Memorial Prize* of £10 is awarded annually to the most distinguished graduate in Medicine of the year. The University Commissioners issued an ordinance to make regulations for the admission of women to certain Bursaries, Scholarships, and Fellowships. Scholarships and Fellowships are offered by the Carnegie Trust in Science and Medicine for post-graduate study. There are also four *McCunn Medical Research Scholarships* (£100 for one year) for graduates in Medicine of the Scottish Universities.

QUEEN MARGARET COLLEGE.—In this, the women's medical school of the University of Glasgow, the course of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with class-rooms, reading room, library, etc. They are taught in some classes apart from male students, in others together with them, but in either case have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards containing 167 beds are reserved for their exclusive use, and in its dispensary; also in the Royal Hospital for Sick Children, the Glasgow Ear Hospital, the Hospital for Skin Diseases, the Royal Asylum, Gartnavel; the Ophthalmic Institution, the City of Glasgow Fever Hospital, Belvidere, and the Glasgow Maternity Hospitals.

Scholarship.—The *Arthur Scholarship*, annual value £20, tenable for three years. Open to competition by medical students of first year of the First Professional Examination in October, 1910. This scholarship is the gift of Mrs. Arthur, of Barshaw, and is restricted to women medical students.

Class and Examination Fees.—The class and hospital fees for the subjects enjoined by Ordinance as constituting a five years' course of study and clinical work amount to about £113 8s. To this must be added £5 5s. for matriculation fees (£1 1s. for each of the five years), £23 2s. for examination fees, and £5 1s. for registration as a medical practitioner.

Board for Students.—A House of Residence for women students, Queen Margaret Hall, is situated near the college. The cost of board and residence is from 17s. to 25s. per week, according to accommodation. Full information can be obtained from the Mistress, Queen Margaret College, or from the Warden, Queen Margaret Hall, Bute Gardens, Glasgow.

ST. MUNGO'S COLLEGE.—This is the Medical School of the Royal Infirmary, which is the largest in Glasgow. The Infirmary is situated in Cathedral Square, Castle Street, and has car communication with every part of the city. St. Mungo's College is in the Infirmary grounds.

The Infirmary has, including the Ophthalmic Department, over 620 beds, the average number occupied in 1908 being 627.9. When the reconstruction of the Infirmary, long in progress, is completed, it will have about 700 beds. There are special beds and wards for Diseases of Women, of the Throat, Nose and Ear, Venereal Diseases, Burns, and Septic Cases.

At the Outdoor Department the attendances in 1908 numbered over 74,000. In addition to the large Medical and Surgical Departments, there are Departments for Special Diseases—namely, Diseases of Women, of the Throat and Nose, of the Ear, of the Eye, of the Skin, and of the Teeth. A fully-equipped Electrical Pavilion was opened a few years ago, and year by year the latest and most approved apparatus for diagnosis and treatment has been added. Wards are set apart for the teaching of women students.

Appointments.—Five House-Physicians and nine House-Surgeons, having a legal qualification in Medicine and Surgery, who board in the Hospital free of charge, are appointed every six months. Clerks and Dressers are appointed by the Physicians and Surgeons. As a large number of cases of Acute Diseases and Accidents of a varied character are received, these appointments are very valuable and desirable.

Fees.—The fees for hospital attendance, including Clinical Lectures and Tutorial Instruction, attendance at the Outdoor Department, at the Pathological Department. *Post-mortem* Examinations, and the use of the Museum, which has not long since been rearranged and catalogued, are as follows: For one year, £10 10s.; for six months, £6 6s.; for three months, £4 4s. Students who have paid fees to the amount of £21 to the Glasgow Royal Infirmary are permitted to attend, in any subsequent year or years, one Winter and one Summer Course of Instruction in the Infirmary without further payment; and Students who have paid to any other hospital in the United Kingdom fees, being not less than £21, in virtue of which they are entitled to attend without further payment, shall be admitted as students of the Royal Infirmary on payment of £3 3s. for six months, or £1 11s. 6d. for three months.

ANDERSON'S COLLEGE.—This school provides education in all subjects of the five years' curriculum. The Hospital Practice and Clinical Lectures are provided in Western or Royal Infirmary; Pathology in Western or Royal Infirmary; Vaccination and Dispensary Practice in Western or Royal Infirmary Dispensary. These classes are recognized by all the Licensing Corporations in the United Kingdom, and also by the Universities of London, Durham, Ireland, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the school *Calendar*). The courses (Lectures and Laboratory) in Public Health are also recognized by the Scottish Licensing Board, the Irish Colleges, and the University of Cambridge.

The school buildings are situated in Dumbarton Road, immediately to the west to the entrance of the Western Infirmary, within two minutes' walk of that institution, and four minutes' walk of the university.

Class Fees.—For each Course of Lectures (Anatomy, Ophthalmic Medicine and Surgery, Aural Surgery, Diseases of Throat and Nose, Mental Diseases, and Public Health excepted), First Session, £2 2s.; Second Session (in Anderson's College) £1 1s. For Practical Classes (except Anatomy, Chemistry, and Public Health), namely, Botany, Zoology, Physiology, Pharmacy, Operative Surgery, First Session, £2 2s.; Second Session, £2 2s. Anatomy Class Fees, Winter: First Session, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. Second Session, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. Third Session, Practical Anatomy, £1 1s. Summer: Lectures and Practical Anatomy, £2 12s. 6d.; Lectures alone, £1 11s. 6d.; Practical Anatomy alone, £1 11s. 6d.; Osteology and Practical Anatomy, £2 12s. 6d.; Osteology alone, £1 11s. 6d.; Practical Anatomy alone, £1 11s. 6d. Chemistry: Lectures, £2 2s.; Practical Chemistry, £3 3s. Botany and Zoology: Reduced Fees for Lectures with Laboratory Work in Botany or in Zoology, during same Summer Session, £3 3s. for Lecture Class or Practical Class separately, in Botany or in Zoology, £2 2s. Ophthalmic Medicine and Surgery (including Hospital Practice), Aural Surgery, Diseases of Throat and Nose, and Mental Diseases: Fee for each Course, £1 1s. Public Health Laboratory: Fee for Six Months' Course, including Lectures,

£12 12s. Western Infirmary.—Fees: For Hospital Attendance, £10 10s.; for Clinical Instruction, Winter Session, £3 3s.; Summer Session, £2 2s. Students who have completed the Clinical course elsewhere are permitted to enter for a six months' course of the Hospital only on payment of a fee of £2 2s. Pathology, £4 4s. Practical Pathology, £3 3s. Pathology Demonstrations only, £1 1s. Vaccination fee, £1 1s. Royal Infirmary.—Fees: Hospital Practice and Clinical Instruction, first year, £10 10s.; second year, £10 10s.; afterwards free. Six months, £6 6s.; three months, £4 4s. Pathology, both courses, £4 4s. Vaccination fee, £1 1s. Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee. Eye Infirmary.—Fee: Hospital Practice and Clinical Instruction, including Lectures at the College, six months, £1 1s. The session opens on Monday, October 11th.

The Carnegie Trust pays the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A *Calendar* containing full particulars of the School may be obtained from the Secretary to the Medical Faculty, Anderson's College, Glasgow, W.

Clinical Hospitals.

1. *The Royal Infirmary.*—Some notes respecting this institution have been given in connexion with its Medical School.

2. *Glasgow Western Infirmary.*—This hospital adjoins the University of Glasgow, and has over 500 beds. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and Clinical Clerks and Dressers are selected from the members of the class. Special wards are set apart for Diseases of Women and for Diseases of the Skin. In the Out-patient Departments there are special clinics for Diseases of Women and for Diseases of the Throat, Ear, and Teeth, etc. All the courses of clinical instruction are recognized at the University of Glasgow and other Boards in the kingdom. Thirteen Resident Assistants are appointed annually without fee from those who have completed their course. *Fees.*—(1) Every Student must pay a fee of £10 10s. for hospital attendance, and this is kept quite apart from the fees for clinical instruction. (2) Every Student pays £2 2s. for each Summer, and £3 3s. for each Winter Session of clinical instruction, or such other fees as may be fixed from time to time by the managers in conjunction with the University Court. (3) Students who have completed their clinical course elsewhere are permitted to enter for a six months' course of the hospital only, on payment of a fee of £2 2s. In-patients, 8,090; out-patients, 33,893.

3. *Glasgow Eye Infirmary.*—This infirmary is situated at 174, Berkeley Street, and 80, Charlotte Street, and has 100 beds. Dispensaries open daily at 12.30 p.m. Operations performed on Monday and Wednesday at 10 a.m. and 2 p.m., and Friday at 9 a.m. and 2 p.m. Students' fees for six months, 1 guinea. In-patients, 1,659; out-patients, 25,570.

4. *Royal Hospital for Sick Children.*—This hospital, containing over 100 beds (26 of which are at the country branch at Drumchapel) for the non-infectious diseases of children, is open for clinical instruction, as is the dispensary or out-patient department. Students, by paying the fee of £1 1s., are entitled to the practice of the hospital and dispensary for twelve months from the term of entry. In-patients, 1,175; out-patients, 50,776. Further particulars may be had by applying to the Resident Medical Officer, 45, Scott Street, Garnethill. The Dispensary is at 11, West Graham Street (within three minutes' walk of the hospital).

5. *Glasgow Maternity and Women's Hospital.*—The New Maternity and Women's Hospital at the junction of Montrose Street and Rottenrow has now been open for more than a year. In its construction the needs of students in midwifery were carefully kept in view. It is in every way exceedingly well adapted for use as an obstetrical clinic, and a little later on will be equally valuable as a place for the study of gynaecology. There are all the modern requirements for a Maternity Hospital and a special lecture theatre, and also an excellent residence for the accommodation of students. The staff of the institution consists of the Professor of Midwifery of the university and three other obstetricians; each of the four has his own assistant. There are also three resident house-surgeons. Though specially intended for the students of the university and other medical schools, the institution lends itself equally well to post-graduate study. It is intended, it is understood, to hold from time to time formal courses for post-graduates, but graduates can join the hospital at any time for purposes of study. The arrangements of the institution are in themselves an excellent object-lesson in modern obstetrics.

ST. ANDREWS AND DUNDEE.

THE medical institutions in these two cities cater specially for students proceeding to the degrees of the University of St. Andrews, but admit, we understand, other students as well. In the former city the United College provides education in all subjects of the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain laboratories and workrooms for Anatomy, Physiology, Materia Medica, Pathology, Ophthalmology, Public Health, Medicine, Surgery, and Gynaecology. The Clinical work of the school is facilitated by the institutions below described. The class fees are 4 guineas for systematic classes and 3 guineas for practical classes. The Hospital ticket is 3 guineas a year, or 2 guineas each Session. Added up, the fees for the curriculum amount to about 100 guineas. In connexion with both institutions there are Bursaries and Scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained either from the Secretary of the University of St. Andrews or the Secretary of one or the other college. Information regarding the clinical facilities may be obtained from Professor Kynoch, Dean of the Medical Faculty.

Dundee Royal Infirmary.—The Infirmary contains 400 beds, with a special ward for the treatment of diseases of children. Five Resident and one non-Resident Qualified Assistants are appointed annually. Clinical Clerks and Dressers are attached to the physicians and surgeons, and students are appointed to assist in the *post-mortem* room. Out-patients are seen daily at 9 a.m. There is an Intern and Extern Maternity Department connected with the Infirmary. The instruction given at the Infirmary is recognized for purposes of graduation by all the Scottish universities, the University of London, the University of Cambridge, the Royal University of Ireland, and by the Royal Colleges of England and Scotland. Further information on application to the Medical Superintendent.

Dundee District Asylum.—The appointments include two qualified Resident Assistants and two Resident Clinical Clerks. Clinical instruction is given.

IRELAND.

THERE is at present a choice of six Schools for those prosecuting their medical studies in Ireland, and for clinical instruction the choice is equally satisfactory and varied, though the hospitals themselves are comparatively small. Before long a seventh school is expected to come into existence, and to have its seat at Dublin. Probably its constitution will mean the absorption of the Cecilia School, so the actual number of schools will remain unaltered. It should also be noted that there is a school specially intended for post-graduation students who are candidates for admission to either the Royal Navy, the Army, or the Indian Medical Service. Some account of these schools follows:

THE SCHOOL OF PHYSIC.

This school is in Dublin, and is carried on under the joint auspices of the University of Dublin and of

the Royal College of Physicians in Ireland; the King's Professors of Institutes of Medicine, Practice of Medicine, Materia Medica, and Midwifery being appointed by the latter.

Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals, infirmaries, and asylums are recognized by the Board.

THE SCHOOLS OF SURGERY.

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the College's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by Charter. The buildings contain spacious dissecting-rooms, one set apart for lady students, and special Pathological, Bacteriological, Public Health, Chemical, and Pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

Prizes.—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; Class Prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

The next session begins October 15th, terminating March 31st, while summer lectures and classes commence on April 1st, and are carried on until June 30th.

Prospectus can be obtained post free on application to the Registrar, Royal College of Surgeons, Dublin.

THE CATHOLIC UNIVERSITY MEDICAL SCHOOL.

This school, situated in Cecilia Street, Dublin, is now affiliated to the new National University of Ireland. It will receive a grant for buildings and equipment, and may become the foundation of the Dublin Constituent College of the new university. As things are, it provides lectures and teaching covering the whole curriculum of the medical student, the total cost for school fees and hospital attendance being £160, which is payable by instalments as the courses are taken, each in turn.

BELFAST.

The Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of Biology, Chemistry, Physiology, Pathology, Anatomy, Physics, and Materia Medica are all excellent, and there is a Students' Union which gives students the advantage of dining-rooms, reading-rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to the students of the university are: The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital, the Benn Ulster Eye, Ear, and Throat Hospital, the Union Infirmary and Fever Hospital, the Fever Hospital, Purdysburn, and the District Lunatic Asylum.

Scholarships.—(1) Ten Medical Scholarships, value £20 each; (2) two Dunville Studentships (one each alternate year), value £150 each; (3) one Andrews Studentship each alternate year, value £145; (4) numerous sessional prizes. Additional scholarships will be open for competition at the medical examinations in March and June, 1910. There is also a Post-Graduate Research Fund open to all graduates of not more than three years' standing.

Fees.—The cost of the curriculum intended for students proceeding to the degrees of the Queen's University of Belfast is, approximately, £104. This includes examination fees and a perpetual ticket for attendance at the Royal Victoria Hospital or the Mater Infirmorum Hospital, but not fees for the special hospitals. The course for the Conjoint Board costs about the same amount. A pamphlet containing full information can be obtained on application to the Registrar, Queen's University, Belfast.

QUEEN'S COLLEGE, CORK.

As stated elsewhere in this issue, this medical school and the institution of which the latter forms part are about to become University College, Cork, one of the constituent colleges of the new National University. It will also hold examinations for the Medical Faculty of that university, in addition to continuing the work which it has hitherto performed, namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim will be to fit students for the degrees of the new university, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, can arrange the courses of Lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the College courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students can also attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session extends from October to April inclusive, but arrangements have been made for the delivery of some of the three months' courses of lectures during the months of April, May, and June. The Hospitals are open to students in May, June, and July also. The College contains Laboratories in the Departments of Biology, Chemistry, Physiology, Pathology, and Materia Medica and Pharmacy, and there are a Botanic Garden and Plant Houses in the grounds.

Scholarships.—Eight Medical Scholarships, two in each of the first four years, of the value of £25 each, and in the fifth year the Blaney Scholarship, of the value of £32, and a Senior Exhibition, value £30. Three Exhibitions, one in Practical Medicine, one in Practical Surgery, and one in Practical Midwifery, each of the value of £15.

Fees.—The fees for the lectures and hospital attendances required by the Royal University of Ireland course come to about £85. Further information can be found in the College Regulations, or obtained on application to the Registrar.

QUEEN'S COLLEGE, GALWAY.

The remarks which form a preface to the paragraph concerning Queen's College, Cork, apply equally to this medical school. The clinical teaching is carried on in the Galway Hospital, and is recognized as qualifying for the Diplomas of the Royal Colleges in Ireland, England, and Scotland, and for the Medical Degrees of the University of London.

In addition to this, the Galway Fever Hospital is open to students of the Clinical Class. Here opportunities are afforded for studying the various forms of Fever and Zymotic Disease admitted during the College Session. The Medical Faculty has also made arrangements with the medical officers for the admission of students to the Galway Union Hospital. This Hospital affords an extensive field for the study of all classes of disease, acute and chronic. A special ward is set apart for the diseases of children, in which students have an opportunity of studying this important class of cases. Opportunities for outdoor practice and vaccination are afforded at Galway Dispensary No. 1. The college buildings are well lighted and well ventilated, and contain dissecting rooms and an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. The grounds are ample, and there is an Athletic Union and other arrangements for the benefit of students. Sessional prizes are awarded each term, and a competition held annually for eight scholarships in medicine, each of the value of £25.

For further information as to the arrangements for clinical teaching, which are liable to alteration, applications should be made to the Honorary Secretary of the Medical Staff of Galway Hospital.

POST-GRADUATE SCHOOL FOR SERVICE CANDIDATES.

This school, carried on in Dublin with the sanction and support of the Board of Trinity College, is designed to enable Irish medical students who desire to enter the Royal Navy, the Army, or Indian Medical Service to prepare themselves in Ireland. The large number of the class each session is a proof that this object has been attained. The classes, which are largely practical, include instruction in Clinical Medicine and Surgery, Pathology, Theoretical Medicine and Surgery, Midwifery, Operative Surgery (on the cadaver), Anatomy and Physiology. The practical classes meet in the various departments of the Medical School, Trinity College, where the lectures are also given. Clinical instruction in connexion with the course is given at one of the Dublin hospitals. The classes are held twice each year. Further particulars and a prospectus of the course may be obtained by application to Dr. C. Arthur Ball, Honorary Secretary, 22, Lower Fitzwilliam Street, Dublin.

OTHER EDUCATIONAL FACILITIES.

SOME account may also be given of the many hospitals in and around Dublin which, officially or unofficially, take a share in the educational work of this centre of medical study, and also afford opportunities to post-graduate students.

SIR PATRICK DUN'S HOSPITAL.

This hospital, situated in Grand Canal Street, is connected with the School of Physic of the University of Dublin, but its practice is open to students of medicine attending other schools, and its certificates are recognized by the Royal University of Ireland and the Royal Colleges of Surgeons in England, Scotland, and Ireland. Clinical instruction is given daily by the physicians and surgeons, and special classes for students commencing their studies are held during October, November, and December. They embrace the elements of Medicine and Surgery, including note-taking. The operating theatre is thoroughly in accord with the requirements of modern surgery. Clinical teaching on the Diseases of Women is given twice a week, and in the special wing devoted to fever cases regular clinical instruction is given throughout the Winter and Summer Sessions. Pathological and Bacteriological Demonstrations are given on Fridays during the Winter and Summer Sessions in the new Pathological Laboratory. A new department for the treatment of Throat, Nose, and Ear diseases affords instruction in these subjects, and in the use of the Laryngoscope and Otoscope. In the *x*-ray department opportunities are given the members of the Hospital Class of seeing the various applications of the *x* rays to the diagnosis and treatment of injury and disease. Arrangements have been made for special instruction in the administration of anaesthetics. The out-patient departments are similarly useful. Special demonstrations are given upon Diseases of the Skin.

Appointments.—A Resident Surgeon, with salary, is appointed annually, and four Resident Pupils, and six Surgical Dressers, and six Clinical Clerks each half-year.

Prizes.—The Haughton Clinical Medals and Prizes in Medicine and Surgery are awarded annually, other candidates who show sufficient merit being given special certificates.

Fees.—The fees are: Winter and Summer Session, together, £12 12s. Winter Session only (six months), £8 8s. Summer Session only (three months), £5 5s. Other information can be obtained from the Honorary Secretary to the Medical Staff of the Hospital.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.

Of these combined hospitals, Richmond deals with surgical work, Whitworth with medical, and Hardwicke with fever cases. Together they contain over 300 beds, and have special clinics for diseases of the eye, ear, throat and nose, and for diseases of women. The Truss Establishment, for the distribution of trusses to the ruptured poor of Ireland, is connected with these hospitals. A fully-equipped pathological laboratory has recently been opened and a new mortuary built.

The Richmond Lunatic Asylum, containing 1,200 patients, is close by, affording facility for the study of mental diseases.

Appointments.—A Resident Physician and a Resident Surgeon are elected half-yearly, and receive a salary. Twelve Resident Clinical Clerks are elected quarterly. These appointments are not only open to students of these hospitals, but also to students of other hospitals and to qualified doctors.

Further information can be obtained from the Honorary Secretary, R. Travers Smith, M.D., 20, Lower Fitzwilliam Street, or the Treasurer, Sir William Thomson, C.B., 54, St. Stephen's Green East, Dublin.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS.

The hospitals contain 140 beds. A House-Surgeon and Physician, resident and salaried, is appointed yearly, and four resident pupils are selected half-yearly.

Further particulars may be obtained from Mr. F. T. Heuston, 15, St. Stephen's Green North, Dublin, or any of the members of the medical staff.

ROYAL CITY OF DUBLIN HOSPITAL.

This hospital, in addition to the general Medical and Surgical Wards, contains special wards for Ophthalmic and Aural Cases, Diseases of Women, and Diseases of Children. There is also an isolated building for the reception of infectious cases. An entirely new operation theatre has been constructed in accordance with the most modern surgical requirements. Roentgen-ray and Lupus Lamp Departments have been installed.

Appointments.—Clinical Clerks to the Physicians and Dressers to the Surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and Surgical Resident Pupils are appointed, and special certificates awarded if merited. A Resident Medical Officer is appointed annually.

For further particulars application should be made to the Honorary Secretary of the Medical Board at the Hospital.

MATER MISERICORDIAE HOSPITAL.

This hospital, the largest in Dublin, is open at all hours for the reception of accidents and urgent cases. Clinical instruction is given by the Physicians and Surgeons at 9 a.m. daily. A course of clinical instruction on Fever is given during the Winter and Summer Sessions. A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. Opportunities are afforded for the study of Diseases of Women in the ward under the care of the obstetric physician, and at the dispensary held on Tuesdays and Saturdays. Ophthalmic Surgery is taught in the special wards and in the dispensary. Surgical operations are performed on Mondays, Tuesdays, Fridays, and Saturdays at 11 o'clock. Connected with the hospital are extensive dispensaries, which afford valuable opportunities for the study of general Medical and Surgical Diseases, and Accidents. Instruction will be given on Pathology and Bacteriology. Leonard Prizes will be offered for competition annually. Certificates of attendance are recognized by all the universities and licensing bodies in the United Kingdom. Private wards have been opened for the reception of medical and surgical cases. A training school and a home for trained nurses have been opened in connexion with the hospital.

Fees.—Nine months, £12 12s.; six winter months, £8 8s.; three summer months, £5 5s. Entries can be made with any of the physicians or surgeons, or with the Registrar, Dr. Martin Dempsey, 35, Merrion Square.

MERCER'S HOSPITAL.

This is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine, and within five minutes' walk of Trinity College. It contains 120 beds for medical and surgical

cases, and arrangements have been made with the medical officers of Cork Street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution, and become eligible for the posts of Resident Pupils, etc. There is a large Out-patient Department, and a special department for Diseases Peculiar to Women. There are also special wards for the treatment and study of children's diseases. During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements.

Appointments.—A House-Surgeon is appointed annually. Five Resident Pupils, each for six months, and Clinical Clerks and Dressers are appointed monthly from amongst the most deserving members of the class.

Fees.—Winter, six months, £8 8s.; summer, three months, £5 5s.: nine months, £12 12s.

Further particulars can be obtained from the Honorary Secretary of the Medical Board.

MEATH HOSPITAL AND CO. DUBLIN INFIRMARY.

This hospital was founded in 1753, and now contains 160 beds available for clinical teaching. A building containing 40 beds for the isolated treatment of fevers is attached to the Hospital. The Certificates of this Hospital are recognized by all the universities and licensing bodies of the United Kingdom. Six Medical Clinical Clerks and twelve Surgical Resident Pupils and Dressers are appointed every six months, and a House-Surgeon and two Clinical Assistants are elected annually. The session opens on October 1st. A prospectus giving the complete arrangements for the Medical and Surgical Classes for the coming session may be obtained from the Honorary Secretary of the Medical Board at the Hospital.

THE ROTUNDA HOSPITAL.

This institution consists of two distinct hospitals, and is the largest Maternity as well as Gynaecological Hospital in the British Empire. Nearly 3,000 patients are admitted annually to the hospital, and a number of cases of confinement are attended at the patients' own homes, whilst over 14,000 patients are attended in the out-patient department. A Pathological Laboratory is one of the important features of the hospital. The clinical instruction given includes daily lectures and practical demonstrations in Midwifery, Gynaecology, and Cystoscopy. A diploma is granted to pupils on their passing an examination after a period of six months' attendance on the practice of the hospital. Paid clinical clerks are selected (by examination) from amongst qualified men who have obtained the hospital diploma. The residential quarters in the hospital for both men and women students have within the last few years undergone complete renovation, and afford comfortable accommodation. The grounds of the hospital contain grass courts for lawn tennis and croquet. Pupils can enter at any time for a period of one month or longer. The hospital offers exceptional opportunities for qualified practitioners of any nationality who desire to take out a course of post-graduate instruction.

Fees.—Intern pupils: Six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s. Extern pupils: Six months, £10 10s.

ROYAL VICTORIA EYE AND EAR HOSPITAL.

This hospital, situated in Adelaide Road, Dublin, is an amalgamation of two institutions which formerly gave special instruction in ophthalmology separately—namely, St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary. The combined institution, which was opened in February, 1904, contains 82 beds. Clinical instruction in diseases of the eye, including the use of the ophthalmoscope, is given daily, and students attend the operations, which are performed as occasion requires. Instruction in aural surgery is also given. Special classes for practical instruction in the use of the ophthalmoscope, etc., and for the demonstration of cases, are formed from time to time.

CLINICAL HOSPITALS IN ENGLAND.

THERE are a great many hospitals in the United Kingdom which, though not connected with any medical school, open their doors either to those who have yet to become qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and these should not be overlooked either by ordinary or post-graduate students. Their honorary staffs commonly make a point of giving what instruction opportunity offers; and at those which are situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer intervals, appointments in the way of resident medical officerships, house-physicianships, and house-surgeoncies. These are usually paid offices, which may be held for periods varying from six months to a year. Notices of the vacancies as they occur appear in our columns, and there is rarely any lack of candidates, since the holder is placed in a particularly favourable position for gaining either general or special experience. An account of some which are situated in London and the provinces here follows, reference to those in large medical centres other than London being made in the accounts given of the Medical Schools in Scotland, Ireland, and the provinces respectively.

LONDON.

GENERAL HOSPITALS.

Great Northern Central Hospital, Holloway Road, N.—This hospital is recognized by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the medical curriculum. The hospital contains 179 beds, all of which are at present available for occupation (that is, no beds empty for want of funds). The large rectangular and circular wards, each of which contains 20 beds and 4 cots, the operation theatre, and an additional out-patient department, general and special, and the pathological departments, have all been erected since 1887. A second operation theatre and a new surgery block, containing two observation wards, patients' waiting hall, examining rooms, and surgery proper, were opened in 1906. An electrical department has been recently opened, and also a children's ward containing 12 cots. Medical practitioners are invited to attend the general and special practice of the hospital. Clinical Assistants (qualified), Clinical Clerks, and Pathological Clerks are appointed in the general and special departments, and may receive certificates at the end of their terms of office. There is one Resident Medical Officer, one Senior and two Junior House-Surgeons, Senior and Junior House-Physicians, also Pathologist and five Anaesthetists. Full particulars concerning these appointments can be obtained from the Honorary Secretary of the Medical Committee. Owing to the recent development of tube railways and electric trams the hospital is now one of the most accessible in London.

London Temperance Hospital.—The Hospital in Hampstead Road contains 100 beds. The medical and surgical practice is open to students and practitioners. There are several appointments (vacancies in which, when they occur, are advertised in the JOURNAL). The principal are those of Surgical and Medical Registrars, Pathologist and Bacteriologist, Anaesthetist, Radiographer, Resident Medical Officer, one Assistant Resident Medical Officer, and Assistant House-Surgeon. From time to time clinical classes are held by members of the staff.

Seamen's Hospital Society.—Dreadnought Hospital, Greenwich, 250 beds. Branch Hospital, Royal Victoria and Albert Docks, 50 beds. Dispensary in the East India Dock Road, and at Gravesend. Reference to the opportunities which these institutions afford for general clinical study and for obtaining special instruction in the diseases of tropical climates will be found at pages 626 and 628 respectively.

West London Hospital.—This hospital possesses some 160 beds, and, besides having a large out-patient

department, the work of which is subdivided among the different special branches of medicine and surgery, it treats annually between two and three thousand in-patients. The excellent opportunity it affords for clinical study will be found fully described at page 626 in the article on post-graduate work.

Prince of Wales's General Hospital, Tottenham, N.—Full information as to the attractions of this hospital as a place for clinical study, and as to the manner in which its valuable resources are utilized, will be found at page 627 in the article on post-graduate work. The district in which the hospital is situated has been growing rapidly of late years, and attendance in its various departments annually increases.

CHILDREN'S HOSPITALS.

The Hospital for Sick Children, Great Ormond Street, W.C. (Medical School recognized by the University of London for the Study of Children's Diseases), contains 222 beds, divided into 87 medical, 97 surgical, and 38 for special and infectious cases, besides 38 beds at the Convalescent Branch, Highgate. The hospital having been recognized by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need, and is open to students who have completed four years of medical study, and also to qualified medical men. Appointments are made every three months to eight Medical Clerkships and eight Surgical Clerkships, which are open to students at the hospital. Lectures or Demonstrations, given once or twice every week during both Winter and Summer Sessions, are open, free of charge, to medical practitioners. The sessions are of ten weeks' duration, and begin in October, January, and March. Fees for hospital practice—three months, 5 guineas; perpetual ticket, 10 guineas. Certificates of attendance granted. Prospectuses and further information will be forwarded on application to the Dean at the hospital.

Paddington Green Children's Hospital, Paddington Green, London, W.—Number of beds, 46; average number of beds daily occupied, 35; average number of in-patients, 730; average number of out-patients, 18,206. Daily attendance of the Medical and Surgical Staff. There are four Clinical Assistants. There is a Convalescent Home attached to the Hospital at Fair View, Slough, with accommodation for 16 children in the winter and 24 in the summer months.

East London Hospital for Children, Shadwell.—The hospital contains 120 cots. Two House-Surgeons and two House-Physicians (holding office for six months) are appointed annually. This hospital is recognized by the Conjoint Board for England as a place of instruction for students, at which six months of their fifth year under the new regulations may be spent in clinical work. The following opportunities for the study of the diseases of childhood are offered to gentlemen who have completed four years of medical study, and to those who are already qualified. The practice of the hospital (in the out-patient department) is open to students every day (except Saturdays), at such hours as the physicians or surgeons for the day are attending. The in-patient practice is open to students holding clerkships or dresserships in the hospital, and to students not holding appointments during the attendance of the physicians and surgeons. A certain number of Clinical Clerks and Dressers are appointed every three months to each physician and surgeon. They are eligible for reappointment at the end of three months. Additional information may be obtained on applying to Mr. W. M. Wilcox, the Secretary at the Hospital.

The Queen's Hospital for Children, Hackney Road, Bethnal Green.—The hospital contains 130 beds. Patients in 1908: In-patients, 1,734 (749 under 2 years of age); out-patients, 30,746; new cases, 74,121 attendances. There are special Dental, Eye, Skin, and Roentgen-ray Departments. Particulars of facilities for attending Medical and Surgical practice can be obtained on application to the Secretary.

The Belgrave Hospital for Children.—The hospital has accommodation for 40 children and a very extensive out-patient service. A very large number of infants under 12 months old are admitted. Medical and Surgical Out-patients are seen at 9.30 on Mondays, Tuesdays, Thursdays, and Fridays. Clinical Assistants to the Out-patient Staff are appointed from time to time.

LYING-IN HOSPITALS AND HOSPITALS FOR WOMEN.

Queen Charlotte's Lying-in Hospital.—This hospital, situated in Marylebone Road, receives over 1,800 patients annually, besides having a large out-patient department. Medical students and qualified practitioners are received and have unusual opportunities of seeing Obstetric complications and Operative Midwifery, on account of the very large number of primiparous cases—upwards of three-fourths of the total admissions. Clinical laboratory instruction is given. Certificates of attendance at this hospital are recognized by all universities, colleges, and licensing bodies. There is a residential college opposite the hospital and in telephonic communication with it. *Terms.*—Those attending the practice of the hospital, in order to conduct the number of cases they are required to attend by the licensing bodies, pay a fee of £8 8s. for a course of four weeks. Those who attend only for the preliminary instruction in midwifery now required by the General Medical Council pay £5 5s. for a calendar month. Students are accommodated at the Residential College. Terms for residence and full board, 35s. per week.

Samaritan Free Hospital for Women, Marylebone Road, N.W.—The Samaritan Hospital treats diseases peculiar to women only. It has 56 beds. It receives qualified practitioners as Clinical Assistants in both in-patient and out-patient departments; fee, £3 3s. per quarter. Further particulars can be obtained from the Secretary.

Hospital for Women, Soho Square.—In connexion with the Out-patient Department there has been for some years a well-organized Clinical Department. Qualified practitioners are appointed to act as Clinical Assistants to the Gynaecologists to Out-patients. The Hospital contains 60 beds. In the Out-patient Department there were over 4,000 new cases during the past year, the total number of out-patient attendances being likewise great. The large number affords exceptional opportunities for examining and studying most of the varieties of the diseases of women. Clinical Assistants are entitled to receive notice of all operations performed within the Hospital, and every facility is afforded them by the Gynaecologists in the Out-patient Department of obtaining experience in diagnosis and treatment and the practical use of instruments. Fee for one month, 2 guineas; for each subsequent month, 2 guineas. A certificate is given at the end of a three-months' course. Further information can be obtained by writing to the Dean at the Hospital.

OPHTHALMIC HOSPITALS.

Royal London Ophthalmic Hospital (Moorfields Eye Hospital) City Road, E.C.—This hospital contains 158 beds for in-patients, which were occupied during last year by 2,331 persons; twenty beds were closed for want of funds; in the same year the out-patients were 46,744, and the attendances 120,366. Operations are performed daily from 10 a.m. to 1 p.m., and four surgeons attend on each day. Students are admitted to the practice of the hospital. *Fees.*—For six months, £3 3s.; perpetual, £5 5s. Courses of instruction in the following subjects are given each term: (1) Examination of the Eye; (2) the use of the Ophthalmoscope; (3) Errors of Refraction; (4) External Diseases of the Eye; (5) Surgical Anatomy of the Eye; (6) Motor Anomalies; (7) Pathology of the Eye; (8) Practical Pathology; (9) Bacteriology; (10) Operative Surgery; (11) Classes for *X*-ray work; (12) Clinical Lectures. A composition fee of £10 10s. will entitle students of the Hospital to a perpetual ticket, and will admit them once to all the above Lectures and Demonstrations, except the classes on Practical Pathology, Bacteriology, Operative Surgery, and *X*-ray work. Students of the Hospital are eligible for the offices of

House-Surgeon, Refraction Assistants, or Clinical and Junior Assistants. Junior Assistants are appointed every three months. Any further information desired can be obtained on application to the Secretary.

Royal Westminster Ophthalmic Hospital, King William Street, West Strand.—The hospital has been modernized throughout; it contains 40 beds and a large out-patient department. The practice is open to practitioners and students from 1 to 4 p.m. daily. Special instruction is given in the Diagnosis, Pathology, and Treatment of Eye Affections, including the Operations on the Eye, the Treatment of Errors of Refraction, and the Use of the Ophthalmoscope. *Fees.*—Six months, £3 3s.; perpetual, £5 5s. Shorter periods of instruction can be arranged. A lecture room and a well-equipped pathological laboratory have been added recently. For further particulars apply to the Secretary at the Hospital.

Royal Eye Hospital, Southwark.—This hospital contains 40 beds and 2 cots. Out-patients number over 28,000 yearly. Operations are performed and patients seen daily at 9 a.m. and 2 p.m. Qualified practitioners and students are admitted to the practice of the hospital. Courses of instruction in Ophthalmology are given during the Summer and Winter Sessions. Fee for each course, £2 2s.; including three months' hospital practice, £3 3s. Qualified students of the hospital are eligible for the offices of Registrar and House-Surgeon; they may also be appointed Clinical Assistants for six months, and are eligible for re-election. Further particulars may be obtained from the Secretary at the Hospital.

Central London Ophthalmic Hospital, Gray's Inn Road, W.C.—This hospital has 26 beds and possesses facilities for clinical teaching daily. Last year there were 408 In-patients and 12,104 Out-patients (entailing 28,002 attendances). Classes of Instruction in the various branches of Ophthalmology are held during the Winter Session commencing in October. The Out-patient work begins at 1 o'clock, and operations are performed daily between 1 and 4 o'clock. *Fees.*—A composition fee of £5 5s. will entitle students to a perpetual ticket and £3 3s. to three months' hospital practice, and either fee will admit students to the Ophthalmoscope and Refraction classes.

FEVER AND SMALL-POX HOSPITALS.

Students are admitted to study at the Fever and Small-pox Hospitals of the Metropolitan Asylums Board after they have completed the third year of medical education, provided they have held the offices of clinical clerk and dresser, and have obtained the sanction of the authorities of the medical school to which they belong. The minimum duration of the course of study at the fever hospitals is two months, and the ordinary course of study at the small-pox hospitals consists of twelve demonstrations. At the fever hospitals the student may attend three days, and must attend two days, a week (a register of students and the number of attendances of each individual being duly kept at the hospitals to which they are told off); at the small-pox hospitals the dates and times of demonstrations are notified to students who have entered for a course. They must abide by the rules laid down as to disinfection and other matters, and must satisfy the Board of Management that they are sufficiently protected against small-pox by vaccination or otherwise. A certificate signed by the medical superintendent of the hospital at which attendance is made, and countersigned by the Clerk to the Board, is granted to a student when he has satisfactorily completed the course of study. Qualified medical men are admitted under similar terms and conditions, except that the sanction of the authorities of the medical school is not required in their case. Courses of instruction in the treatment of fevers are usually held three times a year, beginning in January, May, and October respectively; and information as to the classes is furnished to each of the recognized medical schools in the metropolis. Courses in connexion with small-pox and the administration of hospitals are also held.

Fees.—Fever hospitals, two months, £3 3s., and £1 1s. for every additional month; small-pox hospitals, £4 4s. for the course of 12 demonstrations, or (for qualified medical men only) £1 1s. per demonstration, or £2 2s. per course of three demonstrations.

MISCELLANEOUS SPECIAL HOSPITALS.

Bethlem Royal Hospital.—At this asylum, in St. George's Road, Southwark, two Resident House-Physicians are appointed twice a year for six months from recently qualified medical students. Students of general hospitals and qualified medical men are allowed to attend for clinical instruction for three months on payment of a fee. Post-graduate courses are given from time to time.

Hospital for Consumption and Diseases of the Chest, Bromptor.—The hospital has been recognized by the Conjoint Board for England as a place where six months of the fifth year may be spent in clinical work. There are 318 beds in the two buildings constituting the hospital, and a special throat department, as well as an open-air sanatorium at Frimley. Pupils are admitted to the in-patient and out-patient practice of the hospital and to the laboratories. Courses of lectures and demonstrations will be given during the year. Clinical Assistants are appointed to the Assistant Physicians in the out-patient department, and Clinical Clerks are appointed to the Physicians in the wards. These appointments are tenable from three to six months. The fee for the practice of the hospital is £1 1s. for each month, or £2 2s. for each period of three months, or a perpetual fee of £5 5s. The charge for one month's study in the Clinical Laboratory is 5 guineas.

City of London Hospital for Diseases of the Chest, Victoria Park.—There are 164 beds. The practice of the hospital, both as regards in-patients and out-patients, is open to students and medical practitioners. Certificates of attendance in the medical practice of this hospital are recognized by the London University, the Conjoint Board, and the Society of Apothecaries. Information as to medical instruction can be obtained on application to the Secretary to the Medical Committee at the Hospital.

National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury.—This hospital, with the Finchley branch, contains 200 beds and cots. The out-patient practice and lectures are free to students and practitioners. Ladies are admitted to the lectures. Lectures and demonstrations are given on Tuesdays and Fridays, at 3.30, in three courses—spring, summer, and winter—and the physicians for out-patients attend every Monday, Tuesday, Wednesday, and Friday at 2. Surgical operations are performed on Tuesdays and Fridays at 9. The hospital is a school of the University of London, and has been recognized by the Conjoint Board for England as one of the places where part of the fifth year of study may be spent. The Physicians for in-patients attend at 2.30 on Monday, Tuesday, Wednesday, and Friday. Clinical Clerks are appointed for three months. All communications regarding clinical clerkships, lectures, and hospital practice should be addressed to the Secretary at the Hospital.

Metropolitan Ear, Nose, and Throat Hospital.—The hospital (founded 1838) is situated in Grafton Street, Tottenham Court Road. The out-patient department is open daily at 2.30 p.m. to practitioners and students for acquiring clinical instruction and technical knowledge. Operations are performed on in-patients on Tuesdays, Wednesdays, Thursdays, and Fridays, at 9.30 a.m. Fee for one month's attendance at the hospital £1 1s., and for three months £2 2s. During the forthcoming session demonstrations will be given by members of the staff on the pathology and treatment of diseases of the ear and respiratory passages. Short practical classes will also be held in clinical pathology and surgical anatomy. Weekly clinical lectures are given by the staff on the special diseases treated at the hospital; the date, time, and subject of these lectures are previously announced in this JOURNAL. The lectures are free to all medical practitioners and students.

Royal Ear Hospital, Dean Street, Soho, W.—Courses in Diseases of the Ear and Nose are given by members of the staff throughout the teaching year. The teaching is of a practical character, and Clinical Assistants are appointed. The new building is now open, and ten clinics are held every week. The operation days are Tuesdays and Fridays. For full particulars address the Honorary Secretary of the Medical Board, Royal Ear Hospital, Dean Street, Soho. Students are charged 1 guinea for one month's attendance or 2 guineas for three months.

Hospital for Diseases of the Throat, Golden Square, London, W.—The hospital contains 48 beds for in-patients. There is an annual out-patient attendance of nearly 50,000. Operations are performed every morning (except on Mondays). Practitioners and medical students are admitted to the practice of the hospital at a fee of 5 guineas for three months, 7 guineas for six months, or 10 guineas for perpetual studentship. The courses may commence at any date. Special terms are granted to medical men in actual practice who can only attend the hospital once or twice weekly. Clinical instruction is given daily in the Out-patient Department from 2.30 to 5 p.m., on Tuesdays and Fridays from 6.30 to 9 p.m., and on Mondays at 9.30 a.m. Systematic courses of lectures, with Clinical and Pathological Demonstrations, are given in the Winter Session, and are free to students of the hospital. From amongst the students are selected Junior Clinical Assistants, whose duty it is to assist the member of the staff to whom they are appointed.

Central London Throat and Ear Hospital, Gray's Inn Road.—The hospital contains accommodation for 24 in-patients, and, in addition to new operating theatres, has a very extensive out-patient department (50,000 attendances yearly), which is open daily to all medical practitioners and students for the purpose of Clinical Demonstration and Instruction. Fee, for three months' attendance, 5 guineas; for six months, 8 guineas. Courses of practical demonstrations on the special diseases treated at this hospital are held during both the winter and summer months by members of the staff. The dates of these demonstrations are announced in the JOURNAL prior to their commencement. They are open to qualified practitioners and advanced students of medicine on payment of 3 guineas for each course of lectures, with attendance at the hospital clinic during the period of six weeks. Operative Surgery classes are held at intervals. Operations on in-patients and on out-patients are performed on Tuesdays, Wednesdays, Thursdays, and Fridays at 2 p.m. In the newly-equipped laboratory considerable attention is given to scientific work, particularly with regard to the pathology and bacteriology of the diseases of the ear and upper respiratory passages. Full particulars will be supplied on application to the Dean at the Hospital.

St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, Covent Garden.—Qualified medical men and students are admitted free to the practice of this hospital, which contains 32 beds and has a large out-patient attendance (39,169 for 1908). New cases, 3,921. Operations are performed and consultations held on Wednesdays and Fridays at 2. Clinical instruction is given regularly by members of the staff. In-patients admitted in 1908, 509.

The Hospital for Diseases of the Skin, 52, Stamford Street, Blackfriars, S.E.—This hospital was founded in 1841 as a special school for the study of diseases of the skin, and for improvements in their treatment. Its practice is free to practitioners and students. It is open daily for out-patients at 2 p.m. Last year 6,448 cases were seen, and 14,184 attendances made. Practical courses of cutaneous histopathology and on the diagnosis and treatment of diseases of the skin and syphilis are held at frequent intervals. There are fully-equipped pathological and light departments. Clinical assistants are appointed from time to time.

St. John's Hospital for Diseases of the Skin.—The Out-patient Practice (at 49, Leicester Square, W.C.) is open free to the medical profession every week-day from 2 to 4 p.m., on presentation of their cards to the Medical Officer in attendance. The X-ray Department is in operation every day except Saturday from 2 to 4. Chesterfield Lectures are given free, October to May, on Thursdays, at 6 o'clock. In connexion with these Lectures a practical course is given in the Laboratory, comprising Microscopic Examinations of Sections, Hair Examination, Staining, etc., during the summer. The Chesterfield Silver Medal is competed for annually in the month of June. The In-patient Department, with 40 beds, is at 262, Uxbridge Road, W. Further particulars may be obtained from the Secretary-Superintendent, 49, Leicester Square, W.C.

THE PROVINCES.

IT is the practice at a great many of the larger county and other hospitals in the provinces to offer facilities for instruction in their wards to medical students, who are usually treated as the pupils either of the resident officers or of the honorary medical staff. In some cases they pay fees, in others they receive an honorarium for the service they render as dressers, and in like capacities. A list of these and some allied institutions follows.

BATH.

Royal United Hospital.—The hospital contains 130 beds, and is recognized by the Royal Colleges of Physicians and Surgeons as a medical school. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: Twelve months, £10 10s.; six months, £5 5s. (Temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payment of £1 1s. for each month.) Instruction in Practical Pharmacy for three months, £3 3s. Further particulars can be obtained on application to the Secretary.

BRADFORD.

Bradford Royal Infirmary.—The hospital contains 220 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of a Resident Surgical Officer, two House-Surgeons, and a Resident House-Physician. One year's attendance is recognized by the Examining Boards. *Fee:* Perpetual, £10 10s.

BRIGHTON.

Sussex County Hospital.—The hospital contains 195 beds (135 surgical, 60 medical), with separate ward for children and separate blocks for diseases of women and for cases requiring isolation; and the Out-patient Department is attended by 1,100 to 1,300 patients weekly. It is recognized by the College of Surgeons and by the Conjoint Board as a hospital where part of a course of Dispensing may be taken. Pupils are admitted to the clinical teaching. Further information may be obtained from the House-Surgeon.

CANTERBURY.

Kent and Canterbury Hospital.—The hospital contains 104 beds. Over 700 in-patients and 1,200 out-patients attend every year. Lectures are delivered weekly during term time on Practical Medicine and Surgery to the students of St. Augustine's Missionary College.

DERBY.

Derbyshire Royal Infirmary.—The Infirmary has beds for 229 patients. Pupils are admitted to the in and out practice at a fee of £10 10s. a year.

DEVONPORT.

Royal Albert Hospital and Eye Infirmary.—The hospital contains 52 beds, and 10 additional for emergency cases only. A course of Practical Pharmacy is given by the Dispenser on payment of a fee of £5 5s.; pupils of the medical staff can attend this course on payment of £2 2s. The number of in-patients treated during the twelve months ended September 30th, 1908, was 721. In the Casualty Department first aid was given to 2,413 persons. The out-patients treated in the Ophthalmic Department numbered 886.

EXETER.

Royal Devon and Exeter Hospital.—The hospital contains 200 beds, including a Special Children's Ward. There are a Library, Museum, Pathological Department and *Post-mortem* Rooms. A new Operating Theatre was opened in 1906, and an Electrical Treatment Department in 1907. Attendance on the practice at this hospital qualifies for all the Examining Boards. Arrangements may be made by which students can attend Midwifery. For further particulars apply to the Secretary.

West of England Eye Infirmary.—This infirmary contains 64 beds. Arrangements can be made for students at the Exeter Hospital to attend the practice of the Eye Infirmary.

GLOUCESTER.

Gloucestershire Royal Infirmary and Eye Institution.—The hospital contains 140 beds. Resident and non-resident pupils are admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half-year and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half-year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the House-Surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year spent at this hospital, after passing a preliminary examination, is recognized by the Royal College of Surgeons.

LEICESTER INFIRMARY.

In this infirmary there are 240 beds, of which some 230 are in constant use. Of these beds, 42 are in a special annexe known as the Children's Hospital. There are six resident medical officers, and in addition two resident clinical assistants are appointed every six months, an honorarium of £10 10s. being given at the end of their term of office, in addition to board and apartments. The work of the hospital, especially on the surgical side, is very extensive, four operating theatres being in use. There is also a large out-patient department; it is fitted with rooms for the accommodation of the members of the staff in charge of the various special departments, and is one of the most complete and best equipped out-patient departments in the kingdom. A new south-east wing has recently been erected, at a cost of £20 000. It contains three wards, each 141 ft. 6 in. in length, each accommodating thirty patients. In addition there are side wards to each floor (a two-bed and a one-bed ward) for observation, and for delirious cases, and clinical laboratories. An electric lift conveys patients from top to bottom. The wing was opened by H.R.H. the Princess Louise, Duchess of Argyll. To meet the demand made upon it, the Hospital Laundry has been enlarged and improved, at a cost of £300. A new self-contained and replete Nurses' Home, containing 120 separate bedrooms, is also in course of erection, at a cost of £22,000. It will be ready for occupation and formally opened towards the end of the year. The Nurses' Home, when opened, will release a ward of 33 beds, which will be at once utilized for surgical cases, increasing the number of beds to 270.

LINCOLN.

County Hospital.—The hospital contains 125 beds and 5 isolation beds. The House-Surgeon is allowed to take two pupils, on terms arranged between the Weekly Board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The House-Surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

NORTHAMPTON.

General Hospital.—There are 166 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given in Anatomy, Materia Medica, and Pharmacy. Non-resident pupils are taken at a fee of £10 10s. annually.

NORWICH.

Norfolk and Norwich Hospital.—The hospital contains 210 beds. Students (non-resident) are admitted according to the following scale: For three months, £3 3s.; for six months, £5 5s.; as permanent students, £8 8s. The resident officers are a House-Physician, House-Surgeon, Assistant House-Surgeon, and Second Assistant House-Surgeon.

NOTTINGHAM.

General Hospital.—The hospital contains 241 beds. The Honorary Staff introduce pupils to witness the practice of the hospital on payment of £10 10s. annually in advance. The pupils receive instruction from the Resident Medical Officers.

PORTSMOUTH.

Royal Portsmouth Hospital.—142 beds. One year's attendance is recognized by the Examining Boards. For particulars as to fees, application should be made to the Secretary.

SOUTHAMPTON.

Royal South Hants and Southampton Hospital.—The number of beds is 130. The in-patients number about 1,900 a year, the out-patients about 9,000. Large additions to buildings, including new isolation wards, new operating room, a new ward block and a steam laundry, new night casualty receiving room and nurses' homes for 44 nurses, have been completed, and new kitchens are in course of building. The hospital has been registered by the Royal Colleges of Physicians and Surgeons as a "Medical School."

STAFFORD.

Staffordshire General Infirmary.—There are 77 beds. The pupils of medical practitioners, resident in the county of Stafford, are allowed to attend the medical and surgical practice of the infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on payment of £10 10s. with each pupil.

North Staffordshire Infirmary and Eye Hospital.—The infirmary has accommodation for 216 patients, including children's wards, eye department, and special ovarian wards, electrical and *x*-ray departments. The attendance of pupils at this infirmary is recognized by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary and House Governor of the Infirmary, Hartshill, Stoke-on-Trent.

WINCHESTER.

Royal Hants County Hospital.—The hospital contains 108 beds. The Physicians and Surgeons are allowed to introduce a certain number of pupils; the Resident Medical Officers may also receive a pupil, for whose maintenance a certain sum, to be fixed by the Committee, is payable annually in advance. Pupils of medical men not on the staff of the hospital may, with the consent of the Committee, become out-pupils and see the practice of the hospital, under the direction of the Resident Medical Officer, on the payment of £10 10s. for one year, or £21 for unlimited attendance.

WOLVERHAMPTON.

Wolverhampton and Staffordshire General Hospital.—There are 200 beds. It is recognized by the University of London, the Royal Colleges of Physicians and Surgeons, and other Examining Boards. The in-patients number 2,481, and out-patients 19,547. The operating theatre, pathological laboratory, and *post-mortem* room are new and well equipped. Special departments for children, gynaecology, ear, throat, and nose diseases, electro-therapeutic and *x*-ray departments. There is an excellent library. The resident officers are a Resident Medical Officer, Resident Surgical Officer, two House-Surgeons. Pupils are allowed to witness the whole of the practice of the hospital and to be present at operations, and have every opportunity of acquiring a practical knowledge of their profession. Fees: £3 3s. a quarter, £10 10s. the first

year, and £5 5s. subsequent years. A course of practical pharmacy is given by the dispenser. Fees: £3 3s. for three months. Application should be made to the Secretary of the Medical Committee Staff.

YORK.

York County Hospital.—The hospital contains 150 beds, including children's ward, eye department and *x*-ray apparatus. Non-resident pupils may be introduced by the Honorary Medical and Surgical Officers, or by the Resident Staff (which consists of a House-Physician and a House-Surgeon) on terms to be arranged with the Honorary Staff. Pupils visit the wards with the members of the Honorary Staff (the House-Physician and House-Surgeon are present at the operations and necropsies), and are instructed in the elements of minor surgery in the casualty department. The in-patients number about 1,400 annually, and the out-patients 11,000, who make 44,000 attendances. Further particulars may be obtained from the Senior Resident Officer.

MEDICAL EDUCATION OF WOMEN.

The chief feature of interest during the past year has been the consent of the Royal Colleges of England to admit women to their examinations. Their choice of qualification is now very wide, and includes: All the Universities of Great Britain, with the exception of Oxford and Cambridge; the Royal College of Physicians, London, and the Royal College of Surgeons, England; the Society of Apothecaries of London; the Conjoint Colleges of Scotland and of Ireland.

The regulations of each differ considerably, so that it is necessary for a student to decide, before beginning her course, which degree or diploma she will aim at obtaining. The ordinary regulations of the General Medical Council (see page 586) must be observed, and women can pursue their education either at certain schools only open to women, or at certain ordinary schools where they do their work more or less in common with men students.

The schools which admit women only are the London (Royal Free Hospital) School of Medicine for Women, which is one of the constituent schools of the Medical Faculty of the University of London; the Edinburgh School of Medicine for Women (see page 613), and Queen Margaret College, Glasgow (see page 615). Women are also admitted to the Schools of Medicine conducted in connexion with the Universities of Dublin, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, and Aberdeen; the Catholic University, Dublin, St. Mungo's College, Glasgow, Bristol University College, the Schools of Surgery of the Royal College of Surgeons in Ireland, and of the Queen's Colleges of Belfast, Cork, and Galway. Two years of the medical curriculum can be taken by women students at the United College, St. Andrews, and the remaining three at University College, Dundee, where the whole five years can be passed if desired. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Year by year the openings for women who adopt a medical career increase, and the new regulations of the Board of Education making the medical inspection of school children compulsory has opened up a wide field of work in that direction. Women hold many appointments as Resident Medical Officers in hospitals for women and children all over the country, and in some general hospitals, and in a large number of sanatoriums, infirmaries, fever hospitals, and asylums women are eligible for appointment. Many medical women are also engaged in public health work.

As regards the London School of Medicine for Women, particulars will be found at page 607 in the article on London Medical Schools.

DEGREES FOR PRACTITIONERS.

At one time it was almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in medicine. The question whether a medical man not known to be a pure surgeon should be addressed as "Doctor" or "Mr." is one which the general public has settled, as it settles most things, for itself and according to its own view of the proprieties; but, nevertheless, those who have not taken a degree often regret their inability to sign themselves "M.D.," and that they have no legal title to the term "Doctor." Hence, some universities have issued special regulations under which the degree of M.D. is granted to practitioners of a certain standing under special conditions. The regulations of these universities are stated briefly in the following paragraphs. The University of Brussels also grants the degree of M.D. to practitioners after examination, without restriction as to residence or curriculum; but this degree is not registrable on the *Medical Register* if obtained subsequently to June, 1886.

UNIVERSITY OF LONDON.

Registered medical practitioners of not less than three years' standing, and not less than 25 years of age, who pass, or who have already passed, the Matriculation Examination, or who are entitled to claim registration as students of the university without examination in virtue of any of the conditions prescribed by the regulations, and who pass, or who have already passed, the Preliminary Scientific Examination, Parts I and II, may proceed to the Intermediate and M.B., B.S. Examinations without the intervals prescribed by the regulations on producing certificates that they have gone through the courses of prescribed study at any time previously; subject to the proviso that no degree of the university can under any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the university of the candidate's right to exemption therefrom.

UNIVERSITY OF DURHAM.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. Should he not have passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in Arts, he is examined in Classics and Mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar, *De Bello Gallico* (first three books), Virgil, *Æneid* (first three books), or Celsus (first three books).

Professional Examination.—The candidate must pass an examination in the following subjects: i. Principles and Practice of Medicine, including Psychological Medicine, Hygiene, and Therapeutics; ii. Principles and Practice of Surgery; iii. Midwifery and Diseases of Women and Children; iv. Pathology, Medical and Surgical; v. Anatomy, Medical and Surgical; vi. Medical Jurisprudence and Toxicology. The examination is conducted by means of printed papers, clinically and viva voce, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

Fees.—The inclusive fee is 50 guineas; if a candidate fail to pass, 20 guineas are retained, but if he present himself again, 40 guineas only are required.

Dates, etc.—The examinations are held twice a year, towards the end of March and of July. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

UNIVERSITY OF BRUSSELS.

British practitioners of medicine holding medical and surgical qualifications are, in common with legally-qualified practitioners in other countries, admissible without further curriculum to the examination for the degree of M.D. of the University of Brussels.

Examination.—The examination is divided into three parts. The "First Doctorate" includes Medicine, Pathology (with microscopical examination[1]), Therapeutics, Mental Diseases, and Diseases of Women and Children. The "Second Doctorate" comprises Surgery, Midwifery, Hygiene, and Medical Jurisprudence. The "Third Doctorate" consists of clinical examination in Medicine and Surgery, examination in Midwifery with the *mannequin*, Ophthalmology, Operative Surgery (amputation, ligature of arteries in the dead subject), and Regional Anatomy with Dissections. Special importance is attached to practical knowledge. The examination is conducted in French through an official interpreter, but most of the examiners, it is stated, speak English fluently. The examination is viva voce, but a written examination may be obtained on paying a special fee of £1 for each part.

Dates.—The examinations take place on the first Tuesday in November, December, March, May, and June. It is desirable that the candidate should arrive in Brussels on the previous Saturday before 2 p.m. at latest. The whole examination (First, Second, and Third Doctorate) may be got through in about a week, and seldom exceeds eight to ten days.

Fees.—Candidates are required to leave their diplomas with the Registrar of the university prior to the examination. The fees are: For inscription of name, £8 12s.; for examination, £13; for legalization of diploma, 8s.; total, £22. If a candidate fail in the first part of the examination, the fees for the second and third are returned to him; if in the second, the fees for the third. A rejected candidate may present himself again in three months on paying the examination fees, provided his second appearance be in the same academic year (October 1st to June 30th); otherwise the matriculation fee must be renewed—that is, the fee for inscription of name.

Further particulars may be obtained on application to the Secretary of the University, Brussels. There is an Association of British Graduates of the Brussels University, and the Honorary Secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square, W., will be pleased to give information or receive applications for membership.

[1] More microscopic work is now required than formerly.

POST-GRADUATION STUDY.

THE value, and in some circumstances even the necessity, of post-graduation study is now so generally recognized that there is no occasion to dilate upon it here. It will suffice to draw attention to some of the arrangements in existence for such work, adding that in most medical centres it is now exceptional for one or more courses for qualified men not to be held once or more often during the year; that most of the institutions mentioned in the section on Clinical Hospitals make special arrangements for the benefit of qualified men desirous of studying work of the kind undertaken within their wards; and that valuable adjuncts to post-graduation study exist in the shape of the Library of the British Medical Association—one specially rich in recent works—of the libraries of the several universities, and in those of the Royal College of Surgeons of England and of the Royal Colleges of Physicians in London and in Edinburgh.

LONDON POST-GRADUATE ASSOCIATION.

The wealth of London in material for clinical study is of course enormous, and the object with which the London Post-Graduate Association was started, now many years ago, was to throw open to the general body of medical practitioners all that is most useful and attractive in it.

To fulfil this purpose it entered into arrangements with the principal medical schools of London and with the administrators of the leading special hospitals of such a nature that it is now able to issue a ticket which admits the holder to all the clinical instruction provided in these institutions. Armed with this ticket, a medical man can enter freely any of the institutions concerned, becoming to all intents and purposes one of their students, and having as much right to visit their wards and attend in their out-patient departments as if he were once more in his salad days and back within the familiar walls of his old school. He can thus get as much clinical instruction in the wards and in the special and general out-patient departments as he pleases, and the operating theatres and the *post-mortem* rooms are equally open to him.

The fact that one ticket admits him to so many hospitals is a decided advantage, for if interested in one particular branch of work, he can follow that up throughout the day in different institutions, instead of having to limit his study of it to one or two days a week. A further useful point in the system is that it affords practitioners an opportunity of becoming acquainted with the different methods of a large number of specialists, and of noting the different ways in which men all equally eminent in their particular line deal with cases much of the same type: there could be no better way, indeed, of getting abreast with the results of modern research and into touch with current thought in medicine and surgery than by attending various hospitals with the help of a ticket from this Association.

The institutions thrown open are, among general hospitals, Charing Cross, Guy's, King's College Hospital, St. Mary's, St. Thomas's, and University College and Westminster. Among special hospitals, the Brompton Hospital for Diseases of the Chest, the Hospital for Sick Children (Great Ormond Street), the National Hospital for the Paralysed and Epileptic, the Royal London Ophthalmic Hospital, the London School of Tropical Medicine, and the Medical Graduates' College and Polyclinic. The fee for a ticket lasting three months is £10 10s., while for £15 15s. one for six months is issued.

Further particulars about this Association can be obtained from the Secretary, London Post-Graduate Association, 20, Hanover Square, London, W.; if application is made in person, the visit should be paid between the hours of 10.30 a.m. and 1 p.m.

LONDON MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

This institution, familiarly known as the Polyclinic, opened its doors some ten years ago, its work being executed on quite original lines. Their soundness became very early apparent, and large numbers of practitioners now attend its classes and avail themselves of the various forms of instruction which the College offers.

The work is carried on in a building in central London, which is well arranged and readily accessible from all quarters. It stands at the corner of Chenies and Ridgmount Streets, its postal address being 22, Chenies Street, W.C. This street, it will be remembered, runs at right angles to Tottenham Court Road, crossing Gower Street.

The building is everywhere fitted with electric light, and there is a lift to all floors. The ground floor is given up to the class-rooms, which are furnished with blackboards and various appliances for clinical instruction. In one of them is a large and powerful Roentgen-ray apparatus, which is frequently

requisitioned in the diagnosis of fractures and deformities. When occasion requires, the divided partitions of the rooms can be removed, and a class-room of fine proportions thus provided.

On the first floor is a library, a reading room, and the consultation theatre, and on the upper floor is found an excellent laboratory for bacteriology and clinical pathology, each table being provided with its own set of reagents and test tubes and its Bunsen burner. Besides these rooms there is in the basement an important annexe in the shape of a dark room. Against the walls of this are placed twelve seats, each separated from the adjoining one by a partition, and each having its own electric light that can be used in varying strength, naked or shaded. In this room twelve patients can be examined simultaneously, but separately from each other, with the ophthalmoscope, laryngoscope, or other instrument of precision, and their indications demonstrated. An adjoining room is fitted with appliances for instruction in ophthalmic cases, such as type tests, working models of eyes, stereoscopes, lenses, etc.

Another important part of the College is the Museum, situated at the side of the building and devoted to clinical illustrations. Portraits and models of diseased conditions find their place there, and the newest medical and surgical instruments and appliances of all kinds, which can be examined at any time, form a marked feature of this department of the College. The museum has been enriched by a unique collection of valuable pictures of disease, especially skin disease, most of which are painted from life, together with many other specimens of rare clinical value, which have been placed at the service of the Polyclinic by Sir Jonathan Hutchinson, F.R.S., and the Museum has been appropriately named after him the Hutchinson Museum.

Perhaps, however, the most characteristic feature of the school is the system of consultations. These take place every afternoon at 4 o'clock, and patients attend them either at the invitation of the management, or may be brought by practitioners who are members of the school. Besides the excellent opportunities for teaching which these consultations afford, they provide occasion for discussing cases and studying exceptional forms of disease by the most recent methods of diagnosis. Notes are taken of the cases, and are supplemented on occasion by photographs or other portraits of the rarer morbid conditions.

On Mondays, Tuesdays, Wednesdays, and Thursdays of each session, at 5 15 p.m., formal lectures are delivered on medicine, surgery, and their branches.

Of practical classes there are four sessions in the year, each lasting six weeks, while a vacation course takes place every September. An annual payment of 1 guinea admits to the consultations and lectures, and secures the use of the Reading-room, Museum, and Library; subscribers also receive the *Polyclinic Journal*, which is published every month.

Short courses of lecture demonstrations in such special subjects as Haematology, Cyto-diagnosis, Opsonins, and Bacterial Vaccines, Ophthalmoscopy, and Retinoscopy, etc., have recently been instituted, and are given at short intervals during the year.

Provision is also made for those who are reading for the higher qualifications, special tutorial classes being conducted. Full particulars of all the work done may be obtained on application to the Medical Superintendent, 22, Chenies Street, W.C.

WEST LONDON POST-GRADUATE COLLEGE.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The College started in 1895, and the present building was opened in 1901; it is provided with lecture, reading, and writing rooms, and accommodation of all sorts for the convenience of post-graduate students. In the last five years the yearly entry has averaged over 200. The institution, which is close to Hammersmith Broadway, is very easily reached from all parts of London.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2.15 p.m. This department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments dealing with diseases of the eye, ear, throat, nose, skin, orthopaedics, *x*-ray work, electro-therapeutics, gynaecology, and medical diseases of children. Post-graduates are appointed to act as clinical assistants for three or six months. There is no charge to members of the College. Practical classes are formed as required. The size of the latter is limited so as to ensure that each student shall have full opportunities of gaining experience in methods of examination and treatment. They are held in medicine, general practical surgery, intestinal surgery, surface anatomy, and blood and urine analysis, cystoscopy, venereal disease, tropical diseases, retinoscopy, ophthalmic operative surgery, and finally in operative surgery.

Operations take place at 2.30 p.m. daily, the surgeons often availing themselves of the assistance of the post-graduates, and in any case making arrangements so that they can readily see what is going on. The Anaesthetists give instruction in the administration of different anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session.

The pathological laboratory is in charge of a pathologist who attends during the whole day. In bacteriology and microscopy special instruction is given on three mornings a week, the students working at other times under the general guidance of the pathologist.

Several demonstrations on Practical Medicine are given each week by the Assistant Physicians and by the Medical and Surgical Registrars. Lectures of a practical kind are given daily (except Saturday and Sunday) at 5 p.m.

The arrangements of the College may be said to be equally suited to those who are preparing themselves for examination for the higher degrees and diplomas, to the needs of officers in the different Services on study leave, who attend in large numbers, and to those medical men in ordinary practice who desire to get themselves up to date in general medicine and surgery, or to make a special study of some particular branch of work. The College, it may be noted, is in a residential quarter, and there are plenty of good lodgings in its neighbourhood.

The fees are as follows: Hospital practice, including all ordinary demonstrations and lectures, £1 1s. for one week, £3 3s. for one month, £4 4s. for six weeks, £6 6s. for three months, £10 10s. for six months, £15 15s. for one year, and £30 for a life ticket. Every year in August there is a special vacation class lasting four weeks, for which the fee is £2 2s. Three months' instruction in the administration of anaesthetics costs £2 2s. Subscriptions for any course can be taken out from any date. The Certificates of the School are recognized by the Admiralty, the War Office, and the University of London (for higher degrees).

All communications concerning the school should be addressed to the Dean, Post-Graduate College, West London Hospital, Hammersmith, W., from whom also a full prospectus can be obtained by any person holding a medical qualification.

THE LONDON SCHOOL OF CLINICAL MEDICINE.

The School Buildings, Lecture Rooms, Pathological Laboratories (two), Museum, Operative Surgery Class-rooms, etc., are in the Dreadnought Hospital at Greenwich, and the whole hospital of 250 beds, with its Out-patient Departments, is open to students from 10 a.m. till 5 p.m.

Medical, Surgical, and Special Department In-patient Clinics are held every afternoon except Saturday by the senior members of the staff, and operations are performed daily, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the Assistant Physicians and Assistant Surgeons daily in the forenoon.

Practical Classes are arranged each session in the

following subjects: The Practice of Medicine, the Practice of Surgery, Diseases of the Eye, Diseases of the Throat, Nose, and Ear, Diseases of the Skin, Diseases of the Nervous System, Operative Surgery, Clinical Pathology, Microscopy, and Bacteriology, Mental Diseases, Radiography, Dental Surgery, the Administration of Anaesthetics, Hygiene and Public Health, Gynaecology, Surgical Diseases of Women, Surgical Diseases of Children, Medical Diseases of Women, Medical Diseases of Children, Applied Anatomy, Midwifery.

Three sessions, of three months' duration, are held in each year, beginning on January 15th, May 1st, and October 1st.

Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals.

For the purpose of extension of the amount and variety of clinical material and teaching, arrangements have been entered into with the Royal Waterloo Hospital for the reception of Graduates who desire instruction in diseases of women and children; with the Bethlem Hospital for those who require tuition in mental disease; and with the General Lying-in Hospital (York Road) for the prosecution of study in midwifery.

These Hospitals are situated on the south side of the river, are directly linked to the Dreadnought by both railway and tramway, and are affiliated to the London School of Clinical Medicine.

The Certificates of the School are recognized by the Admiralty, the War Office, and the University of London (for the higher degrees).

The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology on the cadaver. The hospital also offers a wide field for the study of venereal diseases, and there is a special department with open-air wards for the treatment of tuberculosis.

Appointments.—There are two House-Physicians, two House-Surgeons, and a Pathologist at the Dreadnought Hospital, Greenwich, and a Senior House-Surgeon and House-Surgeon at the Branch Hospital. The pay of these offices varies from £50 to £100.

The Prospectuses, Syllabuses, and other particulars can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, S.E., or from the Dean at the School.

North-East London Post-Graduate College.

The head quarters of this post-graduate school are situated at the Prince of Wales's General Hospital, which is in the midst of what is now a densely-populated neighbourhood containing about a quarter of a million inhabitants. It contains 125 beds, and its precise situation is South Tottenham, N., where it is within a few minutes' walk of South Tottenham Station on the Midland Railway, Seven Sisters Station on the Great Eastern Railway, and Tottenham Hale on the Great Eastern main line. It is also readily accessible from Finsbury Park and Hackney by electric tram, and by corresponding means may be reached easily from Dalston, Edmonton, Hackney, and other parts of North London.

The College is recognized by the Admiralty and the India Office for the purposes of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degree; the course of practical teaching of bacteriology is approved by the University of Cambridge for its D.P.H. diploma, and there are ample arrangements for the convenience of men who are thus working, or who are general practitioners desirous of getting themselves into touch with modern methods. There is provided for their use a reading and writing room, and they can obtain afternoon tea and receive telephonic messages; similarly there is a reference and lending library for their benefit, and a museum and pathological laboratory in which they can work. The hospital as a whole certainly affords excellent facilities to qualified medical practitioners who wish to take part for a time in the work of an active general hospital, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, and the administration of anaesthetics. Throughout the sessions into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week except Saturday. Special classes are arranged in Gynaecology, the Surgical Diseases of Children, including Orthopaedic Surgery; Diseases of the Throat, Nose, and Ear; Diagnosis of Diseases of the Chest, Diagnosis of Diseases of the Nervous System, Ophthalmoscopy and Refraction. Analysis of Gastric Contents, Clinical Examination of the Blood, Diseases of the Skin, Abdominal Surgery, Surgical Anatomy, Surgery of the Urogenital Tract, Radiography, Anaesthetics, Bacteriology, and Medical Electricity. In all these classes the numbers are carefully limited, so as to give every member full opportunity for work.

As for fees, these are as follows: One guinea for a three months' course of study in any one department, which may be begun at any time; a fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may, for the present, be obtained on payment of a fee of 5 guineas. Medical practitioners who have attended a three months' course in any department are eligible for appointment as Clinical Assistants in those departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance.

A vacation course is held annually, beginning this year on September 6th, the fee for which is 2 guineas.

The opening lecture of the Winter Session will be given by Mr. J. Bland-Sutton on October 7th, at 4 p.m.

Additional information about the College and its work can be obtained on application to the Dean of the Post-Graduate College, 142, Harley Street, London, W., who will also supply a prospectus, a syllabus of the lectures and demonstrations to be given during the next formal session, and a syllabus of the ensuing vacation course.

University College, London.

Courses in practical Pathological Chemistry intended for qualified practitioners and advanced students are held by the Professor of this college in this subject; each includes the analysis of the saliva, stomach contents, faeces, urine, calculi, and pathological fluids. The laboratory is open from 9 a.m. to 5 p.m., so that the practical work can be done at the hours most convenient to those attending the class. The next class commences in October. The fee, including apparatus and material, is £5 5s. A department is also fitted up for research work, and is open to all researchers at the fee of £1 1s. a month.

Cambridge.

Arrangements are in force at this university by which graduates of other universities are admitted to the various colleges, and put on much the same footing as those who have taken a first degree in the university itself. The university affords them excellent opportunities of prosecuting advanced studies or research under the direction of the university teachers, and under certain conditions they are allowed eventually to proceed to degrees. Exceptionally the university admits as research students those who have not graduated elsewhere.

Edinburgh.

There are now plenty of opportunities afforded in Edinburgh for qualified men to get themselves up to date or acquire totally fresh knowledge. For the past three years a Vacation Course of a most elaborate and complete kind has been held during September under the combined auspices of the University and Royal Colleges. A similar course will be carried on

this year throughout two consecutive fortnights (the first began on August 30th), and arrangements are made by which those attending can obtain board and lodging at the University Hall at an inclusive charge of 35s. a week. Nearly all the principal teachers of the Medical Faculty and the staffs of the leading hospitals assist in the courses. These include: (*a*) A specialized Surgical Course, the attendance upon which is limited to twenty-five, which comprises six or seven hours of special surgical instruction daily, and is continued throughout the month, the fee being 10 guineas. (*b*) A General Course, which includes work on every subject in which a practitioner of any branch of medicine or surgery in search of fresh practical knowledge is likely to be interested. The fee for the general course is 3 guineas for either fortnight, or 5 guineas for the two if both be taken, with an additional fee of 1 guinea for each of several practical classes, the attendance upon which is necessarily limited. A series of classes upon methods of diagnosis are held during the month of August, and constitute a useful introduction to the regular course. Copies of the syllabus of the courses may be obtained on application to the Secretary, University New Buildings, Edinburgh; while inquiries as to these courses, or regarding post-graduate work in Edinburgh at other times of the year, should be addressed to the Honorary Secretary of the Executive Committee, 24, Walker Street, Edinburgh.

GLASGOW.

The facilities for post-graduate study in this city are great, and in order to enable practitioners to turn them to the best advantage it has become the custom to hold regular post-graduate courses at intervals. Two such courses are given annually in the month of May, and in the early autumn. The work done is all of a very practical and useful character. Application for information concerning these courses should be addressed to the Superintendent of the Royal Infirmary. The next course begins in September.

TRINITY COLLEGE, DUBLIN.

During the Autumn Session a three weeks' post-graduate course is given at the School of Physic, from September 20th to October 9th. It includes instruction in Clinical Surgery and Medicine, Ophthalmology, Diseases of the Throat, the Nose, and Ear, Diseases of the Skin, Operative Surgery, X-Rays, Anatomy, Pathology, Gynaecology, and Cystoscopy. The fee is £5 5s., and arrangements are made by means of which a limited number of the class can live in College rooms and dine in Hall at a charge of £1 per week. Application for admission to the courses should be made to the Honorary Secretary of the Post-Graduate Course.

TROPICAL MEDICINE.

SCHOOLS of tropical medicine have been established in London and Liverpool, and several examining bodies have instituted diplomas in the subject. The importance now attached to this branch of medicine has been further punctuated by the University of London making it one of the six optional subjects in which a degree of M.D. can be obtained. Finally, it should be noted that the Colonial Office now expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and that there is a tendency among commercial firms engaged in tropical enterprise to demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees follows.

DIPLOMAS AND DEGREES.

LONDON UNIVERSITY.—Candidates for an M.D. degree in Tropical Medicine must have taken the M.B., B.S. degrees not less than two years previously, unless subsequently to that event they have either conducted a piece of original work approved for the purpose by the university, or have had such special experience as may be similarly approved; in either of these two cases the interval may be diminished to one year. All candidates alike must either have attended for not less than one academic year a complete theoretical and practical course on Tropical Medicine at a school approved for that purpose or have been engaged for not less than two years subsequently to taking their degrees in hospital, official, or private practice, in regions where tropical diseases prevail. The examination eventually to be passed consists of a paper on General Medicine, one on Tropical Medicine, one on Tropical Pathology and Hygiene, the writing of an essay, and clinical and laboratory tests. The Schools of Tropical Medicine approved by the university are the London School of Medicine and the Liverpool Tropical School. It should be noted that exemption from the written part of the examination can be obtained on conditions which will be found set forth on page 591.

UNIVERSITY OF EDINBURGH.—This university grants a diploma in Tropical Medicine and Hygiene after an examination which is usually held twice a year. It is, however, only open to those who are graduates of the university in Medicine and Surgery. In addition to this the candidates must show that they have attended approved courses of instruction in Practical Bacteriology (including the pathogenic micro-organisms of tropical diseases), in Diseases of Tropical Climates (including the zoological characters and life-history of disease-carrying insects), in Tropical Hygiene, and in clinical study of Tropical Diseases. They must possess, too, certificates of efficiency in the conduct of *post-mortem* examinations. The examination is in the four subjects indicated, the fee for each part being £1 1s.

UNIVERSITY OF LIVERPOOL.—A diploma in Tropical Medicine is given by this university to students who have been through the courses provided by the Liverpool School of Tropical Medicine, and have passed the examination held twice yearly by the university examiners. The examination lasts three days, and consists (1) of three papers dealing with Tropical Medicine, Tropical Pathology, and Tropical Sanitation and Entomology respectively; (2) of a Clinical Examination; and (3) of an Oral Examination. The results are declared as soon as possible afterwards. The fee is 5 guineas. Further information about this diploma can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF CAMBRIDGE.—This university grants a diploma in Tropical Medicine and Hygiene to any person whose name has been on the *Medical Register* for not less than a year, provided that he passes the examination of the university in this subject. Previous to admission to the examination, however, he must produce approved evidence that he has studied Pathology (including Parasitology and Bacteriology in relation to Tropical Diseases), Clinical Medicine, and Surgery at a hospital for tropical diseases, and Hygiene and methods of sanitation applicable to tropical climates.

As evidence of study and attainments a candidate may present to the Syndicate (1) any dissertation, memoir, or other record of work carried out by himself on a subject connected with Tropical Medicine or Hygiene; (2) any certificate or diploma in Public Health or Sanitary Science he may have obtained from a recognized examining body. Such evidence will be considered by the Syndicate in determining whether he is qualified for admission to the examination, and by the examiners in determining whether, if admitted, he shall be included in the list of successful candidates.

The examination, which is written, oral, and clinical, deals with the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters.

2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of Tropical climates, including Malaria; Blackwater Fever; Trypanosomiasis; Relapsing Fever; Dengue; Yellow Fever; Plague; Tetanus; Beri-beri; Dysentery and Hepatic Abscess, Cholera, Enteric Fever, Malta Fever, and Specific Diarrhoeal Affections of the Tropics;

Diseases due to Cestode and other Worms; Filariasis; Bilharzial Disease; Specific Boils, Sores and other Cutaneous Affections; Mycetoma; Ophthalmic affections of the Tropics; Affections caused by Poisonous Plants and Animals, and by Poisoned Weapons; Sunstroke.

3. The general effects on health in the Tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food supplies and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, gaols, pilgrim and coolie ships. Principles and methods of disinfection.

Examinations are held in January and August each year, and last four days.

Fees.—The fee for the examination and diploma is 9 guineas on admission or readmission. Application for further information should be made to Dr. G. S. Graham-Smith, Pathological Laboratory, Cambridge.

SCHOOLS.

LONDON SCHOOL OF TROPICAL MEDICINE.—This school is under the auspices of the Seamen's Hospital Society. Its buildings, Laboratories, Museum, Library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught Road, Great Eastern Railway), and excellent opportunities are afforded to students and others who may be desirous of studying diseases incidental to Tropical climates before entering the Services or going abroad. In the hospitals of the Society are to be found cases of Tropical disease such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively. The Laboratory, Museum, Library, are open all day, and clinical instruction is given daily in the wards of the hospitals. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students. All qualified medical practitioners and students in the final year of their studies and qualified veterinary surgeons may attend the course. The Craggs Prize of £50, and the Stanley Memorial Grant of about £55, for research work, are awarded annually. Prospectus, syllabus, and other information can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, or to the Director at the School.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—This school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Work can be commenced any month, but two formal courses of instruction are given every year, commencing on January 6th and September 15th, lasting for the term of about thirteen weeks, and followed by the examination for the Diploma of Tropical Medicine given by the University of Liverpool. Each course consists:

(1) Of a systematic series of lectures on Tropical Medicine and Sanitation delivered by the Professor of Tropical Medicine at the university; (2) of additional lectures on Special African Diseases and Special Indian Diseases, delivered at the university; (3) of systematic lectures and demonstrations on Tropical Pathology, Parasitology, and Bacteriology by the Walter Myers Lecturer, at the university; (4) of similar instruction on Medical Entomology by the Lecturer on Economic Entomology, at the university; and (5) of clinical lectures and demonstrations delivered at the Royal Southern Hospital by the Physicians in charge of the Tropical Ward, the Professor, and the Walter Myers Lecturer.

The instruction given occupies six hours a day for five days a week during the term. Teaching under headings (3) and (4) above is delivered in the laboratory of the school at the university, which contains accommodation for thirty students with all necessary appurtenances, including a well-equipped Museum, a Class Library, and access to the general Departmental Library. Teaching under heading (5) is given in the Tropical Ward and the attached Clinical Laboratories of the Royal Southern Hospital on two or three afternoons a week.

In addition to the Full Courses, a short Course of Practical Instruction in Tropical Pathology and Medical Entomology, lasting one month, is given every year in June, and meets the needs of medical men returning from the tropics on short leave. It is followed by a class examination with a certificate of satisfactory attendance, possession of which will excuse the first month's attendance during the full Autumn and Lent Courses.

A list of apartments suitable for students is kept by the Registrar of the University. For research students there is most excellent accommodation at the laboratories of the school in the university, and also in the research laboratories of the school at Runcorn, sixteen miles distant from the city.

SCHOLARSHIPS.—Two university scholarships of £100 a year each are open to students of the school amongst others. The Mary Kingsley Medal is awarded by the school for distinguished work in connexion with Tropical Medicine, and has been given to Colonel David Bruce, Geheimrath Professor Dr. Robert Koch, Dr. A. Laveran, Sir Patrick Manson, Professor Danielewsky, Dr. Charles Finlay, Mr. W. M. Haffkine, Professor Golgi, Colonel Golgas, Professor Looss, Professor Theobald Smith, and Lord Lister.

Since it was instituted some nine years ago, the school has employed thirty different investigators paid out of its funds, and has dispatched to the tropics twenty scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in twenty-one special memoirs with many plates and figures, besides textbooks and numerous articles in the scientific press. From the beginning of 1907, however, the Memoirs have been succeeded by the *Annals of Tropical Medicine and Parasitology.*

Students of the school who do not care to undertake the examination held by the university at the end of each term for its diplomas in Tropical Medicine are given a certificate of attendance if the latter has been satisfactory.

Fees.—The fee for the Full Course of instruction is £13 13s., with an extra charge of 10s. 6d. for the use of a microscope if required. The fee for the Diploma Examination is £5 5s., and that for the Short Course is £4 4s. A prospectus and further information about the school may be obtained on application to the Secretary, 10B, Exchange Buildings, Liverpool.

PSYCHOLOGICAL MEDICINE.

IT is not unlikely that one result of the recent Royal Commission on the Care and Control of the Feeble-minded may be a considerable widening of the horizon before those who devote themselves to the treatment of mental disease. But this remains to be seen, and in any case psychological medicine already forms a distinct career of a kind attractive to many medical men. It cannot as yet be regarded as a "service," as those who at present follow it, if not occupied in private asylums, are in the employ of various independent county and other councils. The formation of a general service, so far as the public asylums are concerned, seems not very unlikely, and the attractions of the work as a career will then be increased. Pensions are granted under certain conditions and after a certain length of service.

As for the study of mental diseases, this has long been a compulsory subject in the medical curriculum, lectures and attendances at a recognized asylum being necessary before a diploma or a qualification from a university can be granted—and the same now applies to the examinations for diploma at the combined colleges; but the method in which the instruction is given has of late years greatly improved, and the facilities which exist for its pursuit are now very considerable.

Moreover, in London and some of the larger university towns instruction in pure psychology, as apart from the therapeutic study of mental disease, is now to be obtained. Impetus has been given to the whole subject by the adoption by the University of London of mental diseases as one of the branches of medicine in which an M.D. can be obtained, while the Royal University of Ireland grants a diploma for proficiency in the same subject to such of its graduates in medicine as satisfy the examiners at a special examination held for the purpose.

Reference may also be made to the Medico-Psychological Association of Great Britain and Ireland, which grants a certificate to candidates who have gone through a prescribed course of instruction, and pass an examination—held periodically in London, Scotland, or Ireland—which is designed to test the candidate's knowledge of mental disease and his ability to undertake the care and treatment of an insane person. The Association considers that all practitioners should have a competent knowledge of the subject, and that the holding of such a certificate is of particular advantage to those who hope to obtain appointments in the Prison, the Poor Law, and other services. Only registered medical practitioners are eligible for the certificate, but it is not necessary that candidates should be registered, or even qualified, before presenting themselves for examination. They may take the examination before graduation, but they will not receive the certificate until they possess a registrable qualification. The examinations qualify for the Gaskell Prize, value £30; and £10 10s. and a bronze medal are offered by the same Association to asylum assistant medical officers for the best dissertation on any clinical or pathological subject relating to insanity. The Hack Tuke Memorial Prize is also awarded for an essay upon a subject connected with insanity.

To revert to the financial and allied attractions of the pursuit of Psychological Medicine, it may be said that, as compared with those of other "services" and other branches of medicine, they must be regarded as, on the whole, not inconsiderable. The emoluments are generally fair, and in the senior posts distinctly good. In private asylum practice large sums are made, though to procure these returns a correspondingly large sum must usually be invested. As a rule, a man recently qualified takes an appointment as a junior assistant medical officer in a county asylum or lunatic hospital, and for this he gets from £100 to £150 a year, with all extras besides. If he is fortunate, he becomes in time the Senior Assistant, and his income rises to about £300 a year (in good counties), besides apartments, living and washing. In many asylums provision is made for the Senior Assistant to be married if he wishes, and to have suitable quarters. At this point he is likely to stay some time. When the opportunity occurs, he becomes a candidate for a medical superintendentship, and his yearly income may then, if he is successful, be anything from £500 to £1,500 a year. Pensions, moreover, when granted—and after sufficiently long service they usually are—compare somewhat favourably with those obtainable in allied services, and with the amounts which the average medical man can save. Not every man, however, is suited to asylum practice. The life is one of responsibility, and as much of the work done is directly subject to the exigencies of lay committees and Government officials, it is, especially in the higher grades, often of a worrying nature. For men of certain types of character in the junior grades there is, too, a danger that they may allow themselves to be beguiled too much by the amenities of asylum life, and fall also into the habit of devoting insufficient time to the scientific aspects of their work, however much attention they pay to its routine. Such a man may easily let valuable opportunities slip away and become a "chronic A.M.O.," unfit for the duties of any other position either in or outside an asylum. There is, too, a certain amount of luck in obtaining the higher positions in lunacy work, but the possession of first-class qualifications, a reputation for loyalty and straightness, and a real capacity and liking for the work, both in its scientific and practical aspects, are all factors which go to spell success. Most asylums are now provided with laboratories and operating theatres, and there is a general disposition now in the governing bodies to expect scientific work from the junior staff. Recent advances in bacteriology have materially changed the views formerly held as to the causation and the morbid anatomy of insanity, and no one can be considered qualified to undertake the treatment of this disease who has not studied the modern methods of research. The importance of the study of psychology and of mental physiology should be insisted upon, because the reproach formerly urged that this branch of medicine was neglected, or only dealt with in a purely commercial spirit, is rapidly being removed under recent efforts to place the whole subject on a sound scientific basis.

PREVENTIVE MEDICINE.

THE division of medicine variously known as Sanitary Science, or State, Public Health, or Preventive Medicine, offers a career to men to whom any other path in the profession of medicine might prove distasteful, and it is all the more attractive because the importance attached to the work involved, and in some degree its scope, annually increases. In spite of this it cannot be said that the position of medical officers of health as a whole is at present a satisfactory one, inasmuch as that a large number of those holding the smaller appointments or a combination of small districts are only appointed year by year, and are liable to be dismissed if they do not please those who form or can influence the local authorities. This must often be the case, for if a medical officer of health does his duty it must often be impossible to avoid treading severely on the toes of landlords, manufacturers, and other persons of local importance. There is, however, some prospect that the Legislature will soon step in and make it impossible for any medical officer of health to be dismissed except with the approval of the Local Government Board. Meantime there are many appointments in connexion with the larger towns and under the county councils which are permanent and also well paid as compared with many other forms of medical work, and in other respects of an attractive character. It should be added, too, that the Local Government Board itself has a staff of medical inspectors, whose initial salary is £500 a year.

Public health work, of course, is of quite a special character, and it is desirable that any one who wishes to adopt it as a career should turn to it comparatively early, though not before he has obtained some experience of the work of a general practitioner. In any case, it is essential that he should obtain a diploma in Public Health, and the choice of diplomas now open is considerable. Having done this, the next best step is to try to obtain an assistantship to an officer in charge of a large borough or district, or an appointment as a school medical officer—that is, a medical inspectorship under the education authority of some area. This work does not necessarily demand anything more than knowledge already in the possession of most practitioners—namely, quick recognition of physical defects in young people, an intimacy with the conditions of school life itself to produce or increase them, and ability to ascertain precisely the condition of eyes and ears, and throats. Nevertheless, under the lead of the Board of Education, the county and other authorities which have posts as school medical officers in their gift commonly place the work of school medical inspection in the hands of the medical officer of health and supply him, if they think necessary, with an assistant, who shares his general duties or devotes himself entirely to school inspection, and such officer is usually expected to hold the D.P.H. The value of these appointments is not usually very great, but often they lead on to appointment as medical officer of health. The pay offered is commonly between £250 and £300 a year, but some authorities of large districts are paying their principal school medical officer a very much higher salary.

In their general nature the examinations of all the bodies which grant diplomas in Public Health are the same, though they differ somewhat in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are

supposed to constitute an Honour and not a mere Pass Examination. As regards the special tuition required, it is now easy to obtain this in practically every centre of medical education, and almost at every important medical school. It is of importance to note in this connexion that the chemical and bacteriological examinations for many of the health diplomas are so practical, and the time allowed so short, that unless a candidate has a considerable amount of that manipulative dexterity which only comes of ample work in a laboratory, he would not be likely to satisfy the examiners.[1]

The requirements of the General Medical Council as regards the special education and examination of candidates for registrable diplomas and degrees in State Medicine have been couched by it as follows:

Rule 1.—A period of not less than twelve months shall have elapsed between the attainment of a registrable qualification in medicine, surgery, and midwifery, and the admission of the candidate to any examination, or any part thereof, for a Diploma in Sanitary Science, Public Health, or State Medicine.

Rule 2.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months received practical instruction in a laboratory or laboratories, British or foreign, approved by the Licensing Body granting the diplomas, in which Chemistry, Bacteriology, and the Pathology of the diseases of animals transmissible to man are taught.

Rule 3.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Rule 2) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration, under the supervision of—

(*a*) In England and Wales, the Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000 or a Medical Officer of Health devoting his whole time to Public Health work; or

(*b*) In Scotland, a Medical Officer of Health of a county or counties, or of one or more sanitary districts having a population of not less than 30,000; or

(*c*) In Ireland, a Medical Superintendent Officer of Health of a district or districts having a population of not less than 30,000; or

(*d*) In the British Dominions outside the United Kingdom, a Medical Officer of Health of a sanitary district having a population of not less than 30,000, who himself holds a registrable Diploma in Public Health; or

(*e*) A Medical Officer of Health who is also a teacher in the Department of Public Health of a recognized medical school; or

(*f*) A Sanitary Staff Officer of the Royal Army Medical Corps having charge of an army corps, district, or command, recognized for this purpose by the General Medical Council.

Note (1). The certificate of an Assistant Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000 may be accepted as evidence under Rule 3, provided the Medical Officer of Health of the county or district in question permits the assistant officer to give the necessary instructions and to issue certificates.

Note (2). Provided that the period of six months may be reduced to a period of three months (which shall be distinct and separate from the period of laboratory instruction required under Rule 2), in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on Public Health Administration, given by a teacher or teachers in the Department of Public Health of a recognized medical school.

Note (3). A candidate who shall have produced evidence that he has himself held, for a period of not less than three years, an appointment as Medical Officer of Health of a sanitary district within the British Dominions, and having a population of not less than 15,000, may be exempted from the requirement of Rule 3.

Rule 4.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration.

Note (1). Methods of administration shall include the methods of dealing with patients at their admission and discharge, as well as in the wards, and the medical superintendence of the hospital generally.

Note (2). In the case of a Medical Officer of the Royal Army Medical Corps a certificate from a Principal Medical Officer under whom he has served, stating that he has during a period of at least three months been diligently engaged in acquiring a practical knowledge of hospital administration in relation to infectious diseases, may be accepted as evidence under Rule 4.

Rule 5.—The examination shall have been conducted by examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health.

The Rules 2, 3, and 4, as to study, shall not apply to medical practitioners registered or entitled to be registered on or before January 1st, 1890.

The subjects in which a candidate must qualify himself for examination, the courses of study he must follow, whatever the State Medicine diploma in view, are sufficiently indicated by the foregoing rules; all the examining bodies necessarily insist upon compliance with them on the part of their candidates. The steps, moreover, which they take to ascertain the candidate's fitness for a diploma are in all cases much the same, though the order in which the subjects are taken is not always identical. Practically all of them divide the examination subjects into two parts, which are usually taken by candidates at more or less widely-separated dates. Most of the bodies also have an age clause not allowing the candidate to complete the examinations until he is two or three years older than the average newly-qualified man. The general rule is to place in the First Examination such subjects as chemistry and physics (in relation to the air, water, food), ventilation, the sanitation of houses, principles of architecture, of sanitary engineering, Geology in relation to the same, Bacteriology in all its relations, and the pathology of human and epizootic diseases. Two or more papers are devoted to such subjects, this being followed by a corresponding number of practical examinations in the laboratory, at one of which the candidates will have to complete an analysis of a specimen of water, discover the impurity in some specimens of air, identify the adulteration in some food specimens, and the like. The other laboratory examination will probably be given up to the preparation of bacteriological specimens, the identification of cultures and parasites, and other tests of practical knowledge of bacteriology; as a rule a viva voce on the work done follows. In the second part are commonly included two or more papers dealing with sanitary law, epidemiology, vital statistics, the management of hospitals, and all other general questions which affect the public health. The practical examination in this part commonly consists in drawing up a report on the sanitary construction and condition of some actual building or habitation, the whole being followed, perhaps, by a clinical examination in a fever hospital, and nearly always by a viva voce test in which the candidate is called upon to explain the use of apparatus shown him, express an opinion on specimens of food, and answer offhand queries as to the established practice concerning various points of sanitary administration. As has been stated, however, there are variations among the examining bodies which, though possibly not great in themselves, may be quite enough materially to increase or diminish the difficulty of passing examinations which many Boards seriously endeavour to make a proof of really high proficiency. Every candidate, therefore, should,

[1] These remarks apply equally to candidates who have been long familiar with the ordinary work of a M.O.H., and except that a practitioner of a certain standing is not subject to all the rules regarding courses, such an individual would be in the same position as other candidates.

when he has settled what diploma or degree in State Medicine he wishes to obtain, seek the schedule relating to it from the authority concerned. The following is a list of the bodies from which diplomas and degrees in State Medicine are obtainable.

CONJOINT BOARD IN ENGLAND.—This body holds an examination on behalf of the Royal College of Physicians and the Royal College of Surgeons. It usually takes place in January and July each year, a fee of 6 guineas being payable for each of its two parts. Candidates before admission to Part II must be aged at least 24 years.

UNIVERSITY OF OXFORD.—The diploma given by this body is open to all persons who possess a registrable qualification in medicine and surgery. Examination is divided into two parts, the fee for each being £5.

UNIVERSITY OF CAMBRIDGE.—This university also gives its diplomas to all persons whose names are on the *Medical Register*. The fee for each of the two parts is 6 guineas. Special courses of instruction are given at Cambridge for these examinations, though the work done at other institutions is accepted. Inquiries about the diploma should be addressed to Dr. Anningson, Secretary to the State Medicine Syndicate, Walt-ham-Sal, Cambridge.

UNIVERSITY OF LIVERPOOL.—The university grants a diploma in Public Health to candidates on the *Medical Register* who take out the courses of instruction at the university, or otherwise qualify themselves according to regulations. The examination is in two parts, and is held twice yearly, in January and July. The prospectus of the Department of Public Health may be obtained on application to the Dean of the Faculty of Medicine.

LONDON UNIVERSITY.—Graduates of London University can obtain a registrable Public Health qualification by passing Branch 5 (State Medicine), one of the six branches of medicine out of which candidates for the M.D. degree of this university can select their special subject. They must show that they have taken the degrees M.B., B.S., not less than two years previously, and that subsequently to taking those degrees they have had (1) six months' practical instruction in an approved laboratory; (2) six months' practical instruction from a medical officer of health, of which three must not coincide with the laboratory work, and three months' practice at a hospital for infectious diseases. The interval between passing the M.B., B.S. and proceeding to the M.D. State Medicine may be reduced to one year, subject to conditions corresponding to those affecting Branches 1, 2, 3, and 4. The examination will consist of two papers in State Medicine (including Hygiene and Forensic Medicine), one paper in Medicine, an essay to be written on one or two subjects of State Medicine, and a practical examination extending over two days, one of which will be devoted to laboratory work and the other to practical examination in, and reporting on, subjects which fall within the outdoor duties of a medical officer of health: a viva voce is also possible. Exemption from the written part of the examination can be obtained on the same conditions as those applying to the M.D. degree in other branches. They will be found set forth on page 591.

UNIVERSITY OF DURHAM.—A diploma in Public Health and two degrees in the same subject (Bachelor of Hygiene, B.Hy., and Doctor of Hygiene, D.Hy.) are granted by the University of Durham. The conditions applying to candidates for the diploma and for the B.Hy. are practically identical, except that the degree candidate must be a graduate in medicine of a recognized university and have performed his three months' work at comparative pathology and bacteriology and his three months' work at chemistry at Newcastle-on-Tyne. The fee for the examination is 10 guineas. A B.Hy. who wishes to proceed to the Doctorship must have been in practice as a medical officer of health for two years subsequent to the date of his acquirement of the former, and submit a thesis on some subject on hygeine for approval.

VICTORIA UNIVERSITY OF MANCHESTER.—Both a degree and diploma are granted by this university, the former being known as the B.Sc. in Public Health. The diploma is open to all candidates possessing a registrable qualification in Medicine, the fee being 5 guineas for each of the two parts of the examination. They can obtain their instruction in the Public Health Laboratories of the university. Candidates for the B.Sc. must be graduates in Medicine of Manchester, or some other university recognized for the purpose. They must have studied certain approved subjects in the university for not less than two years after graduation, and devote a third year to work in two of its scientific departments. They also have to pass the D.P.H. examination, attaining a special standard in it.

UNIVERSITY OF BIRMINGHAM.—A diploma may be obtained from this university by all persons registered under the Medical Act, the fees being £5 for each part of the examination. They must, however, unless old students of Birmingham, receive their instruction in the necessary subjects at the hands of the university itself. The university also grants a degree in Public Health (B.Sc. in Public Health), candidates for which must be graduates in medicine of the university, must attend a course of geology, and pass an examination of a higher standard than that for the diploma.

UNIVERSITY OF LEEDS.—A diploma is given by this university, and special courses of instruction are provided, which are available for candidates for any diploma in State Medicine. The fees for such instruction are 10 guineas for the practical work in sanitation under the medical officer of health of the city; 5 guineas for each laboratory course, and to those who have not before been students of the university, a fee of 1 guinea for registration.

UNIVERSITY OF SHEFFIELD.—A diploma is granted by this university, the regulations concerning it being on all-fours with those of the General Medical Council. As elsewhere, there are two examinations which must be passed in turn. The university provides laboratory and other facilities for the study of public health, but accepts certificates from other bodies.

UNIVERSITY OF EDINBURGH.—Two degrees in Science in the Department of Public Health—B.Sc. and D.Sc.—are here given. Candidates must be graduates in medicine of this or some other university. Those proceeding to the higher degree must have held the B.Sc. in the same subject for at least five years, and submit an approved thesis, and must pass an examination. The fee for the B.Sc. examination is £3 3s. for each part. The examinations are held in March and July. Six months must elapse between the first part and the second.

UNIVERSITY OF ABERDEEN.—A diploma in Public Health is granted by this university to graduates in Medicine, the regulations entailing, besides laboratory work and instruction in public health administration, six months' attendance at an infectious hospital containing not less than 50 beds, and special instruction in the drawing and interpretation of plans. Those who are graduates of some other university than Aberdeen must attend certain of the courses on the subject of Public Health provided by the university. The fee for the examination is 5 guineas.

UNIVERSITY OF ST. ANDREWS.—A diploma is granted by this university to its own medical graduates and those of other universities. There are two examinations, the fee for each being 5 guineas.

UNIVERSITY OF GLASGOW.—Two degrees in science, as applied to State Medicine, are granted by the university—the B.Sc. Public Health and the D.Sc. Public Health. Candidates for the B.Sc. must be graduates in medicine, and, if they have not already done so, must matriculate at Glasgow for the year in which they appear for examination. They have to follow certain courses of study, some of which must necessarily be taken out in the public health laboratory of Glasgow University. A candidate for the D.Sc. Public Health must previously have obtained the B.Sc. in the same subject.

CONJOINT BOARD IN SCOTLAND.—This body examines candidates for a diploma in Public Health, granted by the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and

Surgeons of Glasgow conjointly. The examination takes place in Glasgow or Edinburgh, and is held twice a year, in October and May. The fee for each of its two parts is £6 6s. It is open to all candidates holding a registrable qualification. Applications for examination in Edinburgh should be sent to Mr. James Robertson, Solicitor, 54, George Square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, B.A., LL.D., 242, St. Vincent Street, Glasgow, not later than fourteen days before the examination day. The regulations and synopses of subjects may be had on application to either of these gentlemen, or may be found in the *Calendar of the School of Medicine of the Royal Colleges, Edinburgh*, issued by the Dean of the School, 11, Bristo Place, Edinburgh.

UNIVERSITY OF DUBLIN.—Candidates for the diploma in Public Health of this university must be graduates in Medicine and Surgery, of Dublin, Oxford, or Cambridge. Examinations are held in December, March, and June, a full syllabus concerning them being obtainable from the Registrar of the School of Physic, Dublin.

ROYAL UNIVERSITY OF IRELAND.[1]—A diploma in Public Health is granted to those who have graduated in its Medical Faculty not less than twelve months previously.

QUEEN'S UNIVERSITY, BELFAST.—Arrangements have been made for the granting of a diploma in Public Health to all legally qualified practitioners who have satisfied the special requirements of the General Medical Council and pass two examinations.

CONJOINT BOARD IN IRELAND.—This body holds an examination on behalf of the two Royal Colleges of Physicians and Surgeons, which together grant a diploma in Public Health. The fee for examination is £10 10s., a special examination being obtainable for an extra fee of £15 15s.

THE PUBLIC SERVICES.

THE ROYAL NAVY, THE ARMY, AND THE INDIAN MEDICAL SERVICES.

GENERAL REGULATIONS.

THE following are the general rules governing admission to these services:

All candidates must be between the ages of 21 and 28 years, must possess registrable qualifications to practise medicine and surgery in Great Britain and Ireland, and must be adjudged by the Medical Board appointed for the purpose to be physically fit for service before being admitted to the entrance examination. This examination takes place before permission is accorded to compete at the entrance examinations. Special attention is given to the candidate's power of vision. A moderate degree of myopia is not considered a disqualification, provided that it can be corrected by glasses so as to secure adequate vision for the performance of operations, and that no organic disease of the eye exists.

Testimony has also to be furnished, or is sought by the authority concerned, with regard to the candidate's moral and general character, and the Secretary of State in each service reserves the right to refuse permission to compete to any candidate he pleases.

As the prospect of a medical officer in any of these services attaining to the highest administrative grades depends to a large extent upon the regulations with regard to compulsory retirement at the age of 55 (if below a certain grade at that age), there is a distinct advantage in entering at as early an age as possible.

The attractions of the Royal Army Medical Corps have of late years materially increased, and in addition to improvements in pay the Service now offers considerable scope for the work of a man who has specially studied some one or other branch of medicine or surgery. Those who enter the Indian Medical Service often have unequalled opportunities for scientific work and practical surgery and medicine of the highest kind, and though the financial prospects of a man in this Service are less attractive than formerly, they are still good as compared with those of most private practitioners. The fact, too, that both from the Royal Navy and the Royal Army Medical Corps it is possible for an officer to retire with a gratuity of £1,000 while still under the age of 30 is a point of considerable importance for those who initially have not sufficient capital with which to establish themselves in practice.

[1] See preface to the article on p.598, headed "Irish Universities."

ROYAL NAVY MEDICAL SERVICE.

THE regulations for admission of candidates to this Service, beyond those indicated in the foregoing paragraph, require the production of proof that the candidate is of pure European descent, the son either of natural-born British subjects or of parents naturalized in the United Kingdom, and the filling-in by the candidate of certain declaration forms as to his health, previous appointments, and readiness to serve; the documents concerned have to be transmitted to the Director-General, the Medical Department, the Admiralty, 18, Victoria Street, London, S.W., and if approved the candidate is permitted to compete for a vacancy.

The examination is in two parts, (*a*) compulsory subjects, (*b*) voluntary subjects; the admission of candidates being determined solely by the number of marks gained in the former. The position of a successful candidate on the list is determined by the number of marks gained in the voluntary subjects plus those in the compulsory subjects; but no marks less than one-third of the total obtainable in each voluntary subject are allowed to count. The compulsory subjects are: (1) Medicine (including Materia Medica), Therapeutics and General Hygiene; (2) Surgery and Surgical Anatomy (including Operative Surgery; (3) Pathology; in each of the first two divisions 1,200 marks are obtainable, in the third 600. In medicine, surgery, and pathology the examinations are practical as well as written, and knowledge of bacteriology may have to be shown. In order to qualify at least one-third of the maximum marks must be obtained. The voluntary subjects are French and German, the total obtainable marks in each division being 300. Knowledge of these languages is regarded as of importance, and all candidates are counselled to qualify in them.

The Admiralty also has power to admit annually without competition:

(*a*) Two candidates, proposed by the governing bodies of Schools of Medicine in the United Kingdom, who have satisfactorily filled the office of house-surgeon in a large civil hospital for at least six months.

(*b*) Not more than six candidates specially recommended by the governing bodies of such Colonial universities as may be selected.

In either case the candidates have to pass an examination as to physical soundness.

The candidates successful at the competitions receive commissions as Surgeons in the Royal Navy forthwith, and then undergo a course of practical instruction at Haslar in Naval Hygiene, etc. On the conclusion of this course they pass another examination; the marks gained at this are added to those gained at the Entrance Examination, and the two together determine each candidate's seniority in the new batch of surgeons. Those admitted without competition take seniority next after the last surgeon who entered by competition.

In connexion with these examinations there are awarded as prizes a gold medal, a silver medal, and three Navy regulation pocket cases.

Surgeons on entry are paid at the rate of 14s. a day, and are only required to provide themselves with a pocket case of instruments, a stethoscope, and three clinical thermometers. All other instruments are provided at the public expense.

Every medical officer is required to undergo a post-graduate course of three months' duration at a metropolitan hospital once in every eight years (should the exigencies of the Service permit), and this as far as possible during his surgeon's, staff surgeon's, or fleet surgeon's period of service. While carrying out this course the medical officer is borne on a ship's books for full pay and is granted lodging and provision allowances. The fees for each course (not exceeding £25) are paid by the Admiralty on the production of vouchers at the end of the course. The medical officer is required to produce separate certificates of efficient attendance in the following: (1) The medical and surgical practice of the hospital, including instruction in anæsthetics; (2) a

course of operative surgery on the dead body; (3) a course of bacteriology; (4) a course of ophthalmic surgery, particular attention being paid to the diagnosis of errors of refraction; (5) a practical course of skiagraphy.

Promotion.

In the ordinary course an officer reaches the rank of Staff Surgeon in eight years from the date of his first commission, but before promotion he must pass the Qualifying Examination. This is a written examination, the subjects being Medicine, Surgery, Pathology, General Hygiene, and Naval Hygiene. Earlier promotion may be given in acknowledgement of distinguished service or conspicuous professional merit. Earlier promotion may also be granted to surgeons who, before joining the Service, have held a resident appointment in a civil hospital of not less than 100 beds. It is customary to allow those who, when candidates for the Navy, hold or are about to hold such posts, to complete their service in them, provided it does not exceed twelve months, and such time reckons as service in the Navy, though the individual does not receive pay from Naval funds. A Staff Surgeon in the ordinary course is promoted to the rank of Fleet Surgeon eight years after the date of his attainment of the lower rank. Promotion to the higher rank of Deputy Inspector-General of Hospitals and Fleets is by selection from among the Fleet Surgeons. Similarly an Inspector-General of Hospitals and Fleets is selected from among those Deputy Inspectors-General who have three years' full-pay service in that rank to their credit. Special promotion from the rank of Staff Surgeon to Fleet Surgeon may be granted exceptionally for distinguished service or conspicuous professional merit.

Pay, Full Pay, and Allowances.

The following are the rates of full pay and allowances in the different ranks:

	£ s. d.	£ s. d.
Surgeon:		
On entry	0 14 0	255 10 0
After 4 years' full-pay service ...	0 17 0	310 5 0
Staff Surgeon:		
On promotion	1 0 0	365 0 0
After 4 years' full-pay service in rank ...	1 4 0	438 0 0
Fleet Surgeon:		
On promotion	1 7 0	492 15 0
After 4 years' full-pay service in rank ...	1 10 0	547 10 0
,, 8 ,, ,, ,, ,,	1 13 0	602 5 0
,, 12 ,, ,, ,, ,,	1 16 0	657 0 0
Deputy Inspector-General	2 2 0	766 10 0
Inspector-General	—	1,300 0 0
		(Consolidated.)

Other Allowances.

The Inspectors-General at Haslar, Chatham, and Plymouth Hospitals are granted an allowance of 10s. a day as charge pay. Deputy inspectors-general, fleet surgeons, and staff surgeons in charge of certain hospitals receive charge pay of 7s. 6d., 5s., and 2s. 6d. a day respectively. The senior medical officer—fleet or staff surgeon—of ships bearing the flags of flag officers commanding foreign stations and the Home and Atlantic Fleets receive an allowance of 5s. a day. An allowance of 2s. 6d. a day may be granted to the senior medical officer of ships bearing the flag of flag officers not commanding stations or fleets and to ships flying the broad pennant of commodores. Medical officers conducting the course of instruction at Haslar Hospital are entitled to receive the following allowances: The two senior officers employed upon this duty £150 a year each; the junior officer assisting, £50 a year; the junior officer instructing the sick-berth staff, £50 a year; the officer instructing the sick-berth staff at Plymouth, £50 a year. The following charge allowances may be granted to medical officers in charge of hospital ships: If above the rank of fleet surgeons, 5s. a day; if of the rank of fleet surgeon or junior, 3s. 6d. a day. The fleet and staff surgeons serving at the Admiralty and at the Marine Rendezvous are granted hospital allowance of £53 a year in addition to the usual lodging money. Hospital allowances for naval medical officers at home and abroad, in lieu of provisions for themselves and servants, and for fuel and lights, are as follows: Deputy inspectors-general, at home, £67; abroad, £112; fleet surgeons and staff surgeons of over four years' seniority, at home, £53; abroad, £112; staff surgeons of under four years' seniority, and surgeons, at home, £39; abroad, £108. These allowances are also made to medical officers of Marine Divisions and Dockyards. Medical officers employed elsewhere than as above, and not victualled in kind, receive an allowance of 1s. 6d. a day. Travelling allowances, extra pay, lodging money, and compensation for losses are all fixed for naval medical officers according to their relative rank in the Service.

Half-pay.

Surgeons under 2 years' full-pay service receive when on half-pay 6s. per diem; after 2 years' full-pay service, 7s. per diem; after 4 years, 8s.; after 6 years, 9s.; after 2 years' service in rank, 11s.; on promotion to staff surgeons, 10s.; after 4 years, 12s.; after 6 years, 13s.; and on promotion to fleet surgeon, 14s.; after 2 years' service in rank, 15s.; after 4 years, 17s.; after 6 years, 18s.; after 8 years, 19s.; and after 10 years, £1. Deputy inspector-general on promotion, 25s.; after 2 years' service in rank, 27s.; after 4 years, 29s. Inspector-general, 38s.

Retirement.

After four years' full-pay service a surgeon may withdraw and join the Reserve of Naval Medical Officers. On doing so he receives a gratuity of £500, retains his rank and uniform, and if he agrees to remain in the Reserve for four years receives a retaining fee of £25 per annum. At the end of this period he can re-engage for a further four years one th same terms but after that he is retired altogether. While in the Reserve he is liable to be called up for service in times of war or emergency, and then receives the ordinary pay and allowances of his rank. He may also in the first instance enter the Reserve with power to resign on six months' notice, but in this case he receives no retaining fee.

Voluntary withdrawal is also permitted, if the Lords of the Admiralty approve, to officers after eight, twelve, and sixteen years' full-pay service, the retiring officer receiving a gratuity. An officer being a fleet surgeon of twenty years' service may similarly retire, and then receives retired pay. It is to be noted, however, that the Lords of the Admiralty do not invariably consent forthwith to these voluntary retirements, and that loss of full-pay service, from sickness or inability to obtain service from no default of the officer, may delay the completion of the periods of full-pay service mentioned.

Retirement is compulsory in the case of ordinary officers at 55, or at any age, if the officer has not been on full-pay service for three years in any one rank, or after continuous non-employment for four years in any two ranks combined; and in the case of Inspectors and Deputy Inspectors-General at the age of 60, with the same qualification. In the case of an Inspector-General, retirement under the age clause may be deferred by the Admiralty, if it pleases, until the age of 62.

The following are the amounts paid on retirement:

Rank.	Gratuities.	Daily.	Yearly.
	£ s. d.	£ s. d.	£ s. d.
Surgeon, Staff Surgeon, and Fleet Surgeon:			
After 4 years' full-pay service	500 0 0	—	—
,, 8 ,, ,,	1,000 0 0	—	—
,, 12 ,, ,,	1,500 0 0	—	—
,, 16 ,, ,,	2,250 0 0	—	—
Fleet Surgeon:			
After 20 years' service	—	*1 0 0	365 0 0
,, 24 ,, ...	—	*1 2 6	410 12 6
,, 27 ,, ...	—	*1 5 0	456 5 0
,, 30 ,, ...	—	*†1 10 0	547 10 0
Deputy Inspector-General	—	1 15 0	638 15 0
Inspector-General	—	2 0 0	730 0 0

* To obtain this rate an officer must hold the Commission of Fleet Surgeon.

† Or on compulsory retirement at the age of 55.

An officer who retires with less than 20 years' service on account of disability contracted in and attributable to the service receives the half-pay of his rank, or with the consent of their Lordships a gratuity on the scales previously given, but such an officer is not entitled to receive any special compensation for the disability in addition to the gratuity as above, unless he has received a wound in action or has been injured in duty, when extra gratuity or pension may be awarded.

An officer retired with less than twenty years' service on account of disability contracted in but not attributable to the service receives:

(*a*) If he has over eight years' full-pay service, either a gratuity on the scale given in paragraph above, or half-pay, according as their Lordships think fit.

(*b*) If he has less than eight years' full-pay service, such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full-pay service.

Under circumstances other than those specified, and other than misconduct, neglect of duty, etc., an officer retired with less than twenty years' service will not be allowed half-pay or retired pay, but will receive a gratuity on the scale laid down above, if he has eight years' full-pay service; should his full-pay service not amount to eight years, a gratuity at the discretion of the Admiralty.

The power vested in their Lordships of granting reduced rates of half-pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit.

An officer retiring after twenty years' full-pay service is eligible, if recommended by the Medical Director-General for distinguished or meritorious service, to receive a step of honorary rank, such step being awarded at their Lordships' discretion, and not conferring any claim to increase of retired pay or of widow's pension.

All retired officers are liable, till the age of 55, to serve in time of declared national emergency, in a rank not lower than that held on retirement. This liability does not exist in cases of withdrawal on the conditions previously specified under voluntary retirement.

Retired officers receive special consideration as regards appointments on shore connected with the Admiralty.

If an officer retires or withdraws on a gratuity, his widow and children lose the claim to a pension or compassionate allowance which they would otherwise possess.

ROYAL ARMY MEDICAL CORPS.

A CANDIDATE qualified as stated in the paragraph on page 633 must fill up a form of application and declaration, which can be obtained on application to the Director-General, Army Medical Service, War Office, London, S.W., and submit it to the Director-General in sufficient time to permit of reference to the medical school in which the candidate completed his course as a medical student.

The Dean, or other responsible authority, of such school will be requested by the Director-General to render a confidential report as to his character, conduct, professional ability, and fitness to hold a commission in the Corps. After the form of application and this confidential report have been received, the Director-General will decide if the candidate may be allowed to compete for a commission in the Royal Army Medical Corps. If approved, he will then be examined as to his physical fitness by a Board of Medical Officers, in accordance with regulations which can also be obtained from the Director-General. The entrance examinations are held twice in the year, usually in January and July. The Army Council reserves the right of rejecting any candidate who may show a deficiency in his general education. With regard to the age of candidates, it is permissible to deduct from the age of a candidate any period for which he may have served as an officer or in a position usually occupied by an officer during a national emergency, if such deduction will bring him within the regulation age for candidates. In any case such service counts towards retired pay and gratuity in the case of an accepted candidate.

An entrance fee of £1 is required from each candidate admitted to the examination, and is payable at the conclusion of his physical examination, if pronounced fit.

A candidate successful at the entrance examination is at once appointed a lieutenant on probation, and then required to pass through such courses of instruction as the Army Council shall decide, and, after passing the examinations in the subjects taught, and satisfying the Director-General that he possesses the necessary skill, knowledge, and character for permanent appointment to the Royal Army Medical Corps, his commission as lieutenant will be confirmed. The commission given him bears the date of his appointment as lieutenant on probation.

Entrance Examinations.

All the competitors are examined by the Examining Board in medicine and surgery; the tests in these subjects are of a clinical and practical character, partly written and partly oral. Marks are allotted under the following scheme:

	Maximum Marks.
Medicine (written).	
A. Examination and report upon a medical case in the wards of a hospital	125
B. Commentary upon a case in medicine ... (Three hours allowed for A and B together.)	100
Medicine (oral).	
A. Clinical cases	100
B. Medical pathology ... ... (Ten minutes to examine case and ten minutes viva voce for A.) (Thirty minutes to examine specimens and ten minutes viva voce for B.)	75
Surgery (written).	
A. Examination and report upon a surgical case	100
B. Commentary upon a case in surgery ... (Three hours allowed for A and B together.)	125
Surgery (oral).	
A. Clinical surgery and pathology (including diseases of the eye) ... ... (One-quarter of an hour allowed for this table.)	75
B. Operative surgery and bandaging (including surgical instruments and appliances) (Twenty minutes for A and about thirty for B.)	100
Total marks	800

The reports indicated on patients must include, besides the details ordinarily included in case-taking, a commentary on the features of the case as a whole, a prognosis, and a plan of treatment. The commentary on the reports on cases submitted to the candidate must discuss in detail all their various points.

The examinations are held in London, and occupy about four days.

Having gained a place at this entrance examination, the successful candidates proceed to the Royal Army Medical College for instruction in recruiting duties, at the termination of which they undergo two months' instruction in Hygiene, Pathology, Tropical Medicine, Military Surgery, and Military Medical Administration, after which they are examined in these subjects. The maximum number of marks obtainable at this examination is 700.

On completion of this course the lieutenants on probation join the Royal Army Medical Corps School of Instruction at Aldershot for a two months' course in the technical duties of the corps, and at the end of the course are examined in the subjects taught. The maximum number of marks obtainable at this examination is 100.

A lieutenant on probation who fails to qualify at either of these examinations is allowed a second trial. Should he then qualify he is placed at the bottom of his batch; but failing success his commission is not confirmed. Illiteracy in speech or writing evidenced at any of the examinations previous to final acceptance of the candidate and confirmation of his commission is regarded as disqualifying for appointment.

Promotion.

The position of an approved candidate in his batch and his final place in the list for promotion is determined by the combined results of all the examinations passed by him previous to the confirmation of his commission. If, however, a lieutenant on probation is seconded in order to hold appointment at a civil hospital, he retains the place in the list which he gained at the entrance examination, and has merely to qualify at the remainder when in course of time he goes up for them.

An officer finally accepted is eligible for promotion to the rank of Captain after three and a half years' service, and to that of Major after twelve years' service, in both cases a Promotion Examination having to be passed. Promotion to the rank of Major may be accelerated by obtaining special distinction at the Qualifying Examination for that rank. Above the rank of Major promotion is by selection from among the list of Majors who have qualified by examination. Under certain circumstances eventual failure to pass the examination may entail retirement from the Service. Special promotions are made for meritorious or distinguished service, distinction in original investigation or research coming within these terms.

EXAMINATIONS FOR PROMOTION.

Lieutenants before Promotion to Captain.

This examination may be taken at any time after completing 18 months' service, and is held in the military district in which the officer is serving. The subjects are:

(1) Squad, company, and corps drills and exercises. (2) (*a*) The terms of the Geneva Convention; (*b*) a general knowledge of the administration, organization, and equipment of the army in its relation to the medical services. (3) The duties of ward-masters and students, and the preparation of accounts and requisitions connected therewith. (4) Duties of executive medical officers. (5) Military law.

Captains before Promotion to Major.

This examination, which may be taken at any time after completing five years' service, is held in London on the termination of a period of special study. It consists of written papers, essays, oral and practical examinations on:

(1) Medicine. (2) Surgery. (3) Hygiene. (4) Bacteriology and tropical diseases. (5) One special subject from the subjoined list, to which additions may from time to time be made: (*a*) Bacteriology, including the preparation of antitoxins; (*b*) Dermatology, including venereal diseases; (*c*) Midwifery and gynæcology; (*d*) Operative surgery, advanced; (*e*) Ophthalmology; (*f*) Otology, including laryngology and rhinology; (*g*) State medicine; (6) Military law.

Majors before Promotion to Lieutenant-Colonel.

This examination, which may be taken at any time after three years in the rank of major, is held in the military district in which the officer is serving, at times duly notified. The subjects are:

(1) Army medical organization in peace and war. (2) Sanitation of towns, camps, transports, and all places likely to be occupied by troops in peace or war; epidemiology and management of epidemics. (3) (*a*) Medical history of the more important campaigns, and the lessons to be learnt therefrom; (*b*) a knowledge of the Army Medical Services of the more important Powers; (*c*) the laws and customs of war so far as they relate to the sick and wounded. (4) A practical problem in field administration.

PAY, ADDITIONAL PAY, AND CHARGE PAY.

The following are the rates of pay, additional pay, and charge pay:

Ordinary Pay.

ARMY MEDICAL SERVICE.	Yearly. Inclusive of all Allowances except Field and Travelling Allowances.
At Head Quarters.	£
Director-General	2,000
Deputy Director-General	1,300
Assistant Director-General	850
Deputy Assistant Director-General	750

At Other Stations.	Daily. Exclusive of Allowances. £ s. d.
Surgeon-General	3 0 0
Colonel	2 5 0
Lieutenant-Colonel	1 10 0
Lieutenant-Colonel promoted to the rank, or on after January 9th, 1907, after 5 years as such...	1 15 0
Major	1 3 6
After 3 years' service as such	1 6 0
Captain	0 15 6
After 7 years' total full-pay service ...	0 17 0
After 10 years' total full-pay service ...	1 1 0
Lieutenant on probation and Lieutenant ...	0 14 0

Additional Pay.

Officer not serving on the head quarters staff appointed a member of the Advisory Board ... ... £150 a year.

	Daily. s. d.
Officer under the rank of lieutenant-colonel holding an appointment as specialist	2 6

Charge Pay.

(*a*) Officer in charge of a general or other hospital; or of a division of a general hospital:

	Daily. s. d.
If in charge of at least 50 beds	2 6
,, ,, 100 ,, ...	5 0
,, ,, 200 ,, ...	7 6
,, ,, 300 ,, ...	10 0
(*b*) Senior Medical Officer, Royal Arsenal, not exceeding	10 0
(*c*) Officer in command of the depôt, Royal Army Medical Corps	5 0

The senior officer of the Army Medical Service with an army in the field—

A rate to be fixed by the Secretary of State according to the magnitude of the charge.

(*d*) The officer, if under the substantive rank of colonel, holding the appointment of senior medical officer in a command abroad, or of an administrative medical officer, if the number of soldiers is 1,500 or upwards 5 0

RETIREMENT.

On the completion of three years' service, but not more than six, an officer of the Royal Army Medical Corps may be permitted by the Army Council to become an Army Reserve officer for a period of years, and while so serving receives pay at the rate of £25 a year. With the sanction of the Army Council such officer may be allowed to return to the active list, and if the period he has been in the Reserve of Officers amounts to at least one year, and not more than three years, he will be allowed to reckon one-third of such period towards promotion, gratuity, and pension.

The ordinary rules as to retirement are as follows:

Retirement is also compulsory on the ground of age, in the case of surgeons-general at 60, of colonels at 57, and officers below that rank at 55; the director-general retires on completion of his term of office in that appointment. A major is retired on completion of twenty-five years' service if he has been superseded for promotion, or if, after twenty years' service, he has failed to qualify for promotion. Similarly, a lieutenant who has failed to qualify within the requisite period for promotion to the rank of captain is retired if he fails to qualify at the next succeeding examination; while a captain who fails in the same way in respect of the examination for promotion to major must retire on the gratuity to which he is then entitled by service, or, in default of that, on the completion of five years' service as captain. An officer placed on the half-pay list on account of medical unfitness is, if not previously retired, placed on the retired list at the expiration of five years from the date on which he was placed on the half-pay list, or if reported by the regulated medical authority to be permanently unfit for duty, on the officer's application, at such earlier date as may be decided by the Army Council.

An officer, whether on full or half pay, who, to the satisfaction of the regulated medical authority, has been pronounced insane, must be retired from the army, with the retired pay to which he would be entitled if reported by the regulated medical authority to be permanently unfit for duty. If his disability was not caused by military service, and he is not entitled to permanent retired pay by length of service, he will receive temporary retired pay equivalent to the half-pay, and temporary retired pay, if any, which he would have received if his disability had been other than insanity.

Finally, any officer may, if the Army Council pleases, be retired on completion of thirty years' service, and it is open to the Council to permit an officer to retire at any time which it deems expedient.

RETIRED PAY.

An officer who retires after holding the appointment of Director-General for three years, and with thirty years' service to his credit, receives a pension of £1,125 a year. In other ranks the rates are as follows:

	Daily. £ s. d.
Surgeon-General	2 0 0
Colonel:	
Under 4 years' service as such, but with 30 years' total service	1 10 0
After 4 years' service as such	1 15 0
If promoted as above	the rate for a Lieutenant-colonel.

	Daily. £ s. d.
Lieutenant-Colonel:	
After 20 years' service	1 0 0
After 25 ,, ...	1 2 6
After 28 ,, ...	1 7 6
Major:	
After 20 years' service	1 0 0

	Gratuity. £
Major or Captain:	
After 5 years' service in the rank of captain ...	1,000
After 3 years' service in the rank of major ...	1,800
After 6 years' service in the rank of major ...	2,500

Except in the case of a colonel promoted after January 9th, 1907, or a lieutenant-colonel, an officer of the Army Medical Service who, on voluntary retirement, has served for less than three years in the rank from which he retires, is entitled only to the gratuity or retired pay assigned to the next lower rank.

Exchanges between officers of the Royal Army Medical Corps and the Indian Medical Service are occasionally permitted, subject to the officers having less than seven years' service and other conditions.

The regulations as regard sick leave and ordinary leave on full pay are the same for officers of the Royal Army Medical Corps as for those of other departmental officers.

The regulations as regards pensions to widows and compassionate allowances and other dependants of officers are the same in the case of officers of the Royal Army Medical Corps as in the case of ordinary officers. There is in addition an army medical officers' widows' annuity fund on mutual assurance principles.

INDIAN MEDICAL SERVICE.

A CANDIDATE for this Service must be a natural-born subject of His Majesty, of European or East Indian descent, and the general rules mentioned in the paragraph on page 633 apply to him; he must make his application for permission to compete for a commission on a prescribed form. The accompanying certificate must include one showing that the candidate has studied in an ophthalmic hospital or ophthalmic department for not less than three months, the work including refraction. If allowed to compete, he pays a fee of £1, and is then examined in the following subjects:

	Marks.
1. Medicine, including Therapeutics	1,200
2. Surgery, including Diseases of the Eye	1,200
3. Applied Anatomy and Physiology	600
4. Pathology and Bacteriology	900
5. Midwifery and Diseases of Women and Children ...	600
6. Materia Medica, Pharmacology, and Toxicology ...	600

The examinations in Medicine and Surgery are in part practical, and include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. As regards Pharmacology and Toxicology, no syllabus is issued, the questions put being such as to test the candidate's general knowledge of them.

No candidate is considered eligible who does not obtain at least one-third of the marks obtainable in each of the above subjects, and one-half of the aggregate marks for all the subjects. Candidates who hold certificates from the Officers' Training Corps have a certain percentage added to the marks they obtain. Examinations usually take place in January and July each year. Candidates can obtain on application copies of the papers set at the last examination preceding. No candidate is permitted to compete more than three times.

If successful the candidates are granted about a month's leave, and then required to attend two successive courses of two months each at Aldershot and at the Royal Army Medical College, Millbank, during which time each candidate receives an allowance of 14s. per diem, with quarters, or when quarters are not provided, with the usual allowances of a subaltern in lieu thereof, to cover all costs of maintenance; he is required to provide himself with the regulation undress uniform and mess dress of a lieutenant of the Indian Medical Service. Should he be granted sick leave before the completion of his course of instruction and final admission to the service, he receives furlough pay at the rate of 10s. 6d. a day for the period of his sick leave.

At the conclusion of the course candidates have to pass an examination in its subjects, and are then confirmed in the rank of lieutenant.

In special cases permission may be granted to lieutenants to delay their departure for India, in order to sit for some further professional examination. Lieutenants remaining in England under such circumstances will receive no pay for any period beyond two months from the date of leaving the Royal Army Medical College, unless the period elapsing before the day on which the majority of the lieutenants of the same seniority sail for India exceeds two months, in which case lieutenants allowed to remain in England will receive pay up to that day. In such cases pay will recommence on the day of embarkation for India.

A lieutenant who within a reasonable period before the date at which he would otherwise sail for India furnishes proof of his election to a resident appointment at a recognized civil hospital may be seconded for a period not exceeding one year from the date on which he takes up such appointment, provided that he joins it within three months of passing his final examination, and that he holds himself in readiness to sail for India within fourteen days of the termination of the appointment. While seconded he receives no pay from Indian funds, but his service towards promotion, increase of pay, and pension will reckon from the date borne on his commission.

All officers on appointment are placed on one list, their position on it being determined by the combined results of the Preliminary and Final Examinations. They are liable for military employment in any part of India, but with a view to future transfers to civil employment each stands posted to one of the following civil areas: Madras and Burmah; Bombay with Aden; Upper Provinces (United Provinces, Punjab, and Central Provinces); Lower Provinces (Bengal, Eastern Bengal, and Assam). The allocation of officers to these areas of employment is determined upon a consideration of all the circumstances, including, as far as possible, the candidate's own wishes. An officer transferred to civil employment, though ordinarily employed within the area of his choice, remains liable to employment elsewhere if the exigencies of the service require it.

Officers on appointment are sent to India by troopship when possible; otherwise, by private steamer at the public cost. Until they arrive in India, when they begin to receive the ordinary pay of their rank, they receive 14s. a day. If an officer, after receiving his commission, falls ill, he is paid at the rate of £250 a year from the date at which he should have sailed until the actual date of embarkation, and at the rate of 14s. a day during the voyage to India.

PROMOTION.

A lieutenant's commission dates from the day on which the result of the examination at which he is admitted is announced. He may be promoted to captain on completion of three years' full-pay[1] service from date of first commission, but after completing eighteen months' service, and before promotion to the rank of captain, he will be required to pass an examination in military law and military medical organization. A captain is promoted to major on completion of twelve years' full-pay[1] service, but this promotion is accelerated by six months in the case of officers who fulfil certain specified conditions. A major is promoted to lieutenant-colonel on completion of eight years' full-pay[1] service in the rank of major. All promotions from the rank of lieutenant-colonel to that of colonel, and from the rank of colonel to that of surgeon-general, are by selection for ability and merit. In all ranks distinguished service in the field may be rewarded by accelerated promotion.

TENURE OF OFFICE IN ADMINISTRATIVE GRADES.

The tenure of office of surgeons-general and colonels is limited to five years. Colonels, if not disqualified by age, are eligible either for employment for a second tour or duty in the same grade, or for employment in the higher grade of surgeon-general by promotion thereto. Absence on leave in excess of eight months during a five years' tour on duty involves forfeiture of appointment.

[1] Time (not exceeding one year) passed on temporary half-pay reckons as service for promotion and pension in the case of officers placed on half-pay on account of ill health contracted in the performance of military duty.

PAY AND ALLOWANCE.[1]

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service from the date of their arrival in India:

Rank.	Unemployed Pay.	Grade Pay.	Staff Pay.	In Civil employ. In Military charge of a Regiment. In Command of a Regiment.	In Civil employ. In Military charge of a Regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	475	550
,, after 5 years' service	475	450	150	525	600
,, after 7 years' service	—	500	150	575	650
,, after 10 years' service	—	550	150	625	700
Major	—	650	150	725	800
,, after 15 years' service	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1,075	1,250
,, ,, after 25 years' service ...	—	900	400	1,100	1,300
,, ,, specially selected for increased pay ...	—	1,000	400	1,200	1,400

NOTES.—(a) Unemployed pay is drawn by officers of less than 7 years' service who are not holding officiating or substantive charge of native regiments. Officers of more than 7 years' service draw grade pay alone when unemployed. Staff pay is the pay of a command, and is drawn in addition to grade pay. (b) Horse allowance is granted to officers in substantive charge of cavalry regiments at the rate of Rs. 90 a month to lieutenant-colonels and majors, and Rs. 60 a month to captains and lieutenants.

The principal administrative appointments are held by colonels and surgeons-general on the following consolidated salaries:

Colonel, from Rs. 1,800 to Rs. 2,500 per mensem.		
Surgeon-General	2 @ Rs. 2,200	,,
,,	2 @ Rs. 2,500	,,
,,	1 @ Rs. 3,000	,,

Specialist pay at the rate of Rs 60 a month is granted to officers below the rank of lieutenant-colonel who may be appointed to certain posts.

Except in the administrative grades and in certain special appointments, medical officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

No officer, however employed, can receive any staff allowance in addition to his unemployed or grade pay unless he has passed the examination in Hindustani known as the "Lower Standard." The passing of this examination does not of itself bring any increase of pay to an officer, unless appointed to a substantive or officiating charge; but failure to pass disqualifies an officer, even when holding such substantive or officiating charge, from receiving any portion of the staff allowances of the appointment.

Surgeons-general and colonels, on vacating office at the expiration of the five years' tour of duty, are permitted to draw in India an unemployed salary of Rs. 1,350 per mensem in the former, and Rs. 1,000 in the latter case, for a period of six months from the date of their vacating office, after which they are placed while unemployed on the following scale of pay:

	Surgeon-General. Per diem.	Colonel. Per diem.
	£ s. d.	£ s. d.
After 30 years' service on full pay ...	2 5 0	1 14 0
,, 25 ,, ,, ...	2 5 0	1 10 0
,, 20 ,, ,, ... or on promotion should this period of service not be completed ...	2 0 0	1 8 0

Posts in Civil Employ.

A large number of posts in civil employ are ordinarily filled up from officers of the Indian Medical Service. Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment. The principal appointments, together with the salaries attached to each, are stated in the table at the foot of this page.

There are also six Chemical Examiners with Rs. 800 to 1,650 per mensem, and a number of Port Health Officers with Rs. 750 to 1,950 per mensem. Other appointments of Resident Surgeons and Physicians at hospitals, etc., are on salaries ranging from Rs. 700 to 1,650 per mensem. There are also a certain number of appointments under the Political Department on salaries ranging from Rs. 450 to 1,450 per mensem, exclusive of local allowances.

Qualified officers of the medical service are also eligible for appointments in the Assay and Mint Departments. The salaries of these appointments are from Rs. 600 to 2,250 per mensem.

LEAVE RULES.

(The paragraphs in small type apply only to officers in military employ.)

Officers below the rank of colonel may be granted:

1. Privilege leave under such regulations as may from time to time be in force.
2. Leave out of India, for no longer period than one year, capable of extension to two years' absence from duty, on the following pay:

On first appointment	£250 a year.
After the commencement of the 10th year's service for pension	300
Ditto, ditto, 15th ditto	450
Ditto, ditto, 20th ditto	600
Ditto, ditto, 25th ditto	700

3. Leave in India, but for the period of one year only, on full military pay and half the staff salary of appointment.

No extension of leave involving absence from duty for more than two years, whether taken in or out of India, can be granted except on specially urgent grounds and without pay.

An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence (unless, as under the foregoing paragraph, he is specially granted an extension of leave without pay) is placed on temporary half-pay or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on half-pay or the retired list should his health require an undue amount of leave, whether in or out of India.

Leave may be granted at any time, but solely at the discretion of the civil or military authorities in India under whom an officer may be serving.

An officer on leave, whether in India or out of India, is required to rejoin at once on being recalled to duty, unless certified by a Medical Board as unfit to do so.

[1] Under present arrangements officers of the Indian Medical Service who are not statutory natives of India receive exchange compensation allowance to compensate them for the fall of the value of the rupee. The allowance consists of an addition to their salaries (subject to certain limitations) equal to half the difference between their salaries converted at (1) 1s. 6d. the rupee, and (2) the average market rate for each quarter.

Description of Appointment.	Approximate Number of Appointments in Each Class.	Salary per Mensem. When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
		Rs.	Rs.	Rs.	Rs.
Inspectors-General of Civil Hospitals	6	2,250-2,500			
Sanitary Commissioner with Government of India ...	1	2,000-2,500			
Inspectors-General of Prisons	8	1,800-2,000			
Principals of Medical Colleges	2	1,650-1,800	1,200-1,300		
Professorial Appointments	23	1,500-1,650	1,050-1,150	800-950	750
Sanitary Commissioners	5	1,500-1,800			
Deputy Sanitary Commissioners	13	1,350-1,500	900-1,000	650-800	600
Bacteriological Appointments	5	1,500-1,600	1,050-1,150	700-800	650
Superintendents of Central Lunatic Asylums	6	1,400-1,550	1,050-1,150	700-900	650
Superintendents of First Class Central Gaols	8	1,400-1,550	950-1,050	700-950	650
Superintendents of Second Class Central Gaols ...	5	1,300-1,450	850-950	600-750	550
Civil Surgeoncies (First Class)	37	1,300-1,450	850-950	600-750	550
Civil Surgeoncies (Second Class)	171	1,200-1,350	750-850	500-650	450
Probationary Chemical Examiner	1	—	—	600-750	550
Officers deputed to Plague Duty	—	1,450	1,000-1,100	750-900	700

Officers of the Administrative Grades may be granted leave not exceeding eight months, with privilege leave in addition, during their tenure of appointment.

Extra furlough may be granted to officers desirous of pursuing special courses of study at the rate of one month's furlough for each year's service up to 12 months in all.

HONOURS AND REWARDS.

All officers are eligible for the military distinction of the Order of the Bath and for other Orders, British and Indian, and for good service pensions. Six of the most meritorious are named Honorary Physicians, and six Honorary Surgeons to His Majesty.

RETIRING PENSIONS AND HALF-PAY.

The following are the ordinary rates of pension:

	Per Annum.
	£
After 30 years' service	700
,, 27½ ,, ...	600
,, 25 ,, ...	500
,, 20 ,, ...	400
,, 17 ,, ...	300

Service for pension reckons from date of first commission, and includes all leave taken under the rules quoted. (See also Note 1 on p. 637.)

A surgeon-general, after three years' active employment in that appointment, is entitled to retire upon a pension of £350 per annum, in addition to that to which he may be entitled under the above scale.

A colonel is entitled, after three years' active employment in that appointment, to retire upon a pension of £125 per annum, in addition to the pension to which he may be entitled under the above scale, and after five years of such employment on an additional pension of £250 in all.

In each of the cases stated in the two foregoing paragraphs eight months' absence on leave is allowed to count towards actual service in those grades.

A surgeon-general or colonel who has completed his term of service and has reverted to British pay may reside in Europe, at the same time qualifying for higher pension.

All officers of the rank of lieutenant-colonel and major are placed on the Retired List on attaining the age of 55 years; the Director-General, when he has attained the age of 62 years, and all other surgeons-general and colonels when they have attained the age of 60 years. But a lieutenant-colonel, who has been specially selected for increased pay, if he attains the age of 55 years before he becomes entitled to the pension for 30 years' service, may be retained until completion of such service; and in any special case where it would appear to be for the good of the service that an officer should continue in employment, he may be so continued, subject in each case to the sanction of the Secretary of State for India in Council.

Officers placed on half-pay on account of ill health, as described in the paragraphs concerning leave, receive: Under five years' service, 6s. a day, or £109 10s. a year; after five years' service, 8s. a day, or £146 a year; after ten years' service, 10s. a day, or £182 10s. a year; after fifteen years' service, 13s. 6d. a day, or £246 7s. 6d. a year.

An officer of less than three years' service, although he may be transferred to the half-pay list under the general conditions of transfer, will not be granted any half-pay unless his unfitness has been caused by service.

INVALID PENSIONS.

An officer who has become incapacitated for further service in India on account of unfitness caused by duty may, after he has been two years on temporary half-pay, be granted an invalid pension. Such pensions begin at £192 a year after twelve years' service, and rise by £20 for each additional year's service up to £272.

As already stated in the footnote on page 637, time not exceeding one year passed on temporary half-pay reckons as service for promotion and pension in the case of an officer placed on half-pay on account of ill health in the performance of military duty.

Additional pensions for wounds and injuries received in action or in the performance of military duty are awarded to officers of the Indian Medical Service on the same terms as to combatant officers of the Indian Army.

FAMILY PENSIONS.

The claims to pensions of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India, except in the case of natives of India, for whom it is optional.

PRISON MEDICAL SERVICE.

THE prison department consists of two branches—the convict service and the local prison service. These are now practically amalgamated, and the officers of each branch are freely interchangeable. In the case of the smaller prisons the medical officer is usually a local practitioner, but in the case of the larger prisons the medical officers are appointed by the Convict Prison Board or the Prison Commission, and form practically a special service. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which, we understand, can be obtained from the Secretary, Prison Commission, Home Office, London, S.W.

The number of vacancies is not large, and the prospects of promotion are bad. This is due in part to the fact that the rate of pay of the higher appointments depends upon the number of prisoners in the particular prison, and that the total number of prisons in the country is not increasing in proportion to population.

Convict Service.—Five deputy medical officers at £250, rising to £300; four medical officers at incomes ranging from £300 to £550.

Local Prison Service.—Ten deputy medical officers at £250, rising to £300; twenty-three medical officers at £200; twenty-two medical officers at £250; four medical officers at £300, rising to £390; eight medical officers at £400, rising to £550. Quarters, or an allowance in lieu, are granted to those who give their whole time to the service.

APPOINTMENTS UNDER THE COLONIAL OFFICE.

MEDICAL appointments are from time to time filled up by the Colonial Office in the following Colonies and Protectorates: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, British Honduras, Fiji, Sierra Leone, Gambia, Gold Coast, Northern and Southern Nigeria, East Africa and Uganda Protectorates, Nyasaland, Somaliland, Ceylon, Straits Settlements, the Federated Malay States, Hong Kong, Mauritius, Seychelles, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon, Jamaica, and Mauritius vacancies are almost always filled locally by the appointment of qualified native candidates. As a rule officers are required on appointment to undergo a three months' course of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their appointment. It is for the East and West African Colonies and Protectorates that medical officers are chiefly required.

The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poorhouse, asylum, or other institution, and free attendance on the aged and children.

Passage money on first appointment, and leave of absence on half-pay (in addition to the ordinary annual vacation on full pay, not exceeding three months in two years), are granted only in the cases specified in the Colonial Regulations. Leave on half-pay is not granted before the completion of six years' service, except on the ground of illness or urgent private affairs. With regard to pension, medical officers are usually on the same footing as other Government servants; but in cases where private practice is allowed pensions cannot, as a rule, be claimed.

All applicants must be between the ages of 23 and 35.[1] Preference is given to those who have held junior appoint-

[1] In the case of East Africa, Uganda, Nyasaland, and Somaliland preference is given to candidates who are over 25 years of age. In the case of Fiji, preference is given to candidates who are under 30.

ments on the staffs of hospitals. Testimonials to character and professional competence are required, and every officer before being appointed must be medically examined by one of the consulting physicians of the Colonial Office.

In addition to the ordinary medical appointments, vacancies also occasionally, though very rarely, occur for which specialists are required—for example, to take charge of a lunatic asylum.

Applications should be addressed to the Assistant Private Secretary, Colonial Office, Downing Street, S.W.

The nominal value of the appointments in the gift of the Colonial Office varies very considerably; but as a general rule it will be found on close examination that the rates of pay correspond in real value pretty closely, when questions of climate, opportunities for private practice, the cost of living, and the actual work demanded are taken into consideration. The posts to which the lower salaries are attached commonly involve work which can be regarded as merely an adjunct to ordinary private practice, while higher pay means either few opportunities for practice, an undesirable climate, or work of a special character demanding high administrative ability. Taken as a whole, all of these appointments may be put down as offering their occupant the opportunity of gaining his livelihood and possibly saving a little money in a fashion which will test his professional abilities to the full.

A pamphlet giving a good deal of information as to the various posts is published, and should be obtained from the Colonial Office by prospective candidates. Likewise should be obtained the pamphlet relating to the West African Colonies. All their medical work has for some years past been done by a body known as the West African Medical Staff. The main advantages of this service are that it is a regular service somewhat on the lines of the Indian Medical Service; that the rates of pay in the higher grade are fairly satisfactory as compared with the cost of living on the coast; that opportunities for scientific practice of medicine are ample; and that at the end of every year's work an officer can return to England for several months' leave. There are also drawbacks, but the number of these seems likely to be diminished materially in the early future as the outcome of the deliberations of a departmental committee which has recently concluded its labours. Should its recommendations be accepted in their entirety, the service will be one to be commended to those who are prepared to face the ordinary drawbacks of a life in a tropical country.

PRACTICE IN BRITISH COLONIES.

THE following notes supply a general indication of the requirements which must be satisfied by those desirous of practising in the Colonies on the strength of qualifications received from licensing bodies in the United Kingdom. Personal inquiry should, however, always be made on the point.

CANADA.

Throughout practically the whole of Canada registration is a necessary prelude to practice; each province keeps its own Register, and has its own regulations as to admission thereto. Some information as to these regulations, so far as practitioners from the United Kingdom are concerned, here follows. For most of it we have to express our indebtedness to the Registrars of the different licensing bodies concerned. A medical man, however, who proposes to settle in Canada should in all cases address a formal inquiry to the Registrar of the province in which he proposes to settle, and obtain in advance any forms he may have to fill in and the dates of any examinations which may be necessary.

Quebec.—A Register is maintained in this province by the Provincial Medical Board, which has its seat in Montreal. It has power to issue a licence to practise to any person who can afford proof of good conduct and that his name is on the *Medical Register* of the United Kingdom in virtue of qualifications granted after a period of five years' study, during the course of which the applicant was uninterruptedly resident in the United Kingdom.

Nova Scotia.—The medical authority in this province is the Provincial Medical Board, 241, Pleasant Street, Halifax. An applicant for admission to its Register on the strength of British qualifications must produce (1) the diplomas entitling him to registration in the United Kingdom; (2) a certificate from the Registrar of the General Medical Council showing that his name is on the *Register*, and that no charge is pending against him; (3) a recent and certified photograph as evidence of identity; (4) a certificate of age; (5) satisfactory evidence of good character. The fee for registration is 30 dollars.

Prince Edward Island.—The medical government of this province is in the hands of a council selected from among the members of the Medical Society of Prince Edward Island. This council maintains a Register, and will admit to it, on payment of the required fee, any person who is duly registered by the General Medical Council in Great Britain. The council has its office at Grafton Street, Charlottetown.

Ontario.—The authority in medical matters in this province is the Council of the College of Physicians and Surgeons of Ontario, whose registration office is at 170, University Avenue, Toronto. The law leaves it optional to this council to admit to registration any person who is duly registered in Great Britain, or who is otherwise authorized to practise medicine, surgery, and midwifery in the United Kingdom. Its working rule at present is to admit practitioners who have been five years in active practice after admission on the *Register* of the General Medical Council on their passing the intermediate and final examinations for the M.B. degree of the University of Toronto. Those who have not been five years in practice must pass all the examinations.

British Columbia.—The governing body is the Medical Council of British Columbia, which has its seat at Victoria and keeps a Medical Register. A practitioner who affords proof of good conduct, and can show that he was registered in Great Britain or Ireland previous to June 30th, 1887, may obtain admission to the provincial register in return for a fee which, according to the Medical Act of the Colony, must not exceed 100 dollars. Otherwise he must pass a "satisfactory examination touching his fitness to practise as a physician or surgeon," as well as pay the aforesaid registration fee. The examinations in question appear to consist of four or five written questions in anatomy, chemistry, and public health, materia medica and therapeutics, medical jurisprudence, midwifery and diseases of women and children, physiology, surgery, the theory and practice of medicine and medical pathology. So far as can be gathered from the nature of the questions set on a recent occasion, the examination is not one which an ordinarily well-informed practitioner would be likely to fail to pass.

Manitoba.—The medical authority in this Colony is the College of Physicians and Surgeons of Manitoba. It has its seat at Winnipeg, and maintains a Register to which it at present admits medical men whose names are registered in the United Kingdom and who are of good standing. The fee is 75 dollars.

North-West Territories.—Within the last few years two provinces have been formed out of these territories, the one named Alberta and the other Saskatchewan. In each of them a Medical Act has been passed, which brings into existence in the one case the College of Physicians and Surgeons of the Province of Alberta, and in the other the College of Physicians and Surgeons of the Province of Saskatchewan. Each of them maintains a Register, admission to which costs 50 dollars. Before admission, however, a medical man with qualifications derived from the United Kingdom would have to pass an examination "touching his fitness and capacity to practise medicine, surgery, and midwifery." The cost of this examination is a further 50 dollars.

New Brunswick.—A Register is maintained by the Council of Physicians and Surgeons of New Brunswick, which has its seat at St. John. In the regulations respecting candidates for admission to the Register which this Council has laid down, previous admission to the *Medical Register* in Great Britain and Ireland is not specifically mentioned as a qualification for admission to the Register in New Brunswick. On the other hand, any medical man who holds qualifications entitling him to the *Register* in Great Britain would appear to be able to meet all the conditions mentioned, provided that the preliminary examination in general education passed by him previous to commencing the study of medicine has been the matriculation of some university, or that it has

been an examination including in its subjects English, arithmetic, algebra, geometry, Latin, elementary chemistry, elementary mechanics, history, geography, and two of the following languages: Greek, French, and German. We do not profess, however, thoroughly to understand the requirements of this Council, and it is particularly necessary that any practitioner proposing to settle in this province should first ascertain, by direct inquiry, on what terms he will be admitted to the Register.

AUSTRALASIA.

In Australia and New Zealand admission to the Register is accorded to those who can supply proof that they are registered in the United Kingdom, that they are of good repute, and that they are the rightful owners of the documents which they present.

SOUTH AFRICA.

Cape Colony.—Application for admission to practise must be addressed to the Colonial Secretary at Capetown, and is granted by him on the recommendation of the Colonial Medical Council. Applicants who desire to obtain registration without undergoing examination must produce proof that they are the rightful owners of degrees or diplomas entitling them to practise in the United Kingdom. The fee for registration is £5.

Natal.—Registration is in force in this Colony, the regulations respecting it corresponding with those in Cape Colony, but the fee at present is only £1. Recently, however, there has been a proposal to increase it.

The Transvaal.—There is a Medical Council at Pretoria which maintains a Register, and admits to it any person who furnishes proof of identity with the rightful owner of a qualification entitling the person named to admission to the *Register* in Great Britain and Ireland. The fee for a licence to practise is £10.

Orange River Colony.—The regulations affecting British practitioners are the same as those in the Transvaal, but a licence to practise costs £7 10s.

Rhodesia.—A licence to practise costs £5, and is accorded to the legal holders of degrees and diplomas entitling them to admission to the *Register* in Great Britain or Ireland upon application to the Administrator of Rhodesia.

CROWN COLONIES.

In the Crown Colonies, including Ceylon, the Straits Settlements, Mauritius, British Guiana, and the West Indian Islands, and many other of the smaller British possessions scattered throughout the world, no difficulty is raised to the practice of medicine and admission to the Register if one is kept, in the case of any medical man who is in a position to prove his qualification to registration under the Medical Act of 1858.

PRACTICE IN FOREIGN COUNTRIES.

THE following notes give some indication of the conditions under which medical men possessing British degrees or diplomas are at liberty to practise in foreign countries.

Austria.—It is necessary to pass the State examination, or to obtain a university degree in Medicine, a necessary preliminary to which is naturalization as an Austrian subject. Recognition of foreign diplomas may be obtained on passing certain examinations.

Belgium.—Permission to practise must be obtained by foreign practitioners through a duly appointed Medical Board. To obtain it is a matter of extreme difficulty.

Bulgaria.—Foreign medical graduates must pass a viva voce examination conducted in the Bulgarian language.

Denmark.—Foreigners are allowed no privilege in respect of exemption from examination.

Egypt.—Permission to practise is accorded by the Director-General of the Sanitary Department to registered British practitioners upon proof of identity and a certificate of good character from the British Consul-General.

France.—The degree of M.D. must be obtained by examination before a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse). This regulation applies to Algiers also. The degree, moreover, confers the right to practise only if it has been obtained on precisely the same conditions as those to which French students are subject.

Germany.—Any person may practise medicine in this country, but does so at his own peril unless he has passed the *Staats-Examen*. The latter alone confers recognition as a legal medical practitioner, and must be passed even by those who are already graduates of German universities. It takes place every year in November, and can be held by a Medical Board of Examiners at any German university. The application of a candidate for admission to the examination must be accompanied by certificates of admission to the university from a German public school, and of at least nine half-yearly terms of medical study at a German university. The Government reserves to itself the right to exempt from this examination men of medical distinction under certain conditions, but the latter have no application to foreign medical men. Very occasionally also certificates of study at other than German universities and medical schools are accepted in lieu of some of the courses imposed on candidates.

Greece.—A State examination must be passed, but graduates of foreign schools may take their examination in French or German.

Holland.—Foreigners are required to pass the State examination, but registered English medical men are entitled to exemption from part of it.

Hungary.—An English diploma does not entitle its holder to practise, but recognition of British qualifications may sometimes be obtained.

Italy.—A foreigner who desires to practise only among foreigners is at liberty to do so, but otherwise he must obtain an authority from one of the Royal universities of Italy.

Monaco.—The following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French Diploma of Medicine: The degree of Doctor of Medicine of the University of "the United Kingdom of Great Britain," and the diplomas of Fellows of the Royal Colleges of Surgeons and Physicians of London, Edinburgh, Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. Every application for leave to practise must be accompanied by the diplomas of the applicant or by copies of those documents certified as correct either by a Consul of the Principality or by the Mayor of Monaco. The applicants must enter into an undertaking to live in the Principality and to practise their profession during the whole or part of the months of May, June, July, August, September, and October, agreeably to Article 1 of the Ordinance of May 29th, 1894.

Portugal.—The State examination must be passed.

Norway.—The State examination must be passed. The Government may, however, grant permission in individual cases to persons who produce satisfactory evidence that they possess the requisite knowledge.

Roumania.—The State examination must be passed (viva voce).

Russia.—Foreign medical men must pass a comprehensive examination at the Medical Academy of St. Petersburg or one of the universities of Russia, and must know Russian. Those who have not a B.A. degree must pass an examination in general education, and in Greek and Latin.

Servia.—No permission to practise can be obtained by any one other than a Servian subject, irrespective of examinations.

South America.—All the foreign States in the South American continent require a medical man who seeks permission to practise to pass an examination conducted in Spanish, irrespective of any degrees or diplomas which he may hold.

Spain.—The regulations in this country have varied a good deal, the present position being that foreign medical men must qualify in the same way as Spaniards, the time necessary to do so being accorded to those already established in practice.

Sweden.—The State examination must be passed. Some reduction in the length of the curriculum may be granted.

Switzerland.—A qualified English practitioner desiring to practise in Switzerland, even if he practise only among his own countrymen, is required to pass the Federal examination in that country. The degree of Doctor of Medicine does not give the right to practise. The Federal examination may be passed at Basle, Zürich, or Berne in German, and at Geneva or Lausanne in French. The applicant is advised to obtain from one of

his teachers or some persons of recognized scientific eminence in this country an introduction to a professor at the university at which he proposes to pass the examination. It would also be well for him to call upon the Rector of the University.

The United States.—Each of the States has its own laws and regulations; some of them will admit any man to the *Register* who holds a diploma or degree, wherever obtained; the majority require the candidate for registration to submit to an examination. Attempts to bring about reciprocity between the States have long been in progress. Changes are frequent, and any one proposing to practise in America should address special inquiries to the Medical Board of the State in which he desires to settle for information as to the regulations in force.

Turkey.—An examination in the chief branches of medicine and surgery must be passed at Constantinople (fee, £4 10s.). Before being admitted to the examination the candidate must present a diploma from a medical school recognized by the Government of the country in which it is situated.

Dental Surgery.

THE regulations of the General Medical Council require candidates for registrable qualifications in Dental Surgery to produce certificates of having been engaged during four years in professional studies, and of having received two years' instruction in Mechanical Dentistry from a registered practitioner, or at some dental hospital where instruction is given in this subject. One year's bona-fide apprenticeship with a registered dental practitioner, or one year's instruction at a dental hospital, after being registered as a dental student, may be counted one of the four years of professional study. The two years of instruction in Mechanical Dentistry, or any part of them, may be taken by the medical student, either before or after his registration as a student; but no year of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration. As regards preliminary examination and registration, dental students are subject to the same regulations as medical students, but professional study may commence by pupilage with a registered dental practitioner.

As regards registrable qualifications, they can obtain either diplomas or degrees at the hands of a large number of bodies, some account of which follows, while they have an even larger choice in the matter of places of technical education. The following is a list of some of them:

In London:
- (1) The Dental Hospital of London, Leicester Square.
- (2) The National Dental Hospital and College, Great Portland Street, W.
- (3) The Dental School of Guy's Hospital.

In the Provinces, at schools connected with:
- (1) The University of Sheffield.
- (2) The Victoria University of Manchester.
- (3) The University of Liverpool.
- (4) The University of Leeds.
- (5) The Devon and Exeter Dental Hospital.
- (6) The University of Bristol.

In Scotland at the:
- (1) Incorporated Edinburgh Dental Hospital and School.
- (2) St. Mungo's College, Glasgow.
- (3) Anderson's College, Glasgow.

In Ireland at the:
- (1) Dental Hospital of Dublin.
- (2) Trinity College, Dublin.

DIPLOMAS AND DEGREES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS body grants a diploma to candidates who pass three successive examinations, to which they are admitted on production of the following certificates:

Before the First Examination.—Of having received instruction at an institution recognized for the purpose in Chemistry, Physics, and Practical Chemistry.

Before the Second.—Of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry.

Of registration as a dental student.

Of having attended at a recognized dental hospital and school—(*a*) course of lectures on Dental Metallurgy: (*b*) a course of Practical Dental Metallurgy: (*c*) a course of lectures on Dental Mechanics; (*d*) a course of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns.

Before the Third.—Of having been engaged during four years in the acquirement of professional knowledge subsequent to the date of registration as a dental student.

Of having attended at a recognized dental hospital and school (*a*) a course of Dental Anatomy and Physiology; (*b*) a separate course of Dental Histology, including the preparation of Microscopical Sections: (*c*) a course of Dental Surgery; (*d*) a separate course of Practical Dental Surgery; (*e*) a course of not less than five lectures on the Surgery of the Mouth; (*f*) a course of Dental Bacteriology; (*g*) a course of Dental Materia Medica; (*h*) a course of instruction in the Administration of such Anæsthetics as are in common use in Dental Surgery.

Of having attended at a recognized dental hospital, or in the dental department of a recognized general hospital, the practice of Dental Surgery during two years.

Of having attended at a recognized medical school (*a*) a course of lectures on Anatomy, (*b*) a course of lectures on Physiology, (*c*) a separate Practical Course of Physiology, (*d*) a course of lectures on Surgery, (*e*) a course of lectures on Medicine; (*d*) and (*e*) must be attended after the completion of courses (*a*) and (*b*).

Of having performed dissections at a recognized medical school during not less than twelve months.

Of having attended at a recognized hospital or hospitals the Practice of Surgery and Clinical Lectures on Surgery for twelve months during the ordinary sessions.

Of being 21 years of age.

The first examination is identical with Parts I and II of the First Examination of the Conjoint Board for medical students, and exemption from it may be obtained under corresponding circumstances.

The second examination deals with Mechanical Dentistry and Dental Metallurgy. Candidates who have passed the previous examination may present themselves for this licence on production of the certificates already specified. A great deal of practical work is included in this examination.

The third examination covers (1) General Anatomy and Physiology, General Pathology and Surgery; (2) Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery. This examination is partly written, partly practical, and partly oral, and in Section II candidates may be examined practically:
- (*a*) On the treatment of Dental Caries, and may be required to prepare and fill cavities with gold or plastic filling or material, or to do any other operation in Dental Surgery.
- (*b*) On the Mechanical and Surgical Treatment of the various irregularities of Children's Teeth.

Candidates who have passed the Second Examination at least six months previously may present themselves for the two parts separately, or they may take the whole examination at one time. But they may not proceed to Part II until they have passed Part I.

Candidates who have passed the Second Examination of the Examining Board in England, or produce evidence of having passed the Examination in Anatomy and Physiology required for a Degree or other Qualification in Medicine or Surgery registrable under the Medical Act of 1886, are exempted from re-examination in those subjects in Section I.

Candidates who are members of the College, or who have passed the examination in Surgery of the Examining Board in England, or who produce evidence of having passed the Examination in Surgery for a Degree or other qualification in Medicine or Surgery registrable under the Medical Act of 1886, are exempted from examination in Surgery and Pathology in Section I.

The holders of certain degrees or Licences in Dental Surgery recognized by the College are admitted to the second and third examinations together, without passing the Preliminary Science Examination, provided they produce evidence (*a*) of having passed a satisfactory Preliminary Examination in general education, (*b*) of having completed the curriculum of professional study required by the Regulations, (*c*) of having passed the required Professional Examinations for their Degree or Licence in Dental Surgery. The following are the Degrees and Licence at present thus recognized: D.D.S. University of Harvard, D.D.S. University of Pennsylvania, D.D.S. University of Michigan, Licence of the Dental Board of Victoria. Special regulations apply to holders of registered diplomas in the Colonies.

Fees.—The fee for the diploma in Dental Surgery is 20 guineas, payable in certain instalments.

Further information may be obtained from the Secretary of the Examining Board in England, Examination Hall, Victoria Embankment, London, W.C.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Candidates for the Licence in Dental Surgery of this body are required to pass an examination in general education and two professional examinations.

Primary Examination.—Every candidate is required, before admission to the First Dental Examination, to produce evidence:

1. Of having passed a recognized Preliminary Examination, of having been registered as a medical or dental student by the General Medical Council, and of having at some period of his career attended a course of instruction at an institution recognized for the purpose in Practical Chemistry, including Metallurgy, for three months, and in Theoretical and Practical Physics for six months.

2. Of having, subsequently to registration as a dental or medical student, attended at a recognized medical school the following courses: (*a*) Dissections with Demonstrations for twelve months, during which the candidate must dissect the head and neck at least three times. (*b*) Physiology, including Dental Physiology, lectures, six months. (*c*) Practical Physiology and Histology, including Dental Physiology and Histology, human and comparative, three months.

The subjects of the Examination are: (1) Physics and Chemistry, including Practical Chemistry and Metallurgy; (2) General Anatomy and Physiology and Histology, and Dental Anatomy, Physiology, and Histology.

Final Examination.—Candidates must produce evidence of having passed the Primary Dental Examination, or an examination recognized by the college as an equivalent, and of having been engaged at some period of their career for not less than two years in the acquirement of practical familiarity with mechanical dentistry, and of having studied for four years subsequent to registration as a dental or medical student. They must also have attended the following courses at a recognized institution:

(*a*) Dental Surgery and Pathology, or the portion of the Materia Medica and Therapeutics applicable to Dental Surgery, two courses. (*b*) Dental Mechanics, two courses. (*c*) Dental Anatomy, one course. (*d*) The practice of a dental hospital or dental department of a general hospital for two years. (*e*) Clinical instruction as a recognized general hospital for nine months during the ordinary teaching session.

The subjects of the Examination are General Pathology, Medicine and Surgery, Dental Surgery and Dental Pathology, with the Materia Medica and Therapeutics applicable to Dental Surgery, Dental Mechanics and Metallurgy, and Orthodontia. The Examination is both written and practical, and candidates must pass in all subjects at one time.

Fees.—First Examination, Part I, £3 3s.; Part II, £4 4s. Final Examination, £5 5s.; on grant of Diploma, £8 8s.; or £21 in all.

UNIVERSITY OF BIRMINGHAM.

Degrees in Dentistry—namely, Bachelor and Master of Dental Surgery (B.D.S. and M.D.S.) and a diploma in Dental Surgery (L.D.S.)—are granted by the University of Birmingham. All candidates for the degrees must pass the same Matriculation Examination as that required from candidates for medical degrees. The Degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained the Licence in Dental Surgery of the University or from some body legally entitled to confer such qualification. The candidate is not eligible for the degree until a period of twelve months has elapsed from the passing of his examination for the Licence in Dental Surgery. Of this period at least six months must be spent in the dental department of a general hospital approved by the university. In addition to the Licence in Dental Surgery, the candidate must produce evidence—

1. That he has attended the courses required by medical students of the university in the following subjects, and passed the examinations held in the same for medical and surgical degrees: (*a*) Chemistry and Practical Chemistry, (*b*) Physics and Practical Physics, (*c*) Elementary Biology, (*d*) Anatomy and Practical Anatomy, (*e*) Physiology and Practical Physiology.

2. That he has attended the following courses: (*f*) One special course of Lectures on Medicine, (*g*) One special course of Lectures on Surgery, (*h*) Pathology and Bacteriology, and has passed the class examinations held in each of these subjects.

3. That he has attended courses in: (*k*) Dental Histology and Patho-histology; (*l*) Comparative Dental Anatomy; (*m*) Dental Surgery and Prosthetic Dentistry.

4. That he has received instruction in the Clinical Examination of living cases at the dental department of a general hospital for a period of not less than six months.

The Final Examination will deal with the subjects in Classes 3 and 4. On the expiration of twelve months from the date of passing the examination for the Degree of Bachelor of Dental Surgery, the candidate will be eligible for that of Master of Dental Surgery. For this degree he will be required to submit a thesis containing original work and investigations in some subject connected with Dentistry, which thesis shall be submitted to examiners to be nominated by the Advisory Board. The degree will be awarded or withheld according to the report of these examiners.

The regulations concerning candidates for the diploma are comparable to those of other licence-granting bodies, such as the Royal College of Surgeons of England, but examination in the subjects of the curriculum is divided into four sections.

UNIVERSITY OF LEEDS.

The degrees of Bachelor of Dental Surgery (B.Ch.D.) and Master of Dental Surgery (M.Ch.D.) are granted by this university, and also a diploma. Candidates for the degree of Bachelor of Dental Surgery must have passed the Matriculation Examination or its equivalent, and have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the university subsequently to the date of passing Parts I and II of the First Examination, and such period of pupilage or hospital attendance, or both, as may be prescribed by the regulations of the university. No candidate is admitted to the degree who has not attained the age of 21 years on the day of graduation. Three examinations—First, Second, and Final—must be passed. The First Examination, which is held twice a year, covers (1) Physics, Chemistry; (2) Biology; (3) Dental Mechanics and Dental Metallurgy. Candidates are allowed to take each part separately.

Candidates who have passed the Intermediate Examination for the degree of Bachelor of Science, and have in that examination satisfied the Examiners in Chemistry, in Physics, or in Biology, are, on payment of the difference between the fees required for the two examinations, regarded as having satisfied the requirements of Parts I and II of the First Examination for the degree of Bachelor of Dental Surgery in those subjects in which they have passed. The subjects of the Second Examination, which is held twice a year, are: Anatomy, Physiology, Dental Anatomy and Physiology, Dental Materia Medica. The subjects of the Final Examination, which is held twice a year, are: Dental Surgery, Dental Pathology and Bacteriology, Operative Dental Surgery, Medicine and Surgery. Candidates are required, before presenting themselves for the Final Examination, to have passed the First Examination not less than two years previously, to have passed the Second Examination not less than six months previously, and to have attended courses of instruction in accordance with the regulations of the university.

Candidates for the diploma must have attended courses of instruction approved by the university extending over not less than four years, and have completed a pupilage of three years. They have to pass three examinations, besides one in general education. The first deals with Chemistry and Physics. For the next they cannot present themselves until the third year of their pupilage; it deals with Dental Metallurgy and Dental Mechanics. The Final Examination consists of two parts—Part I: Anatomy, Physiology, Dental Anatomy and Physiology. Part II: Surgery, Dental Surgery, Pathology and Bacteriology, Operative Dental Surgery (Practical), Dental Materia Medica, and Thera-

peutics. Candidates must pass in Part I before being examined in Part II, and may pass the two parts separately. Part I cannot be taken until at least a year since the passage of the previous examination.

Before admission to any of the examinations the candidate must be duly signed up in all its subjects. The certificates presented before admission to the second part of the final examination must include one showing that the candidate has received practical instruction in the administration of anaesthetics.

Fees.—The composition fee for the requisite courses for the B.Ch.D. is £65; and for the L.D.S., £60. A prospectus containing full information may be obtained on application to the Dean of the Faculty of Medicine.

VICTORIA UNIVERSITY OF MANCHESTER.

The degrees of Bachelor of Dental Surgery (B.D.S.) and Master of Dental Surgery (M.D.S.) are granted by this university, and also a diploma. Candidates for the degree are required to pass the Matriculation Examination as for the Faculty of Medicine, and pass four examinations.

First Examination for the B.D.S.—Before admission candidates must produce evidence that they have attended at least one year's course in each of the subjects of the examination: (*a*) Chemistry, Inorganic and Organic; (*b*) Physics; (*c*) Zoology. They may be passed separately.

Second Examination.—Candidates for this must show that they have attended the Prosthetic Laboratory Work of an approved Dental Hospital for at least two years and attended courses in each of the subjects of the examinations, which are: (*a*) Dental Mechanics; (*b*) Dental Metallurgy.

Third Examination.—Candidates before admission must have duly attended in each of its subjects: (*a*) Anatomy; (*b*) Physiology and Histology; (*c*) Dental Anatomy (Human and Comparative), and Dental Histology.

Final Examination.—This comprises: (*a*) Surgery and Pathology; (*b*) Dental Surgery and Pathology, and Dental Materia Medica; (*c*) Dental Prosthetics and Orthodontia; (*d*) Operative Dentistry, and admission to it depends on the candidate having made the required number of attendances at the classes and practical work.

To proceed to the higher Degree of Master of Dental Surgery the candidate must be of not less than one year's standing as a Bachelor, and either present an approved thesis or pass an examination in some group of dental subjects.

The courses and examination for the diploma are of the same general nature and arranged in much the same fashion, but for the two years' Prosthetic Laboratory Work apprenticeship to a regular dentist may be substituted; while for the final examination Orthodontia and Dental Pathology and Materia Medica are omitted. The authorities permit those who before October 1st, 1905, obtained a registered dental qualification either after study at Owens College, Manchester, or the university, or at a recognized dental hospital, to proceed to the B.D.S. without passing the two first examinations.

UNIVERSITY OF DUBLIN.

This university grants both a degree and a diploma, the former being conferred only on candidates who have taken a degree in Arts. Candidates for the licence must pass the entrance examination of Trinity College, a Junior Freshman's term, and then two examinations, each preceded by its appropriate courses of study. The first examination covers (1) Anatomy, Physiology, and Histology; (2) Physics, Chemistry, and Metallurgy; and (3) Materia Medica. All these subjects may be passed together or each group separately.

The work required for this examination includes Dissection, students being also required to attend clinical instruction in a general hospital. The examination is usually taken at the end of the second complete year. Before admission to final examination students must produce certificates of having received three years' instruction in Dental Mechanics, and of satisfactory attendance on the Lectures in the following subjects: (1) Dental Surgery and Pathology (two courses); (2) Dental Mechanics (two courses); (3) Orthodontia; and (4) Dental Anatomy. Certificates of regular attendance (twelve months) at a hospital recognized for Clinical Instruction, and of satisfactory attendance during two years at the Dental Hospital, are also required. They must, of course, have passed the earlier examination in all its parts. At this Final Examination the subjects are: Medicine, Surgery, Dental Anatomy, Dental Surgery and Pathology, Dental Mechanics, and Orthodontia. The course of study for the degree is the same as that for the licence, with the addition of lectures on Pathology and study of Practical Pathology and Bacteriology. The candidate must have been a dental student for not less than five years, and have passed the examination for the B.A. degree, and be signed up in all the subjects indicated. The examination itself deals with Medicine, Surgery, Pathology, Bacteriology, Dental Anatomy, Human and Comparative; Dental Microscopy, Dental Surgery and Pathology, Dental Mechanics, and Orthodontia.

Fees.—The total fees for all the courses necessary to obtain the diploma, including the entrance fee at Trinity College, work at a general hospital for one year and at a dental hospital for two years, and for examination, is £200 17s. The university considers applications, on the part of qualified practitioners and others, for recognition of courses taken previous to the establishment of the Degree and Licence, in case they proceed to complete the course.

UNIVERSITY OF LIVERPOOL.

This university grants a diploma in Dental Surgery and two degrees in the same subject, the management of the curriculum being in the hands of the Board of Dental Studies. Application for further information should be made to the Secretary of the Board at the University.

UNIVERSITY OF DURHAM.

This university has now established a diploma in Dental Surgery. The regulations as to the curriculum to be followed by candidates are in keeping with those of other dental licensing bodies, but examinations in the subjects of study, which include Dental Bacteriology and Anaesthetics, are broken up into four. Before the date of the final examination the candidate must have undergone three years' pupilage in mechanical dentistry with a registered dentist.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

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Note.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

Observations
on
INJURIES OF THE OPTIC NERVE.

By J. JAMESON EVANS, M.D., F.R.C.S.,
SURGEON TO THE BIRMINGHAM EYE HOSPITAL.

As a cause of blindness, optic atrophy ranks second to ophthalmia neonatorum. In the reports of the Birmingham Institute for the Blind, optic atrophy is given as the cause of blindness in 14 per cent. of the cases, and in over a fourth of this number there was a history of traumatism. During the last year 42 cases of primary optic atrophy were treated at the Birmingham Eye Hospital, and of these 10 were ascribed to injury; 25 per cent. seems, therefore, to represent the average percentage of traumatic cases, but, owing to the accelerated methods of locomotion, this percentage is likely to be increased in the future.

For the purposes of this paper it will be convenient to discuss injuries of the optic nerve under the headings "Direct" and "Indirect."

I. Direct Injuries of the Optic Nerve.

In civil practice these injuries are comparatively rare, but in military practice they are more common. During the Boer war several cases of bullet wounds of the optic nerve were recorded, but it is more than likely that most of the cases of bilateral blindness ascribed to bullet wounds of the optic nerve were due to indirect rather than direct injury of the nerve. Apart from immediate and permanent loss of vision, wounds or rupture of the optic nerve are generally associated with haemorrhage into the orbit, proptosis and impairment of ocular movements either from injury to the oculo-motor nerves or from the mechanical interference of the effused blood. In many instances there is impairment of the sense of smell from injury to the olfactory nerves. It is possible, however, for these associated symptoms to be absent almost entirely. I remember a butcher who came to the Eye Hospital some years ago complaining of having suddenly lost the sight of one eye as the result of his knife having accidentally penetrated into the inner angle of the orbit. Beyond some haemorrhage into the conjunctiva in that region there was little to note, and though the fundus looked normal at the time, he was absolutely blind in that eye, and he developed signs of atrophy of the optic disc in the course of a few weeks. We therefore concluded that the nerve had been divided by the knife.

As a contrast to this is the case of a boy, once shown before this society, who fell on an open pocket knife, which penetrated the lower lid and entered the orbit, and apparently seriously damaged every nerve in the orbit, producing complete ophthalmoplegia and loss of vision, followed by enophthalmos, permanent minus tension and keratitis neuroparalytica. In this case there was an extensive haemorrhage into the orbit, and some in the eye itself, at the time of the accident.

In most cases the injured part of the nerve lies behind the point of entry of the central retinal vessels, and consequently there is no disturbance of the intraocular circulation. If the nerve has been divided in front of the point of entrance of the central retinal vessels, the ophthalmoscopic picture will be like that of embolism of the central artery—namely, marked retinal oedema at the posterior pole, without, however, any very definite cherry-red spot at the macula. The retina to a great extent regains its vascularity by degrees, but, of course, this is not accompanied by restoration of retinal function.

In obstetric practice the eye has, in rare instances, been scooped out by the blade of the forceps getting between the eye and the roof of the orbit, the optic nerve being torn in its orbital course or at the optic foramen. The most remarkable obstetric accident recorded is that in which the obstetrician mistook an orbit in a face presentation for the anus in a breech presentation, and gouged out the eyeball with his finger! It is interesting to note and important to remember that, short of avulsion, the eye may be extruded between the lids, during labour, without doing any serious harm to the optic nerve. Cases of this kind, in which the eye has been replaced and the sight retained, have been recorded by Beaumont, Baldwin, and others. It is, therefore, absolutely unjustifiable to excise an extruded eye without making an attempt to reduce it. The optic nerve may be directly injured during operations on the orbital contents or on the nose. In optico-ciliary neurectomy a piece of the optic nerve is excised. It appears that simple section of the optic nerve and central vessels does not cause retinal oedema, but this latter effect follows section of the ciliary arteries only.

Formerly the optic nerve sheath used to be tapped in cases of optic neuritis. I have no experience of the operation, but though it apparently did not arrest the progress of the neuritis, it presumably did not aggravate the disease. I have, however, seen a cyst of the optic nerve sheath removed after resection of the orbital wall by Krönlein's method, and the patient has retained practically full vision and field.

Intranasal operations on the ethmoidal and sphenoidal sinuses must be apt to cause injury to the optic nerve, either by direct action of the instruments or by splintering of the thin bony partitions which bound the optic foramen and sulcus. Whether such operative interference is often followed by interference with visual function I do not know; but were this at all common I think we should become aware of it, as in Birmingham, at any rate, ophthalmologists and rhinologists are often associated in the treatment of diseases of the accessory sinuses.

II. Indirect Injuries of the Optic Nerve.

Indirect are, in my experience, much more common than direct injuries.

The injury may result from the application of force to the eye itself, from blows on the orbital margins, from damage to the orbital contents by projectiles, or they may result from falls or blows on the head, compression of the skull, or falls on the lower end of the spinal column.

(a) Blows on the Eye.

Blows by blunt instruments—that is, by the point of an umbrella, garden stake, stone, etc.—are sometimes followed by atrophy of the optic nerve owing to partial or complete rupture of the nerve at the scleral foramen. In these cases it is usual to find haemorrhage in Cloquet's canal and in the retina and choroid. Cases of this kind have been recorded by Lang, Caspar, and Aschmann. The last-named was able to verify the diagnosis, histologically. Lang's case retained vision of $\frac{1}{3}$, and the greater part of the lower half of the visual field.

I saw a case of this kind with Dr. Rowlands, of Bromsgrove, some three years ago. A boy aged 9 years had been struck by a stone which had bruised the left eyebrow at the junction of outer and middle third, and there was an abrasion of the cornea and sclerotic in the upper and outer segment of the globe. The anterior chamber was full of blood. When the latter became absorbed it was found that there was still haemorrhage in the vitreous, and that the iris was ruptured and the lens dislocated. The optic papilla was hazy and surrounded by a halo of retinal infiltration. The field was defective, chiefly in the upper and inner quadrants. Vision was reduced to $\frac{1}{60}$. When I examined him again, three years later, I found the disc was horizontally oval, with a crescentic atrophic area, having a collection of pigment at one horn, below and out. The vision was $\frac{6}{9}$ with correction, but the field had contracted considerably.

(b) Blows on the Orbital Margins.

Blows on the orbital margin are a prolific source of indirect injuries of the optic nerve. Cyclists are particularly liable to such injuries. A cyclist when thrown from his machine, through skidding or otherwise, is very liable to strike some part of the orbital margins. If he falls over the handlebars the part injured will probably be the superior border, but if he falls laterally he generally strikes the external angular process against the kerbstone or some such object. According to the pace of the rider and the force of the fall, this may or may not be followed by loss of consciousness and other signs of concussion of the brain, and it may or may not be associated with haemorrhage from the nostril or nostrils, sickness, and vomiting. In many cases momentary dizziness and a black eye are the only symptoms beyond an immediate failure of sight on the injured side. This failure of vision may amount to complete blindness in the affected eye, but in many cases it is a partial though permanent blindness—that is, loss of part of the field of vision, with reduction of

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central vision. The part of the visual field lost seems to me to bear a relation to the direction of the force applied to the orbital margins. In the case of a fall on the external angular process the force is applied laterally to the lateral half of the field, and almost always the temporal half becomes lost. When the force is applied vertically, the vertical half of the field is lost—the upper half when force is applied from above downwards, and the lower half when the force is applied from below upwards—though this is not so constant as the loss of the temporal field in falls on the external angular process.

Whether vision be partially or completely lost in these cases, ophthalmoscopic changes are conspicuous by their absence at the time of the injury. In the course of three or four weeks, however, atrophic changes become visible in the nerve head, and after some considerable time a slight, though appreciable, diminution in the size of the retinal vessels becomes apparent.

Central vision often improves considerably during the first few months after the accident, but the restriction of the visual field undergoes no appreciable change. Colour vision is often somewhat impaired, and central scotoma for colours has been noted.

As to the pathogenesis of this form of nerve injury, a good deal has been written. I am, however, inclined to doubt Oettingen's statement that "there are few cases in which permanent blindness should, with our present knowledge, be attributed to concussion of the retina or the optic nerve." Various authorities have ascribed the injury of the nerve in these cases to:

1. Fracture of the skull extending through the optic foramen.
2. Laceration of the nerve by a detached and displaced anterior clinoid process or other spicule of bone.
3. Haemorrhage into the sheath or substance of the optic nerve.

It is hardly conceivable that anything more than a fissure fracture of the orbital roof can occur in the less severe cycling accidents, and fracture without considerable displacement is not likely to produce immediate, complete, or partial destruction of the optic nerve.

Laceration by detached bone would appear equally unlikely to give rise to such definite results as follow falls on the orbital margins. Haemorrhage into the sheath or nerve substance would probably involve the whole nerve, or, at any rate, would not be at all likely to be confined in its effects to one-half of the nerve, as it would have to be to produce hemianopia. One is therefore forced to regard the lesion as one of contusion of the optic nerve, at the foramen, by *contrecoup*—that is, the nerve is damaged by being driven against the inner boundary of the foramen in falls on the external angular process and against the lower and upper boundaries in blows or falls from above downwards and from below upwards respectively. In the case of falls on the external angular process, the external part of the nerve is also largely protected from the severity of the force by the ophthalmic artery, which lies on its outer side.

(*c*) *Gunshot Wounds of the Orbit and Indirect Injuries of the Optic Nerve.*

In civil practice one's experience of these cases is confined to a few accidental and suicidal injuries. Cohn's studies of such injuries in the Franco-German war, and Nettleship's paper on blindness from gunshot injuries—chiefly in the last Boer war—have thrown a good deal of light on the subject. In the case of blindness caused by projectiles of high velocity it is usual to find that there is free bleeding into the vitreous, with choroido-retinal inflammatory exudation, without, however, any softening or shrinking of the globe, or any sign of rupture of the sclerotic.

In cases due to projectiles of lower velocity—for example, revolver and air-gun projectiles—these intraocular changes are either absent altogether or are present to a limited extent only when the projectile has passed rather close to the globe.

In cases of injuries from rifle bullets and shells the blindness and intraocular lesions occur without the projectile having touched the eye or optic nerve, and even without its traversing the orbit.

In these cases Nettleship remarks:

> The almost total blindness is not explained by the choroido-retinal changes, and we must assume that the optic nerve is destroyed either by immediate haemorrhage into its substance by vibration injury, or by subsequent inflammation, extending from the damaged region of the choroid. As no examination of sight was made until several weeks after the injury, the point cannot be decided.

I think, however, that we are justified in ascribing the nerve and intraocular lesions to vibration effects, which Nettleship describes as follows:

> The indirect lesions are, it seems, to be explained by assuming that—at any rate, in the case of soft tissues, which during life are almost fluid—the force of the projectile is partly changed into vibrations of the tissue particles, which vibrations radiate in lines from the long axis of the bullet track so forcibly that they act as secondary missiles.

These vibrations may pass harmlessly through a somewhat dense and resisting tissue, such as the sclerotic, and even through bone, and yet cause destructive changes in the soft, delicate structures of the retina, optic nerve, and choroid.

(*d*) *Falls or Blows on the Head.*

Optic atrophy may follow compression of the skull and distortion of the orbit of a child by the forceps in instrumental delivery. In these cases the nerve becomes compressed by displaced bone, or the atrophy follows upon haemorrhage into the optic nerve sheath or substance. Possibly a similar result may follow pressure of the head against the sacral promontory during natural but prolonged and difficult labour. Falls on the head (vertex) may be followed by atrophy of the optic nerve for the same reasons that were put forward to explain optic atrophy following blows on the orbital margins. It is evident that it is not essential to assume a fracture of the optic foramen or foramina in these cases, though such is more likely than in cases of blows on the orbital margins. It should be noted, too, that most extensive fractures of the skull and facial bones may occur without affecting the optic nerves and eyes in the least degree.

Antero-posterior blows, falls, or compression of the skull may likewise be followed by atrophy of the optic nerve. In many cases of skull injuries the atrophy is post-neuritic, and in some cases we find a persistent optic neuritis, or at any rate an apparent optic neuritis, which does not progress to atrophy.

It is evident that we have much to learn with regard to these injuries of the optic nerve, and our knowledge can only be advanced by co operation between general and ophthalmic surgeons and more careful and frequent *post-mortem* examinations of skull injuries. By these means and careful clinical observations, we may hope some day to establish a theory adequate to explain the varied and somewhat contradictory conditions frequently observed.

ON THE VALUE OF SURFACE SIGNS IN THE DIAGNOSIS OF DEEP-SEATED DISEASE.

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EXAMINATION of several typical cases of gastric ulcer elicited the well-recognized tenderness over the epigastrium. Various methods were used, such as pressure, pinching the skin, etc., but the most satisfactory results were obtained by gently drawing a pencil over the area examined, when a definite localized hyperaesthetic spot was found without unduly exciting the patients; when hyperaesthesia is found on the abdomen, a spot also exists over the spinal column in the region of the dorsal branch of the cutaneous nerve affected (Sahli). All the cases examined exhibited the abdominal tenderness, and the more recent ones were confirmed by the dorsal reaction.

Similar observations were made in young men of the gastro-neurasthenic type, and, while tapping and pinching would at times elicit a response, gentle stroking of the epigastrium, controlled by stroking the spine, never gave evidence of hyperalgesia. During these observations a young man about 24 years of age presented himself for treatment with dyspeptic symptoms. He had had many gastric sedatives without relief, but his gastric symptoms were relieved by bromides, in spite of the irritating effect of the salt on the gastric mucosa.

The two following cases suggest this sign to be of value in the diagnosis of duodenal ulcers. A typical case of

duodenal ulcer was to be operated upon; he had a definite hyperaesthetic spot just above the umbilicus, and at the operation an ulcer was discovered. The other was the case of a man, about 45 years of age, who suffered from anaemia, indigestion, and melaena. A spot of tenderness was found in a similar position. This case was, however, not confirmed; the man is in good health at present, four years after his illness, thus excluding malignant disease. An attempt to obtain this reaction in malignant disease and chronic (tuberculous) ulceration of the gut was negative.

The above observations have led to the conclusions that this reaction is only present in acute ulceration, and that it is found at or near the middle line both ventrally and dorsally—that is, at the cutaneous nerve terminals corresponding to that segment of the cord which supplies the sympathetic nerve or nerves to the viscus involved. In support of this statement it may be said that in the duodenal cases the tenderness was found near the umbilicus considerably lower than the gastric tenderness, whereas it is possible for a gastric ulcer to be anatomically lower than a duodenal one, but as the stomach is embryologically a vertical organ, the duodenum receives its nerve supply from a lower segment of the cord than the stomach, whatever its eventual anatomical relationship may become.

No doubt in acute ulceration the nerve terminals are exposed and irritated, producing a reflex irritability of the cutaneous representative. This probably explains the absence of tenderness in malignant ulcers in which there are no terminals to be irritated by the alimentary contents; in necrotic tuberculous tissue also there would probably be no active terminals.

With regard to the clinical value of the intensity of the pain only one positive statement can be made, and that is that a sudden diminution in the pain is of grave import. Comparing the mucosa with the skin, one might imagine that a simple erosion just exposing the terminals would be more painful than a deeper ulceration as in the case of burns.

Having made the above observations on the neuro-cutaneous reaction, an attempt was made to obtain a neuromuscular reaction over deep seated organs.

Beevor's sign in nervous disease is well recognized; still further, it has recently been stated that the rectus reflex is absent in typhoid fever. No doubt the rectus reflex is protective, and it seems rational to conclude that its so-called absence in typhoid is, in reality, its continuous presence as a protection to the inflamed viscera beneath. If, then, a localized viscus be inflamed, one would expect to find the rectus, or, more broadly, the abdominal reflex, absent only in this area. The following cases, which were under observation at the same time, support this view:

(*a*) A girl, aged 22 years, had a slight temperature, diarrhoea, and blood in the motions; her reflex was present.

(*b*) A boy, aged 12 years, had fever, tympanites, etc.; his reflex was absent.

(*c*) A lad, aged 17 years, had somewhat obscure colicky symptoms: his reflex was present everywhere except in the appendicular region.

(*a*) recovered in a few days, (*b*) ran a typically typhoid course, and (*c*) was operated upon and a diseased appendix removed.

The abdominal reflex is often difficult to obtain in fat and pendulous abdomens, but is especially marked in children, where it is of great value, for example, in appendicitis, which is so frequently overlooked and diagnosed as colic.

In attempting to obtain this reaction recently in a case of appendicitis no reaction was visible, but a twitch of the umbilicus was seen when the abdomen was stroked everywhere except in the appendix region.

Another neuro-muscular reaction is the so-called myotatic irritability frequently demonstrated in the pectorales majores in asthenic states, and of little diagnostic value, but its frequent unilateral presence in early doubtful cases of pulmonary tuberculosis most certainly suggests a unilateral cause; if a suspicious apex is found, unilateral myotatic irritability should certainly be taken into consideration in coming to a conclusion.

The following is an interesting case of myotatic irritability:

A case of subglenoid dislocation of the shoulder after two attempts at reduction by Kocher's method was reduced under anaesthesia; early passive and active movements were employed with good results, except excruciating pain, which lasted for a considerable time, due, no doubt, to a synovitis in a rheumatic subject. During this time marked fibrillary tremors could be elicited, chiefly over the deltoid. This sign should, if reliable, be of value in differentiating between genuine and malingering cases in medico-legal work.

No doubt the peculiar bronzing in Addison's disease is a neuro-pigmentary change resulting from involvement of the suprarenal capsules and sympathetic systems by new growth. The following case seems to support this theory:

A woman, aged 50, suffered from gastric carcinoma, but refused operation. However, in the later stages she developed a pigmentation like that of Addison's disease, and the deduction was that this was due to an implication of the sympathetic by growth or glands, suggesting that such a condition might be looked upon as a neuro-pigmentary change in the skin due to disease of a deep-seated organ.

In conclusion, it may be claimed that cutaneous hyperaesthesia is of considerable value in the diagnosis of acute ulceration of viscera; that the neuro-muscular reaction is of some value in the diagnosis of inflamed viscera; that myotatic irritability is by no means a negligible quantity; and the suggestion that there is a neuro-pigmentary sign in the skin of visceral disease proves that the question of superficial evidence of deep-seated disease is a far larger one than it at first seems, and offers considerable scope for both observation and research.

ORIENTAL SORE OF NORTHERN INDIA A PROTOZOAL INFECTION:

A PRELIMINARY COMMUNICATION ON THE ETIOLOGY OF THE DISEASE AND THE EXTRA-CORPOREAL CYCLE OF THE PARASITE.

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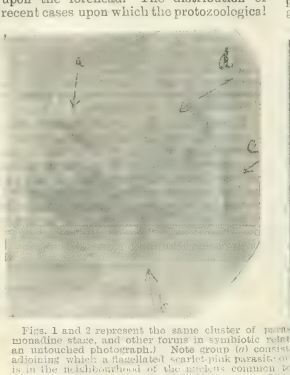
SURGEON-MAJOR D. D. CUNNINGHAM, Indian Medical Service, in 1885 was the first scientific observer who recognized the parasite causative of Oriental sore. He regarded the clusters of parasites he noted in the lymphoid cells as representing various stages of some simple organism constituting the virus of the disease. Since that date many observers, such as Deperet, Bonet, Ducloux Heydenreich, Riehl, Poncet de Cluny, Brocq, Veillon, Weber, Vidal, Colvill, Hickman, Nicolle, Noury Bey, have put forward cocci, streptococci, achi-zo-mycetes, etc., as the cause of the disease. Wright has recently redescribed these bodies under a new name, *Helcosoma tropicum*. Oriental sore is a name given usually to a circumscribed inflammation of the skin that occurs endemically in tropical and subtropical countries. Several types of Oriental sore exist, as will be shown later. The special characters of this disease are its long duration, slow cicatrization, and the fact that it is contagious and autoinoculable in the person infected.

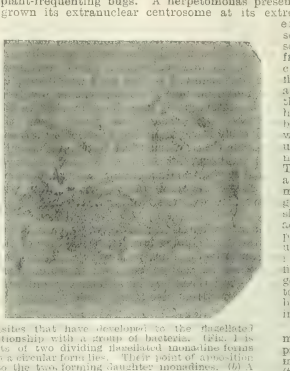
Synonyms.—Mycosis cutis chronica (Carter); Lupus endemicus (Lewis and Cunningham); Bessel timour (Arabian); Salik (Persian); Tochiban (Turkish); Pascha churdj, Afghan jhara (Afghanistan); Godownik (Russian); Monghry phora (Punjab); Chambal (N. India).

This affection is often limited in distribution to certain towns and districts, hence its varied nomenclature. It is a disease about which little has been known, save that it is probably introduced into the body through injuries of the integument. The exact period of incubation is still unknown, as is also the invertebrate host. The only part of the body immune against a second infection is a scar area resulting from a previous infection. It appears in the tropics at the beginning of the cool season, and in subtropical regions in the autumn or late summer. Age, hygienic conditions, food, sex, race, and constitution play no part in the etiology.

It is interesting to note the distribution on the body. In a series of 1,154 Oriental sores seen during 1903 and 1904 in South Arabia, 24 cases seen in Poona, 162 seen in Jacobabad and Quetta, 8 in Jhansi, and 5 in the Zakka Khel country, a total of 1,406 sores during seven years, the Arabian cases showed 914 sores on the lower limbs,

113 on the upper limbs; the greater majority of these were in the neighbourhood of the elbow-joint; 26 were on the face, either on the forehead, side of the nose, outer or inner canthus of the eye, or side of the cheek. The Poona cases showed 14 sores on the back of the elbow-joint, 1 on the wrist, the remainder on the face. The cases from Scinde and Baluchistan showed 103 on the face, 15 on the arms, 3 on the body at the nape of the neck. The remainder were on the lower limbs, excepting 6 cases, which were all upon the forehead. The distribution of the sores in the recent cases upon which the protozoological parts of this paper is based is described later.





Figs. 1 and 2 represent the same cluster of parasites that have developed to the flagellate monadine stage, and other forms in symbiotic relationship with a group of bacteria. (Fig. 1 is an untouched photograph.) Note group (*a*) consists of two dividing flagellated monadine forms adjoining which a flagellated scarlet-pink parasite of a circular form lies. Their point of connection is in the neighbourhood of the nucleus common to the two forming daughter monadines. (*b*) A single rosy-pink not flagellated body lies apposed to the dividing monadine forms. (*c*) Early typical cithridial form, though blunted somewhat. (*d*) Group containing a few flagellated monadine forms, the one rosy pink below and circular, the other cithridian in shape.

In the light of the experiments described below, it is certain, in the first place, that true Oriental sore is due to a localized cutaneous infection by one or more species of protozoon which can under suitable conditions in culture develop from the early inflexed fusiform or torpedo or cockle-shaped forms found in the infected tissues to the fully-developed monadine flagellated organism cithridial in type.

In the second place, it is certain that the view held by Manson and other workers, that the parasite of Oriental sore represents a localized infection by *Leishmania donovani*, whereas kala-azar is a generalized infection of the body with the same parasite, is entirely wrong. The parasite, though morphologically somewhat similar in the early form of the Oriental sore, differs from Leishmania as much in culture as it does in the manner it attacks man, in that the parasites develop to their final stage of flagellated organisms in symbiotic relationship with cocci and bacteria. Further, it is interesting to note that two forms of the parasite occur in culture, the one a blue-staining flagellated organism, the monadine form representing, in my opinion, the motile sexual form, possibly the male element, the other a red-staining flagellated organism entirely different, possibly the female element. The fact that these two latter forms are found frequently in pairs is highly suggestive of sexual interchange of elements, previous to the gregariniform phase. The third type found in culture are minute coccoid-like protozoa, the resistant gregariniform phase, or the earliest form of the parasite from which the common types found in the Oriental sore arise.

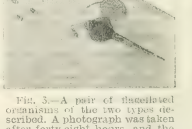


Fig. 3.—A pair of flagellated organisms of the two types described. A photograph was taken after forty-eight hours, and the diagram drawn to scale with a 4 apochromatic objective and 12 compensating eyepiece, and parallel to the parasites seen in the centre of the plate.

The classificatory distinctions between the various insectan flagellates, and their relationship, if any, to the trypanosomes of vertebrates, the questions of their evolution and phylogeny, would seem to have afforded many protozoologists a field for obscure speculation of as yet little practical value. Much controversy has recently taken place as to what position the herpetomonadine parasite of kala-azar should take in the order of protozoa; this is mainly due to the fact that the cytological differences between the parasitic genera herpetomonas, cithridia, and trypanosoma are not clearly recognized. For this reason we are giving a brief preliminary description of what would seem to be a cithridial infection in man. I propose to mention types of each genus showing the cytological distinctions between the genera.

The genus herpetomonas is parasitic in non-biting flies and plant-frequenting bugs. A herpetomonas presents when full grown its extranuclear centrosome at its extreme anterior extremity, separated by some distance from the nucleus; the flagellum arises from the neighbourhood of this body, and is without any undulatory membrane. The body of a herpetomonas is elongated and slender, often reticular, the posterior end usually tapering away finely. This genus herpetomonas may be divided into:

1. Leishmania, a genus parasitic in mammals (type *L. donovani*).

2. Leptomonas, a genus parasitic in the gut of plant-frequenting bugs (*L. drosophilæ*).

3. Herpetomonas, a genus parasitic in non-biting flies and plant-frequenting bugs (type *H. muscæ domesticæ*, *H. lygæi*).

The genus cithridia is parasitic in leeches, ticks, mosquitos, predatory and plant-frequenting bugs, and in the gut of biting flies. In this genus the flagellated organism presents a rudimentary undulatory membrane, whilst the extranuclear centrosome lies anterior and close to the nucleus. In cithridia the body differs from herpetomonas in being much shorter, wider, and more pyriform; the hinder end is sometimes drawn out, but usually terminates in a rounder, more obtuse manner.

The genus trypanosoma is parasitic in vertebrates, the gut of non-biting flies, etc. The flagellum usually has a definite undulatory membrane, though this may be absent. The extranuclear centrosome is usually at the posterior extremity, but may be seen in any position anterior or posterior to the nucleus. This genus thus performs a kind of connecting link between herpetomonas and cithridia.

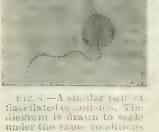


Fig. 4.—A similar pair of flagellates to examine. The diagram is drawn to scale under the same conditions as the previous plate, and parallel with the parasites seen in the centre of the plate.

Both herpetomonas and cithridia are genera whose distinction is based upon the size and shape of the monadine form, and show in general an alternation of monadine flagellate, with gregariniform resting or non-flagellate phases. In the latter the parasites are seen as small rounded pear-shaped or oblong bodies, attached in great numbers to epithelial cells, etc.

The parasites present in this stage two chromatic elements; a nucleus with its intranuclear centrosome lie close to each other at the base of the cell. In some species a trace of the flagellum attached to the extranuclear centrosome is seen.

Bearing in mind the above facts, it is interesting to find that the species of cithridia which I have successfully cultivated from the human being presents, under cultural conditions, both the fully-developed monadine as well as the gregariniform phases.

Oriental sore is a name given to an affection which presents several types. The classical type is as follows: A small red spot resembling the bite of an insect appears

on the surface usually of some exposed part of the body. A minute nodule, intensely itchy and irritating, forms. The top of this is scratched off by the sufferer, and from the raw area a thin serous fluid exudes. A yellow scab forms on the raw surface. In about forty-eight hours the edges of this scab are ringed by a thin line of inflammation, and the scab slowly grows at the expense of the surrounding tissue. If the scab is removed a shallow ulcer is seen to have formed. Infected spots occasionally appear beyond the line of inflammation: these join with the parent ulcer, and thus the regular shapes seen in some cases arise. After some weeks the sore has assumed the characters of an ordinary deep ulcer—its base covered with indolent granulation, its walls eaten out, and the circumference of the sore raised and angry-looking. The ulcer alternately scabs over and breaks down. After months of discomfort cicatrization sets in at one side of the ulcer. This may break down, but as a rule a slow cicatrization, progressing faster than the gradual advancing line of destruction, finally overtakes the latter, and the sore, after a duration of often over a year, heals, leaving a dead, whitish-blue scar. Other parts of the body may get infected by the scratches of the sufferer, or in Oriental countries by the infection of skin abrasions by flies, for whom the Oriental sore of this type seems to have a peculiar fascination. Swarms of *Musca domestica* and other flies constantly buzzing around the infected area torment the patient unless antiseptic dressings have been applied.

THE BEST MEDIUM AND TEMPERATURE FOR CULTURE OF THE PARASITE.

As result of experimenting with a series of over fifty different blood media at different temperatures, the medium that was found to exactly meet the requirements of the protozoal parasite was made as follows:

To 29 c.cm. of sterilized citrate solution 10 per cent. add about 3 c.cm. of fluid expressed from the edge of the sore, which contains myriads of the young torpedo-shaped and cockle-shaped parasites typical of the disease.

It is advisable to bore through the rosy margin of the sore to a depth of about ¼ in., or ½ in. towards the centre of the infected area, with a short, fairly fine glass pipette, whose tip has been broken off. Smart pressure will give a steady flow of infected blood and serum.

This infected mixture should now be covered, ringed with vaseline, and placed on ice until the remainder of the medium is made up. Take 50 c.cm. of normal human venous blood and allow to stand in an ice chest for an hour. At the end of this time break up the clot with a fine glass rod and stir until the whole mass is finely broken up. Pour the fluid portion of the blood and serum into sterilized centrifugal tubes, seal with waxed corks, and centrifugalize until large columns of clear serum are obtained. Place these tubes of blood in an incubator and keep them at 56° C. for five minutes, then allow to cool to 28° C., or laboratory temperature.

Make a series of fifteen pipettes for cultures as follows: Blow a large glass bulb in the centre of a 3½ in. piece of ordinary glass rod, then make a long, narrow-drawn out area above it, twist this whilst soft so as to make a circular tube of narrow calibre above the bulb. Flame the tube until very soft below the bulb, and draw out until a long, thick capillary tube 7 in. is made. Cut and seal this capillary tube. Plug the short upper end of the tube above the circular tube with wool and sterilize in hot air.

Following the usual laboratory methods, make a mark on the capillary tube about ½ in. from the bulb. Take the volume of the tube from this point to the other end as one unit, and draw fluid up in the bulb with a large rubber teat on the plugged end of the tube. To four units of clear non-activated serum, add four units of red blood cells collected below the fine white cell buffy layer. To this add three units of sterilized citrate 10 per cent. and mix the constituents freely in the bulb by shaking. To the mixture add four units of infected citrate taken from the sedimented organisms which lie with red blood cells at the bottom of the watch glass. Mix thoroughly in the bulb, seal the capillary tube.

Thread the tubes so prepared on a glass rod bent to three sides of a rectangle and just able to slide into the upper shelf of an incubator. Keep this incubator at 22° C.

At the end of thirty-six hours, practically every tube shows myriads of single protozoa and large clumps of the parasites in all stages, from those found in the sore to the free flagellar forms.

There are many limits within which I have altered my constituents and temperatures and got positive results, but the above is the most certain and most perfect as yet attained.

The important points to be noted are: (1) The red cells and serum must be heated to 56° C. for five minutes; (2) the medium must be highly acid; (3) the parasites must be freely mixed up with the constituents of the medium ere the red cells deposit with them in the capillary tube; (4) white cells should be avoided as much as possible.

In a successful culture flagellar forms increase in enormous numbers up to a hundred and twenty hours, and live symbiotically with masses of cocci and bacilli. Parasites are found in large clusters (flagellates) in forty-eight hours. In seventy-two hours pairs of flagellated organisms are frequently found, the one parasite crithidial in shape and staining blue, the other oval or circular and staining rosy pink; the two organisms are apposed to each other at or about the level of the nucleus of the crithidial form. These pairs are first seen in cultures forty-eight hours old; the rosy flagellate form then is usually smaller and stains deeper.

DIFFERENTIATION BETWEEN KALA-AZAR AND ORIENTAL SORE.

Kala-azar.	Oriental Sore.
Family Distribution.	
An extraordinary tending to attack a number of persons in the same family or households, this family incidence clearly pointing to house infection.	Rarely, if ever, more than one person attacked.
Age Incidence.	
Children most commonly attacked.	Adults the rule.
Race Incidence.	
Immigrants rarely attacked before eight years' residence in the East. The majority of patients seen are natives.	Immigrants attacked within a few months' to a year's residence in East. The majority of patients seen are natives.
Seasonal Incidence.	
No seasonal incidence known, though it is probable that the majority of cases are infected in the cold season.	Affection first appears usually from September to April, and may last for sixteen months and more.
Fevers Typical of the Disease.	
Double remittent type of fever in certain cases. Double continued type. Low continued type. Frequency of different types of fever in various stages of the disease.	No fevers.
Recovery after Septic Complications.	
Such as cancrum oris.	Septic complications no effect as the parasite thrives best in cultures with masses of cocci and bacteria.
Power of Cure.	
Large doses in early cases have cured.	No result.
General Symptoms in Kala-azar.	
Early cases gave history of rigors daily.	None.
Headache.	None.
Sickness.	None.
Bowels. One-third of cases in hospital show diarrhœa, dysentery in 7 per cent. of such cases.	No bowel trouble.
Spleen and Liver.	
Enormous enlargement of both viscera.	None.
Coagulability of the blood decreased.	Increased.
Distribution of the Parasite.	
Polynuclear leucocytes infected.	Superficial polynuclears rarely, if ever, contain the parasites, whereas they swarm in the large mononuclear cells seen in a smear.
Spleen, liver, bone marrow infected heavily.	
Intestinal ulcers and cutaneous ulcers contain the parasite.	
Cultivation and Development of the Flagellated Stage of the Parasite showing differences between the two Parasites.	
At 22° C., in blood containing citrated 10 per cent., parasites live for several days and multiply, but there is no material alteration in their form and no increase in size.	At 22° C., in infected unheated undiluted serum with no citrate, flagellar forms appear in five days.
At 22° C. and not above 25° C., flagellated forms appear.	At 25° C., flagellar forms have been obtained.
Exposure to a temperature of about 25° C. causes rapid death and degeneration of the developing forms.	

Cultivation and Development of the Flagellated Stage of the Parasite showing differences between the two Parasites (continued).

Kala-azar.	Oriental Sore.
Sterility of the culture tubes of crucial importance. Contamination with micrococci and bacteria cause rapid death degeneration of the parasites, staphylococci the most deadly contamination for the parasite.	Contamination with micrococci and certain bacteria highly favourable, as the parasites develop symbiotically with masses of these organisms.
	Staphylococci the most favourable contamination. Further, the most perfect monadine forms are seen attached to large masses of staphylococci.

STAGES IN LIFE-HISTORY NOTED IN THE PARASITE OF ORIENTAL SORE.

1. Monadine crithidium. Very large, and several times the length of a red cell; staining blue, with a scarlet flagellum, carmine extranuclear centrosome, and rosy-violet nucleus.

2. Flagellated rosy-pink parasite; body oval or circular; apposed to the above at about the level of the nucleus of the monadine crithidium. This presents a small dark-violet staining nucleus, and an extranuclear centrosome staining carmine, from which a long scarlet flagellum arises.

3. Gregariniform phase of clusters of small parasites, circular, ovoid, or bean-shaped, like enormous cocci. In these the nucleus stains violet. The extranuclear centrosome, when seen, stains red-rosy, and the cytoplasm of the cell pale pink. A few are rose coloured throughout. These clusters are usually found surrounded by masses of bacteria and cocci staining pale blue.

4. Early forms of the parasite, showing pyriform, ovoid, and torpedo-shaped elements as ordinarily seen in the infected tissues.

5. Larger pyriform cells.

6. Larger rosy bodies.

The two latter frequently occur in the same group, which may consist of 120 to 200 parasites.

The best method of obtaining clumps of the protozoa from cultures is as follows:

Blow the contents of the infected tube into a sterile watch glass gently, then suck up a large drop of red blood deposit; drop this on one end of the slide, and with a fine glass pipette, avoiding actually touching the slide, draw a level film of infected blood serum and citrate to within an inch of the other end of the slide. On removing the glass pipette a large streak of blood mixture remains. Stand the slide on its end against a bottle so that this slowly streams towards the centre of the slide again; when a thickish film is thus made dry in air and fix in methylic alcohol for five minutes.

The most satisfactory stain for the parasite in all its stages is made up as follows: To 10 c.cm. distilled water add 12 drops of Giemsa solution, shake and pour on the slide, film upwards. Leave to stain for twenty minutes.

At the end of this time the slide will be dark purple. Wash under the tap for thirty seconds and dip into a watery solution of eosin, 1 in 50,000, for about thirty-five to forty seconds. The film should then seem light rosy-violet. Care must be taken not to stain the film too red.

On examination of a perfectly stained film the torpedo and cockle shaped forms show up clearly against the faint rose-coloured red cells; the early pyriform and large flagellated monadine forms show up light blue, with scarlet flagella, their nuclei stain purple, their extranuclear centrosomes stain scarlet.

Bacilli and cocci stain deep violet.

The gregariniform phase of the parasite stands out clearly, for these are seen to be four or five times the size of the cocci; their cytoplasm stains rosy-pink, their nuclei violet-blue.

FEEDING EXPERIMENTS.

In a netted cage a mixture of formaldehyde solution (two teaspoonfuls to a pint of water) was placed in an open-mouthed bottle. Over the mouth of the bottle was laid a square of cardboard with a circular hole in it slightly less in circumference than a watchglass, which filled the hole.

The reasons for this procedure are that the vapour of the formaldehyde solution is especially attractive to the fly, but as any fly drinking the solution dies in three to five minutes, the watch glass and cardboard square prevents the insects from feeding on the poisonous solution.

Into the watch glass was squirted a small tube full of non-activated slightly acidulated serum highly infected with protozoa in the early stage from the sore. A second tube of non-activated red blood cells was then added, and the constituents of the infected medium thoroughly mixed. Some fifty *Musca domestica* were then captured, the gut of ten were examined, and the usual infection with *Herpetomonas musca domestica* noted. In no case were typical large crithidial parasites noted.

The remainder of the insects, on being placed in the netted cage, greedily swarmed round the watch glass, and distended themselves until their bodies were scarlet with the ingested red cells. After twenty-four hours several flies were dissected, and their gut contents showed crithidial, monadine parasites, highly suggestive and indistinguishable from the forms obtained in culture. After forty-eight hours all flies examined showed crithidial forms. After forty-eight hours the remaining flies were found dying or dead in the cage.

From these feeding experiments I believe that though the common fly in the East may not be the actual invertebrate host that infects men with Oriental sores, the parasite does develop within the gut of *Musca domestica*. This development to the monadine form is therefore probable in other flies, and the actual biting flies, ticks, or mosquitos that transmit the disease should be sought for.

Further, it is necessary to determine whether members of the herpetomonas and crithidia genera are able to develop monadine forms in other hosts than are at present usually accredited. Our present knowledge on these groups is essentially scanty, and much work requires to be done.

As this is only a preliminary communication, the many problems that have arisen in connexion with the work will be dealt with later. In view of the fact that Surgeon-Major Cunningham, I.M.S., discovered the cause of the disease, I consider the name *Crithidium cunninghami* would best be applied to the parasite. *Leishmania cunninghami* is the most appropriate, failing this.

THE INTENSIVE TREATMENT OF SYPHILIS BY AACHEN METHODS.

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In spite of its many competitors now and in the past, mercury may safely be said to remain the most potent and generally satisfactory agent for the treatment of syphilis. The rapid advance of medical science in our day will, perhaps, eventually lead to the substitution for mercury of a vaccine or serum. As yet, however, serum therapeutics have failed to be of service—owing not only to the lack of a satisfactory method of cultivating the treponema outside the human body, but (as indicated by Neisser[1]) to the difficulty, if not the impossibility, of obtaining a mitigated virus.

The current modes of administering mercury may be classified, broadly, as the continuous and the intermittent. Of these, the first is that most generally in vogue in England and the United States. It is a method unsuitable in the presence of urgent symptoms, as in cases of cerebral syphilis, when every hour counts, for when mercury is given by the mouth the patient is brought under its influence only by slow degrees. Neumann confirms this view.[2]

The experience of many authorities tends to show that the treatment of syphilis by small doses of mercury given by the mouth is not protective against secondary and tertiary mischief. Sir Felix Semon[3] recently stated that almost every patient he had seen with severe tertiary syphilis of the upper air passages had undergone mercurial treatment by the mouth in the early stages of the disease, not a few of them for the two years enjoined by Sir Jonathan Hutchinson.

Of those who adopt the intermittent method—that generally in use on the Continent—some give the drug, as it were, by schedule, in definite courses and at regular intervals, others only when there is a manifestation of the disease.

To enable the body to recover its auto-defensive mechanism, a period of medication is followed by one of rest, further treatment being given in accordance with a procedure which has proved to produce the best results. Clinical experience is now supplemented by examination of the patient's blood serum according to Wassermann's method, from which most valuable information is obtainable both as to the necessity and duration of treatment. Lesser's[4] investigations with this test tend to demonstrate the superiority of the intermittent over other methods. It

has the further distinct advantage of ensuring direct treatment by the medical adviser.

Disadvantages, more or less incidental to all forms of injections, are the possibility of severe pain, troublesome induration, abscess and embolism, as well as our inability to control the effect of the drug after introduction. The patient's dread of the needle, too, must be taken into account.

Calomel fumigation has largely fallen into disuse, its effects being uncertain and somewhat difficult to control.

Against the inunction method there are none of the objections which have been advanced against the other two. It is with this that the name of Aachen has become associated. Impressed by the benefit derived from the treatment there by patients coming under my observation, I resolved to investigate on the spot the method as well as the results obtained. While there I heard interesting accounts from patients presenting symptoms of tabes, who formed, as usually, a considerable proportion of those undergoing treatment. Some had been told by authorities of acknowledged eminence that they must resign themselves to the discomforts incidental to their condition as inevitable and incurable; yet after having been, in some cases, reduced to absolute ataxia, they had been sufficiently restored by the treatment to be able to walk and enjoy an existence of modified activity.

With the methods of inunction, as carried out in England, I was of course familiar, and I was very favourably impressed by the contrast in the technique at Aachen.

Most striking there is the attention paid to detail. A thorough and exhaustive physical examination is made before treatment is begun. The heart, lungs, kidneys, nervous system, and teeth are each in turn carefully considered. To describe the usual procedure: The morning is commenced with a drink of from one to three glasses of the sulphur water. Next comes the bath, temperature and length of immersion being carefully adapted to the patient and to the type of disease. This is succeeded by a rest and breakfast in bed, to be followed soon after by application at the hand of an expert rubber of a 33½ per cent. mercurial ointment for twenty to forty minutes, the quantity and site of inunction varying according to circumstances. The thighs, calves, arms, and back are usually treated consecutively from day to day. The groins and axillae are avoided. Though in England frequently subjected to inunction, these parts are quite unsuited for thorough and prolonged application.

Stress is laid upon mouth hygiene. A soft toothbrush is used after meals, and a mouth-wash frequently during the day. These precautions permit mercury to be administered, if necessary, even to the point of causing a condition of general lassitude and drowsiness, or intestinal cramps, without the occurrence, save very rarely, of salivation or gingivitis. The extreme potency of inunction as compared with internal administration has been illustrated in my experience by cases in which the presence of a stump, or neglect of the mouth toilet for even a day or two, have rapidly caused gingivitis during its application in patients who had previously taken courses of mercury by mouth for months together without buccal discomfort.

Articles of diet calculated to produce looseness of the motions, such as white wine, uncooked fruit and vegetables, are forbidden. Early hours are advised, and moderate use of or complete abstinence from tobacco, especially when the mouth or throat is affected. Plenty of fresh air and exercise, short of fatigue, are found also to contribute in no small degree to the attainment of a good result.

The length of treatment for an ordinary case of syphilis during the first two years has hitherto been about six months, taken in courses of from four to six weeks, with intervals of rest. During part of this time some preparation of iodine or a tonic may be prescribed with advantage. Many authorities, moreover, as the result of clinical work, regard with favour a further short course yearly for three or four years. Towards a decision in this matter, again, valuable assistance can now be obtained by an appeal to the serum test.

Henri Pelon[5] advocates the longer continuance of treatment, on the ground that though tertiary conditions have their apogee at three years, they may continue much longer. He further lays stress on the fact that general paralysis, beginning about the fourth year, becomes progressively more common up to the tenth year. Cerebral syphilis is common between the fourth and eighth years. Tabes reaches its culminating point between the fifth and ninth years. Thus, from the fifth to the tenth year, that is to say, when treatment has usually been abandoned, the patient is peculiarly liable to the three worst complications of syphilis.

In tabes, the experience of Brandis and Feibes,[6] extending over a long period, points to the advisability of a prolonged course of consecutive rubbings, 100 to 200 not infrequently being given. Special attention should in the meantime be directed to maintaining the general tone, an end to which galvanism and arseniate of strychnine may prove valuable adjuncts.

Improvement is generally slow. Whether a particular case will do well or not, time alone can show. Some progress favourably; others, though to all appearance in the early stage and presenting an eruption, lose ground. It is impossible to tell clinically, except by a trial of therapeutic measures, whether the initial and possibly curable stage of cellular infiltration has or has not been succeeded by the graver condition of fibroid degeneration. It may be, indeed, that not true tabes, but a spinal syphilis presenting similar symptoms has existed where good results have been obtained.

By submitting the patient's blood to the Wassermann test, and making a lymphocyte count of the cerebro-spinal fluid before, during, and after treatment, diagnosis, prognosis, and indications for length of treatment, now bid fair to be placed on a more scientific basis. The evidence pointing in this direction is already both considerable and interesting.

The onset of the toxic effects of mercury in the various organs may be manifested—in the heart by palpitation, in the kidneys by albuminuria, and in the blood by decrease in haemoglobin and disproportion of red to white corpuscles. In the nervous system it may be evidenced by tremors, and in the bowels by cramp and catarrh, while in the mouth it may be indicated by salivation, gingivitis, and ulceration. The subjective sensation of the patient is useful in estimating the effect on his general health. A steady loss of body-weight which cannot be otherwise explained calls for temporary cessation, or modification, of treatment.

When, therefore, I point out the necessity for frequent and methodical examination of the various systems during this intensive treatment, the caution is more than a mere truism. Experience alone will enable one to recognize the warnings as to when the limit of physiological tolerance has been reached, and so to stop short of the further stage of toxic influence.

Dealing with objections urged against inunction, stomatitis is usually associated with neglect of orders. Inunction has been stigmatized as dirty, but we have the testimony of patients that inconvenience in this respect is usually quite trivial. As to its being "advertizing and compromising," I have frequently treated patients living with their wives and families without arousing any suspicion or disturbing domestic harmony. Its success, certainly, is dependent upon skill in rubbing and upon proper supervision. It cannot be applied if there is much scarring or thickening of the skin, as after variola, or in ichthyosis. Certain eruptions, or very tender skins, preclude its use, as does a marked intolerance of mercury. It involves, of course, the devotion of some time daily to treatment. Diarrhoea, dermatitis, lassitude, muscular fatigue, and pain in limbs are, indeed, consequences which may have to be reckoned with. As to inequality of action, that may not improbably be due to the idiosyncrasy of the patient or to the varying capability of the rubber.

The advantages of inunction, on the other hand, include safety, potency, and painlessness, as well as freedom from most of the objections mentioned in connexion with injections or internal administration. As it does not interfere with the digestive system, it permits of the simultaneous use, if necessary, of drugs by the mouth and of subcutaneous or intramuscular medication. In theory the utility of the intensive treatment by inunction has long been more or less recognized, but we are now in a position to avail ourselves to the full of its advantages, thanks to the results of the Wassermann reaction. By this means we can ascertain at any moment, in a large percentage of cases, the degree of the drug's effect on the poison.

Striking unanimity exists among the chief authorities as to the virtues of inunction. Fournier, for instance, says[1] that he has perfect confidence in inunction *when well performed*; and, again, that he is satisfied that it is equal to, if not better than, any other line of treatment. Neumann expresses a similar opinion.[2] It is valuable, I may add, if antecedent morbid states of the stomach or intestine preclude ingestion, and further, when it is required that the stomach should be left free for other remedies.

The Aachen treatment undoubtedly owes its peculiar efficacy largely to thoroughness and close attention to detail, but balneo-therapeutics too have an important share in the results. The sulphur water, unless it directly assists the mercury, would be of secondary importance. But there is evidence that it does so assist. The modern view, as expounded by Chatin of Uriage, is that mercury, shortly after its introduction into the body, is converted into an insoluble albuminate, and is subsequently stored in the tissues as a partially inert body. The H_2S of the mineral water, however, unites with this and converts it into an active soluble compound, which circulates freely and is easily eliminated. Thus in conjunction with sulphur water mercury can be given freely, the ease with which it is eliminated being shown by the amount recoverable from the urine. At the end of a course of mercurial treatment without sulphur water the amount of the metal excreted in the urine has been measured for a series of days, and subsequently during a similar series of days while the patient was taking sulphur water by mouth. During the second period the amount of mercury so recovered was noticeably in excess of that recovered during the first. Consequently, large doses of the metal may be given with the certainty that on the one hand they will not prove therapeutically inert, and that on the other their toxic effect will be minimized. Temporary cessation in taking the waters during inunction is often followed by symptoms—such as lassitude, cramp, etc.—which disappear upon resuming them in proper quantity.

Perhaps the fact that introduction is effected by way of the lymphatic system, the original stronghold of the treponema, and that it enters over such a large area, may explain the rapidity with which early symptoms usually yield to its use, while in such late stages as disease of the cerebro-spinal system its application close to the seat of mischief, by the rubbing of the back, may partially account for the good results, which are possibly assisted to some extent by inhalation of the drug volatilized by the skin.

Many may not be able to go to Aachen. Business and other considerations may interpose, among the others not the least deterrent, perhaps, being the almost inevitable stigma attached to a sojourn in a place with such a very specific reputation. It is thus of practical interest to know that the treatment can be effectually carried out in this country, the Aachen routine being closely followed. The bath salts, drinking water, etc., are procurable here, and can be quite as efficiently administered.

In this account of the various modes of treatment I have endeavoured to deal as fully and accurately with my subject as limitations of space have allowed, but throughout I would have it borne in mind that the corporeal reactions to mercury are apt to be disconcerting. Experience and close attention must go hand in hand if the best ultimate results are to be attained with the minimum of inconvenience.

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THE latest number of the series of bulletins with the title *Experiment Station Work*, issued by the United States Department of Agriculture, contains a note upon the effect of machine milking on individual cows. It appears that not all cows take kindly to machine milking, but that if this method is adopted in the first lactation it presents very decided advantages. For cows that have been accustomed to hand milking the machine does not answer well.

A CASE OF SYPHILIS WITHOUT A PRIMARY CHANCRE.

SYPHILIS D'EMBLÉE, FOLLOWED UNDER TWO YEARS BY REINFECTION.

By A. C. MAGIAN, M.D., B.Ch Victor.

SYPHILIS D'EMBLÉE is, on the whole, so rarely seen that it is probable that the description of a carefully watched case will be of interest to syphilologists, particularly as it was followed by reinfection.

Two years ago I was visited by a gentleman in a great state of mental distress, who informed me that he was afraid he had contracted a venereal disorder three days previously. He gave me full particulars of the affair, from which it appeared that sexual congress had been very brief, and he had afterwards washed the penis well with soap and water, an interval of about a quarter of an hour having elapsed between the two acts. Before leaving he became suspicious of something wrong through noticing a rash on the partner's arm and receiving evasive answers to his anxious inquiries. This was only the second time in his life that he had had sexual intercourse, the first occasion having been two and a half years previously, after which no untoward result had followed. He was to be married the following day, and was, in consequence of his doubtful condition, very anxious about himself. I informed him of the impossibility of immediate diagnosis, but cautioned him of the danger of infection, and strictly forbade sexual congress with his proposed wife. A week later he came to me again, this time to confess that under the stress of great excitement on his wedding night he had disobeyed my instructions and without any protection had had intercourse with his wife. He was very penitent for his fault, and appeared crushed when I pointed out to him the risks to which he had subjected his innocent wife. He solemnly declared that there should be no further transgression; but I reminded him that this was now equivalent to locking the stable door when the horse had escaped. Eventually he suggested to me that I should make a thorough examination of him every day, so that if anything developed it might be attended to at once. I refused at first to do this, saying that such a proceeding was unnecessary, and that he might come to see me as soon as he noticed anything himself. I yielded, however, pressed the matter so hard that at last I consented to do as he wished. was the easier persuaded to fall in with his desire as I wanted for my own satisfaction to see the very earliest appearance of a chancre, and fancied that this might give me the opportunity. This went on for a fortnight and nothing was noticed, and I informed him that at any rate he was free from gonococcal infection. A day or two later he informed me that he had been reading about syphilis in a medical book, and had learnt therefrom that sometimes extragenital chancres were developed. He therefore asked me if I would mind making a general examination of his whole body in case this rare occurrence should happen with him. I inquired if he had received any scratches or had practised any abnormal methods, but was assured that he had not. I made the examination he asked for twice weekly, and refused to let examination of the penis to every second day. This went on up to the end of the sixth week, after which a complete examination was made every third day only, as both of us had by that time decided that infection was extremely improbable.

Eight weeks passed, and the gentleman was considered free from any venereal disease, but to be on the safe side was instructed to call once a week for another month, and to report himself at once should anything develop in the meantime. The examinations which I made were carefully done, and I was convinced that nothing had been overlooked. There was no suspicion of a chancre or sore of any kind whatsoever on any part of this patient's body, and urethra, rectum, and mouth were equally free from disease. Yet at the beginning of the eleventh week he came to me with his body covered with a roseolous rash: chest, back, and abdomen were thickly marked, and also the flexor aspects of the arms. The rash slowly altered and became a mixed eruption of papules, pustules, and the original roseola. A sore throat followed, and the unfortunate man lost almost all the hair from the top of his head. At the twelfth week his wife aborted (?) at 5 months a fetus; I therefore put both parties upon active antisyphilitic treatment, and gave them instructions as to future marital relations. The husband now began to suffer from extreme depression. Finally, he surprised me by bringing the author of his troubles to be examined, this party having strenuously denied to him that she had ever been afflicted with any venereal complaint. I found marked evidence of syphilis in the presence of mucous tubercles and condylomata.

The further history of the case is as follows: At six months the patient developed a mild attack of iritis, which was quickly cured, but followed by persistent diarrhœa and a small amount of albumen in the urine. Complete intolerance of mercury was the next trouble, although previously the patient had been taking it without any difficulty. I substituted iodides, and for a time all went well, and the diarrhœa and albuminuria disappeared. At nine months an eruption almost exactly like small-pox broke out. This eruption was cured by mercurial fumigation, which the system now tolerated. Mixed treatment with

mercury and iodides was resumed with success, and all went well until the end of fifteen months, when periostitis of the left tibia began, and a small gumma was found in the right testicle. By increasing the dose of iodides both these complications were got rid of. Now with regard to the wife: As far as one could find out—and I may say that I examined her myself once and her husband many times—no sore was ever discovered, but directly after the abortion she broke out in a pustular eruption exactly similar to that which her husband had had. A few weeks later mucous patches on the under surface of the tongue and an ulcerated throat were noticed and treated. She then became suspicious of her huband and left him. This series of disasters almost unhinged my patient's mind for a time, and at one period it appeared inevitable that the man would lose his reason. Eventually, however, he recovered, and then gave himself up to a somewhat fast life, presumably with the idea of forgetting the past. Remonstrance was in vain, and although he continued with treatment under me, he totally disregarded my advice as to the mode of living. The most extraordinary part of the whole affair was still to come. He went back to his former mistress and cohabited with her, and two months ago he presented himself at my rooms and exhibited a typical Hunterian chancre on the glans penis.

Here, then, was a man actually under treatment with mercury and iodides, suffering from undoubted syphilis, and reinfected in a period under two years with the same disease. I temporarily suspended all treatment in order to see what would happen. The chancre became very hard, and the surrounding tissues extremely indurated, and then the patient went through all the programme of the previous infection. He developed roscolar, papular, and pustular eruptions; he began to lose his hair, and ulcers of an undoubtedly specific nature formed in his mouth and throat. I then started treatment energetically with mercurial inunctions and internal medication, and he is now rapidly improving.

In conclusion, I might say that up to the time of the first infection the patient had enjoyed perfect health, and had never had occasion to obtain medical advice. He was an Englishman of good position, 40 years of age, and had been circumcised as a child.

A NOTE ON VERY HIGH SPECIFIC GRAVITY OF THE URINE IN HEALTHY WOMEN.

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THOUGH the following note refers to a subject which is by no means new, there seems to be too little stress laid upon certain normal differences which are apt to be observed between the urines of women upon the one hand and of men upon the other. When one is confronted in a case of examination for life insurance with a urine the specific gravity of which is 1040, one is at first inclined to think that the person who passed that urine must be abnormal, and not unnaturally one tests that urine with extreme care for sugar. The fact that specific gravities of 1035 or even 1040 may occur without there being anything the matter with the person at all is difficult to convince oneself of, until one has seen a number of cases. Such cases, however, do not seem to be very uncommon amongst women. The following instances occurred in the course of examining 150 apparently healthy nurses. In no case was any sugar to be detected in the urine, either by Fehling's or by the phenyl-hydrazine test.

One obvious suggestion is that a high specific gravity of this kind must indicate that the person is drinking far too little fluid, and is therefore passing a very concentrated urine. This is doubtless true to some extent, but it is not entirely true that if a woman drinks a normal amount of fluid per diem she will necessarily have a urinary specific gravity of 1025 or less; for whenever a nurse has been found to have a specific gravity at first examination of over 1030, she has been urged to drink fluids to the extent of at least three pints per diem, and the fluid taken daily has been observed by the sisters in the Nurses' Home. Sometimes the specific gravity of the urine has fallen at once, but by no means always has it become as low as one might have expected. That there was really no disease in these cases has been confirmed by their subsequent course, the nurses in question having remained perfectly well.

Urinary specific gravities of this kind do not occur to any similar extent, I think, amongst men; but, particularly from the point of view of life insurance, it is worthy of note that a specific gravity even up to 1040 is by no means necessarily an evidence of ill health in a woman. It might be added that in the earlier cases it was thought that there must be some error in the recording instruments; but this source of fallacy was excluded by the use of several different urinometers, each of which was tested separately; all recorded similar results for the same urine.

The following cases indicate that it is by no means in hot summer weather only that the high specific gravities occurred:

NURSE LO.

Date of Observation.	Sp. Gr. of Urine.	Date of Observation.	Sp. Gr. of Urine.
September 6th ...	1040	February 22nd ...	1036
September 20th ...	1040	May 11th	1035
September 30th ...	1036	May 25th	1030
October 14th	1034	July 28th	1041
October 29th	1040	October 7th	1030
November 1st... ...	1040	October 29th	1034
November 19th ...	1034	December 10th ...	1032
December 3rd... ...	1036	February 4th	1034
January 20th	1023		

NURSE HW.

September 10th ...	1038	May 11th	1030
September 15th ...	1036	May 25th	1035
September 30th ...	1036	June 17th	1028
October 14th	1030	June 26th	1030
October 29th	1030	July 28th	1034
November 1st... ...	1030	August 16th	1020
November 19th ...	1024	October 7th	1035
December 3rd... ...	1025	October 29th	1030
January 31st	1030	December 10th ...	1034
February	1030	February 5th	1031
March	1032		

NURSE MY.

November 1st... ...	1024	May 11th	1025
November 19th ...	1015	May 25th	1030
December 3rd... ...	1030	July 28th	1028
January 31st	1015	October 7th	1018
February 14th... ...	1028	October 29th	1020
February 21st	1024		

NURSE SP.

November 21st ...	1034	February 14th... ...	1026
December 3rd... ...	1038	February 21st... ...	1020
January 31st	1034	May 11th	1024

NURSE CA.

November 20th ...	1030	May 11th	1020
December 3rd... ...	1030	May 25th	1028
January 31st	1025	June 12th	1034
February 14th... ...	1020	June 26th	1025
February 21st	1020	August 12th	1020
June 17th	1044	October 30th	1020
July 28th	1026	February 5th	1024

NURSE RE.

November 20th ...	1032	May 26th	1010
December 3rd	1028	June 26th	1020
February 7th	1030	August 12th	1034
February 24th... ...	1030	February 5th	1036
May 12th	1012		

NURSE LA.

December 6th... ...	1040	June 12th	1035
February 21st... ...	1010	June 30th	1030
March 19th	1030	July 28th	1025
April 17th	1038	August 16th	1030
May 12th	1035	October 30th	1025
May 26th	1038	March 30th	1025

NURSE PR.

January 17th ...	1034	August 16th	1035
February 27th... ...	1035	February 3rd ...	1024
May 26th	1035	March 30th	1028
July 28th	1035		

NURSE MU.

Date of Observation.	Sp. Gr. of Urine.	Date of Observation.	Sp. Gr. of Urine.
April 24th	1040	August 12th	1032
May 12th	1032	October 7th	1025
June 12th	1025	December 10th ...	1028
June 28th	1030	February 5th	1024
July 28th	1025	March 30th	1027

NURSE IL.

October 15th	1022	February 5th	1024
October 30th	1020	March 30th	1022
December 10th ...	1025		

NURSE MA.

June 12th	1035	October 7th	1020
July 28th	1025	October 30th	1024
August 12th	1025	December 10th ...	1020

NURSE WA.

June 12th	1026	August 12th	1035
July 28th	1040		

NURSE NE.

June 12th	1035	October 7th	1024
June 28th	1040	October 29th	1020
July 28th	1034	February 5th	1024
August 12th	1035		

PARTIAL GASTRECTOMY FOR GASTRIC CARCINOMA: RECOVERY.

By H. BETHAM ROBINSON, M.S.Lond., F.R.C.S.,
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ATTENTION may be drawn to the features presented by the growth in the following case, and by the treatment adopted.

1. The growth was very limited, and the glandular involvement slight. This allowed of removal of both with a fairly wide margin. The tendency of a growth is to spread particularly towards the cardiac orifice, thus it is important to have a wide margin on this side. The section of the stomach corresponded pretty well with the incision used by Mikulicz—that is, from just to the right of the cardiac orifice almost vertically downwards to the great curvature. The glands were quite soft, and did not suggest involvement. The lymph stream from the glands at the great curve passes to glands about the head of the pancreas, and there no enlargement could be detected.

2. An end-to-end junction after Billroth's method was used, as the cut edges could be easily brought into apposition. No after trouble was experienced from leakage, the occurrence of which has led to the advocacy of other methods.

3. The character of the growth was a colloid carcinoma, and the probably lessened degree of malignancy leads one to hope for a permanent cure.

The patient, a bricklayer's labourer, aged 60, was admitted into hospital under the care of my colleague, Dr. Sharkey, on June 18th, 1908, complaining of pains in the abdomen, sickness, and loss of weight during the preceding twelve months.

He had a fresh complexion and looked healthy; his general nutrition was good with no marked evidence of wasting. There was no history of syphilis, and he was a moderate drinker and smoker; of late, however, smoking seemed to increase his symptoms.

History.

Twelve months before he began to complain of a slight gnawing pain in the upper part of the abdomen, but it was not until four months later that it gave him any serious inconvenience. Then he had pain at different times of the day, which might last from a quarter to two hours at a time, and was relieved on taking food, even if its amount was very small. For the last two months or a little more he had vomited, generally in the evening after his meal; he had brought up a lot of clear, watery fluid at times, which was often followed by vomiting. During the same period he had been very constipated. His appetite had become very poor, and he thought that recently he must have lost about a stone in weight.

Condition on Admission.

Examination gave no evidence of any disease. The abdomen moved well with respiration; there was no distension nor was there any tumour to be felt. There was some tenderness on deep pressure behind the upper part of the right rectus and a little increased resistance here. His tongue was clean and his urine was normal. The stomach was not dilated, showing absence of pyloric obstruction, and a test meal given on two occasions showed no free hydrochloric and no lactic acid to be present.

Operation.

He was transferred to my ward and on July 3th I operated. An incision was made to the left of the mid line dividing the rectus sheath and reflecting the muscle. There were no adhesions about the stomach and adjacent structures; the stomach was withdrawn through the wound, and on palpation a lump was felt in the posterior wall. Clamps were placed on the stomach just to the right of the cardiac orifice and on the first part of the duodenum, and this area was packed off with gauze from the rest of the abdomen. An incision in the length of the stomach was made through the anterior wall over the lump, and the posterior wall was extruded through this hole. The lump was a circular flattened growth with hard edges, about the size of a four-shilling piece, and was placed nearer the lesser curvature in the middle of the right third of the stomach; the mucous membrane over it was reddened, but there was no ulceration. There was an enlarged gland felt at the lesser curve about 1½ in. from the pylorus, and another at the same spot at the greater curve; both, however, felt quite soft. No other enlarged glands could be detected. After dividing the gastro-hepatic and gastro-colic omenta wide of the glands and tying off the vessels, the portion of stomach and pyloric region between the clamps was removed. An axial anastomosis was made, the duodenum being joined to the upper part of the stomach wound by a continuous catgut and interrupted silk Lembert stitches; the lower part of the stomach was closed in the same way. There was a little trouble from haemorrhage into the gastro-colic omentum from a ligature slipping, but otherwise there was no difficulty. The abdominal wall was closed in layers. There was some shock at the end of the operation, but not sufficient to demand infusion; he was given 10 oz. of normal saline with ½ oz. of brandy by rectum, and this was repeated every four hours during the first night.

After-history.

The after-history was quite uneventful, and may be said to have given no anxiety. The next morning he was put on a teaspoonful of water by mouth at intervals and ordered a nutrient enema of dextrose and sanatogen, each 20 grams, in 15 oz. of saline, to be given alternately with the same quantity of saline every six hours. On the 10th the quantity of water by mouth was increased, and on the 11th he was allowed two teaspoonfuls of Brand's essence thrice in the day. Sanatogen in water was added on the 15th, and on the 18th he had whey; on the 17th egg-flip was given. On the 18th all rectal feeding was stopped, and junket, Benger's food, bread-and-milk were allowed, but no feed was to exceed 5 oz. Soft, thin bread-and-butter was added on the 19th, and on the 22nd he was on minced fish. Food now gave him no discomfort. His abdominal wound healed by first intention.

The growth proved to be a colloid carcinoma of the spheroidal-celled type.

The man has been frequently seen by me since the operation, and he has put on weight and remains free from symptoms.

A CASE OF VIPER OR ADDER BITE (VIPERA BERUS).

By R. S. C. EDLESTON, M.R.C.S., L.R.C.P.
BASLOW, DERBYSHIRE.

ON Thursday, August 5th, at 5 p.m., I was called to see Dr. H. Peck, Medical Officer of Health of the Chesterfield District of Derbyshire, who, I was informed, had been bitten by an adder near the reservoir on the Duke of Rutland's moor at Ramsley, on the high ground north of Baslow. He had been testing water for peaty acids, and seeing a snake in the grass he picked it up, thinking it was a common grass snake. The snake immediately struck him. I found when I reached Ramsley Lodge at 5.30 p.m. that the bites had been inflicted about 2.30 p.m. The doctor described his experiences as follows:

"I picked up the snake, and he struck me first in the right thumb and hand and then on the left hand. I immediately killed the snake and sucked one of the wounds, probably that of the left thumb first. Almost immediately I began to feel a tightness of the brow, as though a knotted handkerchief had been tied firmly round the head. I removed my hat, but the sensation continued. I became faint, and very soon vomited. The feeling of faintness continued to increase, the lips and tongue and fauces began to swell, and I had great difficulty in getting my breath. I made my way as well as I could, with frequent rests, towards the keeper's lodge, and was finally assisted there by the keeper and his wife."

When I arrived Dr. Peck was in bed, and between repeated attacks of vomiting he told me, as well as he could, what had happened. He appeared to be extremely exhausted. I examined the wounds, which were little more than pricks of the skin, but the right thumb was slightly swollen and bruised; I squeezed out anything I could with firm pressure around them, applied ammonia, and washed them with strong carbolic lotion. Seeing that the bites had taken place some three hours previously, and having regard to the extreme state of collapse, I did not think much could be done by local treatment, and turned to an examination of the general condition. The face and head were bluey-black in colour, and the lips swollen and cyanosed; the pulse was not perceptible at the wrist, neither could I hear the heart sounds. The skin was bathed in perspiration and quite cold, and yet the patient could not bear to be covered. Stimulants were not available when he arrived at the house, but some brandy had been procured and he had had some. More brandy and 2 drachms of aromatic spirits of ammonia in water were given. I injected $\frac{1}{75}$ grain digitalin and $\frac{1}{30}$ grain strychnine; there was some response to the drugs, but not much, so in half an hour I repeated the dose; in the meantime hot bottles were placed to the feet and a large piece of blanket wrung out in very hot water applied all over the chest and abdomen. Dr. Peck was then complaining of pain in the splenic region and also over the bladder. Vomiting was incessant and was followed by violent diarrhœa with strangury, but no urine was passed, though there was frequent desire to micturate. Asked how he felt, he replied "Awful"; he could not describe the sensation. He was extremely restless, constantly throwing off the bedclothes, and complaining of feeling smothered, yet the skin was quite cold and clammy. He stated afterwards that the intense restlessness was due to hyperæsthesia of the skin, so that he could not find a comfortable position.

At 7.45 p.m. I left him somewhat better, and went up to see him again at 9.30; the vomiting was still persistent, and the pulse had become very weak, and could with difficulty be timed about 130. I gave another injection hypodermically of digitalin $\frac{1}{75}$ grain and strychnine $\frac{1}{30}$ grain, applied the hot-water pack to the abdomen again, and renewed the hot-water bottles to the feet.

I left him at 10.15 p.m. rather better. I took with me a mixture of liq. bismuthi ʒj, tinct. nucis vom. mxl, tinct. strophanth. (Professor Fraser's revised formula) mxl, acid. hydrocyanici dil. mxvj, aq. ad. ʒviij, which I directed to be taken every three hours.

The following morning, when I took Mr. E. M. Wrench up with me to see him, he appeared much better; his pulse was then 120, respirations normal, and heart sounds definitely heard, though muffled. The right arm was now greatly swollen and discoloured up to the axilla and extending on to the chest, back and front. The left arm was not swollen, but there was a bruised appearance about the bite on the thumb. The temperature was still subnormal—95 in axilla and mouth. Dr. Gordon Shea, of Chesterfield, saw him with me at 1.30 p.m. He took a very grave view of the case, and agreed that Mr. Sinclair White, of Sheffield, should be asked to see him. Mr. Sinclair White, who arrived at 4 p.m. on August 7th, took a more hopeful view, though he found the whole of the right upper limb still much swollen. The swelling, which was for the most part a firm œdema, extended on to the chest and down over the abdomen, and also on to the back. The skin of the upper arm on the inner side was flushed, and the wounds were surrounded by inflammatory areas, but the limb was generally pale and cold to the touch; the hand was much swollen and could not be closed, and the extensor aspect of the fingers had a greyish-purple tinge. The fear that some sloughing might ensue could not, therefore, be entirely set aside. The wound on the left thumb was surrounded with ecchymosis, but there was little or no œdema. On August 8th, at 10.20 a.m., the discoloration had assumed the appearance of a large bruise, and extended over the greater part of the right side of the back nearly to the spine, and on its posterior aspect the arm presented a raw-beef appearance; the pain was less, and the general condition of the patient improved, though he had passed a restless night. More nourishment had been taken, and the temperature had risen to 97.4°; the pulse was 120, and its volume and tension had improved. A muffled systolic murmur could be heard at the apex of the heart, and extended towards the axilla. The vomiting had almost ceased, but occurred once during the night and once during my visit. Mr. Sinclair White and Mr. Wrench saw him again with me at 1.30 p.m., and agreed that the immediate danger was passed.

On August 9th the pulse was fallen to 100, the volume and tension improved, and the temperature had reached normal. A greenish discoloration had appeared on the left arm in the line of the lymphatics. On August 10th the pulse was 88 and the temperature normal; the discoloration of the left arm extended to the shoulder, but was fainter in colour, though still distinctly visible. The right arm and hand were decidedly less swollen, and the patient's general condition much improved. On August 11th the discoloration on the left side, though if anything more faintly green, now extended across the front of the chest in the mammary region, and joined up with that on the right side, showing the anastomosis of the lymphatics across the chest.

On August 12th the discoloration of the left arm, though still visible, was gradually fading. Dr. Peck was so much better in himself, though the right arm was still discoloured and swollen, that I allowed him to be removed to his home in Chesterfield. He bore the journey well, and on the following day was able to use the fingers of the right hand for turning over the leaves of a book. There was little pain in the arm, and there had been no sloughing. I visited Dr. Peck again on August 15th, when his general condition was good, and that of the heart had much improved, the murmur being fainter and the apex beat quite definite and in the normal position. Two days later the patient was examined by Drs. Shea and Booth, who found that the murmur did not then occur with every beat. The arm had not returned to its normal size, but the ecchymosis had entirely disappeared. The distance between the insertions of the fangs in the three wounds appeared to vary from $\frac{3}{4}$ to $\frac{5}{8}$ in. On August 22nd the swelling of the arm was reported to have practically subsided; he still had some pain in the hand, and the skin of it was desquamating.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF PSYCHOLOGICAL MEDICINE.

T. OUTTERSON WOOD, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

AFTER some preliminary observations, Dr. Outterson Wood said: At one time the study of mental diseases was looked upon as something apart from the subjects considered necessary in the medical curriculum, and I well remember the almost exclusive nature of the study of psychological medicine when I first became connected with asylum work, over forty years ago. Fortunately for us, and for our status in the profession, the subject is now taught and included as a compulsory subject in all examinations for qualifications, and a glance at the agenda of our work in this Section will show how we are now working more closely in touch with the principles of general medicine. The fact of our having a Section assigned to us for the consideration of the more purely medical subjects connected with asylum practice in this great medical association cannot fail to be advantageous to the study of mental diseases, and tend to keep up the medical spirit in asylum work. The promotion of

a closer connexion between neurology and psychiatry is a matter well deserving our attention. There can be no doubt that in practice there is considerable overlapping in these subjects, and it may well be worth while considering the advisability of extending the scope of the work of our Section so as to include these two kindred subjects; for there is in the study of insanity (quite apart from asylum administration) so much work of a purely medical character which trenches closely upon, and in many instances includes, neurological problems, that it might well be to the mutual advantage of the students of both to have the two subjects combined in a Section of Psychiatry and Neurology. I trust that before we conclude the work of our Section this subject may be brought forward for discussion,[1] so that we may obtain the views of our members upon it.

DISCUSSION ON
THE SUPERFICIAL AND DEEP REFLEXES.

OPENING PAPER.

By JOHN M. MACCORMAC, M.D., L.R.C.P.and S.Edin.,
Physician, Belfast Hospital for Diseases of the Nervous System.

I HAVE to ask you to study with me a subject which, so far as I am aware, has not received attention in this country. It is that of the superficial and deep reflexes as an additional means in the diagnosis of the principal forms of mental disease. The conclusions I have arrived at after careful observations for many years are much in harmony with those of Agostini.

CROSSING OF THE PATELLAR REFLEX.

If the patellar tendon on one side be struck, the opposite leg will be adducted, mainly by the action of the crureus and vastus internus, which muscles are seen to contract even when the movement is slight. This patellar jerk is a true reflex, and I have observed that in certain forms of sclerosis of the spinal cord a slight percussion will cause the knees to knock together, and at the same time the arms are adducted. These actions soon lessen and pass into a state of tremor, which gradually disappears.

MODIFICATIONS OF REFLEXES.

My observations on the superficial and deep reflexes in their relation with the modification of painful sensibility in mental disorders have shown me that it is possible to establish some formulae which correspond in a general way to the state of the reflexes in each of the principal forms of mental disorder, and which in consequence are not without value in the diagnosis of these affections.

General Paralysis of the Insane.—In this disease the condition of the reflexes varies according to its stage. In the initial stage there is generally a weakening of painful sensibility and of the cutaneous reflexes, with the exception of the plantar reflex. On the other hand, the deep reflexes are exaggerated. In the second stage of the disease the plantar reflex is very markedly exaggerated, and in all other reflexes both deep and superficial are increased, the tendon reflexes being still more marked than in the first stage. In the third stage all the reflexes become weaker until they finally disappear.

Epilepsy.—During an epileptiform attack the superficial reflexes are decreased or abolished, but the tendon reflex is exaggerated, and often accompanied by fibrillary contractions which may be transmitted from a limb to the trunk, and then may pass to the limbs of the opposite side. In epileptic insanity sensibility to pain, as well as the reflexes produced by stimulation of the skin and mucous membranes, are generally lessened. The tendon reflexes, on the contrary, are normal.

After some convulsive attacks the tendon reflexes are increased, whilst the cutaneous reflexes are considerably weakened, with the exception of the plantar reflex, which is augmented, and may be associated with trembling or even with epileptoid movements of the foot.

Neurasthenia.— Hypochondriacs and neurasthenics generally present an increase of all reflexes, both superficial and deep.

In *hysteria* there is a decrease of painful sensibility and of the cutaneous reflexes.

In *alcoholic paralysis* painful sensibility and tendon reflexes are exaggerated, whilst the cutaneous reflexes (except the plantar reflex) are weakened.

In *acute mania* the reflexes are normal.

In *secondary dementia* all reflexes are exaggerated.

In *melancholia* painful sensibility and cutaneous reflexes are normal, whilst the tendon reflexes are exaggerated. In the stage of melancholic stupor painful sensations, which on superficial examination may appear feeble, are in reality normal; the cutaneous reflexes are feeble; the tendon reflexes are exaggerated.

From these statements we see how very differently tendon reflexes and cutaneous reflexes act, and this we can understand when we consider that the two acts of reflexes are represented in the spinal cord by separate systems, one of which may be affected while the other remains normal.

DISCUSSION.

Dr. R. H. COLE (London) considered that the reflexes varied in an inexplicable manner both in the sane and the insane. He instanced the fact that the patellar reflex was entirely absent in some persons without any trace of disease. He agreed that this reflex was exaggerated in the early stages of the expansive form of general paralysis and absent in the tabetic and peripheral forms of that disease. The loss of the plantar reflex he regarded as highly pathognomonic of hysteria.

Professor C. H. HUGHES (St. Louis, U.S.A.), who referred to Dr. MacCormac's contribution as a valuable and timely paper in the line of symptomatology and diagnosis and the beginning of illuminating research, said that the relation of cerebral states to reflex phenomena was universally recognized in the profession in hysteria. The value of their modification was also recognized in neurasthenia, psychasthenia, etc., and in peripheral or polyneuritis. Eulenberg, he believed, first called attention to the absent patellar tendon reflex in locomotor ataxia or posterior spinal sclerosis. This authority (Eulenberg) was inclined to ascribe to this phenomenon a too exclusive diagnostic value, overlooking, the speaker thought, the phenomenon of absent reflex in chronic polyneuritis. But later he extended his views on this important subject. On the whole, there was still a wide and open field for the study of the reflexes in relation to cerebral states.

Dr. A. T. SCHOFIELD (London) said that it would be interesting to know if the reflexes varied in the extreme manner that had been noted by the asylum doctors who had spoken in the case of spinal diseases in the sane. It seemed from the remarks of Dr. Hughes that there was a possible connexion between cerebral action and special reflexes, and if that were so they should expect their reflexes to differ in the sane and insane. He was very glad to note the difference recorded in the reflexes of hysteria and neurasthenia, as he held strongly that there was a fundamental difference between these two in their etiology and symptomatology, and that, while hysteria was a true disease, neurasthenia was essentially a condition of exhaustion of the cerebral or spinal centres, or both.

Dr. DAVID BLAIR (Lancaster) said that his experience was that abnormalities of the superficial and deep reflexes in various forms of insanity were by no means constant. They were often evanescent. It was not only one reflex that might vary, but symptoms sufficient to produce the complete picture of a well-known nervous disease would last for a time and then disappear. Thus a patient might one day present an almost complete picture of lateral sclerosis or disseminated sclerosis, while a few months later no such diagnosis could be made. Of late years there had been a disposition to ascribe these abnormalities simply to some invasion of hypothetical toxins, and to suppose that the symptoms disappeared when these receded, but he could not say that these abnormalities had up till now been reliable symptoms of forms of mental disease.

Dr. MACCORMAC, in reply, said that he did not intend to put his observations forward as finally dogmatic, but rather as furnishing additional means of diagnosis. It was possible that the particular reflex phenomena that he had mentioned might not always be present, but he was convinced that they were to be found in almost all the mental diseases to which he had referred. His observations had

[1] Section eventually passed certain resolutions, copies of which found on pages 671 and 672.

been confined in the main to the onset and early stages of insanity. The fact that the phenomena mentioned did appear in the very early stages had impelled him to the conclusion that there existed in the brain a hereditary and morbid physiological basis for the insanities; and that somatic diseases, apart from the nervous system, did not produce, but might stimulate, the latent physiological conditions in the brain to action, and these result in insanity.

SOMATIC DELUSIONS AND LOCAL LESIONS.

By C. A. MERCIER, M.D., F.R.C.P.Lond.,
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THE nature of the case on which I am about to comment will be sufficiently gathered from the following account of its more important features:

Clinical History.

The patient was a clerk, aged 36, who had a persistent delusion that his bowels were stopped, and that nothing ever passed through them. He met every inquiry respecting his health with the complaint that "he could get nothing through him." He frequently refused food, on the ground that it would never pass from him, and he was "already bunged up with victuals." In fact, his abdomen was shrunken, and his bowels were moved several times a week. An occasional dose of castor oil never failed to produce a lax motion of sufficient quantity: but, when this was shown to him, he declared it was nothing, and that he never got anything through him.

This was his most prominent and often expressed delusion, but he had apparently one other—that he had been ravished per rectum by a Frenchman. Whether this was a delusion, or whether it had any foundation in fact, could not be certainly ascertained, but it was assumed with every probability to be a delusion for the following reasons: When he made the assertion, he made it at the same time, and in the same lugubrious and despairing tone, that he spoke of the obstruction of his bowels; he connected the two things together, and attributed the obstruction to syphilis acquired from the Frenchman in the manner indicated; he was a man of decently life and conversation, and in the least likely to have been a consenting party to such a transaction, and without his concurrence it would of course have been impossible; and he gave no particulars of time or place at which the assault had occurred.

These statements he continued to make for years. He occasionally took a little work, but for the most part he spent his time brooding over his misery. He often refused food; and had to be urged, and at length compelled, to take it.

As he became thinner and thinner, in spite of copious feeding, his chest was examined, and the whole of the left side was found to be non-resonant, with other signs of consolidation. His temperature, however, was not raised; he had no cough; he never complained of pain in the side; his breathing was not accelerated while he was at rest; he had no night sweats; and, beyond the physical signs, there was nothing to point to lung disease. The right side of the chest was over-resonant, and its free movement contrasted with the restricted movement of the left. He became thinner and weaker, and at length died, greatly emaciated, and apparently of exhaustion, after an illness of more than two years' duration.

Post-mortem Findings.

At the *post-mortem* examination the stomach and duodenum were found healthy, but along the course of the jejunum several of the solitary glands were to be enlarged, congested, prominent, and succulent-looking, projecting as dark red nodules above the surface of the mucous membrane. On tracing the course of the gut downwards, larger and larger nodules were found, more congested and more jellylike in appearance. About the middle of the jejunum was found one with the summit eroded, so that it formed a shallow ulcer with inverted edges, whose floor was above the general surface of the intestine. Following the gut down, other ulcers were found, becoming larger and deeper, till they extended, the earlier ones to the muscular coat, the latter to the serous coat of the bowel. All were of the same circular form; all of about the same size; and the bases of all, save those whose base was the peritoneum, were deeply congested. The lowest and largest of these ulcers, which had attained the size of a sixpence, penetrated completely through the wall of the intestine, and had allowed its contents to escape into the peritoneal cavity, setting up acute peritonitis over the lower half of the abdominal cavity. The ileum was not much affected, though here, too, the solitary glands were enlarged. The whole of the large intestine was normal, with one exception. On the posterior wall of the rectum, about 4 in. above the anus, was an ulcer of irregular shape, whose total area might have equalled that of half a crown. Its surface was coarsely granular, the granules presenting the unmistakable appearance of grey, that is of recent, tubercle. Its edges were thickish, and moderately firm.

The structure of the liver appeared normal, but behind and below the posterior border of the right lobe was a spherical tumour the size of a cricket ball, enclosed in a thick glistening capsule resembling the tunica albuginea. The surface of the tumour was everywhere free, except where it adjoined the liver, to which its capsule was closely attached. On cutting into it its contents were found to resemble cream cheese.

The left lung was consolidated almost throughout, and was riddled with small cavities. The right lung was emphysematous, and within its soft and downy texture could be felt many sharply limited nodules, from the size of a pea to that of a kidney bean, which displayed the characters of boiled-rice tubercle.

The brain and other organs appeared normal.

This case is a good instance of the difficulties that attend the recognition of bodily disease among the insane. One lung was consolidated, riddled with cavities, and completely adherent to the chest wall: yet the patient was never known to cough; his temperature was not raised; he never complained of pain in the chest; he had no sweats; and his breathing was not noticeably accelerated. There never was a local symptom to attract attention to his lungs; and, if his chest had not undergone routine examination, the lung disease would never have been suspected during life.

So, too, he had perforating ulcer of the small intestine, allowing the escape of faecal matter into the abdominal cavity, and setting up peritonitis, of which he died; yet he never once complained of pain in the abdomen; there was no tympanites, his belly being, on the contrary, greatly sunken; and he had a copious natural motion the day before he died. The character of his delusions and the decided abdominal facies that he had for weeks before his death, led to an expectation that some abdominal lesion would be found *post mortem*, but there was nothing to indicate what the nature of this lesion was likely to be.

There can be little doubt that the character of the delusions was connected in some way with the seat of the local lesions. The delusion that his bowels were obstructed corresponded with the fact that the bowels were the seat of manifest disease—disease which was the immediate occasion of his death. The delusion—if, as there can be little doubt, it was a delusion—that he had been raped per rectum, corresponded with the existence of a large ulcer in the rectum. The double connexion between delusions referred to two separate parts of the body and ascertained disease in those two parts of the body compels the conviction that there was a causal relation between the local reference of the delusions on the one hand, and on the other, the existence of disease in the parts of the body to which the delusions referred. The nature of this causal connexion is by no means clear.

A very crude hypothesis, but one that I have known to be advanced, is that the bodily disease was the cause of the delusions. If this is translated into precise terms, it means that the existence, seat, and nature of the bodily disease determined the existence and nature of the delusion, in such wise that if there had been no disease of the bowel, there would have been not only no delusion referred to the bowel, but no delusion at all. Few, I think, would adhere to this hypothesis when thus explicitly stated. The lung was much more completely diseased than the bowel; yet there was no delusion referred to the lung: and ulceration both of the small and the large intestine is frequent enough without any concomitant delusion. Clearly, therefore, something more than ulceration of the bowels is necessary to account for the existence of delusion having reference to the bowels.

A less crude and more plausible hypothesis, and one that naturally suggests itself, is that the coenaesthetic sensations from the diseased bowel determined the localization or local reference, and the character of the delusion, of a person whose mind was already so disordered that he was sure to entertain delusion of one character or another. According to this hypothesis, the pre-existing disorder of mind ensured the occurrence of some delusion, and the local disease determined the particular character of these delusions by directing their reference to the diseased organs. This hypothesis is much more plausible, but it involves considerable assumptions, and is scarcely to be accepted without further consideration.

Many insane persons are the subjects of gross disease in one organ or another, and yet how rare it is for this gross disease to influence their delusions so as to give the delusions a reference to the diseased organ! In this very case, the lung was far more diseased than the bowel; and with a disease which, if appearances may be trusted, was of far longer standing; and yet there was no reference of the delusion to the lung. There was a large abscess, which

had probably been at one time active, behind the liver; and yet there was no reference of the delusion to liver or loin. If it is suggested that delusions are not influenced by local disease unless the local disease is in existence at the time the delusions are incubating, the difficulty is not removed, but increased. The delusions had existed for at least two years. The abscess was certainly of very long standing. The dense fibrous tissue of its capsule must have taken a very long time to form. But may it not be that it needs active disease as the time delusions are incubating to determine the reference of the delusion to the seat of the disease? Such a hypothesis may well account for the failure of the hepatic abscess to colour the delusion, but it will not account for the failure of the tuberculous lungs to do so. The disease in the lungs was in a very active phase at the time of death; and it had been active for a long time before, for there was every stage of disease from grey gelatinous tubercle, through boiled rice and caseous tubercle to cavities as large as a small walnut. The delusions had existed for at least two years, but the intestinal disease had certainly not existed for two years. It is doubtful whether the jejunal ulcers had been in existence for two months. The solitary glands in which they were formed were soft, succulent, and translucent. Their margins were neither thickened nor pigmented. They had all the marks and appearances of recentness. The rectal ulcer may have been of older date. Its margins were a little thickened. But it was not deep, and its base was formed of grey, translucent tubercle. Whether we suppose that long-existing disease only, or recent disease only, can colour delusions, the facts are equally against us.

There is yet another possible connexion of causality between the delusions and the intestinal lesions—one which may seem at first sight far-fetched and improbable, but which, when examined, appears to fit in with the facts better than either of the preceding. I have often insisted on the existence of a trophic function of the cerebral convolutions, and on the disturbance of metabolism, sometimes widespread and shallow, sometimes restricted and profound, that attends that disorder of the function of the convolutions which is otherwise manifested in insanity. I have watched insane persons starve to death in spite of being fed abundantly and superabundantly—starve from incapacity of the tissues to assimilate the nourishment so copiously supplied to them. That the tissues and not the digestive tract were in fault, is shown by the normal amount and quality of the urine. The disorders of the metabolism of the skin and its appendages, which are so frequent in chronic insanity, are matters of common knowledge and frequent comment. As I am constantly reiterating, observable disorder in insanity is threefold: disorder of conduct, disorder of mind, disorder of metabolism; but these three disorders are seldom proportionate to one another. One usually preponderates; often one only can be identified. In moral insanity, disorder of conduct alone appears, and neither of intelligence nor of metabolism is there discoverable anomaly. In simple melancholia, in claustrophobia, there is disorder of mind alone, and neither disorder of conduct nor of metabolism can be observed. Disorder of metabolism, if it occurs alone, is not regarded as, or associated in our minds with, insanity, but there are cases of insanity in which disorder of metabolism rises into equal prominence with disorder of mind and of conduct. Such are the cases of the insane who die of starvation while overfed.

The metabolic disorder in insanity has not always this diffused, general, and universal character. It is often localized—sometimes strictly localized. It is often manifested in the skin alone, or in the appendages of the skin. We see it in some cases in a striking alteration in the hair. I have recorded a case in which all the nails were shed, of both fingers and toes, after an attack of acute insanity. In another case, the gastric secretion was so horribly foul that, when the stomach was washed out, the stench pervaded the whole institution, and rendered it almost untenable. These disorders of metabolism, local as well as general, are not extrinsic complications, accidentally accompanying and mingling with the insanity. They are as much and as directly due to the deranged function of the convolutions, as are the disorders of mind and of conduct. They are an integral part of the disease; and the whole three disorders, of mind, conduct, and metabolism, together make up the clinical picture of insanity.

That the nutrition of tissues may be seriously disturbed by disorder of the ganglia from which their nerve supply issues, is a commonplace of pathology. To such disordered nerve supply is due the eruption of herpes. To such disorder is due the acute bedsore of spinal disease. To such disorder is due the painful, glossy skin, and other disturbances of the nutrition of hemiplegic limbs. Every one admits the trophic function of the lowest and the middle ranks of nerve centres. My contention is that a corresponding function is exercised by the highest centres also.

That the patient was insane is evidence that the function of some part of his cerebral convolutions was deranged. That his delusions had direct reference to his bowels is evidence to my mind that the derangement affected with greater severity that portion of the convolutions in which the bowels are prominently represented.

I assume, following Hughlings Jackson, that in every part of the convolutions the whole body is represented, but that it is not uniformly represented. In one place, one part—the arm or the leg—has, we know, the predominant representation. In another place, another part—the retina, or the musculature of the eye—is predominantly represented. In a third area, it is to be supposed, though it is not yet proved by the labours of localizers, that there is predominant representation of the viscera. And our localizers have taught us more than this. They have shown that in the arm area is one part in which one set of arm muscles is predominantly represented, and another part in which the predominant representation is of another set of arm muscles; and so with the muscles of the leg and mouth and eye. It is not stretching analogy or conjecture very far to suppose that, in the area in which the viscera are represented, they are represented unequally, one viscus having predominant representation in one part of the area and another in another.

I take it that in the case of this patient the area of convolutions that was most gravely disturbed in function was the area in which the viscera are represented; and that the derangement lay with special stress upon that portion of the area of visceral representation in which the bowel is predominantly represented. This inference seems to be justified by the local reference of his delusion. The derangement of function did not spread widely beyond this area, for there was no disorder to speak of, either of mind or conduct, beyond that which had reference to the bowel. The patient was able to pursue his occupation capably until his attention became so absorbed in his imaginary incapacity, to procure an action of his bowels, that he had no attention, thought, or interest to spare on any other subject; but neither conduct nor mind were disordered in any other respect than his absorption in his imaginary woes, and his neglect of all other interests. To this particular area of the convolutions, then, the gravamen of his disorder seems to have been limited.

The hypothesis that most commends itself to my mind is that the structural disease of the bowel was secondary to, and consequent upon, the derangement of function of the cerebral centre in which the bowel is predominantly represented. The character and limitation of the delusions is strong evidence that this part of the convolutions was most affected—was perhaps solely affected. There is abundant evidence that disorder of function of a nerve centre may cause disorder of the nutrition of the parts represented in that centre. I suggest that, in consequence of the disorder of the cerebral centre in which the bowel is represented, the nutrition of the bowel was so lowered that it fell an easy prey to the tubercle bacillus, already present in abundance in the body, and that it was thus that the tuberculous ulcers of the jejunum and rectum were allowed to form. This is, it will be seen, the very reverse of the previous hypotheses. So far from the bowel lesion being the cause, or the determining condition of the delusion, I suggest that the brain disorder, which underlay the delusion, was the determining condition of the lesions in the bowel.

If this hypothesis is correct, ought we to find in every case of somatic delusion a local lesion in that part of the body to which the delusion refers? And is it a fact that such lesions are uniformly or usually found in such cases? The latter question must be answered in the negative.

Somatic delusion is not a frequent delusion, and when it exists it is not usually very prominent; it lasts for years, and opportunity for *post-mortem* examination is very infrequent. Several cases are on record of local lesions being found *post mortem* in the part of the body to which somatic delusions referred, but these cases are very few in proportion to the number of cases of somatic delusions that exist, some of which must come on the *post-mortem* table every year.

But an examination of the case here recorded shows that the existence of a local lesion in every case of this class of delusion is not necessitated by the hypothesis. The metabolism of the bowel being impaired by the impairment of its trophic nervous supply, the bowel fell an easy prey to the tubercle bacillus. That is the hypothesis: and it is manifest that the lesion required as much the existence of the tubercle bacillus, and its presentation to the weakened bowel, as it required weakness of the bowel for the tubercle bacillus to act upon. It was the quasi-accidental conjunction of the two factors that brought about the tuberculous ulceration. Take away the tubercle, and the lowered metabolism of the bowel was not enough to produce structural disease. Take away the lowered metabolism, and the bacillus was powerless to invade the normal bowel.

The fact that the lungs were saturated with tubercle, and yet there was no delusion referred to the lung, does not seem to me at all inconsistent with the hypothesis. The lung is the favourite seat of tubercle. In very many people little or no degradation of the metabolism of the lung is needed to render this organ vulnerable to the tubercle bacillus. It is not so with the jejunum or with the rectum. Tuberculous ulceration of the jejunum is extremely rare, and of the rectum very uncommon. These organs are highly resistant to the tubercle bacillus, and need some very special and unusual preparation to render them vulnerable. Even supposing that no organ can, until its metabolism is lowered and damaged, become a prey to the tubercle bacillus, it is certain that the failure or alteration of the nerve supply from the convolutions is not the only condition of such failure of metabolism; so that the absence of delusion referred to the lung does not in the least militate against the hypothesis. Upon the whole, it seems to me that no other hypothesis satisfies all the facts, and that this hypothesis, somewhat strange and repellent as we find it at first, does satisfy them all; and is not in any way inconsistent with our general knowledge of the operations of the nervous system. This, then, is the hypothesis to which I venture to commit myself.

DISCUSSION.

Dr. DAWSON (Dublin) said that the case was one of a state which all had seen, and was the more interesting on that account. The first theory, suggested only to be discarded, did not seem so absurd as Dr. Mercier supposed. There were cases of a delusional attitude of mind which might never become insane unless some strong determining incident occurred, and there was no reason why such incident might not be visceral. The disease of the viscera and of the lungs were not on all-fours, as lung disease, even in the sane, might exist for long without the knowledge of the patient, whereas intestinal disease produced effects speedily. The second theory was certainly correct in some cases—for example, that of a neuropathic man who became melancholic from other causes, and when in this state developed a delusion centering round a slight nasal deformity which pre-existed. Furthermore, atrophic function, even of the lower centres, was by no means proved, as it had been found that after disease of the spinal cord the nutrition of the lower parts of the body gradually recovered if the parts were protected, and, if guarded from mechanical injury, remained much as before. As concerned the higher nerve centres, a trophic function was an assumption only. If there were any truth in Professor James's theory, that the coarse emotions were really due to sensations from the viscera, that would also militate against Dr. Mercier's view of the interpretation of his case. However that might be, the paper would excite fresh interest in the investigation of such cases, and it was doubly to be regretted that he was not present to wipe away the difficulties which might be felt in accepting his views.

HEREDITY IN THE CAUSATION OF INEBRIETY.

By T. D. CROTHERS, M.D.,
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ALL practical students of inebriety, alcoholism, and the drink neurosis are astonished that the heredity of this form of disease should be questioned and denied. If it were a matter of theory based on laboratory reasonings, there might be some reasons for doubt, but as it depends specifically on clinical studies and observations accessible to every one, it is surprising that such evidence has not been considered in the discussions of this topic.

The facts of heredity observed in an investigation of the history of a single family, noting all the conditions and peculiarities that are transmitted from one generation to another, will shed more light on this subject than all the theories and speculations of the past. Such studies show a marvellous uniformity of cause and effect governed by laws little known, yet moving with the exactness and certainty of any other phenomena of Nature. It is the tabulation of these clinical facts, and a comparison of their similarity seen in parents and children and going down through the generations, that has proved the laws of inheritance. My purpose is to offer some additional facts on this subject, not exhaustive or outlining any new phase, but simply to confirm the conclusions of others, and, if possible, bring new interest for a more thorough clinical examination of the facts so accessible to every one.

In an experience of thirty-five years of constant care and treatment of inebriates I have studied and outlined the history of 4,400 cases. Some of these histories have been minute, others were general. These studies were begun when the physical causes of inebriety were denied, and only moral forces and conditions were recognized. These studies began with the histories of ancestors, their habits and living, and comparisons between the physical life of the parents and children, and the similar causes and physical conditions.

These studies brought out the startling fact of the exact reproduction in parents from their ancestors and down to their children of physical and mental conditions indicating great laws of evolution and devolution that control with startling exactness.

In a tabulation of some of the causes of inebriety, either as active or contributing factors, the ancestral history seems to throw more light on the etiological conditions than a study of the present state. In over 70 per cent. of inebriates whose history was tabulated, the ancestors drank spirits moderately or excessively. In 20 per cent. only were such histories negative, and disease, injury, shocks, strains, and infections the more active causes. In 5 per cent. starvation and poisoning were clearly exciting causes, and in the remainder the conditions were complex and often psychical. Of those whose ancestors showed defects due to, and associated with, the use of spirits, there were two distinct classes: one in which the parents and grandparents used alcohol continuously and to excess; the other in which the parents and grandparents suffered from other diseases, principally neurosis, and whose use of alcohol was not so prominent and more symptomatic.

The first group was called direct heredities, and over 50 per cent. were tabulated in this class. The children from these parents gave a history of severe diseases in childhood and general nerve defects, marked by low vitality, feeble resisting power, and slow recovery from ordinary diseases, with distinct entailments. Many of them were given spirits for the ailments of childhood as a medicine, and in some instances a distinct craving and pleasing effect followed. At puberty such children exhibited eccentricities, often marked precocity and genius, with intense mental activity, followed by profound exhaustion.

Spirits as a medicine for its supposed stimulant and tonic effects were found to be most grateful remedies. In others alcohol was not used in any way until later life, and then for some distinct purpose, such as exhaustion and strain, and its seductive effects were very marked. In a number of cases the impulse to use spirits broke out suddenly and led up to great excesses, then died out. This often followed exhaustion and physical depression. In these cases the effect of alcohol, as an irritant, excitant, and pleasant narcotic, was most profound. Both the

physical and mental impressions were permanent, and grew in intensity in later life.

Many of the facts showed that the children drank in very much the same way that the parents did, both as to time, conditions, and surroundings. Thus in a number of cases the drink impulse broke out about the same time of life in two or three generations.

Such persons were temperate, and lived normal lives up to a certain time, then suddenly began to use spirits to excess with or without any reasonable cause. In one instance the ancestors were midnight drinkers, seldom using spirits until this hour of night. The children followed the same custom.

In another family insomnia was a common disease, and after 40 every member became a drink and drug taker for this condition. In one instance, successive members of the family running through two or three generations only drank at holiday seasons. At other times they were comparatively temperate. Travel seems to have been the starting-point for the drink impulse. Thus the children of several generations, who were noted as total abstainers, after travel abroad returned with the beer and wine drinking habits, and quickly became inebriates. Those who remained at home continued temperate. In many instances the descendants followed the parents in using spirits on occasions of great emotion or excitement of any kind. At other times they were temperate. Atavism appeared in many families. It is computed that at least 10 per cent. of such cases were traceable to grandparents whose excesses were peculiar and marked. In most of these instances the parents were abstainers, and exhibited an aversion and immunity to the effects of alcohol, but their children drank in so pronounced a way, and under conditions so similar to their grandparents, that the connexion could not be mistaken.

There is a form of psychical heredity in which children from inebriate parents show marks of great excitement, which resembles intoxication, without having used spirits. Often such persons will become greatly excited from anger, sorrow, and other causes, and appear like persons intoxicated.

This indicates the transmission of certain peculiar pathologic conditions not understood at present. In a second class of indirect heredities or complex inebrieties there is the same startling transmission of mental and physical characteristics associated with the use of spirits. Thus parents who are consumptive, hysteric, or epileptic will have children who show marks of degeneration, and who use spirits and drugs with and without reason. In early childhood such children exhibit peculiarities, mental instabilities, morbid impulses with susceptibility to exhaustion, and great mental activity or dullness with wide extremes of emotional and morbid impulses. From this source frequently come epileptics, idiots, low-typed criminals. The dipsomanias, circular insanities, and epileptoid drink paroxysms appear. The degenerations marked by consumption, epilepsy, and alcoholism turn into a vicious circle, in which a great variety of neurotic and organic diseases appears.

Many children of inebriate ancestors die of consumption or develop epilepsy from the slightest causes, even where the parents recognize the degenerative tendencies and struggle hard to overcome them. Mental peculiarities break out which indicate the abnormalities. There is a large number of children whose ancestors were active business men, who used spirits in moderation or excess, and who not only transmitted to their children intense ambition and intermittent activity, but low vitality, diminished power of resistance to overcome, and pernicious habits or impulses that are wrong. Frequently such children are periodic drinkers, and in the free interval make great efforts to build up a degree of total abstinence that will prevent relapse. Evidently a convulsive condition of the nervous system is transmitted which gathers and breaks out at intervals.

The periodicity of the drink impulse is another unexplained phenomenon which appears very frequently. While it is a veritable circular insanity, no one has yet offered any explanation of its exact reappearance as to time and place.

A number of instances were noted in which the drink impulse appeared with exactness at intervals of thirty, forty, or ninety days, and sometimes twelve months. This impulse would break out suddenly and impel the victim to drink under all circumstances and conditions, and, after a period of a few days, completely die out and be followed by intense disgust and aversion. It was noted that most of these cases appeared in families whose ancestors had been very active brain workers, some of them using spirits and others being abstainers.

In one study, about 40 per cent. of all inebriates were found to be periodic drinkers, and about 20 per cent. indicated the parental history of the same form of the use of spirits. It was noted that about 20 per cent. of the whole number were wine and beer drinkers. The children of such parents seldom used spirits in moderation, but were always paroxysmal and excessive drinkers, or strong total abstainers. It was also noted that many descendants of inebriates were very active reform workers, showing unusual energy and zeal in promoting the cause of temperance. In some instances these zealous reformers became secret drinkers and disappeared from public view for a time, then returned with greater energy and zeal. Evidently such persons are impelled to do reform work from an instinct of the danger of their inheritance, and only by helping others can they save themselves.

It is evident that a very large amount of inebriety in America is of the periodic type, in which there is a gathering and exploding of nerve energies—a sort of cyclonic demand for help, from the strain of modern living. This is largely owing to the incessant changes and efforts to adapt oneself to and take advantage of the new surroundings and conditions which are constantly presenting themselves. Moderate drinking in America is becoming a physical impossibility.

Persons who go abroad for health and come back with great faith in the moderate use of wine and beer, soon go on to great excesses in drink and die early from intercurrent disease. The effects of mixed drinks and complex alcohols seem to appear in the descendants, particularly in the masked insanities and peculiar neuroses which break out in the children. A hypersensitiveness to the effects of spirits is another marked peculiarity seen in the descendants of alcoholics. This sensitiveness may be either seductive or repulsive.

Another fact: Where parents have drank for a limited period then have abstained, the children born during the former period show a marked difference in self-control and temperate living to those born later when the parents were total abstainers. Thus, in many instances the drinking descendants were the firstborn children, when the parents thought wine and beer was a luxury and safe remedy. Some remarkable facts along this line await further study. Many descendants of alcoholic ancestors are intensely sensitive to their condition; others are indifferent to the effects. In the former this sensitiveness amounts to delirium, followed by despair and suicide. In the latter it is practically paralysis, both physical and mental. It was evident that the children of drinking parents, while not using alcohol, exhibit great variety of mental perversions, dietetic and sexual excesses, credulity, egotism, and paranoic conditions, which place them in the borderlands of physical and mental health.

The fact is prominent that active brain workers and persons who are intelligent and of the more highly-developed classes more positively transmit the degenerations from the use of alcohol than those lower down in the social scale; also that the drink impulse in children of this class seems to become exhausted, and dies out from causes little known, particularly physical changes of the organism. It was also noted that the defectives and degenerates are followed by inebriates, who contribute very largely to the demented and criminal classes, particularly the insane and those who die early of organic diseases.

The great submerged classes of our large cities are the direct progeny of parents who have failed to transmit normal, healthy brain force and power. Innumerable facts appear along this line which are not questions of of theory but facts, which a further study will bring out. The physical causation of the drink impulse, the drink craze, and the drink symptoms is beyond all question. The fact that the defects, degenerations, and diseases of inebriates appear to the extent of 70 per cent. in their descendants establishes beyond question the transmission of defective germ cells and germ activities.

Alcoholic inebriety, meaning an excessive use of spirits, produces organic defects and derangements of protoplasm, cell growth, cell activity, which is not limited, but goes down to the next generation. The appearance of the same convulsive unreasonable desire for spirits, breaking out about the same time and under similar conditions, in one or two generations following, must be the operation of laws which is yet to be studied. Some unknown condition goes down, and the cell defects may be dormant, until it is aroused to activity by the application of a special exciting cause. There is one conclusion which the clinician is profoundly impressed with, namely: Alcoholic ancestors transmit to the next generation, not only states of exhaustion, low vitality, feeble resisting power, but marked impulses to use alcohol for its pleasing narcotic effects. Exact scientific study of the history of patients furnishes abundant evidence confirming this fact, also that the alcoholic impulse is only a symptom and not the disease; a degeneration and defect from which the patient finds in alcohol and other narcotics the most pleasing relief.

What is needed most is an accurate study of the physical causes and conditions which impel men to drink spirits, take drugs, and become drink and drug neurotics.

DISCUSSION.

Dr. GREENLEES (Grahamstown, Cape Colony) said that he was personally interested in the question of inebriety in South Africa when he ascertained by statistical inquiry and otherwise that mental disease, in the Europeans of that country at all events, depended upon two main causes—namely, inebriety and consanguineous marriages—and he succeeded in getting a resolution passed by the Medical Society, and forwarded to the Government, that increased obstacles should be made to prevent the race obtaining alcoholic drinks. As no nation, however, could be made temperate by legislation, the suggestion was somewhat carried out by increasing the taxation on all spirituous liquors, though whether this had reduced the consumption he was unable to say.

Dr. DAWSON (Dublin) asked whether Dr. Crothers's material enabled him to say whether parental alcoholism pure and simple, apart from any neuropathic heredity, caused mental defect of any easily recognizable form in the offspring. The point was not one easy to decide, as the alcoholism in the parents might be the symptom of inherited neuropathic diathesis till then latent, and the evidence offered before the Royal Commission on the Feeble-minded was very divergent. Several witnesses, but in particular Miss Dendy, expressed the opinion that uncomplicated parental alcoholism did not produce mental abnormality in the offspring. This was in contravention of what one would expect, and of the evidence of others; but Miss Dendy's views, being based on very careful observations on a large number of cases, deserved the fullest consideration. In case that Dr. Crothers thought parental alcoholism did cause mental defect in the offspring, he would like to know whether the mental abnormality so caused was of any special form.

Dr. SHUTTLEWORTH (London) stated that his inquiries at the Royal Albert Asylum, had not shown him that parental alcoholism pure and simple could produce mental defect in the offspring.

Dr. CROTHERS, in reply, referred, as conclusively settling the question of parental alcoholism and defective progeny, to the statistical work carried out in Switzerland, showing that children whose birthdays indicated the coincidence of conceptional periods with times of exceptional feasting and alcoholic excess gave a very high proportion of mental defect.

MONGOLIAN IMBECILITY.*

By G. E. SHUTTLEWORTH, M.D., etc.,

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CONSIDERABLE interest has been aroused with regard to this subject during the last few months by excellent papers which have appeared both in British and foreign medical periodicals, amongst which I may mention an article by Dr. W. Bertram Hill in the *Quarterly Journal of Medicine* (October, 1908), one by Professor Sante de Sanctis of Rome, in an Austrian publication called "Eos" (April, 1909), one by Dr. Meltzer, of Waldheim, in a German periodical devoted to the interests of feeble-minded children (*Zeitschrift für die Behandlung Schwachsinniger*, June, 1909), and finally a pathological study by Babonneix appearing in the current number of *Archives de médecine des enfants* (Tome xii. No. 7). An interesting discussion on the subject, with an exhibition of 15 cases, also took place at the Royal Society of Medicine (Clinical Section) on April 30th, 1909; but the limits of time available at that meeting necessitated leaving unconsidered some important points in relation more especially to the etiology. This occasion, indeed, suggested to me that a paper founded upon what I may venture to refer to as an exceptionally large experience of cases of Mongolism might not be unacceptable to *confrères* of the Section of Psychological Medicine at the British Medical Association meeting.

The material upon which I shall base my remarks consists, in the aggregate, of about 350 cases, a fair proportion of which I have personally seen in the course of my official connexion successively with Earlswood, the Royal Albert Asylum, and the Metropolitan Asylums Board, and also in private. For up-to-date notes, however, of the 98 cases tabulated at Earlswood and of the 158 extracted from the Royal Albert Asylum casebooks, as also for particulars of some 20 cases from the Eastern Counties Asylum, I am indebted to the kindness of the medical officers of the respective institutions, and may specially refer to an instructive series of photographs of Mongoloid imbeciles at the Royal Albert Asylum, Lancaster, which Dr. D. W. Hunter (A.M.O.) has been good enough to allow me to show you. I am also under obligations to Dr. Carson, of the New York State Institution for Feeble-minded, and to Dr. Bodil Hjorth, of the Keller Institute, near Copenhagen, for leave to quote their statistics and conclusions.

History.

In such a paper as this I can but very briefly refer to the history of the subject. Cretinism, at any rate in its goitrous form, had been recognized as far back as the time of Juvenal, who writes: "*Quis tumidum guttur miratur in Alpibus?*" and we know that the great Napoleon went so far as to cause a census to be taken of the endemic cases in Canton Wallis (amounting to 3,000) with which the construction of the Simplon road had rendered him familiar. Sporadic cretinism dependent upon congenital absence or deficiency of the thyroid was first described in this country in 1850 by Curling, and its pathology worked out more fully by Hilton Fagge in 1871. I mention this because Mongolism and cretinism affecting children seem to have been commonly confounded in the early history of the ameliorative treatment of idiocy; indeed, correct diagnosis between the two conditions is not always made even at the present day. Cases, however, which we should now refer to the Mongol type were, no doubt, early noticed by Séguin, who in his writings (1846–66) refers to patients resembling cretins, undersized, with husky voices and furfuraceous skins—a class he subsequently designated "furfuraceous cretins." Dr. Caldecott informs me that in the early casebooks at Earlswood certain patients are described as "strumous cretins," such, no doubt, being cases to which John Langdon-Down, many years Medical Superintendent of that institution, called attention in a paper in the *London Hospital Reports* for 1866, as presenting, though of European parentage, many of the facial characteristics of the Mongolian family of mankind.

Characteristics.

Without going so far as to adopt Dr. Langdon-Down's theory of retrogression of ethnic type in such cases, I think we shall admit, looking at the photographs of children now commonly designated *Mongoloid* or *Mongolian imbeciles*, that, though by birth members of the Caucasian (or Indo-European) family, they favour in a remarkable way the features of the Mongolian race. While admitting the resemblances, I think we may also note striking divergences between the physical characters of the real Mongol or Kalmuck and these Mongoloid specimens of the Caucasian race. In the latter, for instance, though the face is broad, there is not the same prominence of cheek bones as in the former; the hair is not usually black, as in the real Mongol, though it is

* This paper was illustrated by a large collection of photographs of Mongolian imbeciles of different grades and from different parts of the world.

straight, wiry, and often scanty; the skin, though sallow, is not yellow, and there have never (so far as I know) been met with the blue patches on buttocks not uncommon in the genuine Mongol infant. The obliquely-placed and often almond-shaped palpebral fissures, with upward and outward trend, and usually far apart, the flat-bridged snub nose, with expanded outward-turned alae nasi, and the tendency to epicanthic folds, are the most notable signs of similarity. Brachycephalism is common to true Mongols and to Mongoloids, but marked flattening of the occipital region is almost a constant characteristic of the latter.

The form of the hands, with shortened little fingers and thumbs, the flat, broad feet, the curtailed stature and the peculiarities of mucous membrane affecting eyelids, lips, etc., and the scored, fissured tongue appear to be confined to the Mongoloid, for they are not noticeable in the children of the Kalmuck village now on view at the "Great White City." It would be interesting to know whether in degenerate Mongols in the East any of these physical abnormalities occur, but I have not been able to obtain this information. Allowing, however, for the differences I have named, the fact remains—as I think will be obvious from a scrutiny of the photographs I submit to you of so-called Mongolian imbeciles of European parentage—that their physiognomies recall in many particulars those of Asiatic Mongols, and it is remarkable how they all bear, though unrelated, of very varying social class, and natives of far-distant places, a sort of family resemblance to each other. Even lay people recognize the Mongolian physiognomy; and Dr. Still mentions that the mother of a Mongol imbecile under his care in London stated that the neighbours called her child "the Chinese baby," and I have myself known one of this type attending a special school nicknamed by his schoolfellows "John Chinaman."



Fig. 1.—Mongolian imbecile. Note brachycephaly.

Frequency.

As regards the prevalence of this type, it seems to vary considerably amongst European nations, being most common in England, where some 5 per cent. of all imbeciles are of this type (Dr. Langdon-Down says 10 per cent. in his experience). Recent statistics of cases at the Royal Albert Asylum show 158 out of 2,900 admissions, and at Earlswood 98 out of 3,700—early cases were probably not recognized as such at the older institutions.

I have no exact statistics from Scotland or Ireland, but the late Dr. Ireland[1] says he has come across cases from the Hebrides, and estimates that 3 or 4 per cent. of all imbeciles in asylums are of this type. In France they would seem to be less frequent, for Bourneville,[2] writing in 1901, stated that amongst 650 children at the Bicêtre and Fondation Vallée there were but 8 Mongols, and that he had not seen more than 20 of this type in the course of his service. In Germany Weygandt, Alt, and H. Vogt reckon that about 1 per cent. of imbeciles are Mongoloid. Dr. Sante de Sanctis of Rome states that he had seen only 20 cases in Italy in seven years. In Scandinavia they seem more frequent, Dr. Bodil Hjorth stating that out of 750 imbeciles in the Keller Institute, near Copenhagen, there are at present 30 Mongols, equivalent to 4 per cent. In the United States of America they seem fairly frequent, forming at one large asylum (the New York State institution) 8.2 per cent. of the admissions in a single year (though apparently less numerous elsewhere). I learn from correspondents that the type is not uncommon in British over-sea dominions. Amongst my illustrations I have the pleasure of showing you two remarkably fine photographs of twin children (boy and girl) from Melbourne, one (boy) normal, the other (girl) a Mongolian imbecile, for which I am indebted to Dr. A. Jeffreys Wood of that city.

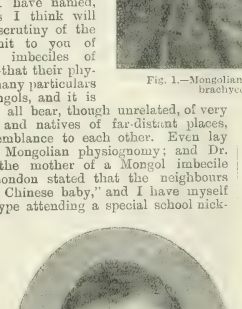


Fig. 2.—Mongolian imbecile. To show scored, furrowed tongue.

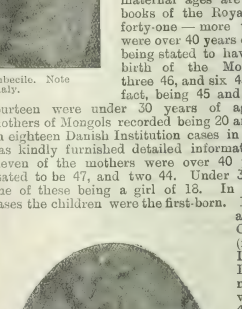


Fig. 3.—Mongolian imbecility. To show deformity of hands.

Etiology.

A scrutiny of the statistics I have collated (from about 350 cases) brings into prominence the following factors: First, with regard to parentage, in the institution cases, at any rate, the out-standing point is the *advanced age of the mother at the birth of the child.* Thus, of 120 cases in which maternal ages are recorded in the books of the Royal Albert Asylum, forty-one — more than one-third — were over 40 years of age, one mother being stated to have been 47 at the birth of the Mongolian imbecile, three 46, and six 45—one-twelfth, in fact, being 45 and upwards. Only fourteen were under 30 years of age, the youngest mothers of Mongols recorded being 20 and 21 respectively. In eighteen Danish Institution cases in which Dr. Hjorth has kindly furnished detailed information, no less than eleven of the mothers were over 40 years of age, one stated to be 47, and two 44. Under 30 were only two, one of these being a girl of 18. In both these latter cases the children were the first-born. In seventeen cases at the Eastern Counties Asylum (for notes of which I am indebted to Dr. Douglas Turner), six mothers were over 40, one 47, one 45, one 44, and two 43. The average age of mothers at the birth of Mongol offspring seems in this series to be 36; one was only 19 years of age.

The next point that strikes one is the large proportion of Mongol children that are the *last-born, often of a long family.*

At the Royal Albert Asylum 62 Mongol children out of 107 whose order in the family had been approximately ascertained were stated to be last-born, and of others (not last-born) 1 was the thirteenth child, 1 the twelfth, 2 the eleventh, and 1 the tenth. Of last-born children, 1 was thirteenth, 2 were twelfth, 2 were eleventh, and 3 or 4 were tenth in the family, dead brothers and sisters being included in the reckoning. It should be added that 1 was an only child and 12 others were presumably first-born children. Of 98 Mongol children recorded at Earlswood, 46 (or nearly 56 per cent.) were last-born, while 13, or 12.6 per cent., were first-born.

The Earlswood tables also show that about 22 per cent. of the Mongol cases belonged to the first half of their families and about 78 to the latter half, and that 46 per cent. of the families producing Mongols consisted of seven or more children. (In England thirty years ago the average number in a family was stated by the Registrar-General to be 4.6; it is probably considerably less now, so that we may consider the Mongol-producing family considerably beyond the average in number of children.) Of the 18 children noted at the Eastern Counties Asylum, 6 at least are last-born and 1 is an only child. The average number in the Eastern Counties Mongol-producing family is between 6 and 7.



Fig. 4.—Mongolian imbecility. To show deformity of hands. Note square, stumpy shape of hands, and curved little fingers. (From a photograph by Dr. R. P. Cockburn.)

It would seem to be fair inference from the figures just cited that more than half of the Mongolian imbeciles in institutions are last-born children, mostly of long families, and that in a considerable proportion — from one-half to one-third — the mothers were at the time of gestation approaching the climacteric period, and that in consequence the reproductive powers were at a low ebb. Which of the two factors—the advanced age of the mother or her exhaustion by a long series of previous pregnancies—is the more potent factor is open to doubt. Both act concurrently in most cases. In one case only have I a note of a late marriage, the mother being 43, and the solitary issue being a Mongol imbecile. But first and only children of the Mongol type are not uncommon, especially in the higher social ranks; I have, indeed, notes of 4 such in a group of 18 private cases with mothers of 35, 25, 20, and 25 respectively; but the possibility of preventive checks in such cases must not be overlooked. Dr. Still suggests that the power of perfect reproduction is often not fully established in the first pregnancy, in which case so-called "prudential checks" may be ill-advised. Certain it is that the production of more than one Mongol in the same family is a great rarity; indeed, I have only heard of 2 such cases, and these are on record at the Royal Albert Asylum. The case of twin pregnancy with offspring of different sex, the boy normal, the girl a Mongolian imbecile, is unique in my experience; but Dr. Hjorth records in his table one instance of twin Mongols.

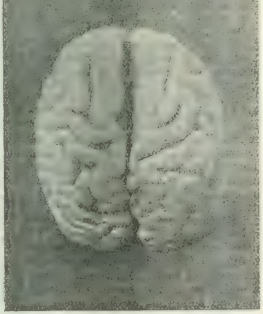


Fig. 5.—Mongolian imbecility. Brain, upper surface.

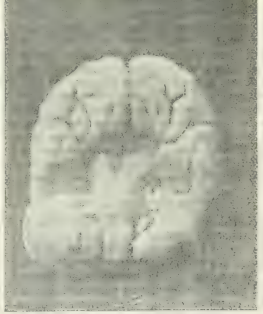


Fig. 6.—Mongolian imbecility. Brain, under surface.

How far neuropathic heredity is a factor in the production of this type of imbecility has been much discussed, and I fear my notes do not throw very much light thereupon. At Earlswood it has been traced in about 25 per cent. of the cases recorded. Dr. Hjorth concludes, with regard to this type, that neuropathic predisposition is remarkably rare. I can only say that my experience with private cases leads me increasingly to believe in the influence of this factor, and that if one allows sufficient time gradually to attain a more complete knowledge of the family history, it may be discovered in nearly 50 per cent.

Dr. G. A. Sutherland has stated that in 25 cases of Mongolism investigated by him (mostly in hospital practice) he found evidence of parental syphilis in 11. Such a view is not supported by my own experience, either in institution or private practice, and I have notes only of 3 cases in the former and 1 in the latter amongst several hundreds of cases seen. Dr. Hjorth states that in 21 Mongol cases carefully investigated by him there is no single case of syphilis in the parents, and in a list of 20 such cases at the Eastern Counties Asylum the absence of syphilitic history is recorded.

Formerly I was under the impression that a family history of tuberculous disease was the most frequent and most potent etiological factor in the production of Mongolism. I am not certain, however, that I could statistically justify this view to-day. Tuberculous heredity shows largely in the etiology of all the varieties of idiocy and imbecility, and Fletcher Beach and I found it as a probably causative factor in no less than 28.31 per cent. of the 2,380 cases investigated by us in 1891. In 98 cases of Mongolism at Earlswood a phthisical family history has been traced only in 15—that is, 15.3 per cent. In 18 cases at the Eastern Counties Asylum it is reported in 6 (= 33 per cent.). In only 4 out of 21 cases at the Keller Asylum is a definite history given of tubercle in near relatives. It is impossible, therefore, to regard the theory that the Mongolian is *par excellence* a tuberculous type of imbecility as well founded. It is true that the imperfect tissues of the Mongol child are more liable than those of some other varieties to invasion by tubercle bacilli, and hence the large mortality of Mongols especially from pulmonary tuberculosis.

To sum up the etiological evidence before us, I think we may conclude:

1. That Mongolian imbeciles are "exhaustion products"—that is, dependent upon conditions adversely affecting the maternal reproductive powers — the advanced age of the mothers and frequent child-bearing being the most noticeable causative factors.

2. That any depressing toxic influences may produce in younger women reproductive exhaustion—for example, neuropathic heredity, giving rise to imperfect metabolism, nervous depression, etc., alcoholism, the poison of syphilis, and tuberculous infection—but neither syphilis nor tubercle is the specific cause of Mongolism. Exhausting illnesses, of whatever kind, during the period of gestation may produce imperfection in the evolution of the fetus and its tissues which we know as Mongolism.

Anatomical Peculiarities and Pathology.

To many of these I have already referred in my introductory remarks, and I need now only refer to some others

which are not so obvious from a survey of illustrative photographs, though easily demonstrable on living patients. The brachycephalic head flattened posteriorly; the oblique-set eyes and epicanthic folds; the depressed nose; the fissured lips; the fitfully protruded tongue with its scored, papillated surface; the broadened cheeks with dilated capillaries giving a ruddy tint; the auricles of simple type, devoid of pendant lobes; the sparse, straight hair and downy growth extending low, all make up a picture of imperfection reminiscent of fetal conditions; and in the living subject we should see lax ligaments and muscular hypotonia, which enable the child to assume positions approaching intrauterine postures—characteristic, in fact, of permanent immaturity suggestive of an unfinished child.

The hands and feet have also well-marked peculiarities, and one of the photographs from the Royal Albert Asylum, and two or three from private patients (for which I am indebted to Dr. Cockburn of Ealing), of an opposing great toe with cleft between it and the next, remind one of the quadrumanous arrangement. The heart is found incompletely finished not infrequently in children of this type, the foramen ovale remaining patent, and defects existing also in the intraventricular septum. The thyroid and thymus glands have been examined for defects, notably by Bourneville, but no important variations from the normal have been noticed by the latter, except in two cases in which he detected thickened trabeculae and sclerosed vessels. I show you several illustrations of the Mongol brain, and you will see that macroscopically it presents coarse convolutions, with few secondary convolutions, and an absence of anaectent gyri, the sulci being unusually shallow. The cortex itself is thinner than usual. Microscopically, according to Bourneville, there is marked rarefaction of the cells, and the fibres of the Exner net are very thin. He also speaks of a fibrous meningitis, a condition also noted in a *post-mortem* examination of a higher grade Mongolian imbecile recorded recently by L. Babonneix;[3] but may not this be accidental and not essential to the condition, which is fundamentally one of arrested development? Wilmarth has remarked that in five Mongol brains studied by him, pons and medulla were relatively small, and Sutherland has confirmed this observation.

Mental Peculiarities.

These vary with the degree of Mongolism, which may be superficial or profound. I have seen cases which have only a dash of Mongolism, with only a few of the physical stigmata; but in all there were certain common mental characteristics, such as general backwardness, want of originality but remarkable imitativeness, retarded speech, often a taste for musical rhythm, and usually a placid disposition, though in some cases a species of obstinacy which only yields to tactful management. A tendency to grimacing (with frontal corrugation), protruding and drawing in the tongue, a transient squint, and tricks of mimicry are other signs of peculiar modes of brain action.

Diagnosis.

Cases of the *cretinoid* and of the *Mongolian* type are apt to be confused, especially at an early age, so that it may not be amiss to add here some of the leading diagnostic *differentiae*. As was remarked at the interesting display of fifteen Mongolian cases before the Clinical Section of the Royal Society of Medicine, correct diagnosis is of importance to save parents the disappointment of expecting amelioration from thyroid medication prescribed for Mongolian imbeciles presumed to be cretinoid. In passing, it may be said that, except in *mixed* cases (which occur but rarely), thyroid treatment is ineffective in Mongolism, and whenever a marked effect is obtained the presumption is in favour of cretinism, though this is a much rarer form of imbecility than the former. In tabulated form the characteristic differences may be set forth as follows:

Mongolism.	Cretinism.
1. Characteristics noticeable from birth.	1. Characteristics often not noticeable till sixth or seventh month.
2. Skull brachycephalic: Contour rounded or short oval. Longitudinal and transverse diameters nearly correspond.	2. Skull dolichocephalic: flat at top (fontanelles close late), expanded laterally; broad behind, often asymmetrical.
3. Forehead usually smooth.	3. Forehead usually wrinkled.
4. Palpebral fissures "almond shaped," and more or less oblique upwards and outwards. Frequent epicanthus. Strabismus common. Ciliary blepharitis frequent.	4. Palpebral fissures horizontal, but appear small owing to pseudo-oedema of eyelids. Strabismus and ciliary blepharitis less common.
5. Cheeks chubby, often florid. Complexion mottled.	5. Often circumscribed malar flush; complexion ashy or waxy.
6. Lips often transversely fissured. Lower lip may be pursed up over upper.	6. Lower lip often everted. Mouth open. Drivelling common.
7. Tongue large and coarsely papillated if not fissured. Tongue recurrently protruded and drawn back.	7. Tongue large, but not coarsely papillated or fissured. Tip of tongue thickened, and constantly protruding.
8. Skin smooth in infancy, but furfuraceous later; not redundant (or "baggy."	8. Skin dry and scaly; forms folds here and there, being redundant and "baggy."
9. Hair "wiry," often "mouse colour," but sometimes blonde. Downy growth common on forehead and cheeks.	9. Hair harsh, coarse and scanty. Usually of darkish tint (Bourneville says brown); scalp often eczematous.
10. Thyroid gland palpable to greater or less extent.	10. Thyroid gland impalpable to most thorough examination.
11. No fatty tumours (pseudo-lipomata) in posterior triangle of neck.	11. Fatty tumours (pseudo-lipomata) frequently found in posterior triangle of neck, etc.
12. Long bones somewhat shorter than usual, but slender.	12. Long bones shortened and thickened, in some cases bowed.
13. Hands broad; thumb and little finger short, the latter often curved towards ring finger. Fingers taper at ends.	13. Hands broad, thick, and stumpy, with wrinkled skin. Fingers square at tips.
14. Feet large and flat. Fissure between great and next toe often seen.	14. Feet squat; skin redundant about ankles and dorsum of foot.
15. Abdomen often distended; occasional umbilical hernia; often inguinal hernia.	15. Abdomen very bulky and prominent with folds of skin; umbilical hernia common.
16. Expression more or less vivacious and mobile, observant and imitative.	16. Expression dull and immobile; unobservant and apathetic.

Similarities in each Variety.

Deficient stature, flattened bridge of nose, with expanded alae, late and irregular dentition, deferred closure of fontanelles, retarded puberty.

Prognosis.

This differs in proportion to the degree of Mongoloid defect, and may be treated (1) from the physical, (2) from the mental standpoint. Physically, congenital cardiac defects have to be reckoned with in a certain proportion of cases, and in such the infantile mortality is undoubtedly large. Imperfections of mucous membrane, whether respiratory or of the digestive tract (also, it may be, palpebral or nasal), lead to inflammatory affections of lungs, bowels, etc., which may be chronically troublesome, afford nidus for tubercle, and lead to fatal results in early life. Puberty, generally late, seems often to be the starting-point of degenerative trouble, and there is a large mortality (chiefly from tuberculous disease) amongst Mongols between 15 and 20 years of age. Comparatively few arrive at adult years, but much depends on environment and the amount of judicious care taken of them. At a meeting at Normansfield in 1905 the Drs. Langdon-Down showed nine Mongol patients of whom the average age was 35, the oldest being a lady aged 56 (who, I hear, has since died of mere senility). As regards prospect of mental improvement, much may be done by suitable training, proceeding on imitative lines. Habits of propriety and simple educational attainments, such as drawing, writing and reading, may be acquired; abstract matters, such as calculation, are attainable only by the higher (that is, less marked) subjects of Mongolism: and some manual occupation requiring only mechanical skill may be learned. The typical Mongol, however, remains at best an imperfect being to his life's end, destitute of originating power, though a willing machine, needing, however, to be "wound up" regularly.

Treatment.

There is little to be done by medicine in this class of cases, except with the object of improving the general health and condition. Defects of circulation, consequent in some cases on cardiac imperfections, call for tonics, cod-liver oil, and attention to warmness of apparel, but thyroid treatment, though useful in promoting metabolism, cannot be depended on as curative in cases of this type. Treatment to be effectual must be

essentially medico-pedagogic, the medical expert and the skilled teacher working hand in hand. It would be an interesting experiment, and one which I think would be justifiable (though the chance has never occurred to me), to place in an incubator a new-born baby of obviously Mongol type, with a view of seeing how far the signs of immaturity might be overcome by thus supplementing defective gestation.

REFERENCES.

[1] *Mental Affections of Children*, p. 58. [2] *Comptes Rendus* (Bicêtre), and Brouardel, *Traité de médecine*, lix, p. 58. [3] *Arch. de méd. des enfants*, 1900, Tome xii, 7, p. 500.

DISCUSSION.

Dr. LANGDON DOWN (Hampton Wick) directed attention to the shape of the hand in Mongolian imbeciles, and showed hand-prints of a number of such cases compared with a normal hand-print. These showed a marked shortening of the metacarpal bones and the phalanges, and the extreme suppleness of the joints was indicated by the superior ease with which the impress of the centre of the palm was obtained. In addition to the abnormality of the bony structures, these prints showed that the bones of the palm differed from the normal in their extreme irregularity, and the tendency of the principle fold-lines to be two in number only, instead of three as was most commonly the case. This peculiarity was, doubtless, associated with the shortness of the metacarpals. It was a feature so frequently present that it might be regarded as an aid to diagnosis in conjunction with other characters. It was, however, a feature found in imbeciles of other types, of imbeciles where the bony growth was stunted, as sometimes happened in the same way that epicanthus was found in other types, as well as being very common in the Mongolian imbecile. These cases were markedly shorter in stature than the normal, or, indeed, than imbeciles of other classes. This had seemed to be due rather to shortening of the extremities than of the spine. With a view to testing this, a number of male Mongolian imbeciles (mainly adults) were measured and compared, both as regards the sitting height and the full stature, with a number of imbeciles of other types. The observations were not very numerous, but they showed that in Mongolian imbeciles the length of the lower limbs was to the length of head and trunk as 100 to 114.5, whereas in other imbeciles the same proportion was 100 to 105.3. The average sitting height of the Mongol was 32½ in., while that of the others was 34 in. For example, a Mongol of sitting height 33½ in. showed a total height of 61½ in., while an epileptic imbecile of sitting height 33 in. had a total height 66½ in. If it had been possible to exclude the head and neck from the trunk measurements, the difference would probably have been still more marked, but this was found difficult to do, owing to the very poor development of the vertebra prominens in the Mongol type, which made it impossible to find a fixed point to measure from. The speaker also mentioned a tendency for Mongol children to appear after a non-childbearing interval in the family, and said it was rare for an imbecile of another type to occur in the same family with a Mongol. Mongols stood apart from other imbeciles in respect of palatal development; the bony structures of their face suffered in development, as well as other parts. This led to narrowing of their nasal passages and smallness of their jaws.

Dr. CALDECOTT (Redhill) called attention to the absence of certain details—namely, the age to which Mongolians lived, cause of death, and the general appearance, which more or less disappeared as age advanced. The experience of Earlswood showed that few Mongolians lived beyond the age of 20; that the cause of death was in nearly 100 per cent. tuberculosis, and that if they lived beyond 30 years the characteristic appearance tended to diminish. He also called attention to the fact that thyroid treatment was useless for this class of case.

CONSIDERATIONS UPON THE REPORT OF THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE-MINDED.

By W. R. DAWSON, M.D.Dub., F.R.C.P.Irel., Dublin.

THE references to the Royal Commission, practically involving, as they did, a survey of the existing methods of dealing with mental defect of every kind, and in every civilized country in the world, necessitated the collection of so huge a mass of evidence, and the consideration of so extensive and varied a series of subjects, that it is clearly impossible to discuss the report in any but the most fragmentary way within the limits of a single paper. I shall, therefore, merely touch upon what seem to me to be some of the more interesting points, hoping that the speakers who follow will fill many of the gaps inevitably left.

The state of affairs revealed by the investigations of the Royal Commission may be mildly described as exceedingly unsatisfactory. Even in England it was found that 0.85 per cent. of the population suffer from mental abnormalities of some form or other, of whom a very considerable proportion—in fact, about a fourth—require immediate provision; while here in Ireland the proportions both of mental defect and of undealt-with cases are much larger. There is, therefore, urgent need that some attempt of an organized and co-ordinated kind should be made to deal with the whole class of mental defectives; and, as a thought-out and connected scheme for this purpose, the report should be welcomed and approved, even if one is not prepared to accept the views expressed therein in every detail.

In dealing with the problem before them, the fundamental idea adopted by the Royal Commission is the duty of the State to protect all persons who are prevented by mental defect from taking part in the struggle of life, and to include their property within the scope of this protection. This is no more than an extension of the principle which has long been admitted in the case of the certified insane, and is not likely to be contradicted, least of all by the medical profession. So far as this duty of the State has been carried out, it has been performed by a number of different agencies, but the Poor Law authorities have been the chief agencies dealing with the uncertified cases and the lesser degrees of defect concerned. The evidence shows that the Poor Law has been most inefficient in this connexion; and as the Royal Commission rightly insists that it is mental defect, and not any social circumstances which may arise therefrom, which constitutes the claim of such persons upon the commonwealth, it is perfectly logical on all counts to refuse to recommend that such classes should be left under the management of a system which, even in a general way, has proved so unsatisfactory as to render radical reform imperative—a fact which has been proved by the recent report of the Royal Commission on the Poor Laws. Furthermore, the very varied character of the different classes of defect, their numbers, and the highly special nature of the methods of dealing with them, which still retain a certain connexion and similarity amongst themselves, all render it essential that these cases should be in the hands of a special department, with a strong central authority directing, controlling, and co-ordinating the whole.

This is the conclusion arrived at by the Royal Commission, with which one is in hearty agreement, as also with their view that this central authority should be primarily medical. The peculiar social consequences of mental defect, however, render it necessary that there should be close co-operation between the judicial and administrative authorities, and therefore the amalgamation of the Lunacy Commission with the Chancery Visitors in forming the central authority seems to be justified. The Royal Commission, however, further desires to retain as local authorities the present county councils, while checking any retrograde or undesirable tendencies on the part of those bodies by the power of the central authority. It is useless now to discuss the desirability of placing such power in the hands of the local bodies. The county councils have the management of the asylums, and though there have not been wanting instances of misuse of their power in the past, it may be taken that they will keep it. Upon the whole it is right that they should do so, as far as the management of the institutions is concerned. In view of the erratic and inconstant nature of such elected bodies, however, it seems to me doubtful whether their power should not be restricted even further than is proposed by the Royal Commission. I have long thought that the ideal system would be to turn the asylum medical service into a State service. The Viceregal Commission on Poor Law Reform in Ireland recommended this step in the case of the Poor Law Medical Service, suggesting that the appointments should be made by a central council as the result of an examination, and that the salaries of the

medical officers should be paid from Imperial funds, while leaving the management in other respects in the hands of local bodies. A similar scheme, it appears to me, might advantageously be applied to the medical service to be created in connexion with the various institutions for the care of the mentally defective.

Coming now to the detailed recommendations by which it is sought to give effect to these principles, there are many points on which the opinions of the Royal Commission are more questionable. Thus in the Preamble it is stated that "the three methods of oversight, certification and detention are recommended for the mentally defective," for some of whom "oversight will suffice, for others certification, and for others certification with an order for detention." From Recommendation XXXIV, which deals with the same subject, it appears that "oversight" is used as equivalent to "registration." But how can mere registration or certification, apart from detention, be considered methods of providing care and control in any real sense? Such procedures seem to me to be utterly futile (as, indeed, they have already done to Dr. Dunlop, one of the Commissioners), while at the same time they cost money, and would very possibly furnish the local authority with an excuse for doing nothing, for the intervention of the "friendly visitor" would be nothing short of an intrusion. This point has been taken a little out of its order owing to the prominence given to it in the Preamble.

The first point in the recommendations themselves concerns proposed changes in nomenclature, namely, the substitution of the terms "mentally defective" and "hospital" for "lunatic" and "asylum." With their present connotations, there is no doubt that the latter terms should be changed, and perhaps the substitutes suggested are as good as any. But it must be pointed out that such changes are of temporary utility only. The history of insanity shows a continual effort to mitigate the unpleasant sound of the terms used in connexion with it. Neither "lunatic" nor "asylum" is in itself an objectionable word; indeed, the latter is a kindly term devised to replace the old "madhouse"; and there can be no doubt that "mentally defective"—in itself by no means free from objection—and "mental hospital" will in time sound just as harshly in the ears of the public. In the next place, the "mentally defective" are to be divided up into no less than nine classes, of which definitions are given. Some object to definitions *in toto*, but a certain amount of classification is practically useful, and should be retained, though that suggested by the Royal Commission is illogical and unnecessarily elaborate. Thus, to separate off from the general class of "persons of unsound mind" those whose mental abnormality happens to be due to "age or decay of their faculties" is devoid of any real utility, and would introduce gratuitous difficulties in practice. Again, the last four classes—namely, "moral imbeciles" and mentally defective epileptics, inebriates, and deaf and dumb, or blind, are quite unnecessary, and such cases should be merged with the other idiots, imbeciles, and feeble-minded. As regards the moral imbeciles, the position of the Royal Commission is inconsistent, seeing that they define the class as including "persons who from an early age display *some mental defect* coupled with strong vicious or criminal propensities on which punishment has little or no deterrent effect," yet they do not consider it "scientifically correct" to group cases of *acquired* moral defect into a separate class. The remaining four classes are quite sufficient—namely, "persons of unsound mind," "idiots," "imbeciles," and "feeble-minded"; and the separation of the last three, which differ only in degree, is justified by the difference in the treatment which they require, and the difficulty of finding a single term to cover them all. The definitions themselves, though not particularly scientific, I have found of value in practice, from which point of view they are not likely to be improved upon.

The constitution and powers of the central authority seem upon the whole satisfactory, especially the preponderating importance assigned to the medical element, the insistence that this medical element should consist only of experts, and the provision for the increased medical inspection of institutions for mentally defective persons, together with the simplification resulting from the inclusion of the Chancery Visitors. It is said, however, that those connected with the Chancery Division are opposed to the amalgamation, and that this is also likely to be the view of persons who have relatives or friends under the Court, who would prefer that their money should go to maintain a special set of officials to look after their estates rather than be absorbed to reduce the rates. With this view I have personally no sympathy whatever, but it is one that may have to be faced when legislation is attempted. The extension to all mentally defective persons of the provisions of the Lunacy Act relating to management and administration may also be approved. Lastly, as regards the name of the central authority, there seems no sufficient reason why it should not be called the Board of Control in Ireland as well as in the sister countries. The taking over by the central authority of the licensing of institutions for the mentally defective would remove an objectionable anachronism, and the appointment of medical Assistant Commissioners would relieve the Board of Control of much labour of a more or less routine kind, though whether it is necessary to attach each exclusively to a special district is more doubtful.

The constitution of the local authorities, as recommended, does not seem to call for remark; but under this heading an objection has been raised with reference to the appointment of "certifying medical practitioners" to act on behalf of the committees, it being alleged that any ordinary medical man ought to be capable of doing what is necessary, and that a source of income is thus taken from the general practitioner. It is certainly regrettable to reduce the already too small gains of the rank of the profession; but it may be pointed out that even now the duties in connexion with certification of the insane are none too well performed, and that if the recommendations of the Royal Commission are carried into effect a great deal of work will be created of a new and even more difficult kind. If it is by no means always easy even for an expert to decide whether an individual is sane or insane, it is far less easy to decide upon the status of a case of mere feeble-mindedness, as was amply evident to me in the course of my investigation for the Royal Commission. Experience is essential, and even assuming that the certifying physician may at first have no more than his neighbour, if all cases are to pass under his observation, the experience will soon come. Furthermore, there is no reason why the post in question should not constitute the lowest grade of a series of steps in promotion, the next being the post of medical officer to the local authority for the care of the mentally defective, and then the post of assistant Commissioner. A complete system of special training would thus be afforded, and some inducement offered for devoting attention to this line of work.

On the subject of finance, important as it is, I do not propose to enter, since it is of too special a nature, and I do not feel myself qualified to criticize the proposals of the Royal Commission under this head; but I hope we shall hear about it from some of the other speakers. I would suggest, however, as a matter connected therewith, that the procedure as regards the adoption of plans and estimates for buildings is surely unnecessarily cumbrous, involving as it does the submission of such plans and estimates, when determined on by the local authority, first to the Board of Control and their architect, next to the Local Government Board, next to the Secretary of State together with the Board of Control and the representative of the Local Government Board, and finally back to the local authority. So far as I can see, this lengthy process would have to be gone through for a small addition equally with a large new institution; and it would surely involve an absurd amount of expense and delay. Some limit of proposed expenditure should be assigned, below which a simpler procedure should be made to suffice. An admirable recommendation under the same heading is the adoption of a system of settlement based on counties and county boroughs, the need of which has been severely felt, in this country especially.

The suggested arrangements for the guardianship and supervision of mentally defective persons seem satisfactory, but the very full powers of appeal against the decision of the local authority, first to a court of summary jurisdiction, and from that again to the Quarter Sessions, are likely to lead to endless litigations; and I agree with Dr. Dunlop, one of the Commissioners, in his objection to the system of compelling medical officers and other public officials to notify to the local authority all cases of mental defect

coming to their notice, unless where public assistance is required. Such a procedure is altogether too inquisitorial, and would certainly give rise to friction in practice. It is a good suggestion, however, that the medical officers in charge of institutions for persons of unsound mind should report specially on frequently recurring cases, and such as would be likely to relapse; and here it may be noted with approval that every such institution must have its medical officer, whose duties are to be arranged by the central authority.

In connexion with the procedure for the admission of patients exception must be taken to the recommendations of the Commission in several particulars. Dr. Dunlop himself very rightly objects to the preposterous proposal that the judicial authorities "should be given some discretionary power as to the method of disposal of mentally defective persons," holding that, as in the past, the function of the judicial authority begins and ends with the granting or refusal of the order for detention. I should, however, be inclined to go very much further than this, and suggest that if such sweeping changes are to be made, it might well be considered whether the intervention of the judicial authority, which personally I am inclined to regard as a relic of barbarism, might not be dispensed with altogether in the great majority of cases of what is more and more coming to be recognized as a matter mainly concerning medicine. If, however, this is undesirable in the case of patients entering public asylums, I am at all events very clear that the intrusion of a judicial authority is by all means to be avoided where paying patients are concerned. Here in Ireland we have never had such intrusion, and no disadvantages or abuses have arisen from its absence; and I am very certain that if the patient's case has to be submitted to a judicial authority (who may be a neighbour) before admission to a mental hospital, the existing difficulty in getting patients under special treatment in the early stages of their malady, in which treatment is most likely to be of service, will be intensified tenfold. Even at the sacrifice of uniformity, therefore, I would urge that the difference in the procedure for public and for paying patients as existing in Ireland should be retained if the judicial authority is really indispensable for the former.

Coming now to the education and training of defectives, the removal of such individuals from the control of the ordinary education authorities is inevitable and the recommendations made under this head excellent, except that some discretion should be given in deciding as to whether or not a child is really capable of deriving benefit from training and education, which in many cases it would be sheer waste to attempt. In passing, I would urge the desirability of starting special classes rather than special schools—in the first instance, at all events. In Ireland, if not in England, I believe that much greater difficulty would be experienced in getting parents to send their children to the latter, while the former have further advantages in the ease of transfer of pupils to and from the ordinary classes, and the fact that the defectives are not herded together, but can mix with normal children during play hours as far as may be considered desirable.

Of the other special classes of defectives, the recommendations for dealing with such as are criminal and inebriate may be approved as far as they go; and in view of the close connexion between epilepsy and mental disease, there can be no question that the Royal Commission is right in advising that institutions for sane epileptics should be under the same control. I would go further, however, and in consideration of the recent report of the Departmental Committee on the Inebriates Acts (which, of course, is a subject beyond the scope of the Royal Commission), would venture to suggest that, as the connexion of mental disease with inebriety is just as close as with epilepsy, the system so carefully outlined should be rounded off and completed by the inclusion therein of all homes and institutions for sane inebriates. In this connexion, as well as for other reasons, there should also be legal provision made for suitable cases desiring to enter institutions as voluntary boarders.

Lastly, although the report, upon the whole, is in favour of trying some system of family care in the treatment of the mentally defective, the Recommendation XXXIV, which is apparently intended to deal with this matter, is far too indefinite, and gives the impression that the Royal Commission is half-hearted on the subject. Yet no scheme for dealing with the defective can be held complete which does not recognize the value of this system, so easy of introduction, so elastic, so successful where it has been fairly tried, and so inexpensive.

There is an infinite number of other points which might be touched on, and I have only dealt with a few of the more salient ones—which is, indeed, all that was possible. The recommendations of the Royal Commission are, as we have seen, not perfect—indeed, such perfection would be impossible. But, when all has been said, their report remains a monument of industry and a mine of information, and constitutes the only serious attempt to deal with the problem of mental defect as a whole and with a view to prevention as well as cure. Not the least important of its services will be rendered if it forces on the attention of the nation the existence of unpalatable facts to which most wilfully prefer to remain blind.

DISCUSSION.

Dr. OUTTERSON WOOD (President) said that with regard to the personnel of the Board of Control there could be no doubt that there should be an increase in the number of Commissioners. As the Royal Commission so strongly recommended:

> It is essential that the selection of men to fill these important appointments should have no relation either to party claims or personal predilection.

For certain kinds of work, within certain limits, one person might be as well qualified as another, but for this work, for which wide experience is necessary in combination with special knowledge and administrative ability, the selection we would urge should rest entirely on individual suitability, and should be biassed by no other considerations. No cases required more urgently to be sifted and dealt with by trained experts than those most difficult of all cases, the defectives, who were not certifiable. The report said that the powers and duties of the Board of Control should extend to mentally defective inebriates as well as to other classes of the mentally defective.

But what was to be done with those inebriates who were not mentally defective—for these were the cases we were all so anxious to have the power of legally controlling—and who without control went headlong to their ruin. That those who were to have the supervision of these cases should be men of wise experience in the treatment of mental cases, went without saying.

Dr. SHUTTLEWORTH (London) said: In venturing to offer a few remarks on that monument of industry—the Report of the Royal Commission on the Care and Control of the Feeble-minded—it is with some diffidence that I submit to this assembly of practical lunacy experts my own notions derived from an experience in only one corner of the great field of mental abnormality, and that chiefly with children. Personally I have had to do more with congenital aments than with cases manifesting mental unsoundness in later life, and my point of view may consequently be narrow. But I think I may say that in the course of my professional life I have had a pretty extensive and intimate acquaintance with all sorts and conditions of idiots, imbeciles, and mentally defective children in the sense in which that last term has been used in England under the Act of 1899. That Act for the first time brought under educational control, wherever the educational authorities chose to adopt it, the large number of children incompetent by reason of mental defect to benefit by the ordinary elementary school curriculum, but still not so obviously deficient as to be certified under the Idiots Act of 1886 and so "falling between two stools." I am ready to acknowledge that the Idiots Act was intended by those who framed its provisions (in which personally I had some slight part) to facilitate the admission into such institutions as Earlswood and the Royal Albert Asylum of children then known as "higher-grade imbeciles" but subsequently designated (following American usage) as "feeble-minded"—a change really made to propitiate their parents, who are naturally sensitive as to the descriptive term applied to their offspring. Following the example of Germany and Scandinavian countries, the more enterprising educational authorities—for example, London, Leicester, and some others—had formulated a system of special classes for such cases found in the elementary schools. In 1896 the

English Education Department (now the Board of Education) appointed a Departmental Committee (of which I had the honour to be a member), and which pursued its investigations for over a year, and the chief recommendations of its report were embodied in the Act of 1899 to make better provision for the education of defective children in England and Wales. This Act was an adoptive and not a universally compulsory Act, and consequently its application has been restricted to a comparatively small section—about 10,000, I think—of the school population, while the Royal Commissioners calculate that special provision is needed for about 35,562 children in the elementary schools of England and Wales. Moreover, under the Act the educational authority can only take cognizance of children under 16 years of age, and, as we know, a large number of so-called feeble-minded children are perpetual infants needing a lifelong tutelage. To remedy these imperfections of existing arrangements the Royal Commissioners have suggested a drastic change in the law affecting not only feeble-minded but the insane. The main features of their recommendations are as follows:

1. That one central authority, to be known as "the Board of Control," shall exercise jurisdiction over all classes of "mentally defective" persons, juvenile as well as adult, including lunatics, dements, idiots, imbeciles, feeble-minded, moral imbeciles, weak-minded epileptics, inebriates, deaf mutes, and blind.

2. That the local supervision of the persons in these several categories shall be vested in county borough and county councils acting through statutory committees appointed for this purpose. Such committees will be responsible not only for the suitable custodial care of all classes of mentally defectives generally, but must provide for the necessary training of certain cases, and will take over from the Education Committees the manual, industrial, and other training of all mentally defective children, the special schools or classes now in existence to pass from the jurisdiction of the Board of Education to that of the Board of Control. Special schools already established are to be transferred by the Education Authority in each locality to the local "Statutory Committee," unless a contract be made between the two committees whereby the existing systems of special instruction is carried on subject to the approval of the Board of Control.

3. That with regard to feeble-minded ("mentally defective") children a system of record and limited notification be adopted, so that a continuity of control may be possible in after-life.

4. That certification by a single medical practitioner, in a form similar to that prescribed by the "Idiots Act," be required for admission to suitable institutions in the case not only of idiots and imbeciles, but in that of mentally and morally defective persons, and of such inebriates, epileptics, and blind or deaf and dumb of any age as are mentally defective.

From the above it will be apparent that nothing less than a revolution in the lunacy administration of the United Kingdom will come about, should the recommendations of the Royal Commission be embodied in legislation. It may be a question how far it may be advisable to "tar with the same brush" the adult lunatic—even though called "mentally defective" (not, I think, quite logically)—and the simply subnormal child. It seems to me that any scheme of compulsory notification of a young child as belonging to this undesirable class will be attended with considerable practical difficulty; and medical examiners will incur a heavy responsibility in stigmatizing as defective a pupil found unfit for the ordinary school curriculum, but nevertheless capable of benefiting to a large extent by the more individualized instruction practicable in the special class. It is true that the report contemplates (Section 313) "observation centres" in the case both of children and adults, where doubtful cases can be sifted out, and this recommendation would involve (so far as elementary school children are concerned) the institution of separate classes intermediate between the ordinary and the special school, a course which has been advocated by Dr. Kerr and others, and which is actually in vogue in some Scandinavian and German educational centres. Notification too rigorously enforced would militate against the co-operation of parents in obtaining appropriate training for their subnormal children, if so doing involved the prospect of their being speedily and permanently labelled as outcasts under jurisdiction of the Board of Control. Dr. James Kerr, whose practical experience with this class both in Bradford and in London is unrivalled, asks in a recent paper on Physiological Variations in Children (*Medical Chronicle*, July, 1909):

How are we to discriminate at tender ages between these cases? How is one to be certain that the child labelled feeble-minded at 6 will not be labelled normal at 8? The percentag of error between these two ages is 50 per cent. on my own experience.

Notwithstanding the somewhat faint praise accorded by the Commission to the results of training hitherto obtained in the special classes and the residential institutions of this country, and their extolment of American methods, I am inclined to agree with Sir James Crichton-Browne in a recent utterance to the effect

that in all that concerns the education and care of the feeble minded we have been leaders and sound guides; other countries have more to learn from us than we have from them.

I find no recognition in the historical retrospect in Chapter XIII of the investigations of the Committee on the Mental and Physical Condition of Childhood (published under the auspices of the predecessors of the Childhood and Child Study Societies in 1895), which paved the way to the separate instruction of feeble-minded and other exceptional children, as recommended by the Royal Commission presided over by Lord Egerton of Tatton, and which may justly be considered an epoch-making report. The general tendency of the recommendations of the Commissioners is to withdraw from the purview of the educational authorities children of feeble mind, and to transfer them to that of the Board of Control and of local statutory committees charged with the administration of lunatic asylums, hereafter to be called "mental hospitals." How far the dissociation of feeble-minded children of school age from the general system of elementary education is expedient seems to me a very arguable question. Theoretically, no doubt, there is something to be said in favour of all persons mentally abnormal, whatever their age, being brought under the supreme control of a single authority; but it must be remembered that the diagnosis of mental defect in the early years of life is by no means an easy matter, and that there are many conditions of subnormal mentality which may not prove to be of a permanent character. The susceptibilities of parents, moreover, have to be reckoned with, and many would be discouraged from availing themselves of opportunities of special instruction for their children if to do so necessitated their being branded officially as potential lunatics and handed over to the control of a board which, however designated, would be virtually an expansion of the present Lunacy Commission. A wiser plan, and one more consonant with parental (and I think also popular) feeling, would appear to be to keep mentally defective children of school age, as at present, under the educational authorities, and at 16, or earlier if necessary, transfer those who prove to require permanent care (or even supervision) to the official list of the Board of Control. Premature compulsory labelling would tend to defeat its own object—that of early detection with a view to permanent protection—inasmuch as sensitive parents would do their utmost to conceal the existence of children who might be but slightly defective (or, in their partial opinion, not at all so) if the law required them to be placed at once in the official category of the mentally unsound. Those who have had practical experience in the work of the special schools know how tactfully parents have to be handled in this connexion, notably in the first instance, though subsequently they become more ready to admit their children's failings and to avail themselves of arrangements made for their benefit, even, if need be, to the extent of segregation from their homes.

In conclusion, I may, perhaps, briefly advert to the views of the Royal Commission with regard to the training of teachers for the feeble-minded. Whilst concurring in Dr. Ethel Williams's expression of opinion (quoted with commendation in the report) that "*mots*" and capacity are more important than special training, I am unable to follow the Commissioners in their conclusions that untrained assistants would suffice for any large number of the pupils attending special day schools, however this might be in such institutions as the Starcross Imbecile Asylum, which meets with much unquestionably merited praise. As a general rule it seems to me that to be a successful teacher of the feeble-minded, qualifications both of heart and head not one whit inferior to those of the ordinary teacher, and indeed more comprehensive, are absolutely indispensable. The special teacher therefore needs to be well equipped, not only in the fundamental principles of education, like other teachers, but more particularly in such matters as hygiene

and physiology, psychology, articulation, breathing exercises, and the practical arts required in manual and technical instruction. Mere enthusiasm and love of the work, though helpful, will never supersede the necessity of systematic training, and I should strongly deprecate any further lowering of standards of qualification beyond the minimum now fixed by the Board of Education.

In venturing thus to criticize some of the proposals of the Royal Commission, I am far from suggesting that legislative changes, embodying many of their recommendations, are not urgently necessary. Further powers of detention for feeble-minded persons not fit to be at liberty, or whose parents are not fit persons to control them, are undoubtedly desirable, and the idea of public guardianship—not unnecessary interfering with parental rights when judiciously exercised—is an excellent one. What I feel strongly, however, is that to secure the desired results parents of feeble-minded children will have to be tactfully dealt with, and it seems to me that in some points the suggestions are of a *doctrinaire* order rather than of a prudently practical character.

Dr. W. J. MAGUIRE (Belfast), speaking from the point of view of the general practitioner outside asylum work, said that in his dispensary practice feeble-minded children and cases of early insanity were frequently brought before him, and he could not but deplore the fact that nothing was done to provide for the treatment of such cases in large general hospitals in Ireland. Particularly with regard to defective children was Ireland lamentably behind other countries, and he wished to draw attention to the fact that in the whole of Ireland there was but one institution for this purpose—the Stewart Hospital for Imbecile Children.

Mr. FAGAN, Inspector of Reformatories and Industrial Schools in Ireland, said that they had under their care some 8,000 children, mostly waifs from the lower strata of society. They only admitted children who were deemed capable of being trained and likely to earn their livelihood at 16 years of age. Nevertheless, many turned out to be defective, and the necessity of providing for these was forced upon his department. The Government had offered to raise the grant for these cases from 5s. to 7s., and further proposed special and separate institutional treatment for these cases. Now, he (Mr. Fagan) maintained that so long as a certain proportion of feeble-minded to normal children was not overstepped—say, 5 per cent.—their commingling and joint treatment was to their mutual advantage. For that reason he was entirely at one with Dr. Shuttleworth as to the inadvisability of early notification in all cases.

Dr. E. C. BIGGAR (Dublin), Inspector under the Poor Law, emphasized the urgent need for proper provision for defective children in Ireland.

Dr. CALDECOTT, Earlswood Asylum, called attention to the following facts: (1) That the voluntary institutions for imbeciles, of which Earlswood Asylum was the pioneer, had for sixty years been dealing successfully with all types of congenital mental deficiency, idiots, imbeciles, and feeble-minded, as proved by the numbers who were turned into bootmakers, tailors, and those who were able even to set up and sort type in the printing office. (2) With regard to the use of the term "mentally defective" to include lunatics, up to the year 1886 all idiots had to be certified by two lunacy certificates in just the same way as adult lunatics, but that for twenty years previously the Commissioner in Lunacy had in repeated reports to the Lord Chancellor recommended their separation without avail. (3) That this Idiots Act of 1886 was passed through the influence of the members of the Board of Management and managing officials of voluntary institutions. (4) The Royal Commissioners held up the Idiots Act as a model Act on which to base future legislation, and yet—such was the irony of the case—they recommended the remodelling of this Act; or, in other words, wished to cut away the machinery which had been the cause of such successful work. (5) The Commissioners in Lunacy praised the educational and industrial methods of the voluntary institutions to such an extent that they stated that in one of these the results were better than any they had seen in the special classes of the London School Board. (6) The Royal Commissioners further recommended the extension of the charitable side, but if their recommendations were carried into effect they would cut at the root of all charitable work. It was clear that if a person could go to the local authority and have a case taken care of, that person would no longer subscribe to a charitable institution when rates had been paid for the same object. (7) With regard to the financial aspect, the expense, owing to a miscalculation, as intimated by the Royal Commissioners themselves, would be nearer £1,500,000 than the £541,000 stated. The error was caused by (apparently inadvertently) leaving 40,000 persons unaccounted for.

Dr. MORRISON (Hereford) said that the provisions under the Imbecile Act suggested by the Royal Commission were intended to deal with the 28,000 who were to stay unprovided for, and for these no other means appeared to be available than rate aid; and, however much the voluntary system might have in itself to recommend it, it could not overtake the numbers in question, nor be allowed to interfere with the providing of an efficient system of treatment and care for the large proportion unprovided for to-day. While all would like to see Earlswood flourish, and continue its good work, 28,000 were still outside Earlswood.

Dr. DAWSON, in replying, said that he held no brief for the Royal Commission, and that none of his criticisms had been controverted. He therefore had nothing to reply to, but would like to make a few comments on the remarks of the other speakers. He was very pleased to learn that the establishment of classes for defective children had the support of Dr. Shuttleworth and Dr. Kerr, and had proved successful elsewhere. In the course of his investigation of the city of Dublin he had conversed on the subject with school managers, teachers, and others, and all had been unanimous in thinking that there, at all events, special schools would not suit. The parents were often particularly attached to such afflicted children, and would be very indignant if they were stigmatized as defective. He could corroborate Dr. Fagan's statement as to the percentage of defect in reformatory and industrial schools, so far at least as those near Dublin were concerned, the proportion of mental defectives being much higher than in the ordinary schools; and he was also in accord with the other speakers as to the difficulty in distinguishing between children who were permanently defective and those who were merely backward as the result of unfavourable circumstances. In many of these cases only time would show to which category a child belonged. Practically nothing was done in Ireland for defectives. The Stewart institution had nominally 100 beds, but the estimate of the Royal Commission showed that there were some 10,000 mentally defective persons in Ireland, and there was no question more urgently needing solution at the moment than the proper disposal of them. With reference to Drs. Maguire and MacCormac's remarks, he would point out that the Royal Commission had recommended the establishment of receiving houses and wards for the treatment of early and acute cases the admission to which was a simpler matter than to ordinary mental hospitals. Such institutions had proved of value where they had been tried. As regarded the question of finance raised by Dr. Caldecott, it should not be taken that the whole increase in expenditure would fall on the public funds, as it was proposed to make such of the parents and relatives as were able contribute towards the maintenance of defective persons. He was absolutely in accord with the President's remarks concerning sane inebriates.

THE PRESENT POSITION OF MEDICAL PSYCHOLOGY.

By A. T. SCHOFIELD, M.D.

IN treating any subject from a somewhat new standpoint, it is necessary in the first place to define the words we use. By "medical psychology" I mean psychology as applied to medicine, and do not for a moment practically limit it, as the Medico-Psychological Society, to the study of insanity. On the contrary, in this short paper I shall have nothing to say about insanity, but much as to the curative use of the sane mind in medicine. The idea of the scientific use of the mind in disease by either doctor or patient has hardly yet, in this country (and here I specially refer to England), entered the sphere of serious medical thought.

The very idea of the therapeutic power of mind is by most men still treated with impatience or contempt, and this tone is fostered by our principal medical journals, by neither of which has the subject ever been seriously brought forward or discussed as it should be.

The fact is few are at the pains really to understand what is meant by psycho-therapeutics, or to believe that there can be a true science of such a subject. The word is generally dismissed as being synonymous with Christian Science, mental healing, hypnotism, and a score of other words of ill-fame to medical men.

Those who are not so hasty or inaccurate in their remarks are inclined to agree that possibly there is something in it, and that it may be of use in some nervous cases. Others go even further still, and declare that every doctor practises it in some way or other, and that every one knows the power of the mind over the body; and they cannot, therefore, waste their time over the study of such a silly and obvious subject, which is as old as medicine itself.

Now there can be no doubt that there is some truth in this last view, and that the power of the mind over disease is largely, though generally unconsciously, used by the doctor in his daily practice; but what I wish to ask today of this Section is this: Why is an agency so generally used nowhere taught? and is it in accordance with enlightened views on sound practice in medicine that a subject so fraught with powers for good and evil, which are everywhere felt, should be nowhere taught or discussed?

To support this assertion, let me hand in as evidence the returns from 42 leading universities and schools of medicine in Great Britain and Ireland. To each of them the following three questions were put:

1. Have you any lectures on psychology other than those on insanity?

2. Have you *any means* of instruction in psycho-therapeutics, or the use of the mind in medicine?

3. Have you any textbook in use on this subject?

The 42 answers received are marked private, and I cannot therefore give any names in the summary I lay before you now.

To the first question as to the teaching of applied psychology (other than on insanity) 14 answered "Yes" and 28 answered "No." To the second question as to actual instruction in psycho-therapeutics or the power of mind in medicine, 7 answered "Yes" (but two at least, and probably more, teach it in connexion with insanity only), and 35 answered "No." To the third question as to whether they had any textbook on this subject, 2 answered "Yes" and 40 "No."

Every university in the United Kingdom answered "No" as to the teaching of any form of psycho-therapy or the use of any textbook. I am pleased, however, to record that in the seven who do teach this subject, our largest medical school is represented, as well as three or four others of great influence.

On the whole, however, I think these returns fairly justify my assertion that, taking our medical curriculum as a whole, this important subject is not taught.

One thing is quite clear, and that is if a science be everywhere used it must be of use; and I am quite sure the most advanced among us here have little idea how much in every-day practice the power of the mind over the body is (mainly unconsciously) used by practitioners everywhere. It is, indeed, impossible to separate the value of the personality of the physician from that of his work. The two go together, and it is the former that is often the secret of the success of the latter. One common reply to any request for scientific teaching is that the subject is incapable of being taught, and that doctors know all about the subject that they wish. Do they? I doubt it, even in England. Certainly they do not anywhere abroad, for in Germany, France, Switzerland, and the States ceaseless investigations are being made, the subject is treated scientifically, and numerous textbooks are written on it. It is only too true that the present spirit of scientific journalism and of hospital tradition in this country is set against it, and on this account this paper is written. But is it not time such a prejudice were removed, even though it be reasonably founded, as I believe it is, on the flagrant abuse and exploitation of these great powers everywhere by quacks?

As to the idea that it cannot be taught, it is on a par with its fellow fallacy: that it can be thoroughly known without any teaching. Both ideas are false, and betray a profound ignorance of medical psychology. Dismissing for a moment the study of insanity, it is, I think, clear that medical men in England as a body have hardly yet grasped that there is any direct connexion between psychology and medicine. Is it too much to suggest that our knowledge of this subject, *in this country only*, is still so scanty that, were it not for the insane, this very Section might cease to exist? I have striven, hitherto without success, though so warmly supported at Toronto and elsewhere, to secure a tacit agreement that the third day in each session be specially devoted to this profound but little-known subject.

Consider for a moment this fact: There are other aids to therapeutics, such as electricity, heat, light, balneology, hydropathy, and the like, that are optional subjects of study, and if a man does not choose to study them, at any rate he does not practise them, for in no sense is he obliged to. But in psycho-therapy the reverse obtains. No physician can prevent his patient's mind being influenced, nor can he stop this influence from affecting the body for good or ill. No physician can leave his personality at home when he pays his visit or when he goes to sit in his consulting room. Psychology is thus ever at work, largely unconsciously, but with great effect and power in therapeutics; and for want of knowledge and study of the subject many doctors unconsciously inflict mental injuries and nerve shocks upon their patients they would be the first to deplore. No week passes in my life, and I should think in that of many other physicians, but one meets or hears stories of patients more or less damaged by bad suggestions, by the unwise disclosure of facts, or the still more unwise discussion of probabilities and inferences, by the depression and gloom of the physician, by his indiscreet queries and doubtful looks or "hesitating manner." Doctors have little idea how these "trifles," as they are thought, often extinguish hope and produce despair, and in various ways injure their patients. I will not weary you with specific cases, where gloomy heart and lung prognoses have done needless damage, though I cannot forget certain terrible instances of the unconscious injury doctors do for want of knowledge. Far better practise electricity or balneology of all sorts without previous knowledge or textbook than play with the minds of patients as of no importance in their treatment.

Fear sometimes works more evil in the body than strychnine. It can kill, it will retard recovery in every disease, it lessens the powers of resistance all over the body, and it is only too soon aroused in a timid patient listening to the verdict of some great but, as far as psycho-therapeutics goes, ignorant man.

Let us look for a moment at the subject, and see if there really is nothing to be taught. We have, in dealing with the question of doctor and patient, at least eight psychic factors of importance to reckon with, and all will be used in some way for good or evil whether the doctor knows anything about it or no. The situation, indeed, is as if there were infusions prepared of eight powerful drugs that the patient would certainly have to take somehow, but the quantities and strength of each drug were entirely in the doctor's hands. It is obvious, if such were the case, how keenly the qualities and doses and effects of these drugs would be studied, and everything that was possible would be learnt about their power. Now these eight drugs of a mental character are really there, and are all of great potency. Is it too much to suggest to this Section that their use and abuse shall form part of the curriculum of every medical student?

Let me say what they are. There is the doctor's power of reason, of emotion, and of will; the same three are in the patient; and then there is the patient's psychic and his physical environment—eight factors in all.

Hundreds of medical men outside our somewhat self-sufficient and self-complacent kingdom are studying the therapeutic values of these eight forces and how to use them scientifically; but within our own small insular circle I doubt if there be half a dozen.

At Sheffield last year, in a special session on improvements in medical education, I raised this question emphatically, but I fear it fell upon deaf ears. Now, in what way can these eight factors affect the course of disease?

The doctor's reason, if trained psychically, does not content itself with prescriptions of drugs and other remedies, but with a rapidity that knowledge and practice alone can give surveys the psychic side of the case, and sees at once in what way he can use these mental forces to the best advantage. He sees, for instance, it will be of the greatest value in the case to make a careful and detailed examination, to impress upon the patient the beneficial effects of a certain remedy, to change a certain nurse, to provide some entertaining literature, etc. His emotion comes into play with great power in making the patient feel by the subtle contact of real sympathy, devoid of mere sentiment, that he takes deep and special interest in his case, and that he understands the patient; and his will may be made to inspire the latter with the belief that the doctor will surely carry to a successful issue what he undertakes.

Turning now to these factors in the patient, let us see how they may be used.

The patient's reason is by no means a faculty to be so entirely neglected with impunity as medical men in general seem to think. All will agree that the first element of successful treatment is that the patient should have full confidence in his medical adviser, and to this end the patient's reason—or, at any rate, that which passes as such, and certainly is considered as such by the patient—comes into play. He sees and feels, in the first place, he is in the hands of a skilful and careful doctor; and his reason arrives at this judgement by observing the care of the examination, the searching nature of the questions, the certainty of the diagnosis, the care in the directions, and the skill everywhere displayed. On the other hand, a really clever man may enlist the patient's reason against him if he, ignorant of psychic therapeutics, makes a hasty and, to the patient, incomplete examination, displays great hesitation in diagnosis, and dismisses the treatment in a few words. The result often is all confidence is lost and recovery delayed, or the patient leaves the man altogether for very possibly an inferior physician, but one, at any rate, dimly aware of the necessity of securing the patient's confidence.

The patient's emotions are also not to be neglected. A cold and indifferent manner may of course conceal real ability, but in the wise physician it certainly will not be allowed to. Little kindnesses and considerations, for which there is abundant opportunity on the physician's part, not only earn the gratitude of the patient, but help to no small extent in his recovery.

The patient's will, too, may be not only a strong factor, but in some stages of severe disease—as, for example, in the third week of typhoid fever—not infrequently the determining factor in the recovery of the patient. I have known more than one such case where, as far as one could judge, recovery was due to the strong excitation of the patient's will on the side of health. Curiously enough, one of these was the case of a very clever nurse apparently dying at the Sussex County Hospital, and whose will up to then had been absolutely paralysed all through by the firm conviction that in her case typhoid would certainly be fatal. At 11 one morning this superstition was destroyed, and her will was so enlisted on the side of health that the moribund woman got well from that hour. No single case of this sort carries conviction to any who were not eye-witnesses. It is the accumulation of them that leads to the inevitable conclusion of the therapeutic value of the patient's will. There remain the powers of environment, psychic and physical.

On the psychic side how much depends in the progress of operation cases on the spirits of the patient and a sanguine, cheerful, and agreeably distracting environment! Some nursing homes are more like gaols than sanatoriums, and some sisters and nurses have little knowledge of the importance and value of manner and influence. The doctor's daily visit may be included in the general psychic environment, and he little knows how his pleasant smile on entering and his few cheery, hopeful words on leaving the sick-room act as strong tonics to the patient. On the physical side cleanliness in all the surroundings, and in the food good cooking, and care in little things—a bright, cheerful room and a good look-out, perhaps a plant or a bird; nice, amusing books and a good shaded light—in short, comfort, cleanliness, and brightness all play their parts to the great end of the patient's recovery.

Scientifically how much there is to learn as to the exact *modus operandi* of these eight subtle powers. All we know at present is that somehow or other, often by routes outside the patient's consciousness, they so stimulate the patient's *vis medicatrix Naturae* that the general vitality is increased, the metabolisms on which recovery depends are quickened, the poisons expelled, and the circulation stimulated. What is certain is the value of these remedies when rightly and wisely employed, and their power for evil when misused.

As I must now shortly close these few remarks, it is out of my power to enforce as I could wish my statements with numerous examples of how their powers in right hands heal, and by wrong use destroy the patient. There are, however, but few men but could supply some case from their own experience.

I may in conclusion point out that the importance of urging this subject at the present time is obvious if we confine ourselves to two considerations only: the first is that, as pointed out so forcibly by Dr. Rankin in the JOURNAL recently,[1] that functional nervous symptoms are rapidly acquiring increased prominence in every class of disease; and I need hardly say that these are the symptoms over which psycho-therapeutics has a most marked power. He observes that the type of disease is becoming, in a word, more psychic and less physical, as, indeed, advancing civilization would lead us to expect. This being so, it is obvious that psychic methods of treatment are necessarily brought more to the front, and therefore I submit to this Section that it is high time that the study of applied psychology in relation to disease be included in the medical curriculum, and that Dr. Osler's weighty suggestions in his address on the treatment of disease, reported recently,[2] be heeded. He says:

"Much more attention should be paid to the important subject of psycho-therapy. It is not every teacher who has a special gift for this work, but if the professor himself does not possess it, he should, at any rate, have sense enough to have an assistant familiar with and interested in the modern methods. How many of our graduates have been shown how to carry out a Weir Mitchell treatment or to treat a patient by suggestion? The student should be taught that the very environment of a well-managed clinic is in itself an important factor in psychical treatment. A Philadelphia friend once jokingly defined my practice at the Johns Hopkins Hospital as a mixture of hope and nux vomica, and the grain of truth in this statement lies in the fact that with many hospital patients once we gain their confidence and inspire them with hope, the battle is won."

I think we may fairly look upon these weighty words as an endorsement of the principle of my whole paper.

My second reason for pressing the matter at this time is the enormous increase of every form of quackery in the centres of civilization; and I feel sure the JOURNAL was right when, in a recent issue,[3] a leading article concluded with these words: "The only way in which superstition and quackery will soon be destroyed is the production of an intellectual soil in which they cannot grow."

Gentlemen, it is for this intellectual soil I plead, and trust I may not plead in vain.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, June 3rd, 1909. [2] Ibid., July 24th, 1909. [3] Ibid., July 10th, 1909.

RESOLUTIONS.

The Section in the course of its proceedings passed the following resolutions unanimously:

1. That in the opinion of the members of this Section, the subjects of Psychological Medicine and Neurology should be combined in one section and called "The Section of Psychological Medicine and Neurology," and that this resolution be forwarded to the General Council for its consideration.

(Proposed by the PRESIDENT, seconded by Dr. D. G. THOMPSON.)

2. That the Section of Psychological Medicine of the British Medical Association is of opinion that the attention of the National University of Ireland, and of the Queen's University of Belfast, should be respectfully called to the desirability of establishing Lectureships in Mental Diseases

in connexion with the Medical Faculties of each of the Constituent Colleges, and that this resolution be forwarded to the Council.

(Proposed by Dr. W. R. DAWSON, seconded by Dr. M. I. NOLAN.)

3. That this meeting of the Section of Psychological Medicine of the British Medical Association desires to express its approval of the Asylum Officers Superannuation Bill, and that this resolution be forwarded to the Council.

(Proposed by Dr. G. R. LAWLESS, seconded by Dr. DUNCAN GREENLEES.)

SECTION OF ANATOMY AND PHYSIOLOGY.

Professor C. S. SHERRINGTON, F.R.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

PROFESSOR SHERRINGTON, in initiating the work of the Section, limited himself to a short speech in which he welcomed the members present, and drew attention to the main features of the programme of work. To make their discussions fruitful attention to structure must be combined with considerations of function.

THE SKELETON IN ACHONDROPLASIA.*

By A. FRANCIS DIXON, M.B., D.Sc.
Professor of Anatomy, Trinity College, Dublin.

DURING the last few years I have had an opportunity of examining the skeletons of a series of achondroplasic dwarfs. Five of these are now preserved in the Museums of Trinity College, Dublin, and a portion of the skull of another was kindly lent to me by Professor Fawcett of Bristol. My observations are far from completed, but as a study of the skeleton in such cases often throws interesting side-lights on the normal mode of development of the skeleton, I venture to bring a few notes before the meeting and to exhibit a few photographs of the specimens.

The form of dwarfism to which the term "achondroplasia" or "chondrodystrophia" is applied has been studied in recent

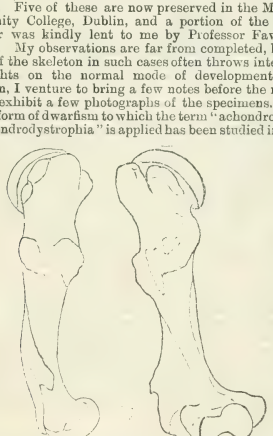


Fig. 1.—Adult male, achondroplasic. Right humerus, from in front and from the outer side. The short, thick diaphysis, the relatively large extremities, and the exaggerated curvatures of the bone are well seen. The markings for muscular attachments are extremely strongly developed. The humerus measures 158 mm.

years by several observers both in this country and on the Continent, but I do not propose to deal with the growing literature on the subject.

During life the individuals who are subjects of the disease are easily recognized—the trunk is practically normal in length, the upper and lower extremities are very short, and the head, especially the cranial portion, is of large size. The umbilicus lies below the level of the mid-point of the body, owing to the shortness of the legs. The muscles are strongly developed, and there is usually a considerable amount of superficial fat. The bulging cranium is rendered very prominent owing to the marked depression which exists at the root of the nose and the backward thrust of the upper part of the face. The face is of small size, especially in its upper part, but the chin and lower jaw are well developed.

I propose, by means of a few slides, to illustrate the most marked peculiarities of the skeleton, and I shall take, in the first instance, the bones of the upper extremity as examples of the long bones. The humeri are short,



Fig. 2.—Bones of the forearm and hand from an adult male achondroplasic. The carpal bones are practically normal in size; the metacarpals and phalanges are shorter than normal, but not so much affected as the radius and ulna. In the normal hand the length of the skeleton of the middle finger was found to be from $\frac{1}{7}$th to $\frac{1}{8}$th that of the corresponding radius. In the achondroplasic skeletons the length of the metacarpal and phalanges of the middle finger was at least $\frac{1}{5}$th that of the corresponding radius, and in one specimen the skeleton of the middle finger was longer than the radius.

thick, and stout, the muscular markings are extremely well marked and the normal curvatures are much exaggerated. We notice that the ends of the long bones are practically normal in size, and in all the long bones we find that the rule holds that the parts developed from the epiphyses are almost of normal size. The diaphyses which ossify early are in all cases extremely short. The specimens which I have examined bear out the opinions which have been put forward—namely, that the condition, as regards the limb bones, is one which affects the early formed enchondral ossifications. These remain short, but become extremely thick owing to the deposit of periosteal bone upon their surface. The periosteal bone is actually excessive in amount, as is well seen in x-ray photographs of the fetal



Fig. 3.—X-ray picture of the superior extremities of an achondroplasic fetus compared with those of a normal fetus of the same age. The thick, short, strongly curved diaphyses of the humerus, ulna, and radius are well seen. The phalanges and metacarpals are also involved, but the clavicle—best seen in the specimen to the left hand side of the figure—is normal in size, and is actually longer than the corresponding humerus. (Photograph kindly made by Dr. W. G. Harvey.)

achondroplasic skeleton. It is interesting to notice that the clavicle is little or not at all affected at birth, and its escape is almost certainly to be associated with its peculiar mode of ossification. In the full-time achondroplasic fetus the clavicle is actually longer than the humerus, and in the adult it may be as long as or longer than the radius.

The peculiarities of the skull in achondroplasia have received the attention of many authors. We have the globular cranium, the bulbous frontal region, causing the

* The paper was illustrated by a number of lantern slides

anterior end of the longest diameter of the skull to lie above the glabella. The depression at the root of the nose is very marked, and the backward thrust of the face is striking. The part of the base which is ossified in cartilage is much contracted both in a longitudinal and in a transverse diameter. I have found the posterior part—namely, the part which lies behind the pituitary fossa—the most affected. The angles formed between the various parts of the base differ widely from the normal. The base of the skull appears as if thrust upwards into

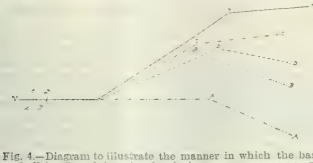


Fig. 4.—Diagram to illustrate the manner in which the base of the skull is affected in achondroplasia. AAA, BBB, CCC, DDD, represent four achondroplasic skulls, and NNN a normal skull. From left to right, the points plotted are the opisthion, the basion, the prosphenion, and the nasion. The diagram brings out the small size of the foramen magnum and the profoundly modified basal angles in the achondroplasic specimens.

the cranial cavity, and the basi-occipital part is almost vertical. The petrous temporal is so much contracted that the posterior semicircular canal projects into the posterior cranial fossa. The foramina in the cartilaginous base are much reduced in size.

We have in achondroplasia a condition which illustrates the results of interference with enchondral ossification, and we note that in the limbs those enchondral bones which are first formed are most affected, and those which appear later are less so.

DISCUSSION.

Professor C. J. PATTEN (Sheffield) asked if the spur-like process above the external condyle seen on some humeri in the specimens exhibited had any relationship to the condition of the achondroplasic skeleton. He asked Professor Dixon also whether he had observed asymmetry in length between two corresponding long bones. In a specimen of a humerus obtained by him a short time ago there was present a pronounced spur-like process above the external condyle, and this humerus was longer and thicker than its fellow.

Dr. WATERSTON (Edinburgh) compared the changes present in the base of the skull in achondroplasia with those found in Mongolism, and pointed out that in achondroplasia a condition was found which was the reverse of that in Mongolism, where the head shape was affected primarily by the brain growth and not by a skeletal change. He also remarked that in this condition the growth of the vertebral column was not affected, while the growth of the base of the skull, which was in morphological continuity with it, was so affected. He asked also for information regarding the condition of the genital glands in such dwarfs.

Dr. SCANES-SPICER (London) observed that achondroplasics were very prone to thickenings in the naso pharynx, and frequently required treatment for adenoids. He also instanced examples of subjects who in the early years of their life resembled achondroplasics, but when aged 18 or 19 took on the characters of acromegaly.

Mr. N. C. RUTHERFORD (Edinburgh) said that Professor Dixon's demonstration of specimens had to his mind established a very decided case for the view that the chondral foundation of the skeleton was early affected in ontogeny by some pathological influence—the unknown algebraic "*x*" of this discussion. He had demonstrated that this pathological influence is, first, limited to the early chondral-formed skeleton, as was shown by the unaffected membrane formed clavicle; secondly, that this pathological change was one of diminishing intensity during embryonic life, as was indicated by the little affected late-formed prechondral phalanges. With these premisses he would like to ask Professor Dixon how he would explain the diminished condition of the facial membrane-formed bones? The primary chondral skeleton of the superior maxilla was, as is well known, superseded during ontogeny by a definitive membranous skeletal basis. He would be glad to hear in what way the facial changes were related to the impaired chondrification of its earlier cartilaginous support in achondroplasia. As to any mechanical effect of impaired chondrification of the primordial cranial basis affecting the formation of the human pituitary body, he considered that entirely excluded by the fact that the upgrowth of the hypophysis preceded by a considerable period the appearance of the chondral basis cranii. What, however, seemed a possible and more likely explanation was that the subsequent pituitary growth was limited—perhaps otherwise pathologically affected—by the imperfect formation of the bony cavity of the sella turcica. This might be an explanation of the succeeding quasi-acromegalic condition noticed clinically by a previous speaker.

The PRESIDENT OF THE SECTION discussed the causation of the marked muscular prominences on the long bones and the influence of the lines of stress and strain in the shape of the femur. The muscles which exhibited "tonus" produced the most prominent markings and thereby contributed to the sculpturing of the bone.

Professor DIXON, in his reply, said that the cranial capacity in cases of achondroplasia was variable, that the brain was frequently hydrocephalic, and that the pituitary body exhibited no macroscopic changes, but he had not so far had an opportunity of making sections. In reply to Dr. Patten, he said that there was a partial form of achondroplasia, which was characterized by asymmetry. The bones of one side might be affected, while those of the other side escaped. The genital glands in the subjects examined—three in number—were not affected. With regard to the cephalic index, there was a great deal of variation. One of the chief features of the skull was the great distension of the upper part of the cranium.

SOME POINTS IN THE MECHANICS OF RESPIRATION.

By ROBERT HENRY SCANES-SPICER, B.Sc., M.D.Lond,
Consulting Surgeon, Diseases of the Throat, St. Mary's Hospital, London.

[ABSTRACT.]

THE paper discussed: (1) The variations of stress, strain, and friction in the throat and larynx in costal and abdominal breathing respectively; (2) the significance of the transverse axis of cricothyroid rotation in respiration.

At the present time, Dr. Scanes-Spicer said, much activity is being displayed by anatomists and physiologists in reference to the mechanics of respiration. The conclusions embodied in this communication are based chiefly upon the clinical study and treatment of diseases of the throat and larynx during the past twenty-five years, but also, over the same time, upon a critical study and personal experience of most vocal methods and physical culture systems, and upon recent literature of respiratory mechanics. Some of my conclusions differ from those held by leading authorities, and some are quite new. If deemed correct by experts after due examination, as I am convinced they are, I trust they will be embodied in that reconstruction of modern teaching concerning respiratory mechanics that is so urgently needed.

Dr. Scanes-Spicer then demonstrated the working model he had constructed to illustrate his conceptions on the two special points referred to.

I.—COSTAL RESPIRATION.

On inspiration (in the living subject) the vertebral column is fully extended or straightened out. On gently depressing point A on the model it would be seen that:

(1) There was no downward movement of larynx or trachea.
(2) There was no rotation of the cricoid on the thyroid.
(3) The strain in the whole air tube was lessened; indicated by:
  (*a*) A shortening of the springs suspending the larynx.
  (*b*) The rise of the mercury in the proximal arm of the **U** tube connected with the air ball.
(4) The bezel of the cricoid tended to move away from the spinal column.

II.—ABDOMINAL RESPIRATION.

On inspiration (in the living subject) the head is thrown back; there is increased tension in the muscles at the back of the neck and increase of flexion of the cervical spinal column.

These points were illustrated by gently depressing point B. By a mechanical arrangement, traction was made on the trachea (and the cricoid to which it is attached) in the direction in which the inspiration-descent of the diaphragm would pull it down. These movements were simultaneous as in Nature.

It will then be seen that:

(1) There is a vigorous downward movement of the trachea and cricoid.

(2) The cricoid rotates forwards upon the transverse crico-thyroid axis leaving the thyroid.

(3) All the tensions in the air tube are increased, indicated by:

(*a*) The suspension springs are stretched tightly and elongated.

(*b*) The mercury rises in the distal arm of the U tube.

(4) The heel of the bezel of the cricoid presses against the spinal column with an intensity proportional to the vigour of the diaphragmatic pull and a corresponding compression of the soft tissues between the bosses of the posterior cricoid arch and ridges of spinal column. This, if continued indefinitely, according to my conception, may cause irritation and the requisite abnormal stimulus to cell proliferation, and also to penetration, characteristic of cancer.

If the other hard parts be considered and compared similarly, it would appear that similar augmentation of the force with which these hard parts normally drive or plough into the soft tissues, or rub, or squeeze, or press, or stretch them, can be inferred.

The following points were then considered in some detail:

1. The influence of the respiratory mechanism on the functioning and form of the whole body, its intimate association in action with the postural mechanism, and the co-ordination of these in education.

2. The cardinal importance of the correct application of respiratory and postural mechanics, not only in all vocal and physical training, but also in the prevention and cure of many disorders.

3. Some common delusions among investigators in respiratory mechanics:

(*a*) That workers' own mode of breathing is normal, if not ideal.

(*b*) That it is all right if no discomfort or distress is detected.

(*c*) That as long as breath gets in and out, the manner thereof does not matter.

(*d*) That habitual misuse of respiratory mechanism during youth and growth will escape registration in the adult form and functions.

4. The unsatisfactory nomenclature in use to designate types of breathing requires radical reform. *Diaphragmatic* should not be used to denote a mode or type, since all ordinary breathing is diaphragmatic. Besides, the term is ambiguous—for example, the French school understand by it abdominal breathing; and it has very recently been used by a leading physiologist to denote *mixed* breathing—that is, combined costal and abdominal. Up to now the generally accepted terms for the types it is desirable to contrast sharply are "costal" and "abdominal." These are, however, not sufficiently definitive. As indicating the leading characteristics of the type and non-ambiguous, substitution of *back breathing* for the former and *belly breathing* for the latter are suggested.

5. In back breathing each inspiratory impulse tends to extend the spine to its fullest length and to raise and expand the thorax. This latter is effected partly by spinal extension and partly by diaphragmatic contraction acting from fixed fulcrum formed by the abdominal viscera.

6. The abdominal viscera are maintained in place (as fulcrum for the diaphragm) mainly by the above spinal extension and thoracic elevation tending to distance the lower margin of the thorax from the bony pelvis, thus tightening up the whole belly wall. Assistance is perhaps given by waning contraction of belly-wall muscles passing over from preceding expiration, and also by normal tonus contraction of healthy abdominal muscles.

7. In normal expiration the spinal column should be maintained extended, and the chest raised. Then elastic recoil of displaced parts takes place, but active contraction of muscles of the belly wall *commence*, *control*, and *complete* the phase—equally in ordinary breathing and in voice production.

8. Back breathing promotes the emptying of the portal area in both phases. On inspiration, by strong thoracic aspiration of blood from the inferior vena cava; and on expiration, by active muscular compression of viscera. It thus helps the circulatory system.

9. Back breathing is the mode that was aimed at by the old Italian school of singing masters, as it was also the mode by which the frame of the young Greek in classic times was moulded, evidenced by the universal testimony of Greek statues and vases.

10. In belly breathing the spinal column is bent forward, often the back hollow; the thorax sunken and shallow; the diaphragm (on the inbreath) descends bodily into the abdominal cavity, carrying with it all the thoracic and abdominal viscera, and either making the protuberant belly *heave*, or, at all events, producing a hard *push* or *thrust* in the epigastrium. Passive dilatation of the belly wall soon ensues, and the outbreath is mainly an uncontrolled elastic recoil.

11. Thoracic aspiration being insignificant and abdominal muscular contraction *nil*, the blood tends to accumulate and stagnate in the splanchnic area. This stagnation interferes with production of secretions and ferments, leads to indigestion, flatulence, decomposition in intestinal contents and toxaemia, impaired general nutrition and neural energy. On the one hand, plethora, obesity, and protuberant abdomen may be present; or, on the other hand, anaemia, sallowness, and general emaciation, or the former may pass into the latter.

When long standing and extreme such states indeed are a "dyscrasia" or "constitutional cachexia," and it is notorious how impossible it often is to diagnose such from those cachexias which are supposed to be peculiar to grave diseases like cancer, if, indeed, there is any distinction. Belly breathing opposes the circulatory system.

12. In back breathing there is no descent of the diaphragm on the inbreath.

13. Observations for the comparisons of back and belly breathing on the throat, etc., in the living subject are described in which all the points, previously referred to and illustrated on the model, can be confirmed.

14. The crico-thyroid joints as a means of rotation of the cricoid on the thyroid probably arose in the course of evolution as an easement for increased stress, strain, and friction in the throat, the result of those spells of increased activity of the respiratory mechanisms such as the higher vertebrates experience in avoiding enemies or pursuing prey. In reptiles these joints do not exist. In aves they exist, but the larynx is not used for making voice. The respiratory rotation of the cricoid then was probably antecedent phylogenetically to its phonatory rotation. When the ancestors of mammals arrived Nature found ready to hand a mechanism of respiratory origin, and promptly seized upon it as a mechanism for mammalian phonation which has culminated in the human voice.

15. Recent chemical researches in cancerous patients show just such changes as might be expected from chronic and extreme stagnation in the portal area as occurs in extreme forms of belly breathing. Among such findings are: absence of hydrochloric acid in the gastric juice (Moore), absence of normal liver ferments (von Leyden), changes in alkalinity, haemoglobin, and corpuscles of blood (numerous observers), presence of alkaloidal poisons (Macalister and Ross).

16. Extreme degrees of belly breathing touch on the origin of cancer (in the absence of any external source of irritation) at two points:

(*a*) In the production of chronic abnormal increase of mechanical forces, intrinsically arising, and specially *irritating* and *stimulating* sites which bear the brunt of such increased forces to epithelial proliferation followed by penetration. [Although the throat only has been referred to, similar increase of mechanical force can be demonstrated to be at work on the other areas of predilection of cancer throughout the viscera.]

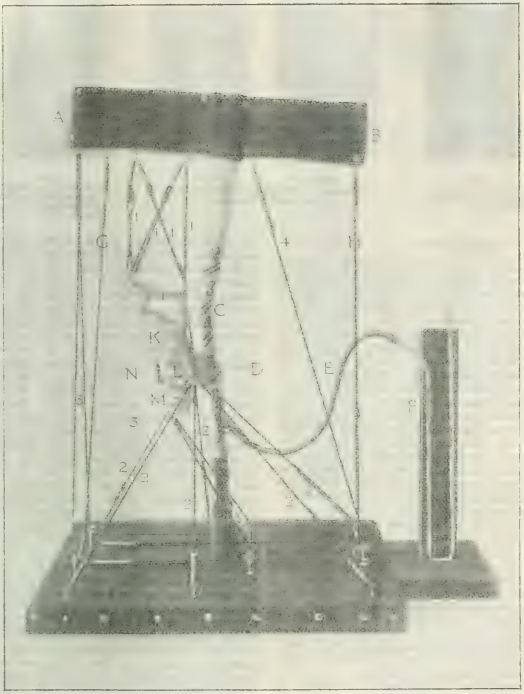
(*b*) In the production of a cachexia from chronic stagnation in the portal area.

The perfect form and physique of the ancient Greeks, moulded so by their habitual back breathing, is associated with a strong presumption of the rarity of cancer among them. For Hippocrates, who describes many common diseases with an accuracy and detail unsurpassable in the present day, dismisses the subject of carcinoma in a few lines. Surely, if such a grave and well-marked disease had been common, his keen insight into the perspective of things would have led to a different treatment of the subject in his writings.

The modern increase and prevalence of (*a*) physical degeneration of (*b*) the group containing intestinal toxæmia, enteroptosis, appendicitis, and neurasthenia, and of (*c*) cancer mortality appear to keep even step with the increase and prevalence of belly breathing, bad postural habits, and the widespread degradation of the human form to be seen around us.

Under the common habitual slouching and sitting postures tolerated by modern educationalists and society, the best use of the respiratory and postural mechanisms does not come spontaneously; or, if so, only in exceptional cases. To secure it requires precision and persistence in the training of the nerve control and co-ordination of these mechanisms until the best way is followed automatically, and during growth is stereotyped in structure. Every child could acquire it, yet to-day it seldom is acquired, for imperfect copies of correct types are accepted, to the detriment of the rising generation. Hence the fully-grown individual can seldom even *force* his body into best position without excessive strain and awkward stiffness; much less can he use his body so habitually and unconsciously with ease and grace.

The average person never acquires the correct use of postural and respiratory mechanisms, or abandons them easily from being compelled to adopt faulty methods by educational (school) or social demands (corsets, etc.), or possibly from indifference and sloth. In adult life such defects can only be corrected by arduous study, practice, and determination, and under supervision of a medical expert who has obtained some mastery, not only over the principles involved as a science, but over the practice thereof as an art. The whole matter is a great deal too grave to be left in the hands of untrained amateurs and ignorant quacks, who so largely monopolize this field of work, and form such a large proportion of — so-called — physical culturists. The medical man should prepare himself to direct and control all such work on sound lines.



Model by which the variation in effect of costal (back) and abdominal (belly) breathing on the stresses, strains, and frictions in the throat and larynx, more especially of the cricoid cartilage on the spinal column, and also the transverse axis of respiratory rotation of the cricoid on the thyroid cartilages, can be illustrated, with explanation of lettering. A, B, Horizontal bar representing base of skull; C, vertical spring representing vertebral column; D, E, F, air bag, tube, and pressure gauge; G and H, stays to keep apparatus firm; I, hyoid; L, cricoid; K, thyroid; M, trachea; N, cric. thyr. ligament; 1, 1, 1, 1, suspensors of throat from base of skull and maxilla; 2, 2, 2, stays attached to ends of transverse axis of crico-thyroid rotation; 3, 3, cords moving the trachea and cricoid *down* and *back* in a direction similar to that in which they would be pulled by the descent of the diaphragm in belly breathing; 4, cords producing movement of head backwards, such as muscles at back of neck would produce. When 3 and 4 are at work simultaneously an active rotation of cricoid on thyroid is seen. To illustrate *back* (costal) breathing, gently depress horizontal at A; then pressures are seen directly, and by pressure gauge to *lessen*. To illustrate *belly* (abdominal) breathing, gently depress B, when the cricoid is seen to press firmly on spine the heel of the cricoid bezel to rotate vigorously, and the trachea and cricoid to descend.

These cuts are from amateur photographs of a victim of *belly* (abdominal) breathing, who is gradually acquiring *back* (costal) breathing. Technical defects as to pure profile, position of arms, and slight movement of subject and camera (though all were attempted in rapid succession without the subject leaving his standpoint, and the camera fixed on a stand) can hardly be overcome without laboratory or studio resources, combined with a docile, able and willing subject, a training of him, as well as leisure of the investigator — an association not easy to find. Though faulty, this series is the best I possess, and is more instructive than any of the fancy pictures published elsewhere. Mine are actual comparative photographs from life (negatives untouched).

The chief defects are that the pictures do not show that the subject is taller in Fig. 1 than in Fig. 2, and that Fig. 6 as well as Fig. 5 should be taller than Figs. 1, 2, 3, and 4, which is in practice the actual fact.



Fig. 1.
Abdominal respiration (belly breathing). Head drooping forwards.



Fig. 2.

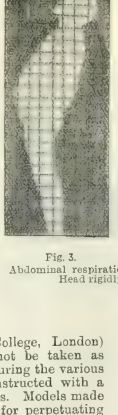


Fig. 3.
Abdominal respiration (belly breathing). Head rigidly retracted.



Fig. 4.



Fig. 5.
Costal respiration (back breathing). Imperfectly performed by same subject, but indicating some of the essential points.



Fig. 6.

DISCUSSION.

Professor Peter Thompson (King's College, London) thought that the model shown could not be taken as illustrating what took place in the body during the various respiratory movements, since it was constructed with a view to proving certain preconceived ideas. Models made in this way were frequently responsible for perpetuating fallacies and starting fresh theories along wrong lines. Too much stress, therefore, should not be laid on the model which had been demonstrated as a proof of the movements which took place during bad abdominal breathing. He also contended that there was no "sharp" point or ridge on the anterior aspect of the vertebral column behind the œsophagus at the level of the cricoid cartilage, which would lead to irritation when the larynx was elevated and depressed. On the other hand, the beginning of the œsophagus (at the level of the cricoid cartilage) was one of the three points along the gullet where the lumen was diminished, and the fact that the pharynx narrowed down to this point, somewhat in the same way as the stomach contracted to the pylorus, was worth noting in connexion with cancer. It was difficult to believe that a physiological act like breathing, even when the type of breathing was an exaggeration along possibly abnormal lines, would lead to the production of malignant disease.

Dr. Dickey (Belfast) asked whether the action of swallowing might not be a more important causal factor in the production of carcinoma, for two reasons: (*a*) Owing to the friction of the cricoid ascending on the vertebral column during deglutition; (*b*) owing to the passage of unmasticated food masses irritating the mucous membrane of the œsophagus at the level of the cricoid cartilage.

Mr. N. C. Rutherford, (Edinburgh) referred to an interpretation of the breathing of the recumbent pregnant female put forward by Professor Geddes at Bristol, in which he showed the effect of extending the vertebral column in raising the upper ribs. Such extension must increase greatly the friction of crico-œsophageal junction on the vertebral column. If, in view of this, Dr. Scanes-Spicer could furnish statistical proof that carcinoma in the neighbourhood of the cricoid was more frequent in females who had been pregnant than in males and nulliparous females, his conclusions might perhaps be accepted.

Dr. David Waterston (Edinburgh) pointed out some features in the construction of the model which appeared to him to fail to represent the actual state of affairs, such as the degree of obliquity of the tracheo-diaphragmatic bands, and the fact that elastic springs took the place of muscles, which would probably act in a manner quite different from springs.

Dr. Scanes-Spicer said, in reply, that the discussion had elicited just the kind of criticism that he had hoped for. He had offered his paper to this Section because he wanted the most trenchant criticism of his description of anatomical and physiological facts and reinvestigation of them independently. In reply to Professor Peter Thompson he said that the model shown had been made by himself to illustrate qualitatively the conceptions he had formed, because for a long time he could not succeed—doubtless owing to his own lack of lucidity—in getting some esteemed colleagues to grasp what he was driving at; and the model, at all events, materialized his conception with reference to the movement of the cricoid on the spine. The evidence for or against his propositions must be obtained from living subjects, as it was in studying them that the idea arose. He objected to the term "*diaphragmatic*" as a variety of breathing, because it had been used in different senses. By the French school it was synonymous with abdominal, and in this country with lateral costal. Professor Keith had used it in a third sense as *mixed* breathing—that is, combination of costal and abdominal—in *Further Advances in Physiology*, 1909. All breathing was diaphragmatic. The terms "*back*" (costal) breathing, and "*belly*" (abdominal) breathing, represented the typically different modes which he thought it important to contrast. In speaking of "points of bone and cartilage" in his paper he was thinking of such spots as the tip of internal pterygoid plate, the styloid process, the cornua of the hyoid, horns of the thyroid, the muscular and vocal processes of the arytenoids, and the tip of tracheal cartilages, and not of the vertebral abutment. If he had used the word in connexion with the spinal column, he withdrew it. As between cricoid and spine it would be between the borders, ridges, and bosses of the bezel and the hard ridges of the anterior surfaces of the vertebrae that the undue push and rub took place, but, of course, soft tissues intervened, and it was in them that cancer developed. He thought it had been settled for twenty years that the cricoid bezel moved backwards and downwards to make tense the vocal cords in phonation, and not the thyroid on the cricoid.[1] The thyroid was fixed (Keith and others). In the *Encyclopædia Britannica*, last edition, Professor McKendrick had accepted this and renamed the muscles thyro-cricoid. In reply to Dr. Dickey, he said that he thought stays hampered the lower costal factor in back breathing. This was compensated for in a way by upper costal and abdominal breathing, but stays rendered the abdominal wall toneless and flabby, and when taken off at night the toneless abdominal wall favoured diaphragmatic descent. He had no doubt the forced swallowing of irritating substances might cause abrasions, and frequent repetitions to such chronic irritation as might be a cause of cancer. He had seen patients with cancer of the gullet who had dated the commencement of their illness absolutely to an occasion on which an article of food stuck in the throat, but even in this case the gullet might have been constricted from cancer first. His theory by no means excluded any recognized source of chronic irritation as the local irritant, but offered an

[1] Jelenffy in Pflüger's *Archiven*, and Hooper, quoted by Morell Mackenzie in *Hygiene of the Vocal Organs*.

explanation of other irritations. With reference to Dr. Rutherford's remarks that pregnant females over-extended the cervical column and retracted the head in sleep, he was well aware of this fact, and also had read the paper which had been referred to, but thought the account of belly breathing he had given suggested the reason for this. The subject had been deprived of part of her customary breathing space, the diaphragm contracted more vigorously, and all the more pulled down the cricoid. Then the muscles of the nape tried to pull the glottis up to the air. According to Sir Felix Semon, cancer of the cricoid region—extrinsic laryngeal cancer—was far commoner in women than in men. The explanation of this which the speaker offered was, pregnancy and increased respiratory load lead to increased action of respiratory mechanism, evidenced by the retracted head. With a view to determining how statistics affected this view, he asked Sir Felix Semon how many of his female extrinsic cancers were married and how many single, and he stated that his impression was that all but one were married. He then wanted to know about pregnancy, but the determination of this would have required a prolonged search through old casebooks, and as it was a few days before Sir Felix's retirement, and the speaker had not had leisure to hunt up other records on the point, this point must be left undecided. In reply to Dr. Waterston, he did not think that the posterior surface of the bezel was evenly covered by a protecting pad of muscle. There was often a strong median ridge, and parts of the upper, and especially lower, border of the bezel covered only by their aponeurosis and mucous membrane. On a powerful rotation of the cricoid the mucous membrane over these could hardly escape a more vigorous rubbing than the rest.

PHOSPHATIDES IN THE LIGHT OF MODERN RESEARCH.

By HUGH MACLEAN, M.D.,
University of Aberdeen.

IN discussing the chemistry of the phosphatides in the light of more modern work it would seem advisable to state what is now generally meant by this term. The word "phosphatide"—which was originally applied by Thudichum to certain products he had isolated from the brain—is used to designate complex substances of a more or less fatty nature which can be extracted from the tissues by such solvents as alcohol, ether, chloroform, etc., and which on analysis can be shown to contain fatty acids, nitrogen, and phosphorus. The term "lecithans," proposed by Koch to designate such substances, has not been generally adopted.

That the phosphatides are of great importance in the vital processes is indicated by their widespread occurrence; in some form or other they constitute part of every living cell, both animal and vegetable, but their exact function and bearing in the organism is at present but little understood. That they are of importance in the causation of narcosis by many drugs (ether, $CHCl_3$, etc.) seems fairly well established. Again, their action as activators of certain haemolytic poisons has been demonstrated beyond doubt. It is likely that they play an important part on account of their physical characters, and it is not at all improbable that they have some part in the general desaturation of fatty acids that occurs in the body.

One marked characteristic of the phosphatides is the extreme readiness with which they undergo oxidation, and their highly unstable nature would seem to point to their importance in the general process of metabolism. In such highly specialized structures as the heart and brain they are specially abundant, and large quantities can as a rule be obtained from egg yolk. In the latter substance, however, the amount varies considerably, and on one occasion I obtained only a few grams from 100 eggs. Of variations in the animal body, either in health or disease, we have practically no idea; the few observations that have been made in this direction do not furnish sufficient material to draw any definite conclusions, and the difficulty experienced in the quantitative estimation of these substances renders the matter still more obscure.

The best practical classification of the phosphatides is that suggested by Thudichum, and is based on the relative content of nitrogen and phosphorus in the molecule. The following substances have been isolated:

(1) N : P : 1 : 1 = *Mono-amino-monophosphatides*. Of this group the best known are lecithin and kephalin. Another substance designated "vesalthin" has been recently isolated by Fraenkel and Pari.

(2) N : P : 2 : 1 = *Diamino-monophosphatides*. Sphingomyelin isolated from brain by Thudichum.

(3) N : P : 3 : 1 = *Triamino-monophosphatides*. Only one substance of this nature has so far been isolated; its discoverers, Fraenkel and Bolaffio, have given it the name "*Neurin*."

(4) N : P : 3 : 2 = *Triamino-diphosphatides*. Such a substance is said to have been obtained from ox kidney.

(5) N : P : 1 : 2 = *Mono-amino-diphosphatides*. Cuorin from heart by Erlandsen, and a somewhat similar substance from eggs by the writer.

Lecithin.

With regard to all these substances, the best known is the mono-amino-monophosphatide lecithin. According to Strecker and Diaconow, lecithin is an ester compound of glycophosphoric acid substituted by two fatty acid radicles and a base choline. This formula, derived from a consideration of the results of elementary analysis and the cleavage products obtained on hydrolysis, has been generally accepted. From this formula it is obvious that the total amount of nitrogen present in lecithin is found in the choline part. Many experiments have been made with more or less pure lecithin in order to determine what amount of choline could be recovered, the theoretical yield being calculated on the nitrogen present. The results are rather striking, as Erlandsen from pure heart lecithin obtained only 42 per cent., and Heffter from liver lecithin only 25 per cent. These results suggest either that part of the choline was destroyed during the process of hydrolysis of the lecithin, or that all the nitrogen found on analysis was not really present in the form of choline.

In investigating this part of the subject a great number of experiments were carried out under different conditions in order to ascertain whether any destruction of choline really took place. The result arrived at was that under conditions as nearly as possible the same as those under which lecithin was hydrolysed practically no destruction took place. In one experiment in which excess of all the known cleavage products of lecithin were mixed with a known quantity of choline and boiled with $Ba(OH)_2$ for several hours, 95 per cent. of the choline was recovered as the double platinum salt. Since excess of fatty acids, etc., was used, the small loss of 5 per cent. was easily accounted for owing to the extreme difficulty of washing the precipitates quite free from choline.

Since, therefore, no destruction of choline could be ascertained, it must be assumed that when lecithin is hydrolysed destruction of choline does not account for the low yield obtained. Investigation of other possibilities, such as incomplete splitting up of the lecithin, showed that when boiled with 5 per cent. $Ba(OH)_2$ in methyl-alcohol hydrolysis was complete in from one to two hours.

In one experiment hydrolysis with a saturated watery solution of $Ba(OH)_2$ was carried on for eighteen hours without any material change in the final yield. The results of all these experiments pointed strongly to the probability that all the nitrogen of lecithin was not present in the form of choline or other such-like base.

Lecithin was now prepared from different substances by the method utilized by Erlandsen, in which the tissue is first dried and then extracted with ether and subsequently with alcohol. Eggs and heart muscle were extracted, the ethereal product only being used. By means of several manipulations the lecithin was obtained in as pure a state as possible; it was then analysed, and the choline obtained by hydrolysis and precipitation with platinum chloride, estimated in terms of the nitrogen present. Both lecithins showed a N : P proportion as practically 1 : 1, and were in fairly close agreement in their elementary analyses. In the case of heart lecithin the figures were practically identical with those obtained by Erlandsen for a similar substance. The egg lecithin agreed with the analysis of a similarly prepared substance by Stern and Thierfelder. On hydrolysis, however, it was found that heart lecithin gave quite a different result from egg lecithin, for while the latter yielded about 60 per cent. of the theoretical choline, only about 42 per cent. was obtained from heart lecithin.

Again, in a trade lecithin such a high figure as 80 per cent. was obtained. Thus, in three different lecithins in which the N : P value was almost exactly 1 : 1, and all of which had been purified several times and hydrolysed in exactly the same way, such different figures as 42 per cent., 60 per cent., and 80 per cent. were obtained. These experiments were repeated with different reagents for splitting off the choline, such as saturated H_2O solution of $Ba(OH)_2$; saturated solution of $Ba(OH)_2$ in methyl-alcohol—mineral acids such as H_2SO_4 and HCl—but always with the same result.

From these experiments it is certain that those different substances cannot be identical chemically, despite their fairly close approximation from the point of view of elementary analyses.

Again, in the case of egg lecithin it was found that the cadmium chloride salt gave a larger yield of choline, calculated on the N present, than did the lecithin itself. The increase amounted to about 10 per cent. If all the nitrogen of the lecithin were really present as choline, it is difficult to account for such a result. In the course of separation of the salt a residue was obtained containing nitrogen which was not present as choline.

Part of the nitrogen unaccounted for is found in certain of the residues that form during hydrolysis. Thus, after heating with, say, saturated H_2O solution of $Ba(OH)_2$, and allowing to stand, a residue separates out. It seems quite impossible to wash this residue free from nitrogen. Such residual nitrogen, however, amounts to but a small percentage of the whole, and by far the major part is found in the final alcoholic solution from which the choline has been precipitated by platinum chloride. The choline platinum chloride being filtered off, the filtrate is found to contain most of the lost nitrogen. Concentration of these filtrates after separation of platinum gave on the addition of more platinum chloride little or no result. Winterstein and Schultze, however, say that by adopting this method they have succeeded in separating a new base from plant lecithin. In the case of their lecithin the percentage yield of choline was exceedingly low, and they also say that in plant lecithin, at any rate, only a small part of the N is represented by choline. Some time before Winterstein and Schultze's paper appeared I carried out similar experiments with egg lecithin, using a large quantity. After hydrolysis with $Ba(OH)_2$, and separation of the products of decomposition, the choline was obtained in alcoholic solution and precipitated by alcoholic platinum chloride. Filtrate was then treated with H_2S, filtered, and the filtrate evaporated to small bulk; again alcoholic solution of platinum chloride was added, and, as in the case of Winterstein and Schultze, a dense precipitate was obtained. On analysis, however, the precipitate turned out to be barium-platinum-chloride. In no case was any organic substance of basic nature found.

The conclusion that must be arrived at from these investigations is that lecithin is really not the relatively simple compound that it is said to be, and that the present formula is quite inadequate. That all the nitrogen present is not present in the form of choline; and, further, that lecithins derived from different tissues, though showing somewhat similar results on elementary analyses, are not identical substances.

Kephalin and Vesalthin.

With regard to the other substances of this group, kephalin and vesalthin, it can only be said that the former requires much more investigation; it seems to yield on hydrolysis the same cleavage products as lecithin, only there remains some doubt with regard to the base present. Koch could obtain no choline, but obtained another base, while Cousin obtained only choline. Vesalthin is said to furnish a base different from choline.

Substances of other Groups.

In Group II, substances with N : P as 2 : 1 (diaminomonophosphatides), the chief representative is sphingomyelin; it was first obtained by Thudichum and isolated as a crystalline white substance: it is present in the so-called protagon. Erlandsen isolated a similar substance from heart muscle, and Stern and Thierfelder from egg yolk: it is not known what the base (or bases) present are. In Group III, N : P=3 : 1 triaminomonophosphatide; and Group IV, N : P=3 : 2 triaminodiphosphatide, as mentioned above, only one substance representing each group has been isolated; it is very doubtful how far these are mixtures of simpler phosphatides.

Substances, however, belonging to the last group are fairly well characterized. They contain N : P as 1 : 2 mono-aminodiphosphatides, the chief representative being cuorin, isolated by Erlandsen from heart muscle, and a somewhat similar substance which I isolated from egg yolk.

Both these substances are similar in general properties, but differ to a slight extent in composition; they yield as cleavage products fatty acids and glycerophosphoric acid, but no choline.

Erlandsen obtained in the case of his product a small amount of a substance precipitated by platinum chloride, while from my substance no satisfactory evidence of any basic body precipitated by platinum chloride could be obtained. Both substances are highly unsaturated, and on account of their great tendency to oxidation are difficult to work with.

The Nature of the Nitrogen Combination.

In all these phosphatides one great difficulty seems to be to account for the manner in which the N is combined. The only base of the presence of which no doubt remains is choline, but choline is present only in very few of the phosphatides, perhaps in lecithin alone; and even here we saw that it does not nearly account for all the nitrogen present; perhaps in many of these the nitrogen is partly present as amino acid. So far they all seem to yield glycerophosphoric acid and fatty acids, and in all lecithins it would seem that some of this fatty acid at least is present in an unsaturated form. In ordinary lecithins perhaps oleic acid is the chief one present, but such substances as cuorin undoubtedly contain fatty acids of a more unsaturated nature. It is exceedingly doubtful if such a substance as the saturated distearyl lecithin of the textbooks really exists; almost certainly it does not. Again, the method of preparation of the lecithins utilized by Strecker and Diaconow would almost certainly result in the substance obtained being a mixture of phosphatides, so that there is a strong probability that the substance from which our present generally accepted formula was deduced was itself not a pure substance, but a mixture. Indeed, it seems certain that a pure lecithin conforming to the theoretical formula, if it really exists, has never been isolated. The lecithin obtained by the best methods at our disposal to-day has probably never been isolated pure, and may be a mixture of two or more substances. In short, our knowledge of the phosphatides is really no more exact than our knowledge of the proteins, and at present we may say of the phosphatides, as of the proteins, that we do not yet know the structure of a single one of them, and that in no single case have we a complete list of their hydrolytic cleavage products.

DISCUSSION.

Professor B. MOORE (Liverpool) referred to the value of a detailed study of the phosphatides in relation to important functions of the cell, and pointed out that specific haemolysins, etc., might owe their properties to certain specific phosphatides possessing varying groups of a basic character. Further, that the processes of desalivation of fats in the liver and elsewhere, and of fabrication of amides, as in the suprarenal gland, might be the work of phosphatides, the salivated fatty radicles or amido-acids entering first into labile combination, and in the dynamics of molecular change being set free in other forms.

Dr. REID HUNT (Washington) asked if variations in the structure of the "choline" part of the molecule—whether, for example, if the compound contained ethyl or propyl groups instead of methyl groups, or an oxy-propyl instead of the oxy-ethyl group, some of these discrepancies could be explained. The speaker and Mr. Taveau had prepared a large number of such compounds, and there was some reason for thinking that some such compounds occurred in certain organs of the body.

Professor T. H. MILROY (Belfast) asked Dr. Maclean whether he had investigated the physiological action of the nitrogen-holding alcoholic filtrate from the platinic chloride choline precipitate. He also suggested that in all probability important changes in the phosphatides might be observed during the early stages of myelination.

DISCUSSION ON THE DEEP AFFERENTS: THEIR FUNCTION AND DISTRIBUTION.

OPENING PAPER.

By C. S. SHERRINGTON, M.D., D.Sc., F.R.S.,
Holt Professor of Physiology, University of Liverpool.

PROFESSOR C. S. SHERRINGTON, in opening the discussion, said that while our knowledge of the superficial afferents was considerable, we knew relatively little with regard to the deep afferents. Once inside the surface sheet, the anatomy and functions of the afferent system became very obscure.

1. VISCERAL AFFERENTS.

In one sense the visceral afferents were superficial in relation to the surface of the alimentary canal and air passages, but practically this fact may be neglected.

When we took food it normally disappeared from our ken after its passage through the fauces. That fact was very suggestive, for it meant that beyond a certain point there was no normal field of consciousness, the consciousness of the body being practically limited to the external surface. Beyond the fauces conscious sensation ceased, and consequently personal experience might lead us to doubt the probability of the existence of visceral afferents; but dim sensations could be elicited under certain conditions—for example, after drinking hot fluids.

The mouth or portal was an intermediate field between the external surface of the body and the interior of the alimentary canal. One found that in this region the character of the effective stimuli became altered. The chemical stimuli, both olfactory and gustatory, became specially effective, both in the direction of yielding sensations and inducing reflexes.

Formerly the mechanical and chemical stimulation of deep afferent nerves, although nominally not associated with sensation, was believed to influence gastric and intestinal movements. There were a number of difficulties in the way of accepting this view. One found that the simple pendulum and the more powerful and less frequent peristaltic intestinal movements took place in an isolated loop of intestine after section of all the nerves passing to the loop. In this case there could not only be no conscious reaction, but even no reflex action. Further, removal of the abdominal sympathetic in the dog did not cause any obvious alteration in digestion or movements. Auerbach's and Meissner's plexuses apparently acted satisfactorily after severance of all connexions with the rest of the nervous system.

The Quality of the Effective Stimuli.

Herrick's experiments had shown that gustatory reactions may be obtained with great sharpness from points on the external surface of the head of the fish, especially the ventals. In certain fish even weak stimuli of a chemical nature (for example, a dilute solution of quinine) were effective when applied to any part of the skin surface, although specially effective at certain points. The working of the alimentary canal might be viewed as being integrated and co-ordinated by means of such chemical stimuli acting through a nervous mechanism.

A most interesting phase of recent physiology was the suggestion by Bayliss and Starling of a mode of chemical regulation other than that through the nervous system, namely, by means of the hormones. These substances could be extracted from certain tissues, and were capable of exciting the activity of correlated organs. The following were some examples of these substances: Secretin and a substance extracted from the cardiac end of the stomach which was capable of acting on the pyloric end. Carbon dioxide was a hormone specially affecting the bulbar respiratory centre. One saw that Pawlow's view that such coadjustments were nervous in origin was rendered doubtful. Bayliss and Starling showed that after severance of all nervous connexions secretin was still effective.

Pain in Viscera.

This subject had long formed a field of controversy. Haller distinguished parts which feel from those which do not feel. He included the viscera, tendons, and blood vessels in the latter class. Haller worked largely with human subjects under conditions which were now impossible, namely, on patients not under the influence of an anaesthetic. He also experimented on animals. The methods used were extreme—for example, isolation of organs and effect of corrosives. Bichet arrived at similar conclusions to those of Haller.

According to Lennander, viscera did not feel, and the peritoneum was non-sensitive. The subserous layer, on the other hand, was a bed of nerve endings, and at the root of the mesentery a similar sort of arrangement existed. According to Lennander, all the pain associated with the abdominal organs was referred to these two layers.

On this question of pain in viscera there was a remarkable opposition of opinion. According to Meltzer, the liver and intestines were sensitive and normally give reactions as pain. Professor Sherrington himself was inclined to believe that there must be some sensation, since reactions could be obtained by acting on the sympathetic system going to viscera. There resulted, for example, vasomotor reactions, a rise of blood pressure, and it was difficult to believe that there was no sensation associated with this phenomenon. But as the animals were anaesthetized it was impossible to be certain about it.

Again, Head and Mackenzie were widely apart on the question of visceral pain. According to Head, there was visceral pain, whilst Mackenzie denied that a viscus was even tender, and believed that the pain in visceral disease was a referred pain. The parietal pleura, for example, was never the seat of pain, the pain being due to a cramp of the muscles of the thoracic wall.

2. DEEP CARDIAC AFFERENTS.

Deep afferents from the heart could be regarded as a kind of half-way house between those of the visceral system and those of the muscular or somatic system. The depressor nerve took its origin as an afferent nerve from the root of the aorta. It influenced tone. Could the depressor nerve give rise to sensation? In the sympathetic nervous system the afferent fibres were extraordinarily few, whilst the efferent fibres were considerable in number.

3. SOMATIC AFFERENTS.

Professor Sherrington next dealt with those deep afferents which were not visceral, but which were deep—that is, "deep touches." These deep touches were registered by muscular nerves. Nerve fibres going to muscle were heavily laden with afferent fibres—more than half. At the point where the muscle passed into the tendon a regular nest of afferent fibres was found, and in the tendon itself Golgi's organ occurred, which, again, was an afferent structure. Which group was involved in Head's deep touch was not known. In considering tonus it was pointed out that it occurred, generally speaking, in those muscles which antagonized gravity. Tonus occurred in extensor muscles, and it might occur in the flexors too, but there was no proof of this. What was wrong with the deep afferents in tabes? An answer to this question would explain the symptoms of the disease, but no one as yet knew what ataxy really was.

PROBLEMS OF THE FUTURE.

In conclusion, the speaker observed that the whole system of afferents formed an important group, for a study of which clinicians, physiologists, and anatomists might combine and attack certain problems, such as (1) the distribution of afferent nerves in muscles of different type and shape; and (2) the distribution of visceral afferents concerning which there were so many discrepancies.

DISCUSSION.

Professor A. F. DIXON (Trinity College, Dublin) drew attention to the difficulty in some cases in distinguishing anatomically between afferent somatic and afferent visceral fibres. For example, at the anterior end of the alimentary canal there were in certain branches of the fifth nerve somatic afferent fibres supplying visceral surfaces, and in lower animals (certain fishes, etc.) there were splanchnic nerve fibres, such as those connected with the fifth and seventh nerves, supplying the skin.

Professor J. S. MACDONALD (University of Sheffield) asked whether the question of increased central excitability in the neurones of a segment of the cord had not been deemed to be the factor varied in conditions determining reflex pain. Also as to whether the experiments of Langley had not done, after all, no more than show that there was no distinction between afferent and efferent fibres in this case, most notably no distinction in their connexion with cells? Was it not the case that unicellular reflexes were still debatable probabilities? The question might be reinforced by reference to Bayliss's experimental production of vaso-dilatation on stimulation of posterior root fibres usually regarded as pure afferents. He regretted that Professor Sherrington had not more freely pointed his remarks by illustrations from his own experimental work, giving some reasons for suggesting that there were good grounds for supposing the existence of three different sets of afferents affected by quite different forms of stimuli, one set dominating tone affected only by variations in elastic structures; a second in the tendon, comparable to the depressor from the aorta—the tendon of cardiac muscle—stimulated by forced extension and developing a protective relaxation; and, last, a third set of afferents, probably commencing in the neuro-muscular spindles affected by electrical change, and subserving the interest of extremely rapid contractions, such as occur in speaking and writing.

Dr. HADDON (Denholm) said his attention had been directed to the question discussed by Professor Sherrington by studying diet. He had asked Professor Ferrier some years ago where he could find what was known as to the sensitive centres, and was told that the subject had still to be investigated. He came hoping to learn something on the subject, and he had not altogether been disappointed, because Professor Sherrington, who was the chief authority, had confessed his ignorance of the subject, and when they knew their ignorance they were making progress. He pointed out that they might study the question by accumulating clinical facts and generalizing from them, as well as by experiment on nerves, and he made the following statement:

1. That food in the stomach prevents a man doing either his best muscular or mental effort.
2. That endurance is greater in vegetarians than in those who eat animal food.
3. That stimulants improve both muscular and mental effort.
4. That stimulants are eliminants.
5. That exercise, making the skin and lungs act, as in climbing, improves the mental power, or clears the brain.

If these facts and others which might be met with could be explained, or even a theory formed to explain them, it might help experimental physiologists in their work. He concluded that wherever the sensitive centres might be situated or however they might be reached, the chemical constitution of the lymph (like the solution in the electric battery) affected their action very powerfully, and that it depended not upon the food eaten, but upon the action of the nerve centres which preside over the whole digestive system.

Dr. T. GRAHAM BROWN (Edinburgh), in comparing reflexes elicited from deep and from superficial afferent nerves, mentioned a peculiar case of "scratch reflex," which seemed to hint that the clonic "beats" were due to the presence of discontinuous periods of inhibition superposed on a state of continuous contraction.

Mr. N. C. RUTHERFORD (Edinburgh) referred to the work of R. G. Harrison of Yale on *Embryonic Transplantation and Development of the Central Nervous System*, lately published, in which he actually watched the growth of motor and sensory fibres. His results would explain fully the formation of the sensory end organs on an embryological basis. With reference to herpes zoster, the fact that its distribution did not correspond exactly with the area supplied by the affected spinal ganglion might perhaps be explained on the basis of the continuous and far-reaching subepithelial plexus providing overflow channels. This would differ from the segmentation explanation put forward by Head for the lack of correspondence between the distribution of herpes and that of the spinal ganglion. He was unable to understand how exciting visceral sensory terminals could, by heightening the excitability of the corresponding spinal ganglion or cord segment, produce an effect in consciousness at a much higher level in the central nervous system, unless either Muller's law of isolated conduction broke down or there was a central representation of the visceral sensory areas in the cerebrum, where they were in connexion by association tracts with those areas representing cutaneous sense of pain.

RECONSTRUCTION MODELS OF THE FETAL PELVIS, ETC

By DAVID WATERSTON, M.D.,
Senior Demonstrator of Anatomy, University of Edinburgh.

DR. WATERSTON exhibited and demonstrated some reconstruction models of the fetal pelvis which had been constructed under his supervision by Dr. Pattie. The stages of development which were represented filled in the gap between the earliest stages of the formation of the pelvis studied by Bardeen, Peterson, and others, and the later stages described by Professor Arthur Thomson and Fehling. The observations were directed first to the study of the mode of growth of the pelvis, and they showed that the embryonic pelvis at the tenth week, when all the parts were laid down, was not a model in miniature of the pelvis at birth. Only by a series of changes produced by unequal growth was the infantile form attained. Thus the sacrum was relatively wide and long, the coccyx long, and the width was small. The existence of sex characters could not be determined, as all the specimens proved to be males. Attention was directed to the condition of the pelvic viscera and of the pelvic musculature. The anal canal had not developed, and the rectum opened directly forward upon the perineum immediately in front of the coccyx. The development of the anal canal depended upon a regression of the coccyx and the sinking down of the genito-urinary apparatus into the anterior half of the pelvis. The bladder was largely extrapelvic, and the openings of the ureters lay at the level of the crest of the pubis. The urethra opened in the perineum, at the root of the genital eminence, but that structure showed that it was being tunnelled by an ingrowth of the epithelium of the urethra.

[Dr. Waterston also exhibited and demonstrated Lissauer's instrument for taking outline tracings of the skull in various planes, and also Martin's kulascraniophore, and an improved form of Matthew's periglyph.]

A REPLY TO CERTAIN CRITICISMS OF OBSERVATIONS AS TO THE EFFECTS OF INHALATION OF OXYGEN ON MUSCULAR EXERTION.

By LEONARD HILL, M.B., F.R.S.

[THE following note was read for the author by Dr. J. A. Milroy (one of the Honorary Secretaries of the Section).]

In the *Proceedings of the Physiological Society* (June 26th, 1909) Haldane and Douglas give the results of a very few observations on themselves of the effects of running twice up and down a 40 ft. flight of stairs after forcibly breathing air for three minutes or quietly breathing oxygen, and conclude that "Hill's recent observations as to the effects of previous inhalation of oxygen in diminishing the distress caused by muscular exertion can be explained as a result of the deep breathing which is apt to occur in persons to whom oxygen is administered." My answer to this is, first, that forced breathing has a profound effect on the circulation, and therefore it is not just to contrast forced breathing of air with quiet breathing of oxygen. Secondly, that the exertion carried out by Haldane and Douglas was not sufficient to lower the tension of oxygen to that level where want of oxygen comes into play. Thirdly, in our experiments on giving oxygen to horses between hill-climbs and to boxers between the bouts of a fight, there was no question of conscious forced breathing. The exhausted horse or boxer was gasping, and oxygen restored them, not air. Fourthly, for a great runner like Mr. Just to take four seconds off his best trial time, and break his actual record time, and Mr. Holding to take a second off his record time for the quarter-mile in unpaced trials, are extraordinary feats, which I challenge Haldane and Douglas to get athletes to repeat by the forced breathing of air.

Forced breathing before races has been and is tried by athletes, and would be a universal custom if it benefited them to this extent.

Haldane and Douglas quote the authority of Zuntz against me as "definitely against the theory that oxygen is stored in the body when pure oxygen is breathed." I have never accepted the view that the tissues combine with and store oxygen in the form of an energy-producing material. If we take the blood quantum as 5·3 per cent. of the body-weight (Plesch, who confirms Haldane), and suppose that the arterial is one-third and the venous two-thirds of the whole, and that the arterial contains 18·5 per cent. O_2 against 12 per cent. in the venous blood; if we take it there is about 0·5 per cent O_2 in simply solution in all the body fluids and about 6 per cent. in the fat; if we put fat against dry bone, as Haldane does, in dealing with the solution of N_2 in the body, and take the whole body-weight as containing 0·5 per cent. O_2 in simple solution: then on forcibly inhaling pure oxygen most of the venous blood will become arterial, and much of the body will contain 2·5 per cent. O_2 in place of 0·5 per cent. in solution. From these considerations it follows that the athlete can easily take into his body an extra 1,000 or 1,200 c.cm. O_2, and in addition fill his lungs with some 3,000 to 4,000 c.cm. O_2 before starting to run, besides washing out the CO_2 from his body. Many sprinters run 100 yards, and some 120 yards without a breath. Is it not plain that oxygen must enable them to run further without a breath and give them the mechanical advantage of not breathing?

To test Haldane and Douglas's conclusion two medical athletes have kindly run for me successive runs after forced breathing of air or oxygen for three minutes, and with the short interval of thirty minutes between the runs.

P. T. ('Varsity blue), out of form. Race, 250 yards, unpaced.

AIR.

Pulse-rate.	Time of Run.	Condition.
68	—	Normal.
148	29½ sec.	Immediately after race. Vomited and had severe gastric disturbance.

OXYGEN.

128	28 sec.	Immediately after race. Pulse very full and strong, and face very good colour. Felt he ran better. Afterwards vomited again.

C. T., half-mile runner of repute, out of form. Race, half-mile, paced last 250 yards.

AIR.

Pulse-rate.	Blood Pressure.	Time of Run.	Condition.
66	125	—	Normal.
165-170	70-80	2.14⅘	Immediately after. Very much done, pulse weak and irregular, difficult to count. Wants to bend down.
146	110	—	One minute later.

OXYGEN.

128	120-5	2.16	Not nearly so done. Holds himself upright. Much better colour. Pulse notably fuller and stronger. Says his legs gave out. Feels fit to run again.
132	—	—	A minute later.

C. T. A week later. Half-mile, entirely unpaced.

OXYGEN.

Pulse-rate.	Blood Pressure.	Time of Run.	Condition.
148	140-5	2.12⅘	Immediately after run. Held himself upright; not so done as after first race last week. Pulse regular and strong.
132	—	—	After one minute.

AIR.

160	125	2.21	Immediately after run. Pulse regular. Legs gave out. Not so done as first race last week.
152	—	—	After one minute.

These gentlemen were quite unbiassed, and each time ran themselves out to the utmost. Their times and pulse, feelings and appearance were all in favour of the beneficial effect of oxygen.

Breathing oxygen from a mask, and air in the open way, is disadvantageous to the oxygen test from the point of view of washing out CO_2, owing to the dead space in the mask.

I have used a wide mouthpiece fitted with mica valves, and very small dead space to make the conditions the same, and have breathed compressed oxygen or air from a bag containing water to moisten the gas.

I find by experiments on myself and three other subjects — S. G., A. W., and M. G. — that forced breathing of air after thirty to sixty seconds, becomes, as is well known, very unpleasant, with feelings of constriction round the head and numbness in the limbs; and in M. G. subjective sensations in the eyes and ears. Associated with this is a considerable acceleration of the heart and fall of blood pressure. The blood pressure falls particularly in the systole during inspiration, so that there is a considerable oscillation of pressure occurring with the forced breathing. The pulse becomes small and weak. These symptoms occur only at the beginning, and to a very slight degree on the forced breathing of oxygen. The blood pressure oscillates, it is true, but the pulse is strong and the pressure becomes raised under the influence of oxygen.

It is possible to continue the forced breathing of oxygen any time until mere fatigue of the muscles puts an end to it, and no Cheyne-Stokes respiration occurs, as is the tendency with forced breathing of air. All four of us have been able to hold our breath very much longer after forcibly breathing oxygen than air: myself five minutes, in perfect comfort; M. G., seven minutes; A. W., seven minutes, against about two minutes after forcibly breathing air.

Taking forced breathing as the test type of exercise, I find oxygen inhalation enables one to carry it out with far more comfort and energy. The symptoms produced by forced breathing of air are, I believe, due to the mechanical effect on the circulation, which lowers the blood pressure and leads to an actual want of oxygen in the brain. The face and hand of the subject who forcibly breathes air may become congested and livid, while he who breathes oxygen is of excellent colour.

Exact records are being kept of similar experiments I am carrying out with the co-operation of Dr. James Mackenzie, and they will be published in due course.

THE STRUCTURE OF THE PANCREAS IN RELATION TO FUNCTION.

BY

J. STRICKLAND GODDALL, M.B.Lond., M.S.A., and H. G. EARLE, B.A.Cantab.

(From the Physiological Department, Middlesex Hospital.)

HISTOLOGICALLY the pancreas in Elasmobranchs exhibits the same essential structure as in other vertebrates, showing well-differentiated zymogenous tissue, islets, and ducts, these being bound together by connective tissue containing blood vessels, nerves, and lymphatics to form the compact gland.

The zymogenous tissue consists of a number of elongated tubular acini which have no very definite basement membrane. Each acinus is composed of a single layer of polyhedral cells which are differentiated into an inner granular acidophile zone, which stains well with eosin, fuchsin, and other similar dyes, and an outer non-granular basophile zone which stains well with methylene-blue and other allied stains. This basophile zone contains a vesicular nucleus which is invariably characterized by the presence of a centrally placed eosin-staining nucleolus (Fig. 1). The granules in the inner zone vary considerably in size and in staining reaction, and are arranged in a wedge-shape manner, the apex of the wedge being

towards the nucleus of the cell, while the base forms the free edge and lines the lumen of the acinus (Fig. 3 E). This zone is much less dense in structure than the basophile zone, which stains more or less uniformly, always contains the nucleus of the cell, and is prolonged up so as to partially embrace and envelop the cosinophile zone, thus presenting an appearance very similar to a goblet cell, the cosinophile granules forming the contents of the goblet. This prolongation of the basophile substance towards the lumen of the acinus causes specimens stained with methylene blue alone to exhibit an appearance somewhat similar to the demilunes of the salivary glands. The nucleus of the zymogenous tissue is quite characteristic, and enables one to distinguish at a glance between zymogenous, islet, and duct cells. It consists of a definite nuclear membrane, immediately beneath which is a series of small particles of chromatin which give the membrane a beaded appearance. In the centre is a spherical nucleolus which stains faintly with eosin, while placed around this nucleolus are four to six small irregularly spherical masses of chromatin (Fig. 3 E). Occasionally in the acini, cells may be seen which are not differentiated into zones, and which either have no affinity for acid or basic dyes, or stain with either eosin or methylene blue alone. Finally, in the lumina of the acini, small cells (centro-acinar cells) may be found; these vary in shape, size, and general form, and seem to be either (1) desquamated duct cells, (2) leucocytes, (3) special cells continuous with those lining the small ducts, or (4) very rarely, extruded nuclei from the zymogenous cells themselves.

The islet tissue is easily recognized in all the fishes examined by us, and occurs either as definite circumscribed areas or as diffuse strands of tissue passing in between the zymogenous tubules. In *Mustelus vulgaris* the islets in some regions appear to be specially related to the larger ducts which may be seen embedded more or less in the centre of a mass of islet tissue. Typically the islet tissue is made up of indefinitely arranged cells, or rather nuclei, usually of ovoid, but very frequently of irregular and indefinite shapes, crescentic or kidney-shaped forms being very common. All forms are, however, characterized by their poorness in chromatin, which is arranged in a loosely reticular form. (Fig. 3 G) They never exhibit an eosin-staining nucleolus, and in none of the specimens examined by us could definite karyokinetic figures be made out. Mingled with these badly staining nuclei are small cells containing definite cosinophile granules and a small spherical, deeply-staining nucleus very rich in chromatin. In addition to these, very large, more or less oval cells with large cosinophile granules and oval nuclei, which contain a reticular network and a spherical eosin-staining nucleolus, occur, as also do large cells free from granules, and having no affinity for either basic or acid stains. Lastly, irregular patches of zymogenous cells (Fig. 2), or more frequently the basal zones of zymogenous cells, are also frequently seen in the islet, such patches of cells being quite isolated and surrounded by islet cells, and being obviously in a state of conversion into islet tissue. Stained by Beckton's method, other small nucleated cells rich in fine granules can be made out.

The ducts form, perhaps, the most interesting part of the specimen, as they appear to be centres of active growth in the gland, and are most intimately associated with both zymogenous and islet tissues. As generally seen in *Mustelus*, the ducts appear surrounded by islet cells, and are lined by a single layer of large, clear, non-granular columnar cells, the free edge of which is irregular (Figs. 1 and 3). The nuclei of these cells are very large, ovoid in shape, and contain little chromatin, which is arranged to form a very loose reticulum. The nuclear membrane is thickened up periodically, so as to present a moniliform appearance; a nucleolus is present (Fig. 3 F). Occasionally in the wall of a typical duct two or three zymogenous zonal cells are found, forming an integral part of the duct wall (Fig. 3), while in other places, again, smaller ducts may be seen, composed of a double layer of cells (Fig. 1 C)—an inner, of more or less cubical cells, with spherical nuclei rich in chromatin, and an outer row, composed of very large granular cosinophile cells—similar cells being frequently seen in the outer walls of the larger ducts and in the islets. The largest ducts have a very thick external connective tissue coat, while numerous small zymogenous tubules can be seen budding out from them in places. Although the above tissues are all quite distinct and well differentiated in places, duct, zymogenous, and islet tissues may be seen passing the one into the other, a direct continuity of structure thus existing (Fig. 4). Finally we may, perhaps, point out that the above specimens should be of special interest, as they are relatively easy to obtain and prepare and represent a true picture of the *physiological* condition of the gland, not a pathological or even a hyperphysiological one. We should like to express our best thanks to Mr. R. W. Annison for his most valuable assistance in preparing the specimens used in the demonstration.

SIGNIFICANCE OF STRUCTURE.

It is perhaps a truism that the structure and development of an organ are the primary guides to its function. As far as histology is concerned, however, this axiom seems to be in jeopardy for two reasons: First, because many of the appearances seen in microscopic specimens are due to the technique employed—that is to say, are artefacts. Secondly, because owing to the recent method of reconstructing serial sections by the Born wax-plate method, the structure presented by a single section, existing, as it does, in only two dimensions, is not considered reliable.

With regard to the question of artefacts, although it is important to recognize their existence, it is equally important to realize that they may be valuable guides to structure, especially in relation to function. For instance, the granules described by Nissl in nerve cells are produced only by certain fixing agents, yet no one will deny their great importance in indicating the functional condition of the nerve cell at the time of fixation.

The method of reconstruction is, perhaps, necessary if one desires to get a clear mental picture of the histology of an organ. It can never replace, however, the study of single sections, and from considerations of time is in many cases impossible.

With regard to the pancreas, it has been conclusively proved that the acini and ducts, like those of other tubulo-racemose glands, are concerned with the secretion of pancreatic juice and its conduction to the gut surface. The question that we have to decide is the significance of the islets. It was first suggested by Laguesse, and afterwards by Schäfer and others, that they were connected with the internal secretion of the pancreas, since they were absent from the salivary glands, removal of which had no influence on general metabolism. Although a great deal of work has been done with the idea of proving this view, there is very little convincing evidence that the islets have any more to do with metabolism than the zymogenous tissue. It is true that in some cases of diabetes the islets have been found to be exclusively diseased, but then in some the acini alone are involved, in others both are attacked, while in others still there is no lesion at all of the pancreas, and the disease is purely functional. Still, the fact of their existence in the pancreas and their absence from the salivary glands forces us to believe that they have something to do with internal secretion; and one cannot help feeling that a grasp of the significance of this tissue is bound to throw strong light on the problems of carbohydrate metabolism and the pathology of diabetes.

With regard to the nature of the islets, two main views seem to exist. Some regard them as constituting an independent organ, responsible for carbohydrate metabolism, and having no more relation to the zymogenous tissue than the medulla has to the cortex of the suprarenal gland. Others, on the other hand, hold that the two issues are closely related, the islets arising from the acini as a result of exhaustion, and under favourable conditions reconverted into zymogenous tissue. It is important that we should try and arrive at a decision as to which is the correct view, for if the two tissues are continuous, then it follows that the secretion of pancreatic juice must have an important influence on carbohydrate metabolism. It is true that interference with the flow of juice into the gut does not produce glycosuria, but too much may be deduced from this experiment. The condition is comparable to a muscle trying to contract against a load that it cannot lift.

The present communication furnishes evidence in favour of the view expressing continuity of structure in the pancreas. We have already considered the purely physio-



Fig. 1.—Pancreas of *Mustelus vulgaris*. A, Islet cells; B, duct; C, small duct; D, eosinophile cells; E, zymogenous tubules; F, non-staining cell.

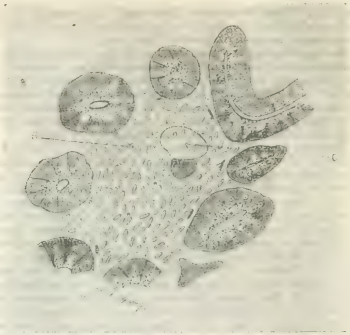


Fig. 2.—Pancreas of *Rhina squatina*. A, Zymogenous tubule; B, islet tissue; C, zymogenous tissue in islet.



Fig. 3.—A, Zymogenous cells in duct wall; B, non-staining cells; C, eosinophile cells; D, duct; E, zymogenous cell and nucleus; F, duct cell and nucleus; G, islet cells.

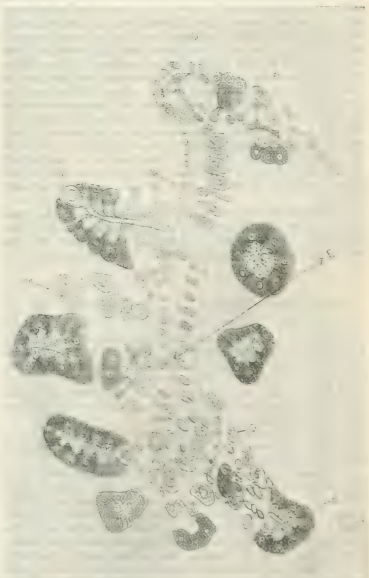


Fig. 4.—*Mustelus*. Showing islet formation and continuity of structure. A, Eosinophile cells; B, non-staining cell; C, islet formation; D, islet cells; E, duct; F, zymogenous tissue.

logical evidence in favour of such a view, and the influence it may have on the treatment of diabetes, in a paper entitled, "The Pancreatic Juice and Glycosuria," read before the Physiological Section of the British Medical Association meeting at Sheffield last year.

In considering the significance of the structure presented by the pancreas of Elasmobranch fishes, it seems to be necessary to define exactly what one means by the term "islet." In this paper we include under that heading all epithelial cells not arranged in a tubular manner, and therefore presumably having no connexion with the gut, and, if functional, capable of internal secretion only.

In these fishes there are two types of islet: (1) Those in relation to the acini; (2) those in relation to the ducts. The islets in relation to the acini are the only type to be found in the adult pancreas of higher animals, including man. From a histological point of view they exhibit practically no signs of activity—the chromatin of the nucleus is scanty, there is no nucleolus, and there is very little cytoplasm, in some cases none at all. The islet as it thus presents itself in all vertebrate animals we consider to have no function. They appear, however, to be derived from the acini; and Dale and others have shown that the amount of this tissue increases when the pancreas is exhausted by the injection of secretin and bleeding, and by ligature of the duct. This change, though we have no direct evidence, may be the histological basis of the internal secretion of the pancreas which controls carbohydrate metabolism. At the same time, it is important to bear in mind that the acini might have an internal secretion without undergoing such a change. There is no very definite basement membrane, and the relationship to the blood stream is more intimate than in other glands of this type.

The Islets in relation to the Ducts.

These islets, unlike the former, as also the ducts with which they are associated, show signs of functional activity; they are chiefly, however, of embryological interest. It is well known that Elasmobranchs present many features in the adult, embryonic in higher vertebrates—for example, the nephrostomes and the cartilaginous skeleton—and from a study of the histology of these islets we find that the appearances presented are similar to those described by Laguesse in his account of the development in the sheep, and of Pearce in his paper on the human embryo. With regard to their exact function, it is difficult to say much. The eosinophile cells which they contain suggest activity, and since they are not found in the salivary glands either in the embryo or adult, they seem to be associated with the metabolic function of the gland, especially as in the fetus this is the only activity required.

In conclusion, we would like to lay stress on the continuity of the functions of the pancreas suggested by the continuity of structure. The use of dextrose by the individual is the direct sequel to the digestion of food.

THE BIO-CHEMISTRY OF HAEMOLYSIS.

By BENJAMIN MOORE, M.A., D.Sc.,

Johnston Professor of Bio-Chemistry, University of Liverpool.

A WIDE group of haemolytics may be defined which possess many physical, chemical, and physiological properties in common. This group includes:

(*a*) Fatty acids and their soaps of the oleic and other unsaturated series of the aliphatic acids, oleic and linoleic acids being taken as instances.

(*b*) The different bile salts and their derivatives.

(*c*) The saponin-digitalin group of glucosides, such as saponin, digitalin, and mowtin.

All these substances have this in common—that they are powerful haemolytics, and are also unsaturated chemically; on chemical saturation they lose also their haemolytic power. They all possess an intensely bitter taste, and the solutions of all froth on agitation. On introduction into the circulation they all affect the heart, slowing the rate of beating, this action being probably due to their effects upon cruorin or other heart lipoid, just as in the case of their laking blood corpuscles. All members of the class are colloidal in aqueous solution, and the presence of one influences the solubility of another. All the members possess the power of conjugating with other different members of the group, or with glycerine, glucose, amido-acids, tox-albumins, etc., to form more complex molecules. All the members, in addition to more definite combination, possess in marked degree the property of forming unstable labile unions, which are easily dissociated again, with one another and with other organic bodies.

The haemolytic properties of the group as a whole depend on these physico-chemical properties. For blood corpuscles contain lecithin (that is, lecithides) and other lipoids, and these are rendered more soluble in saline or in serum by the haemolytics which act as solvents for them, and so bring about haemolysis. In support of this view, it is shown that sodium oleate, lecithin, and bile salts mutually increase one another's solubility when they are present in common solution. Sodium oleate similarly increases the solubility of sodium palmitate and sodium stearate, which, alone, are practically insoluble. The soaps of saturated fatty acids possess no such action, and therefore are not haemolytics. Similar actions of combination of lipoids or antigens with other lipoids of dissimilar constitution explain the balancing of haemolytics and to the shielding of corpuscles from attack. If there are two haemolytics, A and B, in common solution, either of which would attack and lake corpuscles also present in the solution, then, if A and B can combine with each other, they may mutually neutralize each other, and there may be no laking; on the other hand, if A and B are similar bodies and cannot combine, they will reinforce each other in attacking and combining with the lipoids of the corpuscles, and there will be almost instant laking of the blood.

An example of the former condition is a specially salivated serum, or a naturally active serum, such as pig's serum for sheep's red blood corpuscles, balanced and rendered inert by sodium oleate or sodium linoleate, or a lipoid of a syphilitic liver binding the complement of an active serum, so that later no haemolysis occurs in presence of the red blood corpuscle, because the place for lipoid is occupied, and the red blood corpuscle lipoid, therefore, cannot be attacked.

An instance of the reinforcing action in the case of two similar lipoids which cannot therefore bind each other is seen by taking amounts of sodium oleate and sodium linoleate which just can lake sheep's red blood corpuscle, in several hours, and allowing them to act in common solution at an equal concentration, when laking takes place practically instantly. The protective action of serum proteins against certain haemolytic agents, such as the soaps of the unsaturated fatty acids, is also due to labile combinations between protein and soaps, so preserving to a considerable extent the lecithides of the red blood corpuscles from attack and solution with accompanying haemolysis.

It is also shown that certain oxidizing agents in presence of traces of alkali cause haemolysis, while reducing agents prohibit it.

DISCUSSION.

Professor T. H. MILROY (Belfast) drew attention to the interesting points brought out by Kyes and Sachs in their well-known work, namely, that lecithin, when acting as the complement in snake venom haemolysis, set free fatty acid, and that cholesterin acted as an inhibiting agent on haemolysis. The work done by Professor Moore and his collaborators was of extreme value in providing exact chemical data for the study of haemolysis.

Dr. HUGH MACLEAN (Liverpool) asked with regard to the activating effect of lecithin on certain snake venoms, whether it was not possible that the venom acted on the lecithin, liberating the fatty acids, and that then the unsaturated fatty acids were set free to act on the red corpuscles. If so, the activating effect of lecithin on such substances as snake venom would be brought into line with the comparatively simple action of the unsaturated fatty acids, the latter causing haemolysis in virtue of their power of directly dissolving the lecithin of the red blood corpuscle. Again, in the case of a substance in which the addition of lecithin inhibited the haemolytic effect, it might be that the haemolytic substance became saturated with the added lecithin, and being unable to dissolve any of the corpuscle, lecithin was unable to cause any haemolytic action.

SOME NOTES ON THE DEVELOPMENT OF THE HEART.

By PETER THOMPSON, M.D.,
Professor of Anatomy, King's College, London.

A DEMONSTRATION was given from models, reconstructed in wax, illustrating three stages in the form of the human heart during the first month of development; the three embryos from which the reconstructions were made were 2.5 mm., 3 mm., and 7 mm. in length respectively. It was, however, clearly apparent that the heart of the 3 mm. embryo exhibited a stage earlier in development than that in the embryo whose length was 2.5 mm. The special points brought out in the course of the demonstration were:

1. That the form of the heart of a human embryo 2.15 mm. in length, figured by His, was confirmed by the model from the embryo 3 mm. The stage was very early—namely, that in which the heart tube had two physically fixed points, one at the venous end and the other at the arterial end. Between these points the tube presented two thin-walled dilatations—the future auricles—and a thicker walled U-shaped ventricular loop. In the 3 mm. specimen shown the tube was rotated slightly on its long axis, so that both auricles were on the right side of the body. The cephalic end of the ventricular loop was also rotated to the right.

2. That from a comparison of the three models it appeared that the U-shaped ventricular loop exhibited a very remarkable arrangement during the first month. As is well known, it was first of all placed ventrally and to the right. Then, as illustrated by the 2.5 mm. specimen, nearly the whole of it was on the right side of the body, the future left ventricle included, and the future apex of the heart was not the point in contact with the ventral mesentery, as might have been expected, but was represented by that part of the tube which was directed farthest to the right. The next change in position which the loop assumed was a return to the middle line, the apex coming down from the right and taking up a position in relation to the septum transversum. This was shown by the heart of the 7 mm. embryo, whilst that of Ingalls's (4.9 mm.) showed an interesting half-way stage. Three possible reasons were suggested to account for the "packing" of the ventricular loop into the right side of the pericardial cavity, instead of the left—the asymmetry of the vessels; the spiral twist of the embryo, which, however, was not always to the right; and the position of the vitelline duct, which prevented extension of the tube in a caudal direction. The influence of expanding neighbouring organs had also to be considered.

3. That the absorption of the right horn of the sinus venosus into the right auricle was preceded by a kind of intussusception of sinus into auricle, the right and left venous valves being thus formed. These valves were continuous with one another above and below, and, further, the united portions were continuous inferiorly with the endocardial cushions of the auriculo-ventricular aperture. The transverse portion of the sinus, representing the coronary sinus of the adult, opened, in the 7 mm. specimen, into the ductus venosus aurantii.

4. The auricular septum (septum primum of Born) exhibited two apertures in the 7 mm. specimen—the ostium primum and the ostium secundum (the future foramen ovale). There was no indication of a septum secundum.

5. The bulbus cordis was indicated externally in the 2.5 mm. and 3 mm. specimens, but in the 7 mm. specimen it could not be recognized as a separate chamber either externally or from histological examination. There was a common structure both for the bulbus cordis and the aortic stem, and, so far, there was nothing to indicate the level at which the semilunar valves would ultimately be found.

DISCUSSION.

Mr. N. C. RUTHERFORD (Edinburgh) referred to Professor Thompson's view as to the "packing" of viscera and its influence on the heart during development as a possible mechanical result of the spiral rotation of the embryo to the right. He referred to the fact that the direction of this rotation is by no means constant, embryos with rotation to the left being a frequent occurrence, as Keibel's *Normentafeln* show. He referred to the Teleostean heart, and its similar, though less marked, turn to the right in its ventricular portion, and mentioned that he had always attributed this to the correlated development of other neighbouring organs. He asked, Was there in these circumstances a phylogenetic factor to be interpreted in this stage of heart growth? He at the same time deprecated any fanaticism on the subject of such phylogenetic factors.

NOTES ON THE DISTRIBUTION OF THE INTERCOSTAL NERVES.

By H. M. JOHNSTON, M.B.,
Chief Demonstrator of Anatomy, Trinity College, Dublin.

THE relationships existing between the nerves which traverse the parietes of the large serous sacs—the pleurae and the peritoneum—and the tissues to which they or their branches are distributed seem to merit a closer study by the dissector. My attention was specially directed to these nerves after thinking what an interesting chart would be obtained if it were possible to mark out upon the parietal serous wall of the pleural and peritoneal sacs, areas which would show by their position and dimensions how the serous or subserous layer was enervated by the nerves in question.

Before starting upon such an extensive piece of work, it seemed desirable to make a series of preliminary dissections, and accordingly, during the last three months, on the material that was available for the purpose in the Anatomical Department, Trinity College, Dublin, I have studied carefully the thoracic course of the intercostal nerves, and some notes taken during the time while engaged in this work form the substance of this communication.

The intercostal nerves are situated in the muscular layer in almost the whole of their course, and the branches which pass from them to the muscular fibres, though numerous and of small size, are almost as easily demonstrated as those which succeed in reaching the superficial fascia and skin as the lateral and anterior cutaneous nerves. Concerning the branches which pass into and supply the inner layer, little is known beyond the fact that their existence has been proved within the last few years, though their presence has long been suspected by clinicians. Ramström by histological methods has demonstrated that the subperitoneal fatty tissue both in the human subject and in other mammals contains many nerves which were shown to arise from the branches which pass to the muscles of the abdominal wall. It seemed, therefore, not unreasonable to assume that similar nerves are present ramifying in the connective tissue upon which the costal portion of the pleura rests, derived either directly from the intercostal nerves or from their branches to the intercostal muscles.

My first attempts to find these nerves were not attended with much success. Dissections of the intercostal nerves were made from the outside in the following way: After the upper extremities and all the tissues situated superficially to the skeletal framework of the thorax had been removed, the ribs from above downwards were carefully resected, leaving intact the intercostal muscles and the periosteum which was attached to the deep aspect of the ribs. The intercostal nerves and their muscular branches were next carefully followed out, but it was found impossible to show beyond question any twig which passed to and ended in the pleura, though some nerves were seen springing from the upper and lower borders of the intercostal nerves which do not appear to be muscular branches, but they were always broken when an endeavour was made to follow them out.

Although these dissections with reference to the main issue were most disappointing, they showed well the general plan of branching assumed by the nerves as they traverse the intercostal spaces. Each nerve, as it lies in the vertebral extremity of an intercostal space, has the appearance of a flattened band with superior and inferior edges, composed of bundles of nerve fibres (corresponding to the main branches of the nerve), lying side by side and joined together by connective tissue. From the outer and inner surfaces of the band no branches were found arising

from the upper border: only a few fine filaments were discovered, whose destination could not in all cases be precisely determined, but from the lower border a continuous series of branches were seen to proceed. Those proximally situated are short and numerous; directed downwards they end in the external intercostal muscle; next, a series directed more obliquely, destined mainly for the internal and subcostal muscles. Many of these are long and slender filaments, and are sometimes seen to terminate in a rather remarkable way, which will be referred to later on. Next, the lateral cutaneous branch becomes more distinctly separated off from the main trunk, but lies alongside the latter for a considerable distance before it pierces the overlying muscles to become cutaneous. The remainder of the intercostal nerve passes on in two or more branches, to be distributed to the muscles of the body wall and to supply the anterior cutaneous branches to the skin.

Some dissections were made to study the position on and the manner of distribution to the mediastinal pleura of those branches of the phrenic nerve which are described as passing to that structure, in the hope that the knowledge obtained in this way regarding the nerve supply of one portion of the serous sac would be of assistance in the endeavour to determine the nerve supply of another.

The following was the method of procedure:

The head was removed from the subject, and the vertebral column divided down the middle line from behind, and the sternum from the front. The two halves of the sternum were held apart and the pericardium was exposed. A vertical incision was made in the latter, taking care to avoid damaging the pleura. Through the opening in the pericardium the heart was removed, and the vertical incision was extended through the posterior mediastinum to meet the section through the vertebral column. Finally, the sagittal section of the thorax was completed, except that the diaphragm was left intact. In each of the two halves the pericardium was dissected off the pleura and phrenic nerve with the greatest care. There is no difficulty in doing this, except near the diaphragm, as generally there is a considerable quantity of fatty tissue between the membranes through which the phrenic nerve and its branches and blood vessels run. A dissection of the phrenic nerve, with its branches and communications was then made, and the diagram will give some idea of their arrangement.

From the phrenic nerve, as it proceeds downwards in the thorax, quite a number of branches are given off. The upper ones are peculiar in being directed upwards as well as forwards. Those arising lower down proceed in a downward direction upon the mediastinal pleura. Supported by the connective tissue which surrounds them, they run a long distance, sometimes accompanied by blood vessels, but as often alone, and finally terminate in the finest filaments that I have ever traced. They appeared, however, to come to an end in the extra-pleural tissue rather than in the pleura itself. Of great interest are the communications between the phrenic and the sympathetic system. The subclavian loop (annulus of Vieussiens) is represented (on the right side) as giving off a branch which divides in a plexiform manner. Two main branches are given off, one of which communicates with the phrenic, another joins the internal mammary artery. Other filaments form quite a network—the subclavian plexus and numerous twigs can be followed quite easily to the mediastinal pleura above the level of the root of the lung; or perhaps it would be more correct to describe them as passing to Sibson's facial investment of the cervical pleura. On the left side a somewhat similar arrangement is found. I placed some of these fibres under the microscope. They were undoubtedly nerves, and by their behaviour with osmic acid there was evidence that a considerable proportion of them are medullated. They seemed to pass proximally through the inferior cervical ganglion to the rami communicantes of the seventh and eighth cervical nerves. This, if true, is an example of splanchnic afferent fibres reaching the posterior roots through grey instead of white rami communicantes. A good many filaments were seen passing from the first thoracic ganglion to the pleura in the vicinity, but I did not succeed in demonstrating any given off from the sympathetic lower down. A communication between the vagus and the sympathetic, which has been described before, was traced.

The following facts were made clear by these dissections:

1. That nerves to the pleura are exceedingly fine in calibre.

2. That they have a closer relation to the extra-pleural fascia than to the pleura itself, and appear to end by ramifying in that fascia.

3. That the mediastinal branches of the phrenic appear to make no communications with the phrenic.

In the next series of dissections the intercostal nerves were examined from the pleural aspect. The pleura was most carefully stripped off from the ribs and intercostal muscles, and special attention was devoted to communications and fine branches.

An account of some of these will now be given.

The intercostal nerves are linked together in two ways. First, by short branches, which pass from one to the other, close to the vertebral column. These are frequently found between the first and second, and are described in books; but often connexions are seen in other situations, especially between the fourth and fifth nerves. A considerable variation exists. They are nevertheless exceedingly important to bear in mind, especially when the distribution in the skin is taken into account.

The second type of communication is found in the lateral region of the thorax. It is an exceedingly common thing for one of the finer twigs which arise in this situation to traverse the subcostal muscle and pass to join the nerve trunk in the next space. Between the third and fourth and between the fourth and fifth nerves we find them often, but they can be demonstrated at times in other situations. These connecting nerves that were followed out ended in the internal intercostal muscles. I have been unable to discover any reason why such a muscle should be enervated by the intercostal nerve belonging to the space above.

Some rather remarkable branches of the intercostal nerves were noticed. At the lower part of the thorax fine filaments proceeded from adjacent nerve trunks, and formed together upon an intercostal artery, and in at least one instance reached the upper surface of the diaphragm. These nerves could be followed along the course of the artery into the abdominal wall. Other exceedingly fine branches could be demonstrated ramifying in the connective tissue between the ribs and pleura. These, when followed back, could be traced for a long distance through the fibres of the internal intercostal muscle before the point of origin from the main trunk or a branch was arrived at. Each intercostal nerve seems to give them off at irregular intervals to the connective tissue over the rib above the nerve and the rib below, and from their fineness it is not surprising that they have been hitherto unrecognized. They have been submitted to microscopic examination. Indeed, this precaution is quite necessary, for in no region of the body is it easier to manufacture nerves than this. It then appears that the branches of the intercostal nerves which account for the sensibility of the pleura are to be found ramifying in the extra-pleural connective tissue, and not directly connected with the pleura itself.

SOME FEATURES THAT MAKE FOR PERSISTENCE.

By Professor R. J. ANDERSON, M.A., M.D.,
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BIOLOGICAL units and composite protoplasmic structures are often remarkable in showing, not merely a response to a direct stimulus, but also in showing an attempt to resist a pressure, or tension, or straining force by bringing an opposing force to bear. This is so conspicuous occasionally that in some climbing plants the stem moves as if seeking a hard object against which, or by means of which, its energy may be used in the right direction. "Spontaneous movements are produced by autogenic utilization of external factors for directive purposes."

Corals give evidence of the power of resistance which comparatively simple animals may have. The external case or theca of a madrepore coral represents the surface of resistance where the surface pressure comes into operation, and where the protoplasm receives special instalments of energy. The deposit of lime diminishes the immediate effects of pressure from without, and promotes for the time the persistency of the units and the importance of the colony. Soon, however, the deposit

increases and shuts out direct pressure, although vibrations may reach the diminishing protoplasm for a longer time.

Septa reach from the theca inwards in the direction of the radii. These vertical walls do not occupy the position of the mesenteries; they are not simple calcifications of the mesenteries. They form strengthening walls at angles of 60 deg. as between two. A mathematical explanation can be given of this which brings with it the only plausible hypothesis. Soft cylindrical masses tend to assume hexagonal forms under equal lateral pressures, as in honeycombs. The pressure of six cylinders upon one means the division of the diffuse pressure of an external medium into six. Some corals resist this by working along six radii. If the external walls were very hard this pressure could not arise with the same effects. Secondary septa arise between the first of these from without, and the dissepiments running from septum to septum can be explained as differences in internal local pressures or strains. The columella in the centre and the septa running out from this may be evoked by internal pressures partly coincident with external operations. The rods running between septa and tabulae may be of the same nature.

It is evident that beyond a certain phase the deposit of lime tends towards destruction. The coral will, or ought to have, transferred its life and energy to new buds before finishing this page of its history. One may instance examples among the sponges, where the silicious deposits sometimes encase the canals. The power of resistance evoked by pressure is thus illustrated.

The presence of skeleton-forming cells or units has been proved for many animals, and protecting cells, so-called, are discoverable in almost all metazoa.

The anterior extremities are turned to dextrous purposes in many mammals. They are used for seizing, grasping, climbing, swimming (turning, rising, or balancing) in water, and running, walking, jumping, steering, flying, and burrowing.

One can form an estimate of the importance of the digits best by referring to the varieties and embryological results. Varieties may be anomalies or atavistic reminiscences. Or one may take account of the chief forms in which the hand presents itself in vertebrates.

Ichthyosaurs have been found with ten fingers, due possibly to the hardening and segmentation of the calcified lateral margins of the broadened flipper (epiblast and mesoblast). The increased size of the flipper might prove advantageous. In cetaceans an increased number of phalanges is often found (sometimes in fetal life the number is greater than in the adult) (Kükenthal). In fetal horses the number is at one time greater than in the adult horse. The splints are in fetal life joined to the buttons (Cossar Ewart).

Collections of equine limbs in America have shown that many horses retain evidence of having come from polydactyl ancestors. Professor Krause figures (*in skelet der oberen und Unteren extremität*) the limb of an 11-mm. embryo with the foundation for seven digits laid; the separate fingers are better seen in his note in the *Anatomischer Anzeiger* for July, 1909. The photomicrograph of the original specimen shows five little elevations corresponding to the fingers. The foundations showing in the transparency are real mesodermic foundations, and not ectodermic as in certain sauria. Seven fingers are rare and apt to be attended with other irregularities. A broad hand with seven fingers had a wrist with ten bones, and a forearm with two ulnae, but no radius (Dwight quoted by Krause). The little nailed pedicles one sometimes finds at the inner side of the hand or little finger may be the postminimus. They are not always connected with the pisiform. These structures are sometimes, if not always, due to hereditary transmission. Schenk figures a nine-rayed section of an embryo in which the divisions do not appear outside. The nine arrangement is due to a distal splitting of the two middle (Krause in op. cit.).

The postminimus seems to be commoner than the praepollex. The pisiform was the basis of a cartilaginous ray of which an accessory cartilage was the extant distal end, whilst the middle part had disappeared (Lebouco on *Vespertilio maximus*. V. Bardeleben found a praepollex and prachallux in fossil Chelonia. Pfitzner and Philenius have also described the cranial extremity as polyactinic. It seems most correct to regard the seven-rayed condition as the normal one. The pisiform and radial sesamoid appear to represent the basal parts of the praepollex and postminimus. Commencing with aquatic animals, the number and flexibility of the rays within certain limits favours precision of movement. There is greater danger with increase in size, and the structures may become unwieldy, unless they are collapsible. It is still more important for aërial animals to have organs that are easily folded up. The reduction in the number of dactyls opened out new possibilities to animals living on land. The reduction of the digits enabled the horse to move quicker than his many-fingered ancestor. With this complete or partial suppression of certain parts, "there has been an access of development of some parts in relation to others," and "certain parts that were originally distinct have coalesced." Reduction has taken place in many ungulates to a less extent than in the horse. This and other modifications has favoured this power of movement of these groups, and favoured their survival. Sloths have a reduced number of toes. The reduction seems to favour an arboreal life where the animal lives by clinging with the aid of the claws; bats hold themselves up in this way also. There is a deposit of lime in unusual places in sloths, and the ordinary toes are provided with strong claws. Pristine man provided with more fingers and toes would be well fitted for movement in water or on soft ground. Arboreal men have special peculiarities of limb. Mountaineers acquire peculiarities, and some of the early races have characters that suggest a mountain life. History—even recent history—tells us of men who were well fitted for long marches. Certain human groups move on the "heel and toe" alternately, which brings into operation many bones with their muscles. The plantigrade groups present structural peculiarities of their own. The separation of the anterior surface of the astragalus from the tibial surface is good for climbing. An astragalo-scaphoid bone was present in each ankle of a neat small-footed man brought to the laboratory once. I had no history of him. Professor Krause believes that the union of the astragalus and scaphoid corresponds to the scapholunar of carnivora.

The arrangement of the trabeculae in the head and great trochanter of the femur may be cited as an example of localized skill in producing biologically a perfect arch.

The mandible may be taken to illustrate the effects of conjoint efforts in manufacturing an apparatus used in various ways. The mandible is used not only for seizing, holding, masticating, and preparing food, but for dextrous operations such as carrying, fetching, burrowing, burying, grasping, and climbing, as a weapon of offence and defence; in respiration (?) and speech (in man). Its form and size answer to the functions and its relations. The bone becomes incidentally a protecting and supporting bar of the greatest importance. Cartilaginous elements in mammals represent sometimes the separate elements of sauropsids (Stieda quoted by Helprin). Aberrant ossicles arise sometimes. Nature, beyond the dividing of the ways, may use up foundation structures in building up new organs. A reference to the relations of the angular articular and coronary in sauropsids is only necessary to remind us that these bones appear to be interpolated between muscle bands. One must try to think of the bones and muscles as forming parts of the complete apparatus, as well as of their individual forms and functions. The separation of the skeletal from the active elements is emphasized by the formation of strengthening tracts of close bony deposits. It is the osteoblasts that produce by proliferation new bone from a transplanted spicule (MacEwen). The shape of the lower jaw is obviously due in part to the shape and relations of the adjacent parts. The spout-like character of the lower jaw in Megatherium and Elephas is assumed in conformity with the shape of the structures that lie in contact with it. One speaks of constant pressure producing atrophy. The shape of the jaw in the above animals is best explained, perhaps, by saying that an effort is made to mould the mandible on the structures which rest in contact with it. Grooves and notches that result, or seem to result, from the pressure of teeth may be, in some cases, explained in the same way. The maxilla and mandible may be subject to the same forces so that both may bend down, or the maxilla alone may bend down; and

the mandible may abut on the postero-inferior part of the lip of the rostrum (Rhynchosaurus), and display thus an effort to resist the maxillary encroachment. Processes of bone, due no doubt to efforts of resistance, may become useful shields for vessels and nerves, although they may not be primarily due to these. The large ramal angle of mycetes and the inflected angles of marsupials act as shields. The posterior border of the ramus reaches the posterior eighth of the skull in *Elaphodes michianus* (China). The coronoid is short and pointed in tragulinus. The angle is thin, hollowed, and projecting in cricetus. In the camel, hippopotamus, and *Sus salvanius* the posterior border of the ramus is only a little in front of the posterior surface of the skull (end). The Ursidae, as a somewhat aberrant group, show some points of interest. The posterior border of the ramus in *Ursus polaris* is thick, but the bone is thin in front of this. In *U. malayensis* the border of the angle is thick, the angular process is notched below and grooved above. The angle in *Ursus polaris*, young specimen, is slightly inverted. There is a ridge between the coronoid and angular hollows. *U. thibetanus* has an inflected angle. The ascending ramus is bent posteriorly in otaria. The angle is slightly everted in a specimen of *U. arctos* and prolonged. *Ursus labiatus* has the coronoid process thick in front. The ascending ramus is hollow and translucent. Owen calls attention to the reptilian characters of *Canis australis*. Otocyon has an inflected angle. It may be well to note here the large masseters and temporals, but small pterygoids of carnivora, compared with the small temporals of herbivora, the very small temporals of rodentia, and the large temporals of omnivora and frugivora. The muscles that reach to the side of the skull and jaw are responsible for the thinning of the skull bones in certain positions and for the formation of the thick ridges and crests. The increase in size of the brain has been attended with a reduction in the size of the jaw and its musculature, and a diminution in number and size of the teeth. The transference of some mandibular functions to the hands and important changes in habits have been associated in some cases with these changes. M. Pelletier emphasizes the fact that an organ which is modified as the function changes may be said to modify itself. Speaking generally, the function of the mandible is movement (Helprin). The teeth, perhaps, give the physiological impulse to the jaw to elongate in some cases. Elongation of the head appears to be due to elongation of the jaws. The one is associated with the others. In cetacea, however, if I may suggest, the elongation of the rostrum and mandible enables *Mesoplodon* and others to be more expert in foraging, so that Cuvier intended, it seems, to associate the sense organs with the foraging. The size of the jaws has much to say to the size of the head, and, speaking directly, the one statement involves the other (Le Double). The bone deposit is arranged along definite lines (trajectoria) in man. There are seven chief lines of deposit: The dental, basilar, posterior, marginal, princeps, copular, and radiate. They represent the resistance offered to strain, stress, or pressure of an interrupted kind. The development of the carnivora shows a change in the shape of the skull bones as the muscles grow into the adult form. So it seems that man's early ancestor "renounced his horizontal position" and his arboreal habits; "the muscles of the neck became little by little atrophied." The encephalon became larger, the back part of the head (the cranium) became inflated, the masticating apparatus reduced, the jaws abbreviated, and the head became poised on the summit of a vertical column.

SOME RESULTS OF UNIFORMITY OF ACTION AND HABIT.

By Professor R. J. ANDERSON, M.D., M.R.C.S.,
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THE following principles are important in studying living organisms: (1) The principle of least space, (2) that of least power, (3) that of least expenditure, (4) that of least waste, (5) that of least stimulus, (6) the principle of Nature's forces, (7) that of resistance.

There are amongst external forces those that are spoken of as mechanical, chemical, and physical. Some of Nature's forces are rhythmic, some seem erratic or irregular.

It may be well to keep in mind that organisms and organs are often independent, and, under favourable circumstances, may increase their productive capacities. The doctrine of inheritance all recognize. Many animals and plants and the organs and tissues change in the course of development from the elementary to the more complex. The influence of vapours and exhalations are known to act as stimulants, seductive or repellent. The importance of these is often emphasized by the care with which organs are built to secure a requisite supply of oxygen, or heat and light, or proper nutriment, including water.

The effects of many forces in Nature are hard to estimate. It is absolutely true that all organisms on the earth's surface (more so near the Equator) are being hurried through space at a terrific rate, and that the rate is less considerable at midday than at midnight. The sun and moon, and, in a less degree, planetary influences, affect the earth and the beings upon it; although the prophecies of the astrologers miscarry too often to gain attention from those who demand precision in act and thought. The value of sunspots as controllers of human interests has had more than a nominal fall.

Experience seems to have shown that in the matter of Nature's forces it is often "neck or nothing" with organized beings. Changes in organized beings have been explained as the result of environment (including food), and as the result of inheritance. The favourite and generally accepted view is that selection has helped to emphasize characteristics that make for viability. The opinion that accidental irregularities are not easily propagated seems to predominate. The more artificial the defect, the less chance of inheritance. It is easier to study the effects of physiological training in the lower animals in relation to inheritance than in man, since imitation plays an important part in the human race. It is admitted, however, that in animals factors assert themselves in developmental studies so efficiently and so often that one cannot be sure of the results. Many, perhaps most, of the prevailing forces are little known, and can only be learnt through the repetition of these by some easily influenced receptive organism.

Enough has been said about the foundations that are laid for organs or structural fabrics that have never been completed. These foundations mostly disappear when not used, and the part disappearing may prove of value in promoting the growth of some other part. The complete structure or organ is built sometimes of the early foundation, so that an organ when completed may show some ancestral traits. Change in nutrition is given as the cause, the efficient cause, of the abnormal (or normal) condition. The explanation is not so easily understood as it seems. Darwin himself and his followers seem to have foreseen the difficulties and disappointments in inquiries where possibilities of the living structure were not understood. Certain chemical substances promote the growth of certain structures (note the effects of iron, phosphorus, potash, etc., upon certain plant activities). This serves to show us how much animals and plants can do that we do not know.

M. Desfosses has called the attention of the medical world to the investigations of M. Cuenot. There are many examples of animals and plants living apparently as a well-marked species under uniform conditions of movement and habits, changing sometimes quickly and producing another and different species, on the environment being changed, and sometimes without any apparent change in the environment. This is susceptible of an explanation which meets with some acceptance, namely, that tissues with latent energy, a long time kept in abeyance, may spring into activity under the influence of new stimuli and new food.

The mollusc, *Dreissenia polymorpha*, has been carried from the Caspian and Black Seas to distant waters, and has shown a keen appreciation of the river and pipe water being brought to its gills; it holds to fixed supports by its well-developed byssus, whilst it gains abundant oxygen and food from the water ever renewed. This mollusc fills what may be called one of the vacuous places in Nature. Does not Nature, as the above scientist observes, abhor a vacuum? The blind fish of the Kentucky Cave can get along without eyes. Ray Lankester suggests that the valuable eye material may be used to build up sensitive organs that are more useful in dark places.

A small Californian blind fish lives in rock chinks and other dark places on the shores below tide marks. This fish can see when young, and is able to forage with advantage later without eyes. Other examples are cited. One which may be referred to, *Lecanium cornei*, attacked the *Robinia pseudacacia* after its introduction to Europe. The effect on *Lecanium* is of interest; specimens of the *Robinia* insects were sent by Professor Horvath to Douglas, who considered the *Lecanium* as a new species. It seems possible that the lucifugal fish possessed power to accomodate itself to its new surroundings. We have examples of delays in development owing to surroundings. One admits in these cases the powers to change. Many modifications that seem to place an animal in harmony with its surroundings are more easily explained by reference to selection, whilst other views have been difficult to support by sufficiently clear examples. Nerve exigencies in man have been made responsible for the shortcomings of various organs internally and externally. New demands have led to the withdrawal of nutrient material, even the proteids of specialized tissue. It is well known, on the other hand, that limbs and their complex tissues are reproduced after destruction in many groups of lower animals. The tissue at the proximal end of an amputated limb acts like a conscious organism in sending out tissue to make a new limb for the crustacean. Small branches of laurel under the influence of heat, moisture, and darkness, throw out rootlets. The decentralization of the nervous system in invertebrates accounts for this difference. There are many who think that one should not regard the mind as central. It has been urged by some psychologists that sufficient evidence is existing to warrant the assertion that the mind reaches even to the finger tips. The examples adduced seem to show that animals, when placed in difficulties, are sometimes called upon to use tissues to do unaccustomed duties. The increased sensitivity and capacity, aided by the acquirement of new highly-specialized tissue, results in new methods of food supply in a medium that has few attractions. Every one knows that it is impossible to alter the tissues of highly-organized mammalians without running a risk of destroying the animal; so evidence of the possibility of such a consummation—conscious effort and appropriative powers notwithstanding—is very scanty. The effects of training through the sense organs, whether initiated by man or not, tends obviously to uniformity of action—for example, the building of birds' nests, the rhythmic performance of certain work. There seems in animals to be a subconscious response to stimuli. This takes the form of an imperfect reproduction of a previously acquired act. Witness the effect of walking through a street in which many harness horses are awaiting their owners. If the pedestrian wear a silk hat and have a measured (equine) tread, some horses lay back their ears, others prick and point them, and a third set raise their heads as if in ready acknowledgement of a coming master. The recognition of the sound and form, which are indistinctly equine, is probably subconscious and imperfect. High training tends to uniformity and increases the degree of automatism in horses. The movement of a body of cavalry 30,000 strong was witnessed by a correspondent some years ago in Russia; the movements of the horses took place simultaneously. The instance given by Professor Lloyd Morgan, of the cow and her calf's skin stuffed with hay, tends to prove the subconscious nature of some acts in some ruminants. Subconscious cerebration takes place apparently less frequently in carnivora. The fact that a whispered word will cause a horse to act in a desired way proves good training, but the response seems subconscious only, akin to the act of a somnolent man. Uniformity of action may be established by: (1) Restraint due to competition; (2) methods of obtaining food; (3) care of offspring; (4) herding; (5) storing. Animals trained by man are affected by the nature of the restraint and force, and the mode of administration of food, as well as general treatment.

Command and simpler forms of suggestion are the chief means of evoking a response through the proper channels. Uniformity of habit in thought and act is established in the case of man by imitation, copying, and other methods.

Training at home or school is now generally admitted to be necessary. School is considered absolutely necessary at both ends of the social scale: "Take *a* from aebody, pay naebody, and send the child to school."

Systematic thought and the value of coherent thought and action, socially and individually, are inculcated. It is well known that the training of the pickpocket may become, by example, as efficient as the training of a lawyer, and the training of a steeple-jack may be as precise as that of the politician of a free State where "government" aspires rather to be popular than just. Casual training is inevitable. Does not "the swelling or fitful gusts of the westerly gales, or the wailing of the wind as it blows across the moors, influence the Highland piper in his movement?" And the echo of rhythmic wildness of the ocean crag and mountain brings back, for a time, to the *status quo* the mind of the dweller in cities who languishes for the wild wandering ways and places of his primeval ancestry.

It is said that all movements are rhythmical, and social movements amongst others. It should not be difficult to satisfy most people that consecutive thought is a common and natural thing. Every day one can witness the same sequence of action at almost the same time in many houses. One may notice that the same rhythm mainly prevails for those who are engaged at the same work. So that independent collateral operations take place at the same time. Training tends to establish these whilst repetition maintains them. Rhythm becomes easily established in animals; the order of sequence in the matter of water and foods gets easily established. People of the same family, and less so of the same isolated hamlet, are apt to have collateral operations of the same kind in hand. Imitation tends to reproduce the thoughts, emotions, or acts that the imitated features, pose or words exemplified. So proximity is responsible for some, if not much, of our natural or aberrant thoughts and actions. It is impossible to compare the number of people thinking about the same thing with the number that strike out new lines for themselves. An attempt to do this would give the assurance that parallel or collateral lines of thought are what most communities labour to establish, so that one may appear to be reading the thoughts of others when they reveal their own thoughts.

The influence of animal on animal, as regarded even under the most elemental conditions, involves the observer of it in many difficulties; these increase in number and complexity in the higher groups. There is a possibility of ascertaining something by the study of animal movement through the intermediary of a sensitive observer.

ON THE CERVICAL PLEURA.

By J. S. DICKEY, M.B.,
Demonstrator of Anatomy, Queen's University, Belfast.

DURING last winter I dissected the cervical pleura in thirteen adults, with a view to determine its surface relationships to the clavicles and sterno-mastoids, etc., and also to take measurements of the thoracic inlet and the mean breadth of the sterno-mastoids from a topographical standpoint. Eight male and five female subjects were examined.

The methods employed were twofold:

(*a*) By the employment of a camera capable of taking life-size photographs; the superficial and deep parts were compared, and a composite tracing formed.

(*b*) By the use of measurements; a mean result was obtained separately for the eight male and for the five female subjects.

In the case of a man aged 62 all the measurements were practically identical with the mean results in the series of eight males, and the dissections are shown in the accompanying drawings (see p. 690). Fig. 1 represents a superficial dissection. The sterno-mastoid muscles are each about 6 cm. (2½ in.) in breadth, measured along the upper border of the clavicle. The total breadth from outer border to outer border was 13½ cm., or 5½ in. The brachial plexus and subclavian artery are seen externally; the isthmus, etc., in the middle line. In Fig. 2 the sterno-mastoid muscles and the depressors of the hyoid bone are removed, but their position is traced in relation to the deeper structures. The important vessels seen are the subclavian and internal jugular veins; the subclavian, carotid, and innominate arteries; the brachial plexus, the scalene muscles, etc., are also shown. Fig. 3 represents the deepest dissection I made, exposing the cervical pleura by the removal of the large vessels and scalenus anticus.

A small part of the subclavian artery is removed from its groove on the anterior and inner aspects of the pleura. The vagus nerve and the annulus of Vieussens cross the first part of this artery in the position shown. The scalenus medius supports the pleura externally and behind. Here also is found the lower trunk of the brachial plexus. In a considerable number of cases the third part of the subclavian artery rested on the pleura, as well as on the upper surface of the first rib. This is a point noted usually by surgical writers, but not mentioned in anatomical descriptions as a rule. The groove for the innominate vein is shown on the pleura internally.

The question how the cervical pleura is supported against the intrathoracic pressure, is of importance in considering the apical invasion of tuberculosis; as, if the first costal

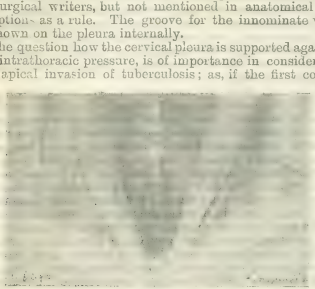


Fig. 1.

arch is raised and the cervical pleura is not raised in at least a corresponding degree, the aëration of the apex will be defective. English textbooks of anatomy give rather brief accounts of the supports of this important region. To quote Cunningham's textbook:

> The cervical pleura is strengthened and held in place by an aponeurotic expansion, first described by Sibson, which is spread over it, and is attached to the inner concave edge of the first costal arch. This fascia is derived from a small muscular slip which takes origin from the transverse process of the seventh cervical vertebra.

In other books this muscle is named the scalenus pleuralis, or scalenus minimus. It is no doubt often insignificant and may be absent. Professor Fawcett, in the



Fig. 2.

Journal of Anatomy and Physiology, vol. xxx, described two variations in its attachments, both of which I found in one case, though they seemed fibrous rather than muscular slips—namely, (1) its origin from the sixth, or sixth and seventh cervical transverse process; (2) an additional attachment of Sibson's fascia to the neck of the first rib between the eighth cervical and first thoracic nerves. I found the latter fibrous slip in several cases, and it moors the cervical pleura to the lower part of the neck of the first rib.

To the inner side of the scalenus pleuralis is the notch through which passes the superior intercostal artery. Internally to it, and occupying the notch almost completely, is the inferior cervical ganglion. Can the marked cerebral and adynamic features so frequently associated with *apical pneumonia* be accounted for by an acute toxic action spreading by direct continuity through the inflamed pleura to this ganglion or its vicinity? The annulus of Vieussens is also so close as to be equally affected by pleuritic inflammation or pressure, or by adhesions causing traction.

Another problem suggests itself. May the remarkably low vascular tension and cardiac acceleration in pulmonary phthisis be due to a local chronic mild irritation fatiguing the vaso-constrictors, or stimulating the accelerator fibres in this region? I may say that in one case, referred to by Bonney, on the healing of the lungs, the pulse, previously accelerated, fell to 40 and became irregular. Is it possible that fibrous adhesions may constrict the vagus?

Internally to the notch referred to the pleura is supported by several strong bands; one, specially strong and occurring frequently, passed upwards to the prevertebral fascia. Others which I also found passed to the

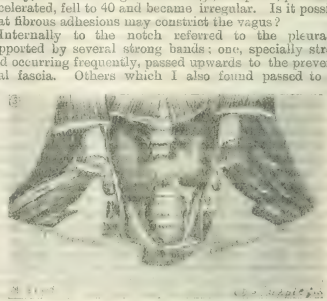


Fig. 3.

trachea and œsophagus and to the vascular sheaths of the subclavian arteries. These bands have, I believe, twofold importance:

1. They probably serve as routes along which the tubercle bacillus finds its way to the pleura and so to the apex of the lung from lymph glands in the neck, carious vertebræ, or the pharynx.

2. From a hygienic standpoint they will serve to aërate the apex when the neck is held well up, as they are then put on the stretch. I am afraid their use is neglected too much.

Fig. 4 represents a composite diagram from (1) and (3), and shows the relationship of the cervical pleura to the sterno-mastoids.

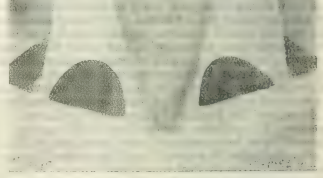


Fig. 4.

The average measurements obtained from the series of cases were as follows:

Mean breadth between the posterior borders of the sterno-mastoids at the clavicles:

Mean in 8 male subjects	...	13.32 cm. (5¼ in.)
Mean in 5 female ,,	...	10. 8 ,, (4¼ in.)

The width of the thoracic inlet marking outer limit of pleura in neck:

Mean in 8 male subjects	...	11. 2 cm. (4½ in.)
Mean in 5 female ,,	...	9. 6 ,, (3¾ in.)

With regard to the width of the thoracic inlet, in those men with apical tubercle or pleurisy it was above the average. In the man with the smallest (9.6 cm., or 3¾ in.) and the one with the greatest dimension (12.3 cm.) heart disease at an advanced age was the cause of death. The five female subjects were mainly tuberculous, and had as large a diameter as the man of 75 who died of heart disease.

Thus, no causal connexion is shown by this measurement in this series of thirteen cases.

Height of pleura 1 in. (roughly) above clavicle.
Depth of pleura behind anterior surface of clavicle at its upper border 1½ to 1¾ in. in males, 1½ in. in females.
Breadth of outer borders of first costal arch 6 in. in males (15.6 cm.), 5½ in. in females (13.3 cm.).

The lung projecting into the neck may be subdivided into an inner portion, or (*a*) *pleural portion* covered completely by the sterno-mastoids in front; and (*b*) an outer or *costal portion* reaching out underneath the first rib and brachial plexus to the anterior angle of the posterior triangle of the neck—that is, it projects in some cases beyond the outer border of the sterno-mastoids when these are less developed than usual, and provided that the costal arch is well raised above the level of the clavicle.

THE CHONDRO-CRANIUM OF THE TROUT WITH REFERENCE TO THE BRAIN AND CRANIAL NERVES.

By N. C. RUTHERFORD, F.R.C.S.,
Edinburgh.

[ABSTRACT.]

MR. N. C. RUTHERFORD demonstrated a wax model of the brain, cranial nerves, eye, labyrinth, and chondro-cranium of the brown trout in the stage of development which they have reached at the time of the hatching of this teleost.

The model had been constructed on the Born plate method at a magnification of one hundred times from a series of microscopic sections 10μ thick. It was unique in that it combined so many structures in the one model, as well as being the reproduction of a stage of the development of the trout not previously investigated. This stage was intermediate between the early ones investigated by Stöhr in 1882 and the *Stadium optimum* in the development of the chondro-cranium treated of by Gaupp in his excellent contribution to Hertwig's *Handbuch der Entwickelungslehre*.

Attention was drawn, first, to a narrow band of cartilage lying between the lateral aspect of the brain above and mesially and the eye below and laterally. The independence of this chondral element was remarked and emphasized, it being entirely unconnected with the rest of the primordial cranium. Further, its composite nature, embracing as it did part of the ethmoidal roof plate, the epiphysial band, and the supraorbital band, was clearly demonstrated.

A similarly situated cartilaginous element was found in other vertebrates from Selachians up to reptiles, and including amphibians and teleosts, as described by Sewertzoff in 1899. On the ground of the conditions described and of observations upon other stages in the teleost, and having regard to the variable nature of the element in other vertebrates, it seemed unjustifiable to attribute to it, as did Sewertzoff, a morphological significance equal to that of the parachordals and trabeculae. It was further sought to give a higher value to the ontogenetic factors in the development of the chondro-cranium in its relation to the brain and cranial nerves, and to deprecate the modern tendency to resort on any pretext to phylogeny for an explanation of the mode and sequence of cranial construction. Nature did not fit brains and sense organs to crania, but devised protective coverings adapted to the form and volume of brains and sense organs developing in all manner of specialized directions.

Attention was then directed to the basis capsulae periticae, and it was demonstrated that the primordial fenestra ovalis, as described by Parker and Stöhr, had at this stage become divided into a saccular fenestra and a fenestra lying oral to this last, and showing in its general relations even greater affinities with the fenestra ovalis of higher vertebrates than did the more primitive one characteristic of an earlier stage.

By reference to earlier stages in the development of the hyomandibular lying to the lateral aspect of this fenestra ovalis it was shown that the accepted idea of the growth forward of the cartilage during ontogeny to embrace the facial nerve was in the case of the trout erroneous. A down growth of no great size from the periotic capsule at the edge of the fenestra joined with the sympleclicum in front of the facial nerve, and finally united with the primitive hyomandibular. It was remarked that this sequence of events showed a remarkable analogy with the mode of growth of the amphibian columella, and formed an interesting instance of parallelism in the evolution of the apparatus for sound conduction in the amphibian and of the suspensorial apparatus of the teleost, both being probably homologous to a certain extent with the ligamentous structure suspending the Selachian quadrate from the periotic capsule.

SECTION OF HYGIENE AND PUBLIC HEALTH.

LOUIS COLTMAN PARKES, M.D.Lond., President.

DISCUSSION ON DISCHARGE OF SEWAGE EFFLUENTS INTO TIDAL WATERS.

OPENING PAPERS.

I.—HENRY O'NEILL, M.D., M.Ch.R.U.I.,
Consulting Surgeon, Royal Victoria Hospital, and Member of Belfast City Council.

THE problem of the collection, removal, and purification of sewage in Belfast was one of more than ordinary difficulty, owing to the large number of linen manufactories, mills, gas and chemical works foundries, soap and candle manufactories, ropeworks, and distilleries in the city, and also the situation of the city on the River Lagan, being surrounded on the north and east by the sluggish waters of Belfast Lough. The River Lagan enters Belfast Lough, and has a course of about 45 miles and a drainage area of about 227 square miles, a considerable portion of which is elevated ground with large rainfall. The volume and velocity of the river are therefore considerable. It is a tidal river for about three miles above the Queen's Bridge, and the range of tide at Belfast quays is about 9 ft. at ordinary spring tides, and about 6½ ft. at ordinary neap tides. There is no great inequality in the duration of flood and ebb tide. The borough is divided into two portions by the river, the principal portion lying on the co. Antrim and the remainder lying on the co. Down sides. The present population of Belfast is estimated at over 386,000 people. The area is 16,504 statute acres—14,626 land, 1,878 water. Much of the city is low lying, being a few feet above high-water level; part of it is more elevated. The daily water supply is estimated at 15½ million gallons. The average rainfall for the last ten years is 37½ in. per year. This would equal an average daily rainfall of one tenth of an inch. This large amount of water and sewerage matter has to be promptly removed through the drainage system.

The sewers of the city are divided into two systems or zones—high level and low level. The high-level system embraces approximately the whole of the city west of a line passing along Stranmillis Road, University Road, Sandy Row, Distillery Street, Cullingtree Road, Millfield, Upper Library Street, and North Queen Street; while the low-level system comprises the whole of the city area east of that line and the district on the east side of the River Lagan, excluding the districts of Sydenham and Knock, which, when completed, will drain into a separate outfall at Sydenham. Under the Belfast Main Drainage Act of 1887 both the high and low level main trunk sewers were constructed, and the maximum distance along which the sewage is conveyed is about four miles. The discharging capacity of the high-level sewer is 8,300 cubic feet per minute, and is equal to a rainfall of 2 in. per twenty-four hours over the area which it drains, or about twelve times the normal sewage flow, estimated at 30 gallons per head of the population. The discharging capacity of the low-level sewer is 8,100 cubic feet per minute, and is equal to about 1¼ in. of rainfall per twenty-four hours over the area drained, or about sixteen times the normal average flow. At No. 1 Pumping Station in Duncrue Street the sewage of the low-level sewer is raised to the outfall sewer, which is a continuation of the high-level sewer, and from

this point conveys the total sewage flow to a sedimentation tank having a capacity of 4½ million gallons (now being increased to over 7 million gallons, or half the daily dry-weather flow), from which the discharge ultimately will be restricted to the first three and a half hours of ebb tide. The outfall sewer is capable of discharging when full about 15 000 cubic feet per minute, or about twelve times the total normal sewage flow. The discharging capacity of the outfall sewer is rather less than the combined discharging capacity of the high and low level sewers, but it is relieved during times of heavy rainfall by storm overflows on the high-level sewer. The sewage purification works, together with No. 2 Pumping Station, have been constructed on lands reclaimed from Belfast Lough lying east of the Northern Counties Railway. The problem of sewage purification as it presents itself in Belfast is, as previously stated, of more than ordinary difficulty, owing to the sluggish tides and the large areas of shallow water in Belfast Lough, both of which circumstances seem to favour the growth of the green seaweed *Ulva latissima*. There can be little doubt from the investigation of Professor Letts, Queen's University, Belfast, that the presence of this weed in any water is indicative of sewage pollution, and also that the weed itself, when cast up in masses on the beach and allowed to decay and ferment, always gives rise to a nuisance. For the past ten years the question of the proper treatment of the sewage of Belfast has been before the Corporation, who, with the aid of chemical, biological, and engineering experts, have been endeavouring to obtain a solution of the problem which should, without involving absolutely prohibitive expenditure, satisfy the many interests involved. The earlier experiments were made with double contact beds (the sewage treated on them having been previously screened), and the experiments being mainly directed to the determination of the most suitable and economical medium both as regards size and nature.

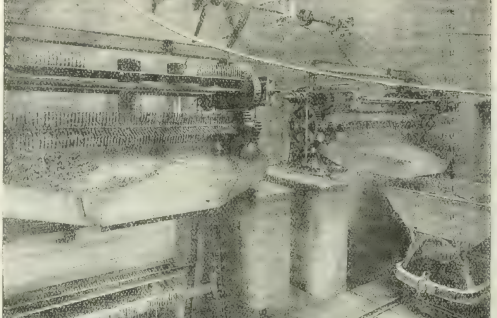


Fig. 1.—Sewage screening plant.

At the outset it was considered that a very moderate degree of purification would produce an effluent sufficiently good for discharge into the large volume of tidal waters of Belfast Lough; but experiments made by Professor Letts on the growth of the *Ulva latissima* revealed the fact that if the growth of this weed was to be stopped, or even considerably reduced, it would be necessary to produce an effluent free not only from free ammonia, but also from those nitrogen compounds such as nitrates, the presence of which in an effluent is ordinarily regarded as evidence of *purification*.

Certain experimental contact beds had been found (when dealing with sewage which had previously undergone screening and about six or eight hours' septic tank treatment) to give an effluent containing comparatively small quantities of nitrogen in any form (the purification reached in some instances 90 per cent. free and 75 per cent. in albuminoid ammonia, with small quantities of nitrate); but these beds were found to be rapidly silting up, and, moreover, the area required for sufficient contact beds properly to deal with the sewage of Belfast was quite out of the question, considering the land available.

Percolating filter beds, with revolving sprinklers, dealing with screened and sedimented sewage, were next experimented on, with results which, as regards economy of space and freedom from silting up, were highly satisfactory. The effluent produced was, moreover, from the point of view of purification as ordinarily understood, an exceedingly good one; but it contained quantities of nitrogen in the form of nitrates which it was recognized would still provide an undesirable amount of food for the ulva.

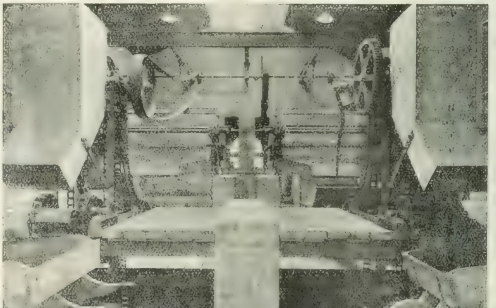


Fig. 2.—Detritus elevators.

After an elaborate series of experiments, Professor Letts showed that by mixing the effluent from the percolating filter with sedimented sewage in about equal quantities, and again treating the mixture on contact beds, the organic matter in the sewage was oxidized at the expense of the nitrates in the filter effluent, the net result being a reduction in the total quantity of ulva-growing pabulum. These researches, which were fully described in Professor Letts's final report to the Belfast Corporation on the purification of the Belfast sewage, have formed the basis of an original and unique scheme of purification applicable to the sewage of an area such as Belfast, and when a highly nitrified effluent is

undesirable or objectionable. The carrying out of this method does not necessarily involve the construction of special contact beds, as the storm water filters can be used for the denitrifying process, the latter being suspended in time of storm.

The question of the disposal of the sludge resulting from the sedimentation of the sewage has, of course, received due attention, and it is proposed to deal with the sludge in two different ways at the two sewage outfalls, the method proposed for the main outfall works being that of conveyance of the sludge to sea by steamer, while at the Sydenham outfall, on the County Down side, it has been decided



Fig. 3.—Sedimentation tanks—inlet end.

to adopt Dibdin's slate beds, as the absence of deep water approaches to the site of the latter works makes the steamer method of disposal of the sludge expensive and inconvenient; in fact, a comparison of the capital cost of Dibdin slate beds with the capitalized annual expense of removing the sludge by steamer shows a balance in favour of the steamer method for the main works and of the slate beds for the Sydenham works.

A further argument in favour of the adoption of Dibdin slate beds for these works is found in the conversion by them of the sludge undigested and remaining in the beds into inoffensive humus.

Yet another solution of the sewage problem as it affects

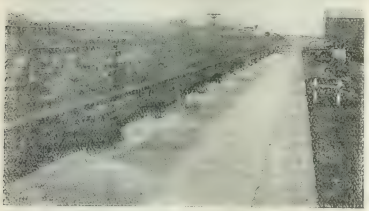


Fig. 4.—Sedimentation tanks—outlet end.

Belfast has been put forward, namely, to abandon (at least as regards the main outfall) all bacterial treatment, and to depend solely on screening, sedimentation, and the sludge removal, with restriction of the discharge from the sedimentation tank to the first half of the period of ebb tide. The advocates of this scheme are not agreed as to the extent to which the carrying of it into effect would reduce the growth of the ulva in the Lough, but they suggest that any weed which still continues to grow might be collected and removed as it is thrown on the beach; their contention being that it would be better to spend what might possibly prove a continually diminishing annual sum on such collections and removal than at once to incur a large capital expenditure on works which might prove less beneficial than it has been hoped they would.

At the present time an effort is being made to deal with this ulva nuisance by a joint board formed of members elected by the sanitary authority of Belfast, Holywood, and Castlereagh, who have at their disposal a sum of £2,000 annually, which they expend on the collection of the weed from the foreshore. Some 2,000 tons of weed were removed by this board during the last year, but their operations were prematurely brought to a close in September by the exhaustion of the funds at their disposal. No attempt has been made to deal with the deposits of ulva on the

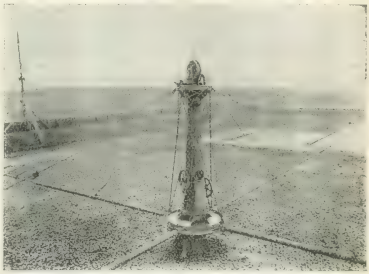


Fig. 5.—Rope-driven sewage distributor (Cutler's patent).

County Antrim side, except by the Belfast Corporation within their boundary.

II.—E. A. LETTS, D.Sc., Ph D.,

Professor of Chemistry, Queen's University, Belfast.

ON NUISANCES CAUSED BY CERTAIN GREEN SEAWEEDS.

[ABSTRACT.]

PROFESSOR LETTS, after describing the geographical features of the River Lagan on which Belfast stands, and giving an account of its sanitary history during the



Fig. 6.—Contact beds.

last sixty years, discussed the chemistry of the green seaweed nuisances, to which the sewage difficulties of Belfast are mainly due, and recorded a number of a series of investigations conducted by himself and his students. The *Ulva latissima*, when packed in flasks of seawater, rapidly ferments, the fermentation occurring in two stages, each stage being brought about by a specific micro-organism difficult to isolate. In the first stage hydrogen and carbonic anhydride are evolved, fatty acids being simultaneously produced. In the second stage the sulphates abundantly present in the tissues of the ulva are reduced to sulphides, sulphuretted hydrogen eventually forming. The author then showed that *Ulva latissima*

and some green seaweeds contained so much nitrogen as to resemble an animal rather than a vegetable product, and only occurs in any quantity in seawater polluted by sewage; the ulva absorbs nitrogen in the form of ammonium salts with great rapidity from seawater, and also takes up nitrogen from dissolved nitrates, but much less rapidly.

He also noticed in 1902 that green growths made their appearance on the surface of the experimental contact beds at the Belfast outfall works, and in the following spring this developed into large patches of *Ulva latissima*. The fronds were in many cases 4 in. or 5 in. broad. Another green seaweed—*Enteromorpha compressa*—appeared at the same time in the lagoon into which the effluent from the contact beds flowed, and increased so rapidly as nearly to fill the lagoon. Later on *Enteromorpha intestinalis* also made its appearance. These green seaweeds the author regards as the purifying agents designed by Nature for dealing with sewage in seawater. As it seemed that the growth of green seaweeds in quantity was mainly due to the ammonia in sewage, but was also encouraged by nitrates, it was evident that a scheme of sewage treatment to meet the case must be designed, so as to get rid, as far as possible, both of ammonia and nitrates, and also of solids which might eventually evolve ammonium. The ulva cannot absorb albuminoid bodies.

Experiments on a large scale in these directions were undertaken, and the following is a summary thereof:

(A.) Effects of Treating Sewage on Double Contact Beds only.

The mean results of this series of experiments showed a removal of 51.5 per cent. of the free ammonia and of 71 per cent. of the albuminoid ammonia, while no nitrates were formed. Systematic analysis of the dissolved gases, both in the original sewage and in the resulting effluents, revealed the important and interesting fact that nitrogen was evolved in the gaseous state during the purifying processes, the average being as much as 12 per cent. of the total nitrogen lost (as shown by the analyses) during the treatment, while in one particular experiment it amounted to 20 per cent.

(B.) Effects of Treating Sewage on Double Contact Beds, Preceded by Septic Tank Treatment.

The mean results of two series of experiments were as follows: Purification in free ammonias, 86 per cent.; in albuminoid ammonia, 72 per cent.; production of nitrates, 25 per cent. of the amount of ammonia disappearing.

(C.) Effects of Treating Sewage on Percolating Filters, or "Sprinklers," Preceded by Septic Tank.

Several series of experiments were performed. It will be sufficient to give the results of one: Height of bed, 5.5 ft.; size of medium, 1–0.5 in. Sewage treated per cubic yard of medium per twenty-four hours, 164 gallons. Period of septic action, six hours. Purification in free ammonia, 96 per cent. Production of nitrate, 79 per cent. of the amount of ammonia disappearing.

(D.) Experiments on Denitrification.

It was clear from the preceding experiments that, while an effluent virtually free from ammonia can be produced, it can only be obtained at the expense—so to say—of considerable nitrate production.

The next branch of the inquiry was consequently directed towards the possibility of getting rid of these nitrates on a practical scale. The author first ascertained that when nitrates are added to the effluent from a septic tank they are rapidly destroyed—all the nitric nitrogen added (which amounted to 2.5 parts per 100,000 of the effluent) disappearing in twenty-four hours. He also proved that the action was due to micro-organisms, and that its general character was that of a combustion, all the oxygen appearing in the liquid as carbonic anhydride, while its nitrogen was evolved either as such (in four out of eight experiments the theoretical quantity was found in the dissolved gases) or as oxides of nitrogen.

He next tried the effects of mixing the nitrated effluent from a percolating filter with the effluent from a septic tank, and found that destruction of the nitrate always occurred after some time, and in some cases amounted to a complete loss after a period of twenty four hours. But such a prolonged period is out of the question as a practical method of treatment. The author's experiments were therefore next directed towards the possible discovery of a method for accelerating denitrification.

A clue to such a method seemed to be furnished by a theory of contact bed action, which he had been gradually led to form from his observations, the outlines of which are as follows:

In a contact bed during the resting stage the conditions are aërobic, and nitrification may occur not only during this phase in the liquid adhering to the solid medium, but also for some time after the fresh liquid is admitted. The solid medium of the bed is coated with a gelatinous layer, probably consisting of organic matter saturated with micro-organisms, in which latter both nitrifying and denitrifying species are present.

When the beds are full, diffusion of the liquid occurs continuously both into and out of these layers. The ingoing stream carries both nitrates and dissolved oxygen with it. The latter is first seized on and absorbed by the organic matter, and the liquid, now free from oxygen, diffuses still further into the layer and then becomes denitrified. The outgoing stream is therefore charged with dissolved nitrogen but is free from oxygen, and, mingling with the undiffused liquid, produces a mixture which contains a progressively decreasing amount of oxygen, but also progressively increasing quantities of nitrogen.

The idea therefore presented itself that by submitting a mixture of a highly nitrated—for example, percolating filter—effluent with the septic tank effluent to treatment on a contact bed, a double effect might be induced—namely, destruction of nitrates in the first and purification in the second.

Experiments on a practical scale have fully justified these views; and while the most favourable conditions have probably not been as yet ascertained, the following results may be given. (See table below.)

In the second series (of 23 experiments) the mixture treated on the denitrifying bed varied as shown. The figures given for the percentage reduction of free ammonia (in the original sewage) and for the nitrate (in the sprinkler effluent) are the mean results of all the (23) experiments.

It will be seen that in the first series the reduction of nitrate was very considerable, while that of the ammonia was relatively small. But in the second series, on the other hand, these effects are reversed, and it is somewhat difficult to account completely for these differences.

It may, however, be mentioned (*a*) that in the first series the mean quantity of free ammonia was some 14 per cent. *higher* than the corresponding amount in the second; while (*b*) the nitrate in the sprinkler effluent was about 22 per cent. *lower* in the first series than in the second; also (*c*) that in the second series the ratio of sprinkler to septic tank effluent was in many of the experiments much higher than that of the first. And the two series of experiments were performed at different times of the year, and temperature may very possibly have had an effect.

The author has calculated that with efficient sedimentation, coupled with the method of treatment sketched above, it should be possible to reduce the effect

Number of Experiments Performed.	Mixture Treated in "Denitrifying" Bed.		Working Cycle of Bed.	Percentage Reduction in:			
	Sprinkler Effluent.	Septic Tank Effluent.		Oxygen Absorbed. Test (4 hrs., 0.80° F.)	Albuminoid Ammonia.	Free Ammonia.	Nitrates.
5	1 Vol.	1 Vol.	3 hours' contact 3 hours' rest	57.6	46.2	69.7	89.4
23	2 Vols. 3 „ 1 Vol.	1 Vol. 2 Vols. 2 Vols.	4 hours' contact 2 hours' rest	—	—	87.0	53.5

of the sewage on the growth of the ulva by about 80 per cent.

III.—THOMAS CARNWATH, M.B., D.P.H.Cantab.,
Assistant to the Medical Officer of Health, Manchester.

EXPERIMENTS ON THE QUARANTINE OF SHELLFISH FROM POLLUTED AREAS.

THE following investigation and experiments were made during the course of a bacteriological survey of Belfast Lough. They were carried out with the object of ascertaining, first, whether any selective action as regards the bacteria indicative of sewage pollution occurs in the bodies of mussels: and, secondly, the effects of "relaying," or of a period of quarantine in comparatively pure water, on the number of *B. coli*—*B. coli* being selected as the organism most closely allied to the *B. typhosus*, and from whose behaviour, therefore, inferences might reasonably be drawn as to the fate of the more dangerous germ. The methods adopted have been described elsewhere.[1] The mussels employed were collected at low tide from a sewage-contaminated bed which is situated on the south shore of Belfast Lough between Holywood and Cultra. Four different sets of samples of mussels from this bed, together with corresponding samples of mud and of water, were examined bacteriologically, with results which are detailed in Table I. Table II, which is based on the above, enables one to compare the results more readily.

These tables show how the bacterial content of the mussel depends on that of its environment; that the water exerts an influence is shown by the proportion of *B. coli* to total number of organisms, which is practically the same in both. On the other hand, the mud accounts for the large number of *B. enteritidis sporogenes*. In neither case is the proportion very appreciably altered from that which obtains in the surrounding medium, from which we conclude that, so far as sewage bacteria are concerned, selective processes are not at work inside the mussel shell. In other words, the conditions found there are not more favourable for the growth or for the survival of these micro-organisms than those existing outside.

To test the effect of "relaying" on these mussels the following experiments were made:

Experiment I.

About sixty mussels were collected, and taken on the same day to the Laboratory of the Ulster Fisheries and Biological Association, Larne. After a preliminary cleansing of the outer surface of the shells with tap water, they were taken out into the harbour and placed in a large fish box which was anchored to the outer end of the old pier.

Samples were removed at intervals for examination.

At the beginning of the experiment each mussel contained 5,000 *B. coli* (average of 5 mussels). On the fourth day this number was reduced to ten (average of three mussels). On the ninth day the number per mussel was one (average of six mussels). On the twelfth day, of 10 mussels examined singly,

3 contained no *B. coli*.
5 contained each 1 *B. coli*.
2 contained each 100 *B. coli*.

Experiment II.

The mussels were treated as in Experiment 1, except that before being taken to the "quarantine ground" they were placed for thirty-four hours in a shallow basin containing an emulsion of a culture of *B. coli* isolated from the mud of the mussel-bed.

At the beginning of the experiment each mussel contained 500,000 *B. coli* (average of 6 mussels). On the fourth day this number was reduced to 5,000. On the seventh day, of 6 mussels examined,

1 contained no *B. coli*.
3 contained each 10 *B. coli*.
1 contained 1,000 *B. coli*.
1 contained 10,000 *B. coli*.

The last two looked unhealthy; the shells were not tightly closed.

On the thirteenth day, of 6 mussels examined,

4 contained each 1 *B. coli*.
1 contained 100 *B. coli*.
1 contained at least 100,000 *B. coli*.

This last looked a very unhealthy specimen.

On the eighteenth day, of 6 mussels examined,

3 contained each 1 *B. coli*.
1 contained 10 *B. coli*.
2 contained each 100 *B. coli*.

TABLE II.—*Corresponding to every 1000 Bacteria capable of Growing in Gelatine at 22° C., there are:*

	"Blood Heat" Bacteria (Agar 37° C.)	B. Coli.	B. Enteritidis Sporogenes.	Streptococci.
Water ...	535	42	0·4	15
Mud	1,379	7	7	99
Mussels ...	1,512	40	7	66

Corresponding to every 10,000 Bacteria capable of Growing on Agar at 37° C., there are:

	Gelatine (22° C.) Count.	B. Coli.	B. Enteritidis Sporogenes.	Streptococci.
Water ...	188,707	800	7	280
Mud	72,215	55	55	137
Mussels ...	61,426	266	44	427

TABLE I.

Samples.		Number of Bacteria growing on		Number of B. Coli.						B. Enteritidis Sporogenes Test.						Number of Streptococci.				
		Gelatine at 22°.	Agar at 37°.	0.1	1	10	100	1,000	10,000	0.1	1	10	100	1,000	10,000	0.1	1	10	100	10,000
Water	I	1,300	50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	II	1,104	80	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–	–
(Numbers are given per c.cm.)	III	3,550	180	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	IV	1,625	80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Mud	I	91,504	10,454	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	II	70,545	17,348	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
(Numbers are given per gram)	III	422,000	73,870	–	–	+	–	–	–	–	–	–	+	–	–	–	–	–	–	–
	IV	716,094	77,833	–	–	+	–	–	–	–	–	–	+	–	–	–	–	–	–	–
Mussels	I	80,000	30,000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	II	54,750	7,000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
(Numbers are given per mussel)	III	1,052,500	153,000	–	–	–	–	–	–	–	–	–	+	–	–	–	–	+	–	–
	IV	248,330	50,000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

[1] Precis in Sect.

All these specimens appeared to be quite healthy.

The experiments made were unfortunately rather few in number, still they justify, I think, the following conclusions:

1. Though the mussel is from its mode of life[2] exposed to considerable risk of infection by *B. coli* and other sewage organisms, if such are present in its water of alimentation, it does not, when healthy, furnish conditions favourable for their multiplication or survival. On the contrary, there is sufficient evidence to show that the conditions are distinctly unfavourable.

2. Infected mussels when placed in pure water gradually rid themselves of *B. coli*—the greater number (over 99 per cent.) disappearing within the first few days. Thus a quarantine period of even a single week would be sufficient to reduce the number of these bacilli enormously, and consequently would diminish the risk of the mussel serving as a medium for the transmission of the occasional and much less resistent pathogenic germs (for example, *B. typhosus*, cholera vibrio).

REFERENCES.

[1] Pollution of Estuaries and Tidal Waters (Appendix to Fifth Report of Royal Commission on Sewage Disposal), p. 265 et seq. [2] Viallanes, *Comptes Rendus*, June 7th, 1892.

DISCUSSION.

Dr. DUNBAR (Hamburg) said: I have only come to listen and to learn, but, since I have been so kindly asked to speak before this meeting, I shall be pleased to make a few general remarks about our experiences in Hamburg regarding sewage in tidal waters. But first of all I wish to express my high appreciation of the highly interesting and thoroughly scientific work that has been carried out by Professor Letts in Belfast. The difficulties that have been met with there were, however, quite unique. Excepting such singular occurrences as the nuisance created by the growth of certain algae, and difficulties arising from local conditions in some few places, the disposal of sewage in tidal waters has until recently been looked upon as an easy task. The sewage was either not treated at all—if it could be run into such waters—or it was simply screened and thereby freed from larger particles of suspended matter, or it was chemically treated, as, for instance, in London or in Glasgow, where such treatment soon improved the rivers and estuaries to such a degree that the former nuisances disappeared entirely. In recent years the question of the danger from shellfish taken from sewage-polluted waters has been raised and frequently urged by epidemics of infectious diseases that could be traced to the use of such shellfish. It was thought necessary by many authors to treat all sewage that was to be let into tidal waters where shellfish were taken from, so as to eliminate or destroy all pathogenic germs contained in it. We have no method of sewage purification that yields effluents which are free from pathogenic germs, and so it could only be a question of sewage disinfection. It has been thought quite feasible to disinfect sewage. Papers have been published by recognized bacteriological authorities, stating that the addition of lime, about 1 in 2,000, to crude sewage would suffice to destroy all cholera and typhoid bacilli, as well as the many other pathogenic germs of equal resistance within a couple of hours or even in a shorter time. This idea prevailed in 1892, when Hamburg had a severe cholera epidemic, and a number of schemes were brought forward proposing to add a certain amount of milk of lime to the sewage in the sewers. It was believed that the disinfecting process would be completed before the sewage reached the outlet. Experiments that I have made soon convinced me that such a proceeding would mean only the waste of large sums without any effect. In the course of the last sixteen years all the disinfectants that could come in question have been tried, and it was ascertained that hypochloride of lime is the best and cheapest disinfectant for sewage, but that even this does not penetrate the suspended matter always found in crude sewage, so as to warrant a complete disinfection. Cholera vibrios and typhoid bacilli that were injected into particles of faecal matter could not be destroyed even by quantities of disinfectants, including hypochloride of lime, that would be prohibitive on account of their cost, and the results were bad, even after so long an action as twenty-four hours. The results of these experiments proved that it is an impossibility to disinfect crude sewage. And even if all particles of suspended matter larger than 1 mm. in diameter are screened out of the sewage it is found very difficult to obtain a chemical action resulting in the destruction of all coli bacilli, which, as is well known, are found in every domestic sewage in very large numbers, and show a resistance against chemical disinfectants well comparable with that of typhoid bacilli. The intestinal bacilli are, as it seems, covered with a slimy substance which protects them from the chemical action. Following this idea, I have treated sewage in septic tanks, believing that the slimy and other organic matter which covered the bacteria in question would thus be digested in the same manner as fishes, pieces of meat, cartilage, vegetables, and many other substances that I placed in a septic tank and found entirely dissolved within a comparatively short time. Moreover, the larger pieces of suspended matter were kept back in the septic tank, and only very small quantities of firm suspended matter escaped with the effluent. The results were found very satisfactory. A sewage that in crude state would not be disinfected within six hours by chloride of lime 1 in 1,000 could be nearly sterilized by this chemical in a proportion of 1 in 10,000. But it was found that such results could only be obtained if the process of septicizing, or, as I ought to say, digestion, is carried out according to certain rules. If the sewage remains too long in the septic tank, so much sulphuretted hydrogen is formed that the hypochloride of lime is thereby absorbed and made inactive. I cannot dwell upon these very intricate experiments, which have taken up much time, any longer to-day. But I hope to have demonstrated clearly that the disinfection of sewage is by no means simple and cheap, but a very difficult and costly affair, and that it is an impossibility, practically speaking, to disinfect crude sewage by chemical action. And other applicable methods we have not got. It may interest you to learn what measures Hamburg has taken in this line. Hamburg is situated within the estuary of the Elbe river, about sixty miles from its mouth, and is still using the river water to a large extent. After the severe cholera epidemic, the intake of the water-works was laid further up the river, and a very careful system of filtration was introduced. The few small towns further down the river were supplied with deep well water, excepting Altona, a Prussian city which at the time is still using river water, but is searching for deep well water in order to become independent in its water supply from the river. These measures having been taken, we are of opinion that all we shall have to do with our sewage will be to treat it to such an extent, that its traces cannot be found in the river by sight or smell. We accomplish this by passing all of the sewage through screens, which take out all faecal matter, orange peel, corks, or other floating matter. But we disinfect regularly all the liquid waste water coming from the stations for infectious diseases in our hospitals, from the disinfection stations, the hygiene institute, the emigrants' station, and some other places. Besides this, we send disinfectants into every private house where a case of typhoid fever is being nursed, giving detailed instructions how to use them. We are quite aware that by this means we cannot prevent all infectious material from getting into the river, but at the same time we believe that we should not achieve much more than now, if we were to treat the whole bulk of our sewage by chemicals.

Dr. W. JAMES WILSON (Belfast) demonstrated a new method of isolating the *B. typhosus* from infected water. The principle consisted in evaporating the water down to 10 c.cm. and then putting the residue on to special solid media. The evaporation was carried on under reduced pressure, at 42° C., and it was found that twenty-four hours was required for the evaporation of 4 litres. The pressure was reduced by means of two water filter pumps. As an example of the efficiency of the method, he cited the following. Thirty-nine typhoid bacilli and 4,000 *B. coli communis* were added to 4 litres of ordinary Belfast tap water. The water was evaporated down to 10 c.cm. in twenty-four hours, and the residue put on Fawcus's modification of Conradi's brilliant green medium. To the clear colonies Widal's test was applied, and several of them gave positive results, and further tests showed that they were composed of typhoid bacilli.

Sir PETER O'CONNELL, M.D. (Belfast), said: Outside the circle of those directly concerned the peculiar difficulties of

the sewage problem as it affects Belfast do not seem to be fully appreciated. Although several other towns suffer in a greater or less degree from the ulva nuisance, in none, so far as I am aware, is the nuisance so acute as in Belfast and neighbourhood, and I think I am safe in saying in no other place has so much time and skill been devoted to the study of the growth and habits of the weed and to the question of abolishing, if possible, the nuisance arising from it. The mere existence of differences of opinion amongst those most closely concerned with the question shows the difficult nature of the problem, and I think it will be a matter for congratulation if the rumoured visit of the Royal Commission on Sewage Disposal to Belfast should result in something like an authoritative settlement of the question. The amount of new ground to be opened up in the way of acquiring more accurate knowledge of the conditions of existence of the weed is, however, very great, and it would be unreasonable to expect any immediate and dramatic settlement of the questions at issue. Even twelve months' observations and experiments would probably not completely reveal all that it is necessary to know. In the meantime, however, it is satisfactory to know that the Local Government Board has granted a loan of £35,000 to be expended in connexion with *sedimentation* of the sewage, and that the Corporation is pushing on as rapidly as possible with the works authorized. I understand that the existing sedimentation tank and arrangements effect a removal of, on the average, 70 per cent. of the total solids of the sewage, and 17 to 20 per cent. of the total nitrogen of the sewage. This means, of course, a corresponding reduction of the ulva food, and it is not too much to hope that, even if no additional methods of purification are adopted for an interim year or two, a substantial reduction of the dimensions of the ulva crop will result. In the meantime, I think, the important fact for the general public to bear in mind is that the science of sewage purification is well acquainted with methods of dealing, at no prohibitive cost, with the sewage of even as large a town as Belfast, and of turning out an effluent as pure chemically as many waters used for domestic purposes, but that this very effluent on account of its purity (in the sense of containing nitrates) is undesirable where local circumstances favour the growth of seaweeds, and that the waters of uncontaminated rivers themselves contain the same ulva food, although, of course, not in such concentration.

Dr. LOUIS PARKES (President) assured Professor Dunbar that the difficulties of disinfecting crude sewage were fully recognized in this country. Attempts had been made to do so, but there was not only the scientific difficulty, but the administrative, connected with the disinfection of storm waters as well as of crude sewage. It would be no use to disinfect the sewage unless the storm overflows were disinfected as well. With regard to what Dr. Dunbar had said about the Germans imitating the English teaching, they were flattered to hear that, but certainly they had something to learn from the Germans. If, as Professor Dunbar had said, steps were being taken to destroy infected organisms, a move was being made in the right direction. He thought it would be a good thing if something effectual were done in that way in this country. He would like to ask Professor Letts whether he had made any experiments regarding the effect of sulphate of copper on *Ulva latissima*.

Professor LETTS, in reply, said that some years ago he made an experiment, and he found that a small proportion of sulphate of copper killed the ulva. They found that an experiment on a practical scale would cost about £500, and he thought it was worth consideration by the city authorities whether two or three doses of sulphate of copper might not be employed at the proper season. He could not help thinking that Professor Dunbar in Hamburg was working on entirely right lines, because they all knew that experiments had proved that the sterilizing of crude sewage was not successful owing to the prohibitive cost.

The PRESIDENT, in moving a vote of thanks to the various speakers, said that on the general question of oyster and mussel beds he thought they should be in agreement as to the possibility of these shellfish freeing themselves from sewage pollution. It was probable that the public would find safety in eating shellfish by adopting the course suggested—namely, by placing them in pure water for a time after they were grown. Of course, the exact time taken should be very carefully determined.

Mr. P. C. COWAN, Engineering Inspector to the Irish Local Government Board, said it was a great privilege to second the resolution, and to have been present to hear the papers which had been read. He was an exceedingly anxious inquirer into the subject, and he should have liked to have heard more details in regard to the Tees estuary. No one was better acquainted with the valuable work done by Professor Letts than he was. He had heard him on many occasions speaking on that interesting problem which so vitally affected Belfast and the surrounding districts. It gave him satisfaction to think that the Belfast problem was now likely to be solved as soon as it might be by those best able to do so. There was in many minds the idea that questions of that kind could be solved by an expert in any small town. Belfast was inclined to become impatient at the time which had passed without a solution of the question, but they were recognizing now—and what Professor Dunbar had said bore out the statement—that modern problems in connexion with the purification of sewage were of extreme complexity. Belfast people had had a great trial upon their patience, and also upon their financial resources, but they might now be satisfied that the difficult problem was in excellent hands, and would be solved at the earliest possible time.

MEASLES IN SCHOOLS: AN ACCOUNT OF A RECENT EPIDEMIC IN ST. HELENS.

By JAMES J. PATERSON, M.B., D.P.H.,
Assistant Medical Officer of Health.

AMONG the infectious diseases which are particularly prevalent among school children there is still a considerable number against which we have yet to form a satisfactory plan of campaign. Of these, measles undoubtedly takes the chief place, for in it we have a disease which is the most widely spread of all children's diseases, to which practically every child is susceptible, which is of the most infectious nature, and which is more or less responsible for an unduly large proportion of deaths, especially among very young children. To some extent we are handicapped in dealing with it from our want of exact knowledge as regards its epidemiology; but, as the results of administrative methods of control accumulate, we can more confidently look forward to a time when its ravages in infant departments will be substantially diminished. A record of death-rates from measles during the past thirty-three years in St. Helens shows that there has been a fairly regular succession of outbreaks every second or third year, and that at the beginning and end of that period these outbreaks have assumed very large proportions as compared with those occurring in the middle period.

The recent outbreak with which this paper deals belongs to the class of major outbreaks, and was preceded by a year of very low prevalence, which in turn succeeded a year of high prevalence.

Towards the end of January of this year cases of measles began to occur with increasing frequency in the schools on the western side of the town. Throughout February the schools nearer the centre of the town became involved, and by the beginning of March the schools lying to the eastward of the borough began to show signs of the approaching epidemic. This steady progression eastward was a most noticeable feature of the epidemic, but apparently there is no reason to correlate it with the prevailing direction of the wind, for during that time the number of hours in which it blew in an easterly direction is almost precisely the same as that in which it had an opposite direction.

Our main source of information as regards the occurrence of cases was a system of notification by teachers and school attendance officers. Under a local Act teachers must notify to the medical officer of health all cases of infectious disease that may occur in school. The head of every department is provided with a book of forms for this purpose, and teachers are also requested to notify "contacts."

As soon as practicable after the receipt of a notification a school nurse visits the house and makes inquiries

with a view to confirming the reputed diagnosis. As each case is verified a note is sent to the school excluding the patient and certain other members of the family for a period of not less than three weeks. The only children who are allowed to attend school are those in the upper standards who have had a previous attack. In spite of these precautions, the disease continued to spread rapidly, and in several instances an outbreak in a school was definitely traced to a particular child who had been sent to school in an infectious condition. In many of the schools a very strict watch was kept by the teachers for such cases, but teachers alone cannot be expected to have the necessary skill to diagnose the disease sufficiently early to permit efficient steps being taken to prevent its further spread. The exclusion of "infects" and "contacts" so reduced the attendance in many of the schools that the question arose as to whether classes could be profitably conducted with an attendance bordering on 60 per cent. From a purely educational point of view, it is doubtful if the teachers can be expected to devote their usual energy in teaching a class so depleted in numbers, the more so as the bulk of the work must be gone over again when the scholars return. This disorganization of school work is certainly a point worthy of due consideration. On the financial side of the question I need only remark that, with the disappearance of Article 101 of the Code, the monetary loss to the education authorities caused by the exclusion of individuals is a serious one indeed.

A consideration of these points, together with the plain evidence that our efforts to limit the spread of infection had not met with any degree of success, led to the closure of eighteen infant departments during February and the first week of March. A week later, as the remaining twenty schools began to show signs of becoming involved, they were closed until the epidemic abated. Thus, all infant departments were closed for a period of eight weeks, which included the Easter holidays. From the beginning of January to the end of April there were altogether 1,367 cases of measles brought to our notice. These were distributed among 860 families in the following way:

One case in 509 families	...	...	= 509 cases.
Two cases in 227	,,	...	= 454 ,,
Three ,, 98	,,	...	= 294 ,,
Four ,, 20	,,	...	= 80 ,,
Five ,, 6	,,	...	= 30 ,,
860			1,367

The following table (A) sets out the number of primary and secondary cases occurring at various ages and the corresponding deaths:

"Primary" cases are the first which occur in a family, "secondary" cases are those which occur in the same family not earlier than a week from the onset of the first case. "School" cases are those in which the infection most probably occurred at school, there being no previous case in the house, and "home" cases are those occurring in children not attending school. The number of deaths was found by comparing the names and addresses in the Registrar's returns with those of the cases visited. The total number of deaths from measles for each age-period, as found in these returns, and the deaths occurring among the known cases, form a basis for calculating the probable number of cases. The following table sets out the results of that calculation:

TABLE B.—*Number of Deaths at each Age-period, and probable Number of cases, calculated from the Deaths.*

Age—Years.	Registrar's Returns.		Notified Cases.	
	Deaths.	Probable Cases.	Deaths.	Known Cases.
Under 1 ...	31	295	6	57
1 ...	65	489	13	101
2 ...	59	440	9	103
3 ...	12	230	7	137
4 ...	9		0	
5 ...	13		6	
6 ...	1	2,584	0	969
7 ...	1		0	
14 ...	1		0	
Totals ...	170	4,038	41	1,367

	Under 4 Years.	4 Years and over.	Totals.
Probable cases	1,454	2,584	4,038
Reported cases	398	969	1,367
Percentage of reported to probable cases	26.7	37.5	33.8

The fatality rate for the group of younger children (under 4 years) works out at 8·8 per cent., and for the older group 0·67 per cent., or in the proportion of 13 to 1—a figure which demonstrates clearly how fatal a disease measles is to very young children. The next table, C, shows the number of cases notified from week to week and also the number of deaths (from the Registrar's returns). By comparing the figures it will be seen that during the first six weeks of the epidemic the cases under school age are few in proportion to those of school age, but that both attain their maximum about the same time. After closure of the infant departments there is a sudden drop in the number of cases, due largely to the loss of notification by teachers, but the steady fall in the number of deaths indicates that the epidemic began to abate from that date.

The maximum of deaths, it will be noted, occurs about a fortnight after the maximum of cases notified.

The efficacy of school closure in limiting the spread of such a highly infectious disease as measles is still a debatable question. Certainly our recent experience in

TABLE A.—*Incidence at Ages.*

	Ages.																	Totals.
	Under 1 Year.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-18	Over 18	
Primary cases	15	36	40	67	123	232	205	114	57	26	24	9	9	3	1	1	1	964
Secondary cases	42	65	63		57	31	21	20	14	8	10	1	1	—	—	—	—	403
Totals	57	101	103	137	180	263	226	134	71	34	34	10	10	3	1	1	1	1,367
Deaths	6	13	9	7	—	6	—	—	—	—	—	—	—	—	—	—	—	41

Number of families, 860.

	Under School Age (3 years).	Infants and Standard I (4 to 8 years).	Standard II. (8 to 14 years).	Above School Age.
Primary cases*	158	732	72	2
Secondary to school case ...	176	111	18	0
Secondary to home case ...	64	32	2	0
Totals	398	875	92	2
Deaths	35	6	0	0

* These include 52 "simultaneous" cases in which a child of school age sickened at the same time as a younger child not attending school—that is, a "home" child.

TABLE C.—*Number of Cases Notified, and of Deaths Weekly by Weeks.*

Week Ending—	Cases Notified.			Deaths (from Residents' Returns).
	Under 4 Years.	4–14 Years.	Total.	
Jan. 7th	2	5	7	0
,, 14th	4	13	17	0
,, 21st	4	23	27	1
,, 28th (1 infant department closed)	11	35	46	0
Feb. 4th	11	60	71	2
,, 11th (2 more closed) ...	21	55	76	2
,, 18th	56	115	171	8
,, 25th (7 more closed) ...	60	112	172	11
March 4th (8 more closed) ...	45	120	165	14
,, 11th (all remainder closed)	34	80	114	19
,, 18th	22	53	75	18
,, 25th	17	42	59	35
April 1st	18	12	30	28
,, 8th	10	14	24	8
,, 15th	11	8	19	13
,, 22nd	2	10	12	4
,, 29th	2	9	11	3
May 7th (all infants' departments reopened)	4	2	6	4
,, 15th	10	13	23	1
,, 22nd	5	6	11	0
,, 29th	2	2	4	1
June 5th	5	5	10	1
,, 12th	2	2	4	1
,, 19th	1	2	3	2
,, 26th	3	25	28*	1
July 3rd	2	1	3	0
,, 10th (summer holidays; all schools closed)	4	8	12	3

* Twenty-one cases in one school.

St. Helens has been that it is in the schools that this disease finds its readiest means of spreading, and that when an outbreak has become very general, fresh sources of infection are imported almost daily into a school, so that the most careful weeding-out of "infects" and "contacts" fails to arrest its progress. At this stage it is only by total closure that one can hope to eliminate the school-infection factor which plays so important a part in its spread.

The former method was fully tried in the earlier part of this epidemic, when it most affected schools on the west side of the town, but it did not meet with any degree of success. The closure of the schools on the east side, in anticipation of their ultimately being affected to the same extent, was undoubtedly the factor which contributed most to the fall of the epidemic, while the prolonged closure of the schools prevented their becoming reinfected after the first crop of cases had run their course.

Action on the part of health authorities or of school officials in excluding individual cases cannot be expected to attain its full measure of success unless at the same time it be supplemented by the intelligent co-operation of parents in practising isolation of the infected children. This is manifestly difficult to obtain, but with systematic home visitation by a capable health visitor much may be done to educate public opinion in this matter. The responsibility, however, does not rest entirely with the parents, for we require a still greater willingness on the part of teachers and school authorities to sacrifice high averages of attendance for the sake of keeping children suspected of being infectious from their classes. Until these conditions are realized, measles and kindred infectious diseases may be expected to continue to exact a heavy toll of life and health among our infant population.

DISCUSSION.

Dr. D. J. MACKENZIE (Glossop) regretted the deletion of Article 101 from the Code, because it was not necessary to close a whole school in order that the Government grant might be obtained. He was of opinion that where measles had taken hold in a school there was little possibility of stopping its spread. He pointed out that in Austria Hungary when one or two cases of the disease occurred in a class, that class was closed for a period of two weeks. He considered that the reason why adults were not attacked was because they were immune from having had the disease in childhood.

Dr. W. T. BROOK FOX (Blyth) said that, as in so many other public health matters, the financial side bulked too largely, and that was one reason why there was in so many districts compulsory notification of erysipelas and not of measles. He agreed with Dr. Paterson that there was an increasing tendency among parents to isolate the children who were infected, even before medical advice had been sought.

Dr. HERBERT JONES (Hereford) said that it was very unsatisfactory to find that even after the adoption of the admirable administrative measures detailed by Dr. Paterson, resort in the end had to be made to the clumsy practice of closing large departments of the St. Helens schools. He pointed out that there were two methods of isolating an infected person—one in which the patient was kept apart from those who were well, and the other in which the uninfected were kept away from the infected. The latter method he had carried out in the Rhondda Valley and in Herefordshire by displaying in an infected house a card on which was printed in large type the name of the particular infectious disease concerned, and a request that no person should be admitted to the house except the regular occupants or those whose services were absolutely needed.

Dr. A. WALKER (Edinburgh) said that there was a tendency to organize a crusade against notification or other interference of the local authority in infectious diseases, and care should be taken not to push measures of control too far. Until the microbe was found it seemed hopeless to meet the case satisfactorily. Dr. Paterson had given them a very useful and practical paper on a not very grateful subject.

Dr. PATERSON, in replying, said that the method of closing schools during the incubation period was not effective in a very general epidemic, on account of "mixed crops"—that is, crops occurring at irregular intervals—and on account of reinfection after opening. Although it seemed almost hopeless to stop an epidemic when once it had gained a footing in schools, yet much might be done by preventing younger children becoming infected. The death-rate, as shown in the table included in the paper, was excessively high, and if the age of incidence could be postponed, it would be the means of saving many lives.

THE PREVENTION OF TUBERCULOSIS IN CATTLE,

WITH REFERENCE TO THE COMMUNICATION OF THE DISEASE TO MAN.

By JAMES NIVEN, M.A., M.B.,
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[ABSTRACT.]

[AFTER reviewing the recommendations of various Royal Commissions and other bodies on the prevention of tuberculosis, the writer outlined the steps taken in Manchester to deal with the disease.]

From 1896 onwards the cows within the city were examined by Mr. James King, M.R.C.V.S., with a view to see what was the extent of udder disease and of advanced tuberculosis generally, and samples from affected udders were submitted for examination to Professor Delépine. In this way a knowledge was gradually built up of what could justly be required in respect of cows affected with tuberculosis of the udder, while a considerable number of highly tuberculous cows were removed from the cowsheds.

Attention was directed to the efforts of Mr. Busck in obtaining a pure milk supply for the city of Copenhagen. Briefly, the principles on which this work was carried on

were that the farms from which milk was obtained should be the best procurable: that they should be under good veterinary supervision; that the milk should be cooled down to near freezing point directly after it was drawn from the cow: that it should be conveyed to the dairy in Copenhagen in refrigerating vans, tasted and tested, kept in ice, carefully freed by filtration from any residual dirt, and finally delivered to the consumer at a temperature but little above freezing point. The food of the cows was minutely regulated to ensure a good flavour. All this it was found possible to do, and to supply the milk at current prices. The conditions of milk supply and of service also were such that it was to the interest of the farmer and of the employees of the company to declare the existence of infectious disease on the farm or in their families. It seemed to the late Dr. Ashby and myself that a solution of the milk problem might be found on these lines, and in 1896 we visited Copenhagen and were kindly shown by Mr. Busck the details of his work, while we received his assistance in examining some of the farms supplying the company with milk. No more perfect organization has ever come under my observation, and I can testify to the admirable quality and flavour of the milk sold in the dairies of the company. On our return we took steps to interest a number of gentlemen, and a company, entitled "The Manchester Pure Milk Supply Company," started business on exactly similar lines. Financially, the company was not a success, and the hopes entertained of eradicating tuberculosis from a number of farms in this district were dissipated when the company ceased to exist.

As the result of all the recent work on the subject, we stand now on much firmer ground when we assert that tuberculous cow's milk is instrumental in causing the infection of children with tubercle. But we are no more able than ever we were to affirm that the majority of infections in children are of bovine origin. It does, however, appear not improbable that bovine tuberculosis is a never-ceasing fountain of energy from which the diminishing intensity of human tuberculosis is recruited. It thus becomes a matter of the greatest importance how we are to attack the problem of averting the occurrence of infection from tuberculous milk. Without entering into detail it may be stated generally that, as a result of the administration of the model milk clauses in Manchester, a great diminution has occurred in the amount of tuberculous milk sent into the city, while the virulence of infection of such milk has been much reduced in intensity. In addition, largely owing to the skilful use made of his opportunities by the veterinary surgeon, Mr. Brittlebank, an immense improvement has occurred as regards cleanliness. But it is evident that only a certain measure of control can be attained by these means, and that complete freedom from tuberculous infection involves efforts far greater and measures more radical than any yet taken. Professor Delépine, who has taken a large share in all the movements mentioned, arrived early at the conclusion that nothing short of complete eradication, with application of the tuberculin test, would suffice to remove bovine infection, and he formulated a scheme under which one area was to be declared after another, the animals within each successive area being tested and reacting animals eliminated. He has recently been able to apply his views to a particular herd, and arrived at the conclusion that elimination of tuberculosis might be effected in a milking herd without loss if the animals were not kept to an advanced age. Practically this is the policy pursued by cowkeepers having farms within the city of Manchester, although they do not apply the tuberculin test; but, of course, they do not produce calves.

We must ask ourselves the following questions:

1. Can we attain to substantial freedom from tuberculous infection without proceeding to the eradication of tuberculosis?

Complete freedom from tuberculous milk is only attained by the purchase of young selected animals, which are kept in milk for a year and then replaced. Supposing that, with Ostertag, we adopt the policy of removing from herds animals affected with tuberculosis so soon as their disease becomes plainly manifest to the clinician. If we confined ourselves to pulmonary disease we should find ourselves baffled by abdominal, renal, and uterine tuberculosis, and the clinician is driven to examinations of the various excretions for tubercle bacilli. These examinations are imperfect, and the occurrence of tubercle bacilli is uncertain and irregular. He is thrust back more and more on the tuberculin test. When he has availed himself of this aid, is he prepared to trust to his sagacity in keeping down tuberculous infection of the milk, and to recommend the consumption of milk derived from cows which he knows to be tuberculous? Segregation then becomes necessary. Such appears to be the process through which Ostertag's scheme for controlling tuberculosis in North Germany has been passing. The measure of success which it has attained has largely depended on the excellent cowsheds which have been erected. A cowshed is in truth a common lodging house for cattle, with circumstances that render it more dangerous than the worst of our common lodging houses, where tuberculosis reveals itself as a rapidly-spreading disease, which can only be held at bay by the most rigorous exclusion and constant vigilance of cleanliness.

The following experience, recorded by Bang (Denmark) in his communication to the International Veterinary Congress held at Budapest in 1905, is both valuable and striking in more respects than one:

"On a large farm, the stock of which contained tuberculous beasts, although to all appearance not in large numbers nor severely affected, yearly tests with tuberculin were made from 1891 onwards on all the young animals. The small number reacting were slaughtered, and the sound ones were kept isolated till they had calved, after which they were placed at one end of the common, large, well-ventilated cowshed. The new contingent was thus, year by year, absolutely healthy. Nevertheless, when in 1903 I got the owner to submit the whole of the herd, recruited in this manner, to the tuberculin test, 286 reacted and only 29 were healthy. The matter was then properly dealt with and the disease eliminated."

This experience shows the difficulty of arresting the spread of tuberculosis by any means short of absolute eradication.

It might, however, be supposed that, without eradicating tuberculosis from the herd, or even preventing its spread, it would be possible to keep down the occurrence of tuberculosis of the udder, that is to say, of tuberculous milk, to trifling dimensions by removing plainly tuberculosed animals.

On this point we are able to throw some light from our own experience. The following table, prepared by our veterinary surgeon, Mr. Brittlebank, appears conclusively to disprove the reasonableness of such an expectation.

Number of Cows Suffering from Tuberculosis of the Udder in Each Year and the Number of these which were Diagnosable Clinically as Suffering from Tuberculous Lesions other than Tuberculosis of the Udder.

	1901.	1902.	1903.	1904.	1905.	1906.	1907.	Total.
Number of cows proved to be suffering from tuberculosis of the udder	14	31	28	16	31	30	28	178
Number of those in which tuberculosis was recognizable clinically without consideration of the udder condition.	9	20	12	6	6	7	5	65
Number in which tuberculosis was not recognizable clinically.	5	11	16	10	25	23	23	113

In face of these figures it appears impossible to maintain that the mere removal of animals diagnosed clinically as suffering from tuberculosis will suffice materially to reduce the quantity of tuberculous milk coming into the market.

2. What difficulties stand in the way of the eradication of tuberculosis, and is such a measure practicable?

It must be admitted that the difficulties are numerous and formidable. Taking milch cows alone: If we assume that some 30 per cent. are tuberculous, it is evident that any attempt to withdraw such a number suddenly from the herds of the country would create a milk famine, and that those who would suffer most would be the consumers. Then the housing arrangements are not such as to render a measure of this kind of any practical utility.

The provision of suitable sanitary (sufficient and easily cleaned) cowsheds is an absolute necessity of any such effort. Again, it is doubtful whether our farmers are prepared to give the constant care and labour necessary to carry out such an undertaking. Yet the whole success or failure of this measure rests with the farmers. No less vital is the equipment of the veterinary surgeons, to whom the conduct and supervision of these operations would be entrusted. It is manifest that the entire elimination of tuberculosis is a colossal task which must involve a large expenditure on buildings and in administration, and which, both for reasons of education and for economical reasons, must be spread over a considerable period of time.

3. Do the advantages of complete eradication outweigh the disadvantages?

What are the advantages? In the first place, a great source of loss to the agricultural interests of the country would be obliterated, but at a considerable cost in new buildings, expense in veterinary service, cost of tuberculin, and the initial cost to the farmer in the renovation of his herds. The farmer should of course pay his share, but the larger share of the expenses should be cheerfully borne by the country generally. The expenses of the veterinary service and the provision of tuberculin should come out of imperial funds, and the necessary tax should be borne by the whole of the community.

The second advantage of the complete eradication of tuberculosis would be that the dairying industry would be revolutionized; and the third advantage would be that a powerful impetus would be given to the consumption of milk as an article of food. The dairying industry would certainly increase greatly, and a larger population would settle on the land—a consummation desired by every well-wisher of his country. Our meat, also, which has been losing ground in the market, would obtain enhanced prices. Above all, many fine children would be saved to the nation; while it is even possible that a formidable blow would be struck at the permanence of tuberculosis in man.

The disadvantages may be summed up briefly as the difficulty in providing workable machinery. It seems evident that complete success in this enterprise is not to obtained by voluntary action, and that it can only be secured by the joint forces of good government and reasonable assistance.

4. What are the measures required for the eradication of tuberculosis?

Last year, at the instance of Dr. Robertson, of Birmingham, a meeting of the authorities of large towns interested in this question was held in Manchester, at which a resolution was carried in favour of a thorough-going policy. Afterwards a deputation was received by Mr. Burns and Lord Carrington, at which the conclusions arrived at were placed before these Ministers. Later on, the subject was brought before a well-attended meeting of the Lancashire Veterinary Association on April 2nd, 1908, and the members were unanimously in favour of the same view. There is, therefore, a growing force of educated opinion in favour of a radical policy. To carry it into effect, however, we require:

(*a*) A staff of independent and highly trained veterinary surgeons, who have specially studied the subject of bovine tuberculosis.

(*b*) Housing provision must be made. It is certain that unless means be found to interpose a sufficient distance or barrier between the reacting and non-reacting animals and all the services pertaining to them, the disease is liable to crop up in the sound herd and complete eradication to take longer time. It is to be desired, though not absolutely essential, that at the inception of this policy the central government should establish a number of farms at which the methods might be demonstrated and instruction given. It would answer equally well if this scheme was carried out through the county councils. Due regard would require to be had to the keeping of pigs near the buildings intended for the housing of sound stock, and to the storage of manure, so as absolutely to confine any infected manure in a restricted space. The veterinary inspectors should be appointed by the county councils, subject to the approval of the Local Government Board. The medical officer of health should be in constant touch with what is being done on the farms, and this end can only be secured by some official nexus. The veterinary surgeon would only in a sense be the subordinate of the medical officer of health. He would deal practically with all questions relating to the housing of cattle, the state of the dairies, water supply, etc.; but it would be essential for his own guidance that the medical officer of health should have cognizance of these matters. He cannot trace the relations of bovine to human tuberculosis unless he is able to follow closely the changes in progress. The simplest solution of the difficulties in regard to the central government is to make the medical and veterinary service one and indivisible. The veterinary inspectors should be paid out of imperial funds, as their services would be rendered both to the stock raiser and to the consumers of milk and meat.

In order to improve the housing of cattle a uniform code of regulations would be framed and made applicable to all districts, the authorities of which would be required to survey the homesteads within their boundaries, to keep a register, and to classify the homesteads into three classes. Every milk dealer entering into a contract for the purchase of milk from a farmer would be entitled to receive from the sanitary authority a certificate showing the class of farm from which his milk was obtained, which certificate he should be obliged by law to produce on demand to the accredited officer of the sanitary district in which his milk was being sold. It would then be competent for the sanitary authority of the latter district to require compliance with the regulations before admitting the milk into their district. In this way pressure would be brought to bear on refractory authorities, without interfering more than was necessary with existing machinery.

If we could have our choice of the methods to be adopted we should begin by selecting farmers of known steadfastness and probity, put their farmsteads into an efficient condition, instruct them carefully in the precautions to be taken and the errors to be avoided, and then start them off with a clean stock on some adequate guarantee that they would carry out the measures prescribed.

Having thus established in a variety of centres the nuclei of healthy stocks we should add to the number of sound herds year by year. No herds would be declared free of infection which had not been purged under official supervision. Government aid would be given only to those farms scheduled for testing and grazing by the official veterinary inspector.

Precise instructions would be laid down, and the farmer would be bound to continue to carry them out after the first purgation had been completed. But in return the entire cost of the operation would be borne, in the first two or three years, by the Imperial Treasury, the official veterinary surgeon valuing the animals to be tested before the commencement of operations.

As the number of animals free from tuberculosis increased, a large number of farms would each year be brought under control, until at the end of, say, twenty years, there would be no tuberculous stock left.

Certain points require attention. Each animal tested would be registered, and marked in such a way as to distinguish those reacting from those not reacting.

As the number of farms dealt with each year increased rapidly, local veterinary surgeons would acquire the necessary expertness in carrying out the test, and their services might be utilized by the administration. Tuberculin should be issued only by Government, and the sale or use of other tuberculin should be forbidden. The use of Government marks for tests not conducted under official supervision should be forbidden. In short, the proposal is that eradication should be compulsory, and spread over a number of years, and should be controlled and carried out under the official supervision of veterinary officers specially trained for the work, and specially instructed in all the attendant precautions required.

With regard to cowsheds, there can be no doubt that the provision of suitable housing for cows would do something to check the spread of bovine tuberculosis. There are many cowsheds so defective that they must contribute to the spread of the disease. There is, however, an intermediate class in which, if due provision is made for ventilation and cleanliness, it would be possible to rest content with alterations short of the full requirements, until the period arrived at which eradication of tuberculosis was to be effected.

It may be found possible to mitigate in various ways the expense contemplated in these proceedings; for example, it might be possible to make provision in open sheds for the housing of reacting animals not severely affected, at a distance from the homestead.

The proposals put forward may now be summarized:

1. The country to lend money at a low rate of interest to landowners, on sufficient security, to enable them to carry out necessary works of construction or reconstruction.

2. The country as a whole to provide the veterinary staff required and the tuberculin, as well as to make good losses involved in the first instance in eliminating tuberculosis from herds.

3. The maintenance of non-tuberculous herds to be compulsory, and the cost of any renewal of stock to fall on the farmer.

4. In return for their contribution to the agricultural interest, consuming communities should have rights of control over the production of milk which they consume.

5. Milk dealers in entering into contracts should be obliged to satisfy themselves that their milk is produced under reasonably healthy conditions.

There is no power stronger than education. Urban communities should be educated to demand non-tuberculous milk by the diffusion of pamphlets and by lectures. Farmers should be educated by frequent discussions, lectures, and pamphlets.

The objects to be attained are of the first order, namely, to prevent infection, to extend the consumption of milk, and to render the stock-raising and dairy industries more prosperous. We have considered the difficulties. But are they less under any other plan?

In my opinion no proposal which has not for its declared aim the extirpation of bovine tuberculosis contains that element of ultimate profit which justifies large present sacrifices. It may be that other ways of reaching this goal will be opened out. It may also be that the Order recently issued tends towards this end. But a clear declaration of purpose is eminently to be desired.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF VIPER BITE.

APROPOS of the accident under the above heading to Dr. Peck, perhaps an account of a similar case which occurred in the New Forest during the recent Territorial training may be of interest. Whilst out on duty on August 5th with the 7th Battalion Royal Warwickshire Regiment—on a route march, through a very rough piece of country—an officer hurried up to me saying that he had been bitten by a grass snake, on the hands; knowing the same to be harmless I did not apply any local treatment, but, as he was rather exhausted through running under a hot sun, I directed him to lie down in the shade. After a short time, he said he felt much better, and I proceeded on to the head of the column. About ten minutes afterwards word was passed along for me that Lieut. X., who had been bitten, was very ill, and I found this was so. He was apparently suffering from severe collapse, cyanosed lips, blanched face, pulse hardly to be felt at the wrist. I gave him repeated doses of aromatic spirits of ammonia ʒj to Oj of water, which caused vomiting, and $\frac{1}{30}$ grain strychnine hypodermically; his condition, however, showed little sign of improvement, and seemed very alarming. He complained of extreme cold, although the day was exceedingly hot and sultry: the left hand and forearm being now noticed to be swelling rather rapidly, the parts looking very congested. He was carried to the roadside, about 200 yards, and the owner of a passing motor-car conveyed him to the camp, five miles away; at this time, about one hour after the bite, the patient was rather better, although the arm was still continuing to swell. On arrival in camp his left hand, forearm and arm, were found to be affected with a rapidly increasing brawny induration, which, by the next day, had extended to the side of the thorax. By the end of the second day the limb at the middle of the humerus, was, roughly speaking, of the size of a man's thigh, severe burning pain was complained of on the least movement, and great tenderness on being touched. On the third day the condition was a little better, and from this gradually improved, so that he was able to leave his bed at the end of the week. As the induration and oedema subsided there was an unusual discoloration of a bluey-red colour all over the arm.

The bite, of course, was inflicted by the adder or viper (*Pelias berus*) which is very common in the New Forest, and several were killed by men of our battalion. I heard, locally, that an adder bite would kill a dog, and frequently did so; the hot weather doubtless increased the severity of the action of the poison as would appear to be generally the case with adder bites. The second bite on the officer's right hand, though apparently just as deep as the one on the left, occasioned very little trouble, and there was only swelling in the neighbourhood of the bite, and none on the forearm, the poison being all expended in the first wound.

The bite of the adder is inflicted by two hollow teeth in the upper jaw—that is, a single long curved fang on each side of the maxillary bone, which is so attached to the bone next behind it by muscles that it can be rotated backwards when the reptile does not require its poison fangs, and the fang itself be concealed in the gum with its point turned in the direction of the throat. The poison fang is formed on the same principle as other teeth, with this exception, that along its outer or convex edge it is provided with a groove, extending from the base towards the apex, and open at both ends; this groove provides a secure channel for the duct which conveys the poison from the gland which secretes it. This gland is situated on each side of the head, and consists of a number of elongated narrow lobes, whose secretion flows into a common duct, which conveys it to the base of the poison fang. This description is based upon that of Professor Owen, and it is easy to understand from the situation and action of the fangs that a snake seems to "hang on," as the officer whose case is quoted above declared that the one did that inflicted his wound.

JOHN ORTON, M.D.,
Captain, R.A.M.C.T., Attached, 7th Battalion, Royal Warwickshire Regiment.

Coventry.

A CASE OF CHRONIC COPPER POISONING.

As cases of copper poisoning are rare, even among workers in the metal or its salts, and the number of operatives engaged in the working of copper is only about 8,000 in the British Isles, I think the following case worth recording:

A. B., aged 20 years, has been engaged for two and a half years in the brush grinding department of a crucible works, in which department a great deal of dust is produced by the grinding of the brass. The patient states that at different times all the workers have suffered from the same symptoms in varying degrees.

With the exception of becoming somewhat thinner, he remained well until about three months before he came under my care, when loss of appetite and power, slight jaundice, and progressive emaciation set in. Tremor on the least excitement had been present for two months.

When seen he was flabby and emaciated, the conjunctiva and skin were slightly jaundiced, and a green line on the gums was present. He complained of vague abdominal pains, colicky in character, of dryness of the mouth and throat, and pain in the epigastrium after food. There was obstinate constipation, considerable straining at stool, frequent attacks of faintness, and marked shortness of breath on the least exertion. There was no tendency to wrist drop, nor was profuse perspiration present.

As the result of abstinence from work, general care, etc., his general condition has improved, and during the ensuing seven weeks there has been slight increase in weight, the jaundice subsiding, tremor disappearing, the abdominal pains being less frequent and less severe, he sleeps better, and his appetite is slowly returning. He is now going for a change to the country.

The case is evidently one of copper poisoning by the inhalation of brass dust.

The patient states that respirators, although provided, are not worn by the operatives, but otherwise he has taken precautions as regards washing before meals, etc.

Battersea, S.W. E. HUGH ROBERTS M.R.C.S., D.P.H.

Reviews.

OSLER AND McCRAE'S SYSTEM OF MEDICINE.

THE sixth volume of OSLER and McCRAE'S *System of Medicine*[1] is especially useful as it deals with a number of diseases of obscure causation and of relative rarity, concerning which the practitioner often feels his knowledge to be limited and likes to have at his elbow some standard account upon which he can rely to give him the information of which he stands in need. The contributors to this volume are chiefly American; in fact, of the thirteen, Dr. Archibald Garrod, Dr. Osler and Dr. John McCrae of Montreal are the only British subjects, and have an even more insignificant portion of the subjects allotted to them, only 126 out of 766 pages of text.

The first part of the volume is devoted to diseases of the kidney, and opens with an excellent introduction by Dr. John McCrae. Dr. Garrod writes on anomalies of urinary excretion and on uræmia, and has incorporated in these chapters much of the information given in his Croonian lectures. The chapters on Bright's disease are by James Herrick, Professor of Medicine in the Rush Medical College, Chicago. He does not seem to have made up his mind whether lardaceous disease should or should not be described as a form of nephritis, although it is true, as Lecorché said, that in lardaceous disease of the kidney, if there is no nephritis there is no albuminuria: the waxy kidney as described by Grainger Stewart and Dickinson is chronic nephritis with secondary lardaceous degeneration. Dr. T. R. Brown, of Johns Hopkins University has written on the bacteriology and pyogenic affections of the kidney. This chapter includes tuberculosis, and is a good study of that subject; he notes a point, often overlooked, that hæmaturia may be the earliest sign of renal tuberculosis. Tumours of the kidney, stone, genito-urinary diagnosis, and diseases of the prostate are dealt with by Dr. H. H. Young, also of Johns Hopkins University. He is a strong advocate of prostatectomy, quoting a series of 128 consecutive cases of the perineal operation without a death; he points out that there is a better chance of dealing successfully with cancer of the prostate if excision is recognized as the proper treatment for prostatic retention and time is not wasted with catheters.

The chapters on diseases of the ductless glands, including the adrenals, the thyroid, and the pituitary body, are written by Professor Dock of New Orleans. He notes the interesting fact that the adrenal glands of negroes are larger than those of the Caucasian races. The section on the parathyroid glands contains a great deal of much-needed information of value to teachers as well as students. In the article on Graves's disease there is a suggestion of the possible origin of the affection in an infective thyroiditis. In discussing the causation of endemic goitre, Professor Dock lays stress on the value of boiling the drinking water as a preventive, and argues that this gives support to the theory of infection, but when the article was written he was apparently not aware of the observations of Captain McCarrison (see JOURNAL, 1909, vol. i, p. 434), who has shown that the solid matter removable from the drinking water by filtration is capable of producing enlargement of the thyroid gland in thirteen to fifteen days, but is rendered innocuous by boiling. We note that Professor Dock uses what is probably the correct spelling of "miosis," signifying contraction of the pupil, although it is usually spelt with a "y." In the treatment of Graves's disease he commends partial excision or tying two or three of the thyroid arteries, and thinks the operation should not be postponed too long, but should be undertaken if the patient is not distinctly improved by complete rest, if the tachycardia is severe, or if symptoms of pressure on the trachea come on. Mayo is said to decline to operate if the pulse-rate is over 130 or is irregular, or if anæmia or œdema are present. Professor Dock employs at times a somewhat polyglot vocabulary; for example, he writes "anlage" to express the stock of embryonic tissue from which an organ is developed (p. 385), and "recidive" for relapse (p. 455). On page 456 myxœdema is said to be in some parts of England "so common as to be spoken of as endemic," a statement which is misleading.

The chapter on Hodgkin's disease is written by Dr. Longcope of Philadelphia, who thinks that the cases which have been thought to be transitions to lymphatic leukæmia were throughout examples of the latter, with absence of lymphocytes from the blood. The histology of the lymphatic glands is said to afford an absolute criterion of Hodgkin's disease, but when we turn to the paragraphs on histology we are not sure that we find this as plainly set out as might be desired; we read that the "general character of the growth, the thickened reticular mesh enclosing lymphoid cells, epithelioid cells, plasma cells, giant cells, and eosinophilic leucocytes forms a picture so characteristic that according to recent writers it cannot be mistaken for any other condition." He adds that the eosinophiles have been emphasized as particularly characteristic. With regard to the treatment of Hodgkin's disease, it is said that the immediate results of *x* rays are almost always satisfactory, but the growths return when the treatment is discontinued, tumours of soft type disappearing more readily than the harder kind; 24.1 per cent. of the cases have survived three to four years, but instances of *x*-ray dermatitis have been common.

Dr. Thomas McCrae's chapter on arthritis deformans calls for special commendation, as it grapples boldly and thoroughly with a subject which at the present time has many difficulties, some of them perhaps insuperable. We do not think it right to speak of any of the included conditions as "infectious" arthritis, as "infectious" means transmissible: "infective" means caused by an infection or parasite, and this we believe is the sense he intends to convey. We believe him to be right in pronouncing strongly in favour of infection as the probable cause of all these forms of arthritis, and in rejecting the suggestion that any one of them depends upon true acute rheumatism. Under the heading of "Treatment" we are astonished to note that he omits Buxton, which has a deservedly high reputation for the treatment of these affections; nor does he mention Wildbad, where the treatment in many respects resembles that at Buxton, and is much thought of in Germany. He has also omitted Bier's hyperæmic method, which is very simple and has strong evidence in its favour. In the treatment of lumbago—dealt with under myalgia—nothing is said about the value of a belt or of local heat or of sleeping in blankets. Professor Dock writes on osteomalacia, and Professor McCarthy of Philadelphia on astasia-abasia, adiposis dolorosa, and myasthenia gravis. In the last he misspells the honoured name of Sir Samuel Wilks—a fault one would not have expected in a book nominally edited in England.

Professor Osler writes on Raynaud's disease, angioneurotic œdema, hereditary œdema, diffuse scleroderma and erythromelalgia, and with regard to these obscure diseases has put together a great deal of valuable information. The chapter on achondroplasia by Dr. Charles Emerson, late of Johns Hopkins Hospital, is a short monograph of considerable value, the author having studied the subject under Professor Pierre Marie at Bicêtre, but we protest against his use of the word "lues" as synonymous with syphilis. He also writes upon the hypertrophic osteoarthropathies. "This country" on page 710 obviously refers to the United States of America.

The concluding part of the volume is a chapter on the medical aspects of life insurance; it is written from the American standpoint, and fails to do justice to its subject as practised on this side of the Atlantic. On page 753 the author, Professor C. L. Greene, advocates making syphilis an absolute bar to life insurance, a course which we do not think would commend itself to medical experience here.

THE ETIOLOGY OF CANCER.

THE eighth report of the Cancer Research Laboratories, published in the *Archives of the Middlesex Hospital*,[2] contains some sixteen excellent papers, their authors being either the Director, Dr. Lazarus-Barlow, or one or other of

[1] The Oxford Medical Publications. *A System of Medicine*. Edited by William Osler, M.D., F.R.S., and Thomas McCrae, M.D., F.R.C.P. Vol. VI. Diseases of the Urinary System. Duct less Glands. Obscure Causation. Muscles. Vasomotor and Trophic Disorders. Life Insurance. London: Henry Frowde, and Hodder and Stoughton. 1909. (Roy. 8vo. pp. 809. 30s.)

[2] *Archives of the Middlesex Hospital*, vol. xv. London: Macmillan and Co. 1909. (Cr. 8vo, pp. 224.)

his five assistants and the half-dozen research scholars who work under his supervision. A considerable proportion of the papers deal with subjects whose connexion with cancer investigation would seem at first sight at any rate to be very slight. Instances in point are discussions on the influence of atomic weight and valency on the radio activity of uranium and thorium compounds by Dr. Lazarus-Barlow and Dr. A. H. Colwell, as also the paper by Dr. H. MacCormac dealing with the power of certain micro-organisms to affect a photographic plate in the dark. Midway between these and papers of more direct interest in this connexion may be placed another paper by Dr. Lazarus-Barlow showing the results of an investigation of the influence of carcinomatous and non-carcinomatous tissues upon the electroscopic leak. The upshot of the experiments seems very inconclusive, but so far as it goes would appear to indicate that carcinomatous materials tends to accelerate the leak as compared with innocent growths and normal tissues. This inquiry constitutes a part of a research into the question of whether there is any evidence of a connexion between radio-activity and the carcinomatous process. On this point it may be noted that in his Croonian lectures in June—which may be regarded as a summary of all the investigations in this report—Dr. Lazarus-Barlow seems disposed to regard such causal relation as existent, though not at present fully demonstrable. Among the other papers are statistical studies of malignant disease of the cervix uteri, the thyroid gland, the ovary and the mammae by Dr. H. MacCormac, Miss Helen Chambers, M.D., and Drs. Brydon Glendenning and H. Beckton respectively. Basing his views on the study of the records of the Middlesex Hospital from 1904 to 1908, Dr. MacCormac concludes that malignant disease of the cervix uteri is a disease not of the ageing individual, but of the ageing uterus, his other findings being closely comparable with those of Andriezen and Leitch. Among Miss Chambers's conclusions the most important perhaps is to the effect that of all thyroid new growths only those can be considered malignant which ultimately extend beyond the capsule of the gland and infiltrate the surrounding tissue, and that though cases are often protracted the prognosis is always bad. Dr. H. Beckton regards his very careful study of the records of mammary cancer at the Middlesex Hospital from 1904 to 1908 as in general agreement with those set forth in the fifth volume of the same *Archives* which dealt with 1,976 cases occurring between the years 1747 and 1903. Finally, it may be mentioned that Dr. H. A. Colwell in his paper on the power of the peptone-splitting enzyme, erepsin, as procured from malignant and normal tissues respectively, concludes that the ereptic value of malignant tissue is practically identical with that of tissues from persons suffering from any serious chronic disease, these in their turn tending to be lower than normal.

A Theory Regarding the Origin of Cancer is cleverly built up, but the author, Mr. C. E. GREEN, of Edinburgh, has chosen rather slender materials for its foundation.[2] The second part, which is the best portion of the book, describes some ideas which are decidedly original. The theory is that because cancer is common in certain trades, and because it appears to be more prevalent in certain districts, the disease is parasitic in origin. Further, because tumours are produced in some plants by *Plasmodiophora brassicae*, therefore cancer may be caused by a like fungus. Then comes the original suggestion. Since workers in certain trades, such as that of chimney sweep, and others who come in contact with products which contain sulphuric acid, are prone to cancer, and since sulphuric acid favours the growth of the fungus, the author deduces that it is the sulphuric acid in the products which is the cause of the trade incidence of the disease. He goes on to describe how the place incidence may be due to smoky chimneys, and to an atmosphere which contains sulphuric acid. The presence of sulphuric acid is also traced in the materials used in other occupations which seem to favour the disease. This last point is the most interesting part of the book, and would be more valuable if more details were given. We think, however, that the author goes too far when he states that sulphuric acid diminishes the oxygen in the tissues, and that this accelerates the growth of the fungus. Unfortunately, the theory is based on two principles which are not beyond dispute, while the other well-known facts at our disposal are not taken into account. There is little doubt that workers in certain coal-tar compounds do develop cancer frequently, but this is hardly sufficient to base a theory on. The place-incidence—the other principle on which the theory is based—may fall to the ground in view of the fallacy due to "the error of random sampling"; a point which Mr. Green never mentions. The age incidence of the disease is hardly touched upon, while the cytology of cancer, and its association with irritation are omitted altogether. Nevertheless, the originality of the theory will repay the short time required for the perusal of the book, which is clearly written, and which must have entailed considerable thought and observation on the part of the author.

[2] *A Theory Regarding the Origin of Cancer*. By C. E. Green. Second edition. Edinburgh and London: William Green and Sons. 1909. (Crown 8vo, pp. 52.)

PATHOLOGY.

THE two large and copiously illustrated volumes on pathological anatomy edited by Dr. ASCHOFF[1] are the joint production of many well-known German pathologists. There are both advantages and disadvantages in putting together a book of this sort by the method of collaboration. It is difficult to secure from the individual writers the requisite subordination of the parts to the whole; their contributions do not always fit together very well, and though the editor may cut out obvious inconsistencies he is less able to prevent overlapping, and it is impossible for him to secure the unity of thought and purpose which stamps the book written by one master-mind. In vol. i we have a long article by Dr. Askanazy on "external causes of disease," amongst which the pathogenic bacteria naturally take an important place; and in dealing with those diseases produced by external agents, such as syphilis, tuberculosis, leprosy, and actinomycosis, the author gives a tolerably full account of the histology of the lesions associated with each of them. Then about two hundred pages further on we get the histology of these same diseases described for us over again by Dr. Lubarsch, who introduces them into his chapter on inflammation under the title of "specific inflammations or infective granulomata." This repetition is undesirable. On the other hand, the advantage of apportioning the book amongst various writers is that each author is given the opportunity of writing about subjects in which he is especially interested, and as no one man can be equally good in all branches of pathological anatomy, this division of labour tends to keep up the whole of the book to a high standard of excellence. The three articles written by the editor on the heart, the urinary apparatus, and the female sexual organs are excellent examples of the successful treatment of special subjects. In his general arrangement of the book, perhaps the editor has made the mistake of trying to include too much. The sections on bacteriology might have been omitted with advantage; as the student has plenty of good bacteriological textbooks to choose from, there is no need to interpolate scraps of this subject into a work on pathological anatomy. Indeed, the whole of "General Etiology," which forms the first part of vol. i, might have been cut out without much loss. The articles in this volume which are particularly good are those on malformations, by Dr. Schwalbe; inflammation, by Dr. Lubarsch; and pathological growth and tumour formation, by Dr. Borst. The eight pages on immunity, by Dr. Kretz, seem out of place, since this subject is only indirectly related to pathological anatomy. In vol. ii, which is concerned with "special pathological anatomy," in addition to the three articles by the editor already mentioned, special praise must be given also to Dr. Benda's chapter on the pathology of the vessels, to Dr. Schridde's article on the blood-forming organs, and to the treatment by Dr. Schmidt of the skeletal and muscular systems. The pathology of the blood, if it ought to have been included at all, deserved fuller treatment than

[1] *Pathologische Anatomie*. Herausgegeben von L. Aschoff. Erster Band: *Allgemeine pathologische Anatomie*. Zweiter Band: *Spezielle pathologische Anatomie*. Jena: Gustav Fischer. 1909. Sm. roy. 8vo, vol. i, pp. 640, 364 illustrations; vol. ii, pp. 819, 1 lithographic plate and 552 illustrations. M.22.50.)

the ten pages assigned to it by Dr. Naegeli; this important subject is more adequately treated in the average textbook of medical or clinical pathology.

Dr. A. W. HEWLETT, of San Francisco, has brought out a second edition of his translation of Krehl's *Principles of Clinical Pathology*,[5] a title which he has substituted for the somewhat incongruous terms *Pathological Physiology*, under which the German original is known. The book is simply an ordinary student's textbook on general pathology, and should have been called "general" rather than "clinical," since the latter title is usually assigned to works on the routine technique of the clinical laboratory. As we remarked in reviewing the first English edition (BRITISH MEDICAL JOURNAL, vol. i, 1906, p. 148), the merit of Dr. Krehl's way of presenting his subject is that he treats disease as a perversion of physiological function, and teaches the student that in order to understand morbid processes he must go back to the principles of physiology. In a brief introductory note which he has written for the book, Professor Osler emphasizes, in terms with which we cordially agree, the importance of works such as Dr. Krehl's in filling up the gap between empirical and scientific medicine. But in justice to British pathologists we must point out that this is by no means a new departure, and that our own country has always led the way in teaching the applications of physiology to medicine. It is impossible to read current British medical literature without appreciating the profound influence which distinguished British physiologists have exerted upon it, and the same impress is borne by the many excellent textbooks on general pathology which our own countrymen have written. Take, as one example out of many, Dr. Lazarus-Barlow's well-known book on *General or Experimental Pathology* and compare it with Dr. Krehl's work. It will be seen that both writers know their physiology well, and make excellent application of it in their chapters on derangements of the heart and vascular systems, nutrition, fever, respiration, and other matters. But for general grasp of his subject, the English writer is certainly not a whit inferior to the German, and for all purposes of the medical student we regard the textbook of the former as decidedly the better of the two.

ARTHRITIS DEFORMANS.

SUFFERERS from chronic joint diseases often find their way either to Bath or to Buxton, and the medical officers of the respective mineral water hospitals have unique opportunities of studying the various phases of arthritis. Dr. LLEWELLYN JONES, of Bath, has written a treatise on the subject,[6] which embodies a very clear and definite account of the chief work that has been done in the past, together with the results of his own extensive experience. Admirably printed and illustrated, and furnished with very complete bibliographies in each section, the work represents the sum of modern knowledge on the subject. But the sum of knowledge is still far from complete. That osteo-arthritis and rheumatoid arthritis are distinct affections there can be no doubt, as the evidence connecting the two conditions is altogether inconclusive. The means by which they are respectively started are very varied. All kinds of infections and many kinds of micro-organisms have been recognized as causative of apparently similar lesions, but the peculiarity of osteophytic outgrowths occurs only to a moderate extent in the rheumatoid variety, while it is the characteristic mark of osteo-arthritis. This distinction was pointed out in the first instance by the late Mr. William Adams, and still forms the main dividing line. The author describes the pathogeny of both conditions as a series of "guesses and gaps"; but he rightly lays especial stress on the early recognition and treatment of premonitory symptoms of joint troubles. Spondylitis deformans and arthritis deformans in children are fully described and discussed, and the book as a whole may be commended as presenting all that ancient observation and modern research have achieved towards the elucidation of a problem that remains as yet unsolved.

[5] *The Principles of Clinical Pathology.* By Dr. Ludolf Krehl. Translated by Albion Walter Hewlett, M.D. Second edition. London: J. B. Lippincott Co. 1909. (Royal 8vo, pp. 520. 21s.)

[6] *Arthritis Deformans.* By R. Llewellyn Jones, M.B.Lond., of Bath. Bristol: John Wright and Sons, Limited; and London: Simpkin, Marshall and Co. (Roy. 8vo, pp. 365; 38 full-page plates. 9s. 6d.)

POPULAR HYGIENE.

DR. BURNET'S *Campaign against Microbes*, translated by Mr. AUSTEN,[7] is written in a popular and vivacious style which is likely to be found attractive by the average lay reader for whom the book is apparently intended. The author has a happy gift of explaining scientific matters with lucidity, and is also to be commended for his endeavours to enforce useful lessons in hygiene. But in writing a popular account of "microbes" we think he would have put his talents to better service if he had confined himself to matters about which there can be no scientific dispute. The first fifty-two pages of the book are on cancer, and develop the view that cancer is an infectious disease caused by a parasite at present unknown. The well-known arguments in favour of this view are put forward with great plausibility, but as they have failed to convince many leading pathologists it seems premature to ask the general public to accept them. After cancer come tuberculosis, tetanus, and sleeping sickness, and all are discussed in an interesting manner. The chapter on "enteritis and intestinal microbes," which is an ardent plea for the efficacy of the Bulgarian bacillus, is most entertaining. "We weed our gardens and vineyards," urges Dr. Burnet, "and clear our trees from caterpillars; why not replace the noxious microbes in our bodies by others which are beneficial?" The last chapter, the best in the book, is an historical account of Jenner's work on vaccination.

The fourteen addresses on epidemics, which have been published by the Central Committee for the Advancement of Medical Knowledge in Prussia, under the editorship of Dr. Kutner, have been prepared by various well-known German doctors and pathologists.[8] Dr. Kirchner gives a brief historical and statistical account of the ravages which have been caused by epidemics, their cost in life and money, and the hygienic measures which have been employed to combat them. Modern theories of immunity and serum therapy are outlined by Dr. Wassermann, and the treatment of this subject could not have been placed in better hands, but the writer is disappointingly brief, and in the fifteen pages which his article occupies he does not succeed in conveying more than a vague and fragmentary impression of what immunity means. One of the best articles in the volume is on the etiology and prophylaxis of dysentery, and is written by Dr. Kruse, who traces succinctly and in popular style the advance of knowledge of the amoebic and bacillary forms of this disease. Dr. Kolle gives a good account of the bacteriological methods of diagnosing plague and cholera; and the article on tropical diseases, by Dr. Nocht, may also be recommended. The volume as a whole may serve a useful purpose in the direction of popularizing knowledge about the recognition, prophylaxis, and treatment of epidemic diseases.

NOTES ON BOOKS.

THE sixth volume of *The Ophthalmic Year Book*[9] has now appeared, and is brought out under the joint editorship of Dr. Edward Jackson, of Denver, and Drs. de Schweinitz and Schneideman of Philadelphia. The literature dealing with ophthalmology is now so extensive that it is impossible for any one to read it all, and a book like this is of the utmost value. From it can be seen at a glance a list of all the recent papers, and short abstracts of most of them, which at the end of this book upwards of 70 pages are devoted to a list, arranged alphabetically under the head of authors, of the papers of any note which have been published during the past year. It should find a place in the library of all workers on ophthalmology, who owe a debt of gratitude to the authors for placing such a useful and convenient book of reference at their disposal.

[7] *The Campaign against Microbes.* By Etienne Burnet, M.D. Translated from the French by E. E. Austen, F.Z.S. London: J. Bale, Sons and Danielsson. 1909. (Med. 8vo, pp. 250. 5s.)

[8] *Volksseuchen: Vierzehn Vorträge.* Herausgegeben von Zentralkomitee für das ärztliche Fortbildungswesen in Preussen. Redigiert von Prof. Dr. R. Kutner. Jena: Gustav Fischer. 1909. (Medium 8vo, pp. 390; 74 illustrations. M.6.)

[9] *The Ophthalmic Year Book*, vol. VI. Containing a digest of the Literature of Ophthalmology with Index of Publications for the year 1908. By Edward Jackson, M.D., G. E. de Schweinitz, M.D., and Theodore B. Schneideman, M.D. Illustrated: 415 pages. Denver, Colorado: The Herrick Book and Stationery Company. 1909. (Med. 8vo, pp. 415.)

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

Budapest at the end of August! The multitudinous charms of the Hungarian capital, the fascination of the Blue Danube, the pleasure of meeting old acquaintances and of forming new ones, cannot be disputed or belittled, but these enjoyable factors attending the International Medical Congress have to be discounted in the face of a sweltering heat—a heat which even the natives complain of, and from which there is no escape. The members of the Congress, numbering well over 5,000, had been flocking into the town since the middle of the week preceding the Congress, and it may be boldly stated that medicine was fully represented in this number.

International Associates of the Medical Press.

On Friday and Saturday (August 27th and 28th) the Meeting and Congress of the International Association of the Medical Press took place. A report of the proceedings will be published in a later issue of the Journal. At the Congress representatives of any medical journal were admitted, and although the Hungarians naturally formed the largest contingent, other countries, including Austria, Belgium, Brazil, Canada, England, France, Germany, Italy, Russia, and Spain, were adequately represented. The peculiar position of Russia rendered it necessary that the press members should not appear as delegates but in their personal capacities, as at present no national association of the medical press may be formed. In the absence of Professor Posner, the President, who is unfortunately ill in Berlin, Dr. Dejace (Belgium) occupied the chair, and was ably supported by Dr. R. Blondel (Secretary) of Paris, Professor Lenhossék (President of the Hungarian Association), and others. The sessions on Saturday were limited to the members of the International Association, and, apart from the morning and afternoon meeting, a meeting of the Committee also took place. On Friday evening Professor Lenhossék entertained a large party of the medical press at a dinner held at the Hotel Hungaria. The dinner itself was excellent, the floral decorations most pleasing, and the good fellowship exhibited was most gratifying. In contrast to former entertainments given in honour of the Medical Press Congress, the speeches were brief and calm. Professor Lenhossék spoke as host, Dr. Lucas-Championnière spoke in the name of France, Professor Martin in the name of Germany, Dr. Dejace for Belgium, Mr. Adolphe Smith for England.



The Royal University Building.

Reception of Welcome.

On Saturday evening the Organizing Committee of the International Medical Congress held a reception of welcome at the Fine Arts Building in the Városliget (City Park). The following passage appeared in the *Neues Pester Journal* in connexion with this reception:

> The prelude of the Medical Congress which begins to-morrow was seen this evening in the fairylike illuminated apartments of the Fine Arts Building in the City Park. The participants were there given the opportunity of extending a hand of friendship before proceeding on the morrow to battle energetically for the public weal and for scientific progress. Most of the members of the Congress had brought their ladies with them, so that the earnestness attending the assembling of the men of science was modified by female grace.

In cold reality, however, the picture was somewhat different. The building consisted of two large rooms connected by a fairly narrow passage and supplemented by a number of side rooms of considerable size. The rooms themselves were practically unadorned, save for the entrance hall and the buffet, where two fine paintings by Benczur and Mészáros and some floral decorations assisted in giving a festive colour to the scene. About 2,000 persons were present, but the overwhelming majority were males, not too much in earnest, not too wrapped up in the affairs of science—but mere human males who did not hesitate to push and struggle, to climb and crawl—to arrive at the refreshment tables. Sweat poured from the male brows on all sides, and linen became flaccid. Ices and cold drinks only made matters worse. The majority appeared in evening dress, while the members of the Naval and Military Section relieved the black and white monotony by their varied uniforms. And the ladies appeared and suffered just as much. The members began to move homewards (or café-wards) at an early hour, and by 11 nearly all had left. In the great crush it was difficult to find friends, and many left without having fulfilled the intended function of the evening, namely, to speak with those who live in other countries, and with whom the average medical mortal only comes in contact at international gatherings.

The Hungarian Ministry of Agriculture and Hungarian Wine.

Each member of the Congress received as a present from the Hungarian Ministry of Agriculture a case containing two small bottles of Tokay wine, together with a small booklet describing the manner in which this wine is produced, its origin, and the value as a therapeutic remedy which it is supposed to possess. The present was intended as a mark of hospitality, and, even though the distribution of it and the pamphlet were entrusted to the National Association of Hungarian Wine Growers, the fact that the matter was supported by the Ministry diminished the force of any suggestion of trade advertisement. A letter written in the name of the Anti-alcohol Association, and signed by the President (Sir Victor Horsley) and Secretary (Dr. Holitscher, of Pirtenhammer, near Karlsbad), was sent to the local press calling on the members to refuse to accept this present, and pointing out that the article dealing with the therapeutic value

of the wine was written by the brother of the Director of the Wine Growers' Association. The letter stated in plain, blunt language that since alcohol can no longer claim a place in therapeutics, and since this present bore the impress of trade advertisement, it must be beneath the dignity of the medical profession to support this iniquitous traffic by accepting the bottles of wine. The *Lester Lloyd* published the letter in full, but expressed the opinion that the suggestion of the "English Abstainers" was unfortunate and discourteous. Other papers referred to the letter, but refrained from publishing it. The fact that the President of the Anti-alcohol Association is an Englishman seems to have led many to visit their disapproval on the English members of the Congress, though this feeling was not shared by the majority of the Hungarians and other medical men at Budapest, nearly all of whom, it is said, have accepted or will accept the offering.

THE INAUGURAL SESSION.

At 11 a.m. on Sunday, August 29th, some 5,000 persons assembled in the Municipal Buildings (Redoute) to attend the official inauguration of the Congress. The hall is an extremely fine one, built in the early Sixties in Romanesque - Moorish style, after designs by the architect Fesse. The huge chandeliers, shedding the light of seemingly hundreds of electric lamps, the walls magnificently adorned with their exquisite figures, the gilded galleries, and the richly decorated ceiling, at any time impress the eye; but the effect was enhanced a thousand-fold by the medley of guests, in uniforms and costumes of every possible kind and colour. There were military men and naval men in full trim from every quarter of the globe—scarlet, purple, blue, and black; men in national costumes, in furs, in the Doctor robes of the English universities; Ministers and diplomatic personages, with their breasts covered with Orders; ladies in large hats and flowing feathers, in costumes suggestive of the Paris, London, and Berlin "creators," and in simpler gowns and hats. The sight was a wonderful one, and its climax was reached when His Royal and Imperial Highness the Archduke Joseph and the leading officials of the Congress arrived, and, the whole assembly standing, the National Anthem was sung by a most excellent choir of male voices. Through sudden illness, the President of the Congress, Professor Kálmán Muller, was unfortunately prevented from being present, and his place was filled by the venerable Professor, Baron Korányi. The press arrangements were, as is not unusual in such circumstances, extremely faulty; and from the well-like corner in which some correspondents were placed, scarcely a word of the speeches could be heard. With considerable difficulty was it possible later to obtain copies of the speeches, and the members of the press felt themselves impelled to make a definite, albeit polite, protest against such arrangements, in the hope that it might be of use for future occasions.



Statue of Semmelweis, in the Ergebet-teren.

The Archduke, who spoke in French, greeted the Congress in the name of the King of Hungary, and enlarged on the scientific importance of the enormous gathering.

Following this short speech, Baron Korányi greeted the Congress as its President *pro tem.*, and explained the unfortunate, but unavoidable, absence of the actual President.

The next speaker was Count Albert Apponyi, Minister of Education of the Hungarian Government, and one of the finest orators in the country. In the most choice terms, spoken in excellent French, he skilfully avoided all questions of international policy, while he extended a warm welcome from the Government to the representatives of medicine of practically every civilized country.[1] After the Minister had skilfully refrained from the least reference of any misunderstanding or discord, but had collectively greeted all nations, the Lord Mayor of Budapest, Herr Calman de Fülepp, extended his hospitable hand in the name of the Municipality.

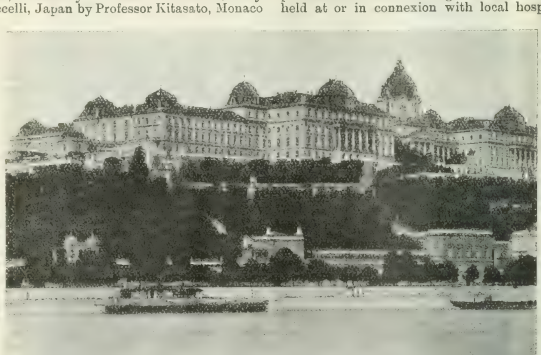
A very long discourse followed from the General Secretary of the Congress, Professor E. Gróss. First he spoke a few words in general welcome; next he read his report, in which he described the work of organization since its inception in 1906, including the work of the executive, financial, reception, and ladies' committees, and then reported that 3,432 members had already signed the roll, and that, as there were some 900 ladies accompanying the members, there was a grand total of over 4,300 persons; 274 delegates had been sent from various Governments, 149 from various universities, 327 from municipalities, and 7 from learned societies. Hungary counted 1,436 members, Germany came next with 288, France had 281. Austria followed with 235, and then came Russia 228, the United States of America 202, Italy 170, while the British Empire had 97 representatives. The growth of the International Congress was well exemplified by comparing these figures with those for the first Congress held forty years ago in Paris. The total was then 922. Professor Gross believed that the reason why the members were increasing was that the aims of the Congress were exclusively scientific. He stated that the work of ploughing and of sowing was completed, and it remained to be seen what the harvest would be like. Having read his report he proceeded to read the speech which was to have been delivered by the President. In this speech thanks were extended to His Imperial and Royal Apostolic Majesty for his patronage and to the Archduke for his presence. The work before the meeting was dealt with in general terms, and the lines along which modern scientific medicine had been and was developing were sketched. Professor Gróss finally performed the dull task of reading out the names of the Honorary Presidents of the Congress.

By this time the scene had undergone a transformation. Many, finding that in the vast space no intelligible words

[1] The exception was that the profession in Roumania had deliberately boycotted the Congress for political reasons.

could be heard, had gradually elbowed their way towards the door, and had taken their departure. Others preferred to transform the hall into a conversation room, and the din of voices gradually but steadily increased until at last it must have been impossible to hear even a chance word of the speakers from the far end of the hall. The movement of persons, the movement of fans, and the sound of voices lent a new aspect to the assembly.

The speeches of the delegates of the various countries were for the most part short, the chief exceptions being Spain, Italy, and Turkey. It would be far wiser at such meetings if the delegates would follow the excellent example set by the delegate of Japan at the International Congress of Applied Chemistry held in London this summer, by making a speech of four words—"Messieurs, je vous remercie." Germany was represented by Geh. Med. Rat. Professor Uhthoff, the United States of America by Dr. Bevan, the Argentine Republic by Professor J. Mendez, Austria by Ritter von Haberler, Belgium by M. Victor Desguin, Bulgaria by M. Ivanoff, Chili by Professor Del Rio, Denmark by Professor Bloch, Spain by Professor Simonena Zabalym, France by Professor Landouzy, Great Britain by Dr. Pavy, Canada by Professor McPhedran, Greece by Professor Kalliontzis, Italy by Professor Baccelli, Japan by Professor Kitasato, Monaco by Dr. E. Caillaud, Norway by Professor Uchermann, Holland by Professor Wenckebach, Portugal by Professor de Oliveira, Russia by Professor O. de Ott, Servia by Professor Popovitch, Switzerland by Professor Bourget, Sweden by Professor Henschen, Turkey by Professor Pacha Zoëros, and Uruguay by Professor Maggiolo. The speech of the Bulgarian representative was much applauded.



The Royal Palace.

Professor Landouzy was given a hearty reception, and his speech was cordially applauded. Dr. Pavy also received, both before and after his speech, genuine and loud applause. When Professor Baccelli rose the air became tumultuous, and for several minutes it was impossible for him to proceed. The past-master of Latin oratory was in excellent form, and his dramatic delivery earned for him a renewed ovation at the end of his speech. Professor Kitasato also came in for a considerable burst of appreciation. Lastly, the "Young Turk"—Pacha Zoëros—was forced to bow and salute again and again before he was permitted to proceed with his speech. The majority of the speeches were delivered in French, while German, Latin, and English were resorted to only by a few.

Professor LUCAS-CHAMPIONNIÈRE, the newly-elected President of the International Medical Press Association, also spoke. A Hungarian hymn closed the proceedings.

GENERAL ARRANGEMENTS.

The building—a disused polytechnic school—appeared to meet the needs of the Congress. The preliminary arrangements had been undertaken with a studious foresight, and many of the mistakes of the past were rectified. The staff of assistants distributing the tickets, literature, etc., to the members was larger than usual, and the pigeon-holing of the members' passes, etc., was carried out in a manner which obviated confusion. Interpreters in sufficient numbers were present to help the helpless, and everybody officially connected with the organization fulfilled his or her functions with a willing and happy grace.

GENERAL ADDRESSES.

Post-graduate Teaching.

On Sunday afternoon Dr. R. KUTNER, of Berlin, gave an address on post-graduate instruction for medical practitioners in the National Museum Building. The lecture was fairly well attended. He maintained the thesis that medical education cannot be regarded as complete when a student qualifies and leaves his medical school. The advance of science renders it absolutely necessary for him to continue to learn during the whole course of his medical career. Practitioners should be enabled to supplement their professional knowledge without incurring a considerable expenditure of time or money. Under these conditions Professor Kutner considers that post-graduate courses should be given gratuitously to practitioners in their own countries, and that the courses should be held at a convenient situation in or near the town or village in which he resides, and at a time which does not interfere with his professional work. In large towns the courses could be held at or in connexion with local hospitals, and should be given by medical men with experience in teaching. The subjects taught should include all branches of theoretical and clinical medicine, as well as the allied sciences, which now form part of modern medicine. Medical politics should also be taught. The lecture, demonstrations, and practical classes at present given at scientific institutions and hospitals should be supplemented by the establishment of institutes exclusively for the purpose of post-graduate instruction. Professor Kutner was of opinion that far too little is done in this direction, and regarded England as backward in the matter.

In connexion with this lecture an international commission for post-graduate instruction was formed.

Pre-Columbian Diseases.

Professor EUGÈNE HOLLÄNDER (Berlin) gave an address on diseases in the pre-Columbian era in the old House of Parliament. He based his remarks on studies made in the ancient Peruvian collection of the Berlin Museum. The questions which he examined included those concerning mutilations and diseases discovered and depicted in the carvings, mouldings, and paintings of the tribes of the Incas and the Huacos. He found that these pictorial records enabled the investigator to follow the individual member of the tribe from his birth to his death, and to study his habits of life. Although he did not feel justified in identifying the diseases of which he obtained records with leprosy, syphilis, and lupus, he was able to point out considerable resemblances. The pathology of what is known as Peruvian lupus or uta is obscure, and in the absence of etiological details it is impossible to deal minutely with the disease. In conclusion, he recorded the fact that amputations were performed by the Inca tribesmen.

THE SECTIONS.

A General Survey.

From the point of view of smooth working and satisfactory results, the organization of the twenty-one sections of the Congress was considerably better than was the case in Lisbon and Madrid. In most sections the rooms in which the meeting were held were satisfactory, and in a few large, commodious, and well-appointed lecture theatres served their purpose excellently. The attendance was fair in the majority and very good indeed in a few, notably medicine, surgery, and neurology. There was, however, a very great deal of overlapping which rendered the attendance difficult for those members who wished to listen to discourses on subjects of specialized interest. An example of this overlapping may be mentioned. In the section for general pathology, in that of anatomical pathology, in that of hygiene and immunity, in that of medicine, and in that of therapeutics, various branches of therapeutic or prophylactic immunization were included. No hard and fast line can be drawn between general and anatomical pathology, and the creation of two sections caused inconvenience in several instances. In the next place overwhelmingly long programmes had been prepared, and the number of absentees was inexcusably great. As is usual at Continental gatherings, the sections were unpunctual, and in one if not more cases the proceedings began more than an hour later than the advertised time. The discussions for the most part were of little importance, and few members availed themselves of the opportunity. Heated arguments were fortunately rare. After a moderately severe morning's work on the first day, the majority of the sections closed their doors until the morrow, and the members availed themselves to a considerable extent of the opportunity of visiting some of the institutions connected with their special subjects in Budapest. The old sin of reading papers which had been read or published in almost identical words elsewhere was freely committed not only by the small unknown man, who aims at notoriety by offering his colleagues matter of doubtful scientific value, but also by some great professors.

The papers were listened to with considerable interest, and with a degree of decorous silence, partial or complete, which contrasted well with the behaviour which has been experienced at former international congresses. Among the subjects which attracted special attention the following may be mentioned: A discussion on appendicitis; one on immunity, including anaphylaxis; puerperal infection; uterine myomata; tuberculin treatment of tuberculosis; malignant disease of the larynx. The special lectures by Bashford, Gruber and Siegmeth were well attended. Doyen also delivered a special lecture, and had placarded the announcement of the same everywhere. His audience, however, consisted of a number of persons who, either from inquisitiveness or foolishness, were prepared to support a procedure which the majority of the scientific members deliberately condemned. Brief accounts of some of the more important papers and discussions will be given in a subsequent issue.

Mention should be made of the fact that the Sixteenth Section served at the same time as the Eighth International Congress of Otology. Considerably smoother working would have been attained in the individual sections had a set programme been made out beforehand, and either published in the daily journal or posted in the room. The general programme was not taken in order in the great majority of cases, and it was difficult to ascertain previously when a special subject would be discussed.

The English Members.

In one of the reading rooms copies of the BRITISH MEDICAL JOURNAL and *Lancet*, as well as of the daily papers, were provided, and many facilities were extended which contributed toward making the stay of the British medical man a pleasant one.

A soirée had been arranged for Sunday evening, to be given by the President, Professor Müller, but had to be postponed on account of the regrettable sudden attack of illness. It is, however, gratifying that the President recovered rapidly, and was able to take part in the proceedings later in the week.

(To be continued.)

THE "RED CROSS" IN PERSIA.

WE are indebted to Dr. A. R. Neligan, Physician to the British Legation, Tehran, for the following notes.

The recent fighting at Tehran was remarkable, among other things, for the first appearance of the Red Cross Society in Persia. Sipahdar, the commander of the northern section of the Nationalist forces, was accompanied from Resht (the capital of the province of Ghilan, which skirts the Caspian Sea) by an Armenian doctor who holds an American degree. He had with him several helpers, both male and female—members of the Red Cross Society—and a supply of medical and surgical necessities, including a number of camp beds. During the fighting which took place outside Tehran a hospital was set up at the village of Hessarek; there the wounded were collected and treated. A few days after the capture of Tehran by the Nationalists those wounded, to the number of twenty-eight, were brought into the town and placed in a large Persian house (once the Park Hotel), over which the Red Cross flag was hoisted. There were already in the house about a dozen Nationalists who had been wounded in the fighting in the town, and who, with others, were being treated by Dr. Scott, Medical Superintendent of the Indo-European Telegraph Department. On visiting this extemporized hospital I was agreeably surprised to find all in very good order, and white-gowned nurses, both male and female—all Armenians—in attendance, with the red cross on their arms. Other wounded were being treated at the Persian Government Hospital and at a native hospital.

The number of casualties it is difficult to give, even approximately; it can, however, be stated that they were very few in comparison with the tremendous fusillade which was carried on for parts of four days and nights. Ancient and modern rifles, bombs, Maxims, quick-firing Creusot guns, and brass 15-pounders, firing shrapnel, were used. Probably the Nationalists had about 100 men put out of action, of whom 20 were killed outright or died later. On the Royalist side it is known that about 40 men of the Silakhori regiment alone were killed in one attack on some sangars at the east end of the city. Most of the wounded whom I saw had been hit by modern bullets, and the mercifulness of these missiles was once more exemplified, except where they had been "spread" by first hitting a wall, etc. It was often difficult to tell which was the wound of entrance and which of exit. Most healed quickly under the first applied dry dressing. The following are some of the more interesting cases I saw:

1. A Jewess who had been shot through the lower part of the chest and the abdomen, and had no symptoms. The bullet—a small-bore—had entered in the right anterior axillary line in the eighth intercostal space, and had emerged 3 in. from the spine, on the left side, just below the twelfth rib. She had also been hit in the middle of the left forearm; the bullet had entered obliquely, had splintered the radius, and caused a large irregular ("explosive") exit wound.

2. An Armenian, shot through the right side of the chest. The bullet—a small-bore—entered in the right anterior axillary line in the fourth interspace, and emerged at a somewhat lower level behind, close to the right side of the spine. There was no haemoptysis or haemothorax. The man was a very restless, excitable individual, and could not be kept quiet. Signs of consolidation of the upper and posterior part of the lowest lobe of the lung appeared on the second day. On the third day he rather suddenly grew worse—pneumothorax with emphysema of the chest wall was found to have developed. He died.

3. An Armenian who was hit in the left cheek by a bullet, which had glanced off a wall, causing a huge gaping lacerated external wound. The left superior maxilla was practically blown away, with most of the hard and soft palates and part of the left side of the tongue. Splinters of bone were driven into the opposite cheek. There was much shock, but not much haemorrhage. Tremendous swelling of the left side of the face followed, and subconjunctival haemorrhage in the left eye. Pieces of bone and slough were removed daily. It was impossible to prevent the wound from becoming horribly foul. The man had to be fed per rectum. Eventually the condition of the tissues improved so much that Dr. Scott was able to draw the edges of the wound together with wire sutures. The future is, however, not very bright for the poor fellow.

I was struck by the number of wounds received in the region of the groin—through the upper end of the thigh, just inside or outside of the great vessels. Some of the wounds of exit were in the opposite buttock. Most of these cases had no symptoms beyond pain and stiffness.

LITERARY NOTES.

MR. G. MUNRO SMITH, Consulting Surgeon to the Bristol Royal Infirmary, sends us the following note containing an interesting suggestion as to the source of some of the "visions" on which William Blake founded many of his most striking drawings: "Whilst examining some of the drawings of William Blake I was much struck by the irregular zigzag outline which is present in several of them, notably in one called 'The Ancient of Days,' and in two or three illustrations to the Book of Job. This very peculiar embellishment gives to the picture a weird and rather terrible appearance, and it is possible that Blake introduced it for this purpose. But if we compare the fortification-like angles and lines in the engraving of 'The Destruction of Job's Children' and in 'Job's Dreams' (Fig. 1) with the Sinistral Teichopsia figured as a prodroma of migraine in Dr. Hubert Airy's paper reproduced in Dr. Liveing's book on migraine (Fig. 2), the similarity is so great that it has occurred to me that probably Blake suffered from this form of premonition of sick headache and reproduced it in his drawings. With an ordinary artist this would seem unlikely; but we know from the testimony of several that Blake declared that he actually saw many of the things he drew. The visionary heads he copied for his friend Varley were, according to Blake, actual copies from the spectre of the individual who came, at his bidding, to 'sit for his portrait.' When we further remember that these 'visions' could only be conjured up occasionally, and that Blake was, to say the least of it, very eccentric, it does not seem improbable that we have in these much-talked-of drawings of the artist-poet an interesting reproduction of his own premonitory visual symptoms of migraine. Whether there is any evidence that he suffered from headache I do not know, but the absence of such evidence does not disprove the probability of this suggestion, which I give for what it is worth." As Mr. Munro Smith leaves in doubt the question whether Blake suffered from headache, and as evidence that he did would have gone far to confirm the suggestion made in the above note, we asked Mr. Henry B. Wheatley if he knew of the existence of any evidence on the point. He very kindly took much interest in the inquiry, and informs us that after going through Gilchrist's *Life of William Blake* page by page he can find no mention of headaches, nor, indeed, any reference to illness of any kind. It is not probable that any facts overlooked by Gilchrist would be found in other works on Blake, and a less detailed search of two such books afforded no information on the point.



FIG. 1.

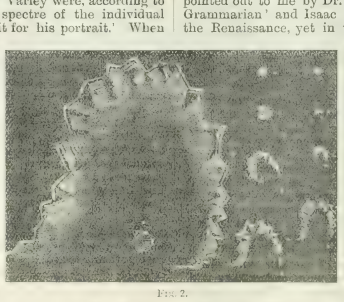


FIG. 2.

We are indebted to Mr. Munro Smith for the following note also: "In the Literary Notes of the JOURNAL for August 7th there is a brief notice of the last Linacre lecture in which Professor Osler suggests that 'Linacre may have been the scholar who gave Browning the idea of the "Grammarian's Funeral."' The age in which Linacre lived (the period of the revival of learning in Europe), his devotion to learning, his classical studies, and his death from calculus all point to this conclusion. It has struck me, however, that the resemblance to other great scholars, who have devoted themselves to learning regardless of all other considerations, is so close that probably the prototype is 'composite.' For instance, one of the greatest grammarians, Samuel Johnson, was, like Browning's hero, 'soul-hydroptic with a sacred thirst' for knowledge of all kinds, which he cultivated in the teeth of ill health; he also lived for many years 'nameless,' and had this further likeness that in his youth he had, according to Boswell, a countenance 'of the cast of an ancient statue' (He was a man who had thy face and throat, lyric Apollo!)

"But there is perhaps a still greater resemblance (as pointed out to me by Dr. Alexander Smith) between 'the Grammarian' and Isaac Casaubon, who lived, if not in the Renaissance, yet in the immediate wake of it. He was not only a keen scholar, working early and late at his books, but he had the essential characteristic of Browning's hero—an utter contempt for health and all worldly advantages compared with the acquisition of knowledge. 'When the claims of business or society have taken up any considerable part of a day, his outcries are those of a man who is being robbed. When he has read continuously a whole day from early morning to late at night, "*noctem addens operi*," he enters a satisfactory "To-day I have truly lived"—"*Hodie vixi*" (Mark Pattison's *Isaac Casaubon*, p. 450). Towards the end of Casaubon's life he was harassed with 'phlegm in the air passages' and a 'hacking cough' ('tussis attacked him'), and suffered intense pain from vesical stones ('calculus racked him'). He, moreover, like Browning's hero-scholar, had his 'thoughts on eternity' and 'reckoned not the number of his years, felt not the encroachment of age, or the sap of health, or the decay of his body.'"

BRITISH MEDICAL BENEVOLENT FUND.

AT the August meeting of the committee 16 cases were considered, and grants amounting to £155 made to 15 of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 39, of M.D., C.M.Aberd. Left penniless at husband's sudden death three years ago, and now endeavours to support herself by letting lodgings. Two children, aged 11 and 9. Relieved twice, £10. Voted £12.

2. Daughter, aged 53, of late M.R.C.S., L.S.A. Used to act as a nurse-companion, but is now unable to obtain a post on account of failing health. Relieved seven times, £61. Voted £12.

3. L.R.C.P.Edin., aged 65. Used to have a good practice, but family troubles have exhausted his means, and he is now compelled to give up work owing to ill health. Children unable to help. Voted £18.

4. Daughter, aged 53, of late M.R.C.S., L.S.A. Has supported herself since father's death forty years ago, but is now in feeble health. Voted £10.

5. Daughter, aged 59, of late L.R.C.P.I. Since father's death in 1870 has maintained herself by teaching, but now finds it impossible to get pupils, and is dependent on an elder sister whose income is only 15s. a week. Voted £12.

6. M.R.C.S., L.R.C.P., aged 41. Practises near London, but is in temporary difficulties owing to ill health. Four children, 12 to 7. Voted £9, with leave to apply again in six months.

7. Lady practitioner (L.R.C.P. and S.Edin.), aged 34. No income, and has been incapacitated for the last three years by ill health. Friends unable to help. Voted £18.

8. Daughter, aged 60, of late M.R.C.S. Maintained herself as a dispenser for several years, but is now unable to obtain

another post. Small earnings by wood carving and slight help from a sister who has to earn her own living. Relieved three times, £36. Voted £10.

9. M.R.C.S., aged 70. Incapacitated by locomotor ataxy, and only income an Epsom College pension of £30. Slight help from son earning a small weekly wage. Relieved twice, £24. Voted £5.

10. Daughter, aged 61, of late M.R.C.S., L.S.A. Used to be a housekeeper, but has had two slight epileptic strokes. Relieved three times, £36. Voted £12.

11. Daughter, aged 63, of late M.D., M.R.C.P.Lond. Was at one time amply provided for, but mortgaged her property to assist her father, and at its realization was barely able to repay the loan. Has just obtained a pension from another charity. Relieved twice, £22. Voted £5.

12. Widow, aged 50, of L.R.C.P., L.R.C.S.Edin. Quite unprovided for at death of husband a few years ago; slight help from a brother-in-law and small earnings by needlework. Two children, aged 18 and 16. Relieved four times, £40. Voted £12.

13. Widow, aged 79, of M.R.C.S., L.S.A. Has a small income, but is obliged to maintain three deaf and dumb children. Relieved seven times, £60. Voted £5.

14. Daughter, aged 57, of L.F.P.S.Glasg. Has earned a living since the age of 16, and helped to support her mother until her death. Now unable to command a salary, but receives a home in return for services. Relieved twice, £10. Voted £5.

15. Widow, aged 54, of L.R.C.P.Edin. No income, and at husband's death two years ago the practice realized barely sufficient to pay immediate debts. Slight help from children. Relieved twice, £20. Voted £20.

Contributions may be sent to the Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

MOTOR CARS FOR MEDICAL MEN.

A CORRECTION.

THE Clement Talbot Company, Limited, Barlby Road, North Kensington, W., have recently begun to supply a 12-h.p. landaulette, especially designed for the use of medical men. In an advertisement of this, published in our columns last week, it was, by a clerical error, stated that the price of the car complete was £365. It will be seen by an advertisement elsewhere in this issue that the price of the car is £485. Very favourable reports on the performances of the cars made by this company have recently been brought to our notice. We are informed, for instance, that in the competition last week of the Derby and District and North Stafford Clubs a 15-h.p. Talbot, belonging to Mr. J. L. Kirk, won the Uttoxeter Cup on formula and the medal for second fastest time in the annual hill climb. In the competition for the Reversbach Cup, Potchefstroom, Transvaal, both the first and the second cars were of this make.

AN IMPROVED ELECTRICAL ACCUMULATOR.

Medical men who have practical experience of electrical accumulators and the various troubles connected with them, chief of which is the corrosion of the points of contact by acid spray, will be interested to learn that the Millswood Engineering Company (South Brent, Devon) have placed upon the market an improved form of apparatus which is likely to be of special use for motor cars. A new form of terminal, which is hollow and made of non-conducting material, is its distinguishing feature. The terminal completely surrounds and encloses the metallic contacts, thereby affording protection against any accidental short-circuits and also shielding the metal from dirt and acid spray. In this manner increased usefulness and reliability for the accumulator are ensured.

AN AUTOMATIC CARBURETTOR.

A mechanically automatic carburettor—the Claudel-Hobson—which has won high awards in France on the ground that it is compact and easy to fix, and favours silent running and easy starting, has been introduced into this country by the H. M. Hobson Company, of 29, Vauxhall Bridge Road, S.W. This company offers to fit the carburettor and to replace it by the original if found unsatisfactory. It is further claimed for this carburettor that it effects a considerable economy in petrol. We are informed, for instance, that in one independent experiment made with a 30-h.p. Daimler the saving was more than 50 per cent.

STEAM CARS.

A. E. T. asks for the experience of medical men who have used steam cars, especially with regard to reliability and running cost as compared with petrol cars. Our correspondent asks more particularly with regard to the Turner-Miesse car.

*** There is a short note upon this subject in the article on motor cars for medical men, published in the BRITISH MEDICAL JOURNAL of March 23rd, 1907, p. 695. This note led to a communication being received from Dr. E. H. O. Sankey, of Boreatton Park, Baschurch, who stated (BRITISH MEDICAL JOURNAL, April 6th, 1907, p. 848) that he had driven a Turner-Miesse car for some years, and was satisfied with its performance and also with the cost of running. He considered that the only valid objection to steam cars was that they took about fifteen minutes to get up heat enough for the road from dead cold. In a further article on steam and electric cars, published in the JOURNAL of December 12th, 1908, p. 1759, the advantages and disadvantages of steam cars were briefly discussed.

THE WINTER SESSION IN THE MEDICAL SCHOOLS.

THE arrangements in view for the opening of the winter work at most of the medical schools will be found in the following paragraphs. At some institutions details are not yet finally settled.

ST. BARTHOLOMEW'S HOSPITAL.—The opening ceremony will be the old students' annual dinner, which, as usual, will be held in the Great Hall of the hospital on October 1st at 7 p.m. punctually. The chair will be taken by Dr. W. P. Herringham.

ST. THOMAS'S HOSPITAL.—The winter session will commence on Friday, October 1st, without formal ceremony. The annual dinner of old students will take place the same evening at the Hotel Cecil at 7 for 7.30, Mr. J. B. Lawford in the chair.

ST. GEORGE'S HOSPITAL.—The winter's work will be inaugurated at 3 p.m., on October 1st, by an address by Dr. H. D. Rolleston entitled St. George's and the Progress of Physic. It will be followed by the annual meeting of the St. George's Club. The old students' annual dinner will be held the same evening at Prince's Restaurant, Mr. A. Marmaduke Sheild in the chair.

THE LONDON HOSPITAL.—Work for the winter session will begin on Friday, October 1st, on which date the staff will hold an afternoon reception in the college library from 3 to 5 p.m. The old students' dinner will take place the same evening at the Savoy Hotel, Dr. F. J. Smith in the chair.

MIDDLESEX HOSPITAL.—The winter session will commence on Friday, October 1st, when an introductory address will be delivered by Dr. J. Strickland Goodall; a prize distribution will follow. The annual dinner of past and present students will take place the same evening at the Trocadero at 7 p.m., Mr. John Murray in the chair.

UNIVERSITY COLLEGE HOSPITAL.—The winter term will be inaugurated on Friday, October 1st, by an address in the library of the school at 5 p.m. from Sir John Tweedy. The dinner of past and present students will be held the same evening at the Gaiety Restaurant, Mr. A. P. Gould in the chair.

ST. MARY'S HOSPITAL.—The winter session will commence on Friday, October 1st, when the prizes and awards for the sessions 1908-9 will be presented by Dr. H. A. Miers, F.R.S., Principal of the University of London, at 3 p.m., in the Medical School Library. The annual dinner of past and present students will be held at the Café Royal, Regent Street, W., on Friday, October 1st, at 7 p.m., Dr. Milner Moore in the chair.

KING'S COLLEGE HOSPITAL.—The winter's work will commence without formal ceremony on Friday, October 1st. The dinner of past and present students will be held the same evening at 6.30 for 7 p.m. at the Waldorf Hotel, Aldwych, W.C., Mr. T. F. Hugh Smith in the chair.

WESTMINSTER HOSPITAL.—As in recent past years, term will commence without formal prelude, on Monday, October 4th. On the following evening, Tuesday, October 5th, past and present students of the hospital will meet at dinner at Oddenino's Imperial Restaurant, when Dr. H. G. Hebb will take the chair.

CHARING CROSS HOSPITAL.—The winter session will be opened on Monday, October 4th, by the annual distribution of prizes and an address to students. The ceremony will take place in the out-patients' hall of the hospital at 4 p.m., the prizes being handed to successful students by the Right Hon. Viscount Ridley, who will also deliver an address. The dinner of past and present students will be held the same evening at the Criterion, Dr. William Hunter in the chair.

THE LONDON SCHOOL OF MEDICINE FOR WOMEN.—The winter work will be inaugurated at 4 p.m. on Friday, October 1st, by an address from Mrs. Henry Fawcett, LL.D. The ceremony will take place, as usual, at the school buildings, 8, Hunter Street, Brunswick Square.

UNIVERSITY OF DURHAM.—The winter session will commence on Monday, October 4th, without any formal opening ceremony.

UNIVERSITY OF MANCHESTER.—The winter session will be inaugurated at 4.30 p.m. on Friday, October 1st, by an address from Professor G. R. Murray on the development of modern medical education.

UNIVERSITY OF LIVERPOOL.—Work for the winter in the Medical Faculty will commence on Tuesday, October 5th, being inaugurated by the delivery of an address by Mr. Charles A. Ballance, in the Arts Theatre of the University, at 4 p.m.

UNIVERSITY OF LEEDS.—An address inaugural to the commencement of the work of the winter session will be delivered at 4 p.m. in the School of Medicine by the Right Hon. Lord Justice Fletcher Moulton, entitled Some Thoughts on Causation in Health and Disease. The annual dinner will be held the same evening in the library of the school.

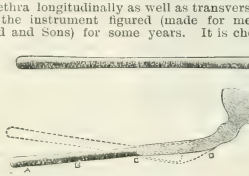
UNIVERSITY OF SHEFFIELD.—The winter's work in the Medical Faculty will commence on Wednesday, October 6th, without formal ceremony.

NORTH-EAST LONDON POST-GRADUATE COLLEGE.—The winter session will commence on Thursday, October 7th, being inaugurated by an address delivered by Mr. J. Bland-Sutton to the members of the College and North-East London Clinical Society conjointly.

MEDICAL AND SURGICAL APPLIANCES.

A Urethral Dilator.

MR. JAMES MACMUNN writes: Infiltrations of the anterior urethra have only recently been recognized as salient causes of gleet, although this takes us back to the dictum of Otis and its partial truth, that "gleet means stricture." Kollmann's dilators, if scientifically used and adapted, are a distinct advance, but this is the exception. They fail to dilate just where this is required, at the end of the urethral bulb D. They dilate too extensive an area at one time, and they dilate too uniformly a passage which is not uniform in size at different sites. It is essential also to stretch the urethra longitudinally as well as transversely. I have used the instrument figured (made for me by Messrs. Arnold and Sons) for some years. It is cheap, simple, and effective. I possess six sizes; each instrument includes two. I pass the largest I can down to the end of the bulb, stretching the penis over it. The urethra will extend fully 1½ in. beyond its resting length. I run my fingers along the outside to use massage and empty follicles; this is important. Then, making the thumb the power, and fingers the fulcrum, at A and B the sound is made a sliding lever to distend the canal on withdrawal. The roof is stretched by reversed power. The mode is effectual and allows of some play for intelligence. The penis is extended all the time. Every urethra possesses its individuality.



Medical News.

THE third International Congress of School Hygiene, to be held in Paris, has been postponed until the first week of next August (1910).

THE estate of the late Dr. Andrew James Duncan, Consulting Physician to the Dundee Royal Infirmary, who died on July 7th, has been sworn at the value of £23,612.

THE new ward wing and the nurses' home of the Glasgow Cancer Hospital, Hill Street, Garnethill, have been completed. It is hoped that the whole building will be finished next spring.

THE results of the census of religious bodies taken in the United States in 1906 have recently been published, and it appears that 72½ per cent. of the Christian Scientists are of the female sex.

THE Governor of the German territory of Kiantschau in China has issued an order rendering illegal the possession or importation, without special licence, of morphine, or morphine syringes or needles. Licences will be granted only to doctors, apothecaries, and hospitals.

THE War Office announces that existing vacancies for staff nurses in Queen Alexandra's Imperial Military Nursing Service will be filled at once. Full particulars as to the conditions of service and forms of application for admission can be obtained by applying to the Secretary, War Office, Whitehall, S.W.

THE annual meeting of the Caledonian Medical Society will be held in the Town Hall, Lancaster, on Friday, September 17th, at 3 p.m., under the Presidency of Dr. David Blair, of Lancaster. In addition to the presidential address, an interesting communication on the '15 and the '45 in Lancaster has been promised by Dr. H. MacCalman, and the municipal Charters and Insignia of Lancaster will be exhibited and described by the Town Clerk, Mr. T. Cann Hughes, M.A., F.S.A. The annual dinner of the society will be held the same evening at the County Hotel, Lancaster.

TUBERCULOSIS exhibitions such as the one now in progress at the White City, and as that which proved so successful in Ireland, seem popular in the United States. Last year the New York State Charities Aid Association did a considerable amount of work in this direction; and this year, according to the *New York Medical Journal*, six separate exhibitions have been planned, and are to be sent to forty-two fairs in New York State. They will be accompanied by graduates of Columbia University who have been prepared for their management and demonstration by a special course of lectures.

THE Metropolitan Asylums Board has made arrangements for two separate courses of lectures and demonstrations in hospital administration for the benefit of candidates for the Diploma in Public Health. They will begin respectively on the first Monday and the first Wednesday in October, and, except that they will take place at different institutions, will cover the same ground. The courses will last three months and the lecturers are Dr. McCombie of the North-Western Hospital and Dr. F. M. Turner of the South-Eastern Hospital. The fee is £3 3s.

THE centenary of the birth of Oliver Wendell Holmes is to be celebrated by the Medical Society of the county of New York next month. The precise date of his birth was August 29th, 1809, the year in which Darwin likewise first saw the light. The position which Holmes occupied during his lifetime was of quite an exceptional character, for while his books were, and indeed still are, popular among all cultivated classes, he remained in the active service of medicine for long over thirty years as Professor of Anatomy at Harvard, and exercised a distinct influence on medical thought by his early advocacy of the view that puerperal fever was an infectious malady.

AT the Congress of the French Association for the Advancement of Science at Lille, at the beginning of August, the views as to the value of radiography in the diagnosis of fracture, which M. Lucas-Championnière had previously expressed in his address at Cardiff, met with general support. MM. Mouchet and Lamy thought the method a valuable means of controlling other clinical observations, but that the information it gave was only a part of that by which the surgeon should be guided in making a diagnosis: M. Joubert pointed out that a radiogram might fail to show certain fractures, and might not reveal the existence of callus, even in some cases where it had already become firm.

THE second International Food Congress will be held in Paris from October 17th to 24th, under the patronage of the Ministers of Agriculture, Commerce, and of the Interior, and under the presidency of Dr. Bordas, Director of the Laboratories of the Ministry of Finance. The first congress was held in Geneva in 1908, it was promoted by the Society of the White Cross of Geneva, founded in that year, with the object of bringing into co-operation national organizations for the amelioration of social conditions in various countries. The congress in Paris will comprise three sections: The first on alimentary technology, the second on hygiene, and the third on crude drugs, essential oils and crude aromatic substances, chemical products and mineral waters. Among the subjects to be discussed will be sausage making, refining of lard, the preparation of food fats, the curing of meats, and the production of syrups and biscuits. The Honorary Secretary for Great Britain is Mr. Loudon M. Douglas, 3, Lauder Road, Edinburgh, from whom further particulars can be obtained.

THE Natural History Department of the British Museum has received a cast of the fossil human lower jaw found recently some 70 ft. below the surface in a sand deposit at Mauer, near Heidelberg. It was found along with fossil remains of a rhinoceros and elephant, similar to those met with in the Cromer forest beds, and Dr. Shoetensack, who has published a description of the jaw, considers that it may be referred to the later pleistocene epoch. The discovery of this "Heidelberg man," therefore, takes the antiquity of the human race back to an age earlier than the famous Spy and Neanderthal skulls. The jaw is massive, and has no chin, in which respects it presents ape-like characters, but the teeth are distinctly human; the molars have five cusps, the canines are not specially prominent, and the dimensions of the teeth generally are within the limits of variation at the present day. The skull is exhibited in a case which contains also casts of *Pithecanthropus erectus* from Java, the Neanderthal skull, the Gibraltar skull of the same type, the Spy skull and limb bones, the Cannstadt skull, and the Tilbury skull described by Owen.

British Medical Journal.

SATURDAY, SEPTEMBER 11TH, 1909.

THE ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY.

THE SUPPLEMENT for last week contained a summary of the Annual Report of the Commissioners in Lunacy for the year 1908.[1] The report is noteworthy because, in addition to the usual statistical information concerning the certified insane, it contains the comments of the Lunacy Commissioners on the conclusions and recommendations of the Royal Commission on the Care and Control of the Feeble-minded—a matter in which public interest has been recently revived by the conditional promises held out by the Secretary of State to the deputation which he received last week. The statistical information is fully dealt with in the summary already published,[2] and it is unnecessary here to do more than allude to outstanding features. These, which are merely accentuations of what has been recorded year by year for some time in successive annual reports, are, first, an increase in the numbers of the certified insane, both absolutely and relatively to the population at large; secondly, an increase, both absolute and relative, in the number of admissions to asylums; and, thirdly, declining recovery and death-rates. Thus in the last ten years the certified insane have increased from 105,086 to 128,787, or from 1 in every 303 to 1 in every 278 of the general population. The yearly admissions have risen from 19,289, or 6.05 per 10,000 of population, to 22,244, or 6.29 per 10,000 of population, and the yearly first admissions from 15,752, or 4.94 per 10,000, to 18,346, or 5.18 per 10,000. During the same period the recovery-rate, calculated on the total number under treatment, has fallen from 7.37 per cent. to 6.24 per cent., or calculated on the admissions from 39.26 per cent. to 35.38 per cent.; and the death-rate, calculated on the daily average number daily resident from 9.87 per cent. to 9.39 per cent. These figures, as we have said on many previous occasions, do not afford sufficing evidence of any actual increase in the occurrence of insanity. On the other hand, careful statistical inquiry tends rather to show that this apparent increase is due to two main causes—accumulation within asylums and a greater rate of flow from the considerable reserve of uncertified insane in the country into the certified class. In this relation the Commissioners this year draw attention to an interesting fact—namely, that the opening of new asylum accommodation has the effect of considerably raising the admission-rate of new cases by encouraging the removal from workhouse care of more than the usual output, and, possibly, they add, by favouring a greater freedom of certification. In what way the provision of fresh accommodation acts as a stimulus to certification affords room for conjecture; but, whatever the cause, the fact remains that the numbers under detention have increased within ten years in provincial asylums by 29 per cent., and in London County Asylums by 55 per cent. This is sufficiently serious from the economic point of view, more particularly as it is the pauper and dependent class which furnishes almost the entire increase. The problem becomes yearly more pressing, but until enough is known of the causation of insanity to allow of the sure limitation of its occurrence, its destruction in the seed—which time is not yet—the first and obvious thing to be done is to devise some more economical ways of providing for the insane. To the Commissioners' suggestions to the Lord Chancellor on this point we shall revert later.

In former years the Commissioners, in tabulating the various assigned causes of insanity, have given the relative proportions of the etiological factors in the total admissions. This year, having adopted the new tables drawn up by the Special Committee of the Medico-Psychological Association, the Commissioners also supply tables setting forth the assigned causes in the first-attack cases only among the direct admissions. In our summary, for the sake of uniformity with previous years, we have followed the old plan; but inasmuch as the first-attack cases are likely to yield more accurate results, it may be stated here that in these cases alcoholism was assigned as cause in 16.9 per cent., acquired syphilis in 5.5 per cent., influenza in 3.1 per cent., critical periods in 18.5 per cent., and mental stress in 23.0 per cent. Epilepsy was assigned as cause in no less than 5.8 per cent. of the first-attack cases, and other nervous diseases as an additional 4.2 per cent. The comparative frequency of cardio-vascular degeneration in association with insanity is commented upon by the Commissioners, who give the proportion as 4.4 per cent. We see that the proportion in the first-attack admissions was 3.8 per cent., but doubtless this is well below the truth. As to hereditary influences, an insane heredity was ascertained in 21.9 per cent., an alcoholic heredity in 5.3 per cent., and one of other neuropathies in 3.6 per cent., giving a total neuropathic heredity in 30.8 per cent. of the first-attack cases.

With regard to the relative distribution of the various forms of insanity in the admissions, the causes of death in asylums during 1907, and an interesting comparison of these with the same causes of death and their relative proportions in the community at large, we would refer to the summary already mentioned.

The Commissioners' remarks express a general concurrence on all vital matters with the recommendations of the Royal Commission on the Care and Control of the Feeble-minded. With regard to the provisional measures recommended by the Royal Commission of amalgamating the office of the Chancery Visitors with that of the Lunacy Commissioners and of the appointment of two additional Medical Commissioners, they anticipate no difficulty in arranging the work of the amalgamated body, should the Lord Chancellor adopt this recommendation, and very heartily concur in the advisability of the latter recommendation. Further, and in conclusion, they revert to certain suggestions contained in the report of the Royal Commission concerning additional modes of providing for certain classes of the insane, which, they think, might properly receive early attention pending the consideration of the scheme as a whole. In the first place, they agree that much might be done to obviate the necessity for costly asylum extensions by the erection, in connexion with existing asylums, of cheaper buildings for mild chronic cases and by the founding of farm colonies.

[1] *Sixty-third Report of the Commissioners in Lunacy.* London: Eyre and Spottiswoode. 1909. (Pp. 570; price 2s. 11d.)
[2] SUPPLEMENT, September 4th, 1909, p. 211.

In the second place, they express themselves as entirely in favour of the extension of the boarding-out system. They point out that under the limitations imposed by Section 57 of the Lunacy Act boarding-out is practically a dead letter in England and Wales, and with regard to the analogous class of outdoor pauper imbeciles—or quarterly lunatics, as they are sometimes called—that the present supervision is not at all satisfactory. They hold strongly that all of these cases should be visited by members of the Lunacy Board, though this would necessitate the further numerical strengthening of the Board. Further legislation, they say, would be required, but under proper safeguards and in suitable cases boarding-out would be beneficial, they think, to the patients themselves and to the public purse. Finally, as already mentioned in our issue of August 21st, they believe that much benefit would accrue from the provision of observation wards, reception houses, and mental hospitals into which the insane could be received on the first manifestation of derangement. They therefore urge the desirability of fresh legislation providing for the notification and registration of cases of "unconfirmed" insanity, extending the principle beyond the limits of cases in "single care" so as to include observation wards, reception houses, and special hospitals. These suggestions, the Commissioners say, could be brought about by only slight modifications of the Lunacy Acts, and there can be no doubt that their adoption by the Lord Chancellor would prove of immediate value. From them would follow a considerable pecuniary saving; the formation of special hospitals and psychiatrical clinics with their attendant advantages to the scientific study and treatment of insanity, and improved conditions for many thousands of insane people.

They would not, however, have the effect of bringing under official cognizance and control the great numbers of the mentally defective—imbecile, epileptic, criminal, and drunken—who at present escape the net of certification, and who, for want of training and control, are lifelong cares to their parents, dangers to society, and a menace to posterity. Nor would they ensure the creation of a single co-ordinated body having the care and control of all cases of mental defect or disorder in the country. Judging from the reply of the Home Secretary last week to the deputation organized by the Charity Organization Society,[8] on which the British Medical Association was represented, to urge the necessity for early legislation in order to carry out the recommendations contained in the report of the Royal Commission on the Feeble-minded, there are grounds for expecting a practical effort to be made next year. What shape this practical effort will ultimately assume after each of the departments concerned has had its say it would be idle to speculate. We have, however, the assurance of the Home Secretary that the matter is one which will have to be treated broadly and from the point of view of the general interest and of the whole country. In view, therefore, of the foregoing considerations, it would appear inadvisable to press for any provisional alterations in the law such as the Lunacy Commissioners suggest—admirable as these are—which might, to quote Mr. Gladstone, "queer the pitch" for legislation on a broad scale.

The British Medical Association, through its Medico-Political Committee and lunacy subcommittees, has been actively endeavouring to forward such broad legislation for several years, and the results of its deliberations, after correspondence and co-operation with the Medico-Psychological Association, were laid before the Royal Commission in December, 1906. We, therefore, gratefully acknowledge the Home Secretary's recognition of the efforts of the British Medical Association in this matter in his concluding remarks to the recent deputation, and feel sure that nothing is more likely to bring nearer the day of reform than the authoritative statements of the Lunacy Commissioners when they express their general agreement with the conclusions and recommendations of the Royal Commission on the Care and Control of the Feeble-minded.

[8] SUPPLEMENT, BRITISH MEDICAL JOURNAL, September 4th, 1909.

RECENT WORK ON APHASIA.

We have until quite recently been in the habit of localizing speech and allied functions in various parts of the cerebral cortex, chiefly Broca's area—the hind part of the the third left frontal gyrus—and in the temporo-sphenoidal lobe, the posterior half of the upper temporal gyri being known as Wernicke's area. This, with the angular and supramarginal gyri, was supposed to possess special strictly limited areas concerned with visual and auditory speech, Broca's area being considered the motor speech centre. Special attention was called in these columns at the time of its first publication to the important paper in which Pierre Marie subjects these opinions to severe criticism, and reference has been made from time to time to the controversy raised by this iconoclastic deliverance. Dr. James Collier, in a recent issue of *Brain*,[1] has reviewed the present position of the matter, stating the arguments for and against Marie's theory. In his opinion, it has been proved beyond doubt that the left temporal lobe contains the chief speech centre, but the existence of an auditory speech centre in the posterior half of the second temporal gyrus is not proved, the best evidence being Déjerine's case of chronic polio-encephalitis destroying the cortex alone of this region. Dr. Collier gives the recent views of Pierre Marie on aphasia, and gives arguments in favour of and against Marie's theory. Broca's aphasia is characterized by loss or disturbance of spoken language, and some interference with internal speech associated almost always with alexia, —that is, inability to understand written or printed language—agraphia and intellectual defects, but the evidence that the condition is due to lesions of the left third frontal gyrus is admitted by many observers to be far from satisfactory. Marie himself says that no case has come under his notice which confirms the localization of a motor speech centre in the third frontal convolution. Moutier asserts that medical literature does not contain one case of Broca's aphasia in which a single lesion, strictly limited to the foot of the third left frontal gyrus, has been proved to exist upon autopsy. In 104 cases Frankel and Onuf found 4 which seemed to confirm the localization of motor speech in that convolution, but in 5 other cases of Broca's aphasia it was absolutely intact, and there was no trace of degeneration of either efferent or afferent fibres.

In addition to denying that Broca's area has any function whatever in connexion with speech mechanism, Marie challenges the conjecture that speech memories are registered in the cerebral cortex as visual, sensory, and kinaesthetic memories; he denies the existence of a visual word centre, and

[1] Vol. xxxi, p. 525.

indeed of any centre for visual speech in the angular or supramarginal gyri. He admits no distinction between sensory and motor aphasia. The sensory aphasia of Wernicke is characterized by defects of internal speech and of intelligence, and by complete or partial inability to comprehend spoken and written languages, and in consequence of the destruction of this chief speech centre, severe defects of outgoing speech, paraphasia, and jargon-aphasia are often present. In fact, there are all gradations between Wernicke's sensory aphasia and Broca's motor aphasia, but no sharp line of demarcation.

Marie would attribute all aphasia to a lesion of Wernicke's area, which he regards as the speech centre, but one that cannot be divided up into subcentres for auditory and visual speech. The entire process of speech is, according to him, governed by one centre, and the different disturbances are due to the different degrees of disturbance or disease suffered by that centre. Such a hypothesis seems to afford a more ready explanation of the variations of affections classified as aphasia. For example, an aphasic subject finds greater difficulty with a language recently acquired than with his native tongue. The hypothesis of a single centre abolishes the necessity for assuming that the numerous manifestations of aphasia are due to lesions of isolated centres, which have been postulated as existing either on very slender evidence or on none, clinical evidence having been constructed to fit the hypothetical centres. For example, no case of isolated alexia has ever been recorded and the upholders of the hypothesis of different speech centres explained this by reason of the proximity of the so-called visual and auditory centres. Marie says that he has never come across a case of Broca's aphasia without some defect of intelligence and his hypothesis of one speech centre, diffusely localized in the temporo-sphenoidal lobe, is quite consistent with this. For we know that the brain, in other diseases, manifests a more widespread disturbance than cortical localization would account for; a case of localized paralysis from a lesion in the Rolandic area is, for instance, usually a part of a diffuse though slight hemiplegia; an extensive lesion of the cuneus produces total hemianopia, but a partial lesion produces also hemianopia over the whole (hemi) field, not a complete segmental anopia.

Further, according to Marie, the classical aphasia of Broca is a combination of aphasia with anarthria—difficulty in articulation—the lesion being double: one in Wernicke's area which causes aphasia, and a second in his "quadrilateral" area. The latter is a portion of the brain bounded externally by the island of Reil, extending inwards to the wall of the lateral ventricle, and running inferiorly into the subthalmic region. It therefore includes several structures, and Broca gives the predominant influence to the lenticulostriate nucleus. The simplicity of the hypothesis which would assign speech defects or aphasia in its wider meaning to lesion of a diffuse speech centre is somewhat marred by this second postulate, although the two areas are, according to Marie, connected by a band of nerve fibres called the temporo-parietal isthmus, which skirts the posterior border of the insula. Moreover, as Madame Déjerine, an opponent of Marie's hypothesis, points out, the projection fibres of Broca's area may well be placed in the quadrilateral area as above defined.

Lesions of the first and second frontal gyri have been found to give rise to a condition described by Liepmann as apraxia, in which without any true paralysis there is inability to perform certain subjectively purposive movements, and analogy would therefore lead us to expect that a lesion of Broca's area should be manifested by inability to articulate. Marie has urged that apraxia is only part and parcel of a lowered degree of intelligence, but against this is the fact that unilateral apraxia has been met with. Therefore, although Marie's theory is more in accordance with facts, less beset with theory, and a far better working hypothesis, it does not, in Dr. Collier's opinion, rule out the possibility of Broca's area playing some part in the phenomena of aphasia. The case for the opponents of Marie may be stated in Déjerine's words: "There is in this zone (the "parts bordering on the foot of the third frontal "gyrus) a region a lesion of which determines motor "aphasia, and it does so in the absence of any "alteration of the temporal lobe."

HOSPITALS AND SCHOOL CHILDREN.

A LETTER has been addressed on behalf of the Metropolitan Counties Branch of the British Medical Association[1] to the President of the Board of Education, in which the London County Council is roundly charged with an attempt to evade the Education (Administrative Provisions) Act, 1908, which imposed on local education authorities the duty of medical inspection, and at the same time authorized them to make arrangements, subject to the approval of the Board of Education, to attend to the health and physical condition of the children educated in the public elementary schools.

Medical inspection, wherever it has been carried out in anything like a systematic manner, has disclosed the fact that the number of children requiring treatment for chronic ailments is very large, and is, in fact, in excess of the estimates made by those who a few years ago were called alarmists. In London, although as yet the work of inspection is by no means complete, it is quite clear that the number of such children is very large, and the Education Committee, which recommended to the County Council the adoption of the temporizing policy condemned by the Metropolitan Counties Branch, itself acknowledged that the number of children suffering from three classes of disorder alone—namely, discharging ears, bad vision, and ringworm, amounted to a total of over 43,000. In addition there are, of course, a multitude of children suffering from tuberculosis, anaemia, and other debilitating disorders, for whose treatment the County Council does not appear to contemplate making any provision whatever. This is a point which ought to be borne in mind, because it makes it plain that in tackling the present proposals of the County Council the Metropolitan Counties Branch is dealing with a matter of principle capable of very wide extension.

The decision of the County Council to endeavour to enter into arrangements with voluntary hospitals to treat children suffering from the three classes of disorder mentioned above was taken with a full knowledge of the nature and extent of the question to be decided and of the objections to which the scheme it has now adopted were open. Last December a report was presented to the London Education Committee by a special subcommittee consisting of members of the London County Council and of the Education

[1] SUPPLEMENT, page 718.

Committee, and of representatives of outside institutions, including the British Medical Association, the Central Hospital Council for London, the Charity Organization Society, and several of the principal London hospitals. The report of this Subcommittee stated[2] that the existing provision of private and hospital practice sufficiently meets the requirements of children requiring operative and in-patient treatment, but that with regard to the more ordinary ailments of children, and with regard to tuberculosis, the provision was inadequate and in many parts of the county non-existent. The majority of the committee, therefore, recommended that the Council should establish school clinics at suitable centres in the metropolis for the treatment of the very large mass of cases revealed by medical inspection to present physical deficiencies which could be readily and economically treated if dealt with together at suitable centres conveniently situated in regard to the schools. The President and Secretaries of the Metropolitan Counties Branch have no difficulty in showing that the provision proposed to be made through the arrangement with voluntary hospitals is inadequate in extent, and that even if it were adequate in this respect, the places where the children will be required to attend are not conveniently situated in regard to the schools. Any one even superficially acquainted with the distribution of hospitals in London is aware that the voluntary hospitals are, with few exceptions, grouped about the centre, and are nearly all within a mile or two of each other. A map was published in the JOURNAL on January 9th, 1909, p. 100, which showed this in a very graphic manner. The proposal is, therefore, from both points of view inadequate, and must, therefore, be inefficient.

It also, as the letter to which we referred points out, violates the principle upon which voluntary hospitals are founded, inasmuch as it diverts their resources to a purpose not contemplated by those who contribute to their funds; it would swamp out-patient departments with cases requiring only routine treatment, thus running counter to the modern view that out-patient departments should be consultative, and would impose upon the medical profession a large increase in the unpaid work already done for the community. It would, in fact (to quote the words of the letter to the President of the Board of Education), involve a diversion of the funds, premises, and materials of voluntary hospitals from the purpose for which they were given by the benevolent, and for which the medical profession has contributed in charity both its services and its time.

The proposal of the London County Council must therefore be regarded as diverting the hospitals from their proper work, perverting the charitable system on which they have hitherto been conducted, and imposing upon their medical staffs an undue burden which it was never contemplated they should be called upon to shoulder, while it has at the same time the further radical defect that it must be entirely inadequate to meet the object in view.

The *Times*, in a recent issue, has drawn attention to the action taken on behalf of the British Medical Association, and has expressed its regret that London is not to follow the example of some German towns in establishing school clinics; it concludes a very outspoken article on the subject with the following words: "If the poor children concerned are to be "treated at all, the provision for the purpose should "be commensurate with the magnitude of the evil. "and should not be confined to the dispatch of a few "of the worst cases to crowd still further the often "overcrowded out-patient rooms of hospitals, and to "increase the difficulties which even now stand in the "way of the fulfilment of the legitimate purposes of "such institutions.

[2] BRITISH MEDICAL JOURNAL, 1908, vol. ii, p. 1873.

THE OBSTRUCTION OF MEDICAL ORGANIZATION TERRITORIAL FORCE.

WE have received a letter from an officer of the Territorial Force who commands a field ambulance, complaining that his unit is required to share the drill hall of the local combatant unit, and pointing out that he had been promised suitable head quarters, on the strength of which he succeeded in raising a field ambulance, now nearly 200 strong, from a bearer company of 50. He adds that the Chairman of the County Association tells him that the practice described is usual throughout the country. We are not in a position to say whether this statement is correct or not, but we know that in some cases medical officers of the Territorial Force are even worse off than our correspondent. We know of one instance in which a field ambulance has been raised from a very weak bearer company to over strength, but has neither drill hall nor head quarters; it is only able to drill at all by the favour of other units; and we know of other units in the same unfortunate position. Our correspondent also complains that regulation harness is not supplied, and therefore the transport section has to be instructed with civilian harness, which in many cases is quite unsuitable for the purpose. This is not the way to make the medical service efficient, and it seems a pity that when the medical profession has come forward in the way it has to help to make the new organization a success, it should be rewarded by ungenerous treatment.

ASSISTANT SCHOOL MEDICAL OFFICERS IN SCOTLAND.

THE Glasgow School Board makes its first, and we hope its last, appearance in the list of Warning Notices published in our advertisement columns this week. Those who think of applying for posts of part-time school medical officers at Glasgow are there urged, before doing so, to obtain information from the local officials of the Association. With a want of appreciation of the value of medical men's time unexpected in such a body as the Glasgow School Board, the sum of £40 for seven and a half hours' work a week over a period of twenty weeks a year is offered to medical men willing to act as assistant school medical officers. This compares very badly with the minimum rate of £50 per annum for two hours a week laid down by the Association. The payment is, in fact, just about half that at present received in most other places for the same work. One expected better things from a city with the spendid municipal record of Glasgow, and it is all the more surprising to find there such a narrow conception of the way in which this great new public service should be inaugurated. It is to be hoped that the Glasgow practitioner will not meekly allow himself to be exploited by the Board in this manner, and, indeed, the meeting of the Glasgow and West of Scotland of the Association and of other local practitioners, which is reported on page 217 of the SUPPLEMENT of this week, had no hesitation in recommending that the terms should be refused. It remains to be seen whether the Board will find members of the pro-

fession with so little regard for the value of their own services and for the solidarity of the profession as to apply for these posts. One satisfactory feature of the meeting above alluded to is the constitution of the committee appointed to approach the School Board. The co-operation of the professorial and consulting element with the general practitioner in what is, after all, mainly a general practitioner's fight, is an example for other places, and a rebuke to those who would have us believe that the interests of the two classes are incompatible and their co-operation impossible.

GUARDIANS AND OPERATIONS.

A CONSIDERABLE amount of attention is being given at the present time to the manner in which boards of guardians perform the functions allotted to them. The Royal Commission on the Poor Law has advocated their total abolition. In some districts it is beyond dispute that persons are selected for these duties whose chief distinction is the possession of crank notions in general, and eccentric ideas of matters medical in particular. When this obtains it is not surprising that assumption, presumption, and prejudice should rule the roost. The *Hackney and Kingsland Gazette* of August 20th reports a meeting of the Hackney Guardians, at which some strong and absurd opinions were expressed by several members on the subject of surgical operations. The Children's Committee had considered the report of the medical officer of the Sidmouth Boarding-out Committee, stating that a girl chargeable to the guardians had enlarged tonsils and should be operated upon. Having also received the report of the Local Government Board inspector upon the case, the Committee recommended that the operation should be performed. An amendment to delete the recommendation was carried by 10 votes to 9. The discussion appears to have been of the type usually associated with the utterances of members of the various "anti" leagues. One of the members thought the world was going mad, and that there was a "fever for the knife"; he moved that the recommendation be deleted. "Once "they had the tonsils cut away," he remarked, "they "could not stick them on again, and the damage was "irreparable." But for the fact that these senseless arguments swayed the board, it would be altogether superfluous to refute such extravagances. Power to do mischief in this manner is a distinct danger. It is amazing that the opinions of the medical officer, the Local Government Board inspector, and the children's committee, which might reasonably have been accepted as unquestionable in this case, should be rejected with contempt because an extremist had attacked them without ceremony. The decision of the Hackney Guardians will be regarded as a triumph among the select few who accept as a truism the malicious proverb of Pope Adrian the Sixth that physicians are good for a populous country, to keep down the number of the inhabitants. The victim of this folly must suffer the penalties occasioned by the ill-advised action of a small majority of her guardians, at least until wiser counsel prevails.

ROYAL COMMISSION ON TUBERCULOSIS IN QUEBEC.

THE prevalence of tuberculosis in many parts of Canada, but especially in the older settled provinces of Quebec and Ontario, has for a good many years past, as our columns have borne frequent witness, seriously engaged the attention of medical men and economists. Much has been done by voluntary effort, but it has been felt for some time that concerted action under Government control was most desirable. The Lieutenant-Governor of Quebec, in response to representations made to him through Dr. E. P. Lachapelle, President of the Board of Health, and Dr. T. G. Roddick, formerly M.P. for Montreal, has, on the advice of the Prime Minister, Sir Lomer Gouin, appointed a Royal Commission to inquire into the practical steps which can be taken to prevent the propagation of tuberculosis in the province. The Commissioners are Dr. E. P. Lachapelle (President), Professor J. G. Adami, Dr. T. G. Roddick, the Hon. J. J. Guerin, Dr. J. E. Dubé, Dr. E. Pelletier, Dr. J. Lesperance, Mr. Charles M. Holt, and Colonel Jeffrey Burland, all of Montreal; Dr. M. J. Ahern, Dr. C. R. Paquin, Dr. A. Simard, and Dr. A. Rousseau, all of Quebec; and Dr. G. Bourgeois of Three Rivers, with Dr. C. N. Valin of Montreal as Secretary. The Commission is to sit in Montreal, and is instructed to report on or before July 1st, 1910.

FULGURATION IN CANCER.

OBSERVATIONS upon the Keating-Hart method of treating cancer are, Dr. René Desplats[1] considers, now sufficiently numerous to be grouped together and judged as a whole, and he has availed himself of the various communications made to congresses and medical societies, as well as of the experience of fifteen colleagues to whom he submitted detailed questions. Dealing with the suggestion that fulguration encourages bad surgery—that is, a too sparing surgery, he quotes Marion to the effect that fulguration should in no way modify surgical technique. The author thinks that this statement may be a little too absolute, but it is only after a surgical operation as thorough as possible that he himself submits his patients to the electrical treatment. In discussing the immediate results of the application of the spark, he refers first to the styptic effects, and points out that the coagulum which is formed on fulguration has the effect of at once changing the colour of the lesion, the tissues becoming yellow, the yellows brown, and the white reds black. Lymphorrhoea is another effect which has been noted by almost all observers, the exudation being particularly abundant in stout persons. He does not believe that septic complications result if proper precautions are taken, and he thinks that septicaemia, when it has occurred, has been due to the patient's low vitality, and cannot fairly be attributed to the method. He advises, however, shorter sittings than are commonly given, particularly when the lesions are small. In his opinion, an application for ten minutes of a 5 to 7 cm. spark upon the wound remaining after an amputation of the breast is sufficient to provoke the desired reaction, and that for smaller areas the duration should be correspondingly reduced. With the spark applied for too long a time, cicatrization is slower, and there is greater liability to infection. He admits the possibility of danger in fulgurating the region of the pneumogastric nerve, and mentions three cases in which death followed grave cardiac and respiratory troubles beginning after fulguration of large tumours of the neck. He has seen a similar result in the case of a large tumour on the floor of the mouth; death was possibly due to the fulguration of the superior laryngeal nerves. Passing to the later results of the treatment, he quotes cases of extraordinarily rapid cicatrization of large wounds—so remarkable, indeed, as to be called by Juge a "torrent of cicatrization." The success of this "spontaneous autoplastic action" largely depends upon the length of the spark and the duration of the sparking. The process generally takes place more slowly in small wounds than in large, because in the former the caustic action of the spark is more concentrated and the

[1] *Arch. d'elec. méd.*, July 25th, 1909.

application probably too long. He disagrees with Tuffier's statement that the transformation of tissue only takes place for a depth of 1 or 2 mm., and casts doubt upon the observer's histological methods. The third part of the paper is a catalogue of cases and results. He does not favour the method in cancers of the uterus and the tongue, which, he states, represent a considerable proportion of the unsuccessful cases in the lists of other workers. His own results in 95 cases of various cancers may be summarized as follows: Success certain in 28; success apparently fair in 7: death during or following operation in 9. In 10 cases no benefit was observed, and 41 are eliminated—(1) because perfectly operable (which would make the statistics appear too favourable), or (2) because too recently treated, or (3) because the cases were not thoroughly followed up.

THE ENDOWMENT OF THE PASTEUR INSTITUTE.

THE Pasteur Institute, Paris, will shortly come into possession of a capital sum estimated at 30,000,000 francs (£1,200,000), the product of the estate of the late M. Osiris, which is now being realized. The circumstances under which M. Osiris determined to dispose of his great fortune in this way are, if rumour speaks true, most striking and dramatic. In 1903 M. Osiris founded a triennial prize of £4,000, to be given to "the "person who had rendered the greatest service to the "human race during the three preceding years." The prize was awarded to Dr. Roux, Director of the Pasteur Institute, for the discovery of the antidiphtheria serum. Instead of devoting the money to his own private purposes Dr. Roux made over the sum to the Pasteur Institute. This self-denying action so impressed the millionaire that he left the bulk of his fortune to the Institute as a token of admiration for the scientific attainments and self-abnegation of Dr. Roux. M. Osiris could not have made a better disposition of his wealth; the Pasteur Institute is greatly in need of funds, and this endowment will firmly establish it as a monument worthy of the great master. The memory of M. Osiris as a benefactor of the human race is effectively perpetuated by this princely munificence, and the scope and influence of the valuable work of the Pasteur Institute will be vastly increased.

SANATORIUM TREATMENT AND INSURANCE AGAINST TUBERCULOSIS.

IN the August number of *Tuberculosis*, the official journal of the International Antituberculosis Association, Dr. Max Bollag gives particulars of a scheme of insurance against tuberculosis which has been in operation for the past eight years in the Canton of Basle (Switzerland). Some twenty-six societies (sick clubs), comprising a total membership of 4,334 persons have combined in this undertaking, which has been attended with very gratifying success. Every member pays an annual sum of 40 centimes (4d.) in addition to his ordinary club subscription, and on this it has been found possible to provide sanatorium treatment for all who become consumptive. In addition to his sick pay of about 2 francs a day, the consumptive receives a further 2 francs a day for four months, which pays for his stay in a sanatorium. The proportion of consumptives so assisted each year, as compared with the total number of members, has been about 2 per 1,000. Switzerland is favourably situated in this matter, since sanatorium accommodation is less costly there than in this country. Nevertheless, such a scheme of insurance might be carried out here by friendly societies, though the additional subscription would probably have to be more like 2s. 6d. a year than the small sum which suffices in the Basle Association. As to the effect of sanatorium treatment from the economic point of view, Dr. Stauffer at the end of ten years' working of the people's sanatorium in the district of Altena, has attempted in the same periodical to gauge the success of treatment and the permanence of cure by obtaining, as far as possible, information as to all patients who have undergone treatment at the institution since its foundation. The carefully prepared statistics which he publishes show that half of the patients under treatment ten years ago (1898) have since died. The proportion of deaths gradually diminishes as the date of residence becomes less remote; thus of those treated in 1902, 22.6 per cent. have died, and of the patients in residence in 1906 only 10.5 per cent. are dead. Dr. Stauffer has classified the cases in which tubercle bacilli were found in the sputum separately, and has compared the results with those of the whole number of patients for each year. Taking the presence of bacilli to indicate the more advanced cases, we are prepared to find that the mortality in these cases is much in excess of that for all classes. So also the disappearance of bacilli from the sputum during treatment may be an indication of improvement, if not of arrest in the disease centre: cases in which this event has occurred show a smaller mortality than that of the other "open" cases where bacilli continue to be found in the sputum. The results are precisely what might have been anticipated, but it is useful to have these figures to demonstrate statistically what is the common experience of all who treat consumptives.

POLAR EXPEDITIONS.

SUCCESS in Polar enterprises has, of course, no greater import for the medical profession than for any other body of men, but in the expeditions themselves medicine can rightly claim to have a particular interest. Not a few of the most renowned travellers have been medical men first and explorers afterwards, and to the membership of all organized exploring parties medicine probably contributes more constantly than any other profession. Commonly there are two medical members—one to perform more or less ordinary medical work, the other in charge of scientific observations. Furthermore, every expedition adds something to the sum of medical knowledge of the behaviour of the human frame under unusual conditions, and more than one expedition has thrown useful light on important points of dietetics. As for the Polar expeditions whose success has been announced during the past ten days, their special interest for the medical profession is indubitable. While one, if not two, medical men certainly accompanied Commander Peary, the hero of the other party, Dr. Cook, is the son of a medical man, and himself graduated in the medical faculty of Columbia, New York, some eighteen years ago. There appears still to be some doubt as to whether the honour of being the first to reach the Pole will eventually be awarded to him; but it may be hoped that his claim will finally be established. Meantime it must be admitted that the wording of the announcement of his discovery was somewhat unhappily chosen, more particularly in one passage which, so far as we are aware, has escaped general observation. In his description of the conditions which he found on reaching longitude 86 deg. 38 min., latitude 84 deg. 47 min., he said: "We now found our-"selves beyond the range of all life—neither foot-"prints of bears nor the blow-holes of seals were "detected. Even the microscopic creatures of the "deep were no longer under us." The last twelve words are well calculated to arrest attention, for Dr. Cook and his two Esquimaux companions were then travelling over a frozen sea, and it scarcely seems likely that in the midst of so many other difficulties of vital importance they should have taken the trouble to

bore through the great thickness of ice under their feet to obtain a specimen of sea water and submit it to examination; nor, if obtained, is it easy to imagine means by which its freedom from microscopic organisms could, in the circumstances, have been adequately tested. In the intensely low temperature prevailing, a tiny quantity of water such as that used either for microscopic examination or for a rough test by centrifugalization, would freeze instantaneously. Of course, Dr. Cook may have found some way of getting over the difficulties indicated, and, for all we know, the statement may represent the actual state of affairs in the water near the North Pole, but remembering that the difficulty in question is very obvious, and that a record of the microscopic contents of the water was not essential to his narrative, one might have expected him to make some reference at least to the fashion in which he reached his conclusion. As it stands the unexplained passage suggests something of the nature of poetical licence. In narrating such a remarkable feat as the discovery of the North Pole a departure from strict prose is perfectly comprehensible, but, when occurring in the report of a scientific worker, must inevitably tend to create an unfavourable impression as to the probable accuracy of the rest of his observations.

INTERNATIONAL DENTAL CONGRESS, BERLIN.

THE German Government generously placed the house of the Reichstag in Berlin at the disposal of the Fifth International Dental Congress, Berlin, and the President, Professor Walkhoff of Munich, welcomed the congressists, to the number of 1,600, in the Chamber of Deputies; he communicated to them the gracious message from His Majesty the Kaiser wishing success to the meeting. Various speeches were made by the international delegates, that for Great Britain by the President of the British Dental Association, Mr. H. R. F. Brooks. The real work of the congress was then commenced in the twelve sections set apart for it. Some difficulties were experienced by English speakers owing to the absence of interpreters and stenographers. Mr. J. H. Mummery, London, delivered, at a special meeting, an address and criticisms on the work of the late Professor Miller on dental caries. A leading feature of the congress was the admirable collection of specimens of pathological and scientific dental work organized by Professor Dieck of Berlin, to whom was awarded the Medal of Honour presented by the German Government. Amongst various festivities was that given by the Burgomaster and Municipality of Berlin at the Rathaus, which was a great success. At the concluding meeting the permanent or organizing bureau of dental congresses, known as the International Dental Federation, was reconstituted, Mr. W. B. Paterson, London, being elected its President. An invitation to hold the Sixth International Dental Congress in London, in 1914, was accepted with enthusiasm.

CHOLERA IN HOLLAND.

THE sanitary authorities in Holland seem to have got the outbreak of cholera which occurred there at the end of August well in hand. Most of the cases have occurred in the port of Rotterdam, but a few real cases, and a few others of a suspicious character, have been notified at Amsterdam, Breda, Utrecht, Gorinchem, Vlaardingen, Tolen, and Hoogvliet. The Local Government Board in England has issued a circular to port sanitary authorities and certain riparian sanitary authorities calling attention to the fact that the epidemic of cholera in northern Russia, particularly in the St. Petersburg district and at Archangel, Cronstadt, Riga, and other Baltic ports, has extended to Holland, and requesting the sanitary authorities of British ports trading with Rotterdam or north Russian ports to be on their guard against the importation of cholera into their districts. The Board refers to the revised general order relating to cholera, yellow fever, and plague on ships arriving from foreign ports issued on September 9th, 1907, and points out that the statement which the Board issues weekly to medical officers of health of port and riparian sanitary authorities contains information as to such cholera occurrences as come under its notice. In Russia the disease appears to be claiming about 25 victims daily; the total, so far, for this year is nearly 6,000. Preventive inoculation has been applied to over 53,000 persons, and of these only 12 contracted the disease and only 4 died. In St. Petersburg the continuance of the disease is attributed to the inefficient filtration of drinking water, and the city council has resolved to construct additional filters. In Holland the cases which have occurred number over 20, with 14 deaths, and are attributed to the drinking of unfiltered river water.

THE HOUSING AND TOWN PLANNING BILL.

ON another page will be found an abstract of the discussion of this bill in its Committee stage, and before another issue the final stages of the bill in the Commons will have been passed. The disappointment felt in many quarters at the omission of Clause 30, which provided for a quinquennial survey and register of all small houses, has found expression in an attempt to renew the struggle, and with this object the clause has been put down again for consideration on report on Friday. As both the report stage and the third reading have to be finished on that day by 5 o'clock under the Closure rule, which was passed to expedite the passage of the bill, it is most probable that the clause will not be considered, and certainly no effective debate can take place. When the bill has passed its third reading it will be sent to the Lords, and may even get a first reading there on Friday evening, and pass its other stages in the course of next week, as it is not likely to be unfavourably received in the Upper House. The question of security of tenure for medical officers of health for boroughs and districts has not been lost sight of, as a new clause to provide for this has been put on the notice paper by Mr. Keir Hardie, Mr. Summerbell, and Sir Walter Foster. Under the Closure conditions, it is practically impossible for it to be reached in the Commons, but it would be a most useful piece of work if the matter could be considered and discussed in the Lords when the Committee stage is reached there. The comparatively slow progress being made with the Finance Bill this week, and the fact that next week only two days will be given to that measure in the Commons, while three days will be given to the Irish Land Bill, indicate that there will be plenty of time for the Lords to consider the Housing Bill before they have to deal with the Budget or the Land Bill.

WE have to record with great regret the death on September 8th of Dr. Thomas Bridgwater, who was President of the Council of the British Medical Association from 1887 to 1889. Dr. Bridgwater, who entered the profession in 1847 and graduated M.B.Lond. in 1852, practised for many years at Harrow. He retired some time ago to Hoote Hall, Uckfield, and it was there that his death took place.

Medical Notes in Parliament.

The Housing Bill came on for its Committee stage in the House of Commons on August 30th, and occupied that and the following day. As this stage was taken under a closure resolution, which limited the time for discussion, the debate lacked much of the interest it would otherwise have excited. All the instructions, instructions, including that which Sir Walter Foster had put down to extend the scope of the bill so as to include borough and district medical officers of health, were ruled out of order. On the first clause, which makes Part III of the Housing Act, 1890, operative without adoption by the local authority, a warm discussion arose. Sir F. Banbury opposed it on the ground that it cast doubt on the ability of the local authority to decide what was good for the locality, and because it conferred arbitrary powers on the Local Government Board. He objected to making the President of the Local Government Board a kind of Caesar to coerce and control the work of poorer localities. He also argued against the power given to four residents to demand an inquiry into the housing conditions in their district. Mr. Walter Guinness also spoke against the clause as setting up a central bureaucracy. Sir F. Powell supported the clause as a step in advance for public health, and pointed out that it was carried in the Standing Committee by a unanimous vote. Mr. Burns, in his reply, defended the clause, which allowed 671 rural district councils to cut themselves free from the shackles of the county councils, and enabled them to include housing in their ordinary sanitary duties. A rural council ought to have this power, after four complainants had made their representation to the Local Government Board, without any restraint from the county council and subject only to the approval of the Local Government Board. Under the old law only nine district councils had been able to put housing schemes into operation, and he contended that there were ample safeguards against any unwise or arbitrary action. Lord Morpeth pointed out that this clause depended largely on Clause 10, which had not been discussed, and could not be discussed under the closure procedure. He disliked the coercion given to the central authority, and opined that the bill would be found largely inoperative. After several other members had spoken the clause was passed by 132 to 19. After this the Committee discussed the clause dealing with the acquisition of land, and so occupied the time till the closure came on at 7.30, when the other clauses up to 29 were added to the bill after a number of divisions. On Clause 30 the principal debate was raised. This clause provided for a quinquennial survey, and register for housing purposes, and was regarded by many as the most effective way of securing progress under the bill when passed. Mr. Cave moved the omission of Subsection 1, which contained the essence of the clause. He objected to the proposal as unnecessary, inquisitorial, and expensive. Sir F. Powell pointed out that the clause was added to the bill in the Standing Committee in opposition to the Government. He argued against it as unnecessary in face of the inspection now made by the health officials. Mr. A. C. Morton and Mr. Scott also opposed the clause, and then Mr. Morrell supported it. He urged that if the inspection is made now, the extra expense complained of would not be incurred, but if it was not made, this clause would ensure proper inspection in the future. All the arguments against the proposal had been used against factory legislation, but the reasons in this case were stronger than those in favour of the Factory Acts, because it proposed to help people who were powerless to help themselves. The rejection of this part of the bill would be the loss of the most valuable and practical portion. In Paris a more elaborate register had been in force for fifteen years, and he did not think it would have been continued if it had been found so expensive as some thought. His experience in connexion with the Rural Housing Association was that not only inspection but publicity, such as this clause secured, was necessary to improve housing. Mr. Newman Rogers, in supporting the clause, said we should not forget that it was strongly recommended by the Select Committee on Housing, that it was very strongly urged by the Royal Commission on Labour, over which the Duke of Devonshire presided, and that it had, he believed, the almost unanimous approval of every private association and every private individual who had studied the housing question and taken part in the work of pressing it upon the attention of the House. He gave his own personal experience of the value of a census as proposed, and which had been carried out in his county. He was perfectly certain that a large number of the evils that flowed from bad sanitation and overcrowding could be stopped before they occurred if only the rural sanitary authority, or whatever the authority might be, were really in possession of the facts of the case; and by that means he believed that a very great improvement could be secured in the sanitary condition of town and country. With regard to the cost of the inspection, he knew that in some rural districts and urban districts where it had been carried out it was costing very little more than the actual cost of the books in which the register was made. In the case of which he had spoken, the inspection was carried out in under eighteen months by the sanitary officer himself, and by nobody else, and he believed that the period of five years allowed to every authority before the register was to be completed would enable the whole work to be carried out with very little more expense than was represented by the salaries of the existing staff. After speeches from Lord Morpeth, Mr. Lever, and Mr. Pretyman, Mr. Burns spoke strongly against the clause as not being necessary to the bill, which contained very drastic provisions for dealing with defaulting authorities who neglected their duty under the existing law. Secondly, it simplified and strengthened the present law as to the closing and demolition of insanitary cottages, in doing which, in his opinion, we had better spend money rather than waste it upon quinquennial surveys and providing surplus sanitary inspectors with jobs which might be doing themselves some good, but from which the community profited little. Thirdly, houses were to be kept reasonably fit for human habitation. The bill appointed a medical officer for every county, who was to devote the whole of his time to this work; it insisted that every local authority should have a public health and housing committee; it insisted on an interchange of medical officers' reports between the officers with the county council and the Local Government Board. It also gave the Local Government Board further powers than it now enjoyed of requiring a local authority to report on its area with particulars as directed, without foregoing the power the Board now possessed of specially sending down its own inspectors to see that local authorities carried out their duties; and it insisted upon officers giving special reports upon special areas. He believed that the general outcome of the working of the bill, with the ten or twelve additional powers to rectify existing defects, to stimulate lax local authorities, and to screw up the level of sanitary operations and inspections, would do more for the people in rural areas in one year than twenty quinquennial surveys would do in the following century. The clause was not supported, as far as he could gather, by local authorities, by medical officers of health, or by sanitary inspectors, who, to their credit, were continually asking for increased powers to expand their duties, but who were against this clause. It was objected to also by the Municipal Corporations Association, the Urban District Councils Association, the Rural District Councils Association, the Surveyors' Institute, and a number of authorities which he need not mention. They objected to it because it was inquisitorial in its character, extravagant in cost, and useless in practical results. First, he would deal with the cost. There was very useful experience to guide us. Applying the test of the experience of the

Manchester and Liverpool surveys over smaller areas —about 85 acres in each case—it would want 3,352 persons to do the survey in one year, or 40,000 to do it in a month, as it ought to be done; and it was estimated that the total cost for England and Wales would be nearly £500,000. Next as to the register, which if adopted would be an elaborate Domesday Book of the smaller class of dwellings throughout the country—£40 a year in London, £26 in boroughs of 50,000 inhabitants, and elsewhere not exceeding £16. That meant that there would be at least 5,286,000 tenements of less than five rooms to be surveyed and inspected—672,000 in London, 934,000 in county boroughs, 985,000 in urban districts, and 695,000 in rural districts. He was surprised that Paris had been quoted. If there was one city in the world that we ought to avoid in this particular matter it was Paris. What was the test of good sanitary inspection and of good sanitary conditions? It was the absence of consumption. What was the evidence of good sanitary inspection? It was a low death-rate. Let us grapple with that. He would take Paris, with this survey alleged to cost only £2,500. It was a ridiculous estimate to give, and ignored the fact that outside of those who were engaged upon this very elementary register, beyond those costing £2,500, Paris had 3,171 officers on insanitary and insecure buildings in the City itself, besides 4,488 in the Department of the Seine. What was the result? With all this survey, in existence for fifteen years, the facts were these: Where two people died from consumption in London, 3 died in Berlin, and 5 to 6 in Paris. Take the percentages. He had them here in the Report of the Chief Medical Officer. The percentage was 1·65 in London, 2·4 in Berlin, and 3·65 in Paris. Go from consumption and take the general death-rate. In Paris the general death-rate, as a rule, ranged from 18 to 20. At this moment the death-rate in London, a town twice the size of Paris, was 13·8—from 20 to 30 per cent. lower than Paris. Whether you took the general death-rate or that from tuberculosis, there was no justification, in fact or by comparison, between London without its survey and Paris with it. A drastic sanitary inspection was provided by the bill. The survey proposed by the clause did not provide it, but created an army of officials, without any corresponding good. The Committee ought not to be asked to support a ridiculous clause of this kind. The bill provided a cheaper, better, and more practical process for effective sanitary inspection than Clause 30, and he therefore asked the Committee to reject the clause. The Committee divided under the closure and Clause 30 was rejected by 121 to 75. Mr. Burns then carried, after a division, some amendments in Clause 44 relating to back-to-back houses, and then the clauses up to No. 52 were added to the bill. On the second day of the committee stage the town planning clauses were discussed, chiefly with reference to the preparation of schemes under Clause 53, and with reference to compensation to persons whose property might be affected by town planning schemes under Clause 57. Then the closure came into force, and the remaining clauses, the new clauses, and schedules were added to the bill.

Feeble-minded and Epileptics.—Colonel Long asked the President of the Local Government Board whether, pending legislation dealing with the care of the feeble-minded and epileptics, he would decline to sanction any new Poor Law buildings for the accommodation of such cases, or the establishment of any new combinations of Poor Law unions or other local authorities with a view to dealing with such cases, until it was decided by legislation whether Recommendation XXVIII of the Royal Commission on the Care and Control of the Feeble-minded (England and Wales) should become law. Mr. Burns replied that if any proposal of the kind referred to in the question was made he would bear in mind the recommendation made by the Royal Commission; but he did not think he could properly undertake that, pending legislation, he would in no case sanction the provision of new buildings for persons of the class mentioned or the establishment of new combinations for the purpose of dealing with them.

Quack Medicines.—Captain Craig asked the Home Secretary whether his attention had been called to the increase in recent years of the sale of quack medicines; whether he was aware that it had been proved that such nostrums frequently contained nothing but harmless drugs, coloured grease, coloured water, small quantities of aloes, pilules of sugar, etc., though advertised to cure a multitude of different maladies; whether he was aware that the chief cost of such quack medicines was in the advertising; and whether he would appoint a small Commission to inquire into and report upon the whole subject. Mr. Gladstone replied that he begged to refer to the answer on this subject which he gave to the hon. member for North Lambeth on March 12th last. He understood that inquiries were being made, at the instance of the Lord President of the Council, as to whether the practice of medicine by unqualified persons was extending, and as to the effects produced by such practice. These inquiries would, no doubt, throw some light on the question of the use of quack medicines, and he thought it would be advisable to await their result.

Communication of Tuberculosis in Schools.—Mr. C. H. Lyell asked the Lord Advocate whether his attention had been called to the giving of instruction in singing and other subjects to children in Kirriemuir by a teacher suffering from tuberculosis; and whether, in view of the danger of tuberculosis being communicated to the children, the Scottish Education Department was prepared to take any action in the matter. The Lord Advocate replied that the department had no official knowledge of the circumstances referred to, but in any case the matter was one which was entirely within the province of the school board to deal with either on their own motion or at the instance of the public health authority of the district.

Scarlet Fever and its Causes.—Last week Mr. Rupert Guinness asked the President of the Local Government Board whether he was yet in a position to arrive at a decision relative to the resolution of the managers of the Metropolitan Asylums District asking for an inquiry to be made into the causes of scarlet fever and the further means which might be adopted for its prevention in view of the prevalence of the disease. Mr. Burns replied that the medical officer of the Board was preparing a memorandum on the subject of scarlet fever, the sources of infection from this disease, and the measures which could be taken for preventing its spread. He proposed to postpone the further consideration of the question of an inquiry until he had received this memorandum.

Pottery Lead Glaze Analyses.—In reply to Sir Charles Dilke, Mr. Gladstone said that no rule had been laid down as to the number of samples to be sent for analysis, and it necessarily varied from year to year. In 1906–7 only six or seven samples were sent; in 1907–8 the number was 97 (including samples of glazed pottery); and in 1908–9 it was 26. In the five months since March 31st last 47 samples had been taken for analysis. When the Lead Committee had reported it might perhaps be possible to lay down some rule as to how many samples should be taken, but it was obviously desirable that it should be done at uncertain intervals and not at stated times.

Lady Telegraphists and Muscular Cramp.—Mr. J. P. Farrell asked the Postmaster-General whether, in the case of a lady telegraphist who had contracted muscular disease of the arm in consequence of her occupation, he would consider the advisability of arranging for her transfer to some other department requiring less manual effort instead of being removed from the service. Mr. Buxton replied that if, when such a case arose, the officer in question desired to make any representation to him on the subject, he would, of course, gladly consider it. He would be glad to look into any case forwarded to him.

Compensation for the Slaughter of Tuberculous Cows.—Mr. Field asked the representative of the Board of Agriculture whether tuberculosis was included in the diseases scheduled in the Contagious Diseases (Animals) Act; whether he could state under what section of the Contagious Diseases (Animals) Act or amendments thereof the Board had power to call upon local authorities to provide compensation for slaughtered tuberculous cows; and whether it was still proposed to issue the Tuberculosis Order of 1909, having regard to the fact that the Milk and Dairies Bill had been abandoned. Sir E. Strachey replied that tuberculosis was not one of the diseases specifically mentioned in the Diseases of Animals Act, 1894, but the Board had power under Section 22 (xxxv) of that Act to extend the definition of disease, and under Section 19 they might direct that animals might be slaughtered and compensation paid for them by local authorities out of the local rates. The reply to the last part of the question was in the negative, but the question of the postponement of its operation was under consideration.

Chinese Pork.—In reply to Mr. A. Fell, Mr. Burns said that a small proportion only of the consignment of Chinese pigs had been examined at present, as the examination was only made as the carcasses were required for trade purposes. As yet no report had been presented by the Medical Officer of Health for the City on the subject, and the time had not yet arrived when a general report could be made. In answer to a further question, he said that not many tons had been passed into consumption. They were all in cold storage. There were two officers engaged on special examination on behalf of the board itself, and the chief medical officer of the port sanitary authority with his staff were giving special attention to this matter. The Merchandise Marks Act would not apply, and the pork would, like all pork, be sold as pork. If it was good it would go into consumption, if bad the officers would condemn it. The examination of the pigs was carried out in the ordinary course of meat inspection made under the Public Health (Foreign Meat) Regulations, 1908, by officers who were appointed and paid by the City Corporation. The charge for the storage of the carcasses pending examination fell upon the importers. Mr. Fell then elicited from the Secretary to the Board of Trade that a single consignment of frozen pork had been imported from China at the end of July which amounted to 6,020 cwts., valued at £11,238.

Vaccine Lymph Production.—In reply to Mr. Lupton, Mr. Burns said that, as he had stated in reply to a question on June 22nd, each calf used in the Vaccine Establishment was slaughtered as soon as practicable after its removal by the owner, and a *post-mortem* examination was made, at which a veterinary surgeon engaged for the purpose was present. He made a careful examination of the carcass and of the viscera in order to ascertain whether the calf was in perfect health, and immediately afterwards sent in a certificate as to its healthiness or otherwise.

Deaths from Suicide.—Mr. Wardle asked the Home Secretary whether any statistics existed of the number of deaths from suicide; whether he could give the figures for each of the last five years; whether the statistics were classified according to the manner of death; and, if so, could he give particulars. Mr. Gladstone said that the number of verdicts of suicide returned by coroners' juries in each of the five years, 1903 to 1907, was as follows:

1903	3,480
1904	3,337
1905	3,515
1906	3,434
1907	3,477

The figures for 1908 were not yet available. The returns made to the Home Office did not disclose the manner of death, but the information was furnished by the Registrar-General in his annual report (see report for 1907, page 438).

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

NORFOLK.

THE NORFOLK AND NORWICH HOSPITAL.

ALTHOUGH the Norfolk and Norwich Hospital at Norwich, which was founded in 1771, was entirely rebuilt on the most up-to-date principles only twenty-six years ago, yet, owing to the large increase of work that it is now called upon to do as compared with what was required of it at that time, the governors have found it necessary to make some very extensive alterations and additions to the building if it is to be kept abreast of latter day methods in the treatment of disease. As an example of how the work has increased, and of the extension of the field of modern surgery in recent years, it will be found, on referring to previous reports, that whereas in 1886 the total number of operations performed was under 130, they have gradually increased year by year, until in 1908, they numbered 1,698. This increase has been altogether out of proportion to the increase in the number of patients admitted during the same period. In all other departments, also, there appears to have been a similar, though perhaps less marked, increase in the work done.

The governors have just issued an appeal for £50,000 to carry out their scheme, which has the entire approval of the staff. This is a large sum of money to raise, but the appeal is floated with a preliminary list of subscriptions amounting to over £12,000. His Majesty the King has always taken special interest in what might be said to be his own county hospital, and he has now shown his practical sympathy with, and approval of, the proposed extensions by heading the subscription list with a donation of 250 guineas. The scheme has the merit of being partly an endowment scheme—that is to say, for every pound spent on bricks and mortar a similar sum will be added to the permanent endowment fund. Further, it is split up into sections, so that the different parts of it can be carried out as the money is forthcoming.

The most urgent needs are a new isolation block for cases of infectious diseases occurring among the inmates, and a separate building for the isolation of septic surgical cases. These are to be built on the "plate-glass separate system," and will be commenced almost immediately with the money already in hand. Provision is made for two new operating theatres in place of the single existing theatre, and there are to be extensive alterations to the casualty and out-patient departments. The hospital is already provided with a well-equipped *x*-ray and electro-therapeutic department, which was fitted up by the chairman of the present appeal committee, Mr. Gurney. Further accommodation for the nursing staff has become necessary, and this can be obtained by adding to the nursing home built and endowed by the late Earl of Leicester, to whom the hospital owed so much. Provision for a new kitchen also comes within the scheme.

The King has promised to lay the foundation stone of the extensions to the hospital on October 25th, and there is one feature in the scheme which we think must be particularly pleasing to His Majesty: that is the amalgamation of the old Norfolk and Norwich Eye Infirmary with the County Hospital. For a century or more these two medical charities have existed as separate and independent institutions in Norwich. Owing principally to the foresight of the late Mr. Cadge and of Sir Peter Eade, who, we are pleased to hear, still takes an active interest in the hospital, though now in his 85th year, the grounds of the institution (in all, seven acres) are ample for the erection of the proposed new buildings, and a very suitable site has been selected for the erection of an ophthalmic block containing 20 beds, which experience shows to be sufficient for the needs of the district. We congratulate the governors of these two institutions upon the amicable amalgamation that they have effected, and wish the present appeal every success.

MANCHESTER AND DISTRICT.

THE SALFORD BOARD OF GUARDIANS AND THE MEDICAL PROFESSION.

UNTIL recently individual medical men in Salford have had to fight their own battles when they came into collision with municipal or Poor Law authorities. Fortunately, however, the Salford Board of Guardians is finding that it has now to reckon with the British Medical Association in dealing with matters that concern the profession. The Salford Guardians have made themselves quite notorious during the past two years, as they afforded the Central Midwives Board, when it presented its petition to the Privy Council for an amendment of the Midwives Act, a fine example of how to make the Act a failure.

About three years ago some serious charges were made against the management of the Salford Union Infirmary known as Hope Hospital, and the Local Government Board thought it necessary to make a full investigation. The number of in-patients at Hope Hospital averages about 800, and to look after these there are two resident medical officers, with a visiting surgeon as superintendent who spends about an hour and a half daily at the hospital. In his absence there was no one in supreme control, as the senior resident medical officer had practically no control even of the medical administration. The Local Government Board inspectors, Mr. Jenner Fust and Dr. A. Fuller, reported that many of the charges were well founded, and they recommended that, "without interfering with the position and duties of the visiting medical officer, there should be entrusted to the senior resident medical officer the modified duties of a medical superintendent, and that he should be placed in control of the medical administration and of the male attendants, etc."

The guardians were evidently much annoyed at the report, but the scandals raised by the charges had so roused public opinion that they acted as they were advised. The salary of the senior resident medical officer was raised from £150 without rations to £200, and then to £220 without rations, and he was entrusted with the modified duties of medical superintendent. This arrangement worked well, and the guardians have been complimented recently on the improvements during the last three years. A new party, however, among the guardians has recently obtained a majority, and an intimation was given to the senior resident medical officer that when his annual term ended on August 30th he would not be reappointed. No reasons for this could be obtained, but some serious insinuations were made, which found their way into the public press, that "it would be better for him and for the hospital that he should go," and "he might be damaged if reasons were given." At the same time the guardians decided to advertise for a successor, offering only £150 salary without rations. This involved one of two things—either a return to the old condition of affairs condemned by the Local Government Board inspectors, in which the senior resident medical officer had no control of the medical administration, or else it meant that the guardians wanted to get a medical officer at a lower salary to do all that the senior resident had been doing. In either case the proposal was not one that commended itself to some of the guardians, and certainly not to the medical profession.

Some further facts also made it necessary that the profession should take a definite stand. For some years past the class of persons elected as guardians has been steadily deteriorating. It is an unfortunate fact that very little interest is taken in Salford in the guardians' election. So small is the proportion of voters who actually vote that any clique that does a little canvassing and shows the least energy at an election can be sure of being elected. With few exceptions, the persons elected are fitted neither by education nor training for the responsible duties of guardians. They will spend hundreds or thousands of pounds after the most cursory discussion, while a great part of a meeting has been taken up on a discussion about employing a rat-catcher. It was not altogether a surprise that a number of these persons developed a tendency to make discourteous and even insulting remarks about the medical officers, which found their way into the public press. Individual guardians even interfered and took the side of patients who complained about diet or medicines ordered by the medical officers. Again, most of the guardians claim and freely exercise the right to grant passes to friends of patients to visit the wards any time on every day of the week, including Sunday. It was in vain the medical officer complained that the wards could not be kept quiet, that a constant stream of visitors seriously interfered with the medical work, and that visits should be on fixed days, except for urgent cases. His expostulations were only met with defiance and almost with insults, and a system of petty interference undermined the influence of the medical men with the patients. In a moment when they felt a wholesome dread of public opinion the guardians had entrusted the senior resident medical officer with modified duties as superintendent of the medical administration, and they found that this had somewhat baffled them in their meddling propensities. Hence their resolution to revert to the old state of things condemned by the Local Government Board inspectors.

In addition, it has been known for years—the guardians themselves knew it quite well—that the hospital is much understaffed with medical men. Two resident medical officers cannot do themselves justice when they are responsible for 800 to 900 patients. Dr. McVail, in his report to the Poor Law Commission, specially mentioned Hope Hospital as being understaffed, and said that the work "is bound to be rushed to be overtaken." The idea of "rushing" medical work on which the health and the lives of poor patients depend surely ought to have appealed to the most ignorant of guardians as being a disgraceful state of affairs, even if they cared nothing at all about the sweating of the doctors. But so far was it from affecting the Salford Guardians that they actually determined, not long after Dr. McVail's report was published, to take away those powers of the senior resident medical officer which gave him an opportunity of properly carrying out his work, and in addition to advertise for another doctor in his place at a salary of £70 a year less.

Then it was that the Salford Division of the British Medical Association thought it high time to interfere. The advertisement was refused by the BRITISH MEDICAL JOURNAL, a "warning notice" was inserted, and the Division decided to advise intending applicants that it was not to the advantage of any medical man to accept the post of senior resident medical officer at Hope Hospital. Since that decision the Local Government Board inspector (Mr. Lowry) has urged the infirmary committee to consider at an early period the question of increasing the medical staff. When the last day for sending in applications came there was not a single applicant for the post. The senior resident medical officer left on August 31st at the end of his term, while the junior medical officer was away on his holidays. A locumtenent was obtained for a week, to whom 6 guineas had to be paid, and the junior medical officer has now given notice that he will refuse re-election at the end of his year in October. It is quite possible that the guardians may by advertising obtain some medical man who knows nothing of the state of affairs; but, if they willingly leave any candidate in ignorance of the complaints that have been made, they would be guilty of a breach of good faith, so gross as probably to justify any one so appointed in refusing to carry out his agreement, while to carry on the hospital by means of locumtenents can only serve as a temporary expedient. For the position of senior resident medical officer, with the modified duties of medical superintendent, as advised by the Local Government Board, a medical man of experience—not one only just qualified—is absolutely necessary in the interests of the patients, and the least salary that should be accepted is £250. The late senior resident medical officer had determined only to accept reappointment on condition that his sphere was strictly marked out so as to prevent annoying interference in his duties by individual guardians, and this ought to be demanded by any one who succeeds him. In addition there certainly ought to be two junior medical officers instead of one as at present. Whatever the guardians may think of the idea of "rushing" work on which the lives of poor patients depend, the idea does not commend itself to the Salford Division of the British Medical Association. Compared with this, even the intolerable interference by individual guardians and the sweating of the medical men must take a second place.

LONDON.

HEALTH VISITORS.

AN Act obtained by the London County Council last year empowered any sanitary authority in London to appoint suitable women, to be known as "health visitors," to give advice as to the proper nurture, care, and management of young children and the promotion of cleanliness. The Act required the Local Government Board to make regulations, and the Board has now issued an Order.[1] Article I prescribes that a woman shall be qualified to be a health visitor if she

(*a*) is a duly qualified medical practitioner within the meaning of the Medical Acts; or
(*b*) is qualified for the appointment of nurse by having undergone, for three years at least, a course of instruction in the medical and surgical wards of any hospital or infirmary, being a training school for nurses, and having a resident physician or house-surgeon; or
(*c*) is certified under the Midwives Act, 1902; or
(*d*) has, for a period of not less than six months, undergone in a hospital or infirmary, receiving children as well as adults, and having a resident physician or house-surgeon, a course of instruction including subjects relating to personal hygiene, and holds the certificate of the Royal Sanitary Institute for Health Visitors and School Nurses, or the certificate or diploma of the National Health Society, or of any other body which may from time to time be approved by Us; or
(*e*) has, in the service of a Sanitary Authority, or of the Council of a Borough or of another Urban District or of any other Public Body or Authority in England or Wales, discharged duties which, in Our opinion, are similar to those described in the Act or prescribed by these Regulations in relation to the office of Health Visitor, and produces such evidence as, in Our opinion, suffices to prove her competency.

But power is reserved to the Board to sanction the appointment of a woman who has a competent knowledge and experience of the theory and practice of nurture, of the care and management of young children, of attendance on women in and immediately after childbirth, and of nursing attendance in cases of sickness or other mental and bodily infirmity.

The selection made by the local authority must be approved by the Board, and three months' notice of termination of the appointment may be given either by the health visitor or by the local authority. It will be the duty of the health visitor to carry out the following regulations:

1. The Health Visitor shall, in relation to each person visited enter on a suitable card or in a book to be called "the Health Visitor's Report Book" all such particulars as the Sanitary Authority or the Medical Officer of Health require to be ascertained and recorded, and shall submit the cards or Health Visitor's Report Book to the Sanitary Authority or the Medical Officer of Health so often and at such times as may be required, and, subject to the directions of the Medical Officer of Health, shall keep the cards arranged so that any card may be readily available for reference at any time when the card is not in use for the purpose of a visit.
2. The Health Visitor shall, under the direction of the Medical Officer of Health, discharge such duties, not being duties of a Sanitary Inspector, as may be assigned to her by the Sanitary Authority in connexion with and for the purposes of the administration by the Sanitary Authority of any public and general Act or local and personal Act under which powers are conferred or duties are imposed upon the Sanitary Authority with respect to matters relating to public health, the housing of the working classes, and the notification of births, or of any bylaws or regulations made under any such Act.
3. The Health Visitor shall discharge such duties in substitution for, or in addition to, any duties assigned to her under the paragraph numbered (2) in this Article in connexion with any of the Acts, bylaws, or regulations mentioned in that paragraph, or in connexion with other Acts, bylaws, or regulations as may be prescribed by Us, whether generally, by further regulations made by Us in pursuance of the Act, or, in the case of any particular Health Visitor, by an Instrument issued by Us in that behalf under Our Hand and Seal.
4. The Health Visitor shall observe and execute, in regard to matters not specifically provided for in this Order, any such instruction issued by Us and any such order or direction of the Sanitary Authority or the Medical Officer of Health as may be applicable to her office.

The salary, to be paid by the sanitary authority, must have the approval of the Board, and while recognizing that the salary in any particular case will depend to some extent upon local circumstances, the Board expresses the opinion that, having regard to the important duties to be discharged by the health visitors, and to the salaries paid to female sanitary inspectors in London, the salary should not be less than £100 a year. The Board also considers it desirable that the health visitor should, as a general rule, devote the whole of her time to the duties of her office. In conclusion, the Board states that it attaches much importance to the appointment of health visitors in London, especially in view of the provisions of the Notification of Births Act, 1907, and therefore trusts that sanitary authorities will at once proceed to make such appointments.

[1] London: Wyman and Sons, Limited (or through any bookseller). Order No. 54,094.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE CHAIR OF SURGERY AT ABERDEEN.

THE KING, on the recommendation of the Secretary for Scotland, has approved of the appointment of Mr. John Marnoch, M.A., M.B., C.M., Surgeon to and Lecturer on Clinical Surgery at the Aberdeen Royal Infirmary, to be Regius Professor of Surgery in the University of Aberdeen, in succession to Professor Alexander Ogston, who has resigned as from September 30th. Mr. Marnoch is a native of Aberdeen, and had a most distinguished career as a student of medicine at Aberdeen University, graduating with highest honours in 1891. During the next year or two he held various resident appointments in the Infirmary and Royal Hospital for Sick Children, and in 1893 was appointed Assistant-Surgeon to the Infirmary. For several years he acted as assistant to the Professor of Physiology in the University. In 1900 he was appointed Surgeon in Charge of Wards and Lecturer in Clinical Surgery, and since then has devoted himself entirely to surgical practice, and has made several important contributions to surgical literature. The appointment now made puts an end to a long period of speculation and, one might say, anxiety. It is almost a year since Professor Ogston announced that his resignation would take place at the end of the university year, hoping that his early announcement of the fact would lead to an appointment being made early enough to give his successor sufficient time to prepare for the winter session. His words sound rather ironical now with the opening of the winter session no more than a few weeks distant. It appears, however, that no definite action could be taken until June 1st, and thereafter there seemed some reason to suppose that the Secretary for Scotland contemplated the introduction of an outside man to fill the post, and inquiries were instituted through the Senatus as to whether, in the event of such a one being appointed, wards would be available in the Royal Infirmary. No wards were available, as Professor Ogston so long ago as 1898 resigned his hospital appointment while still retaining the chair, and an appointment was made to his wards at that time. We understand that it has been arranged that in future the occupancy of the chair and the hospital appointment must terminate at the same time, the directors of the infirmary reserving their right of making the appointment to the wards, just as on the medical side in regard to the Professor of Medicine.

THE CHAIR OF ANATOMY AT GLASGOW.

The King has approved of the appointment of Mr. Thomas H. Bryce, M.A., M.D., Lecturer in Anatomy in the University of Glasgow, to be Regius Professor of Anatomy in succession to Professor John Cleland, whose resignation takes effect on September 30th. Dr. Bryce received his medical education at Edinburgh and Vienna, graduated M.B., C.M.Edin. in 1886, and proceeded to the degree of M.D. in 1901, when he was awarded the gold medal. Professor Bryce has given special attention to the study of embryology, and is the author of the article on the subject in the last edition of *Quain's Anatomy*. He is also the joint author of a valuable *Study of the Early Development and Embedding of the Human Ovum*.

GIFT OF A HOSPITAL TO WEMYSS.

On August 28th the Wemyss Memorial Hospital, given by Lady Eva Wemyss to Wemyss Parish, was formally

handed over to the trustees. The hospital, built in the centre of the parish, which extends for seven miles, and includes East and West Wemyss, Dunbeath, Coalburn, and the burghs of Buckhaven and Duthil, is of old Scottish design, with a clock tower in the centre. It contains two large wards, and also special wards for women and children, operating room, doctors' and nurses' rooms, caretaker's house, chapel and mortuary. It cost about £5,000. It is furnished and equipped according to the latest scientific ideas, and is, in addition, well endowed. The hospital was dedicated to the memory of Randolph Gordon Erskine Wemyss, and to the services of the injured among his fellow men.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

QUEEN'S COLLEGE, BELFAST.

Last Annual Report.

THE President (Rev. Dr. Hamilton) has presented to Parliament the last annual report by the college, which closes its useful career of nearly sixty years in full strength and vigour; there were 456 students upon the roll, the largest number for nearly twenty years, and the results of the examinations at the Royal University, now also moribund, and elsewhere, give proof that quality has not deteriorated. A noticeable feature in the life of the college during recent years is the large number of women students; 87 attended in 1908–9. The college will now change from its chrysalis stage to the full life of a university, with increased endowment, an increased staff and buildings and the power of granting degrees. The medical school will still form an important part of the new institution.

PUBLIC HEALTH IN BELFAST.

After eleven years of discussions, deputations, motions, amendments, and adjournments, final plans for a new abattoir have at last been adopted by the City Council at the monthly meeting on September 1st. In moving the minutes of the special meeting of council in committee, Councillor Dr. Henry O'Neill, who has all along been very active in the matter, said that the principal features of the improvement were increased accommodation for lairage, the cooling chambers, increased space, and better methods generally.

In the same meeting of the City Council, on the motion of Alderman Dr. King-Kerr, Chairman of the Public Health Committee, it was unanimously resolved to adopt Part I of the Tuberculosis Prevention (Ireland) Act, 1908. The resolution comes into operation on November 1st, 1909.

COMPULSORY NOTIFICATION OF TUBERCULOSIS.

Dr. William Osler, Regius Professor of Medicine at the University of Oxford, has addressed the following letter to the Secretary of the Women's National Health Association:

I am sorry that you are having opposition to the adoption of the compulsory notification of tuberculosis.

As is so often the case, difficulties vanish when squarely faced, and this has been the history of the question in debate. The experience of New York City is overwhelmingly in favour. At first there was opposition on the part of many medical men, partly on the ground that it would cause hardship to the poor, partly lest the well-to-do should be put to any inconvenience. It is universally acknowledged that the Act works smoothly, and with practically no inconvenience. I am assured by the members of the New York Board of Health that no single measure has been so important in the fight against tuberculosis.

That notification will cause loss of employment to a large number of persons is in the highest degree improbable; certainly it has not done so elsewhere.

Slight increase in the rates may follow notification, just as it naturally follows any great public improvement. No doubt typhus and small-pox corresponded with low rates.

Truth is often unpleasant, and in Ireland you are at present suffering from the shock of the realization of what has been known to health authorities for many years.

That working people will hesitate to send for the doctor because of the risks involved in notification applies as little to tuberculosis as it does to typhoid fever or measles, and appears to one to be entirely fanciful.

That there is to be a cruel crushing of the poor working man in notification is a myth—there is no class legislation, as the Act applies to rich and poor alike.

I do wish Dr. M'Walter would go to New York and study the work of his brethren—mostly Irish brethren—in this battle against tuberculosis. The conditions are in some ways quite as bad as in Dublin. He would return a wiser and a gayer man, and I should not be surprised at the next meeting of the British Medical Association to see him down for a paper on the advantages of compulsory notification of tuberculosis in Dublin.

TYPHOID AT ROSCOMMON.

There are several cases of typhoid in the Roscommon Union Hospital which have been sent in from the direction of Mount Talbot. The nurses cost £12 a week. At a meeting of the board of guardians the medical officer was directed to inquire into and report upon the cause of the outbreak, so that a remedy may be applied at once.

South Australia.

MEDICAL INSPECTION OF SCHOOLS.

DR. H. S. ROGERS, who was appointed by the South Australasian Government not long ago to carry out the medical inspection of school children in Adelaide, has (we learn from the *Australasian Medical Gazette*) made some progress with the work, and at the recent inter-State Congress on State Children he reported the results of some of his investigations. He found that from 60 to 70 per cent. of the scholars he had examined suffered from adenoid growths or enlarged tonsils. Grave defects in eyesight were not numerous, and curvature of the spine, which was so prevalent in some other countries, was scarcely seen. He visited first the Observation School in Currie Street, where it was generally accepted that the lowest type of children attended, and it was a pleasure to note that the dirty child was conspicuous by its absence. On inquiry, he found that the teachers had solved the problem themselves by taking those who were unclean and tubbing them in the presence of each other. The knowledge that the children had to be inspected had resulted in closer attention by parents to the clothing and condition of their offspring, and it was pleasing to know that the sense of shame was so easily invoked to the benefit of the child. Much required to be done to secure the proper lighting of schools. In one of the newest schools of the city he found the light in the face of the teacher, and the children sitting in their own light. A more defectively lighted educational room he could scarcely imagine. On the question of dealing with the feeble-minded children, he recommended the appointment of a small board of commissioners who should supersede the official visitors at the asylum, and whose powers could be extended to include that branch of work. The scheme might seem costly in the beginning, but financial saving would be effected in many other ways by the proper training and care of the mentally defective subjects in the community.

Special Correspondence.

VIENNA.

Increasing Consumption of Meat.—Professional Secrecy.—The Jubilee Hospital.

FOR the last few years, the general sale of meat and cereals has been controlled by the local magistrates in co-operation with the market commissioners in Vienna. Down to 1900 the annual consumption fluctuated from year to year, but averaged about 70 kilos (156 lb.) of meat a head of the population; since that time a slow but constant increase has been noted, while cereals have remained stationary: in 1905 the average was about 73 kilos (162 lb.), in 1908 it was 76½ kilos (170 lb.), and for the first half of 1909, 77 kilos (172 lb.), an increase of 10 per cent. in nine years. The reports of the Bureau of Health have shown a remarkable parallelism, for since 1900 a constant improvement of health and decline in mortality have been recorded. These two facts no doubt indicate increasing national welfare and wealth, and are not in causal connexion with each other, as has been suggested. The increase of industrial concerns in this country, as compared with agricultural occupation, tends to promote the consumption of meat. Pork and beef are used mostly, whilst veal, fowl, and mutton much less; 774,000 pigs

were consumed in 1908, but only 7,500 lambs were sent to the capital. The increased consumption of these kinds of meat has occurred in spite of higher prices. On the assumption that a more carnivorous population in hard-working countries is to be preferred to a more vegetarian one, care has been taken to ensure for the lower working classes ample supplies of meat of all kinds at low prices by the erection of municipal butchers' shops.

The problem of professional secrecy has recently been much discussed in medical circles owing to two forensic cases, in which a marked difference of opinion was displayed both by the court and the profession. The facts, briefly stated, are as follows: A young lady occupied in a post-office acquired extragenital syphilis. The physician did not at first make a correct diagnosis, but after prolonged treatment a consultant explained matters. Hereupon the physician warned the patient against continuing her occupation, and, as his advice was disregarded, he informed the superintendent of the post-office district, with the result that the patient was put on the sick list and temporarily relieved of her duties. At the same time the inhabitants of the village came to know of the nature of the girl's affection, although it was never proved how the fact leaked out. The patient sued the doctor for damages owing to the breach of professional secrecy committed by him. After repeated hearings the judge dismissed the charge, remarking that the doctor was justified in informing the post-office authorities, as the public welfare was endangered; in the conflict between the duties towards his patient and those towards the public the physician had chosen the safer course. If it had been proved that the inhabitants of the village were informed by the doctor, then damages could have been allowed. A very spirited discussion followed in medical circles, but only a small minority of the members sympathized with the course of action taken by the accused doctor. The personal relations between doctor and patient are still regarded by nearly all physicians as being of the closest and most confidential nature, and under no conditions whatever (except those specially required by law) permit of disclosure of facts thus ascertained. In another case, where two school children had been infected by the father with extragenital syphilis, the physician in charge had communicated with the head master of the school, asking him to exclude the two patients from their classes, as they suffered from a transmissible disease, and the parents disregarded the medical advice to keep the children at home. Here, too, a charge was made against the doctor, and was also dismissed on the same grounds. Since the importance of the social activity of the physician has been recognized efforts have been made to reconcile the requirements of public health with the needs of individual secrecy, and the proposed new medical charter (*Aerzte-ordnung*) will deal extensively with these questions.

The jubilee hospital of the city of Vienna for the destitute only, established in commemoration of the sixtieth anniversary of the Emperor's reign, has already been much discussed, and it is to be regretted that the original plans had to be materially changed. Thus, instead of 1,000 beds, only 700 will be opened, and the accommodation of the open-air halls, originally intended for 300 persons, has been cut down to 120 owing to lack of funds. It becomes more and more evident that the 10,000,000 kronen grant by the municipality was something like a bluff, and, now that work has to be commenced, the true antimedical trend of the men now in power becomes visible. The continued lack of adequate hospital accommodation, the recurring difference of opinion as to whose duty it is to provide the necessary funds—the State's or the municipality's—have led to such a state of things that a radical measure is necessary, and this will be carried out in spite of obsolete opinions of easy-going City Fathers.

THE *Journal of the American Medical Association* states that in July the Board of Health for the State of Montana adopted resolutions abolishing quarantine for small-pox on the ground that vaccination if properly performed and repeated at intervals was an absolute preventive, that the care of cases in quarantine was a very costly task, and that properly vaccinated persons threw no such expense on local authorities.

Correspondence.

THE REPORT OF THE MIDWIVES ACT COMMITTEE.

SIR,—In your leading article of August 28th on the Report of the Midwives Act Committee you express the opinion that "the Committee would have been all the stronger in discussing certain details if it had contained a member fully conversant with general practice." Probably few members of the medical profession will be inclined to disagree with that opinion. Apart, however, from questions relating to the fee to medical men answering the call of midwives in emergencies, to which you referred chiefly, there is another matter in respect of the Committee's recommendations on which the opinion of general practitioners might have had some weight.

In the consideration of the question of the supply and training of midwives the Committee came to the conclusions that "the organization and distribution of the supply should be undertaken by the co-ordinated action of local authorities and voluntary agencies," and they concluded also that "the powers of county councils should be extended so as to enable them to charge upon the county fund contributions in aid of the training of midwives for work in their areas."

Personally, I think that the Committee would have been well advised to have limited their recommendations in this matter to that last quoted one. It would have been more in agreement with the law of demand and supply. To establish a system of organized midwifery may lead easily to interference with the liberty of the subject and prejudice the rights of practice.

But when the Committee go further and recommend that, for the organization and supply of midwives, there should be "the establishment of county nursing associations throughout the country, working in co-operation with the local supervising authorities, and affiliated, wherever possible, to some central body such as Queen Victoria's Jubilee Institute," they suggest a policy which may have far-reaching consequences. The provision of scholarships by a county council for suitable women, on their own application, to procure training so as to become independent midwives in their county is one thing, but co-operation with a county nursing association for the organization and distribution of the supply of midwives would be quite another one.

The general medical practitioner knows where he is with the independent midwife. He knows that she is a regularized practitioner in midwifery, and, within certain well-defined limits of action, independent of medical assistance; that she is amenable strictly to the law under the Midwives Act; and that she is subject to supervision from the local supervising authority. But organization and distribution of midwives through the co-operation of nursing associations would tend surely to the extinction of the class of independent midwives; and this is rather a large proposition to face. Is midwifery to be combined with district nursing on an organized plan? That would certainly add little to the amenities of general practice. In their own defence, the general medical practitioner and the independent midwife might ask justly also for organization and distribution.

Is the matter not being carried in fact a little too far? Nursing associations, confining themselves to nursing duties, have done most excellent work in the past; to co-opt them in the work of supervision of midwifery practice, however, appears to me to be a proposition which, if not actually unworkable, is calculated to create a monopoly where now there is freedom of choice for the community.—I am, etc.,

Northampton, Aug. 30th. CHARLES E. PAGET.

THE REPORTS OF THE POOR LAW COMMISSIONERS.

SIR,—In his address on the Medical Aspect of the Report of the Royal Commission on Poor Law Reform to the Birmingham Branch of the British Medical Association, as published in the SUPPLEMENT to the JOURNAL of August 21st, Dr. Manley speaks as follows in the course of a kindly reference to my own report to the Commission:

The dispensary doctor would, in his (that is, Dr. McVail's) idea, usurp the functions of the school inspector, the medical

inspector under the Factory Acts, the inspectors of midwives, the health visitors, and even the work done for life insurance. That the intrusion of the profession into the houses of the poor and the regular examination of the working man and his family would be resented, goes without saying.

The reference here is not to any of the series of recommendations in my report, but to an added memorandum on medical provident institutions, in which I take the liberty to go somewhat beyond the subject of Poor Law Medical Relief. I am glad Dr. Manley has noticed the memorandum, but, to prevent misapprehension, please allow me to say that I make no mention whatever of any of the several classes of inspectors, visitors, etc., of whom he speaks. The idea that the functions of these officers would be usurped under such a scheme of medical provident institutions as is adumbrated in the memorandum, is not mine, but must be his own. I do not agree with him, but my purpose is merely to clear away a misunderstanding and not to discuss Dr. Manley's views.

Then, as to the latter part of the above quotation, where intrusion into working men's houses is feared or assumed, and their consequent resentment predicted, the memorandum makes it perfectly plain that membership of such institutions would be entirely voluntary, and that, even amongst members, acceptance of periodical medical examination would also be entirely voluntary. The medical officer would make the offer, but it "would of course be impossible to compel members to submit to such examination. Compulsion would only exist towards the offer of it; any one who chose might refuse to be examined." I cannot see how in these circumstances there would be room for either intrusion or resentment. Dr. Manley condemns my suggestions as "wholly unworkable," but he appears to be under a fundamental misapprehension as to what they really are.

Once more, however, my object is not to argue the matter, but only to correct what seems a misreading of the memorandum, which might readily mislead those who heard or have read Dr. Manley's interesting address, but have not themselves seen my report.—I am, etc.,

Glasgow, Sept. 7th. JOHN C. MCVAIL.

SIR,—Whether or not you have made up your mind that the carrying out of the scheme of the Majority Commissioners would most benefit the medical profession of the country, it is quite clear that Dr. Beckett-Overy is convinced as to the advantage of the Minority scheme. Dr. Beckett-Overy's experience of the working of the present Poor Law medical system would seem to have been derived from observations when acting as a locumtenent to Poor Law medical officers in his early days, and although such experience may seem to him adequate to enable him to express an opinion as to the value attached by Poor Law medical officers to their appointments, it is by no means certain that the Poor Law medical service will agree with him. I quite agree with Dr. Beckett-Overy's advice to all to read carefully both Reports, especially the Minority, but I cannot help thinking that the medical profession will be more impressed by the views of Poor Law medical officers, and medical men in practice in poor districts, who would be far more affected by the changes contemplated than Dr. Beckett-Overy.

Sir Dyce Duckworth at the annual dinner of the Poor Law Medical Officers' Association admitted the inability of the "Harley Street physician" to understand some of the problems which are matters of life and death to the general practitioner among the poor. That "revolution in the relation of the profession to the community," Sir, which you allude to, would in no way affect the practice of the upper ranks of the profession, but might simply ruin many practitioners holding a humbler position.

Personally, after a careful study of both Reports, I must confess that I am not satisfied with either, but I believe a considerable amelioration of the present system might be obtained by the judicious use of both in reforming and remodelling the existing Poor Law medical service.—I am, etc.,

London, N.E., Aug. 28th. MAJOR GREENWOOD.

SIR,—May I encroach on your valuable space to say, as a Poor Law medical officer, that I trust that all Poor Law medical officers who are thoroughly satisfied with their appointments will say so, in no uncertain tones, when replying to Mrs. Sidney Webb's letter of August 31st?

Speaking on behalf of myself and my three colleagues in this town, I may say our Poor Law medical system here works harmoniously, and our remuneration, although not, perhaps, quite adequate, is not one to grumble at in any way. The guardians provide a central dispensary where all medicines are given out, so that we have no expense of drugs, etc. Were this system adopted in every urban district, I feel sure Poor Law medical officers in towns would be quite satisfied with their appointments. It is in the rural districts where the remuneration is inadequate for the distances that have to be covered and medicines supplied.

The break-up of the Poor Law simply means that thousands of medical men throughout the country will be deprived of what is now a constant and certain part of their income.

In my opinion, hospital abuse is an evil which has a prior claim to be remedied before any break-up of the Poor Law system, at any rate from the medical standpoint.—I am, etc.,

JAS. W. KING, M.B.,
Medical Officer and Public Vaccinator, No. 2 District of the Derby Union.
Derby, Sept. 2nd.

*** The letter referred to by our correspondent is as follows:

THE NATIONAL COMMITTEE TO PROMOTE THE BREAK-UP OF THE POOR LAW,
5 and 6 Clement's Inn, Strand, London, W.C.,
August 31st, 1909.

Dear Sir,—As I did not have the pleasure of meeting you at the Conference of the Poor Law Medical Officers' Association at the Guildhall last month, I venture to send you a copy of the paper read on that occasion. As the Cabinet will have to come to a decision this autumn upon the reorganization of the Poor Law Medical Service the question is one of urgency, and my committee would be much obliged if you would be so good as to send me any criticisms or suggestions upon the subject.

I enclose a few other papers bearing on the general question. Apologising for troubling you at this season,

I am, dear sir, Yours faithfully,
BEATRICE WEBB (Mrs. Sidney Webb.)

The paper read by Mrs. Sidney Webb at the Conference of the Poor Law Medical Officers' Association was published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL, July 17th, 1909, p. 88. The other papers mentioned by Mrs. Webb are two leaflets explaining the aims and objects of the National Committee to Promote the Break-up of the Poor Law, of which Prebendary Russell Wakefield, the new Dean of Norwich, is President and Mrs. Webb Honorary Secretary.

WHOLE-TIME MEDICAL OFFICERS OF HEALTH.

SIR,—I do not desire at this time to discuss the many controversial points necessarily raised by the wording of the recent resolution[1] concerning medical officers of health adopted by the Representative Meeting; but I shall be glad if you will allow me space to mention in your columns that there over 1,000 general practitioners in England and Wales alone holding "part-time" appointments. As the whole of these appointments necessarily lapse in the course of four or five years at most, the effect of the resolution, if acted upon, would be to cause a loss to the general practitioners of this country of emoluments totalling about £100,000 a year.—I am, etc.,

Mortlake, S.W., Sept. 8th. F. G. CROOKSHANK, M.D.

THE KINAESTHETIC AREA OF THE BRAIN.

SIR,—I have seen Sir Victor Horsley's letter in the JOURNAL of August 28th, and it seems evident that he still does not realize my point of view. The question raised by me does not concern the meaning of the mere word "kinaesthetic," nor does it matter whether such a word may or may not be fitly applied to certain spinal centres as well as to some centres in the cerebral cortex.

My contention was and is that the so called "motor centres" of the cortex are purely sensory centres for the registration of all the complex impressions resulting from movement, and it was for this reason that I applied the term "kinaesthetic area" to the region of the cortex in question.

Doubtless such impressions must also be registered in some way in the spinal cord, but they would be registered in sensory regions of its grey matter and not in the anterior cornua. These centres in the spinal cord for the reception of afferent impressions are brought into relation with other centres (motor) by means of connecting or

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, July 31st, 1909, p. 155.

internuncial fibres. In common with the majority of physiologists, I assume that we have here to do in such pairs with *two* centres, while Sir Victor Horsley chooses to speak of such an associated couple as though it were *one* centre.

My view, however, is that we not only have to do with two centres, but that the two components of such functional couples do not always or necessarily exist in close proximity with one another. In illustration of this, I say that in the cerebral cortex we have in the kinaesthetic area only a series of sensory centres for the reception of afferent impressions and for the initiation (through what is known as the "will") of all our varied muscular movements: while the nervous mechanisms concerned with the actual performance of these correlated muscular actions (that is, the "motor" sides of the functional couples) are situated, as Sherrington and Beevor have shown, in the bulb and in the spinal cord.

Of course, when impulses pass from sensory centres to motor centres they must pass through certain connecting or internuncial fibres, so that *every sensory centre must be in relation not only with afferent, but also with efferent, fibres.* And if in the great kinaesthetic area there are regions where sensory impulses more especially impinge (as Cushing's observations seem to indicate[1]), so must there also be regions of these same sensory centres whence efferent stimuli emerge, when what William James speaks of as the "fiat" goes forth. My view is that such efferent stimuli pass out, as experimental observations have shown, from the precentral gyrus, and that they traverse the "pyramidal tract" on their way to motor centres in the bulb and in the cord.

There is, therefore, in accordance with my views, no justification for calling the cortical centres in question either "motor" or "sensori-motor." My view may be right or may be wrong, but it must not be assumed to be the same as that of my friend Dr. Hughlings Jackson merely because of my use of the term "kinaesthetic"; nor can I think that these particular sensory centres in the cerebral cortex are any the less worthy of the name of sensory centres simply because their particular emissive fibres pursue a long course and are found to be embodied in the "pyramidal tract."—I am, etc.,

London, W., Aug. 29th. H. CHARLTON BASTIAN.

HAEMODYNAMICS.

SIR,—In the BRITISH MEDICAL JOURNAL of August 28th, p. 551, there is an interesting and commendatory review of the work of Johann Plesch on the above subject. I have not seen the original work, and can therefore only assume that the author's figures and conclusions are correctly transcribed by your reviewer. His determination of the blood volume, haemoglobin content, and oxygen capacity of the blood have been arrived at by Haldane's method, and therefore may be accepted as correct, though even here great care is required, as, when dealing with the multiplication table, slight initial errors often lead to surprising results.

He agrees with Haldane in estimating the blood volume as 5.3 per cent. of the body-weight, the haemoglobin at 0.70 per cent. of the body-weight, and the total oxygen capacity of the blood at 10 c.cm. per kg. of the body-weight. The average minute volume of blood passing through the heart of a man of 70 kg. is set down as 4.31 litres, which, with a heart beating 73 to the minute, gives a heart-beat volume of 59 c.cm.

In some of my papers I have reckoned 60 c.cm. as a fair average volume to be discharged from either ventricle at each stroke. No doubt the number of cardiac beats and the amount discharged at each beat vary greatly, and although with increased frequency the amount per minute may be increased considerably, the amount discharged at each beat is diminished. It is, however, too great a strain on the imagination to accept his statement that "in the greatest work" the amount of blood passing through the heart in a minute may rise from 4.31 to 47.1 litres in a minute. The statement that "the heart-beat volume of 59 c.cm. may rise to 240 c.cm." is equally grotesque. You may get a so-called "bullock's heart" whose left ventricle would hold 240 c.cm. (about 8 oz.), but in a unit of time no more blood can leave the left ventricle through the aorta than that which passes through the right.

"The velocity of flow is 42 cm. per second, and may rise to 200 cm." In a recent paper in the BRITISH MEDICAL JOURNAL I gave examples of the velocity of the blood in the aorta varying from 65 cm. to 245 cm. in the second. I have no doubt the range of velocity is much greater than that, and when the patient comes near life's terminus the velocity may sink much below 42 cm.

"The circulation time is 55 seconds, or 65 pulse beats, and may fall to 4½ seconds in the greatest work." The total weight of blood in a man of 70 kg. at 5.5 per cent. equals 3.71 kg., or, if the specific gravity be reckoned at 1060, then the volume will be 3.5 litres, and this passes through the heart in 55 seconds, or at the rate of 3.82 litres in the minute, but he previously told us that the rate was 4.31 litres per minute. I now ask your readers: Is it conceivable that these 3.82 litres could pass through any human heart under any circumstances in 4½ seconds?

"The work of the heart per minute is in rest 9.27 m.kg., and may rise to 100." I have recently shown that, according to Starling, the work of a normal left ventricle is 102 gram-metres per stroke, which, with a pulse of 70, gives 7.14 kg.m. per minute. According to my own calculation, the work of a similar left ventricle is only 78 gram-metres per stroke, or, with a pulse of 70, the work is 5.46 kg.m. per minute. Before 100 kilogram-metres of work could be got out of a left ventricle beating 70 times in the minute, a discharge of 240 c.cm. at each stroke and a resistence of 450 mm. of mercury would be required. I have never met any "bullock's heart" where such conditions appertain. If your reviewer's figures be correct, I quite agree with him that "it is somewhat astonishing to realize that all these determinations can be arrived at by such simple and harmless means in a normal man," but I cannot agree with him that the "results may be accepted with considerable confidence, as they have been arrived at by exact physiological methods." I am often inclined to think that physiological methods are frequently very defective in mathematical accuracy, and, like Caesar's wife, are not above suspicion.—I am, etc.,

Liverpool, Aug. 30th. JAMES BARR.

BELFAST ABATTOIR.

SIR,—In the BRITISH MEDICAL JOURNAL of August 21st the Market Committee of the Belfast Corporation is honoured by a notice of their report on "Some Modern Abattoirs and Abattoir Methods."

As one who had some responsibility in drawing up that report, I should like the favour of making a few remarks in reply to what I think an unfair criticism regarding the section dealing with different modes of slaughter.

Your correspondent says: "The precise signification of these two terms ('stunning' and 'shooting') is not quite clear," and then proceeds to "imagine" that what is really meant is "poleaxing" and "shooting." He is quite right that "shooting" means—shooting; indeed, I cannot understand how the precise meaning of *that* term should have given him any doubt. But he is quite wrong in his conjecture that "stunning" means "poleaxing"; if that had been meant, "poleaxing" is the word we should have used. Here also your correspondent need have had no doubt as to the meaning of the term, if he had read the explanation under the reproduction of the microscopic section (Fig. xi, Slide A) opposite p. 32, which runs, "Microscopic section of a piece of flesh of a bull killed by stunning *with the hammer*—ordinary method." However, he soon passes from "honest doubt" to open scepticism, as to the results obtained, in a series of original experiments to show that the flesh of a shot animal evidences putrefactive changes before that of one killed by stunning with the hammer. Will your correspondent let us know where he can obtain a record of any similar experiment which shows the contrary, in support of his assertion that "these results are not quite in accordance with those obtained by observers elsewhere"? It is hardly enough to assert that somebody has killed 30,000 animals annually by the "shooting" method, to prove that the experiments pursued in the Belfast abattoir do not bear out the conclusion noted by competent and trustworthy witnesses.—I am, etc.,

Belfast, Aug. 24th. ANDREW TRIMBLE, M.B., J.P.

*** The criticism was directed to the distinction which was made in the report between stunning and shooting. Whether a poleaxe, a hammer, or a shooting apparatus is used, the initial result is to stun.

[1] *Brain*, 1909, Part 125, p. 44.

Obituary.

HENRY RADCLIFFE CROCKER, M.D., F.R.C.P.,

PHYSICIAN, SKIN DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL.

We had the grief to announce a fortnight ago the sudden death, on August 22nd, while on a holiday in Switzerland, of Dr. Radcliffe Crocker, well-known as a leader among English dermatologists, and to members of the British Medical Association also as an active member of its Council and Committees, and eventually as its Treasurer at a time when a momentous decision had to be taken.

Henry Radcliffe Crocker was born in Brighton in 1845, and received his early education in a small private school in that town. While still young he was apprenticed to a surgeon in one of the northern colliery districts, and while there made the acquaintance of one who had recently graduated in medicine in the University of London; he resolved himself to graduate in that university, and, while still continuing his apprenticeship, succeeded in preparing himself for the matriculation examination and subsequently for the preliminary scientific M.B. examination. He then entered as a student at University College Hospital, London, where he had a most brilliant career, winning the gold medal in materia medica at the first M.B. examination and the university scholarship and gold medal in forensic medicine at the final examination for the degree of M.B. in 1874. In that year he also took the degree of B.S., and in the following year graduated M.D. After holding the appointments of Clinical Assistant at the Hospital for Consumption and Diseases of the Chest, Brompton, and Resident Medical Officer at Charing Cross Hospital, he was appointed Resident Medical Officer at University College Hospital, and during the occupation of this office began to give special attention to the study of diseases of the skin, working with Dr. Tilbury Fox, whom he subsequently succeeded nearly thirty years ago as Physician to the Skin Department of University College Hospital. This appointment gave him ample opportunity for gaining experience in the speciality to which he had resolved to devote himself, but he also gave much time to histological investigations, and was enabled to make many important contributions to the science of dermatology. But though a specialist, he never allowed his outlook on disease to be narrowed; for him, as for all specialists of the highest class, the particular diseases of the special organ were always regarded from the point of view of general medicine.



Photograph by] HENRY RADCLIFFE CROCKER. *[Hermann Ernst*

He was never tired of insisting on the importance of treating the patient and his diathesis in order to obtain the best results from local treatment. In evidence of this we may mention incidentally the fact that he was for many years Physician to the East London Hospital for Children at Shadwell, and may refer also to the articles he contributed on special subjects to such standard works as Quain's *Dictionary of Medicine* and Allbutt's *System*. He kept himself well acquainted with the literature of dermatology, as is evidenced by his *Treatise on Diseases of the Skin*, a standard work which reached a third edition in 1903. In that year also he gave to the world many results of his ripe experience in the Lettsomian lectures on the "Conditions which modify the characters of inflammations of the skin and their influence on treatment," abstracts of which were published in our columns at the time. In these lectures, while discussing fully the nature of the local infective processes, he dwelt at length on the personal factor as illustrated by the influence of age and diathesis, and on the influence of the absorption of internal toxins, and of the nervous system, on the etiology and phenomena of diseases of the skin. These lectures were in the following year published in a small volume.

In his practice Dr. Crocker was always among the first to test the value of new remedies and means of treatment, and his opinion upon their value was only formed after adequate experience and full consideration. He understood the value of obtaining graphic records of cases: his camera was always ready, and he had formed, in addition, a large collection of coloured drawings. He resolved to utilize some of this material for the production of an *Atlas of the Diseases of the Skin*, containing a series of illustrations from original drawings and descriptive letterpress; the first fasciculi of this work appeared in 1895, and the *Atlas* was completed in 1896. As was said in these columns at the time, the publication is of value not only to those practitioners who devote themselves more especially to dermatology, but to those also whose practice takes them into a wider field. Dr. Crocker contributed many papers to the medical journals, and was at one time an active participant in the debates and discussions of the medical societies.

He was an original member of the Dermatological Society, and was the first President of the Dermatological Section of the Royal Society of Medicine when that body was constituted by the amalgamation of numerous societies some two years ago. He was Vice-President of the Section of Dermatology at the annual meeting of the British Medical Association in Birmingham in 1890, and was President of

the same Section at the annual meeting in London in 1895. He was also an honorary member of many foreign societies, including the French, the Viennese, the Berlin, the Italian, and the American dermatological societies. Crocker, in fact, held a very high place in the esteem of dermatologists all over the world, who after learning to value his writings were, when they became acquainted with the man himself, charmed by his personality.

His character, indeed, was such as to endear him to all with whom he was brought into association—a true friend, always ready to give help in any difficulty. One upon whose judgement it was natural to rely with confidence, he was quite free from self-seeking and from that kind of intellectual pride which deters confidence; but all this the tributes printed below, from Mr. Butlin and other old friends, say better than we can.

Very early in his career Dr. Crocker began to take a deep interest in the British Medical Association: he became Honorary Secretary of the Metropolitan Counties Branch in 1889, and held that office for two years. In 1890 he was elected a Representative of the Branch on the Central Council, and remained a member until his election by the Association to be Treasurer at the annual meeting at Leicester in 1905. He retained the office for two years, resigning at the annual meeting at Exeter in 1907. Dr. Crocker had previously for some years been a member of the Journal and Finance Committee, and had rendered valuable services in that capacity. When he became Treasurer, the necessity of providing more office accommodation for the growing needs of the Association had become pressing, and when Dr. Crocker began the consideration of the subject, it soon became clear to him that there were three possible courses which the Association might take. The first was the enlargement and adaptation of the old building at 429, Strand; the second was to sell the premises and transfer the head quarters of the Association to another site; the third was to demolish the then existing building and erect new buildings on the site thus cleared. To the decision, which involved much anxious deliberation and many debates in committees and in the Council, Dr. Crocker brought to bear his marked business ability; he devoted much time and energy to a comparative study of the financial aspects of all three schemes; he personally visited many sites in various parts of London, and was ultimately convinced that the most prudent scheme and that most conducive to the best interests of the Association was to demolish the building in the Strand and erect in its place premises in accordance with modern requirements. This view commended itself to the Council and to the Association as a whole, and plans for the new premises were obtained. Had these been carried out as at first drawn the Library would only have been about half its present size, and there would have been no Council room. The Association owned other property close at hand, but, owing to the difficulty of securing an additional house so as to make the whole site contiguous, it seemed, at that time, that only the ground in the Strand and Agar Street could be used for the new premises. However, largely owing to Dr. Crocker's influence, properties were, after very delicate negotiations, exchanged, and a large contiguous site secured for the erection of the present premises.

It was during Dr. Crocker's period of office as Treasurer that the question of improving the form in which the BRITISH MEDICAL JOURNAL was published by lengthening the page so as to provide a longer column, permitting the use of larger print, came up for decision. Dr. Crocker went into the whole matter, which involved the consideration of many technical and financial questions, with characteristic thoroughness, and, having become convinced of the desirability of the change, used his influence to bring it about; we are able to say that he was much gratified by the result. This incident is only one instance of the care and time which Dr. Crocker was always prepared to devote to the service of his office as Treasurer. In every direction he gave minute attention to the task of increasing the revenues of the Association, and the very considerable success attained in the year 1906, when the revenue increased by nearly £2,000, was a source of much gratification to him. When speaking as Treasurer, either before the Council or at annual meetings, Dr. Crocker had a very clear and concise way of stating and explaining figures, and neglected no opportunity of giving the fullest information with regard to the finances of the Association.

When the Workmen's Compensation Act, which came into force on July 1st, 1907, was passed Dr. Crocker at once realized that it must involve considerable financial responsibility on medical men, and with his cordial co-operation a committee was formed to consider the matter. Eventually the Medical Insurance Committee, which is independent of the organization of the Association, but has offices at 429, Strand, was organized, and Dr. Crocker accepted the office of Chairman, which he continued to hold until his death. The agency established by this committee offers considerable concessions to medical men, and it was no small matter of congratulation to Dr. Crocker

that the profession so promptly realized the advantages of insuring through it.

Dr. Crocker never gave the impression of robust health, and on more than one occasion suffered from severe attacks of erysipelas. During the last, which occurred a few years ago, his condition was very critical, and after his recovery he had to consider the necessity of diminishing the amount of public work which he had been in the habit of doing in addition to conducting a large consulting practice. It was partly on this account, probably, that he gave up the office of Treasurer of the Association at the end of two years' service, and that this summer he tendered the resignation of his appointment at University College Hospital; his services were, however, so highly valued by his colleagues at that hospital that great pressure was put upon him to reconsider his decision. He had gone to Switzerland for rest, and to recruit his energies after a fatiguing spell of work, and it was while sitting in his hotel at Engelberg that he died, quite suddenly, of heart failure. Dr. Crocker married, in 1880, the daughter of the late Dr. Fussell, of Brighton. Much sympathy will be felt with Mrs. Radcliffe Crocker throughout the profession in the irreparable loss which she has so suddenly sustained.

MR. H. T. BUTLIN, President of the Royal College of Surgeons of England, writes: Although I have known for a long time past that my old friend, Dr. Radcliffe Crocker, was unable to take active exercise as he had been accustomed to do, I attributed this to local trouble left by severe attacks of erysipelas, and I had not the least idea that his life was threatened. I was therefore equally surprised and shocked when the news of his sudden death reached me. For many years we have been associated in work and play; twenty years ago we used to play lawn-tennis regularly together through the winter, and thus became very intimate. The more I saw of him the more I came to esteem and admire him. I found in him an essentially good man, with a clean and wholesome mind, devoted to his profession, and pursuing it with the least possible thought of his own interests. Happily, our profession can boast of large numbers of men of the highest integrity, who pass through a life of practice with the consciousness that they have never placed their own interest higher than the interest of their patients. It is only natural that they should feel proud of having done so, seeing the many temptations to which medical men in every rank are subjected. But it seemed to me that Radcliffe Crocker had no pride in his conduct in this respect, since it would have been impossible for him to act otherwise than he did. Yet he must have been often subjected to sore temptation; for I believe that he had to fight his way through serious difficulties as a young man. This I have learned from other sources than himself. Not that he was reticent about his past or disinclined to talk of it, but that he did not deem it of sufficient interest to make it a subject of conversation.

As it was with the past, so was it with the present. I never knew him to speak boastfully or even with pride of the work he had done or was actually doing. If he spoke of it, it was with interest, as he might have spoken of the work of another man. Yet he had ample reason for pride, or even boastfulness, for his life has been very full of work of the highest kind; and if ever a man raised himself to the first place in his branch of medicine by industry and ability it was Dr. Radcliffe Crocker. Looking back on our conversations I am more and more impressed with this modest quality of his mind. Within the last two years he talked over with me the course he had better pursue under circumstances which might arise, and I then came to the conclusion that he was not really sensible of the position which he held as the foremost representative of scientific dermatology in this country, and of the value which other people set upon his services.

I do not think Dr. Radcliffe Crocker intended to practise more than five years longer. It sounds but a little while. But when I think of the many individuals who might have been the better for his care, of the many medical men who might have profited by his teaching, and of the new material he might have added to his speciality, it does seem a grievous pity that Death should have laid its hand upon him while his brain and mental energy were so keen and fit for work.

I shall miss him sadly.

AN OLD FRIEND writes: It is forty years ago since Radcliffe Crocker and I first met at University College, and a friendship then formed has only deepened with years, and now forms one of my happiest professional recollections. Radcliffe Crocker was a little older and somewhat more experienced than most of his immediate contemporaries, and this fact, coupled with a certain grave determination about his work, singled him out from amongst us. I think we all knew that the study of medicine had come as a "second thought" to him, and his intimates knew that it was a "grand passion" for which he was making considerable sacrifice. He was not only a hard worker, but a very methodical and thorough worker, and he at once took a place among the very best men in the school. His influence in the school was distinctly a steadying one, and it was greatly helped by his good humour and ease of approach; there was no aloofness about him, and no one could enjoy a joke better than he or take more pleasure in sharing such intellectual scintillations as pass muster among students as wit.

I remember that we took our M.B. degrees at the same time—he gaining high and deserved honours—and we held resident appointments in the hospital at the same time. It was then that his clinical acumen had the first opportunity of showing itself, and, allied as it was to great powers of work and a love of completeness, it was evident that Radcliffe Crocker would go far, and amply and honourably justify his second choice of a profession. But I think it was only when he became the Resident Medical Officer in the hospital that his full powers were rightly appreciated. This was a very difficult post to fill well, and just when he held it there were conditions that called more than usually for great discretion. Radcliffe Crocker's tenure of office was a complete success; he showed himself a most able administrator, in discipline fearless and wise, and in professional responsibilities singularly alert and reliable. One of his duties was to teach anæsthetics, and in this he showed that power of interesting his students in his subject and skill in imparting knowledge that have been so conspicuous in his work in the skin department of his hospital for the last thirty years. His gifts as a teacher were quickly recognized, and for some years he was much sought after as a private coach, and was able by this means to support himself while laying the foundation of his successful practice as a physician.

Of his work and success as a dermatologist it is not for me to speak, but I should like to refer to one or two marked traits in Radcliffe Crocker's character. The one which underlay his conspicuous success was his thoroughness. I have never known a man to whom the term "slovenly" could be less aptly applied. He was such a good dermatologist largely because he had such a thorough knowledge of all branches of his profession. He was the very antithesis of the "narrow" specialist; and then, in his own chosen subject, it was difficult to say whether his knowledge of the work of others was more complete than his own clinical and pathological investigations, or whether either of these was equalled by his diagnostic and therapeutical skill. A second great characteristic, as I knew him, was his confident hopefulness; he had great difficulties to overcome; thrown upon his own resources from his earliest student days, with an ample share of professional rivalry and competition, and a stranger to the experience of sound health for more than thirty years, he yet never lost heart or hope, but bent his back to his oar, pulled his hardest in confident assurance of the result. Nor was he disappointed. Success crowned his efforts to an extent that is charming to contemplate. His merits obtained the fullest recognition from his friends, his colleagues, his professional brethren, and the public. Nor would I forbear to mention as another prominent characteristic of Radcliffe Crocker—his goodness. He knew that there is a clear dividing line between good and evil, and he loved and lived in the good. With a very keen appreciation of the things that pertain to the brighter side of human existence, he could only enjoy them if unsullied by the stain of selfishness and sin. His success came by his own effort and merit, not by over-reaching a rival. And so he ever lived among us as a man of "good report," an example of undagging industry, of dauntless courage, of bright hope-

fulness, and of patient well-doing. It was good to have known him, and to have been his intimate friend for nearly forty years has been one of my happiest experiences.

DR. PERNET writes: I am desirous of adding a few words as a tribute to the memory of my friend and teacher, Dr. Radcliffe Crocker. We had worked together for the last seventeen years, and always harmoniously. I have therefore had a better opportunity than any one else of being impressed by his greatness as a dermatologist, as a physician. He was no narrow specialist, but took in all the points of a case, and I consider it a privilege to have been associated with so broad-minded and far-seeing a clinician. His all-round knowledge of cutaneous diseases in their varied aspects and multiform phases was enormous. But I consider he was specially pre eminent in diagnosis, prognosis, and treatment; his clinical acumen and his skill in adapting remedies to the protean manifestations of morbid conditions of the skin were of the very highest order, and in my experience unsurpassed by any one practising this great branch of medicine. At the meetings of societies and at international congresses the opinion of Radcliffe Crocker in difficult and unusual cases was eagerly invited, for it was felt that if any light could be thrown on the matter, he was the one man able to shed it. As a teacher he took great pains to make a very difficult subject as clear as possible by making students work out cases for themselves, in order to train their powers of observation and reasoning, but his searching and at times acutely stinging cross-examination was not always appreciated by the youthful victims of this Socratic method, although it drove home a point that would probably never be forgotten. *Experto credite Roberto.* I had the pleasure of helping Dr. Radcliffe Crocker in various ways with the second and third editions of his splendid *Diseases of the Skin*. This gave me an opportunity of seeing another side of his professional activity. His powers of synthetizing and focussing his vast experience, together with his indefatigable industry in reading and classifying the almost endless contributions of dermatological writers all over the world, impressed me greatly. This was specially noticeable in the preparation of the third edition, a herculean task this wrestling with a heterogeneous mass of material, which had to be assimilated and boiled down mentally in the midst of a large and busy practice and multifarious engagements. His *Diseases of the Skin* will go down to future generations in the world of dermatology as a monument of sound knowledge, industry, and honesty of purpose and execution. I should like to take this opportunity, too, of saying that his wife's untiring assistance in many ways—as in the preparation of his book, for instance—was invaluable to him in coping with the large amount of work he had to deal with in various directions. With regard to treatment, he always took the keenest interest in new methods, and kept himself abreast of the times with unflagging energy. In the records of dermatology his name will go down to posterity as a master. Dr. Radcliffe Crocker was undoubtedly the foremost dermatologist of Britain and her great Empire, and his position second to none among the dermatologists of other nations. I was looking forward to his return from Switzerland recuperated by the rest and the mountain air. It was not to be. I shall never see my friend and teacher again, but the memory of his courage as a worker and his many qualities will remain with me. *Æternum vale!*

DR. MAX RUNGE, Professor of Obstetrics and Gynaecology in the University of Göttingen, died on July 27th, in his 60th year. In 1885 he was appointed Professor in the University of Dorpat; five years later he was called to Göttingen, in the following year was appointed Director of the Clinic for Women. Professor Runge was a voluminous writer, having been the author of handbooks of obstetrics and gynaecology, and of a work on the diseases of the first years of life. He took a great interest in the improvement of the education of midwives, and was entrusted with the duty of revising the official Prussian handbook for midwives. In July, 1908, he was chosen Dean of the Medical Faculty, but early in the summer session began to suffer from symptoms of stone in the kidney, to the consequences of which his untimely death is to be attributed.

SIR STEPHEN MACKENZIE, M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO THE LONDON AND TO THE ROYAL LONDON OPHTHALMIC HOSPITALS.

SIR STEPHEN MACKENZIE died at the residence of his son at Dorking, Surrey, on September 3rd. We are indebted to his colleague, Dr. F. J. Smith, for the following biographical note:

Sir Stephen Mackenzie was born in 1844 at Leytonstone, and received his education at Christ's Hospital, which he left in 1859. Entering at the London Hospital in the early Sixties, we find him taking scholarships at that school for anatomy and osteology, and in 1869 for surgery; in that year he took his M.R.C.S. He proceeded to Aberdeen University, where he graduated in 1875 with the highest honours, and he completed what may be called his educational career by study at the University of Berlin. He thus early gave strong proof of that keen energy which always characterized his work, for he took his M.B. at Aberdeen with highest honours while acting as Medical Registrar at the London Hospital.

Judging by records, he was still Medical Registrar when elected Assistant Physician, for he held the former post during the whole of the years 1874 and 1875, and he was elected Assistant Physician in March, 1874.

He very soon showed the immense power of work that was in him, for he rapidly became the most popular teacher in the hospital, not only in general medicine, but in the skin department also, notwithstanding the heavy claims of a rapidly increasing practice, and those, too, of publishers who were anxious to get material from his pen.

Within a few years he was elected Lecturer on Medicine, and I can well remember the enormous amount of care and trouble he expended on his lectures, a copy of the headings of each lecture being distributed to every man present. The crowded state of the theatre was an eloquent tribute to his popularity as a lecturer, while his fame as a clinical teacher at the bedside made his visits to the ward something of a triumphal procession, much to the disgust of us, his clinical clerks.

During the years, say, from 1875 to 1890, Mackenzie built up a reputation for hard work, skill, and clinical powers of observation which no lapse of time will ever dim in the minds of those who were privileged to sit at his feet, and it is no easy task to pick out the particular points which were the chief stones in the building. His work with the ophthalmoscope—then almost a new instrument of clinical investigation—was perhaps what impressed us students most. He was, by the way, Physician to Moorfields Eye Hospital at the time, and his experience at that hospital left its mark on many diseases—albuminuric retinitis may be mentioned as an example; upon this condition he was then a well-known authority, and Dr. Hughlings Jackson gladly acknowledged the aid he got from Mackenzie in the days when he was working on cerebral tumours.

Anæmia was another subject which Mackenzie at that time made specially his own, particularly the severer forms of it, but space will not permit me to enumerate all the subjects he took up. Suffice it to say that he never touched one that he did not leave enriched by all that patient research and clinical investigation could give to it. Filariasis and sleeping sickness might be instanced as two diseases which he took up and studied so far as the limited material at his disposal permitted him; the parasitic causation of the latter had not then even been suggested.

During the last ten years of the last century Mackenzie was at the very zenith of his fame and enjoyed the respect and something more of a very wide circle, while his advice was highly valued as that of a man who knew very thoroughly what he was talking about. With the advent of the present century, asthma, the disease to which he eventually succumbed, began to make serious inroads on his health, and he was soon obliged to seek relief by spending the winter in Egypt. At first his health seemed to be quite restored, but latterly the trouble made such rapid progress that he was obliged to relinquish practice altogether; and probably this very unseasonable summer has had a good deal to do with his death, which took place on September 3rd, after most painful sufferings, borne with heroic fortitude. My last interview with him was on August 28th, when I was requested by my namesake and colleague to see him in consultation, when I was rather struck by his wish not to be

told anything of what I thought of his disease, though, curiously enough, his vessels were those of a young man of 40, notwithstanding the strain they must have suffered.

He always took the very keenest interest in the welfare of the students at the London Hospital, and though I never knew that he took any personal part in sports and games, he was ever ready to support our Clubs Union with voice and pocket, and was one of the most popular of its presidents.

As a colleague it is impossible to speak too highly of his courtesy and consideration for all his juniors, and whenever he thought he might possibly have betrayed any undue irritation at opposition he was always the first to make overtures towards smoothing over the rift within the lute, and I can honestly say that I never heard him support an unrighteous cause; on the contrary, he fearlessly stood up for everything that was right, no matter how specious the arguments used to make wrong seem right; he was a man to appeal to in a difficulty, though his advice was sometimes unpalatable.

His memory will ever remain green at the London while any one remains there who knew him, for it was to him on the medical side and Treves on the surgical that the London Hospital owes the rescue from unpopularity which took place about 1879, and I am pleased to think has remained to the present day.

We may add that Sir Stephen Mackenzie took an active interest in the British Medical Association. He was Vice-President of the Section of Dermatology at the annual meeting at Bristol in 1894, and of Medicine at that held in London in 1895. In 1897, at the annual meeting in Montreal, he was President of the Section of Medicine, where he delivered a scholarly address on the influences that had determined the progress of medicine during the preceding two and a half centuries. He was President of the Metropolitan Counties Branch in 1901 and 1902. In 1903 he received the honour of knighthood. He was at one time President of the Hunterian Society of London, and was a corresponding member of the French society of dermatology. He was a voluminous writer, many of his lectures and papers being published in these columns; among these were the Lettsomian lectures on the pathology, symptoms, and treatment of anæmia, delivered before the Medical Society of London in 1891. He also gave the annual oration before the same Society, on the powers of natural resistance or the personal factor in diseases of microbic origin, in 1902.

We are indebted to Dr. Osler, Regius Professor of Medicine in the University of Oxford, for the following tribute: May I add a few words of appreciation of the lifework of Sir Stephen Mackenzie? Since 1873, when we studied together at the Charité Hospital, Berlin, we have been fast friends, and one of the great pleasures of my visits to London was to renew our friendship. Few men of his generation were more devoted to clinical study. He loved the hospital and his teaching, and generations of old London students look back with pleasure to the accurate clinical lessons they received from him. He became a great favourite with our Canadian students, and the McGill men were usually consigned to him by Dr. Shepperd (also a very old friend) or myself. His writings not only bore the stamp of sincerity, but there was that special touch which is only to be acquired in a wide and studious experience. He met with the distinguished success that his merits deserved, and when he became the valued consultant of an ever-increasing circle in the profession success did not spoil him. But the true gold of the man was shown in the heroism with which for years he fought an ever strengthening foe—always cheerful, always facing his fate with the unbowed head, never despairing, even when the outlook was the darkest. And of all features in his life, this to his friends will remain an enduring memory.



[Photograph by] SIR STEPHEN MACKENZIE. [Grace and Katherine Rice.

JOHN MILNE DALRYMPLE, M.B., CH.B.EDIN.

On August 26th, Dr. John Milne Dalrymple was cycling to see a case along the Stratford Road, Birmingham, riding behind a tram-car, at about five yards distance. He had occasion to go down a street running to the right, at right angles to Stratford Road. Whilst going at the same rate as the tram he suddenly turned to the right to cross into the street, and immediately collided with a car coming in the opposite direction. He was thrown off by the mudguard, unconscious, and was carried into a shop near by, where he expired in about three minutes. He sustained a bad laceration of the upper lip, with crushing of the right upper jaw, but death was due to laceration of the brain beneath a skull very badly fractured below the occiput.

Dr. Dalrymple was born in Birmingham on March 21st, 1884, and the following year was taken to New Zealand by his parents, his father going to that country to take charge of a Presbyterian church. He was educated at the Dunedin High School, going from there to the Otago University at Dunedin to commence his medical studies; thence he proceeded to Edinburgh University, where he studied, and graduated M.B., Ch.B. in 1908. He left Edinburgh to spend a year as Resident Medical Officer at the Birmingham Infirmary, and completed this at the end of July. For the first fortnight in August he went to camp with the Bristol Royal Engineers at Tewkesbury in the

capacity of medical officer. He was a keen volunteer of some years' standing, commencing this career in the Dunedin High School Cadets; he transferred from these to the "Kilties"—the Royal Scottish (9th Battalion, H Company) at Edinburgh. At the formation of the Territorial Force he transferred to the 2nd South Midland Mounted Field Ambulance, Birmingham, in which he held a commission as second lieutenant at the time of his death. He was looking forward to a visit to his parents very soon, having only last month been appointed surgeon to the Tyser liner *Mimiro*, which sailed for New Zealand on September 4th.

A memorial service was held at the Infirmary Chapel, Birmingham, synchronously with his burial at Edinburgh, on Monday, August 30th, and the chaplain paid an eloquent tribute to his character and attainments. He was a man of most excellent moral character, had a quiet, earnest presence, and his thoroughness and gentleness endeared him alike to his patients and colleagues.

DR. ELIAS HAFFTER, who for some twenty years from 1837 was Editor of the *Correspondenz-Blatt für Schweizer Aerzte*, the chief medical journal of German-speaking Switzerland, died on August 4th, after a long illness originating in a septic infection contracted while operating several years previous on a case of uterine cancer. Haffter was a high-minded man, who earned the esteem and respect of the profession in his native country. He gave a great deal of time to his duties as editor, and during his term of office its circulation both at home and abroad was largely increased.

Medico-Legal.

VACCINATION AND THE REGISTER.

F.G.P. writes: An illegitimate child has its birth registered in the father's name, Smith. It is afterwards christened in a Catholic church in the mother's name, Jones. The child is brought for vaccination, the form bearing the name Smith. The doctor is told the circumstances. Which name should be employed in filling up the form? These names are fictitious.

*** The entry in the register is incorrect, and the parent making it is liable to a penalty, if detected, but the doctor who vaccinates it is bound to follow the register. He has no responsibility for errors in the entry on the register and has nothing to do with the baptismal register.

MEDICAL REGISTRATION AND LUNACY FEES.

A. M. writes: I registered in January, 1909, at Edinburgh, and have in my possession my certificate of registration. In August last I signed a lunacy certificate; the parish council have since informed me that I shall receive no fee for this, as my certificate was not accepted by the sheriff clerk, who stated that I was "not registered." The parish council obtained another medical man's certificate. This seems very unjust, and I shall be glad to know whether I am not entitled to recover the amount of my fee from the sheriff clerk.

*** The sheriff clerk undoubtedly made a mistake in rejecting the certificate without taking the necessary steps to ascertain whether the signatory was registered. We presume that he was guided by the copy of the *Medical Register* for 1909, which could not contain the name of our correspondent, but whether it would be possible to recover the fee is very doubtful.

REGISTERED MEDICAL PRACTITIONERS AND PHARMACY.

R. W.—The Fellows, Members and Licentiates of the Royal College of Physicians of London, and the Fellows of the Royal Colleges of Physicians and Surgeons of Edinburgh and of Ireland, and of the Faculty of Physicians and Surgeons of Glasgow are prohibited from keeping open shops for the sale of drugs, and it is to be desired that every member of the medical profession should act in accordance with this rule, for to engage in the trade of pharmacy is inconsistent for the members of a liberal profession. But the Act to amend the Pharmacy Act, 1868 (52-53 Vict., cap. 117), expressly exempts legally qualified medical practitioners from any legal restrictions. Section 1 reading: "Nothing contained in the first fifteen sections of the recited Act shall affect any person who has been registered as a legally qualified medical practitioner before the passing of this Act; and the said clauses shall not apply to any person who may hereafter be registered as a legally qualified practitioner, and who, in order to obtain his diploma for such registration, shall have passed an examination in pharmacy."

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

ATTENDANCE ON THE FAMILIES OF MEDICAL MEN.

DR. PHILIP G. BORROWMAN (Troon, N.B.) writes: I cannot think that the advice given to "B." under the above heading in the JOURNAL of August 28th, p. 578, is in the best interest of the profession. It is, of course, true, as you say, that "there is no obligation to attend the families of medical practitioners without payment," but it is customary among better-class men to do so; and surely no member of our profession who is not a sordid money-grabber would hesitate to give his services gratuitously to the family of a professional brother whom blindness prevents from practising, even though his wife may have enough to live on. "B." says he is a young practitioner. If he will take the advice of an older man, and "do as he would be done by," his life will not be less happy.

M.D. writes: In dealing with well-to-do relatives of medical men I find it best to appeal to the *amour propre*. I send an ordinary account, but write at the top, "payment optional." A cheque usually follows by return of post.

SUPERSESSION.

P. L. B. writes: B., the usual attendant, was sent for to a case of miscarriage, but was not at home, and a neighbouring doctor, L., was called in and still keeps on with the case. L. has never let B. know in any way about it, or offered to resign the case. Should L. not have done so? There is no resident doctor where the case occurred; B. lives three miles away and L. seven miles.

*** Upon the facts as stated if L. knew that B. was the usual medical attendant on the family he should have regarded his attendance as merely due to an emergency and have communicated with B. so that he might take charge of the case.

Universities and Colleges.

UNIVERSITY OF LONDON.

APPOINTMENTS BOARD.

THE Principal of the University of London gives notice that an Appointments Board has been constituted "to assist graduates and students of the university in obtaining appointments, and to co-ordinate and supplement the work done by the schools and institutions of the university with this object." The aim of the Board is to encourage the selection of university men for all posts in the work of which the possession of a university training on scientific methods is an advantage. The Principal asks those who may know of any vacant appointments suitable for university men to communicate with the Secretary of the Board at the University, South Kensington, S.W., so that he may put forward selected candidates.

UNIVERSITY OF BIRMINGHAM.

Honorary Degrees.

THE council has decided, on the recommendation of the Senate, to confer for the first time a certain number of honorary degrees on distinguished persons in connexion with the recent Royal visit. Since it was not practicable to hold the ceremony on the actual occasion of that visit, it has been decided to hold it in the hall which the King opened on Wednesday, October 20th. The following is a list in alphabetical order of those who have accepted the offered degree of Doctor of Laws: William Nicholas Atkinson, the Right Hon. A. J. Balfour, F.R.S., the Bishop of Birmingham, Bernard Bosanquet, Henry T. Bovlin, P.R.C.S., Andrew Carnegie, Sir William Crookes, F.R.S., Maurice Fitzmaurice, C.M.G., Sir Archibald Geikie, P.R.S., the Right Hon. R. B. Haldane, F.R.S., John Scott Haldane, F.R.S., J. Rendel Harris, Sir Charles Holcroft, Bart., G. J. Johnson, Sir Alexander B. W. Kennedy, F.R.S., Sir Joseph Larmor, F.R.S., the Right Hon. Walter Long, Gilbert Murray, Sir Richard Douglas Powell, P.R.C.P., Sir William Ramsay, F.R.S., Lord Rayleigh, F.R.S., Ernest Rutherford, F.R.S., Arthur Shadwell, Mrs. Henry Sidgwick, Lord Strathcona and Mount Royal, Professor Silvanus P. Thompson, F.R.S., William Augustus Tilden, F.R.S., Sir J. J. Thompson, F.R.S., Charles S. Tomes, F.R.S., T. Herbert Warren, Dr. Windle, F.R.S., Viscount Wolverhampton. In addition to these names, the Chancellor, the Right Hon. Joseph Chamberlain, has been invited to associate himself as a graduate with his co-workers, and to receive the honorary degree of this university, and he has consented to receive it *in absentia*.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham.—Dr. Robertson is of opinion that the population of Birmingham, estimated by the Registrar-General as 558,357 in the middle of 1908, is 25,000 or 30,000 in excess of the actual population. The birth-rate during the year was 28.4 per 1,000, and the death-rate 15.9. The death-rate was the lowest that has ever been recorded in Birmingham. There were, however, certain districts in which a high death-rate prevailed, notably in St. Mary's Ward, where, in a population of 12,000 persons, the rate was 26 per 1,000, and in St. Stephen's Ward, where it was 23 per 1,000 in a population of 22,000. In the whole city the infantile mortality-rate was 145 per 1,000 births, though in five wards it exceeded 200. The appointment of a lady medical assistant, whose whole time will be devoted to these wards, cannot fail to have an effect in the reduction of this high rate of infantile mortality. As Dr. Robertson very properly points out, the conditions of poverty, want of cleanliness, ignorance, carelessness, or drunkenness under which many people live constitutes the greatest hindrance to progress, and it is very largely from betterment in these directions that further progress in healthiness must be expected. The Salterley Grange Sanatorium, near Cheltenham, was opened for Birmingham patients in January, 1909. It is intended to admit into this institution, which is supported entirely out of the Birmingham rates, only those persons who are in the early stages of consumption. There is accommodation for 40 patients, each of whom has a separate room, with the object of making him familiar with the best way of arranging his own room when he returns home.

Rhondda.—In his eighth annual report on the health of the Rhondda, the medical officer of health, Dr. J. D. Jenkins, deals exhaustively with the sanitary condition of the large area under his control. Estimated in the usual manner, the population mid-year 1908 was 155,137, but if estimated on the basis of the number of houses occupied in the district the figure becomes 140,819. According to the official returns of the Registrar-General, Rhondda maintains its position as the twenty-fourth largest as regards population of the seventy-six great towns in England and Wales. During the year 5,454 births were registered, being equivalent to a birth-rate of 41.4 on an estimated population of 155,137. This total exceeds the average for the previous ten years by no fewer than 834. The "natural increase," that is, excess of births over deaths, amounted to 2,958, exceeded that for 1907 by 240; total deaths of 2,446, equivalent to a death-rate of 18.9 per 1,000 per annum. This rate is higher by 2.5 than in the previous year, although it is a fraction under the average for the ten previous years. The diseases which contributed most largely to the death-roll of Rhondda were epidemic, nodular pneumonia, bronchitis, heart disease, consumption, and measles. With regard to the increased infantile mortality in 1908 over the two previous years as compared with the rest of the country, the Rhondda rate is decidedly high; the average for the seventy-six great towns for 1908 is only 128 per 1,000 registered births, and the position of the Rhondda is seventy-fifth on the list, being 184 per 1,000 births. The zymotic death-rate of 4.02 per 1,000 persons living is the most unsatisfactory feature in the vital statistics of the Rhondda for the year 1908, and it exceeds the average for the ten previous years by 0.62, that being the highest death-rate from this cause of the seventy-six great towns, and is due principally to the excessive mortality from diarrhœa. No case of small-pox was notified during the year. Towards the end of 1907 measles appeared in epidemic form, and during 1908 was responsible for 102 deaths, being equivalent to a death-rate of 0.77 per 1,000. There was an increase of 162 in the cases of scarlet fever. Of the 185 cases of diphtheria notified, 32 proved fatal, the disease being most fatal during July. The 96 cases of typhoid fever notified was the smallest in any year since the adoption in 1894 of the Infectious Diseases Notification Act of 1889. There was a slight increase in the total number of deaths from consumption in 1908, and although there was considerable prevalence of influenza, the fatal cases resulting therefrom were fewer than in 1907. Colliery fatalities numbered 68, equivalent to a death-rate of 1.000, no colliery disaster of great magnitude having occurred. The Council's water supply is dependent in the main upon the surface and spring waters feeding the Selsig, Fernol, and the upper portions of the Rhondda Fawr stream, and water drawn from these sources suffices under normal conditions to fill and to keep full, the Tynewydd reservoir with a capacity of 7,000,000 gallons. Notwithstanding the small available storage now possessed by the Council, a constant supply was provided throughout the whole of the Council's area during the year.

POSITION OF NON-RESIDENT DISTRICT MEDICAL OFFICERS.

G. W. unfortunately does not hold the same safe position as he would if he were a resident in the district for which he officiates, as without any Local Government Board inquiry the guardians may, if they think fit, cease to reappoint him to the office he now holds when his present year of office expires.

REMOVAL OF ALLEGED LUNATICS TO WORKHOUSES BY RELIEVING OFFICERS.

PERPLEXED (a district medical officer) writes that he certified as follows in reference to a patient of his own residing in a district adjoining his own: "This is to certify that A. B., residing at ——, is, in my opinion, of unsound mind." That when he called the next day he found that the patient had been removed to the workhouse by the relieving officer without consulting him in any way. One correspondent asks whether the relieving officer had a legal right to remove the patient as he did, considering that he himself was prepared to certify.

*** When from information received a relieving officer considers it incumbent upon him to take up any case of alleged lunacy he is bound to comply with all the provisions of the Lunacy Act, 1890, and it does not seem that the law was infringed by the removal of the patient in question to the workhouse as described.

The Services.

THE ROYAL NAVY.

EYESIGHT AND HEARING TESTS.

THE Admiralty, having had its attention drawn to the desirability of periodically testing the eyesight and hearing of men in the Royal Navy, with a view to obtaining information which will assist the commanding officers of ships in stationing the crews for action, has decided that in future the medical examination of men for draft shall include tests for eyesight and hearing. It is to be distinctly understood that this examination is not intended for the purpose of invaliding men, but simply to ascertain whether defects in vision or hearing exist, a notation of the defects discovered being made on the medical history sheets.

THE ROYAL NAVY MEDICAL SERVICE.

M. O. writes: In the JOURNAL of August 28th, p. 577, a correspondent compares the Indian Medical Service unfavourably with the Army Medical Service. What, then, can be said of the Naval Medical Service? There the conditions are so uninviting that for years there has been practically no competition for vacancies, and so far we have waited in vain for the improvement which there was some hope might result from the deliberations of the Commission. The unpopularity of the naval service will be understood if the following points are considered:

1. *Allowances.*—What with field, hospital, and lodging allowances, the R.A.M.C. leaves the navy far behind. The most important of these, because the most constant, is lodging allowance. With rare exceptions, it is obtainable by army medical officers, and, of course, it implies, too, that messing expenses are saved. In the navy, by the nature of the case, such a thing as lodging allowance is quite rare. Bachelors will treat this matter lightly; not so married men or such as contemplate marriage.

2. *Travelling Expenses.*—Officers of the army are now allowed travelling expenses for their families on changing station. Not so in the navy. There the only concession is in the rare event of an officer proceeding to a foreign shore establishment of three years' duration, in which case half the expenses of his family is met by the Admiralty.

3. *Half Pay.*—Let no unwary graduate suppose that this is a dead letter in the navy. It is true that an officer of surgeon's rank is exempt (practically), but on attainment of staff rank, by which time he may have his own home to maintain, he will one day suddenly find himself on half pay, with no limit fixed to its duration. He is hereby hit not only at the time in his pocket, but afterwards, when the lost time has to be made up for pension. With equal suddenness, he will at last see his new appointment in the newspapers, and then he will have the privilege of paying his own fare to his ship. Needless to say, such an unfair system does not exist in the splendidly organized R.A.M.C.

4. *Leave.*—As regards leave, there is no need for details. Enough to say that for the months granted in the army one is lucky to get weeks in the navy.

5. *Gratuities.*—A most unpleasant impression was created by the case of the late Surgeon Glyn. No unofficial assurances can assuage the uneasiness or undo the precedent thereby established, that a dying man cannot depend on receiving the gratuity which, by his term of service, he has earned. Another point worth notice is that a gratuity is regarded by the Revenue authorities as income, and is accordingly subjected to income tax.

INDIAN MEDICAL SERVICE.

THE INDIAN MILITARY SERVICE FAMILY PENSION.

THE Government of India has decided that officers of the Indian Medical Service who subscribe to the Indian Military Service Family Pension shall in future do so under the same conditions as officers of the Indian Army, that is, their classification should be regulated according to length of service, instead of according to rank, as follows: Surgeon-Generals should be allowed to subscribe in Class 1 as hitherto; Class 2, officers of twenty years' service; Class 3, officers of twelve years' service; Class 4, officers of six years' service; Class 5, officers of less than six years' service. No existing subscriber should be reduced to a lower class than that in which he now subscribes. These orders are to take effect from May 16th.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

I. F. asks for references to literature on the subject of treatment of phthisis by intravenous injections of iodoform.

R. asks for information and references to literature on the results of the various operations for the cure of congenital dislocation of the hip.

T. desires to hear of a settee or couch (upholstered) suitable for a consulting-room, and which can, when desired, be raised to a height suitable for an operating table and have the arms and back put down.

DR. J. HILL GIBSON (Parkstone, Dorset) asks to be referred to the most complete account of Elliott and Pope's operation of preliminary capsulotomy, in cataract extraction, as practised in Madras.

THE DANGER OF FLIES.

DR. H. RAINSFORD (Woodley, Reading) writes: "Medicus" (BRITISH MEDICAL JOURNAL, August 21st, p. 500) recommends spraying with Sanitas as a remedy for flies. I tried it since reading his letter, without any effect. I should be glad indeed, to hear of anything which would mitigate this nuisance, as, where I live—in a new house, with no putrefying heaps near—there is a veritable plague of flies; so much so, that I fear the walls, which have just been papered, will require to be covered again in a few months.

A QUESTION OF SALARY.

F.G.P. writes: What would be fair remuneration to ask for acting as medical officer to a home for little children? The home contains about fifty children, aged 11 months to 8 years, and it is required to examine each child thoroughly at least once a year; to visit the home at least once a week; to treat all minor ailments and give general advice *re* care and management of children individually and collectively; to treat eye diseases which may occur amongst the children. The writer has had special experience with this branch. The honorary medical officer, who lives nearer the home, is called upon for accidents and urgent or acute cases.

*** We cannot answer this question with any authority, but it may be suggested that the salary for the duties specified ought not to be less than £50 per annum.

MENTAL DEFICIENTS.

A. P. desires to hear of a home or reformatory for a girl, aged 18, ill developed both mentally and physically, with a bad temper, and unmanageable at home; the parents are not well off.

*** Our correspondent might apply to the Rev. H. N. Burden, a member of the late Royal Commission on the Feeble-minded, who has established the Stoke Park Colony, Stapleton, near Bristol.

M. B. asks where a tutor could be obtained for a mentally deficient lad of 15 years, whose parents, though not well off, desire that he should remain at home.

*** Male tutors, properly trained, are hardly to be had for such cases. Trained women teachers used to boys of 15 might be heard of on application to the Principal, St. Christopher's School, West Ealing, London, W.

EXAMINATION FOR THE F.R.C.S.I.

STAFF SURGEON, R.N., asks what books are recommended to be read for the final part of the F.R.C.S.I.

*** The following may be mentioned as suitable, but there are, of course, many other standard works:—Surgery: Rose and Carless's *Manual of Surgery for Students and Practitioners*, 7th edition (London: Baillière, Tindall, and Cox, 1908, 21s.). Operative Surgery: Waring's *Manual of Operative Surgery*, 3rd edition (London: H. Frowde, and Hodder and Stoughton, 1909, 12s. 6d.); or Bickham's *Textbook of Operative Surgery*, 3rd edition (Philadelphia and London: W. B. Saunders Co., 1908, 28s.). Surgical Pathology: Bowlby's *Surgical Pathology and Morbid Anatomy*, 5th edition (London: J. and A. Churchill, 1907, 10s. 6d.).

ANSWERS.

A. G. A.—The full reference to the paper mentioned by Dr. Theodore Williams in the lecture published in the JOURNAL of August 21st is as follows: "Sur l'origine intestinale de l'anthracose pulmonaire par Vansteenberge et Grysez" (*Annales de l'Institut Pasteur*, 1905, xix, 787).

S. W.—The work on *Teleology and Pathology*, by E. Albrecht, mentioned on p. 410 of the BRITISH MEDICAL JOURNAL of August 14th last, appeared in the *Frankfurter Zeitschrift für Pathologie* (Wiesbaden, 1908, vol. ii, pp. 1-56; the publisher is J. F. Bergmann; the price is probably M. 1.6 or M. 2). So far as we are aware, the work has not been translated into English.

OLD TUBERCULOUS SINUS.

DR. F. BUTCHER (Medical Officer, Fife and Kinross Asylum) writes in reply to "Sinus" to advise that the patient should be kept in bed and liniment of iodine applied on an aseptic wooden probe. Silver nitrate solution applied in the same way is also useful.

DR. JOS. S. BOLTON (Nottingham) writes, in reply to "Sinus," to recommend the use of *x* rays in the treatment of the tuberculous sinus described.

DR. WILLIAM HAIG, M.B., C.M. (Gavelmore, Crieff), writes, in reply to "Sinus," August 28th, p. 500: I had a similar case eleven years ago. An otherwise healthy girl had a sinus leading from the outer side of her left leg in among the muscles of the calf for about three inches, and I could not get it to heal. Coming to the conclusion that the sinus was simply a passage between the layers of muscle, and that the movements of the muscles were keeping it from healing, I applied pressure by means of a pad of cotton-wool bandaged firmly over the part to obliterate the sinus, and moulded a splint of strong millboard to the foot and leg to keep the muscles at rest. In a short time the wound was quite healed and has never given the slightest trouble since.

THE BRITISH MOSQUITO

"BITTEN."—The insects sent are the common English mosquito—*Culex pipiens*. They bite quite readily if the weather is warm, as was the case recently. The term "gnat" is an English word, which includes mosquitos and some non-biting insects with or without a distinct proboscis. The symptoms described by our correspondent as occurring after a bite on the wrist—acute erythema and oedema extending above the elbow, with fever and general malaise—were in all probability septic, a not uncommon sequence, the proboscis of the mosquito acting simply as the vector of the germ. The mosquito passes a stage of its life-history in water, for example, breeds in water. If all water receptacles are covered in or if all receptacles for standing water are abolished, *Culex* will cease to trouble. If the water-butts or other collections of water in ground round the house are examined, many little wriggling things, the larvæ of the mosquito, will probably be seen swimming about. A little kerosene poured on the water will kill them by preventing their breathing. If these measures are effectually carried out they will succeed, but further precautions are: Do not sit in a garden at dusk or just as the sun sets; eucalyptus oil smeared on the face and hands will keep off mosquitos, but it is objectionable to many people. If the mosquitos are very bad at night, the patient should sleep in a mosquito net. Ammonia applied immediately after the bite is soothing. Carbolic acid solution, 1 in 20, is the best thing for the inflammation, and also is good for fresh bites. A septic arm as described would probably best be treated by 1 in 40 carbolic fomentations.

LETTERS, NOTES, ETC.

CONTINUOUS PROCTOCLYSIS.

DR. ALEXANDER DUKE (London, W.) writes: Having read with much interest Dr. Herbert Paterson's description of his appliance for the continuous administration of saline fluid per rectum, I was reminded that several years ago I had suggested a similar plan for continuous feeding per rectum, by a receptacle hung at a suitable height over the patient's head, and I designed a special nozzle in order to prevent the escape of the fluid from the bowel. The nozzle is kept in position by an elastic band passing between the patient's thighs, the ends fastened to a strap or bandage round the waist; the required tension can be easily found before the nozzle is introduced, and will, if properly adjusted, absolutely prevent the escape of fluid, and I venture to think, should be suitable for Dr. Paterson's appliance, as he only states "three feet of rubber tubing connected with large rectal tube." Will such a tube be tolerated by all patients, and will no fluid escape?

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

Remarks
ON
SYRINGOMYELIA (SACRO-LUMBAR TYPE), OCCURRING IN A BROTHER AND SISTER.

BY

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AND

E. W. HEY GROVES, M.S.LOND., F.R.C.S., ASSISTANT SURGEON TO THE BRISTOL GENERAL HOSPITAL.

THE occurrence of syringomyelia in a familial form seems to be extremely rare. That anomalies of development of the spinal cord lie at the origin of syringomyelia in most cases is established by the accumulated pathological data. Moreover, other abnormalities of the antenatal development of the nervous system are not infrequently found in association with syringomyelia, such as hydromyelus, spina bifida, meningocele, doubling of the central canal, and hydrocephalus. It is not surprising, therefore, that occasionally developmental defects of this kind should occur in more than one member of the same family.

With regard to the sacro-lumbar type of the disease—an uncommon form—the one present in the cases described below, Schlesinger[1] notes that it is not to be sharply distinguished from spina bifida, that it often arises out of it, and is observed at an early age.

The only cases which at all resemble our own which we have been able to find in the literature are three reported by Bruns[2] under the title of "family symmetrical gangrene and arthropathy, or familial syringomyelia. Four children out of a family of five born of healthy parents were affected in the same way. The disease began in each of them at about the age of 17, with symmetrical ulcers on the balls of both great toes, which perforated into the joint. Other ulcers formed on the feet from time to time, suppuration extended into the joints with formation of fistulae and discharge of small portions of bone. Deformities and loss of some of the toes occurred, varying in the different cases. Finally, great deformity of the feet resulted. In addition, there were present muscular atrophy, loss of the tendon (including knee-jerks), and skin reflexes, and deficiency or loss of sensation to touch, pain, and temperature. The absence of much pain was shown by the fact that in spite of the extensive disease of the feet the patient was able to walk about. The cases differ from ours in that there does not appear to have been dissociation of sensation and in the loss of the knee-jerks; in other respects, and in the absence of disturbance of the bladder or rectum, they correspond. Bruns refers to cases reported by Bramann at the Berlin Surgical Congress in 1889, of which we have only been able to obtain access to a short abstract. These were three brothers, aged 13, 11, and 7 years respectively. Their parents and sisters were healthy. The patients were badly nourished and anaemic, and suffered from symmetrical gangrene of the fingers and toes, together with ulcers of the feet. The symmetrical characters of the lesions and the sensory disturbances pointed to syringomyelia.

It is probable that a more extensive search through the literature would discover other cases of the same kind published under different titles, for it may be remarked that syringomyelia probably plays a larger part in the production of chronic joint diseases than is generally held, and that in such cases the disease of the bones and joints is so conspicuous that attention is wholly concentrated upon them, and accordingly the observer fails to look for the sensory and other manifestations of syringomyelia, which, being present in comparatively slight degree, pass unrecognized. This point is brought out by Borchard,[3] who remarks upon the want of parallelism between the grade of the joint affections and the severity of the remaining nervous symptoms.

In the second of the cases described below the nature of the disease was so unusual that when the patient appeared with a large chronic ulcer on the dorsum of her foot a family likeness was at once recognized from the breadth of the foot and the outturned great toes before it was known that the patients were brother and sister.

CASE I.

L. F., a man, aged 23, was admitted into the General Hospital, Bristol, on September 9th, 1908, for deformity of the legs.

The family history was unimportant; father, history unknown mother, healthy. In addition to the sister described below there are three sisters alive and in good health; one sister died, cause unknown.

Past History.

He had always been healthy except for the affection of the feet. This dates from infancy, and he has never been able to stand upright since he can remember. He has often suffered from "sores on the feet," and it was for such a condition that he first came under care as an out-patient. He then had a large chronic ulcer over the dorsum and outer side of the right foot, several inches in diameter. How these ulcers originated he is unable to say, but he thinks they are due to the rubbing of the boot. They are always painless.



Fig. 1. Case I.—Skiagram of right foot.

Condition on Admission.

He is a robust, broad-chested, intelligent man, with normal head, arms, and trunk. He is obliged to walk with crutches because both knees are so much bent. His natural height—which is about 5 ft.—is reduced to 4 ft. by the flexion of the knees and hips. There is marked lordosis and flexion of the hips, which are no doubt compensatory for the knee flexion. All the deep reflexes are much exaggerated, and there is marked ankle and patellar clonus on both sides. Extension plantar reflex (Babinski's sign) present on the right side. Both feet are remarkably broad and elephantine. This is partly due to the great breadth of the metatarsal arch and partly to the almost complete loss of the toes. On the left foot there is no vestige of a toe, and the heads of the metatarsal bones have also disappeared. The stump is covered by the scar tissue left after the recurrent ulceration. The right foot retains a great and second toe, both of which are shrunken and deformed, and the stumps of two other toes. He states that the toes have been lost after various attacks of ulceration.

Skiagrams of the right foot (Fig. 1) show that in the great toe the first phalanx has practically disappeared, the distal phalanx is short and broad; the second, third, and fourth toes have a proximal phalanx, that of the fourth being atrophic at the distal end; there is no other trace of any other phalanges. Of the metatarsal bones, the first is short, its distal end is

atrophied; the distal ends of all five are transparent as compared with their shafts. The tarsus is normal.

In the left foot the bones of the tarsus are remarkably transparent; their outlines are so indefinite, and the amount of destruction so great as to make it impossible to say exactly what bones remain, the condition of the whole tarsus resembling the extensive changes of an advanced Charcot's joint. The fourth and fifth metatarsal bones remain, the third is atrophic and shows a fracture; the basal stumps of the first and second are indistinctly visible, and the remnant of one phalanx only lies loosely in the soft tissues.

The hands are rather broad; no anomalies are shown by the x rays, except that the terminal phalanges of the thumbs are remarkably short and broad (Fig. 2).

Both knees are flexed, the right to 100 degrees, and the left to 110 degrees, and though they cannot be extended beyond this point they move freely in the direction of further flexion.

Each knee-joint contains a great excess of fluid, and the lower end of the femur is unnaturally prominent owing to the backward displacement of the tibia. The condition of the patella is very remarkable. It is distinctly double on both legs, a wide gap being palpable between the fragments. On the right side each is of about the size of a normal patella, but on the left side the upper fragment is decidedly smaller than the lower. The drawings (Fig. 3) from the skiagrams show these points. Over both feet and lower part of the legs there was dissociation of sensation (Fig. 4), in that heat, cold, and pain (pin-prick) were not distinguished as such, whilst a light touch (cotton-wool) and firm pressure were normally felt. A pin-prick was occasionally felt as "hot." On the sole of the left foot there was also slight anaesthesia to a light touch. Hyperidrosis or other vasomotor phenomena were not observed.

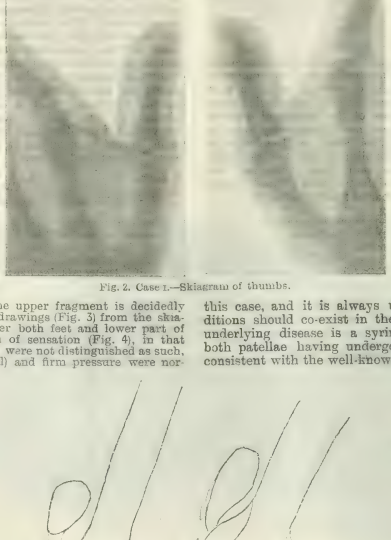


Fig. 2. Case I.—Skiagram of thumbs.

First Operation.

On September 11th Mr. Groves divided all the hamstring tendons, with the fascia at the back of both knees, by subcutaneous tenotomies, and it was possible then to extend the knees slightly. But in spite of long-continued weight extension, and the use of a hinged splint devised by Mr. Maynard, the house-surgeon, it was impossible to obtain full extension. Moreover, the more extended the knees became, the more was a position of genu valgum produced; so that, for walking unaided, the legs were as useless as ever.

Second Operation.

On December 1st the right knee was opened by a U-shaped flap, and the lower portion of the patella removed, the appearances being exactly those found in cases of fractured patella with long fibrous union. The object of this removal was to shorten the quadriceps tendon. The joint being freely opened, the cartilaginous surfaces were seen to be rather vascular and velvety in front of the femur, where articular friction had never taken place. The posterior and crucial ligaments were freely divided, and full extension then became possible. The internal condyle was separated by Ogston's incision, and the leg put up in a normal position. On the left knee an osteotomy was performed just above the condyles, and this allowed correct reposition.

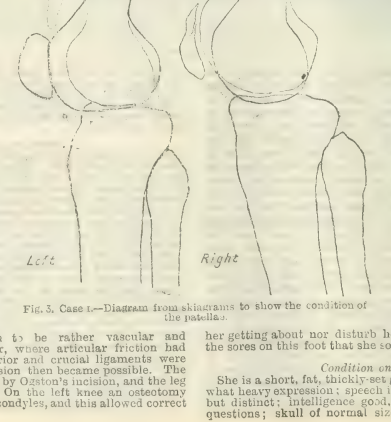


Fig. 3. Case I.—Diagram from skiagrams to show the condition of the patellæ.

After-history.

He has since made a good recovery (Fig. 5), and can walk with sticks. The lordosis and hip flexion into which he has grown by long use still remain, but are becoming less prominent as he walks about.

A few remarks may be added as to the nature of the leg deformity. The flexed knees seemed to be due to a spastic paralysis, the marked hypertonicity of the muscles being evidence of this. He had worked from boyhood as a basket-maker, squatting on his doubled-up legs. The condition of the knee-joints resembled the early stages of neuropathic arthritis, inasmuch as there was a painless synovial effusion with partial dislocation. The double patella is a very rare—if not unique—phenomenon, and admits of one or two explanations. Either that a double ossification took place in the quadriceps tendon, or else that a fracture took place after ossification was complete. Now there does not seem to be any reason why an abnormality in ossification should have occurred in this case, and it is always unlikely that two rare conditions should co-exist in the same patient. But if the underlying disease is a syringomyelia, then the fact of both patellae having undergone spontaneous fracture is consistent with the well-known tendency of this affection.

CASE II.

I. F., aged 15; no occupation; sister of the foregoing; admitted October, 1908.

History.

She had never had any bad illness, except that she had an operation performed on the left mastoid three years ago, from which she made a good recovery without any impairment of hearing.

About four years before admission a superficial ulcer appeared on the left big toe, and after some time another came on the right little toe. These ulcers gave her some pain in walking, and were very intractable in healing. Other smaller sores or ulcers affected the toes at various times subsequently. Eighteen months ago she had a large bunion on the right big toe, which became ulcerated. Since then she has had extensive sores on the left toes and foot, which slowly healed. Two months before admission a sore developed on the right foot as the result of knocking her foot slightly, and she applied hot fomentations to it. She did not feel the fomentations too hot, but they scalded her foot and were followed by extensive ulceration; the ulcers gave her slight pain in walking, and discharged freely, but did not prevent her getting about nor disturb her sleep. It was on account of the sores on this foot that she sought advice.

Condition on Admission.

She is a short, fat, thickly-set girl, with a red face and somewhat heavy expression; speech is deliberate, somewhat syllabic, but distinct; intelligence good, but she is slow in answering questions; skull of normal size and shape; face broad and

round; teeth irregular: no evidence of hereditary syphilis; the enamel of the teeth was markedly defective; no paralysis of any cranial nerve; no nystagmus; sight and hearing good; optic discs and retinæ normal; pupils equal, and react normally to light and accommodation; chest well developed; thoracic and abdominal organs normal; urine normal; micturition and

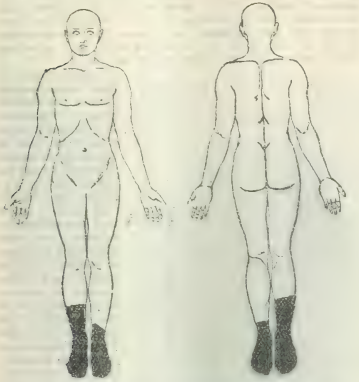


Fig. 4. Case I.—Diagram of sensational disturbance. Over the shaded areas there was loss of sensation to heat, cold and pain (pin-prick); light touch and firm pressure felt.

defæcation normal; spine regular, no deformity, no scoliosis; sacrum and coccyx normal; relative length of thighs and arms to legs and forearms respectively, normal; hands rather broad and thick; no atrophy of muscles in upper extremities; sensation normal to light touch, pain, heat and cold over face, neck, trunk, upper extremities and thighs; over the lower part of the legs and over the feet (see Fig. 6) heat and cold were not distinguished; there was also, but less marked, defective sensation to pin-prick, which was sometimes felt as a prick but more often as a touch; light touch and deep pressure were everywhere promptly recognized and localized, except over the toes of the right foot, the seat of the long-continued ulceration of the skin. The upper limit of defective sensation was well defined to heat and cold, and passed circularly round the limb; to prick it was indefinite, fading away insensibly above. There was no hyperidrosis; the feet inclined to be cold; there was some tendency to flushing of the skin over the left ankle; muscles of legs all well developed, strong, no paralysis of movement, and no incoordination. The muscles acted to both interrupted and constant currents, by direct and indirect stimulation; deep reflexes, in upper extremities normal; knee and ankle jerks much exaggerated, equal on both sides, no clonus.



Fig. 5. Case I.—Condition of legs after operation.

Superficial Reflexes.—Abdominal normal; extensor plantar reflex in right foot (Babinski's sign) and often on the left, but is not always obtained on the latter.

Feet.—Very extensive superficial ulceration on dorsum of right foot, involving the great toe and all the other toes, chiefly on their dorsal surface. Under rest and suitable dressings this ulceration healed rapidly, as well as in a normal person, and was completely healed in four weeks. The feet are short and stunted, especially the right, the latter is inverted (Fig. 7). Skiagrams show (Fig. 8) that the right great toe is partly dislocated outwards on its metatarsal bone; there is thus pronounced hallux valgus, and a less degree of it on the left side; both first metatarsals are strongly adducted, this accounting for the increased breadth of the feet. The left first metatarsus is shortened, broadened and enlarged at its head, whilst the corresponding first phalanx is very short, with marked hypertrophy of its base and lipping of its margins. The second toes in both feet and the left fourth toe were shortened, and were soft and

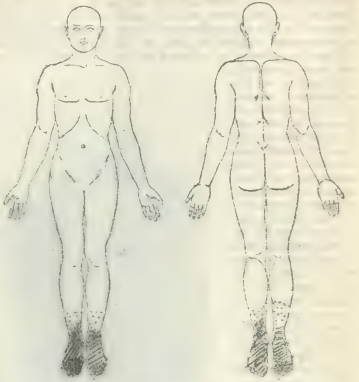


Fig. 6. Case II.—Diagram of sensational disturbance. Over the shaded area heat and cold were not distinguished, felt as touch only; sensation very deficient to pin-prick, generally felt as touch, over dotted area somealterations, but less marked, to pain. Light touch and pressure felt everywhere, except over toes of right foot (black shading).

"wobbly" as if boneless; the right fourth and fifth toes had disappeared. Skiagrams show that the second and third phalanges of both second toes, of the right fourth and fifth, and left fourth toes have disappeared, whilst the first phalanx of the right second and fifth and left fourth toes have undergone extreme atrophy. In the left foot there is slight pes cavus, partly due to internal angulation between base and shaft of the second, third, and fourth metatarsals. There is some thickening about the right ankle-joint. The knees and legs appeared normal, and the muscles well developed, with the exception of the small muscles of the feet, which were slightly wasted, but reacted to electricity.



Fig. 7. Case II.—Photograph of feet.

It should be added that in spite of the ulcers on the feet and the disease of the bones of the toes the patient was walking about when she came to the hospital. The readiness with which the ulceration healed under appropriate treatment is also noteworthy, and appears to have also taken place in the other cases quoted above.

The skiagrams show that the disease of the bones is mainly an atrophic one of a somewhat remarkable kind; some of the phalangeal and metatarsal bones appear to have undergone a process of atrophy and to have gradually disappeared. Indeed, the appearances of some of the toes of the second case suggest that the bone changes are not always secondary to ulceration spreading from the skin, but that the atrophy of the phalangeal bones is a primary process, for in these toes the soft parts are left

ntact, while the phalanges have disappeared, or are represented by small atrophic remnants. In this respect they show well the characters described by Tedesco[1] as present in syringomyelia, and which he regards as constituting a special type of bone affection. These characters are: (1) A general transparency of the bone shadows as a whole; (2) diminution and softening of the cortical layer of the diaphyses; and (3) rarefaction of the spongy bone while its gross structural form is retained, so that the external contour or form of the bone is preserved. When the process of atrophy is far advanced, however, the bone gradually disappears, as the skiagrams show. The increased brittleness which accompanies this process of osteoporosis accounts for the occurrence of fractures. Spontaneous fractures, however, do not occur very frequently in syringomyelia—not so much so as one would expect. At the same time, a certain amount of hypertrophy of bone, with lipping of and outgrowths from the ends of the bones, together with periosteal thickenings, go on side by side with atrophy; and similarly in the cartilages processes of absorption and new formation take place. Effusion of fluid into the joints is frequent; there seems little tendency to ankylosis. According to Kienbock,[2] the *x*-ray appearances are against the view which has been brought forward that the bone changes in syringomyelia depend on disappearance of calcium salts.



Fig. 8. Case II.—Skiagram of foot

As to causation, little support is given by these cases to the theory which makes traumatisms play an important part in the production of bone and joint lesions in this disease. We are not now speaking of the joint lesions produced by infective processes through perforating, or other deep ulceration of the skin and subcutaneous tissues. In neither case could any history of severe or even repeated slight injuries be obtained, such as would be likely to directly damage the joints, and the alternative theory which assigns the changes to trophic and vasomotor disturbances seems the more probable one.

In the bone and joint lesions of syringomyelia, the joints most frequently affected are the elbow and shoulder joints. It is possible that the cases under discussion are representative of a distinct but rare group of the disease, in which the sacro-lumbar region of the cord is alone involved, and in which bone lesions are the predominant feature.

Lastly, with regard to the distribution of the disturbance of sensation; in each case this was similar, in that its upper limit passed circularly round the limbs at right angles to their long axis. Catola and Lewandowsky[3] remark on this point that this form of sensory disturbance is not infrequent in syringomyelia, as well as the customary root arrangement, and they attribute it to a partial interruption of the long tracts in the spinal cord, which they think occurs in this disease, and, as cases of tumour of the cord show, can produce a sensory loss with this distribution.

It is our pleasing duty to express our indebtedness to Mr. J. E. Jones, Skiagraphist to the Bristol General Hospital, for the excellent skiagrams.

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A CASE OF ORAL SEPSIS WITH PECULIAR GENERAL SYMPTOMS.

BY

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In view of the interest which at present attaches to all the complications of oral sepsis, the following case seems worth recording:

Mr. T., aged 35, holding a responsible position in a well-known firm of surgical instrument manufacturers which necessitates a good deal of travelling (never beyond the British Isles), had been in good health except for several attacks of influenza and a nervous breakdown at the age of 16 which caused him to abandon a career as a teacher. No previous history of rheumatism, gout, syphilis, gonorrhoea, or alcoholism could be obtained. On March 27th he had aching in the head, back, and limbs. Thinking that it was an attack of influenza, he went to bed and applied some domestic remedies. Next morning he was much better, and in a few days was able to return to work. On April 2nd, whilst out on business, he was taken ill with a violent headache, and had some difficulty in getting home. After two days in bed he felt better, and went to the seaside to recuperate, but whilst there on April 9th, 12th, and 15th, he had similar attacks during which he went to bed, being able to get about in the intervals.

He was first seen by one of us on April 16th, and gave a very clear account of the attacks, which, he said, were all alike. The first thing he noticed was the appearance of a red spot on one limb (near a joint) which enlarged till it was about ¾ in. in diameter. At first painless, it soon began to burn, and then the neighbouring joint became painful and swollen. In the course of a few hours he felt chilly, and his temperature rose to about 103° F.; with the temperature the headache and pain increased, so that the joint could not be moved. About one hour later perspiration commenced, at first slight, but soon so profuse that the bedclothes were saturated. With the onset of perspiration the pain became less, and vanished in about an hour, whilst the perspiration itself continued for about four hours. After an attack he passed a good night, and felt comparatively well next morning.

On this date he looked quite well. He was a thin but wiry man, of a rather neurotic temperament. The pulse and temperature were normal. Nothing abnormal could be found in the chest or abdomen. The tongue was clean but of a rather brighter red than normal. The bowels were regular, the urine neutral, quite clear, and contained neither albumen nor sugar. On the previous day he had had pain and swelling in the right ankle. The joint now appeared quite natural, but over the right tibia there were a few small red spots not unlike erythema nodosum. There was a slight scattered macular rash over the abdomen. With the exception of some labial herpes there were no sores of any description anywhere on the body. No sign of disease could be found in the ears, nose, or throat. He wore a plate of artificial teeth, but had some of his own, which were carious in places, and round some of them the gums were retracted and spongy. He was brought to the sufferings from rheumatism, and was ordered 15-grain doses of sodium salicylate every four hours. Two days later he had a further attack which was quite as violent as its predecessors.

On April 21st he was seen during an attack. There was acute pain in the left knee-joint, but at the time of examination no swelling; the spleen was just palpable; there was no heart murmur. The regularity of the attacks suggested malaria so strongly that he was put upon quinine in increasing doses (up to 5 grains four-hourly).

On 4th he had another attack, during which he was seen by both of us. The temperature was 103·2°, pulse 120, blood pressure 140 mm. The face was flushed and the remains of the herpes were visible; there was just a suspicion of exophthalmos and some tremor of the lips. There was profuse perspiration, with the onset of which the pain had vanished. There was definite swelling, with fluctuation on each side of the left ligamentum patellæ; when seen an hour earlier there was no swelling. On various parts of the body there were patches of erythema, the largest on the left forearm being about the size of a shilling. Nothing abnormality found in the lungs or heart was a soft systolic murmur accompanying the first sound at the apex, heard only over an area the size of the chest-piece of the stethoscope. The spleen was enlarged, easily palpable, but not tender. There was no other abnormality in the abdomen, and the urine was as before.

Blood smears were examined; there was evidently a leucocytosis and a slight eosinophilia (6 per cent.). A diagnosis of septicæmia was made, and a suspicion roused as to there being some infective endocarditis, but it was suggested that the teeth might be at the root of the matter. Treatment consisted of absolute rest in bed, a liberal diet between the attacks, and sodium sulphocarbolate, 5-grain doses. He was ordered to leave out his denture, and to rinse his mouth with permanganate lotion.

Punctually to time, on April 27th, another but slighter attack supervened, the pain and swelling being in the left heel. There was no systolic murmur in this or any succeeding attack. The attacks then became more frequent, there being ten in sixteen days, but they were slighter. The joint pains were less severe, but the erythema was more marked. On May 3rd one of the lower incisors began to ache; on May 4th there was gingivitis round these teeth, and on May 5th, together with a molar stump, they were extracted. The gums healed very rapidly, but the attacks continued. On May 11th 10 c.cm. of blood were taken from a vein in the hope of obtaining a micro-organism from which a vaccine could be prepared, but the culture fluid remained sterile. On May 27th this was repeated with the same result. The faeces were carefully examined, as the periodicity suggested some protozoal parasite. Nothing was found, nor was there any evidence of intestinal catarrh or ulceration. On May 29th the upper incisors, aching and showing gingivitis, were extracted. There was some pus in one of the sockets, but the gums healed well. There was no further attack for four days. After this there seemed to be some slow improvement. The gums round the remaining teeth became affected, and the latter were removed at intervals. There was pus around the neck of most of the teeth extracted. The root appeared as if covered with a fine velvety pile of a reddish yellow colour. Some of them were loose.

After the extraction of the last tooth he had no further attack, and began to gain ground very rapidly. After ten days he was sent to the seaside, and fourteen days later was able to return to work, and at the time of writing is in good health and attending to business in his usual manner.

The diagnosis of this case gave rise to great difficulty. The quartan periodicity of the attacks make it necessary to exclude malaria. The fact that the patient had never been abroad, the absence of parasites from the blood (after quinine had been withdrawn for a month), and the failure of quinine to prevent the attacks are quite sufficient to exclude malaria. Naturally, infective endocarditis was feared; indeed, a senior consultant, who saw the case, gave a fairly confident diagnosis of this disease and a very bad prognosis. The negative result of the blood cultures and the non-appearance of definite signs of organic cardiac disease rendered this diagnosis impossible. Was the case one of the erythemata nearly allied to Henoch's purpura? There was erythema combined with joint symptoms, but there were never any visceral symptoms and the skin lesions were never purpuric.

When we had failed to obtain a micro-organism from the blood and had excluded all other sources of infection, in what was evidently an infective process, we felt it to be our duty to remove the only source of infection we could find, namely, the teeth. The mouth did not appear to be any more septic than in the case of many more people who have apparently perfect health, but the result of the extraction seems to be very strong evidence that we were dealing with a case of oral sepsis of rather unusual character. We found out subsequently that a few weeks before the commencement of the illness the patient had his denture readjusted, and afterwards found it to be uncomfortably tight, in spite of which he continued to wear it. The quartan occurrence of the attacks cannot be explained. It suggests infection by some protozoon with a definite life-cycle. We much regret that we omitted to have the extracted roots examined with this in view. If it can be accepted that oral sepsis was the cause of the symptoms in this case, then it becomes of great interest in view of the recent attempts to show that various "rheumatic affections" are really the results of oral sepsis,[1] a view which our experience shows has much to support it.

We have to thank Professor Beattie for kind assistance in making one of the blood examinations. We publish this case in considerable detail because the scientific value of all evidence for the case of "oral sepsis" depends largely on the exclusion of all other causes of infection.

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A CASE OF APPARENTLY ACUTE SIMPLE FEBRILE ERYTHEMA

ASSOCIATED WITH THE OCCURRENCE OF TWO SUBSEQUENT CASES OF SMALL-POX.

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THE following case raises several points of considerable practical importance:

On Thursday, March 18th, 1909, S. C., a girl, aged 16, living in domestic service in Bristol, complained of a slight sore throat and some headache; she was well enough to "go out" on Sunday, March 21st, as usual, but apparently got worse later, and Dr. Myles was called in to see her on March 25th. He found that she then had a temperature of 102° F.; the tongue was furred, the throat and palate injected, and she complained of pain in the back. She also presented a profuse, soft, papular rash, distributed somewhat generally over the body, most marked on the front and outer side of the upper arm, and on the thighs, less profuse on the trunk, very few papules on face and forehead, and none on the wrists.

The papules were flat and of a dark copper colour; some quite large patches of slightly raised areas occurred, especially on the upper arm, covering the area of a shilling or half a crown. On palpation the papules and raised areas were softish, and gave the impression of being quite superficial, with the exception of a few on the forearm, which felt more rounded, somewhat deeper in the skin, and more resistant. The eruption on the palate and tonsils was distinctly not papular.

The left arm showed two small scars of primary vaccination.

Although the case presented the appearances of a papular erythema accompanied by fever, and not any characteristic appearances of modified or minimal small-pox, she was admitted, as a precautionary measure, to an isolation ward in the city hospitals on March 26th for observation, under the care of Dr. Pauli. On admission the appearances presented were practically unaltered, though the papules showed no signs of development and had become less prominent; the temperature on March 26th ranged from 100.4° F. at 10 a.m. to 102.6° F. at 6 p.m.

On March 27th Dr. Pauli noted that the patient presented in the situations named a deep-coloured or dusky erythematous rash, but the raised condition of the skin had subsided, and no papules could be distinguished. The tongue presented the dirty brown appearance often associated with gastric disturbance. On this day the temperature fell rapidly and evenly from 101.8° F. at 2 a.m. to 99.6° F. at 10 a.m., and to 99.0° F. at 6 p.m.

Under simple treatment the tongue very quickly cleaned; the temperature fell to normal by the morning of March 28th and continued normal; at no time was there the slightest indication of vesiculation over any of the spots or patches, nor did the most careful examination disclose the presence of a single papule which suggested even the most modified or abortive form of the true small-pox papule; the erythema faded quickly, leaving discoloured patches of skin, over which a slight branny desquamation occurred.

The disease was considered to be an acute febrile erythema, which, as pointed out by Dr. Ricketts,[1] is not necessarily symptomatic of any acute specific fever.

As nothing remained but the discoloration under the skin, and the patient appeared to be quite well, she was discharged on April 1st, after a week's stay in hospital, and returned to her home in Somerset, where she remained until April 14th, when she returned to service in Bristol.

On April 21st her brother, a miner, fell ill with semiconfluent small-pox, from which he recovered, and on April 23rd her father fell ill with haemorrhagic small-pox, which proved fatal. Allowing the usual twelve days for incubation, these attacks were both contracted on or about April 9th to 11th, at which time the girl was at home.

There was no small-pox in the town where they lived, but scattered cases had occurred in the immediately adjoining parts of Gloucestershire during March and April, and had been carried thence as far as Yeovil. The brother had ceased work the day before Good Friday (April 8th), and on Easter Monday attended the sports at Wells. In Bristol, too, cases of small-pox had occurred at intervals since the beginning of January, and a contact of a Bristol case (a drover) was due to pass through their home on or about April 11th.

When at home the girl was seen by Dr. Costobadie, who informs me that there was then slight desquamation about the forearms and on the legs below the knees, but no evidence of any sore or abrasions of the skin.

On April 24th, after her return to Bristol, Dr. Myles again examined the patient. She was then apparently in good health, and on examining her skin he found the discoloration persisting over the spots and patches where the rash had been, and in places, particularly over the deltoids, there was a brownish mottling; three of the discolorations on the forearms appeared to be slightly depressed. On May 1st the discolorations over the deltoids had faded considerably, and that over the forearms had disappeared, leaving no trace. A test revaccination performed on this day gave no result.

Upon returning to service this girl slept with a fellow-servant vaccinated in infancy but not revaccinated; this fellow-servant remained perfectly well, and on May 3rd was revaccinated, and took in two places quite successfully. The rest of the master's family, who were revaccinated in March, also remained in perfect health.

It is important to determine whether, as suggested by the time-coincidence of the attacks of this patient's brother and father, her febrile erythema was a manifestation of the small-pox poison in her system; if so, it is quite unique in our experience.

The opportunities of infection in the city were at the time very slight, and at the date when she should have contracted the infection there were no known cases at large; furthermore, she enjoyed few opportunities of visiting friends, and those whom she knew and visited were not ill and did not live in an infected district.

The onset of her illness was not so sudden and definite as the onset of small-pox, however modified, usually is; neither were the course of the temperature nor the appearance, distribution, and development of the rash at all characteristic of modified, minimal, or abortive small-pox, of which very numerous examples have fallen under our observation at the city hospitals during the past quarter of a century. A fine branny desquamation is in no sense suggestive of any known form of small-pox.

On the other hand, the type of small-pox introduced into Bristol and the neighbourhood, apparently from the Sea of Azov, during the winter of 1908–9, has presented many features not only of malignancy, but of eccentricity. No less than 6 cases out of 35 occurring within the city have assumed a fatal haemorrhagic type sooner or later, the incubation stage has been in some cases prolonged to fifteen or sixteen days, the usual interval between sickening and development of the papular eruption has been unduly prolonged, and in three instances the disease has apparently made an unsuccessful attempt to break down the resistance afforded by recent revaccination in the case of nurses, who, however, suffered no harm beyond a two or three days' fever, followed by no eruption, and ending in speedy convalescence.

One of these nurses, returning to duty in the wards of a general hospital into which small-pox had been inadvertently introduced, appears, however, to have herself been in the condition of an "acute carrier," and to have infected a patient in the wards, who subsequently developed a fatal haemorrhagic attack.

The dull colour of the immature papular rash in S. C., its failure to form a true papule, and the subsequent dull and persistent staining suggest what is almost a contradiction in terms—a benignant haemorrhagic attack. If this is possible, as it may be in the case of a singularly searching and virulent infection acting upon a highly resistant individual, the experience is worth recording for the guidance of others.

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FACIAL WRINKLES AND CHARACTER EXPRESSION,

WITH SPECIAL REFERENCE TO THE NASO-BUCCAL ANGLES.*

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FACIAL wrinkles may be defined structurally as persistent infoldings of the skin following the lines of greatest resistance to the mobile play of the features. They presumably mark the sites where in the adult the skin is more closely bound to the underlying structures than elsewhere. Since the subcutaneous tissues are from various causes most resilient in early life, and the frequent emotional brain-storms of babes are short lived and incoordinate in their action, the resultant facial contortions leave as a rule no permanent record of their movements on the surface of the skin. It is not till later in life that the concerted use of certain groups of facial muscles tend gradually to impress the features with individuality, and

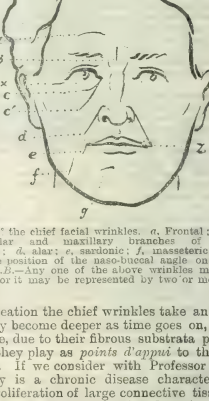


Diagram of the chief facial wrinkles. *a*, Frontal; *b*, glabellar; *c c'*, orbicular and maxillary branches of the tarsal; × palpebral; *d*, alar; *e*, sarcloric; *f*, masseteric; *g*, mental; *z* shows the position of the naso-buccal angle on the right of diagram. *N.B.*—Any one of the above wrinkles may be absent from a face, or it may be represented by two or more secondary wrinkles.

in this delineation the chief wrinkles take an active part. They usually become deeper as time goes on, and acquire a persistence, due to their fibrous substrata probably, and to the part they play as *points d'appui* to the neighbouring muscles. If we consider with Professor Metchnikoff that senility is a chronic disease characterized by an increased proliferation of large connective tissue cells, the deepening of the facial furrows in advancing age may be ascribed to the increase of the subcutaneous fibrous tissue by the macrophagic cells at the expense of the surrounding muscular elements. This, however, is as it may be.

The eight or nine chief wrinkles on either side of the mid-vertical map out the face apparently into zones or areas of co-ordinated muscular action. Some of these motor zones roughly correspond in shape and position to the "tender skin" areas of Head (see diagram). The relationship which both Dana[1] and Head[2] have shown to exist between some forms of visceral disease and disturbances of sensation in certain cutaneous areas suggests the existence of a similar linkage between the internal economy and these superficial motor zones; and it offers a plausible explanation why we aptly portray by facial expression the deep-seated malaise of a dietetic indiscretion.

* Read at a meeting of the Brighton Division of the British Medical Association.

The two most constant and, for other reasons, most important wrinkles are the *alar*—those which course across the cheeks in alignment with and just beneath each naso-labial fold. Except in the very young, they are rarely absent from the healthy face. The most attractive part of this inquiry consists in ascertaining by angular measurements the variable obliquity of these wrinkles upon different faces. From its gristly origin beside the nostril each alar furrow passes *directly* downwards and outwards for at least 1 cm. (In my experience it passes otherwise only in a fractional percentage of cases.) If this line is prolonged until it cuts a horizontal passing through the oral angles, the included angle is the naso-buccal (N.B.) angle required. Actual measurements have shown that the acuity of the N.B. angle when the features are in repose may vary in different persons from a little over 20 degrees to upwards of 70 degrees.[2] I shall now consider the etiological factors which may determine this wide range of obliquity in the alar wrinkle.

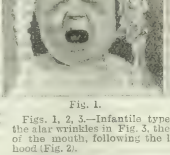


Fig. 1.

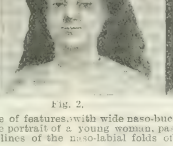


Fig. 2.

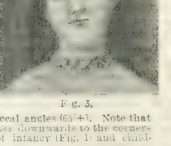


Fig. 3.

Figs. 1, 2, 3.—Infantile type of features with wide naso-buccal angles (65°+). Note that the alar wrinkles in Fig. 3, the portrait of a young woman, pass downwards to the corners of the mouth, following the lines of the naso-labial folds of infancy (Fig. 1) and childhood (Fig. 2).

Anatomically the mandible (inferior maxilla) is probably the most important factor in this respect. The bone, as is well known, markedly alters its shape during dentition; and so far as the width of the jaw angles is concerned, may revert in the edentulous adult to the condition of early infancy.[1] The modern dentist, by mechanical dentures and other devices to assist mastication, both lessens the distress which loss of teeth entails and checks the atrophic changes in the mandible above alluded to. We seldom now see the "nutcracker" jaws caricatured by Gilray and other gross humorists of the eighteenth century. The extremely acute N.B. angle above noticed was, however, from a face of this type—from an old lady of the great age of 109 years. On the other hand, the cast of features characterized by a powerful masticatory apparatus — the "square jaws" of conventional language—often associated in the elderly adult with hypertonic *depressores anguli oris*, has naturally a wide N.B. angle, that is, one of 60 degrees and upwards. In such cases the free ends of the alar wrinkles drawn downwards along with the corners of the mouth convey an aspect of dogged determination to the face which the strenuous careers of many of the individuals so endowed as a rule historically confirm.

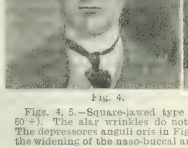


Fig. 4.

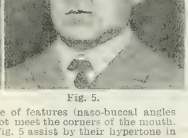


Fig. 5.

Figs. 4, 5.—Square-jawed type of features (naso-buccal angles 60°+). The alar wrinkles do not meet the corners of the mouth. The depressores anguli oris in Fig. 5 assist by their hypertone in the widening of the naso-buccal angles.

In my store of adult portraits the type of face showing the widest N.B. angle is quite unlike that just described. There are a few measurements among that collection of angles of 70 degrees and upwards. These wide angles are, in my experience, found upon the faces of young and popular women, actresses, dancers, society brides, and so forth. We may well inquire why the small bow-shaped mouth and rounded chin of a beautiful woman should be identified with a width of the N.B. angle even greater than that which so fittingly stamps the square-jawed visage of a self-willed man. I must therefore ask you to bear with me whilst I recapitulate some further details regarding the growth and development of this part of the face.

In infancy the orbicularis oris muscle, the great sphincter of the mouth, is largely concerned in the act of sucking. By its rhythmic contractions the close apposition of the mucous membrane of the lips and the surface of the teat is ensured. With the aid of the antagonistic buccinators and lingual muscles a partial vacuum in the anterior part of the mouth is rendered possible. These rhythmic contractions tend to shorten the oral aperture laterally, and to drag the free ends of the naso-labial folds inwards to the corners of the mouth. At the same time the cheeks have a rounded contour, induced partly by the persistent action of the antagonistic buccinators and partly by the subcutaneous deposition of fat. When a small child cries or gapes we can see these folds as they pass downwards on either side to the corners of the mouth, and from them can judge the position of the future alar wrinkles. Now, if we take the N.B. angle of a fold in the usual way, we shall find that in infants an angle of 70 degrees and upwards is not a rare measurement. Indeed, these exceptionally wide angles are common among healthy children of both sexes during their first decade. They become rarer as time goes on; rarer in men than in women, for the latter take more pains to preserve through years of maturity the witchery of their winsome youth.



Fig. 6.



Fig. 7.

Figs. 6, 7.—Acute naso-buccal angles (60°−). The old lady (Fig. 6) is an example of the nutcracker-jaw type of countenance. The extreme acuity of the naso-buccal angles in these instances is largely due to the persistent hypertone of the buccinators, and to the transverse widening of the mandible in consequence.

Among adults, then, we can recognize two types of face with wider N.B. angles than the average — the square-jawed type and the infantile type. The explanation is simple. The acuity of the basal angles in an isosceles triangle depends on the ratio that the base-length bears to the length of a side. When the base is relatively short the angles are proportionally wide. If we now translate these geometric expressions into anatomical language suitable to our subject, we may say that the N.B. angles are wider than the average (1) whenever they nearly correspond in position to the corners of a small mouth, as

[1] Among the faces of this type were included portraits of a President of the United States, a President of the Royal Society, a celebrated soldier, a naval lawyer, and a portrait of a poet in the Presidency; among the women was a well-known Doctor of Medicine.

is the case in the infantile type of face; or (2) whenever the apex of completed N.B. △ is much above its average position at the bridge of the nose. The latter condition implies unduly long sides to the N.B. △, and is observed specially in the square-jawed type of face. How intimately these trigonometrical relations are connected with character-expression is shown in the lessened N.B. angle of the fixed smile of photographic portraiture, and how necessary it therefore is in an inquiry of this kind to obtain these facial angles whilst the features are at rest.

Before concluding I shall briefly refer to the mechanism whereby the creeping of a wrinkle as age progresses is presumably induced. Many of the observations already recorded cannot otherwise be satisfactorily explained unless we admit that this slow change of position takes place occasionally. I have examined the successive portraits of eight persons photographed at different periods of their lives. These pictures show that a divergence of 7 or 8 degrees in the obliquity of the N.B. angle may in some cases occur within a few years. The cause of the "creeping" must, I take it, be sought for in the prolonged hypertone of some of the muscular areas bordering the wrinkle and the hypotone of others antagonistic to them; and these excito-motory changes, again, may be due to continuous psychical exaltation or depression, so often associated with success or failure in the schemes of life.

The following figures may be provisionally accepted:

Average Value of Naso-buccal Angle in 149 Adults (above 17 Years).

	Adults.	Men.	Women.
At all ages (100 M.)	55.3°	53.4°	60.9°
Forty-two above 70 (34 M.)	51.1	50.7	54.1°
One hundred and seven below 70 (65 M.)	57.6°	54.8°	62.4°

REFERENCES.

[1] A Clinical Study of Neuralgias and of the Origin of Reflex and Transferred Pains, *New York Med. Journ.*, July 25rd and 30th, 1887. [2] Disturbances of Sensation, with especial reference to the Pain of Visceral Disease, *Brain*, vol. xvii, pp. 339-480. [3] Lavater (1772) noticed the divergence of the "lineaments or traits of the cheeks," *Essays on Physiognomy*, translated by Thos. Holcroft, n.d., p. 473. [4] In adults the angle of the jaw is about 120 degrees or less, in infancy 140 degrees or more; in the edentulous it again becomes widened to 150 or 140 degrees (see Humphry, *The Human Skeleton*, p. 295; *Quain's Anatomy*, ninth edition, vol. i, p. 56).

UNUSUAL CASE OF FACIAL PARALYSIS.*

BY H. H. B. CUNNINGHAM, M.D., F.R.C.S.I., M.R.C.S.ENG.,

OPHTHALMIC SURGEON, ULSTER HOSPITAL FOR CHILDREN AND WOMEN, ETC.; EXAMINER IN OPHTHALMOLOGY AND OTOLOGY, ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE facial nerve, whilst in the aqueduct of Fallopius, bears a close relation to the middle ear. After leaving the chamber situated behind the hiatus Fallopii, wherein the genu is placed, it passes backwards and downwards at right angles to its previous direction in the upper and posterior part of the inner wall of the tympanum; here it is in relation to the fenestra ovalis below, the ampullary ends of the external and superior semicircular canals above, and the vestibule to its inner side.

ETIOLOGY.

The main etiological factors of facial paralysis may be grouped under three headings:

1. *Central:*
   Tumours in and at the base of the brain.
   Meningitis.
   Nuclear degeneration, as in labio-glossal paralysis.
2. *Osseous* (in the Fallopian canal):
   (*a*) Inflammation extending to the osseous walls, thence to the sheath and to the nerve itself.
   (*b*) Caries and necrosis of the aqueduct, the destruction extending to the nerve itself.
   (*c*) Injury to the nerve during operations on the accessory cavities of the middle ear.
3. *Terminal* (after exit from the stylo-mastoid foramen):
   (*a*) Injuries to the nerve.
   (*b*) Implication in cellulitis and growths in the neck.
   (*c*) Influenza, diphtheria, and syphilis, giving rise to neuritis.
   (*d*) And, finally, that type, yclept rheumatic, frequently met with, and usually ascribed to a cold or draught on the face, and for which sometimes no cause can be assigned.

But it is a matter of some doubt whether all these so-called rheumatic palsies should be ascribed to colds or draughts. Lake[1] states that they are frequently due to a transient acute inflammation of the middle ear, in which suppuration has not taken place, and quotes Sir William Dalby as having pointed out, in 1872, that many of these cases, said to have resulted from exposure to draughts, were frequently due to an acute otitis media, "the pain of which was so slight and evanescent as to have been quite overlooked both by patient and physician."

It is to the second or osseous division that the subject of these notes applies. An acute inflammation in the tympanum may easily extend to the osseous walls of the Fallopian canal, and thence to the sheath, and so to the nerve itself; the accompanying infiltration and exudation, by exerting pressure on the nerve in its unyielding surroundings, will suspend its physiological activity. Then, usually, as the inflammation resolves and the pressure lessens, the nerve recovers more and more of its function.

Therefore this type is not serious.

On the other hand, in a case of chronic otorrhoea, no matter how small a quantity of pus is being discharged into the meatus, the onset of facial paralysis is a serious symptom, indicative of a grave condition both of the nerve and of the patient himself, for it shows that necrosis is taking place in the temporal bone. The disease may be situated in the middle ear, or perhaps in the antrum as well; but, wherever placed, the paralysis indicates that necrosis is extending to the Fallopian aqueduct, and thence to the nerve itself. The close relation of the aqueduct with its contained nerve to the labyrinth has already been mentioned, therefore it will readily be understood that the facial paralysis may easily be a symptom of that very serious condition—suppurative labyrinthitis. As a matter of fact, investigation[2] has shown the facial nerve to be involved in no less than 85 per cent. of cases of labyrinthine necrosis.

Therefore this symptom is a clear indication for early surgical interference.

TERMINATIONS OF FACIAL PARALYSIS.

The terminations of this condition may be briefly summarized as follows:

1. Return to normal function.
2. Persistent paresis of the whole or of part of the nerve.
3. Complete permanent paralysis.

Maggie G., aged 9, came to the Ulster Hospital in June, 1907, stating that she had been unable to close her right eye for the past fortnight, and gave a history of previous double otorrhoea. She was unable to wrinkle any of the muscles on the right side of her face, the right palpebral fissure was widely open, the lower lid showed a tendency to fall away from the eye, and on telling her to close her eyes the eye itself was rotated upwards, but the eyelids did not move; she was unable to lift her lips to show her teeth on the right side. Owing to deafness, she had to be spoken to loudly and distinctly. A little thick pus was found in the right meatus, and the greater part of the right tympanic membrane had been destroyed; no history of headache, vomiting, or pain. She was admitted, and on June 6th a complete post-aural operation was performed on the affected side. The cavity was packed and the wound sutured up completely. Twelve days later she was discharged and ordered to attend daily to have the wound dressed, and for galvanism, the paralysis being only slightly less.

July 22nd. The paralysis not cleared up yet, though less; attendance for galvanism very irregular; very little scar on site of external wound.

August 15th. Paresis decreasing; can now shut right eye and open her lips so as to show her teeth on the right side; still very irregular in attending for galvanism.

October 21st. Hearing equal in each ear, though a little subnormal, as low tones are not well heard. Still slight paresis on right side of face.

On May 25th, 1908, practically twelve months later, the patient presented herself at the hospital with an almost complete paralysis of the left side of the face, the onset having taken place two days previously.

She was unable to close the left eye or lift the lips so as to show the teeth on that side; the furrows in the cheeks were obliterated; no history of pain in the ear or of otorrhoea, no vomiting or vertigo. Patient had to be spoken to in a fairly loud voice, owing to deafness. The left tympanic membrane has been almost wholly destroyed; the handle of the malleus can be seen foreshortened and protruding *in situ*, but deprived of

* Read at the spring meeting of the Ulster Branch of the British Medical Association, Londonderry, May 8th, 1909.

its usual support of tympanic membrane; pus seen in the tympanum.

May 28th. Large perforation seen in the posterior superior wall of the meatus ½ in. from the orifice, débris presenting. Complete post-aural operation performed on left side, débris found in tympanum, cavity packed and wound closed.

May 29th. Patient looks well, paralysis not so marked.

June 1st. Wound healing well; can now close left eye, and slept during the previous night with eye closed.

June 4th. Paralysis fast resolving; can close eye, lift the lips, and smile now; wound healing, sutures removed.

June 11th. Wound quite healed; paralysis cleared up considerably; still deaf, having to be spoken to loudly.

June 17th. Paralysis almost cleared up, hearing much improved; can hear ordinary voice now, whereas had to be spoken to in a loud voice previously.

June 22nd. Paralysis cleared up; can elevate lips on this side better than on the right side, but left palpebral fissure still a trifle more open than right; can screw up both eyes easily.

It must be somewhat unusual to meet a case presenting similar features on each side of the face at an interval of almost exactly twelve months. It is instructive, too, in comparing the different periods of time which the two nerves required to return to their normal function, the right taking quite five months, though probably less would have sufficed had she attended regularly for galvanism which was ordered, as the actual duration of the paralysis prior to operation was uncertain, and with the view to remedy the soft and atonic state of the facial muscles, but unfortunately, owing to her irregularity of attendance, no true deduction can be made as to the effect of this treatment. On this side the paralysis had existed certainly for a fortnight, and probably for longer, whereas on the left side it had only shown itself two days prior to advice being sought, and cleared up entirely in less than a month after operation.

The rapidity with which the paralysis cleared up on the left side as compared with that on the right at once suggests the advisability of early surgical interference in cases of this sort, in order to save the nerve alone from permanent injury, and further to save the patient from a serious osseous lesion in the temporal bone, of which the facial paralysis is an outward and visible sign.

REFERENCES.

[1] R. Lake, *Diseases of the Ear*, p. 103. [2] Politzer, *Diseases of the Ear*, p. 467.

A CASE OF MULTIPLE PLEXIFORM NEUROMA ASSOCIATED WITH BROWN PIGMENTATION OF THE OVERLYING SKIN.

BY CECIL E. REYNOLDS, M.R.C.S., L.R.C.P.,

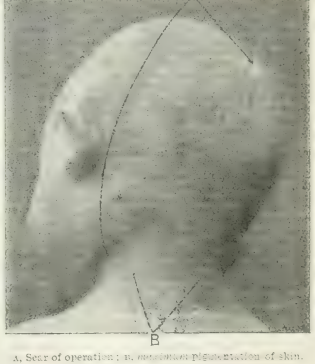
ASSISTANT MEDICAL INSPECTOR SCHOOL CHILDREN, BERKS EDUCATION COMMITTEE.

AFTER reading Mr. Lenthal Cheatle's interesting paper in the JOURNAL of June 12th, it occurred to me that the notes of the following case might have some bearing upon the question of neurotrophic influence in pigmentation.

A female child, aged 5 years and 4 months, came under my observation in April last during the routine inspection of the Berkshire schools. There was a swelling of the left side of the neck behind, extending from the left superior curved line of the occiput above, down over the complexus as far as the level of the first dorsal spine below, and extending round in front as far as the anterior border of the left sterno mastoid muscle at the middle of its length. Posteriorly it was limited to the left side of the neck by the ligamentum nuchae. Soft and semisolid to the touch over the occipital bone, the tumour below was found to consist of firm masses, feeling like glands, ranging in size from a hazel nut to a pea, and more or less bound together by adhesions. The growth was thickest between the posterior border and the upper third of the sterno-mastoid and the outer border of the complexus. The skin over the whole of the tumour, with the exception of the occipital part, was stained brown. This stain was most marked over the prominent belly of the complexus, but extended as far as the middle line of the neck in front and also lower than the tumour below, becoming fainter and mottled at the edges. The opposite side of the neck was very faintly pigmented. The photograph (which unfortunately had to be taken in the country) is intended to show most of this pigmentation as well as the scar of the operation. The history is as follows:

The pigmentation was first definitely noticed at the age of 2 years. (The mother is quite clear on this point, as her friends used to remark that she had omitted to wash the child's neck.) It began at what is now the upper part of the stain behind, and extended slowly downwards and forwards. It was not until more than a year later that a swelling was noticed to commence beneath the upper part of the pigmented skin. There was no pain, but slight tenderness, which had of late increased, neither had the child suffered in general health. The child had enlarged tonsils when seen by me, but no other physical signs to aid or complicate diagnosis. The family history was negative.

As I was at a loss for a positive diagnosis, and the practitioner in attendance was equally anxious to settle any doubts as to the nature of the swelling, we removed the child to University College Hospital, where it was seen by Mr. Wilfred Trotter, who made the diagnosis of plexiform neuroma. We had the opportunity of witnessing the removal of the tumour by Mr. Trotter later in the day, when it was seen to consist of lobulated masses of fibrous tissue held together by strands, and almost inextricably mixed up with the muscle fibres in the neighbourhood, which latter fact rendered removal most difficult. After the greater part had been removed, it was decided to leave the rest for a second operation.



A, Scar of operation; B, extensive pigmentation of skin.

I am informed by Mr. H. M. Davies, surgical registrar to the hospital, who examined microscopical sections, that bundles can be seen which resemble normal nerve bundles, but that it is doubtful whether they contain nerve fibres, the contents in the main consisting of short curling strands of fibrous tissue with well-marked nuclei. The wound healed by first intention, but the scar is now (a month later) becoming keloid.

I am indebted to Dr. D. G. Kennard, under whose care the child is, for permission to publish this case.

A CASE OF SO-CALLED DELAYED CHLOROFORM POISONING.

BY CONRAD DE L. CAREY, M.B., B.C.CANTAB.,

GUERNSEY.

THE following case seems to me to be typical of the condition described by Dr. Guthrie as "delayed chloroform poisoning" in a child the subject of chronic suppuration in the form of a caseating abdominal gland. The rapidity of death and low range of temperature are against any form of sepsis introduced at the time of operation.

I was sent for recently to see a boy, J. H., aged 3 years 2 months, who had been "out of sorts" for the week previous to my visit, suffering from diarrhœa. The temperature was

100°, and there was a certain amount of general abdominal tenderness, but no rigidity or tender spot. The motions were green and extremely offensive. Next morning the temperature was still 100°, and there was distinct tenderness over the appendix area, but there was little abdominal rigidity; there had been no vomiting. I saw the child again that evening, when the mother told me that he had had a good deal of pain throughout the day. The temperature was then 102.5°. Pulse 120, abdomen slightly distended and acutely tender over the appendix, with rigidity of the muscles. My partner, Dr. E. L. Robinson, agreed in the diagnosis of acute appendicitis.

Next morning I operated. Then the patient was given chloroform throughout the operation. He took the anæsthetic well, kept a good colour, and gave no anxiety. I made an incision 1 in. in length over the usual spot, and on passing in my finger felt what at first I took to be the tip of a much enlarged appendix. On drawing this out of the abdomen I found it to be a gland, about the size of a large pea, and acutely inflamed. After removing this I found the appendix. There was one old adhesion, and it was thickened. After removing the appendix I inserted my finger into the abdomen again and felt a mass apparently behind the cæcum, from which extended what I took to be a chain of glands towards the liver. I then closed the abdomen and put the child back to bed about 1 p.m., the operation having taken just under one hour.

I again saw the patient at 4.30 p.m., when the nurse reported that he had not vomited. I then dosed as usual three-quarters of an hour at a time, and was fairly comfortable. The pulse was 120, and the child had a good colour and facies. He vomited at 6 p.m. and 8 p.m., each time after having sips of hot water. At 9.30 p.m. his pulse was still 120, and he was somewhat restless, but otherwise seemed doing well; temperature 99°. At 7 a.m. I received a telephone message, and on arrival at the hospital I found him unconscious, tossing about, grinding his teeth, and making faces. The nurse said that he had had a good night up till 5 a.m., when he awoke from a sleep, vomited some mucus stained with "coffee grounds," and then commenced grimacing and gradually lapsed into unconsciousness. His pupils were equal, reacted to light, and were slightly dilated. The extremities were rather cold; pulse 130 and soft. I ordered him a hot saline enema, and gave a hypodermic injection of 2 minims of liquor strychninæ. The child died without a struggle at 10 a.m., exactly twenty-two hours after the operation.

On inquiry from the mother, I found that five months previously the child had been ill for three weeks with a "bilious attack" and abdominal pain.

I obtained permission to make an examination of the abdomen. The site of the operation was normal, the appendix tuft was buried, and there was no sign of leakage nor of general peritonitis. On examining the mass I had felt at the operation, it proved to be a caseating gland, the size of a walnut. This I removed for examination. The liver was extremely pale, and on section was canary colour, with here and there streaks of purple. I drew off some urine with a catheter, and found that it reduced Fehling's solution.

I sent the gland removed at the operation, the appendix, the caseating gland, and a piece of the liver to the Clinical Research Association, and received the following reports:

"This appendix shows chronic inflammatory changes in the mucous membrane and proliferation of the lymphoid tissue. It presents no evidence of tubercle. The gland, on the other hand, is typically tuberculous. It contains giant cell systems, some of which are undergoing caseation.

"This liver shows fatty degeneration of the hepatic cells, but in addition there is a leucocytic infiltration around the vessels and bile ducts in Glisean's capsule. This suggests an infective or septic cholangitis, which we conclude must have existed before the operation. The gland contains definite caseating giant cell systems, which are certainly tubercul ous. It is possible that delayed chloroform poisoning may have something to do with the fatty degeneration, but we cannot help thinking that it is more likely to be a septic condition."

I may add that no carbolic acid was used at the time of operation.

TREATMENT OF THE SMALL INTESTINE IN OPERATIONS FOR INTESTINAL OBSTRUCTION.*

By C. HAMILTON WHITEFORD, M.R.C.S., L.R.C.P.

GIVEN a case in which the intestine is completely obstructed, either in the region of the cæcum, or higher up in the small bowel, what are the duties of the surgeon?

In a patient almost *in extremis* the actual obstructing cause has to be neglected, and an enterostomy—that is, opening and draining the first distended coil which presents through a small median abdominal incision—is all that is justifiable, and may give the patient a fighting chance.

* Read before the South-Western Branch of the British Medical Association.

To a patient who can stand a general anæsthetic the duties of the surgeon are two:

1. To evacuate completely from the distended bowel the quarts of liquid which are poisoning the patient and are paralysing and causing a succession of partial kinks in the intestinal walls.

2. To restore the patency of the intestinal tract by either (*a*) removal of the obstruction, or where this is impossible by (*b*) a short-circuiting operation.

A partial, as opposed to a complete, emptying of the distended bowel is not infrequently performed, simply because the surgeon finds that, without this partial evacuation, it is impossible to replace within the abdomen the whole of the distended intestines. The time occupied by the operation must always be an important factor in the prognosis of these cases. But, while the time-consuming process of making a series of incisions into the distended coils remained the only efficient method of emptying them, the surgeon has usually contented himself with emptying the bowels sufficiently to allow of their being replaced within the abdomen.

It is hardly surprising to find that in many cases the intestines, in their paralysed, kinked, and crowded condition, fail to empty themselves even after relief of the original obstruction, the patients dying, poisoned by the foul intestinal contents.

The plan devised by Moynihan, of emptying the intestines by threading them on a straight tube, has placed in the hands of the surgeon a means by which the distended bowels can be rapidly and completely emptied. The tube, made of either metal or glass, is 8 to 10 in. in length and ¾ in. in diameter. The end, which is inserted into the bowel, is cut obliquely with smooth edges. Two inches from the other end is a flange, and beyond the flange the tube terminates in a rubber tubing for conducting away the intestinal contents. In selecting a tube it is necessary to make certain that the oblique end of the tube is quite smooth and blunt. Some of the tubes on the market lack both these essentials, and are well calculated to injure, or even perforate, the engorged and softened intestine.

A loop of bowel, emptied preferably by a milking movement, is clamped by the fingers of an assistant, and is incised longitudinally on its convex border. The tube is inserted, and the bowel and tube, wrapped in gauze, held by an assistant so as to prevent leakage by the side of the tube. As each coil is emptied the collapsed bowel is threaded on to the tube by the surgeon. Each inch of the tube will carry a foot of collapsed intestine. The intestinal incision is best made in the centre of the distended bowel, so that the tube may be passed first upwards to empty the jejunum, and then through the same intestinal incision downwards to empty the ileum. If, when the tube has been completely loaded with collapsed intestine, there still remains unevacuated a short length of bowel, its contents can easily be removed by milking them down to the end of the tube. It is quite easy in fifteen to twenty minutes to empty the whole length of the small intestine.

The conclusions which this paper is intended to emphasize are:

1. Excluding those cases which are nearly moribund and in which an enterostomy is all that is justifiable, it is essential that the operation, in addition to relieving the obstruction, should empty the distended small intestines of their poisonous contents.

2. The most efficient and rapid method of emptying the small intestine is to adopt Moynihan's plan of threading them on a straight tube.

[The method of using the tube was demonstrated on a model. In replying to the discussion on the paper, it was pointed out that the method, the value of which the reader of the paper had personally proved, was not of very recent origin, being at least three years old.]

LEPROSY CONFERENCE.—The conference on leprosy recently held at Bergen unanimously passed the following resolutions: (1) It is necessary that in countries where leprosy exists means of segregating the sufferers should be provided. (2) It is desirable that the children of lepers should be separated from their parents as soon as possible and kept under observation. (3) Those who have lived with lepers should be examined from time to time by practitioners having special knowledge of the subject. The last resolution was based on the possibility of the transmission of the disease by means of sucking insects.

SEVENTY-SEVENTH ANNUAL MEETING
OF THE
British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF DISEASES OF CHILDREN.

HAROLD J. STILES, M.B., F.R.C.S.Edin., President.

DISCUSSION ON FUNCTIONAL NEUROSES OF CHILDREN.

OPENING PAPER.

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THOUGH the title selected for this discussion is brief, it covers so much ground that it would be impossible to deal with everything lying within it on any single occasion. I propose, therefore, merely to draw the attention of the Section to some of the more salient debatable points in the diseases grouped together under the general heading of our discussion. Even with these limitations, the number of questions to be considered is large, so, as the time at our disposal is comparatively short, I shall not attempt to deal with any single point exhaustively or to weld my remarks into one consecutive whole.

Taking "functional" in its ordinarily accepted sense, as implying an absence of any hitherto recognized structural change, permanent or temporary, in the nervous tissues, there are several functional neuroses that start in earliest infancy.

The first that occurs to me is one of faulty deglutition, that has received little attention in the textbooks. In such cases an infant has from the start of feeding, maternal or artificial, a difficulty in swallowing. When the milk has reached the back of the pharynx, instead of being directly swallowed, it is there rolled and rattled after the manner of the expert gargler of maturer age. After being thus rolled at the back of the pharynx for a longer or shorter interval, it is eventually swallowed, and the process is repeated with each fresh mouthful. In exceptional instances such faulty deglutition may be the first symptom to call attention to a palate defect. Ordinarily, however, there is no defect in the palate, which moves well, and regurgitation through the nose is a very occasional occurrence. The complaint may so interfere with nutrition that nasal feeding may temporarily have to be resorted to, but usually the only drawback to the condition is the time occupied over a meal, this last often taking nearly an hour instead of twenty minutes or less. In cases starting at birth the difficulty vanishes, or becomes less, when the food is thickened at the appropriate age. Reversing this order, there are other cases where the difficulty in swallowing is only encountered for the first time on the change from the purely liquid to more solid food. To this class Dr. Still[1] has lately called attention. Whether starting at birth or in later months, the defective swallowing evidently lies in a lack of co-ordination of the muscles concerned with deglutition. In the course of time the nerve centre gradually gains the control of co-ordination, and the trouble disappears in later infancy.

Another habit connected with food in older children, scarcely deserving the name of neurosis, is one with which most of us are acquainted—where a child, on food being placed in its mouth, retains it for a considerable time without making any effort at mastication or deglutition. As such children ordinarily show no sign of malnutrition, my explanation of the habit is that the child finds the allowing it to be placed in the mouth, and retaining it there, is the easiest, or the most polite, way of declining any food for which he has either a dislike or no inclination at the time of presentation.

Another developmental neurosis is concerned with the faulty action of the respiratory centre. It is instanced by unduly rapid breathing on the part of infants, dating from birth, and this rapid breathing increases into a hurried panting of over 100 to the minute whenever the children are lifted or moved. They present no evidence of atelectasis, nor would this last account for the remarkable increase in rate of respiration at every change of posture. Atelectasis, however, is the danger most to be dreaded as an addition to the existing condition. Such cases are only seen in infants a few days old, and the only explanation I can suggest to account for them is that the respiratory centre is at fault, and in need of education, if I may so term it, to meet the extrauterine conditions imposed upon the infants. This was the explanation I offered in the first case of the disorder I met with, and I further suggested that, if the infant escaped the danger of atelectasis, the respiratory centre would gain the power of normal control in the course of time. The father, a medical man, two years later sent me word that my prediction had been verified, that the breathing had gradually decreased in rapidity, and that the child was then healthy in every respect. A previous infant in the same family had died at a few days old; and more recently I have come across another family where two infants succumbed in the first week with the same respiratory trouble.

Congenital tremor is a condition so rare that it is not mentioned in any textbook on children's diseases with which I am acquainted. My experience of it is limited to a single family, where the only three members of it were the subjects of this form of tremor, one in a marked and the remaining two in a scarcely noticeable degree. In the marked case the tremor had been noted at birth, and in the other two in early childhood. I could not gather whether there was any family history of tremor on the part of either parent. When I first met the subject of the marked tremor he was about 45 years of age, and the disorder had been so little detrimental to him that he had attained the rank of colonel in the army. When at rest no tremor was ordinarily discernible in the limbs, but the head was incessantly oscillated from side to side. There was no nystagmus, the muscles of the face were only occasionally and slightly affected, and speech was perfect. On any purposive movement the limbs involved were thrown into marked tremor, and in moments of agitation this last would become so violent as seriously to interfere with locomotion or the grasp of objects. My patient was seen by several eminent neurologists, one of whom recognized the complaint as congenital tremor, and had met with one or more examples of the same condition. The remaining authorities, after discussing the possibilities of disseminated sclerosis, mercurial, alcoholic, and other forms of tremor, only to reject each one, confessed that the condition was as new to them as it was to me. The interest in such cases for us at this Section is that the condition can exist at birth and persist throughout life. In my patient the tremor was so marked in infancy that I was credibly informed, and can believe, that it served to rock his cradle. The milder degrees of the complaint are, perhaps, more common than is generally supposed, and I have thought that some of the cases of so-called simple tremor, starting about the age of puberty, and some of the persistent cases of cerebellar ataxia are possibly akin to this congenital disorder.

Of pyloric stenosis in infants I have some diffidence in speaking, not only because my experience of the complaint is a limited one, but because of my uncertainty as to whether it can be regarded as a purely functional neurosis. That gastric spasm can increase any existing obstruction goes without saying, but whether the pyloric obstruction can originate solely from spasm may be open to question. I am free to confess, however, that authorities like Thomson,[2] Guthrie,[3] Still,[4] Hutchison,[5] and most of those with the greatest experience of the disorder, seem to entertain no doubt on this point. My colleague, Eustace Smith,[6] indeed, has lately made the suggestion

[1] G. F. Still: *Common Disorders and Diseases of Childhood.*

[2] J. M. Thomson: *Clinical Examination and Treatment of Sick Children.* Second edition.

[3] Leonard Guthrie: *Functional Nervous Disorders in Childhood.*

[4] G. F. Still: *Common Disorders and Diseases of Childhood.*

[5] Robert Hutchison: *Lectures on Diseases of Children.* Second edition.

[6] Eustace Smith: *Practical Treatise on Disease in Children.* Third edition.

that the complaint may be due to the presence of food causing eclamptic attacks limited to the stomach, such attacks being akin to the general convulsions that occur in some infants immediately after every meal. With the authorities I have mentioned holding the opinions they do, I have every justification for introducing pyloric stenosis as one of the subjects for discussion at this meeting. My object in doing so, however, is not to discuss its pathology, but to bring forward some views that have appeared in recent publications as to its frequency and its successful treatment apart from operation. John Thomson, to whom in conjunction with our President, the profession is mainly indebted for its knowledge of the complaint, has since 1894 met with 41 cases of the disorder, in 40 of which the result was known, but of these 27 were submitted to operation with 8 recoveries, and the remaining 13 went without operation with 9 deaths. Still has met with 42 cases, in 36 of which the history was complete. Out of the completed cases 14 were operated on with 8 recoveries, and 22 were treated medically with an equal number of recoveries and deaths. It will be noticed from these figures that there is a considerable difference, difficult to account for, between the percentage numbers of cases submitted to operation and that of recoveries, both with and without operation, in Thomson's and Still's cases. The difficulty is still further increased by figures and views lately published by Hutchison. He states that in his private practice, apart from his hospital one, he has treated 14 cases by medical means alone, with but a single death. In the fatal case, moreover, he is in doubt as to whether it was a genuine one of pyloric stenosis. The view he arrives at, and emphasizes by italics, is that "operation is never in any circumstances justified in these cases." If lavage of the stomach be intelligently persisted in, along with appropriate feeding, he would never counsel operation, no matter to what degree of exhaustion and weakness the infant should be reduced. If I read him aright, indeed, he would seem to regard exhaustion as a helpful factor in the stoppage of gastric spasm, and has found this last continue in many cases until the necessary degree of weakness has been attained. There are, then, evidently conflicting opinions amongst authorities as to the advisability of operation. The discrepancy is so great that one is tempted to ask, "Are the numerous cases in the practices of Hutchison and others that yield so readily to medical treatment of the same nature, or of the same severity, as those where operation is so often deemed necessary at Edinburgh and elsewhere?" We are fortunate in having our President here to throw light on this point.

Another query I would like to raise is as to the alleged frequency of the complaint. My own experience would lead me to regard it as extremely rare. That a large majority of the cases in Scotland and the North of England should fall under Thomson's care will surprise nobody, and his large number is easily accounted for. Under the circumstances, that he in the course of sixteen years has only met with 41 cases would seem to me confirmatory of my impression as to their rarity. Hutchison, however, writes that it is "probably very much commoner than is generally supposed," and he is "perfectly sure that any one who is capable of diagnosing it will meet with cases in his practice not very infrequently." If this be so, then many besides myself must be lacking in this diagnostic ability, notwithstanding that the signs of the complaint are sufficiently definite and characteristic. During the last dozen years I have only met with a single instance of it in the Shadwell Hospital, and the experience of my colleagues is no greater at that hospital than my own. The *post-mortem* records, too, at Shadwell lend no support to the view that it is in any way a frequent disorder, and, as far as I can gather, in a dozen years the only three necropsies made on cases of pyloric stenosis were on ones where a current diagnosis had been arrived at in the wards.

Most of the cases of functional neuroses in older children occur in the class possessing what is vaguely known as the "neurotic temperament." Prominent features of this "temperament" are undue excitability and emotionalism, and a proclivity to frequent rises of temperature from slight or not obvious causes. Excitability in the children referred to may materially interfere with appetite and sleep, and any slight pleasure or childish trouble leave them in a state of exhaustion accompanied by insomnia. Their heightened emotionalism is evidenced by a ready interchangeability of laughter and tears, and repeated transient attacks of slight facial twitching or difficulties with speech may occur, which may be the forerunners of a more pronounced and permanent habit-spasm or stammering in later years.

These few words sufficiently indicate the class of children with which we are all familiar. The class is, of course, an exceedingly numerous one, and it is only a small minority of it that ever become the subjects of definite neuroses, either in childhood or adult life. There is a smaller section of children of which the majority, in my opinion, eventually become the subjects of neuroses, and that is the one comprising children who have suffered from convulsions in infancy.

Many years ago Hughlings Jackson[7] pointed out the identity of the phenomena of infantile convulsions with those of an epileptic fit, and asked if it were likely that infants presenting such a marked disturbance from such slight causes as, say, the cutting of a tooth, were likely to pass through life without further nervous disturbances at times of stress or strain upon the nervous system. My experience would substantiate the relevancy of this query.

About twenty years back I made an inquiry into the after-histories of children who had suffered from convulsions in infancy, and found out of those who had reached the age at least of puberty, about 50 per cent. were the subjects of definite neuroses, beginning with epilepsy at one end, and habit-spasm or migraine at the other end of the scale.[8] Donkin[9] considers that my statistics should be discounted to a slight extent, inasmuch as that in some cases it was the late neurosis that led to the inquiry as to the convulsions in infancy; and the criticism is a valid one. On the other hand, a large proportion of my cases had just reached the age of puberty. Had the full life-history of such cases been obtainable, it is possible that the percentage with neuroses might have been considerably higher.

Rickets is another complaint which, in my opinion, is responsible for a certain number of neuroses in later life. Taken in its widest sense, it is a disease of malnutrition in which the brain suffers along with the bones and the rest of the tissues. The cerebral involvement is evidenced by the numerous nervous disorders associated with the disease. Now, the rachitic age is the time of the relatively greatest evolution and development of the infantile brain. It is not unnatural, then, to expect that interference with the cerebral nutrition at such a period, even when it stops short of the causation of convulsions, should occasionally lead to nervous manifestations in the near or distant future. Statistics as to the percentage of neurotic children that had suffered from rickets to the percentage of rachitic infants that develop neuroses are valueless, however, owing to the varying estimates as to what might fairly be deemed rickets in very numerous instances.

The first of the more definite neuroses of older children that I propose briefly to deal with is cyclic vomiting. It is generally described as a separate and distinct complaint, but I have never been able to satisfy myself that it is not merely a phase of migraine in young subjects. The main symptoms—headache, vomiting, and constipation, with or without some degree of pyrexia—are the same in both disorders, the only difference being that vomiting in the one, and headache in the other, assumes a greater prominence. The acetone and diacetic acid in the urine that were once supposed to be almost pathognomic of this special form of vomiting, have of late years been shown to be accompaniments of severe vomiting associated with other complaints. In a large percentage of children with cyclic vomiting there is a history of migraine in one or both parents, and migraine, it has been said, "breeds true." Others besides myself, moreover, have traced cases of cyclic vomiting into later years where it has been replaced by unmistakable migraine. The fatty changes in the liver and other *post-mortem* features that have been discovered in a few fatal cases of supposed cyclic vomiting engender a doubt as to

[7] Hughlings Jackson: *Reynolds's System of Medicine.*
[8] J. A. Coutts: Infantile Convulsions in Connexion with Later Neurotic Tendencies. *Trans. International Medical Congress*, Washington.
[9] H. B. Donkin: *Diseases of Children.*

whether they were in reality of such an innocent character. The beneficial effects of large doses of bicarbonate of sodium, both in the intervals between and during the attacks, cannot be regarded as specific to cyclic vomiting until they have been tried and failed in other allied neuroses. Other points of connexion between cyclic vomiting and migraine could be stated, but enough have been given for purposes of discussion.

Migraine proper, in the typical form it takes in adults, with the symptoms of which some of us are only too familiar from personal experience, only seldom occurs in childhood before the age of puberty. When it does occur pyrexia is often added to the main symptoms of headache and vomiting, a point to which Sir William Gowers[10] was the first to call attention. In spite of the infrequency of the adult type, migraine is common enough in children. In these young subjects it is characterized by recurrent periodic attacks of fever and drowsiness, the associated headache and vomiting being usually of only a subsidiary prominence. Such attacks are more frequent than is commonly supposed, owing to mothers being satisfied with ascribing them to that mysterious protean disorder, "biliousness," and deeming no further advice necessary regarding them. I know of two instances where migraine started in infancy, and where the symptoms in the first attacks not unnaturally caused grave anxiety. In each of these, after vomiting as an initial symptom, the infant passed into a state of profound stupor, accompanied by fever and irregular pulse. Such symptoms sufficiently resembled those of meningitis to justify alarm, and the mere rapidity of onset could not wholly negative the last complaint. The frequent repetition of similar attacks removed anxiety, and their true nature was revealed by their being superseded by unequivocal migraine in later years. Each of these infants, I may add, became the subject of migraine in its most pronounced and inveterate form. Attacks of profound stupor and pyrexia may, of course, usher in complaints, such as pneumonia, in young children, but the stupor in such cases is usually more prolonged than in those of migraine, and the diagnosis is only cleared up by the advent of other symptoms peculiar to the complaint.

Incontinence of urine is not an inspiriting theme, nor is it a complaint out of which the practitioner ordinarily gains much credit. It is, nevertheless, of high importance owing to the distress it often causes both the sufferer and his parents, and on account of the undeniable restraints it places on the former with regard to school life and social surroundings. A small percentage of cases, generally in girls, are incurable, owing to structural bladder defects. But in a large number of the purely functional cases the treatment is unsatisfactory and ineffectual. The list of drugs, headed by poisonous doses of belladonna and atropine, and the many other measures that have been advocated by way of treatment, only testify to the frequently inefficacious nature of most or all of them. We can, it is true, assure the parents that, with very rare exceptions, the complaint is ordinarily outgrown in the course of time, but such assurance is seldom received with any amount of enthusiasm, and the time occupied in the outgrowing is one of considerable misery to all concerned. Any treatment, then, based on reasonable grounds, and promising an improvement over the usual ones, will be given a ready trial by the profession. Many of us have, doubtless, seen a series of articles in the *Lancet* and elsewhere, by Dr. Leonard Williams,[11] where he claims to have achieved phenomenal success in the treatment of the disorder by thyroid extract. According to him, the subjects of urinary incontinence have usually subnormal temperatures, and in addition many of them have high arched palates, and are of defective height or weight. Varying combinations of these features are to Dr. Williams indications of some degree of thyroid inefficiency, and it is upon such a hypothesis that his treatment is based. He gives details of 25 cases, many of them of severe enuresis, both nocturnal and diurnal, in 24 of which the success of the thyroid treatment was immediate and complete. It is but just to state that Dr. Williams's views are put forward with a moderation that should ensure his mode of treatment a reasonable trial. If any present have already had the opportunity of testing this treatment, it would be of interest if they could give the meeting the results.

Incontinence of faeces need not detain us long, and in my opinion it can scarcely be classed as a functional neurosis. Apart from diseases affecting the spinal cord, such as Pott's disease, and very occasionally anterior poliomyelitis, mental defects, stone in the bladder, and local affections of the rectum, incontinence of faeces, in my experience at least, is almost invariably due to carelessness and inattention on the part of the child.

My remarks on lienteric diarrhoea need be equally brief. The complaint may occur in infants of later age and at any period of childhood, and I have found it almost as frequent in the adult as in the child. The textbooks write of arsenic as being almost a specific in the disorder, but in my hands this drug has frequently failed. Far more efficacious than arsenic I have found a mixture of bromide and bismuth, along with a well-fitting cummerbund to the abdomen, and a temporary limiting of the carbohydrates in the diet.

Some twelve years ago I wrote an article on night terrors[12] in which I pointed out that almost every writer on the complaint assigned a different cause for their occurrence. I further endeavoured to show that much of this want of agreement arose from a non-discrimination on the part of the writers between two distinct disorders arising during sleep, in which terror plays a conspicuous part. For the frequent and trivial one, which most of us have experienced both in childhood and adult age, I proposed the use of the very usual name of nightmare, and that the name "night terrors" should be restricted to a far less common disorder of some distinct clinical importance. As a cardinal point of distinction between the two, I suggested that in nightmare it was sufficient that the patient should merely "dream dreams," whilst in night terrors it was essential that he should "see visions." I have not a copy of my original paper by me, but I cull the other points of distinction I made from Dr. Leonard Guthrie's fascinating book on functional nervous disorders of childhood:

That night terrors seldom occur in children over 3 years of age, whilst nightmare may happen at any age.

That night terrors occur during the best of health, whilst nightmare attends chronic ill health.

That in the course of a night there is usually but a single attack of night terrors, although there may be several of nightmare.

That in night terrors there is a family history of neuroses, such as epilepsy, chorea, hysteria, etc. In nightmare there is no such history.

That infantile convulsions usually precede night terrors, but not nightmare.

That in night terrors the child seems wide awake, but is not so. He still sees the vision which has terrified him, and is unconscious of his surroundings. In nightmare he is wide awake, only partially demented by recollection of a troubled dream. He is fully conscious of the presence of others in the room.

In night terrors there is no recollection of the event, whereas in nightmare there is a perfect recollection and dread of recurrence.

In night terrors the nature of the vision never varies; in nightmare the objects of apprehension have generally been met in waking hours, and are not invariably the same.

I accept Dr. Guthrie's summary of the distinctions as substantially embodying those that I drew. The statement, however, that infantile convulsions *usually* precede night terrors does not convey my meaning; "not infrequently" instead of "usually" would have better expressed it. Whilst many authorities have accepted my views without reservation, others—like Drs. Guthrie[13] and J. Taylor[14]—consider that I have drawn too hard-and-fast a distinction between cases of night terrors and those of nightmare, and I have to admit there is force in their criticisms. Nearly all, at any rate, would seem to attribute a greater importance to the class of case to which I propose to restrict the name of "night terrors." The two may grade into one another, but the class of cases in which children "see visions" is, I would still contend, of greater gravity, both as regards the family histories and the possibility of

[10] Sir William Gowers: *Diseases of the Nervous System.*

[11] Leonard Williams: Adenoids, Nocturnal Enuresis, and the Thyroid Gland, *Lancet*, May 1st, 1909.

[12] J. A. Coutts: *American Journal of Medical Sciences*, February, 1905.

[13] Leonard Guthrie, loc. cit.

[14] James Taylor: *Nervous Diseases in Childhood and Early Life.*

future neuroses, than the one in which they merely "dream dreams."

The same distinction that I draw between night terrors and nightmare might equally be drawn between cases of ordinary talking during sleep and those for which I would suggest the term "somniloquism" should be restricted. Just as it happens occasionally to some of us to

Dream of the Devil and wake in a fright,

so still more frequently does it occur, if the testimony of others is reliable, that we talk in our sleep. Many children and adults, in sound bodily health and free from neurotic taint, do so habitually, and nothing is thought of it. But surely a distinction should be drawn between cases of a habit that is common to many of us, and the much rarer ones in which a child breaks off suddenly from sleep, sits up in bed, and holds long conversations with imaginary persons in the room, and though apparently wide awake, is totally unconscious of its surroundings. It is to this last class I would restrict the term "somniloquism," if there is any advantage in retaining it at all. All the distinguishing features of night terrors are common to it and "somniloquism"; in fact, the two complaints ordinarily occur in the same subjects.

The remaining subjects in my synopsis—tics, chorea, and hysteria—must sound a formidable trio to bring in at this stage of my paper. My intention, however, is merely to point out some errors that are occasionally made in discriminating between these complaints. The number of disorders grouped under the designation of "tics" is an exceedingly large one, but my few remarks will be confined to the variety known as simple tic or habit-spasm, where the involuntary movements characteristic of the whole group are confined to groups of muscles of the face or upper limb. It is now well known that habit-spasm often arises from a local exciting cause, but, nevertheless, I find it is a point that is frequently forgotten or neglected. The first step in treatment, then, should be a reliable examination of the eyes, ears, throat and teeth, etc., with a view to the discovery of such exciting cause and its amelioration. Until comparatively recent years habit-spasm was generally regarded as a phase of chorea, and Dr. Hutchison writes that there is no doubt the two disorders tend to pass into each other, a contingency of which my experience affords no instance, neither have I found frequent association of the complaint with rheumatism that others have discovered. The differential diagnosis between the complaint and chorea ordinarily presents no difficulty. Apart from differences in the character of the movements in the two complaints, chorea is never, for any length of time at least, restricted to any single group of muscles. In spite of this, one still meets with children with habit-spasm whose skins are pigmented and tongues silvered from a long course of arsenic administered under a mistaken diagnosis of chorea. The mistake may be a serious one, for a correct diagnosis is essential if the spasm is not to become inveterate and persistent into adult life.

Just as chorea is never restricted to a single group of muscles, so, I believe, it is never strictly unilateral. That it may be largely restricted to one side, of course, is true enough, but careful examination will always, in my experience, reveal some amount of movement in the other. Cases of supposed strictly unilateral chorea are, in my opinion, more correctly classed as hysterical tremor. I have known children treated for many weeks for unilateral chorea, without improvement, where encouragement, the confident prediction of improvement, and the judicious use of the battery have wrought recovery in as many days.

Another phase of the same complaint, in which a mistaken diagnosis is occasionally made, is hysterical palsy. In children this commonly takes the form of a monoplegia, usually of a leg. Here the flaccid, cold, and wasted condition of the limb, together with an absent knee-jerk, sufficiently closely resemble the results of an anterior poliomyelitis to render the mistake in diagnosis a not unnatural one. Now anterior poliomyelitis occurs in two well-marked clinical forms. In the one the paralysis is sudden in onset, is confined to one limb or a part of one, and is attended with no disturbance of the general health. This form of the complaint is restricted to infancy, and, is, perhaps, unknown at the age at which hysterical palsy is ordinarily seen. The onset, too, is more often gradual in hysterical palsy than sudden. The other form of anterior poliomyelitis, which is the only one seen in older children, but occurs, of course in infants as well, commences with marked constitutional disturbance, such as pyrexia, delirium, and occasionally convulsions. In the course of a few days the paralysis is widely spread over the body and limbs, and from this point recovery gradually sets in, but is never so complete but that one or more region is not left permanently disabled. There is no history corresponding to this in cases of hysterical palsy. Considerations such as these should serve to clearly differentiate between the last affection and either form of poliomyelitis, to say nothing of the assistance furnished by the electrical reactions and characteristic gait in the functional disorder.

There are other aspects of hysteria in children that I should have liked to briefly touch upon, but time compels me to forbear. I have only touched the fringes of the large subject of functional neuroses in children, and my selections have been based on controversial rather than any other grounds. If, however, there are no limits to the subject set me, there are to your patience, and I conclude with the hope that my disjointed remarks may lead to fruitful discussion.

DISCUSSION.

Dr. SHUTTLEWORTH (London), dealing with the psychic element in neuroses, said that his excuse for intervening in a discussion on functional neuroses in children was the fact that many neuroses were of *psychical* origin, at any rate in children of inherited neurotic temperament. Personally, he had much to do with children of this latter type, and had frequent opportunity of noting the interdependence of psychical and neurotic conditions. Emotional excitability was the characteristic of this class, and this was often combined with defect of control and judgement, and sometimes with an exuberant imagination. If twentieth century neurotics did not suffer so much from bogey tales served on them by injudicious nurses as did those of former years, the more romantic character of the children's books of to-day was perhaps responsible for some neuroses passing into psychoses. There was always a fear of morbid fancies of neurotic children becoming obsessions. Charles Lamb had given a pathetic account of how such obsessions of phantasies of the darkness embittered his boyhood, and some one had placed on record how a gigantic hand, the sign of a glover's shop, had haunted him, threatening to crush him in its grasp. He might quote one or two instances from his own experience:

The domination of a child's mind by morbid concepts issuing in insistent and strange fears, which have been generally classed as "phobias," is not uncommonly observed in nervous subjects. I have for some years had under my care a boy of neurotic antecedents, who at an early age exhibited a frantic terror of the bath, and more specially of bubbles arising therefrom when he was immersed therein. This he gradually overcame, only to manifest what I may call a cynophobia (or kunophobia)—that is, a most unreasoning fear of dogs, however gentle they might be. Intellectually—that is, educationally—he is not much behind the standard of his age, and gradually he has been induced by gentle methods to overcome his nervousness, and even to fondle an Aberdeen terrier who goes walks with my little pupils. Formerly he would scream and run away when he descried a dog a hundred yards away down the street, but he now passes any dog he meets without any sign of terror. This illustrates the mode of treatment of such cases—that is, to familiarize the child with the object which has terrified him, much as a shying horse is pacified by being led up to and allowed to sniff at and listen to a motor car which has affrighted him. The nervous tremors to which he was formerly subject are gradually subsiding.

"Night terrors" are but an exaggerated form of the same tendency, and full doses of bromide at bedtime are often of value in breaking the vicious habit of waking in a fright, due attention being also given to the removal of any cause of digestive irritation and of mental overstrain.

A curious phobia sometimes seen in children is what has been called "mysophobia"—that is, a morbid fear of soiling hands and dress, which causes anxious distress in the little patient, and may be compared with the hyperconscientiousness which one sometimes notices in pubescent girls.

The neurotic child, wrongly treated, tended to develop confirmed psychoses, and in many instances morbid obsessions, which made the poor child's life a misery. These might also lead to moral obliquity at puberty.

Mr. SYDNEY STEPHENSON (London), in discussing the necessity for correcting errors of refraction in some of the functional neuroses of children, said:

One phase of the functional nervous disorder known as "habit-spasm" falls not infrequently under the notice of those who practise ophthalmology.

A child, most frequently of from 5 to 12 years, who is almost invariably described by his mother as "nervous," is brought for advice on account of jerking movements of the eyelids, often accompanied by a drawing-up of the angle of the mouth. A less common manifestation is a trick of turning the eyes themselves suddenly upwards or downwards. These signs may, and often do, make up the sum total of the ailment. But there may be convulsive movements of the tip of the nose, the forehead, shoulders, arms, hands, or legs, and a tendency to make uncouth noises, variously described as "grunting," "clucking," "sniffling," or "hiccoughing."

It is widely recognized that the condition outlined above is little influenced by drugs, of which the favourites appear to be arsenic and the bromides. More is usually to be gained by taking the child from school and by sending him to the seaside or to the country.

Now the point I desire to emphasize about many of these cases, more particularly those in which blinking of the eyelids is the chief manifestation of the habit-spasm, is that correction of any error of refraction, no matter how trivial it may appear, will often check the "tic" as it is sometimes called. I have seen many instances of this sort, and have accordingly come to look upon the provision of spectacles as forming an essential part in the treatment of such cases. At the same time I am very far from asserting that a pair of glasses will cure every case of habit-spasm. My experience, however, amply warrants the claim that many cases are benefited by so simple a means.

In these cases the eye appears to form, as it were, the starting-point of a reflex irritation, which in a neuropathic child may determine the singular spasm under discussion. It is probable that almost any other source of peripheral irritation, such as inflammation of the conjunctiva, adenoids, worms, a decayed or painful tooth, or a tight and adherent prepuce, might have a similar effect in a child whose nervous system was in an excited and over-strung state.

In the following case the sequence of cause and effect was clearly shown:

CASE I.

Arthur K., a nervous and stuttering Jewish lad of 7 years, was brought on January 14th, 1902, because he was stated "to blink at night." The condition, which dated from an attack of conjunctivitis two years before, had become more marked lately. On examination, vision $\frac{6}{9}$ and No. 1 Jaeger. A drop of atropine placed in the eyes stopped the spasm as soon as the pupils were dilated. The refraction was found to be hypermetropic, with some astigmatism (plus 2.0 D. sph., with plus 0.5 D. cyl. axis 90 degrees), and glasses were ordered to be worn for all purposes. When the lad was seen a month later (February 15th, 1902) there was no habit-spasm. The glasses were then directed to be worn for reading alone. Some nine months later (November 28th, 1902), however, he was again brought, with the history that blinking had recurred during the last three days. The symptoms speedily disappeared when the glasses were again worn constantly. It was noted that the eyes were steady when the spectacles were in place, but spasm recurred the moment they were taken off. When last seen, on March 21st, 1903, there had been no recurrence.

The distinction between habit-spasm on the one hand, and incipient chorea on the other, is now and then more difficult than might at first sight appear. The points to which I am accustomed to attach the most importance are: (1) The repetition and localized nature of the convulsive movements; (2) the long duration of the symptoms without particular alteration; and (3) the cessation or reduction of the spasm as soon as accommodation is paralysed, as it can readily be, by placing a drop of atropine (or other cycloplegic) in the conjunctival sac. The following case is of interest because, until it fell under my care, it was considered by a most competent colleague to be an instance of chorea:

CASE II.

Charles L., aged 9 years, had been treated for chorea for four months before I saw him for the first time on September 4th, 1906. He was a sleepwalker, and was apt to talk about his school lessons in his sleep. He had suffered from night terrors. He showed blinking of the eyes, twitching of the nose, movements of the mouth, and shrugging of the shoulders. Upon examination, a drop of atropine placed in each eye stopped the spasms at once. The refraction was plus 1.5 D. sph., with 1.5 D. cyl. axis 90 degrees. Spectacles were prescribed for constant use. October 23rd, 1906. With glasses on, no blinking, which supervenes the moment they are removed. January 1st, 1907. Eyelids now steady, with or without glasses. January 23th, 1908. Recurrence of the twitching, which is said to be present even during sleep; atropine at once relieved the child of the symptom. August 25th, 1908. After a period of complete freedom the lad is now said to be blinking again. May 4th, 1909. The patient seldom blinks, although he is apt to do so when excited.

The following cases are taken almost haphazard from my notebooks:

CASE III.

Martha N., aged 12 years, was referred to me by Dr. George Carpenter on March 21st, 1902. Blinking was frequent, the eyeballs occasionally moved rapidly upwards, and the nostrils twitched. V. $\frac{6}{9}$ and No. 1 Jaeger. Under atropine: R. V. $\frac{6}{5}$, plus 1.0 D. sph., with plus 0.5 D. cyl. axis 180 degrees, $\frac{6}{5}$; L. V. $\frac{6}{5}$ plus 1.5 D. sph., with plus 0.5 D., cyl. axis 180 degrees, $\frac{6}{5}$. Spectacles for constant use were speedily followed by cessation of all the symptoms of habit-spasm.

CASE IV.

Edward K., aged 11 years, attended on March 28th, 1905. Since a severe attack of scarlet fever three years ago he has been affected with unsteady and blinking eyelids, and the condition is believed to be getting worse. The right is said to be more affected than the left eye. Movements of the lips have also been observed. The lad, who is in the fifth standard at a council school, is described as "fearfully nervous." His mother is in an asylum for the insane. On examination, R.V., $\frac{6}{9}$ and No. 1 Jaeger; L.V. $\frac{6}{9}$ and No. 1 Jaeger. On April 11th, 1905 (under atropine), R.V. $\frac{6}{5}$, minus 0.5 D. sph., with plus 2.5 D. cyl. axis 80 degrees $\frac{6}{5}$; L.V. $\frac{6}{9}$ plus 0.5 D. sph. axis 80 degrees $\frac{6}{9}$. On May 9th, 1905—that is, about a month later—the lad was stated to be much less "nervous," while the blinking was absent as long as the glasses were in place, but recurred, in modified form, as soon as they were taken off.

CASE V.

Hubert W., aged 11 years, first seen on March 22nd, 1904, on account of blinking of the eyelids, present for about six months. Child described as "very nervous." V. $\frac{6}{9}$. Under atropine, R.V. $\frac{6}{9}$ plus 0.50 D. sph., with plus 0.25 D. cyl. axis 90 degrees $\frac{6}{9}$; L.V. $\frac{6}{9}$ plus 0.25 D. cyl. axis 90 degrees $\frac{6}{9}$. Glasses were prescribed for constant use, and when the patient was seen on May 3rd, 1904, the habit-spasm had practically disappeared.

CASE VI.

Mary L., aged 9 years, seen at the Evelina Hospital, London, on September 3rd, 1907. The history was that she had commenced to twitch her fingers and hands three years ago, but the symptoms passed off without medical treatment. A year ago the face began to "twitter." She was described as a very excitable child. There was no history of rheumatism, and the heart sounds were normal. On examination, R.V. $\frac{6}{9}$ and No. 1 Jaeger; L.V. $\frac{6}{9}$ and No. 1 Jaeger. Under atropine, R.V. $\frac{6}{5}$ plus 1.5 D. $\frac{6}{5}$; L.V. $\frac{6}{5}$ plus 1.5 D. $\frac{6}{5}$. Fundi normal. Glasses (plus 1.0 D. sph.) were prescribed for constant wear. When seen on September 16th, 1907, the face was much steadier, and the improvement, according to the mother's statement, had set in as soon as the glasses were obtained. The child was last seen on January 5th, 1909—that is, about sixteen months after the glasses had been prescribed—and there was no blinking of the eyelids nor twitching of the face. The sight with glasses was $\frac{6}{9}$.

There would be no difficulty in multiplying the recital of cases in which, in my experience, spectacles have relieved habit-spasm, although no useful purpose could be served by doing so.

In conclusion, I may be permitted to lay some stress upon one or two points; the first of which is that children whose habit-spasm is relieved by glasses seldom complain of symptoms which point to eye-strain, such as would be likely to put the practitioner upon his guard. The difficulty is increased by the fact that the sight of such children is usually good, and on occasion may even exceed the ordinary standard ($\frac{6}{5}=1$). No dependence whatever should be attached to an estimation of refraction that has not been made when accommodation has been fully paralysed by the use of atropine. Lastly, the ametropia—invariably, in my experience, hypermetropia with or without astigmatism—should be almost fully corrected by glasses to be worn for every purpose.

DR. GEORGE CARPENTER (London), in discussing the difficulties of diagnosis, said that a point of considerable practical importance, and often of considerable difficulty,

was the separation of the organic from the functional. He narrated a case in which the difficulties were extreme, and in which the original diagnosis of a functional neurosis was incorrect.

A girl, aged 12 years, was admitted into hospital with hemiplegia, which was admitted by all to be functional. While under observation she developed amblyopia. This was pronounced by a well-known ophthalmic surgeon to be a case of functional amblyopia. She recovered under a normal regime.

Many months later she was again attacked in a similar way, and again recovered in due course.

Subsequently on a third occasion amblyopia recurred, and when she presented herself in the out-patient department it was found that there were then pronounced ocular symptoms, and it was then obvious that she had commencing optic atrophy, which negatived the original diagnosis. She was under observation for some eight years, and during this time she became more and more mentally defective, and finally died of syphilitic meningo-encephalitis.

Hypertrophic stenosis of the pylorus, in Dr. Carpenter's experience, was not common, and only five well-marked examples had come under his care. Personally he did not accept a diagnosis of hypertrophic stenosis of the pylorus unless the pylorus could be felt, and that was easy if the abdomen were examined thoroughly. One most important method was to grasp the whole of the abdominal contents between the thumb and forefinger, when the indurated and enlarged pylorus would be detected. Propulsive vomiting did not denote hypertrophic stenosis of the pylorus, and the retention of two or three feeds did not denote hypertrophic stenosis, whereas the detection of the tumour if neither of these symptoms was present was diagnostic. If propulsive vomiting and the retention of two or three feeds were taken to indicate hypertrophic stenosis of the pylorus, then Dr. Carpenter said he could claim a considerable experience of the disease and considerable success in its treatment, whereas the converse was the fact. These features did occur in some neurotic children, and they might or might not be due to pyloric spasm; they certainly had a functional basis, and dyspepsia was a prominent feature. Hypertrophic stenosis of the pylorus began to show symptoms when the mucous membrane of the stomach became swollen, and was a catarrhal stenosis implanted upon an organic basis, much as a swollen ureteral mucous membrane completed retention of urine in a case of organic urethral stenosis. In the specimens that he had seen the pylorus readily admitted a No. 4 catheter. The holding of water by the stomach did not denote the capacity for preventing the passage of food, because during life the conditions were very different. Surgical results had in his experience been unfortunate, whereas medical treatment had proved eminently successful. He was not in favour of surgical treatment in these cases, and he certainly should make a good trial of medical measures before seeking the assistance of the surgeon.

Dr. ESSEX WYNTER (London) dealt with the subject of treatment, and narrated the case of a girl of 17, at first to all appearance suffering from hemichorea. Complete hemianaesthesia supervened, causing the diagnosis to be modified to one of neuro-mimesis. He did not consider that cardiac lesions bore any essential relation to chorea, for both rheumatism and chorea were infantile complaints, and 50 per cent. of all cases of chorea had organic heart disease, and every one of these latter cases had had either rheumatic or scarlet fever. He would like again to draw attention to the great value of chloretone as a sedative for the cerebral cortex in neuroses, and especially in chorea. The routine use of this drug had reduced the time necessary for the suppression of choreic movements to an average period of nine days, and practical convalescence was assured in three weeks. He had found peeling of the hands and feet occasionally produced in patients while taking chloretone, and also an erythematous rash. That remedy was, however, not nearly so successful in the more chronic cases of chorea, while paralytic cases did not respond at all to it.

Alluding to nocturnal enuresis in children, he found that a great improvement might often be brought about in the course of a single week, without resorting to the use of any drug, by having the child waked at regular but gradually lengthening intervals from every two hours onwards.

Dr. J. W. SIMPSON (Edinburgh) discussed the question of pyloric stenosis. He said that having been associated with Dr. John Thomson for the last five or six years in the Sick Children's Hospital, Edinburgh, he had had an opportunity of seeing a number of his cases, and, from seeing these, could only agree with Dr. Coutts that, although a number of cases could be cured by medical means alone, there were a certain proportion that certainly required surgical interference. The difficulty seemed to be to know in what cases, and at what time, surgical means should be resorted to. Some cases with projectile vomiting and well-marked peristaltic waves, etc., were cured by medical means alone, and, on the other hand, other cases with the same type of symptoms went downhill quickly; and in the *post-mortem* room, when the condition of the pylorus was examined, it seemed impossible to believe that anything but surgical means could have been of any avail.

Dr. LESLIE said that he had first been struck by the value of chloretone for sea-sickness, but found it equally useful in the more acute cases of chorea. As a rule, patients taking it should keep to the recumbent position, or troublesome giddiness was apt to appear. In his experience of enuresis amongst boys in a large boarding school, and previous to that on a training ship, he had found a considerable improvement might be brought about by careful management, preventing any fluid being taken later than 6 p.m., waking the boys concerned periodically in the night, while amongst drugs he had found the fluid extract of *Rhus aromatica* the most valuable.

Dr. JOHN MCCAW (Belfast) thought true hypertrophic stenosis of the pylorus was anything but common in the neighbourhood of Belfast. He totally disagreed with Hutchison's dictum that all such cases were curable by medical treatment. He described one case in particular in which *post-mortem* examination showed a huge mass of hypertrophied tissues surrounding the pylorus and producing a stricture of it. In addition, as the result of forcible peristaltic efforts, the greatly hypertrophied mucous membrane of the stomach had produced a very perfect valvular closure of the pyloric aperture, quite impermeable to water *post mortem*. To all appearance such a condition could not be remedied except by surgical operation. The most successful medical regimen to be followed consisted in washing out the stomach periodically, rectal feeding combined with food not exceeding half a fluid ounce for a meal, along with warmth and a flannel binder round the epigastric region. He thought some cases of enuresis were quite incurable, and were associated with some degree of mental defect. Careful regulation of the diet often brought about some improvement, more particularly in the direction of limitation of the carbohydrates, whereby less acidity arose from fermentative causes. Another point of value in the treatment of such cases was to evacuate the rectum at bedtime rather than on rising.

Night terrors and nightmare were, he thought, hardly known in Ireland. At any rate, the onus of curing them was, by the medical profession there, largely thrown upon the parents, who received little sympathy from doctors in regard to them, as they were looked upon as largely due to faulty modes of bringing children up.

He did not think all cases of chorea were rheumatic in origin, but for those that were, sodium salicylate brought about as rapid a cure as any other line of treatment. In some cases it had no apparent effect.

Mr. HAROLD STILES (President of the Section) said that he was convinced that many cases which had been diagnosed as congenital hypertrophic stenosis were nothing more or less than cases of pyloric spasm without congenital hypertrophy, and that these were the cases which recovered under medical treatment. The spasm was no doubt generally secondary to gastric disturbances. It was now a well-recognized fact that pyloric spasm in adults often resulted from trouble in the appendix, and it was highly probable that it resulted in infants from intestinal as well as gastric irritation. Mr. Stiles said he

was equally convinced that cases of true congenital hypertrophic stenosis were rare; when they did occur the treatment was surgical, and should not be delayed until the infant was almost moribund. The high mortality with which the surgical treatment had been credited was due not so much to the operation itself as to the delay in performing it.

REPLY.

Dr. COUTTS, in replying on the discussion, said that he agreed with Dr. John Thomson, of Edinburgh, in believing that it was quite erroneous to look upon all cases of pyloric stenosis in infants as being curable by medical means. With regard to habit-spasms, such as facial twitching, nothing was more likely to lead to a cure than the discovery and removal of some local source of irritation about the teeth, the ears, or, as Mr. Stephenson had shown, about the eyes. Functional cases sometimes, as time went on, proved to have an organic basis. He agreed that chloretone up to a certain pitch often worked wonders in chorea, but it required very careful watching when the patient became stuporous, and this applied especially to cases in private practice. He had seen erythema frequently in patients taking chloretone. He differed from the view taken by Dr. Lees in treating cases of chorea with massive doses of sodium salicylate and bicarbonate. He did not think this plan safe, and found good results accrue with the same drugs in rheumatic cases, but using much smaller doses. He was convinced that rheumatism was not the only cause of chorea. He had tried limitation of carbohydrate diet in cases of enuresis without any apparent benefit following.

THE SURGERY OF INFANCY.

By JAMES H. NICOLL, M.B., C.M.Glasg.,

Surgeon, Western Infirmary; and to the Royal Hospital for Sick Children, Glasgow.

I DESIRE to bring forward certain views concerning surgical operations in infants and young children, and it may be well, in the first instance, to indicate the basis on which such conclusions as I have arrived at have taken shape.

As influencing my opinions, doubtless the experiences of some twenty years of private surgical practice, and of my wards in the Western Infirmary, have been factors; but I desire to found myself mainly on the out-patient practice of the Glasgow Royal Hospital for Sick Children, in which for some fifteen years I have been in charge of a clinic. During the past ten years (1899 to 1908 inclusive) the work in that clinic has included some 9,000 operations (strictly, 8,988), of which 7,392 have been performed by myself. They have embraced operations for many of the usual affections of childhood, which in a city such as Glasgow naturally include a large proportion of cases of surgical tuberculosis of bones, joints, and glands. Amongst others, however, there have been 510 operations for talipes (tarsectomy, tarsotomy, astragalectomy, and tendon operations); 406 for hare-lip and cleft palate; 36 for spina bifida; 23 for depressed birth fracture of skull; 18 for congenital stenosis of pylorus; 167 for mastoid empyema; 143 for ligature or resection of internal jugular vein in course of radical mastoid operation or excision of cervical glands; and 220 for hernia, inguinal, umbilical, and ovarian (during the past five years only).

As bearing on the conclusions come to, it may be noted (1) that all the 8,988 cases were treated as out-patients after operation, and (2) that nearly one-half of them were children under 3 years of age, a large proportion of them being infants of under a year. Certain series of the cases have been from time to time published as bearing on special subjects, and, in connexion with spina bifida and hydrocephalus, birth fracture of skull, hernia of ovary, pyloric stenosis, ligature of jugular, etc., will be found in the BRITISH MEDICAL JOURNAL, *Annals of Surgery*, *Glasgow Medical Journal*, *Edinburgh Medical Journal*, and other periodicals.

The conclusions to which experience of these cases has led are mainly five; and if I put them in the form of pleas rather than of opinions, it is not that I doubt their soundness, but that I have found adverse criticism not wanting, though less pronounced of late. They are as follows:

I.

That a much larger share of the operative work of a children's hospital than is even now so treated should be done in the out-patient department. In the light of the results obtained at the Glasgow Children's Hospital I have no alternative to the opinion that the treatment of a large number of the cases at present treated indoor constitutes a waste of the resources of a children's hospital or a children's ward. The results obtained in the out-patient department at a tithe of the cost are equally good. Discrimination in the choice of cases for out-patient operative treatment is, of course, necessary. Certain cases are unsuitable. As a rule, the unsuitable cases are found amongst children as opposed to infants. A few instances in illustration must suffice. Osteotomy for rachitic bones, and excision of the knee and hip for tuberculous arthritis are inadmissible as out-patient operations. Both classes of operation belong to childhood, not to infancy. Cleft-palate operations in suckling infants do well as out-patients, but the child of 3 or 4 must go into the wards, where care can be taken to prevent his putting hard edibles into his mouth.

II.

That the cases relegated to the out-patient operating theatre should be largely infants and young children. I express deliberately an opinion which I believe to be well founded when I say that in children under 2 years of age there are few operations indeed which cannot be as advantageously carried out in the out-patient department as in the wards, and that, while the number increases with each year, the increase is not great until the age of 5 is reached. Infants and young children in a ward are noisy, and not infrequently malodorous. The main idea in their admission is the supposed benefit of "trained" nursing. That benefit is largely wasted on them. In the case, for instance, of a child of 18 months after herniotomy or abdominal section, the idea that in hospital he is kept lying quietly on his back largely obtains. Further, if he will not lie quietly he may be fixed on a splint. My experience has been that more often than not he is "all over the bed" directly the nurse's back has been turned on him, and that, if "splinted," his crying and struggling put fresh strain on the sutures. Continuous quiet rest on the back on the part of a young child in pain is a pretty idea, rarely obtainable, and not specially necessary after such operations. After operation in the out-patient room, such young children, with their wounds closed by collodion or rubber plaster, are easily carried home in their mothers' arms, and rest there more quietly, on the whole, than anywhere else. They are visited at home by the hospital sisters and brought back to have the dressing removed at the end of a week or ten days. And I go as far as to say that, with a mother of average intelligence, assisted by advice from the hospital sister, the child fares better than in hospital.

III.

That suckilings and young infants should remain with their mothers after operation. To add to a surgical illness, necessitating operation, the ordeal of weaning is largely to increase the chances of a fatal issue, more particularly in acute cases, in which, to apply the term "weaning" at all to the sudden separation of the child from mother is to largely deprive it of significance. Even when the child is "bottle-fed" separation from the mother is often harmful.

For seven years I have had a small house, near the Glasgow Children's Hospital, for the accommodation of young infants and their mothers. The mothers are catered for, and themselves nurse their infants. My experience of the cases so treated has been such as to make me confident in the opinion that no children's hospital can be considered complete which has not, in the hospital itself or hard by, accommodation for a certain number of nursing mothers whose infants require operation.

The foregoing opinions have reference to the practice of surgery in the cases of children. Working in a children's clinic on the lines indicated, I find that I have gradually formed two further opinions which bear on the practice of surgery in general, and which opinions have been formed by others from other points of view of the subject.

IV.

It has not surprised me to learn of late that many of our leading surgeons in this country and abroad do not prepare the part for operation until the patient is actually under anæsthetics on the table. In a children's out-patient clinic preliminary preparation of the skin is impracticable, and our experience in my clinic at the Glasgow Hospital proves that it is superfluous. If I retain it in my wards in the Western Infirmary it is solely on account of the one advantage it possesses. With all its disadvantages, preliminary preparation of the skin of the part presents the advantage of the saving of time under the anæsthetic, and that advantage is considerably greater in adults than in children. In the adult the surfaces to be cleansed are comparatively large, and, especially in males, require the use of the razor in many parts of the body besides the scalp, and a good deal of time may be necessary. In the child cleansing of the part is very speedily performed.

V.

Experience of herniotomy, abdominal section, and other operations in young children treated as out-patients is gradually reconciling me to the view that we keep similar cases in adults too long in bed, and in my wards in the Western Infirmary we are gradually feeling our way to an average recumbent period of something under a week; how much under we have not yet quite decided.

DISCUSSION.

The PRESIDENT OF THE SECTION (Mr. H. J. Stiles) agreed with Mr. Nicoll on very many points laid down by him, but did not consider it justifiable to treat hernia patients after operations for hernia as out-patients.

Mr. ROBERT CAMPBELL (Belfast) said that he was in entire agreement with Mr. Nicoll as regards operation on children who could be easily carried home by the mother. He was in the habit of operating in the out-patient department on hernia cases.

Dr. J. W. SIMPSON (Edinburgh) said that Mr. Nicoll's statement that after certain operations, if an infant could be treated as an out-patient, it was preferable to treating the same class of case in the hospital, raised the question of the advisability of as far as possible having infants under the care of the mother. Certainly, at least in medical cases in which the feeding was of the first importance, experience proved that, provided the mother was intelligent, it was much better to treat such cases as out-patients. Frequently, when under hospital care, these cases did badly; if sent out and carefully tended by the mother—the same dieting being carried out—they at once put on weight. As the question of feeding must be considered in all cases, he was disposed to agree with Mr. Nicoll that, as far as possible, infants should be treated as out-patients.

Mr. A. FULLERTON (Belfast) said that most of what Mr. Nicoll and the previous speakers had said accorded with his own practice to a large extent, but he drew attention to the medico-legal aspects of the question. Supposing, for instance, he had operated on a case of hernia in the out-patient theatre, and that child died from sepsis or other cause, a little awkwardness might arise with a jury, especially if a medical man called to see the case made the statement that the child ought to have been kept in hospital. With the authority, however, of such well-known surgeons as Mr. Nicoll, Mr. Stiles, and Mr. Campbell, he was sure more work would be done in the out-patient theatre, and he was also sure that the benefit of children's hospitals would be much extended thereby.

Mr. E. SCOTT CARMICHAEL (Edinburgh) said that he had had uniformly good results by following lines similar to what Mr. Nicoll had laid down with regard to operative treatment of infants.

Mr. R. C. DUN (Liverpool) said that on the whole he agreed with the views expressed by Mr. Nicoll.

Mr. ALEX. MACLENNAN (Glasgow) said with reference to radical operations for hernia there was no reason, as far as asepsis was concerned, why an operation done in an out-patient theatre should not be as safe as that done in the in-patient theatre. The risk of movement afterwards was much less than the risk from retching, coughing, or sneezing, all of which were as likely to be a sequence in the one as in the other case. Soiling of the wound at home could be prevented by an impervious dressing, and in any case the child soiled itself as much in a hospital bed as in a bed at home. The operation was so simple as to be practically without risk, and could be advantageously performed from birth onwards.

Mr. G. H. EDINGTON (Glasgow) detailed the after-treatment of operated cases of hernia in infants, and strongly advocated the application of a wet paste consisting of iodoform and carbolic lotion to the operation wound followed by a layer of gauze, which served to abstract the fluid, a dry antiseptic covering resulting. From experience amongst the poor he was certain the child would often have to share the family bed with the parents and other children, even in infectious diseases.

MYXOSARCOMA OF THE PROSTATE IN A CHILD.

By G. H. EDINGTON, M.D., C.M., F.F.P.S.,
Professor of Surgery, Anderson's College Medical School: Assistant Surgeon, Western Infirmary; and Extra Honorary Surgeon, Royal Hospital for Sick Children, Glasgow.

THE case which forms the subject of this communication came under observation only when the trouble was far advanced. It does not, therefore, help much towards the early diagnosis of the condition; but it is an example of what may occur in the late stages of this rare affection of the prostate.

Douglas R., aged 1 year and 9 months, was admitted to the Royal Hospital for Sick Children on March 3rd, 1907, on account of retention of urine of a few days' duration.

History.

The child had been out of sorts for more than a year previously, and four weeks before admission had sustained a greenstick fracture of the right forearm as the result of falling on the hand. At that time the penis was observed to be "inflamed," especially at the foreskin, and he complained of pain on micturition.

About a week to ten days later the urine began to dribble away, the abdomen became swollen, and the patient ceased to be able to walk. One week before admission the left leg became swollen and remained so. Two days later a doctor passed a catheter and drew off a "bowlful" of urine. This was repeated daily, and between the acts of catheterization the urine dribbled away day and night.

Condition on Admission.

The child, who was markedly rachitic, was restless and looked ill. The temperature was 102° F., the pulse 144, the respirations 60 and laboured. There was pain in the lower half of the abdomen, and he was continually putting his hand there and crying.

The abdomen was swollen generally, but markedly in the hypogastrium. Between the umbilicus and the pubes was a mass which on palpation felt firm, more tense than a distended bladder usually is, tender, smooth, and immovable, and dull on percussion. Examination by the rectum showed that the mass occupied the pelvic cavity in front of the bowel. It was firm, resistant, and smooth, and the finger could be swept all round it except anteriorly; it was also tender. There was slight reddening of the glans and foreskin. The left thigh and knee were oedematous.

On March 4th the temperature was 101.2° F., the pulse 140, and the respirations 48. A No. 3 catheter was introduced with difficulty and half an ounce of urine drawn off. The urine was pale, acid in reaction, and of sp. gr. 1012. It contained a distinct amount of blood and albumen, but no sugar. On standing there was a white deposit of pus. The microscope showed many streptococci and some large staphylococci.

On March 5th the general condition was worse and he had taken food badly. The urine was similar to the specimen of the previous day, but alkaline. In the evening he was anæsthetized with chloroform for the purpose of further examination and of operation, if advisable, but he died on the table before anything operative had been done.

Immediately after death a silver catheter was passed, and a quantity of decomposing urine was drawn off. This was followed by disappearance of the *upper* part of the swelling. A mass was, however, still palpable above the pubes and also by the finger in the rectum.

Pathological Report by Dr. Findlay.

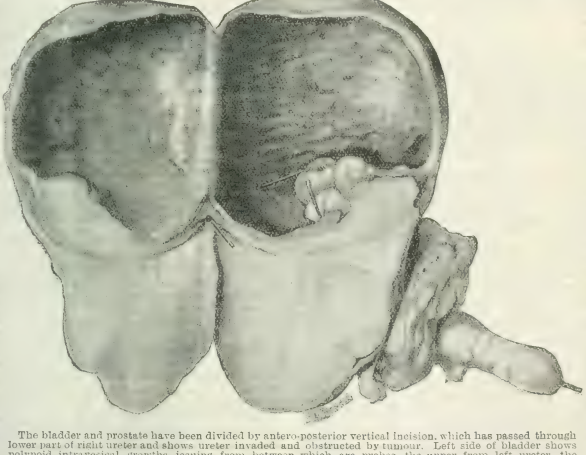
The urinary organs, removed *post mortem*, after having been hardened in formalin, were submitted to Dr. Leonard Findlay for examination.

Situated in the region of the prostate and adherent to the base of the bladder is an ovoid and slightly nodulated and firm tumour mass, which measures in its long axis 2 in., and the same traversely. Extending from this tumour upwards on either side of the bladder is a chain of enlarged and firm lymphatic glands. Both ureters are much dilated.

The kidneys are pale and firm, and show a slight degree of hydronephrosis.

The relationships of the tumour are more clearly demonstrated after making a vertical incision through the bladder and tumour a little to the right of the middle line. (See figure.) It has a pyramidal shape, with the base towards the bladder, and the fresh surface has a pale, myxomatous appearance. The tumour infiltrates the floor of the bladder and sprouts from the trigone and anterior wall as polypi, which completely obscure the urethral and ureteral orifices, which are thus, so to speak, ball-valved. The mucous membrane of the bladder and surface of the polypi are markedly hyperæmic. Both the left ureter and the urethra are patent, though their orifices are covered by the polypi; but the right ureter, as it passes through the bladder wall, is incorporated in the tumour, and completely blocked by new growth. The bladder is dilated, and its wall is hypertrophied.

Histological examination of different portions of the tumour, including the polypoid masses sprouting from the floor of the bladder, reveals a typical sarcoma showing much myxomatous degeneration. For the most part the cells are spindles; but, in addition, there are numerous irregularly rounded cells with occasionally two nuclei. Throughout, muscle-cell nuclei in various states of preservation are here and there visible. At that portion of the bladder wall intervening between the main tumour mass and the polypi the muscle bundles are much split up, separated and atrophied by the infiltration of the sarcomatous tumour growth. Occasionally, remnants of the tubular prostatic ducts are visible. On microscopic examination of the enlarged lymph glands it is found that they are almost entirely replaced by a myxosarcomatous tissue, there being left only a mere shell of adenoid tissue. The kidneys show a fairly marked chronic interstitial cirrhotic change.



The bladder and prostate have been divided by antero-posterior vertical incision, which has passed through lower part of right ureter and shows ureter invaded and obstructed by tumour. Left side of bladder shows polypoid intravesical growths, issuing from between which are probes, the upper from left ureter, the lower from urethra. The sawn surface of the right pubic bone is seen in front of the prostatic mass.

On considering the history of the above case, we find that attention was only directed to the genito-urinary organs at the time when the child met with the accident to the forearm. At that time—four weeks before admission to hospital—it was observed that there was "inflammation" of the foreskin and pain on micturition. The next sign of urinary trouble—namely, dribbling—occurred seven to ten days later, and it was accompanied by swelling of the abdomen. Following this came swelling of the left lower limb, and it was only after this that catheterization was employed and proved the occurrence of retention of urine. Feverishness and malaise ensued.

In children simple balano-posthitis is comparatively common, and it is not to be wondered at that the grave state of matters in the prostate escaped attention. But when dribbling of urine and swelling of the abdomen occur together, the question of retention with overflow incontinence arises, and should lead to examination of the urethra and bladder. (It was not, however, till after swelling of the thigh had occurred that the catheter was passed demonstrating retention of urine.) Next, there is the history of constant *dribbling between the times of catheterization*. This, if true, would point to some implication of the musculature at the neck of the bladder; but it is difficult to believe in the accuracy of this part of the history in face of the occurrence of retention, which rather points to obstruction at the outlet of the bladder. Oedema of the thigh, taken along with retention of urine, would suggest some intrapelvic condition in which obstruction of lymphatics would be due to the agent causing retention. The demonstration of the intrapelvic condition would fall to be made by rectal examination; this, as mentioned above, gave us a tolerably clear explanation of the symptoms.

The size of the mass, as determined by physical examination during life, and by subsequent inspection of the specimen, showed that, even allowing for great rapidity of growth, the tumour must have existed for some time before the symptoms and signs became sufficiently clamant to attract attention. But with the onset of retention, and sepsis following catheterization, there was a speedy change for the worse, and it is questionable if life would have been much prolonged. While the bulk of the tumour might have caused retention, I had no difficulty in passing a catheter, and I believe that the obstruction was mainly, if not entirely, due to ball-valve action of the polypoid intravesical portions of the growth.

The literature is rather scanty. The subject is just mentioned in many of the textbooks on general surgery; while even in books on genito-urinary diseases the descriptions are not very full. The general opinion seems to be that sarcoma of the prostate is rare; but Dr. C. A. Powers, of Denver, in a recent communication,[1] gives over a hundred references. He states, however, that he has only found descriptions of 22 cases, besides his own, in which the nature of the growth was microscopically proved. As the result of his analysis of these 23 cases, he finds that 13 were under the age of 15 years, that the most frequent variety of tumour was the small round-celled (8 cases), myxosarcoma occurring in but 3 cases; and that urinary urgency is not generally present in the early stages.

Bland-Sutton[2] states that "there is rarely any suspicion of trouble until the urethra becomes obstructed." He figures a specimen[3] in which the cause of obstruction was a "bud-like process" of the tumour, which valved the vesical orifice of the urethra. Walsham[4] describes a specimen where the whole of the prostate was occupied by a large soft sarcoma "parts of which project into the cavity of the bladder in the form of pedunculated growths of varying size."

Caspar[5] states that prostatic sarcoma in childhood is "first discovered when retention of urine develops suddenly and without apparent cause. If these little patients be examined a tumour of considerable size will be found."

SUMMARY.

The main points which this case illustrates are (1) the early age of the patient; (2) the short duration of symptoms, which at the beginning were not apparently of serious

import; (3) the large size of the tumour—palpable above the pubes as well as per rectum, when the patient first came under observation; (4) the polypoid growths within the bladder causing retention of urine and partial obstruction of one ureter and the invasion and complete obstruction of the other ureter by the tumour; (5) the infection of the neighbouring lymphatic glands, causing œdema of one thigh; and (6) the comparatively uncommon histological character of the tumour.

When the above points, with the exception of No. 6, are taken along with what one finds in the literature of the subject, it is seen that we have here a typical example of the condition now under consideration.

The case occurred in Mr. R. H. Parry's Clinic at the Royal Hospital for Sick Children, Glasgow, and I wish to record my indebtedness to him for permission to publish the above particulars. I am indebted also to another colleague, Dr. Leonard Findlay, for the care with which he examined and reported upon the specimen.

REFERENCES.

[1] *Transactions of the American Surgical Association*, vol. xxv. Philadelphia, 1907, p. 213 et seq. [2] *Tumours, Innocent and Malignant*, Fourth edition. London, 1906, p. 101. [3] Loc. cit., p. 102. [4] *Handbook of Surgical Pathology*. Third edition. Edited by Herbert J. Paterson. London, 1904, p. 458. [5] *Textbook of Genito-urinary Diseases*. Translated by C. W. Bonney, London, 1906, p. 375.

DISCUSSION.

Mr. D'ARCY POWER drew attention to the remarkable analogy which existed between Dr. Edington's most interesting case of sarcoma of the prostate in a boy and the better known cases of polypoid sarcoma of the vagina and bladder occurring in infant girls. He thought that the specimen opened up a wide question as to the exact origin of polypoid sarcomata of the genito-urinary tract in very young children.

Mr. E. SCOTT CARMICHAEL (Edinburgh) narrated a case under his own care similar to that reported by Dr. Edington; it proved to be a round-celled sarcoma.

Mr. CAMPBELL stated that his colleague Mr. Fullerton and himself had had under their care a boy, aged 4 years, who was affected in a similar way to Dr. Edington's patient. The bladder was opened above the pubes, and a tumour the size of a Tangerine orange was easily enucleated from the prostatic region. The child remained perfectly well for seven months, when retention again occurred. A suprapubic fistula was formed, and the growth was found to have spread widely in the submucous tissue. Eventually the tumour fungated through the opening, and became twice as large as the child's head before death took place many weeks afterwards from septic infection of the ureters and kidneys.

Mr. ANDREW FULLERTON (Belfast) drew attention to a method of examining the interior of the bladder in young children in whom the passage of even a small cystoscope along the urethra was impossible. If a small opening were made into the urethra from the perineum a good-sized cystoscope could be introduced and a good view of the bladder obtained. In the cases described by previous speakers no mention was made of any examination of the interior of the bladder having been made.

THE PRESIDENT OF THE SECTION described a case similar to that recorded by Dr. Edington. The tumour and urinary bladder were removed and the ureters transplanted. The child, however, died a few days after operation.

PNEUMOCOCCAL PERITONITIS: A STUDY OF TWENTY CASES.

By E. SCOTT CARMICHAEL, M.B., F.R.C.S.E.,

Assistant Surgeon, Royal Hospital for Sick Children, Edinburgh.

THE apparently increasing frequency with which this condition is observed is shown by the fact that of all cases of general peritonitis treated in a children's hospital from 5 to 10 per cent. are due to pneumococcal infection. This is a percentage in the child evidently larger than in the adult.

The predominance in the female sex is acknowledged by most observers, but in a former communication on this subject, of 11 cases reported, 7 occurred in boys and 4 in girls.

Since that paper was published, 8 cases have been operated upon by Mr. Stiles and myself, of whom 7 were girls; 1 case (a girl) occurring in private practice may be added, giving a total of 20 cases.

The number during the year is, on an average, 4 or 5, and they apparently occur more frequently during the summer months than at any other period.

The source of infection is not always easy to determine, and is still disputed, though in many cases there is a definite pulmonary lesion, but it seems unlikely that any predominance in the female sex is due to infection from the pelvic organs, as the primary lesion in the chest seems to point to secondary peritonitis by a blood or bowel infection.

That this is so seems to be borne out by observations on recent cases. Annand and Bower report altogether 91 cases in literature in children under 15 in 1906, and to these they have added records of 16 others.

The more thorough examination of abdominal fluids leads to these cases being recognized more frequently than formerly. They occur in groups, and are frequently present during epidemics of pneumonia and joint affections. Three of the above cases occurred during one week, and recently I saw two cases on consecutive days.

The cases may be divided into three groups:

1. Those in which a pulmonary condition is predominant and the peritoneum becomes affected later.

2. Those in which a pulmonary condition is clinically absent and general peritonitis the only manifestation.

3. Those in which there is pneumococcal septicæmia, usually rapidly fatal.

MODE OF INFECTION.

I think the mode of infection may be through one of three channels.

1. By spread from the uterus and Fallopian tubes.

2. By blood infection or by transmission through the diaphragm.

3. By ingestion and direct transmission through the diaphragm.

It is difficult to believe that infection occurs by way of the Fallopian tube. In none of these cases was there evidence of local vaginitis, which one would expect if the infection spread up from below, as an analogous condition due to the gonococcus is associated with definite gonococcal vaginitis. Again, this condition is by no means confined to the female sex, as 8 out of the 21 cases occurred in boys. In 6 of the cases there was a definite lesion in the lungs, so that the genital organs were not the source of infection in them. No definite pathological support has been adduced to this view.

Blood infection would appear to be more probable in these cases, as considerable clinical and experimental evidence has been brought forward to show the presence of pneumococci in the blood. Thus, Ewing has grown pneumococci from the blood in every case of pneumonia. This fact might at first sight seem to favour the blood infection theory, but if the peritoneum and other serous membranes are liable to blood infection, one would expect it to occur much more frequently in a condition in which the blood always contains pneumococci, so that this observation of Ewing's seems to be rather opposed to a blood infection. Again, if the peritoneum were infected by the blood stream, one would expect joint and other complications to be more frequent in pneumonia.

A study of the present series of cases seems to me very much rather to favour direct peritoneal infection from the intestinal tract.

We have experimental evidence in favour of this in that Jensen has fed rabbits and mice on pneumococci and produced fatal peritonitis, the intestine being injected and the lymphoid tissue markedly congested. Some of the most distinctive symptoms of the disease are those referable to gastro-enteritis.

If we consider the last 9 in the above series of cases 8 have been girls, whereas, as previously pointed out, in the first series the male sex predominated. Again, of these 9, 7 occurred between the ages of 5 and 7, during the period of second dentition.

GASTRO-INTESTINAL SYMPTOMS.

Vomiting was present in all these cases, generally coming on suddenly. In some cases there was severe retching, simulating severe gastritis. In 1 case where this symptom was markedly present, coming on after eating bananas, the child died in thirty-six hours of pneumococcal septicaemia; pneumococcal peritonitis was present, and the toxaemia was so severe that the patient died before clinical symptoms of peritonitis became obvious.

Diarrhoea was severe in 2 cases and slight in 1: this symptom is said to be more frequently present.

PATHOLOGICAL CHANGES IN ABDOMEN.

The symptoms resemble those of acute general peritonitis following acute appendicitis, and are often indistinguishable therefrom, except that the pain is not infrequently most severe on the left side. Under an anaesthetic the probable nature of the condition is to be suspected in the absence of any swelling or thickening in the appendix region, so that in persons under puberty with general peritonitis, with acute symptoms and marked gastro-intestinal disturbances, the infection in 90 per cent. will probably be pneumococcal if the appendix is excluded. I have had 2 cases of primary streptococcal peritonitis during the same period as these 20 cases, and 1 case of mixed coli and leptothrix peritonitis.

On opening the abdomen the diagnosis can be surmised by two characteristics—the entire want of odour of the fluid in the peritoneal cavity and the characters of the fluid. The want of odour is characteristic in all cases, but the appearance of the fluid varies considerably.

If we take the most acute condition, as seen in cases of septicaemia with death within forty-eight hours, the fluid is thin and watery, often rather sticky, and microscopically contains a large number of pneumococci.

Later it becomes more straw-green in colour, or even brownish and thick, resembling in one case cream or fluid seen in a pneumococcal empyema. In the earlier cases there are often flakes of lymph in the fluid.

The pus, when thick and creamy, is generally very copious, filling the abdomen like a marked ascites.

We have had two cases of encysted pneumococcal abscess in which the pus was almost indistinguishable from the tuberculous abscess of tabes mesenterica. But it is generally due to a mild infection, and the child, when seen, is emaciated, resembling one suffering from tuberculous peritonitis.

PULMONARY AFFECTIONS.

Pulmonary disease was present in 6 cases; in 4 cases it preceded the peritonitis, and in 2 followed (pneumonia and empyema). Cases associated with lung disease run a more favourable course; 5 out of the 6 recovered, and the one that died was an example of septicaemia with pleural and pericardial effusion and commencing pneumonia.

The diagnosis between pneumonia and early pneumococcal peritonitis is in some cases not easy, and I am not at all sure that there is not a mild pneumococcal peritonitis in a considerable percentage of lung affections.

PROGNOSIS.

This is grave. Of the 20 cases above recorded 7 died, giving a mortality of 35 per cent. Of the deaths 2 occurred in patients with acute pneumococcal septicaemia; in 4 there was apparently primarily pneumococcal peritonitis, but no definite lung lesion was to be found; 1 had definite early pneumonia.

Of the remaining 13 cases which survived, there was definite pulmonary lesion in 5, so that the presence of pneumonia or pleurisy in these cases would seem to justify a more favourable prognosis.

TREATMENT.

This has, especially in the recent cases, been carried out according to the teachings of Murphy, and the more I see of his method the more am I inclined to interfere as little as possible after getting free drainage.

DISCUSSION.

Mr. D'ARCY POWER congratulated Mr. Carmichael on his communication, and stated that his own cases substantiated the conclusions at which he had arrived. As the result of a routine bacteriological examination in all cases of acute inflammation, the general term of "tuberculous disease" was becoming classified into its proper forms of pneumococcal, streptococcal, staphylococcal, etc., with appropriate subsequent treatment.

Mr. ROBERT CAMPBELL (Belfast) said that he was interested to hear that Mr. Carmichael did not consider that there was much in favour of the vaginal route of infection. Mr. Campbell had had one case in which the peritonitis was confined to the sac of a left inguinal hernia, but there was no other evidence that the infection had taken place by the vagina.

EARLY RADICAL OPERATION IN EXOMPHALOS.

By MAYNARD SMITH, M.B., B.S.Lond., F.R.C.S.,
Surgeon to Out-patients, St. Mary's Hospital: Senior Assistant Surgeon, Victoria Hospital for Children.

MANY names have been applied to this congenital malformation. It is perhaps most frequently known as "congenital hernia of the umbilical cord," a name which gives a somewhat false idea of its etiology. The condition is, in fact, one of ectopia rather than hernia, the viscera contained in the ventral protrusion never becoming included in the abdominal cavity, but remaining outside that cavity owing to the failure of the abdominal wall to meet and fuse in the ventral median line. That it is a rare condition may be inferred from the figures given by various writers. Thus, W. B. Coley records that it was seen 4 times only in 75,000 cases of hernia.

At the end of the second month of fetal life the intestines are not enclosed within the abdominal walls. During the third month of fetal life the intestines gradually recede within the abdominal cavity, and the plates of the abdominal walls close over them; this fusion should be complete by the end of the third month, and the umbilicus is closed in the sense that it no longer gives passage to viscera. This process of closure of the abdominal walls anteriorly may be interrupted at any stage, and according to the period at which the interruption takes place different degrees of malformation are met with.

The following classification has been suggested, and, though artificial, it is useful for descriptive purposes:

1. There is a well-formed umbilical cord, which is noticed, however, to be unduly thick at its abdominal termination. This thickening is due to the fact that there is a prolongation of the peritoneal cavity into the cord for an inch or so, and into this sac protrudes a coil of small intestine, or in some cases a Meckel's diverticulum. In the latter event the diverticulum may be adherent to the interior of the apex of the sac, but, apart from this complication, the sac contents are, as a rule, readily reducible. This variety may easily be overlooked; when the cord is tied the knuckle of bowel may be included in the ligature, and perforation result, leading to peritonitis; in a few cases adhesions may form in time to shut off the peritoneal cavity, and a faecal fistula develops.

2. There is a moderate-sized protrusion of a sacculated nature at the navel. The cord arises from the summit of the hernia, usually somewhat below the centre, and not infrequently to the right or left side of the middle line. Such a sac contains, as a rule, intestine only, the lower ileum most often, but in many cases the caecum also, these being the last portions of the alimentary canal to recede into the abdominal cavity in the process of development. It has long been known, however, that other viscera may be found in the sac. The liver is that most frequently met with after the intestine. Macready gives the following figures:

In 47 cases—Intestine alone, 28
Liver and intestine, 9
Liver alone, 10.

The spleen (P. Mouton), left kidney, and part of uterus (Jacobus), and the stomach have also been recorded as being present in congenital umbilical hernias.

3. In this variety the pedunculated sac described above does not exist, but there is absence of a greater or lesser portion of the abdominal wall, which is replaced by a transparent membrane. This condition is known as

ectopia viscerum, or eventration. Sometimes the cleft extends from the ensiform to the pubes, sometimes it is more limited in extent. Sometimes it is mesially placed, sometimes the deficiency is to one or other side of the middle line. The cord is attached, as a rule, somewhere on the surface of the transparent membrane; but at times it has completely failed to develop, the placenta itself forming part of the structures which are completing the abdominal cavity in front. It will be clear that in many cases this condition must be incompatible with life. Rupture of the sac may take place either before or during delivery. Defects in the development of the intestines, particularly of the large bowel, are found in many of these cases, whilst associated deformities, such as hare-lip, spina bifida, imperforate anus, and club-foot, are also met with. George Sultan draws a distinction between this congenital hernia of the umbilical cord and congenital clefts in the abdominal wall which are above the umbilicus. The cord in the latter instance is displaced downwards, but is normal throughout, right up to its attachment to the abdominal wall, which is at a point immediately below the lower limits of the cleft.

The sac is composed of a transparent membranous layer, sufficiently thin, as a rule, to allow the enclosed viscera to be seen readily. Sometimes the sac is thicker, and includes a considerable mass of tissue identical with Wharton's jelly. Three layers may be recognized—an outer or amniotic layer, an inner composed of a membrane smooth and polished on its internal aspect, and continuous with the peritoneum. Between these two is a third intermediate layer of sparse connective tissue—the textus tendinosus of Soemmering. Macready notes that there is occasionally a collection of serum between these layers. There is a sharp line of demarcation between the edge of the normal skin and the membranous sac, the junction being, as a rule, a short distance above the level of the abdominal wall.

Prognosis.

The outlook, both as regards life and the possibility of cure, is, of course, immediately dependent upon the size of the sac. First, it must be recognized that spontaneous cure in the less marked cases is possible. Simon Duplay describes this process in detail. The external layers separate, the method of separation being identical with that of the stump of the normal umbilical cord, the time taken for the process to become complete being but little longer. The exposed surface of the inner layer now becomes red, vascular, and covered by granulations; gradual shrinking ensues with the organization of fibrous tissue, and the contents of the sac are thus reduced within the abdominal cavity. In one case mentioned by the same writer, spontaneous cure was complete after thirty-seven days in a case in which a part of the liver was present in the sac. Whilst admitting the possibility of spontaneous cure, it must be pointed out that when left alone the usual result is death. A fair number of cases have been operated on; the first recorded is that mentioned by Ambroise Paré, who states that a contemporary of his opened one of these herniae "croyant avoir affaire à une tumeur humorale."

Treatment.

The following are the possible methods of treatment: (1) Ligature of the cord sufficiently far from the abdominal wall to ensure that no sac contents are included, and dressing aseptically in anticipation of spontaneous cure. (2) Ligature of the neck of the sac after reducing contents. (3) Percutaneous ligation (Breus); the contents of the sac are reduced and transfixing ligatures are applied. (4) Extra-peritoneal operation (Olshausen). An incision is made through the skin close to its junction with the translucent sac wall; the outer layer of the sac wall is then dissected off from the peritoneal layer, the peritoneal cavity not being opened. The big vessels are ligatured and sutures inserted to bring the layers of the abdominal wall together over the folded sac. (5) Radical operation; the whole sac, including the peritoneal layer and a small area of surrounding skin, is cut away and the abdominal wall closed in layers.

Hausson quotes the following figures in 73 cases:

Method 1	...	...	6 deaths in 11 cases.
,, 2	...	...	0 2 ,,
,, 3	...	...	1 death in 5 ,,
,, 4	...	...	0 deaths in 5 ,,
,, 5	...	...	17 ,, 50 ,,

It must be remembered that the first three methods are only applicable with any fair prospect of success in the very slight cases, those described as Class 1. In the more severe types some form of operation (either the fourth or fifth methods) is called for, and the following figures, quoted from W. B. Coley, show that the results of operations are distinctly hopeful:

Macdonald, 1890, 31 cases—12 treated with bandage and compression, 9 deaths; 12 treated by operation, 2 deaths.
Lindfors, 1893, 32 cases treated by operation, 6 deaths.
Adler, 72 laparotomies up to 1904 and 22 since that date. Of the 94, 65 were cured and 29 died within a few days of operation.

Report of Case.

A female infant, the subject of exomphalos, sent to hospital by Dr. Sturge of Paddington, came under my care on September 11th, 1907. There was a large hernia projecting from the region of the navel of the size of a large orange. The sac was composed of a semitranslucent layer sufficiently thick to prevent the contents from being seen. The projection was sessile, and there was no sort of neck to the sac. The child was small and thin, but no other deformity was present. I operated immediately—eight hours after the child's birth. An oval incision enclosing the sac was made through the healthy skin which bordered it. The peritoneal cavity having been opened, the sac was found to contain a considerable part of the liver, the gall bladder, and many coils of small intestine; the sac was intimately adherent to the anterior surface of the liver, and much difficulty was experienced in separation. The hypogastric arteries were caught and ligatured where they left the abdominal wall and the umbilical vein close to the margin of the liver. The raw surface of the liver oozed freely, but this was controlled by hot saline solution. The viscera were then returned and the abdominal wall closed by two tiers of stitches. The child made an uneventful recovery, and left the hospital apparently well on October 7th.

On the 14th, however, she was readmitted for vomiting. The vomiting continued at intervals, and difficulty was experienced in getting the bowels to act. On October 28th acute intestinal obstruction developed, and the infant died on October 30th.

At the necropsy the right lobe of the liver was comparatively normal in size and shape, the left lobe was small, and from the anterior border of the liver at the junction of the lobes a mass of liver substance, the size of a walnut, projected downwards into the abdominal cavity, and was adherent to the abdominal wall by its anterior surface; the adhesions were band-like and were only broken down with difficulty, showing advanced organization. The projecting mass of liver substance was ovoid in shape, had a smooth surface, except where adhesions had formed, and appeared in every respect to consist of normal liver tissue. The mass was connected with the liver by a flat band of liver tissue, the bulk of which was continuous with the left lobe, but a small portion extended into the right lobe. The gall bladder was on the posterior surface of the band just described. The main mass of the liver was normal in every way, and had normal attachments and relations. Ten inches from the ileo-cæcal valve three coils of small intestine were bound down in adhesions between the abdominal wall and the liver projection. These coils were small and flattened, and were almost completely obstructed. There were no other deformities.

A condition of the liver similar to that met with in this case has been recorded by J. G. Schaeffer. In his case the greater part of the liver lay outside the abdomen, and a small spherical, pear-shaped part inside. Berthelot mentions a case in which only the Spigelian lobe remained behind. Marriques has seen the whole liver outside the abdomen, and when this is the case the coronary ligaments are absent.

I record this case since it shows that even where the deformity is of extreme degree, and where there is no neck to the sac, operation still holds out a reasonable chance of success.

THE ASSOCIATION OF A PATENT FUNICULAR PROCESS WITH CERTAIN FORMS OF HYDROCELE.

By R. C. DUN, F.R.C.S.,
Surgeon, Children's Infirmary, Liverpool.

SMALL hydroceles of the tunica vaginalis testis are very commonly met with in children, and are readily cured by tapping alone, or by tapping followed by injection. In my experience this simple form of treatment is much less successful in those larger hydroceles which extend from the testicle to the external abdominal ring, or into the inguinal canal, and the same holds for encysted hydroceles of the cord. It was upon this account that I first began to operate upon such cases.

As a result of the examination of the hydrocele sacs

removed, I have found some explanation of the failure to cure by tapping and injection. A majority of the hydrocele sacs were found to be loculated; this would naturally prevent the free emptying of the fluid by tapping, and make it difficult for the injection to reach the whole of the wall.

The main point of interest, however, lies in the fact that in almost all cases I found a patent funicular process present above the hydrocele sac, although from the history and clinical examination of all the cases referred to in this paper there was nothing to lead one to suspect the presence of a hernia.

I have now operated upon 37 cases of hydrocele, in none of which was there any evidence of hernia before operation, and in 35 of them—that is, all but 2—a patent funicular process was found above the hydrocele. The number of cases is not large, but the proportion in which a hernial sac was found is striking.

As a result of these observations, I am now inclined to advise operation in such cases, because the ordinary simple methods of treating such hydroceles have not been successful in my hands and because by operation the hydrocele can be cured with certainty, while at the same time the hernial sac, which I have found to be the common accompaniment of this condition, can be removed.

The operation itself is simple. The hydrocele sac is reached through an incision similar to that employed in the operation for inguinal hernia. I have always found that the coverings, vas, and vessels can be easily separated from the hydrocele sac, the lower part of which is then cut through, a portion being left to form a tunica vaginalis testis.

When the upper part of the hydrocele sac is exposed there is no difficulty in recognizing the patent funicular process lying in close relation to it. The operation is completed by freeing the hernial sac from its coverings as high up as the internal abdominal ring, where it is ligatured and the distal part cut off. Owing to the shortness of the inguinal canal in children, no division of the external oblique muscle is necessary. A single catgut stitch through the inguinal canal completes the radical cure.

I have had no anxiety with any of my cases. There is no shock, provided the children are kept warm and the vas is not pulled upon. I have had no trouble with haemorrhage either during or after the operation. In all cases the after-treatment has been by the open method without the application of any dressing—a method which was first suggested by Mr. Stiles, and which I have found in every way satisfactory. All my cases healed by primary union, and ten of the children operated upon were under 12 months old.

In my opinion, a very suitable age for operating is between the third and sixth month. These babies, as soon as the stitches are taken out on the eighth day, can be lifted up and carried about, and require no further treatment of any kind.

I keep older children lying down in bed for a fortnight, after which time no truss or bandage need be worn.

REPORT OF A CASE OF MADELUNG'S DEFORMITY.

By ALEX. MACLENNAN, M.B., C.M.,

Surgeon, Out-patient Department, Western Infirmary; Extra Honorary Surgeon, Royal Hospital for Sick Children, Glasgow.

ACCORDING to Stetten,[1] Madelung ought to have the honour of having his name associated with this deformity of the wrist, because he was the first to recognize it as a distinct entity and to describe it adequately. Some confusion, however, still exists as to the class of case which may legitimately be included under the designation "Madelung's deformity." Thus, complete or partial, traumatic or pathological separation of the lower epiphysis of the radius, dislocation of the lower end of the ulna, rheumatoid arthritis, congenital malformations, etc., occasionally give rise to lesions identical in appearance if not in origin. The following represents a typical case:

K. M., aged 13, was seen in 1906. She was a healthy, well-developed girl, and resided in the country. The deformity, which affected both wrists almost equally, had been first noticed three months previously, and had gradually progressed. It was quite unassociated with any stress or strain. The deformity was unknown in the family. It had not led to any functional disturbance, only a slight degree of aching in the joint being complained of after any extra work. The general appearance of the wrists is illustrated in Fig. 1.

The displacement of the hands forwards, and in repose one of valgus (hence the synonym, *Manus valga*, sometimes applied to the condition). The hands were normal. The lower end of the ulna was prominent, and was situated over the cuneiform. The lower end of the ulna had therefore ceased to be in articulation with the radius. This displacement of the ulna caused a certain amount of rotation of the hand in the direction of supination. The radius was not curved in the antero-posterior plane; its lower end bulged backwards and formed the prominent boss seen in the figure. Active movements in all directions were quite free and normal in range, for the diminution in extension at the wrist was balanced by increased flexion. Passive movements were normal. The deformity was practically irreducible. Both forearms were comparatively shortened. The distance from the acromion process to the external epicondyle was 11½ in., and the ulna measured, from the tip of the olecranon process to the styloid, 8 in. With the elbows flexed the disparity between fore and upper arms was very evident; it indicated interference with growth at the wrists. There were no signs of rickets, and the joints were not tender to pressure. The *x*-ray plate was instructive. The ulna did not show anything special unless a little prominence of the interosseous ridge which corresponded to a similar appearance in the radius, possibly due to tension in the interosseous membrane the result of the increased outward curvature of the radius. The radius appeared rough, stumpy, and excessively curved in an outward direction. The chief interest, however, lay in the lower end. An epiphyseal line was visible only in the outer two-thirds, the inner third was absent, and that part apposed to the diaphysis in this situation showed a somewhat hazy and indefinite structure. Into this rarified part of the radius projected the semilunar, while the downward-pushed scaphoid was rotated in its transverse axis, and gave in the plate an appearance similar to that often found in fracture of the scaphoid; on this account the radial styloid came into relationship with the trapezium. The pisiform and cuneiform were not displaced relatively to the other carpal bones.

It was obvious that for some reason the inner third of the metaphysis had disappeared, and no addition of growth was taking place to the corresponding section of the radius. The lower articular surface looked directly downwards, there being no antero-posterior curvature of the radius.

The explanation of the deformity lay in this failure of the inner third of the epiphyseal line. The radius, being only added to in its outer two thirds, of necessity began a wheeling movement having its inner side as centre. The hand being attached to the radius followed suit; hence the valgus deformity. The curving of the radius, added to the obliquity of its lower articular surface, also contributed to the shortening. No interference was taking place with regular growth at the lower ulnar epiphysis, so the ulna had to part company with the radius and its solidly attached carpal bones.

Operation.

Having accepted the view given that the deformity was entirely due to irregular growth at the lower radial epiphysis, it was decided to perform a cuneiform osteotomy, the metaphysis to be included in the wedge removed. This was done in 1906. The forearms were put up in plaster-of-Paris for six weeks subsequently. It was understood and explained to those responsible for the child that the ulna, continuing to grow as it would, might necessitate interference with its growing line. This ultimately proved to be advisable, but on account of the result having given complete satisfaction further operation was not sanctioned. Fig. 2 shows the result one year later. A letter was received two months ago stating that the girl was in service, and that the wrists did not trouble her at all.

The etiology of the condition has given rise to much speculation. It is probable that various causes at least contribute to the deformity. Relaxation of the capsule, unbalanced muscular action, inflammation (rarifying osteitis) need only be mentioned to be dismissed. The essential factor in the distortion is the irregularity in growth at the lower end of the radius. Whatever interferes with growth at an epiphysis must be considered in the etiology of this malady.

1. *Trauma.*—It is an undoubted fact that an entire metaphysis, or part of it, may be destroyed by separation of the epiphysis. The usual situation of the separation of an epiphysis from the diaphysis takes place on the diaphyseal side of the growing line, and no harm results. Quite otherwise is it when the line of separation is actually through the growing cells, which are thereby destroyed, with resultant inhibition of growth. If the separation is partly on the epiphyseal side and partly on the diaphyseal side, that part which is obliterated does not grow, while the other continues to add length to the shaft, which of

necessity must become distorted. Separation of the epiphysis may thus give rise to distortion at the wrist, but as a cause of Madelung's deformity it may be ruled out on the definition that the malady must be spontaneous. Before dismissing trauma as exemplified in separation of the epiphysis, it must be pointed out that the deformity usually then present is identical with that found in Colles's fracture—the reverse of the present case, and also that it is unusual to find trauma affecting both sides simultaneously in such an occult way.

2. *Rickets.*—As the cause of the deformity in this case, rickets, were it or had it been present, would explain all the anatomical features, but signs or history of it were absent in this as in most cases reported. It might be pointed out that were rickets and this deformity etiologically connected, it would be commonly observed in Glasgow, where rickets is prevalent. The case here recorded did not reside in the city, but in a neighbouring country town. A type of deformity of the wrists is found in rickets, as reported by Kirmisson[2] and Stetten,[3] not altogether unlike the reverse of Madelung's. It consists in a forward and inward curving of the radius (often associated with or complicating fracture) due to the fact that the rickety child distributes the pressure on its limbs and crawls on the floor. The forearms thus become bent by pressure, and cubitus valgus is noted at the elbows. This condition, however, is not Madelung's deformity. It is hardly conceivable that a system disease like rickets could so localize and concentrate itself as to affect merely one section of one epiphysis. It is true that to explain a number of the deformities affecting the lower limbs, such as genu valgum and varum, a condition has been presumed to be established by rickets, whereby its effects have been delayed; but this is supposition only, and that such a thing as late rickets exists is questionable.

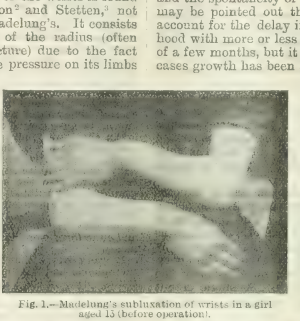


Fig. 1.—Madelung's subluxation of wrists in a girl aged 15 (before operation).

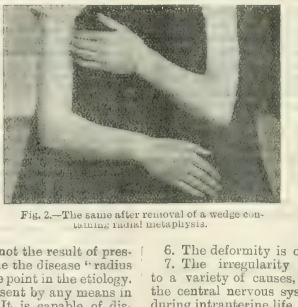


Fig. 2.—The same after removal of a wedge containing radial metaphysis.

1. Without entering into the cause of these deformities, it may be noted that they take place under the strain from the superimposed weight of the body, while in Madelung's malady no such factor exists. The finding of exostoses about the metaphysis, on which much stress has been laid as pointing to a rickety origin of the deformity, only implies irregularity of growth at the epiphyseal line.

2. The presence of a curve in the radius lends further support to the view that rickets is the cause of the deformity, but the presence of the curve has already been referred to. Such curvature is not the result of pressure on a softened bone, and to name the disease "radius curvus" seems to me to miss the whole point in the etiology. Further, such a curvature is not present by any means in all. It is secondary, not primary. It is capable of distorting the joint, but it is quite against all experience that the shaft of a bone not only free from all pressure, but actually under extension, should curve. This curve seems so essential to the radius that it necessitates splitting of partnership with the ulna. It is therefore obvious that the bending of the radius is due to the manner in which it is growing from the metaphysis. The radius may thus grow in any direction. Rickets and curvature of the radius can only be accepted as etiological factors in so far as they affect the metaphysis. If, then, the origin of the deformity be in the metaphysis, it is probable that those cases reported as congenital were really so. In support of the acceptance of the congenital cases the following instance of a deformity present at birth which affected the ankle might be reported.

The right foot of a child, aged 11 years, was alone involved. The left foot was inclined to be flat. The right foot tended in the direction of talipes varus. The external malleolus was very prominent, large, and was noted to descend further on the foot than the corresponding process in the left foot. It was considered that the right fibula had grown or was growing more than the tibia. The skiagram corroborated this view. The condition was noted at birth, and had not become much worse. It only gave rise to a feeling of tiredness after a long walk.

This was probably a case analogous to the Madelung deformity, but which implicated the ankle. There is no reason why the metaphysis should not be affected before birth. Further, it might conceivably be that the development of the metaphysis was incomplete, as has been suggested by Pels-Leusden.[4] This would account for the hereditary element which enters so largely into these cases, and which is a much more evident factor than either trauma or rickets. With such a view the symmetry and the spontaneity of the distortion are intelligible. It may be pointed out that such a supposition would not account for the delay in the deformity till middle childhood with more or less sudden development in the course of a few months, but it must be remembered that in these cases growth has been delayed, and the rapid onset of the distortion would correspond to the period of rapid growth. In infantile paralysis bony growth is interfered with to a considerable extent, and it is enticing to resort to this explanation to account for this somewhat mysterious disease. Such a theory is reasonable, even though there may be no period when an infantile paralysis is present, for we know that the slighter degrees of paralytic talipes develop apparently spontaneously.

CONCLUSIONS.

1. Madelung's subluxation is not a true subluxation, but is a distortion of the joint.

2. It is due to irregularity of growth at the lower radial epiphysis (as also enunciated by Ewald[5] and Franke[6]).

3. The radius is curved, either outwards and backwards, or forwards and inwards (2 cases), according to the nature of the irregularity at the metaphysis, giving rise respectively to a forward or backward displacement of the hand.

4. It affects both wrists in about 70 per cent.

5. It occurs most commonly in females (about 85 per cent.) during the period of most active growth.

6. The deformity is occasionally present at birth.

7. The irregularity at the epiphysis may be due to a variety of causes, such as trauma, rickets, disease of the central nervous system, etc. Such lesions may occur during intrauterine life.

8. The malady is very frequently inherited and may be associated with other deformities.

9. Secondary changes occur in the various structures at the wrist after the disease has been present for a long time.

10. The correct treatment is cuneiform osteotomy when the deformity is fully developed and the epiphyseal line may with advantage be included. The ulnar metaphysis should be destroyed. The slighter cases which could be righted by a simple osteotomy do not require operative treatment at all.

REFERENCES.

[1] Stetten, *Surgery, Gynaecology, and Obstetrics*, January, 1909. (The article contains a full list of references with review of the literature. [2] Kirmisson, from Stetten. [3] Stetten, l.c. [4] Pels-Leusden, *Deut. med Woch.*, 1907, No. 10. [5] Ewald, *Archiv. f. klin. Chirurg.*, Bd. 48, heft 4. *Zeitsch. f. orthopäd. Chirurg.*, Bd. 75. [6] Franke, *Deut. Zeitsch. f. Chirurg.*, 1908, Bd. No. 92; see Levy, *Berl. klin. Woch.*, 1908, No. 50 (this case had rickets).

TWO CASES OF MEDIAN HARE-LIP.

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CASE I.

A GIRL, 1 year and 1 month, was the subject of the following congenital deformity:

The upper lip is cleft exactly in the middle line. The cleft is narrow, and extends upwards to a point a quarter of an inch above the free margin of the alveolar process. At this level the mucous membrane covering the edges of the cleft is reflected on to the upper jaw, forming a distinct frenum. A deep groove is continued upwards in the middle line from the apex of the cleft through the upper portion of the lip, the nasal septum and the tip of the nose

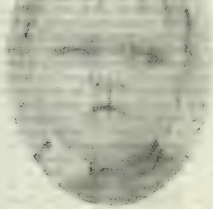


FIG. 1.

to end on the dorsum. This extension of the groove beyond the point of the nose gives rise to a bifid appearance of the organ at its lower part. The labial part of the sulcus is lined with mucous membrane; the nasal portion has a normal skin covering.

The anterior nares are small and widely separated, owing to the abnormal width (half an inch) of the intervening portion of the nasal septum. The bridge of the nose is broad and flattened. The anterior borders of the nasal bones can be distinctly felt, separated from each other by an interval of half an inch at their lowest points. The eyes are wide apart; the distance between the inner canthi measures 1¼ in. The incisor teeth are perfectly developed and regularly placed. There is no indication of any alveolar cleft. The palate is fully developed but somewhat highly arched.

I am indebted to Dr. Hubert Armstrong for the photograph of this case.

CASE II.

A female infant, 7 weeks old, showed a deformity of the

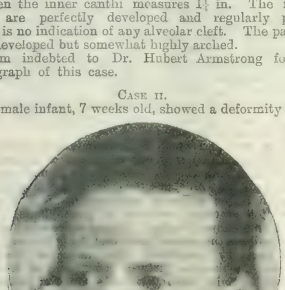


FIG. 2.

upper lip, in many respects similar to the previous case (Fig. 2).

The cleft in the lip was mesially placed. The extent of the deficiency was only ¼ in., and a shallow sulcus was continued upwards from the apex of the cleft to the tip of the nose.

The alveolar process of the upper jaw showed a narrow cleft exactly in the middle line, which was continued backwards through the hard and soft palates.

A well-marked frenum passed from the posterior surface of the lip to the edges of the alveolar cleft.

Both these children were otherwise normally developed, and in neither case was there a family history of congenital deformities. Other children of the same parents were normal.

DISCUSSION.

Mr. A. MACLENNAN (Glasgow) said that the cases of median hare-lip described were examples of true hare-lip—that is, a failure in union between the two globular processes of the fronto-nasal process. The cases usually reported of failure in this region had shown very extensive defects involving the whole upper part of the face, the brain, etc. As a usual result of union of the lobular processes, there was a slight elevation down the columella of the upper lip, and these cases were therefore the reverse of the natural condition. The usual median hare-lip described was a hare-lip by defect of the whole fronto-nasal process, and was often associated with a protuberance of the misplaced fronto-nasal process in front of the nose.

ABDOMINAL TUBERCULOSIS IN YOUNG CHILDREN:

ITS PREVALENCE, PROPHYLAXIS, AND PROGNOSIS WITH AN ANALYSIS OF 137 CASES.

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Extra Physician, Royal Hospital for Sick Children, Edinburgh.

IN a book on *Tuberculosis in Infancy and Childhood*, edited by Kelynack of London, and published in 1908, Dr. John Thomson and I published a paper on the prevalence of abdominal and meningeal tuberculosis, from which the following tables (Tables I and II) are taken, and in which they are partly summarized as follows:

Thus we find from Table I that, while of 67,489 children treated in hospitals in England and Scotland (elsewhere than in Edinburgh and Glasgow) the percentage amount of abdominal tuberculosis was 1.6, of 68,498 children similarly treated in various Continental countries it was 1.15; and of 37,129 American children's hospital patients it was only 0.28; yet among 23,939 children treated in Edinburgh and Glasgow the percentage was no less than 3.9. In no other centre or centres do the figures even approach those of Edinburgh and Glasgow, the nearest being those from Buda-Pesth, which show a percentage of 2.0 in 27,175 children.

TABLE I.—*Indicating Frequency of Abdominal Tuberculosis in British Children's Hospitals.*

Locality and Name of Hospital.	Period in Years.	Total Number of In-patients.	Percentage of Cases of Abdominal Tuberculosis.
London: Hospital for Sick Children, Great Ormond Street, W.C.	10	22,696	1.8
London: North-Eastern Hospital for Children, Hackney Road, E.	10	10,533	1.3
Birmingham: Free Hospital for Sick Children	10	9,486	1.5
Sheffield: Children's Hospital	11	3,400	1.3
Manchester: Children's Hospital, Pendlebury	9	15,795	2.0
Liverpool: Royal Hospital for Sick Children	10	17,[illegible]	2.6
Glasgow: Royal Hospital for Sick Children	10	8,61[illegible]	.6
Aberdeen: Royal Hospital for Sick Children	8	[illegible]	.2

The value of the comparison of hospital statistics in such an instance is admittedly limited, in that appreciation of the condition as a clinical entity varies in different centres, the readiness of its diagnosis and the advisability or otherwise of hospital treatment vary according to the mental attitude of the clinical observer, while the available space in a hospital and the area from which it draws its

cases must determine very markedly its possible admissions. These tables serve, however, to show that the condition is in this country no rarity, and that in the Edinburgh district it is common.

From the scientific and pathological standpoint it may be contended that the condition in a pure form is rare, and undoubtedly this is so. Tuberculous infection of the bronchial glands is a frequent concomitant condition, and general tuberculosis or tuberculous meningitis not infrequently dominates the situation in the later stages. But clinically, abdominal tuberculosis—tuberculosis of the mesenteric glands, tuberculous peritonitis, tuberculous ascites—is a definite entity, and there is, as Coutts (Kelynack: *Tuberculosis in Infancy and Childhood*) states, "a very definite class of case in which the abdominal disease—clinically, at least—is the primary and conspicuous one." It is with well-marked examples of this class of case that I propose to deal, and in so doing I appreciate to the full the certainty that thereby I exclude from my statistics numerous undiagnosed cases exhibiting negative physical signs or minor symptoms only.

TABLE II.—*Indicating Frequency of Abdominal Tuberculosis in European and American Children's Hospitals.*

Locality and Name of Hospital.	Period in Years.	Total Number of In-patients.	Percentage of Cases of Abdominal Tuberculosis.
Rome: University Paediatric Clinic (Professor Concetti)	12	3,715	0.56
Toulouse: Clinique Infantile (Professor Bézy)	10	1,960	0.66
Montpellier: Cliniquedes Maladies des Enfants (Professor Baumel)	5	1,259	0.95
Lyons: Clinique des Maladies Infantiles (Professor Weill)	13	8,652	0.74
Bern: Jennersche Kinderspital (Annual Reports)	13	4,205	0.59
Budapest: Stefanie Kinderspital (Professor Bokay)	20	27,173	2.00
Vienna: St. Anna Kinderspital (Dr. Hamburger)	5	11,184	0.46
Munich: Universitäts-Kinderklinik (Professor Pfaundler)	2	1,836	0 42
Munich: Gisela Kinderspital (Dr. J. Ibrahim)	5	1,635	0.18
Hagenau: Kinderklinik (Professor Biedert)	10	4,725	0.10
Christiania: Children's Hospital (Professor Johannesen)	10	2,124	0.99
Philadelphia: Children's and St. Christopher's Hospitals, and Children's Ward, Jefferson Hospital (Dr. Le Boutillier)	10	18,016	0 14
New York: Mount Sinai Hospital, Children's Department (Annual Reports)	9	3,082	0.42
Boston: Children's Hospital (Dr. H. J. Bowditch)	37	16,031	0.40

Tuberculous infection of the mesenteric glands in young children is, in my opinion, extremely common (in the Edinburgh district, at least); in its mildest and earliest forms it is very frequently overlooked, and is associated only with very chronic symptoms; but in every case of such infection it is, I think, associated with symptoms, whereas, on the other hand, chronic gastro-intestinal disturbances are very commonly and erroneously attributed to consumption of the bowels.

In my analysis of the cases I review I take note of the facts that these cases are well-marked cases of the condition, and that they all occur in what may be called the hospital class of society.

I have recently examined the mesenteric glands in 50 consecutive cases brought to the *post-mortem* theatre in the Royal Hospital for Sick Children, Edinburgh. These glands were examined as fresh films and as sections, and, as no inoculation experiments were attempted nor means taken to obtain a growth of the tubercle bacillus, my figures certainly under-estimate rather than over-estimate the frequency of occurrence of tuberculous infection in these cases.

I found tubercle bacilli present in the mesenteric glands of 10 out of the 50 cases, or 20 per cent.; 4 of these cases were cases of generalized tuberculosis, 4 cases of abdominal tuberculosis, 1 case of "marasmus," and 1 case of acute endocarditis.

In the series there were 5 cases of chronic wasting or marasmus in only 1 of which were tubercle bacilli found in the mesenteric glands, and in the following 5 cases examination of these glands for tubercle bacilli was also negative—2 cases of tuberculous meningitis with tuberculous bronchial glands, 1 case of phthisis, 1 case of bronchopneumonia with old-standing tuberculous ulcers in the ileum, and 1 case of subacute yellow atrophy of the liver with a tuberculous ulcer in the ileum. Macfadyen and MacConkey,[1] in a research on this subject, made inoculation experiments into guinea-pigs of the mesenteric glands from 28 cases, mainly under 5 years of age (2 only were older, 6 years and 8 years). Of these cases 4 suffered from general tuberculosis, 2 from tuberculous meningitis, 1 from acute miliary tuberculosis, 1 from tuberculous bronchopneumonia, and 20 died from non-tuberculous causes, in 8 of whom, however, tuberculous disease was present. They say, "The animal inoculation experiments showed that virulent tubercle bacilli were present in the mesenteric glands in 10 of the 28 cases, 18 having given negative results. Of the 8 cases diagnosed as tuberculous, 5 gave a positive and 3 gave a negative result. The positive results estimated upon the total number of cases examined amounted to nearly 36 per cent. If the cases diagnosed as tuberculous are eliminated, it will be seen that 5 of the 20 non-tuberculous cases contained virulent tubercle bacilli in the mesenteric glands, and that in these cases the positive results were equal to 25 per cent.

Tuberculous infection of the mesenteric glands in young children in this country is consequently a common occurrence. Why is this so? The question touches upon a subject the magnitude of which is such as to make one naturally shrink from touching upon it in a brief communication, and such that I am compelled to restrict myself very closely to the points I wish to make.

I do not for one moment ignore the importance of climate, fresh air, heredity, bodily cleanliness, or any of the hygienic conditions essential for a physiological existence, but I go straight to the report of the Royal Commission on Tuberculosis and find that abdominal tuberculosis in young children is essentially due to infection by the tubercle bacillus *either* from a bovine or a human source. With regard to which source chiefly I have in the present paper nothing whatever to do. Into the question of the *relative* frequency of infection by means of inhalation or by means of ingestion I do not propose to enter in any detail. One is forced to realize that the maximum lesion of tuberculous infection is frequently not present at the point of entrance of the bacilli. I do not think, however, it can be generally gainsaid that clinically in very many cases of abdominal tuberculosis in young children the disease is primarily abdominal; that in practically all of these cases the lymphatic glands in the mesentery are found to be markedly affected; that, in many, tuberculous ulcers are present in the gut; and that, even where none are found, the intestinal mucosa as a possible source of entrance of the bacillus is not thereby excluded; and, such being the case, there is undoubtedly a very strong prima facie case for the contention that the ingestion of infected material is a common cause of this condition.

Faced by such a weighty probability, the question of feeding in early childhood, from this point of view alone, assumes enormous importance.

Much is said and much is written about feeding in early childhood which is purely exaggerated nonsense or scientific theorizing carried to extreme. Sound common sense, or, in other words, practical prophylactic medicine, has a much larger sphere of application, and it is as an advocate for practical methods of prophylaxis that I approach this subject to-day. Every woman knows that mother's milk is the natural and best food for an infant, and we here, by recognizing that improper feeding—apart from the dangers directly consequent to it—must necessarily diminish the individual's power of resistance, must accept naturally the predisposing part it plays in the infection by the tubercle bacillus. But as practical members of society we physicians, working amongst children, and especially those of us members of the staff of a children's hospital, must go a step further. Maternal nursing is but rarely carried out unsupplemented by the aid of cow's milk in some form, and there can be no possible doubt that milk infected at its source by the bovine bacillus of tubercle, or in the home by the human bacillus, is the source of an immense amount of tuberculous disease.

Legislation on the subject lags somewhat in this country, and we are certainly far behind many nations in our provision of suitable milk for infants and young children.

The prevention and treatment of tuberculosis in the adult is at the present day a favourite, highly estimable, and eminently fashionable form of philanthropy, and, though dairy farms may be less attractive or seductive spheres for well-doing than sanatoriums and pine woods, yet it surely devolves upon paediatric physicians to demonstrate to the community the vital importance of medical supervision of their method of working, and to not only suggest a remedy for the present deplorable condition of affairs, but to endeavour to set an example of improvement.

The development by children's hospitals of centres for the obtaining of clean, non-tuberculous, guarded (sealed bottles) milk would be of the utmost value in many homes, high and low, and I can conceive of no possible greater benefit conferred on the public by any hospital for children.

The cases of abdominal tuberculosis which I propose to analyse here number 137. The object of my analysis being the determination of the characteristics of the condition. I have restricted my survey to that of cases of the type of abdominal tuberculosis pure and simple as much as possible. Further, I include only those cases in which a definite diagnosis by means of physical signs was obtained, and thus cases in which the diagnosis was probable or only possible are excluded from my statistics. All the cases were well-marked cases occurring among patients treated in the Royal Hospital for Sick Children, Edinburgh, during the past few years, and as showing the relative frequency of the indeterminate or questionable diagnosis and the well-marked condition, I may say that of 187 cases examined I have rejected 50, or 27 per cent., as unsatisfactory for my purpose, and have retained 137, or 73 per cent.

Of these 137 cases, 92 were traced to a termination—death (47), or for at least eighteen months (45), while 45 cases were lost sight of within eighteen months.

Age of Onset.

As regards the age of onset of symptoms in the diagram (p. 764), the figures found are demonstrated graphically by the black line. The question of the determination of the age of onset of symptoms of a condition such as this is one to which it is impossible to reply with absolute accuracy, and the figures are only given as being as approximately accurate as is feasible in the circumstances. It may be contended that in dealing with a comparatively chronic condition in the cases of children attending a hospital whose age-limit is 12 years, it is only natural to find that the onset of the disease in the largest number of cases occurs in the earlier years of life, because children affected later would seek admission to a general hospital. This contention, however, finds little support in the statistics of general hospitals, and I think in this particular instance is hardly worthy of being taken into consideration.

From the diagram it is clearly evident that in a marked majority of cases the period of the onset of symptoms is prior to the fourth year of life. I would merely add that of 15 cases commencing during the first year of life, 4 commenced during the first six months and 11 during the second six months. The average age of onset of all cases (137) was 4 years; of non-fatal cases observed at least eighteen months (45) was 4 years 9 months; while of fatal cases (47) it was 3 years.

The figures in Table III seem to warrant the conclusions: (1) the disease is of more serious prognosis the earlier in life its incidence, (2) the earlier its incidence the more acute its nature.

It will be seen that in only 4 cases is it noted that death occurred more than eighteen months after the incidence of the disease. Are these 4 cases exceptional, and would this experience prove to be common if cases could be observed over a sufficient period of time? Of the present series of 90 non-fatal cases, 45 were under observation for more than eighteen months and 45 for less than eighteen months. Of the fatal cases, we saw that 43 ended in death within eighteen months, while 4 ended in death over that period. Of the 45 non-fatal cases observed longer than eighteen months—

2	cases were observed for from	18 months	to	2 years.			
14	,,	,,	,,	2 years	,,	3	,,
9	,,	,,	,,	3	,,	4	,,
11	,,	,,	,,	4	,,	5	,,
4	,,	,,	,,	5	,,	6	,,
3	,,	,,	,,	6	,,	7	,,
2	,,	,,	,,	7	,,	8	,,

Now, while of 88 cases observed less than eighteen months the number of deaths was 43, or 49 per cent., of 49 cases observed longer than eighteen months the number of deaths was 4, or 8 per cent. I accordingly conclude that when death supervenes in a case of abdominal tuberculosis it usually does so within eighteen months of the incidence of symptoms, but that in a small proportion of cases a fatal issue may be much longer deferred.

The curve shown by dotted line in the diagram further demonstrates the figures relating to the mortality.

Sex.

Of the total cases (137), 72 were male and 65 female, while of the fatal cases (47), 25 were male, that is, 35 per cent. of the total male cases, and 22 were female, that is, 34 per cent. of the total female cases. The average age of onset of symptoms in the male patients was four years, and in the female patients was three years eleven months. Sex therefore plays no great part in this condition.

History, Personal and Family.

Statistics regarding family history I do not include at all, as the information in many cases is so extremely unreliable. Likewise, as regards the previous health of

TABLE III.—*Age of Onset in Fatal Cases, with Duration of Illness in Months from beginning of Symptoms.*

Age of Onset in Years.	Months.												Total Cases.	Percentage of Fatal Cases.	Average Duration in Months.
0–1 ...	1	1	2	13	3	12	2	4	2	2	6		11	23	4
1–2 ...	5	8	8	3	3	1	3	43	3	8	2		11	23	8
2–3 ...	3	8	10	3	—	—	—	—	—	—	—		4	9	6
3–4 ...	9	16	1	9	14	2	45	3	—	—	—		8	17	12
4–5 ...	6	36	7	18	—	—	—	—	—	—	—		4	9	16
5–6 ...	13	2	—	—	—	—	—	—	—	—	—		2	4	7
6–7 ...	4	14	21	—	—	—	—	—	—	—	—		3	6	13
7–8 ...	—	—	—	—	—	—	—	—	—	—	—		—	—	—
8–9 ...	36	16	—	—	—	—	—	—	—	—	—		2	4	26
9–10 ...	10	—	—	—	—	—	—	—	—	—	—			2	10
Over 10 ...	12	—	—	—	—	—	—	—	—	—	—		1	2	12

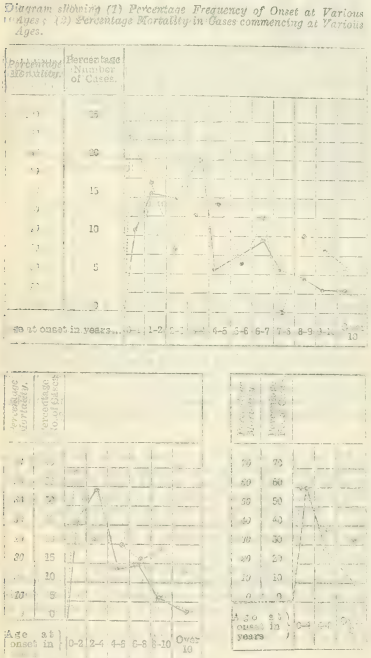
Average duration of illness in fatal cases (47)... ... ... = 9.6 months.
Average duration of illness in cases commencing during first four years of life (34)... ... ... 7.5 ,,
Average duration of illness in cases commencing after first four years of life (13) ... ... 15.0 ,,

the child. I can but generalize, and say that in about half of the cases the health previous to the onset of symptoms was good.

Feeding.

Particular attention was paid to the question of the feeding in infancy of these children, and the following facts elicited: 87 were fed at the breast, solely (very rare) or partially, for over three months, and of these 24 died, a percentage mortality of 28 per cent.; 50 were fed wholly on the bottle or at the breast for only a week or two, and of these 23 died, a percentage mortality of 46 per cent. The difference is striking, and needs no further comment.

Diagram showing (1) Percentage Frequency of Onset at Various Ages; (2) Percentage Mortality in Cases commencing at Various Ages.



Early Symptoms.

In the great majority of cases general wasting with abdominal swelling were the chief early symptoms. Diarrhœa and abdominal pain were also common complaints; vomiting was not common; and constipation was rare. Very common symptoms were loss of appetite, drowsiness, and listlessness. In 15 per cent. of the cases the onset followed an infectious disease (usually measles).

Temperature.

During the stay in hospital of all cases the temperature was of course carefully noted, and I have divided the cases as regards temperature into four classes, namely: (1) Those with a high and swinging temperature; (2) those with nothing abnormal in the state of the temperature; (3) those with a slightly raised or practically normal temperature; (4) those with a high and swinging temperature becoming normal. And perhaps a few words are called for in explanation of the latter two types. Those temperatures described as slight or practically normal were temperatures showing no marked swing, but which were steadily or irregularly elevated one or two degrees above normal; temperatures also it might be which every three or four days, or with even longer intervals, became suddenly high and as suddenly dropped again to normal; or temperatures with some slight deviation from the normal sufficient to make it impossible to describe them under the latter term. In some cases the temperature on admission to hospital was high and swinging, and continued so for some time, gradually thereafter dropping to and remaining normal. These cases are included in No. 4. In all cases the *point d'appui* for analysing the case is taken as being the period during which the child was for the first time under observation in a ward of the hospital. The onset and early symptoms of the disease refer to the period before this first admission, the temperature and physical signs refer to the period when first under observation in hospital, and the course of the disease and the prognosis are estimated from the condition then observed.

Consideration of any individual case of necessity includes consideration of many different factors going to form the condition, but before dealing with the more outstanding factors as a combined whole I have thought it advisable to consider them *seriatim*.

Considering the cases from the point of view of temperature, I find that the state of the temperature apparently bears no relation to the age of the child considered by itself, except that in older children (7 years) it is more common to find a high swinging temperature settling comparatively quickly than in children at an earlier age (4 years).

This affords further corroboration for the view that the earlier in life the disease occurs the more acute its course tends to be and the more serious its prognosis, while in older children, though it be acute, it encounters greater natural resisting powers on the part of the patient, and the prognosis is less evil.

Physical Signs.

In all cases great care is necessary in the determination of the physical signs, and is naturally most particularly so in early or slight cases.

Palpation of the abdomen of a child who is standing is obviously valueless, but it must also be fully realized that palpation of the abdomen when the child is sitting or reclining on the mother's knee, though sometimes valuable, is a procedure which *by itself* can never be regarded as proving the absence of abnormal abdominal physical signs. It is absolutely essential that the child should be lying flat on its back, and in the majority of cases the administration of chloroform is necessary for a thorough examination.

The classification of a considerable number of cases of a condition such as this under the heading of physical signs must of necessity be a somewhat arbitrary one, and withal there must be a certain amount of latitude at the discretion of the observer. In the choice of headings and of the cases placed under them I have endeavoured to be as definite and accurate as possible.

The cases as regards physical signs I divide as follows: (1) Those cases in which small (bean to nut size) discrete, enlarged mesenteric glands were present; (2) cases in which large masses of glands were present; (3) cases with very marked matting and thickening of the peritoneum and omentum; (4) cases with free fluid in the peritoneal cavity without any of the preceding signs in addition; and (5) cases with free fluid along with markedly enlarged mesenteric glands.

Relative Frequency.

	Cases.	Percentage.
(1) Small discrete glands	28 ...	16
(2) Mass of glands	96 ...	62
(3) Marked matting	9 ...	6
(4) Fluid	7 ...	5
(5) Fluid + mass of glands	18 ...	11
	155 ...	100

All the cases in No. (5) are included also in No. (2).

In some cases matting of the omentum and masses of enlarged mesenteric glands are clinically indistinguishable, and I think that for my present purposes the two conditions may be classed under one heading.

As regards the relationship between the physical signs and the age of the patient, my figures tend to show that free fluid is relatively uncommon in cases in which the onset of the disease was during the first three years of life, and likewise in patients under 3 years of age at the date of examination.

Analysis of the relation between the physical signs observed and the nature of the temperature shows that—

In 41 per cent. of all cases the temperature showed nothing abnormal (*d*).

In 20 per cent. of all cases the temperature was slight or practically normal (*c*).

In 3 per cent. of all cases the temperature was high and swinging to steady (*b*).

In 36 per cent. of all cases the temperature was high and swinging (*a*).

In Table IV I combine under one heading (*a*) and (*b*) of the preceding table, and under another heading (*c*) and (*d*). The figures given are the percentages of the total cases showing that particular physical sign.

TABLE IV.

Physical Signs.	Temperature. (*a*) and (*b*). High and Swinging, in Rare Cases Steadying Speedily.	(*c*) and (*d*). Little or Nothing Abnormal.	Total Cases.
	Per Cent.	Per Cent.	
Masses or marked matting	40	60	87
Discrete glands	20	80	25
Fluid	29	71	7
Fluid + enlarged glands ...	66·6	33·3	18

These figures serve, I think, to demonstrate that only in cases in which free fluid and palpable abdominal masses are both present is an elevated temperature more common than a practically normal one; that where free fluid only is detected marked elevation of temperature is uncommon; and from these facts alone there seems reason to seek for a different causation for the effusion of fluid in the two cases.

Undoubtedly the non-detection clinically of enlarged mesenteric glands does not exclude the possibility of their presence, and the probability at once suggests itself that in these cases the effusion is due to pressure by enlarged glands in the posterior abdomen, whereas in cases with large masses or marked matting the fluid is due to a generalized peritonitis. As one would expect, marked elevation of temperature was less common in cases with discrete glands than in those with large masses.

As regards the relationship between the temperature, physical signs, and age of the patient, I find that those cases with masses of glands usually (7 out of 10 cases) have an elevated temperature when the onset of symptoms occurs during the first year of life—and the same holds true in a less marked degree for cases with discrete glands. At other ages it is more common to find no elevation of temperature. When the age at the period of examination is considered instead of the age at the period of onset of symptoms, it is found that here also cases with masses of glands usually (4 out of 5 cases) have an elevated temperature when the examination is made during the first year of life, and later in life no elevated temperature, but in cases over 10 years of age, as in early infancy, 4 out of 5 show high and swinging temperature.

Consideration of the relationship between the physical signs and the prognosis leads me to include the following tables (V and VI). In the first table (V) I show the result in cases observed at least eighteen months or till death, in relation to the physical signs when the case was first observed. All cases under heading (4) appear also under heading (1).

As good recovery I understand good general health with absence of abnormal abdominal physical signs; and, as fair recovery, marked delicacy in general health or definite persistence of local abdominal signs. From the above it will be seen that the prognosis is most unfavourable in cases with free fluid and palpable masses, and is hardly less so in cases with masses or marked matting. How comparatively favourable the prognosis is in the other two types will also be noted.

TABLE V.

	Deaths.		Good Recovery.		Fair Recovery.		Total Cases.
	Number of Cases.	Percentage.	Number of Cases.	Percentage.	Number of Cases.	Percentage.	
1. Masses or marked matting	12	36	12	36	9	28	33
2. Discrete glands ...	3	25	3	25	6	50	12
3. Fluid	2	66	1	33	0	0	3
4. Fluid + enlarged glands	6	67	1	11	2	22	9

Table VI shows the average length of time between the first examination, when the physical signs as noted were observed, and the last examination or death occurred.

TABLE VI.

	Deaths.	Good Recovery.	Fair Recovery.
1. Masses or marked matting ...	2 years	2·5 years	2·6 years
2. Discrete glands	2·7 ,,	3·3 ,,	3·4 ,,
3. Fluid	2 ,,	2·9 ,,	3·1 ,,
4. Fluid + enlarged glands ...	2 ,,	2·3 ,,	3·4 ,,

Death consequently ensued rapidly in the majority of cases, and was longest delayed in cases exhibiting discrete glands.

The relation between the state of the temperature and the prognosis noted in cases observed at least eighteen months or till death is shown in Table VII.

TABLE VII.

Temperature.	Deaths.	Good Recovery.	Fair Recovery.	Total Cases.
High and swinging	23	5	9	37
Slight or practically normal ...	5	6	6	17
High and swinging to steady ...	2	2	1	4
Nothing abnormal	3 (2 cases under 2 years)	27	10	35

From these figures it is at once apparent of what evil augury a high swinging temperature is, and when the cases are also grouped according to the physical signs, I find that this holds true whatever the physical signs may be. Into the question of whether the elevation of temperature is due to the local abdominal condition or not, I do not propose to enter, and would merely reiterate that no cases are included in my statistics in which at the time of the first observation in hospital marked abnormal physical signs were present outside the abdomen.

Consideration of the relationship between the temperature, physical signs, age of patient at the time of observation of the symptoms, and the prognosis in cases observed for eighteen months or till death, serves to show that (1) a high swinging temperature, whatever the age and whatever the physical signs, is of very evil omen; (2) a slight temperature is of more evil omen the younger the child; (3) absence of temperature, whatever the physical signs, is usually associated with a fatal result only in the cases of the younger children.

SUMMARY.

In summarizing my remarks, I would once more lay emphasis on the facts that the cases with which I am dealing are all those of the hospital class of patient, and are all well-marked cases of the condition. Very early or indeterminate cases of the condition being excluded, the prognosis bears reference necessarily only to the fully developed condition.

(*c*) Clinically, primary abdominal tuberculosis is a common condition in young children in this country. *Post mortem*, tubercle bacilli are present in the mesenteric glands in about one-third (20–36 per cent.) of all cases dying in a children's hospital.

(*b*) As a measure of practical prophylactic medicine, the development of centres in connexion with children's hospitals for the delivery of safe milk is eminently desirable. By such means efficiently guarded (pure or heated) milk could be employed, and the risk of contamination in the home reduced to a minimum (sealed bottles).

(*c*) Analysis of 137 cases of well-marked abdominal tuberculosis shows that the characteristics of this condition are as follows:

1. In a marked majority of cases the period of the onset of symptoms is prior to the fourth year of life.

2. The disease is of more serious prognosis the earlier in life its incidence, and the earlier its incidence the more acute its nature.

3. When death supervenes it usually does so within eighteen months of the incidence of symptoms, but in a small proportion of cases a fatal issue is much longer deferred.

4. The mortality from this condition among children fed entirely on the bottle (46 per cent.) is very markedly higher than among children wholly or partially nursed at the breast for at least three months (28 per cent.).

5. Free fluid in the peritoneal cavity is relatively an uncommon sign in patients under 3 years of age.

6. Only in cases with free fluid in the peritoneal cavity + palpable abdominal masses is an elevated temperature more common than a practically normal one; where free fluid only is detected marked elevation of temperature is uncommon.

7. The prognosis is most unfavourable in cases with free peritoneal fluid + palpable masses (67 per cent. mortality), and it is hardly less so in cases with masses or marked matting (64 per cent.). In cases with free fluid only (29 per cent.) or discrete glands (18 per cent.) the prognosis is much more favourable.

8. A high swinging temperature, whatever the age and whatever the physical signs, is of very evil omen; a slight temperature is of more evil omen the younger the child; absence of temperature—whatever the physical signs—is usually associated with a fatal result only in the cases of the younger children.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, July 18th, 1903.

THE VALUE OF NEW TUBERCULIN (T.R.) IN SURGICAL TUBERCULOSIS.

By D'ARCY POWER, F.R.C.S.Eng.,

Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

KOCH'S original tuberculin, known as "Old" tuberculin, was introduced in 1890; it was recommended as a cure for tuberculous disease, but did not fulfil expectations. It was a concentrated solution in glycerine of the extracellular toxins produced by tubercle bacilli, and it was injected subcutaneously in doses which, we now know, were unnecessarily large and in unsuitable cases. The diseased tissues became greatly congested, the temperature rose rapidly, and the excessive reaction, together with absence of improvement, soon led to a discontinuance of its use for curative purposes.

Of late years another preparation of tuberculin has been introduced, known as T.R., or "New" tuberculin; it owes its activity to the intracellular toxins contained in the protoplasm of the tubercle bacilli, and not to the extracellular toxins excreted into the culture fluid as in the "Old" tuberculin. The doses are labelled with the weight of dried tubercle bacilli in 1 c.cm., calculated on the basis of 10 mg. of dried tubercle bacilli in 1 c.cm. of salt solution or horse serum. The temperature and the opsonic index have been used as guides to the normal resistance of the tuberculous patients; but as the estimation of the opsonic index is tedious in hospital cases and expensive in private, I have used the temperature as a sufficient guide, the opsonic index being obtained occasionally as a control.

During the last year I made a determined attempt to ascertain the curative value of new tuberculin (T.R.) given by the mouth to patients suffering from tuberculous disease in my wards at St. Bartholomew's Hospital, as well as in private practice. The tuberculin was administered by the mouth, an infinitesimal dose being given at first—usually one hundred thousandth of a milligram in a drachm of salt solution. If the temperature fell and remained uniform at or below normal the remedy was given every other morning before breakfast, but if the temperature rose or became irregular the dose of tuberculin was increased by doubling the quantity without increasing the frequency. In one case, when the tuberculin had been given in doses of one hundred thousandth of a milligram on alternate days for a fortnight to a child after removal of enlarged lymphatic glands from the right side of the neck, there was a marked reaction on the left side on recommencing the tuberculin after a fortnight's interval. The reaction took the form of a rise of temperature to 103° F., malaise, and inflammation with tenderness of the whole of the left side of the neck. In another case, also of glands of the neck enlarged by tubercle, I found that the microscopic structure of the enlarged glands was restored to normal after a course of tuberculin, although they appeared to be caseating when I first saw the child. The effect of the tuberculin was entirely limited to the gland tissue, for the capsular adhesions to the surrounding tissues remained unchanged, and the operation of dissecting out the glands was attended with somewhat greater difficulty than usual owing to the softness and semifluid condition of the glandular substance.

[Mr. Power read notes of cases, stating that he owed those of the hospital cases to the kindness of Mr. D. W. Hume, lately his senior house-surgeon, and to Mr. C. H. S. Taylor, B.A.Cantab., one of his dressers.]

The results point to the conclusion that new tuberculin, given by the mouth in small doses, is useful in the slighter cases of surgical tuberculosis. It is often "sovran," as the older medical writers would have said, against the chronic sinuses which are so often formed after operations upon tuberculous tissues—troublesome cases in which the wound nearly heals but not quite, and where it breaks down time after time upon the smallest irritation. It is valuable in enlarged cervical glands which have not undergone extensive caseation or suppuration. It has failed in this crude form to give any relief to patients suffering from tuberculous peritonitis, tuberculous disease of the joints, and from inflammation of the bones due to tuberculous infection.

It may, of course, be said fairly enough that the slighter cases of tuberculosis would have recovered if they had not been treated with tuberculin. Rest in bed, good food, and the careful nursing which patients receive in a hospital would in themselves have been enough to cure them. But this explanation does not account for the rapid healing of sinuses which had refused to heal until tuberculin was administered, although the patients had been in the hospital for a long time; nor does it explain the improvement which took place in some of my private cases where the parents were in a good position and the children enjoyed every attention that affection and money could procure.

We may say tentatively, therefore, that it is worth while trying small doses of new tuberculin (T.R.) given by the mouth in every case of tuberculous sinus and in tuberculous dermatitis affecting scars. It is also well worth while to try it in cases of enlarged cervical glands. It may be used as soon as the enlargement is noticed, in the hope that the glands will undergo resolution. There is reason to think that when the caseation is not very advanced, and when suppuration is limited to one or two glands, the administration of tuberculin may prove serviceable because the surgeon may limit his operation to the glands chiefly affected, and may leave untouched the innumerable smaller ones, which look like seed pearls and are so often the cause of the relapses occurring in patients who have been operated upon for tuberculous adenitis. If tuberculin be given in minute doses in these cases the smaller glands do not increase, and the patient remains cured. Every one knows that children with glands which are considerably enlarged often get well when they are sent to a bracing seaside place, the glands becoming smaller by a simple process of resolution. The same result occurs in some cases when tuberculin is given, and apparently by the same process. In one case I had an opportunity of examining glands which had got

much smaller after the use of tuberculin. The gland tissue had undergone remarkable changes towards recovery, but the surrounding adhesions which had been caused by the inflammation of the capsule remained unaltered. I had, therefore, to remove glands which, except for their increased size, were normal both to the naked eye and to the microscope. But these glands were embedded in chronically inflamed connective tissue, and required as much skilful dissection as the worst case of enlarged cervical glands. Their removal, too, was followed by a well-marked "reaction," characterized by a temperature of 104° F., which was apparently due to the liberation and subsequent absorption by the tissues of tuberculin from the glands whose capsules had been torn in the process of removal.

The effect upon the temperature of minute doses of tuberculin was very marked in many of the cases, and served as some indication of the necessity for repeating the dose. The temperature rose when too much tuberculin was given; it remained unaltered when too little was given; it remained steady and usually at a point below 98.4° F. when the proper dose was administered. A fresh dose was indicated when the temperature again began to rise above the normal and when it oscillated.

The course may be repeated as often as seems necessary, but care should be taken at the beginning of each fresh course to see that a reaction is not produced, the reaction consisting in malaise, a rise of temperature, congestion and tenderness of the infected tissues. When this occurs the tuberculin should be given in a diminished quantity, or it should be stopped altogether for a time.

DISCUSSION.

THE PRESIDENT OF THE SECTION said that as the result of his experience he had little faith in tuberculin as a remedy in severe cases of bone and joint tuberculosis.

Mr. MAYNARD SMITH (London) dissented from this opinion, and disagreed with the surgical policy based on that axiom. He quite believed the use of tuberculin would in time become a routine measure for all tuberculous cases, whether mild or severe. In every case the dosage should be controlled with due reference to the opsonic index.

Mr. R. C. DUN (Liverpool) had found tuberculin of little obvious benefit, and sometimes it appeared to act injuriously.

Mr. ROBERT CAMPBELL (Belfast) said that he had still an open mind as to whether tuberculin was of value or not.

Dr. JOHN MCCAW (Belfast) considered it of value in chronic tuberculosis of the skin just when and where the patient's hygienic surroundings were favourable to recovery. Otherwise where it was used benefit was problematical.

Dr. RALPH T. RICHARDS (Salt Lake City) said that the present opinion of American surgeons regarding tuberculous treatment was typified by the conclusions of Drs. A. J. and E. H. Ochsner, of St. Augustana Hospital, Chicago. They had conducted numerous experiments on various types of tuberculosis, always governing their dosage by careful systematic reading of the opsonic index. Up to date they had not obtained any beneficial results which could not be explained by the improved hygienic conditions under which the patients were brought. At present, in America, little confidence was placed in the reading of the opsonic index because of the marked influence of the personal equation of the investigator upon the results.

Mr. POWER replied briefly.

UNDER the will of the late Mr. John Lomax, of the Hulme Corn Mills, Cheshire, the Royal Infirmary and St. Mary's Hospital, Manchester, each receives a sum of £500.

THE Indian Archaeological Department has made an interesting discovery by finding in an ancient Buddhist stupa (a mound) close to Peshawar, of what are almost certainly (says the *Madras Weekly Mail* of July 29th, 1909) a portion of the ashes of the Gautama Buddha. The relics were enclosed in a rock crystal receptacle, sealed with the Royal Seal of the Great Buddhist Emperor Kanishka, who ruled at Peshawar about the time of Christ. The receptacle was inside a bronze casket, carved with Buddhist figures, including those of Buddha and of the Emperor Kanishka, and exactly at the spot where the Chinese traveller, Hien Tsing, had said they would be found.

SECTION OF TROPICAL MEDICINE.

C. W. DANIELS, M.B.Cantab., President.

PRESIDENT'S INTRODUCTORY REMARKS.

DR. DANIELS, after addressing a few words of welcome to the assembled members, initiated the work of the Section by opening the first discussion.

DISCUSSION ON THE PERSISTENCE OF PROTOZOAL TROPICAL DISEASES IN MAN.

OPENING PAPER.

By C. W. DANIELS, M.B.Cantab., M.R.C.P.Lond.,
Director, London School of Tropical Medicine.

THE persistence of the protozoal infection of a single host has to be carefully distinguished from the persistence of protozoa in general. The latter depends on the complex life-history of the parasite, including its sexual development: the former, as far as we know, depends on the length of time during which asexual multiplication can take place without requiring rejuvenescence by a sexual reproduction.

The great increases in our knowledge of protozoa all point in one direction—namely, to an alternation of processes of multiplication, sexual and asexual.

In many it is conclusively proved (for example, in malaria), that asexual or fission methods of multiplication (schizogony) take place in a warm-blooded host, whilst sexual reproduction is in a cold-blooded invertebrate host.

In coccidia the sexual method of reproduction does not require an intermediate host at all. The external environment is sufficient. In amoebae and intestinal flagellates, lamblia and trichomonas, development in the warm-blooded host is by a process of fission—asexual reproduction—but externally only after encystment, and apparently by a quasi-sexual process, which may be called autogamy. In spirochaetes we have in the blood-spirochaetes evidence that an intermediate host may be necessary, and that a period of time elapses between the alternative host being infected and being capable of transmitting the infection, pointing to a development of a different character, probably sexual, in this alternative host. In trypanosomes we have evidence of direct transmission from one warm-blooded host to another, as in dourine, and also of rapid direct transference occasionally, in *T. gambiense* and *brucei* by Glossina, but by many observers the fact that not every biting fly, but only a fly of the right genus and even of a limited number of species, will serve to transmit the disease has been taken as proving that a development stage, probably sexual, occurs in that fly as the alternate host. The discovery by Kleine that the fly became infective seventeen days or more after being infected, whilst it was not so in the interval, has practically proved that a developmental special stage, sexual, occurs in that fly.

In all these cases the disease-causing period of the life of the protozoa is the period when the asexual reproduction is taking place. The sexual forms are useful, or rather harmful, because they are the usual agents in the transmission of disease from one warm-blooded host to others. It is because of the sexual development that the peculiar distribution of many tropical diseases is due, but as regards the individual host, the sexual reproduction may be ignored.

We are thus, for the purposes of this discussion, mainly limited to the consideration of protozoa in their asexual stages, and, in my opinion, we are inclined to treat the parasites in this respect also as essentially different from other unicellular organisms that multiply mainly, if not only, asexually by fission. It is true that in protozoa more details of structure can be made out, so that it is seen that fission is really a gradual process, and not the sudden process that it appears to be in the fission fungi or schizomycetes, and that there are many unexplained observations as regards the chromatin transformations, particularly in the trypanosomes.

We are inclined also to take views based on analogies with higher forms of animal life, that sexual reproduction is the ordinary method of multiplication, whilst the asexual method is to be considered as somewhat phenomenal and exceptional, instead of, as we see is the case, that the exceptional reproduction is the sexual, and that for prolonged periods only the asexual form takes place, the sexual being in reserve for periods when the environment becomes unsuitable; and possibly the sexual method of multiplication in some, as in the *Spirochaeta pallida* and dourine, may become lost, just as in some of the higher members of the vegetable kingdom—for example, bananas—the cultivated forms cannot reproduce sexually.

In considering the evidence as to persistence of these infections, it is best to take the simplest conditions first, and that of the *Proteosoma* in birds infected by allowing infective mosquitos to feed on them will serve as well as any. In this case, we start with infection by parasites which have been "rejuvenated" by sexual reproduction. There is an interval of some days before any parasites will be found in the bird, and then only in very small numbers; but a very rapid increase takes place, so that in three or four days after their first appearance, ten or more may be seen in the field (1/12) at once. At this stage the bird may die, but if not the infection steadily diminishes, but more slowly than it increased, so that in two or three weeks the parasites may be as scanty as they were two or three days before the acme of the infection, and the bird will be quite well again. From thence onwards parasites may be found for months, usually in small numbers, but may ultimately disappear permanently. Any parasites seen will appear to be normal; their spores will be about the average in number.

The parasites do not increase in number, showing that some influence is at work which, though it does not prevent the normal multiplication of the individual parasites, does cause the destruction of the greater number of the parasites as they are formed, and that this influence was not present in the bird when first infected. This could be explained in another way, by assuming that the dying out of the parasites was due to a steady loss of virility in the parasites as the result of too prolonged asexual reproduction; if, however, the blood, whilst a few parasites are still to be found, is injected into a healthy bird, that bird will become infected, and the parasites, at first numerous, will disappear in a similar manner, while on injection of the blood of this bird into a third the parasites will in time again become numerous and again diminish. By inoculations of successive birds, the *Proteosoma* may be maintained for years without any alternation of sexual reproduction or alteration in their characters. It is, therefore, to changes in the host, not to loss of virility of the parasite, that the dying out of the infection is due.

In malaria in man the same series of events occurs. Following the injection of the sporozoites rapid multiplication takes place, so that in rather less than two weeks the parasites are sufficiently numerous, over 300 per c.mm., to cause symptoms. This multiplication will continue up to an extent varying in the individual, but after a varying time in the majority of cases the number of parasites will cease to increase, though they appear normal and must multiply—that is, form merozoites at the ordinary rate—showing that the majority of the merozoites perish. After a time there is a steady and rapid decrease in the number, so that they cease to be sufficiently numerous to cause symptoms, though an occasional parasite can still be found.

Various circumstances accelerate this decline; rest, uniform temperature, removal of causes of irritation, will all facilitate the action, whilst exposure to weather, intemperance, other diseases or injuries, or conditions such as parturition, delay or reverse the action. Quinine abruptly causes a similar decline in numbers, and a few other drugs have a similar action. This decrease, however induced, is temporary. After a varying time parasites again are found readily, and again continue to increase, remain stationary, and decline.

This process may go on for a long time, but not indefinitely, and it is on this point that more observations are required. The older teaching was in favour of the view that once a man had had malaria, he would be liable to recurrence all the days of his life, or at any rate, that any subsequent disease would show a malarial periodicity. The certainty now attainable by blood examination, the larger number of persons who have resided in malarial countries, have shown that a malarial infection does die out completely in persons living in a non-malarial country, and in many cases fairly quickly—in less than a year—though in some, especially benign tertian and quartan, over two years and very rarely indeed three years, and this in spite of taking drugs like quinine for some months. Whether this "natural cure" is due to a weakening or loss of virility of the strain by repeated asexual reproduction or to so marked an increase in the natural resistance and formation of antibodies, may be doubted. In favour of the latter is the fact that persons residing in a country where they are frequently exposed to malarial infection acquire a certain degree first of tolerance and then of immunity. Europeans who spend long periods in Tropical Africa, such as traders and missionaries in Central Africa, suffer far more during the first two years, and may have little or no fever afterwards as long as they reside in the country. Whilst the natives are practically all infected by the end of the first or second year of life, only a small proportion are infected after the fifth year and very few after the tenth.

Here we have instances where reinfection with virile parasites must take place frequently, but little or no infection takes place. The reinfections are as abortive as revaccination.

These same people, however, if they leave an infected area for some months or more, become reinfected on their return to a district where malarial infection is common, and show only slight tolerance to the infection. Such natural immunity is, therefore, acquired by the dying out of the parasites, is maintained by more or less abortive reinfections, and is soon lost unless these reinfections take place. The absence of rejuvenescence of the parasites by sexual multiplication can play a comparatively small part in the natural cure of the disease, the important part being that due to the protective agencies originated and maintained by the parasites themselves. If this fail, and apparently it rarely does so in time, there is no reason against absolute permanency of an infection. The effect of specific drugs, such as quinine, is usually considered too much as a direct effect on the parasite. It may be so in part, but more probably it is as an aid in stimulating the normal destructive powers of the tissues and fluids in the host. In one case half a grain of quinine is ample, in others 30 grains or more is less effective, whilst we know that with very direct poisons the effects are more closely related to the dose.

Multiplication is asexual in the forms producing disease in man, and to all intents and purposes the development is on the lines and subject to similar influences as the schizomycetes. There is no evidence that alternating sexual reproduction is necessary for the maintenance of the pathogenicity or vigour of the strain of any of the parasites. Parasites such as *T. gambiense*, piroplasmata, and spirochaetes injected directly from animal to animal, continue in each fresh soil to multiply with vigour, though the pathogenicity may not be quite constant, any more than it is with the schizomycetes. These variations are important, and particularly so is the development of strains different in their resistance to hostile agencies, as *T. gambiense*, in which a strain may appear resistant to atoxyl, and that the alteration is in the parasite and not in the host in that case is shown by the fact that the atoxyl resistant strain if injected into another animal is still atoxyl resistant.

Unless introduced into fresh soil, though the rate of multiplication of individual parasites does not diminish, the infection ultimately does disappear, though any other cause of ill health may lead to recrudescences when the parasites have been reduced to very small numbers. The resistance and destruction of the parasites is, as in bacteria, an affair, in the main, of alterations in the host, and the time taken varies with different protozoa as it does with different bacteria and with the same bacteria in different hosts.

In considering protozoa as a cause of disease we are apt to lose sight of the essential similarity of protozoal infections multiplying asexually and bacterial infections, and to disregard the principles that guide us in bacterial diseases. The factors are different for each organism and

as to the probability of effective resistance by the host; observations are the only reliable guide.

In malaria, as we have seen, an early limit to multiplication is reached moderately soon, and for a longer period there is a phase during which multiplication of the parasites will again occur, but the intervals between these recurrences becomes longer and the actual attacks shorter, till the parasites appear to be absent and only slight recurrences take place. As regards actual times, clinical experiences and pathological investigations are at variance to some extent. We have clear proofs of malaria in the presence of parasites, and we know that persons will commonly harbour parasites for six months to a year, less commonly one to two years, and very rarely for more than two years, when the possibility of reinfection is excluded.

We also know that in countries where reinfection is frequent that if there are periods of several months, as in the winter in Italy, when reinfection, abortive or otherwise, does not take place, individuals may retain their susceptibility all their lives, but that in actual practice, where there are no such complete intervals as in the malarial tropics after four years' continued residence, a steadily diminishing proportion of people are capable of being infected, whilst after ten years it is exceptional to find a person who can be reinfected; but all this merely shows that a condition inimical to the parasite has been established. We further know that this condition is not a permanent one, and that residence in a country where the possibilities of reinfection can be excluded results in a loss of this immunity, so that they again become capable of reinfection.

We as pathologists, perhaps, are too general in our assertions, and make the *average* experience necessarily the rule, and may have ignored too much the old experience that persons who have lived in malarial countries are liable to attacks of "fever" which resemble malarial attacks, and are disposed to attribute these too generally to other causes, ignoring that there is no real reason why parasites should die out, except for what in bacteriology would be described as formation of antibodies and increase in opsonic power or phagocytosis—that, in fact, a malarial infection need no more die out than a tuberculous one, except that there is acquired sooner a greater resistance on the part of the host, and that with protozoa we have drugs that can aid in the hostile action. On the other hand, there is no evidence of any natural resistance to the malaria parasite, whilst by some bacilli, such as that of tubercle, a healthy person is not readily infected.

With intestinal parasites we have a still more difficult problem to consider: parasites such as amœbæ, balantidium and lamblia are not far removed from their saprophytic life, and the conditions in the intestines are not so unlike an external life as those in the blood.

What we do know about their life is that in the intestine they can grow and multiply asexually by fission, as the schizomycetes do, and, when doing so, may set up serious disease; and that in addition they pass encysted forms which appear to represent an attempt at a sexual phase, and that these cysts are the only forms capable of living for any length of time in the external free condition. As might be anticipated, the intestinal organisms are capable of prolonged life in the intestine. Not need not invade the tissues or cause any disease even when numerous, and we find, therefore, that the amœbæ can live for many years in the intestine, with or without symptoms, according to the resistance of the host. When living thus, without causing symptoms continuously, it is much as it is with the typhoid bacillus in a typhoid carrier. Even in these cases, however, we occasionally get clinical evidence of the presence of the organisms in either an attack of dysentery or in a person who has shown no evidence of dysentery in the formation of a liver abscess with amœbæ in the contents; this may occur as long as twenty years, or even more, after leaving the tropics. Lamblia infections are similarly persistent. In these infections, as long as the parasites are living on the changing intestinal contents, no formation of antibodies could have any permanent effect. Changes in the host can only prevent the invasion of his tissues.

To conclude, it appears to me that too much attention has been paid to the parasites themselves and too great stress laid on their protozoal nature; that sounder views would be to consider them as causes of disease as more on a par with bacteria, and, as with them, to use our efforts to increase the resistance which already exists, as well as to endeavour to destroy the parasites. Our specifics may act in both ways, but, in the intestinal parasites at any rate, more in preventing tissue invasion than in killing off the parasites.

DISCUSSION.

Dr. BREINL (Liverpool) said: I am able to relate a case of recurrence of malaria in a patient after an interval of seven years, in which microscopical examinations confirmed the diagnosis. The recurrence was brought about by an acute attack of appendicitis, which, I take it, reduced the vitality of the host, and allowed the latent parasites to reappear in the general circulation. With regard to our experimental work in trypanosomiasis, we have been able to demonstrate that in apparently cured monkeys after a negative interval of at least four months, an intercurrent disease artificially produced, which lowered the vitality of the animal, caused a reappearance of the trypanosomes in the blood. It does not seem to be justifiable to compare closely bacteria and protozoa, as we are at present more familiar with the detailed structures of protozoa than with those of bacteria; and while I admit that it may only be due to our better knowledge of protozoic methods and the larger size of the parasite, still, until more is known, it would be safer not to run the risk of pursuing investigations in what may prove the wrong direction. I am sure that the attempt to apply the well-known bacteriological methods concerning immunity, etc., to protozoa, has been largely the cause of our failure because so little is known about the reaction of the host to the parasite; and it is necessary, in pursuing investigations of this character, that the host be considered as well as the parasite, otherwise the individual influence of one on the other will be overlooked. I am convinced that in some cases asexual multiplication may go on for an indefinite period, and that in others resistant forms may develop at some time which escape the destructive action of the "antibodies," and are capable at a future period, after the disappearance of the antibodies, of resuming an asexual multiplication.

Dr. J. L. MAXWELL (Formosa) said that in attempting to ascertain the persistence of malarial parasites in the blood, after all possible sources of infection had been removed, it was necessary that the patient should live continuously in a non-malarial country. Such being the case, it was impossible to determine the question in a tropical country, and those working there must look for the elucidation of persistency to observers in Britain.

Mr. JAMES CANTLIE (London) said: The disappearance of malaria parasites from the blood of persons who have resided in a malarial country does not always coincide with the disappearance of the effects on the physical state induced by the parasites. For three years after returning to London from Hong Kong I had fever continuously every July and August; the temperature varied between 99° F. and 102° F. Quinine afforded no relief. During the fourth summer I had neuritis of the left upper limb, which was regarded by the authorities as of malarial origin, although no parasites were found in my blood. After trying quinine, calomel in small continued doses, and salicylate of soda successively and systematically, no relief was obtained. The quinine was advised in the belief that the neuritis was due to malaria; the calomel was recommended as the neuritis was considered by another physician to be of hepatic origin; and yet a third advised salicylates to cure the rheumatic state which was believed to obtain. The cure was effected in twenty-four hours by a whole day's work in the harvest field, pitching wheat sheaves into carts. When a patient is invalided home from malaria accompanied, it may be, by a big spleen, anæmia, and the attendant lassitude, the question arises where to send him. I would say: Avoid residing in cities; avoid the seaside; do not go to the South of France, the South of England, or any of the warmer resorts, but instead go in summer to the hills in Scotland or Norway, and in winter go to the mountains in Switzerland and join in such winter sports as skating, tobogganing, etc., or spend the winter in Canada. The custom followed by many persons coming from a hot climate of staying on the way home at places in Italy or the

Riviera so as to avoid plunging at once into a cold climate is mere waste of time. Malaria yields to cold; it is maintained by a warm climate; and the higher above sea level and more bracing the atmosphere, the sooner will the enlarged spleen and the anaemia disappear.

Major T. RITCHIE, R.A.M.C., said: For advance in our knowledge of tropical diseases we must look to the physiological chemist rather than to the bacteriologist. The training of the chemist must be thorough, and many years must be spent in the laboratory before the special work required of him can be reliable or fruitful. I agree with Mr. Cantlie concerning the desirability of sending persons with malaria to high elevations. I have sent patients with malaria up to the hills in Sumatra with great benefit. It is customary to allow the patients to reside at a height of some 2,500 ft. before proceeding higher; this is mere waste of time, and I recommend them to go at once to the highest attainable point, some 7,000 ft. or 8,000 ft. above sea level.

Dr. C. A. STONE (Dooars, India) said there seemed to be a certain amount of uncertainty concerning the mode of action of quinine. Did it act as a direct specific, or in a roundabout way by stimulating the blood or tissues to deal with the parasites and the poison they engendered? In certain cases of malaria, especially malignant tertian, quinine failed to cure. Attacks of fever occurred in spite of quinine administration with great regularity, it might be with an interval of seven days. Were these attacks recurrences or reinfections?

Mr. J. STUART BROOKE (India) agreed with Mr. Cantlie's suggestion as to the advisability of sending malarial patients to the hills. Nothing in the way of treatment was more calculated to promote speedy recovery than residence at a height of several thousand feet above sea level.

Dr. O. E. MCCUTCHEON (Assam) said that the facts of recurrent attacks of malaria suggested that the parasite might remain latent. Malignant tertian attacks might occur at intervals of a fortnight or three weeks. He knew one case in which a young man had an attack of fever with malignant tertian parasites in the blood every second Monday for a considerable time. In these cases quinine treatment was unsatisfactory, and the precautions to prevent reinfection which had proved satisfactory in the case of newcomers to the tropics, did not modify the recurrence of the attacks.

Dr. DANIELS, in reply to the remarks made on his paper, stated that even in short cold seasons in the tropics malaria infections might die out completely, and reinfections might occur in spring. In the West Indies it was noted that the adult native negroes seldom presented big spleens, but the adult Indian immigrants were very frequently found with their spleens enlarged, the explanation being no doubt that the negro, being infected in childhood, had in adult years become more or less immune, whereas new arrivals in the district became infected or reinfected. It must be remembered that many tropical fevers were not malarial; that the parasite and not the toxins it left was the cause of the recurrence. Of that there seemed no doubt, for when filtrated malaria blood was injected into a healthy person, one attack of fever only occurred; there was no recurrence.

DISCUSSION ON THE FEEDING AND TREATMENT OF CHILDREN IN THE TROPICS.

OPENING PAPER.

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VITAL statistics show that in the tropics the mortality of the infant population follows much the same lines as it does at home; and that whilst variations depend but little on purely climatic causes, they closely correspond to the circumstances, the intelligence, and the capacity of the parents. This is true of all nationalities and races. No matter to what community they belong, if infants are carefully tended and adequately nourished, the rate of mortality is exceptionally low; if they are neglected and improperly fed, it is appalling. The difference between the death-rates of the children of the wealthy and those of the poorest natives is as great as the divergence between the infant mortality of our own middle classes and that of our workhouses.

In most parts of India, in the Straits Settlements, and in the Philippine Islands the average mortality of white infants during their first year is less than at home, and it constitutes not more than 5 per cent. of the total European deaths; but amongst the lowest classes of the natives of all these countries the infant mortality varies from 50 to 60 per cent.

Although figures are difficult to procure, and are not always reliable, the following table, compiled from official returns, compares the death-rate of certain tropical settlements and colonies with that of Edinburgh.

TABLE A.—*Relative Statistics of Birth-rates and Death-rates (Averages of Five Years 1903–7.)*

	Total Births per Mille.	Total Deaths per Mille.	Infantile Mortality up to 5 Years (per Mille of Births Registered).	
			All Births.	Europeans.
Jamaica (population 808,000)	38.4	23.4	657	161
Straits Settlements (population 601,000)	26.37	39.18	556	103
Ceylon (population 3,862,850)	37.14	28.61	523	155
City of Manila (population 235,000)	32.82	42.47	741	174
City of Edinburgh (population 341,000)	22.43	16.00	186	

FEEDING PROBLEMS.

This terrible loss of infant life is almost entirely due to gastro-intestinal disorders which are directly caused by the want of fresh and nutritious milk. Too often cow's milk is unprocurable; when it can be got, its price, judged by native standards, is prohibitive; it decomposes rapidly, and in most cases it is so much adulterated and polluted as to be dangerous. In the absence of the natural food of the infant, the position is, therefore, a serious one; and the problem for practical solution is to find an answer to the question, "How can cow's milk be best replaced?"

A word must, however, first be said on

Breast Feeding.

European women in the tropics are, on the whole, good nurses, and, for at least the first four or five months, a larger proportion of mothers are able to feed their infants than is the case in England. Further, it frequently happens that women who before the first confinement suffer severely from the effects of an exceptionally hot climate, completely regain their health upon commencing to suckle. The quality of the breast milk, too, is generally satisfactory, although the percentage of sugar is somewhat greater, and that of proteids less, than in colder climates.

The breast milk of well-nourished Asiatic women also compares favourably with good samples of human milk in temperate climates; but amongst the poorer classes it is unsatisfactory, and is often so defective in proteids and fat as to be unfit for infants' food.

The following table, prepared from analyses of breast milk which were carried out in the laboratories of the Bureau of Science, Manila, illustrates these features:

TABLE B.—*Analyses of Human Milk.*

	Fat.	Sugar.	Proteid.
König's average of breast milk in Europe	3.80	6.20	2.30
(1) Average of American women in Manila	4.24	6.63	1.45
(2) Average of native women in Manila (better class)	5.38	6.83	1.45
(3) Average of native women in Manila (poorer class)	3.07	7.99	1.29

Cow's Milk.

Numerous systematic attempts have been made to improve the milk supply in the tropics, and large sums of money have been invested in establishing sanitary dairy farms; but the results in almost every instance have been extremely disappointing. So many causes combine to defeat the object in view, that the possibility of employing fresh milk for infant feeding may, for the present, be disregarded; and it is incumbent to look for other sources of nourishment.

Goat's and Buffalo's Milk.

The same objections, in an even stronger degree, apply to the milk of the goat, and water buffalo (carabao, kerbau), which, however, are largely used by natives for infant feeding. Apart from the fact that they can seldom be procured, except in a filthy condition, the differences between the relative proportions of their constituents and that of human milk is so great that it is almost impossible to "humanize" them.

Condensed and Preserved Milks.

The defects of condensed and preserved milks are well known. They have a high value in "calories," of which a child, as it does no work, wants but a small supply; and they are defective in proteids, which are urgently required for the formation of tissue. They lack, also, the essential quality of freshness, and the unknown constituent of milk which is destroyed by heat. In cold countries condensed-milk babies are fat, but poorly nourished; the growth of bone and muscle is inhibited, and the excess of calories—useless for development—is stored as redundant fat.

In the tropics, however, these drawbacks are, to some extent, neutralized by climatic conditions: the metabolism of carbohydrates is more active, and the demand for proteids may be longer delayed without detriment to the child. On the whole, the results obtained by the use of the better brands of condensed milk are fairly satisfactory; and for many reasons some of these products form the best obtainable substitute for breast-feeding. Condensed milk is clean, easily prepared, portable, and fairly nutritious; and, as is shown by the recent enormous increase in the imports of Swiss and other tinned milks into tropical settlements, their practical value is now fully recognized by the native population. There can be no doubt that the general adoption of condensed milk has of late materially assisted in reducing the huge infant mortality, and that, as its consumption continues to extend, still greater benefit will accrue.

There is insufficient time to discuss many of the most important medical questions connected with the artificial feeding of infants in the tropics, or to go fully into the relative values of "cold storage," uncondensed tinned milk, condensed and sweetened, and condensed unsweetened milk, but, for many reasons, the safest and most efficient food for general use in the tropics is a good brand of sweetened condensed milk. When properly diluted and given with an occasional antiscorbutic, products like Eagle milk, Nestlé's condensed milk, and Milkmaid Swiss milk, all of which contain their full proportion of fat and most of their proteids, are usually satisfactory; and, even in the hottest climates, children of excellent physique, both European and native, may be successfully reared on them.

THE COMPARATIVE PREVALENCE OF CERTAIN DISORDERS.

Nothing is more remarkable in tropical pediatrics than the extreme rarity of many diseases which in temperate climates are fertile causes of mortality and of permanent constitutional impairment. In the Eastern tropics, at least, scarlatina, diphtheria, and the acute articular rheumatism of early life are practically unknown; and children, in consequence, escape the protean sequelae of these infections. The change which would be effected in the vital statistics of Great Britain, could we eliminate the mortality originating in these three diseases alone, can scarcely be computed; and it is one of the fortunate compensations of tropical life that the early zymotics levy practically no subsequent supertax of suffering on an already overburdened humanity.

As to some of the other affections incidental to childhood, measles and whooping-cough are fairly well established in the East Indies; epidemics of the former occasionally present features of unusual severity, and adults are frequently attacked—often for the second or third time. On account of the absence of cold, sequelae are, however, rare. Personally, I have never seen German measles. Whooping-cough is usually mild; mumps has been occasionally introduced, but has never spread; and, in most parts of the tropics, the same is true of epidemic influenza. On the other hand, disorders of the digestive tract and of nutrition are much more frequent in early life than in temperate climates; while parasitic affections are almost universal, although their prevalence varies greatly in different places. Among the more important morbid conditions which call for prevention and treatment at the hands of the physician, the following may be noted.

Tetanus Neonatorum.—Infection of the cut surface of the umbilical cord by the specific bacillus of tetanus is extremely common in the tropics, and as practically every case is fatal, an appalling number of infants die of so-called convulsions within a few days of birth. It is stated by many authorities that dark-skinned races are specially liable to tetanus, and that aborting or parturient native women often contract it by vulvar inoculation. There is little doubt as to the frequency of the condition, but there is no evidence in support of the claim for special predisposition on the part of the native, and the prevalence of tetanus is wholly due to the ignorance of native midwives. In other words, this prolific source of infantile mortality is entirely and easily preventable, and many thousands of lives might be annually saved could the attendants at native accouchements be induced to discard the filthy ashes and rags with which they dress the pedicle. Valuable educative work in this direction is being done by missionary and other associations; but in the face of indigenous prejudices progress is slow, and—at least in settlements administered by Europeans—the time appears to have arrived for compulsory cleanliness and the instruction in elementary obstetrics of those who engage in the practice of native midwifery.

Gastro-intestinal Disorders.—During the first two or three years of life, derangements of the alimentary tract are responsible for the greatest share of the mortality. In the majority of instances, the morbid condition is some variety of gastro-enteritis which may be remedied by a change of diet, but in a considerable proportion of cases of severe infantile diarrhoea there is a specific infection by the bacillus of dysentery, by entozoa, or by some other pathogenic organism.

Gastro-enteritis in the suckling usually manifests itself as "inanition fever"—a condition of imminent danger which is one of the most common of infantile disorders in the tropics. The symptoms are high temperature, intestinal pain, constant crying, watery or green diarrhoea, and great thirst, manifested by continual efforts to suck anything within reach. The proper treatment is to stop the breast milk and to feed the infant for two days on nothing but warm albumen water, of which large quantities should be given. From 20 to 40 oz. of water in which, according to the age of the infant, the whites of three or four eggs have been dissolved, is the usual quantity for twenty-four hours. A few drops of castor oil, followed by minute doses of calomel, are beneficial, and after forty-eight hours peptonized condensed milk may generally be given.

In cases of gastro-enteritis the services of native wet-nurses are largely utilized by Asiatics—often with the best results; but, as a rule, these women belong to the lower classes, and their employment is highly undesirable. I have known several instances in which syphilis was conveyed to a child by an apparently healthy wet-nurse.

When enteritis occurs after weaning it is usually a result of indigestion from improper feeding. In such cases there is severe diarrhoea and continuous vomiting, with cramp and other choleraic symptoms; but, if collapse has not set in, the alarming condition may generally be rectified by the administration of a drachm or two of castor oil, followed by fairly large doses of bismuth and Dover's powder. So long as shreds of milk curd, undigested rice, or other unassimilated matter is being passed, nothing except boiled water should be given, but, when the alimentary canal appears to be empty, chicken soup, peptonized milk, or some variety of infant's food may be tolerated.

Intestinal helminthiasis is almost universal in the tropics, and incredible numbers of entozoa are sometimes

harboured by very young children—often with an entire absence of symptoms. The routine use of santonin—a dose once every month—is a sound precept for the tropical nursery; but stronger anthelmintics, such as eucalyptus and chloroform, or kousso, are frequently necessary.

Dysentery.—This disease is the most prevalent and fatal of all the affections of childhood, and is responsible for many disorders of after-life which commence in intestinal impairment. It occasionally originates in an amœbic infection, in which case the attack is typically dysenteric; the bacillary variety, however, is much more common, and the symptoms resemble those of summer diarrhœa at home. Although the seizure is generally fulminating and choleraic in type, comma vibrios can never be found in the dejecta; but a bacillus giving the bacteriological reactions of the Shiga-Kruse species is almost invariable. Treatment is difficult and unsatisfactory; ipecacuanha is useless, and opium, although not so dangerous as is generally believed, is inefficacious. In dealing with acute dysentery in children the best results may generally be obtained by insisting on absolute rest and by limiting the food to barley water, egg albumen, and small quantities of Benger's food. Stimulants always have the opposite effect to what is intended. The frequent use of cleansing and soothing intestinal injections, such as warm water, dilute solutions of boric acid, weak decoctions of simaruba or linseed, is essential. Quinine acts efficiently as an intestinal antiseptic, and should always be given after dysentery. The dejecta must, of course, be destroyed.

The Non-malarial Continued Fevers.—Our knowledge of these disorders in children in the tropics is in a very unsatisfactory state, and, as different opinions prevail as to the actual nature of the condition, these disorders are a source of much anxiety to tropical physicians. One of the most usual types is that a child develops an irregular, but more or less continuous, rise of temperature, which it is impossible to refer to any of the definite or specific types of fever, and which persistently resists all treatment. Quinine is useless, and generally badly tolerated; and the various antifebrile alkaloids are ultimately abandoned on account of the weakness and exhaustion which they induce without permanently checking the course of the fever. Tuberculosis should always be suspected, but as complete recovery is the rule rather than the exception, that infection is probably infrequent. It will be found in practice that aperients and intestinal antiseptics (for example, calomel, grey powder, or pulv. antimonialis), with plenty of fresh fruit juice, cold sponging twice daily, and, if possible, a change to a hill station, generally give better results than any other method of treatment.

Malaria.—In view of the necessity for the systematic prevention of malaria, and of the influence of the child population in the diffusion of a preventable disease, special precautions are necessary for the protection and treatment of children in malarious districts. As a preliminary step, frequent verification of the infection index is essential; but, unless carried out as part of a general and thoroughly organized scheme, antimalarial sanitation by individual physicians offers little prospect of success. The problem of how to eradicate malaria from native communities without infringing the liberty of the subject is perplexing, but not impossible of solution. The difficulties and the cost of preventive measures have been unduly exaggerated; and it is essential to realize that the child-life of a colony is one of its most valuable assets.

Enlargements of the Liver and Spleen.—These are extremely common in the Eastern tropics in young infants; and although many of these cases can be traced to protozoal infection—for example, malaria and kala-azar—in most instances the origin appears to be non-parasitic. Several observers have noted large numbers of entamœbæ in the dejecta, and have regarded amœbiasis as a possible cause of the condition; but this supposition has not been confirmed, and, except that splenic and hepatic enlargements have no relation to hereditary alcoholism or syphilis, nothing is known of their pathology. There appears to be no ground for the statement that these affections show marked racial preference. In so-called idiopathic infantile splenomegaly the spleen becomes enormously hypertrophied; the temperature is irregular, and is uninfluenced by quinine; there is rapidly progressive dyscrasia, and death is generally consequent on a terminal attack of dysentery or diarrhœa. Polymorphonuclear leucocytosis is usual, but is neither excessive nor invariable. In the analogous affection of the liver—infantile biliary cirrhosis—hepatic enlargement generally begins during intrauterine life, and has often made considerable progress at birth. Fever is more or less continuous; the child lies listlessly in bed, but is fretful and irritable; jaundice is always present, and there is marked wasting and marasmus. Diarrhœa and dysentery appear as late symptoms. Treatment is, however, by no means hopeless, and great improvement is sometimes effected by the timely addition of fat to the food. If the child is a suckling it should be weaned and fed on condensed cream diluted with weak albumen water. When fresh bone marrow can be obtained it is more efficacious than any other form of fat, and, in its absence, preserved preparations of marrow may be useful. Arsenic is recommended, but my personal experience of it is unfavourable.

Yaws.—The younger members of most native communities throughout the world suffer from yaws, and the disease is not infrequently transmitted to European children. It is important to remember that there are at least two varieties of yaws—one, in which the infection is general, corresponding to constitutional syphilis; the other, in which the lesions are local, and are analogous to chancroids. *Spirochæta pertenuis* is, apparently, much less resistant to remedies than *Spirochæta pallida*, and the systemic form of the disease is generally eradicated without difficulty by a short course of mercurial treatment. Localized yaws heal readily if merely kept clean, but it is preferable to wash the sores two or three times a day with a weak solution of boracic lotion, and, after drying and dusting with boracic acid or calomel, to keep them carefully protected from the air.

Possibility of Rearing a Healthy European Population in the Tropics.

The controversy, now a very old one, as to whether it is possible for parents of pure European stock to rear healthy and reproductive children in the tropics has recently been revived, and it is again authoritatively asserted that the anæmia and malnutrition of white men who have been born and brought up in hot countries is neither essential nor of climatic origin. It is claimed, in short, that tropical diseases are entirely dependent on specific infections; that they are for the most part preventable; and that, if the knowledge which has recently been acquired were fully utilized, the insalubrity of the tropics would cease, and Europeans would be able to perpetuate a healthy and productive progeny. That much—very much—of the ill health still so prevalent in our tropical colonies is preventable there can be no question, but even if malaria, helminthiasis, and other endemic diseases were completely eliminated, it is more than doubtful whether a white population can ever be successfully reared in the tropics. There are factors in permanent climatic adaptation which are not easily apparent, and the intrinsic difficulty of the subject cannot be avoided by pathological generalizations. In the tropics, too, the industrial and social conditions of life have of late years undergone a marked change. Highly paid civil and military officials do not now, as formerly, comprise the majority of the European population. The requirements of administration, together with recent developments in planting, mining, railway construction, and other industries, necessitate the employment of large staffs of Europeans in various forms of enterprise and in the subordinate branches of official service. Many of them are engaged on little more than a living wage, and although it is true that the conditions of life are in some respects better than they would be at home, so far as the present and future welfare of their children is concerned, they are infinitely worse.

It has been customary, whenever possible, to send European children home when they are 6 or 7 years old; and, apart from medical reasons, it is essential that repatriation should not be delayed beyond that time. After the mind of a child becomes receptive, association with servants and other natives is necessarily inhibitive of healthy mental development, and abnormal impressions and tendencies are formed in early life which subsequent educational influences are powerless to remove. Much has been done, but more remains to do, for European children born in hot countries, and it is not only the

concern of the physician to prevent and to heal their diseases, but it is an imperative duty imposed on every one who has at heart the welfare of our great national inheritance to endeavour to his utmost to ameliorate the conditions of the child-life of all races in the tropics.

DISCUSSION.

Lieutenant-Colonel ANDREW DEANE, I.M.S., said that the great majority of native children were breast-fed, and few European mothers were good nursers. Dairy farms were spreading, and when well managed were successful. He preferred some of the prepared infants' food to condensed milk. In gastro-intestinal trouble from improper feeding, with purging, fever, and great thirst, all food should be stopped, and a cool bath be given to reduce temperature. The child should be given plenty of water and be allowed to rest; then, when the tongue had cleaned, careful feeding with whey might be recommenced. In dysentery, castor oil should be given to clear out the bowel, and be followed by quince seed jelly. The nates should be cleansed carefully after every movement of the bowel. The administration of small doses of morphine hypodermically or otherwise in children with gastro-enteritis seemed to answer admirably when everything else failed.

Dr. JAMES L. MAXWELL (Formosa) said: I observe two weak points in the tables shown by Dr. Carnegie Brown. In the table on relative statistics it is forgotten that many of the European children are sent home before they reach the age of 5 years, and this invalidates a good deal the last column of the table. In regard to the table of analyses of milk it is essential that the date after the birth of the child be given, as it is a well-known fact that the poorer classes of native mothers continue to nurse their children for two, three, four years or more, and their milk correspondingly suffers in its nutritive value. I agree with Dr. Carnegie Brown as to the uselessness of buffalo milk for infant feeding, as, owing to the very high percentage of fat present, no form of dilution renders the milk really suitable for infants. With regard to the use of preserved milks, Dr. Carnegie Brown has not mentioned the use of sterilized milk in tins (not condensed), which I have found of great value for infant feeding. At least three brands of such milk are on the market—Natura, Fussels, and Dahl. If condensed milk is used it is important to study the individual child, as one brand will be found to suit one child and another brand another child. I think Dr. Carnegie Brown is mistaken in supposing that the introduction of condensed milk would reduce the death-rate among native children. In my own experience in a city where condensed milk is beginning to be largely bought and sold, I have found that the introduction of condensed milk is adding very considerably to the death-rate of the infants. With regard to the substitute for milk in cases of gastro-enteritis, where such is needed in addition to rice water and albumen water, I would strongly recommend Mellin's Food as a food which can be used for a time entirely without milk or can be used with varying proportions of milk. With regard to drugs in place of the dose of ordinary castor oil, Ricicol, a form of castor oil, in powder, absolutely tasteless, when mixed with a little milk is easily taken by the youngest children. Bismuth salicylate is, perhaps, the most useful of the drugs, but drugs generally are uncalled for. Brandy is very valuable in very severe collapse, given in doses of 5 minims every hour. I protest most strongly against the routine use of santonin. Santonin is a toxic drug, and should only be given if the child had worms, which can be determined in two minutes by a microscopic examination of the faeces. The enlargement of the liver and spleen in native children is, in my experience, usually due to congenital syphilis. Yaws is not to be found in China, except in coolies who have acquired the disease abroad. They might infect the children in their own house, but the disease did not spread further. With regard to the rearing of children in the tropics, by the use of mosquito-proof houses perfectly healthy children without any trace of anaemia could easily be reared. They should return to Europe about the age of 5, for the reasons given by Dr. Carnegie Brown in his very valuable paper, for which he deserves the warmest thanks of the Section.

Surgeon-General W. R. BROWNE, I.M.S., said: I find myself in general agreement with Dr. Carnegie Brown, and would only draw attention to a few points on which I differ. The first is the advisability of using wet-nurses when a suitable woman is procurable and financially possible. Then as regards the "veto" of water-buffalo milk, much must depend on the proper feeding of the animal. Next, yaws was said to be quite common in the tropics, but this is certainly not the case in Southern India. Lastly, as regards the possibility of the prevention of malaria, it is very necessary to differentiate between European and native children, as in the former it probably is possible to get the due measures carried out, but there seems little prospect for ages to come that full preventive measures can be introduced among the native population.

Major RITCHIE, R.A.M.C., said that the statistics in the first table were misleading. It would appear that the mortality of European children in the tropics was less than that of the children of Edinburgh, but it must be remembered that European children in the tropics were well fed. All corresponded to the children of the middle classes in Edinburgh, whose death-rate would be much less than the total death-rate. These statistics in the table favoured the view that healthy Europeans could be reared in the tropics which the speaker regarded as mistaken. Adult Europeans, who had never suffered from malaria, came home after prolonged foreign service with impaired health. It was not likely that the case should be different with children.

Mr. J. STUART BROOKE, F.R.C.S.I., said: I consider the addition of water, owing to its impurity as a rule, a great source of intestinal trouble in India. I have found morphine at times useful, and I consider brandy a great stand-by in cases of collapse during gastro-enteritis or dysentery in children. There seems no doubt that measles in northern parts of India has become a more serious disease during recent years, and tuberculosis is increasing. Mumps and whooping-cough are met with in the north of India, and seem to run their course much the same as in Europe.

Professor HELLIER (Leeds) asked to what extent was the occurrence of rickets noticed in the tropics, and whether any suggestions could be made for the treatment of children sent home from the tropics, more especially those who were anaemic, debilitated, and often malarial.

Captain J. H. CAMPBELL, R.A.M.C., said: I can confirm, from a series of personal analyses, the statements made as to the large percentage of fat in the milk of water buffalos; but I must dissent from a statement which has been made by Surgeon-General Browne to the effect that the feeding of the buffalo accounts for the unsuitability of their milk. For is not this large percentage of fat over that of human milk the real cause of the difficulty in using the milk for infant feeding? My slight experience with milk obtained from a Government dairy farm's buffaloes, which are cleanly fed, confirms the belief that its unsuitability is not due to bad feeding. A word of praise is, I think, due to the Government dairy farms now established in certain large military centres. These institutions are excellently equipped, and superintended by officers who have received a scientific training in the preparation of dairy produce. The practical outcome can be seen in the comparatively healthy condition of infants in large cantonments. A very satisfactory milk is that obtained from a strain of cattle obtained from a mixture of English and Indian breeds.

Captain J. F. ROBB, I.M.S., said: With regard to the remarks on the question of feeding with water-buffalo's milk, I am in complete agreement with Surgeon-General Browne. If the buffalo is not allowed to walk about the villages, but is fed properly and well looked after, I think the milk can be safely and advantageously used. This milk is not used universally among Europeans in Southern India, but in those who have used it very good results have been obtained. As to yaws, I think it is very rare indeed in parts of the tropics; I have never seen any case in Madras. In gastro-intestinal cases I have got very good results from large doses of bismuth salicylate.

Dr. O. MCCUTCHEON (Docars, India) said: In the Docars, India, European children, as a rule, do very well up to 5 or 6 years of age. They are mostly the offspring of parents of the better class, and, although the district is very malarious, it is possible with proper precautions for

them to escape malaria altogether. The European mother has, as a rule, a small supply of milk. A properly selected wet-nurse is of great value. Cow's milk, if taken from good cows, in hill cattle in particular, is fairly good. Virol and sanatogen are useful for weakly children. Yaws is unknown; measles is common; mumps frequently occurs in epidemics affecting children and adults alike; whooping-cough in Europeans appears no worse than at home, but is a very serious disease among native children; tuberculous diseases are on the increase; rickets is very rare, but a few cases have been seen.

DISCUSSION ON THE TREATMENT OF CHRONIC DYSENTERY, WITH SPECIAL REFERENCE TO SURGICAL TREATMENT.

OPENING PAPER

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THE seat of chronic recurrent dysenteric lesions is, as a rule, situated at the junction of the sigmoid flexure and the rectum; and it is chiefly with the anatomy, the anatomical pathology, and the medical and surgical treatment of lesions there located, that I propose to deal.

Ascertaining the Seat of the Lesion.

When a patient with intestinal derangements presents himself for examination, the procedure, after gauging the state of the general health and the important organs, should be to palpate the abdomen: to examine the stools; to examine the bowel by the finger and then by the sigmoidoscope. (1) Palpation of the abdomen may reveal some condition explanatory of the presence of mucus in the stools, such as a tumour or a displaced or enlarged organ pressing on the bowel, but in post-dysenteric states and in long standing cases of recurring colitis the examination will soon focus itself on the sigmoid flexure, for it is in this part of the intestine that the lesions occasioning the trouble will, in the majority of cases, be found. The sigmoid may be found rolling below the fingers as a small tube of the apparent size of a cedar pencil, or it may feel as thick as the thumb. Pain may be elicited along the whole length of the sigmoid, but it may be confined to an increase in severity as the sigmoid is traced towards the pelvic brim. The focal point of the pain will be made out to be at the outer edge of the left rectus abdominis muscle at the level of a line drawn horizontally inwards from the left anterior superior spine of the ilium. There, not as constantly as we find McBurney's point over an inflamed appendix on the right side, we find a point on the left side of the abdomen indicative of the seat of a bowel lesion causing chronic and recurrent attacks of intestinal flux with mucus or blood and mucus in the motions. (2) Careful examination of the stools is, of course, essential in coming to a conclusion as to the nature of the ailment in question. A normal stool is difficult to define, but I judge a stool to be normal or otherwise according as it sinks or floats in water. Normal faeces sink in water, and departures from this rule may be complete or partial, and the healthiness of the motion is in direct proportion as the whole or part of the motion sinks or floats. Naked-eye inspection, washing the faeces to ascertain the presence of mucus, blood, or undigested food, are not sufficient; the microscope can alone determine whether ova are present, or chemical tests in obscure cases are required for diagnosis. (3) Digital exploration of the rectum should never be omitted. (4) The sigmoidoscope can alone determine the presence and seat of a lesion when it is beyond the reach of the finger.

Dysentery and colitis, when acute, involve a great extent of the colon; but when either disease becomes chronic it is usually only in the neighbourhood of the sigmoid flexure that delay occurs in the healing process. The delay not infrequently degenerates into chronicity, and the bowel exhibits a localized patch of disease, ring-like in extent, or occupying, it may be, but a few inches of the length of the gut at the junction of the sigmoid flexure and rectum. Since the introduction of more exact methods of making a high rectal examination by the sigmoidoscope much that was mere guesswork has become a question of fact, and one can now see plainly the lesions in the bowel during life.

The Sigmoid Flexure (Iliac and Pelvic Colons).

So impressed have I become with the part played in chronic dysentery by the sigmoid flexure that I, some years ago, set to work to study this portion of the bowel anew, and in several previous contributions I have published the results of my examinations. I will shortly recapitulate these: The sigmoid flexure commences at the sudden diminution in the calibre of the bowel which marks the spot where the wide descending colon ends. The sigmoid ends as a narrow tube in the pelvis by joining the wide upper end or first stage of the rectum. At the narrow ends the sigmoid is bound down so firmly by the peritoneum that but an infinitesimal amount of play is given to the gut at these points. Between the upper and lower ends the sigmoid flexure has usually a mesentery which allows of freedom of movement varying considerably in amount. The possible movement may be limited to a mere capability of rolling backwards and forwards below the fingers during clinical examination, or the mesentery may be so ample that the sigmoid may loop down across the pelvic brim to within the area of the pelvis. The latter condition is, however, abnormal, as the examination of the bowel of healthy children shows. On removing and opening the sigmoid flexure and part of the bowel immediately above and below, one is struck by the anatomical peculiarities of the tract. When opened and laid on a flat surface, especially if the bowel is allowed to lie in spirit and water for a few days, it will be observed that whilst the end of the descending colon, the middle section of the sigmoid, and the upper end of the rectum will lie quite flat, the junction of the colon and sigmoid, and also the junction of the sigmoid and rectum, refuse to lie flat, but tend to curl up rather and to suggest a narrowing at these points. Closer examination will show that the diameter of the bowel is lessened at these points, and that when held between the finger and thumb there is actual thickening. The mucous lining of the bowel is different in the sigmoid to that seen at any other part of the colon. The mucous coat is firmly incorporated with the submucous coat, which in turn is tougher and more firmly adherent to the muscular coat than elsewhere. The slight folds and ridges of the sigmoid mucous membrane run, as a rule, parallel to the lumen of the bowel, whereas in the adjacent portion of the colon and rectum the ample folds and puckerings are oblique or transverse to the lumen. At the lower end of the sigmoid especially the circular muscular fibres in a normal gut are thickened and present a condition akin to the pylorus at the gastro-duodenal orifice of the stomach. I have been tempted to regard the junction of the sigmoid flexure and rectum also as a pylorus worthy of a distinctive name, and some years ago I styled it the "sigmo-rectal pylorus," and gave the name "colo-sigmoid pylorus" to the spot where the wide colon joins the narrow sigmoid. When the outer aspect of the sigmoid is examined it will be seen that the longitudinal fibres of the bowel participate in the anatomical peculiarities, for at the upper, or colo-sigmoid pylorus, the bands approximate each other to separate below, but at the sigmo-rectal pylorus they come together again and actually touch each other, and in yet a few cases I have examined the longitudinal fibres seem to intermingle. That the sigmoid flexure is a distinct entity in the anatomical features of the bowel no anatomist can gainsay, and in its physiological aspects it would seem to play an important part in consequence. Until faeces enter the sigmoid flexure they are void of shape; as they emerge from the sigmoid the faeces are moulded to the rounded shape we recognize as characteristic of a healthy stool. They lose some of their moisture during the passage and perhaps are deepened in colour. By the passage of the faeces through the sigmo-rectal pylorus the necessity for defaecation is announced. We are made acquainted that the rectum is filling, and that, although we may refrain from going to stool for a time, we are aware that the occasion is at hand. The function of the sphincters at the anus is not normally to

sustain the column of faeces extending away upwards to the colon, but merely for a time to check the rectum overflowing when filling. The dial for the necessity of defaecating is at the sigmo-rectal pylorus; the temporary retention is the act of the anal sphincters. The sigmo-rectal pylorus is the narrowest point of the large bowel, and, as at all the orifices in the alimentary tract from mouth to anus, functional and pathological abnormalities or lesions are most prone to occur, so at this narrowed point we find the same law holds good, and here congestion, catarrh, ulceration, and stenosis are apt to occur in greater frequency than elsewhere; and, whilst other portions of an inflamed or ulcerated colon may speedily recover, the narrow sigmo-rectal pylorus or junction is, from its anatomy and functional activity, apt to be delayed in its healing and to become stenosed. Normally, there is a slight intussusception of the sigmoid into the rectum, and abnormally, or as the result of chronic dysentery, this intussusception may be so marked that the sigmoid flexure, thickened and stenosed, and perhaps ulcerated, may be felt by the finger, like the narrow end of a pear, protruding into the lumen of the rectum. This condition of the rectum, with the pear-shaped protrusion, resembles the vaginal passage with the uterus at the upper end.

The Effects of Stenosis of the Sigmo-rectal Pylorus.

I have, in previous contributions, classified the lesions and conditions most likely to induce mucus in the stools, be it mucous casts of the intestine, mucous flakes, or the gelatinous-looking masses that frequently precede, accompany or follow defaecation. (1) The causes acting without the gut are any tumour or enlarged organ pressing on the colon. (2) Causes acting within the bowel are worms and their ova, chronic constipation, etc. (3) Causes due to lesions of the bowel wall: (*a*) Acute dysentery, both bacterial and amoebic; (*b*) ulcerations of whatever variety; (*c*) kinks in the sigmoid, due to chronic distension of this portion of the bowel between its upper and its lower pylorus; (*d*) more distant lesions, such as appendicitis; (*e*) stenosis of the sigmoid, more especially of the lower or sigmo-rectal pylorus, due to malignant growth, to post-dysenteric thickening, fibrous or other forms of stricture, or growths which affect the lumen lower down; (*f*) invagination or intussusception of the sigmo-rectal pylorus into the upper end of the rectum.

Intussusception of the Sigmo-rectal Pylorus.

This state is the one I particularly wish to emphasize. The lower end of the sigmoid normally protrudes slightly into the upper end of the rectum. When there is constipation, congestion of the mucosa, ulceration, or any abnormal condition of the mucous membrane at the lower part of the bowel, this protrusion is increased and the lower end of the sigmoid—the sigmo-rectal pylorus—becomes intussuscepted for some distance into the rectum. It is here the trouble is located in chronic ailments of the lower end of the bowel. Persistence of the intussusception leads to irritation during the passage of faeces, especially when hard, with the result that a thickening of the wall of the gut obtains and a stenosis is developed. The stenosis leads to further obstruction and intussusception, and a persistent lesion calculated to cause chronic trouble is established.

Given a stenosis of this pylorus the consequences are obvious. These may, perhaps, be best illustrated by taking the effects of a stricture of the urethra as an example. When a deep-seated stricture of the urethra occurs, a drop of urine, after micturition, remains in the pocket behind the stricture. In time this causes a catarrh of the mucous surface of the urethra behind the stricture, catarrh leads to congestion, to ulceration, and it may be to perforation of the urethra, when extravasation of urine into the perineum takes place. The mucous surface of the urethra back to the bladder and the bladder itself may become inflamed, with the result that there is urethral discharge and a mucous deposit in the urine when passed. Cystitis, if the stricture is not relieved, may develop; it may disappear with treatment, to again occur if the stricture is not properly cured. Again and again may the condition recur and subside until the bladder wall, the ureters, and the kidneys are involved. In the case of an intestinal stenosis the result is similar. Given a narrowing of the junction of the sigmoid flexure and rectum (the usual seat of such a lesion), the more solid faeces are apt to be retained, the mucous membrane behind the stricture becomes catarrhal, congested, inflamed, and it may be ulcerated, with the result that mucous excretion is increased, it overflows the stricture, accumulates in the rectum, and comes away before the stool. Above the stenosed portion the mucous surface becomes at times irritated and inflamed; there is a recurrence of the so-called dysenteric symptoms, inasmuch as there is some fever; blood stains the mucous secretion, or flakes of blood-stained mucus appear, when the dysentery is said to have relapsed. This is no true relapse of the disease, it is merely the local congestion which is liable to occur in any mucous surface the seat of stricture, as illustrated in the case of the urethra. Recurrent dysenteric attacks are therefore due to a local lesion, a stenosis of the sigmo-rectal pylorus, and the mucus in the stools which persists between the pronounced relapses is only the expression of the presence of this stenosis at a time when from treatment or care in diet the congestion is at its lowest and the lumen of the tube for the time being allows the more fluid force to pass without much disturbance. Recurrent dysenteric attacks and persistence of mucus in the stools are therefore not recurrences of latent infection, and are due to the effect of an uncured stenosed bowel. With this principle established the treatment is simple and capable of being placed on a scientific basis—namely, the cure of the stenosis. I do not wish to enter into the discussion of the question of amoebae being the etiological factors in the initial disease, but the presence of amoebae in the stools in recurrent dysenteric attacks are certainly not the active agents in producing these recurrences. Amoebae may persist in the stools for a lifetime after an attack of dysentery, but when no stenosis is present they will not of themselves induce relapses. When no stenosis is present there will be no relapse. In other words, relapses indicate a stenosis.

I make no distinction between chronic post-dysenteric states and chronic colitis, be it chronic forms of mucous colitis, of membranous colitis, of ulcerative colitis, or of follicular ulcerative colitis; in each and all of these the cause should be looked for, and when no extra-intestinal or intra-intestinal origin is present it will be found to be due to stenosis of the sigmo-rectal pylorus.

Diagnosis.—The Sigmoidoscope.

There is but one method of recognizing the conditions above referred to—namely, by the use of the proctoscope or the sigmoidoscope. On passing a sigmoidoscope, it is better not to have the patient under an anaesthetic. All the accidents recorded when this simple operation is undertaken occurred when the patient was insensible. The patient's sensations are a useful guide to the examiner, and they should not be blunted or annulled by an anaesthetic. The instrument is to be introduced with the patient on the left side, on the back with the pelvis raised, or in the knee-elbow position. The tube is passed through the anus, and its point pushed along a line from the anus to the umbilicus for two inches. The point is then directed backwards for three or four inches along a line from the anus to the tip of the spinous process of the fifth lumbar vertebra; the direction is again changed, and the point advanced along a line from the anus to the left sacro-iliac synchondrosis or on the surface of the body in the direction of the cartilage of the eleventh rib. When passing the tube and it reaches a distance of five inches from the anus in the adult, the patient always calls out "Stop!" On being asked if it hurt, the answer is a doubtful "No, but it is uncomfortable, and I feel as if I was about to have a stool." If there is trouble at the sigmo-rectal pylorus, the patient will give an exclamation, as if in pain, the moment the instrument reaches it; and should the passage of the sigmoidoscope be pushed, the patient will have great pain, rendering the onward passage, or even the mere maintenance of pressure, unbearable. This person has an abnormal bowel, and the lesion is situated at the junction of the sigmoid and rectum. If the seat of the lesion is examined through the tube there may be seen, according to the affection, congestion, granulations, ulcers, single or multiple, follicular suppuration, or cicatrices. The sigmoid may be seen protruding into the rectum, and presenting an appearance comparable to an os uteri, with an environment of granulation tissue or so-called cauliflower excrescence.

Treatment of Post-dysenteric Lesions.

The classification of the seat of lesions calculated to produce mucus (in its widest sense) in faeces simplifies the scheme of treatment. If the cause arises without the gut, be it a tumour, the pressure of a displaced or enlarged abdominal organ, bands of adhesions, uterine affections, or any remediable or removable cause, the procedure is obvious; if the bowel trouble is traceable to causes within the lumen of the tube, be it intestinal parasites or some rectal obstruction, the course of treatment is equally apparent. When the lesion is in the bowel wall, attended by intussusception of the sigmo-rectal pylorus into the rectum with attendant obstruction of the lumen of the tube —a stenosis—the treatment resolves itself into dietetic, medicinal, and surgical.

Diet.—The effect of diet in lesions of the large intestine beyond the caecum is disappointing. The patient, asked if diet has much effect upon the nature of the stools, almost invariably answers in the negative, and my experience fully bears out the truth of the reply. Suitable diet comes to be merely a question of relieving the local intestinal congestion in the lower part of the colon and sigmoid, for which purpose a "non-irritating diet" is given. This is accomplished by the exclusion of vegetables and fruit from the diet, the exhibition of foods which allow as little residual as possible for the bowel to get rid of. Meat, eggs, jellies, soups (strained), rice water (conjee), and fruit juices accomplish this purpose. By meat I mean beef. Fresh beef pounded, finely minced or served as cut from a joint, is easily digested, leaves little to be got rid of, and supplies by its fresh juices a protection against the scorbutic condition which so frequently accompanies long-standing intestinal flux or bowel disturbance of a chronic nature. Milk, the stand-by of the unthinking practitioner, has nothing to commend it as a food in intestinal troubles, be it in sprue, colitis, or post-dysenteric lesions. If the object is to procure rest for the intestine, then most certainly milk does not give it. In sprue, for instance, the milk taken is mostly got rid of as curd—the "solid stool" of the believer in milk as a treatment in sprue and intestinal flux generally. The so-called "solid stool" represents milk acted upon by elements in the gastro-duodenal region whereby it has been separated into whey and curd. The whey is absorbed, and on it the person undergoing the milk cure mostly lives; but the curd passes as the "beautiful solid stool." Examine this stool and one finds that it has not the odour of faeces, that it has not the appearance or texture of faeces—that it is merely a mass of milk made into curd by passing through the length of the intestine, as it might have been done by merely adding rennet to milk. The passage of this mass of curd, or "milk stool," does not bring rest to the intestine, and therefore is useless as a "curative" dietary in intestinal lesions associated with ulceration, be they due to typhoid, tubercle, dysentery, colitis, sprue, or to stenosis in any form.

A mixture of meat and milk diet, which is so frequently partaken of in ordinary day life, is unhygienic for both the sick and the whole. Even in Mosaic times it was laid down that milk should not be taken until two hours after having eaten the flesh of goats; yet in modern times the milk pudding follows the meat course with almost invariable regularity. I have advocated the meat treatment in sprue and intestinal lesions, generally in opposition to the milk treatment, for years. I have had a few followers, but as a rule medical men hover between the two opinions in vogue and effect a compromise by giving a mixed meat and milk diet. There can be no compromise except to the detriment of the patient. Milk, neither in the experience of the early Egyptians and Jews nor according to the findings of the most recent physiological laboratory, should be given with meat. I frequently give my patients a "milk day"—that is, a whole day on milk, for I find that three "meat days" followed by one milk is at times beneficial; but there is no "mixing" of diet. But a diet, be it ever so absorbable and leaving ever so little refuse, does not do away with the excretion of faeces, and so long as the local lesion attendant upon chronic intestinal flux remains at the sigmo-rectal pylorus, so will retention of faeces, catarrh, mucous hypersecretion, ulceration, and occasional recurrences or relapses of the flux occur. Diet, however, will not cure the ailment in question; it may relieve by lessening local congestion, but will not cure the stenosis.

Drugs.—When one has to treat medicinally a case of recurrent dysentery or a post-dysenteric exacerbation two lines of treatment occur as feasible. One is the "Epsom salt" treatment so successful in acute dysentery in some countries, so hopelessly unsuccessful in others as to constitute a legitimate basis for differential diagnosis between the types or the causes of dysentery. The "Epsom salt" form of treatment is useless in chronic intestinal ailments associated with flux and mucus in the stools. For old tropical residents with diarrhoea due to alcoholic liver a severe course of "Epsom salt" treatment is highly beneficial. Ipecacuanha, the other line of treatment, is beneficial at times in post-dysenteric lesions, but in others it is useless. When successful it will be found to be so when the dysenteric trouble is really a relapse—a recurrence owing to the primary trouble being uncured. Ipecacuanha is useful and reliable only in tropical dysentery and in relapses which occur within a month or two after the apparent subsidence of the initial attack. Later, when the trouble is chronic, it will be found to be disappointing. When, in fact, the disease has reached the stage in which local lesions are causing the trouble, be they ulcerations, cicatrices, or stenosis, ipecacuanha has little or no effect.

Lacto-bacillin in Intestinal Flux.

It may be interesting to practitioners of tropical medicine as well as to others to know that lacto-bacillin was first used in this country in the treatment of post-dysenteric ailments and in sprue. Within thirty-six hours after the delivery of Metchnikoff's lecture at the Royal Institute of Public Health, in response to a telegram to Paris, I obtained the lacto-bacillin preparations and proceeded to administer them to persons suffering from intestinal flux of tropical origin in various forms. In the treatment of sprue by lacto-bacillin, I was disappointed, but not unexpectedly so. Sprue stools present an essentially acid fermentation, and I was prepared to find that the lacto-bacillin increased that acidity; this actually occurred, and the sprue condition became worse. It was only when I left off the lacto-bacillin after six days, and gave an alkaline powder consisting of calcined magnesia and bicarbonate of soda, that I found the benefit of the lacto-bacillin. I can only attribute the improvement in such cases to the presence of the bacilli exhibited exciting a chronic state to one of exacerbation, and subsequently allaying the increased activity by the alkali. As in chronic keratitis a clearance of the cornea may be effected by exciting inflammation by the introduction of septic material, so by stirring up a passive intestinal fermentation or lesion into an active one, and then cutting it short by counteracting by an alkali, is the subsidence likely to prove permanently beneficial. In this sense only does the lacto-bacillin treatment do any good in sprue. The lacto-bacillin treatment is, however, most valuable in stomach and duodenal catarrhs, in gastro-duodenal fermentations arising from dilatation of the stomach, or in case of fermentation due to catarrh. For the Anglo-Indian of middle age the subject of exhausted digestive functions, characterized by a dry and rather shrivelled skin, loss of body-weight, a splashy stomach, a small liver, irregular intestinal flux at times of the nature of (sprue or) fermented stools, the lacto-bacillin in the form of the soured milk treatment is extremely valuable.

Local Treatment of the Lesions attended by Mucus in the Stools.

When the sigmo-rectal pylorus is examined by the sigmoidoscope the treatment will be determined by the lesion present.

1. When there is mere congestion with a slight intussusception, the condition will usually yield to a diet of a non-irritable and non-residual producing character (for example, meat) combined with rectal enemata of warm sea-water once or twice daily for two or three days and afterwards less frequent injections. When sea-water cannot be obtained, coarse sea-salt, a tablespoonful to one and a half pints of water, will serve as a substitute, but fresh sea-water brings away mucus and cleans the surface of the bowel to an extent far beyond any other medicated or natural application. Not only does the sea-water seem

capable of cleansing, but it also produces a curative effect which is at times most satisfactory.

2. When there are actual ulcers to be seen by the sigmoidoscope I find the best application is pure carbolic, preceded or followed by sea-water injection. The carbolic acid may be applied every second or third day as required.

3. When the lesion is of old standing, when there is thickening of the bowel wall producing stenosis, the only rational treatment is dilatation of the strictured orifice. Just as a strictured urethra requires the passage of bougies to dilate and to absorb the obstruction, the stenosis of the bowel with its attendant mucus overflow from above the seat of stricture must be dilated. The tube, a rather soft rubber tube with a stiffened end and eyes at the neck, is passed along the tube of the sigmoidoscope (or better the proctoscope as being shorter) and pushed through the stenosed orifice of the "os uteri-like aperture" in the sigmo-rectal pylorus. This is not always an easy proceeding, and disappointment is apt to follow attempts at its introduction, but once through improvement is rapid, and the second and following ventures become progressively easier. It is unnecessary, I hope, to draw attention to the difficulty of introducing a long tube high up into the bowel. For once, even in a normal bowel, that the medical practitioner passes a long tube up the rectum through the sigmoid flexure and into the descending colon, I am not exaggerating when I say that in the most skilled hands this can be done not more than once in twenty times. Even when introduced through the tube of the sigmoidoscope it is a most difficult thing to accomplish. I know this is not generally believed, and I have been many times accused of exaggerating the difficulty. One disbeliever who, after passing the tube apparently successfully, and even professing to feel it in the sigmoid flexure through the abdominal wall, agreed to have his statement tested by an *x* ray photograph and was astonished to see the length of the tube coiled up in the rectum. The attempt to pass the tube through the stenosed orifice is, however, well worth persisting in, for its passage means cure in many instances with disappearance of the mucus, the relapses, the alternating constipation and diarrhœa, and of the autointoxication which accompanies the retention of faeces due to stenosis.

Surgical Operations in Lesions of the Large Bowel, Accompanied by Persistence of Mucus in the Stools.

When, after some months of treatment by diet, by medicines, by enemata, and by local applications, mucus in the stools persists, with, occasionally, recurrences of dysenteric signs, little or no improvement is obtained, it is necessary to consider what further steps may be taken. Opening the bowel at one of several points is indicated, and the seat of the lesion must determine at what point the colon is to be opened. The object of the operation is either (1) to relieve the diseased surface from the irritation caused by the passage of faeces, or (2) to be better able to wash out the bowel thoroughly and thus free it of deleterious discharges; or (3) to allow of the introduction of remedial or disinfecting applications.

1. *Opening the Appendix.*—When the whole of the large intestine is the seat of very chronic trouble the appendix ought to be opened, stitched to the surface, and the bowel washed out through the opening once or twice daily with some disinfecting fluid; through this aperture also some chosen drug, such as ipecacuanha, quinine, or some other supposed specific, can be introduced. In theory, the measure has everything to recommend it; in practice, it has several drawbacks. "Where is the appendix?" is not an uncommon remark when the peritoneum is opened in the right iliac region, or "How is the appendix to be freed of adhesions and brought to the surface?" is not always easily answered or accomplished. But even given an appendix successfully anchored and the bowel satisfactorily flushed day after day, cure is a slow process, and means not days or weeks, but at times several months before apparent progress is made; so slow, in fact, that one begins to doubt the benefit of washing out the bowel at all. Opening the appendix, moreover, does not allow of rest to the diseased surface of the intestine, for the contents must still pass along to the anus.

2. *Opening the Caecum.*—Few surgeons care to adopt this procedure; the annoyance of the passage of fluid faeces at irregular and frequent intervals disturbs the patient to the point of distraction, and, as the bowel may have to be kept open for months, it is not an operation that commends itself.

3. *Opening the ascending colon* in the right lumbar region allows of rest to the intestine beyond and admits of the introduction of enemata and other remedial measures.

The above steps are necessary when the whole tract of the colon is the seat of trouble, and, of these, opening the right colon is by far the most thorough and efficacious.

4. *Opening the Sigmoid Flexure.*—In 90 per cent. of chronic post-dysenteric cases, and in so-called chronic colitis, the seat of the trouble will be found from five to eight inches up the bowel from the anus. Any extension upwards from this point into the descending colon will be found secondary to the sigmo-rectal lesion, and the removal of the cause will speedily cure the secondary or induced catarrh of the colon. I have, in cases where applications by way of the anus and rectum—whether sea-water injections, the use of drugs, or the introduction of a long dilating tube—have proved inefficacious, followed the practice lately of opening the sigmoid flexure.

In cases of so-called chronic colitis, the result, it may be, of or supervening upon previous attacks of dysentery, I have never found the upper part of the sigmoid seriously, and in the majority of cases not as all, affected. In acute colitis it is different; opening the sigmoid is useless, and seems to have done harm in cases in which I did so. By opening the sigmoid, the seat of trouble at the junction of the rectum and sigmoid is relieved from the passage of faeces, and remedial measures can be adopted by way of both the anus and the artificial opening in the sigmoid more intimately and immediately than when the bowel is opened higher up. Even with the sigmoid opened, when the prolapse of the sigmo-rectal pylorus is pronounced, and there is considerable amount of local thickening, it is difficult, and at times impossible, to pass a dilating tube through from the anus below, or by way of the opening in the sigmoid above. As I consider this essential to cure in many cases, and finding it impossible to pass a tube from above downwards, or from anus upwards, I have adopted the following expedient: With a bed-pan below the patient, I introduce the nozzle of a douching tube into the lower opening in the sigmoid and wash through. I then introduce a short silken thread into the opening in the sigmoid and get the thread carried along through the obstruction until it appears at the anus. Tying an indiarubber tube of narrow size to the thread, I pull it through from sigmoid until it appears at the anus. Larger tubes are gradually introduced until a tube ½ in. in diameter is admitted. The tube is perforated at intervals, so that remedies of various kinds can be injected; formidine emulsion or ichthyol 10 per cent. can be injected along the tubing and have beneficial effects. When the stenosis is dilated and the ulcerated surface cured, the opening in the sigmoid is closed in the usual way.

5. *Excision of Part or the Whole of the Colon.*—Complete removal of the colon is justified when the whole of the mucosa of the large gut is implicated and practically destroyed, and the organ is not only functionally useless, but an actual source of danger, owing to the secretions from its surface causing auto-intoxication or when the wall of the intestine is so thinned that it may perforate. Excision of the lesion at the junction of the sigmoid and rectum is justifiable when all less radical methods have failed. That bowel ulcerations should be dealt with so as to prevent the possibility of pylephlebitis or of abscess of the liver occurring, there can be no doubt. I have seen an old ulcer at the junction of the sigmoid flexure and rectum cause pylephlebitis forty years after the attack of dysentery which occasioned it.

The question of the etiology of liver abscess is not yet settled. General hepatitis is not a common or a necessary antecedent to the formation of a liver abscess. Did general hepatitis play a part in the formation of a tropical abscess, it is unlikely that the pus would be confined to one spot in the liver; multiple abscesses would be the rule. The so-called pre-suppurative stage of hepatitis in the history of the formation of a liver abscess is a misnomer, and the exhibition of ipecacuanha to control the

hepatitis is not a rational explanation of the good claimed for ipecacuanha in this respect. The prevention of the formation of liver abscess by the exhibition of ipecacuanha, if it does thus serve, cannot be by controlling a general hepatitis, for it seldom exists as an antecedent to tropical abscess. The explanation, if such is feasible, may then be sought in the action of ipecacuanha upon the bowel contents or upon the ulcerated surfaces; but this is a matter of mere speculation, for there is no surety or even credence that ipecacuanha, more than castor oil or Epsom salts or milk, has any effect in preventing liver abscess.

DISCUSSION.

Dr. J. L. MAXWELL (Formosa) said: I venture to doubt the relation which Mr. Cantlie has suggested of recurrent dysentery and the habits of Western races in matters of defaecation. It is a pity that more attention is not paid to the habits of Eastern races before theories are enunciated, such as we see frequently in medical journals—for instance, that the frequency of piles is due to the abnormal position assumed in defaecation. I would point out that among the Chinese piles are quite as common as among Western races, and, curiously, the affection is much commoner amongst men who defaecate in the so-called natural position than it is among women who adopt a method approximating to the Western practice. I would like to ask Mr. Cantlie what was the form of tubes that he used for dilatation of the sigmo-rectal pylorus. With regard to the surgical treatment, I should have been glad to hear Mr. Cantlie deal with the question of excision of the sigmo-rectal pylorus, which, if his theory is correct, is evidently the operation of election; the operation would be a very severe one so low down in the intestinal canal. The serious objection to opening the colon at any point is that a faecal fistula is produced which afterwards may cause considerable difficulty in closing. The new operation of appendicostomy is not open to this objection, and deserves a thorough trial.

Dr. CARNEGIE BROWN (London) said it was no doubt true, as claimed by Mr. Cantlie, that acute dysentery was very rare in patients who returned to this country after a long residence in the tropics. Chronic dysentery, especially the amoebic variety of the disease, was, of course, a very common condition. But colitis, either acute or recurrent, as seen in people who had never been out of Great Britain, was indistinguishable from most of the cases of dysentery which one saw in hot countries. In many instances, too, it was amoebic; and when careful search was made, as in a recent case of dysentery and liver abscess reported from Birmingham, entamoebae could be demonstrated both in the intestinal contents and in the liver. If these cases occurred in a country where dysentery was endemic they would invariably be diagnosed as dysentery. Nor could he agree that in recurrent tropical dysentery the sigmoid was almost invariably the preferential seat of disease, and he found himself in direct opposition to the statement that the sigmoid was in most cases stenosed. The result of examination of a very large number of specimens, both fresh and in pathological museums, was conclusive on both points; in tropical dysentery the proportion of cases in which the disease process specially affected the sigmoid was about 10 per cent., and general stenosis was very rare indeed. The pencil-like feeling of the lower intestine through the abdominal wall, which had been described, he had never encountered. Although stenosis occurred in the sigmoid, as in other segments of the bowel, from the contraction of cicatricial tissue over healed ulcers, the usual condition was dilatation; and, although the wall of the bowel was often enormously thickened, the lumen of the canal was generally unaltered, and not infrequently it was enlarged. With regard to what Mr. Cantlie had said about the absorption of nourishment when milk was the sole diet, the careful analyses of Schmidt and Strasburger in Germany and of Vaughan Harley and Goodbody in England, showed that, although the casein was partially undigested, about 50 or 60 per cent. of it by weight was completely absorbed, and it was not the case that the patients lived only on the whey. Why, if that were so, did they always increase in weight? He agreed that meat and milk should not be given together. Lacto-bacillin was discredited simply because it was not properly employed. The dried forms—tabloids, etc.—were useless, and the only proper way to make soured milk was to prepare it by fresh subcultures, as was done by peasants in Bulgaria and elsewhere. That was by far the easiest, and, indeed, the only rational way of using this most valuable method of treatment. His experience of it in sprue had been to show that the effects of a milk diet might be obtained in this way without keeping a patient in bed. None of the operative procedures was free from the grave objection that a serious operation—one which was attended by enormous fatality—was undertaken to relieve what was by no means a hopeless or even dangerous condition.

Dr. ALLAN H. HANLEY, C.M.G. (Dublin), said: I have had a large experience of acute dysentery. In one epidemic amongst natives in Southern Nigeria practically 50 per cent. of those affected died. The whole colon from caecum to sigmoid was equally affected in 88 *post-mortem* examinations I performed in three months. All forms of treatment appeared to be futile. As regards injections, I fear the fluid injected but rarely passed the splenic flexure. I certainly think that in these cases operative treatment, whether appendicostomy or right inguinal colotomy, might have been attended with some success. As I did not know what to do in the way of treatment I performed a right inguinal colotomy, but unfortunately the patient died almost at once.

Dr. R. A. CARTER (British Guiana) said: In treating cases of chronic recurrent dysentery distinction must be made between acute and chronic dysentery, the latter requiring almost quite a different form of treatment. With regard to injections, I have found injections of very weak solutions of nitrate of silver most useful. These injections should be copious and given at least three times a day. With regard to drugs, I have found antiseptic intestinal drugs, a mixture such as beta-naphthol, soda bicarb. and salol, to give good results, and with regard to diet, chicken-tea with intervals of milk and eggs. With regard to the cedar pencil size of the large intestines, when I have come across this condition the other portions of the large intestines have not been diseased.

Captain GORDON TUCKER, I.M.S., said: Men who collect from various parts of the world to discuss dysentery from their own experience should remember that they may be discussing different things which have the same name. For instance, those who have had great experience of dysentery as seen in China or Japan may be unacquainted with dysentery as met with in India. There are cases of chronic dysentery in Bombay City and the Bombay Presidency which resist all medicinal treatment and invariably end in death. They are not common, as most cases of Indian dysentery respond to treatment by ipecacuanha when given in proper manner. The residuum, however, have special features, as seen *post mortem*. There is no question of the ulcers being localized or exaggerated at any particular flexure. They exist in numbers from caecum to anus. The ulcers are of the size of a rupee or more, and covered with long tags of sloughed mucous membrane. The muscular coat is indurated, the induration being due, as seen in microscopical sections, to marked round-celled infiltration between the muscular fibres. The peritoneum is congested or inflamed. There may be sacculi of the bowel due to peritoneal adhesions, and sometimes a faecal abscess may be met with about the splenic flexure. The whole large bowel, therefore, is an indurated pus-containing tube and cannot function. Any severe operation is out of the question. Such patients have little or no resistance. Even an appendicostomy is a serious matter. I have only had personal experience of five operations; one patient died from shock; a second did well for eight days, developed pneumonia, and died on the tenth day. Though the result was unfortunate the case was valuable, as the whole large bowel was obtained at the autopsy. The condition of the abscesses showed a marked result from the eight days of irrigation. From caecum to anus they were clean, and showed none of the tags of sloughed mucous membrane on their surfaces. Some of the caecal ulcers were beginning to heal in from their edges. The remaining three desperate cases recovered, and put on flesh so rapidly that they were not recognized on returning to hospital to show themselves. It would appear, then, from these very few cases that the operation has a promising future in those very severe cases of chronic dysentery which resist all treatment—dysentery of the

type which I would prefer to call "chronic sloughing colitis."

DR. J. HERBERT SANDERS (Hong Kong) said: The point necessary to keep in view is the relief of the patient, and in these recurrent chronic cases, how can we give them the most relief? Is it advisable to order them home into a temperate climate? The weak patient on the journey home would find much relief by washing out the lower bowel with warm fresh salt water. Rest and careful diet has, in my experience, given relief to the patient, but I have not found any case where one could say a permanent cure had been effected. The excision of the large bowel in these weak cases is, in my opinion, unjustifiable, and the only thing in the present condition of our knowledge is the washing out of the large bowel with some form of lotion.

Fleet Surgeon J. LLOYD THOMAS, R.N., said: The treatment by washing out the lower bowel by the systematic and most careful use of warmed salt water is, first, followed by great relief, and, secondly, by the feeling which follows the use of an ordinary hot-bath, and that is great comfort. Medical men should handle the enemas themselves when practicable, and that always with a gloved hand, for the condition of the patient requiring this treatment is generally one of much debility—of a neurotic condition—and rough handling is greatly resented. A long and not too small a tube should be used, so as to reach the higher lengths of the lower bowel.

LIFE-HISTORY OF ANKYLOSTOMA DUODENALE.

By A. T. OZZARD, M.R.C.S.,
Government Medical Officer, British Guiana.

AT the present day there is no agreement as to the true life history of this parasite. Manson, in his latest edition of *Tropical Diseases* (pp. 715-16), mentions that

Giles holds that *Ankylostoma duodenale* may become sexually mature while outside the human body and in the free state; in other words, that it is heterogenetic, an abundant supply of food favouring non-parasitic multiplication. His observations, supported by Ozzard, Annett, Ross, and Sandwith, are opposed by Looss, who points out that probably other free-living nematodes have been mistaken for the species in question; that, in fact, the illustrations in Giles's report represent three males belonging to different species,* and characterized by an entirely different configuration of the posterior extremity.

Daniels, in his latest edition of *Laboratory Studies in Tropical Medicine* (p. 349, second edition), states that the eggs, if allowed to escape into the earth,

undergo further development, but do not become sexually mature or reproduce outside the body.

Brooke, in his *Tropical Medicine* (pp. 128-9), says that Giles states that

He was able to hatch out embryos on sand from ankylostome ova, and that he obtained adults from these, which were different from the ordinary intestinal species. This would seem to show that the parasite may have an extracorporeal life-cycle, with possibly two forms of development, as in the case of *Rhabdonema strongyloides*.

Obviously, therefore, there is a considerable diversity of opinion on the subject, and I am unaware that it has yet been satisfactorily settled.

So long ago as 1900 I followed Giles's methods of endeavouring to cultivate the ankylostome outside the human body, and, after a certain amount of trouble, I satisfied myself that this could be done, and that therefore the *A. duodenale* is heterogenetic.

I published a short note of my results in the *British Guiana Medical Annual* for 1902, and gave some very rough sketches therein. I am in the unfortunate position of not being able to see any of the original articles or any illustrations of Giles, Looss, or any one else. In fact, I have seen no illustrations beyond my own.

Dr. Wite, the Government Bacteriologist for British Guiana, has most kindly taken the trouble to photograph some of my specimens, and these I now produce in the hopes that such may help to settle the matter one way or the other. I also bring forward some of my original slides prepared so far back as 1900. I recapitulate, with apologies, my notes in the *British Guiana Medical Annual* for 1902:

A small quantity of the dejecta, known to contain only the ova of *Ankylostoma duodenale*, is mixed with about three or four times its bulk of water and poured on the surface of some sterilized river sand in a suitable vessel. This latter is covered over with a piece of glass. Every day a small portion of the faecal layer was placed on a glass slide, a smear preparation made, and examined under a low power of the microscope.

At the ordinary temperature of the air here the embryos usually hatched out within twenty-four hours. During the rainy season, however, when the temperature is lower, they sometimes take a week before hatching out.

In emerging from the egg the embryo measures roughly from $\frac{1}{70}$ in. to $\frac{1}{75}$ in. in length by $\frac{1}{400}$ in. in breadth. At this stage they show little else than an intestine and oesophageal bulb. They now increase rapidly in size and length, and undergo numerous ecdyses. Giles says that ecdysis takes place roughly about twice in the twenty-four hours. And, as far as I could make out, this represents the case very fairly. The embryos developed into free sexually mature worms in from eight to ten days in my cases. The eggs in the free female worms are exactly similar in size and shape to those of the parasitic form. The size and shape of the free sexually mature worms are, however, very different to those of the parasitic form, being very much smaller generally.

That so few observers have accepted this view of the heterogenesis of *Ankylostoma duodenale* I can readily understand. To endeavour to cultivate them in sterilized vessels and on sterilized sand is practically asking them to survive and reproduce their species on almost nothing at all. Giles states that he was first led to experiment on these lines by having accidentally come across some apparently sexually mature worms in some ordure he happened to examine. Obviously one would expect to be able much more easily to cultivate them on ordinary earth than on sterilized sand; but then, of course, the objection would be at once raised that these were some other naematode worms.

Professor Looss (according to the quotation from Manson's book already quoted) points out that the illustrations in Giles's report represent three males belonging to different species and characterized by an entirely different configuration of the posterior extremity. I deeply regret that at the time of my experiments I made no special drawings of the males. As a matter of fact, I concluded that Giles had proved his results, and that they were accepted. I was simply trying to satisfy my own curiosity.

Any one examining the photographs and specimens of the free sexually mature female adult forms will be at once struck by the very close resemblance of the contained eggs in the uterus with the eggs of *Ankylostoma duodenale* as passed from the human body. The similarity between the two is very striking, and cannot be ignored. If this be not a free sexually mature female *Ankylostoma duodenale*, what naematode worm is it?

It is absurd to attempt to describe these as *Rhabdonema strongyloides*. As I pointed out in my note in the *British Guiana Medical Annual*, the two are quite different in appearance and the number and shape of their eggs. In the free female forms of *Ankylostoma duodenale* the ova are arranged in a single row, and are of an oval shape and usually from six to ten in number, whereas in the female *Rhabdonema strongyloides* the ova are arranged in a double row, and are somewhat rhomboidal in shape and usually in far greater numbers than those of *Ankylostoma duodenale*. I speak of the free-stage adults, of course.

The preparation of faeces from which I obtained my specimens I kept for months, and could at any time (after their first free-stage generation) obtain specimens at all stages of their growth, from the eggs to the adult forms.

If, therefore, it be subsequently proved that there is such a free-stage existence for *Ankylostoma duodenale*, one can the more readily understand how easily the disease ankylostomiasis and infection with *Ankylostoma duodenale* becomes so widely spread amongst human beings. One infected stool dropped on suitable soil would become capable of spreading over a very wide area of ground, to be, in all probability, subsequently travelled over by various people, who, if barefooted, would hardly escape picking up the larvae on their naked feet. Some of the photographs give an idea of the extraordinarily large number of these larvae in a very minute bit of faeces.

Giles states that he only once was able to develop the *Ankylostoma duodenale* in water, and that was a sample of very foul water. It is perfectly true that some of the eggs will hatch out into larvae in water, but these larvae very soon cease to exist and development no further goes.

*One of these species might well be *Necator americanus*.—A. T. O.

DISCUSSION.

DR. C. W. DANIELS (London) pointed out the great importance of the question raised, because prophylactic measures that would be of value if no heterogenesis occurred would be useless if this took place. Most observers (and many had repeated similar experiments) reported that though they found considerable development occurred, yet even when they kept alive the embryos for months with abundant nutriment, they got no traces of sexual organs. He hoped that those with opportunities would repeat these experiments so that this important question might be finally settled.

ETIOLOGY AND PATHOLOGY OF "ENDEMIC FUNICULITIS."

By ALDO CASTELLANI, M.D.,

Director of the Clinic of Tropical Medicine, Colombo.

FOR many years a peculiar suppurative condition of the spermatic cord has been known to the Ceylon practitioners, some of whom published cases of it as far back as twenty years ago. I may mention the cases reported by Dr. Geo. Thomasz, Dr. Garvin, and several others, who indicated the condition under the name of "corditis" or phlebitis of the cord. The condition was considered by some to be of filarial origin; by others to be of venereal origin. Some practitioners considered the disease to be a malarial affection. The condition was investigated by me in 1904, and more completely, at the request of Dr. C. Paul, in 1907. I came to the conclusion that the disease had sufficiently characteristic symptoms to be considered a separate disease, for which I proposed the name of "endemic funiculitis." Madden, in Egypt, being unaware of the Ceylon local publications, described, in 1907, the same malady under the name of "cellulitis of the spermatic cord." The most important publication on the subject is the recent one by Coutts. For the description of the malady I refer the reader to Madden, Coutts, and my own publications, but a few words on the clinical aspect of the condition may not be out of place here.

The onset is generally abrupt; the patient complains suddenly of severe pain along the cord and the epididymis. As a rule, there is fever, and the general condition becomes rapidly worse. At the physical examination it will be seen that the inguinal region is occupied by a large cylindrical swelling in the direction of the cord, very painful on pressure. The skin is not affected. In most cases the epididymis is somewhat enlarged and tender, while the testicle proper appears to be normal. On examination of the penis and scrotum no ulcers are found, no signs of gonorrhœa, and no signs of any traumatic origin. As a rule, the disease has no tendency to spontaneous cure. If an operation is not performed in time, a general septicæmia develops: the skin of the patient becomes jaundiced, cutaneous hæmorrhages appear, the fever is of an intermittent or remittent type, and the patient dies in a few days. Very occasionally, however, mild cases may be met with which recover spontaneously. A chronic type, to which special attention has been called by Coutts, also exists.

Pathology-Etiology.

The results on the investigation of the morbid anatomy and histo-pathology obtained by Coutts and myself agree in the essential points. The whole of the spermatic cord is highly inflamed and infiltrated; the circumference of the cord may be as much as 3½ in. On making a transverse section, yellow creamy pus will exude from the opened veins of the pampiniform plexus as well as from the vas deferens. The inflammation often extends to the epididymis, while the testicle proper is normal. Some clear fluid may be present, however, in the tunica vaginalis. At the *post-mortem* examination of these cases in which an operation has not been performed in time, the lesions found are those of other septicæmic processes. The skin is jaundiced, and may present petechiæ, the lungs often show hypostatic congestion; the heart is flabby, and subpericardial hæmorrhages are often seen. The spleen is enlarged and soft; the liver is generally enlarged, and may show fatty degeneration or cloudy swelling. The kidneys are often congested.

Histo-pathology.

The microscopical study of the sections of the cord will show the veins of the pampiniform plexus, dilated and occupied by pus cells, or by thrombi; a cellular infiltration of all the coats, as well as a perivascular infiltration, is present. According to Coutts and my own researches, the type of infiltration is mostly mononuclear. The vas deferens also is in many cases occupied by pus, or may be occupied by a cellular granulation tissue; its membranes and various muscular coats show a diffuse cellular infiltration.

Etiology and Pathogenesis.

My recent researches confirm the result of my previous investigation. Taking my old and new cases together, in 93 per cent. of my cases a diplo-streptococcus was present in the pus of the veins of the pampiniform plexus; in two *post-mortem* examinations the same germ was found in the blood of the heart, and during life it has occasionally been isolated from the blood of the general circulation in septicæmic cases. I have isolated various strains of this streptococcus; they all agree in one character—namely, they are decolorized by Gram's in sections of the tissues and in smears from the pus, while preparations made from cultures decolorize incompletely, and some cultures may even be Gram-positive.* Other germs, as is well known (strains of meningococcus), may present this same peculiarity—namely, of being Gram-negative in preparations from the tissues, and Gram-positive in preparations from cultures. In smears made from the pus, and stained with methylene blue, the cocci are often arranged in pairs, and may show a gonococcus-like appearance. The principal characters in culture media are as follows:

Agar.—The growth is very delicate, but some strains may grow fairly abundantly, the colonies occasionally coalescing together.

Gelatine.—Same characters as in agar, only more delicate. A few strains do not grow on gelatine.

Broth.—In some cases, general turbidity; in others the medium remains clear, while some sediment may be present.

Pepton-water.—Very scanty or no growth at all.

Milk.—The milk is rendered acid.

MacConkey's agar.—No growth.

Serum media.—Nothing characteristic.

Sugar media.—The reactions vary. Most of the strains I have isolated lately give the following reactions:

Glucose broth	Acid.
Lactose broth	Acid.
Maltose broth	Acid.
Saccharose broth	Acid.
Saccharine broth	No change.
Mannite	No change.
Bulcite	No change.

The germ I have described, therefore, cannot be distinguished from the usual strains of *S. pyogenes*, except, perhaps, by its being Gram-negative in preparations made from the pus or sections of tissues. Does this germ play any rôle in the etiology of the disease? I am now inclined to give it more importance that I was at first willing to do; the constant presence of the germ being somewhat suggestive. If this germ plays an etiological rôle, which is the pathogenesis of the malady? Coutts states that the micro-organism is often found in the urethra of natives, and he regards the suppurative condition of the cord as due to the extension of an infective process from the urethra by way of the vas deferens. To a certain extent, I can confirm Coutts's opinion, having found the organism in the urethra of 2 patients suffering from endemic funiculitis, and presenting an extremely mild catarrhal inflammation of the urethra of non-gonorrhœal origin. I have, however, not found it in 6 other cases specially examined. A certain importance as predisposing cause must be given to a sudden chill, and, perhaps, some slight traumatism. In almost all the Ceylon cases the disease begins abruptly after the patient taking a cold bath when feeling tired. A few patients give a history of having made an effort in lifting a weight, such as a big stone, etc.

CONCLUSIONS.

1. The etiology of endemic funiculitis requires further investigation, but it is probable that the micro-organism described by me, and the presence of which in the disease

* In the paper I published in the *Lancet* (1908) it was stated by mistake that the germ was always Gram-positive.

has been confirmed by Coutts, may play an important etiological rôle—at least, in the suppurative state of the malady.

2. The micro-organism is a streptococcus practically undistinguishable from the usual strains of *Streptococcus pyogenes*, except by its being—at least, in my cases—Gram-negative in preparations made from pus and in sections of tissues.

3. As regards the pathogenesis of the disease, Coutts's opinion that the malady develops through an extension of a mild or latent urethral infective process, via the vas deferens, has many points in its favour.

4. A sudden chill, such as that given by taking a cold bath, and any kind of sudden traumatism, are probably important predisposing causes.

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DISCUSSION.

Mr. J. CANTLIE (London) said: I recently had under treatment a native of Ceylon—a man of middle age—who developed funiculitis for the first time whilst residing in London. The attack commenced with pain in the right groin, some swelling, and fever. The spermatic cord was enlarged and tender from the internal abdominal ring along the inguinal canal, and down the scrotum as far as the epididymis. The patient had fever and pain for four weeks, but at the end of that time the pain subsided, the swelling disappeared, and only an ill-defined thickening was left along the course of the spermatic cord. After an interval of six weeks the symptoms again appeared and continued for about fourteen days, when the parts became again fairly normal. There was no suppuration in this case, and I made no incisions into the swelling. The patient left for Ceylon apparently quite well.

IS PONOS KALA-AZAR?

By G. A. WILLIAMSON, M.A., M.D.Aberd., D.T.M.Liverp.,
Government Medical Officer, Larnaca, Cyprus.

THAT a very fatal disease, chronic in nature and occurring in epidemic waves, should be endemic solely in two small Greek islands is difficult to believe, and it is much more probable that its being regarded as a disease *sui generis* under the name of ponos is due to want of careful investigation with the aid of modern methods of research. The earliest full description of this disease is that of Dr. Yiannakopoulos, of Spetsai, in the Greek medical journal, *Galenos*, of September 8th, 1879, and nothing of importance has been added in later accounts. I have read this description in the original Greek, and most of the information quoted with regard to the disease in the following remarks is taken from it.

On the discovery of the Leishman-Donovan body in 1903, and the description of the symptoms caused by that protozoon, I was much struck by the resemblance of the disease to ponos, and wrote to Major Donovan and Sir Patrick Manson suggesting the possibility of kala-azar and ponos being the same disease, the answer being from both that probably splenic puncture would settle the point, but that the fact of ponos being apparently confined to young children was against the idea of its being kala-azar. In 1908 I was appointed by the Colonial Office to proceed to those islands to investigate, and made all preparations, pending a reply to an inquiry as to the presence of the disease; the reply when it arrived was that the disease had died out, and later information was to the same effect, so that unfortunately the expedition had to be abandoned—at least, for the time being. I wrote to medical men in those islands explaining the interest attaching to splenic or hepatic puncture in suspected or ascertained cases of ponos, and requesting them kindly to forward films for microscopical examination on opportunity offering, but no answer has been received; and so the matter stands at present, except that Dr. Andrew Davidson hints at ponos being possibly caused by the Leishman-Donovan body, although he says that it may appear extravagant to do so (Allbutt and Rolleston's *System of Medicine*, ii, p. 611).

That the disease is one caused by a micro organism the following facts go to prove:

1. Although endemic, epidemic waves occur.

2. It is a disease characterized by fever.

3. Severe cachexia occurs after the fever has lasted some time.

4. Several cases occur in the same family.

The recent work of Nicolle in Tunis shows that a disease exists there with symptoms similar to those of ponos, and occurring amongst children as ponos does, and splenic and hepatic puncture has shown the presence of Leishman-Donovan bodies; this would suggest that a similar result would follow puncture in ponos; and if these cases in children are found only in Tunis and nowhere else in North Africa (as is apparently the case), the likeness to ponos is still more evident; both would be instances of locally confined kala-azar.

The Leishman-Donovan body in the Near East has been discovered in kala-azar patients in Arabia, Egypt, Tunis, and Algiers, and in Oriental-sore patients in Arabia, Tunis, Algiers, and Cyprus; thus, specimens obtained by me in a smear from a typical case of Oriental sore in a Cypriote who had never been out of Cyprus were recognized as Leishman-Donovan bodies, and Professor Ronald Ross and Dr. Stephens, of Liverpool, kindly corroborated the diagnosis; from this it is evident that the parasites are found in several countries bordering on the Mediterranean, and in Cyprus, so that from the geographical position of both Hydra and Spetsai it is probable that the climatic conditions would be equally favourable to the presence of the parasite there.

Definition of Kala-azar and Ponos.

Lieutenant-Colonel Sir W. B. Leishman defines kala-azar as a chronic and extremely fatal fever of an irregularly remittent type which occurs in epidemic form in Assam, and in endemic form in other parts of India and the tropics. It is characterized by great wasting, a progressive enlargement of the spleen, and a tendency to haemorrhages and dropsical effusions. It is associated with the presence in the spleen, liver, and other situations of a protozoan parasite, the biological position of which has not yet been definitely determined. In his book Dr. Andrew Davidson defines ponos as a disease of infancy and childhood, endemic in the Greek islands of Spetsai and Hydra, characterized by fever, enlargement of the spleen, cachexia, and haemorrhages. Thus, leaving out the geographical distribution and the reference to causation in these definitions, we get the following referring to both diseases: A fever with cachexia, enlarged spleen, and haemorrhages.

COMPARISON OF THE TWO DISEASES.

Ponos.	*Kala-azar.*
Believed by all to be infectious.	Believed by all to be infectious.
Cause not yet discovered.	Leishman-Donovan body the probable cause.
Age: Infancy and childhood; rare in adults.	Age: A disease of all ages, chiefly young adults in India. A large proportion of children are attacked (Rogers). A large proportion of children are attacked in Tunis (Nicolle).
Endemic, with epidemic waves.	Endemic in India generally, epidemic in Assam.
Begins as fever, intermittent or remittent, finally always quotidian, and hectic after one or two weeks, but very irregular.	Begins as fever, intermittent or remittent, finally always continued fever in second stage; extreme irregularity of temperature in cachectic stage.
In early stage perhaps anorexia, debility, enlarged and hard abdomen; urine malodorous in early stages, this symptom disappearing in a few weeks or months.	Debility and gastro-intestinal symptoms.
Colour of body altered to straw colour. Sclerotics bluish-yellow.	Darkened colour of body in Indians, yellowish or greenish tinge in Europeans.
By second week spleen enlarged 1 in. or 2 in. below costal margin.	Spleen enlarged in initial attack of fever—that is, in two to six weeks.

Ponos.	*Kala-azar.*
Liver sometimes enlarged.	Liver enlarged frequently, but not constantly like spleen or to same extent.
Perverted appetite frequent—that is, children desiring wine or spirits or red caviare.	Perverted appetite frequent—that is, appetite for food of kind forbidden by their religion.
Catarrhal diarrhoea and cough. Dysenteric symptoms.	Diarrhoea and dysenteric symptoms.
Cachexia marked.	Cachexia marked.
Great debility; patient cannot walk.	Great debility.
Oedema of feet, face, and hands and side on which he lies. Ascites, but not common. Dyspnoea.	Oedema of feet and ankles, and may in later stages go on to ascites or pleural effusion. Transient oedema of face or trunk or limbs frequent. Occasionally oedema of legs.
No albumen in urine.	
Necrosis of bones of face, cancrum oris, frequent in latest stages.	Cancrum oris frequent in latest stages.
Haemorrhage very frequent in latest stages. Ecchymosis, petechiae, bleeding from gums, epistaxis, melaena.	Haemorrhage frequent in latest stages. Epistaxis, hematemesis, purpuric eruptions, ecchymosis, melaena, cerebral haemorrhage.
After spleen enlarged, fever paroxysms irregular, varying about 40° C., and later afebrile periods succeeded by paroxysms.	After spleen enlarged paroxysms irregular; later fever, followed by periods of apyrexia, the latter getting shorter till continued fever is set up. Fever most irregular in cachectic stage.
Spleen finally at acme of disease greatly enlarged, even to pubis and beyond linea alba, sometimes decreasing and again enlarging; diminution frequently accompanied by persistent diarrhoea.	Spleen subject to fluctuations in size, diminishing with severe diarrhoea.
Anaemia.	*Anaemia.*
Blood: leucopenia marked. Leucocytes so few that careful search had to be made to find them. (Exact study of blood condition is much required.)	Red cells 3,000,000 to 4,000,000 per c.cm. Colour index not much reduced, early leucocytes soon disappearing, followed by marked leucopenia. Relative and absolute decrease of polymorphonuclears and relative increase of large mononuclears. Leishman-Donovan bodies with difficulty found in blood, found in splenic and hepatic puncture readily.
Duration: chronic up to two years. Average, eight to eighteen months.	Duration: chronic, speaking generally, up to two years or more. First stage, one to three months; second stage, seven to twelve months; third stage, uncertain. Sometimes fatal within two months of appearance of disease.
Termination, generally bad. Seasonal prevalence, spring—that is, April.	Termination generally bad. Cold season or early hot season (Rogers).
Treatment: quinine in large doses—that is, 10 gr. quinine daily for ten days for child of 1½ years, then every second day for fifteen days.	Quinine in large doses (Rogers) for lengthened periods.
Good food and nursing.	Good food and nursing.
Treatment continued over six months.	Effect of quinine regarded as *nil* by some.

CONCLUSIONS.

In the foregoing I have endeavoured to omit none of the important symptoms of either disease, and I have not tried to force a likeness between the two diseases—the similarity shown amounts, I submit, to identity in all salient points; of course the crowning piece of evidence is wanting—namely, the finding of the Leishman-Donovan body in splenic or hepatic puncture in cases of ponos, but it is to be hoped that that will soon be rectified; and, at any rate, nothing but good can result from the present advancing of the theory of ponos being kala-azar, as this may be followed by accurate investigation, on the lines required, by medical men having access to cases.

The extraordinary disappearance of the disease from its two endemic centres still continues, no case having been seen, according to my latest information, for over a year.

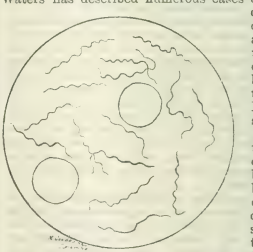
DISCUSSION.

In the discussion which followed, Surgeon-General W. R. BROWNE, I.M.S., remarked upon the danger from haemorrhage likely to occur in splenic puncture. Dr. J. L. MAXWELL drew attention to the same danger; and Captain T. H. CAMPBELL, R.A.M.C., related a fatal case of splenic puncture in kala-azar, in which at the *post-mortem* examination there was found a tear in the spleen about ¾ in. long, in all probability occasioned by a deep inspiration as the needle entered the splenic capsule. Mr. J. CANTLIE drew attention to the presence of cancrum oris in ponos and kala-azar referred to by Dr. Williamson. The etiology of cancrum oris seemed a moot-point; he had seen it amongst children in England and amongst Indian soldiers in China, and it was known to prevail in kala-azar. If the cases he saw in China were due to Leishmaniasis, what was the cause of the disease in Britain? In regard to the distribution of the disease, Dr. J. L. Maxwell had seen it in Formosa, Dr. Stuart Brooke in India, and Dr. C. A. Stone in the Dooars, India.

BRONCHIAL SPIROCHAETOSIS.

By ALDO CASTELLANI, M.D.,
Director, Clinic of Tropical Medicine, Colombo.

IN 1904 and 1905 I observed in Ceylon two cases of a peculiar form of bronchitis characterized by the presence in the expectoration of enormous numbers of spirochaetes.* I described the condition in a paper which I published in the *Lancet* (May 19th, 1906). Later, I came across several other cases. Recently (see *Trans. Soc. Trop. Med.*, 1909) Waters has described numerous cases of bronchial spirochaetosis in India, dwelling especially on the acute type of the disease. Cases have been observed in the Philippine Islands by Jackson and others.



Spirochaeta bronchialis.

Two types of the disease, in my experience, may be observed: acute bronchospirochaetosis and chronic bronchospirochaetosis. In the acute type the patient has fever, feels weak, and coughs much, the expectoration being scanty and of a mucous character; but very often the general condition is not bad. Chronic bronchial spirochaetosis may follow on an acute attack, but very frequently, at least in Ceylon, the onset is quite insidious and slow. The patient has a chronic cough, which is frequently more severe in the morning; expectoration is not very abundant, and is muco-purulent in character; it is non-nummular.

In many cases, now and then, for periods of two or three days, and even much longer, the expectoration contains blood, this being intimately mixed with the muco-pus, and varying in amount. Sometimes attacks of genuine haemoptysis occur, one or two teaspoonfuls, or even more, blood being expectorated. In some cases there is no fever, in others a true hectic-like fever may be present; in some cases, however, the rise of temperature takes place in the morning and not in the afternoon, in others the fever is present only occasionally and is very irregular. The physical examination of the chest reveals very little

* Spirilla, or spirochaetes, have been occasionally seen in bronchial discharge long ago by several authors (Eichorst, etc.), but the parasites apparently were always present in very small numbers.

except a few dry or coarse moist râles. The general condition may remain fairly good for a long time, though a certain degree of anaemia is usually present. A few cases waste rapidly.

Course, Prognosis, Treatment.

The course of the disease is very long. The first case I observed in 1904 is alive, and his condition is very much better. The treatment with the ordinary expectorant mixtures, etc., is unsatisfactory; in chronic cases glycerophosphates and arsenic give somewhat better results.

Diagnosis.

The acute type is generally mistaken for influenza or malaria. The examination of the sputum in which no Pfeiffer's bacilli are found will distinguish the affection from influenza, and the examination of the blood will exclude malaria.

Cases of the chronic type, so common in Ceylon, presenting blood in the expectoration are generally diagnosed as phthisis. The examination of the sputum for tuberculous bacilli will be always negative, and the animal inoculation will remain without effect; the ophthalmo- and cuti-reactions are negative in the great majority of cases. Occasionally, however, cases of mixed infection—tuberculosis and spirochaetosis—occur; one such case has been described by Branch.

Spirochaetosis is easily distinguished from endemic haemoptysis by the examination of the sputum, which will show absence of ova of *Paragonimus westermani*.

Etiology.

In the expectoration enormous numbers of spirochaetes are found. In my article published in 1906 in the *Lancet* I distinguished several types in preparations stained by Leishman. My more recent investigation confirms those results. Four principal types of spirochaetes may be distinguished:

1. Very thick individuals from 15 to 30 microns in length, with irregular coils which vary in number but are never numerous; they generally stain blueish.

2. Spirochaete resembling the *S. refringens* (Schaudinn) with a few graceful waves and pointed extremities.

3. Thin, delicate spirochaete with fairly numerous small, uniform coils and tapering ends. Sometimes one of the extremities is blunt, while the other is pointed. This is, perhaps, the commonest type.

4. Extremely thin and delicate organisms with very few irregularly shaped coils.

There is little doubt, therefore, that under the name *Spirochaeta bronchialis* (Cast. 1907) there are several species, or at least varieties. Whether the spirochaetes found in the expectoration are the real cause of the condition cannot yet be said, but it seems to me not improbable that the spirochaetes present in such large numbers—sometimes unaccompanied, practically, by any other germ—may play an important etiological rôle.

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THE PATHOLOGY OF THE BLOOD IN VERRUGA.

By Fleet Surgeon P. W. BASSETT-SMITH, Haslar.

I RECEIVED recently from Staff Surgeon A. J. Hewitt, R.N., a number of blood films kindly sent to me by Dr. Gastiaburú, of the Institute de Higiene, Lima, Peru, taken from two acute cases of verruga. As the literature on this disease is scanty, and the etiology of the condition very indefinite, a description of the characters shown in them may be of interest, more especially to those who may have the opportunity of visiting the endemic area.

The disease has apparently a very limited geographical distribution, being endemic in certain narrow confined valleys on the western slopes of the Andes, especially common among those working on the Oroya railway and district—hence, sometimes called Oroya fever. It is an infectious, inoculable disease, commencing with fever, more or less acute and prolonged, very malarial in character, attended with gastric pain, cramps of muscles, swellings of the joints, enlargement of the spleen, and progressive anaemia; from one month to a year after the onset there is a characteristic granulomatous eruption, with a great tendency to haemorrhages. The eruption is not restricted to the surface, but also affects the mucous membranes and internal viscera. The disease affects both natives and white residents, the mortality varying from 10 to 40 per cent. Sir Patrick Manson describes it as an aggravated form of disease in some respects closely resembling "yaws." The disease has long been known in the endemic area, being described as early as 1543 by Augustin Zarati, in his history of Peru. There is little doubt that "verruga" is a specific infective disease, not highly contagious, but inoculable from man to man; according to native belief the virus is waterborne. Firth, however, suggests that the affection may be due to the entrance of some organism by the skin in those intimately in contact with the soil, notably among those whose work necessitates the handling of mud or earth.

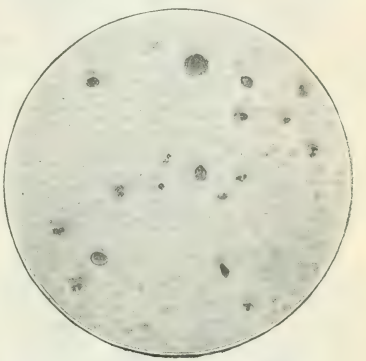


Fig. 1.—Verruga, acute case. Actual field as seen under ⅛ objective. Great irregularity in the red cells, and three nucleated forms.

Isquierdo has described a long-headed bacillus as being common in the morbid growths and adjacent vessels. In chronic cases the blood films show the evidence of pronounced anaemia, in acute forms the red blood count is frequently as low as one million, falling even to 400,000. The twenty films which I have had the opportunity of studying were taken from two acute cases, and are very remarkable.

The main features are those of an intense anaemia with an extraordinary abundance of nucleated red cells, and a relative high leucocytosis, not unlike the condition found before death in fatal infections of trypanosomes in rats. There was a complete absence of any large protozoal organisms, either malarial or flagellate.

Generally speaking the red cells showed very great variations in size, large pale macrocytes, small denser contracted microcytes, being fairly common; irregularity of shape was very marked, seen as pyriform, reniform, oval, or crenate forms; great irregularity of staining, as polychromatophilic changes, with frequently abundant fine or coarse basophilic stippling, the very large and very small red cells showing most chromatic changes. The "nucleated reds" were mostly of the normoblastic type, but large megaloblasts with badly stained protoplasm round the nucleus were seen, and occasionally microblasts were found. Many of these cells showed basophilic granules.

The abundance of nucleated reds in some of the films was remarkable, and in no specimen have I seen so great a variation in the character of the nucleus—single and round, sometimes very small, from one-tenth the diameter

of the red cell, in all graduations up to a well-stained circular ordinary form; double and treble nuclei were common: quatrefoils and cinquefoils were seen, as well as

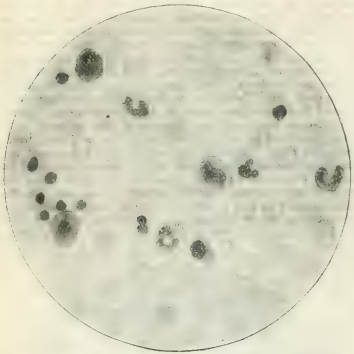


Fig. 2.—Verruga, acute case. Actual field as seen under $\frac{1}{6}$ objective. Nucleated reds very abundant.

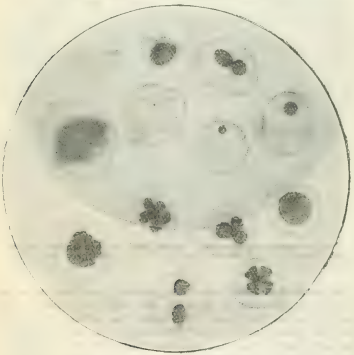


Fig. 3.—Verruga, acute case. Forms of nucleated red cells.

rosette-like appearances. True mytosis of the nucleus was also seen.

Changes in the White Cells.

I have no total white counts to record, but there is an undoubted relative leucocytosis with a slight increase in the large mononuclears, the eosinophiles being rather high. A few myelocytes were found, about 0·5 per cent. While

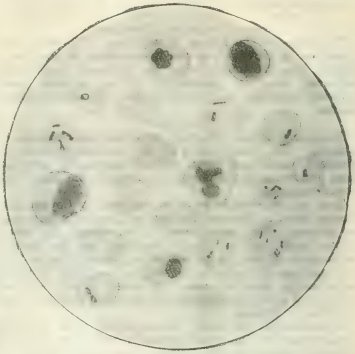


Fig. 4.—Verruga, acute case. Blood film as seen under a high power showing nucleated reds and intracorpuscular bodies.

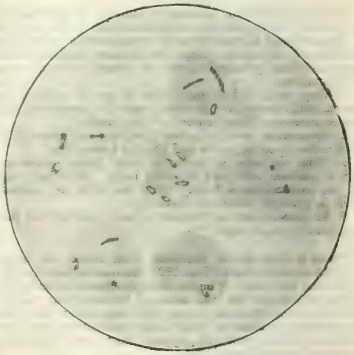


Fig. 5.—Verruga, acute case. Forms of intracorpuscular bodies under $\frac{1}{12}$ objective.

counting the white cells the nucleated reds were also enumerated, and the percentage to the total white cells is given.

Number.	Polymorphonuclears.	Large Mononuclears.	Small Lymphocytes.	Transitionals.	Eosinophiles.	Myelocytes.	Nucleated Reds.
	per Cent.	per Cent.	per Cent.	per Cent.	per Cent.	per Cent.	per Cent.
1	67	7	21	3	2		21
2	70	7	19	2	2		14
3	66	7	20·5	2	4	0.5	13
4	65	7	21	2	4	1	8
5	68	10	17	2	2	1	8
6	65	10	18	2	4.5	0.5	9
7	66.5	8	21	1	3.5		6

Other changes are also observed in the red cells, particularly in those films that have been deeply stained by Giemsa. Besides the metachromatism and the basophilic granules in the cytoplasm there are seen in many cells minute rod like bodies, frequently showing as diplococci from the intense staining of the ends, or as beading from two or more of these lying end on; occasionally small deeply-stained rings or pyriform bodies could be made out; I was unable to detect any red chromatin spots. Many were often present in a single cell, but sometimes only one would be seen. Though the corpuscles containing these bodies frequently showed chromatin changes and irregularities of shape, it is not certain that they are the effects of degeneration of the protoplasm, as they look entirely different from the ordinary basophilic granules of anaemic blood; they suggest rather extraneous pathological bodies causative of the degeneration, but before any conclusion is come to as to their nature a detailed study of a large number of fresh specimens should be made to see if their presence is constant in all acute cases.

The symptoms of verruga, its limited distribution, specific nature, and the profound alteration of the blood, make it highly probable that the cause may be an intracorpuscular organism, but which not unlikely is very minute and difficult to stain.

SECTION OF PHARMACOLOGY AND THERAPEUTICS.

Professor RALPH STOCKMAN, M.D., F.R.C.P.Edin., President.

DISCUSSION ON SPINAL ANAESTHESIA.

OPENING PAPERS.

I.—GEORGE CHIENE, F.R.C.S.Edin., Assistant Surgeon, Royal Infirmary, Edinburgh; Lecturer on Surgery, School of Medicine, Edinburgh.

MR. GEORGE CHIENE, after thanking the Committee of the Section for asking him to open the discussion, proceeded as follows: In an assemblage such as this it is hardly necessary for me to remind you that although Corning was the first to suggest spinal anaesthesia, it is to Bier that the credit must be given for putting the method on a practical footing. Cocaine was the drug employed, but the results were by no means satisfactory, and Bier himself suggested that the matter should be dropped until a less toxic drug was discovered.

Notwithstanding considerable opposition, and the fact that the method was to a great extent given up in Germany, Tuffier continued its use until 1904, when Fourneau introduced stovaine, which again brought spinal anaesthesia prominently before the profession. Cocaine is now practically given up, although Chaput combines it in small doses with stovaine. Recently Murphy has stated that:

> The mortality of spinal analgesia is such as to cause it to be abolished as an analgesia of choice, indeed, if not sufficient to cause statutory enactments against its use.

He quotes in support of this statement the statistics given by Strauss, and compares the results stated there with the results obtained by himself, the Mayos, and Oviatt by the open ether method. A statement such as this demands our careful consideration, and I admit that, when visiting the Mayos and other clinics in Canada and America three years ago, I was much struck by the results obtained by the open ether method, and have frequently employed it since; at the same time, I will be much surprised if this discussion does not bear out what many believe to be the case—namely, that under certain circumstances we have in spinal anaesthesia a most valuable addition to the various methods of anaesthesia already in use.

I propose, with your permission, to suggest the lines on which this discussion should proceed, and hope for some definite findings regarding the points raised, although many questions, fully discussed elsewhere, must necessarily be omitted.

With regard to the question of the drugs at present employed, and the amount injected, the following points appear to me to be of importance: (1) Which is the safest and at the same time the most effective drug to employ? (2) Is the addition of adrenalin chloride an advantage or a disadvantage? (3) What effect has the addition of strychnine to stovaine or other similar preparations? (4) Has the amount of the drug injected a definite relationship to the unfavourable symptoms which have occasionally been noted?

The question of the patient's position during and after the injection is still one on which there are differences of opinion. Barker's technique must be considered, and the further question of the possibility of withdrawing the drug after a sufficiently high anaesthesia has been obtained, with a view to preventing unpleasant and possibly dangerous after-effects. Points of minor importance are the forms of needle employed, and whether the puncture should be made in the middle line or to one or other side. The middle line is now almost universally employed.

With regard to the advantages and disadvantages of spinal anaesthesia compared with other methods, we have to consider not only the immediate but the remote results, and to look at the question from both the surgeon's and the patient's point of view. In comparing the results and the comparative mortality we are at once met with a difficulty—the question of statistics, which, it has been said, can be made to prove anything.

By combining spinal anaesthesia with scopolamine-morphine injections have we not a method which obviates many of the disadvantages of which spinal anaesthesia is accused?

In the conclusions I am about to submit regarding the various propositions I have brought forward I propose to combine my own experience with the results obtained from the study of the literature of over 12,000 reported cases.

Choice of Drugs.

To commence with the question of drugs, I have used a 10 per cent. solution of stovaine in normal saline solution, as recommended by Tuffier, and have injected doses from 1½ c.cm. in a child 5 years of age to 8 c.cm. in adults. The results of my early cases I published in January, 1906, and since then many other cases have been published in this country, in the majority of which stovaine was the drug employed. Of the other drugs in use, tropaccocaine has been strongly advocated by many authorities, especially in Germany. With regard to this point, it is interesting to note that in 1903 Silbermark gave up tropaccocaine, as he found that it was less efficient than similar drugs at his disposal at that time. The third drug which is now comparatively frequently used is novocain, which some authorities consider to be more satisfactory than either of the others mentioned. Certainly, if we compare novocain with stovaine as a local anaesthetic, we find that novocain is less injurious to nerve structures, and a similar argument ought to hold good intraspinally, although the clinical reports hardly bear this out. In comparing the reports of the action of the various drugs one has to take into consideration the relative number of cases in which each has been employed, and certainly up to the present time stovaine has been used more frequently than any other drug. Good and bad results have been obtained with all.

It is of interest that the German school now chiefly advocates tropaccocaine, whereas the majority of the French school are still in favour of stovaine. Investigations are still being carried out in many laboratories, and there is promise that a safer synthetic preparation may yet be found. With regard to the addition of adrenalin, I have personally never used it in spinal anaesthesia, and there appear to me to be distinct disadvantages in doing so, although a mixture of novocain and adrenalin has been strongly advocated by E. Küster and others.

Spielmeyer's histological examination of the nervous system of 13 patients who have died after spinal injection, along with his experiments on animals, are of interest, although they are not sufficiently numerous for finds deductions to be made. Six of the cases, however, in which small doses had been administered showed degenerative changes. Jonnesco and Jianu (Bucharest), in the International Surgical Congress last year, reported series of cases in which stovaine and strychnine combinations were used. They are strongly of opinion that this method gives a perfect anaesthesia, and they inject the solution in various parts of the cord. They report 14 cases in which the injection was made in the cervical and upper dorsal region. The doses of stovaine varied from 0.02 to 0.04 gm., and of strychnine 0.5 to 1 mg. I have been able to find only one record of the same method by Mr. Canny Ryan, who has recently been working with Professor Jonnesco, and speaks very highly of it. Should these excellent results be maintained, this appears a distinct advance.

Two cases of death have been reported, one by Chaput and the other by Dönitz, which seem to point to a definite relationship between the amount of the drug used and the fatal termination; but, on the other hand, we find several or severe symptoms reported after a moderate dose, while symptoms, which would have been put down to the toxic effects of the drug, have in some cases developed when only no injection had been made. H. Wolff reports a case in which an attempt was made to operate under spinal anaesthesia, but, although no drug was injected, abdominal paralysis of the right eye occurred on the fifth day. Similar case in which I attempted to produce spinal anaesthesia as a result somewhat similar occurred. Owing to the method

becoming blocked no drug was injected, and a general anaesthetic was employed. Occipital and spinal neuralgia followed. In another case—a compound fracture—spinal anaesthesia was suggested. Fortunately I decided it was not necessary, and the next day the patient developed peculiar nervous symptoms, from which he completely recovered. Had spinal anaesthesia been used the symptoms would most certainly have been attributed to it.

The Technique.

The most convenient position for the injection of the drug is to make the patient sit up and arch the back, and this is the method that I have always employed, but it has been shown that when the patient is laid on one side the anaesthetic affects that side more than the other, and therefore the lateral position may be an advantage in some cases. Following the injection various postures have been recommended. I lay the patient flat on the table with the head slightly elevated.

The Trendelenburg position still has its advocates, but this position is objected to, as toxic symptoms are more likely to develop, although Saradnicky has used this method in over 600 cases without any bad results. The position recommended by most writers is to keep the head and shoulders raised, and only to raise the pelvis until a sufficiently high anaesthesia has been obtained. Barker's experiments require careful consideration, and at first sight his method for limiting the action of the drug seems excellent, but when one analyses the reports of the cases the localization does not appear to be so uniformly accurate as one might expect, and some who use this method when they wish a high anaesthetic inject at a higher level, and vice versa, which seems contrary to the principles laid down by Barker. Melsner and Hambold, when sufficient anaesthesia has been produced, reintroduce the needle and wash out the lower part of the spinal canal with normal saline solution. This is done with a view to prevent further action of the drug. As far as I am aware, no one else has so far practised this method.

Comparison of Methods.

We now pass to the comparison of spinal anaesthesia with other methods. With regard to the death-rate, I have collected reports of over 12,000 cases, which include 22 deaths—roughly, 1 death in 570; but if we analyse the cases in which death occurred, we find that very few can be attributed solely, or even partially, to the anaesthetic.

If we consider the table compiled by Strauss, we find that 25 of the 46 deaths he reports occurred when cocaine was used, which works out at 21 deaths in 15,842 cases where other drugs were used, or 1 in 754. Only 3 of those are stated to be clearly due to the anaesthetic, 1 in 5,282, and 9 more seemingly in connexion with the anaesthetic, in all 1 in 1,320. Excluding 54 cases of grave collapse due to cocaine we find 38 cases of grave collapse in 15,842 cases, or 1 in 416. Comparing those figures with the results obtained in a similar number of cases of general anaesthesia, it will be seen that they are not so unfavourable as Murphy would have us believe.

As spinal anaesthesia occasionally fails, as the result, in some cases, of faulty technique, the patient should be prepared as for a general anaesthetic. In many patients the dread of the anaesthetic is infinitely greater than the dread of the operation, and, if otherwise suitable cases. Those patients may have their minds relieved of this fear. During the operation the main objection as regards the patient is that he knows everything that is going on. With certain precautions, however, this can be avoided. Many surgeons object to operate with the patient in full consciousness, and in this connexion the combination of scopolamine-morphine with spinal anaesthesia is an advantage.

In the after-results of a successful case the comparison is in my experience, greatly in favour of the spinal method, and in a ward in which the method is being used one finds that it rapidly becomes so popular that there is a general request for it. Patients who have experienced both methods usually prefer spinal to general anaesthesia, and those who have once submitted to the spinal method are quite willing to do so again. On the other hand cases have been reported in which the after-results are by no means so satisfactory. One of these, a medical man, in reporting his own symptoms finishes by stating that nothing would induce him to undergo spinal anaesthesia again unless the administration of chloroform was out of question. Some 30 cases of ocular paralyses have occurred as an after-result: the sixth nerve is most frequently affected and the condition usually comes on from the ninth to the twelfth day after the injection; the longest case on record lasted for six months, the average being about three weeks. All observers have noted cases of headache and spinal neuralgia, and most are agreed that occasionally retention of urine is more troublesome than after a general anaesthetic. Respiratory paralysis, paraplegia and meningitis have also been noted in a few cases. Slight nephritis has also been reported in 78 per cent. of cases by Schwartz. We have to remember, however, that on the other hand cases are recorded, among them those by Tuffier and Barker, in which operations have been successfully performed under spinal anaesthesia after failure with a general anaesthetic. The combination of scopolamine-morphine injections with a small dose of a general anaesthetic is now a recognized method of obtaining anaesthesia.

When one considers many of the objections raised against spinal anaesthesia its combination with scopolamine-morphine appears to be an advance, especially when one considers that injections of morphine have been used with advantage in cases of collapse following spinal anaesthesia. Krönig and Gauss advocate this method, and Busse has used it in 180 cases. Kümmell, however, reports unfavourably on the combination, and Freund dislikes the multiplicity of toxic substances.

The unfortunate fact which strikes one when studying the literature on the subject is the important differences of opinion expressed by various writers on the points submitted for discussion, especially with regard to the question in what class of case this method should or should not be employed. Most authorities, including Sonnenburg and Rhen, object to its use in children, but Deetry, Gautier, and Henking have reported its satisfactory use, and in Gaudier's wards the method was asked for by the children in preference to general anaesthesia. The majority of writers, including Silbermark and Colombani, recommend its use in old and feeble subjects, although others consider this a contraindication. Colombani and Rhen consider arterio-sclerosis a contraindication. On the other hand, Sonnenburg and others do not.

Marked differences of opinion also exist with regard to septic cases, the question of elimination of shock, and the results obtained by the elevation of the pelvis. Again, we find Barker and Dönitz both men whose opinions are bound to carry weight, differing from each other regarding the method by which the action of the drug is spread.

Notwithstanding these discrepancies, I believe this method to be of great value in major operations on the pelvis and lower extremities where a general anaesthetic is contraindicated, although, in my opinion, local anaesthesia should be sufficient for many of the cases reported in which spinal anaesthesia has been employed, especially if one includes Bier's most recent method of intravenous injection.

In conclusion, I must apologize if I have, in the short time at my disposal, failed to give many workers in this field their due recognition; but my feeling has been that my time would best be employed by suggesting the lines of discussion, as I know there are many present whose opinions we look forward to hearing with pleasure.

II.—DUDLEY W. BUXTON, M.D., B.S., M.R.C.P.,

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I PROPOSE to make my remarks from the point of view of the anaesthetist, whose duty it is to include in his purview the well-being of the patient as well as the convenience of the operator. The value of this method is unquestionably great, and when one sees an ideal case one is prompted to believe that an ideal method has been discovered. It is so with all methods. Ideal cases, however, are not frequent; and, while recognizing the value of the method and giving due honour to those who have had the courage and ability to promote it by scientific work, I am compelled to point out that there is another side to the argument.

Professor Bier (Berlin), whose experience of spinal analgesia is probably unique, speaking before the German Surgical Society in Berlin, cautioned his hearers against the indiscriminate employment of this method. He narrows its use to pelvic operations and those done on the lower extremities, and advises local analgesia whenever it can be used, rather than spinal injection. Last year an important discussion took place in the Surgical Society of Paris, and there, again, most of the speakers were strongly opposed to spinal analgesia, and, in view of its dangers, urged the narrowing of its range of employment. Mr. Barker also, whose pioneer work has been so excellent and whose experience cannot but lend the greatest weight to his opinion, has advised caution.

The method has been suggested (1) as a substitute for anaesthesia by inhalation, or (2) as a resource when general anaesthesia is regarded as too dangerous.

Let us consider what has been urged for the general adoption of spinal analgesia and how far experience has justified the arguments which have been advanced.

At one time it was said that the technique was simple, the pain infinitesimal, analgesia perfect, after-effects rare, and relaxation of the musculature so complete that the surgeon was able to operate under the most favourable conditions. Its safety was infinitely greater than when general anaesthetics were used; indeed, enthusiasts spoke of the method as free from danger.

Experience has unfortunately not wholly justified these vaticinations. It has compelled us to recognize a merit in general anaesthetics which one had not realized—the merit of making the patient unconscious. Although some few may dread the anaesthetic sleep, very many suffer great mental perturbation during a prolonged operation under spinal analgesia. I myself have seen the evidence of it, and, if it is urged that the belief of one man is of little value, I would point to the increasing frequency of the adoption abroad of subsidiary methods whereby the patients are put to sleep during the operation under spinal analgesia. Thus. Bier, Kroenig, and many others inject scopolamine and morphine before the analgesic is introduced into the subarachnoid space. This plan certainly increases the possibilities of danger, but, as it is becoming more and more common, it is presumably found necessary. I take it that the "nervous shock"—a term I employ for lack of a better—and the question of danger are, from the patient's point of view, the most important. I know it is said that patients who have had a general anaesthetic and a spinal analgesia prefer the latter. I have known, however, the reverse, and attach little importance to isolated statements. I find the consensus of opinion among those who have large experience favours exclusion of nervous persons as well as those who have a definite lesion of the nervous system, from the benefits of spinal analgesia.

With regard to the safety of the method, the percentage of actual failure appears to vary from 5 per cent. to 12 per cent., and, as Bier has pointed out, is usually a question of technique which will probably be overcome with further experience. Conclusions concerning danger to life and peril from "after-effects" are more difficult to arrive at. We find writers who have had fifty successful cases extol the safety of the method when compared with the use of general anaesthetics! We must, however, consider the matter from a much wider horizon. For purposes of comparison we must face the fact that general anaesthetics administered by men of equal calibre to those who have adopted spinal analgesia—men like Bier, Tuffier, Chaput, Reclus, and, in this kingdom, Barker—show an infinitesimal death-rate and minimal after-effects. Probably most surgeons can tell us that as general anaesthetics are constantly given by dangerous methods and by inexperienced persons, too much is given and the patient suffers. But the spinal analgesia method has so far been in the hands of experts with a ripe surgical experience working with a lively sense of their responsibility both as regards their patients and themselves.

It is true that we are still in a stage of groping, and while most have discarded cocaine, and many the adrenal extracts, others hover between stovaine, alypin, tropacocaine and novocain. Many, and the most experienced, restrict themselves to the lower site for puncture, and insist upon having the head kept above the level of the spine, others adopt the Trendelenburg position for their cases, within a few minutes of the injection. Some, notably Jonnesco, adopt high injections and attempt operations upon every area of the body. Some warn us to avoid spinal analgesia for children, others use the method in parturition and pursue its use throughout the whole life of the infant when born.

The general consensus of opinion is, however, in favour of narrowing the limits of the employment of this method. The wounded in war, children, persons over 65, syphilitics, those who have some infective or septic disease, sufferers from serious heart or nerve lesions, arteriosclerosis, the nervous and the alcoholic, those who have albuminuria, and diabetics are all excluded from spinal analgesia. This list comprises the opinions of various experts and narrows the field very considerably, but it is only fair to say that many very able surgeons who adopt the spinal puncture are prepared to risk the dangers of the conditions named and do not select their cases.

As to the actual dangers of the method, it is difficult to mention even briefly the records of casualties and serious sequelae without appearing to assume an attitude of antagonism which is quite foreign to my true feeling. The statistical method permits so many loopholes for error and exaggeration to creep in that I deprecate placing too much reliance upon it.

Tuffier, with an experience of ten years, tells us he has had no death and no late development of serious nerve lesion. On the other hand, Dr. Gaston Torrance, during a visit to the Continental clinics, collected 5,350 cases with 5 deaths. P. Hardruin met with a death in his first 10 cases, and refers to 15 other fatalities. Hartmann has recorded 2 deaths, Professor Kader (Cracow) lost 4 patients on the operating table out of a total of 1,907 cases, and if time permitted I could give others, but I attach only this importance to the record of deaths in the practice of really skilled operators, that it proves the method is not so free from possibility of peril as we are sometimes given to believe.

The more important question for my present purpose is to inquire whether the spinal method is exempt from grave after-effects. Like all procedures which involve the introduction of a drug into the tissues of the body, spinal injection commits us absolutely to the consequences of the dose injected. With general anaesthetics the skilled administrator can readily adjust his dose of anaesthetic to each case, and can vary it from time to time as the necessities of the patient or surgeon require: with all injections this is impossible, and herein lies the danger alike of the scopolamine-morphine and the spinal methods.

Chaput, who recommends the spinal method in selected cases, adduces as one of its merits that it is free from such after-effects as albuminuria and vomiting. Schwartz, however, finds albuminuria more or less severe, and retention of urine is not uncommon. Feliziano records cystitis and paralysis of the bladder and rectum. W. Thomaschewski found slight albuminuria in 60 per cent. of his cases, but he avers serious nephritic symptoms were rare. Although often transitory, the albuminuria is in some cases persistent, lasting a month, and accompanied with cylindruria. Retention of urine necessitating catheterization and paralysis of the bladder arising in cases when the seat of operation was not one which might account for the complications are recorded by Becker (Hildesheim), F. Koenig (Altona), Baisch (Heidelberg), and Weiner (Brussels). Weiner's patient needed the catheter for several months, and suffered from nocturnal incontinence even after the bladder had in part resumed its functions.

The observation of Kurzwelly of Stuttgart is of some importance, since one of the main indictments against general anaesthetics is the alleged frequency of pneumonia after operations. He found that post-operative pneumonia occurs as commonly after spinal injection as after a general anaesthetic. Upon this point I may be permitted to point out that post-anaesthetic pneumonia is a practically preventable complication, and further that it is commonly assumed in cases in which the condition is due to purely operative or pathological causes.

It is impossible in the time allotted me to deal at all fully with the published records of complications and after-effects due to spinal injection. The reports of the meetings of surgeons at Berlin, at Paris, at St. Petersburg, Munich

Brussels, Heidelberg, and Bucharest, should be carefully studied and pondered before the method is advanced as being free from danger. Without attempting to traverse the ground in detail I may cite the following:

Dönitz (Bonn) records complete failure of respiration after injection, requiring several minutes of artificial respiration. Hesse (Weisbaden) met with complete collapse in a vigorous man of 40, who was with difficulty resuscitated by injections of oil of camphor and heart massage. The same observer records a similar condition —cessation of all respiration and failure of the heart in a healthy man of 22; this patient, after being restored to consciousness, again collapsed, but eventually recovered. Grieffenhagen (Reval) records two cases of respiratory failure, requiring artificial respiration for twenty and ten minutes respectively. Sandberg (Bergen) had to employ artificial respiration for twenty-eight minutes to save one of his patients; while P. Steiner (Budapest) only restored natural breathing after thirty-three minutes. Many other observers might be quoted, but I will only add the experience of S. P. Fédorov (St. Petersburg). The patient, a woman, collapsed, and ceased breathing after the injection, and Fédorov had to have artificial respiration continued for five hours. The patient remained in a state of stupor many hours subsequent to this.

What is the cause of respiratory failure in these cases we are not aware; conflicting views exist, for while some surgeons advise the head-raised posture to prevent ascent of the injected fluid, others practise the feet-up position, in order to keep the bulb irrigated. I have seen several cases of partial respiratory collapse, but luckily they have been slight, and the patients were restored by oxygen administered under pressure.

Vomiting after spinal injection is certainly not so rare as Chaput and others aver, and when it is present it is often very severe and very persistent. Headache, again, cannot be eliminated. H. Heineke and A. Läwen, who examined its incidence, give it as 58.6 per cent. of the cases, and Deetz has recorded a case in which it lasted *for six weeks*. Heresen, Blaubert, and others record persistent insomnia.

But perhaps the most painful sequelae are the paralyses which follow and appear to be due to the mode of producing analgesia. Ocular muscle paralysis has been very frequently recorded, and Ashe puts its incidence as 1 per cent., Degreaves at 2 per cent., and Chapot and Pascalis at 1 in 258 cases. It would be tedious to mention in detail the paraplegias recorded; they appear not infrequent, and in some cases persist for a long time. Serious lesions of the cord, septic meningitis leading to death, are among the after-effects which have been described by surgeons who advocate and practise the method.

At present we have no exact knowledge of the mechanism of the action of the drugs upon the portions of the nervous system with which they are brought in contact, and so we are unable to trace the mechanism of the deaths or serious troubles following the use of the method. Observers differ, and sufficient experimental research as yet has not been made. Take the headache for example. One school tells us it is due to excess of cerebro-spinal fluid and its remedy lies in removing this excess. Others insist that it is the deficiency of fluid, and caution against any loss during the performance of the puncture. Opinions again differ as to whether the injected drug travels up the canal by diffusion or is conveyed by the stream of the cerebro-spinal fluid, and so owes its movement largely to the posture of the patient.

At any rate, it is clear that, whatever else is uncertain, we are bound to admit that spinal analgesia, even in the hands of the few, is neither free from danger to life nor exempt from the possibility of grave after-effects. In the present state of our knowledge we are hardly justified in telling our patients that it is safer, speaking generally, than is anæsthesia by inhalation.

To me it seems that we should adopt its use as an adjunct to our present armamentarium for use when the special circumstances of the case or the condition of the patient appear to indicate that its use offers a better chance of life than would a general anæsthetic.

Whether the plea so often advanced in its favour by enthusiasts for the method—that it enables the surgeon to operate better as the muscles are relaxed—is valid I cannot say. The muscles which in abdominal surgery give most trouble are the recti abdominis, and, as these are respiratory muscles, their tonicity persists until respiration is seriously weakened. I find also some surgeons have relinquished the method in abdominal cases because the muscles are not relaxed. Here again is conflict of opinions. Personally I have not seen marked muscular relaxation after stovaine. General anæsthetics are also often blamed for a rigidity which is in fact asphyxial and due to too much anæsthetic and too feeble lung ventilation. Indeed, in summing up the matter, I may be permitted to say that the general anæsthetics are blamed by many for shortcomings which are really not theirs, but belong to those who use the anæsthetics without sufficient physiological knowledge and technical experience. Take the incidence of death in the last report on anæsthetics tendered to the German Surgical Society: 71,000 narcoses are recorded, with 21 deaths. We are told one quarter of the cases were done under chloroform, three-quarters under ether. The incidence of deaths, according to accepted statistics and grouping the inexperienced with the experienced, should be 6 deaths due to chloroform, 3 to ether, or 9 in all; so that 21 is more than double what we here regard as a "normal" incidence of death. I have little doubt that if as much care were habitually taken by all the hosts of those who administer general anæsthetics as is bestowed in the experimental use of spinal injection even the "normal" incidence would be greatly lessened, and, from the safety point of view, general anæsthetics would prove superior to spinal analgesia.

DISCUSSION.

Mr. A. E. BARKER (London) did not believe that at present it was right to describe any one as an expert in the production of spinal analgesia, as had been done by Dr. Dudley Buxton. At present all alike were students, who were feeling their way, and were without a store of knowledge accumulated by their seniors. In general anæsthesia there were truly men who might be with propriety called experts, and who had the experience of sixty years to rely upon and to guide them. His own attitude was that of a student. He undertook the study of the subject because it seemed to him that the merits of this new form of anæsthesia ought to be studied in a place accessible to all, such as University College, by those who realized fully the responsibility of the work. He urged the importance of making careful and uniform notes of each case. His own cases were recorded by a special officer appointed for the purpose and published from time to time. He was sure, whatever its future might be, that spinal analgesia was worthy of such careful study.

Dr. ALEXANDER DON (Dundee) contrasted the toxicity and after-effects of stovaine and novocain. Stovaine was a greater irritant, but novocain was less reliable, and headache was more common after its use. Perspiration, pallor, and fainting was due to the drug and not to relaxation of the abdominal muscles. There was room for the method as an adjunct to general anæsthesia but not as a rival. It was not so safe for general use as general anæsthesia.

Dr. J. MILL RENTON (Glasgow) said that the method he employed was that introduced by Mr. Barker, and he felt strongly that it was the best. By the use of a fluid heavier than cerebro-spinal fluid one had definite control over the distribution of the anæsthesia. He made a preliminary injection into the skin of a weak solution of cocaine, and in this way was able to make the subsequent spinal puncture perfectly painless. The method was successful in preventing shock. In very nervous persons he was in the habit of inducing spinal anæsthesia in the usual way, and later giving just so much ether by the open method as would obliterate consciousness. This combined method was of great use in nervous persons and in cases where great shock was feared, as in amputation of the thigh or disarticulation at the hip-joint.

Dr. G. A. H. BARTON (London) said that while spinal anæsthesia had obvious advantages in a few cases, he was convinced that its merits could not be compared with those of general anæsthesia in routine work. In a considerable percentage of cases failure to produce analgesia occurred; as immediate after-effects vomiting, headache, incontinence of urine, albuminuria, were all apt to occur

with more or less frequency. The late after-effects were even more serious. Paralysis of varying kinds, meningitis, retention of urine, etc., had been described as occurring in a considerable number of cases. In the majority of cases the retention of consciousness was a misfortune. In some few, as in the regurgitant vomiting of intestinal obstruction, where it prevented inhalation of vomit, it was an advantage. He believed the mortality was as great as 1 in 500—an appallingly high percentage. The use of spinal anaesthesia, he believed, would be confined in the future within very small limits.

Mr. LEEDHAM-GREEN (Birmingham) spoke in favour of spinal anaesthesia, which he had employed extensively for the last four years. He began by using stovaine, then passed on to novocain, and for the last two years had used simple tropacocaine without the addition of adrenalin. In his hands tropacocaine had proved to be far the best for spinal anaesthesia, and less frequently followed by unpleasant after-effects such as headache and vomiting. Immediately prior to operation the patient received liquor strychninae MV subcutaneously. He did not now make use of the Trendelenburg position or any other device to assist the upward diffusion of the anaesthetic in the spinal sac, and did not attempt to get anaesthesia above the umbilicus. He had never experienced any serious after-effect from this method, and regarded it, from the surgeon's point of view, as being preferable to either chloroform or ether for the majority of major operations below the iliac crests. Especially was it indicated in cases in which the patient suffered from bronchitis or other inflammatory conditions of the lungs or air passages, in chronic alcoholism, nephritis, and possibly diabetes. It was of great service in dealing with gravely debilitated patients, such as those suffering from chronic intestinal obstruction, extravasation of urine, senile gangrene, and the like, where the disturbance occasioned by a general anaesthetic often robbed the patient of his chance of recovery. Again, he found it of great value for catheterization of the ureters in patients with highly sensitive bladders, as in cases of tuberculosis. For, unlike a general anaesthetic, spinal anaesthesia did not inhibit the renal secretion. Against all this there were certain disadvantages to be set. There were unavoidable drawbacks common to all local anaesthetics—namely, the consciousness of the patient, who was fully aware of everything that was going on, and might readily, from an unguarded remark by a nurse or spectator, learn considerably more about his condition than was desirable. There was no doubt that though some patients had a dread of losing consciousness, the majority preferred to be entirely oblivious of what was taking place. A patient, however, had never been found to become hysterical, or even excited, during an operation under spinal anaesthesia. The absolute loss of all sensation at once gave confidence, and they took as little notice of the operation as they would of the attentions of a hairdresser. The contraindications he recognized were childhood, marked nervousness, severe septic conditions, and pustular eruptions of the skin.

Dr. V. G. L. FIELDEN (Belfast) said that he wished to draw attention to one point only: That it was impossible in spinal analgesia to alter the dose to suit the individual needs of the patient. In general anaesthesia a dose sufficient to keep one patient adequately anaesthetized would have little effect on another. In spinal anaesthesia such differences in patients must be ignored, and a routine injection given. Once injected, nothing could be done to reduce the dose if it prove excessive.

Professor W. E. DIXON (Cambridge) said that he had made use of intraspinal injections only in animals. He suggested that some of the unfortunate after-effects might be due to leakage of cerebro-spinal fluid from the spinal theca rather than to the direct effect of the drug. He thought that the paralysis was probably peripheral in origin, and not due to changes in the spinal cord.

Mr. GEORGE CHIENE, in replying, said he was sorry no one had spoken of the combination of strychnine with stovaine, or other similar substance, as he thought that this modification gave promise of good results. One should look to the possibilities of the future rather than try at present either to laud or condemn spinal anaesthesia. No anaesthetic was at present entirely satisfactory, and, therefore, all attempts at improvement should be given a fair trial.

ELIMINATION OF STOVAINE AFTER SPINAL ANALGESIA.

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THERE are so many matters still obscure about the general and local effects of intradural injections for the production of spinal analgesia that the publication of the following short note seems advisable, imperfect though it admittedly is. Before this method of anaesthetizing our patients can be put in its proper place among our surgical procedures, we want, among many other things, to know as clearly as possible: (1) How long the anaesthetic agents used remain in the dural canal unabsorbed, fixed, or destroyed, and what effects, apart from analgesia, they produce there; (2) what immediate and remote effects, if any, the injection of the drugs employed have upon the structures with which they come in contact; (3) how the compounds injected are eliminated from the system generally.

These questions are already being worked out abroad with praiseworthy thoroughness, the very large number of spinal analgesias which are being done there offering abundant materials for study. It may be hoped, therefore, that before long the various effects of the drugs used in the procedure may be better understood in all their aspects. In the meanwhile, this small contribution to a very large subject is published in the hope that it may suggest to others the desirability of making more extensive inquiries in the same direction.

It may be admitted at once that the testing for the various drugs employed in the procedure in question in animal fluids is laborious. In my own work I have only searched for stovaine. The method adopted has been as follows: I have taken the details from a paper by Klose and Vogt, whose work in this direction should be better known. The sample fluid, whether urine or liquor cerebralis, has been first rendered slightly alkaline with a little 3 per cent. potash solution to split off the base of the stovaine. The fluid has then been shaken up in a separator with an equal volume of ether, which dissolves out the oily base. The heavier fluid has then been drawn off below. Evaporation of the ether in a water-bath nearly to dryness has followed. The residuum has then been mixed with a little 3 per cent. hydrochloric acid, reproducing stovaine from the base, and to the fluid so obtained a few drops of tinctura iodi have been added. A mere trace of stovaine, if present, will give a dull, brick-red precipitate. Control experiments have shown me that so small an amount as 1 in 150,000 of stovaine dissolved in water will give this reaction clearly.

How long these anaesthetic compounds remain in the dural sac after injection appears to vary with the drug employed. Klose and Vogt, from experiments on animals, state that they have found that tropacocaine disappears soonest from the cerebro-spinal fluid, novocain somewhat later, and stovaine latest. In nine of my own cases I have withdrawn cerebro-spinal fluid (from patients previously injected with stovaine), for various reasons, at periods varying from half an hour to forty-six hours after injection. The results as regards the presence of stovaine have been as follows: Half an hour after injection the reaction with tinctura iodi, used as above, has been strongly positive. Seventeen hours after, in another case, it was also strongly positive; in two other cases, nineteen hours after, it was the same, as also in two respectively twenty and twenty-four hours after. In three other cases, forty-four, forty-five, and forty-six hours after, it was negative or doubtful. From this it would appear that stovaine remains in one form or another within the dura for somewhere about the first two days. It must be remembered that on being injected into the alkaline cerebro-spinal fluid part of it is broken up. This can be seen if into the fluid we draw off from the sac before injection a small quantity of our stovaine solution is dropped. The clear fluid, after a few moments, becomes milky. Under the microscope this is seen to be due to countless minute oily globules, which in time run together on the slide into larger globules. These consist apparently of the oily base split off from the stovaine by the alkali of the cerebro-spinal fluid. Doubtless this occurs within the living dura, and these globules may require a longer time to be absorbed than novocain, which

is not broken up in the same way on injection into the spinal fluid.

The question whether any immediate effect is produced upon the structures within the dura by the stovaine injection is answered, so far as my own observations go, in the affirmative. In all these cases in which I have withdrawn cerebro-spinal fluid within forty-six hours of the injection of stovaine into it the fluid has been distinctly turbid. And this turbidity has been found on microscopical examination to be due to the presence of leucocytes of various forms. The number of these seemed greatest about the end of the first day. This would appear to indicate a certain amount of irritation of the serous lining of the cavity. But whether it was due to a general irritation of the whole extent of the dura or only of the immediate neighbourhood of the puncture, it is impossible to say from these observations on the human subject. I am inclined to think that it might be purely traumatic from the effects of the simple puncture. It must be remembered that the second puncture was always made in the immediate neighbourhood of the first, and here there ought to have been some plastic exudation in any case for the repair of the puncture. This might have furnished the leucocytes without any other part of the dural tract being affected, and would subside after the healing of the first puncture. This view gains some support from the only case in which I have had the opportunity of examining the dura and cord on the third day after injection, the patient having died from another cause. Here there was no trace of irritation discovered by our pathologist within the dura, and the puncture was difficult to find at all. The patients from whom the turbid fluid was withdrawn all recovered perfectly. It has been suggested that the headaches sometimes following on spinal analgesia are due to aseptic irritation and hypersecretion within the dura, but this explanation is not quite satisfactory. So far as we know, they appear to be as frequent with one drug as with another, and, if it were correct, headaches ought, I think, to be the rule and not the exception. However this may be, I offer these observations on the fluid withdrawn some hours after injection as a contribution to the inquiry as to the local effect of the injection of stovaine into the dural sac.

It is a remarkable fact, as seen from these cases, that, long after the analgesic effect of the drug has passed off, stovaine, or its base at all events, can be shown to be unmistakably present in the cerebro-spinal fluid. The average duration of spinal analgesia is from one to two hours, but in my own analyses stovaine was present up to twenty-four hours at least in the cerebro spinal fluid. If this is so the question arises, Why does the analgesia only last for a couple of hours? To this question no satisfactory answer appears to be at present forthcoming, unless it be that only perfect stovaine is analgesic, and that its base split off by the alkaline cerebro-spinal fluid is not, and that this is alone what we recover in our subsequent tappings. In the subjoined table the results of my analyses are given as far as they go. They represent a good deal of work, which for want of time I was unable to carry further, much as I should have liked to do so. Observations in the same direction are urgently needed both on animals and the human subject. Observations on possible remote structural changes in the cord and its roots as the result of injections for spinal analgesia have also been made by expert neurologists, but, as far as my reading goes, they appear to be contradictory. Some assert that changes can be seen a long time after, while others state that only very transient effects are produced. I am not qualified to say in which direction the weight of histological evidence points; but from clinical observation in my own cases and from a study of those of others I think it is clear that no permanent structural change in the nervous structures leading to definite symptoms has up to the present been proved to be due to the injections in question.

They show that within the first twenty-four hours after injection stovaine or its base is plentifully present in the cerebro-spinal fluid. Between the twenty-fourth and forty-fourth hour no cerebro-spinal fluid was withdrawn, and I cannot say whether any stovaine remained in it during that time. After the forty-fourth hour, it could not be found in the 3 cases in which cerebro-spinal fluid was obtained at and after this period. It also shows that in the urine no stovaine could be found before the forty-fifth hour after injection, of the dural sac, except in one case. From the forty-fifth to the seventy-fifth hour it was clearly present, and later could not be found. It appeared to reach its maximum in the urine between the fiftieth and sixtieth hour, and then to decline in amount until about the seventy-fifth hour, after which no positive result could be obtained. Roughly speaking, then, it seemed to be eliminated almost entirely during the third day, and to remain in the cerebro-spinal fluid until then.

Number of Hours after Spinal Injection when Fluids were Obtained for Testing.	Cerebro-Spinal Fluid obtained as the Hours given. Tested in 9 Cases.		Urine Passed at Hours given was Tested in 12 Cases.		
			Number of Hours.		
½	1 case	+	10		
17	1 case	+	to	2 cases	— —
19	2 cases	+ +	20		
20	1 case	+	to	5 cases	— — — — —
24	1 case	+	30		
44	1 case	—	to	2 cases	— —
45	1 case	?	40		
46	1 case	?	to	5 cases	+ ? ? ? —
			45		
			to	8 cases	+ + + + + — + — —
			50		
			to	8 cases	+ — + + + + + + + —
			55		
			to	4 cases	? + + —
			60		
			to	5 cases	+ ? ? + + +
			65		
			to	7 cases	— + + ? + + + —
			70		
			to	5 cases	+ ? + — + ? +
			75		
			to	1 case	—
			80		
			to		— — —
			90		

Familiarity with the whole method of analysis was necessary to eliminate possible sources of error, and considerable labour and time were necessary to acquire this. When urine, rendered alkaline by 3 per cent. potash solution, is shaken up vigorously with ether, a jelly-like material—apparently an emulsion—is formed in many cases, though not in all. This substance should contain the stovaine base, but it is difficult to filter even through wool, and, if evaporated alone in a water-bath, leaves a high-coloured residuum. To this the 3 per cent. hydrochloric acid can be added, and then it can be filtered before the tinc. iodi is used. But perhaps the best way to carry out the test is to shake up the urine after the addition of the alkali with ether, and, whether a jelly has formed or not, to let it rest until it separates into the urine layer below and the ether layer above. When the former has been drawn off below, the hydrochloric acid is added to the ethereal extract at once and shaken up. This will combine with the base and break up the jelly-like material. The product can now be filtered, and is then evaporated in a water-bath until *all* the ether is removed, when the test with tinct. iodi can be applied to the residuum, with or without a small addition of distilled water. But *all* the ether must be driven off, or there will be a precipitate with tinct. iodi, whether stovaine is present or not. This was very puzzling to me at first, as it was to Mr. R. Bennett, our hospital pharmacologist, who was kindly helping me; but he was able later to

demonstrate that about 10 per cent. of ether in dilute hydrochloric acid will always give a reddish-yellow precipitate with the tinct. iodi alone. It is therefore necessary to be very careful to boil off every trace of ether from the acidulated urine washings before adding the tinct. iodi.

This test with tinct. iodi is far more delicate than that with Meyer's reagent, as can be proved by control observations with very dilute graduated solutions of stovaine in water. Again, the colour of the tincture is a little embarrassing at first, as also the fact that a small amount of the brick-red precipitate is soon dissolved in any excess of the tincture.

A little practice gets over these difficulties, and I hope that systematic work done in the direction of testing for stovaine in the urine may furnish us with much valuable information in the future. If it be shown by further carefully-conducted observations on fluid withdrawn from the dura after injection that there are evidences of irritation of the serous membranes where stovaine was employed, as in my own cases, as shown by leucocytosis, and that this is absent where other drugs are used, it would tell in favour of the latter beyond all doubt. But hitherto very little has been done in this direction. The whole question of the value of spinal analgesia is an intricate one, and the relative values of rival drugs cannot be settled by casual clinical use, but must be tested by every physiological means at our disposal.

DISCUSSION.

Dr. NEWMAN NEILD (Bristol) asked whether Mr. Barker had ever repeated the injection shortly after the disappearance of the paralysis, while the test in the fluid was still positive.

Dr. H. H. DALE (London) suggested that the test was too sensitive. It reacted in such great dilution of the fluid that it gave a positive result in a percentage which was too weak to cause analgesia.

Mr. BARKER, in reply, thanked the speakers for their valuable suggestions. He was anxious only to call attention to the matter, and he thought that his remarks had already brought forth fruit.

THE ACTION OF CRESOTINIC AND TOLUIC ACIDS.

By ROBERT MAY, M.D.,

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IN 1875 Buss announced his discovery of the therapeutical value of salicylic acid in acute rheumatism, and in the following year he published a paper on the action of the closely allied cresotinic acid, showing that it exercised similar curative effects in this disease. The two acids are nearly related chemically (salicylic acid being $C_6H_4OH.COOH$, and cresotinic acid $C_6H_3.OH.COOH.CH_3$). There are no less than ten isomeric cresotinic acids, three of which can be obtained commercially in a chemically pure state, and it was with these and their sodium salts that the following experiments were made. They are known respectively as ortho-cresotinic, para-cresotinic, and meta-cresotinic acid. It was most probably with a mixture of the three in the form of their sodium salts that Buss made his observations. No further work was done till 1888, when Demme published an account of the action of the three acids. He found that para-cresotinic acid had an effect in acute rheumatism similar to, but less powerful than, that of salicylic acid, and that men and dogs could tolerate doses of 90 to 120 grains without showing symptoms of poisoning. Meta-cresotinic acid and its sodium salt he pronounced to be almost without action, while he described ortho-cresotinic acid and its sodium salt as active heart poisons, even in small doses. These results have been copied into all the current textbooks which mention the respective acids, but, as an outcome of the present investigation, it is clear that Demme's statements regarding meta-cresotinic and ortho-cresotinic acids are erroneous, and that he was probably working with other or very impure substances.

In 1891 Professor Matthew Charteris published observations of great value showing that many of the poisonous effects of salicylic acid, especially on the heart, were due to impurities. His investigations led to such improvements in the manufacture of salicylic acid and sodium salicylate that they are now ordinarily obtained chemically pure.

Misled by Demme's statements as to the powerful toxic effect of ortho-cresotinic acid, he ascribed the depressing action on the heart to this body being present in salicylic acid as an impurity. He also details experiments with substances which are called "para-cresotic" and "ortho-cresotic" acids, but there must have been a mistake as to the identity of the bodies used. As a matter of fact, pure ortho-cresotinic acid is not more toxic than pure salicylic acid. To determine this I made a series of observations on rabbits. In medium-sized rabbits the lethal dose of sodium salicylate given by the mouth was found to be 60 to 90 grains; with sodium-ortho-cresotinate it was much the same, and with sodium-meta-cresotinate 60 grains was sometimes fatal, sometimes not, but 75 grains always caused death. Para-cresotinate of sodium was somewhat less active.

If the salts are given subcutaneously about half these doses prove lethal. All three salts can be given to man in much the same dose as sodium salicylate, but if the ortho-cresotinate be pushed it exercises a distinctly slowing and depressing action on the heart. In rabbits the symptoms caused by the salicylates and cresotinates are very similar. Thirty grains by the stomach cause slight depression, and, when this dose is considerably exceeded, the depression is marked, the legs are paretic, and the animal may recover, or die some time during the next seventy-two hours. The respirations become rapid and shallow, and more or less marked convulsions occur. The *post-mortem* appearances are negative, but with sodium salicylate the kidneys are usually very much congested.

Action on Blood Pressure, Pulse, and Respiration.

To study the effect on blood pressure tracings were taken from rabbits. The animals were anaesthetized with ether; in all cases a solution of the drug was injected into the jugular vein, and the tracing was taken from the carotid artery.

With sodium salicylate there is an early and direct action on respiration, the circulation being affected later. The first dose given was 2 grains; this produced no result on pulse-rate or on blood pressure; but the respiration-rate, which at the beginning of the experiment was 15 in 10 seconds, fell to 13. Three grains were then given, and

Sodium Salicylate.

	Time.	Pulse in 10 Seconds.	Height of Mercury.	Respirations in 10 Seconds.
Normal ...	12.22	36	120 mm.	15
+2 grains ...	12.24	36	120 mm.	13
	12.26	36	120 mm.	13
+3 grains ...	12.27	36		
	12.29	36	92 mm.	12
	12.33	36	90 mm.	12
+6 grains ...	12.35			
	12.37	28	92 mm.	7
	12.40	28	92 mm.	7
+9 grains ...	12.41			
	12.43	22	60 mm.	5
	12.433	10	56 mm.	5

shortly after the injection the respirations fell to 12, and the blood pressure was lowered 28 mm. (of mercury). No further change took place until 6 grains were given; the respirations now numbered 7, the blood pressure fell 2 mm., and the pulse-rate, until now at 36 in 10 seconds, fell to 28. This was followed by a further dose of 9 grains, when the respirations fell to 5, and became shallow and panting, but in a few seconds later there were were convulsive inspirations and the rabbit became very cyanosed. The heart was now much affected; it became irregular, and ceased to beat three minutes after the rate of respiration became so markedly diminished.

Ortho-cresotinate of Sodium.

With this salt doses of 1, 2, 3, and 4 grains caused no change in the blood pressure, pulse-rate, or respiration-rate. Six grains were then given; the respirations soon became very shallow, and following this there was a fall in blood pressure of 24 mm. The respirations soon became fainter, there was a failure of circulation, and death followed a few convulsive inspirations. Here, again, it would seem that the primary action is on the respiration.

Meta-cresotinate of Sodium.

Three grains were given without any appreciable effect, but a larger dose, 5 grains, caused a weakening of the pulse and a fall in blood pressure. From this, however, the rabbit recovered, and a larger dose, 8 grains, was given; shortly after this injection the heart stopped. Death in this case was due to failure of circulation, probably from a direct action of the drug upon the heart.

With *para-cresotinate of sodium* there is also a direct action on respiration. The respirations become irregular, and convulsions follow a dose of 6 grains.

It is evident that none of these acids is very toxic. By the mouth in rabbits a dose of 60 to 90 grains is required to cause death, and by the jugular vein 3 to 5 grains may be given before any definite action is shown on the respiration or circulation. The former is affected much earlier, and by smaller doses than the latter. In man moderate therapeutic doses of sodium salicylate or cresotinate do not appreciably depress either respiration or circulation.

Action on Ferments.

From a study of the effects of the three cresotinic acids on fermentation, it is evident that their action is very similar to that of salicylic acid. The extent of the action on yeast may be judged by noting what strength of the acid solution is required to inhibit fermentation entirely, and for what length of time the fermentation can be delayed by using weaker solutions of the acid. It has been shown by Kolbe that salicylic acid in the strength of 1 in 1,000 prevents fermentation by yeast in a 10 per cent. solution of sugar, but a solution of 1 in 2,000 also prevents it, while with 1 in 3,000 fermentation is delayed for about forty-eight hours. By using meta-cresotinic acid in a 1 in 3,000 solution, fermentation is entirely inhibited, and ortho-cresotonic acid in the same strength delays it for seventy-two hours, so that the action of these two acids would seem to be even more powerful than that of salicylic acid.

With Yeast.

Strength used.	Meta-cresotinic Acid.	Ortho-cresotinic Acid.	Salicylic Acid.	Para-cresotinic Acid.
1 in 2,000 ...	No fermentation	No fermentation	No fermentation	+48 hours
1 in 3,000 ...	No fermentation	+72 hours	+48 hours	+24 hours
1 in 4,000 ...	+96 hours	+48 hours	+24 hours	fully in 24 hours
1 in 5,000 ...	+48 hours	+4 hours	+4 hours	+4 hours

+ hours means that fermentation was delayed for that length of time.

Experiments were also carried out with *emulsin*. This ferment splits up amygdalin into hydrogen cyanide, benzaldehyde, and glucose, when the odour of the hydrocyanic acid can be readily detected, and the mixture, owing to the presence of sugar, reduces Fehling's solution. When salicylic acid or any of the cresotinic acids (1 in 1,000) was added with the ferment the mixture failed to reduce Fehling's solution, hence the fermentative action of the emulsin had been inhibited.

All four acids inhibit the action of pepsin to an equal degree; with ptyalin it was found that ortho-cresotinic acid lessened the activity but did not kill the ferment, while the meta-cresotinic and para-cresotinic acids and salicylic acid prevented fermentation.

Action on Bacteria.

Our knowledge of the bacteriology of acute rheumatism is still very indefinite, and as this made it impossible to study the action of the acids under investigation upon a specific rheumatic germ, their comparative bactericidal power was tested on two organisms—a streptococcus and *B. coli*. These were kept in contact with weak solutions of the respective acids for one hour, and then cultures were made in Petri's capsules, which were then incubated for three days. For a "control," sterile water was used in place of the acids. In the strength of 1 in 1,000 salicylic acid and the cresotinic acids stopped the growth entirely. In the strength of 1 in 1,500 the meta-cresotinic and the ortho-cresotinic acids prevented growth, while with salicylic acid and para-cresotinic acid there were a few colonies, but the growth was not nearly so abundant as in the control. With 1 in 2,000 a good growth was obtained in all.

For the *Bacillus coli* the same method was employed, the strength of acids used being 1 in 2,000 and 1 in 3,000; and here it was found that after keeping the bacillus in contact with the acids for ten minutes all three cresotinic acids prevented growth, while with salicylic acid there was quite a good growth.

Antipyretic Action.

The antipyretic action of salicylic acid is well known. Buss drew attention to it in his first paper, and it was after witnessing its effects in certain fevers, and in employing it for a similar action in acute rheumatism, that he found it was something more than an antipyretic in this disease. It is now universally recognized as a drug capable of reducing a high temperature to the extent of 1 to 3° F.

Cresotinic acid has a similar action. Thirty grains of ortho-cresotinate of sodium given in a case of phthisis pulmonalis caused, within one and a half hours, a fall in temperature of 2° F. It was tried in several cases of phthisis, and in two cases of erysipelas, and in all these it caused a similar fall of temperature; but, as with salicylic acid, the temperature rose again after the action had passed off. When ortho-cresotinate of sodium was given no unpleasant symptoms were noted, even in cases where the dose reached 20 grains thrice daily for two weeks. There was occasional but rarely slight singing in the ears and a little deafness, but these symptoms were not sufficiently marked to cause the patient to make any complaint. This is in marked contrast to the symptoms which are so often found after the administration of similar doses of sodium salicylate for a lengthened period. Meta-cresotinate and ortho-cresotinate of sodium are excreted chiefly by the kidneys, the urine giving a deep purple colour when tested with ferric chloride. The ferric chloride reaction was also obtained in the bronchial secretion, and in the fluid taken from the joint of a man suffering from gonorrhoeal rheumatism. It was not obtained in the saliva, or in the sweat.

Action in Acute Rheumatism.

Observations were made by me only with sodium ortho-cresotinate, but similar results have been obtained with its isomers, which will be published elsewhere.

Ortho-cresotinic acid, so like salicylic acid in its chemical constitution and in its action on yeast, emulsin, etc., also resembles it in its action in acute rheumatism. It brings about the disappearance of the symptoms in as short a time, as can be seen from the accompanying cases. No poisonous symptoms were noted in the cases treated with it, nor was there in any of them any sign of relapse, even though the drug was stopped early in course of the convalescence.

Of those treated, the following are notes of two typical cases:

CASE I.

W. A., aged 30, a labourer. For two weeks before admission to hospital had felt "out of sorts," and had suffered from vague pains in the joints, and also from sore throat. He was admitted on May 5th, 1906. Some time before admission the ankles became swollen and painful, and soon other joints were affected. This was the second attack. The patient had never had chorea, nor was there any evidence of syphilis or gonorrhoea.

The area of cardiac dullness was normal, and no valvular lesion could be detected. He was a well-nourished man; his temperature on admission was 101° F. He lay motionless in bed, and the slightest movement gave him intense pain. The following joints were swollen and painful: Ankles, knees, wrists, and right shoulder.

May 6th, 1906. The patient did not sleep well last night; the joints remain swollen and very painful. Sodium ortho-cresotinate, 15 grains, every four hours was prescribed to-day.

May 7th, 1906. To-day the joints are free from pain except on movement. The swelling is distinctly less in the affected joints, and the body is covered with a profuse perspiration.

May 8th 1905. The pain has entirely disappeared and the swelling is quite gone.

May 10th, 1906. The patient now feels quite well and the drug is stopped after having been administered for ninety-six hours—four-hourly for seventy-two hours, and then three times in twenty-four hours.

The patient remained quite well and was discharged on May 25th.

CASE II.

F. B., aged 41, labourer, was admitted to hospital on April 27th, 1905, complaining of pain and swelling of the joints. He had been ill for four days before admission with sore throat and vague pains about the joints. His health had always been good; he had never had rheumatism, and until the onset of the present illness he had never suffered from sore throat.

When admitted his temperature was 100° F., and there was very acute pain and also swelling in the following joints—both wrists, ankles, and right knee. The swelling was considerable, and the wrists felt hot and were very painful on movement and extremely tender to the touch. The swelling was confined to the tissue around the joints, and did not extend into the tendon sheaths of the hands or feet. The area of cardiac dullness was normal and the heart sounds pure.

April 28th, 1905. Temperature 100°. Sodium ortho-cresotinate prescribed in doses of 15 grains every four hours.

April 29th, 1905. The patient slept fairly well during the night; the left wrist is free from pain and swelling; the other joints are still swollen, but the pain is much less severe. There is very profuse perspiration.

April 30th, 1905. The joints are now quite free from pain and the swelling is much less.

May 3rd, 1905. Sodium ortho-cresotinate is now being given three times a day, and there is no recurrence of any of the symptoms.

It can be seen from these two cases that sodium ortho-cresotinate—if we judge the effectiveness of the treatment by the degree of pain present—acted within twenty-four hours; that in forty-eight hours the symptoms had almost entirely disappeared, and in ninety-six hours, in one of the cases, we were able to stop the medicine without a recurrence of any of the symptoms. In both cases the drug caused no discomfort except profuse perspiration.

SUMMARY.

The cresotinic acids resemble salicylic acid in their action as antifermentatives, as bactericides, as antipyretics, and as specifics in acute rheumatism. Their toxic effect in animals is about the same, but ortho-cresotinic acid is more depressing to the circulation.

Action of Toluic Acid.

Toluic acid has the formula $C_6H_4CH_3COOH$, and a glance at this formula shows that it is closely allied to salicylic acid and cresotinic acid. But its actions are very different. It does not inhibit to any extent the fermentative action of yeast, emulsin, pepsin, or ptyalin, nor does it prevent the growth of *Bacillus coli* or streptococcus.

Four grams of ortho-toluic acid given to a medium-sized rabbit by the stomach produced no apparent effect; with 5 grams there was slight depression, but no paralysis; the respirations were increased, and the rabbit died twenty-four hours later. A *post-mortem* examination revealed several eroded patches in the mucous membrane of the stomach; the urine contained an amount of albumen and gave a purple colour with ferric chloride; the kidneys were greatly congested. There seemed to be a very marked action on the kidney in all the animals experimented with—an action which is not found with cresotinic acid, and only slightly with salicylic acid. Doses up to 10 grains, injected into a vein, had no effect on blood pressure, or on respiration.

Toluic acid does not seem to have any antipyretic action, as a dose of 20 grains given in a case of phthisis pulmonalis did not affect the temperature. Only one dose was given in view of the fact that it had caused such a marked albuminuria in rabbits. In spite of its near chemical relationship to salicylic and cresotinic acids, it differs greatly from them in its action, which does not promise for the drug any therapeutical application.

THE QUACK MEDICINE TRAFFIC.

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[ABSTRACT.]

SINCE the last meeting of the British Medical Association a sum of £2,400,000, approximately, has been spent upon quack medicines, and as toll from this traffic the Government has received the sum of £300,000. No other Government occupies a similar position in this respect. The Governments of France and Germany tolerate no quack remedies, while in the United States, although there exists a tax upon proprietary articles, it is enacted that the composition of all must be set forth upon the label. Among the Colonies, Australia, South Africa, and Canada are vigorously attacking the problem. Our own Government alone remains apathetic. In this country it is the rule rather than the exception to find that patients seeking gratuitous treatment at hospitals and dispensaries have already squandered more money upon quack remedies than would have been sufficient to pay for medical advice and treatment.

Apart from the increase of infantile mortality from the indiscriminate use of opiates and narcotics, it is certain that in many cases the delay in securing medical advice diminishes the patient's chance of recovery.

The simplest method of control would undoubtedly be to secure by Act of Parliament that the composition of all patent medicines should be set forth upon the label. This is the plan which has been followed with success in the United States. The difficulty of securing such an Act is at present probably insuperable. While we are still unable to suppress open unqualified practice, we shall hardly be able to obtain means of putting a stop to an insidious form of evil which brings to the Treasury so large a sum per annum. What, then, can be done? A prosecution successfully undertaken by the medical officer of health for Liverpool is full of significance. Reflecting that prosecutions were frequently brought under the Food and Drugs Act for the sale of drugs not of the nature, substance, and quality demanded, the medical officer of health for Liverpool prosecuted a certain quack medicine maker on the ground that he had sold a solution as a specific for liver complaint, whereas it was an acidified solution of glycerine, worthless for that purpose, and sold therefore to the detriment of the purchaser. A conviction was obtained.

The good work of the British Medical Association in publishing the composition of a large number of the most widely advertised secret remedies should be of the greatest possible service. Published with the authority of the Association, the analysis is not likely to be impugned, while the great expense of obtaining such an analysis can no longer be urged. It is significant that the remarkable results of these analyses were quite unnoticed by the public press. It is an additional difficulty in coping with the evil that the press, like the Government, benefits financially to so great an extent by the traffic. It should not be difficult to prove that it is the duty of the public health authorities to prosecute, under the Food and Drugs Act or otherwise, persons selling worthless articles as cures for disease. The local analyst, with the results obtained by the British Medical Association's analyst before him, will have his difficulties greatly lessened and his results corroborated.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

GUMMA OF THE CEREBELLUM.

P. H., aged 35, was, on the afternoon of May 15th observed by his messmates to be staggering in his walk, and on the morning of May 16th was brought by them to the sick-berth.

He was somewhat apathetic, and answered questions in a deliberate manner. He stated that he was quite well until noon on May 15th, when the symptoms commenced. He complained of severe and persistent frontal headache of vomiting, which was not preceded by nausea, and had no relation to the taking of food, and of giddiness. On attempting to walk the gait was staggering, and progression was in a zigzag manner, the patient swaying to and fro as if drunk, with a tendency to fall towards the right side. The knee-jerks were equal and markedly exaggerated. The pupils were irregular, the left being the larger; both reacted to light and accommodation. There was no nystagmus. Ophthalmoscopic examination showed the absence of optic neuritis.

Marked though the inco-ordination was whilst the patient was standing, when lying down he was able to perform finely co-ordinated movements, such as rapidly

bringing the finger tips together and touching the tip of the nose. The giddiness persisted while he was lying down. There was no paresis, and sensation was in no way affected. The special senses were normal.

The patient stated that he had a somewhat similar attack two years ago, and was in hospital for two months. There is a history of syphilis contracted ten years ago.

From the foregoing symptoms we came to the conclusion that the cerebellum was the seat of the lesion.

In the hope that the cause of the trouble was a gumma, potassium iodide was given in 10-grain doses three times a day, and increased by 5 grains every second day till 25-grain doses were reached. The patient at once commenced to improve, and on May 18th all symptoms were less marked. On May 21st the gait was almost normal, headache and giddiness had disappeared, and the reflexes were less exaggerated. On May 20th the patient stated that he felt quite well, and two days later was able to return to light duty. Since then the potassium iodide has been continued in 10-grain doses, with occasional intervals, and there has been no return of symptoms.

The interest of this case lies in the fact that of tumours of the cerebellum gumma is one of the rarest. In a series of 100 cases investigated by Krauss only 1 was due to gumma. The lesion was probably in the right hemisphere, as it was towards that side that the patient tended to fall.

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W. H. EDGAR, M.B., Surgeon, R.N.
H.M.S. *Bellerophon*, Home Fleet.

RECURRENT RHEUMATIC CHOREA TREATED WITH ASPIRIN.

POYNTON AND PAINE have demonstrated the presence of the *Diplococcus rheumaticus* in the lymph spaces about the vessels in the superficial part of the cerebral cortex in chorea, while they were also able to produce choreic movements in rabbits by the injection of these diplococci into the veins. Ballen has pointed out that many cases of chorea, who have shown no evidence of rheumatism before the attack, do so at a later period. From a therapeutic point of view the exhibition of sodium salicylate with sodium bicarbonate or some other alkali in large doses would tend to strengthen the theory that chorea is rheumatic in origin, as also would the later administration of aspirin. The common cardiac affections due to an endocarditis have been shown by Osler to be the sequel of a choreic attack. The organ of the body most frequently involved is the heart, and in fatal cases the presence of endocarditis is nearly always demonstrable, the pathological phenomena differing in no particular from that of definite rheumatic origin.

A girl aged 16 was seized with severe pains in her joints, affecting especially those of the right side, the arm being the most painful. The pains were accompanied by a severe tonsillitis. She also had menorrhagia. This definite rheumatic attack subsided almost completely within a fortnight under the usual treatment, when a choreic paresis developed in the arm on the same side as the rheumatic condition. A few days later definite choreic movements were noticed. The condition spread later to the leg. Throughout the whole attack the affection was unilateral, while paresis was more marked than the movements. The affected arm hung by the side, and could with difficulty be raised; the fingers twitched, while the grasp was extremely feeble. The knee-jerks were diminished on the affected side; speech was also affected, but the heart escaped.

The patient was confined to bed and arsenic administered in increasing doses largely diluted, little or no improvement resulting. Aspirin was substituted with marked success; 5 gr., afterwards increased to 10 gr., was given three times a day. Within three weeks from the commencement of this treatment complete recovery resulted.

Twelve months later the patient had another attack of tonsillitis, accompanied by definite rheumatic pains in the right side of the body, this in turn being followed, as before, by paresis and choreic movements, chiefly affecting the arm; in fact, the second attack was an exact repetition of the first, but of a less severe type. The treatment consisted of giving the patient 5 gr. of aspirin every few days to 10 gr., three times a day. The patient was not confined to bed, and in one month all trace of the condition had disappeared. During the second attack endocarditis developed, as evidenced by a slight systolic murmur heard over the apex of the heart.

The case is interesting on account of the definite rheumatic origin, the fact that the second attack was milder than the first, the development of endocarditis during the second attack, and the successful treatment with aspirin.

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Reviews.

ALLBUTT AND ROLLESTON'S "SYSTEM."

WHEN it was announced that the diseases of the nose, the pharynx, the larynx, the trachea, and the ear would be dealt with in a volume by themselves in the second edition of the *System of Medicine*,[1] of which this country has every reason to be proud, hopes were raised that these special diseases would be considered more from the standpoint of general medicine than from that of technique of surgical treatment by the specialist. In the original edition, published in 1897, diseases of the nose and throat were treated of in rather less than 200 pages as part of one of the earlier volumes. In this, the second edition, diseases of the ear have been added, and the three subjects have been allotted a section, which forms Part 2 of vol. iv. The sections introducing the three subjects deal with the methods of examination of the respective regions, but, needless to add, the demand upon the space available for the diseases themselves has made it necessary to curtail considerably this practical part of the work, so much so that it will be of little service either to those who know how to conduct these examinations or to those who are not already familiar with the use of the instruments.

The editors introduce the volume with a prefatory apology for the appearance of "a subject so special, and even surgical, as diseases of the ear" in a *System of Medicine*; but the apology appears to be a little inconsistent in view of the fact that the part on diseases of the ear, taken as a whole, is less surgical than those dealing with diseases of the nose and throat. In an age in which it seems that the ambition of every specialist is to perform My operation with My instruments, and to record My excellent results in My journal, or anywhere and everywhere else, the difficulty of an editor in insisting upon some adequate sense of proportion must be correspondingly increased. In the present volume, which undoubtedly shows some lack of a sense of proportion from the standpoint of the general practitioner, there are serious omissions. The general practitioner does not wish to know how to dichotomize the nasal septum, or how to open up all the accessory sinuses of the nose; what he naturally looks for is guidance as to how he can decide to some extent when such operations ought to be undertaken and the consequences likely to follow neglect to perform them. Within recent years some extremely useful work on the skiagraphy of the accessory nasal sinuses in health and disease has been published, and an article summarizing this work would have been most useful to the general practitioner. We must, inasmuch as we hold a brief for the general practitioner, draw attention to further omissions the supply of which might have benefited our client. Thus, we have been unable to find any information on the relation of ear disease to life insurance. This important subject was discussed at the meeting of the British Medical Association in Edinburgh as far back as 1898, conjointly by actuaries and the Section of Otology. The general practitioner has frequently to decide what conditions of ear disease should determine the weighting of a life, and a section might very well have been devoted exclusively to the question. Again, in the part dealing with diseases of the nose we have been unable to collect all the information we require about what is commonly called "bleeding polypus" of the nose; nevertheless, that part contains a separate section devoted to "Maggots in the Nose," which opens with the statement, "This disease is almost entirely confined to the tropics." Bleeding polypus of the nose at any moment, if not correctly diagnosed, might mislead a general practitioner in these milder climes into a diagnosis of malignant disease. In passing we would draw attention to the views expressed about malignant disease of the nasal cavities as being not altogether in accordance with recent pathological research. Speaking generally, the etiology and pathology of these special diseases throughout the volume have not been treated with the fullness or the scientific method which might

[1] *A System of Medicine*. By many writers. Edited by Sir Clifford Allbutt, K.C.B., and H. D. Rolleston, M.D. Vol. iv. Part 2. Diseases of the Nose, Pharynx, Larynx, and Trachea. Vol. v. Diseases of the Respiratory System; Disorders of the Blood. London: Macmillan and Co., Ltd. 1908. (Med. 8vo, pp. 582. 25s.)

have been expected. The pathology of tuberculosis of the larynx and of the allied regions is sketchy, where a more complete account would in itself have been sufficient to enable the general practitioner to base a rational treatment. Throughout the volume one feels the lack of a co-ordinating influence, which might have found an excellent opportunity of establishing not only a partnership of these special diseases with general medicine, but even a scientific unity. The result is disappointing. Viewed as a textbook, the volume will teach little to those who know little; viewed as an authoritative treatise, so far as we have been able to test it, its information has been found wanting where it would have been most useful to the practitioner.

We are glad to be able to speak in very different terms of Volume v, in which diseases of the respiratory system and disorders of the blood are the subjects dealt with. Both of them have undergone close examination and revision during the past decade, and the editors have called in several new coadjutors to rewrite or to revise those articles which in the course of nine years have become somewhat out of date.

Two articles, dealing respectively with physical signs and aërotherapeutics, by Dr. Hector Mackenzie and Dr. Theodore Williams, have been transferred from other volumes, and will be found especially useful by teachers and demonstrators. A chapter on asthma and hay fever, contributed by Drs. Goodhart and E. I. Spriggs, deals mainly with the true spasmodic asthma of which hay fever is regarded as the purest form, rather than the secondary forms of paroxysmal dyspnoea. The extraordinary variety of conditions which may give rise to an attack goes to prove that peculiarities of nerve centres must be present, and this assumption is supported by the relative frequency of the disease among the more sensitive classes. No better explanation of the actual causation of the dyspnoea has been found than bronchiolar spasm, excited by peripheral, reflex, or central irritation. Warnings with respect to the excessive use of palliative remedies deserve special notice, while the suggestions for prophylactic and curative measures are marked by sound common sense. Dr. William Ewart has supplied a very full and carefully classified account of bronchitis as affecting tubes of varying calibre, and also a chapter on bronchial dilatation. The very complete bibliography from which he has drawn conclusions gives evidence of the labour devoted to the work. A short contribution by Dr. J. J. Perkins on new growths of the bronchi indicates all that is at present known about them. The introduction of the bronchoscope will doubtless lead to earlier diagnosis of growths in the larger tubes.

Dr. A. P. Beddard is responsible for the chapters on the various forms of acute pneumonia, the bacteriology being in the hands of Dr. J. Eyre. The marked increase of knowledge of this aspect of the disease has opened the way to better understanding of the phenomena of crisis and lysis, and the explanation here given, although it cannot be regarded as more than conjectural, affords a basis for future observation and possible advance in treatment. The therapeutic value of vaccines obtained from the actual pneumococcus of the case under treatment is insisted upon by Dr. Eyre as effective in antedating the occurrence of crisis, and so shortening the duration of the illness. The whole section, originally written by Dr. Pye-Smith, is supported by analysis of 7,868 cases, collected from various sources—a sufficiently wide field from which to draw trustworthy averages. Lobular pneumonia is separately described, but we do not find references to the cases of wandering inflammation of the lungs in which the disease appears to run its course at one point before it appears in another area of the same lung. Dr. John Fawcett has revised Dr. Pye-Smith's paper on chronic interstitial pneumonia, drawing largely upon the records of Guy's Hospital for illustrative cases. The difficult question of the treatment of pulmonary abscess is discussed, on the basis of a very large bibliography, by Dr. J. J. Perkins. Pulmonary tuberculosis is described at no undue length by Drs. Percy Kidd, Bulloch, and Bardswell. They have set down in clear terms all the facts at present known as to the disease as a whole, analysing all that is best in recent work in every department of the subject. Dr. Bulloch examines the important question of the paths of entry of the tuberculous poison, and comes to the conclusion that infection by inhalation is far more frequent than by ingestion, but at the same time demonstrates that the spread of the disease within the body is mainly effected by lymphatic channels. The diagnostic value of cutaneous and conjunctival inoculation has not been conclusively proved. The long series of experiments which have led up to the present views on inoculation, controlled by the opsonic index, as a means of treatment are very fully described. The enthusiasm of the bacteriologist is not always shared by the practical physician, but results have shown beyond a doubt that the employment of smaller dosage and the avoidance of reaction undeniably produce improvement without the dangers and drawbacks of the more heroic methods.

Dr. Kingston Fowler, in a paper on syphilis of the lung, shows clearly the present limits of knowledge with respect to it. Sir Thomas Oliver's paper on pneumoconiosis has been rewritten, and reflects a vast amount of experience and observation among mining communities in all parts of the world. Diseases of the pleura are fully dealt with by Dr. S. West and Dr. T. J. Horder, who have revised the original article by Dr. Gee. New growths and other affections of the mediastinum are presented by Dr. Frederick Roberts and Dr. C. Bosanquet, the latter recording the results of modern investigations with regard to the thymus, which for the present remain inconclusive.

The concluding third of the volume is devoted to those conditions which are well described as disorders of the blood. Much new work is recorded by Sir T. Clifford Allbutt, who happily combines the experience of the scientific worker and the clinical observer, in his article on chlorosis; by Dr. Herbert French, who discourses on pernicious anaemia, showing the retention of iron in the liver and kidneys in a very convincing coloured plate; and by Drs. Hutchison, Ledingham, and Muir on the various degrees of anaemia. An interesting account is given by Dr. A. E. Garrod of the condition now known as enterogenous cyanosis, in which the haemoglobin of the living blood becomes altered from within or from without, the ultimate poison formed within the body being hydrogen sulphide. Papers on purpura, scurvy, and haemophilia conclude a volume which cannot but enhance the high reputation deservedly earned by the previously issued portions of the new edition of the *System*.

OPHTHALMOLOGY.

ANOTHER edition has been published of the version in English of the useful *Atlas of Ophthalmoscopy and Ophthalmoscopic Diagnosis*, by Professor O. HAAB, of Zurich.[2] It is the second American edition, translated from the fifth revised and enlarged German edition, and is edited by Dr. DE SCHWEINITZ, of Philadelphia. It has been brought up to date, and some fresh chromo-lithographs have been added from the collections of Professor Haab and Dr. de Schweinitz. Altogether it now contains 152 lithographs. The first eighty-seven pages comprising the text include, besides the introduction, a description of the ophthalmoscope, of examination by the direct and indirect method, of the method of measuring refractive errors, a detailed account of the way to conduct an ophthalmoscopic examination, and a description of the normal eye ground and of pulsating phenomena. The rest of the book is devoted to beautiful coloured ophthalmoscopic drawings, and to a description of the cases from which they were made. As a hand atlas it is second to none. For teaching purposes it is of the greatest use, while it will serve to impress upon the student the sort of thing he has to be on the look-out for when examining ophthalmoscopic cases. We can heartily recommend it to both teachers and practitioners.

A companion volume, Professor HAAB'S *Atlas of External Diseases Eye, including a Brief Treatise on the Pathology*

[2] *Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis.* By Professor O. Haab, of Zurich. Second American edition, from the fifth revised and enlarged German edition. Edited by G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. Philadelphia and London: W. B. Saunders Co. 1909. (Cr. 8vo, pp 87; 152 coloured lithographic illustrations. 13s.)

and Treatment,[3] has now run to a third edition, and great credit is due to Dr. de Schweinitz, of Philadelphia, the editor, for his care and skill in translating it, and for thus putting it at the disposal of hundreds of students and practitioners whose knowledge of German is elementary. A description of the various methods of examining the eye in disease is followed by an account of the regional diseases, lacrymal apparatus, eyelids, conjunctiva, cornea, sclera, iris and ciliary body, lens and vitreous; of glaucoma, and finally diseases of the orbit are discussed. The beautifully coloured illustrations, numbering 101 on 46 plates, are too well known to need any description, though some of these in this edition are new. It is, of course, difficult to learn much of disease from pictures only, but the drawings are lifelike, and the book will be a very real help to those studying diseases of the eye, especially to those who have only limited clinical opportunities. These hand atlas series are far more useful, far cheaper, and altogether more within the range of students than the ponderous volumes of the older atlases.

Some stereoscopic pictures are published by Dr. R. PERLIA, oculist at Crefeld,[4] accompanied by directions and description which show the author to be by no means familiar with the method in which squints usually develop. He states that "squinting is caused by short or long sightedness, also by weakness of the optical nerves—a squinting eye is excluded from the power of seeing. In consequence of its not being used its power of sight diminishes more and more, till at last it is only able to distinguish objects quite near at hand." We should have thought that every one would have known and agreed that amblyopia is usually caused by a failure of development of the visual faculty of an eye, not by a retrograde movement after full development. The pictures are not truly stereoscopic ones, and are inferior to many already in the market.

Dr. E. WÖLFFLIN of Basle has brought out a set of charts for the registration of defects of the eye muscles,[5] consisting simply of nine identical squares on each chart, with a red mark in the middle. Each of these nine squares is divided up by vertical and horizontal lines into 144 squares, in which the defects can be accurately and graphically reported. At the side is a space left for the patient's name, the diagnosis, date, and remarks.

PULMONARY TUBERCULOSIS.

DR. GAUSSEL has written a very readable book on the treatment of pulmonary tuberculosis.[6] He gives first a classification of the various clinical forms of consumption, which would, perhaps, lose nothing of its value by some judicious compression. The precautions necessary for prevention are mentioned, and then the various requirements for successful treatment are carefully discussed. In the chapter on antispecific medication there is a very interesting summary of the different attempts—for the most part unsuccessful—which have been made in the direction of vaccination against tuberculosis, and of the various tuberculins and serums which have been employed in treatment. The author concludes that we do not yet possess either vaccine or serum which is really specific against tuberculosis, the very multiplicity of such remedies being a proof of their non-efficiency. Climatic treatment is very fully considered, and a very good tabular scheme is given showing at a glance the kind of climate which is likely to be best suited to each variety of pulmonary tuberculosis. To many of those who practise the open-air treatment in this country the advocacy of fresh-air requirements will seem somewhat timid. The majority of patients will not run any risk of keeping the bedroom window open without the gradual acclimatization to fresh air recommended by the author. After discussing the medicinal treatment of symptoms and of various complications and associated diseases, the author describes sanatorium treatment, and gives a useful list of sanatoriums in France, whether for paying patients or for the poor. Finally, there is a chapter devoted to the questions of the treatment of tuberculous patients in the hospitals, antituberculosis dispensaries, and of social prophylaxis against the spread of consumption. The book is a reliable and useful guide to the modern treatment of the tuberculous.

This account of the modern methods for the solution of the tuberculosis problem given in Dr. KNOPF'S *Tuberculosis a Preventable and Curable Disease*[7] is very complete, but its thoroughness is to some extent a disadvantage in a book intended, as the preface informs us, for the public. It is perhaps necessary for the expert to view everything in relation to his special subject, but the ordinary layman may take fright at the idea that every detail of his daily life requires carefully watching if he would escape disease. The early part of the book is excellent; the necessary information as to the causation of tuberculosis is given in simple language; there are good, common-sense rules on the selection of climate, and clear, comprehensive directions for consumptive patients. When we come to administrative precautions we become overwhelmed with the details of the requirements for checking tuberculosis, till the feeling grows that all private, commercial, and municipal life must be subservient to that one object. The recommendations are excellent, and will repay study by the sanitarian; but we hesitate to recommend the perusal of such details to the consumptive patient or his friends.

TROPICAL MEDICINE.

THE literature of tropical medicine is suffering at present from an over-production. Some of the work is good, most indifferent. *Blackwater Fever*,[8] by Dr. NEWELL, belongs to the latter category. The author believes blackwater fever to be of malarial origin, and talks of this belief as his own theory in Chapter IV, but such an idea has been commonly accepted for at least the last twenty years. He explains away the real difficulty, why some intensely malarial districts should be quite free from blackwater, much too airily. He says:

> Why some malarial districts seem to be free of blackwater fever may be accounted for by the absence of the malignant tertian parasite there, or the absence of the "special malignancy" of this variety of parasite in that district. All malarial districts are not equally malarial, nor are all *highly* malarial districts equally *highly* malarial, or, in other words, all highly malarial districts need not contain very malignant parasites, malignant to the same degree.

How does the author propose to account for the fact that infection by malignant tertian and quotidian parasites form over 90 per cent. of the malaria in the districts he speaks of, and that people die in large numbers with pernicious symptoms? Writing of mortality, he says (p. 39) that there should be none, yet in the very next breath he admits that some of his native cases died either because they were seen too late, had too little stamina, were unwilling to take fluids, or had great fear. But cases of this disease do die, however expert the medical attendant, and however expert the nursing may be. In Chapter II, among cases of blackwater fever, we find one (Case 4, p. 73) of kala-azar, and why it should find a place in the series it is difficult to understand. The author believes that he has found a new parasite, evidently of the nature of a trypanosome (not the Leishman-Donovan body), in this disease (p. 76). Artefacts are numerous in microscopic work, and not always easy to distinguish from real parasites. Some of the observations on treatment will be found useful, but on the whole, however, the matter contained in the book is disappointing.

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[3] *Atlas of the External Diseases of the Eye, including a Brief Treatise on the Pathology and Treatment.* By Professor Dr. O. Haab, of Zurich. Authorized translation from the German. Third edition revised. Edited by G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, etc. Philadelphia and London: W. B. Saunders Company. 1909. (Cr. 8vo, pp. 240; 101 coloured lithographic illustrations on 46 plates. 13s.)

[4] *Kroll's Stereoskopische Bilder zum Gebrauche für Schielende.* Seventh revised edition. By Dr. Perlia, oculist of Crefeld. Hamburg: L. Voss. 1909. (Fcap. 8vo. Tafeln 28. M.3.)

[5] *Schemata für Augenmuskellähmungen.* By Dr E. Wölfflin, Privat-docent of Eye Diseases in the University of Basle. Wiesbaden: J. F. Bergmann; Glasgow: F. Bauermeister. 1907. (Cr. 8vo, 25 Blatt in Mappe. 3s.)

[6] *Traitement de la tuberculose pulmonaire.* Par Dr. A. Gaussel. Montpellier: Coulet et Fils. 1909. (Post 8vo, pp. 340. Fr.5.)

[7] *Tuberculosis a Preventable and Curable Disease.* By S. A. Knopf, M.D. New York: Moffat Yard and Co. 1909. (Demy 8vo, pp. 425. 6.00.)

[8] *Blackwater Fever (Bilious Malignant Tertian Ague).* By A. G. Newell, M.D. (Glasgow), C.M., L.M., D.P.H.Cantab. London: John Bale, Sons and Danielsson, Limited. 1909. (Demy 8vo, pp. 154. 6s.

The medical reports of the German colonies for the years 1906–07, 1907–08 are interesting,[9] and are published by the German Colonial Office in the convenient form of a single volume, so that reference to any individual colony and to the diseases found therein is simple. The system might with advantage be followed by the British Colonial Office. The colonies dealt with are German East Africa, the Cameroons, Togoland, German South-West Africa, New Guinea, the Carolines, Marshall Island, and Samoa. Some of these are healthier than the others, for certain tropical maladies prevail extensively in the African colonies. In East Africa, for example, almost every tropical disease is met with. In the interior sleeping sickness is common, while malaria and blackwater fever prevail extensively throughout the whole area. Two cases of Malta fever are also noted in the 1907–08 report, and many other diseases, such as leprosy, yaws, beri-beri, bilharzia, elephantiasis, and ankylostomiasis. A veterinary report by Dr. Lichtenheld is included; it deals with coast fever—which is common—other piroplasmoses, tsetse flies, trypanosomes, rinderpest, and general diseases of animals. A photograph of the Government Hospital at Daressalam shows a handsome building, and indicates that the Government officials or others will be well looked after and housed when ill. Passing to the Cameroons, a point to be noted in the 1907–8 report is that the prevalence of blackwater fever still continues, though the death-rate has fallen; there were 22 cases with 3 deaths, giving a percentage of 13·6; 3 cases of Malta fever are described, indicating that this disease probably prevails all over Africa; sleeping sickness is rare, very few cases having been met. Photographs are given of some of the hospitals, and these again show well thought-out and well-designed buildings. From Togoland a case of yellow fever is reported, and other tropical complaints are also common there. German South-West Africa, being farther south, is healthier than the colonies already mentioned, but malaria prevails fairly extensively. German New Guinea, in addition to malaria, has also beri-beri to contend with, while Samoa and the other islands might be termed comparatively healthy. A list of publications by German doctors in the services abroad is published at the end of each volume, and this, together with the full and well-arranged reports from the different areas mentioned, indicates that much good work is being done by Germany in tropical medicine.

NOTES ON BOOKS.

MR. H. GODFREY'S *Elementary Chemistry*[10] is intended to afford an introduction to the subject suitable for an ordinary school course, and aims at supplying a general elementary acquaintance with the subject. It is written in an attractive style, and well garnished with illustrations. The main part of the book is divided into thirty chapters, each intended to represent the work of a single week, commencing with the fundamental conceptions of elements and compounds, atoms and molecules, and passing, after a short account of the commoner inorganic substances, to simple organic chemistry and the general nature of foods and clothing materials. The method is didactic throughout, and no suggestion appears to be made that the student should observe for himself or reason from his observations. The book is well adapted for its avowed purpose, and will be useful as an aid to acquiring general information, but should not be used by those intending a serious study of chemistry.

Numbers iv and v of the ten annual volumes of the well-known *Practical Medicine Series*[11] deal respectively with *Gynæcology* and *Obstetrics*, the editors of the former being Professor E. C. Dudley, of Chicago, and Assistant Professor C. von Bachelé, and of the latter Professor J. B. de Lee, with Dr. H. M. Stowe as collaborator. Both volumes are freely illustrated. Professor Lea, in his summaries of important papers published during the past twelve months, adds, in many cases, a brief note as to his own practice in circumstances allied to those discussed.

[9] *Medizinal-Berichte über die Deutschen Schutzgebiete Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen, Marshall-Inseln und Samoa, für die Jahre 1906–07, 1907–08.* Herausgegeben vom Reichs-Kolonialamt. Berlin: Mittler und Sohn. 1908, 1909. Ernest Siegfried. (Roy. 8vo, pp. 324 and 528. M. 7.50 and M. 7 respectively.)

[10] *Elementary Chemistry.* By Hollis Godfrey. New York and London: Longmans, Green and Co. 1909. (Post 8vo, pp. 470; 105 illustrations. 6s. 6d.)

[11] *The Practical Medicine Series.* 1909. Edited by G. P. Head, M.D. Vols. iv and v. Chicago: The Year Book Publishers; and Glasgow: G. Gillies and Co. (Cr. 8vo, pp. 225 and 256 respectively. 5s. each.)

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 760.*)

GENERAL ADDRESSES.

MENTION has already been made of Professor Kutner's and Professor Hollander's lectures on Sunday afternoon. On Monday Professor BACCELLI delivered a lecture on the importance of intravenous medication. The lecture reviewed the position of the injection of potent drugs and medicaments into the venous system, and included a full account of the part which the author played in the introduction of the method. It was much applauded by a large audience.

Cancer Research.

On Tuesday afternoon, in the lecture theatre of the National Museum, Dr. BASHFORD gave an excellent demonstration on cancer in man and animals, illustrated by a very large number of lantern slides. The speaker had prepared a set lecture, and this was printed in the transactions of the Congress, which will be published at a later date, but preferred to explain his points by short accounts of the significance of each slide. He spoke in English, but was well understood by the majority of those present. The chief points which he sought to establish were as follows: In the first place, he showed that cancer is not limited to white men. Slide after slide showed the macroscopic and microscopic appearances of malignant neoplasms discovered in the coloured races and in many vertebrate animals. He showed that cancer is not, as is usually supposed, rare in any quarter of the globe; 25,000 deaths from it occur annually in Japan, and it is to be found at any time in West Africa, India, Nigeria, Egypt, and elsewhere. Statistical tables demonstrated that the established frequency of the diseases varies in direct proportion to the thoroughness of the statistics, and that in those parts where statistics have improved, and where the means of recognizing and recording the occurrence of cancer have become sharper, the apparent frequency of the disease has increased. Dr. Bashford suggested that the diseases were not really increasing, but were being more universally recognized when they occur. He passed on to the consideration of cancer in the lower animals, and demonstrated the nature of carcinoma and sarcoma as met with in the various species. The possibility of experimentally reproducing the disease in mice and other animals was then described, and the course of the disease thus transplanted was briefly demonstrated. The analogies between the cancers of rats and mice and those of man were dealt with. Perhaps the most striking analogy, after that of histological structure, is that of age incidence. Dr. Bashford summed up this by stating that statistically cancer is a function of age and biologically a function of senescence. These points were brought out by means of tables and diagrams. The experiments on mice showed that cancer grew better and more rapidly in young individuals than in old ones, although the susceptibility to the disease was greater in old animals or human beings than in the young. Next he sought to explain the determination of the site of a cancer. With regard to the intestinal tract, males were exposed to chronic irritation of the upper end (mouth, lips, tongue, etc.) more frequently than were women, and the cancer incidence in this situation was greater in them. In the same way, the chronic irritation of the female pelvis accounted for the greater frequency of cancer of the lower end than was the case in males. Mice appeared to obey the same laws in this respect, and the overwhelming frequency of mammary cancer (spontaneous) in mice corresponded to a similar condition in human beings. The question of sex was dealt with in this connexion. Next Dr. Bashford turned his attention to heredity and infection, and demonstrated that while there was no evidence of a congenital origin of the disease, there could be no doubt that the disease occurred in those situations which were most exposed to irritation. Slides demonstrated the occurrence of cancer of the skin of the abdomen in Kashmiris, who are accustomed to wear a charcoal oven against the belly; and that cancer of the inside of the mouth is common in Ceylonese and Indian women who chew betel nut. The arguments against an infective causation of cancer were numerous. The mere fact

that in some 200,000 mice in his laboratories not a single instance of the infection of one mouse to another had been found, in spite of careful observation, supported this view. He was able to discount much of the evidence offered in support of the epidemic or endemic nature of the disease. He then dealt with the immunity produced experimentally with regard to mice and rat cancers. The immunity was specific and the inoculation of a tumour from a rat into a mouse would not protect against a mouse cancer. The tissue of the animal itself or of embryonic tissue of the same species induced this protection, while freezing and grinding robbed the tissue of its protecting properties. Many other points of equally interesting nature were reported, and the lecturer concluded by remarking that the hopelessness in respect of this disease which was felt but a few years ago was no longer justified, although he warned his audience against expecting that the etiology of the disease would be clearly made out soon. The work was so difficult that time must elapse unless an unlikely accident revealed it suddenly. The lecture, which was listened to by a large audience, was loudly applauded.

Artificial Parthenogenesis and Formative Stimulation.

On Wednesday evening Professor LOEB, of the Berkeley University in California, delivered a highly interesting lecture on artificial parthenogenesis and its relation to the physiology and pathology of the cell. The theatre was well filled, and much speculation was noticeable before the lecturer began his discourse. In introducing his theme, he made it clear to his audience that he regarded all vital processes as evidence of chemical and physical changes in the cell. He did not accept the usual opinion that it would lie outside the realm of possibility to impart life to dead substance, but conceived the idea that if all the processes were in reality physico-chemical, then a minute study of natural processes must reveal the kind of change, and that such changes could be imitated by chemico-physical means. He especially directed his attention to the nature of formative stimulation and agreed with Virchow, who believed that the prototype of this stimulation was to be sought in the fecundation of the ovum. What caused the ovum to divide and develop into a separate entity would cause all life processes in any cell. He therefore set to work to investigate the fertilization of the ovum. In practically every case the ovum sooner or later died, if it did not become fertilized by a sperm cell. He described the action of the spermatozoon as a life-saving one. In the first place, he attempted to fructify the ovum by means of extracts of sperm cells. This failed until he applied the extracts of sperm cells of a foreign species. This extract kept the ovum alive and led to changes similar to those of the preliminary stages of fertilization. He experimented with the eggs of the Californian sea urchin. In this case the formation of the so-called membrane as the result of the penetration of the sperm cell was well marked. He found that the action of the sperm cell was two-fold. The membrane was only formed after a sort of lytic process had taken place and the spermatozoon had acted on the medullary layer in a peculiar manner. In order to understand this the better he attempted to imitate it. First, he placed the eggs in sea-water containing a fatty acid. No membrane formed, but on transferring them later to sea-water rendered alkaline with additional alkaline hydrate the eggs formed an excellent membrane. During the time following this formation the ova underwent those changes which were associated with further development, and which led up to cell division. It thus appeared that the fatty acid did not suffice to cause the membrane to form; the ovum must be exposed to the action of a solution of higher tonicity than the protoplasmic fluid. He further found that any cytolysin —for example, saponin, benzol, ether, chloroform, and many others—was able to act instead of the fatty acid. Loeb therefore concluded that in artificial parthenogenesis the first stage necessary was the partial solution or precipitation of a substance in the superficial layer of the ovum, probably a lipoid, by means of the cytolysin. This would explain why the extracts of the homologous sperm cells failed to fertilize, while the heterogeneous extracts did so. The barrier to the penetration into the medullary layer of the ovum of the substance which produced the formative stimulation, and which was to be found in the substance of the sperm cell, but which could be substituted by a hypertonic solution, was then removed, and the membrane resulted in response to the internal action of the hypertonic fluid or equivalent substance of the sperm cell. He was following out the further steps of the process, but had not yet been able to state on what chemical changes the ultimate cell division depended. He discussed the importance of studies of this kind for the pathology as well as for the physiology of the cell.

Tropical Diseases.

On Thursday afternoon Professor LAVERAN delivered an excellent lecture on the development of knowledge of the etiology of tropical diseases and their prevention. He gave a complete and critical survey of the work done within the past few years. The various stages in the history were mapped out by landmarks—the discovery of a new parasite or a new intermediary host—and the whole pieced together will form a valuable guide for further investigations.

Inheritance, Selection, and Hygiene.

Professor GRUBER, of Munich, spoke on this subject on Friday afternoon. The lecture was of a highly philosophical nature and roused great interest. He started from the thesis that hygiene in its modern form must act directly against the process of selection which Nature tended to carry out. Darwin's doctrine of natural selection resulting from the struggle for existence had to be examined in the face of the endeavour to remove those noxious agents which led to a weakening of the individual. He propounded the question whether modern hygiene was not attempting a vain task to overthrow the relentless decree of Nature. In order to answer this question thoroughly, it became necessary to consider carefully the factors which led to inherited and also to acquired weakening. The congenital inabilities revealed themselves often late in life in the shape of sterility, atrophy of the mammary glands, alteration of the sensory spheres, etc. These deteriorations depended on changes in the parental plasma, and could only be attacked through succeeding generations. The acquired noxae included damage to the protoplasm of the embryo during the various stages of development, damage to the functions during later life, by alcohol, syphilis, and the like, and by infective processes, including tuberculosis. On the other hand, it would be possible for hygiene to undertake a control of the race in such a way that the individual would be protected against those noxae which otherwise would lead to his weakening and eventual destruction. Gladstone had stated that the medical man might become the protector of the race. If hygiene was to perform its proper task of removing those noxae which weakened the congenitally weak or the infected members of the race, then Gladstone's prophecy would certainly come true.

The Valley of the Vag.

Professor SIEGMETH delivered an interesting lecture on the climatic, geological, and scenic peculiarities of the valley of the Vag and the high Tatra.

COMBINED SESSIONS.

Appendicitis.

The Sections of Surgery, Medicine, and Gynaecology held a combined session for the discussion of appendicitis. The papers and discussions occupied two mornings. This discussion turned out to be of great value, and the debate between those surgeons who regarded operative treatment as the proper treatment for all cases, those who preferred to operate only within forty-eight hours and then only in selected cases, and the physicians who wished to treat the majority, if not all, appendicitis cases without surgical intervention became almost exciting. From an early period it became evident that the first-named school of surgeons would suffer defeat, and the battle between the two remaining schools was hotly contested. The conservative physicians appeared to win the day, and, at all events, an effective check has been put on the tendency to operate too frequently.

LENHARTZ (Hamburg) opened the discussion. While he acknowledged the excellent results obtained in the early stages with operative treatment, he considered that the diagnosis in the early stages often presented great difficulties. In these circumstances he could not support the doctrine of operating early in appendicitis, more especially since medical treatment had in his hands given excellent

results. Rest, the withholding of all food by the mouth, and the administration of sedatives, were the measures which he employed. He dealt especially with appendicitis of gynaecological origin, and illustrated his views of the pathology by means of histories of cases. With regard to puncture, he believed that abscess formation could be diagnosed by that means, but he realized that care must be exercised in carrying this out. He had had no untoward results. He objected to operative treatment in the interval, and finally only admitted the surgeon for cases of sudden onset, with signs of acute general peritonitis. SONNENBURG (Berlin) regarded the catarrhal form, which was associated with symptoms of faecal retention, as an illness which tended to run a favourable course without operation. A dose of castor oil was the best treatment, and he was of opinion that there was no tendency for these cases to recur. When the retention could not be relieved soon, and virulent infection was present, the inflammation soon spread, gangrene, perforation, and peritonitis were met with, and the only chances for recovery lay in early operation. But the diagnosis in these cases was difficult at first. The peculiar blood changes, described by Arneth, together with the temperature and pulse curves, as well as the local and general symptoms, however, rendered diagnosis possible, and it was just this improved diagnosis which made early operation in all cases no longer necessary. He had obtained excellent results in the catarrhal cases without operation, while in his selected cases the mortality after operation had been reduced to 3·1 per cent. A communication from the late Professor ROSTHORN (Vienna) was read, in which the author had recorded his views as a gynaecologist. He, too, had regarded the advisability of interval operations as doubtful. WALTER (Paris) pleaded for operation within the first twenty-four hours. His cases treated in this way had all recovered. The diagnosis, however, must be certain. SEGOND (Paris) also favoured early radical treatment. HARTMANN (Paris) had obtained good results by early operation, and supported those who wished to submit each case to surgical treatment, when the diagnosis could be made within forty-eight hours. SCHNITZLER took a more moderate view, and was of opinion that only certain cases were suitable for operation, and those only when the diagnosis could be made early. FABRICIUS (Vienna) tried to tempt the gynaecologists to operate more freely; and MURPHY (Chicago) advocated the limitation of surgical intervention to acute cases in the initial stages. KÜMMEL (Hamburg) still adhered to the older fashion of operation in practically every case, although he recognized that it was difficult in many cases to make a correct diagnosis and prognosis. BOURGET (Lausanne) did not regard operation as necessary, and claimed to have obtained better results without surgery than the surgeons had obtained by operation. BOERO (Buenos Aires) also had obtained better results without operation; while HAGEN-DORN (St. Petersburg) urged the limitation of surgical treatment to certain selected cases in the earliest stages. MORRIS, HERCZEL, REYMOND, GIORDANO, and MARAGLIANO also spoke. RIVIÈRE (Paris) advocated internal treatment, including calomel, castor oil, rest, and starvation, and declared himself opposed to surgical intervention in the majority of cases. LUCAS-CHAMPIONNIÈRE (Paris) was willing to admit that the modern surgeon was too fond of the knife, and that the surgeon should individualize and only operate in selected cases. He did not approve of puncture. He realized the difficulty of making early diagnoses with certainty, and then discussed the form of operation which gave the best results in fulminating cases. WOHLGEMUTH illustrated the dangers of puncture by relating the history of a typical case. WOLFF (Potsdam) limited his remarks to the question of the removal of the appendix, which he advocated, in spite of the opinion generally expressed by surgeons that in acute cases little good was done by the removal. In his reply, LENHARTZ summed up the discussion by pointing out that the last straw on which the surgeons could rely in favour of operative treatment was a correct and early diagnosis, and this was admittedly extremely difficult. His results had been better than those which the most skilled surgeons had obtained. SONNENBURG attacked Lenhartz only in respect to puncture, and WALTER held tenaciously to his doctrine of early operative interference.

Immunity.

On Tuesday morning a discussion on anaphylaxis attracted a considerable number of members. BESREDKA (Paris) dealt with the problem of the prevention of the symptoms of hypersensibility. He explained briefly the nature of anaphylaxis to serum, as seen in the laboratory. When a guinea-pig was given a small injection of serum, and after ten days or longer a dose of 5 c.cm. a fatal result was produced, although 15 to 20 c.cm. did not harm a normal animal. After referring to the symptoms which had been observed in man, he detailed the means which enabled the experimenter to prevent a second injection of serum from producing "accidents." Heating the serum to 56° C. for one hour on four consecutive days attenuated the toxic nature of the serum, but did not remove the danger completely. Serum heated to 80° C., if applied preventively, conferred a certain and lasting immunity, but its establishment was slow, and a reaction took place, which was not desirable. Anaesthesia with ether, or, still better, with alcohol injected subcutaneously, intraperitoneally, or by mouth or rectum, conferred a complete but transient immunity. The best means of protecting animals against anaphylactic symptoms, however, proved to be that described by the speaker as anti-anaphylaxis. This might be done either by injecting the serum prophylactically into the rectum, or by giving it in very small doses subcutaneously. A second injection of serum given within forty-eight hours of the first conferred protection against a subsequent injection even if this were given weeks or months after. DETRE (Budapest) regarded anaphylaxis as a mesodermal reaction. The albumen introduced caused the mesodermal ferments to act through some intermediary products of the partially split up proteid. Hitherto the theories offered in explanation of the phenomenon were: (1) Pfeiffer's lysin production theory, by which it was meant that the introduction of the foreign serum produced an antibody, through which the toxic properties of the proteid could act. (2) Friedberger's theory, according to which the phenomenon depended on the formation of sessile receptors, which, according to the introducer, were those of precipitins, but which, according to Dörr and Russ, were of a different nature. In defending his own views, he cited a case of a patient who was treated by a serum given in doses of 10 c.cm. each third day. After the fourth injection the last site of injection began to swell, became inflamed and oedematous. The patient showed a violent reaction. Shortly after, the third injection site began to react, later the second, and finally the first. He considered that the antigen (that is, the albumen of the serum) reacted best and immediately where there was the greatest amount of antigen. The experiments of Besredka, he contended, proved that the greatest concentration of antigen was to be found in the mesodermal cells. In support of his views, he further quoted the experiments of Victor Vaughan with egg white split up by means of alcoholic solutions of sodium hydrate. He considered that in the anaphylactic phenomenon three factors had to be taken into account: (*a*) the digestive ferments of proteids; (*b*) the altered power of reacting on the part of the cells; and (*c*) the individual variation in the sensibility of the cells. In the second part of his discourse he dealt with the tuberculin reaction and the reaction in tuberculosis, as explained by his theory. FRIEDBERGER attempted to defend the precipitin theory which he had published within the past year. His argument in favour of the reaction product being of the nature of a sessile precipitin receptor was based partly on direct experimental evidence and partly on inference with regard to the disappearance of complement which was observed with demonstrable forms of precipitin. He did not wish to convey the impression that the symptoms which killed the animals were due to a mechanical action of precipitated proteid, but insisted on the identity of the reaction product and precipitin, in spite of the fact that precipitin had not been demonstrated in the experiments described by the American and German observers. NEUFELD (Berlin) spoke of the danger of intravenous injections of serum, and stated that it appeared that Besredka's suggestion of previously giving a small dose subcutaneously would prove satisfactory in human subjects. It was, however, still a matter of doubt whether there existed a real parallelism between the phenomenon in human beings and that in guinea-pigs. In

criticizing the work of Friedberger, Dörr, and Russ, he was tempted to identify the substance which they regarded as precipitin or, at all events, as forms of sessile receptors, with what was described by the French school as *sensibilisine*. He could not accept the sessile receptor theories, and warned against all theories which did not fully explain the phenomenon of passive anaphylaxis. CITRON denied that precipitin took any part in the matter. He did not regard anaphylaxis as a simple process. He believed that the sessile receptors increased, and, further, that the normal protective power of the wandering cells became neutralized. Lastly, he recognized a special hypersensibility of the cells. VON PIRQUET (Vienna) dealt with the matter from a clinical point of view. Anaphylaxis, he stated, was an artificial condition, produced either in the laboratory or by means of those forms of treatment which depended on laboratory production. In rare cases, as in the case of bee-stings, etc., it might be produced naturally. He was inclined, however, to regard some forms of intoxications from the gastro-intestinal canal as examples of this. He did not agree with Detre's explanation. SLEESWIJK (Brussels) argued on technical grounds against Detre's views. PFEIFFER (Königsberg) also spoke. ARMIT (London) pointed out that Detre had built up his view partly on Victor Vaughan's experiments, but that he was able to show that these experiments were not sound. He had obtained negative results on repeating Vaughan's experiments. While he agreed with Citron that the explanation was not simple, he expressed himself dissatisfied with every one of the theories which had been put forward up to the present. An amusing passage of arms, or rather words, then took place between Citron and Friedberger, after which BESREDKA replied briefly, and DETRE again attempted to obtain support for his views.

NEUFELD (Berlin) read an interesting paper in which he summarized his views regarding the bacteriotropic substances of serum. He explained the reasons why Metchnikoff's views on phagocytosis could no longer be accepted, and detailed the difference between his own views and those of Sir Almroth Wright on the action of the serum in accelerating phagocytosis. These views have already been published elsewhere.

GRUBER (Munich) read a highly important paper on the virulence of bacteria. He based his remarks on his observations on anthrax bacilli. In the first place, leucocytes were capable of killing the bacilli under certain conditions. Next, the lymph obtained as a result of irritative lesions imparted to the leucocytes an increased power of destroying the bacteria. But if anthrax bacilli were sown on rabbit plasma and leucocytes, they showed luxurious growth. However, if blood plates were brought into contact with the bacteria, no growth took place. The whole process depended on the formation of a capsule. Capsulated bacilli resisted the bactericidal action of the lymph and blood plates, and were in that condition which was called virulent. Phagocytosis and surrounding of bacilli, no doubt, influenced the fate of the host, but these measures were of small consequence. If capsulated anthrax bacilli were emulsified in plasma containing blood plates, the growth was good, but if the capsule was destroyed, even if no direct bactericidal action or destruction was effected in the solution, the growth was immediately inhibited in the above-named emulsion. Such a solution of the capsule could be effected by pyocyanase. Bacteria which had been treated with 6 per cent. pyocyanase solution became robbed of their capsules. Next he turned his attention to the behaviour of anthrax bacilli in the guinea-pig organism. The guinea-pig was far less resistant toward the bacilli, and the cumulative action of the bactericidal substances, the phagocytosis and the surrounding of bacilli was not sufficient to kill off even non-capsulated anthrax bacilli. As a curious condition, Gruber mentioned that when mouse serum was mixed with anthrax bacilli, then centrifuged and well washed and subsequently emulsified with guinea-pigs' leucocytes, many of the bacilli died. On the other hand, *in vitro* experiments would lead the bacteriologist to suppose that the alexin of the guinea-pig was capable of acting bactericidally on anthrax bacilli. The contradiction required explanation, and this he found experimentally. No bactericidal action took place when guinea-pigs' blood was kept moving (in the shaker), but the action was marked when the fluids were at rest. The paper was loudly applauded.

PREISS (Budapest) started the discussion. At first he apparently misunderstood Gruber, and some time elapsed in backward and forward questioning and answering before the speaker fully grasped the situation. His views were that phagocytosis did not play a part at all in determining the virulence of a bacillus. With regard to the capsule, he stated that he had never seen an anthrax bacillus without one, but regarded the capsule as indicative of the virulence, in so far as its thickness and toughness were concerned. PFEIFFER (Königsberg) expressed doubts as to the rôle which the capsule was said to play. He believed in a definite anthracidal substance, and was of opinion that the formation of the capsule was secondary to the effect of this substance. DETRE (Budapest) spoke of his work on this subject, and summed up his views, which he based on his own work as well as on the work of Bordet, Denys, and others. He especially pointed out that after phagocytosis no trace of digestion of the bacteria was discernible, and then discussed the effect of massive capsule formation. He agreed in the main with Gruber. BAUMGARTEN, LUBARSCH, and others also took part in the discussion. GRUBER replied briefly, and was cordially thanked after his reply.

In the absence of Professor Bordet, Dr. SLEESWIJK (Brussels) was requested to read Bordet's prize work on the mode of action of immunizing substances. The interest in the paper was greatly lessened by the absence of the author, and for this reason no discussion took place.

Professor Ehrlich was also prevented from attending the Congress, and his paper on the protective substances which are normally present in human serum was not read.

THE SECTIONS.

Anatomy and Histology.

LAGUESSE (Lille) spoke in favour of the theory of a true *balance between the islands of Langerhans and the acini of the pancreas*. He showed that there was anatomical continuity between the two, and, further, between the islands and the excretory canals. In certain points the intimate mixture of the endocrinic and exocrinic elements was such as to suggest a transitory condition; it was possible to produce an enlargement of the islands experimentally which was dependent on changes in the true parenchyma, and the same condition had been observed at times as the result of pathological changes. MANKOWSKY and WALDEYER took part in the discussion, agreeing in the main with the views put forward by the author.

HAMMER (Upsala) discussed the *physiology and morphology of the thymus gland*. He said the thymus was an epithelial organ infiltrated with lymphocytes. The histological structure suggested that the gland must be classed among the lymphoid organs, while by analogy it became evident that it belonged to the non-secretory glands. He dealt with the organ as possessing both characteristics, and adduced evidence in favour of this view.

NUSSBAUM (Bonn) read a paper on the *determination of sex*. It had been shown experimentally that external influences might determine the sex in a number of species of lower organizations, but these influences did not affect vertebrates and some of the plants. Objections could be raised against the recent theory of Noll and Correns and that of von Hertwig. He mentioned the single instance of double fertilization which had been observed by Doiters van Leenwen. The older statements with regard to the voluntary determination on the part of bees and butterflies must, he held, be rejected. Wilson, Morgan, Meve, and others had demonstrated that according to the varying influences to which the sperm cells might be exposed, the fertilized ovum would develop into male or female embryos. Turning to the question of butterflies, he stated that a marked differentiation not only of the sexual glands but also of the body itself, was seen; that differentiation was characterised by differences in the number of chromosomes. In the frog the sexual glands and the body cells were not dependent on one another. He concluded that external influences played a determining part in algae, fungi, infusoria, and some of the lower crabs, and, in spite of the statements of Purmett and Whitney, also in rotatoria. He further dealt with the effect of variations of temperature, but felt inclined to ascribe the true cause of the formation of the male sex to reduced nutrition of a colony of parthenogenetic females.

Physiology.

ALBERTONI and TULLIO (Bologna) invited physiologists to agree upon a uniform method of studying the *alimentary changes in the various social classes.* In regard to this, they cited Atwater. They then proceeded to describe their method of studying the effect of the various diets on the Italian peasantry. They selected a certain number of families as types of the various classes, and allowed the individuals to follow their occupations and usual method of living during the experiments. They further always made allowance for somatic, moral, and economic factors. In determining the value of a single foodstuff, the individual was given his normal diet, with the special food added. In determining the chemical analysis of the foodstuffs, the chemical composition of the substances used in the preparation was always taken into account. They considered that the methods employed in the analyses and the mode of drawing conclusions should be uniform for all physiologists. A short discussion followed.

REINBOLD (Kolozsvár) referred to the *nature and physicochemical properties of haemoglobin.* He regarded haemoglobin as a chemically uniform substance, and held that the blood pigment, derived from any source, always represented the same chemical body. He passed on to the consideration of the behaviour of haemoglobin toward gases, and objected to the complicated theory of Bohr, who attempted to explain the gas exchanges in different animals and under varying conditions by supposing that haemoglobin did not represent an unvariable substance. He believed that the laws governing the diffusion of the gases and the interchange on the part of the haemoglobin could best be determined by Hüfner's theory. The experiments dealing with the dissociation of oxyhaemoglobin were more easily explained on the basis of a uniformity of the chemical constitution of haemoglobin than by Bohr's theory. He was, therefore, hopeful that an acceptable solution of the question would be found in Hüfner's theory.

KÖRÖSY (Budapest) read an interesting paper, in which he discussed the question of the *building up of albumen in the animal body and of the breaking down of the albumen introduced as food.* He examined the condition in which products were absorbed after digestion—how this product was taken up into the blood, how albumen could be manufactured out of amino-acids and amides, and especially what chemical changes took place when various amino-acids acted upon one another. The relation between the excretion of nitrogen and the breaking down of albumen within the organism was also fully discussed. REINBOLD and LONDON (St. Petersburg) took part in the discussion.

ZWAARDEMAKER and DAKHUYZEN (Utrecht) said they had attempted to apply the doctrine of the *Phases* and the methods of thermo-dynamics to physiology. The organism endeavoured, during sleep especially, to maintain a physiological balance. The doctrine of phases was applicable only when the balance was nearly maintained. This doctrine was capable of throwing fresh light on the healing of wounds by first intention, and also on the participation of the intercellular substance in vital processes. Cartilage cells must contain all the chemical components of the basal substance, and if these were constantly being broken down, then the basal substance must eventually also disappear. The rapid automatic regeneration of the substance of the visual organs and of the perceptive cells in the ear was explained by the doctrine. The authors proceeded to illustrate the doctrine as applied to the differentiation and interrelationship between the yolk and white of the egg.

LONDON (St. Petersburg) spoke of the *constants in digestion and absorption.* His experiments with multiple fistulae in the living organism had shown that the various portions of the digestive tract performed regular and constant work; that the breaking down of albumen in the stomach took place with mathematical exactness; and, finally, that there was a definite relation between the quantity of food introduced, the quantity of digestive fluids produced, the time taken up in digestion, and the amount absorbed.

General and Experimental Pathology.

GARRÉ (Bonn) recorded the work done in the surgical clinics and laboratories in Bonn by Stich, Makkas, Dorman, and Capelle. His assistants had succeeded in transplanting pieces of arteries in the same animals, and also of the cat and human subject into dogs, and had found the vessels pervious after fifty-two days. Further, they had obtained satisfactory results, in spite of the difficult technique, with implantation of pieces of veins into arteries, in which cases no sac-like expansion had formed after four hundred and nine days, and the vessels had become sufficiently thickened to resist the internal pressure of the blood stream. These experiments offered a good prospect for the surgical treatment of ruptured vessels. With regard to the transplantation of organs, they had succeeded in reimplanting whole organs (thymus) into the same animal, but had hitherto failed to do the same into another animal of the same species. Carrel, who had introduced the method of the circular suture, had succeeded in transplanting kidneys into other animals of the same species, but in no other instance had an organ been transplanted into a second animal. Garré considered that the attempts to transplant whole extremities, etc., promised well for ultimate useful application.

ASCHOFF (Freiberg) read an excellent paper on the *morphology of the lipoid substances*, and this paper was amplified by FRÄNKEL (Vienna), who dealt with the *chemistry of the brain* and of the phosphatides of other organs. The former indicated the difficulties connected with the exact studies on this subject. He recognized among the lipoid substances: (*a*) The *phosphatides*—for example, sphingomyelin, lecithin; (*b*) the *cerebrosides*—for example, phrenosin; (*c*) the *cholesterins* and their compounds with fatty acids; (*d*) the *fatty acids* and neutral fats—glycerine esters and soaps; and (*e*) the *lipochromes.* He distinguished true from false lipochromes. The distinction was determined by the reaction with sulphuric acid and iodide of potassium. After dealing with potassium, sodium, and calcium soaps, he stated that free fatty acids could be demonstrated, especially in necrotic areas, in the form of crystals or as drops. Recent researches had shown that the so-called anisotropic drops found chiefly in kidneys undergoing fatty degeneration could be identified with pure cholesterine ester. The author did not consider that the production of these esters was a sign of degeneration, but rather inclined to the view that the substances were built up synthetically. The same applied to the production of the neutral fats, which when formed *intra vitam* were sometimes erroneously spoken of as "myelin." He also dwelt on the differentiation between the products of autolytic decomposition and dissociation of the higher forms of lipoids. Fränkel limited his remarks to the detection, origin, and mode of occurrence of the phosphatides and the chemistry of the myelin substance in the brain. An interesting but highly technical discussion followed.

BICKEL (Berlin) spoke of the *pathology of the secretory function of the digestive tract.* Disturbances of secretion, he said, were either parenchymatous or nervous. The diseases of the gland cells or of the sympathetic surrounding these glands produced parenchymatous disturbances. He distinguished between disturbances of the secretion of mucus and those of the secretion of the digestive juices. Over-secretion of mucus was essentially a symptom of parenchymatous disturbance. He believed that certain chemical substances circulating in the blood stimulated the parenchyma of the glands and gave rise to disturbances. In addition to this, accelerating or inhibitory stimuli arising from the extragastric and extra-intestinal nerves acted directly on the glands. He was further of opinion that motility and secretion were intimately connected, and that a parallelism existed between the secretory and motor functions of the digestive tract.

(To be continued.)

THE civil authorities of Rome have under consideration a scheme for the establishment of four great hospitals—one for children, one for women, one for sufferers from chronic ailments, and one for men who are the subjects of tuberculosis.

SIR WILLIAM BENNETT, K.C.V.O., President of the Incorporated Institute of Hygiene, will on September 30th formally open a permanent Exhibition of Hygiene which is being established at Carlton Buildings, Paradise Street, Birmingham, under the auspices of the Midland Counties Branch of the Institute.

INTERNATIONAL MEDICAL PRESS ASSOCIATION.

INAUGURAL MEETING.

THE Congress of the Medical Press opened its proceedings in the Hungarian Academy of Sciences, Budapest, on Friday, August 27th, at 10 a.m. A large and well appointed room was placed at its disposal, and the meeting was well attended. On the platform were Professor Lenhossék, President of the Hungarian Association of the Medical Press; Professor Müller, the President of the International Medical Congress; the Secretary of State, Victor von Molnár; the Under-Secretary, Ludwig Tóth; Dr. Blondel (Paris), Secretary of the International Association of the Medical Press; Dr. Dejace (Brussels), who took the chair since Professor Posner was unfortunately too ill to attend; and a few officials of the Hungarian Association.

Professor LENHOSSÉK, speaking in French, welcomed the Congress in the name of his national association, and then proceeded to sketch the history of the medical press in Hungary. The first medical journal was founded in 1831 under the name of *Orvosi tár*, while the second, *Orvosi hetilap*, appeared in 1857. At present there were thirty medical journals in Hungary, but some of these were of a popular type. He referred to the fact that these journals appeared in the Hungarian language and were primarily meant for the Hungarian reader. Nevertheless, he was pleased to think that the Hungarian Association could take an active part in the doings of the International Association, and declared that his colleagues approved of the ethical endeavours of the larger body.

VICTOR VON MOLNÁR greeted the Congress in the name of the Hungarian Ministry of Education. His speech was received with applause.

The next speaker was Professor MÜLLER, who stated that originally the journalist was merely the chronicler of his own time. His duties ended with the recital of what was taking place, and of what had taken place in the past. To-day the journalist had a far wider sphere of action. He had to deal with the past, the present, and the future. He had to indicate the march of science for days to come, and the true journalist should be a leader, well ahead of the men of his own time. In greeting the Congress of Journalists, he recognized that those present had not been satisfied with the performance of the duty of reporting the proceedings of the Congress, but had shown ample evidence of a desire to introduce reforms and smooth the way for the future.

Lastly, Dr. RAOUL BLONDEL (Paris) thanked the Hungarian members for the hearty welcome extended to their foreign colleagues. Before concluding he called on the members to adhere strictly to business, and not to prolong the debates unnecessarily. The medical press of the world must be unanimous in order that medical science could be successfully served.

History of the Association.

Before the actual business was entered upon, Dr. DEJACE spoke a few words from the chair, and then proceeded to read his report on the history and the objects of the International Association of the Medical Press. In well-chosen words, he sketched the history of the Association from its inception in Paris in 1897, through its first Congress in 1900 in Paris, through its conference held in Monaco in 1902, through its second and third Congresses in Madrid and Lisbon, and through its conferences in Brussels and London, up to the present meeting in Budapest. He briefly dealt with the general lines of thought which determined the action of the meetings at each place named, and spoke a few appreciative words about the members of the several executives. Next, he touched on the difficulties which the Association had met with and the manner in which these difficulties had been disposed of in the past. In conclusion, he stated that to-day the motto of the Association was "*Vivat, crescat, floreat,*" while to-morrow it would employ the second term—*Crescat*—because it was the earnest desire of all concerned that its ramifications should extend throughout the whole East, to meet with the extension that had already spread in the West. In appreciation of this excellent account of the International Association and its doings, Dr. BLONDEL made a few complimentary remarks, referring briefly to the younger branches—Hungarian, Mexican, Brazilian, etc.

The Abuse of Articles by Medical Authors.

The next business was a report, presented by Mr. A. SMITH in the name of the British Association of the Medical Press, on the means for preventing the abuse of articles written by medical authors on medicinal products. He stated that, in considering the resolutions passed in London in 1907 by the International Conference, the British Medical Association had adopted at its Representative Meeting at Belfast this year a fourth resolution to the following effect:

> That it is the professional duty of medical authors of articles in medical journals to co-operate with the proprietors and editors of those journals in preventing any improper use of such articles for the purposes of advertisement.

The report explained the object of this resolution and the arguments which had been put forward in favour of its adoption. NEUSTÄTTER (formerly of Munich, Editor of the *Gesundeheitslehrer*) agreed in principle with the resolution, and quoted a new instance of abuse arising from the want of some stringent regulations. GRÜN (Vienna) wished to define the term "puffing article" (*article réclame*). He considered that an article could only be called a puff if the author had received payment for a favourable report, and if the report did not set forth the scientific results of a proper investigation. He moved, as an amendment, that a committee should be appointed, which should decide in each case whether a given article was a puff or a genuine therapeutic article. He was afraid that real therapeutics were being killed by this advanced action of the medical press. JAFFÉ (Hamburg) agreed with Grün in the main, but did not think that the committee proposed would serve a useful purpose. He would, therefore, support the original resolution. BLONDEL (Paris) defined the term *article réclame* as one in which the author dealt with therapeutic remedies and for which he had received payment. LUCAS-CHAMPIONNIÈRE (Paris) also dealt with the definition of puffing articles, and incidentally mentioned the position of journals published by manufacturing chemists. After this, each succeeding speaker completely got off the line, and dealt with definitions and everything save the resolution before the meeting. After a time, no resolution having been put to the meeting, the CHAIRMAN called on the representative of the British Association to present the second report.

Formation of a Permanent Bureau.

This second report dealt with the formation of a permanent bureau for international medical congresses and for congresses in the allied sciences. On the whole, the majority of the members present agreed with the report, provided that it was intended only to serve as a basis for the construction of a permanent bureau. LUCAS-CHAMPIONNIÈRE suggested, in consideration of the fact that the Commission was not likely to give the press as much as they would wish for, that the medical press should form a permanent bureau on its own account, but this idea was not considered practical. ARMIT, supported by JAFFÉ, proposed that the draft should be submitted to the Commission at its session on the following Wednesday, as a basis for discussion and for consideration. This was ultimately carried.

As has been reported, the scheme was considerably modified by the Commission. A careful examination of the report issued by the Commission reveals that the scheme adopted has been built up on that presented by the Commission itself, and modified by the British report. In any case, it still remains to be seen whether effect will be given to the main ideas underlying the British scheme, and whether the small working committee will be invested with those powers which the British Medical Press Association considered advisable.

Summaries of Papers in Different Languages.

The next report was one from BLONDEL on the advisability of requiring authors to publish summaries in one or more of three languages at the end of their articles. The resolution put before the meeting was as follows:

That all journals affiliated with the International Medical Press Association will adopt from January 1st, 1910, a regulation to the effect that each original article shall be followed by conclusions rendered in French, English, or German, provided that the article is not written in one of these languages. The authors themselves should be required to supply this summary, and if they are not capable of carrying out the translation this shall be undertaken by the editorial department of the journal.

An animated discussion followed, and a number of amendments were introduced. ARMIT (London) pointed out that the British Medical Press Association had issued instructions to the effect that this resolution could not be agreed to, the terms being considered impracticable. JAFFÉ moved that the words "will adopt" be altered in such a way as to convey the meaning that the rule would be adopted wherever it should be found to be practicable. The amendment was carried, and suitable words were inserted. Next the question of what languages should be admitted was discussed, and, after a protest against the proposed exclusion of Italian had been made by Ceccherelli, it was agreed that the summary should be published in one of the "official languages." The terms of the resolution having thus been altered, the British delegates withdrew their objection.

Reports of National Associations.

On Saturday morning the meeting was limited to the members of the International Association. Other journalists were admitted, but were not allowed to speak or vote. The business on the agenda was the reports of each national association. Canada was represented by LE CAVELIER, and a short report was given. GUENEDO for Mexico spoke next. JAFFÉ rose to speak in the name of Germany, but pointed out that no official representative had been elected and no official report had been prepared. Speaking unofficially, he gave an account of the doings of the German Association during the past year. He made especial reference to the "black list" and the work associated with its production. GRÜN, for Austria, also dealt with the action taken in regard to the control of advertisements. ARMIT reported that the British Medical Press Association had during the year carefully considered the question of the co-operative action of pharmacologists, clinicians, manufacturing chemists, and editors in respect to reports on medicinal preparations, but that in view of the complex nature of the question further deliberations had been considered necessary. He announced that a report would be drawn up at a later date, and when complete would be submitted to the International Association. DEJACE reported the work undertaken in Belgium; LUCAS-CHAMPIONNIÈRE spoke for France; LENHOSSÉK for Hungary; GRÜNFELD for Russia (unofficially, since no Russian Association may be formed according to the law at present). The speaker announced that there was some prospect that the law in Russia might be modified in the near future, so that a national association might be formed. ASCOLI spoke for Italy. BLONDEL reported that the publication of the reports, which had now been standing in type for three years, was delayed on account of the fact that the Italian report had not been received.

Election of Officers.

On Saturday afternoon, after the Committee had met and elected the officials and transacted other business, the Congress again resumed its deliberations. The announcement was then made that the following officers had been nominated, and in each case the election was confirmed:

President, Dr. Lucas-Championnière.
Vice-Presidents, Drs. Dejace and Lenhossék.
Secretary, Dr. Blondel.
Treasurer, Dr. Dawson Williams.

At the suggestion of NEUSTÄTTER, the meeting expressed the indebtedness of the association to Professor Posner for his valuable services as President, and elected him *Honorary President*. The announcement was further made that instead of electing the Committee for a period of three years it was considered wiser to elect it from each International Medical Congress to the next, in case the intervals should be altered. As matters now stand, the present Committee will hold office for four years, until the next Congress in London in 1913.

Next Meeting.

It was suggested that the next meeting should take place at Brussels, and DEJACE fell in with this view and expressed his pleasure at the suggestion.

Medical Authors and Editors.

The debate on the resolution of the British Medical Press Association on the co-operation between medical authors and editors was continued. NEUSTÄTTER felt inclined to defer the consideration for a year. SMITH pointed out that the matter before the meeting was a plain one which could be well dealt with at the present meeting. GRÜN delivered a strong speech directed against the consultant and professor classes of the profession, who, in his opinion, were more frequent and worse sinners with regard to advertising worthless remedies than the "little" practitioner. LUCAS-CHAMPIONNIÈRE agreed in the main with the British resolution. POZZI made a long speech and drifted off to the subject of criminal abortions, and had to be called to order. ARMIT pointed out, for the third or fourth time, that the British resolution was in effect an appeal to the practitioner as a man of honour to assist in upholding a high standard of ethics in the profession. Then a number of speeches followed, in which sympathy was expressed with the general tone of the resolution by KUTNER, BLONDEL, LUCAS-CHAMPIONNIÈRE, GRÜN, and others. Recognizing that there was but little chance of carrying the resolution in its original form, the British delegates agreed to withdraw it, after having heard the sympathy expressed with the action of the British section.

Proposed Black List.

NEUSTÄTTER next moved some resolutions dealing with the publication of a black list, with the definition of the term "*article réclame*," and with the question of commissions. These led to some lengthy debates, and were eventually passed in the form of "pious resolutions."

Uniform Medical Terminology.

Lastly, BLONDEL presented a report in the names of Posner and Schwalbe on the advisability of introducing a uniform medical terminology into the medical press. He objected to the names of observers and clinicians, etc., being employed to indicate diseases, etc., and suggested that the matter should be submitted to a committee.

Simultaneous Publication in Different Countries.

Dr. BLONDEL also brought up a second subject, which stood on the agenda in the names of Posner and Schwalbe, on the simultaneous publication of the same article by the author in two or more journals in different countries.

Close of the Meeting.

The meeting then terminated, and although but few resolutions had been carried, it was generally felt that the free exchange of views by medical journalists of different countries must serve a very useful purpose. The meeting, on the whole, was conducted in a more business-like spirit than is usual at international conferences of this nature. From a British point of view there was, perhaps, too much eloquence and not enough calm deliberation, too much expansion of thought and not enough dispatch of business. It is well, however, not to be hypercritical when good service may be rendered by friendly debate on matters of common interest, and it is advisable to make full allowance for small misunderstandings which arise from the minor differences existing in the ethics and mode of procedure of the various countries.

THE International Congress of Radiology and Electricity will be held at Brussels in 1910. The Congress is under the patronage of the Belgian Government and the French Society of Physics.

THE Sanitary Commissioner with the Government of India has proposed the formation of a permanent organization to inquire systematically into the problems, both practical and scientific, connected with malaria in India. The Governor-General in Council has decided to convene a conference to examine the whole question, and to draw up a plan for the consideration of the Government of India and the local Governments. The conference will assemble at Simla on October 11th, and is expected to last about a week. Each local Government is nominating to the conference an administrative officer of experience, a medical officer, and an Indian gentleman.

LITERARY NOTES.

Chambers's Journal for August contains an interesting account of "Tiger Dunlop," an Ontario pioneer. Dr. William Dunlop was a cadet of the ancient family of Dunlop of that ilk, long settled in the parish of the name in North Ayrshire. He was educated at Glasgow University, and, graduating at an early age as a Doctor of Medicine, determined to join the army service. He obtained a commission in the Connaught Rangers, and saw active service in the campaigns against the Americans (1813–15), during which he not infrequently laid down the lancet for the bayonet, and played a conspicuous part in three engagements. When peace had been arranged between Britain and the United States he went with his regiment to Calcutta, where he was stationed for some time. Shortly after his arrival there he contracted to exterminate the tigers which infested a certain island in the Ganges Delta, called Sangor, and as a memento of his achievements in killing an immense number of these animals he was, by universal consent of the natives, called "The Tiger"—a name which stuck to him for the rest of his adventurous life. While in India, Dunlop was seized with a severe attack of fever, which resulted in his returning home and being invalided on half-pay. To secure a living he first of all lectured on medical subjects, and then devoted himself to newspaper work. He was for a short time editor of a paper called *The British Press;* but his journalistic success was not great. Accordingly he was anxious to find fresh woods and pastures new. When the Canada Company was formed, under the guidance of John Galt the novelist, Dunlop joined him in the enterprise, and sailed in 1826. His American war experiences had made him familiar with the country; and on his arrival he was appointed Warden of the Woods and Forests. His energy and enthusiasm were unbounded, and a monument of his industry is the highway between Goderich and Toronto, which he cut through the thickest of bush and swamp. He took a prominent part in forming a settlement, the story of which is told in a book by Miss Elizabeth Lizars, entitled *In the Days of the Canada Company.* The first years of the settlement were the best; after the departure of John Galt the régime of the Canada Company gradually declined in popularity, and its policy was opposed at every point by a strong party. Through it all Tiger Dunlop still retained his place as a leader of public opinion in the district; and on the death in 1840 of his brother Robert, who had been the first member for Huron in the Legislature, he was elected to succeed him, and filled the office with credit. The loss of his brother was a severe blow to him, but he lived on with "Lou" at Gairbraid, and continued to be the central figure in this oasis of culture in the backwoods. He still corresponded with his relatives at home, and wrote at intervals several excellent articles to British magazines; they were mostly descriptive of the country and the life in Canada, and a series in *Fraser's* attracted considerable attention. He died worn out by work at Lachine, where he was superintending the construction of the canal in Eastern Ontario, in 1848. His will is worth quoting in full as a curiosity. It runs as follows:

In the name of God, Amen.

I, William Dunlop of Gairbraid, Western Canada, Esquire, being in sound health of body and mind, which my friends who do not flatter me say is no great shakes at the best of times, do make my last Will and Testament as follows, revoking of course all former Wills: I leave the property of Gairbraid and all other property I may be possessed of to my sisters Helen Boyle Story and Elizabeth Boyle Dunlop, the former because she is married to a minister, whom (may God help him!) she henpecks; the latter because she is married to nobody, nor is she likely to be, for she is an old maid and not marketrife. And also I leave to them and their heirs my share of the stock and implements upon the farm, providing always that the enclosure round my brother's grave be reserved; and if either of these should die without issue the other is to inherit the whole.

I leave to my sister-in-law Louisa Dunlop all my share of the household furniture and such traps, with the exceptions hereafter mentioned.

I leave my brother-in-law Allan my big silver snuff-box, as I am informed he is rather a decent Christian, with a swag belly and a jolly face.

I leave my silver tankard to the eldest son of old John as the representative of the family. I would have left it to old John himself, but he would have melted it down to make temperance medals, and that would have been a sacrilege. However, I have left him my big horn snuff-box; he can only make temperance horn spoons out of that.

I leave to my sister Jenny my Bible, the property formerly of my great-great-grandmother, Bethia Hamilton of Woodhall, and when she knows as much of the spirit as she does of the letter she will be another muse Christian than she is. I leave my late brother's watch to my brother Sandy, exhorting him at the same time to give up Whigging and Radicalism and all other sins that do most easily possess him. I leave my brother-in-law Allan my punch-bowl, as he is a big, "gaucy" man, and likely to do credit to it. I leave to Parson Churassie my big silver snuff-box I got from the Simcoe Militia, as a small token of my sister Maggie, whom no man of taste would have taken.

I leave to John Cadell a silver teapot, to the end that he may drink tea therefrom, to comfort him under the affliction of a slatternly wife. I leave my books to my brother Andrew, because he has been so long a "jungle wallah," that he may yet learn to read with them. I leave my silver cup, with the sovereign at the bottom of it, to my sister, Janet Graham Dunlop, because she is an old maid and pious, and therefore given to horning; and also my grandfather's snuff-box, as it looks decent to see an old maid taking snuff.

(Signed) WILLIAM DUNLOP.

"Tiger" Dunlop was one of the many members of the medical profession who have played a strenuous part in the building of the Empire.

THE WINTER SESSION IN THE MEDICAL SCHOOLS.

WE published last week information as to the dates of the opening of the winter session at the majority of the medical schools in London and the provinces, and as to the fashion in which the commencement of a new *annus medicus* will be marked at them. We now publish such information as has reached us from the remainder.

WEST LONDON POST-GRADUATE COLLEGE.—The opening of the winter session will be marked by a reception on Monday, October 11th, at 4.15 p.m., the principal event thereat being the delivery of an address by Professor Theodor Schott of Nauheim.

LONDON SCHOOL OF CLINICAL MEDICINE.—The winter session commences on October 1st without introductory ceremony. The annual dinner will again be held in the spring, instead of at the commencement of the winter session.

UNIVERSITY OF BIRMINGHAM.—Work for the winter session will commence in the Medical Faculty on Monday, October 4th, without any formal ceremony.

UNIVERSITY COLLEGE, CARDIFF.—Work for the winter session in the medical department of University College, Cardiff, will commence on Tuesday, October 5th. There will be no opening ceremony, but the head of each section of the medical school will make such introductory observation as seems to him desirable.

GUY'S HOSPITAL.—Term will commence without formal ceremony on October 1st, and a week later, October 7th, the opening meeting of the Pupils' Physical Society will be held in the Anatomical Theatre at 8 p.m. Dr. Frederick Taylor will be in the chair, and Sir Hector Cameron will deliver an address entitled A Plea for the Treatment of Abscess by Lister's Antiseptic Method. This meeting will be preceded by a dinner in the dining hall of the Students' Club at 6.25 p.m., the chair being taken by Mr. Cosmo Bonsor, the treasurer of the hospital.

Medical News.

THE new session at Livingstone College commences on September 29th. The entry of students is fairly satisfactory, including, once more, students of various nationalities and of many denominations.

THE total number of students registered in the faculties of medicine of the Universities of Italy during the academic year 1908–9 is returned as 4,387. These are distributed as follows: Naples 1,437, Rome, 454, Turin 383, Bologna 307, Pavia 290, Padua 220, Palermo 200, Genoa 172, Florence 155, Catania 151, Pisa 146, Modena 125, Parma 110, Messina 85, Cagliari 52, Siena 50, Sassari 42.

IT was announced last week that the official opening of the seventy-fifth winter session of the Medical School of the Middlesex Hospital would take place at the hospital on Friday, October 1st, at 3 p.m. After the introductory address by Dr. Strickland Goodall the prizes will be distributed by Lieutenant E. H. Shackleton, C.V.O. Admission to the opening ceremony will be by card only, and applications should be made to the Secretary-Superintendent, Mr. F. Clare Mcihado, as early as possible, as the seating space will be rather limited.

British Medical Journal.

SATURDAY, SEPTEMBER 18TH, 1909.

THE HOUSING AND TOWN PLANNING BILL.

THE Housing Bill has at last passed through the House of Commons and gone to the Upper Chamber with a good prospect of becoming law. We heartily congratulate Mr. John Burns on his success. It has been a long struggle. More than twenty years ago the King, then Prince of Wales, as a member of a remarkably strong Commission on "The Housing of the Working Classes," signed a report recommending much that has just been passed in the present bill. The Acts for housing passed in 1890 and 1900 have come and failed, and the decent and healthy housing of the people, especially in rural districts, is still a scandal and just subject of complaint. The evolution of the present measure has been curiously slow. As far back as 1898 Sir Walter Foster introduced a bill asking for much that has now been sanctioned. When the Act of 1900 was passed these reforms were refused; but year after year his bill was reintroduced, and at length, soon after the present Parliament was elected, the chance came. In the first session the bill was entrusted to Mr. Mackarness through the fortunes of the ballot, and was read a second time and referred to a Select Committee. That Committee presented an admirable report in favour of the principles and provisions of the bill, and then in 1907 Mr. Burns introduced his measure. Little progress was made that year, but in 1908 the bill passed through the Committee stage, and under a pledge then given was introduced this year in the shape it had left the Standing Committee. Some portion of each of the four sessions of this Parliament has thus been given to frame this housing legislation, which is built on the lines laid down more than ten years ago. Such deliberate progress in a social reform already regarded as urgent in 1889 may do something towards reassuring timorous souls who are afraid of rapid revolutionary changes in this country.

Let us see how far this long incubation has produced a satisfactory result. Previous housing Acts had failed, especially in the rural and smaller urban districts, through the unwillingness of local authorities to take action, or the impediments of procedure. As a fact, less than a dozen district councils have been able to put housing schemes into operation in as many years. Under the bill all these local authorities will be obliged henceforth to include housing as one of their ordinary sanitary duties, and the Local Government Board will be armed with power to see that they do their duty, and can move on a complaint made by four householders of the area, if no complaint comes from a local council or a parish meeting. Again, the county council can on similar complaint act in default of action by a rural district council. As regards unfit houses, it is made the duty of the local authority to inspect and close such houses until made fit for habitation at the expense of the owner, and, if necessary, to do this work and charge it to the owner. In the last resort such houses can be demolished. The Local Government Board with its inspectors can step in to enforce these duties and require reports to be made on special areas either by the local authority or through its own inspectors. There was a strong feeling in favour of having a census made of all small houses in the district of every authority every five years, and, indeed, a clause to this effect was inserted in the Bill last year in the Standing Committee. Mr. Burns, who opposed it then, helped to reject the clause this year. This was, we think, a mistake in the interests of public health, but the error has been mitigated by amendments made on the report stage to Clauses 11 and 17, which greatly strengthen the powers to inspect and keep records of the results. There will in future be a Public Health and Housing Committee for every county council and a medical officer of health must be appointed for every county. He will have large powers, will not be appointed for a limited time, will give his whole time to his duties, and be removable only with the consent of the Local Government Board, who will have power to prescribe his duties. To this county medical officer it will be the duty of the clerk and medical officer of a district to supply, under a penalty, all information reasonably required. Facilities are given for public loans for housing purposes at a cheaper rate, and provisions are made to encourage the erection of cottages for rural districts by local councils and public utility societies, with the great boon of land up to one acre in extent attached to each dwelling. In this way the Allotments and Small Holdings Acts are wisely linked on to housing in country areas. All these powers and others for the beneficent end of getting healthier homes for the people, the Local Government Board will have the authority and duty to enforce. It is a huge task for an overburdened department. Considering all the extra work thrown by successive Acts on the Board during the last decade or two, it is an administrative miracle that there has been no breakdown. No higher praise can be given to the permanent staff. Unless the department is remodelled the breaking point must come. In the meanwhile we have no doubt the Board and its parliamentary chief will enter heartily and earnestly on this great work, which is likely to be difficult and sure to be costly. We must confess, however, that we have little love for these purely bureaucratic methods. Central control and supervision we accept as essential to wise sanitary administration, and to that uniformity of action which is most conducive to sanitary progress. Local initiative, nevertheless, is the surest and safest basis of such work. The sanitary staff of a district should always be the people to discover and disclose its sanitary needs. No inspector from the central body can ever do this so well as the experts on the spot, who know all the history, peculiarities, and special shortcomings of the locality. The bill in this respect is disappointing, and if it fails it will be due to the omission to secure a vigorous initiation in every district. This could have been done so easily. After all, housing is from top to bottom a health question, and the obvious road to success is through the local health officials.

At present the sanitary officers in the smaller areas dare not be very zealous. In many instances they know it is as much as their places are worth to condemn insanitary property. They are appointed for short periods, often from year to year, and a little extra zeal frequently results in non-election. To these officers should have been given the security which is limited by the bill to the county medical

officers, who do not need it, and whose duties seldom bring them into close contact with owners of small house property under the conditions that exist in district areas. In the smaller area private interests continually confront the sanitary officer in the execution of his work, and he, above all, should be secured from arbitrary dismissal for the conscientious discharge of his duty. Given this, there would at once be a local initiative in every district, which would do more than a hundred inspectors from the central authority to build up the structure of housing and sanitary reform on the soundest and strongest foundations. We profoundly regret that the President of the Local Government Board has resisted the appeals repeatedly made to him in favour of this simple concession. Is it too much to hope that the House of Lords will supply one more argument in favour of the Upper Chamber by amending the bill in this particular before it becomes law?

For Part II of the bill, which deals with town planning, and for the clauses dealing with improvement and reconstruction schemes, we have nothing but commendation. Slums which disgrace old centres of population will be impossible in new towns. Light, air, and space will brighten and purify the conditions of life and create models of sanitary excellence that the oldest and least progressive localities will be obliged to imitate. In this way the health and comfort of the poor and the amenities of the rich will alike be bettered by this bill, for it applies science to the art of government, and that is the prime wisdom.

MEDICAL EDUCATION.

THE last report of the Education Committee to the General Medical Council[1] gathers up the threads of the previous reports, and embodies them in the form of recommendations. We may remind our readers that the earlier reports had shown, *inter alia*, that the average age of students at entry was 18 years 6 months, and that the average time spent before a qualification was obtained was nearly seven years (to be exact, six years and eleven months); only 13.8 per cent. obtained their qualification in the minimum period of five years, while another 35.9 per cent. qualified during their sixth year; there remained, therefore, 51 per cent. who qualified in the seventh year or later.

From these and other statistics the conclusion is drawn that, although the entrance examination is only a junior standard, and cannot be viewed with complete satisfaction as the entrance standard to a learned profession, yet it would not at present be possible to raise it to a senior standard without largely reducing the supply of medical students. Another conclusion is that the length of time consumed in obtaining a qualification makes it undesirable to increase the five-year period. The Committee had been instructed to report on the question whether it was expedient to extend the course to six years, or, alternatively, to retain the five years, whilst setting back the subjects of chemistry, physics, and biology to a time anterior to the commencement of the medical curriculum proper. The first point has already been answered, and the Committee does not consider the alternative feasible at present, partly because the secondary schools of the country are not adequately equipped in sufficient numbers for the purposes of instruction, and partly because it would seem that the would-be medical student has, apparently, already all he can do to pass his entrance examination at a reasonable age.

So far, then, the Committee has dealt with the question of material alteration of the curriculum, with the result that it does not recommend any change; from this point onwards the report deals with the distribution of subjects within the four corners of the present curriculum.

The first suggestion to be discussed was whether the fifth year should be rigidly confined to clinical study. It is a matter of common knowledge that the General Medical Council, when adding a fifth year to the previous curriculum of four years, intended that it should be devoted to clinical work. It is equally well known that in practice it has come about that the extra year is not so spent, but is utilized for other studies as well. Nevertheless, the Committee does not advise that any cast-iron rule should be laid down, but appears to hope that by a better distribution of work throughout the earlier years the fifth year may become pretty free from other than clinical work.

The next suggestion made—and here the variations in the rules of licensing bodies and of medical schools bring about considerable divergencies of practice—was that the subjects of the curriculum should be divided into groups, as, in fact, they now are by their distribution between the first, intermediate, and final examinations, and that the study of any part of one group should not be commenced until the examination in all the subjects of the preceding group had been passed. As a matter of fact, overlapping of the study of subjects belonging to different groups prevails to a large extent, and to forbid it expressly would involve a material change, and in some contingencies serious hardship to individual students, without compensating advantage. The Committee therefore does not recommend the establishment of any regulation debarring the student from such overlapping as the rules of his school and the licensing body from which he intends to seek his qualification may allow. Nevertheless it does propose to set some limit on the degree of overlapping so far as the subjects of the final examination are concerned, and to reserve for them a certain period of undivided attention, so that they shall not be crowded out by earlier subjects. The suggestion is that a period of two years of undivided study of these subjects shall be required, and, further, that the final subjects shall occupy the "equivalent" of two and a half years' undivided study—any period of study in which subjects belonging to the intermediate examination are still being taken being reckoned as only half time. The Committee, in fact, recommends that if a student has passed the examinations in anatomy and physiology by the end of his first two and a half years he should be allowed to count the whole of the remaining two and a half years as study of the final subjects, and thus be in a position to go up for his examination at the end of his fifth year, whereas if he has not passed the whole of that examination at the end of his first two and a half years he should be delayed proportionately. If, for instance, he passed this examination at the end of his third year he could only count half his time, that is, three months of that year, towards the "equivalent" of two and a half years' study of final subjects, and would be delayed at least three months in going up for his final examination. The recommendations of the Committee have not yet been adopted by the Council, and it is probable

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 5th, 1909, p. 364.

that this recommendation may meet with some criticism alike on the part of the Council and of the licensing bodies, for the proposed recognition of half time would render the keeping of the student's record troublesome and complicated on account of the oddments of time to be calculated, and similar trouble would be imposed on the licensing bodies in checking the schedule before admission to examination. On behalf of the student himself it might be pleaded that in the case of some licensing bodies a delay of three months might mean a loss of six months more, owing to long intervals between examinations. The Committee has been actuated by a desire to secure adequate time for final subjects—and time is an element in studies of this kind to allow the knowledge to soak in—whilst at the same time penalizing the student in the form of delay as little as possible. On the other hand, something simpler might perhaps be devised without sacrificing the principle; and it may be suggested that if any such rule is adopted pharmacy might be excepted, for although it is included in the same examination with anatomy and physiology, at all events in some cases, its study is so closely allied with that of medicine that it would not lead the student's mind far away from his final subjects.

It is interesting to compare the suggestions made by Sir William Whitla in his Presidential Address at Belfast with those of this report. They are not in conflict at any point, inasmuch as the President confined himself to advocating changes which could be made without material departure from the existing recommendations of the Medical Council, so that his views and those of the Committee may be taken as complemental to one another. Both had the common object of securing more time for final studies; he sought to attain it by addressing himself to teachers and to teaching bodies, and by urging them to eliminate the non-essential and to shorten the teaching of preliminary subjects by directing them more closely to their ultimate objects: the Committee seeks to attain the same end by modification of regulations affecting the student directly. Both may be, and probably are, right, and we shall be interested to see what comments are made upon both proposals by the licensing bodies, for it must be remembered that the General Medical Council does not possess compulsory powers. It can only enforce its recommendations, if at all, by measures which are indirect and extreme, and must therefore trust, as a rule, to a sort of moral influence in order to secure their adoption.

THE GEOGRAPHICAL DISTRIBUTION OF DIABETES MELLITUS.

THE causation of diabetes remains so obscure that any careful study of the conditions under which it arises is worthy of attention, more especially if the scale be sufficiently large to get rid of the fallacies which attend limited inquiries. The geographical distribution of diabetes can be studied better and better each year as civilization spreads educated medical practitioners over all parts of the world and as death registration is adopted by the better organized states. In these ways much accurate statistical information is available that did not exist thirty years ago. Roberts, Saundby, Hirsch, and Clemow formerly published investigations into this subject, and it is interesting to compare their figures with those collected by Dr. R. T. Williamson.[1] The most striking fact is the rate at which the apparent mortality from diabetes has increased in all civilized countries. According to Sir William Roberts, in the decade 1851–60 the total number of deaths from diabetes in England was 4,546, giving an annual average of 454, while in the eight years 1861–68 the average was 628; in 1878 it was 1,057; in 1888, 1,773; in 1898, 2,585; and in 1907 it reached 3,360. The increase is quite out of proportion to that of the population, for it is about 700 per cent. where the growth of population is about 100 per cent.

Yet England compares by no means badly with other civilized countries. Few European countries have a registration system which affords statistics outside the great towns, but if we compare the figures of British cities with those of Continental cities the result is strikingly in favour of Great Britain. The diabetic mortality of London per 100,000 living is 8.3, of Manchester 6.6, Edinburgh 12.7, Glasgow 7.1, Aberdeen 5.7, Dublin 3 to 4, Christiania 12, Stockholm 12.5, Copenhagen 15.8, Amsterdam 11.8, Brussels 14.1, Paris 17.6, Bordeaux 25.8, Berlin 20, Munich 15, Dresden 11.3, Budapest 12, Rome 13, Madrid 10.5. A few years ago the editor of the *New York Medical Record* congratulated his compatriots on the comparative freedom of their country from diabetes, which he estimated to have caused a mortality per 100,000 living of only 2.1 in 1870 and 2.8 in 1880, and some years later the statistics of San Francisco gave the mortality for that city as 0.6. According to Dr. Williamson, the mortality for New York City is now 17.4, Washington 17.3, Boston 17.9, San Francisco 20, and even these high figures are exceeded by those of Worcester (Mass.) 27.3, Syracuse (N.Y.) 25.7, and Rochester (N.Y.) 21.6. The statistics from Canada are not so unfavourable as those of the United States, but they show that diabetes is at least as prevalent there as in England, the mortality in Toronto in 1905 being 15.4, and that for the province of Ontario 9.9. In the Australian Commonwealth the disease has become common, for in Victoria, including the city of Melbourne, and in South Australia there is a diabetic mortality of 11, while in New South Wales it is 5.8 and in Sydney 9.8. In New Zealand the rate is 9 per 100,000, but it presents this peculiarity, that the deaths are greater amongst females than amongst males, the average for the last six years being 36 males and 46 females, while in 1907 the female mortality from diabetes was double that of males.

Many observers have asserted the rarity of the disease among certain races, notably the Chinese and the African negroes, and these conclusions are in the main supported by the facts quoted by Dr. Williamson, although diabetes is met with now amongst urbanized Chinese in China and the Europeanized negroes and half-breeds of the United States; the number of cases among the latter is apparently small, for in Baltimore, where one out of five of the medical patients admitted to the hospital was coloured, of ten cases of diabetes only one was coloured. In contrast with this apparent racial exemption is the singular prevalence in certain countries, especially in Malta and Ceylon. In Professor Saundby's table for 1891, the rate per 100,000 of population in Malta was 13.1, but in Dr. Williamson's table the mortality in Malta has risen to 37.8! The evidence of the prevalence of the disease in Ceylon still depends upon the testimony of the local practitioners and is not supported by statistics, for Dr. Williamson's table

[1] *Medical Chronicle*, July, 1909.

shows the mortality to be only 3.4 per 100,000 inhabitants in 1907, while Professor Saundby, writing in 1892, quoted a letter from the Principal Medical Officer, the late Sir William Kinsey, who in his official dispatch to the Secretary of State said: "The Registrar-General's "figures if forwarded without explanation will convey "a very erroneous idea of the prevalence of diabetes "in Ceylon, because the registration of causes of death "is wholly unreliable, as no medical certificate is re- "quired and the natives of Ceylon are peculiarly "sensitive on the subject of diabetes: they consider it "disgraceful to have it, they never speak of it and "conceal its existence as long as they can, for it is "looked upon as a punishment for illgotten wealth, "and that it is necessarily fatal and unamenable to "treatment." One item of information which does not appear in the summaries by previous authors is taken by Dr. Williamson from a report by Dr. S. K. Hutton on the health and diseases of the Eskimos in Labrador; he practised there for five years, but during that time he did not meet with a single case of diabetes.

Dr. Williamson asks how far diabetes may depend upon certain conditions, such as the great mental strain of modern life, the increased consumption of sugar and sweet things, or of alcoholic and sweetened drinks, or whether the replacement of cane sugar by beet sugar has exercised any injurious influence. He is not able, however, to answer these questions. The progressive increase of diabetes in civilized countries implies that its occurrence is favoured by an abundant food supply, or by a supply in excess of the requirements of the body. Men who do very hard physical work are usually not fed too well, and those who, like the American lumbermen, get an abundant diet, work so hard that no harm comes from it, but in most civilized countries the people eat as much as they wish, while the work they perform is moderate in amount, so that the tendency is for the food supply to exceed the needs of the body and to produce conditions which favour the production of diabetes.

CLINICAL TEACHING.

IN our correspondence columns this week will be found a letter dealing with two subjects of distinct interest—the part which teachers should play in examinations, and the method of turning to the best advantage the vast resources of general hospitals in the way of clinical material. The writer seems to approve equally of the system of having a central board of examiners not in direct touch with those whom they examine, and of that of allowing all teachers to act as examiners; the method of which he disapproves is that of encouraging students to attend the practice of a few particular men because they are the examiners, and with the object of picking up any special views they may hold. With regard to clinical material, he suggests that a discussion as to the best way of using it for teaching purposes might be of practical use. He admits that formal clinical lectures have a certain value, especially in institutions where other systematic teaching is not conducted; but he holds that at the best they merely accentuate points already set forth at full length in ordinary textbooks and do not habituate the student to handling cases on his own account. In regard to this matter he makes certain suggestions, the interest of which is not invalidated by the fact that they read much like a description of the method long established, we believe, in most medical schools in London. Indeed, that fact in itself seems to prove that ventilation of the topic is desirable, since it shows that the method in question—that of obliging students to take an active part in the work both of in-patient and out-patient departments and of checking their observations on what may be called heuristic lines—is not generally known. Although this method, or something akin to it, would seem, in our correspondent's opinion, to be the optimum, it does not necessarily follow that no better one would be evolved from a general discussion on the subject. In any case, it is certain that neither in London nor anywhere else does clinical teaching give the results which might be expected from it, for it is common knowledge that those who habitually employ assistants in the conduct of their practices find newly qualified men curiously unversed in the knowledge which they require. It may very well be the case, therefore, that an expression of views on the subject, both subjectively by those whose duty it is to teach, and objectively by those who have recently passed through the medical schools, might prove of considerable value to future students. So far as concerns points such as the weighing of evidence, consideration of the personal equation in every given case, and the way in which the classical features of every disease vary in different patients, and thereby affect diagnosis, it has always seemed to us that the system in vogue at St. Bartholomew's Hospital is of singular value. At that institution it has been the custom for an unknown number of years to hold consultations in the theatre on doubtful cases from the surgical wards, and of late years it has become the rule of the hospital—on the suggestion, we believe, of its Senior Physician, Dr. Norman Moore—that medical cases which cannot be harmed by disturbance and in which some element of doubt exists, shall be brought into the theatre and examined by the assembled medical staff in the presence of the students. Each in turn makes his diagnosis, and outlines a treatment and supports his opinion by his reasons, the youngest physician present being the first to state his views. Such consultations form most valuable object lessons in diagnostic methods to all students who attend them.

PROFESSIONAL ADVERTISING.

SEVERAL correspondents have been good enough to draw our attention to an ingenious attempt which is now being made to raise funds by the proprietors of a recent addition to the many guide books to London. This volume, named *To and Fro*, was sent to us for review some months ago, and we noted that one of its features was a chapter called the "Location Directory." This purported to be a guide to the principal houses of business, restaurants, places of amusements, and the like, and included two short lists of physicians and surgeons respectively. On examining this chapter, it was clear that the places mentioned were not invariably those to which a person who did not know his London would be most likely to desire to find his way, while the physicians and surgeons mentioned seemed to be for the most part persons unlikely to be known to any except those in their immediate neighbourhood and their personal friends and patients. The impression gathered, therefore, was that the compilers had probably picked out, more or less haphazard, a few names of places and persons by way of starting these subsections, and sooner or later would make the insertion of names in this chapter a source of income. This impression is now confirmed, for we have before us a letter in which the proprietors state their intention of enlarging the subsection relating to medical men into a "professional

directory," and naïvely point out that they cannot publish the work at its present "popular price of 6d. "without some small charge being made for location "numbers." The small charge in question is one guinea a year, and the person to whom the letter is addressed, a medical man, is invited to fill in a form and enclose that sum. We doubt if many medical men are ready to part with their hard-earned guineas quite so readily, and are quite sure, at any rate, that very few will be disposed to spend their money in such a fashion. The insertion of names of individuals is quite foreign to the ostensible object of the booklet, for this is to save its user's time by showing him what public conveyance to take in order to get from any one spot to any other in London. Any one, therefore, possessed of the name of the medical man whom he wished to consult and of the street in which he resided, could find his way to the house forthwith so far as this guide book is of any real service at all. As for that, when reviewing the book we expressed the opinion that it was not likely to prove a serious rival to the local policeman as a guide and counsellor to the wayfarer, but that it was worthy of consideration by those who found a *Continental Bradshaw* an attractive intellectual study. We may add now that since it would seem that the continued appearance in the book of the name of any medical man must usually be a matter of payment, any member of the profession who is so unfortunate as to have his name included therein is exposed to the risk of having to answer a charge of advertising before the General Medical Council.

WORKMEN'S COMPENSATION IN FRANCE.

DR. MARCEL BRAUNBERGER, in *La Tribune Médicale*. August 14th, 1909, gives an account of some of the difficulties and disagreeable incidents in the practical application of law as to workmen's compensation in France. After observing that while some think the measure one of the greatest social reforms accomplished in the Third Republic, others hold a different view, he expresses the belief that all will agree that the machinery of the law is faulty, and that its working is causing profound discontent. The injured workmen feel themselves rent between fear of the displeasure of employers and a desire to be treated by the medical men in whom they have confidence. The employers complain of the growing increase of premiums, and the underwriters contend that the medical control is quite insufficient, and pointing to certain abuses by less scrupulous medical men, seem inclined to form an unfavourable opinion of all doctors not directly employed by them. The members of the medical profession complain of loss of dignity, and feel themselves humiliated by the frequent discussions, haglings, and requests for reduction of their moderate charges for services rendered. A further annoyance is that this matter of fee is left sometimes to be dealt with by a beardless office-boy, who, in the name of the insurance office, argues questions as to the frequency of the dressings, the need for operation, and the indications for local or general anæsthesia. The result of all this is that medical men often accept insufficient fees rather than risk a repetition of such snubbing or the inconvenience and unpleasantness of seeking a remedy in court. While complaints as to increasing premiums and accusations of malingering or reluctance on the part of injured workmen to return promptly to work are frequently heard in this country, we can congratulate ourselves on the fact that we are saved from unseemly squabbles about fees. This difficulty appears to arise largely from the clause in the French law which allows the workman to choose his own doctor, and requires the employer to pay for medical attendance and medicines according to a fixed tariff. The remedy proposed by Dr. Braunberger for this state of affairs is that an agreement should be entered into between employers and medical men who undertake the treatment of injured workmen, providing that the doctor shall give immediate notice that he is in attendance on an injured employee, and the employer is then to put his own medical man in communication with the medical attendant; a consultation would then, if necessary, be held as to the diagnosis and treatment. The medical attendant would submit to the medical officer of the employer every ten days a statement of the operations, dressings, and other treatment carried out during the period. If the employer's doctor countersigns this statement, it would be accepted by the employer and the fees be paid on the tariff scale without dispute. In the event of a disagreement the parties would bind themselves to have the matter settled forthwith by an arbitrator, a medical man of standing. Such an arrangement would no doubt be of great service to both medical men and employers, and would hardly appear to be capable of doing a disservice to the workman, yet it is possible that the latter may hesitate to accept it. We have in mind a clause in our own Workmen's Compensation Act under which in certain circumstances, if both parties agree, a medical referee may be called in to give a conclusive certificate as to the workman's condition or fitness for employment. Very little use appears so far to have been made of the provision.

OSBORNE.

THE report of Lieutenant-Colonel C. R. Kilkelly, M.B., House Governor and Medical Superintendent of Osborne, shows that the accommodation provided for 43 officers and 5 ladies has seldom, since this convalescent hospital was opened in April, 1906, been fully utilized. The average number of patients under treatment during the three years has generally been between 30 and 35. During the year ending March 31st, 1909, 239 officers were admitted; the majority belonged to the home army, and nearly 63.17 per cent. of the total number of admissions were for diseases contracted in India. The number of admissions from the Royal Navy was 27, equal to 11.3 per cent. of the total admissions—a ratio which nearly corresponds to the relative strengths of the navy and army in officers: 3 officers belonging to the West African and Nigerian forces, 2 to the West Indian regiments, and 56 to the Indian army were admitted during the year. The largest numbers of admissions were for infective diseases, principally dysentery (40), and for diseases of the digestive system, chiefly colitis and inflammation of the intestines, and liver abscesses (78). Diseases of the nervous system accounted for 40 admissions, including 22 cases of neurasthenia. The origin of most of the 158 cases thus accounted for was directly attributable to service in tropical climates. There were no admissions for Malta fever, but 2 for kala-azar, contracted in Kordofan and in Burmah respectively; in the latter case the patient recovered after a series of relapses and continuous treatment extending over a period of eleven months. About 80 per cent. of the cases of dysentery recovered and have returned to duty. Marked success has attended the treatment of various diseases with serum and vaccines, and the use of sour milk has proved most beneficial in the treatment of digestive diseases. Weir Mitchell courses were carried out in many neurasthenic cases, and treatment by massage, electricity, and baths of various kinds was employed in 115 cases. Colonel Kilkelly reports that a member of the consulting staff visited Osborne every month

for the purpose of consultations and to inspect the medical nursing, domestic, and general arrangements. Two special visits (without fees) were also made by Dr. Ferrier and Mr. L. V. Cargill (ophthalmic surgeon) for consultation on a serious case of illness. In addition to consultations at Osborne, officers have frequently had the benefit of further advice and treatment gratuitously from members of the consulting staff at their residences in London, for which they have been most grateful. Numerous analyses and investigations of diseases, which were of great value in their treatment, were made in the laboratories of the Royal Army Medical College under Professor Leishman. A somewhat similar institution, the *Offizierheim im Taunus*, for officers of the German army, navy, and colonial forces, was opened in the presence of the Emperor and Empress on August 20th. It provides accommodation for fifty-two officers, and there are facilities for hydrotherapeutic and medico-mechanical treatment, and for exercise, air, and sun cures. The institution is under the direction of Dr. Krebs. The charges made vary from 3 marks a day to lieutenants, to 6 marks a day to generals; relatives staying with officers are charged 6 marks a day.

VEIN ANAESTHESIA.

AT the Congress of the German Surgical Society held in 1908 Professor A. Bier described a new method of inducing local anaesthesia, which has been briefly mentioned in the JOURNAL.[1] He has now carried this method out on 134 occasions, and has recorded his experience.[2] He was led to introduce the method because local anaesthetics do not penetrate the sheath of the larger nerves readily, and he thought that the vascular system would afford a ready means of reaching the nerve substance. When a limb is rendered bloodless and a constricting bandage is left both above and below the part enveloped by the first bandage, complete anaesthesia follows the introduction of a local anaesthetic into one of the empty veins. Experiments have demonstrated that the fluid oozes out of the vein into the tissues, and pervades muscles, subcutaneous tissue, nerves, and bone. To this method Bier applies the term "vein anaesthesia" as convenient if not quite correct. The syringe must be made of metal, and pressure rubber tubing must be used to connect the cannula to the syringe. He thinks the best anaesthetic is novocain in 0.5 per cent. solution in physiological salt solution. The limb is first rendered thoroughly bloodless by applying Esmarch's bandage tightly from the peripheral end to a point just above where the anaesthesia is required. If an infective process be present, the limb should be constricted above the affected area by several turns of an elastic bandage, and the Esmarch's bandage is taken from this level to a point as conveniently high in the limb as possible. Above the constricting bandage several turns of another elastic bandage are applied tightly enough to keep the limb bloodless when the long bandage is taken off. The novocain is injected into a vein in the bloodless part between the two bandages. The vein should be exposed under Schleich's infiltration anaesthesia before the constriction is applied. In the arm, either the basilic, the cephalic, or the median vein may be selected. In the leg, the great saphena vein is the best. The vein is penetrated close to the upper bandage. The solution should be injected toward the periphery. As a rule, 80 c.c.m. of the solution suffices, although 100 c.c.m. or more may be given with safety. Considerable force may be required to inject this quantity into the vein, and it is always necessary to tie the cannula into the vein firmly. The anaesthesia sets in within a few minutes at latest, and is limited to the area between the two bandages. This Bier calls the direct anaesthesia. After fifteen to twenty minutes the part below the lower bandage is rendered anaesthetic, which he calls indirect anaesthesia. First the deep sensibility is lost, then the superficial, and then the motor power. He does not operate under indirect anaesthesia until marked paralysis of the limb is present. One disadvantage of the method is that the anaesthesia rapidly disappears when the constricting bandage is loosened. The lower bandage can be taken off without affecting the field, but the upper one can be removed only when the operation is over. The ligature of vessels and suture of the skin has, therefore, to be accomplished quickly and under certain difficulties. After the operation, before the upper bandage is loosened, he washes out the vein thoroughly with physiological saline solution to remove the excess of the anaesthetic, and he has not observed any serious toxic effects.

[1] EPITOME, August 22nd, 1908, p. 30.
[2] *Berl. klin. Woch.*, vol. 1, 1909.

PLACENTA PRAEVIA IN PRIVATE PRACTICE.

PROFESSOR FRITSCH stated recently that the clinical teaching of midwifery has necessarily become divorced from midwifery of general practice, and contended that the general practitioner is not capable of keeping up with the modern requirements of science owing to want of constant operative practice, want of the necessary instruments and apparatus, and to the absence of adequate care and nursing in private. This pessimistic doctrine has been vigorously combated by Bokelmann, who, taking as an illustration the treatment of placenta praevia, contends that as good results are obtained by general practitioners as by specialist professors. He states that Krönig and Sellheim have gone so far as to assert that it is necessary to admit every case of placenta praevia into hospital, and to deliver by means of vaginal Caesarean section, while they do not hesitate to recommend supravaginal amputation of the uterus if haemorrhage occur later. In reply to these assertions Bokelmann relates how, in a long experience, he has had to deal with some 16 cases of placenta praevia in private practice, but that, if the cases he treated as obstetric house-physician be added, the number is raised to 50. Several of these cases were severe, and were treated in earlier days by combined version, but more recently by the dilator. He had no death from haemorrhage—in fact, all the mothers recovered. What claim, he asks, have the specialists to introduce a modern form of treatment, which involves a considerable risk to the mother's life even when performed by the most skilled operator, when a general practitioner can obtain results such as these? He admits that the number of his cases is small; nevertheless he claims that they suffice to show that placenta praevia, when properly treated, is not a complication the treatment of which the general practitioner need fear to undertake. He states that he lost more infants when he turned than since he has employed the dilator, but he has never met with a single case of haemorrhage after delivery. More than this, he states that in his whole experience he has only plugged a uterus once, and then not for placenta praevia. Provided that the cervix and uterus are not torn, he maintains that haemorrhage after delivery need not occur. He asks general practitioners to publish the results of their cases of placenta praevia, in order to demonstrate that the results in private practice are better than those obtained in modern clinics, where heroic procedures are employed for

conditions which may terminate spontaneously. In his opinion, before the professors advocate wholesale operations, they should show that the results obtainable with care and skill by the older methods are such as to warrant these drastic measures.

ERNST VON BERGMANN.

IN 1907 we noticed the volume[1] issued by the Prussian Army Medical Department in honour of the 70th birthday of Ernst von Bergmann. Three months after the occasion thus justly honoured the great surgeon and teacher died. His loss was felt far beyond the confines of his Fatherland; his country, indeed, was the whole world of surgery. In his memory a portrait medal was struck, and dedicated to "a great surgeon "and teacher, indefatigable in the furtherance of "medical knowledge and technique, tireless in the "service of mankind." But a more intimate and appropriate commemoration has been furnished by his pupils and colleagues in the publication of a lecture cycle[2] covering the development and progress of surgery during the last ten years. The contributors number amongst them some of the most eminent surgeons of Germany, and the lecturers have given of their best to this labour of love. Professor Bier deals with inflammation, Professor Schleich with the development of general and local anaesthesia, Bardenheuer with fractures, Rehn with the surgery of the chest, Sonnenburg with plastic surgery, and so on to the number of fourteen articles. In his introductory address, Professor Kutner makes a graceful attempt to place von Bergmann in his niche of fame with Paré, Simpson, Esmarch, von Kern, Dupuytren, Dieffenbach, John Hunter, and many another. Speaking of von Bergmann's labours in the field of topographical anatomy, he reminded his audience of the famous answer to some one who asked him in his later years why he did not spare himself at least the strain of routine teaching on the dead body—"To the surgeon, "the day in which he does not work at anatomy is "a day lost." To those who knew anything of his tireless energy and indomitable perseverance, it will not come as a surprise that his maxim through life was *Nur nicht müde werden*. It is but a poor rendering of the phrase to translate it "Never say die," but there is in it at least that negation of despondency for which von Bergmann stood in the face of every difficulty and every problem.

COLOUR-BLIND ENGINE-DRIVERS IN FRANCE.

WE have repeatedly during the past few years drawn attention to the fact that the methods employed by our English railway companies and by the Board of Trade to detect congenital and acquired colour blindness among railway employees and seamen are hopelessly inadequate, and barely serve to detect the grosser forms of the disease. This is more especially true in some forms of acquired colour blindness, and in those cases where the red end of the spectrum is shortened. An engine-driver suffering from alcoholic or tobacco amblyopia, or from retrobulbar neuritis of nasal origin can match and name Holmgren's wools, as used by the railway examiner, without any difficulty whatever. The same man, when he is confronted with a dim red light, perfectly visible to the normal sighted, may not only compare it with green, calling it a "reddish-green" or a "greenish-red," but he may see no light at all. The same is true of many congenital Daltonians; they pass the colour test, but fail inevitably when intelligently examined with the lamp. These facts have been successively pointed out by Buxton, by Grossmann, by Edridge-Green, by Devereux Marshall, and by many others in England: and in Germany, Nagel, who is himself colour blind, has shown the absolute futility of all the ordinary methods of detecting the defect. The subject is one of vast importance. Sinclair has collected six accidents caused by colour-blind drivers. Bickerton reports several accidents at sea, while only a few years ago an ophthalmic surgeon stated in the *Ophthalmoscope* that he had been consulted by the commander of a cruiser which put into Aberdeen, and found him to be colour blind. Probably the high officials of our great railway companies and of the Board of Trade do not realize how very frequent colour blindness is. Prévost believed that in every twenty individuals collected by chance at least one would be colour blind. Redard found the figure to be 2 per cent., Schmitz 7 per cent. Worms, chief medical officer to the Northern Railway of France, discovered that among 11,497 employees 224 had imperfect colour perception. This gives a percentage of nearly 2 among men who had presumedly already been accepted as normal sighted. There is strong reason, indeed, to believe that at least 2 per cent. of all individuals have more or less defective colour vision. These important facts have been brought before the public again and again, but so far nothing has been done to protect travellers. In France J. Clerc has again reopened the whole question in an exhaustive article in the *Revue générale d'ophtalmologie* for November and December, 1908. French signals both by day and night are more complicated than with us. Here all main signals are either red or green, although on some lines—as, for example, the North-Western—a violet light is used for ground signals and certain platform and shunting signals. In France violet is more extensively used both for lamps and as a colour for semaphores. The white light has not yet been eliminated. Red means stop, green proceed cautiously, white all clear. The author carefully explains all the signals in his paper. Having done so he discusses colour vision generally, going carefully into the relative distances at which white, red, violet, blue, and green lights can be distinguished. He thinks that the signalling system is a good one, and easily interpreted by the normal sighted. He states that nine-tenths of all railway accidents are caused by errors in interpreting coloured signals. The cause is that the colour examinations of the employees are not intelligently performed and are far too infrequent. The subject of acquired colour blindness is carefully treated. It is present in optic atrophy, in albuminuric retinitis, in diabetes—a disease to which engine-drivers are especially liable—in specific retinal, choroidal and nerve disease, and in many general diseases, and after head injuries. But most important of all is the central scotoma for red and green which characterizes alcoholic and tobacco amblyopia. An engine-driver with this disease will match and name all the wools easily, but when shown a small piece of green wool separately he fails to perceive its colour; similarly he fails to see the minute disc of a red lamp at 400 yards' distance. Clerc absolutely rejects Holmgren's wools and all similar methods. He advocates Sauvineau's lamp. He discusses all the good and the bad methods, and finally concludes as follows: The vision of every candidate must be examined methodically. The examination must be repeated every three years, and after illness and accident. It must be made in part with coloured lamps, and by an ophthalmic specialist.

[1] BRITISH MEDICAL JOURNAL, 1907, vol. i, p. 1242.

[2] *Entwicklung und Fortschritte der Chirurgie. Vortragszyklus veranstaltet zur Erinnerung an Ernst von Bergmann.* Edited by Professor Dr. R. Kutner. Jena: Gustav Fischer. 1909. (Roy. 8vo, pp. 488, illustrations 43. M. 7.)

POISONOUS HAIR WASHES.

SOME hair dyes contain aniline derivatives, some of which have no toxic action, but others are very poisonous, paraphenylendiamine being especially dangerous. A. Gautier has written an exhaustive work on the chemical constituents of hair dyes, and he points out that a single application of paraphenylendiamine has sufficed to induce a toxic action. The symptoms of intoxication with this and other poisonous aniline dyes may be divided into three groups. (1) Toxic skin eruptions, eczema, and urticaria, with great burning and itching. (2) Gastro-intestinal symptoms, such as nausea. (3) Nervous symptoms, sleeplessness, dizziness, weakness of the legs, epileptiform attacks, and syncope. In several instances death has resulted. Cases have been reported in which hair washes have caused retrobulbar neuritis, with impairment of central vision, and a central scotoma for red and green. Berger (*Archives of Ophthalmology*, July, 1909) adds a fresh case to a list already sufficiently long. It would be to the public interest were the sale and use of hair washes containing dangerous toxic reagents and dyes prohibited.

DR. FREDERIC W. HEWITT, M.V.O., will read a paper on "The need for legislation in regard to anaesthetics and the lines upon which it should take place" before the Medical Society of London on Monday, October 25th.

THE next session of the London School of Tropical Medicine will open on Tuesday, October 26th, when an address will be delivered by Dr. Osler, Regius Professor of Medicine in the University of Oxford. The American Ambassador will preside. The same evening Dr. A. G. Bagshawe, Director of the Sleeping Sickness Bureau, who is an old pupil of the school, will take the chair at the school dinner, which will be held at the Savoy Hotel.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Housing Bill.—On Friday last the Housing Bill came on for its final stages in the House of Commons, and occupied the whole sitting. The discussion was, however, of little interest from a public health point of view, as none of the new medical clauses and amendments were even moved. The effort to restore the census clause failed, as the motion was ruled out of order as likely to increase expenditure, a course not permissible on the report stage; and the new clause to give security of tenure to medical officers of health was also out of order. An amendment to Clause 69 to make all sanitary officers removable only with the consent of the Local Government Board, put down by Mr. Barnard and Sir Walter Foster, was not reached. There was an interesting discussion raised by Lord Robert Cecil on a proposal to give the Local Government Board power to revoke unreasonable by-laws, and so strong a case was made out that Mr. Burns promised to deal with it, if possible, before the bill became law. An attempt was afterwards made to omit Clause 1, which was retained by 120 votes to 27. The rest of the afternoon till the closure fell at 5 o'clock was mainly occupied by discussing the methods of acquiring land under the bill. Mr. Burns then made several drafting amendments, and also strengthened the clauses dealing with the inspection of houses. The Bill was then read a third time without a division. Afterwards it was presented and read a first time in the House of Lords. On Tuesday the second reading was taken in the Upper Chamber after a somewhat lengthy debate. After Lord Beauchamp had explained the provisions of the Bill, Lord Onslow criticized the measure at considerable length, and mainly based his objections on the bureaucratic powers given to the Local Government Board. The Bishop of Birmingham, who followed, defended the powers given to the central authority, but greatly deplored the omission of the census (Clause 30), which would have been most valuable in publishing the names of the owners of bad property. Lord Belper objected to the powers given to the Local Government Board as a distinct blow to local government, and he took the strongest possible exception also to the power given in Clause 68 (2) to the Local Government Board to prescribe the duties of the county councils' medical officers, and to withhold consent to their removal. The county councils paid the medical officers, and the Board had no right to interfere. The Archbishop of Canterbury joined in the general welcome of the Bill, which had been given even by its critics, but had some misgivings as to Clause 30, especially if it had been omitted to avoid publishing the names of the owners of the worst property. As regards health officers, everybody would desire to see the medical officer giving his whole time to his work and not removable by the local folk whose action he might often feel it his duty to call in question. He had known cases in which a man in outspoken honesty had declared he would long ago have protested against some of the dwellings that came under his notice but for the conditions of his tenure of office. The bill would effect a great change—on the whole, a beneficent change—and be fruitful in result in years to come. After speeches from Lord Zouche and the Duke of Northumberland, Lord St. Aldwyn criticized the bill at considerable length as regards its general principles, and then Lord Crewe concluded the debate in a strong defence of the bill. He believed it was the starting point of a new order of things. He was in agreement with the most reverend Primate when he said that this was the most important social question remaining. He had always felt that our educational system could never be genuinely successful if the children were living in houses little better than pigsties. It was also impossible to deal to the full extent with the problem of excessive drinking so long as people lived in intolerable homes. There was nothing more depressing than the sight of the slums in large towns, and he hoped, therefore, that the effect of the bill would not only be positive, but would also be educative in the sense that it would bring home some of our national deficiences both to local authorities and to individuals. The bill was read a second time.

The Metropolitan Ambulances Bill.—This Bill was read a second time in the Lords on Tuesday, on the motion of Lord Beauchamp, who said the measure was founded largely on the report of a Home Office Committee. There had been a correspondence in the *Times* on the question whether the London County Council or the Metropolitan Asylums Board was the proper authority to deal with this matter. The view of the Home Office was that it would not be possible for the Metropolitan Asylums Board to undertake the duty now, and, as that body was charged with the removal of cases of infectious disease, it was desirable to remove from the minds of the public any suspicion arising from that circumstance. The County Council would be able to utilize certain land and some stations for the purposes of the Bill, and altogether the Home Office considered that they were the proper authority to undertake the work. Lord Donoughmore explained the position of the London County Council as regards the bill. He was instructed that the Home Office Committee recommended that the Metropolitan Asylums Board should be the ambulance authority for London, and there was a minority memorandum by Sir William Collins, the author of this bill, advocating practically the system outlined in the bill. The County Council considered that it would be more economical if the Asylums Board were the authority, but they would be sorry to see any delay in dealing with the matter,

which was of some urgency. An amendment would therefore be moved in Committee to enable the Council to enter into an arrangement with the Asylums Board with the object of utilizing and preserving existing facilities, subject to the consent of the Local Government Board. After some remarks by Lords Onslow, Monk Bretton, and Camperdown, the second reading was agreed to.

Revaccination in the Navy.—On Tuesday Mr. Lupton asked the First Lord of the Admiralty if he would abandon the practice of making revaccination compulsory for candidates for employment in the dockyards, having regard to the statement by the Royal Commissioners on Vaccination, in their final report, paragraph 419, that the occurrence of a febrile illness was the desired result of vaccination, and that it was sometimes attended by eruption. Mr. McKenna said that he was considering the conditions under which vaccination on entry in the dockyards was made compulsory, but, in view of the difficulties of consultation during the period of the year ordinarily devoted to holidays, he was unable to promise any early conclusions. In answer to further questions, the First Lord said that he was not considering the abolition of vaccination; but he had been considering the conditions under which vaccination on entering the dockyards is made compulsory, and he believed that in certain Government departments the question had been brought up for special consideration.

The Vaccination of Infants.—Mr. Pointer asked the President of the Local Government Board, on Tuesday, whether he had sanctioned the practice which obtained in most of the lying-in wards of workhouses of vaccinating infants within a few days of birth, to secure their vaccination before the mothers left the wards; and whether, in view of the risk to such young lives, he would issue a circular to boards of guardians recommending the exhibition of notices informing mothers that they were not compelled to have their infants vaccinated before they were 6 months old, and that, if the parents wished to secure exemption from vaccination altogether, they might do so in the manner provided on the paper issued by the registrar when the birth of the child was registered. Mr. Burns said that he was not aware that the practice referred to obtained in most workhouses. It had not been sanctioned by him. Information was given to the parent with respect to the matters mentioned in the latter part of the question by means of the paper issued by the registrar when the birth of the child was registered. He doubted whether anything further was necessary.

Frozen Meat for the Army.—Mr. Hunt asked the Secretary of State for War whether, in view of the fact that soldiers were supplied with frozen meat twice a week, and of the fact that it was generally recognized by experts in the meat trade that one pound of freshly-killed meat had more nourishment in it than several pounds of frozen meat, he could see his way to having the soldiers supplied in future entirely with freshly-killed meat. Mr. Haldane said it was not admitted that frozen meat was less nourishing than freshly-killed meat. From experiments that had been made it had been proved that pound for pound frozen and chilled meat was practically equal to fresh-killed meat. Under these circumstances it was not proposed to make any alteration in the present meat supply for the army.

Coal Smoke in West Ham.—Mr. H. J. Wilson called the attention of the President of the Local Government Board to the fact that 3,222 complaints had been made by the Smoke Abatement Society to the West Ham Corporation as to the smoke nuisance, without avail, and asked whether this failure to enforce the provisions of the Public Health Act, 1875, had been brought to his notice, and what action he proposed to take. Mr. Burns replied that he was aware that the society had made numerous complaints to the town council on this subject. The latter had, he understood, served a number of notices calling for abatement of the nuisance, but he did not gather that they had proceeded for penalties before the justices. The Local Government Board had from time to time brought this matter under the notice of the town council. The Board were not empowered to take upon themselves the powers and duties of a local authority who had made default in relation to nuisances under the Public Health Act, 1875, but they could authorize an officer of police acting in the district to institute proceedings if the default of the authority was proved to their satisfaction. Any officer so appointed, however, would have no greater power to take action than was conferred by the Act on any person aggrieved by the nuisance, or any inhabitant of the district, or any owner of premises within it.

Dr. Lalcaca.—In answer to Mr. Simon, the Under-Secretary for India stated last week that he had already expressed to the House on behalf of the Government their deep appreciation of Dr. Lalcaca's heroic action, and explained that the circumstances of the case were such that appreciation could not appropriately be marked by a money grant to his surviving relatives. He could now add that the Government of Bombay had been authorized to contribute from public funds a sum of £100 to a memorial for which subscriptions were being collected in Bombay.

Patent Medicines (Revenue).—Captain Craig asked the Financial Secretary to the Treasury whether he could state the amount of revenue derived from the duties on quack medicines in the years 1905–6, 1906–7, and 1907–8 respectively. Mr. Hobhouse replied that the amounts of revenue derived from the medicine stamp duty, to which the hon. member referred, were in the years 1905–6, 1906–7, 1907–8, £324,112, £327,106, and £334,142 respectively. When asked whether the increase was not due to the stamp giving a quasi-Government sanction to quack remedies, Mr. Hobhouse said there was no extraordinary increase—only from £324,000 to £334,000.

The Outbreak of Cholera in Calcutta.—In reply to a question last week, the Under Secretary for India stated that the Secretary of State had not yet received Mr. Haffkine's full report; but from a preliminary report made by him it appeared that the outbreak of cholera was due to infection of the nurses' food by two servants, both in good health, who were found to be unconscious carriers of the bacillus.

Health Resorts (Ireland) Bill.—Last week Mr. MacVeagh introduced a bill to empower local authorities in Ireland to strike a rate not exceeding 2d. in the pound for advertising health resorts and watering places. The measure is backed by a number of members of both Irish parties, but is not likely to become law this session.

Plague in India (Punjab).—The Under Secretary for India stated, in reply to a question by Mr. Rees, that the plague mortality in the Punjab in 1908, excluding native states, was given in the most recent returns as 30,708, against 608,685 in 1907. The death-rate from plague in that province in 1908 was 1.53 per 1,000; that from small-pox was 1.42 per 1,000.

The Mortality in South African Mines.—Colonel Seely stated last week that during the quarter ended on March 31st, the latest period for which figures were available, the rate of mortality from all causes per 1,000 per annum was—Chinese, 15.95; natives, 35.4.

The Oaths Bill, which does away with the necessity of kissing the Book, passed its third reading in the Commons last week.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

SCOTTISH SANITARY CONGRESS.

THE thirty-fifth annual congress of the Incorporated Sanitary Association was held at Ayr on September 2nd. The President, Councillor W. F. Anderson of Glasgow, in his opening address, dealt with some of the difficulties in the way of securing progress in public health. One difficulty which seemed to be growing in Scotland was the undue and unnecessary interference of Government departments with purely local administration. It was a mistake to suppose that a rule or plan that might be admirable for one city or town must be equally good for another place and a quite different set of circumstances. The Government department should be maintained to advise and direct authorities in cases of difficulty or dispute with adjoining local authorities. In spite of many difficulties, however, the history of the public health movement had been a glorious one. A peaceful revolution had been brought about—one in which thousands of lives had been not lost, but saved, to the community.

Infantile Mortality.

Dr. Florence Mann of the Public Health Department, Glasgow, read a paper on The Working of the Notification of Births Act. Dealing with the Glasgow scheme of infant visitation, she detailed the work of the women inspectors, who visited every house in which a birth had occurred where they had not been informed that a medical practitioner was in attendance. The inspector gave to the mother such instruction and advice as might be possible. The number of such visits paid during 1908 was 10,497. If the problem of infantile mortality was to be properly dealt with, the mother herself must be reached before the birth of the child. Of the deaths of children under 1 year of age in Glasgow, practically one-third was due to immaturity, a condition of things which after-care could do little to remedy.

Education of Midwives.

Dr. Campbell Munro, M.O.H. Renfrewshire, spoke on the need for educating midwives. He moved a resolution urging upon the Secretary for Scotland the expediency of introducing in the next session of Parliament a Midwives Bill for Scotland upon the lines of the English Act, with such amendments as experience and the recent report of the Royal Commission had shown to be desirable.

Compulsory Notification of Phthisis.

Dr. Clark Trotter, M.O.H. for Paisley, in opening a discussion on "The adoption of notification of phthsis by local authorities," said that the voluntary system of notification had proved to be inadequate and unsatisfactory. The trend of present day hygienic methods was towards home visitation and instruction. He had been struck by the results of such visitation, both in connexion with the control of phthisis and the care of infants, and he believed that the advances as regarded the health of the community beyond the stage at present attained would depend largely upon this factor. It was by such means, united with such curative measures as dispensaries, sanatoriums, and isolation homes, that it might be hoped in time to reduce the phthsis cases to numbers comparable with other infectious diseases, and the cost of their efficient treatment would then cease to be excessive.

The discussion which ensued was generally in favour of compulsory notification followed by visitation and treatment. The President, in the course of a few remarks, observed that compulsory notification might be followed by the provision of accommodation and treatment of phthisis. In Glasgow, he said, practically all notifiable diseases were sent to hospital. No fewer than 1,200 persons died of consumption in that city during the year, and, on the statistics of Dr. Philip, it might be reckoned that there were 10,000 persons suffering from phthisis in Glasgow. He did not believe that, but, taking the figures at a more moderate estimate, and saying that there were 4,800 consumptives ready for hospital, in what position would the authority be? Supposing it provided accommodation for 4,800 consumptives ready for hospital, the estimated cost for food alone was 25s. a week a head, or about £5,000 a week. It was a very serious problem, and he thought it would be a mistake for the Congress to tie itself down to any hard and fast resolution. It would be better if all the local authorities represented endeavoured to work out the problem according to their own circumstances and requirements.

The Spread of Disease by Milk.

Dr. Alexander Robb, Medical Officer of Health for Midlothian, in a paper on the subject, after dealing with the Milk and Dairies Bill, which would tend towards obtaining a milk supply free from danger of contamination, said that it stood to reason that any animal which was suffering from disease likely to infect or contaminate milk should not be kept along with cows in milk. He would have liked, however, to have seen a further clause embodying the principle that when a person at a dairy suffered from an infectious disease which could be spread by milk such person must be removed from the premises or the milk supply stopped.

GLASGOW CANCER HOSPITAL (FREE).

The Glasgow Cancer Hospital (Free) was founded in 1890, and enlarged in 1896, for the treatment of patients suffering from cancer, and for the advancement of the medical and surgical scientific knowledge of the disease. It was soon recognized that in a large city like Glasgow the establishment of such an institution was amply justified, and the supporters of the institution have realized for a very long time that in order to carry out the work the hospital would require to be rebuilt, or more extensive premises acquired in another part of the city. The site of the old building in Garnethill is an ideal one, being on one of the highest eminences of the city, and after the managers had consulted with the staff, etc., they decided that the solution of the difficulty was to rebuild the hospital on the present site.

The portion now to be opened for patients comprises four large wards, each containing eight beds. These wards are lighted from three sides, the principal light being from the south. Although the site is a limited one, the buildings have been so arranged that the wards to the north project beyond the south wards, and have the advantage of receiving a south light, and have also a south balcony. In addition to the wards for eight beds, nine single rooms have been provided, all with a southern exposure. These will be used for patients requiring isolation. A convalescent ward has also been provided.

All sanitary annexes are contained in towers, which are entirely cut off from the wards and are fitted up with the most approved pattern of baths, lavatories, and basins. Various fittings and furnishings specially suited for the particular class of patients to be treated have been installed. These will add very materially to the convenience of nursing and to the comfort of the patients. On each flat a large surgical dressing-room is provided, fitted up with suitable basins, sterilizers, etc., so that all surgical dressings may be carried out in this room. The beds are of the "balcony" pattern, so that patients can be removed from the ward to the surgical dressing-room and wheeled back again to the ward with the least possible inconvenience and the minimum of discomfort. An operating theatre will be provided on each ward level.

The top of the building has been fitted up as a research department. The light here is from the north, and, as the building stands on a very high eminence, the light is ideal for a city site. In the basement is placed a fully-equipped kitchen, which is ventilated by means of an electric fan, so that the odour of cooking will not permeate any part of the hospital. The buildings are lit by electricity, and there is a complete installation of telephones.

The nurses' home occupies the western portion of the site. Each nurse is provided with a separate bedroom. There are also dining-rooms, sitting-rooms, etc., along with the suite of rooms for the matron.

Behind the main building a complete and up-to-date laundry has been erected, in which the most modern machinery has been installed, worked by electricity, and, in addition, there is provided a destructor and steam disinfector. Quite detached from the main building, a small mortuary and mortuary chapel have been erected.

The whole building is heated on the "Reck" system by means of radiators. Each radiator is under direct control, and has a supply of cold air, guarded by a regulator, so that any portion of the building may be heated to the required temperature.

The patients will shortly be removed from the old portion of the building into the new wards in order that the older portions remaining may be entirely rebuilt, and in six months it is hoped the whole building will be finished, thus completing the whole institution. The entire buildings will then be on modern lines, as they are designed in every detail for the particular class of work which is to be carried out.

This institution, which had a small beginning, has gradually developed, and the directors trust, and confidently believe, that when the Glasgow public fully appreciate the boon which it has been, and will be, to the community of Glasgow, the needed support for its upkeep will be forthcoming.

All the building and equipment have been carried out under the supervision of Dr. D. J. Mackintosh, Superintendent of the Western Infirmary, Glasgow, by Messrs. James N. Monro and Son, architects, Glasgow.

Sir George T. Beatson, K.C.B., M.D., the senior surgeon of the staff, has taken a deep interest in the whole scheme, having had the responsibility of being Chairman of the Building Committee.

While the treatment of the patients is obviously the first duty of any hospital, the directors of this institution have been far-sighted enough to appreciate the fact that unless scientific study of the subject accompanies the clinical work, little progress can be made, and, as a consequence, in considering the clinical aspect they did not lose sight of the absolute necessity of providing for a research laboratory. This side of the subject has received careful consideration, and valuable assistance from Professor Muir and Professor Noel Paton, of the University of Glasgow, was obtained, and we look forward to much important research work being done under its roof.

Dumfries.

What is regarded as a notable development in the educational history of Scotland, the institution of the Moat Hostel, Dumfries, was formally inaugurated on September 8th by Sir James Crichton-Browne, LL.D., F.R.S. The Hostel, formerly the Moat House, is a gift made by the late Dr. McKie for the reception and accommodation of girl pupils attending Dumfries Academy (principally junior students in training as teachers), whose homes are situated at such a distance from the town as to render daily travelling out of the question. Dr. McKie also gave £1,000 towards adapting the building to its present purpose, a condition being that, before proceeding to establish a hostel, the trustees should receive from the Education Committees of Dumfries and Kirkcudbrightshire an undertaking that the whole pecuniary responsibility for the maintenance of the hostel and any expenses incurred in future years in its extension or equipment would be met from imperial funds administered by these committees. The undertaking has been implemented. There is accommodation for 47 girls, and the full complement is now in residence. It is the first and as yet only hostel in Scotland.

Kilmarnock.

The Infectious Diseases Hospital, which the Corporation of Kilmarnock has erected at Kirlandside, was formally opened on September 11th. The hospital consists of seven different blocks, and provides accommodation for forty-eight beds. The total cost of buildings, furnishings, site, etc., amounts to £20,000.

Medical Inspection in Dumfriesshire.

The Dumfriesshire Secondary Education Committee has formulated a scheme for the medical inspection of school children. The total cost is put at £1,350, made up as follows: Chief medical officer, £550; senior medical officer, £300; junior medical officer, £225; clerk, £50; travelling expenses, £225.

Extension of Aberdeen Infirmary.

The Directors of the Aberdeen Royal Infirmary propose to spend about £12,000 on alterations and extensions to that institution.

Ireland.

[From Our Special Correspondents.]

Dublin.

Home Treatment of Tuberculosis.

The quarterly meeting of the Hospitals Tuberculosis Committee was held in 76, Grafton Street, on Thursday, September 9th. Sir Arthur Chance was in the chair, and among those present were the Countess of Aberdeen, accompanied by Lady Pentland, Dr. M. F. Cox, Dr. Alfred Parsons, Dr. G. Peacocke, Dr. T. Percy Kirkpatrick; Dr. J. Lunsden, and Sir William J. Thompson, Honorary Secretary.

The report of Dr. Daniel, who had been placed by the Women's National Health Association at the disposal of the Committee to attend cases that were receiving no medical aid, was most satisfactory. It was felt that in this way a great want was being met.

The work done during the last six months by the two Tuberculosis Jubilee nurses working in Dublin was next reported. Two hundred and forty-seven patients have been attended; of these, 125 were old cases and 122 new cases. In all, 3,504 visits were paid to the patients' homes. It was a significant fact that almost two-thirds of the patients themselves sought the nurses' aid. This is not to be wondered at when it is realized what is done for their patients through the Samaritan Committee, in addition to the actual nursing, help, and advice which enables patients to carry out doctors' orders in their own homes: 63 families received nourishment; 39 families received clothes, shoes, bedding, etc.; 10 families' rent was paid while the breadwinner was under special treatment; 87 children of parents suffering from tuberculosis were sent to the country through the Fresh Air Fund; 3 families of children were boarded out while the mothers were in hospital: 60 rooms were disinfected; 5 families were removed to more healthy homes: for 7 patients work had been obtained, and 16 patients had been admitted to Newcastle. There were 66 families occupying one room, and in 35 families more than one member was affected. The total earnings of the families attended when the breadwinner is ill is estimated not to exceed 5s. a week on an average.

Mrs. A. M. Sullivan, the convener of the Samaritan Committee, reported "that £130 had been spent on tuberculosis cases since February, 1908, and that does not include subscriptions collected for some patients for Newcastle. Then a large quantity of clothing was given to patients; beds or beddings were equipped, and in addition all the charitable societies were generous in their help." Mrs. Sullivan will gladly receive any help in furtherance of this cause.

The nurse employed by the Terenure Branch of the Women's National Health Association reported that for four months she attended 22 consumption patients and paid 214 visits. She also has been the means of giving a great deal of assistance to patients in the way of beds, clothes, and nourishment, in addition to the ordinary nursing.

The three nurses and the doctor remark that patients or their friends ask that their homes be disinfected. This fact, together with that mentioned before, that two-thirds of the patients request the nurses' services, shows that the people among whom the nurses work are commencing to understand something about the nature of the disease, and are themselves assisting in trying to stamp it out.

The Prevention of Tuberculosis Bill in Ireland.

That the new Prevention of Tuberculosis Bill would not be much of a success in Ireland was anticipated by those conversant with the character of the local sanitary authorities who were entrusted with the permissive adoption of it. These anticipations have not been falsified. It was believed that local councillors who would not adopt the Infectious Disease Notification Act because it involved the payment of half-crown fees to the doctors, would reject the Notification of Tuberculosis Bill for the same reason, but it appears that they have discovered a still stronger reason for objecting to it.

The local councils evidently regard it as another attempt by the myrmidon of an alien Government to ruin Ireland, especially as it followed on the heels of a

compulsory bill which implied that Irish cowsheds were insanitary, and which had been bitterly contested. Indeed, nothing but the threat of the Local Government Board to apply for a mandamus has induced many of them to appoint inspectors of cowsheds. Then the fact that the Prevention of Tuberculosis Bill applies only to Ireland makes the insult still greater.

It was stated in the JOURNAL at the time when the bill was first printed and circulated that compulsory notification without compulsory provision for the cure of the patients would only inflict useless hardships upon them, and many doctors assert they would rather pay the price than notify cases in which such notification would deprive the sufferers of their means of living—school teachers, for instance—and yet for whom no means of cure would be provided. Some few sanitary authorities have adopted the notification clause, but, with the exception of Dublin and Belfast and some other large towns, none of the rural councils have, so far as we know, adopted the other clauses.

CORK.

The Prevention of Consumption.

At the meeting of the executive committee of the Cork Branch of the National Association for the Prevention of Consumption on September 10th the members present passed a resolution drawing attention to certain statements which had recently been made public regarding the prevalence of consumption in Ireland, and, recognizing the danger to the public caused thereby in producing a false sense of security, the association drew attention to the report of the Medical Officer of Health for Cork for the past year, in which Cork possesses the unenviable notoriety of having the highest consumption death-rate of any town in Great Britain and Ireland, one-seventh the total number of deaths being from that disease. The death-rate from phthisis was nearly twice greater than for all other infectious diseases put together. During the past year, however, the death-rate from consumption for the whole of Ireland has decreased a little, and the association says this is largely due to the efforts of the Women's National Health Association in educating the people, and it is to be hoped that its good work will in the future meet with the encouragement and success which it deserves.

Joint Hospital Board.

The Cork County Sanatorium, which is situated at Streamhill, near Doneraile, is nearing completion, and it is expected that the buildings will be ready for the reception of patients by November. The sanatorium will contain 70 or 80 beds, and is to be under the supervision of a resident medical officer, who must have had, amongst other qualifications, at least one year's experience as resident medical officer in a general hospital or infirmary.

THE CASTLEREA UNION.

The election of a medical officer for the Frenchpark dispensary district took place at a recent meeting of the Castlerea Guardians. Dr. Beirne was elected by 19 votes to 18. Before the election took place each candidate was required to sign an agreement to accept a scale of fees laid down by the guardians for attendance upon private patients, but as this was not stated in the advertisement, it is doubtful if the Local Government Board will sanction the election on such terms.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LIVERPOOL.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH. THE annual report of the medical officer of health continues to grow in bulk and shows no diminution in interest. It now reaches about 300 royal octavo pages. It is not a mere statement of tables and statistics; it is full of human interest, and reveals a degree of progress in sanitation and in moral and physical well-being of which the city and the medical profession in it may justly be proud. The birth-rate is the same as in the previous year, 31.7. The death-rate (18.5) is practically the same as last year (18.3), and is, with that exception, the lowest on record—a remarkable fact, in view of the exceptional distress which prevailed in consequence of trade depression. Zymotic diseases seem to be in the process of becoming extinct except among children. Six hundred and thirty deaths were due to diarrhœa; measles, scarlatina, and diphtheria caused 612 deaths, and whooping-cough 346. These deaths were, of course, almost exclusively of young children. On the other hand, typhoid and typhus account for only 83 deaths, the deaths from typhoid (73) being the lowest on record, and from typhus (8) the lowest but one.

Tuberculosis.

A large section is given to tuberculosis, and the remarkable diminution in the prevalence of this disease is pointed out. It appears from the report of a special commission of inquiry made sixty years ago that at that time 100,000 of the inhabitants were living in houses so aggregated and so constructed as to be from those circumstances alone unfit for human habitation, and that 40,000 were living in cellars. The report speaks of the absence of light and ventilation; of the darkness and filth; of overcrowding, especially in the cellars and lodging-houses, which were without supervision. The condition of the schools was wretched in the extreme—dark, confined, damp, and dirty; they were used as a dwelling, a dormitory, and a school room, and the atmosphere was offensive with filth. There was an absence of water supply and of drainage and scavenging, the condition being aggravated by extreme poverty. Since this gloomy picture was painted millions of pounds have been spent in demolishing insanitary property and replacing it by wholesome dwellings and in other sanitary improvements, with the result that during the last forty-three years alone the mortality from all forms of tuberculosis has fallen to almost exactly one half.

When insanitary property is demolished and corporation dwellings are built on the site, the new buildings are for the most part occupied by the same families that occupied the old. The only difference in the circumstances of the people is, therefore, that they now occupy sanitary dwellings while before they did not. The mortality from phthisis and diseases of the lungs in the demolished areas was notorious, but in the corporation dwellings, taken as a whole, notwithstanding the history of the occupiers, the phthisis mortality was during 1907–8 actually 1.35 per 1,000 lower than that of the city taken as a whole, and very considerably below that of the districts in which the dwellings are situated. From this the medical officer draws the obvious but no less important lesson that the right way to spend public money is not in the construction of sanatoriums and the treatment of patients therein in order to deal with phthisis, but to demolish the slums, to purchase the sites, and to erect sanitary dwellings thereon.

For the treatment of persons already suffering from phthisis there are 144 beds available—namely, 70 in the Consumption Hospital and the associated sanatorium at Delamere, 24 in the Poor Law sanatorium at Heswall, and 50 in the corporation fever hospital at Fazakerley. The need for a special fund to support the family while the breadwinner is undergoing treatment in one of these institutions is pointed out. Dr. Hope, while insisting on the paramount importance of the prevention of phthisis, is a firm believer in its curability, and asserts that "the evidence is conclusive that attacks of phthisis, in the vast majority of cases and under ordinary circumstances, are recovered from." This is certainly a very strong statement. If by phthisis is meant a tuberculous affection of the lungs, attended with wasting and constitutional symptoms and capable of diagnosis as tuberculous, most practitioners will consider that it is much too strong. If, on the other hand, a local tuberculous deposit without wasting is meant, it is scarcely legitimate to apply the term "phthisis" to such a condition. The compulsory detention of advanced cases in order to obviate the risk of infection is suggested as desirable.

Useful work is being carried on by inspectors and visitors when cases are reported in the homes of the poor, and the lessons patients learn while in hospital are for the most part acted on after they have left.

Cellar Dwellings.

About 5,370 people are still housed in cellars, but under the powers of a recent Act no cellars can be occupied as separate dwellings after December 31st, 1912.

Midwives.

There are 317 certificated midwives in the city, of whom 173 only practise on their own account, the rest being in the employ of public institutions, engaged as maternity nurses under a medical practitioner, or in some other employment. The number of cases attended by the 173 in private practice was 13,423—that is, an average of 78 cases to each. Twenty midwives attended 5,433 cases. If we take 7s. 6d. as the average fee for attending a confinement, the average yearly income of midwives in Liverpool only amounts to £29 5s., and the average income of the 20 most successful midwives is only £102. When one considers the cost of living, the arduous nature of the work, and the responsibility involved, it is not clear that midwifery has any advantages over the better class of domestic service. The arrangements for reporting serious ophthalmia are stated to work well, and the beds set apart in the St. Paul's Eye Infirmary for the reception of the mother and the infant are referred to. It appears that the midwives not infrequently, when sent for on an emergency, cannot obtain their fees. Two of the boards of guardians have consented under special circumstances to give the midwife an emergency fee, but the other board, apparently not recognizing the suddenness of the emergency in these cases, holds that application should be made to the relieving officer. Medical assistance was required in 775 cases, about 5.7 per cent. of the whole. One guinea is always paid the practitioner in such cases, if not by the patient then by the Health Committee.

School Hygiene.

Regret is expressed that the clause in the Education Code of 1903 which provided that the absences of children from school on account of infectious sickness in their homes should not be deducted from the record of attendances, has been withdrawn from subsequent codes. Also that the Standing Committee of the House of Commons did not sanction a clause in the Corporation Bill of 1908 which would have compelled parents to notify the presence of infectious disease in the home of a scholar. The latter power would have been most valuable in dealing with measles and whooping-cough.

WALES.

GLAMORGAN ANNUAL REPORT.

DR. W. WILLIAMS, Medical Officer of Health for Glamorgan, has just issued his annual report to the County Council. The birth-rate was 35.95, 9.4 in excess of that for England and Wales, whilst the general death-rate was 15.84, as compared with 15.61 for 1907, and was 1.1 higher than the rate for England and Wales. As regards the provision of isolation hospitals, satisfactory progress continues to be made, and there is every reason to believe that within a year or two each district in the county will possess means of isolation for their infected sick. Considerable time has been devoted to the administration of the Midwives Act 1902, and there is considerable evidence that this Act is having the beneficial effects anticipated. Amongst the individual districts the birth-rate varied from 44.8 to 13.0, the highest being 44.8 in Neath Rural, 42.0 in the Rhondda, 40.3 in Gelligaer and Rhigos, 39.8 in Mountain Ash, 39.7 in Ogmore and Garw, 39.1 in Aberavon Borough, and 39.0 in Llantrisant and Llantwit Sardre. As is usual, the birth-rates are highest in the industrial and mining districts, and lowest in agricultural and residential districts. The general death-rate is 16.04, which is 1.34 higher than the average death-rate for England and Wales, whilst the nett death-rates range from 20.2 to 8.0. Of the total deaths 3,550 were those of children under one year, equivalent to an infantile mortality of 152 per thousand births. The causes of this high infantile mortality are discussed at length in several of the reports; they point out that, though it is generally acknowledged to be largely preventable, yet it is dependent to a great extent on climatic and meteorological conditions. Amongst the important causes mentioned are early marriages, improper feeding, insanitary surroundings, and substitution of artificial for breast feeding. The work of reducing the appalling mortality of infants should not, it is added, be left to sanitary or education authorities only. It was a work in which the parents should be made to realize their responsibilities, and in which social, philanthropic, and religious institutions had great opportunities of assisting. The zymotic death-rate was 2.21 as compared with 1.71 for 1907. The number of deaths caused by the various forms of tuberculosis was 812, or one-eleventh of the deaths from all causes, and yet, as Dr. Williams states, compared with our action against the ravages of scarlet fever, diphtheria, and typhoid fever, which altogether accounted for 215 deaths, we are doing very little towards stamping it out: 355 deaths were attributed to cancer and malignant disease. Considerable activity has been shown in improving the houses and sanitary surroundings of the working classes. Dealing with the pollution of rivers and streams in the county, the report states that the condition of the rivers in Glamorgan is undoubtedly improving, especially in regard to sewage and tinplate works effluents. However, these rivers are far from what they should be and might be. The Rivers Pollution Prevention Acts should be amended so as to make it an offence to allow the discharge into any river or stream of the waste water from coal-washing machines unless the same is passed through efficient settling ponds or tanks.

NEW UNIVERSITY GRANTS.

The long-looked-for allocation by the Treasury of the additional grant of £15,000 a year to the University of Wales and the constituent colleges has at last been made known. Though in many respects it is open to criticism, the fact remains that higher education in Wales has been further assisted to the extent named. Still, this amount is nothing in comparison with the additional grant given for university education in Ireland, and Welshman must not be satisfied with receiving only as much for their university and its three colleges as is given to one of the smallest colleges in Ireland. The £15,000 has been divided as follows:

	£
University of Wales (for Fellowships)	1,500
Aberystwith University College	4,000
Bangor University College	4,000
Cardiff University College	5,500

The £5,500 for the Cardiff University College is definitely allocated as follows:

	£
To increase salaries of principal, professors, and heads of departments	2,000
Medical school	1,500
Library and scientific equipment	1,000
Further historical assistance	500
Pension fund	500

The grants for Bangor and Aberystwith are allocated in the same way as in Cardiff, except that the latter receives an extra £1,500 for the medical school.

Western Australia.

LUNACY.

ON December 31st, 1906, there were 546 certified insane persons in this State, and on December 31st, 1907, there were 630, giving an increase for the year of 84. Dr. S. H. R. Montgomery, from whose annual report for 1907 the following information is abstracted, says that this increase is the largest ever registered in this State, being 32 more than that of 1906 and 43 above the average increase of the preceding five years. The population of Western Australia on December 31st, 1907, was 263,846, the ratio of insane persons to general population being thus 1 to 418. Dr. Montgomery points out, however, that this proportion is greater than it should be, as many thousands of the people in Western Australia leave for the Eastern States about this time to return some months later, this temporary exodus thus factitiously elevating the ratio. Nevertheless, a table furnished by Dr. Montgomery shows that there has been a very rapid increase in the insane in the State in recent years, this ensuing naturally upon the altered character of a population which was at first composed largely of young and healthy immigrants, whereas now the country gains its population principally by natural increase. The ratio of insane to population in Western Australia is lower, however, than that of any other State in the Commonwealth, that for the year 1906 of South Australia

being 1 to 390; New South Wales, 1 to 277; Queensland, 1 to 264; and Victoria, 1 to 250; as compared with Western Australia's 1 to 479. The ratio in New Zealand in the same year was 1 to 286. On the last day of 1907 the 630 certified insane were distributed as follows: In the Freemantle Hospital, 405; in Claremont Hospital, 171; in Whitby Hospital, 48; and on trial, 8. As regards nationality, 272 were natives of Australasia, 6 being aboriginal or half-caste; 248 were natives of Great Britain, England and Wales contributing 131, Ireland 105, and Scotland 12; 56 were natives of other European States; 31 were of Asiatic, 2 of African, and 16 of American birth. Only 43 per cent. of the inmates of West Australian asylums, therefore, were natives of Australian States.

Admissions.

During the year 208 were admitted, of whom 185 were first and 23 not-first admissions, being the largest number of admissions recorded in one year in Western Australia. The admissions were classified, according to the forms of mental disorder, into: Mania of all kinds, 81; melancholia of all kinds, 25; dementia of all kinds, 29; delusional insanity, 37; general paralysis, 25; and idiot or imbecile, 11. As probable cause, alcohol was assigned in 31, or just under 10 per cent.; opium in 6, venereal disease in 25, senility in 16, epilepsy in 14, moral causes in 31, and the remainder were distributed over the other usually assigned etiological factors. An insane heredity was ascertained in only 6, and previous attacks had occurred in only 13.

Discharges, etc.

During the year 60 were discharged as recovered, giving a recovery-rate on the admissions of 28.84, as compared with the average for the State of 37.32 per cent.; also 9 were discharged as relieved, 3 as not improved, and 1 escaped. During the year 51 died, giving a death-rate on the average numbers resident of 8.65 per cent. The deaths were due in 19 to cerebro-spinal diseases, including 10 deaths from general paralysis; in 14 to chest diseases, including 8, or 15.6 per cent. of the total deaths, from pulmonary consumption; in 7 to senile decay; and in the remainder to abdominal diseases. All deaths were thus due to natural causes.

Cost.

The weekly cost of maintenance per head, after deducting collections, was 12s. 2d.

Special Correspondence.

BERLIN.

Transfer of the Prussian Medical Ministerial Department.—Proposed Women's Hospital Officered by Women.—Overcrowding of the Profession in Germany.—New Medical Institutes.

AFTER a long period of preliminary deliberations the Prussian Government has finally decided to transfer the Medical Ministerial Department from the much overweighted Cultus Ministry to the Ministry of the Interior. It is hoped that by this change the Medical Department, which of late years has grown immensely in importance, may gradually acquire more independence and wider scope.

Berlin is behind other great cities, such as London and New York, in not possessing a women's hospital in the exclusive charge of female doctors. This want, a very real one, no doubt, will shortly be supplied. A committee of female doctors has been formed and the preparatory steps taken. Dr. Agnes Hacker, of Schöneberg, Berlin, is the guiding spirit and president of the committee.

The annual report presented to the Union of German Medical Practitioners (a representative body numbering almost 23,000 members) proves that the serious overcrowding in the profession, so often vaguely complained of, was shown by the statistics of the employment bureau of the union to be a sad reality. Though no fewer than 941 assistants, 2,109 locumtenents, 240 ship doctors, 618 general practitioners, and 138 student assistants were able to find employment or settle in practice through the instrumentality of the bureau, there remained 280 doctors for whom no post nor any settlement with a fair hope of success could be found. Nor is there hope that we may see a better balance of supply and demand in the near future: for, whereas during the winter 1905–6 the number of medical students in German universities was 6,080, in 1908–9 it rose to 8,558—an increase of close on 2,550.

At the same time one hears and reads almost daily of new institutes for the care or cure of some highly-specialized ailment amongst the ills that flesh is heir to. Still the patients come, especially to the charitable institutes, showing that the need was there—or perhaps in some cases that a need has been created. Among the numerous new institutes near Berlin, mention should be made of two: The home for children with inherited syphilis, and the middle-class sanatorium at Falkenhagen. The nursing home is intended for infants up to the age of 4. A private charitable committee has bought a well-built country villa at Friedrichshagen, near Berlin, the garden of which runs down to the Nüggelsee, the largest lake near the eastern suburbs, and has arranged the whole to suit its objects. As to the middle-class sanatorium, it has nothing to do with charity, but is meant, and bids fair, to be a paying concern. It takes a medium position between the people's sanatoriums and the numerous fashionable sanatoriums with prices so high that their continued prosperous existence is a proof of the increasing prosperity of Germany. "Haus Falkenhagen" lies in its own pine-forest grounds, about half an hour's rail and a short drive from Berlin. It has a fine orchard and large vegetable garden; the bedrooms and general rooms are well-furnished and thoroughly hygienic; there are good arrangements for hydropathic, for electric and mechanical treatment, for rest cures, etc. The air and sun baths have their own open-air douches. Everything is comfortably, but not luxuriously, arranged. The prices range from 4.50 marks to 8.50 marks (4s. 6d. to 8s. 6d.) a day, including treatment. There are no extras. The hundred beds of the establishment are already fully engaged; as yet it has been open to men only, but there is every prospect that a wing will shortly be added and ladies admitted as in other sanatoriums. It is understood that tuberculous patients are not to be received.

Correspondence.

HOME CONDITIONS AND EYESIGHT.

SIR,—With reference to Mr. L. F. Richardson's letter (p. 575), I think few who have ever seen anything of dispensary or other lower-class practice can fail to have observed that the children of respectable artisans are kept much indoors by their mothers, to avoid contact with their inferiors. They may consequently often escape contagious and infectious diseases, such as scabies, but they use their eyes more in reading and have less opportunity of using them on distant objects, and of exercising the power of accommodation.—I am, etc.,

Bradford-on-Avon, Aug. 29th. JOHN BEDDOE.

SIR,—With regard to Mr. L. F. Richardson's letter on this subject, I am afraid it is impossible to give any weight to the "general experience of Christian workers, philanthropists, and school teachers" until that general experience is expressed in reliable statistics. Further, these classes are apt to overlook points which from the statistical side are very vital; for example, that there exists—for we have measured it—a correlation between the age of a child and the number of persons per room; and, again, between the number of rooms and the age of the children. There are further correlations between the physique of the father and his wages and between his wages and the number of rooms. The heredity factor is not removed when we simply correlate number of rooms and stature of child. To ascertain how far the environment as to rooms influences the stature of the child, we ought to obtain the *partial* correlation between rooms and stature for constant physique of parents. This Mr. Richardson has not attempted, but it is essential to a *final* judgement in the matter. As to the blind, it is impossible to include them in a graduated refraction table did data exist, which they do not. Further, Mr. Richardson has, I think, increased by 80 per cent. the real value of the correlation between stature and number of rooms for boys of 10 years, even when we disregard the corrections indicated above. On his own showing this correlation is about *half* the importance of the hereditary factor for one parent, about *quarter* the importance for both parents together. But even this conclusion appears to be largely the result of the hetero-

genetity of the material. The Glasgow schools are divided into four groups, which correspond largely to higher and lower classes of workers. Mr. Tocher's paper has shown the racial mixture—with Highland, Lowland, Irish, and Italian factors—to be found in Glasgow. Treating the school groups separately, we have for age 10:

Group A: Correlation ratio ... ... = .14
Group B: ,, ,, ... = .13
Group C: ,, ,, ... = .09 } Mean .13.
Group D: ,, ,, ... = .15

This shows that the higher value, .23, found by Mr. Richardson is largely due to the different classes of schools having different types of boys. If the inferior type of labour—that is, that with more crowded homes—has a larger Irish and Italian element, there is a racial contribution to .23, which is not an environmental contribution at all. The above analysis for the separate school groups seems to indicate that 44 per cent. of the value .23 may be solely due to mixture of different races, and for this reason Glasgow is not a good centre to study stature at. The influence of environment, if measured by .13, is only about one-fourth that of heredity—one-eighth almost if we select *both* parents—and of this value it remains to be seen how much is an *indirect* effect of heredity. It is probably the "general experience of Christian workers, philanthropists, and school teachers" that the physically degenerate parents are to be found in the smaller-roomed houses.

On all these points the Galton Laboratory has already collected much material, and a summary of its work will be found in Miss E. M. Elderton's lecture on the "Relative Strength of Nature and Nurture," just issued by Messrs. Dulau and Co.—I am, etc.,

KARL PEARSON.

Galton Eugenics Laboratory, University of London,
September 15th.

CLINICAL TEACHING.

SIR,—At this period of the year, when clinical teachers all over the kingdom are reviewing their winter's work, would it not be worth while to consider the best methods of taking full advantage of the vast clinical resources available in our hospitals, and of giving our students such a practical training as would best fit them for their life-work? Nine-tenths of these students leave the universities and schools to become general practitioners, and only a small proportion of them get an opportunity of further clinical work before they actually begin practice on their own account. The present system of delivering clinical lectures is admittedly of value, and the value is at its maximum when no regular systematic course is given in the schools; but, where such a course on any subject forms a compulsory part of the curriculum, it seems useless to add on a few more systematic lectures in the hospital wards, even with an actual example of the particular disease before the class as a text. In many cases—most, in my own experience—only a few casual references are made to the patient's symptoms during the lecture. Perhaps one or two symptoms are actually demonstrated to a few near the bed, but, to the great majority of the class, a clinical lecture simple means a summary of facts that may be gleaned from textbooks, but delivered over the body of a patient. This, to my mind, is not the best form of clinical teaching, nor does such a method make the most practical use of the material or help the student to the fullest extent possible to understand the disease and to diagnose it correctly when he meets it again in after-practice. It tends to make him rely more and more on laboratory methods, excellent in themselves, but frequently unattainable, easily and quickly, in a practice remote from a research centre.

Is any better method available? Large classes offer a considerable difficulty in the bringing of every student into actual contact with each case, but the number of clinical teachers is now so great that this could be overcome were other obstructions removed. There is, and must always be, in places where the teacher is also an examiner, the temptation for all the students to follow such a teacher in order to familiarize themselves with his pet subjects, which are always likely to meet them in their examinations, but this could be overcome either by having a few central boards of examiners or State examinations, or by allowing any teacher to become an examiner in his own school. Something like the latter method is being tried in one of the Scottish centres, and the former method is common, I believe, in London. What should be aimed at in clinical teaching is that each student be taught to feel himself responsible for the care of a number of patients, be made to go through the whole of the examination of such patients, the mental weighing of facts, and the physical, chemical, and microscopical tests that have to be done before a diagnosis is made. He should do all this under the guidance of a capable teacher first, and should be cross-questioned on his statements and reasoning, and be allowed to question his teacher in order to elucidate his own difficulties. He would thus take a personal interest in his patients, and would be fostered to rely on his own skill in diagnosis. Next, he should be asked to suggest treatment and to prescribe medicines, be made to watch the case as it progresses, be asked almost daily as to the progress and the reasons for his beliefs.

All this would take place before his class-mates, and while he would thus be made to follow the disease right through, his teacher would be a sort of consultant, to whose opinion he would defer whether he mentally agreed with it or not.

Such a method could be carried out by the students taking notes of the cases on the day of their admission to hospital, at first under the guidance or along with senior students, and discussing the notes next day with the teacher in presence of his fellow students, who might also be asked to examine and determine for themselves the correctness or otherwise of any particular clinical feature. The whole class would thus have their attention concentrated on the patient under discussion.

The out-patient department should be made much more use of than is done. Attendance here should be compulsory, for the work is more of the kind that the student will meet with in actual practice, and have to do by himself. Cross-questioning here is the only method likely to be used, and, with compulsory attendance, should be quite satisfactory. The junior and senior students could attend the out-patients during different sessions, which would relieve the congestion in the wards in the bigger schools. At present few students attend this department regularly, and then only when the teacher is popular. It is more common to find students taking a greater interest in a major operation than in out-patient work, and even then they do not follow the after-progress of the case; and while it might not be wise or necessary to exclude students from operations, it would be well to impress upon them that this is a very minor part of their study, a part which few will ever be called upon to perform, and even if they were, there will generally be time and opportunity to plan and study the operative technique before performing the actual operation. Most students are not capable of understanding major operations, nor of appreciating at its proper value the skill of the operator, because they cannot follow the minute steps of the operation, nor the difficulties met with and overcome. Such operations become mere stage performances from the average student's standpoint.

It would be a great help to every teacher who has at heart the best interests of his students, and who works to equip them as thoroughly as possible for their profession, if a discussion on this subject were to be earnestly taken up in our JOURNAL, when writers could explain the methods adopted at their particular centre, the advantages and drawbacks of such, and the methods in vogue in other countries where they have attended clinics. During the actual discussion it would be better if the names of writers were withheld, as students and recent graduates would more freely express their views, and would not be afraid either of offending their old teachers or other authorities whose names they respect and whose views they would not willingly controvert.

Speaking for Scotland, such a discussion is much needed, and might lead to a radical change in the present methods of clinical study, so universally condemned by the students themselves, and it might even happen that many helpful hints would be gleaned by teachers whose methods are stereotyped by habit or conviction.

The discussion would need to be a purely academic one, successive writers stating their own views in preference to

occupying space in demolishing the methods advocated by previous writers.

I enclose my card.—I am, etc.,

September 13th. PROGRESSIVE.

COMPULSORY INSURANCE AGAINST SICKNESS.

SIR,—That the present system of medical attendance is far from satisfactory, and that changes are imminent that will materially affect the status and incomes of medical men, must now be abundantly evident to all who have given even a cursory attention to the Reports of the Poor Law Commission, and the proposals put forward by the present Government. Such is the trend of events that the latter may now probably be regarded as of most importance. So far as medical men are concerned, the recommendations of the Majority Report are practically a reaffirmation of the *status quo*. They would probably affect the smaller towns and rural districts very little, while in the great centres of population dispensaries can never make headway while hospitals keep open doors. Further, in these days of decreasing sickness, the more shiftless of the working classes are showing themselves less inclined to contribute a fixed sum for illness that may not happen, as it is always possible to get medicine and advice for sixpence or less, and to be visited for a shilling. The Minority Report is a report of dreamers, of dreamers of beautiful dreams it may be, but of dreamers who, with one exception, know nothing of the conditions of practice outside London, and whose creed from first to last consists in a deification of that impossible and increasingly discredited body, the London County Council.

For your contributor's article on compulsory insurance against sickness and invalidity, the few who, like myself, have long believed that the salvation of medical men and the interests of the working classes can best be secured by the intervention of the State, are much indebted. For years past I have watched the working of the compulsory system in Germany, and my only regret has been that their system has received so little attention from medical men in this country. The final decision will not rest with medical men, but it is for them to point out, so far as sickness and the prevention of disease is concerned, what form compulsory insurance should take. It may be impractical, or even impossible, to have our own representatives in Parliament, but surely it is possible for all of us to bring influence to bear on those who now or in the future are likely to be our representatives in Parliament.—I am, etc.,

Greenwich, Aug. 30th. J. H. KEAY.

THE POSTMASTER-GENERAL AND POST-OFFICE APPOINTMENTS.

SIR,—As the letter signed "Observer," like many others, suggests that the Post Office staff have nothing to do with the appointment, but that it is a purely political job, I feel I must relate my experience.

Several years ago the postmaster of the town in which I live, who was not personally known to me, called at my surgery and informed me that the post of medical officer to the Post Office was about to become vacant, and asked me if I would like to apply for it. I did so, and was appointed. I found out afterwards that it was the wish of a majority on the staff at the office that I should be appointed which led the postmaster to approach me. I did nothing in the matter except to send in an application for the post.

I trust this experience will show that in at least one case the appointment was non-political nor unpopular with the Post Office staff, and surely this cannot be an isolated case.—I am, etc.,

August 31st. NON-POLITICAL.

SIR,—Being a stickler for accuracy, I cannot refrain from a rejoinder to "Observer's" letter in the JOURNAL of August 28th.

At the annual banquet of the Association of British Postal Medical Officers in London on July 14th, 1908, Mr. Buxton, the Postmaster-General, said:

> Since he had been Postmaster-General he had endeavoured to keep Post Office appointments free from politics. The appointments of Post Office medical officers would not be made for political reasons. That was common sense, for he would rather be properly attended to and cured by a Unionist or Tory than allowed to go to his grave by the most proper and extreme Radical.

It is common knowledge that when a vacancy occurs in an appointment the local permanent officials circularize the local members of the profession and invite them to become applicants for the position, and on the forms which applicants are required to fill up it is clearly stated that the use of political influence is forbidden. What more could "Observer" desire? Does he desire that any medical practitioner who has actively interested himself in party politics should be debarred from becoming a candidate if his party should happen to be in power? Of course the best man never is appointed, because naturally every man who is unsuccessful regards himself as the only one who was eligible for the post, and feels that once again there has been a gross miscarriage of justice.—I am, etc.,

August 30th. OBSERVER'S OBSERVER.

PRESCRIBER AND DISPENSER.

SIR,—I can agree fully with the opening sentence of Dr. Morison's letter (p. 574) that "the article in the BRITISH MEDICAL JOURNAL of August 21st on prescriber and dispenser deserves, and I hope will attract, the attention of the whole medical profession," but for reasons just the opposite of his.

I cannot admit that dispensing has diminished the efficiency of treatment nor that chemists can do it (dispensing) better than doctors; that is a slur on the teachers. Medical men in general practice are not so opulent that they can afford to diminish their incomes, and that would be the result if all the men who dispense were to give it up. The average fees in London and the larger towns to the industrial classes run from 1s. to 2s. 6d. for advice and medicine (see your advertisement columns), and the patients attend two or three times a week. Take a case of dyspepsia or chronic bronchitis; if a prescription be given, how often would the patient visit the doctor? Probably only once or twice during the illness, and the rest of the time the profit would go elsewhere.

I venture to assert that if a poll were taken of all the general practitioners in England whose work lies among the artisan and operative classes, the majority for continuing dispensing would be very large.

Some years ago the cry was that midwifery was derogatory, and only woman's work, except in operative cases, and registration and education of midwives was established. How many, especially among the younger members of our profession, now sigh for the lost source of income! I unhesitatingly assert the same result will happen if prescribing be made universal. I have tried both plans.—I am, etc.,

London, W., Aug. 30th. JAMES HAMILTON.

ARYLARSONATE TREATMENT OF SYPHILIS.

SIR,—In the JOURNAL of August 21st Dr. de Verteuil, R.N., asks whether it would be possible to combine mercurial treatment with injections of arsacetin (or acetylatoxyl). Blumenthal and Jacoby in the *Biochemische Zeitschrift* for 1909 (xvi, i, p. 20) discuss the toxicity of various substitution products of atoxyl, and they state that changes in the amido group, such as the substitution of one hydrogen atom by acetyl, forming arsacetin, make no difference to the toxicity of the mercurial compounds. This depends entirely on the amount of mercury present. Changes in the group containing the arsenic, on the other hand, are followed by considerable variations in the toxicity. Thus the reduction product of atoxyl or arsacetin (the oxide) is twenty or thirty times more toxic than the original substance. These results show that with arsacetin, as with atoxyl, it is necessary to wait a fortnight after the last injection before beginning mercurial treatment.—I am, etc.,

Clifton, Sept. 10th. J. M. FORTESCUE-BRICKDALE, M.A., M.D.Oxon.

UNQUALIFIED PRACTICE: BONESETTERS.

SIR,—Through the note in the JOURNAL of August 21st, page 488, the details of the case which recently occurred at Crickhowell are known with sufficient fullness to members of the profession. As far as this case is con-

cerned, after the astonishing verdict of the jury, I do not see what more can be done. Every official I have spoken to says nothing can be done, and that it is useless reporting the matter to the Home Office. So I can only fall back upon the British Medical Association for instruction and help to try and prevent a similar occurrence in the future. Now, can and will the Association assist us? It has occurred to me that with its help we might have expert legal aid put at our disposal, ready to come at short notice, to be present at a similar inquiry, and help us to get the facts fully brought out. A medical man, situated as I was the other day, with only eight hours' notice, cannot for more reasons than one do this without legal expert aid to back him up. I simply throw this out as a suggestion and await the opinions of your readers. Perhaps some one can think of a better plan, but I feel very strongly that something should be attempted to strengthen the hands of those who may at any moment have to face such an inquiry alone and unaided, as I had. It ended with possible disastrous results in the future to the public whom we now vainly try to protect.—I am, etc.,

ALBERT E. JONES,
L.R.C.P.Lond., M.R.C.S.Eng.

Crickhowell, Breconshire, Aug. 30th.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

SIR,—In his communication to the BRITISH MEDICAL JOURNAL of August 28th Dr. E. Brockbank proves to his own satisfaction that the crescendo murmur in mitral stenosis is not really presystolic in time, caused by the flow of blood through the narrowed orifice from auricle to ventricle, but is, in his opinion, systolic, and due to regurgitation from ventricle to auricle. The arguments he adduces, amongst others, in favour of his contention are:—

1. That he can imitate the crescendo murmur and the terminal loud snap by blowing through a piece of drainage tube and obliterating its lumen while so doing.

From this experiment he infers that the rising-pitch character of the crescendo murmur in mitral stenosis must be acquired by "the act of the valve closing while a murmur is being produced at it." He then argues, without bringing forward any further evidence to prove it, that the crescendo murmur in mitral stenosis is due to escape of blood from the ventricle to the auricle through the thickened mitral valve, and that the terminal abrupt sound which follows is caused by "the sudden and forcible impact of the hardened, thickened jaws of the diseased valve." To quote verbatim his explanation of the crescendo murmur and first sound (p. 512):

> The mobile hinges become stiff and the murmur is formed by blood regurgitating under pressure through the valve while its stiffened jaws are being closed by the rising intraventricular pressure developed at an abnormally later stage of the ventricular systole. An accentuated first sound terminates abruptly this murmur, and is due to the *collision* of the thick, hard jaws which guard the stenosed orifice.

In my *post-mortem* experience as assistant pathologist for some years at St. Mary's Hospital I made a large number of autopsies on cases of mitral stenosis, but it has not been my privilege to see anything approaching "mobile hinges" to the mitral valve, to which Dr. Brockbank refers. In the vast majority of cases of advanced mitral stenosis a hard, fibrous ring and, in some instances, a rigid, calcified mass surrounds a button-hole or funnel-shaped orifice, and it is inconceivable that any force could cause the edges of this ring to "collide" during life, or, indeed, approximate in any appreciable degree.

On these grounds alone, apart from the fact that the first sound is mainly muscular in origin and not due to "collision" of the valves, Dr. Brockbank's explanation of the loud first sound in mitral stenosis is untenable, and, a fortiori, his contention that the "murmur is formed by blood regurgitating under pressure through the valve while its stiffened jaws are being closed."

2. To support his contention that the crescendo murmur is systolic in time, he figures two cardiograms by distinguished authors, which he would have us misinterpret to make the ventricular systole commence at the point indicated on the cardiograms as marking the commencement of the auricular systole. He has already stated that the stenosed valve is closed at a later period than normal; he thus claims that the ventricular systole is lengthened at both ends at the expense of diastole. In other words, he assumes that the ventricle can be filled in a shorter time than normal, through an orifice abnormally small (sometimes not exceeding ⅛ in. in diameter), and, further, that the systole is lengthened in spite of the fact that the ventricle has less work to do, being imperfectly filled with blood.

The cardiograms he figures, however, if we interpret them correctly, afford striking proofs of the generally accepted explanation that the crescendo murmur is presystolic in time, and that, as we should expect, the ventricle takes a longer time than normal to fill through the narrowed mitral orifice.

3. Dr. Brockbank asks why a crescendo murmur is never heard in aortic stenosis if that heard in mitral stenosis is caused by blood being forced through the narrowed valve by auricular contraction. The answer to this would seem to be obvious. The conditions are totally different.

In mitral stenosis, as the ventricle expands in diastole a negative pressure is produced in its cavity; blood is sucked in through the narrowed mitral orifice, and a presystolic murmur is generated which is reinforced later by the increased velocity of flow caused by the auricular systole.

In the case of the aortic valve, when systole commences the aorta is full of blood under high pressure, and the aortic valves do not lift till the pressure in the ventricle exceeds that in the aorta. The blood is then projected into a tube already full of fluid under pressure, and not sucked into an empty cavity as in mitral stenosis. The gathering force of systole, moreover, is essential to maintain the rate of flow through the aortic valves, as the pressure in the aorta rises with the increased volume of blood. If, therefore, the murmurs in the two instances did resemble each other, it would be surprising and difficult to explain.

Dr. Brockbank's somewhat disparaging remarks about what he terms "the jugular pulse argument" will carry little weight with those who have read and appreciate Dr. James Mackenzie's epoch-making work on this subject, and as Dr. Lewis is directly attacked I leave it to him to reply to them.

I did not intend to enter into this controversy, as I hoped that others would take the matter up; but I could not allow Dr. Brockbank's statements to pass unchallenged, and if I have spoken rather strongly I trust Dr. Brockbank will forgive me and not take it in any sense as a personal question.—I am, etc.,

London, W., Sept. 13th. JOHN F. H. BROADBENT.

REPORTS OF THE POOR LAW COMMISSIONERS.

SIR,—Will you kindly allow me a short space to make my position clear, for Dr. Major Greenwood seems to have misunderstood it? I had no intention of laying claim to a general knowledge of "the value attached by Poor Law medical officers to their appointments," but mentioned specific cases of certain rural districts where the work was undoubtedly unremunerative. Surely Dr. Greenwood is not satisfied with the ridiculous payments for medical attendance and medicines in some of these districts, and my mentioning them does not warrant such a rebuke as he administers.

My contentions are:

1. That the Minority scheme contains no proposal that would necessarily displace or lower the remuneration of a single Poor Law medical officer, or, for that matter, any practitioner now employed by a public authority.

2. That the proposals of the Minority, if adopted, would do much to mitigate the present enormous amount of hospital abuse (vide Dr. King).

3. That the Majority proposals would undoubtedly deprive district medical officers of their livelihood in many districts.—I am, etc.,

London, W., Sept. 13th. H. BECKETT-OVERY.

ASYLUMS OFFICERS' SUPERANNUATION.

SIR,—One important point is not set out in your report of the deputation to the Lord Chancellor. It was shown that the Medico-Psychological Association, on whose

behalf I spoke, gave its support to the Superannuation Bill in obedience to one of the principal motives that led to its foundation—improving the care and treatment of the insane. Having this motive in view, it has established a highly satisfactory three-year system of training for attendants and nurses, which is bearing excellent fruit. The work of teaching is undertaken by the medical superintendents and their assistant officers gratuitously, and in addition to their own already heavy duties. The association has taken immense pains to get the best results, and has provided an elaborate plan of examination, certification, and registration. Now, all this has been, and is being, carried out solely for the benefit of the insane, to make their lot happier by increased efficiency in those who have personal care of them. Having of its own free will done so much to this good end, the association looks with confidence for assistance on the part of others. The offer to prudent seekers for employment of all proper inducements cannot fail to be of advantage; the neglect to make the offer is assuredly prejudicial and injurious.—I am, etc.,

September 15th. H. HAYES NEWINGTON.

RADIOGRAPHERS AND TREATMENT.

SIR,—The questions raised by your correspondents under the above title, in these days of overcrowding of the profession, if duly considered and responded to, will doubtless tend to relieve the critical condition of those medical men who have, at great additional expense, striven to solve the therapeutic action of radio-active agents, actinic, and α rays on morbid tissue changes. Unfortunately the personal disasters which have overtaken those who were reckless in the *radiographic* application of these agents on the one hand, and the premature conclusions drawn by certain pathologists on the other that the histopathological changes thus induced are in every physical and biological detail those of carcinoma, have done an extent of harm to the beneficial resort to these valuable agents that it would be difficult to estimate. It is, therefore, necessary to show, not only that neither of these dangers exists at the present day in experienced medical hands, but that they do exist in those of hospital subordinates, however competent, who practise radiography. Moreover, the radiographic and the radiotherapeutic departments in some of our metropolitan hospitals are distinct, as the art and the science respectively are only remotely related, indeed, as is section cutting and mounting, from vaccine-therapy in the pathological departments.

Why should there not be some legitimate way of acquainting general practitioners in a district, as well as all and sundry, that he confined himself to radiotherapy by an affix—for example, Dr. Brown, Radiotherapist, or words to that effect, on his plate—thus showing that he was not competing in general practice with his neighbour?

The legend "Physician and Surgeon" is well known, and that of "Ophthalmic Surgeon" is not uncommon; they convey their meaning.—I am, etc.,

September 5th. VACUUM.

ORIENTAL SORE.

SIR,—With reference to the remarks on "Oriental Sore in Northern India" by Captain R. Markham Carter on pp. 647–650 of the JOURNAL of September 11th, I would desire to point out that at the meeting of the British Medical Association at Leicester in 1905, I passed round at the Tropical Section of that meeting two photomicrographs I had taken, and which are depicted in p. 264 of the *Journal of Tropical Medicine* for September 1st, 1905, under Figs. 6 and 7, showing that the sandfly (Simulidium) was the cause. In the latter figure crowds of *Cercomonas* are shown, of which one is distinctly figured in the body of the sandfly. On that occasion when I passed round my photomicrographs Dr. Radcliffe Crocker was present. I also gave Dr. Daniel Elie Anderson, Paris, a set of my photomicrographs which I had with me.

I have searched various works on tropical diseases for a description of Oriental sore and its origin, and in no work is the sandfly mentioned previous to my mention of its being the cause of the Oriental sore, nor have I seen any clear description of the parasite nor its photomicrograph given.

Regarding synonyms used for the Oriental sore, known also as Delhi, Punjab, or Sind sore, I notice no mention made of the term "Aurangzebe" used in the North-Western Provinces and Oudh, where I had my experience as civil surgeon.

In the above contribution in the *Journal of Tropical Medicine*, I have given the treatment of Oriental or tropical ulcer which I found so useful. There are several native remedies I know of which are also successful.

I would ask the favour of these points being published in order to catch the eye of Captain Markham Carter, Officiating Director of the Pasteur Institute, India.—I am, etc.,

Cliftonville, Sept. 12th. G. H. FINK, Major, I.M.S.

A PLEA FOR A RATIONAL PUERPERIUM.

SIR,—Dr. Haultain's suggestion[1] that the rule of keeping the puerperal patient in bed for several days after her confinement is a lingering relic of the taboo practice of secluding the woman until a rite of purification has been performed is very interesting.

Rest in the recumbent position, spare dieting, and seclusion characterize the treatment of women both during menstruation and the puerperium all over the uncivilized world, for the reason that during these times a woman is looked upon as a dangerous person. This we have all heard about. But what is not so well known, perhaps, is that there are several exceptions to the rule. And the exceptions will, I am sure, prove interesting to your readers, because they seem to forestall von Alvensleben's effort to reform the present practice.

Among some races the patient is expected to get up and walk about after the child is born; among others she is made to occupy a sitting position. This is done, we are told,[2] not out of ignorance or carelessness, but deliberately, in order to facilitate the lochial discharge. The following races, among others, practise or have practised this treatment: The Germans (of the twelfth century), the Chinese, Japanese, Abyssinians, and certain American-Indian tribes.

It seems to be the case, and the delay of this reformation (if it be a reformation) until the present time exemplifies it, that midwifery is the most conservative as well as the most ancient branch of medicine.—I am, etc.,

London, W., Sept 7th. DAN MCKENZIE.

INTESTINAL PUTREFACTION AND THE PULSE IN RHEUMATOID ARTHRITIS.

SIR,—In the BRITISH MEDICAL JOURNAL of August 28th there appears an account of a demonstration by Professor Dixon and Dr. Dale of the action of the pressor substances of putrid meat on the heart. They showed that such products caused acceleration in the excised heart of a rabbit, and stated that, under certain circumstances, similar substances were very probably formed in the human gut during life.

This statement appears to me to be not without interest to such of us as believe in the autotoxic origin of rheumatoid arthritis. The theory of toxic absorption has long been admitted to account for many of the symptoms of this disease, but, so far as I know, the quickened pulse, which is so common a feature, has not hitherto been put down to the same cause. Various views have been advanced, such as diminished vagus inhibition, thyroid over-action. All writers, however, seem agreed that a persistent high pulse-rate (90 to 120), *without pyrexia*, is of grave import; indicating, even in the absence of all other symptoms, the continued activity of the disease.

For my own part, I have noted that such persistence is generally associated with the presence of *indican* in large quantities in the urine. That is to say, the tachycardia is coincident with putrefactive absorption from the intestines. Now, assuming that pressor substances are indeed formed in a stagnant gut, we are at once provided with an obvious explanation of the "rheumatoid" pulse in all cases in which such an unhealthy bowel-state admits of demonstration.—I am, etc.,

Bishop Auckland, Aug. 30th. FRANCIS HERNAMAN-JOHNSON, M.B., Ch.B.Aberd., R.N.(ret.)

[1] BRITISH MEDICAL JOURNAL, August 7th, 1909, p. 310.
[2] Ploss and Bartels, *Das Weib*, Leipzig, 1902, vol. ii, p. 375.

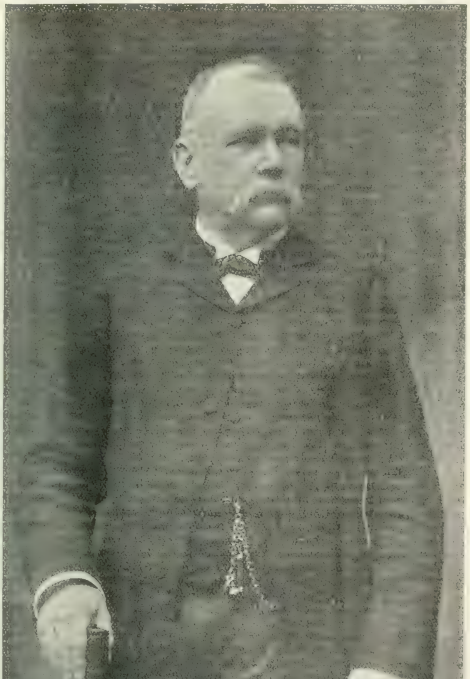
Obituary.

THOMAS BRIDGWATER, M.B.Lond., LL.D., J.P.,

SOMETIME PRESIDENT OF COUNCIL OF THE BRITISH MEDICAL ASSOCIATION.

THE announcement of the death of Dr. Thomas Bridgwater made in the JOURNAL of last week has been received with the most heartfelt regret by all who had the privilege of a personal acquaintance with him. Although he had lived considerably beyond the ordinary span of human life, his death, nevertheless, must have come as a shock to his friends. Some ten years ago he retired from active professional life, but he continued to the end to take an interest in the advance of science and in the affairs of the British Medical Association, with the direction of which he had for many years been largely concerned.

Thomas Bridgwater was born in 1824. He came of an old Brecknockshire family, and was the third son of William Bridgwater, of Broomfield, Glasbury, in that county. He received his early education at a private school at Fulham; later he was apprenticed to Mr. Lewis, a surgeon at Leominster. In due course he entered King's College, London, where he had a distinguished career as a student, winning a scholarship and other distinctions. He held the offices of House-Surgeon and House-Physician, and was elected an Associate of the College. In 1847 he was admitted a Member of the College of Surgeons and a Licentiate of the Society of Apothecaries of London. He then spent two years as surgeon to the ironworks of Mr. Crawshay-Bailey at Nant-y-Glo, in Monmouthshire. He took the M.B. degree of the London University in 1852. In 1854 he entered into partnership with Mr. Thomas Hewlett at Harrow, where the remainder of his professional life was spent. For thirty-five years he held the office of medical officer to the famous school on the Hill, greatly to the advantage of the Harrovians of that period and of their successors, for he was one of the pioneers of school sanitation. The sanatorium was built under his supervision. He retired from active practice in 1889.



Photograph by THOMAS BRIDGWATER. *Closter, Birmingham.*

His activities were not confined to his profession. He took an active part in various fields of public work. In general politics he was a Conservative. He was Chairman of the Guardians and of the Highway and Sanitary Authorities of the Hendon Union. From this position he retired when county councils were instituted. He was a member of the Harrow Local Board, and a Justice of the Peace for Middlesex and for Westminster. In 1888 the University of Glasgow conferred upon him the honorary degree of Doctor of Laws. When the Volunteer movement was started in 1859, so staunch a patriot could not hold back. He enrolled himself a member of the force, and for some years he commanded the late 9th Middlesex Rifle Volunteers. He retired in 1889.

For many years Dr. Bridgwater took a prominent part in the work of the British Medical Association. He was Vice-President of the Section of Ethics in 1895, and was elected President of Council, in succession to Sir Walter Foster, at the Annual Meeting held in Dublin in 1897. On the expiry of his term of office in 1890, the following resolution was passed at the Birmingham meeting: "That the best thanks of the Council be given to Dr. Bridgwater for the able manner in which he has performed the duties of President for the past three years."

Dr. Bridgwater was a man of moderate counsels, and alike in business affairs and in matters of policy his judgement was thoroughly sound. In the Council and in the many committees on which he served his opinion always carried great weight. Personally popular, his influence always made for peace. To such men as he the Association owes its stability and successful working to a degree that can only be fully appreciated by those who had the opportunity of seeing the effect of his singleness of purpose and his disinterested devotion to the furtherance of the objects of the Association.

In the man there was no trace of self-seeking. His unobtrusiveness might easily have made persons thrown into casual contact with him fail to recognize the strength of character that lay beneath his gentle manner. He was invariably courteous and conciliatory, but no one could know him at all intimately without recognizing in him the force of sheer honesty and uprightness, combined with steadiness and clearness of mental vision. He was, in the true sense of that much-abused word, a gentleman,

constitutionally incapable of a dishonourable action or a mean thought. Although he has passed away in the fullness of years, he has left the profession the poorer for his loss, for he was a general practitioner of the best type.

He was a keen all-round sportsman. In his younger days he acted as whipper-in to his brother's pack of harriers in Wales. He continued to shoot till he was 83 years of age.

After his retirement, Dr. Bridgwater lived at Hoote Hall, Uckfield, Sussex, and it was there he died. He was twice married—first in 1857 to Isabella Frances, daughter of the late Mr. Rowland of Nant-y-Gio. That lady died in 1874. In 1878 he married Eliza Blanche, youngest daughter of the late Mr. E. Mozley of Liverpool. By her he had a son and a daughter, who, with their mother, mourn the loss of a fond husband, a loving father, and a good man, who won deserved respect in every relation of life.

Sir CONSTANTINE HOLMAN writes: During the three years I was Treasurer of the Association I had the great advantage of being associated with Dr. Bridgwater when he was President of the Council. A pleasanter colleague it would be impossible to work with, whilst his devotion to the best interests of the Association was untiring. His long connexion with the affairs of the county as a magistrate gave him a great and quick grasp over the business of the Association coming before him. He was a man of sound judgement, and, when differing, his opinions were expressed in most courteous terms. For some years he was associated with Professor Saundby and myself in the very responsible duties of the Reference Committee, the appointment of which was made necessary by the failing health of the Editor of that time. Our association brought us into very close contact, to my great advantage and pleasure. In Dr. Bridgwater I have lost a most valued friend.

Mr. N. C. MACNAMARA writes: In answer to your request I may state that I have known the late Dr. Thomas Bridgwater since the year 1851, when, after a brilliant career at King's College and the University of London, he filled the post of House-Physician at King's College Hospital. For some twenty years I lost sight of him, but on my return from India in 1874 I found my friend full of vigour and the same bright, genial companion as in former times. We worked together for some years on the Council of the British Medical Association, and held office, he as President of the Council and I as Treasurer. Bridgwater's aim, as he often stated, was, if possible, to draw the medical practitioners of the country into concerted action; for he believed as a united body they would be able in the course of time to force the public and the Government to take a rational view of the importance of preventive medicine, in all its branches, on the well-being of the people. This was the aim he had in view and on which he spent no small amount of time and energy. In all his thoughts, words, and deeds Bridgwater exercised an unconscious regard for the feelings and wishes of those he was brought in contact with; his thorough sound common sense, cheery nature, and knowledge of his profession gained him the confidence and esteem of his patients and many friends, who will cherish his memory as long as they live.

Professor SAUNDBY writes: I have heard with great regret of the death of my old friend, Dr. Bridgwater, with whom I was intimately associated in the work of the Council from the time he was elected President of the Council until he lost his seat as Vice-President of the Association on the alteration of the By-laws. His unruffled temper, unfailing kindliness, and liberal hospitality made him universally popular with his colleagues, and I look back on the days when he and Sir Constantine Holman led the Council as to a sort of golden age, when there was universal peace and large surpluses were put by each year to the credit of the Association. Dr. Bridgwater was a typical practitioner of the older school which gave to the Association so many good friends, men who devoted unlimited time to its work without hope or desire of compensation or reward, except in the satisfaction they derived from the success of their labours. Few members of Council have given more of their time to its work. Twenty years ago, and for long after, I sat with him on innumerable committees, but perhaps the best illustration of his devotion is the zeal with which he attended for years the weekly meetings of the Reference Committee for supervising the JOURNAL.

He was very rarely absent, and, I think, regretted the abolition of the committee, although no doubt it had ceased to be necessary or even useful. Prosperous in his profession, an active Volunteer, and a keen sportsman, Dr. Bridgwater enjoyed life and knew the art of making the most of it. To be with him was like sitting in the sunshine. His fine temperament and good constitution enabled him to enjoy an unusual degree of health and strength long after he had passed beyond the allotted term of human life, but advancing age is an enemy to whom all must yield at last. I would not willingly let him pass away from among us without recording my testimony to his worth as a man and to the value of the work he did for the Association. Although it is now some years since we met, I cherish his memory with affectionate regard.

DR. SLADE INNES BAKER of Abingdon, a practitioner of very long standing in that locality, and probably the senior member of the profession in the three neighbouring counties, died on August 30th. Dr. Baker, who was a descendant of an old Kentish family of that name, was born in Oxfordshire, his father being the rector of Heyford Warren, but he had been closely connected with Abingdon for considerably over sixty years. It was in Abingdon that he commenced his professional life as a pupil to the late Dr. Box, and it was to Abingdon that he returned as Dr. Box's successor, after obtaining the diplomas of M.R.C.S., L.S.A., as a student of St. Bartholomew's Hospital in 1853. During his career at Abingdon, Dr. Baker, in addition to carrying on a large practice, played a considerable part in local affairs. He served on its town council for some time, was a Governor of several of its charities, and had held a commission as a Justice of the Peace for the borough since 1889. He took, too, a keen interest in Freemasonry, in which he had held high office, and showed his affection for the English Church by acting as churchwarden and honorary parish clerk of St. Helen's parish for many years. On the professional side, he at one time held appointment as Surgeon to the Abingdon Gaol, and was still on the staff of Abingdon Cottage Hospital. In politics he was a Conservative, and in private life an honest and sincere friend, to whom no one in sickness or distress ever appealed in vain. At the time of his death he had retired from practice for some years, but still retained so much of his former marked physical strength and good health that, until within a few days of his death, his end was quite unexpected, even by those in constant contact with him. Nor were his many services to private individuals and the town forgotten, as was evident from the regret and practical sympathy expressed when the news of his death became known, and by the attendance at his funeral of a large and representative gathering. Dr. Baker, who was born in 1827, married, in the year 1865, a daughter of the late Dr. J. F. Martin of the Clock House, Abingdon, and is survived by his wife and four children.

DR. HACKWORTH STUART, Medical Adviser to the Hanley Education Committee, and one of the pioneers in that work, died on September 6th as the result of an accidental injury to the head. He was only 33 years of age, and his death is an untimely close to a career full of promise. Educated at University College, London, and St. Mary's, Dr. Hackworth Stuart was a Doctor of Medicine of the University of London, a Fellow of the Royal College of Surgeons of Edinburgh, and a D.P.H. of Cambridge. After holding a number of hospital appointments in London, and acting as Assistant Demonstrator of Anatomy at University College, he went to Hanley as assistant to Mr. W. D. Spanton, and had practised there for two and a half years after buying part of Mr. Spanton's practice. In November, 1908, he entered into partnership with Dr. Wallis. His popularity was evidenced by a very large and representative gathering at the service and funeral. Universal sorrow is felt throughout the Potteries at Dr. Hackworth Stuart's untimely death.

THE estate of the late Dr. Henry Gorst, of Huyton, Liverpool, who died last June, has been sworn at a net value of £28,177. The will directed his executors to regard as paid all debts due to him at the time of his decease for professional services to persons whose net wages do not exceed 30s. a week.

Medico-Legal.

IMPRISONMENT FOR FALSE PRETENCE.

AT Wigan, on September 2nd, a man who professed to cure blindness and other diseases, and who gave his name as Noel Cody, was charged with having on two occasions obtained money by false pretences, and in respect of each charge was convicted and awarded three months' imprisonment, the two terms to run consecutively. It appeared from the evidence that the defendant gave entertainments on the stage as a pistol shot and thrower of the lasso, and sometimes, under the title of the "Mighty Medicine Man," treated cases on the stage and elsewhere. In dealing with the blind he licked their eyes, claiming that in this way he got rid of the skin which caused the blindness. He also sold bottles of a lotion which on analysis proved to be a solution of permanganate of potash of the strength of 1 part in 1750. Such a solution, said the borough analyst, could be neither injurious nor beneficial; the usual strength of solutions of permanganate of potash was 1 in 150. The prisoner brought forward two witnesses who said benefit had been received at his hands, one of them being the aunt of a child which had a lump on its back, and was unable to walk until it came under the prisoner's treatment. The prisoner in giving evidence stated that he had taken to the medicine business, of which he had obtained some knowledge from the Indians, because the competition in the pistol shooting and lassoing line was so severe.

CHRISTIAN SCIENCE TREATMENT.

AT an inquest at Worthing on September 13th on the body of a woman, aged 39, the jury attached to its verdict of death from natural causes a rider to the effect that the practice of Christian Science, especially in cases of serious disease, was harmful, and greatly to be deprecated, and that the taking of money in return for such treatment was unchristian. The deceased was a patient who had been suffering from phthisis for some five years, and had been following the treatment prescribed for her by a medical man in London until last Easter. On the advice of her sister she then consulted a local Christian Scientist, with whom arrangements were made for a course of Christian Science treatment, consisting of prayers twice daily. The payment made was 5s. a week, being a reduction from the guinea which, according to the Christian Scientist who gave evidence, is the regular fee for treatment.

ENGAGEMENT OF LOCUMTENENT BY TELEPHONE.

X. Y. Z. writes that he was engaged as a locumtenent by telephone for a fortnight, and on the engagement being repudiated sued for damages in the Sheriff's court at Glasgow. The case was referred to in the JOURNAL of July 31st. Although our correspondent proved his case he was unable to recover more than 2s. 6d. as damages. He wishes to know if he has any further remedy at law.

*** It is difficult to understand why our correspondent was awarded such trifling damages. The measure of damages, according to English law, is what the injured party lost by the non-fulfilment of the contract by the other. It may be that although breach of contract was proved our correspondent was unable to prove that he suffered injury thereby. In that case he would only be entitled to nominal damages. It is quite possible that the Sheriff's decision might be successfully appealed against, but such a procedure could not be recommended.

The Services.

THE INDIAN MEDICAL SERVICE.

MAJOR, I.M.S. (retired), writes: As there seems a tendency nowadays to cry down the Indian Medical Service, may I be permitted to write something on the other side of the question? As a retired officer who served seventeen years, it may be conceded that I know something of my subject.

First of all let me point out that the comparative table of pay of the Royal Army Medical Corps and the Indian Medical Service in the article in the BRITISH MEDICAL JOURNAL of August 28th, p. 577, is quite misleading to any would-be candidate for the Indian Medical Service. Grade pay for the Indian Medical Service only is shown. A glance at the table of pay in the Educational Number of the JOURNAL (p. 638) shows the present rates of pay—unemployed, grade, and staff pay. A novice reading this after having read the article just referred to would quite reasonably suppose that staff pay would not be a certainty, but a matter of good fortune, perhaps, or great ability corresponding to employment on the staff in the case of a combatant officer. This is what I want to make clear. Grade pay *alone* is practically *never* drawn. During an officer's early years in the service he is liable to be on what is termed "unemployed" pay. This means he has no definite appointment, or, maybe, has not passed his Hindustani examination. Once he has passed

this, however, and has a definite appointment, he draws grade pay *plus* staff pay.

Under existing regulations, after seven years' service grade pay alone is drawn if an officer be unemployed, but it would be altogether exceptional that an officer of seven years' or more service should have no definite appointment.

If in military employment he is pretty certain to have substantive charge of a native regiment and draws from Rs.650 (£43 odd) to Rs. 700 (nearly £47) monthly, with Rs. 60 (£4) horse allowance if in charge of a cavalry regiment. In civil employ the rate of pay *proper* is somewhat lower, but allowances bring it up, that is, excl, railway, civilians' families,). It might be thought that it is a matter of good fortune to hold charge of a native regiment, but here I would point out that the Indian Medical Service officer is primarily intended for military duty with the native army, and as the service is generally understanded, an officer often finds he has two regiments to look after, drawing pay for each. In the note criticized the writer complains that a senior medical officer of the Indian Medical Service might be in charge of a station hospital for native troops and draw no extra pay. True, for the pay is drawn for regimental charge, *not* hospital. It might happen that in time of stress two officers only would have to look after five regiments. The senior medical officer might have three under him, and he would draw pay for three—full pay for his permanent appointment and Rs. 100 per mensem for each of the other two.

Now, in the table criticized a senior Indian Medical Service major is shown as drawing Rs. 750 against Rs. 825 odd in the R.A.M.C. What is the actual state of the case? As permanent medical officer of a native regiment he draws Rs. 900, with Rs. 90 horse allowance, with such I have had for sixteen years' service I was in permanent charge of a native cavalry regiment, drawing regimental pay Rs. 900, horse allowance Rs. 90. I had charge also of the cantonment hospital, Rs. 189; and for a time charge of various details, Rs. 75; and acting civil surgeon Rs. 100; so for about four months I drew over Rs. 1,400, my ordinary pay being over Rs. 1,200 (£80). The extra is made up by exchange compensation. In another station I had charge of two regiments besides my own, and was also staff surgeon, thus drawing Rs. 300 (£20) monthly in addition to my ordinary pay.

I quite admit civil employ is not what it used to be. But considering that a young man can live well and save after his first few years of service, and that the retiring pensions are so good, the Indian Medical Service is not a service lightly to be given up. Its rules for sick leave, half pay, etc., are decidedly liberal; ordinary leave rules, too, are liberal; but leave is rather difficult to get in military employ (that is, long leave to Europe).

Re unemployed pay, personally out of my first two years I spent fourteen months on unemployed pay, but eight months of this was on active service, when I drew field service horse allowance in addition, and expenses were so light that I was able to save half my pay, and in those days we only drew Rs. 317-8, against Rs. 420 at the present time. No doubt cost of living has greatly increased in India, but the pay has also been increased.

In conclusion, I would advise any young man who contemplates entering the Indian Medical Service not to be influenced by pessimistic letters, but to try to find retired officers or officers on leave who will advise him, and I think he will find that grumblers are exceptional and the large majority will admit that the Indian Medical Service affords a fine career for any young surgeon.

Another last point. The social position of a surgeon in charge of a crack native regiment is very different from anything he can hope for in civil life. Unless he attain to the position of a specialist or consultant, and then only after many laborious years, he will seldom have the assured position in society he has as a regimental "doctor," who, if he be a "good fellow," is generally the most popular man in the regiment, in spite of all that has been said to the contrary.

Public Health AND POOR LAW MEDICAL SERVICES.

SANATORIUM TREATMENT.

IN its tenth annual report the Society for the Prevention and Cure of Consumption in the County of Durham records the opening of a new sanatorium of 28 beds at Wolsingham for women patients only. This, together with the Stanhope Sanatorium, will bring up the total accommodation for both sexes to 75 beds. The age limit has been reduced to ten years. The society is anxious to see the foundation of an after-care association and outdoor colonies, and is ready to found a home for advanced cases if the authorities will assist to some extent in its equipment and purchase, and will subsidize beds in it at the same rate as that at which they pay for beds in the sanatoriums. These are supported partly by contributions from bodies of working men at the rate of 5*d.* a quarter a man, partly by subsidies from local authorities, partly by payments for maintenance by patients who do not belong to subscribing bodies of workmen, and partly by ordinary subscriptions. Annexed to the report is a useful summary of the modern treatment of consumption in popular language. The cases admitted are classified after the method of Turban, in which Degree 1 represents disease of slight severity, affecting at most one lobe or two half lobes; Degree 2, either disease more extensive than Degree 1, but still of slight severity and affecting at most two lobes, or severe disease affecting at most one lobe; and Degree 3 all cases of greater extent and severity than Degree 2. In his report Dr. John Gray, Medical Superintendent of Stanhope, again draws attention to the fact that the proportion of advanced cases sent for treatment is still too large, and the figures which he supplies fully justify this statement, as also his view that the benefit likely to accrue from treatment of cases which have reached Degree 3 is of too short duration to justify their admission. The tables in which he summarizes the results of the eight years' work show that of the 267 first degree patients 50.9 per cent. are still at work and 17 per cent. dead; of the 208 second degree patients, 20.1 per cent. are still at work and 49.5 per cent. dead; and of the 317 third degree patients, 15.8 per cent. are at work and 65.2 per cent. dead. If the first year is examined separately, it is seen that of 12 patients admitted eight years ago in Stage 3 all are now dead, while of 14 admitted in Stage 1 exactly half are known to be still at work.

TREATMENT OF PHTHISICAL PAUPERS.

At a conference of representatives of Surrey boards of guardians on September 15th it was resolved that, subject to any two or more of them being willing to combine for the purpose of providing an institution for the separate treatment of pauper cases of phthisis, and adopting a specific resolution to that effect, application should be made to the Local Government Board for authority to carry out the proposal. The guarded wording of the resolution is due to the fact that some of the smaller boards, which have comparatively few such cases to deal with, hesitated to give in their adherence to a joint scheme. The movement among Surrey guardians in favour of a joint institution to be reserved solely for cases of phthisis was initiated by the Croydon Board some months ago, that body having come to the conclusion that the presence of consumptive patients in its infirmary was a source of danger to the other occupants. An inquiry which followed showed that on March 25th eight of the Surrey unions had between them 251 cases of phthisis among their indoor paupers, in addition to 51 phthisical patients, to whom they were giving outdoor relief.

FEES FOR CERTIFICATION OF WORKHOUSE LUNATICS.

G. W., who is medical officer to a provincial workhouse, states that he has hitherto received only 10s. 6*d.* per case for certifying workhouse lunatics for asylum. He asks whether the guardians can fix the amount to be paid for this duty, and whether the magistrates are compelled to employ him to certify these cases; and, further, if the Local Government Board would have any voice in the matter if he declined to certify for less than a guinea? Our correspondent does not wish to hear that he must sign for 10s. 6*d.* or resign.

*** We regard the certification of pauper lunatics as being a very responsible professional duty, and think that it ought always to carry a fee of not less than one guinea; this amount is, we believe, very generally paid. The guardians, as a board, have no power whatever to fix the amount; this depends entirely on the acting magstrate, who has power (under Clause 285 of the Lunacy Act, 1890) to make an order on the guardians to pay reasonable remuneration to the medical practitioner who is called upon to certify these cases. We apprehend that the Local Government Board would not interfere in reference to fees so long as there was strict compliance with the Lunacy Act.

MEDICAL MEN AS MEMBERS OF COUNTY COUNCILS AND URBAN DISTRICT COUNCILS.

W. A. E. asks the following questions: (1) Whether medical men who are members of county councils can accept fees for giving certificates relating to school children when such fees are paid by the council of which they are themselves members? (2) Whether a chairman of an urban district council who holds appointments under the Poor Law and is also a public vaccinator can maintain that position?

*** (1) Members of county councils cannot earn fees which would be paid out of the funds of the council of which they themselves are members. (2) Any Poor Law medical officer or public vaccinator can sit as a member, or even as chairman, of an urban district council, as no urban council has any duties in reference to Poor Law matters, and consequently has no payments to make for any services rendered by Poor Law officers.

CANVASSING FOR APPOINTMENTS.

M. Y.—If canvassing for a public health appointment is forbidden, the prohibition should, of course, be enforced, and if the rules of the electing body are properly drawn would disqualify a candidate. Where canvassing is not forbidden the candidate is clearly entitled to make out the best case he can for himself, but we agree with our correspondent that it is unbecoming to do so by depreciating the claims of other candidates.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Swansea.—Upon the estimated population of 107,620, the birth-rate in Swansea in 1908 was 30.6 per 1,000, the death-rate 17.0 per 1,000, and the infantile mortality-rate 151 per 1,000 births. The death-rate among young children was high taking the borough as a whole, and in certain districts was extremely high. In the Alexandra Ward, where there is a population of over 10,000 persons, it was as high as 195 per 1,000 births. No mention is made in the report of what steps are being taken to lessen this abnormal mortality. Draft by-laws for the regulation of the trade of a dealer in rags and bones were submitted by the Swansea Corporation to the Local Government Board for approval. Certain of the suggested by-laws were not approved by the Board, including one which required that the rags and bones should be cleansed and disinfected as soon as they were brought on the premises. In justification of the adoption of this by-law the medical officer of health, Dr. D. J. Morgan, points out that the work of tearing and sorting of rags is often carried on in an atmosphere laden with dust, and it is quite possible for the workers to contract phthisis, typhoid, or other fevers in the course of their employment. The Corporation suggested that the bones should be stored in metal receptacles, but the Board desired as an alternative that well-tarred bags might be permitted. In Dr. Morgan's opinion these bags would be practically useless, as they are never well tarred, would be rarely kept closed, are liable to rot, and are easily eaten through by rats. It is not stated whether the by-laws as amended by the Local Government Board are in force in the town. Bound up with the report is an interesting account of the outbreak of epidemic cerebro-spinal fever which occurred in Swansea in 1908 involving 63 cases, of which number 18 were treated in the borough fever hospital. The hospital treatment included repeated lumbar puncture, no serum or antiseptic of any kind being employed. The mortality was 44.4 per cent. of the cases treated, compared with 93 per cent. in the case of those nursed at home, and where lumbar puncture was resorted to in only 16 instances, and then merely for diagnostic purposes.

Essex.—The annual report for 1908 of Dr. Thresh contains the statistics of the administrative county and a summary of the statistics of the different urban and rural districts. The general figures are most satisfactory, and Dr. Thresh states "there is little doubt that Essex is one of the healthiest, if not the healthiest, county in England." The population of the administrative county for 1908 is estimated at 1,091,465, an increase of 34,657 in the urban and a decrease of 502 in the rural districts. The latter is due to inclusion of part of a rural district within an urban. The birth-rate—24.0 as compared with 26.5 for England and Wales—shows, as elsewhere, a marked decrease. The death-rate for urban districts was 9.6, for rural 12.8, and for the whole administrative county 10.9. This extraordinary death-rate is lower than that met with in any other county in England. Corrected for age and sex distribution, the death-rate for the administrative county is 10.65 and the urban and rural rates 10.6 and 11.15 respectively. The rate for England and Wales is 14.7. Of the large towns, the highest rates (corrected) were given by Barking (13.15) and Colchester (12.5), and the lowest by Ilford (9.6), but in all the larger districts the rate was low compared with the rest of England. The infantile mortality-rate for the county for 1908 was only 97 as compared with 121 for England and Wales. In the urban districts it was 93 and in the rural 76. The highest infantile mortality was recorded in some of the smaller urban districts, whilst the largest towns had, generally speaking, very low rates. In an interesting table Dr. Thresh shows that both under 5 years of age and from 25 to 65 years the mortality is greater in the towns, the final result being that in the towns only 28.2 per cent. reach the age of 65, whereas in the rural districts 44.3 per cent. reach this age. The number of deaths recorded from cancer was 922, giving a rate of 0.81. This is higher than for any previously recorded year. It was slightly higher in the urban than in the rural districts. The deaths from tuberculosis show a continuous diminution, being 0.76 in both urban and rural districts for phthisis and 0.34 and 0.39 respectively for other forms of other tuberculous diseases. Dr. Thresh remarks that "the low phthisis death-rate in a county with such a large population living upon land only a few feet above sea level is somewhat remarkable, but apparently efficient drainage and a good water supply will render a marsh salubrious." There is no public sanatorium in the county. Three cases of small-pox were notified during the year and 4,490 cases of scarlet fever. There were 4.6 cases of scarlet fever per 1,000 population in the urban and 3.3 per 1,000 in the rural districts. The case mortality was 2.4 in the latter district and 3.7 in the urban. The death-rate from diphtheria was 0.205, and the case mortality 12 per cent. About half the cases were removed to hospital. Only 198 cases of typhoid fever were notified in the urban districts and 66 in the rural districts. The death-rate from this disease, 0.09, was very low, less than one-third of what it used to be a few years ago. The death-rates from measles and whooping-cough were respectively 0.17 and 0.135, in both cases below the rates for England and Wales. In an interesting note comparing the cost and accommodation of a number of infectious hospitals in the county, very wide variations are shown. In one district each person costs £47, in another £102. Great variations in the size of the staff maintained compared with the number of beds were also noted. The second part of the report deals with sanitary administration in the individual districts, which consist of 32 urban and 18 rural districts. Summaries of the reports of the individual medical officers of health are given in an appendix.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THE JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Articulate, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

TRUST NATURE writes: Can you tell me upon what grounds the idea of avoiding part breast and part artificial feeding of infants rests? Is the gradual transition not the natural one in the case of the dogs and cats of our houses and the sheep and horses of our fields? Does the human mother's milk often in Nature suddenly stop? I myself have never known a case, whilst I have known scores of successful gradual changing. If anyone refers to the milk from one cow being better than the mixed milk of the herd, I have only known of one case where it was supposed to have been of benefit, and this turned out to be a farce, as the farmer's girl confessed afterwards to merely putting some of the common stock in a separate can; but the strange thing was that the child got better, although the doctor said the one-cow milk was the only resource.

PARAFFIN AND HYPERSECRETION OF THE THYROID.

LOS ANGELES asks to be referred to any authority or result of any attempt that has been made to reduce the hypersecretion of the thyroid by the injection of paraffin or other inert substance.

HOME FOR CRIPPLED IMBECILE CHILD.

H. A. A. asks for a home or hospital in which a crippled imbecile, the child of very poor parents, could be received.

*** There is no charitable home or hospital available, but at the Hants County Asylum, Fareham, there is a ward for idiot children to which admission might be obtained through the Poor Law authorities.

"RUSSIAN FOOD."

A CORRESPONDENT writes to ask what "Russian Food" is.

*** We have made inquiries on the subject in various quarters, but have not succeeded in obtaining the information required. It is just possible that by "Russian Food" the national dish "shtshi," a kind of sauerkraut, is meant. The following is an extract from an official report on the food products of St. Petersburg, abstracted in the *Pharmaceutical Journal* (April 1st, 1871, pp. 788-9), in which this substance is described. Other Russian foods are mentioned in the abstract referred to:

> The great vegetable staple of the country is the cabbage, which grows in great perfection, fine, large, solid, white, and crisp. It supplies a chief portion of the subsistence of the people all the year round. At the beginning of winter every family lays in a store. At that time the plants are cut down, and chopped up or shred into thin slices, these being packed in barrels with vinegar and salt, a kind of fermentation takes place, the cabbage becoming a kind of sour crout. This is made with meat into a cabbage broth called "shtshi" which is the most characteristic national dish in Russia, and forms the daily food of the mass of the people.

ANSWERS.

H. H. writes, in reply to "Deafness" (BRITISH MEDICAL JOURNAL, August 28th), that the Royal School for the Deaf and Dumb, Old Trafford, Manchester, admits children at that age. The head master, he believes, likes to get the children at as early an age as possible, and takes them from 5 or 4 years old and upwards.

DISTRICT NURSING.—According to the rules of the Queen Victoria's Jubilee Institute for Nurses, a Queen's Nurse must have had: (*a*) Three years' training in ordinary nursing

(inclusive of at least two years in a general hospital or infirmary); (*b*) six months' training in district nursing (including maternity nursing); and, if to be employed in midwifery, (*c*) the training required by the Central Midwives Board. The minimum salary is £30 a year, or £32 if required to do midwifery, rising to £32 and £35 the second and third years, with an annual allowance of £4 for uniform. In addition to the salary and uniform, which are independent of local conditions, board, laundry, furnished rooms, fire, light, and attendance, or equivalent allowances have to be provided. In some districts she is provided with a bicycle or other means of getting about her work. The total expense varies in different districts from £35 to £100 a year. A "village" nurse is usually a person drawn from the peasant classes; she must be a certified midwife, and in addition must have had either not less than nine months' combined district and midwifery training, or "approved" hospital training, followed by not less than three months' "approved" district training. The pay of a village nurse commonly begins at 14s. a week, rising to 16s., 18s., or £1 a week during the term of agreement, and covers board, lodging, and laundry. Her cost to the district employing her is put down by the institute as between £45 and £60. The institute only allows its own village nurses to be employed in rural districts where lack of funds makes it quite impossible to support a Queen's Nurse, and when there is a county association whose rules have been approved by she institute and which undertakes to supervise her work, or as an assistant to a Queen's nurse when special circumstances seem to render such aid desirable.

CONGENITAL DISLOCATION OF HIP.

"R." will find information respecting congenital dislocation of the hip in the *Medical Annual*, 1909, pp. 374-5.

THE DANGER OF FLIES.

DR. PULLIN (Sidmouth) writes to suggest that Dr. H. Rainsford (Woodley, Reading) should try No. 5 Calvert's carbolic, 1 to 40 parts water, to be used cold.

DR. DOUGLAS MACDONOGH, D.P.H. (London), writes: I should recommend Dr. Rainsford to try formalin, either in liquid or tablet form, used with a spirit lamp, shutting doors and windows. This, together with spraying of walls, curtains, lamp shades, etc., with formalin, full strength, appears to me to be the most effective method. I have tried various other remedies, but they only seemed to amuse the flies.

COUCH FOR CONSULTING ROOM.

MR. M. G. MCELLIGOTT, F.R.C.S.I., D.P.H. (Wigan), writes, in reply to "T.'s" query: I should like to state that I introduced to the profession an inexpensive chair of the type which he requires, and which I described in an illustrated article in the *Lancet* some time in 1895 or 1896. The chair, which I did not patent, was made for me by Mr. Herbert White, Belper, who applied for a patent, as well as I remember, but who did not in the end protect the invention.

TUBERCULOUS SINUS.

DR. T. WALKER LOVE (Airdrie) writes: I had a case some years ago where several tuberculous sinuses extended in various directions around the ankle-joint. These had been in existence for months, and no form of treatment could get them healed. At last I kept the patient absolutely at rest and injected, by means of an anal syringe, iodized phenol (iodine resub. 320 gr., liq. phenoli pur. ad 8 oz.). The sinuses healed in the course of two weeks, although they had existed for many months in this case. I had to use an anal syringe as the sinuses extended on an average of about 2 in. in among the tendon sheaths, and at the same time they were very narrow. Some force was, therefore, required to get the solution well into each sinus; hence my use of such a syringe. There certainly was a good deal of reaction for a few days, but this ultimately subsided. I then applied some pads over the course of the sinuses and bound them firmly down so as to bring the walls of the sinus together. Before injecting this fluid, one should be careful to protect the surrounding healthy skin well, as any excess of material which is used generally flows out of the sinus after being injected. It has a very caustic action.

LETTERS, NOTES, ETC.

PRACTICE IN THE TURKISH EMPIRE.

WE are informed by Dr. E. W. G. Masterman that the viva voce examination which foreign practitioners desirous of obtaining permission to practise within the Turkish Empire have to undergo is now conducted either in French or in Turkish, the use of an interpreter being no longer permitted.

LIBRARIES IN LONDON.

M.R.C.S., L.R.C.P. complains that the libraries both of the Royal College of Surgeons and of the Royal College of Physicians in London should be closed at the same time—this year for the month of September.

*** This is a matter upon which representations might be made to the presidents of the colleges respectively, but we may point out that the library of the British Medical Association, now rearranged in the fine room provided in the new building, is open for the use of members, and that there is also a conversation room on the third floor of the building.

POSSIBLE THIRD DENTITION.

MR. ALBERT SHEPPERD, L.S.A.Lond., etc. (Brixton, S.W.), writes: I have a patient aged 55 years who is just cutting her third set of teeth. Four incisor teeth can be very plainly felt in the upper jaw, and the left central incisor has just come through. The gum is tender, and its whole appearance reminds one forcibly of the mouth of a child of about 11 months. They were first noticed by the patient a few months ago, and she has had slight bronchitic symptoms since. I am informed that the patient lost most of her teeth after a shock ten years ago. They became loose, and she suffered pain with them, and was eventually able to pull them out with her finger and thumb. The patient is a fairly well-nourished woman of the working classes, and enjoys good health as a rule. The lower jaw has retracted normally, and contains only three very carious teeth of the second dentition.

*** Any record of a third dentition which was fully authenticated would be of the greatest interest, both from the biological and the practical standpoints. But there are many fallacies which require to be excluded before any case can be established. It is essential to be sure that all the teeth of the second dentition were erupted in due course, and that the case is not one merely of delayed eruption of teeth of that series, a not uncommon occurrence. It is essential also to see that neither the teeth of the second dentition nor those attributed to a third dentition present any of the peculiarities of supernumerary teeth. Some embryologists believe that they have seen traces of the budding off of the tooth band in a position indicative of rudiments of a third set, but no instance of their development into complete teeth has been placed beyond doubt.

ABORTIVE TREATMENT OF ENTERIC FEVER.

DR. R. A. COLLECTOR (Medical Officer, Rajkot State, Kathiawar, India) writes: I have been experimenting with a very simple method of treating cases of typhoid fever, but since this disease is one of comparative rarity in Kathiawar, where I am stationed, I have not had sufficient opportunity of trying it on a large scale. Nevertheless, the results which I have obtained seem sufficiently good to invite medical men at work elsewhere to give the treatment a trial, more especially as the remedy used is of the simplest character, and everywhere available. I had hoped that during my leave in England an opportunity might have occurred of securing for the remedy a more extended trial, but this has not been possible. I now write to state my facts. These are that in 7 cases of typhoid fever the disease has appeared to abort on the administration of the juice of from two to four limes, of the small Indian variety, a day. In these cases the stage of the fever when I commenced the treatment varied from that of the first to the end of the second week. In six of them typical typhoid spots were present, and in two diarrhœa, which in India is not an invariable accompaniment of enteric fever, was present. Three of the cases were submitted to the Widal test, and gave a positive reaction. One case was one of two which occurred in the same house consecutively, the first lasting the normal period, the second aborting in four days after the commencement of the treatment, on the seventh day of illness. This was a very typical case of enteric fever. In some of these cases the temperature on the second day of treatment rose a little higher than it had been, and in nearly all cases diaphoresis was more marked than is common in the ordinary run of enteric cases. I am quite aware that these cases are not sufficient foundation for a final conclusion, but, nevertheless, they suggest that the treatment would be worth a trial. In England, where perhaps the small Indian lime is not available, it would probably suffice to give the juice of two fair-sized lemons. Apart from the comparative rarity of enteric fever in Kathiawar, the natives of the country are indisposed to take the lime juice when suffering from fever, on the ground that it is "cooling," and according to native conceptions "cooling" remedies are inappropriate to fevers.

PARTIAL THYROIDECTOMY.

DR. T. P. DUNHILL, of Melbourne, writes to correct an error in his paper on partial thyroidectomy published in the last volume of the JOURNAL, p. 1222. In the sentence, "I know of 54 deaths which have taken place during the last year in cases (of exophthalmic goitre) operated on under general anæsthesia," the number of deaths should have been given as 5.

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SEVENTY-SEVENTH ANNUAL MEETING
OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

Professor JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., President.

DISCUSSION ON THE MEDICAL ASPECTS OF ATHLETICISM.

OPENING PAPERS.

I.—W. TYRRELL BROOKS, M.A.Oxon., M.B.Lond.,
Physician to the Radcliffe Infirmary, Oxford.

ATHLETICISM, its dangers and its advantages, is a subject in which the general public take great interest, but this very interest naturally renders them critical of any statement that may be made by the profession; and hence, in laying down any laws for its guidance, we must endeavour to base them as far as possible on ascertained facts.

A good deal of weight should, I think, be given to the opinions of those members of our profession whose daily practice leads them to deal with the health and habits of schoolboys and young men into whose lives athletics in some form or another largely enter.

Amongst the quaint and wise sayings of Cotton Mather is one which is as true now as a dictum for the preservation of health as it was when written more than 200 years ago. It is, "Let this be remembered, moderate abstinence and convenient exercise, and some guard against injurious changes of the weather, with an holy and easy mind, will go as far in carrying us with undecayed garments through the wildness to the promised and pleasant land which we are bound unto as all the prescriptions with which all the physicians under heaven have ever yet obliged us." Convenient or suitable exercise is an excellent description of well-regulated athletics, and it should be accompanied by a life in which moderate abstinence finds a place.

Dr. Heringham, in an address delivered before the Medical Officers of Schools Association, gives as the first reason for encouraging games at school, the pleasure which boys find in them. This pleasure is no doubt enhanced by the discipline of school and the contrast borne by work to play.

Some years ago I was attending a brilliant scholar, then a young tutor at one of our largest colleges, whose work had come to a standstill owing to a nervous breakdown. When I was trying to find the cause, he said: "How much I wish someone had taught me to play games when I was a boy!" He was a man without the athletic instinct, whose mental qualities had marked him out for scholarship when a boy at school, and he had been educated solely on intellectual lines. Success had come to him at the expense of severe work, but he had grown up without acquiring the mental recreation which games afford.

Besides the mental relaxation and pleasure which games bring into the lives of the young, their value educationally in developing the power of organization, in establishing self-control, obedience and courage, is great, and they therefore act as a great force in developing character.

It is curious to note the revulsion there has been during the past ten years against basing the future of young men solely on their powers as examination candidates. In filling up the Rhodes Scholarship stress is laid on the character of the applicants and on the relative position held by them amongst their compeers. In the Egyptian and Colonial Civil Service, also, I have reason to believe that appointments are not made solely on intellectual grounds, but also on the possession of those powers which boys gain most readily in school games; and if we remember that an empire so vast and scattered as ours is needs men possessed not only of good intellectual but of good physical qualities, the reason is not far to seek.

Of the value of athletics in developing the young I do not propose to speak at length, but I would point out that during the past thirty years there has been steady progress in the provision of opportunities of athletics for all classes of the population. The growth of public parks and the provision of playing grounds for boys in the elementary schools, all point to the fact that the public is aware of the necessity of providing opportunities of athletics for the young.

In my own experience the change in physique from the somewhat delicate-looking preparatory school boy who enters the public school at 14 to the robust young man who enters the university at 18 or 19 bears eloquent testimony to the benefit derived from four or five years' training at the public schools. It has always seemed to me that the most robust type of undergraduates are sent up by those schools in which the athletics are of the most strenuous type. I mean schools which embrace Rugby football and cross-country runs amongst their organized exercises.

Mortality.

In considering the dangers arising from athletics, I thought it would be interesting to arrive at some idea of the mortality occurring in connexion with games amongst schoolboys.

I therefore wrote to the medical officers of several of the larger residential English public schools, asking whether any death had occurred during the past twenty years during or in consequence of athletics. I received thirteen replies, and as the schools in question contain over 6,500 boys, and as the period covered is twenty years, I think the figures represent some experience. In this way I received the reports of five deaths. Of these, in three there is no doubt that the cause of death was accidental, and there is no question of any one of these three deaths being due to physical failure due to improper exertion. The remaining two deaths will, I believe, be dealt with by Dr. Clement Dukes, who is following me in this discussion. The first was that of a boy who was struck in the abdomen by the knee of an opposing player during a game of Rugby football. Although apparently not badly injured at the time, he died within a few days from injury to the lesser bowel. The second was that of a boy who, after a heavy meal at the tuck shop, was doing some exercises in the gymnasium when regurgitation of food from the stomach occurred and he died from suffocation. The third was that of a boy who fractured a cervical vertebra from a fall from the horizontal bar in the gymnasium, death occurring about a year after the accident.

In Oxford during the same period 2 cases of death have occurred during athletics.

One, a man with double aortic disease, died during a game of hockey. He was aware of his condition, and had been warned not to play strenuous games, but preferred to take the risk.

The other case was that of a high jumper, who, after a heavy and indigestible meal, went to the running ground, and before practising jumping started to run at a slow pace to loosen his muscles, and died quite suddenly after running a few paces. This was a case of death occurring during, rather than due to, athletics, as the distance run was short and the pace slow.

This, then, is the death roll occurring from or during athletics during twenty years in a number of public schools with an attendance of over 6,500, and in a university with 2,000 undergraduates.

I thought it might be of interest to obtain statistics from the same schools of cases of sudden death occurring amongst apparently healthy boys quite apart from athletics. I received from the same source information of 4 cases of sudden death quite apart from athletics during the same period—twenty years.

The first was that of a boy who went to bathe after eating a heavy meal of cherries, and died immediately on entering the water. At the *post-mortem* examination there were no signs of death from drowning, but the stomach was distended by a large mass of cherries, death having occurred from heart failure due to the distended condition of the stomach.

The second was that of a boy who was taken ill during dinner, rapidly became unconscious, and died the same

night. The *post-mortem* examination showed that death was due to cerebral haemorrhage.

The third was that of a boy who died whilst sitting at his desk. Death was probably due to an abscess in the brain, as the boy had some time previously undergone an operation for mastoid disease, and had suffered from convulsions whilst recovering from the operation.

The fourth was that of a boy who died whilst watching a cricket match. The school medical officer, who was present at his death, believes that death was due to cerebral mischief, but a *post-mortem* examination was not obtained.

I mention these cases as, though they occurred apart from athletics, it is equally clear that they might have occurred during them; and they emphasize the necessity of a *post-mortem* examination in all cases of sudden death occurring during games.

The Heart.

If we consider the organs likely to be temporarily or permanently damaged by over-indulgence in athletics, the heart is naturally the first organ that suggests itself. In endeavouring, however, to estimate the relative value of athletics in the production of heart mischief there are one or two points which need attention.

Leaving out the question of gross injury to the valves, which occurs so rarely in amateur athletics that it may be neglected, the signs of damage to the heart by athletics are not very definite. It is difficult to appreciate the enlargement due to slight dilatation or slight hypertrophy, and still more difficult to verify the diagnosis by means of the fluorescent screen. Arrhythmia, tachycardia and bradycardia, and dyspnoea on exertion all are symptoms which may originate from many other causes than athletics.

In examining the hearts of schoolboys it is well to remember the observations of Dr. Mackenzie, who, in his work on the medical examination of school children, points out that the cardiac area on percussion appears abnormally large, and that hence caution is necessary in framing any conclusions as to the presence or absence of cardiac enlargement. He also lays stress on the fact that the rhythm of the heart is less constantly regular in children than in adults, and that slight causes may disturb the rate and regularity of the pulse. This minimizes the importance of both these symptoms as an index of a morbid condition of the heart in children.

In coming to any conclusion as to the precise value of athletics in causing morbidity of the heart, it is, above all, necessary to get a clear history of the habits of the patient under examination. Excessive smoking, the abuse of alcohol, gluttony, insufficient rest, and sexual excess—any or all of them may enter into a young man's life and produce exactly the same symptoms that are attributed to athletics. Also they are not likely to be obtruded on the attention of the physician by the relatives.

The extent to which immorality prevails in schools is not easy to estimate, but, from twenty-five years' experience of work among undergraduates, I am clear that it is a factor which should not be neglected in considering signs of perversion of the heart's action, sometimes wrongly ascribed to athletics.

My own impression is that, while the love of games is not a clear indication that a boy leads a pure life, it is certain that the physical fitness required by the more strenuous games is a valuable check to a boy falling into bad habits. Also that when he grows older and realizes the seriousness of the habit, a strenuous life of the athletic type is a valuable help to re-establishing self-control. On the other hand, the loafer is not only less likely to make an effort to redeem himself, but readily adopts other accompanying vices.

That the toxins produced during febrile attacks have a prejudicial effect on the heart's action is certain, and it is both during and for some time after an illness of this character that damage may result to the heart if athletics are practised.

Dr. Hoover, in Osler's *System of Medicine*, states that "up to the present time there exists no absolute pathological and clinical proof of acute passive dilatation and death from excessive muscular exercise; although there are excellent physiological and clinical reasons for believing they occur, there always lurks the suspicion of other contributing factors in such cases, namely, a remnant of a former infection, congenital defects or manner of life." Sir Clifford Allbutt, in a discussion on the effects of long-distance runs, states that the young and healthy heart is so resilient that it was, he believed, "impossible for any harm to be done to it by any effort which the boy's own muscles were able to entail on it."

With this statement I entirely agree, and I believe that in sound boys and young men the risk to the heart from athletics is very small, provided their habits are good and there is no trace of constitutional illness present.

That cases of perversion of the heart's action do arise in the course of athletics is certain; but a more careful inquiry into the accompanying circumstances than is usually made is necessary before assigning the prime cause to athletics.

To hark back to Cotton Mather's dictum, we must include moderate abstinence with convenient exercise.

With regard to the possibility of the lungs being damaged by athletics, I would only draw attention to the necessity of restraining boys suffering from asthma from violent exercise. They bear hard exercise badly, and are likely to be permanently injured by severe, long-continued muscular effort.

Prevention.

Turning now to the consideration of the precautions that should be taken to minimize the dangers arising from athletics, it may be of interest to note the recommendations made by the Medical Officers of Schools Association for the regulation of athletics at the public schools. They are as follows:

1. Every boy entering a school should be submitted to a thorough medical examination. This enables the school doctor to strain off the unsound, and to grade those who, though not unsound, are yet less robust than the normal, to the form of athletics they may undertake with safety.

2. A boy's fitness for physical exertion depends upon his physical and constitutional ability, and is not merely to be gauged by age.

3. Careful observation of the behaviour of the new and younger boys in their ordinary games, and of the physical effects thus produced upon them individually, affords a valuable means of estimating the fitness of each for subsequently undertaking more strenuous exertion.

4. It is most important that there should be an ample interval (one hour at least) between the time of the previous meal and the beginning of active exercise.

5. Special caution is required in permitting a resumption of active exercise to convalescents, particularly after diphtheria, influenza (including influenzal catarrhs), rheumatism, measles, and during a period of rapid growth.

These rules are a valuable guide to the regulation of school athletics, and if carefully observed greatly reduce the chance of constitutional damage from athletics.

It is not possible, unless a school medical officer devotes his entire time to the school, that he should undertake the actual supervision of school games, nor is it necessary that he should do so. The signs of undue distress arising from exertion are so obvious that it is as easy for a master with a little experience to pick out those boys who are thus affected and refer them to the school medical officer, who, after grading the boys for exercise, acts really as a consultant, and uses his special knowledge to supplement the supervision of either house masters or of those masters who take an active interest in games. For the more severe contests, such as boat racing or the cross-country competitive runs, it is wise to have the boys who intend to compete examined before and occasionally during the period of training.

At Oxford there is little direct medical supervision of athletics except in the case of the university boat. The crews intending to compete in the university trials are medically examined a week or two before the race, and the members of the crew actually selected are re-examined later. Visits are made occasionally by the medical officer to ascertain how they stand a long course, and any member showing signs of undue distress is again thoroughly overhauled. To the other athletic clubs the medical officer stands rather in the position of a referee, examining only those cases sent to him by the officials.

In college boat clubs there has been a greater tendency of late years to refer doubtful members of the crews to a doctor for examination before training begins. This has acted beneficially both to the individuals and to the boats, as it has obviated the necessity of late changes in their members.

Though there is little direct medical supervision of athletics at Oxford, it is interesting to note that few cases of constitutional injury from athletics come to the notice of the medical men there, and I believe the experience of the Cambridge medical men is similar.

There are two forms of athletics which have received severe criticism from members of our profession. Some forty years ago a crusade was originated against the University Boat Race, and it was assumed that the duration of life was prejudiced in those taking part in this contest. Statements of this kind, coming from members of the medical profession, have an authentic ring, but unless they rest on the basis of ascertained facts they are unjustifiable and their only effect is to create a temporary scare, which in the end is allayed by some member of the profession sufficiently interested in athletics to collect facts bearing on the point.

To ascertain what was the actual fate of those rowing in the Inter-University Race, a most painstaking inquiry was made by Dr. John Morgan, of Manchester, who traced the life-history of the individual members of the Oxford and Cambridge crews for forty years. He was from these inquiries able to prove:

1. A longevity amongst the competitors comparing favourably with men of the same standing.
2. A condition of health and activity in the survivors above the average.

Though Dr. Morgan's book (*University Oars*) was written thirty years ago, it still remains the ablest and most complete inquiry into the effect upon health produced by severe muscular exercise undertaken by healthy young men at a time preceding arterial degeneration. It is only by the careful collection of statistics such as this inquiry provides that we are enabled to promulgate justly edicts for the guidance of the lay public.

School and cross-country races exceeding one mile in distance for boys are another form of athletics which have recently been condemned by some members of our profession. Now, runs form an important feature in many of the large public schools, and are useful not only in training boys to slow continued exercise and developing their powers of endurance, but also as a preventive to loafing when the playing-fields are unfit for games. With some boys, particularly those of a self-indulgent type, they are not popular, and hence, indirectly, with some parents. Yet when a boy has got over the initial dislike to a rather dull form of exercise, he often discovers in himself unknown powers of endurance, and realizes the good he gets from this form of exercise.

This variety of school exercise requires, as does rowing, medical supervision and a close co-ordination between the school doctor and those masters responsible for athletics. There will always be a limited number of boys to whom runs of any length will be harmful. Asthmatics and boys with valvular disease of the heart should always be excused from runs, and there are others in whom it is difficult to detect organic disease to whom runs are a difficulty. I mean boys subject to undue dyspnœa by runs of a moderate length. These boys should only take part in runs where frequent halts are allowed, and, unless they improve with practice, should be excused from runs altogether.

School and cross-country races over a mile in length are competitive in character, and should only be permitted to boys known to be organically sound, in good physical condition at the time of the race, and who have undergone preliminary training in runs for some time previous.

If these conditions are adhered to I believe the risk of injury is exceedingly small. This is the opinion of the large majority of school medical officers, and it is confirmed by the experience of the medical residents in Oxford and Cambridge, who see the public school boy within the first two or three years after leaving school.

Dr. Armstrong of Wellington College has furnished me with the results of an inquiry made by him amongst those who have run during the twenty years from 1884 to 1904 in the "big side" runs (9 to 11 miles). From 85 inquiries sent out he received 54 replies. Of these, 53 were unanimous in saying that they received nothing but good from the runs; 1 considers that his present ill health is due to his having partaken in the runs. Any injury received by him must, however, have remained latent, as he passed the stringent medical examination for entry into the army on leaving school. Of the competitors at Wellington College in the cross-country steeplechase ($1\frac{1}{2}$ miles), Dr. Armstrong gives 196 as the number taking part during the thirty-four years 1870–1904. Of these 185 are still alive. Of the 13 deaths:

4	were killed in	action.
3	died by	accident.
1	died from	Indian fever.
1	,,	a traumatic clot.
1	,,	consumption.
1	,,	brain disease.
2	,,	unknown causes.

It is statistics such as these that we want to make any inquiry into this question of value, and I hope Dr. Armstrong's example will stimulate other school medical officers to continue the inquiry.

One point I would like to put to this meeting in concluding these remarks. Are we not as a profession a little inclined to put our consideration for the individual before that for the race? It is a difficulty in private practice that our attention is directed so closely to safeguarding the future of the particular patient, to ensuring that he takes but little risk, that the question of the duties of that individual towards the race may easily escape our notice.

It is, in my opinion, a duty owed by the profession to assist in the rearing of a hardy race, active both mentally and physically, and as free from self-indulgence as is possible. To our care a mighty empire has been entrusted which we shall keep just as long as the race produces men in sufficient numbers of intelligence, good physique, and courage. But if children are reared in luxury, and without exposure to any risk, it is difficult to see whence are coming the men to rule India, the Nigerias, East Africa, and other of our possessions which we hold in virtue of our being the dominant race.

II.—CLEMENT DUKES, M.D., B.S., F.R.C.P.,

Consulting Physician to Rugby School; Senior Physician to Rugby Hospital.

Now that physical education is assuming its appropriate place in the education of the young of all grades, it is meet that the British Medical Association should discuss the question in relation to its medical aspects, in order that dangers incidental to it may, as far as possible, be avoided.

It therefore behoves us to ask ourselves these two questions:

1. Is injury possible from unwise exercise?
2. Is harm, if any, preventable by reasonable care?

It is sometimes forgotten that the virtue of games is for the well-being of the players, and not for the entertainment of spectators.

The Grecian Ideal.

The highest development of the body was an essentially Greek trait at an epoch when Greece excelled in practically every department of human effort. The citizen of Athens in the time of Pericles has never had a superior in mental fertility and endowment, in speculative wisdom, or in artistic achievement and appreciation.

The physical and intellectual beauty of the ancient Greeks, too, is traceable to the public games, which formed part of a religious observance. No other nation has ever produced such perfection of human form; no other institutions have ever so deeply influenced the moulding and elevation of the mind.

Recreation a Necessity.

Fortunately, we live in an age, at all events in this country, when recreation of all kinds, in the proper sense of the term, is deemed a virtue, and consequently a necessity. This is a modern development of racial character whose promotion has been aided by all sorts and conditions of men and women, but mainly by the members of the profession to which we have the honour to belong, through recognition of its paramount value in the attainment of the highest form of general health. The idea of the indispensableness of recreation, mental as well as physical, has been a process of slow growth; hence its signal success. Its progress, however, in my judgement, is still in its infancy.

National Success.

We, as a nation, owe our success mainly to our mental and bodily vigour—a vigour which is irrepressible. What other nation would dream of playing football and polo in

India and Burmah? Our British energy, as a rule, requires little encouragement or fostering; usually it is naturally exuberant, and simply requires that right directing which too often it fails to receive. Its mark is graduation, for the sportsman continually precedes the missionary in new countries; the missionary, the trader; and the trader, the statesman.

It was pointed out by Herbert Spencer that, as vigorous health and its accompanying high spirits constitute the largest elements of human happiness, the doctrine of their maintenance is a teaching that should be paramount. While the dictum of Lowell is fully recognized, that in the scale of the destinies in the modern world "brain counts for more than brawn," it is equally true that the most efficient brain power is not attained without this physical basis. The strength and wisdom of the next generation depend upon the physical and mental education of the children of the present.

All sound experience shows that adequate exercise is necessary to expand the lungs, and to produce healthy red blood, and generally to ensure the highest state of bodily vitality. The intimate association of mental and muscular development has been proved by modern research. The intellectual value of exercise proceeds *pari passu* with its physical utility.

In the present day it seems to be generally recognized that physical exercise is not simply valuable but essential in the effective rearing of the race. In most boarding schools the claims of school games are to a large extent accepted and enforced, although, in my judgement, still insufficiently. Games are not yet adequately arranged for many of the younger members, or ample space for play provided.

Physical and Mental Education should Coincide.

Mental education is pressed to its extreme limit of endurance in all cases, and transgresses this limit in those deficient in stamina: this tendency must be counterbalanced by a deliberate method of physical education, whose aim shall be the just equipoise of both disciplines. But of what avail is this doctrine where, under present conditions, units participate in this physical training while hundreds are reduced to idle spectators and waste and degrade their spare time in merely applauding the actors while they themselves are "loafing" and betting on the results?

Athleticism.

If, then, exercise, games, and physical recreation generally, form so important a part of the training of the young, what, it will be asked, is this athleticism which is condemned? Is it not simply a compendious expression for the approved variety of games and physical efforts? If not, wherein resides the difference? How can athleticism produce injury to the body, and, by necessary implication, to the mind? Are its results temporary or permanent, invigorating or destructive? In the popular estimation of athleticism we find another fatal example of the power of mere words over the mind—the adoption of a term without thinking of its meaning. In discussing the baneful effects of athleticism I define it, briefly and generally, as the *intemperance of genuine physical exercise*, and intemperance in any form is injurious to the body, especially in its immature condition.

The various modes in which intemperance in exercise shows itself consist in excessive exercise, improper exercise, or exercise unadapted to the age or strength of the individual, exercise taken at the wrong time of the day, such as immediately after a meal, and exercise unsuited to the season of the year.

How to Obviate Athleticism.

These indiscretions occur in all games which are attended by hard, quick, or prolonged exertion. To obviate the evils of athleticism a prior physical examination is essential. Upon entering on school life, the capacity of children for intellectual work is ascertained by mental examination. Similarly, and with equal care, should the body be examined preparatory to the kind and intensity of games, so that this physical education may be thoughtfully organized, graduated, and, in my judgement, enforced. Harmonious concurrence in the development of mind and frame will thus, and only thus, be secured, and the individual be benefited as a whole. He forms an entity, and the twin constituents of this entity must be kept in equilibrium.

Injury from Athleticism.

Where, in my experience, severe injury has mostly arisen in physical exercise, the harm has occurred, not in the delicate, but in the strong and eager, from imprudent exercise being taken after a period of comparative idleness, and without recent training, in forgetfulness that all effort should be gradual in its increase. When not in constant daily use, the muscles become flabby and deficient in vigour, the heart included. The lungs also lose their elasticity. If overtried suddenly, something must "give" somewhere; unused muscles cannot bear sudden spurts. Great muscular effort demands graduated exercise for its achievement. After long inaction, the resumption of the effort at the stage at which it was left off is the prelude to accident, disease, and even death.

Physical Examination.

If physical examination be efficiently conducted there will be found a certain number of persons who should not be permitted to join in all games as at present constituted. For instance, those who have generally poor health; those with a tuberculous history; those who, though sound, have passed through recent illness; those who have grown beyond their strength; those with a physical defect or deformity; and last, those who have mitral or aortic disease, and who require increasing care, so that the heart is not assigned too little or too much work. Without this constant vigilance while the heart is growing, its cavities are certain to dilate to excess, with all the attendant discomforts and dangers, instead of being permitted to develop that compensating hypertrophy of its walls which is essential in valvular disease. I am bound to add that I had under my care a boy with well-marked mitral disease who would not be restrained in his exercise, and who was one of the greatest athletes, winning at school and at the university a large number of the highest prizes. And yet, when I examined his heart in later years, I found it sound.

Exercise for Delicate.

Suitable exercise should be arranged for those who are delicate—their delicacy should be no excuse for lounging and idleness. For they need it as much as, nay, more than, the strongest and most robust, if a propitious opportunity is to be afforded for surmounting their delicacy or defect. Hardihood ensues, disease is averted, and deformity is obviated.

Physical Education.

The points I desire to urge in order to avoid athleticism are:

1. Thorough physical examination.
2. Individual apportionment of exercise consequent on this examination.
3. Medical control over all severe exercise, so that even those who are physically fit shall submit themselves to appropriate training for the exertion. It is where this is neglected that harm results, and opprobrium follows. Those who think that, because they have won a race by rowing or running in one season, they can perform the same feat in the next without fresh training, are destined to overstrain and injury.

Over-Exercise.

The clamour popularly raised against exercise and games should be limited to over-exercise, or to ordinary exercise imprudently pursued. It is excess of exercise which is so deleterious. It makes exceptional demands on nerves and muscles; engenders feverish excitement; wears out and stunts, which entails permanent damage to the body; while exercise in proper measure produces health, strength, and agility.

To gain the benefits, and avoid the harm, it must be borne in mind that, in the performance of exercise, energy is expended, and finally exhausted, and that this end arrives sooner in those whose tissues are immature, since, by reason of this fact, they are deficient in staying power.

If we do not wish to hear of the "evils" of rowing, of running, of football, and of the tennis arm and leg, the muscles necessary to the exercise must be trained by degrees. All muscles may be educated to any strain

within reason, but unused muscles are unable to sustain sudden efforts.

How to Avoid Injury.

If these British games—the glory of our country—are to be enjoyed without unnecessary injury the exercise must be regular, and if it has been omitted, as at the various seasons, it must be resumed by degrees. No one must imagine that he can at once take up the thread where he dropped it months before. Most accidents, in consequence of a neglect of this caution, happen at the beginning of each season. Syncope or fainting in the young is usually attributed to over-exercise, but my experience has shown that, while it may in some cases be occasioned by the physiological condition of the heart and vascular system at puberty, or be due to a temporarily dilated heart resulting from active physical exertion in an unfit state of body, it is nearly always toxæmic, the blood being poisoned by the imperfect action of the excreting organs.

For the prevention of the disasters of athleticism physical exercise, then, should be adjusted to age, size, constitution, and sex, as well as to the seasons of the year. A variety of exercise is essential for the complete development of the body as an organism. He who is unwise enough to think that, because he has been the best football player at school, he can always play hard without previous and prolonged training, is sure to meet with accidents. He who, having once been in his university eight, assumes in subsequent years that he may, without fresh training, row hard in a "scratch" race with impunity, is certain to bring discredit on the exercise. Those who incur the sprains of the rider and of the lawn-tennis player are almost invariably those who ride hard and play hard at the beginning of the seasons, when they are out of training and condition.

Results of Athleticism.

Having now discussed the methods of avoiding the defects of athleticism, I propose to consider the results of athleticism.

The injurious effects of athleticism are manifest in all games involving severe, rapid, or prolonged exertion. In my remarks upon the subject I draw upon my own experience. It must not, however, be inferred that I am about to recount my acquaintance with the results of athleticism at the present time; but when one has held the same appointment for nearly thirty-eight years, it carries him back to a period when boys of 13 and those of 19 were compelled to take the same exercise, and when the physical injuries resulting therefrom were either unrecognized or were regarded as necessary and unavoidable consequences. The causes had to be discovered and patiently and in a common-sense spirit explained, and it is obvious and natural that in an institution 350 years old, with its practices and customs inextricably interwoven with so lengthy a tradition, the remedies, when ascertained, involved a protracted, gradual, and consistent effort before their introduction was secured. No form of inertia exceeds that of tradition! That injuries were possible and actual from the prescription of unregulated exercise, common to all ages of youth, is manifest from the fact that, ultimately, stringent rules were framed for their prevention, and that since the adoption of those rules the injuries have ceased. But there is no finality in science, or in the attainment of improved conditions of health and well-being which depend on science.

My experience of intemperance in exercise has been mainly from running and football, since rowing is impracticable in my district from the lack of a suitable river. Even a river so renowned as the Avon, from its association with Stratford, is here too near its source to afford width enough for this exercise.

Running.

On the question of running, concerning which so great a stir arose in the early part of this year, I feel that I have earned the right to speak. For twenty-seven years I witnessed the baneful effects of injudicious running. Repeatedly, and both in season and out of season, I pointed out the evils, their causes, and their treatment, before even a hearing was conceded. When, at length, I was listened to, I "gained my case," the remedies I proposed were applied, and all injurious consequences have disappeared.

There are few modes of activity more healthy and enjoyable than running. Some of the pleasantest reminiscences of school life are the cross-country runs; and, I am also bound to add, among the most painful. These runs are as much enjoyed during boyhood as are runs with the hounds in manhood. They deserve encouragement, for they are a valuable mode of exercise when the ground is unsuitable for other games.

Types according to Age.

The *runs at school vary* from 100 yards to many miles. Opinions greatly vary, dependent upon the capacity of the runner, whether the short and quick run or the long one is the more arduous. There can be no doubt, however, that the short quick run is apt to cause immediate damage to the heart from strain, which as rapidly disappears, while the long run tends to create permanent mischief in the organ from dilatation. I would go a step further, and assert that, for those who have not finished growing, the short and quick runs are harmless, while the prolonged effort is harmful from lack of staying power. To growing boys a three-mile race is the most exhausting, on account of its being run at the pace of a mile race, and should be prohibited. It is not feasible to enter into detail in proof of this; but the experience of a close observer, who has seen during more than a generation every accident as soon as it occurred is of some value.

I may add that, for full-grown men, the short, quick race is more harmful eventually, and more trying at the time, than a prolonged run.

Running comprises three kinds:

1. *Athletics*, where the running varies from 100 yards to a one mile race. These competitive races should be forbidden, except for those who are strong, and known to be expert runners.

2. *House-runs*, where the distance varies from three to many miles, and is performed mainly along the country roads.

3. *Paper Chases*, which are run across country, and include *brook jumping*. These cross-country runs are a most exhilarating and enjoyable British pastime where the distance is not too long, the pace not too quick, with plenty of time allowed for walking, or the brooks too wide. For brook jumping necessitates accurate judgement, courage, and staying power. Judgement and discretion to run quietly and save "the wind" between each jump and thus retain a maximum of "wind" to carry over the brook dry-shod. Judgement and "knack" are again involved in avoiding loss of time, and these qualities are only acquired by practice and experience, in learning to "take off" accurately and quickly, and "land" and pick up the running again on the other side with agility.

But the un-English method of brook jumping, where no attempt is made to leap, but where brooks are waded and boys drenched, is so senseless and dangerous a proceeding that this form of sport—if it is worthy of the name of sport—should be ostracized by the "scratching" of those who do not "come in" dry-shod, a certain sign of having jumped the brooks.

Over-running.

Of all boys' sports there is none (not even rowing) that permits of over-exertion so readily as that of running. As, on the one hand, there is no greater advocate of the art of running than myself—for I regard it as an excellent means of promoting the growth and development of boys and girls—so, on the other hand, I am an unsparing opponent of unwise and unreasonable running, with its frequently serious consequences. These results are denied by many; but if the experience of the sufferers—those who cannot or ought not to run but who, nevertheless, are compelled—be considered instead of the opinion of strong athletes, the true state of affairs would be so patent as to necessitate immediate redress. But, with the curious perversity of human nature, every one's view is sought but that of the sufferers, who alone know "where the shoe pinches." It is not always easy to provide that any exercise shall not degenerate into over-exercise when one has to contend with the enthusiastic impulses of exuberant youth. Still, vigilant care should be taken to ensure that no exercise should proceed too near the borderline of over-exercise; for any

adverse circumstance, such as slight impairment of health, a warm day, soft ground, mist or fog, or a high wind, may turn the scale into disaster.

Adjust Exercise to Individual.

In order to obviate this result every exercise should be adjusted to the age, size, and physique of the young. That which may be most suitable for the age of 19 in a robust constitution is most inappropriate at the age of 13 associated with a delicate physique. With judicious insight, under a reasonable system, running cannot harm boy or girl. It develops lungs, heart, and limbs, and teaches the importance of graduated exercise with the object of attaining strength for more arduous exertion.

Reasonable Running; Ideal Rules.

I will define what I regard as reasonable running—running which will develop, and not damage, the body. Our large schools comprise, as a rule, a certain number of boarding-houses. A boarding-house contains from thirty to fifty boys, consisting of average boys (by far the larger number), boys above the average, and those below the average. Of these two latter classes there may, perhaps, be half a dozen in a house.

1. The six boys who are below the average, from their size, physique, recent illness, or delicacy of constitution, should form a "run" of their own, united with similar boys from other houses. The "run" should not exceed three miles in distance, nor the pace surpass three miles an hour. On warm days when fatigue is more easily induced, on foggy days when the breathing is less free, on days when the ground is heavy, and at the commencement of each running season, still more time should be allowed. This practically means that these small boys would, on days when games cannot be played in the school field, be compelled to take a three mile run across country; for all the young—and rightly so—dislike the solemn, aimless walk.

Some who have not tried it will inquire how boys can take an hour to run what they can easily walk in that time. Those who desire to learn experimentally the fact should endeavour to run three miles within an hour. They will find that after 200 yards have been passed they will want to walk "to get their wind," and that when they walk they only do so at the rate of a mile an hour. When, too, they have covered half the distance they will be glad to stand and rest a few minutes. They will thus find that an hour is not too long for the feeble or those out of training to accomplish the run of three miles.

2. The next set of boys, comprising, perhaps, half the house, who are up to the average in respect of age, size, and physique, including also boys much overgrown, should take a run not exceeding five miles, with the rule that no one should be allowed to compass it under the hour. More time should be enforced on unsuitable days.

3. The next set, consisting of the other half of the house, which comprises those who are up to the average for their increased age, size, physique, and stamina, might have a run not exceeding seven miles, each to take his own time; and on bad days extra time should be enjoined.

4. The six strongest boys in a house, associated with similar boys from other houses, and receiving their promotion on account of acquired and well-trained running ability, might be permitted to take a nine-mile run.

Every "set" should be under the charge of a captain, who should be recognized by means of a distinguishing badge, and who should report any case of incapacity during the run immediately on his return; the case should then be closely investigated. He should, further, have the power of compelling any boy to walk home who showed signs of fatigue. He should responsibly arrange that the runs should be slower and shorter at the commencement of the running season. In this way no boy could run beyond his capacity; his exact staying power would become known to the captain of the run and the house master; and no boy would be promoted from one set to another until he was declared fit.

Justification of Rules.

To those who require a justification of these precautions in a recreation so natural to boys and girls, I reply that they do get overdone, and suffer considerably, as men do, from lack of judgement and want of thought, as well as from ill-arranged and unorganized systems, as I proceed to show. For instance, what can be more reprehensible than for school authorities to allow active exercise to be taken immediately after meals, instead of insisting on an interval of an hour. Even swimming is permitted directly after food. Protest has an effect for a few days, followed by a repetition of the fatuous wrong.

A boy becomes overdone from running from various causes, such as poor physique, running distances beyond his capacity or at too quick a pace, and, though possessing a good physique, undertaking long distances without previous training. By *training* I mean that boys should run a few yards, then walk, then run again, and so on. Moreover, the same boy will run the same distance, at the same time, and at the same pace on a cold day, and come in fresh, while on a warm, muggy day, with the ground heavy, he is apt to be overtaxed.

Symptoms of Distress.

The first symptom of distress while running is an inability to continue breathing with comfort. The respiration becomes quick and shallow, followed by a gasp and a sigh, with a sense of constriction, probably diaphragmatic, and growing still shallower and more irregular. Then bright specks are seen in the eyes, and the eyeballs throb, the pulsation being seen, as well as felt, by the individual. Then some loss of power takes place in the legs; they cannot run straight; the knees give way.

At a further stage the runner becomes completely dazed; he runs mechanically, does not know what he is doing, or where he is going.

At the last stage he staggers, becomes insensible, falls, and may die.

Instances of Injury.

Boys of 13, as I have stated, used to be compelled to take the same runs, and at the same pace, as boys of 19. When they could not run further, I have seen them dragged by a scarf round their necks, the last one being urged along in various ways, as no stragglers were allowed. I have also seen them carried home by schoolfellows. I have seen them brought home in conveyances of various kinds. I have seen them, as I have driven by on my rounds, lie on the side of the road, and vomit from utter exhaustion, and incapable of going further.

I have been summoned to them in the evening, after a run, because the vomiting would not cease. I have been called to a boy on a football field who had fainted from a temporarily dilated heart, and I have watched the bruits fade away during rest in bed, with eventual perfect and permanent recovery.

I was summoned four miles in the country to a boy whom I found in a state of coma from running. He had been seen to fall, get up again, and run several times, before he could be reached and prevented going further. He was then carried into a neighbouring house. As soon as I dared I removed him, while still insensible, in a conveyance to the sanatorium, and after several hours of coma he vomited, and gradually rallied. He knew nothing of what had happened—not even his first fall.

I have seen a boy brought home from running, and I have found his heart so enormously dilated that, although free, and repeated, venesection caused the greatest relief to the very urgent symptoms, death occurred within three weeks.

And I have endeavoured to restore a boy who died on the road during a run, apparently from blood-poisoning. I brought the case before the Medico-Chirurgical Society, with valuable notes by the late Sir Michael Foster. He pointed out that this lamentable fact arose really from blood-poisoning in consequence of the presence in excess of some substances introduced into the blood by the contraction of the muscles.

It will be understood that between these classical cases there were all grades of lesser injury of a temporary character.

Rugby Rules.

We have erased these blots from our escutcheon—all the result of intemperance in exercise; and since our rules (which can be obtained for a few pence from the Rugby booksellers, Messrs. Lawrence, Market Place, Rugby) were organized no harm has resulted from our carefully-regulated runs.

It is accordingly clear that, while running is an excellent pastime, it should be practised as a man climbs a ladder, one rung at a time; that it should be absolutely under control and adapted to the age, size, and physique of the runner: and, further, it must be emphasized that some boys cannot run, however sound they may be certified.

Variety of Games.

As football, played on every half-holiday in winter, and running on most half-holidays in the spring, are too exhausting, other games should sometimes be substituted. There are many valuable games which have been allowed to lapse, which could, with advantage, be resuscitated and efficiently organized.

The gain to the young would be immense if sometimes, and for some boys always, less arduous exercise were available than football and running. These games are capital *pièces de résistance*, but they are too solid for all occasions, and for all boys.

The present requirements in all schools, for girls as well as boys, is head masters and mistresses who have some knowledge of, and sympathy with, the physical needs of the young, and who have strength of character sufficient to seek to learn what they cannot themselves teach.

Swedish Exercises.

One word before I close concerning the Swedish system of gymnastics so largely in vogue in a vast proportion of schools at home and abroad. When teaching these innumerable exercises in the first instance, the mental fatigue in grasping them is very considerable, and soon leads to exhaustion when added to the strain of the long school hours. This initial difficulty must be guarded against and allowed for; by-and-by the movements become automatic, and the involved pressure upon the brain concurrently grows reduced and harmless.

DISCUSSION.

Sir CLIFFORD ALLBUTT, K.C.B. (Cambridge) said that the medical profession had been, for many years past, deeply indebted to Dr. Clement Dukes for his teaching on school athletics, and for his own part at any rate, in respect of school athletics, he was content still to be Dr. Dukes's disciple. His own experience had been chiefly among young adults at the university, but he would not enter upon this larger aspect of the subject, as, with the help of Dr. Michell in Cambridge, he had embodied the results of a large number of observations and precise records, and, he might add, some remarkable results, in an article on cardiac stress in the fifth volume of the *System of Medicine*, to appear this autumn. On one point, however, he would venture to make an addition to Dr. Dukes's paper. In his own experience the incidence of infectious disease was an element of the utmost importance. In the list of infections he would include severe colds. If sharp exercise be taken by boys or undergraduates shortly after an infection, the heart was very liable to suffer. After influenza or germ infection the danger was the more; but a "bad cold" had a quite definite influence of this kind. He was disposed, indeed, to think that in all cases in which the heart of a young person had suffered after exercise, it would be found that infectious disease, slightly regarded perhaps at the time, had preceded the physical stress.

Sir LAUDER BRUNTON (London) said that cases he had seen of cardiac lesions due to athletics led him, along with others, to sign a letter objecting to long runs in schools. This action was characterized by some as unwise and unnecessary, and the letter was said to be untrue. He was glad now that he had signed the letter, as it had led to the two papers just read and the rules drawn up by the Society of Medical Officers of Health. He agreed with the authors of these papers in what they said, and was struck by the concluding remark of Dr. Tyrrell Brooks, that we are apt to forget the care of the race in care for the individual. The duty of the medical profession was to both, and in order to do this they should begin in primary schools. The best training was a mixture of physical exercises and games. In Bern the games in schools were superintended by games masters. Colonel Fox, who had done so much for physical training in the army, had suggested that, instead of old army sergeants acting as gymnastic masters in public schools, there should be university graduates of equal standing with classical masters, who should act as games master. If this suggestion were approved of, and pushed by the British Medical Association, he believed that much good might be done to the race.

Dr. KENNEDY (Bath) said that the occurrence of pulmonary haemorrhage, which had not been touched upon in the discussion, pointed strongly to the fact that blood tension was a main factor in bringing about the symptoms resulting from severe athletic strain, and that that heightened blood pressure was due to a toxaemia which was more pronounced when following acute infectious diseases, such as enteric fever, influenza, and even catarrhs, etc. This condition of toxaemia in athletic strain was in a large manner dependent on alimentary disturbance, and vomiting might be an expression of a reflex to rid the system of a further absorption of toxic bodies. Thus in conditions of cardiac strain from athleticism it was important to ensure complete rest not only of body, but even to save the stomach, and partially starve the patient. This seemed to him so important a factor that he would lay it down that one of the most important conditions underlying the medical aspects of athleticism was that its due relation to the intake of food should be carefully observed, and that athletic strains should not be allowed to take place till some time after meals.

Sir JAMES BARR (Liverpool) said: It is very gratifying to find a meeting of the British Medical Association considering the question of athleticism, because it is not so many years since the medical aspects of rest would have been considered a more suitable subject for discussion by such a Section as this. It is, in my opinion, the duty of medical men, not only as citizens, but as members of a favoured class who should have some knowledge of the great advantages of physical training, to do all they can by precept and example to improve the race. Physical training is a most important factor, not only in the development of the individual, but also in the moral and intellectual evolution of mankind. I have no wish to underrate the important part played by heredity, but although we may feel thankful for the advantages which have accrued from our forefathers, and may often have to suffer for their sins, yet we should see that, as far as in us lie, generations yet unborn should start from a higher plane than that from which we leave off. If you improve the physique and character of the race, you provide a good substrata for mental evolution.

There may be some to-day who will approach this subject from the point of view of the evil effects of athleticism, and point out to you a number of damaged hearts, though they are not likely to refer to ruined reputations. The evil effects arise from individuals attempting feats beyond their physical capacity, and now your moralist comes in and tells you to abolish athleticism, which necessarily implies contests, and go in for simple physical exercise which cannot do any structure any harm. If you abolish contests you do away with emulation and stifle the cry of "Excelsior." The more hazardous the game the better for the development of the character of the individual, and for this reason I prefer, for youths, boxing, fencing, wrestling, jumping, running, swimming, football, cycling, rowing, cricket, etc, while golf, bowls, and curling might be reserved for elderly gentlemen with not too much reserve energy. Regarding the formation of character, it is rather important to note that it is only the last three games which seem to be essentially associated with substantial oaths and Scotch whisky.

It would no doubt be well if youths entering for any arduous contests had some medical supervision and advice by men who know something of the nature and amount of work required in the contest, and the question largely turns on the capacity for work of the heart and lungs. The opinions of medical men vary enormously as to the amount of strain required to damage the heart. Some time ago I heard a couple of eminent medical men actually swear that a man's aortic valve was ruptured by his being bumped from one side of a railway compartment to the other. I should not like to take the opinion of either of these men as to a man's fitness for a Marathon race.

Starling represents the work of the heart by the formula, $W = wR + \frac{w}{2G}v^2$. In a healthy heart and aorta nearly the whole of the energy of the left ventricle is stored up in the walls of the aorta during systole and paid out during diastole, so the work of the ventricle is chiefly represented by the weight of the blood thrown out at each stroke multiplied by the resistance to its exit, and the strain on the aortic valves and the left ventricle is represented by the resistance or pressure within the aorta. This pressure is induced by the peripheral resistance, but it is produced by the ventricle, so, no matter what stress or strain the rest of the body is subjected to, the heart can only be strained by the stress which it itself produces. The object of the work of the heart and lungs is to supply the tissues with oxygenated blood, and the greater the exercise of the body the greater the demand for oxygenated blood; hence, the question in athletics is, Can the heart and lungs meet the demand? If so, their slight impoverishment can soon be renovated. Well-trained muscles have a good reserve of energy which is not easily exhausted, and in their training the heart and lungs have also been trained to meet the demand, hence the work of all the organs goes on harmoniously. In running or stiff climbing there is a great demand for oxygen, and under these conditions the respiratory muscles are often fixed, and so the right side of the heart does not get its wonted assistance from respiration, and so under such strain it is much more likely to give way than the left side. For all feats of running and climbing the individual should not only have a healthy heart, but his lungs should have a good vital capacity. The oxygen-carrying power of the blood should be high, and as the weight of the charge expelled by each stroke of the pump is an important factor in stretching and distending the main conduit pipes, we should see that the heart is not handicapped by any hydraemic plethora. It is the quality of the blood, not its total amount, which is here of importance.

Under proper directions no injury—apart from accidents—need attend any of the games or contests carried out in this country, and by improving the physique of the nation we raise the health standard and the moral and intellectual character of the race—an improvement which may go on from generation to generation in a geometrical progression. It is your physical wrecks who become sexual perverts, and your degenerates who fill the asylums, often after having laid the foundation for untold misery in the next generation.

This highly necessary physical training should commence at home and in the elementary schools, but I am afraid before we can get it universally adopted we must educate our teachers, and draw them from a superior physical class, because, in the present day, any one seems to be considered physically fit to be a school teacher. I am afraid that it cannot be said that even the medical profession are always fit guides in this matter. The late Ian Maclaren, after surveying a medical gathering, said to me that he thought from a physical point of view they would compare rather unfavourably with a similar conglomerate of the clerical profession. He was of opinion that it was necessary for a clergyman to be more or less constantly before the public gaze, and, therefore, as a rule, to be successful he must have some public presence: but nowadays the medical profession adopt other methods of advertising themselves. The result is that parents who select the professions for their sons choose the clerical for the able-bodied; and, now that the necessity for the vigorous, robust manhood of the general practitioner is on the wane, they make specialists of the weaklings. Brethren, these things ought not so to be.

Dr. GORDON GULLAN (Liverpool) said: It seems to me that athletics can be divided into two groups, (*a*) those at school, which are indulged in up to the age of about 17, and (*b*) at the university, etc., which are practised by youths from the age of 17 and upwards. My own personal experience deals to a greater extent with the athletics of the youth who is studying at the university or is articled to a business or professional firm in a large city, and does not deal to any large extent with those found at our large public schools, and therefore with the athletics of boyhood. I must, however, first say something with regard to class (*a*), even if I do not speak with the authority of Clement Dukes, of Rugby, or other medical officers of big public schools. The first feature of the athletics of the English public school boy which strikes the impartial observer, is the whole-hearted manner in which the vast majority of the boys enter into the various games and contests, and that even the smaller number who shirk the games usually take a keen interest in the results of the various house and school matches. This is in itself a sure indication that the boys who go into those varied forms of athletics do not derive any physical constitutional harm therefrom. But the *bête noire* of school athletics seems to be the long distance cross-country runs or paper chases, which, according to some authorities,[1] is "wholly unsuitable for boys under the age of 19, as the continued strain involved is apt to cause permanent injury to the heart and other organs." I must at once differ from this opinion, as, from many personal reminiscences when a boy, I never found long paper chases of seven to ten miles as severe a strain, even when going over heavy ground, as many a hard fought match when playing in the Rugby scrimmage; and this was not only my experience, but that of my schoolfellows. Moreover, some of the lighter built and younger boys enjoy this form of recreation, and are more serious competitors than the older and more robust boys. I am sure that no sensible physician or practitioner would oppose the medical examination of all boys before entering into these hard physical exercises; but I would like to give one word of warning: the medical man who conducts such examinations should be well versed with the ways of boys and put his examinee at his ease. The examination should not be made immediately after vigorous exercise, but during a period of rest, and preferably when the boy has had no previous warning, lest he be nervous.

To those medical men who are of opinion that these severer forms of school athletics should be discontinued, I would rather ask for statements of injuries done than pious opinions and platitudes. Perhaps I speak strongly, but I feel strongly, and I am sure that everything points to the physique of the nation degenerating, and with the physique its character and mental force, if we discourage in any way the practice of the British schoolboy in his vigorous forms of exercise.

I have said that the boys may be medically examined who enter into the more strenuous of our English games, but I would much more vehemently urge that the boys who do *not* enter into the games, those who are looked on as "slackers," be medically examined, that the size and expansion of their chests, their hearts and kidneys be thoroughly overhauled, and then that compulsory games be set for them at the discretion of the medical officer. I have no doubt that in this field he will find many interesting specimens who require to be turned on to the football or cricket fields, or, if of poor physique or weak muscles, would benefit by some military and physical drill. This brings me to one other point with regard to the physical life of public schools. Much more value is undoubtedly to be obtained by outdoor games and sports than by compulsory military drill and the gymnasium, and I regret to see that one of our foremost public schools has recently brought into vogue compulsory gymnastics. These latter I would like to see used in every large school for those members who from some defect cannot go in for the regular orthodox games, including cross-country running. My critics will at once point out the magnificent physique and the fine development of bone and muscle of the gymnastically-trained Swede or drill sergeant; but who would not prefer the more wiry and alert development found in the 'Varsity Blue, even though at one time he was adorned by the "Eton slouch"? For those present will be familiar with the condition known as "muscle bound," which is found at its highest grade of development in an army gymnastic instructor or the instructor of a school of physical culture. This, of course, is due to the great development of flexor and extensor muscles, whereas the schoolboy athlete develops the muscles required for the game or sport indulged in, and at the same time, as the game usually includes a swift-travelling ball or a rapidly-dodging competitor, his eye and nervous system are trained to receiving sudden impressions and to giving rapid response thereto, and this.

[1] Boys' Races, BRITISH MEDICAL JOURNAL, February 15th, 1909, p. 441.

rapid response entails quick contractions of certain muscles, with quick movement of joints, and at the same time a readiness of resource and power of initiative. Before passing from this group, let me urge all head masters and officials of big public schools to avoid supplanting the British schoolboy by a muscle-bound and more sluggish youth, even though his chest measurement may be slightly greater and his biceps somewhat bigger.

Among the many great responsibilities which rest with school officials, none is greater than that of seeing that the physical training of the boys under their charge is suitably carried out: and, as I have endeavoured to portray, the ordinary healthy child is best catered for by the vigorous games and sports, without much more supervision than that of the *Captain* of his "eleven" or "fifteen." The weakly, delicate, fragile boy who is not keen on the more rough games, requires more careful supervision, and should be given more suitable drills, according to any physical or constitutional defect found. When we are reminded by the opponents of the dangers and injuries resulting from the severer athletics of the schools, let us consider for a minute the reverse proposition, and let us imagine for a moment the number of men turned out of our public schools with healthy digestive organs, good muscles, good physique, and, above all, healthy and sane nervous systems, many of whom have not come from a very strong stock, and who, but for the playing-fields and the cross-country runs, would not have been nearly so fit for the strain of hard work.

I would like to endorse the views held by other writers,[2] that cross-country running is not nearly so dangerous or punishing to a healthy lad as some of the shorter races, notably the quarter-mile. I have quite recently asked the opinion of many runners, both boys and men, and they strongly, and very nearly unanimously, corroborate this view. It must never be forgotten that the schoolboy is always in training. He does not drink, he does not smoke, and he is at the age when Nature expects him to use his muscles and limbs. I cannot recall a single case of a boy who has been permanently damaged by the athletics of his school, nor have I come across any man who has pointed out to me that his cardiac condition was due to over-athleticism when a boy.

If we now turn to the second group—Athletics at the University, namely, the athletics of young men—the reverse is the case. I have come across several instances in which the heart of a youth has been damaged temporarily for some time, and, in some instances, the dilatation of the heart appears to have remained permanent. In all these instances the physical exercise was undertaken when in an unfit condition—I mean by the term "unfit" the man in question not being in proper training. I would briefly enumerate as instances the three following cases:

1. J. F. G., a well-developed university student, aged 21, after having for some months not taken any vigorous exercise, determined to train and row in one of the "eights." On the second occasion that he went on the river before he had done any rubbing or other work of any extent, he proposed either to had a trial row, this man being the only untrained member. He pulled hard, and just before the finish of the race he collapsed over his oar, in what he described as a half-faint, and felt thoroughly done. He was taken to the nearest hotel, put to bed and given some brandy and water. A few days afterwards he had all the signs of acute dilatation of the heart, rapid feeble pulse, sighing respiration, some cyanosis, coldness of the extremities and a general "done" feeling. His cardiac impulse was diffuse and feeble, the dullness was increased to just outside the nipple, four inches from the middle line, and the first sound of the apex was not clear, being short and dulled. On the slightest exertion he got breathless, and epigastric pulsation showed itself. This man had to stay in bed for a number of weeks, and then, for at least six months, led a very quiet sedentary life. Gradually his cardiac condition became normal and the symptoms disappeared, but it was not till four years later that he was able to resume a fully active life, though even at this date, which is ten years since his collapse, he cannot go in for the more severe forms of sport. Boxing, which, contrary to medical advice, he tried on one occasion, produced a recurrence of the condition which disabled him for several weeks.

2. W. G. H., aged 20, also a well-built youth, being confined closely to office work during the winter months, decided to undergo a course of training in a much advertised establishment. After one or two hours' exercise he began trying weight-lifting, and, after lifting a 250 lb. barbell several times above his head, he nearly fainted and collapsed, being in a condition practically the same as that described above. In his case, however, there appeared to be some more hypertrophy of the left ventricle, as the impulse was stronger and the first sound of the apex louder. It required a period extending two or three years before this man was able to resume active exercise, and even now his heart, though in all apparent signs normal, is unfit for any severe strain, and on one or two occasions he has consulted me for slight relapses after an extra strain.

3. G. F., a strongly-built man, a county footballer, after having had a severe attack of influenza, and thus being off the field for six weeks, returned to play in a hard match, the result being that he felt very done up and his condition was very similar to those narrated above. His recovery was, however, more rapid, but he has never played football again, and he is rather nervous, possibly unduly so, of undertaking extra physical exertion.

I could give one or two more similar cases—in fact, at the present time there is in my ward at the Stanley Hospital a youth, aged 17, who collapsed after playing a rather long game of football in the month of June when not in training. He is improving under treatment. The symptoms and signs were the same, with the addition of a soft systolic bruit accompanying a short first sound. This bruit is disappearing with the rest in bed.

During the past few months I have examined several university students and others immediately after running races from a quarter to one mile, and the immediate effect is a temporary dilatation of both sides of the heart—but especially the right—with pulse-rate varying from 120 to 140, respirations quick and shallow up to 40 and even 50 per minute, and marked epigastric pulsation, increased apex beat, and enlargement of cardiac dullness. In a short time—three to four minutes—the pulse usually falls to 100 and the respirations to 24, and in twenty to thirty minutes the pulse is normal or only a little quickened, epigastric pulsation gone, and apex beat and cardiac dullness normal again. In the case of men out of condition—that is, not fit, untrained—or who have recently been the subject of an acute disease such as influenza, the heart muscle having been poisoned by toxins, there is great danger of this temporary dilatation not subsiding owing to the damaged condition of the heart muscle, and then acute dilatation results as instanced above.

Temporary albuminuria (functional) often results from a prolonged physical strain, especially in boys and youths, but it usually soon passes off with rest, warmth, and a light diet—preferably milk—and thus should not be a bar to that individual going in for active exercise. He, however, should be under medical supervision.

In conclusion, I would strongly urge the medical profession to encourage rather than hinder outdoor sports and contests, both in boys and youths, of course with the proviso that the candidate has normal organs and is in good condition—that is, properly trained. Under these conditions no danger is to be expected to the candidate, but much good will be derived from improved physique, developed organs, and elevated moral character—namely, endurance, self-sacrifice, resource, sportsmanship (good-fellowship), and courage. It is to these attributes, coupled with good physique, that the British nation owes its position—and may I say possessions?—in the world; it is through these attributes that it gained these possessions, and it is only by retaining them that the British Empire can expect to survive in the struggle for existence among the nations, which is one of the laws of Nature. As long as British boys and youths continue to enter into our British games and athletic contests with zest, so long will the physique and character of our race remain worthy of its high traditions.

Dr. Tyson (Folkestone) said that the meaning of the discussion surely must be the keeping of the body in good health by the aid of judicious exercises throughout the whole period of life. To understand this question properly, the order of growth and development of the body must be intelligently understood in its various parts—namely, physical, mental, and moral. Again, the effects of the two great laws affecting mankind—namely, that of heredity and environment—must be carefully considered. Physicians had to deal with the physical side of Nature. The best means of training the body in order to enjoy good health were: (1) The general health must be attended to by the enforcement of proper ventilation, proper feeding, and proper clothing for all;

[2] Drs. Leslie Thorne Thorne and Charles F. Harford, ibid., February 20th, 1909, p. 502.

were these rules taught in all schools, and efficiently and systematically carried out, half the hospitals would be shut up, especially in reference to the out-patient department, and half of our medical practice would vanish. It was well to remember what Montaigne had said in reference to man as he should be: "I would have the disposition of his limbs formed at the same time with his mind. 'Tis not a soul, 'tis not a body we are training, but a man, and we must not divide him." (2) The exercises must vary in character and amount, according to age, the surroundings, the inclinations, season of the year, and perhaps his income. The important point was that exercises should be begun early in life, and continued until death. Every man and woman should have at least one physical hobby.

RESOLUTION.

On the motion of Sir LAUDER BRUNTON, seconded by DR. LAURISTON SHAW, it was unanimously resolved to send the following resolution to the Central Council:

That the Medical Section of the British Medical Association meeting at Belfast desires to suggest to the Central Council that they should take into their consideration the question of securing a professional announcement as to the most suitable manner in which athleticism in schools may be so organized and controlled as to achieve the maximum of benefit and to reduce to a minimum any risk of harm to the individual schoolboy.

A NATURAL EXPERIMENT IN CARDIAC STRAIN.

By CLIVE RIVIERE, M.D.Lond., F.R.C.P.,

Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park; Assistant Physician, East London Hospital for Children, Shadwell.

IN a careful examination of schoolboys it must be the experience of all that cardiac enlargement is not infrequent, and sometimes enlargement of no inconsiderable degree. Its explanation is not usually apparent: the boy may appear well nourished and in good health, and we are apt to console ourselves with the fact that the condition is not uncommon, and, perhaps, to blind our judgement with loose ideas about "growth of the heart" and hearts "of infantile type." With a view to co-ordinating my own ideas on the subject of cardiac enlargement in boys, I have carefully examined the hearts in a large number of boys taken at random, and also under conditions which necessarily throw a strain on this organ. The importance of the inquiry impressed itself upon me as the result of an examination of a party of 40 boys chosen for a school holiday excursion, and a description of this excursion and its results forms the basis and, to some extent, the object of the present paper.

The party consisted of 40 boys of ages ranging from 7 to 14 years, and was conducted by a most enthusiastic and energetic head master, with the assistance of three or four junior masters. The excursion was of a week's duration, and planned to be of educational value; the locality chosen was one of our most hilly districts, their actual centre being established on a hill at a height of 600 ft. above sea level, with a climb of 400 ft. from the valley below at the end of each day's tramp. Expeditions were undertaken daily, including the day of arrival and also that of departure. Breakfast was at 8 a.m. on most days, 6.30 and 7.30 on two occasions, and an early morning walk at 6.30 a.m. was part of Sunday's programme. The actual road distances covered each day was explained to me as being 5 to 7 miles, but the expeditions lasted the whole of each day, the time being well filled with sight-seeing and instruction. On two days, moreover, the walking for the bigger boys was increased up to 12 miles. In addition to excursions any available time was given over to football and games, for which provision was made on the spot, and those that know boys will be quite sure that such opportunities were not neglected. In short, it is obvious that the boys were subjected to considerable physical strain. At the same time the hours of sleep were decidedly insufficient; bedtime was 9 to 9.30 p.m. and lights were out at 9.45, but as the boys generally rose at 6 a.m. provision was made for but eight and a half hours' sleep.

The boys were medically examined ten days before starting, and were mostly well-built and sound. One was excluded for considerable cardiac dilatation, and is not included among the 40; 7 others showed heart-strain of a more moderate degree, and these went under the proviso that they be spared as far as possible; 33 were healthy boys with normal hearts.

Examined again five days after their return, 20 among the 33, or rather over 60 per cent. of these healthy boys, were found to show cardiac enlargement of various grades. This was, in most cases, no temporary condition, for at subsequent examinations at the end of two, four, six, and ten weeks, only a few of the hearts each time had returned to normal, and 10 of them (or 50 per cent.) still remained dilated two and a half months after the excursion. An interesting point was the age-incidence of these cases of dilatation. Of boys of 13 and 14 years, only 3.6 per cent. suffered; at ages of 10, 11, and 12 years 75 per cent. suffered; and among the youngest boys, at 7, 8, and 9 years, fully 83 per cent. were affected. With regard to the 7 boys whose hearts were already strained, in all but one there was an increase of dilatation in spite of restrictions.

In connexion with these results, the first inquiry must naturally be, What constitutes the normal outline of the heart in boyhood, and what variations from such a standard may be considered to lie within the limits of health? I have attempted to answer this question by careful measurements of the heart in 181 average schoolboys between the ages of 10 and 14 years.

Without going into details of this examination, I may say that in a large proportion the heart was found to extend from ½ in. within the nipple line on the left to a point on the right 1½ in. beyond the middle line of the sternum. This I take to be the desirable outline of the heart in boys of this age. A good many, however, showed 1½ in. to the right and a left border about ½ in. within the nipple line. This may, I think, be fairly included within normal limits, and 96 boys, or 53 per cent. of the total conformed to this not too rigid standard. All outside this should be considered, in my opinion, departures of some grade from the normal. In face of the enlargements brought about by expeditions such as that described, I do not think we are justified in using the term "infantile type" to describe a heart with the apex in the nipple line, as I find some authors do. There is abundant evidence to my mind that such conditions owe their origin to some past strain.

As a result of the expedition described an increase in the heart's width of ½ to 1 in. or more occurred. It is, of course, the deep dullness which corresponds to the heart's actual outline, and this is, in the young, easily and accurately obtained by light but firm percussion with a single finger. Where dilatation has occurred the heart not only becomes wider, but it comes nearer to the chest wall, so that some superficial dullness also appears to the right of the sternum and enlargement is obvious even to the most careless percussion.

To provide details of the dilatation which may result from school excursions I will turn to four subsequent expeditions in which more accurate measurements were made. Two of these led to slight results only, and of 51 boys only 16 showed appreciable dilatation; 11 of these 16 showed an increase of ½ in. and 5 of ¾ in. in the width of the heart's outline. The other two expeditions, on the other hand, gave a large percentage of strain; in addition to many with increase of ½ and ¾ in., 9 showed increase of 1 in., and 11 more of 1½ to 1¾ in. in the cardiac dullness. In most cases the increase was both right and left, in a few to the right only. Where the dullness extended outside the apex beat on the left, it was presumed that the left ventricle was dilated, and in nearly all these cases there was also considerable enlargement of the right auricle on the right side of the sternum, and thus it seemed that the right heart suffered most markedly, and the left heart in only secondary degree.

We now proceed to inquire what disadvantages or dangers, if any, accrue from such dilatation as that described. That the enlargement is abnormal does not prove that it is pathological, for it may be compensatory. To decide this point we must consider what we believe to happen during muscular exertion and afterwards. During exercise the muscles demand an enormous supply of blood, and this, brought back to the heart, necessitates increased frequency of contraction to pass it on. After a time the

chambers dilate so as to accommodate more blood. I have observed this in boys at the end of a short race down and up stairs, when the heart's outline enlarges about ½ in. to the right, and also to a less extent to the left, though the apex retains its original position, or even moves somewhat inwards. The same increase of dullness may also be artificially produced by imitating the panting respirations of exertion; and this calls attention to another factor in filling of the heart's chambers with blood during exercise. The rapid and deep respiratory movements are of no small influence in their effect on the circulation, pressing the blood out of the abdominal organs, drawing it into the right side of the heart, storing it for a moment in the lungs, and then pressing it on into the left heart. Thus, as a result of several factors, the blood is crowded upon the heart and the heart enlarges, and surely such enlargement is compensatory; for when the increase of rapidity of the heart beat has reached the limits of efficiency, further demands can thus be met by increased output of blood. Enlargement implies healthy elasticity, and is not its loss an important factor in the narrowed reserve of those degenerated hearts whose cavities show no stretching? If, however, exertion is prolonged to fatigue the heart does not return to its normal size, and this may be due to a diminution of muscle tone. The study of tonicity of heart muscle is still in its infancy, but Gaskell has shown that one of the substances which diminish it is lactic acid. We know that sarco-lactic acid appears in the blood when, as a result of special stress on nutrition of muscles, such as occurs in severe exercise, oxidation is incomplete. Can we not ascribe cardiac dilatation, when this remains after severe exertion, to the effect of this lactic acid on tonicity?

If we assume that during exertion the heart's enlargement is compensatory, at any rate when exertion has ceased there is no more use for it. An abnormal quantity of blood in the heart's chambers during resting conditions appears to be disadvantageous only. Whether the whole quantity is passed on at each systole or not (and it has been proved that in these cases there is generally increased output), at any rate, the intraventricular pressure is raised, as was pointed out by Roy and Adami, and the heart muscle is given more work to do. The increased output leads to slowing of the pulse below that frequency which is physiological and hence most advantageous to the individual, and I think some of my boys showed this slowing. At any rate, many of those with cardiac enlargement had pulses of 60 to 64. It is obvious, then, that dilatation remaining after exertion has ceased means increased work and consequently a diminution in the reserve power of the heart. Such a condition must put the possessor at a disadvantage if illness or further strain follows, and, if it persists, will lead on to hypertrophy. Indeed, it is likely that hypertrophy is the channel through which the most marked cases lead to cure. Hypertrophy is not uncommon among boys of this age, though less common than among boys at puberty or somewhat later. Unexplained hypertrophy was present in 5 of the 181 boys from whom my physiological data were sought.

So much for the disadvantages of cardiac enlargement during rest; during exertion, on the other hand, with moderate enlargement it appears as if the resultant slowing of the pulse may be an actual advantage. In 5 boys whom I subjected to an exertion test before and after a school excursion, which had enlarged their hearts moderately, I found their running time and the respiratory rapidity were unaltered, but the pulse frequency was in all cases diminished at the second test. There was an average decrease of 18 beats a minute among these 5 boys. That this result was due to the cardiac enlargement is further suggested by a sixth boy, who showed no cardiac strain as a result of the excursion, and whose pulse frequency was precisely similar at the first and second test.

Sir Hermann Weber has described a fall of the heart's frequency on exertion as the result of a week or two's training in the Alps, though he does not suggest cardiac enlargement as an explanation. May I submit this suggestion? Where the heart empties itself during systole, as it seems to do in these cases, the defect must be one of tonicity alone. On the other hand, I have evidence that where dilatation is excessive this slowing of the pulse on exertion does not occur, pointing to a deficiency in contractility, which I should take as an indication for some enforced rest.

Most of these excursion boys appeared to be in good health and had few objective symptoms. Subjective symptoms I made no attempt to elicit. Some appeared to show a little blueness—a point on which I do not lay stress. A few showed slight respiratory distress, and three or four appeared to exhibit some muscular inco-ordination. On the whole it seems that boys with a moderate amount of cardiac enlargement, leading a life of average activity, appear in good health. From other experience, however, I may say that with more marked dilatation, or where strain continues, this is not the case. Loss of weight, loss of colour, depression and weariness, and all the train of symptoms and signs seen in cases of overpressure, assert themselves and may be difficult to remove.

I think, then, we have evidence on the clinical side that cardiac dilatation the result of strain in boys is harmful when it is considerable; we may also, I think, fairly conclude on physiological grounds that even the slighter degrees are undesirable where they are persistent. I would not, however, press too far the importance of these slighter cases. It is now my purpose to consider very shortly how strain may best be avoided.

The natural activity of the young may fairly be considered as an activity of short spurts, followed by periods of comparative but not complete rest. Moreover, it is natural for boys of fairly equal age and physique to hang together, keeping the odds fairly balanced in such competition as may exist. In holiday excursions, in scouting, and other conditions which lead to strain, these natural laws are violated. Boys of various ages and strength are, as a rule, mixed, and the standard of exertion is planned according to the wisdom or unwisdom of a fully grown adult. These are the conditions which need revision if strain is to be eliminated. In one of my holiday excursions where a strenuous programme was carried out I was surprised to find that comparatively little cardiac strain had resulted. On further inquiry light appeared when the principles enforced in this expedition were explained to me. These were "short tramps" with rests of equal length between, and frequent small drinks of water. Here the long grind so unnatural to youth was avoided, and perhaps the small drinks prevented concentration of fatigue bodies in the blood. The result was certainly surprisingly successful, and suggests the lines on which such expeditions might be more safely carried out. It should certainly not be the aim of our profession to put obstruction in the way of such excellent institutions as holiday excursions for boys; it should be our aim rather to instruct the teaching profession in the means by which they may be carried through without harm.

In the first place, it is obvious that the programme must be mapped out with an eye to the weakest members of the party. Secondly, boys of fairly equal age and endurance only should be put together, so that all unnatural competition may be eliminated. Such selection, to be of any worth, necessitates a medical examination; but, fortunately, this need be no bar in the future, since medical inspection is now a feature of all State schools and of most enlightened schools provided for the moneyed classes. In the third place, the conditions of life during these expeditions should be arranged with a view to boyish needs. Abundant sleep must be supplied, and all expeditions must be on the principle of short tramps with frequent rests between. If, by such simple means, physiological laws are appeased, I see no reason why cardiac enlargement of any but slight and temporary grade need ever occur as the result of holiday excursions or of other expeditions of similar nature.

ADMINISTRATION OF OXYGEN IN HIGH PERCENTAGE.

By BENJAMIN MOORE, M.A., D.Sc.,

Johnston Professor of Bio-chemistry, University of Liverpool.

THE usual methods of administering oxygen by delivering it from a steel bottle in a constant stream into a tube or funnel or open mask are so wrong in principle as to be practically useless, and it is questionable whether the patient ever gets a mixture containing more than a few

per cent. of oxygen above the atmospheric amount, nearly all the oxygen escaping into the air of the room.

The nature of the respiratory process is such that the patient does not require a continuous stream of oxygen bubbling out at or near the mouth; but rather a plentiful reservoir to breathe from rapidly each time he draws his breath. An apparatus based on this principle for continuous administration of a high percentage of oxygen is exhibited. It consists of a collapsible holder, or gas-bag, sealed off from the air below by a water seal, and having in its base four large circular trays containing lime slaked with caustic soda for uptake of carbon dioxide during the breathing. The bag is first filled with oxygen, either made from potassium permanganate, or obtained from a steel gas cylinder. The patient then simply breathes backward and forward into the bag through an airtight mask and a very wide tube. There are no valves to obstruct the breathing, and the carbon dioxide is completely taken up by the soda lime. No discomfort whatever is felt in using the apparatus, nor any difficulty in breathing.

A CASE IN WHICH PNEUMATURIA WAS APPARENTLY THE SOLE INDICATION OF GLYCOSURIA.

By FRANK C. EVE, M.D., M.R.C.P.,
Physician, Royal Infirmary, Hull.

IN the following case the point to which I chiefly want to draw attention is the interesting problem presented—namely, Can sugar in the urine be entirely converted into acid and gas by bacilli in the bladder?

The patient was a middle-aged, well-to-do man of Jewish nationality, with gouty tendencies but of very abstemious habits.

For four years he had suffered from painful and frequent micturition, associated with pus and mucus in the urine and pain in the loins. Sometimes this made him very ill, and kept him in bed for weeks.

After seeing many doctors he consulted Mr. Hurry Fenwick in London, who diagnosed right-ascending pyelitis from *Bacillus coli* infection, presumably from an attack of appendicitis seven years before. He advised operation, unless autogenous vaccine treatment was successful. At Dr. Brigge's request I carried out this treatment with large doses, beginning at 60 millions and increasing to 300 millions every ten to fourteen days. Improvement was marked on the larger doses. But about this time he casually mentioned that he often passed bubbles of gas at the end of micturition.

This I interpreted as being the handiwork of the *Bacillus coli* on sugar, in spite of there never being any sugar in the urine. In support of this supposition, the doctor who attended him seven years ago told me the patient often had sugar in the urine, but no cystitis, in those days.

Acting on this hint, I put him on an antiglycosuric diet. This was a decided success, and confirmed my suspicions of masked glycosuria.

With vaccine, diet, helmitol, and alkalis the patient made an excellent recovery, and after six months reports himself as feeling "quite fit," and he looks it. However, there are still some living bacilli in the urine. Albumen has been practically absent, so that this could scarcely be the source of the pneumaturia (vide Adrian and Hamm, *Mittail. grenzgeb. der Med. u. Chirurg.*, 1907, xvii, pp. 10–56).

I attacked the problem stated in the opening sentence of this paper in the following ways:

It is known that in the presence of proteids *B. coli* splits up glucose into gas (CO_2 and H), acetic and lactic acids and alcohol. Will the same change occur in urine in the absence of proteid? The answer is Yes, for I found that a standard culture of *B. coli* grew abundantly with gas production in non-albuminous diabetic urine.

But to my surprise I found that the patient's variety of *B. coli* could not be induced to produce gas either in urine or liquid culture media, either with glucose or any other sugar. This seemed not only fatal to the theory, but also made it difficult to give a name to the organism. I applied in my trouble to Dr. Houston, of the London Metropolitan Water Board Laboratory, who has immense experience of *B. coli*. He very kindly sent me five tubes demonstrating that the bacillus is really a gas producer in five different sugars, and said that his gelatine method often succeeded where the ordinary liquid method failed. He also told me that *B. coli* often produces gas in three hours.

Hence, though I have not proved it, I have shown that it is possible, and even very probable, that sugar in the urine may be quickly destroyed by an accompanying colon bacilluria and be recognizable only as pneumaturia. Typhoid bacilluria would be even more effective in clonking glycosuria, for it would split up the sugar into alcohol and acids without gas formation.

My patient's bacillus was not a typical colon bacillus, but approached the typhoid type in its very feeble power of gas production. Hence, I have little doubt that it often fermented sugar into lactic and acetic acids and alcohol in the bladder without revealing itself by gas production. (My patient often complained of the smarting of the acid urine.) These irritating bodies would aggravate the cystitis and pyelitis, while the undetected sugar would give abundant and welcome nourishment to the half-starved microbes we are seeking to exterminate.

The practical moral of this case (if my contention be true) is that in any patient with germs in the urine it is necessary to look out for oblique evidence of glycosuria, because, if undetected and untreated, the sugar will militate strongly against success in treatment by nourishing the germs and irritating the bladder by decomposition products.

I am conscious that my paper is not quite conclusive, and that it raises a complicated question rather than settles it.

My thanks are due to Drs. A. E. Garrod and Upcott for kind help.

THE INFLUENCE OF SOIL ON PHTHISIS AS ILLUSTRATING A NEGLECTED PRINCIPLE IN CLIMATOLOGY.

By WILLIAM GORDON, M.A., M.D.Cantab., F.R.C.P.Lond.,
Physician to the Royal Devon and Exeter Hospital.

THERE is a principle in climatology which has been singularly neglected—if, indeed, it has ever been quite definitely recognized—yet whose importance, once indicated, is surely obvious. I will call it *the principle of approximate isolation of influences*. By such "approximate isolation" I mean, not the elimination of only one or two influences in the investigation of another influence, but the systematic enumeration of *all* the known influences which may affect the conditions investigated, and their successive elimination, so far as that is possible. I shall try to illustrate the application of this principle in these notes on the subject of soil and phthisis.

There is a general impression that the question of the relations of soil and phthisis has been definitely settled. That is a mistake; the objections to Buchanan's work have never been answered. The figures I am going to place before you are far too small to aspire to settling it; but I hope that they may serve to indicate the lines along which a settlement may be reached.

I.—AN OPEN QUESTION.

Buchanan's First Report.

In 1865 and 1867 Sir George Buchanan published the two statistical reports[1] which form all the important evidence we possess in favour of the theory that damp soil increases phthisis prevalence. Starting from the observation that the phthisis death-rate of Salisbury had fallen to about half in about fifteen years, coincidently with very efficient drainage of the subsoil, Buchanan investigated the changes in the phthisis death-rate of twenty-three other towns where drainage works had also been carried out. He found that in eighteen of these towns more or less drying of the subsoil had been effected, and that in fourteen of the eighteen the phthisis death-rate had coincidently greatly declined. There were however, marked exceptions.

Buchanan's Second Report.

He next examined the distribution of phthisis in the registration districts of Kent, Surrey, and Sussex during the ten years 1851–60. These districts, when arranged in ascending order of phthisis death-rate, were found to stand also in approximate order of increasing dampness of soil and, when only specially comparable districts were considered, the correspondence between death-rate and dampness seemed to become clearer. Here again there were marked exceptions.

Milroy's Figures.

About the same time Dr. Milroy[9] found, in eight great towns of Scotland, that Leith and Edinburgh, on the driest soil, had the least phthisis, whilst Glasgow and Greenock, on the wettest soil, had the most.

Kelly's Objections.

Buchanan's conclusions were, however, soon challenged. Dr. Kelly, Medical Officer of Health for West Sussex, showed[9] that for the years 1861 to 1870 and for 1875 to 1879 the order of the districts of West Sussex, in respect of phthisis death-rate, was different from that found by Buchanan for 1851 to 1860, and that the death-rates of all the districts of West Sussex had considerably declined, although, in point of dampness, the subsoil had remained the same. He also pointed out the marked general decline in phthisis mortality in progress all over England, which Buchanan had overlooked in his first report.

Other Objections.

Also in 1879 Droeze stated that in Holland the elevations with diluvial soil suffered more from phthisis than the depressions with alluvial soil;[4] Reck found that in Brunswick the phthisis death-rate was not greater in the wet quarters of the town than in the dry:[5] Lieven showed that in Dantzig the death-rate had actually risen after drainage;[6] and it was observed in Berlin[7] that no notable effect on phthisis followed the drainage of the city.

To all these serious objections no answer has been given.

The Influence of Wind.

I must here digress for a moment to refer to an influence which Buchanan was not aware of—that of wind. Haviland first drew attention to the effect of wind exposure in 1868,[8] but he attributed it to *any* strong prevalent winds, "whencesoever they came";[9] and, as it can be readily shown that dry winds exert very little, if any, influence on phthisis prevalence,[10] his excellent work has been too much forgotten. During the past ten years, however, the influence of strong, prevalent rainy winds on the prevalence of phthisis has been investigated by me in several separate districts of Devonshire[11] and in Exeter streets[12] over periods of ten years, over periods of various lengths in many different parts of the world,[13] and, in conjunction with Dr. Harper, Medical Officer of Health of Barnstaple, in twenty-three parishes of North Devon over a period of forty-five years;[14] in all of these inquiries the same result has been reached—namely, that populations exposed to strong, prevalent rainy winds have a higher death-rate from phthisis than populations sheltered from them. To these results only the flimsiest objections have been raised, and they have been all answered. No counter-evidence of any value has been adduced.

The importance of the influence of wind in connexion with that of soil on phthisis prevalence is that it is stronger. Haviland observed this.[15] I found that when Exeter streets were arranged in ascending order of phthisis death-rates, no relation to soil was obvious, but that, when only those streets were considered whose roadways were sheltered from the rainy winds, a relation to soil became at once discernible.[16] Again, in Newton Abbot and St. Thomas Rural Districts, no influence of soil was discoverable until only sheltered parishes were compared with each other.[17] This greater potency of wind influence was a disturbing factor in Buchanan's work, which he felt but could not account for,[18] and has to be taken into consideration in all that has been written on the subject of soil.

Criticism of Buchanan's Work and Milroy's.

One can now fairly criticize Buchanan's work. Taking his second report first, the table of ascending phthisis death-rates better illustrates the effect of wind than the effect of soil.[19] If his specially comparable districts are compared, after exclusion of those which he himself regarded as exceptional, and of those which are specially exposed to S.W. winds, they do not indicate, as I have elsewhere shown, a very pronounced influence of soil.[20] Moreover, Buchanan chose areas of too large a size (registration districts), nearly all of them of composite geological structure, thus sacrificing precision of soil distinction to population and extent. He failed, lastly, to allow satisfactorily for occupation, density of population, and for imported cases in the health resorts. His second report, therefore, in view especially of Kelly's objections to it, cannot be accepted as conclusive. With regard to his first report, when allowance is made for the average general fall in phthisis death-rate already in progress over the whole country, the declines in death-rate of the towns investigated become smaller and fewer and the exceptions greater and more numerous. Again, it is difficult to attribute in some cases the very considerable decline in death-rate to the very inconsiderable amount of drying shown, and, except in the case of Salisbury, I do not see how the immense changes in the conditions of life, made coincidently with the drying of the subsoil, such as removal of great insanitation and overcrowding, can be set aside in the way in which Buchanan sets them aside. Therefore, although the single case of Salisbury strikes one as exceedingly suggestive, this report also cannot be looked upon as conclusive.

Milroy's figures may merely illustrate the influence of wind.

Criticism of Buchanan's Opponents.

In thus criticizing Buchanan's work it is necessary to also criticize those who have raised objections to it. Kelly, like Buchanan, was unaware of the effects of wind, although he almost hit upon them.[21] His units of area—parishes—were of better size than Buchanan's, but his period of observation—five years (1875–9)—was too short, as my experience proves. His objections to Buchanan's results cannot on these grounds be set aside, but they do not suffice to dispose of Buchanan's theory.

On the other hand, if the Dutch figures are correct (and Clemow thinks the Dutch phthisis statistics are specially unsatisfactory),[22] they, like Milroy's, may be accounted for simply by wind exposure. The Brunswick and Dantzig reports quoted by Hirsch are destitute in his work of much necessary supplementary information, and in Berlin the death-rate did actually fall, although but slightly.

Conclusion.

Thus, except Kelly's, there are no objections which are of any consequence, and even his work must be regarded as unsatisfactory.

In short, Buchanan's theory is neither proved nor disproved, and the question of the relation of soil to phthisis remains an open one.

II.—SOIL AND PHTHISIS IN DEVONSHIRE.

Turning now to the extremely limited observations I have made on the relations of soil and phthisis in Devonshire, I propose to consider soil as it affects phthisis prevalence in the streets of Exeter and in a number of country parishes. In Exeter the nature of the subsoil of each street is exactly known, and will be stated as gravel, sandstone, and clay (made soil being excluded because of its varying and uncertain composition). In the country parishes the geological formation in each will be given, and care will be taken to avoid parishes in which the dwellings are placed where the slope is so slight as to suggest imperfect drainage.

Elimination of other Influences.

The influences, other than soil, which are at present known and may be reasonably supposed to affect the prevalence of phthisis in Devonshire are:

Winds (strong, prevalent, and rain-bearing),
Altitude,
Rainfall,
Density of population,
Poverty,
Occupation,
Insanitation,
Race,
Closeness of intermarriage;

and as affecting the statistics,

Date of observation.

These I shall deal with thus:

Wind and *date of observation* can be at once eliminated by only considering sheltered populations and contemporary records.

Altitude, *race*, and *closeness of intermarriage* may be neglected, since I have found no evidence of their exer-

cising any influence in Devon, except that, in exposed situations, altitude seems to aggravate the effects of exposure.

Insanitation may also be set aside, because in Exeter streets and in Devonshire rural districts no relation is discernible between general death-rate and phthisis death-rate. Moreover, in the country parishes the results of inquiries indicate no important differences in sanitary conditions.

Occupations in the country villages do not appreciably differ, and in Exeter there is no large injurious industry which could exert a considerable effect.

Three other influences remain to be considered.

Rainfall in Exeter may be regarded as uniform and neglected. But in the country parishes it varies greatly; therefore the probable rainfall will be stated for each parish; it will be found not to cause difficulty.

Poverty and *density of population* cannot here be separated. In the country parishes these conditions are, I believe, too uniform to affect the figures. But in Exeter they must be taken into account; accordingly the average rateable values of the inhabited houses will be stated for each street. No insuperable difficulty will, I think, be found in eliminating these influences.

In the Streets of Exeter.

Table I gives the streets of Exeter whose roadways are sheltered from S.W., W., and N.W. winds, arranged in

TABLE I.—*Female Phthisis Death-rates in the Sheltered Streets of Exeter, from 1892 to 1901.*

Name of Street.	Female Phthisis Death-rate (over 5 years of age) per 1,000 of Total Population per annum.	Soil.	Rateable Value of Inhabited Houses in £ per annum.	Total Female Deaths from Phthisis (over 5 years of age, 1892 to 1901.	Total Population, Census 1901.
Springfield Road ...		Clay ...	10-15		208
Haldon Road ...		Shillet ...	25-30		189
Codrington Street...		Clay ...	8-10		160
Waterbeer Street ...		Sandstone	8 and under		147
Ewings Street ...		Gravel ...	8 and under		127
St. Sidwell's Avenue		Sandstone	10-15		119
York Road		Sandstone	over 30 ...		108
Albert Street ...	0	Clay ...	8-10	0	104
Goldsmith Street ...		Clay ...	25-30		98
Guinea Street ...		Clay ...	8-10		76
Gandy Street ...		Clay ...	20-25		66
Centre Street ...		Gravel ...	8 and under		51
Bear Street		Clay ...	8 and under		39
George Street ...		Sandstone	10-15		26
John Street		Sandstone	over 30 ...		14
Well Street	0.2	Sandstone	8-10	1	450
Cheeke Street ...	0.2	Clay ...	8 and under	1	353
Longbrook Street ...	0.2	Clay ...	20-25	1	335
Hoopern Street ...	0.3	Clay ...	8-10	1	316
Frog Street	0.4	Gravel ...	8 and under	1	229
Paris Street	0.5	Clay ...	10-15	6	1,024
Culverland Road ...	0.5	Clay ...	10-15	3	179
Belgrave Road ...	0.5	Clay ...	8 and under	1	171
Russell Street ...	0.7	Clay ...	8-10	3	398
Market Street ...	0.7	Clay ...	10-15	1	127
Belmont Road ...	0.8	Clay ...	20-25	2	230
King Street	1.2	Sandstone	8 and under	2	163
Chute Street... ...	1.7	Clay ...	8-10	3	168

ascending order of female phthisis death-rate over 5 years of age (calculated, however, not on the female populations alone, which were not available, but on the total populations). In a parallel column are placed the average rateable values of the inhabited houses in each street. A glance over this table, I would submit, suggests a relation between soil and phthisis, the lower death-rates being on generally more pervious soils, but does not suggest any marked correspondence between phthisis death-rate and rateable value. A closer examination, however, does indicate a definitely lower death-rate in streets of rateable values over £20. For, by comparing all death-rates under 0.5 per 1,000, and all of 0.5 per 1,000 and over, we obtain Table II.

TABLE II.

Rateable Value of Inhabited Houses in £ per annum.	Population with Female Phthisis Death-rate under 0.5 per cent. per 1,000.	Population with Female Phthisis Death-rate of 0.5 per cent. per 1,000 and over.	Total
£8 and under ...	946	334	1,280
£8-10	1,076	566	1,642
£10-15	353	1,350	1,703
£20-25	401	230	631
£25-30	287	—	287
Over £30	122	—	122

Here, however, if we exclude the streets with rateable values of £20 and over, there is no indication that poverty increases the phthisis death-rate, the indication apparently being the other way, doubtless because the poorer streets are so often on the more permeable soils. Confining our attention, therefore, to streets with rateable values up to £15 only, we obtain Table III, giving us the relation of soil in these streets to phthisis death-rate.

TABLE III.

Soil.	Total Population.	Female Phthisis Death-rate.
Gravel	407	0.24
Sandstone	905	0.33
Clay	3,423	0.55

Although these populations are very small (especially when it is considered that the female deaths have had to be calculated on the total populations), the conclusion that here soil does really influence phthisis death-rate seems to me difficult to explain away.

In the Country Parishes.

Next let me turn to the country parishes. Table IV gives these parishes grouped according to the geological formations on which the villages stand, the probable rainfall being also given for each. In some cases, a few houses are built on other formations, and these are as follows: In Ashcome, Dunsford, and Ilsington a very few houses are on alluvium. In Ide some houses stand on alluvium and millstone grit. In Bridford and Christow some are built on granite; in Bridford a few are also on river gravel. In Lustleigh some are placed on millstone grit. Otherwise the formations lived on are uniform, except the Devonian. Devonian is, strictly speaking, a composite formation. My justification for not subdividing it is that, whether from steepness of slope or perviousness of material, or some other reason, it seems to be generally associated with a relatively low phthisis death-rate, not merely in Devonshire but throughout Great Britain.

Here the effect of rainfall has first to be considered. In one sense it need not really be eliminated, for its influence, if any, on phthisis in shelter from wind may well be explained by its making the soil more or less damp. Still, it is better to try to gauge its share in the result. The villages on permian conglomerate, with lowest phthisis death-rate, have probably the lowest rainfall; but the villages on Devonian, with a higher rainfall, have also a very low death-rate. On the other hand, the

TABLE IV.—*Phthisis Death-rates per 1,000 per Annum in Parishes Sheltered from S.W., W., and N.W. Winds, 1880–1899.*

Name of Parish.	Population, 1891.	Deaths.	Rate per 1,000.	Probable Rainfall.
Villages on Permian Conglomerate or Sandstone:				
Ashcombe	167	0	0	About 40 in.
Manhead	158	0	0	,, 40 ,,
Ide...	648	1	0.15	,, 35 ,,
	973	1	0.10	
Villages on Devonian:				
Bittadon...	46	0	0	,, 50 ,,
Brendon...	294	0	0	,, 45 ,,
High Bray	226	2	0.8	,, 55 ,,
Challacombe	226	1	0.4	,, 65 ,,
Trentishoe	96	1	1.0	,, 45 ,,
Berrynarbor	652	2	0.3	,, 40 ,,
Arlington	238	0	0	,, 53 ,,
East Down	346	1	0.2	,, 50 ,,
	2,124	7	0.32	
Villages on Millstone Grit:				
Dunsford	665	1	0.15	,, 38 ,,
Bridford...	429	3	0.7	,, 38 ,,
Christow	567	4	0.7	,, 38 ,,
Doddiscombsleigh ...	250	0	0	,, 38 ,,
Ashbury...	69	0	0	,, 45 ,,
Tawstock	1,206	9	0.7	,, 40 ,,
Ilsington	1,000	5	0.5	,, 50 ,,
	4,117	22	0.53	
Villages on Granite:				
Widecombe	744	7	0.9	,, 60 ,,
North Bovey	417	3	0.7	,, 50 ,,
Lustleigh	415	1	0.2	,, 50 ,,
Gidleigh...	129	0	0	,, 50 ,,
Throwleigh	231	3	1.0	,, 50 ,,
	1,936	14	0.70	

villages on shale, with an intermediate rainfall, have a higher mortality than either; whilst the villages on granite, where the heaviest mortality obtains, have probably not much more rain than those on Devonian. It is, therefore, at least clear that the rainfall alone will not account for the differences in the death-rates, and thus here again it seems difficult to escape from the conclusion that these differences are really dependent on differences in the soil.

CONCLUSION.

I am perfectly aware of the defects of these very limited figures and, as I have said, I do not dream of basing any final conclusions upon them; the method I have tried to illustrate necessarily greatly limits the material available for investigation. Other influences also may exist of which we are now ignorant. But if I have satisfied you that the lines I have indicated hold out a better promise of reliable results in the future than those which have been hitherto followed, I think I shall have justified the inroad I have made upon the valuable time of the Section.

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THE GASTROSCOPE AND ITS USES.

BY

HENRY S. SOUTTAR, B.M., B.Ch.Oxon., London Hospital. and THEODORE THOMPSON, M.A., M.D., M.R.C.P., F.R.C.S., Assistant Physician and Pathologist to the London Hospital.

[*With Special Plate.*]

I.—DESCRIPTION OF THE INSTRUMENT.

By Dr. SOUTTAR.

It is now nearly three years since we first attempted to solve the problem of gastroscopy. For the first twelve months we worked in the dark—literally, for no ray of light ever reached us through the primitive contrivances which we hoped would one day develop into gastroscopes. At the end of that time we were rewarded, and saw the gastric mucous membrane for the first time. Yet those early tentative experiments were, I think, well directed, and taught us much of the anatomical and mechanical difficulties which we had to face. I therefore make no apology for describing the method we pursued.

We considered it axiomatic that a gastroscope must consist of a series of jointed segments, so constructed that during passage it should be flexible, but that when in position the segments could be locked together into a rigid tube. In this we were wrong, as I shall show later, but I still think that this was the best and safest way in which to attack the problem. Experiments on the cadaver proved futile: the stiff jaw, the rigid spine, and the flaccid oesophagus made the passage of instruments difficult and the results misleading. We therefore had to be content with mere measurements from the cadaver and to carry out our actual experiments on the living. This of course meant that we had to proceed by very short steps and with scrupulous care, taking every precaution that consideration could suggest.

Two questions met us at the outset: (1) What is the normal form of the oesophagus? and (2) To what extent can it be straightened? To answer these we passed metal-lined bougies and examined their shadow on a fluorescent screen by means of x rays, the subject meanwhile bending his back and moving his head in various directions. We then constructed a metal bougie cased in rubber, and made of several short segments of metal tube so connected together that the whole formed a flexible rod which could, after introduction, be rendered rigidly straight. We found that this bougie could be passed and straightened when *in situ* without inconvenience to the patient. In order to make absolutely certain of this very important point we first tried the experiment upon ourselves. It was then clear that, in spite of the intimate relation of the oesophagus to the heart and other important viscera, the oesophagus would tolerate a straight rod reaching from the fauces to the cardiac orifice of the stomach, and 15 mm. in diameter.

Beyond the cardiac orifice such a straight rod cannot be carried, for it will impinge directly on the lower dorsal vertebrae where their bodies form the lower portion of the dorsal concavity. The lower end of our instrument was therefore bent forwards at an angle of 30 degrees. The nose of the instrument was thus brought clear of the spine, and into the lumen of the distended stomach. At the upper end an oral portion was added at an angle of 60 degrees with the oesophageal limb. It thus projected conveniently from the mouth with the head in a natural position.

Thus, with only two angles, we had laid down the outlines of a gastroscope which, when in position, would conform exactly to anatomical requirements and throw no undue strain on any structure. One other question remained. Could such an instrument be passed? At first sight, the forward tilt of the beak would seem to render its passage in such a perilous neighbourhood a most dangerous proceeding. As a matter of fact, this lower angle is the

safeguard of the instrument. When it is to be passed, the head and neck are brought well forward, and the dorsal concavity is thus accentuated and its curve continued into the cervical region. The angular instrument will now fit snugly into this concavity, instead of lying across it as would happen were it straight. As the instrument descends, the head and neck are allowed to fall back, and the dorsal curve is so far reduced that behind the straight middle portion of the instrument it is inconsiderable. As a matter of experience, we have never had the slightest difficulty either in passing the instrument or retaining it in position, and no ill effects from its use have been observed.

The results I have thus briefly sketched were only obtained by laborious work and after repeated failures. The technical difficulties in the construction of the instruments themselves were very great. Fortunately, I was able to make them entirely myself, but six complete instruments were made before we reached a practicable form. A seventh was made for us in Berlin, and an eighth I have again made myself embodying certain technical improvements. The expenses have been very considerable—the Berlin instrument alone cost £60; and I most gratefully acknowledge the generous help we have received from the Trustees of the London Hospital Medical College Research Fund. Without their aid our progress would have been very seriously hampered. This last instrument is much simpler than any of its predecessors, and I propose briefly to describe its construction.

In the language of morphology, we may describe it as a tubular structure whose wall is formed of three layers—an outer protective, a middle supporting, and an inner transmitting layer. These layers remain distinct through the whole length of the instrument, and each must be described in turn.

The outer layer consists of a moulded steel tube, and is in two portions united by a very substantial joint. The whole forms a sheath of very great strength and rigidity, absolutely watertight and effectively protecting the delicate mechanism it contains.

The middle layer consists of two metal tubes coated with silk and introduced into the two portions of the outer sheath before these are united. These tubes carry at their ends the two mirrors which are necessary at the angles of the instrument. Their silk covering insulates them from the outer sheath, and thus a means is provided for carrying electric current to the lamp in the nose-piece.

The inner layer consists also of two tubes. These can rotate freely inside the middle layer, and being provided with gear teeth, rotation can be transmitted by their means from the eye end of the instrument to the nose-piece. These internal rotating tubes surround the above-mentioned mirrors which thus lie within their cavity. The exact method by which the mirrors are supported in this difficult position is clearly shown in the diagrams.

Into the details of the intricate optical problems involved I do not propose to enter. I will merely point out that light from the stomach wall, falling on the small window in the side of the nose-piece, is reflected immediately by a mirror behind that window of the tube, and through a lens of very short focal length. This lens forms inside the tube a minute image of a very large field. The light from this image, after reflection at the mirrors at the two angles of the instrument and refraction at another lens, forms a small image near the eye end. This last image is examined by an eye-piece, and the net result is that a very large area of the stomach wall is seen at one time and of about its natural size. Rotation of the nose-piece will make the window face in any direction. By rotation of the instrument as a whole, the nose-piece can be deflected to either side of the stomach. Finally, by a combination of these two movements, the operator can sweep practically the whole inner surface of the stomach.

In order to see the stomach wall, it is essential that the stomach should be inflated with air. This is done after the introduction of the instrument by pumping air in at the nozzle near the upper end. The air is conducted down the central cavity of the instrument, and emerges through a small aperture at the lower end covered by a rubber band.

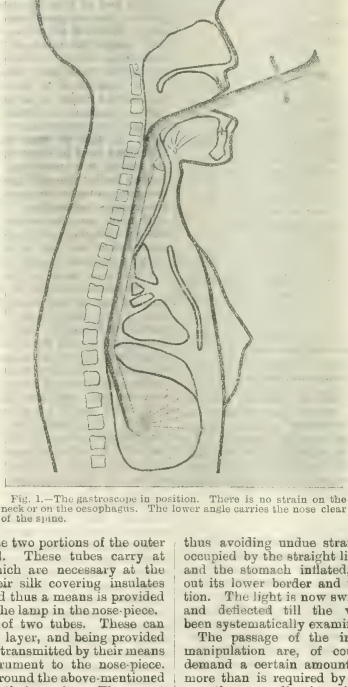


Fig. 1.—The gastroscope in position. There is no strain on the neck or on the œsophagus. The lower angle carries the nose clear of the spine.

The method of using the gastroscope is as follows: The stomach is, if possible, empty, and shortly beforehand it is washed out by means of a tube. The patient is preferably under an anæsthetic, lying on a flat table with a low pillow beneath the shoulders to assist in flattening the dorsal curve. The anæsthetist now props the mouth open with a Mason's gag, and lifts the head forwards without any tilt at all. A full-sized bougie is now passed as a precaution, and after its withdrawal the nose of the instrument is guided carefully into the pharynx by the finger. At the cricoid cartilage, some resistance is always met from tilting of the cartilage and from spasm of the upper end of the œsophagus. Gentle manipulation soon enables the instrument to pass, and it is now allowed to glide by its own weight down the œsophagus. Slight spasm is again met with at the cardiac orifice, and is useful as indicating the instant at which the nose enters the stomach. As the instrument glides down, the head is gradually allowed to fall back again, thus avoiding undue strain as the œsophagus becomes occupied by the straight limb. The pump is now attached and the stomach inflated, whilst an assistant percusses out its lower border and thus gauges the degree of dilatation. The light is now switched on, and the nose rotated and deflected till the whole mucous membrane has been systematically examined.

The passage of the instrument and its subsequent manipulation are, of course, delicate proceedings, and demand a certain amount of manipulative skill, but not more than is required by a cystoscope. With reasonable care the proceeding is entirely devoid of danger.

Dr. Thompson will describe what we have already seen with our instruments. We have, however, hitherto aimed rather at perfecting the instrument than at examining cases. We felt that it was our first duty to place in the hands of the profession a reliable gastroscope based on sound mechanical and anatomical principles, not easily

deranged, so that it could be used with confidence and success by any one with ordinary skill and care. In this, I think, we have succeeded. Future experience will, I hope, suggest many improvements, but I do not think that it will greatly modify the general lines of the gastroscope which I have described.

II.—RESULTS OBTAINED BY GASTROSCOPY.

By THEODORE THOMPSON, M.D.,
Assistant Physician, London Hospital.

BEFORE giving an account of the results achieved by the use of the instrument I feel I must express my thanks for the assistance afforded to us by the London Hospital Endowment Fund for Medical Research. The preparation of the very complicated instrument which Dr. Souttar has so clearly described not only demanded infinite patience and mechanical genius, but was also extremely costly, and

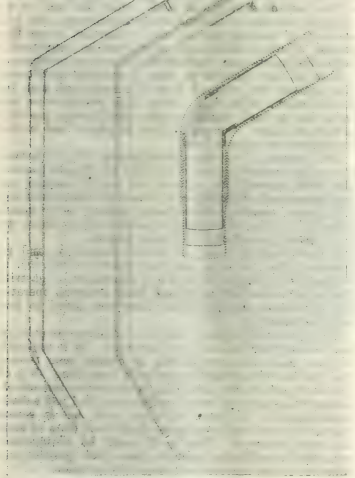


Fig. 2.—Mechanical and optical details.

we have to thank this Endowment Fund of the London Hospital for coming to our aid in this matter.

It can fairly be said that the introduction of the cystoscope produced almost a revolution in the treatment of genito-urinary diseases, and it was the success of workers in this field which led us to attempt the direct inspection of the gastric mucous membrane without resort to laparotomy.

The importance of this subject is shown by the multitude of workers who have devoted themselves to the early diagnosis of the graver disorders of the stomach. The result of their work has been to modify many of the data formerly relied upon for diagnosis, and the subject, instead of becoming simpler, has rather increased in complexity. The two common diseases of the stomach in which early diagnosis is imperative are carcinoma and ulcer, and in many cases the failure of the present methods of examination is notorious. In fact, the physician in an early case may often be in doubt whether he is dealing with a malignant growth, an ulcer, or merely a functional disorder of the gastric mucous membrane.

The pathogenesis of a gastric ulcer is still far from being definitely known, and there can be no doubt that our instrument will be of service in elucidating this point. The scars found in the stomachs of patients who have died of other diseases points to the fact that there is a natural cure of gastric ulcer. It will be our duty to see how far medical treatment can aid this natural process of cure, and to endeavour to ascertain what conditions are unfavourable to the healing of an ulcer.

In gastric carcinoma we have a form of new growth which for some time remains localized to the stomach, and could the condition be recognized early, surgical interference might lead to much more favourable results than are at present secured. In many cases the diagnosis is not made until a tumour can be palpated, and it is now known that when the disease has progressed thus far the lymphatic glands have almost invariably become infected. Consequently it is imperative that carcinoma of the

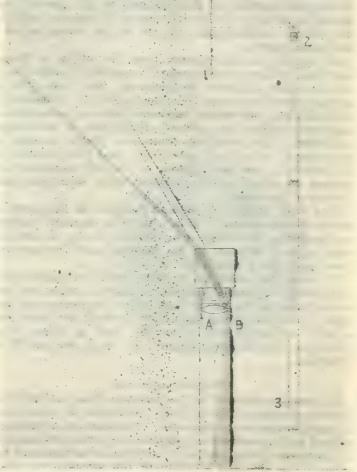


Fig. 3.—Simplified diagrams of the optical construction. Mirrors are omitted, and in the larger the reflecting prism is replaced by a glass cube. The figures indicate respectively: 1 1, the stomach wall; 1' 1', the reflection in the reflecting prism; 2, the small image formed by the short focus lens close to the prism; 3, the larger image formed close to the eye-piece, through which it is viewed. The larger drawing shows in more detail the construction of the short focus lens. Two pencils of light have been calculated and drawn to show the extent of the field of view. They converge respectively to the points A, B in the first small image (2).

stomach should be diagnosed before the tumour becomes palpable.

It was at one time thought that the chemical examination of the gastric juice would furnish a certain clue to the diagnosis of gastric disorders. Dr. Golding-Bird first noted that the secretion of hydrochloric acid was greatly diminished or absent in many cases of carcinoma of the stomach. Recently, however, many cases of undoubted carcinoma of the stomach have been recorded in which the amount of hydrochloric acid in the test meal was either normal in amount or actually increased, and it seems probable that the absence of hydrochloric acid is due rather to the accompanying gastritis than to the carcinoma itself. Thus, in an early case of carcinoma ventriculi observed some years ago by the authors, hydro-

chloric acid was absent when the patient was admitted to hospital, but, under careful treatment, all symptoms disappeared and examination of the test meals gave a normal content of hydrochloric acid. The case was thought to be one of gastritis and was discharged apparently cured, only to return in three months' time with a large nodular liver. At *post-mortem* examination a small growth was found in the stomach with secondary deposits in the liver. Had we possessed a gastroscope at the time of his first admission, a correct diagnosis would have almost certainly been made in time for successful operative interference.

Moreover, the problem has become more complex since the work of Moore and Palmer, who have shown that carcinoma in parts of the body other than the stomach leads to a great diminution in the amount of hydrochloric acid in the gastric juice. Consequently, we must accept the conclusion of von Jaksch and Garrod that "the presence or absence of free hydrochloric acid in cases of carcinoma of the stomach is a symptom of doubtful import, and that it must be weighed in conjunction with the other circumstances of the case." In fact, it is probable that the earliest indications of gastric cancer at present known are really those of the gastritis excited by the presence of the new growth within the stomach, and therefore it is of the greatest importance to examine directly the interior of the stomach in all cases of persistent gastritis in adults, in order to determine whether the chronic inflammation is due to the irritation of a malignant growth.

As regards chronic gastric ulcer, the claim of Riegel that there is always an increased secretion of hydrochloric acid has been disputed by Lenhartz, who finds that in chronic ulcer the amount is often deficient. Moreover, it has lately been shown that recurrent profuse haematemesis may occur without any chronic ulceration of the mucous membrane. The condition known as gastric erosion, or gastrostaxis, is far from uncommon, and this addition to our knowledge has been gained by directly inspecting the mucous membrane of the stomach after laparotomy and incision of the organ.

This brief review of present methods of diagnosis of gastric disease shows, I think, that if a practical method for inspecting the mucous membrane of the stomach is found, a great advance in the diagnosis and treatment of disorders of the stomach will be made.

We have purposely up to the present refrained from examining the greatest possible number of cases, our aim having been to render the instrument as perfect as possible. Thus after an examination it would be found that a slight alteration was advisable, and a delay, often prolonged, had to occur before the next case could be examined.

Transillumination.

The results obtained by this instrument are not only the direct inspection of the mucous membrane, it serves also to transilluminate the stomach. The stomach is gradually inflated with air after the instrument is passed, the amount of distension being gauged by abdominal palpation of the organ. The size and situation of the stomach can thus easily be made out.

The powerful lamp at the lower end is then lighted, and, the room being darkened, we get transillumination. Its value is not, of course, very great, but it serves to indicate the position and size of the stomach approximately, and cases have been recorded in which growths on the anterior surface of the stomach have thrown a shadow on to the bright area. By moving the lamp from side to side the various parts of the stomach can be in turn illuminated.

Gastroscopy.

The possibility of examining the whole of the gastric mucous membrane may seem remote, but it was felt that unless nearly the whole of the stomach could be examined a large part of the value of the instrument as a means of diagnosis would be lost. This object has been attained by the use of the revolving nose-piece. Thus, when the cardiac portion is being examined the tip of the instrument is turned to the left, and by gradually revolving the nose-piece nearly the whole of the mucous membrane in this region can be viewed. When it is required to examine the pyloric end the tip of the instrument is turned to the right and the lower end again rotated.

I would draw attention first to the appearances presented by what we believe to be healthy gastric mucous membrane (see Special Plate).

The first appearance is that of a bright red reflex, very like that seen in ophthalmoscopic examination of the fundus oculi. On carefully focussing with the eye-piece the folds of the gastric mucous membrane can be seen running transversely across the field (Figs. A and B). On the surface are numerous bright specks of light due to the reflexion of light from particles of mucus on the surface. In some cases vessels can be seen as dark lines coursing over the field, and at times branching. A striking feature is the appearance of the pyloric end of the stomach. Here the folds of membrane are distinct (Fig. C), and appear to converge towards the funnel-shaped pylorus (Fig. D), and to blend with the smoother mucous membrane in this region.

The appearances presented by the mucous membrane differ to some extent in the different parts of the stomach. On the anterior surface the folds can be easily seen running transversely across the field. At the cardiac end the folds are not so well marked, and appear to be broken up and irregular. Looking towards the pylorus the folds are very well marked and converge towards the pyloric opening. One of the figures on the plate (Fig. C) shows some of the well-marked pyloric folds, when the wall of the stomach was close to the end of the gastroscope; the folds are seen of natural size or even somewhat larger than normal. Foreign bodies such as food can be recognized by their movements upon the folds of the mucous membrane.

Thus on one occasion we were examining the stomach of a patient who suffered from dyspepsia and who had been ordered a strict diet. Some dark objects were seen inside the stomach, which, on subsequent lavage, proved to be damson skins. Our patient had to admit that he had breakfasted on damson jam.

The drawing of carcinomatous pylorus (Fig. E) is taken from a case under the care of the late Mr. Harold Barnard. The folds around the pylorus are poorly marked, and numerous small elevations can be seen on the surface, as if the mucous membrane were being pushed up by masses below it. At the subsequent operation the pylorus was found to be the seat of a malignant growth.

A small gastric ulcer of recent formation, and not indurated, is shown in another drawing (Fig. F). It occurred in a girl aged 24 who had symptoms of gastritis. Two months after this ulcer had been observed operation was undertaken, and the small ulcer was found to have entirely healed up.

In some cases the gastric mucous membrane is pale, and the folds are not then so easily observed. It is especially in these cases that vessels can be clearly seen running over the field of view and occasionally branching (Fig. G). The last figure on the plate (Fig. H) shows the stomach of a patient who, six weeks before gastroscopy, had had a severe haematemesis. No large ulcer was seen, but in several places in the mucous membrane dark blood clots of small size were observed. They could easily be distinguished from objects inside the stomach, since their position with reference to the mucous membrane did not alter.

Such are some of the results obtained by the use of this instrument. At some future date we hope to bring forward further researches on the direct inspection of the lining wall of the stomach.

HOUR-GLASS CONTRACTION OF THE STOMACH.

By A. GORDON GULLAN, M.D.Lond., M.R.C.P.Lond., F.R.C.S.Eng.,
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CASES of hour-glass contraction of the stomach are sufficiently rare to be interesting; and, as recently an example of this condition came under my care in the Liverpool Stanley Hospital, I felt that a report of the history of the patient and a clinical account of her illness would be instructive and acceptable to this meeting, especially as at no time whilst under observation could the bilobed condition of the stomach be recognized by physical examination.

History.—The patient, a single woman, aged 36, always in comfortable surroundings, lived in a healthy district.

TO ILLUSTRATE A PAPER BY DRS. SOUTTAR AND THEODORE THOMPSON.

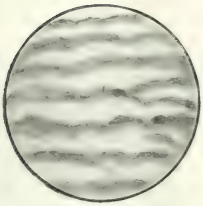


Fig. A.—Anterior wall, normal.

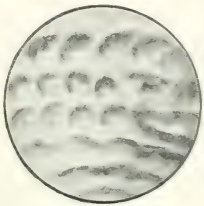


Fig. B.—Fundus, normal.

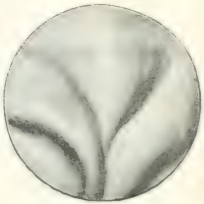


Fig. C.—Folds near pylorus.

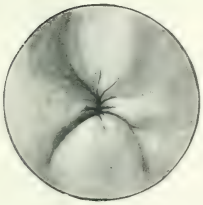


Fig. D.—Normal pylorus.



Fig. E.—Carcinomatous pylorus



Fig. F.—Ulcer.

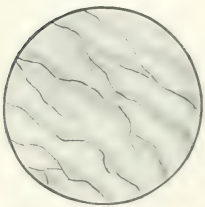
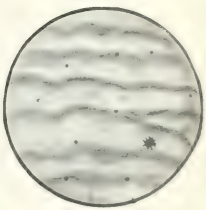


Fig. G.—Anaemic mucous membrane.



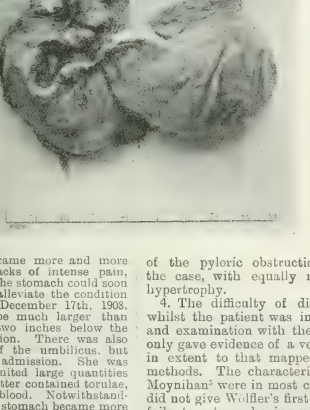
Her family history was good, with no record of gastric disturbance. She had not been subject to any serious or prolonged illness, but ever since her school days she had been a "dyspeptic," by which is meant that she had occasional attacks of vomiting, and vomited easily, without pain, and often without apparent reason. Then about the age of 29 (seven to eight years ago) she developed gastralgia—that is, pain after food, but the pain did not seem to depend on the kind of food taken; and the attacks of vomiting also occurred after food. These symptoms gradually became worse, and in June, 1907, haematemesis was first seen, and was so profuse that it gave rise to severe anaemia; indeed, transfusion alone prevented fatal collapse. This recurred on several occasions, the quantity of blood vomited varying considerably. At this time she was under my friend Dr. Gilbert Bark, and on a diet of milk only; but her condition varied, improving when she adhered to treatment and relapsing when she failed to carry out instructions. As early as June, 1907, her stomach was recognized to be considerably dilated. The attacks of vomiting now occurred early in the morning, before any food was taken, and for two years prior to admission to hospital (September, 1908) she had been steadily losing weight.

State on Admission (September 3rd, 1908).—She was a thin, anaemic woman, with a sallow complexion and anxious expression. She was distinctly neurotic, and only weighed 5 st. 12 lb. Her tongue was coated with a yellowish fur, and she complained of acid flatulency accompanied by a feeling of distension in her stomach. Examination of the abdomen showed a distinctly tender spot beneath the upper part of the right rectus, and the stomach itself was dilated, extending down nearly to the umbilicus; splashing could be readily obtained, but there was no visible peristalsis. She was constipated and showed signs of general neurasthenia (absence of corneal reflex, knee-jerks exaggerated, and sometimes globus hystericus).

Progress.—A very light diet, gastric antiseptics, and laxatives were prescribed, and on one occasion soon after admission, as the abdominal pain was severe, a blister was applied. Her stomach was also washed out every morning. Under this treatment she steadily gained weight, the stomach gradually diminished in size, and the abdominal pain quite disappeared. She left the hospital in November, 1908—two months after admission—having gained 1 st. 4 lb. in weight, being well nourished, taking light ordinary diet with comfort, and feeling improved in every way. Within a few days of leaving hospital, however, although she adhered to the same régime, vomiting returned and a severe pain was located to the right of the xiphoid cartilage. Her doctor also noticed that the stomach, though it had been normal in size at first, after her return from hospital, steadily became more and more dilated, and she was subject to attacks of intense pain, during which peristaltic movement of the stomach could soon be seen. As no treatment seemed to alleviate the condition the patient returned to hospital on December 17th, 1908. The stomach was then found to be much larger than on any previous occasion, extending two inches below the umbilicus, and to be tender on palpation. There was also tenderness above and to the right of the umbilicus, but this was not so evident as on the first admission. She was very constipated and several times vomited large quantities of frothy curdled milk. The vomited matter contained torulae, sarcinae, free hydrochloric acid, but no blood. Notwithstanding treatment and daily washing out, the stomach became more dilated, succussion being more marked, peristaltic movements of the walls could be readily elicited, and vomiting occurred frequently, large quantities of fluid being ejected. The prominence of the hypertrophied organ was distinctly visible and the greater curvature, in fortnight after her second admission, was found to be four inches below the umbilicus, that is, just above the pubis. All this time the diagnosis was made of pyloric obstruction with dilatation and hypertrophy of the stomach and there was no evidence or physical sign to show that there was any hour-glass contraction.

Operation.—As she steadily got worse an operation was performed by a colleague on January 8th—three weeks after her second admission. On opening the abdomen in the right semilunar line the stomach was found to be very much distended, its walls greatly thickened, and the pylorus, which was situated high up under the liver, was thickened, though apparently not malignant. As the patient was very weak, a posterior gastro-jejunostomy was quickly performed, one noticeable feature being that, although the stomach had been washed out a few hours prior to the operation, large quantities of sticky, grumous fluid escaped when it was opened. She progressed satisfactorily for two days, though there were marked signs of collapse, and strychnine was administered hypodermically immediately after the operation. On the third day, however, vomiting returned and was very intractable, although she had taken nothing except a few sips of water by the mouth, and this continued though morphine was given hypodermically. The matter ejected was offensive, and consisted chiefly of thickish watery mucus, sometimes brownish-red, due to altered blood. Notwithstanding vigorous treatment, she gradually became weaker, rapidly emaciated, and died on the tenth day after the operation in a state of asthenia and toxaemia.

Necropsy.—On opening the abdomen an enormous stomach was seen, extending down from the epigastric region to the pubis. It was found to be somewhat twisted on itself, and to be distinctly divided into two large portions, both of which were larger than an ordinary dilated stomach and each capable of holding at least two quarts of fluid, the proximal cavity being the larger and thinner walled. At the constriction, which was very narrow to the right of the centre of this enormous stomach, there were serious peritoneal adhesions on the posterior aspect, which united the right side of the proximal portion with the left side of the distal, and thereby prevented the two halves when simultaneously dilated, from separating from each other, and thus prevented the hour-glass appearance becoming evident to physical examination. These adhesions occurred on the posterior aspect of the left half of the stomach, at the site where the great omentum was reflected, this being evidently due to the fact that the stomach had twisted on itself, the greater curvature kinked, and come to lie posteriorly on this part of the stomach. Both pouches had very hypertrophied walls, especially the right pouch. The pylorus was situated high up, and beneath the liver. It was very thick and tough, and its opening would only transmit a small quill. This tough, fibrous tissue was continued along the lesser curvature for a distance of about 4 in., where the hour-glass constriction occurred, and at that point the mucous membrane was thrown into a valve-like fold, and only a large quill or little finger could be passed through.



The site of the constriction appears to be in the more usual position according to Mayo Robson[1] and C. F. Martin.[2]

The interesting features of this case are:

1. The history of prolonged gastric symptoms, haematemesis, etc., which coincide with those recorded by Mayo Robson,[3] Moynihan,[4] and others.

2. The unusual twisting of one portion of the stomach on the other, and the presence of adhesions binding the two parts together and so obliterating the bilobed character.

3. The rapid development of the pyloric obstruction towards the termination of the case, with equally rapid development of muscular hypertrophy.

4. The difficulty of diagnosis. With regard to this, whilst the patient was in hospital inflation with CO_2 gas and examination with the x rays after a meal of bismuth, only gave evidence of a very large dilated stomach similar in extent to that mapped out by the ordinary physical methods. The characteristic signs so ably described by Moynihan[2] were in most cases absent. Thus washing out did not give Wolffler's first sign (*a*) "that some of the fluid fails to return, having passed into the second pouch"; indeed, more fluid usually returned than was passed into the stomach. Wölffler's second sign was not present: (*b*) after lavage has apparently thoroughly cleansed the stomach more contents reappear, probably foul and evil-smelling. (*c*) The sign of "paradoxical dilatation" (Jaworski), succussion splash in pyloric cavity after syphonage of the cardiac one, was not detected, though it was probably present just before the operation when the pylorus and hour-glass constrictions were at their maximum development. (*d*) Von Eiselsberg's test was not present owing to the two parts of the stomach being bound together and one overlaying the other. For the same reason (*e*) Moynihan's test was not apparent—namely, "distension with CO_2 gas of two separate sacs"; and (*f*) also on this account Schmidt-Monard's test, a sulcus after inflation with CO_2, was not found. (*g*) Von Eiselsberg's other test—namely, bubbling and gurgling in the stomach—was heard; but this is usually heard in every dilated stomach at some time or other during examination, and we could not

recognize any difference between the sounds present and those of an ordinary dilated stomach.

5. In this case the greater curvature was dragged up towards the lesser, and the hour-glass constriction was associated with fibrous stricture of the pylorus, a condition not uncommonly seen.

REFERENCES.

[1] *Lancet*, 1904, vol. i, p. 6. [2] *System of Medicine* (Osler and Macrae), vol. v, p. 205. [3] *Lancet*, 1904, vol. i, p. 5. [4] Ibid., 1901, vol. i, pp. 1193-4. [5] Ibid., 1901, vol. i, p. 1191.

TIC DOULOUREUX: THE TECHNIQUE AND RESULTS OF SCHLÖSSER'S METHOD OF TREATMENT.

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TIC DOULOUREUX, or epileptiform neuralgia affecting the territory of the fifth cranial nerve, is the most agonizing of all physical pains; it is an inveterate malady, whose paroxysms tend to increase in frequency, until ultimately the patient is driven in desperation to one of two alternatives—suicide or chronic morphinism. When discussing tic douloureux we expressly exclude all the minor varieties of trigeminal neuralgia due to local reflex causes, also those cases due to organic disease at the base of the skull.

True tic douloureux has been the therapeutic despair of most physicians and surgeons. Drugs, short of morphine, fail, and operations on the peripheral branches of the nerve only afford temporary relief. As a matter of fact, the only lasting benefit obtained, short of morphine administration, has been by excision of the Gasserian ganglion. But gasserectomy is a grave intracranial operation, with a high mortality even in skilled hands. Even when successful, it produces considerable deformity, with profound anaesthesia of the affected side of the face, eye, nose, and mouth, together with unilateral paralysis of the muscles of mastication, and occasionally a destructive bacillary ophthalmia in the anaesthetic eye. Moreover, in spite of all this, cases of recurrence of pain are not unknown even after gasserectomy.

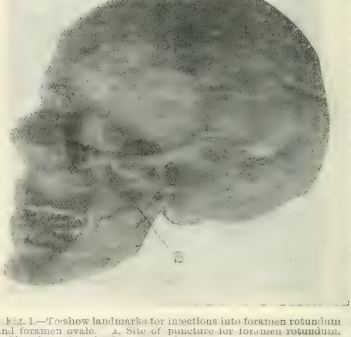


Fig. 1.—To show landmarks for injections into foramen rotundum and foramen ovale. A, Site of puncture for foramen rotundum. B, Site of puncture for foramen ovale.

Within the last three years we have learned from Schlösser[1] of Munich of a practical and much simpler alternative. Schlösser's treatment consists in the injection of alcohol into those foramina at the base of the skull through which the various divisions of the nerve emerge immediately after leaving the Gasserian ganglion. Such injections may produce a slight degree of cutaneous anaesthesia, though this is far from constant, and in many cases the anaesthesia clears up within a few days. Meanwhile, the old pain subsides and remains absent for prolonged periods. Schlösser himself, in a series of 123 cases, gives the average period of relief at between ten and eleven months, and sometimes much longer. The injections can then be repeated, each relapse being milder than the previous attacks, and the intervals becoming longer. By this method no scar or deformity is produced, no motor paralysis, and no trophic changes, whilst the actual puncture can be performed in a few seconds and under a local anaesthetic.

TECHNIQUE OF THE INJECTION.

A stout needle, 10 cm. long and 1·5 mm. in diameter, is used. Within this is fitted a blunt stilette, whose point projects slightly beyond the sharp end of the needle. The needle is marked off in centimetres up to 5 cm., so that we may know at what depth the point is. In making the injection through the skin (previously disinfected, and frozen by chloride of ethyl) the stilette is slightly withdrawn, so that the sharp point of the needle pierces the skin easily. When the point is through the skin, the blunt stilette is pushed home; thus the rest of the penetration is done with a blunt-ended instrument and no injury is done to the deep vessels. When the end of the stilette has reached the foramen in the skull, at the proper depth, the stilette is completely withdrawn; a glass syringe, ready filled with the solution, is fitted to the needle, and the injection is slowly made. We leave the needle *in situ* for a couple of minutes and then withdraw it. There is usually no bleeding, or, if any, it is so trifling that it is quickly stopped by pressure. The needle puncture is covered with collodion, and the whole affair is completed within a few moments. Except in the case of the first division of the fifth nerve, where the needle has to traverse the orbit, I prefer to do without a general anaesthetic; for when the injection is successfully made into the nerve trunk the patient feels a burning pain along the distribution of the nerve which shows we have reached the right spot. If cocaine or eucaine be added to the alcohol this pain passes off very soon, and is followed by anaesthesia as already described. The solution which I employ at present consists of beta eucaine grains 2, absolute alcohol dr. 6, aq. destillat. to 1 oz.

To reach the *foramen ovale*, through which the third division of the trigeminal emerges from the skull, the needle is inserted through the cheek behind the last upper molar tooth, at the lower border of the zygoma,[2] at a point 2½ cm. in front of the descending root of the zygoma (see Fig. 1), which can always be felt as a ridge close to the anterior border of the external auditory meatus. After piercing the skin we push home the blunt stilette, and proceed to penetrate the deep tissues, comprising the masseter and the posterior part of the temporal muscle. The blunted needle is directed backwards and slightly upwards till it impinges on the skull at the external pterygoid plate. It is then pushed on, upwards and backwards, along the bone, until it comes to the base of the pterygoid process. It is then pushed backwards, and slightly more upwards, until it enters the foramen ovale, at a depth usually of about 4 cm. from the zygoma (see Fig. 2). The stilette is now withdrawn, and the injection is slowly made. A difficulty to which other observers have not referred, but which I have occasionally met with, may occur in edentulous subjects, in whom the whole mandible is displaced upwards, so that the upper parts of the ramus and coronoid process are overlapped by the zygoma, thereby preventing the needle from reaching the deeper structures. The difficulty is overcome by making the patient open the mouth widely.

To reach the *foramen rotundum*, through which the second division emerges, is less difficult. Here our guide is the posterior border of the orbital process of the malar bone. We prolong this line downwards to the lower border of the zygoma, and insert our needle ¼ cm. posterior to this point (see Fig. 1). Pushing horizontally inwards, and directing the point slightly upwards, the foramen rotundum is reached in the pterygo-maxillary fossa at a depth of about 5 cm. from the zygoma (see Fig. 2), at a level with the inferior extremity of the nasal

bones. The structures pierced by the needle are the anterior fibres of the masseter and the anterior edge of the temporal tendon, though this latter may be missed if the patient opens the mouth widely.

The *supraorbital division*, emerging in three branches through the sphenoidal fissure at the back of the orbit, is rather more difficult to reach with certainty, owing to the proximity of the optic nerve, and of the third, fourth, and sixth nerves. Patrick and Hecht[3] admit that the nerve is more often missed than reached by the needle, but it is not essential that the nerve trunks should actually be touched (though, of course, we should try and do so), because if the alcohol be injected in the immediate neighbourhood of the nerve it diffuses into it. The needle is inserted at the outer margin of the orbit, close within the fronto-malar articulation (see Fig. 3), and is passed along the outer wall of the orbit to a depth of 3½ to 4 cm. Or the puncture may be made midway between the supra-orbital notch and the outer edge of the orbit, passing the needle along the roof towards its outer side.



Fig. 2.—A, Needle with point in foramen ovale at a depth of 4 cm. B, Needle with point (concealed) in foramen rotundum at a depth of 5 cm.

Although a single injection may suffice to relieve the pain, it is advisable to repeat the injection after a couple of days, and until the last trace of pain disappears we repeat the injections at short intervals. In one of my cases no fewer than seven injections were required before the patient was finally relieved.

Certain minor complications may be associated with injections of this sort. Injections into the foramen ovale and foramen rotundum may produce a slight degree of stiffness in the masseter and pterygoid muscles, which are pierced by the needle. Injections into the foramen rotundum may cause slight paresis of the facial muscles, lasting a few days. Kiliani of New York has suggested that this may be due to the connexion between Meckel's ganglion and the facial nerve *via* the Vidian. Sometimes injections into the foramen rotundum may overflow into the orbit, and produce oedema of the lower lid for a day or so. Injection into the sphenoidal fissure always produces marked oedema of the upper and lower lids, and occasionally also transient palsy of external ocular muscles, since the branches of the fifth nerve as they emerge are intermingled with the third, fourth, and sixth nerves. I have once seen the end of the needle nipped off during withdrawal from the foramen rotundum, by sudden upward movement of the coronoid process when the patient closed the jaw.

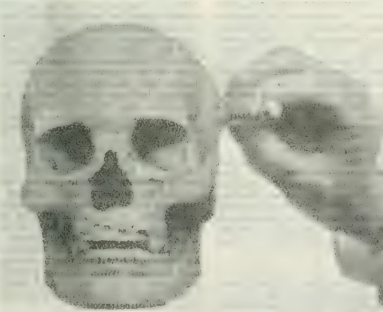


Fig. 3.—Mode of reaching sphenoidal fissure.

Illustrative Cases.

Case I.

A male patient, aged 69, had suffered for seven years from tic douloureux on the right side, mainly in the third division of the nerve. In spite of assiduous treatment by drugs and hypodermic injections of cocaine, the pain had progressively increased in severity. All the teeth, upper and lower, on the affected side had been extracted without avail. The patient was in constant agony night and day, walking about striking his head against the wall during his paroxysms. He could not masticate, and had to be fed with fluids. He came up to London to have the Gasserian ganglion removed, and for this purpose he consulted Mr. Ballance. Mr. Ballance found him to be a stout, flabby man with a feeble heart, with oedema of the legs and albuminuria, and therefore judged the risk of gasserectomy to be too great. Accordingly, injections of alcohol were performed into the foramen ovale and foramen rotundum. These were repeated four times in all within ten days. After the first injection the patient called for his tea, and ate a mutton chop—the first for years. A week after the first injection the pain recurred, but by the end of the twelfth day all the pain had subsided. Since then—twelve months ago—the patient has been free from pain.

Case II.

A man of 46 had suffered for four years from right-sided facial pain, chiefly in the second division of the trigeminal. Paroxysms were induced by any facial movement, or by chewing. He had been treated by drugs without appreciable benefit for nearly a year. Three injections were made into the foramen rotundum within seven days. After the second injection the spontaneous paroxysms ceased, and after the third injection all pain disappeared. This was eleven months ago, and there has been no recurrence.

Case III.

A woman, 58 years of age, had suffered for three years from paroxysmal pains in the gums and face, in the distribution of the second division of the right trigeminal nerve. Paroxysms were induced by washing the face, and the patient was unable to wear her artificial teeth owing to pain. She had an intermission of six months when under treatment by iron and arsenic; the pain then recurred with increased severity. Osmic acid was injected into the supra-orbital foramen, and gave her relief from pain for two months. The pain then recurred. One injection of alcohol was given into the foramen rotundum ten months ago, since when she has been free from pain.

Case IV.

A woman of 62 had suffered for seven years from right-sided epileptiform neuralgia, chiefly in the third but also in the second division of the nerve. She had been assiduously treated

by drugs without avail, and came prepared to have gasserectomy done if necessary. All the teeth had been extracted. Three injections of alcohol were made into the foramen rotundum and foramen ovale within eleven days. No relief was noticeable until after the second injection on the fourth day. After the third injection the dull pain remaining disappeared, and she is now, six months afterwards, free from pain.

CASE V.

A woman of 50 had suffered for two and a half years from severe paroxysmal pains in the second and third division of the left trigeminal nerve, induced by speaking or chewing. She had a spontaneous intermission fourteen months ago, lasting six months; the paroxysms then recurred and increased in severity, in spite of assiduous medicinal treatment by Dr. Ferrier, who ultimately sent her to me for treatment by deep alcohol injections. She had two injections into the foramen rotundum and foramen ovale at an interval of three days. The pain entirely disappeared from the lower jaw, but she still had dull pain in the supraorbital division. Accordingly, on the ninth day, a third injection was made into the foramen rotundum alone. Since then, six months ago, she has been free from pain, and has been able to resume her occupation as companion, which she had had to resign.

CASE VI.

An old lady of 80 had suffered for twenty years from pain in the second and third division of the right trigeminal nerve. All sorts of drugs had been employed without avail. She was unable to chew or even to wear her artificial teeth, nor could she speak or wash her face without inducing paroxysms of pain. The pain was most marked in the side of the tongue, in the lower gums, and in the lip. There was tenderness on pressure over the mental foramen. Two injections were given into the foramen ovale and foramen rotundum at intervals of four days, and a third injection on the eleventh day into the foramen ovale alone. The paroxysms of pain diminished in frequency and in severity after the first injection, but the patient was highly emotional and somewhat difficult to manage. After the third injection she was entirely free from pain, except for a few twinges a fortnight later during a couple of cold days. After nearly five months since the original injection the pain is still entirely absent.

CASE VII.

A woman, 65 years of age, had suffered for three years from intense neuralgia on the left side of the face, chiefly in the third division of the nerve, but also in the second division. Touching the skin induced an attack. The upper and lower teeth on the affected side had been extracted without relief. She was assiduously treated by gelsemium and other drugs without benefit. Two injections were made into the foramen ovale and foramen rotundum at intervals of seven days. The severe pain ceased after the first injection, and the slight remnants of pain were altogether removed by the second injection. She remains entirely free from pain after four and a half months.

CASE VIII.

A clergyman, 63 years of age, had suffered for four years from severe trigeminal neuralgia in the second and third division of the right side. All the teeth on the affected side were removed without relief. He had been treated by drugs and by various electrical methods, also by counter-irritants and by hypodermic injections of chloroform. Paroxysms of pain were induced on the slightest provocation, as by talking, chewing, shaving. He had also a constant dull pain. A single set of injections into the foramen rotundum and foramen ovale removed the paroxysmal pains at once. A slight dull ache recurred, and accordingly on the fourth day a second set of injections were given with marked relief. A slight recurrence on the twelfth day was treated with a third injection. Since then he has been free from pain, now over four months ago.

CASE IX.

A woman of 68 had suffered for sixteen years from left-sided tic douloureux, mainly in the infraorbital region. She was unable to wash the face, blow the nose, or chew, without inducing a paroxysm. During an attack there was profuse salivation and lacrymation on the affected side. One injection into the foramen rotundum removed the paroxysmal attacks; a second injection, a week later, removed the lingering tenderness of the face. Since then, two and a half months ago, she has been free from pain and able to chew, etc., with comfort.

CASE X.

A male patient, 49 years of age, had suffered for ten years from intense neuralgia on the right side, in the first and second divisions of the nerve. His attacks numbered sometimes twenty per hour and were of great severity. His right eyebrow was worn away by the friction of the hand as he pressed it against the face during the paroxysms. All the teeth had been extracted without avail, and the patient could not shave without inducing an attack. Five injections within eighteen days were given, into the sphenoidal fissure and the foramen rotundum. Some diminution in the number of paroxysms followed the first few injections, but it was not until the fifth injection, on the sixteenth day, that pain ceased. A sixth injection into the foramen rotundum on the eighteenth day finally removed the last trace of pain, and the patient went home three months ago free from pain. This case was particularly obstinate, and the patient deserved great credit for the pluck and determination which he displayed in persevering after the comparatively small benefit resulting from the first four injections.

CASE XI.

A man of 60 had inveterate epileptiform neuralgia for ten years, affecting the second and third divisions of the nerve on the right side. The pain was most intense in the second division; chewing precipitated an attack. There having been no improvement under medicinal treatment, he had two injections into the foramen rotundum and foramen ovale at intervals of three days. The pain was markedly relieved, and he became able to chew without pain. A few momentary flashes of pain still occurred, sometimes in the upper, sometimes in the lower jaw, and for these five additional injections were performed into the foramen rotundum and foramen ovale, according to the site of the pain, the last injection being made five weeks after the first. His general health underwent marked improvement, and he remained free from pain for four months. The attacks then recurred, though with diminished severity, and affecting the lower jaw only. Two and a half months ago I gave him another series of injections into the foramen ovale, and the pain is again relieved.

CASE XII.

A woman, aged 67, had suffered for twenty-five years from supraorbital neuralgia on the right side, the paroxysms being induced by chewing or touching the face. All the teeth had been extracted. Curiously, after a series of severe paroxysms, she always noticed an unusual increase of appetite for food. Under large doses of gelsemium with arsenic she had a year's relief from pain. It then recurred with increased severity, and latterly she has been again unable to wash the face or to chew without inducing a paroxysm. On July 8th an injection of alcohol was given into the foramen rotundum. This rendered chewing, washing, and speaking painless, but she still had occasional spontaneous paroxysms. Accordingly, a second injection was performed on July 12th, and a third on July 15th. She writes me on September 11th that she is free from pain and has returned to Wales.

CASE XIII.

A lady, 76 years of age, had suffered from trigeminal neuralgia in the second and third divisions of the nerve for fifteen years, paroxysms being induced by washing the face, also by chewing, so that she was unable to take solid food. The pain was both in the cheek and in the upper and lower gums and palate. Two injections into the foramen ovale and foramen rotundum at intervals of six days removed the spontaneous paroxysms, but there still remained some pain in the lower jaw in chewing. Accordingly, a third injection was made on the fifteenth day into the foramen ovale alone. This was two and a half months ago.

CASE XIV.

A highly strung man of 35 had suffered from right-sided headaches from the age of 10 or 12 years. Fifteen months ago he was operated on by Mr. Ballance for suppuration of the right frontal sinus, and there is now no evidence of disease in any of the accessory sinuses. After the operation the right-sided pain, which had been for some time almost constant, became intermittent, the patient having a paroxysm about once every three weeks, starting in the right frontal region, rapidly attaining intolerable intensity, and requiring full doses of morphine hypodermically to relieve it. There was no nausea or vomiting, nor any evidence of gross intracranial disease. There was an area of cutaneous hyperaesthesia corresponding to the distribution of the supraorbital nerve. An injection of alcohol was made into the sphenoidal fissure, but within two hours the patient had one of his intense paroxysms of pain, lasting for two days, and requiring large doses of morphine for its relief. In view of the aggravation of pain which followed this injection, I did not deem it prudent to repeat it.

CASE XV.

A nulliparous married woman, aged 35, who had been the subject of various minor pelvic operations, complained of constant gnawing pain in the left face, chiefly in the second division of the nerve, of eight to nine years' duration. In addition she had violent exacerbations, sometimes lasting for hours, and was unable to lie on the affected side of the face. All the teeth had been extracted on both sides. She belonged to a gouty family. On examination, there was tenderness on pressure over the supraorbital and mental foramen. Four injections in all were given within fourteen days into the foramen rotundum and foramen ovale. These produced moderate anaesthesia and analgesia in the second and third divisions of the nerve, but although the paroxysmal pain seemed better the constant dull pain was unrelieved.

SUMMARY OF RESULTS.

Out of 15 cases of trigeminal neuralgia of the most severe type, some of them in patients of advanced age and feeble physique, 12 cases (or 80 per cent.) have been entirely relieved of pain for periods varying from twelve months downwards. Of the remaining 3 cases, one was free from pain for four months, when the pain recurred, less severely, and has been treated again by the same method. The second case was in a young woman in whom there was a strong element of functional

neurosis, possibly associated with pelvic troubles, whilst the third case was one of old-standing frontal sinus disease.

Since writing the foregoing paper I have had 5 more cases, all of them with a successful result.

This method, therefore, is not a permanent cure of every case of trigeminal pain, yet in the great majority of cases it affords relief for prolonged periods, and we can claim it as a notable addition to our means of treatment in otherwise intractable cases. It is, moreover, free from the pain, risks, and serious deformities of the major operation on the Gasserian ganglion.

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DISCUSSION.

Dr. FOSTER KENNEDY (London) asked Dr. Purves Stewart if he considered the risks of alcoholic injection for trigeminal neuralgia sufficiently negligible to warrant the treatment being adopted in all cases of this condition. Advocates of Schlosser's method had stated that their results were often, in fact usually, achieved by the diffusion of the injected alcohol around the offending divisions of the fifth nerve. This diffusion was an occurrence completely outside the control of the operator; important and even vital structures lay in the immediate vicinity of the injection, and might, it seemed probable, become affected, with disastrous consequences to the patient. For example, retrobulbar neuritis with subsequent optic atrophy had been reported. The operation of gasserectomy in the hands of a careful surgeon almost invariably cured the condition at a risk which was usually grossly exaggerated. In those cases in which some pain still remained there was probably a rare abnormality in the course of some of the nerve fibres; the possible abnormalities in the skull leading to incorrect judgements in the operation of injection were probably less uncommon and equally impossible to guard against. It would seem, after due consideration of the dangers and advantages involved, that the radical cure should be attempted, except in those patients having gross cardiac or other disease, in whom a major operation would cause imminent danger to life.

THE TREATMENT OF TABES DORSALIS.

By TOM A. WILLIAMS, M.B., C.M.,
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As a preliminary to the consideration of the treatment of tabes dorsalis Dr. Williams entered into a discussion of its pathogenesis, insisting that tabes cannot be a dystrophy of the sensory protoneurone since it is a degeneration secondary to a meningitis of specific nature, which falls most heavily upon the posterior roots from anatomical and physiological causes. His observations with regard to treatment were as follows:

Recent evidence tends to show that there is as much validity in administering mercury in tabes, and even paresis when diagnosed early, as there is reason to do so in arterial degeneration and gumma, whether in the central nervous system or not. The latter are both unamenable to such remedies in so far as the contiguous parenchyma has been destroyed; and atheromatous arteries have no more power of regeneration than has the central nervous system. But no one withholds mercury for these reasons; for though it cannot restore dead tissues, we believe that it at least increases resolutive activity and aids in arresting the gravity of the infective process. We are not yet certain whether mercury and iodides act antibacterially or as antitoxins directly, or whether they do so by stimulating the defensive reactions of the organism by means of the internal secretions or otherwise. There is even a possibility that just as digitalis may shorten the life of the individual by using up cardiac energy prematurely, so may mercury exhaust the defensive powers of the patient. Thus Kron concludes from the study of 482 cases that more treatment connotes earlier tabes, and Craveri believes in low doses from his experience of earlier cases, many of which lacked the Westphal sign and had only one symptom.

Faure, of Malou, has pointed out that mercury, while it does harm to tabetics with chronic cystitis or intestinal troubles, or cachexia, is of great benefit even in some cases of tuberculosis, if not pulmonary. He quotes a case of a man of 40 who had had tuberculous ostitis, and was attacked by a severe tabes with multiple symptoms. After five years of mercurial treatment he is in excellent health, and most of the annoying symptoms have disappeared. Moreover, in tuberculous cases not treated by mercury relapses are very frequent.

In Donath's case the knee reflexes, which had disappeared five months after the first symptoms showed themselves, returned twenty-two months later.

The experience of Erb and Babinski strongly confirms the usefulness of mercury; they find that the pain especially disappears after thorough treatment, and that the progress of the disease ceases, although, as before explained, regeneration cannot be expected. Lesser believes that the Wassermann reaction is of use in controlling the administration of mercury, in that it becomes much feebler during treatment, and that he has found it in only 50 per cent. of tabetics, on account of the well-known tendency to arrest in this disease, whereas the complement is deviated in all cases of paresis.

It must be recollected that the specific meningitis which causes tabes is often complicated, especially in later life, by arterio-sclerotic conditions. These long ago caused Gowers to place degenerated spino-cerebellar tracts in the picture of tabes. In estimating the pathogenesis of tabetic disorders such anomalies must be taken into consideration. Thus, Long reports a case of spastic tabes where the reflexes disappeared only at the end of the disease, and the roots were little altered.

In the early stages, too, the pial trabeculae, in reacting to the noxa, may show peri-arterial infiltrations, as shown first by Bentler, as Schroeder found in 5 cases, not only in the posterior column, but in the whole circumference of the cord and optic nerve and brain stem as well, though not in the cortex. These appearances were not found in alcoholic pseudo-tabes. This is the process that occurs in the cortex of paralytics; but, according to Alzheimer, it rarely occurs within the cord of tabetics, although he, in common with Nageotte, has always found infiltration and thickening of the pia mater itself, as has Spiller in most cases.

Another source of error is the acute and grave degenerations of medulla and nerve which sometimes occur in syphilitics, whether tabetics or not. Thus Preobraschensky reported a case which died in thirteen days after onset of an acute muscular atrophy of limbs and trunk. It was only at the end of the illness that pains and irregular pupils ensued; the man had had syphilis fifteen years before. *Post mortem*, atrophy of the anterior horns and infiltration of the vessels of the cord, with atrophy of the roots near the cord, were found.

Crouzon and Villaret report that after some months of right sciatica (meningo-myelitis) a man of 42 died in eight days of an acutely ingravescent ascending paralysis. François-Dainville reports that seven years after infection, with no symptoms or treatment, a woman of 23 was admitted owing to albuminuria. She had no cerebral symptoms, not even headache; but she died in nine months, a tabetic. *Post mortem* was found a meningo-vascularity, like that first described by Déjerine and Sottas.

I have by no means exhausted either the facts or the arguments in favour of the point of view here presented, for they are accumulating daily, and while in Paris last month I myself observed an extraordinary number of cases of tabes fruste, local radiculites and early cortical manifestations of luetic meningitis.

When seen and treated in this early state, these conditions may be at least arrested in a large proportion of cases. This is particularly the case with regard to the ocular symptoms; but mercury must be given here by intravenous injection, so that it may rapidly gain access to any diseased focus. In Abadie's clinic during the last eight years an average of 30 cases has been injected per day; and there has never been the least accident, phlebitis or pain never having occurred. In St. Louis, on the other hand, these complications are not infrequent, and they are due to timidity in making the injections and to one not adopting the safeguard of drawing a little blood from the vein into the syringe before injecting the solution. Wm. Froguer informs me that a considerable number of

cases of tabetic optic atrophy has in this way apparently been arrested, sometimes with considerable recovery of vision. Not only so, but the lightning pains from which many patients have suffered for years (although they do not come to the ophthalmological clinic for these) have often been treated without avail as rheumatism. It is the characteristic diplopia, amaurosis, ptosis or iritis which brings them to Abadie; and the cure of the lightning pains or improvement of an ataxia which may be present is to the patient an incident in the relief in his ocular symptoms.

Milian, too, reports both complete and symptomatic cures in early cases. He believes, however, that late cases are aggravated by mercurial treatment. Montagnion and Girond of St. Etienne also report cures; and many other observers in pushing the mercury and introducing it directly into the system are actively testing this method of treatment.

PRURITUS IN LYMPHADENOMA.

By H. D. ROLLESTON, M.D., F.R.C.P.,

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ITCHING of the skin in lymphadenoma is not very often recorded; thus, in 86 cases of lymphadenoma mainly published since 1903, and analyzed by Longcope,[1] its occurrence was mentioned in 3 only. It is probably commoner than this, if I may judge from cases which I have seen and been informed about by medical friends. Perhaps the reason why the presence of pruritus is not more often noted in the reports of cases of lymphadenoma is that the association is not very widely recognized, and that its occurrence is regarded as accidental, and without any direct bearing on the subject. Mr. F. H. Watson has examined the records at St. George's Hospital, and has found that out of 20 cases pruritus occurred in 3. Byrom Bramwell[2] has recently published a case of lymphadenoma with intense pruritus in which there were recurring crops of extremely itchy papules on the skin.

The cause of the pruritus is unknown. It is not due to drugs, although in one case it was ascribed by the patient to potassium iodide. It may occur before the disease is diagnosed, and before the patient is given arsenic. It does not appear to have any direct relation to *x* rays. It is certainly not specially related to the presence of lymphadenomatous growths in the skin; these growths are very rare—much rarer than pruritus in the disease—and in very few of the cases of pruritus was there cutaneous invasion. In one case in St. George's Hospital, a boy aged 16 years, there were growths in the skin; this case was published by Dickinson and Fenton[3] on account of the growths in the skin, but they do not mention the pruritus which Dr. Graham Little, who was much interested in the case, assures me was present.

I have not been able to establish any constant relation between widespread lymphadenoma of the viscera and pruritus.

In a man aged about 34, seen in private, who had been operated upon for supposed hepatic abscess, and was then found to have lymphadenoma, there was no pruritus.

In a man aged 53, seen in private, who had also been operated upon, and a piece of the liver removed which showed lymphadenoma, there was severe itching of the skin after the operation, which he ascribed to the administration of iodide of potassium. The itching disappeared while the lymphadenoma progressed.

In a man aged 40, under Dr. J. Collier's care in St. George's Hospital, with lymphadenoma of the liver, itching came on very shortly before death—within forty-eight hours—the patient, who was somewhat delirious, complaining that the nurses had put fleas into his bed.

In Dickinson's case of pruritus, already referred to, the liver was lardaceous, but did not show lymphadenoma.

It is natural to surmise that it is toxic and due to a poison liberated in the evolution of the disease. In Dickinson and Fenton's case already referred to it is noteworthy that the liver showed lardaceous change, although there was not any evidence of syphilis or suppuration. The lardaceous change suggests the action of a toxin, and so supports the suggestion that the pruritus was due to a like cause. Nicolau,[4] in an account of the cutaneous manifestations of leukaemia and pseudo-leukaemia, describes a case of lymphadenoma with generalized exfoliative dermatitis and pruritus, and refers to similar cases recorded by Wassermann, by Peter, and by Elsenberg. It might, perhaps, be argued that the occasional occurrence of generalized exfoliative dermatitis in lymphadenoma supports the view that pruritus is toxic.

The question arises whether, as I am inclined to conclude, pruritus has a special relation to lymphadenoma, or whether it also occurs in leukaemia. I have not noticed it in any cases of leukaemia, and in a remarkable case of leukaemic tumours of the skin shown by Dr. Wilfrid Fox and myself at the Dermatological Section of the Royal Society of Medicine on June 17th, 1909, there was not any pruritus. On the analogy of the itching of jaundice, which is hardly ever seen in children, a similar exemption might be anticipated in young subjects with lymphadenoma. The earliest age at which it occurred among the cases of which I have notes was 16 years, in Dickinson and Fenton's patient, and the next 17 years, in a girl under the care of Dr. F. P. Whittick.

Pruritus may be one of the earliest symptoms of lymphadenoma, and appear before any glandular enlargement has been noticed. The occurrence of pruritus has in some instances caused the patient to consult a dermatologist first, and has indeed led to the diagnosis of lymphadenoma (Radcliffe Crocker). I have been told of other cases in which inexplicable and severe pruritus preceded any obvious evidence of lymphadenoma. Sir Cooper Perry has given me the details of the case of a man who came under observation for pruritus, and a lichenized condition of the skin due to scratching; as the inguinal glands were enlarged the question of Hebra's prurigo was raised. The man died, and the necropsy showed undoubted lymphadenoma. Although most striking as an early symptom of lymphadenoma, pruritus may occur late in the course of the disease. It may disappear as the disease advances, and may appear and disappear again and again.

In one case which I saw bouts of itching occurred at intervals, and were followed by definite enlargement in the size of the glands. It may begin first in the limbs, or be universal and so severe that the skin is torn into innumerable sores by scratching.

In some of the cases in which it has been a very early symptom the disease has run a very rapid course; and though it is unwise to generalize from a few cases, my impression is that the early onset of pruritus points to a rapid and virulent form of lymphadenoma.

In some cases the pruritus is so refractory to ordinary treatment that morphine is necessary.

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THE VALUE OF MENTAL SYMPTOMS IN DIAGNOSIS.

By W. J. MAGUIRE, B.A., M.D., F.R.C.P.,

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THE object of my remarks is to draw attention to the value of investigating mental symptoms occurring in general medicine, and thereby obtain help in an accurate, and often an early, diagnosis. We cannot ignore the fact that bodily and mental functions are concomitant factors in life, both in health and in disease. As Maudsley says in a recent brilliant address, we must recognize a "unity of body and mind"; there is no disturbance of the one without some abnormal manifestation of the other.

When we contrast the gloomy mood of the sufferer of hepatic disorder with the ever hopeful mental attitude of the young phthisic, or again, the mental torpor of the defective thyroid patient with the "boasts of strength" of the physically-weak general paralytic, we are forced to admit the great importance of a sound knowledge of mental symptoms in general medicine.

It is not intended in any way to minimize the enormous value of modern scientific research, but rather to urge that the mental attitude in diseased conditions should not be ignored. We should not, for example, be content with the

ent and dry physical examination of a patient the subject of chorea, but should take particular pains to investigate the mental symptoms, which are often the earliest indication of the onset of the disease. Nor again should we be enthusiastic when we obtain a positive Wassermann reaction in an early case of general paralysis of the insane, the diagnosis of which could be much more easily arrived at by a simple analysis of the mental disturbances invariably present.

I do not say that it will be possible to label a certain group of mental symptoms as characteristic of a definite physical disorder, but I do say that careful psychological inquiry into the vast majority of cases met with in the wards of large general hospitals would yield an amount of knowledge that would prove extremely useful, not only in diagnosis, but in prognosis and treatment. Further, were even a little such teaching given to students, it would tend to the acquirement of a more intimate knowledge of the patient's feelings and experience, which, I submit, is valuable in the treatment of every case, and, in addition, would help to correct the somewhat veterinary-like manner of examination adopted by some and so justly resented by the patient.

It has, I make bold to say, fallen to the lot of some of us, when confronted with a case presenting mental disturbances, to feel more or less at sea in our efforts to arrive at a diagnosis. I have known such a case diagnosed as cerebral tumour by a noted surgeon, acute mania by a distinguished physician, resulting in the patient's removal to an asylum, where he passed through an ordinary attack of typhoid fever with recovery. And again, a young man presented the symptoms which suggested the diagnosis of disseminated sclerosis, with a fairly good prognosis, but a careful examination of the mental state left no doubt that it was a case of general paralysis of the insane, and death occurred in two years. Or it may be a young adult is brought to hospital with a history of loss of speech of sudden onset, and nothing else, and the case is vaguely labelled aphasia; yet he has disturbances of memory and orientation characteristic of anergic stupor, which is cured in a week by brisk purgation.

As a means of investigating mental symptoms for the purpose of diagnosis, the following method might with advantage be adopted:

1. *Family History.*—Inquire into any hereditary tendency to nervous diseases—alcoholism, epilepsy, syphilis, etc. Such taints in the parents are prone to render the offspring liable to chorea, hysteria, etc.

2. *Personal History.*—Inquire into the nervous conditions in infancy, in childhood—whether the patient has been the subject of fits or convulsions. Next, the period of adolescence, or puberty; or, if a married woman, pregnancy, labour, lactation should receive attention. Lastly, the patient's employment should be noted.

3. *History of Present Illness.*—Sudden or gradual onset. Exciting or predisposing causes.

4. *Psychical Examination.*—Disturbances of consciousness:

(*a*) Coma.
(*b*) Befogged state.
(*c*) Diminished sensibility.

(*a*) *Coma.*—This disturbance is met with in various toxic conditions—head injuries, brain tumour, etc.

(*b*) *Befogged State.*—Met with in epilepsy.

(*c*) *Diminished Sensibility.*—Met with in cases of various poisoning—for example, chloroform, ether, etc.—and also in the infectious fevers.

5. *Orientation.*—That is, the clear comprehension of one's environment as to time, place, and person. Disturbance of orientation is a frequent symptom in fevers, acute and chronic alcoholism, etc.

6. *Memory.*—Here it is important to ascertain the nature of the disturbance, whether there is loss for recent or past events, or amnesia, or paramnesia. We meet with such symptoms in paralytic attacks, head injuries, cerebral tumours, Korsakow's syndrome.

7. *Attention.*—Disturbance of this function is of great importance in our examination of the young. For example, we find inattentiveness frequently accompanying such a common condition as adenoids. Blunting of attention occurring at puberty or adolescence may be a prominent symptom, warning us of the onset of serious mental deterioration. During convalescence, after an attack of typhoid fever we are all familiar with distractability of attention.

8. *Judgement.*—This does not so much concern us as the alienist. It is sufficient for our purpose to note the delusions of jealousy met with in the chronic alcoholic and the hypochondriacal delusions often existing in a patient who has been the subject of syphilis, or it may be of gonorrhœa.

9. *Volition.*—In fevers, alcohol and chloroform poisoning, various toxic states, from stuporous conditions to acute mania, manifold disturbances of this function are manifested.

10. *Emotions.*—Here we investigate the temperaments of our patient, important alike in diagnosis and treatment. We are familiar with the irritable condition of the epileptic, the hysterical and the choreic child, the sunny, hopeful disposition of the phthisical, the feeling of well-being of the general paralytic, not to mention the well-known drunkard's humour.

With some such method in our mind we could, I believe, gain a fairly comprehensive knowledge of a case presenting mental symptoms, which would be helpful to us in diagnosis.

MISCONCEPTIONS CONCERNING THE RIVIERA.

By D. W. SAMWAYS, M.D., D.Sc., M.R.C.P.,

Mentone, France.

IT often seems to me a pity that the profession at home is not more skilful when ordering patients abroad. Nothing is more common than to hear visitors on the Continent ridicule the suggestions and directions received from their English medical advisers relating to the places suitable for their treatment abroad. In this matter a little knowledge is a dangerous thing, as, unlike much medical advice, it is easily tested. When, as is commonly the case, the advice proves erroneous, doubts arise on other things in the minds even of the faithful. When recommending a resort, fashion and fancy ought to have no more than a casting vote in its selection. Judging, however, by what one sees and hears, these factors dominate the consulting-room no less than the boudoir and drawing-room. The fashionable physician should be one who leads opinion in these matters, not one who meekly follows it; and his judgement should be able to stand up against the fancy or fad of the hour.

There is, moreover, a regrettable lack of dignity shown in the way advice on health resorts lacks stability and balance. One year the orders are all for Nauheim, or it is the grape cure or the sun cure which is *de rigueur*. The next year the place or treatment has been found not to be infallible, as from the first should have been anticipated, and the consultant, instead of recognizing the good in his last year's pet, and indicating its deficiencies and drawbacks, straightway condemns the whole.

Like other places, the Riviera has been petted and dropped for new loves and charmers. It is out of favour with a large section of the medical profession, though it otherwise seems to remain as popular as ever. I want, if possible, to remove one or two of the misconceptions which, I think, mislead or prejudice the profession against a district which is still well worthy of their support, and likely to justify it.

In the first place, it is usually supposed that the Riviera has a marine climate. All the important text and guide books, whether medical or otherwise, teach this. The argument is that the Riviera, being by the sea, must be grouped among places having a sea climate. On one side, however, the Riviera is by the mountains; why should it not equally be grouped among mountain resorts? Must the south side count as everything and the north as nothing? Textbooks say the climate is marine; a map leaves the matter doubtful, but statistics prove that the climate is essentially that of the mountains adjacent.

The Riviera is by the sea as regards position; it is remote from the sea as regards climate. During approximately 100 per cent. of the nights the air moves seaward. I was told by the chief officer of Gordon Bennett's yacht, which for years lay off the Riviera in winter, that an off-shore wind at night is almost universal, and my experience of thirteen years fully confirms this record. The mountains immediately behind the Riviera are the Maritime Alps, and rise in many places, as behind Mentone, to 3,000 or 4,000 ft., while in all places they reach, within no great distance, to 6,000 or 8,000 ft. in height. It is the air descending from these mountains which sets through the towns seaward at night-time. The inhabitants of the Riviera are, therefore, at night-time as much in the mountains as if they were in Switzerland, and breathe the same fresh, invigorating, and exciting air.

During the day-time the air likewise passes seaward on most fine days, and when during the day there is a temporary indraught from the sea, consequent on the sun's

rays heating the land, this breeze from the sea is not a sea breeze. It is usually mountain air which, having set seaward during the night, is sucked back as an indraught during the hottest hours of the day. As a hare doubles on its course, so does the north-born air come in for a few hours from the southern sea. It is still dry, fresh, mountain air, utterly unlike what is known in England as a sea breeze in feel and characters.

Occasionally we have a true sea breeze from the south-west or south-east, with a falling barometer. This is usually accompanied by cloud and rain, and is comparatively rare. On these cloudy and wet days the Riviera climate may be marine, but they are the exception, not the rule, while a breeze from the sea at night is almost unknown. Sunday has as much influence on the habits and morals of the Riviera as the sea has on its climate. They both count for something, and deserve a passing mention, but are far from being of marked importance.

The second misconception concerning the Riviera climate relates to its treacherousness. Now, treachery implies either deception or faithlessness, and the fault may lie either with the thing abused or with the abuser. The Riviera climate is deceptive to a man who makes the British climate a standard for climates. A newcomer often carries an umbrella when it is cloudy while he leaves his overcoat at home when it is sunny; and if he be deceived it is not because the climate is treacherous, but because it is faithful to itself, and takes no account of his insular prejudices and standards.

Many an English physician depreciates the Riviera because when he visited it, in an exhausted condition, for a week's change of air and scene he caught the worst cold of his life, and returned home a sadder, and, unfortunately, a more ignorant, man. It is not invalids who catch colds on the Riviera because of the climate, but healthy persons who climb the mountains in the sunshine and sit down to cool on the top, or who drive about without overcoats or wraps, forgetting that with a summer's sun there is winter air. Colds are not common on the Riviera with a man who knows how to take care of himself and makes use of his knowledge. They are very common with a stranger who thinks he knows, and who will live and behave as though it were summer.

The climate, I say, is faithful to itself and perfectly consistent. During thirteen winters I can only twice remember catching a cold which I could trace to a chill; once through driving without an overcoat, and once when waiting two hours at the station for an overdue train.

There is no danger to the most delicate invalids who behave wisely on the Riviera, though there is some danger in getting there. The journey certainly has risks, but the place itself, to a person instructed regarding the climate and careful to follow these instructions, has no tricks and inconsistencies, and is as free from risks as the most approved or newly discovered of climates.

The climate is also sometimes condemned for its inconstancy. Taken on the whole, the climate is almost too constant for invalids, who often do best when it is variable. Just as it has been shown that a weak heart does not want constant rest, but rather suitable exercises, so my experience indicates that weak lungs are the better for having to adapt themselves to limited climatic changes; and digestion seems to follow the same law, for Mitchell Bruce writes: "It may appear remarkable at first sight that there are limits even to the advantages of digestibility of food for the sick. The functions of the stomach and bowel tend to become impaired by complete or protracted rest." One advantage of the Riviera over Madeira and like equable climates is that the changes stimulate the appetite (which seldom fails) and give reasonable opportunities for exercising the adaptation powers of the lungs.

The third misconception I should like to correct is the prevalent idea that invalids are unwelcome on the Riviera. This arose from an effort on the part of the hotel-keepers in Mentone to remove the prejudice created by the impression that consumption abounded there. The Engadine and sanatoriums had long since deprived Mentone of the tuberculous patient, but not of the reputation for receiving him. To have the stigma and nothing else was not business, hence the published and well-known announcement from the bulk of the Mentone hotel-keepers that they will no longer receive tuberculous patients. Notwithstanding that announcement, I have never had any difficulty in keeping or placing a consumptive in any of these hotels. Naturally no hotel-keeper, either on the Riviera or elsewhere, desires to receive an individual looking like the pictures of a raised Lazarus; but no hotel manager would exclude—on the contrary, he would welcome, especially in the early or late winter months—such invalids as are fit to face so long a journey as one to the Riviera. A tuberculous patient is an arch deceiver, and generally would be passed by a hotel proprietor as a fit and proper person to adorn his hotel. Patients whose appearance is a distress to their neighbours can be accommodated in flats or villas, if it be considered advisable, as sometimes it well may be, to send them abroad.

I should like to pay a passing tribute to the value of the Riviera climate for lung complaints, though I am not anxious, all things considered, to see its merits appreciated as they should be by phthisical patients. I am convinced that the reputation the Riviera gained under Dr. Bennet of Mentone many years ago it still thoroughly deserves, and it would be well for the profession occasionally to bear its usefulness in mind. As a place it is sunny, cheerful, and dry. If a mountain climate is the most useful for the majority of consumptives, as the popularity of high Swiss resorts for these cases seems to indicate, the Riviera, and especially Mentone, has a mountain climate. The air has most of the advantages and lacks many of the disadvantages of high mountain air, and particularly, that being at sea level, it is more suited to those—heart cases especially—who find high altitudes trying and to people with low vitality. A large proportion of the Riviera medical men settled there because of pulmonary breakdown, and, in spite of the fact of comparatively unfavourable conditions associated with having to practise, they have almost all done well. "Physician, heal thyself," has been practised successfully in their case, and they are well justified in recommending the cure.

The fourth misconception relating to the Riviera to which I desire to call attention is the impression that the so called English Riviera offers climatic advantages comparable to the French. I have a home on both the Rivieras, and I find the month of October in South Devon more wet and wintry than the whole of the subsequent six months in Mentone.

The misunderstanding is due to the fact that the air temperature on a given day in winter is sometimes the same on both Rivieras. The comparative climatic merits of two districts cannot, however, be settled by occasional temperature records. Thus on February 13th last the *Daily News* contained the following statement: "Last night the only mild place was Iceland. At Seydisfjord temperature was as high as 50°, or 18° warmer than in the South of England." Unfortunately for the Icelandic Riviera there are no boat or railway companies interested in its development. Where otherwise would the South of England be in face of such a record? The same paper on February 15th contained the following remark: "Aberdeen was not only the warmest city in the United Kingdom yesterday, with a temperature of 49°, but was 13 milder than Biarritz at the same hour." Where would Biarritz be against Aberdeen if this state of things were other than exceptional?

Supposing, however, that the external air temperature were on the average equal on the English and French Rivieras, the conclusion that the climates were comparable would still be grossly erroneous. Sea breezes, humidity, cloud and dullness, characterize the one; mountain air, dryness, blue sky and sunshine distinguish the other. A temperature of 45° at Penzance or Torquay means an indoor temperature in an unwarmed house of perhaps 50°, whereas a south room at Mentone will often record a temperature of over 60° under the same conditions. The difference is due to the difference in sunshine. With an air temperature of 45° the Riviera is commonly bathed in blazing sunshine, and the walls of the houses are steadily being baked all day. An unwarmed front room in Mentone will seldom fall below 50° at night-time, though the thermometer outside fall to freezing point. As a large proportion of life in winter is inevitably spent indoors, the sun-bathed houses of the South of France are drier and warmer than those of the South of England in proportion as the sunshine is more constant and more generous.

SECTION OF PATHOLOGY.

Professor W. ST. CLAIR SYMMERS, President.

PRESIDENT'S INTRODUCTORY REMARKS.

PROFESSOR SYMMERS, after addressing a few words of welcome to the members and a brief allusion to the contents of the programme, called for the reading of the first paper forthwith.

OBSERVATIONS ON THE PATHOLOGY OF INNOCENT GOITRE.*

By HELEN CHAMBERS, M.D., B.S.Lond.,
Clinical Pathologist, Royal Free Hospital; Scholar, Cancer Research Laboratories, Middlesex Hospital.

THE present paper is based on a study of 261 cases of goitre recorded in the registers of the Royal Free Hospital during the nine years 1900–8. Mr. James Berry has already published many of these cases in his book on *Diseases of the Thyroid Gland*, 1901, and also in a paper entitled "An Analysis of 274 Additional Cases of Removal of Goitre by Operation,"† considering them chiefly from the clinical aspects.

In the present investigation the object has been to study the pathological changes occurring in the thyroid gland in cases of innocent goitre, and in collecting the hospital statistics only those cases are included which have been treated by operative removal: of these 93 have been examined histologically. Cases of malignant disease and a few rare tumours of the thyroid recorded in the same period of time have been omitted and are considered elsewhere. The classification of the different types of goitre treated during the last five years is based on my own observations of the specimens after removal: previous to this date the description of the specimen as found in the hospital records has been adopted. I am indebted to the authorities of the Royal Free Hospital for permission to make use of the records; to Mr. Berry for allowing me to have free access to the notes and material of both his hospital and private cases; and to Mr. Legg for permission to use the clinical notes of two of his cases. I have to thank Miss Wortham for much care taken in the preparation of sections, most of which have been cut by the celloidin method, and to her I am indebted for most of the photomicrographs.

With the exception of 2 cases of Graves's disease, all the cases of innocent goitre operated on during the period 1900–1908 can be classified, from the structural changes in the thyroid gland, into three groups:

1. Parenchymatous goitre 30 cases
2. Adenomatous goitre ... 174 ,,
3. Adeno-parenchymatous goitre ... ... 55 ,,

In the first group—that is, parenchymatous goitre—there is a uniform enlargement of the whole thyroid, involving both lobes—isthmus and pyramid (if present)—and the gland hence retains its original shape. The outer surface is smooth, except, perhaps, for slight irregularity, caused by enlargement of the lobules. These are more distinct than in a normal gland, and are outlined by fibrous septa, extending inwards from the capsule. The cut surface shows an almost homogeneous structure. The vesicles are everywhere distended with clear colloid. Small cysts are often found, due to the coalescence of adjoining vesicles. They are rarely more than 1 cm. in diameter.

The cases of the second group—that is, adenomatous goitre—are characterized by the development in the gland of encapsuled masses having a structure resembling more or less closely that of the thyroid gland tissue. Fig. 1 shows the cut surface of a thyroid of this type. It is a vertical section through the right lobe of a thyroid gland removed *post mortem* from a woman, aged 48, who died of lymphatic leukaemia, and was said to have had Graves's disease four years previously. In the centre of the gland there is a colloid adenoma showing as a dark spherical mass, owing to the translucent tissue of which it is composed. In the upper part of the same lobe there is a small triangular-shaped adenoma, and in the gland tissue around there are several smaller masses, which are possibly of the same nature. The shape of the thyroid in this type of goitre depends entirely upon the number, size, and position of the encapsuled masses embedded in it. It is rarely symmetrical, one lobe being often more enlarged than the other. The surface is usually irregular, owing to the underlying nodded masses encroaching upon and pushing outwards the capsule of the gland. The gland tissue is little, if at all, enlarged, and the goitre increases in size by the continued growth of the adenomata embedded in it. Degenerative changes in these tumours are extremely common, consisting of haemorrhage, softening, cyst formation or calcification. In this series of cases the adenomata have been removed by enucleation, or more commonly by resection-enucleation. The majority are of considerable size. They have varied in weight from 18 to 393 grams. A single adenoma was removed in 141 cases, multiple adenomata in 33 cases.

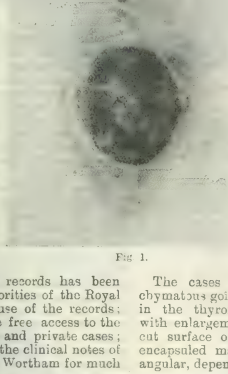


FIG. 1.

The cases of the third group—that is, adeno-parenchymatous goitre—are characterized by the development in the thyroid of many encapsuled masses combined with enlargement of the gland tissue. Fig. 2 shows the cut surface of a goitre of this type. It contains many encapsuled masses which are spherical or irregularly angular, depending upon the pressure of the surrounding tissues. They are similar in structure to the adenomata of Group 2, and, like these, are commonly undergoing degenerative changes, and may be completely cystic. The gland tissue is increased in quantity, and in some cases much of the thyroid enlargement is due to this overgrowth of the parenchyma. In other cases the gland tissue is less affected, or it may undergo secondary fibrotic changes; the enlargement is then chiefly due to the growth of the adenomata. The shape of the thyroid in a goitre of this kind varies considerably. One lobe only may be affected, or more commonly both lobes are involved, one being larger than the other. The whole organ is sometimes uniformly enlarged and smooth, and the distinction from a parenchymatous goitre can then only be made after the goitre has been removed and incised. In most cases, as in the adenomatous forms, the surface is nodular, owing to the adenomata encroaching upon and pushing outwards the capsule.

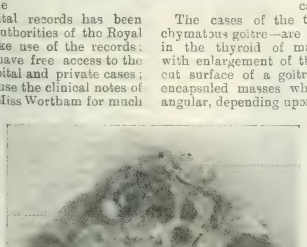


FIG. 2.

The relation of goitres of the second and third groups to each other is probably very close, and in many cases

* Part of this paper formed the subject matter of a thesis accepted by the London University for the M.D. degree. The expenses of the research were defrayed by the Mabel Webb Research Scholarship.

† Cysts of the thyroid are included in this group, as it is now well recognized that in the large majority, if not in all cases, they result from degenerative changes and softening of adenomata.

Table I.—*1900–1908.*

Age Period :	All Ages.		Age 10–15.		Age 15–20		Age 20–25.		Age 25–30.		Age 30–35.		Age 35–40.		Age 40–45.		Age 45–50.		Age 50–55.		Age 55–60.		Age 60–65.		Age 65–70.		Age 70–75.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Adenomatous	17	157	2	2	1	10	4	24	4	28	2	27	—	26	—	18	1	11	2	6	—	3	1	—	—	1	—	1
Adeno-parenchymatous ...	—	55	—	—	—	4	—	4	—	9	—	9	—	11	—	8	—	8	—	2								
Parenchymatous	11	19	2	7	7	7	2	5																				
Graves's disease	1	1	—	—	—	1	—	—	1																			
	29	232																										
Total	261																											

a sharp line of demarcation cannot be drawn. The chief difference often lies in the fact that in the purely adenomatous group the treatment consists in enucleating the adenoma and leaving most of the gland intact, and in the adeno-parenchymatous the whole of one lobe or portions of both are removed.

For the following reasons I believe that the purely parenchymatous must be distinguished from the other forms of goitre:

1. The macroscopic changes in the gland are distinct. The whole gland is affected uniformly; there are no encapsuled masses, and the tissue has no tendency to break down or form cysts of large size.

2. It is a condition occurring almost exclusively in young adults.

3. In comparison with other forms of goitre cases of this type rarely need surgical interference. In a total number of 261 cases treated by operation 30 only were of this variety.

4. The marked tendency of goitre to affect women is much less evident in this form. During the eight years 1900 to 1907

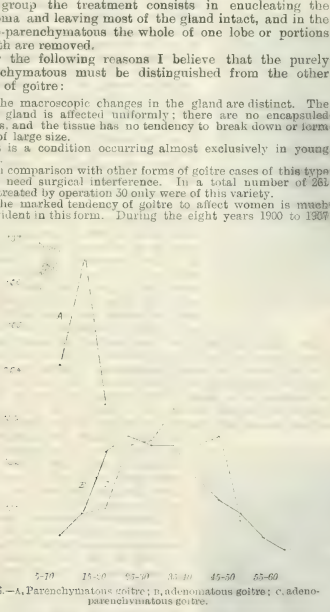


Fig. 3.—A, Parenchymatous goitre; B, adenomatous goitre; C, adeno-parenchymatous goitre.

21 cases were treated, 10 males and 11 females, an almost equal proportion in the two sexes.

Table I gives the total number of cases operated on during the nine years 1900 to 1908, arranged in quinquennial age periods. In each case the age taken is that of the patient at the time of admission to hospital, and it hence corresponds to a time when the goitre had become so large as to necessitate operative interference.

The relative proportionate liability to the three types of goitre at different ages is represented graphically in Fig. 3.*

It will be seen that the cases of parenchymatous goitre are entirely limited to the age period from 10 to 25, and that the greatest liability occurs between 15 and 20. The liability to adenomatous goitre increases rapidly after puberty, reaches its maximum between 25 and 30, and then gradually diminishes. The period of greatest liability to adeno-parenchymatous goitre is from 25 to 50 years.

Fig. 4 shows the relative proportion of cases occurring in males and females in the three types of goitre, and shows the marked tendency of goitre to affect women. The 55 cases of adeno-parenchymatous goitre occur exclusively in women. In the cases of adenomatous goitre, out of a total number of 174 cases 17 were in males, 157 in females. The cases of parenchymatous goitre show a distinct difference in this respect. In a total number of 30 cases 11 were males and 19 females, and if we consider only those cases treated in the eight years 1900-7, the proportion is almost equal.

It was thought advisable to combine the study of the histological changes in the thyroid in cases of goitre with the histological examination of thyroid glands obtained from a series of consecutive *post-mortem* cases in which there had been no symptoms during life referable to the thyroid. Sixty of these cases have been examined, and it may perhaps be well to refer here to the appearances met with in some of them. Fig. 5 shows the structure of a normal thyroid from a fetus of four months. The gland is a richly cellular structure and shows very distinctly its subdivision into lobules. Only a few of the vesicles are fully formed and filled with colloid, the majority are extremely small, and are formed of a few cells arranged in a circle round a small central space, and thus show a commencing acinous arrangement.

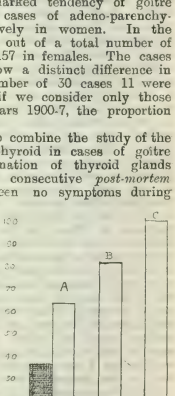


Fig. 4.—A, Parenchymatous goitre; B, adenomatous goitre; C, adeno-parenchymatous goitre.

At birth the gland has practically adult characters. The vesicles are well formed, are filled with colloid and are lined with cubical epithelium. They have no basement membrane and the epithelial cells are in close contact with the capillaries running in the connective tissue. Between the larger vesicles are smaller ones, mostly filled with colloid, a few filled with cells, and in the supporting tissue are small groups of epithelial cells with no definite acinous arrangement and probably representing undeveloped vesicles.

Twenty-three thyroid glands have been examined from children under 15 years of age. In those of children under 2 years the histological appearance is often much altered. In adults and children over 2 years the changes are comparatively slight. Half of the glands from children under 2 years showed marked alterations in

* In working out the age incidence from the data of Table I the number of cases in each quinquennial age period has been converted into a percentage of the number of survivors at each corresponding period out of 100,000 females born, and before representing these percentages graphically they have been multiplied in each group by the factors 436, 398, and 382 respectively for the purpose of inter-comparison, the denominator in each factor being the total number of cases in the group.

the histological structure. The changes in all cases are somewhat similar, namely, there is absence of colloid, often complete, the vesicles are filled with cells due to proliferation of the lining epithelium, and the whole gland becomes a solid cellular organ and loses to a great extent its vesicular characters. Fig. 6 shows this appearance and is taken from the thyroid of a child, aged 10 months, who died of tuberculous meningitis after four weeks' illness. No miliary tubercles were found in the thyroid. Similar changes have been found in cases of acute nephritis, pneumonia, empyema, broncho-pneumonia, and tuberculous peritonitis.

An explanation of this marked alteration in the thyroid glands in children is difficult. Possibly colloid production takes place in immature glands by the proliferation of the epithelial cells and their subsequent transformation into colloid rather than by the production and discharge of colloid from cells lining the vesicles, and in this way the process would be somewhat comparable with the changes in the breast in an early and late stage of lactation. The changes in adults are extremely slight. In many cases of wasting diseases, such as tuberculosis and carcinoma, the epithelium of the vesicles tends to proliferate, a few of the smaller vesicles being completely filled with cells and the larger ones being lined by a layer of epithelium several cells in thickness. The colloid in all cases is plentiful. It occasionally shows degenerative changes, and is broken into globular masses.

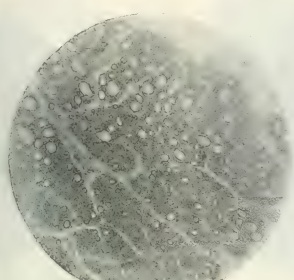


FIG. 5.

Reference must be made to the alterations found sometimes as the result of injury to the gland. Fig. 7 shows the thyroid of a child aged 13 months in whom tracheotomy had been done six days before death. The vesicles are emptied of colloid. They are no longer spherical sacs, but appear as tubular channels with their opposite walls almost in contact. The epithelium is of a high columnar type, and in some places is infolded. All these changes are probably secondary to the empty condition of the vesicles, and resemble very closely the alterations in the vesicles in Graves's disease and in many cases of so-called secondary Graves's disease. Similar changes have been described as occurring in the portion of thyroid gland left after partial thyroidectomy in animals, and have been ascribed to compensatory hypertrophy. It is evident that this conclusion is not justified unless it is shown that the changes persist after the effects of injury and inflammation have passed off.

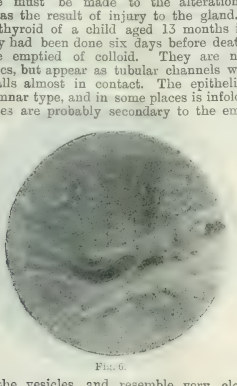


FIG. 6.

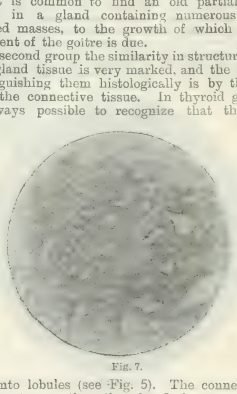


FIG. 7.

The histological structure of the thyroid in goitre cases is conveniently studied in two sections:

1. The structure of the adenomata.
2. The histological changes found in the gland tissue.

The Histological Structure of the Adenomata.—The structure of adenomata of the thyroid is fully described in most textbooks, and need not be given in detail. The variations in structure found in different tumours are closely similar to the structural variations which occur in the normal gland from the early fetal to the adult condition. Seventy-four adenomata have been examined, and are grouped into three varieties:

1. Those having a structure similar to early fetal thyroid tissue, comprising 16 cases.
2. Those composed of large and small vesicles, comprising 33 cases; and
3. Those composed of very large vesicles and usually tending to become cystic, comprising 25 cases.

The fetal adenomata form one-fourth of all the cases examined, and in a few cases occur in very large numbers, scattered through the gland—they are recognizable when extremely small. In a case of adeno-parenchymatous goitre there are in one section, measuring 3 cm. by 2.5 cm., fifteen adenomata of different sizes, the two smallest measuring 1 mm. and 0.4 mm. in greatest diameter (see Fig. 8). I know of no other situation, except perhaps the uterus, where innocent tumours can be detected at such an early stage. They apparently grow from a very small focus, push aside the surrounding structures, and cause no reaction in the tissues around. My own impression is that they are of local metastatic origin. An interesting feature in connexion with this possibility is that in some of the adeno-parenchymatous goitres it is common to find an old partially calcified adenoma in a gland containing numerous small soft encapsuled masses, to the growth of which the recent enlargement of the goitre is due.

In the second group the similarity in structure to normal thyroid gland tissue is very marked, and the only means of distinguishing them histologically is by the arrangement of the connective tissue. In thyroid gland tissue it is always possible to recognize that the gland is divided into lobules (see Fig. 5). The connective tissue in adenomata, on the other hand, has no regular distribution, and shows no attempt at lobulation (see Fig. 9). Colloid adenomata, in a stage when they are smaller than the lobules of the gland, are, I think, impossible to distinguish with certainty.

The Histological Changes in the Gland Tissue in Certain Cases of Goitre.—The changes in the thyroid in the cases to be next considered are of special interest in connexion with the question of the relation of primary Graves's disease to other forms of goitre, and especially the so-called secondary Graves's disease, and they will be considered in detail.

CASE I.

E., aged 48. She had noticed gradual enlargement of the neck for eighteen months, and had some dyspnœa and dysphagia.

On admission, there was uniform enlargement of the right lobe of the thyroid. It was hard, lobulated, and had displaced the trachea slightly to the left. There was no pain or tenderness, no exophthalmos, no tremors, and the vocal cords were normal. The pulse-rate was not increased. Operation on August 31st, 1908, by Mr. Legg. The right lobe and isthmus were removed and an adenoma enucleated from the left lobe. The patient is now, one year later, quite well.

The specimen weighs 59 grams and measures 7.5, 4, and 4 cm. in its longest diameter. The outer surface is smooth, pale, and shows the lobules of the gland very distinctly. The cut surface is everywhere opaque and white. There are several adenomata—the largest in the isthmus is 3.5 cm. in diameter. On

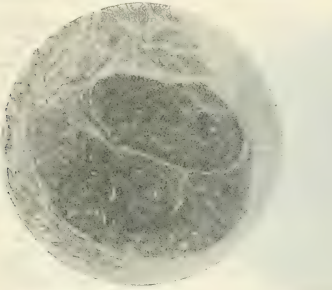


Fig. 8.

microscopic examination the gland is hardly recognizable. The interstitial tissue is everywhere densely packed with small round cells (Figs. 10 and 11). The vesicles contain no colloid, and in many places are represented by groups of cells, which have lost their acinous arrangement and are widely separated from adjoining vesicles by tracts of interstitial tissue filled with round cells. The cells are chiefly plasma cells—a few are lymphocytes. Some endarteritis is present. The whole of the right lobe of the thyroid is in a similar condition. The changes are somewhat comparable with those in myxœdema, except that the thyroid is enlarged and not atrophied. The absence of symptoms can perhaps be explained by the fact that

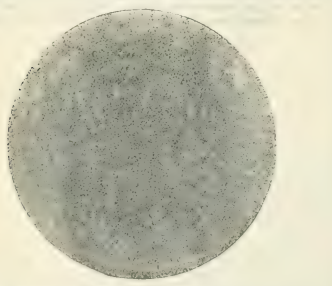


Fig. 10.

the left lobe was possibly healthy, and the glandular tissue in the right lobe is so much atrophied that symptoms of hyperthyroidism would not be likely to occur. This patient has recently developed symptoms of cachexia strumipriva.

CASE II.

F., aged 19. She had always noticed a swelling in her neck. For three years she had been nervous, shaky, and restless, with palpitation, especially at night. She had dyspnœa on exertion. On admission she was well nourished, restless, and had fine tremors of hands and tongue. There was no exophthalmos, and von Graefe's and Stellwag's signs were absent. Pulse-rate 120 to 132. The vocal cords were normal. The thyroid was symmetrically enlarged, involving both lobes and isthmus. It was firm, smooth, uniform in consistence, and pulsated.

Operation on August 17th, 1908, by Mr. Legg. Extirpation of the right lobe. The specimen weighs 100 grams, and measures 9, 5, and 5 cm. in widest diameters. The outer surface is smooth, pale, and covered with fascia. The cut surface is white, opaque, contains little colloid, and no encapsuled masses. The lobe is not uniformly affected, and towards the posterior border of the gland the tissue contains colloid and is translucent.

On microscopic examination, the structure in most places is that of a Graves's disease thyroid. The vesicles are tubular, show infoldings of the walls, and are lined with columnar epithelium. In other sections the appearances are somewhat similar to the last case. There is round-celled infiltration of the interstitial tissue, tending to be most marked in localized areas, and spreading from these into the surrounding connective tissue and vesicles. The cells towards the centre are lymphocytes, those around are chiefly plasma cells.

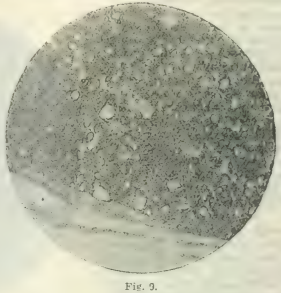


Fig. 9.

CASE III.

F., aged 23. Enlargement of neck noticed for two years, with nervous symptoms and trembling of the hands. She had had dyspnœa on exertion for six months. On admission she was well nourished; there was slight exophthalmos and fine tremors of both hands. Pulse 96 to 112. The thyroid was uniformly enlarged, the swelling involving both lobes and isthmus. Operation, May 10th, 1909, by Mr. Berry. Resection of the right lobe.

The specimen weighs 36 grams. The macroscopic changes are striking. There are localized white opaque areas scattered through the whole lobe, some larger than others, the smaller ones looking like rather large miliary tubercles. The inter-

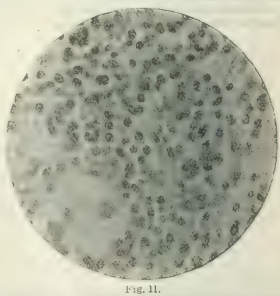


Fig. 11.

vening tissue contains colloid, and has the translucent appearance of normal thyroid gland tissue. On microscopic examination the opaque areas show the typical changes of Graves's disease. The vesicles are tubular, empty, and are lined with high columnar epithelium. In the centre of these areas there is a local accumulation of round cells similar to those of Case II, and, like these, contain many plasma cells (Fig. 12). The feature of chief importance is that the change is definitely a focal one affecting small areas of the gland tissue. The clinical aspect of this case is that of primary Graves's disease.

CASE IV.

F., aged 48. A slight swelling on the right side of her neck, noticed for a year; some discomfort and shortness of breath. She was stout, extremely nervous, but otherwise healthy. Deeply seated in the right lobe of the thyroid, and low down, was a rounded swelling the size of a walnut. Pulse 68 to 80. She had no exophthalmos. Operation, June, 1907, by Mr.

Berry. Resection, enucleation of an adenoma from the right lobe. The specimen is a solid adenoma of the thyroid, 4 cm. in diameter, with an attached piece of gland tissue. It weighs

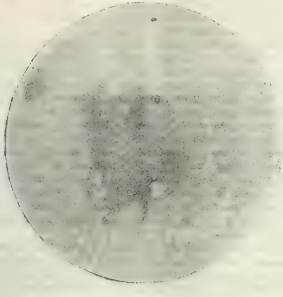


Fig. 12.

18 grams. The adenoma is of the fetal type. The chief interest in this case is in the changes in the gland tissue.

Fig. 13 shows a photograph of the section. Scattered through the gland are many large, deeply-staining areas, somewhat similar in structure to lymph germinal areas (see Fig. 14). Each consists of a central faintly-staining part, and and an outer deeply-staining zone. The cells in the centre show mitotic division, and appear to be derived from included cells of the glandular epithelium. The cells of the outer zone are mostly lymphocytes, towards the periphery they are intermingled with plasma cells.

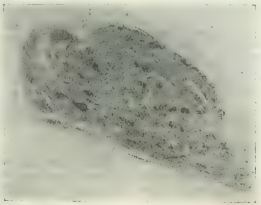


Fig. 13.

Changes of a similar kind but to a slighter degree have been found in many cases, chiefly in cases of adeno-parenchymatous goitre.

The points I wish to raise in connexion with these cases are:

1. That the condition of the vesicles of the thyroid gland in some forms of inflammation, such as follows a tracheotomy wound, may be identical with that found in cases of Graves's disease.

2. That primary Graves's disease is occasionally found to occur associated with changes in the thyroid which are focal in character.

3. That in other forms of goitre than Graves's disease—namely, adenomatous and adeno-parenchymatous—the presence of nervous symptoms is commonly associated with the occurrence of histological changes in the thyroid gland tissue consisting of local accumulations of round cells and alteration to a more or less extent in the surrounding vesicles.

4. That in certain forms of goitre—for example, Case I—the histological characters are such as to suggest a diffuse chronic inflammatory condition—namely, marked plasma cell infiltration and endarteritis; and that in other cases, including some of Graves's disease, similar changes are found in localized areas.

As to the cause of these changes I may perhaps be allowed to speculate. In Case I the histological picture closely simulates that occurring in certain protozoal infections, and particularly syphilis. The changes in the other cases are similar but focal and less marked.

Many attempts have been made to find evidence of organism infection. Several hundred sections have been made in some of the cases, and have been treated by various methods for staining organisms in tissues. Bacteriological examination, including animal inoculation, has been made in a few cases. For undertaking the latter I wish to express my thanks to Mr. A. G. R. Foulerton. The results have been entirely negative. Nevertheless, the histological characters suggest a toxic substance present in the thyroid gland, in some cases diffuse, in others localized. As to the nature and origin of this substance we are at present entirely in the dark.

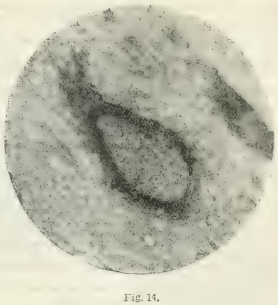


Fig. 14.

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[1] *Proceedings of the Royal Society of Medicine*, 1907. [2] *Archives of the Middlesex Hospital*, vol. xv, 1909. [3] *Vital Statistics*, Newsholme 1889.

In reply to a question regarding examination of faeces, Dr. Chambers said that she had examined for amoebae in a few cases, but none had been found. Evidence derived from examination of faeces seems, however, of little value in determining whether an infective agent gains access to the thyroid gland. Of more value was the examination of material removed by operation in the surgical treatment of goitre, and especially in those cases in which symptoms of hyperthyroidism were present. The chief difficulty which had to be contended with seemed to be the late stage at which the disease was usually treated by operation. Nearly all the cases were of several years' duration, and she could imagine a condition similar to that in syphilis in which organisms were present in greatest numbers in an early stage, and were comparatively scanty when the disease was of some standing.

ON THE ABSENCE OF ALTMANN'S GRANULES FROM CELLS OF MALIGNANT NEW GROWTHS.

By HENRY BECKTON, M.A., M.D., B.Sc.

(From the Cancer Research Laboratories of the Middlesex Hospital.)

I.—INTRODUCTION.

In various cell species, such as the coarsely-granular and finely-granular eosinophile leucocytes, discrete granules are seen on microscopic examination so long as the cells are living and unstained. Under similar conditions the protoplasm of the bodies of other cells (for example, liver, kidney) appears to be *granular* rather than to contain well-marked granules; and in others, again, the cell body is seen to be entirely free from any appearance of granularity.

On submitting tissues to the action of various reagents, however, discrete granules can be demonstrated in a much wider range of cell species. Thus, Altmann, using as a fixing fluid a mixture of equal parts of 5 per cent. potassium bichromate and 2 per cent. osmic acid (both in aqueous solution), and subsequently imbedding in paraffin, staining with anilin acid-fuchsin, and differentiating with picric acid alcohol, found granules in a large variety of

cells: these granules are variously known as Altmann's granules, fuchsinophile granules, and plasmasomes.

In a paper recently published in the *Archives of the Middlesex Hospital* I arrived at the following conclusions:

1. Most kinds of normal cells show Altmann's granules.
2. In inflammatory conditions these granules are present in the various cell species concerned.
3. In all innocent neoplasms examined granules were present in the cells.
4. In malignant new growths granules tend to disappear, or are absent altogether from the particular type of cell involved.

It is with this last conclusion that the present paper is chiefly concerned.

II.—METHOD OF INVESTIGATION.

The method which I have employed during the research is as follows:

1. Take small pieces of tissue as soon as possible after an operation.
2. Place in formol-Müller (1 in 49) at room temperature for one week, renewing the solution on the second and fourth days, and then in Müller's fluid for another week. Usually for very very small pieces, 1 mm. thick, three days are sufficient.
3. Wash overnight in running water; a few hours is sufficient time for very small pieces.
4. Alcohol in increasing concentration; cedar-wood oil or xylol; paraffin, 57° C.
5. Cut sections not thicker than 5 μ and mount on slides.
6. Xylol; absolute alcohol. Rinse in water.
7. Stain in anilin acid-fuchsin.
8. Differentiate with picric acid alcohol or with aqueous solution of sodium bicarbonate (1 in 10,000).
9. Absolute alcohol; xylol; Canada balsam.

The stain is prepared thus: To 100 c.cm. of filtered cold saturated watery solution of anilin add 20 grams of acid-fuchsin: shake well and filter.

The picric acid alcohol is made by adding seven volumes of 20 per cent. alcohol to one volume of saturated picric acid solution in absolute alcohol.

The process of staining may be carried out at room temperature, the slide being placed vertically in the staining fluid for, say, half an hour. This method is free from any objection which may be urged against the use of a hot staining fluid. I find, however, that the following method gives the same results and is most expeditious and convenient. Cover the section with staining fluid, and this in turn with a watch-glass, and heat for two minutes to about 60° C., using either a thermostat or a strip of copper heated at one end and tested from point to point by means of a piece of paraffin wax.

Next pour off the stain, blot, and differentiate; a point is soon reached at which but little further colour comes away. As a rule, at ordinary temperatures differentiation is complete with picric acid alcohol in about two minutes, and with sodium bicarbonate in about half a minute.

It may be noted here that absolute alcohol does not decolorize a section, but dilute alcohol discharges the colour rapidly, while plain water removes it but slowly, and indeed differentiates sufficiently to enable one to detect the presence of granules. Again, while in moderately dilute mineral acids the colour remains in a section for a long period, moderately dilute alkalis rapidly discharge it, and very dilute alkalis may be used as differentiating fluids.

After fixation with formalin alone, as well as after formol-Muller solution, granules can be demonstrated in the essential cells of pancreas, submaxillary gland, liver, kidney, columnar epithelium of the alimentary tract, etc.; but this is not the case with lymphocytes, plasma cells, endothelial cells, fibroblasts, fat-cells, etc., which show granules only after fixation with formol-Müller. It thus appears that the granules shown by this method may be appropriately referred to as belonging to a "gland cell group" and a "connective tissue cell group" respectively.

III.—THE GRANULES IN NORMAL AND PATHOLOGICAL CONDITIONS.

A detailed account of the granules in normal cells is given in earlier papers; it is necessary here only to refer to them very briefly. As a convenient standard in estimating the size of the granules generally those of eosinophile cells have been taken. These are found not only here and there in small blood vessels, but also fairly frequently in the tissues.

In the submaxillary gland and the pancreas the granules are on an average larger than eosinophile granules, but are very variable in size; in the liver and in the secreting portions of the kidney they are also large. (In the conducting tubules the cells are almost or entirely free from granules.) The cells of the thyroid gland contain decidedly smaller and fewer granules, as is also the case with the cells of the sweat and mammary glands. In the columnar epithelium of the intestine the granules are very small but numerous, especially in the basal portions of the cells, while in the columnar epithelium of the endometrium and in that lining the gall bladder and the ducts of various glands the granules are also very small.

Lymphocytes, endothelial cells, fibroblasts, and fat cells contain usually a moderate number of minute granules, but rarely in lymphocytes and occasionally in the other cell species the granules are larger. Plasma cells, as a rule, contain fairly large granules—that is, nearly as large as those of eosinophile cells—in moderate number.

From squamous epithelium, Altmann's granules, as opposed to pigment-hyalin and kerato-hyalin granules, are entirely absent. To this statement only rare and partial exceptions have been observed, a few minute granules having been found in the basal layer of the epidermis, and in this situation only. Striped muscle fibres show lines and bands composed of dots and short rods respectively; unstriped muscle fibres are completely devoid of granules.

It is to be noted that the number of granules present in a given kind of cell appears, in the gland cell group at any rate, to be dependent upon such conditions as cell activity and cell nutrition at the time at which the tissue is placed in the fixing fluid. It may also be conveniently stated here that *post-mortem* changes exercise a marked effect on the granule appearances, for while gland cells are moderately resistant to these changes, so that granules can still often be shown in them, *post-mortem* tissues are almost absolutely useless for the demonstration of granules of the connective tissue cell group.

Inflammatory Conditions.

In addition to cells containing eosinophile and basophile granules the chief cell species here concerned are lymphocytes, plasma cells, endothelial and endothelioid cells, giant cells, and fibroblasts. All these have been found to show Altmann's granules in every case investigated, including acute abscess, chronic mastitis, tuberculous disease, and other chronic inflammatory states; moreover, granules are well shown in the chronic inflammatory (or precarcinomatous) conditions seen at the edge of the new growth in many cases of malignant disease.

The New Growths.

The following description as regards Altmann's granules is based upon an examination of 52 cases, of which the histological appearances are shown in the following list:

A.—*Non-malignant New Growths.*
Adenoma: Thyroid, 6; prostate, 1.
Adenomyoma: Uterus, 1.
Fibro-adenoma: Breast, 1.
Papilloma: Bladder, 1.
Duct papilloma: Breast, 2.

B.—*New Growths of Doubtful Malignancy.*
Neoplasms of orbit, 1; ovary, 1; thyroid, 1.

C.—*Malignant New Growths.*
Carcinoma, spheroidal cell: Breast, 13.
Carcinoma, squamous cell: Cervix uteri, 4; anus, 1; skin, 2; lip, 2; tongue, 1.
Carcinoma, columnar cell: Corpus uteri, 3; rectum, 1; caecum, 1; breast, 1.
Sarcoma, melanotic: Vulva, 1.
Sarcoma, small round-cell: Thyroid, 1.
Endothelioma: Breast, 4; orbit, 1.

A.—*Non-malignant New Growths.*

In all of the cases granules were present in the cells of new growth—in the thyroid in greater numbers than in the normal tissue, though of about the same size; in the duct papilloma in very large numbers and of great size; in the remaining instances the granule appearances resembled those of the normal tissues.

B.—*New Growths of Doubtful Malignancy.*

1. *Orbit.*—In this case a section was seen microscopically to present the appearances of lymphoid tissue, and the cells composing this both as regards granules and in other respects closely resembled ordinary tissue lymphocytes.

2. *Ovary.*—The new growth in this case was a papilliferous cystadenoma, in which most of the cells showed many round granules.

3. *Thyroid.*—This showed extensive irregular proliferation of epithelial cells which contained granules of about the same size as in the normal tissue, but in greater numbers.

C.—*Malignant New Growths.*

1. *Spheroidal-cell Carcinoma.*—In this group of cases of malignant disease either no granules were found in the cancer cells or they were present only in small numbers in few of them. This statement applies to metastases in the axillary lymphatic glands as well as to the primary growth itself. One exception was found, however, in which granules, though present in only a small number of the cancer cells, formed a striking picture, the cells containing them occurring for the most part only in finger-like processes of new growth or at the margins of rather large cell masses.

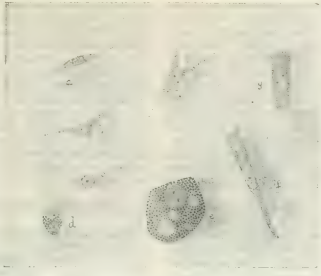


Fig. 1.—Cells from various tissues, showing Altmann's granules. *a*, Endothelial cell. *b b*, Fibroblasts. *c*, Lymphocyte. *d*, Plasma cell. *e*, Liver cell. *f*, *g*, Columnar epithelial cells from vermiform appendix and small duct of submaxillary gland respectively.

2. *Squamous-cell Carcinoma.*—In two or three of this group of cases a very few of the cancer cells showed granules, especially at the edge of the cavity in several cell groups undergoing central degeneration. But in the majority of cases of squamous cell carcinoma no granules were found.

3. *Columnar-cell Carcinoma.*—In this group of cases the great majority of the cells contained no granules. Here and there, however, in most of the cases a cancer cell, or group of such cells, showed granules which were few in number and of comparatively large size. Cancer cells resembling in granule appearances the cells of the corresponding normal epithelium were entirely absent.

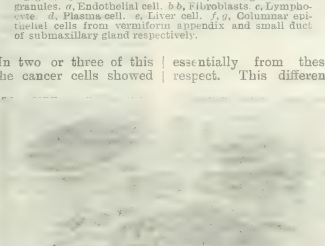


Fig. 2.—Spheroidal-cell carcinoma of breast. Small masses of cancer cells without granules, plasma cells, lymphocytes, etc., with granules.

4. *Sarcoma.*—In the case of melanotic sarcoma the great majority of the cells of new growth contained no granules of any kind, about one-sixth of the total number contained granules of melanin, and a very few showed Altmann granules, distinguishable by their red colour from the brown pigment granules. Here and there a cell contained both melanin and Altmann granules. In the case of small round-cell sarcoma, in which the cells otherwise resembled lymphocytes, there was a marked absence of granules as compared with lymphoid tissue.

5. *Endothelioma.*—In the cases of endothelioma, granules were small and few in number in 1 case and absent in 3 cases. In the remaining instance, however, granules were numerous; this was a case of perithelioma, in which islets of tissue, well-staining as regards both nuclei and granules, were embedded in a groundwork of necrotic tissue showing neither granules nor nuclear staining.

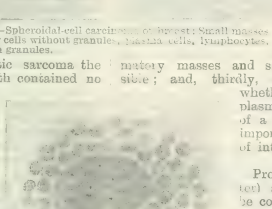


Fig. 3.—Secondary growth in lymphatic glands, from same case as Fig. 2, showing a group of cancer cells surrounded by lymphocytes.

IV.—CONCLUSION.

The investigation of the question under discussion is still incomplete. The group of sarcomata is very inadequately represented in the foregoing owing to lack of operation material. I should be greatly obliged to anyone who would kindly assist in this investigation by sending me a small piece of freshly removed sarcomatous tissue in a small corked bottle, either without any reagent or placed in formol-Müller solution (formalin 2 c.cm., Müller's fluid 98 c.cm.).

Granules, again, have been found in cells of new growths of doubtful or limited malignancy—for example, papilliferous cystadenomata of the ovary—and may prove to be of special interest in these cases.

But as far as the present investigation has proceeded the conclusion may be drawn, as indicated at the beginning of this paper, that "In malignant new growths granules tend to disappear, or to be absent altogether, from the particular type of cell involved."

Thus the cells of malignant neoplasms are not merely cells of normal type occurring in abnormal situations, but differ in an important histological respect. This difference essentially from these may be regarded as an expression of deviation from, or loss of, normal function.

DISCUSSION.

Dr. LAZARUS-BARLOW pointed out that three important considerations suggested themselves from the paper. First, that the carcinomatous cell could not be differentiated from the normal on anatomical grounds was not true, since it was now possible to show, for example, that a cancerous columnar cell differed fundamentally from the columnar cells from which it arose. Secondly, that there was here possibly a hope that a differentiation between inflammatory masses and sarcoma might be rendered possible; and, thirdly, it raised the whole question whether the lymphocyte and the plasma cell might not in reality be of a glandular nature and played an important part in the whole story of internal secretions.

Professor LORRAIN SMITH (Manchester) suggested that attention should be concentrated, in the first instance, on the fixatives used, in order to discover the solubility of the granules and the effect of oxidizing agents, such as bichromate of potash, or permanganate of potash, on them. Their staining reactions with basic and acid dyes, as well as nuclear dyes, should also be carefully compared. The exceptional cases which had been mentioned showed the difficulty of reaching from these results a metabolic theory of new growth.

A CASE OF CANCER OF THE PYLORUS.

By J. LORRAIN SMITH, M.A., M.D.Edin., F.R.S.,
Professor of Pathology, Victoria University of Manchester.

DR. LORRAIN SMITH demonstrated by specimens and lantern slides a case of cancer of the pylorus. The patient, a woman of 35 years of age, had, during the earlier part of

her illness, developed respiratory symptoms in the form of dyspnoea, accompanied by a foul expectoration.

At the *post-mortem* examination the carcinoma was found to occupy the mucous membrane in the region of the pylorus, causing a uniform thickening of the wall by a somewhat translucent new tissue. The diaphragm showed the deposit of flat, scale-like cancerous masses. The liver showed a few small nodules of secondary growth; a few of the retroperitoneal glands in the lumbar region were enlarged, and there was a small mass of tumour growth in the pouch of Douglas. The lung was uniformly invaded by cancerous growth which had formed columns of cells occupying the lumen of the lymphatics to such an extent that their presence could be traced over the pleural surface as a series of delicate lines of yellow colour, forming a meshwork outlining the lobules. The case was one in which an extensive permeation of the pulmonary lymphatics had taken place.

Microscopic sections, of which photographs were shown, demonstrated the presence of mucoid degeneration in the cells of the original tumour. In the lung, on the other hand, there were found in the alveoli an excessive number of cells loaded with globules of myelin. The sections of the bronchial glands showed the presence of myelin masses in the stroma of the gland, but none were found in the areas of lymphoid tissue. Dr. Lorrain Smith finally dealt with the bearing of these facts on observations on tumour metabolism.

X-RAY CARCINOMA.

By C. W. ROWNTREE, M.B., B.S.Lond., F.R.C.S.Eng.,
Hunterian Professor, Royal College of Surgeons.

THE author stated that 11 cases of *x*-ray carcinoma had occurred in England, but that in America the number had been considerably greater, no less than 20 cases having been referred to a private letter received from Dr. Porter. Of the English cases only one had had a fatal termination, but in the United States there had been no less than seven fatalities, in some of which there were numerous metastases, and in one remarkable case hardly a viscus in the body was free from secondary growth. Only instances of true *x* ray carcinoma were included—that is to say, carcinoma arising in previously healthy individuals who had in the course of their duties been exposed for lengthy periods to the influence of *x* ray. Cases of lupus vulgaris, and similar conditions which had become complicated by carcinoma were not included.

From a microscopic point of view there was nothing peculiar to this form of cancer. Certain clinical facts seemed, however, of importance:

1. The majority of the individuals were comparatively young men.

2. It would appear from the history of these cases up to date that the condition is less liable to give rise to visceral or glandular deposit, and that surgical operations are less liable to be followed by recurrence than in other forms of squamous cancer.

3. A most important and striking feature is the fact that in no less than 5 of the 11 English cases there were multiple growths, separate and distinct lesions on different fingers or different hands, and in one case on both hands and also on the chin, which had been the seat of chronic *x* ray dermatitis.

It was suggested that these facts indicated that there was something special and peculiar about *x* ray carcinoma which differentiates it from other forms of cancer. As for etiology, it was asked whether the condition was to be regarded as the result of a special and selective action of one or other or all of the various emanations included in the term "*x* rays," or whether *x* ray carcinoma was merely a complication of *x* ray dermatitis, just as squamous cell carcinoma might be, and frequently was, a complication of such widely-varied conditions as lupus, kangri burns, or the senile keratoses so often found in conjunction with the atrophy of extreme senility.

There was evidence, the author thought, in both directions. On the one hand was the fact that the histological picture presented by an advanced case of *x* ray dermatitis had many features in common with those found in scars, senile atrophy, and chronic inflammations. The subepithelial elastic tissue was diminished or absent, the corium was replaced by a more or less homogeneous granulation tissue, and the epithelium itself underwent irregular changes.

On the other hand was the fact that carcinoma was a vastly more frequent complication of *x*-ray dermatitis than it was of any other precancerous condition; and also the youth of the sufferers and the multiple nature of the carcinomatous lesions. Further, it had been possible to show, by exposing animals to *x* rays, that they exerted a definite selective action upon epithelial structures. Dr. Lazarus-Barlow had shown them a section of a rabbit's ear after exposure to moderate doses of *x* rays in which the epithelial overgrowth was of the most striking nature.

It would appear possible, therefore, that *x* rays do possess some selective action which so disturbs the relationship between the epithelium and its underlying corium as to permit the disorderly overgrowth met with in carcinoma.

ON THE ETIOLOGY OF DYSENTERY.

BY
MARC ARMAND RUFFER, M.D., C.M.G., and J. GRAHAM WILLMORE, M.B.C.S.
(From the Desert Laboratory, El Tor, Sinai.)

DURING every pilgrimage season a large number of pilgrims suffering from dysentery are landed at El Tor, and we have had an opportunity of studying many hundreds of these cases. Basing our division on the presence of certain micro-organisms, we divide them provisionally into the following groups:

GROUP A.—*Amoebic Dysentery.*

(*a*) Cases in which the *Amoeba hystolytica* is found in the stools, and in which all the characteristic clinical symptoms and pathological changes of amoebic dysentery are present. This is a very common form.

(*b*) Cases in which the *Amoeba hystolytica* is present, and in which the *Bacillus dysenteriae* El Tor (No. 1) is also found.

GROUP B.—*Bacillary Dysenteries.*

(*a*) Cases in which the Shiga-Kruse bacillus is found in the stool. This is a comparatively rare form at El Tor.

(*b*) Cases in which the *Bacillus pseudo-dysentericus* D (Kruse) is found.

(*c*) Cases in which the *Bacillus dysentericus* (Flexner) is present. We have so far only come across one such case.

(*d*) Cases in which the *Bacillus dysentericus* El Tor No. 1 is found.

(*e*) Cases in which other micro-organisms resembling those mentioned above, but not identical with them, are found. We shall not discuss them in this paper, but we may mention that there are at least two varieties of these micro-organisms.

The point of interest to us is that at El Tor during the yearly epidemics we have to deal with at least seven different dysenteries. This paper is concerned with the description of the Group B (*d*)—namely, the disease caused by the *B. dysentericus* Tor No. 1, which is the most common form of dysentery among Mussulman pilgrims.

Characteristics of B. dysentericus Tor No. 1.—This micro-organism is a short, stumpy bacillus, about two and a half times longer than it is broad. It is about as long, but considerably plumper, than the Shiga-Kruse bacillus. Filaments are rare in any medium, though occasionally forms two or three times longer than the isolated bacillus are seen. The involution forms, especially when the bacillus is grown on potatoes, show a distinct tendency to polar staining.

No spores are found, nor can cilia be demonstrated. When freshly isolated the bacillus performs movements of spiral rotation, so that it appears to be distinctly motile, but no movements of progression are ever observed. Brownian movements are always marked; in subcultures it is quite motionless: in peptone bouillon it grows readily, and renders the medium uniformly turbid. No pellicle is formed.

Gelatine is not liquefied. On gelatine plates the bacillus forms small transparent colonies which are regularly circular at first. The edges then become very finely crenated round a circular nucleus, which is of a darker colour and more granular consistency. The colonies then have the appearance of two concentric circles, and somewhat resemble a grindstone with its centre hole, and are like those described by Chantemesse and Widal in their early paper on dysentery, but widely different from the vine leaf colonies of the Shiga-Kruse bacillus.

On agar the bacillus forms a transparent film with a finely crenated, slightly raised margin. The film is grey by reflected light, and shows a bluish fluorescence by transmitted light. On Endo plates the colonies are colour-

less, and on Conradi-Drigalski medium they much resemble those of *Bacillus typhosus*. On potatoes, after twelve hours' incubation at 37° C., the bacillus forms a fine, transparent, shining streak, which becomes opaque later on, turning a dirty greyish-white colour at first, and a muddy lemon-yellow afterwards. The colour remains deeper in the centre, whereas the margin remains greyish-white, sending off fine, irregular, greyish-white lateral offshoots.

Table I shows the bio-chemical reactions, in relation to such of the more important sugars and alcohols as were at our disposal, and to litmus milk, of the following bacilli:

1. Six specimens of *B. dysentericus* Tor No. 1 which had been isolated from 6 different patients.
2. *B. pseudo-dysentericus* D obtained from Professor Kruse, and three specimens of this bacillus isolated from different cases at El Tor.
3. Flexner's bacillus and another specimen isolated at El Tor.
4. *B. pseudodysentericus* A obtained from Professor Kruse.
5. A specimen of the Shiga-Kruse bacillus isolated at El Tor.

The method employed was to make stab cultures into glucose-free peptone-litmus-agar tubes to which the appropriate reagent had been added; two tubes of each were inoculated and placed in the incubator at 37°, together with two sterile controls. The tubes were then compared after twenty-four hours, three days, six days, and twelve days. Finally, the agar was melted at 99° C., poured into *old* sterile Petri dishes, and compared with the controls similarly treated.

In these tables where the inoculated tubes were more acid than the control, the ratio of acidity is expressed approximately by the *plus* sign followed by a figure, the ratio of alkalinity being similarly shown by a *minus* sign followed by a figure.

The letter V (variable) denotes that the reaction is inconstant.

The mono-saccharides, dextrose, laevulose, and galactose, are not included in the table, as well-marked acidity is produced in all three by all the bacilli enumerated. No gas is formed at any time in any saccharide, mannite, sorbite, or salicin.

We need not go into the details of the results obtained, as a mere glance at Table I is sufficient to show that, with the single exception of mannite, and possibly litmus milk, they may be expressed in one word—chaos, at least, as far as any differentiating reactions are concerned. As already pointed out by Lentz and others, the Shiga-Kruse group is sharply differentiated from the other dysentery bacilli by its inability to produce acid in mannite.

With regard to the litmus milk, it will be noticed that all the dysentery bacilli—with the exception of the pseudo D group—first acidulate this medium; the maximum amount of acidity appears to be produced after forty-eight hours' incubation at 37° C. A phase of increasing alkalinity then sets in, so that at the end of ten days the milk is more alkaline than a control non-inoculated tube placed under the same conditions. Even to this general rule one of the El Tor No. 1 bacilli (No. 22 in the register) shows an exception by remaining permanently acid.

At no time is the milk coagulated. In the case of the pseudo D group the milk becomes progressively more alkaline without the preliminary acidulation. An analogous reaction—acidulation, and then alkalinization—was noticed not infrequently with maltose, occasionally with saccharose, sorbite, and salicin. In each case the acid production was more marked at the bottom of the tube, and would therefore appear to be favoured by anaërobic conditions.

The fermenting power of these dysentery bacilli seems also to be influenced by their origin and their environment; not only does it vary with different species, but even with different cultures of the same race.

A prolonged period of saprophytic existence—particularly if this be spent on fermentable sugars—appears to result in increased fermenting power, which, as a general rule, varies inversely with the virulence of the organism. For these reasons we are of opinion that the value of this method of investigation lies in its theoretical rather than its practical application; further, it has the disadvantage of being extremely tedious.

A small amount of indol is formed sometimes, but the reaction is not constant.

Pathogenic Action.

Rabbit.—The freshly isolated bacillus, injected intravenously or intraperitoneally, is highly pathogenic to rabbits, death following the inoculation after a period varying from twenty-four hours to five days, according to the dose inoculated. The symptoms are fever, diarrhoea, and paralysis. In some experiments the stools were muco-purulent in character. The most marked pathological changes are intense congestion, swelling, oedema, and numerous petechial haemorrhages in the walls of the large intestine. In a few cases definite small ulcerations of the large intestine were produced. The virulence of

TABLE I.

	Saccharose.				Maltose.				Salicin.				Sorbite.				Dextrose.				Laevulose.				Mannite. Agar	Mannite. Litmus Milk	Litmus Milk
	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	3 Days.	6 Days.	12 Days.	24 Hours.	24 Hours.	12 Days.
B. Tor, No. 1	0	0	−1	+1	+2	+2	+2	0	0	0	0	0	0	0	0	0	0	0	0	0	+1	+½	+2	0	−4	+2	0
39 ,,	0	−½	+4	+4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+2	0
167 ,,	0	−½	+2	+3	0	+1	+1	−1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+2	0
22 ,,	0	0	+2	+3	0	+2	−1	V	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ret. ,,	0	0	V	0	0	0	−1	0	0	0	0	0	0	0	0	0	0	0	−1	0	0	0	0	0	0	0	0
44 ,,	0	0	−1	0	0	0	−1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	−2	0	0
B. pseudo D (Kruse)	0	V	V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63 ,, ,, ,,	0	0	0	−1	−½	−1	+1	+3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Up ,, ,,	0	+½	+1	−1	+½	−½	+1	−½	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 ,, ,,	0	+½	+1	−1	0	0	+1	−½	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B. (Flexner)	0	0	0	−1	0	+2	+2	−3	0	+1	0	0	0	0	−1	0	+2	+2	+3	0	+2	0	−1	0	0	0	0
B. 4 Up	0	+½	+1	+½	0	+2	+2	0	0	0	0	0	0	0	−½	0	+2	+2	+2	0	+2	0	−1	0	0	0	0
B. pseudo A	0	+1	+1	+2	0	0	0	−1	0	0	0	0	0	0	−½	0	0	0	0	0	+½	+1	0	−1	0	0	0
B. (Shiga)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	−1	0	0	0	0	0	+½	+2	0	−1	0	0	0

this organism for rabbits is far less durable than that of the Shiga-Kruse bacillus, and quickly disappears in subcultures.

Guinea-pig.—The guinea-pig is even more readily susceptible to infection by this organism than is the rabbit. The clinical symptoms and *post-mortem* appearances are almost identical with those mentioned as occurring in the rabbit; but, in addition, bronchopneumonia of greater or lesser extent is an almost constant feature in guinea-pig infection, whilst a markedly haemorrhagic exudation into the peritoneal cavity follows both intravenous and intraperitoneal injections.

Horses.—Small doses of sterilized bacillary emulsion injected into horses produce: (1) Oedema near the point of inoculation, which may extend a good deal; when the horse is inoculated in the shoulder, for instance, the entire leg becomes oedematous; (2) general ill health, as evidenced by anorexia and loss of spirits; (3) fever amounting to 2° C., and lasting about forty-eight hours. None of the cultures used so far produced a soluble toxin.

Man.—Neither by the clinical signs nor by pathological appearances after death were we able so far to differentiate the cases infected by this bacillus from those in which the Shiga-Kruse bacillus was present. The only sure diagnostic sign was the serum reaction; the serum of the patient agglutinating the *B. dysentericus* Tor No. 1, but not the Shiga-Kruse bacillus. This agglutinating reaction is constant, except in early acute or in very feeble old cases, when it may be, and in fact often is, temporarily absent. As the patient recovers, the agglutinating index may rise to 1 in 300 without the exhibition of any therapeutic serum. We have seen, for instance, the agglutinating index of a patient, who had this bacillus in the stools, rise from 1 in 25 to 1 in 300 as he improved.

Cross Immunization.

A single injection of *B. pseudo-dysentericus* D. protects rabbits against the minimum fatal dose of *B. dysentericus* Tor No. 1, and, conversely, the injection of the latter bacillus protects a rabbit against the minimum fatal dose of the other micro-organism. The two bacilli cannot therefore be distinguished by this method.

Contrariwise, the inoculation of *B. dysentericus* Tor No. 1 gives no protection against the Shiga-Kruse bacillus and vice versa.

Action of Serums Artificially Prepared.

We have stated already that at El Tor several types of dysenteric bacilli were present. Thus we have found, very rarely it is true, the Shiga-Kruse bacillus in the stools of dysenteric patients. In 3 cases we have discovered a micro-organism giving all the reactions of *B. pseudo-dysentericus* D (Kruse) (these bacilli are entered in the register under the names: B. 63, B. 2 Up, B 37), and, thanks to Professor Kruse's kindness, we were able to compare them with one of his original cultures, as well as with *B. pseudo-dysentericus* A. In 1 case, also, we isolated a bacillus (B. 4 Up, in register) which had all the characteristics of *B. dysentericus* (Flexner). Serums were prepared by injecting rabbits with *B. dysentericus* Tor No. 1, Flexner's bacillus, *B. pseudo-dysentericus* D, and we also used, for purposes of comparison, a serum kindly given us by the Milan Serum Institute, and which was specific for the Shiga-Kruse bacillus. All these serums were tested on six specimens of *B. dysentericus* Tor No. 1, which had been isolated from six different patients (names in register I., R.E.T., 39, 22, 44, Aut. 167) and all the micro-organisms mentioned above.

Table II gives the result of these experiments.

The table shows that *B. pseudo-dysentericus* D and *B. dysentericus* Tor No. 1 are both agglutinated, and to an almost equal degree, by the serum of rabbits inoculated with either bacillus. On the other hand, these bacilli are not agglutinated by the higher dilutions of Serum Flexner, Serum Shiga-Kruse, or Serum *pseudo-dysentericus* A.

B. dysentericus (Shiga-Kruse) is agglutinated only by the Milan Institute serum. Flexner's bacillus (including B 4 Up) is agglutinated by the lower dilutions of serums Tor No. 1 and *B. pseudo-dysentericus* D. only, but is agglutinated by higher dilutions of Serum Flexner and Serum *pseudo-dysentericus* A; and the same is the case with

TABLE II.

Name in Register.		Serum 1 in 50.					Serum 1 in 100.					Serum 1 in 200.					Serum 1 in 500.					Serum 1 in 1,000.					Serum 1 in 2,000.				
		T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.	T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.	T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.	T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.	T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.	T. S.	Ps. D. S.	F. S.	M. I. S.	Ps. A. S.
I.	*Bacillus dysentericus* Tor No. 1	+3	+3	+3	+1	+2	+3	+3	+3	−	±	+3	+3	±	−	−	+3	+3	−	−	−	+3	+3	−	−	−	+3	+3	−	−	−
R. E. T	,, ,,	+3	+3	+3	+2	+3	+3	+3	+3	+1	−	+2	+3	+1	−	−	+3	+3	−	−	−	+3	+3	−	−	−	+3	+3	−	−	−
33	,, ,,	+3	+3	+3	+1	+3	+3	+3	+3	−	+2	+3	+3	+2	−	+2	+3	+3	−	−	−	+3	+3	+1	−	−	+2	+2	−	−	−
22	,, ,,	+3	+3	+3	+1	−	+3	+3	+2	−	−	+3	+3	+2	−	−	+3	+3	−	−	−	+3	+3	−	−	−	+3	+3	−	−	−
44	,, ,,	+3	+3	+3	+2	+3	+3	+3	+3	+1	±	+3	+3	+3	−	−	+3	+3	−	−	−	±	+1	−	−	−	±	−	−	−	−
Aut. 167	,, ,,	+3	+3	+3	+3	+3	+3	+3	+3	+1	±	+3	+3	+3	−	−	+3	+2	±	−	−	+3	−	−	−	−	±	−	−	−	−
—	*Bacillus pseudo-dysentericus*, D (Kruse)	+3	+3	+3	±	+2	+3	+3	+3	−	−	+3	+3	+3	−	−	+2	+3	−	−	−	+1	+3	−	−	−	±	+2	−	−	−
68	,, ,,	+3	+3	+3	+1	−	+3	+3	+3	−	−	+3	+3	+2	−	−	+3	+3	+1	−	−	+2	+3	−	−	−	+1	+3	−	−	−
2 Up	,, ,,	+3	+3	-2	±	+2	+3	+3	+2	−	−	+2	+3	+2	−	−	+1	+2	±	−	−	±	+1	−	−	−	±	−	−	−	−
37	,, ,,	+3	+3	+3	±	±	+2	+3	+2	−	−	+2	+3	±	−	−	+1	+3	±	−	−	−	+2	−	−	−	+1	−	−	−	−
—	Flexner	−	+3	+3	+1	+3	−	+3	+3	±	+3	−	+3	+3	−	+3	−	+2	+3	−	+3	−	−	+3	−	+3	−	−	+2	+0	−	0
4 Up	,,	−	+3	+3	+3	+3	−	+3	+3	+1	+3	−	+3	+3	−	+3	−	+3	+3	−	−	−	+3	+3	−	−	−	−	+2	+1	−	−
—	*Pseudo-dysentericus*, A (Kruse)	+3	+3	+3	+3	+3	−	+3	+3	0	+3	−	+2	+3	0	+3	−	+2	+3	0	+3	−	0	+3	0	+2	−	0	+2	0	−	−
—	*Bacillus dysentericus* (Shiga-Kruse)	+1	+2	−	+3	−	−	+2	−	+3	−	−	+1	−	+3	−	−	−	−	+2	−	−	−	−	−	±	−	−	−	−	−	−

T. S. = Serum of rabbit inoculated with *Bacillus dysentericus* Tor No. 1.
Ps. D. S. = Serum of rabbit inoculated with *Bacillus pseudo-dysentericus* D (Kruse).
F. S. = Serum of rabbit inoculated with Flexner's bacillus.
M. I. S. = Serum from the Milan Institute prepared by injection of *Bacillus dysentericus* (Shiga-Kruse).
Ps. A. S. = Serum from rabbits inoculated with *Bacillus pseudo-dysentericus* A (Kruse).

TABLE III.

Name in Register.		Serum Tor + B. Tor.			Serum Tor + *B. Pseudo* D.		Serum *Pseudo* D + *B. Pseudo* D.			Serum *Pseudo* D + *B.* Tor.			Serum *Pseudo* D. +4 Up (Flexner).			
		1 in 200	1 in 500	1 in 1,000	1 in 200	1 in 500	1 in 200	1 in 500	1 in 1,000	1 in 200	1 in 500	1 in 1,000	1 in 250	1 in 500	1 in 1,000	1 in 2,000
I.	*Bacillus dysentericus* Tor No. 1 ...	–	–	–	+3	+3	+	+	–	–	–	–	+3	+3	+3	+2
R. E. T.	.. ..	–	–	0	+3	+3	0	+	–	0	–	–	–	0	0	0
39	.. ..	–	–	0	+3	+3	0	–	–	0	–	–	–	0	0	0
22	.. ..	–	–	0	+3	+3	0	–	–	0	–	–	–	0	0	0
44	.. ..	–	–	0	+2	–	0	–	–	0	–	–	0	0	0	0
167	.. ..	–	–	0	+3	+3	0	–	–	0	–	–	0	0	0	0
—	*Bacillus pseudo-dysentericus* D (Kruse)	±	–	–	–	–	0	–	–	–	+3	+3	+3	+3	+3	+3	+2
68	.. ..	–	–	0	+2	+1	–	+1	±	0	+2	+1	0	0	0	0	0
2 Up	.. .. ..	–	–	0	–	–	0	+1	+1	–	+1	–	0	0	0	0	0
37	.. ..	+	+		–	–	0	–	–	0	+2	+1	–	0	0	0	0
4 Up	(Flexner)							±	–	–	+3	+3	+2	–	–	–	–

A. Serum Tor + *B.* Tor = serum from a rabbit inoculated with *B. dysentericus* Tor No. 1. The serum was then saturated with *B.* Tor, centrifugalized, and decanted.

B. Serum Tor + *B. pseudo* D = same serum, except that it had been saturated with *B. pseudo* D.

C. Serum *pseudo* D. + *B. pseudo* D = serum from a rabbit inoculated with *B. pseudo-dysentericus* D. The serum was then saturated with *B. pseudo-dysentericus* D, centrifugalized, and decanted.

D. Serum *pseudo* D + *B.* Tor = the same serum as above (C), except that it had been saturated with *B. dysentericus* Tor No. 1.

B. pseudo-dysentericus A. According to the agglutination tests, therefore, the bacilli can be divided into three main groups: Group A, composed of *B. dysentericus* El Tor No. 1 and *B. pseudo-dysentericus* D; Group B, comprising Flexner's bacillus and *B. pseudo-dysentericus* A;* and Group III, containing *B. dysentericus* (Shiga-Kruse).

Saturation Test.

It has been repeatedly pointed out that the agglutination test, though valuable for the differentiation of micro-organisms, is by no means final, as the injection into an animal of a given micro-organism may produce substances agglutinating not only the injected micro-organisms but others also. Kruse has pointed out the great value of the saturation test in the differentiation of dysenteric bacilli. This test consists in adding to a serum a quantity of the micro-organisms with which the serum has been prepared. If this serum be now decanted and tested it is found that *all* the agglutinins have disappeared. If, on the other hand, this serum be tested with a serum which, though agglutinated by this serum has not been used for the injection, the serum no longer agglutinates this microbe, though it still agglutinates the microbe with which it has been prepared. The injection of Bacillus A, for instance, produces a serum agglutinating Bacillus A and Bacillus B. If this serum be now saturated with Bacillus A and decanted, it agglutinates neither Bacillus A nor Bacillus B. Contrariwise, if this serum be first saturated with Bacillus B, it no longer agglutinates Bacillus B but still agglutinates Bacillus A. In other words, a given micro organism added to its own homologous serum neutralizes all the agglutinins, but when added to a heterologous serum, it neutralizes the agglutinins specific for itself, but not the other agglutinins.

Table III gives the results of this test.

The table shows that the Serum Tor when saturated with *B.* Tor loses the agglutinins for *B. dysentericus* Tor No. 1 and for *B. pseudo-dysentericus* D. On the contrary, when the same serum is saturated with *B. pseudo* D, it loses the agglutinins for *B. pseudo-dysentericus* D, but not for *B. dysentericus* Tor No. 1. Similarly, the serum pseudo D, when saturated with *B. pseudo* D, loses the agglutinins for *B. pseudo-dysentericus* D and *B dysentericus* El Tor No. 1, and when saturated with *B. dysentericus* El Tor No. 1 it loses the agglutinins for *B. dysentericus* El Tor, but not altogether those for *B. pseudo-dysentericus* D. The *Bacillus dysentericus* El Tor No. 1. therefore, when injected into rabbits produces agglutinins for B. Tor No. 1 and for *B. pseudo-dysentericus* D. Both agglutinins are neutralized by *B. dysentericus* Tor No. 1, but not by *B. pseudo-dysentericus* D. Similarly *B. pseudo-dysentericus* D, when injected into rabbits, produces agglutinins acting on *B. pseudo-dysentericus* D and on *B. dysentericus* Tor No. 1, but here both agglutinins are removed by the addition of *B. pseudo-dysentericus* D to the serum, whereas the addition of *B. dysentericus* Tor No. 1 leaves the agglutinins for *B. pseudo-dysentericus* D untouched. As the injection of *B. pseudo-dysentericus* D and *B. dysentericus* Tor No. 1 produces serums differing specifically in their agglutinating properties, we must conclude that they are not identical.

Nevertheless, it is quite clear that the two micro-organisms are very closely related, and this is shown by the agglutinating actions common to their specific serums, by their identical action on sugars, by their common morphological characteristics, as well as by the results of cross-immunization. They are far more closely related to one another than either of them to the *B. dysentericus* (Shiga-Kruse) or to *B. dysentericus* (Flexner), or than either of the latter to one another. We have given to this bacillus the name of *B. dysentericus* Tor No. 1, but we wish it to be distinctly understood that the name is a provisional one. It may be that it will prove identical with some of the bacilli discovered by Shiga in Japan and Kruse in Germany, and which we have had no opportunity of studying.

Fixation Tests (complement Ablenkung.)

Our friend Dr. Crendiropoulo, who has had great experience of this method of investigation, was good enough to study these various serums by this method. We need not here go into the details of his experiments, as the net result obtained was that he was unable to obtain convincing differentiating reactions by this method.

REMARKS.

As has been stated already in the beginning of this paper, there are, during the Mussulman pilgrimage, at least seven different causative agents of dysentery, the most important one being the one we have just described under the name of *B. dysentericus* Tor No. 1. This multiplicity of causative agents renders the treatment of dysentery extremely difficult, for, whereas it is comparatively easy to recognize, by examination of the stools, the cases which are due to amoebae, it is impossible to diagnose in this way, or by the physical signs, to what class of dysenteric bacilli the other cases are due. And yet this diagnosis is most important, for we have found that whereas the serum prepared by injection of the Shiga-Kruse bacillus has a most remarkable curative action on the cases in which the disease is clearly due to this bacillus; the severe cases caused by the *B. dysentericus* Tor No. 1 are not at all affected by this serum. On the other hand, the few severe cases

* It may be that further experiments would have shown a difference between Flexner's bacillus and *B. pseudo-dysentericus* A.

which we have treated with the serum of a Lorse, repeatedly injected by *B. dysentericus* Tor No. 1, were not only benefited, but quickly cured. Unfortunately, it is not practicable to establish the bacteriological diagnosis before using the serum. The minimum period necessary for such a diagnosis is thirty-six hours, and this valuable time must not be lost, as most of these patients arrive in an almost hopeless condition. The treatment, therefore, must be commenced at once, and our only hope is to prepare a polyvalent serum, as Shiga has already done in Japan. Thanks to a grant from the Egyptian Government we hope to have such serums ready for the next pilgrimage season.

ON THE VALUE OF COLOURED SUBSTRATA FOR THE DETECTION AND DIFFERENTIATION OF THE TYPHO-COLI GROUP.

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In view of the great epidemiological importance of "carrier" cases of typhoid, and of the etiological relationship of non-lactose-fermenting bacilli of the Gaertner group to paratyphoid fever and meat poisoning, any method which will admit of the speedy identification of such organisms in the contents of the bowel must form a welcome addition to bacteriological technique. There are at least two ways of accomplishing the desired object—namely, by substrata which shall either (1) cause the colonies that are being sought for (typhoid, paratyphoid, dysentery) to assume a distinctive appearance, or (2) suppress the ordinary *coli* germs, so as to enable the relatively few non-lactose fermenters to appear prominently on the plate. In dealing with paratyphoid bacilli and Gaertner infection, the non-lactose fermenters often occur in such numbers that the stool is practically a pure cultivation of them and no special method is necessary.

Having had occasion lately to investigate three extensive outbreaks of typhoid which were undoubtedly due to carrier cases, I have been making comparative series of cultures from such cases containing a minority of typhoid bacilli, in the presence of a large excess of *coli*. Moreover, at Limerick I had occasion to study on a large scale the effects of intense Gaertner infection, and, last year, I studied two cases of paratyphoid bacillus infection and isolated the bacillus. With these materials in hand, it occurred to me that it might be of interest to give the Section the results of my comparative study of the behaviour of these organisms, and also the Flexner and Shiga strains of dysentery, on the following media:

1. The original Drigalski (litmus, lactose, nutrose agar, with crystal violet).
2. Endo's fuchsin-agar, without and with addition of caffein to inhibit *coli* (Gaehtgens's modification).
3. The new brilliant-green picric acid medium of Conradi.
4. The modification of No. 3 introduced by Captain Fawcus in the *Journal of the Royal Army Medical Corps* for February, 1909 (addition of lactose and bile-salt, and less acid reaction).
5. Werbitzki's China-green agar—namely, an ordinary 3 per cent. bouillon agar, neutralized to *plus* 15 (Eyre), and to each 100 c.cm. of which is added from 1.4 to 1.5 c.cm. of a 0.2 per cent. solution of China-green (I procured my sample from Grübler).

It would have been most interesting had I been able to include in this series Dr. McConkey's useful bile-salt-neutral-red-lactose-agar, and one or other of Loeffler's malachite-green substrata. But I have to leave them out of account on this occasion.

(After demonstrating cultures of the stool of a typhoid case, containing a moderate number of typhoid bacilli, and also by way of contrast those of a healthy suckling a month old, and containing only *coli* of *aerogenes* type, together with yeasts, the speaker proceeded as follows:) These plates are all surface inoculations, made with a Drigalski spatula. Great care was taken to use a similar amount of the suspected material for the primary plate of each medium, and the faeces were carefully homogenized, so that the results may, I think, be fairly compared. Each plate has been incubated twenty-four hours, but they have now been for four days standing at rather high room temperature, which has rather spoiled the appearance of the Endo by causing the red colour of the *coli* to diffuse. Of all these substrata, that which yielded the best results in my hands is the China-green. On it about 75 per cent. of the *coli* are suppressed, and the surviving colonies are much inhibited, being small, opaque, and point-like. The typhoid has developed most luxuriantly, and its colonies are more numerous than on any of the other media. They present a very characteristic appearance, being thin, of a delicate transparent green tinge, which is deeper in the centre. The colonies, after two days, present a thinner filmy peripheral layer, spreading like a veil, and beautifully sulcate under a low power. A drawback is the fact that bacilli taken from these colonies are mostly non-motile, and unsuitable for agglutination work. A subculture in broth is needed to restore their typical characters.

Next in value to China-green comes, in my opinion, the Conradi medium. *Coli* is largely inhibited, and assumes an opaque yellowish-green hue, whilst the typhoid colonies are more transparent, colourless, thinner, and flatter. Their motility and agglutinability are well preserved. Still, the distinction is sometimes a delicate matter, and several colonies have often to be tested before arriving at a genuine typhoid organism.

With regard to Captain Fawcus's modification of this medium, my experience being limited to a single batch of substratum, I do not feel justified in expressing any very definite opinion. It seems to me to inhibit not only *coli* but also typhoid to some extent, for, after twenty-four hours' incubation the typhoid colonies were fewer and smaller than on the corresponding plate of Conradi. Afterwards, however, they came along well at room temperature, and now present an appearance very like that on China-green, and more distinctive than that on Conradi. They were, however, distinctly less numerous. As for the *coli*, most of the colonies were surrounded with a cloudy zone, due to the effect of the acid on the bile salt. I am not, however, convinced that any great advantage is gained thereby.

It is hardly necessary for me to describe the appearances on the original Drigalski and Endo plates, as these media are in everyday use wherever this sort of work is being done. A glance, however, serves to show that the better distinction is yielded by the Endo, and that in both cases the overwhelming majority of the colonies are those of *coli*, thus presenting a striking contrast with the China-green agar, on which the large majority are those of typhoid. It is interesting also to note that the Endo permits the development from the suckling stools of numerous colonies of yeast, which are suppressed on all the other substrata. I have failed to get good results from the addition of caffein.

With the object of giving an uncomplicated picture of the mode of growth, I now show (demonstration) a series of pure surface cultures of the several organisms on each substratum. The following are the cultures shown: Typhoid, *coli*, paratyphoid B and A, a virulent strain of Gaertner isolated from the outbreak of meat-poisoning at Limerick, Ratin, and the dysentery bacilli of Shiga and Flexner. It will be at once evident that the growth of *coli* is almost completely inhibited on Conradi, Fawcus, and China-green, and, what is interesting, the two strains of dysentery are also unable to develop on these substrata. None of the media shows any distinction between Gaertner and Ratin.

Encouraged by the good results obtained with China-green on plates, I have tried it for enriching milk in typhoid bacilli. This would constitute a great improvement in our present means of analysing that fluid bacteriologically. But I have not yet succeeded in obtaining satisfactory results.

ON HETEROLOGOUS AGGLUTININS,

MORE PARTICULARLY THOSE PRESENT IN THE BLOOD SERUM OF CEREBRO-SPINAL FEVER AND TYPHUS FEVER CASES.

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[Abstract.]

In a previous paper[1] Professor Symmers and myself have called attention to the presence of agglutinins for the typhoid bacillus, the colon bacillus, and a bacillus of the *alcaligenes* class in the blood serum of patients suffering from cerebro-spinal fever from whose lumbar puncture

laid, and in some cases from whose blood, the *Micrococcus intracellularis meningitidis* (Weichselbaum) had been cultivated. Further observations have confirmed and extended our previous results.

Agglutination of the B. typhosus.

Seven out of 21 samples of the serum of cerebro-spinal fever patients "clumped" the *B. typhosus* in a 1 in 50 dilution, and of these 7, 5 still gave a positive reaction with a 1 in 200, and 1 with a 1 in 400 dilution.

Agglutination of the B. coli communis.

A typical colon bacillus isolated from the faeces of a cerebro-spinal fever case was used as the test organism, and 18 samples of blood serum were examined. In 16 of them the results were negative, and in 2 positive, with a 1 in 50 dilution of the serum, and one of these cases still gave a positive reaction with a 1 in 400 dilution.

Agglutination of a Bacillus of the Alcaligenes Class.

This bacillus is actively motile, and in its morphology and cultural characters resembles the *B. faecalis alcaligenes*. It was isolated from Belfast tap-water, and, for convenience of description, has been named *Bacillus aquatilis alcaligenes*. We have examined as to its agglutinative action altogether 184 different samples of the serum of cerebro-spinal fever cases, and have found that 90 per cent. of the cases agglutinated the *B. aquatilis alcaligenes* in a dilution of 1 in 50. In most of the cases agglutination was still present with a 1 in 100 and much higher dilutions. In 16 cases the blood serum gave marked "clumping" within an hour to dilutions of 1 in 1,000; and, further, we found that one of the 16 agglutinated in 1 in 1,400, 2 in 1 in 1,500, 4 in 1 in 1,600, 4 in 1 in 2,000 dilutions respectively.

It is possible to remove the agglutinins from the serum by saturation with the *B. aquatilis alcaligenes*, whilst saturation with the meningococcus, *B. typhosus*, *B. coli communis*, or *B. faecalis alcaligenes* (Kral) leaves them unaltered.

These results were controlled by the examination of the blood serum of healthy adults and of patients suffering from various infectious and general diseases. In round numbers, of 168 controls 22 per cent. gave a positive result with a 1 in 50 dilution of the serum. In none of them was agglutination present in higher dilutions than 1 in 100; on an average a dilution of 1 in 35 of normal serum caused slight clumping.

Agglutination of the Meningococcus.

Fifty specimens of serum taken from cases of cerebro-spinal fever were examined. All gave a positive reaction with a 1 in 10, 38 with a 1 in 20, 20 with a 1 in 50, and 6 with a 1 in 100 dilution.

I have followed the course of development of the agglutinins for the meningococcus and for the *B. aquatilis alcaligenes* in the blood serum of a case of cerebro-spinal fever, and have found that when the results obtained in each instance are represented by curves there is a certain degree of parallelism between the latter. To this, however, there are many exceptions.

The blood serum of a horse which had been immunized against the meningococcus was much richer than normal horse serum in agglutinins, not only for the meningococcus but also for the *B. aquatilis alcaligenes*. It would seem that in certain individuals and animals infection with the meningococcus leads not only to the production of specific agglutinins which act on the infecting micro-organism, but also to others which act on various other bacteria. A consideration of the literature on agglutination shows that in immunization specific agglutinins are produced, and also group agglutinins (Pfaundler) which act on nearly related micro-organisms and mitagglutinins (Wassermann) which act on organisms which stand further away in a botanical classification. In certain cases the secondary agglutinins are not removed from the serum when it is saturated with the infecting micro-organism, in this respect differing from the group agglutinins and the mitagglutinins. To such secondary agglutinins the name "heterologous nebenagglutinins" (Sagasser) has been given; and their existence proves that Castellani's specific absorption method cannot be relied upon to distinguish secondary agglutinins from those which are really specific and are due to a mixed infection.

Observations of a similar nature to those recorded by Professor Symmers and myself have been made by Posselt and Sagasser,[2] Hetsch and Lentz,[3] Ballner and Sagasser,[4] and Park and Collins.[5]

Effect of Heat on the Agglutinins in Cerebro-spinal Fever Cases.

Heating the serum to 60° C. for ten minutes destroys the agglutinins for the meningococcus, but only partially destroys those for the *B. aquatilis alcaligenes*. Heating to 65° C. for ten minutes completely destroys the agglutinins both for the meningococcus and for the *B. aquatilis alcaligenes*. With what component of the serum are the heterologous agglutinins bound? By means of precipitation with various strengths of ammonium sulphate solution it was found that these agglutinins were associated with the globulin component of the serum, and that the greater part belonged to the "pseudo-globulin," a smaller part to the "euglobulin" fraction.

Agglutinative Action of Typhus Blood Serum on Typho-coli Organisms.

Thirty-one different samples of the blood serum taken from Belfast cases of typhus fever were examined as to their action on the *B. typhosus*, with the result that 18 gave a positive and 13 a negative reaction with a 1 in 50 dilution of the serum. On several occasions different strains of typhoid bacilli were employed, and almost invariably specimens of blood from non-typhus cases were simultaneously examined with reference to the Widal test, and so served as controls for our results. In 2 cases there was still a trace of agglutination with a 1 in 200 dilution. In a few of the cases there was a history of a previous attack of typhoid fever, but in the majority there was no such history, and in one of the cases (a young girl), in which the serum reacted in a dilution of 1 in 200, minute inquiry failed to elicit any account of a preceding illness.

Seven cases of typhus fever were examined as to the action of their serum on a variant strain of the *B. coli communis* which had been isolated from the faeces of one of the cases. On an average the agglutinative action was five times greater than that of normal serum.

The presence of these secondary agglutinins indicates that caution must be exercised before a conclusion can be arrived at that a certain micro-organism is actually infecting an individual, even though it is found in his alimentary canal and there are specifically absorbable agglutinins for it in his blood serum.

[illegible]

[1] Symmers and Wilson, 1908, *Journ. of Hyg.*, vol. viii, No. 3, p. 313. [2] Posselt and Sagasser, 1908, *Wien. klin. Wochn.*, No. 24. [3] Hetsch and Lentz, [illegible] *Kongr. f. inn. Med.*, p. 27. [4] Ballner and Sagasser, [illegible] *f. Hyg.*, 1908, p. 31. [5] Park and Collins, a reference in [illegible] *Immunity*, London, Henry Kimpton, 1908, p. 174.

PORTALS OF ENTRY OF TUBERCLE BACILLI INTO THE BODY.

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THE object of the experiments here described was to find out (1) whether bacteria can gain entrance to the lungs directly through the air passages, and (2) whether, after being absorbed from some part of the alimentary canal, they can pass at once through the lymphatic glands and gain entrance to the lungs. The general intention of the experiments was to throw light on the question of the portals of entry of the tubercle bacilli into the human body in the causation of phthisis.

The experiments are divisible into three groups—namely, those made (1) with particles of carbon, (2) with *B. prodigiosus*, and (3) with *B. tuberculosis*. The animals used were guinea-pigs, except in a few instances, in which rabbits and mice were employed.

The results may be briefly summarized as follows:

1. *Experiments with Particles of Carbon (25 Experiments).*

(*a*) Young guinea-pigs fed with Indian ink, or lamp-black, on one or more occasions showed no pigmentation of mesenteric or cervical lymphatic glands, and no pigmenta-

[illegible] Wagner and Newberry's Imperial Indian ink was generally used, made from genuine "stick ink." In a few cases Chinese stick was employed.

tion of lungs or bronchial glands, except in two experiments (feeding with dry lampblack mixed with the food both dry and moist, for eleven and fourteen days respectively), when the conditions were such as did not exclude the possibility of the pigment being inhaled directly into the lungs.

(*b*) Feeding adult guinea-pigs in a similar manner resulted in no pigmentation of the mesenteric or cervical glands, nor of the lungs or bronchial glands; such pigmentation as was found in these latter situations in some of the guinea-pigs fed with carbon being equalled in normal animals of corresponding age which served as controls. Some degree of pigmentation of lungs and bronchial glands in normal guinea-pigs of 500 grams and over is common in Cambridge.

The results of these experiments are directly opposed to the belief that pigmentation of the lungs is of intestinal origin, and suggest the possibility that spontaneous pigmentation may sometimes have been mistaken for the result of an experimental feeding with carbon.

2. *Experiments with B. prodigiosus: (a) Inhalation (26 Experiments); (b) Feeding (14 Experiments).*

(*a*) Cultures were made from a large number of organs and glands of animals exposed to a spray containing the bacillus. In all the more recent experiments the spray used was of the finest description, and was continued only for one or a few minutes. It scarcely sufficed to produce any perceptible wetting of the coats of the animals.*

B. prodigiosus was cultivated from the extreme marginal portions of the lung of all these animals, unless the interval between spraying and death exceeded fifteen hours. In two instances the animals ceased to breathe within three and five minutes respectively of the commencement of the exposure to the spray.

The bacillus did not fail to reach the lungs after the œsophagus had been ligatured in two places and divided. The bacillus reached the bronchial glands in ten hours, if not earlier, but was not found in them after the fifteenth hour. It was twice found in the mesenteric glands and once in the cervical. It was invariably absent from other parts of the body, except in the case of one of the earlier animals, which was entirely exceptional.

(*b*) Feeding with *B. prodigiosus* (14 experiments).

Guinea-pigs were made to swallow large quantities of *B. prodigiosus*, killed after intervals of three to fourteen hours, and cultures made from their organs and glands. In the case of about half the guinea-pigs, one or two colonies—often a single colony only—appeared in one or more of the four tubes sown copiously with lung emulsion. It is, however, by no means certain that these reached the lungs after being absorbed from some part of the alimentary canal, for it is probable that the bacilli do not survive long enough in the stomach and intestines to do so; for only rarely could a colony of *B. prodigiosus* be cultivated from their contents; and in not one of these experiments did *B. prodigiosus* appear in the cultures from the mesenteric glands. Once, however, a single colony appeared in a tube sown from the gland just below the symphysis of the lower jaw (submental). Observing the frequency with which guinea-pigs make a clinking noise when feeding, and especially when fed artificially, I have no difficulty in believing that the bacilli in question may have reached the lungs directly—that is, by the air passages. Intertracheal injections of small quantities of these bacilli were followed by their appearance in the margins of the lungs.

3. *Experiments with B. tuberculosis: Inhalation Experiments (14). Feeding Experiments (13).*

Both feeding and inhalation experiments were undertaken. The former are by no means yet complete. The results were, on the whole, similar to those obtained after feeding with *B. prodigiosus*. Their interpretation awaits further experiments. When guinea-pigs were fed with tubercle bacilli and allowed to live some weeks, tuberculosis appeared first in the mesenteric or cervical lymph glands, and no disease appeared in the lungs until it became generalized elsewhere.

The spraying experiments clearly show that tubercle bacilli suspended in the air can readily penetrate deeply into the lungs. When the animals exposed to the spray were killed a few minutes or hours after, and their emulsified organs injected into other guinea-pigs, tuberculosis was invariably produced by the lung emulsions. A much less severe tuberculosis was in some cases produced by the bronchial or mesenteric glands. When guinea-pigs exposed to the spray of tubercle bacilli were allowed to live from one week to a month, and then killed and examined, tubercle bacilli were found in large numbers in the lungs before any lesions appeared anywhere. Elsewhere they were absent, except in small numbers in the bronchial and cervical lymph glands. Tuberculous lesions first appeared in the lungs, then in the bronchial glands, after which they were found in the portal lymph gland and the spleen. The mesenteric glands invariably escaped tuberculosis, but in 1 case (out of 10) three tubercle bacilli were seen fourteen days after exposure to the spray.

CONCLUSIONS.

The experiments as a whole are not yet completed. They, however, clearly show already that in the guinea-pig, bacilli suspended in the air readily pass down the bronchi deeply into the lungs. The experiments are not sufficiently advanced to justify any conclusions as to the course of infection which follows the introduction of tubercle bacilli into the alimentary canal.

* A "Myra" spraying bottle was used for the recent experiments.

ON THE PROTOZOAN ORIGIN OF TUMOURS.

BY

W. FORD ROBERTSON, M.D. and M. C. W. YOUNG, M.B., Ch.B.

FOR several years, and in numerous papers and demonstrations, we have advocated the view that certain forms of malignant tumour are associated with the presence of protozoan organisms which determine the morbid proliferation of the cells. Our contentions have been based chiefly upon the alleged demonstration of the parasites in the tissues by new methods, upon their cultivation, and upon the experimental production of carcinoma in mice by feeding with incubated carcinomatous fluid from the human subject. As is well known, the opinion that malignant tumours are of parasitic origin has long been held. At one time, indeed, it was the most favoured view of their etiology. In recent years, however, it has come to have very few supporters. The reason for this is certainly not that the parasitic hypothesis has been proved to be erroneous. It lies, we think, chiefly in two facts—namely, that about fifteen years ago opinion almost completely revolted against the current parasitic theories, which seemed incapable of being definitely proved, whilst at the same time they conflicted with each other, and that shortly thereafter totally different methods of investigation came into fashion, which seemed to offer sure hopes of the complete elucidation of the problem of cancer. How these hopes have been falsified is a matter of history for those who can read it. The enormous activity that has been shown in orthodox cancer research during the past ten years has unquestionably resulted in the elucidation of many important facts regarding the pathology of tumours, but it has left the essential question of their etiology as obscure and mysterious as it was fifty years ago. We think it could hardly have been otherwise, for, with all respect to the many able workers who have pursued this special line of investigation, and with ungrudging appreciation of their magnificent labours, we venture to maintain that they have missed the right path in this *selva oscura* of cancer research, and the sooner the fact is realized the better will it be for the interests of medical science and of a vast contingent of suffering humanity.

We wish at this meeting to present the case for the protozoan origin of tumours as it stands on the ground of the evidence we have obtained, and to demonstrate this evidence, as far as possible, by means of microscopical preparations and lantern slides presently to be shown on the screen. We cannot, in the time at our disposal, attempt to compare our observations with those already recorded by other workers. Our methods are quite different from those that have been used by others, and we believe that many of the forms we describe have not previously been identified at all. For these reasons our observations are capable of standing by themselves.

We maintain that just as there is a very extensive group of pathogenic micro-organisms, classed as schizomycetes, which determine various forms of inflammation, so also there is another extensive group of pathogenic micro-organisms, probably to be classed as mycetozoa, which determine the development of various forms of tumour. We assert that in many tumours we can demonstrate bodies that are obviously protozoa, and that there are other microscopic forms which, though not by themselves capable of being proved to be of the same nature, can yet be traced from or to these definite forms and given a place in a life cycle which has close affinities with that of known protozoan cycles.

We are well aware of the dangers that there are of being misled by degenerative products, and even by normal appearances, but these do not exclude the occurrence of protozoa any more than the caseous material in a tuberculous lung excludes the occurrence of bacilli. We have now used our special methods for so many years, and are so familiar with what they reveal, not only in tumours but in other morbid conditions and in normal tissues, that we can speak with confidence regarding the special bodies to which we attach importance. By means of the palladium methyl-violet method we undertake to distinguish, as a rule, only the rod form or sporozoite.

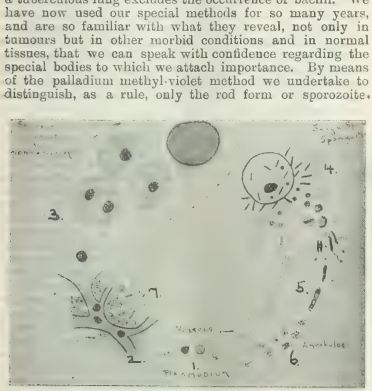


Fig. 1.—Provisional cycle of a mycetozoon. 1, Gametes lying free in plasmodium. 2, Nuclei of zygotes in vessels. 3, Zygotes in sporangium, where they divide and form resting spores. 4, Sporocyst rupturing and setting free sporozoites. 5, Dark sporozoites become amœbulæ; pale sporozoites form vessel walls. 6, Amœbulæ form a plasmodium, in which there develop gametocytes and asexual sporoblasts. 7, Asexual sporoblasts give rise to swarm spores and sporozoites.

By means of the ammonio-silver process and cyanide decolorization we reveal the cyanide-fast bodies, which extend in the life cycle from the plasmodium to the swarm spore. Degenerative granules that resist decolorization are often present in various morbid tissues, and the mere fact that a body is cyanide-fast we do not regard as proof of its protozoan nature. We rely upon the occurrence of certain additional and characteristic features, which we shall describe.

In order that we may be able to make quite clear our contentions with regard to the occurrence of protozoa in tumours, we must recall the life cycle of the *Haemamoeba malariæ*, a sporozoon, and compare it with that of *Badhamia utricularis*, a saprophytic mycetozoon, and with that of *Plasmodiophora brassicæ*, which is by some classed among the mycetozoa, but by others included in a lower group, the proteomyxa. The last named is parasitic in the cells of turnips, cabbages, and other plants, and determines the development of tumour-like growths.

In the case of the *Haemamoeba malariæ*, the crescents or gametocytes, upon gaining access to the body of the mosquito, ripen to form the fully-developed male and female gametes. By a process of exflagellation from the male gametocyte, there is formed a microgamete, which unites with a macrogamete. The body resulting from this conjugation is the zygote or travelling vermicule. This, in course of time, becomes the sporoblast, within which there develop numerous rounded bodies which subsequently give rise to the spindle-shaped sporozoites. The sporocyst ruptures and the sporozoites escape. On being transferred to the human body, these enter the red corpuscles and become amœbulæ, thus initiating the asexual cycle. Within the red corpuscles the amœbulæ proliferate and form an aggregation termed a sporocyte, the individuals composing which separate and escape from the corpuscle as little nucleated bodies termed "merozoites." These enter other red corpuscles and become amœbulæ, and thus the asexual cycle starts again. Alternatively, the merozoite may develop into a crescent, thus initiating the sexual cycle already described. According to Schaudinn, a female gamete that has not become fertilized may undergo successive divisions, and give rise to amœbulæ.

The life cycle of *Badhamia utricularis*, though differing widely from the preceding, has certain close analogies to it (Fig. 1). There are gametocytes and fully developed gametes. The method of conjugation does not appear to have been determined definitely, but it is probably direct, as in *Plasmodiophora*, without the preliminary formation of a microgamete. Conjugation is followed by a resting phase. When further development takes place, there is liberated from within a capsule a large rounded body with two long, thin flagella. It becomes a sporoblast. This discharges from its interior a large number of small rounded forms, which increase in size and give off rodlike bodies, or sporozoites, each of which has a flagellum at

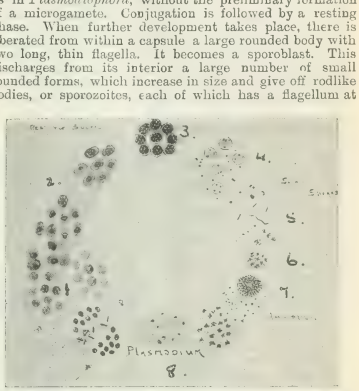


Fig. 2.—Cycle of *Plasmodiophora brassicæ*. 1, Gametes. 2, Zygotes. 3, Resting spores. 4, Formation of swarm spores. 5, Sporozoites or rods. 6, Amœbulæ. 7, Sporocytes and second generation of amœbulæ. 8, Plasmodium.

one end. These sporozoites may complete their development before rupture of the sporocyst. They next break up into rounded nucleated bodies which represent an amœbula phase. It is very doubtful if there is any true plasmodium, though the term is commonly applied to the creeping film, which, however, is composed of independent sporozoites, amœbulæ, and gametocytes in various proportions, according to the age of the growth. The walls of the vessels that form an essential part of these films are apparently formed by deposition of successive layers of a pale type of sporozoite which is always present. The development of a sporangium marks the ripening of the gametes, the occurrence of conjugation, and the formation of resting spores. The important point in this life cycle for our present purpose is the occurrence of a rod or sporozoite phase. These rod forms appear always to have been mistaken for bacilli. We have made observations which we think place it beyond doubt that they are a phase in the life cycle of this protozoon. There is also evidence of the occurrence of an asexual cycle comparable to that described by Schaudinn in one of the malarial parasites.

The life cycle of *Plasmodiophora brassicæ*, to which we have devoted much study, differs considerably from that of each of the foregoing, but again the analogies are close and striking (Fig. 2). Although regarded by some as a mycetozoon, this protozoon does not, on account of its parasitic habit, form a sporangium. The gametes, as seen in the cytoplasm of the turnip cell, are rounded or oval bodies with a well-defined nucleus but without processes. There are male and female types, distinguished by their comparatively dark and pale nuclei. Conjugation takes place by direct fusion of two individuals. There is

no preliminary formation of a microgamete. Immediately after conjugation a capsulated spore develops, and this constitutes a resting phase as in *Badhamia*. When activity is resumed swarm spores develop within the original capsule, and, after having been liberated, develop into a rod form or sporozoite. It is probably by the sporozoite that the young turnip is infected. There has also been described as issuing from the spore a large flagellated form, as in *Badhamia*. In the cells of the plant the sporozoites break up and form amœbulæ. These multiply and coalesce into a plasmodium; from this the gametocytes arise and ripen into gametes. The cells infected by these last three forms are stimulated to intense proliferative activity.

The life cycle of the protozoa that we describe in tumours has much in common with each of these three types that we have described, but it has also its special features (Fig. 3). Its asexual cycles very closely resemble those of *Haemamoeba malariae*, whilst in other respects its general characters most closely approximate to those of *Plasmodiophora brassicae*. There seem to be numerous pathogenic species, distinguishable by morphological and other characters. The gametocytes are represented by nucleated bodies without processes; they measure from 0·5 to 2 μ in diameter, and in ammonio-silver preparations are cyanide-fast. They develop into gametes which are slightly larger and generally show several delicate processes. The gametes have two types of nucleus, dark and pale, evidently representing male and female forms. In some tumours appearances suggestive of a process of exflagellation of a microgamete have been seen. It is, however, uncertain whether conjugation takes place directly, as in *Plasmodiophora*, or after the formation of a special male element, as in *Haemamoeba*. There is evidence in support of each of these possibilities. The zygote does not appear immediately to form a resting phase, but becomes a motile form, like the travelling vermicule of the *Haemamoeba*. This is at first an elongated body with two flagella at each end. After a time it seems to lose or to retract its flagella, and as it moves about in the tissue spaces, the anterior part is drawn out into a thin process with bulbous extremity. The zygote subsequently develops into a rounded sporoblast, a body measuring from 3 to 6 μ in diameter, and extremely cyanide fast. This sporoblast may proliferate before going on to the next phase. As it matures, there issue from its interior minute swarm spores, each of which is furnished with an extremely delicate short flagellum with a knob at the end. These swarm spores increase considerably in size and then shed off one or more minute rods, the sporozoites. At one end of these there is a delicate flagellum with a terminal enlargement. These rods have little affinity for aniline dyes, and cannot be distinguished in sections stained by the ordinary methods for the demonstration of bacteria in sections. They are generally revealed by the palladium methyl violet method. These sporozoites display a remarkable chemiotactic attraction for the nucleus of a tumour cell. One can often be seen abutting upon the nuclear membrane, indenting it, or even penetrating it. Within a nucleus or elsewhere the sporozoite breaks up into minute amœbulæ. These are nucleated bodies of irregular outline. The largest forms measure about 2 μ in diameter, but most of them are very much smaller. They are only slightly cyanide-fast, but can sometimes be seen in great numbers in ammonio-silver preparations toned with gold and only very slightly decolorized. They may also be seen in palladium methyl violet preparations. Within the nucleus or protoplasm of the tumour cell they tend to proliferate in such a way as to form compact groups. They then virtually constitute a sporocyte similar to that which develops within the red blood corpuscle in the case of *Plasmodium malariae*. Under certain conditions the amœbulæ develop into much larger and more intimately associated aggregations which constitute plasmodia. In ammonio-silver preparations with cyanide decolorization these are comparatively large granular masses which occur within a nucleus, in a dividing tumour cell, in the cytoplasm of a resting cell, or in the tissue spaces. The gametocytes take origin in these plasmodia. This cycle does not, however, include all the forms that can be identified. A place requires also to be given to certain delicate, faintly staining bodies, from 2 to 5 μ in diameter, which occur in and around malignant tumours, and which often appear in large numbers in the cultures to which we shall afterwards refer. They have a characteristic ping-pong ball indentation, and contain a minute basophile particle. As seen in the tissues, their limiting membrane and chromatic particle are cyanide-fast. We have known of these bodies for some years, but for long had the greatest difficulty in understanding their significance. For a time it seemed that they might be altered red corpuscles or remnants of other cells. We have, however, been able to eliminate such possibilities and to trace these structures with considerable certainty. The explanation that appears to us to consist best with the ascertained facts is that they are an asexual form of sporoblast derived from a gamete that has not been fertilized. They give rise to swarm spores and rods of comparatively small size, and these ultimately become amœbulæ. If this explanation is correct, an important feature of the life cycle of these protozoa is the occurrence of a parthenogenetic multiplication of the parasites, very similar to that described by Schaudinn to occur in the *Haemamoeba* of tertian fever. In some tumours the sexual phases seem to be, for the time, entirely in abeyance, whilst this and the other asexual phases are abundant.

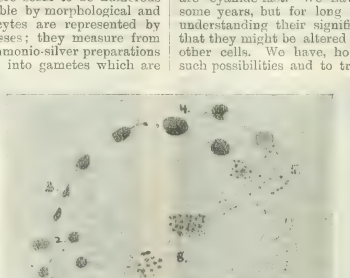


FIG. 3.—Cycle of protozoa described in tumours. 1, Gametocytes. 2, Conjugation (preliminary development of microgamete ?). 3, Zygote. Travelling vermicule. 4, Resting spore. 5, Development of swarm spores and sporozoites. 6, Amœbulæ. Short asexual cycle. 7, Plasmodium. 8, Long asexual cycle.

Evidence from the Study of Sections of Tumours.

The ammonio-silver process yields the best results only with sublimate fixed tissues, from which the mercurial deposit has been completely removed by the prolonged action of iodine in alcohol. We have not always had at our command suitably fixed tissues, and, occasionally, the method has failed to yield successful preparations. Nevertheless, we have now an extensive series of tumours in which the necessary conditions for the obtaining of successful preparations have been fulfilled, and it is chiefly to some of these that we wish now briefly to refer.

With Jensen's adeno-carcinoma of the mouse we at first obtained only partially successful results. Last autumn Dr. Madsen, of Copenhagen, after a visit to Edinburgh, during which he was shown some of our preparations, kindly obtained for us from Professor Jensen two pieces of this kind of tumour. With one, which was sublimate fixed, we have obtained what we regard as successful ammonio-silver preparations. In these nearly all the phases of the protozoa that we have described can be seen. The most conspicuous features are the gametes with delicate processes extending from their cytoplasm. This phase is present in very large numbers, twelve or more often being visible in a single field under an oil immersion lens. These bodies occur chiefly within the protoplasm of the tumour cells, and are very commonly to be observed in cells that are dividing (Fig. 4). Another specially prominent form is the plasmodium, which is also generally

intracellular, and indeed frequently intranuclear (Fig. 7). The asexual phases are also represented. It is probable that shortly before this tumour was obtained its nutritional conditions had been such as to initiate the sexual cycle, which had evidently not proceeded much beyond the maturation of the gametes.

In all of the seven tumours induced experimentally in



Fig. 4.—Gametes in dividing epithelial cell: Jensen mouse tumour. Ammonio-silver cyanide process. Carbol thionin. (× 1,500.)

mice, to which further reference will be made, we have been able to demonstrate several of the phases we have described. The gametes are smaller and less richly branched than in the Jensen tumour, but they are morphologically identical with the corresponding phases in scirrhous cancer of the human breast, from a case of which was derived the fluid with which the animals were infected. In the neighbourhood of a carcinoma of the lung, included in this series of tumours, there is a remarkable development of sporozoites within cells that have

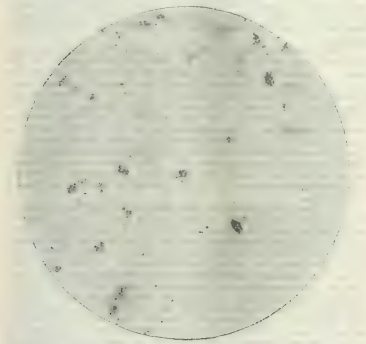


Fig. 5.—Gametes. Possible exflagellation of microgametes. Squamous epithelioma. Ammonio-silver cyanide process. (× 800.)

shown no proliferative response. They fill the protoplasm of the cells, and give rise to an appearance almost identical with that to be observed in the corresponding phase of the *Haemamœba* immediately before the rupture of the sporocyst.

In a squamous epithelioma of the lip, the ammonio-silver process has revealed large numbers of gametes, as in the Jensen tumour. They have, however, certain distinctive morphological features which compel us to believe that they are of a different species. They are generally smaller, and have longer processes. In this tumour, zygotes with and without visible flagella are also abundant (Fig. 5). Another very remarkable feature in this tumour is the occurrence of active phagocytosis of the parasites by polymorphonuclear leucocytes, which can be seen to be taking up the cyanide-fast bodies, not only in the tissue



Fig. 6.—Sporoblast giving off swarm spores. Sarcoma of breast. Ammonio-silver cyanide process. (× 800.)

spaces, but quite commonly within the protoplasm of the epithelial cells.

A case of scirrhous cancer of the breast has yielded preparations which show every phase that we have described. The gametes are exactly like those in the experimental mouse tumours. Asexual sporoblasts, and the forms that are derived from them, are numerous. In palladium methyl violet preparations, small rods occur in very large numbers, several often being visible within the protoplasm of a single epithelial cell.



Fig. 7.—Plasmodium in dividing epithelial cell: Jensen mouse tumour. Ammonio-silver cyanide process. Carbol thionin. (× 800.)

In a case of encephaloid cancer of the breast, the alleged parasitic bodies are also present in large numbers, but the species would appear to be different from that in the scirrhous cancer to which reference has just been made. The most remarkable feature is the occurrence of great numbers of swarm spores (whether of the sexual or of the asexual part of the cycle it is impossible to say) and sporozoites in the cytoplasm and nucleus of the epithelial cells. In palladium methyl violet preparations, some of

the cells contain as many as twenty or thirty sporozoites. In this tumour these rod forms are not infrequently jointed. They can quite commonly be observed in process of entering a nucleus, and of breaking up to form nucleated amœbulæ.

Another scirrhous cancer of the breast (not sublimate fixed) shows in the epithelial cells very numerous delicate and often jointed rods. Asexual sporoblasts and swarm cells are also numerous.

A rapidly-growing squamous epithelioma (not sublimate fixed) shows, in preparations by the palladium methyl violet method, very many intracellular rods, which can occasionally be seen to have a flagellum. These sporozoites can be clearly traced from a rounded body, and can be observed in many instances to be developing into amœbulæ.

A sarcoma of the chest wall has given a remarkable result, to which allusion may be made. Not in preparations by the palladium methyl violet method, which is carried out upon formalin or sublimate fixed tissues, but in sections made from a silvered block, subsequently decolorized by potassium cyanide, and then stained by the palladium methyl violet process, there are revealed in the protoplasm of the tumour cells very numerous ragged amœbulæ, generally forming groups. Some gametes with d stinct processes are to be seen in ammonio-silver p reparations.

In formalin hardened lymphatic glands from three cases of lymphadenoma, which on being received were passed through a sublimate solution, the ammonio-silver method with gold toning and partial decolorization with cyanide has revealed large numbers of amœbulæ. Some of these bodies appear to be in process of mitotic division. One diaster figure is so distinct that its genuineness is hardly open to question. In one of the cases the preparations show a sporocyte phase in the nuclei of many of the tumour cells.

The infective sarcoma of the dog appears to fall within the same etiological group, for it shows similar bodies. Their morphological characteristics are, however, somewhat special, and the species would therefore appear to be quite distinct. Plasmodia, gametes, sporozoites, and amœbulæ have been observed. The sporozoites are unusual in respect of being fairly cyanide-fast.

Evidence from the Study of Cultures and Incubated Tumour Fluids.

We have endeavoured to ascertain if the bodies that our methods reveal in sections of tumours can be seen in cultures and in fluid from cases of malignant pleurisy and malignant peritonitis, especially after incubation for various periods.

Dr. Henry Wade and one of us have already described certain bodies which developed in large numbers in an agar medium, subjacent to pieces of a secondary growth from a case of carcinoma of the intestine after seventeen days' incubation. We have restudied these bodies in the light of our more recent observations, and can recognize the forms that are so abundant as swarm spores, the largest of which can be seen to be giving off rods. Many gametes and some travelling vermicules are also present.

A similar culture from a tumour (mammary carcinoma) which developed in the abdominal wall of a mouse, after feeding with incubated fluid from a case of malignant pleurisy, contains every phase excepting the rods. A remarkable circumstance in the case of this culture has been the development of an aggregation of sporoblasts at a considerable distance below the surface. After fourteen days' incubation some of this agar culture was injected in emulsion into the abdominal wall of a number of mice. One of these mice, which died forty days later, shows in sections of the abdominal wall at the site of the injection an islet of agar, and in this there are several sporoblasts, some of which are giving off swarm spores. There are also large numbers of swarm spores collected in groups.

From a carcinoma of the œsophagus which had extended to the skin of the neck, cultures were made in sheep's serum diluted with normal salt solution. The cultures remained bacteria-free. After various periods of incubation the fluid was centrifugalized, and the deposit was examined microscopically. It showed numerous bodies having the characters of the asexual sporoblasts, swarm spores, and sporozoites.

Similar cultures made from pieces of tumour from three cases of scirrhous cancer of the breast have shown the same three forms on examination after from eleven to fifteen days' incubation.

Cultures of the same kind from a sarcoma of the breast, examined after four weeks, have shown capsulated bodies closely resembling the resting spores of *Balbiania utricularis*, and also asexual sporoblasts, swarm spores, rods, amœbulæ, gametes, and zygotes.

Peritoneal fluid from a case of malignant peritonitis, incubated for four weeks, and proved to be bacteria-free, showed, on examination of the centrifuge deposit, abundant asexual sporoblasts and their residua, and also amœbulæ.

Evidence from the Experimental Production of Tumours in Mice.

As already recorded in a previous communication,[3] 30 mice were fed with fluid from the pleural cavity of a case of malignant pleurisy, secondary to carcinoma of the breast. This fluid had been incubated for about seven weeks. In the course of the next fourteen months 7 of the mice developed tumours, namely, 3 mammary carcinomata, 2 carcinomata of the lung, 1 of the testicle, and 1 of the uterus.

APPENDIX.

Improved Ammonio-Silver Method.

1. Fix slices of tissue, ⅛ inch thick, in Heidenhain's sublimate solution for twenty-four hours.

2. Remove the sublimate by putting the pieces in 80 per cent. alcohol, coloured sherry colour with iodine. Renew this fluid as it becomes decolorized and use weaker iodine solutions towards the end. Seven to ten days are generally required.

3. Wash out iodine in 80 per cent. alcohol and keep pieces in 80 per cent. alcohol till required.

4. Before silvering, wash out the alcohol in water and place the piece of tissue in 5 per cent. formalin in distilled water for twenty-four hours.

5. Wash out formalin in several changes of water for three and a half hours or longer. Rinse piece well a short time before putting into the silver solution.

6. The silver solution is made by adding to a 5 per cent. solution of silver nitrate in distilled water 5 per cent. ammonia in distilled water, till the precipitate first formed re-dissolves, and then adding silver nitrate solution till the cloud formed has become quite dense. (The bottle to be used must not have contained formalin.) Five c.cm. of this solution are ample for a piece of tissue the size of a shilling. Too large a quantity tends to make the tissue friable when cut. The bottle containing the solution and tissue is corked and incubated at 37° C. for seven days. If the fluid has been rightly made up, it should after a few hours' incubation be clear, or have a slight violet tinge, and show a black silver deposit. If the sides of the bottle become silvered, another must be taken and fresh solution prepared.

7. The tissue is next washed in water, to which enough ammonia has been added to be distinctly perceptible to the smell. The surface deposit of silver must be rubbed off gently with the fingers. The water should be changed several times, and the washing should be continued for eight hours or longer. Thereafter, the tissue is left overnight in dextrin solution, to which enough ammonia has been added to turn the reaction markedly alkaline. Prolonged action of the dextrin solution must be avoided, as it interferes with the subsequent toning.

8. Thin sections are cut with a freezing microtome, and transferred to a bowl of ammonia water. They receive a second wash in ammonia and water, and are then transferred to water acidulated with citric acid. After a few minutes they are placed in tap water.

9. For the demonstration of the less deeply staining forms of the parasite the tissue is toned with gold. The sharpest results are given by a mixture of 1 per cent. gold chloride with 1 per cent. sodium tungstate (dissolved in boiling distilled water). If the gold chloride is obtained in the powdered form, care should be taken that it is not deliquescent. Equal quantities of these two solutions are filtered into a watch-glass. A dozen or more of the sections are placed in this and left till they show a distinct reddish tinge. Toning can be accelerated by slightly warming. If the sections are to be mounted without decolorization, they must be thoroughly washed by being left several hours in water, or the section will afterwards darken very much.

10. If the sections are to be decolorized they are transferred after toning, one at a time on a glass rod, to a 2 per cent. solution of potassium cyanide in a watch-glass. Here they remain until they have become of a bright pink tint; or, if required, till they have almost completely lost their colour. They must then be rinsed in two changes of water. If it is desired to counterstain them they should be dipped for one or two seconds in Neisser's methylene blue, and then washed in water. The sections, whether simply toned or decolorized, are next dehydrated with alcohol, cleared with turpentine-benzol on a heater, and mounted in benzol-balsam. If the section and balsam are absolutely anhydrous, the counterstain should last several years.

11. An easy and safe way of decolorizing certain phases of parasite which have silvered too deeply with the seven days'

incubation is as follows: Place the sections in a 1 per cent. solution of platinum bichloride till they assume a pale chocolate tint, then rinse them in water and decolorize in cyanide as before. The sections should almost immediately turn a cream colour. Next wash them well in water and counter-stain for one or two seconds in carbol thionin. If the silver does not come out at once, it is better to return the sections to the platinum solution than to push the cyanide.

12. Several sections should always be examined to determine the degree of decolorization required in each instance, and the methods modified according to the particular feature it is desired to bring out.

13. By leaving silvered or gold-toned sections in 1 per cent. formalin in distilled water a slightly greater sharpness of definition in the parasites is obtained, and a greater resistance to decolorization. Silvered sections for the platinum method may be left in the formalin solution indefinitely; but gold-toned sections should not be left, as a rule, for more than two or three days.

By carefully following the above method it should be possible with a little practice to obtain absolutely clean preparations in which the parasites stand out in red, black, or brown of various shades against the blue of the tumour cells. The ammonio-silver solution is essentially a true stain. After cyanide decolorization the colourless tissues contain silver in some organic combination which mordants them for aniline dyes. The same mordanting effect can sometimes be obtained on the parasites if the cyanide decolorization is pushed far enough, their demonstration can being essentially dependent, as in other silver methods, on reduction of the silver salts to a metallic state.

Film Method.

Centrifugalize the culture fluid, and drain the deposit as thoroughly as possible. Make a thin film of the deposit with a platinum loop on a clean cover-glass. As soon as the film is dry (it must not be heated), hold the cover-glass with forceps in normal salt solution for ten to fifteen seconds. Then rinse it gently in a bowl of water. The film must then be fixed. For this purpose 10 per cent. formalin in absolute alcohol, 5 per cent. formalin in normal salt solution, or 80 per cent. alcohol may be used (one to five minutes). If it is not convenient to proceed at once with the staining, the cover-glasses, after having been washed in water, should be dried and kept from dust. Methyl violet, 5 B or 6 B, in 1 per cent. solution in water, is the most serviceable stain. If allowed to act for five to ten minutes it will show sporoblasts, swarm spores, and sporozoites; but films must be stained many hours to reveal gametes and other phases of the cycle. After staining the film must be thoroughly washed in water, dried, and mounted in balsam, which must be anhydrous.

A finer result is sometimes obtained by placing films which have been previously stained overnight with methyl violet in Gram's iodine for ten minutes or longer, washing in water, drying thoroughly, and then decolorizing with equal parts of aniline oil and benzol. Every precaution must be taken to prevent precipitation of moisture on the film.

If films are kept longer than a few hours before washing in salt solution it is not possible to get a clear background for the parasites.

For a description of the palladium methyl violet method for showing the "rod" phase, see the *Lancet*, January 25th, 1908.

REFERENCE.

[1] *Lancet*, June 5th, 1909.

EFFECT ON THE GROWTH OF MICRO-ORGANISMS OF DIFFERENT PERCENTAGES OF OXYGEN.

BY

BENJAMIN MOORE, M.A., D.Sc., Johnston Professor of Bio-Chemistry, University of Liverpool.

and R. STENHOUSE WILLIAMS, M.B., D.P.H., Lecturer on Public Health Bacteriology, University of Liverpool.

THIS paper was a summary of one already published in full in the *Bio-Chemical Journal*, vol. v, Nos. 3 and 4. The authors investigated 37 organisms in all as to their rate of growth in atmospheres containing varying percentages of oxygen. Of these, only 5 species were completely inhibited in their growth—namely, *B. tuberculosis*, *B. pestis*, and *Staphylococcus pyogenes aureus*—whilst the remaining 34 species were not affected in their growth as compared with control experiments under ordinary atmospheric conditions. The lantern slides of cultures demonstrated are reproduced in the paper mentioned above.

The paper was discussed by Dr. LAZARUS-BARLOW, who regarded as a strange coincidence the fact that the organisms found by Professor Moore and Dr. Williams to be inhibited by oxygen were the same as the organisms that alone of many affected a skotographic plate—that is, which exhibited radio-activity. He had not experimented with *B. pestis*, but otherwise used 28 different varieties.

SECTION OF OPHTHALMOLOGY.

J. WALTON BROWNE, B.A., M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

DR. WALTON BROWNE, after a few words of welcome to the members of the Section, said:

It is but right that in a meeting of the Ophthalmic Section of the British Medical Association I should refer to the loss the speciality of ophthalmology has sustained in the death of Simeon Snell, the late President of the Association, a position never before achieved by any ophthalmic surgeon. I knew Mr. Snell well, and often admired his great energy and power of concentrating work. You are all familiar with his contributions to the literature of ophthalmology, how well he wrote upon the special type of nystagmus attacking miners, and the great experience he possessed of foreign bodies in the eye. Sir Anderson Critchett wrote of him: "We can ill spare from our ranks one who possessed such high qualities of loyalty, integrity, and intellectual capacity, and Simeon Snell will ever be held in most kindly remembrance by all who had the good fortune to enjoy his friendship." With this opinion I thoroughly concur.

It is now a quarter of a century since the Association met in Belfast. At the Ophthalmic Section on that occasion my friend, the late Dr. W. A. McKeown of Belfast, in his presidential address, gave to the ophthalmic world the intracapsular or intralenticular method of dealing with immature cataracts. He considered his method shortened operations for cataract. It put aside scoops, spoons, curettes, and did away with manipulations through the eyelid to remove cortex. I well remember how he was criticized, but I think any one who has used the method must admit that it has been a valuable addition to the technique of cataract operations. McKeown was the first man in Britain, if not in the world, to introduce a magnet into the interior of the eyeball for the extraction of particles of steel. He was a man of wonderful energy. Through his exertions the Royal University, of which he was a Senator, was the first examining body in Great Britain to insist upon a special examination in ophthalmology for the degree of M.B. I, as a brother Senator, was able to assist him by my vote and counsel. You are now in the city of the birth of the intracapsular method, and demonstrations can be arranged if so desired.

I regret that on the present occasion your President has no new methods, either operative or otherwise, to bring before you. Many inventors and authors are in the field. In my time I have read of many innovations in ophthalmic surgery and medicine, but regret to say I have not found some of them possessing the advantages claimed by the writers.

I daresay it has occurred to some of you to ask why a man occupying the position of a surgeon to a general hospital should be in the presidential chair of this Section. When I commenced work, now some years ago, and when practising general surgery and ophthalmology, I found myself in good company. In former days it was the custom for the ophthalmic surgeon to be largely interested in general surgery. I remember when I was a student at Moorfields in 1869, being taught by Sir Jonathan Hutchinson, Mr. Critchett, Mr. Hulke, and Mr. Dixon, all of whom were general surgeons. Then, later, Mr. Couper, Mr. Lawson, and Mr. Waren Tay also practised general surgery. It is well known to you that Bowman was at one time a general surgeon. Now matters are changed, and—at least in London—all the leading ophthalmologists are pure specialists. At the same time, I think the so-called specialist would be greatly benefited by a prolonged drilling in medicine and surgery before blossoming out as an ophthalmic surgeon.

In many large centres, but principally in the provinces, the ophthalmic surgeon takes up otology in addition. I daresay you are aware that the founder of Moorfields practised in both eye and ear diseases, and possibly his example prompted other men to follow suit. Later on the ophthalmic surgeon tacked on to his practice diseases of the nose and throat, and now it is quite common to find a number of men engaged in the quartette of eye, ear, nose, and throat.

Whether the ophthalmic surgeon should take up diseases of the ear, nose, and throat is a vexed question. It is urged that there is little connexion between the ear and eye, and that it is impossible for one man to master the enormous literature applying to any one of these organs. Although I admit there is not much connexion between the eye and ear, I consider the nose and eye are closely related and have much in common. The closeness of the relationship has been fully demonstrated during the past few years in affections such as obstruction of the lacrymal duct, retro-bulbar neuritis, and inflammatory processes in the orbit and conjunctiva; hence, I believe that all ophthalmic surgeons, especially in provincial towns, where a competent rhinologist is not at hand, should be able to use a nasal speculum, probe, and head reflector. All my colleagues in Belfast combine the four diseases in their practice.

As regards our speciality in Ireland, the first special hospital for the treatment of diseases of the eye and ear was the Dublin National Eye and Ear Infirmary, established in 1814 by Surgeon Ryall. In 1844 the late Sir William Wild founded St. Mark's Ophthalmic Hospital in Dublin, and in the same year my late father, Dr. Samuel Browne, established the Belfast Ophthalmic Hospital. At the present day we have in addition in Belfast the Ulster Eye and Ear Hospital and special departments at the Royal Victoria Hospital, the Mater Infirmorum Hospital, and at the two children's hospitals.

Sir William Wild wrote a treatise upon diseases of the ear, and his published papers upon eye affections are to be found scattered throughout the old *Dublin Quarterly Journal*.

He was a man of much originality, and described several operations, which were brought forward in later years by other men as original work.

My late father also did a lot of original work, but did not write much. He slit the canaliculus, and used probes to the lacrymal duct very early in his career. He strongly advocated short-handled ophthalmic instruments, which have during the past year been recommended by some Continental surgeons.

I only mention these few facts to show you that this little "distressful country" was well to the front years ago in many points appertaining to ophthalmic work. Our science is progressive, and no doubt many advances have been made during the past few years in treatment, but especially in pathology. In advocating new remedies we are apt to forget the work done in days long past, which are now designated old-fashioned, but I should not like to see swept away some of the old remedies. May I refer to the seton in the temple for some forms of keratitis; the application of liniment of iodine to the temple to relieve the intolerance of light in strumous or tuberculous conjunctivitis; saline aperients in many forms of iritis; the artificial leech; small doses of tartar emetic in many inflammatory conditions of the cornea and conjunctiva; sulphate of copper in trachoma; in the treatment of ophthalmia neonatorum procuring a healthy wet nurse, and many other old-fashioned remedies to which I could refer?

DISCUSSION ON EYE INJURIES IN RELATION TO WORKMEN'S COMPENSATION.

OPENING PAPER.

By FREELAND FERGUS,
Surgeon, Glasgow Eye Infirmary.

THE problem of compensation for eye injuries is all but insoluble; at any rate, there are not at present sufficient data to give a solution, for statistics, so far as I am aware, have not been collected in sufficient quantity. Attempts have been made, both in this country and abroad, to derive mathematical formulae expressive of what may be called visual efficiency. The two communications on this subject which are of most easy access are, first, the very suggestive and able paper by Mr. Berry, of Edinburgh, in vol. xxv of the *Transactions of the Ophthalmological Society of the United Kingdom*; secondly, the excellent paper by Mr. Percival, of Newcastle-on-Tyne, read at the recent International Ophthalmic Congress. It will at once be admitted by all ophthalmic surgeons who are competent to form a just opinion that in the department of mathematics as applied to the practice of ophthalmology no higher authorities exist. Whatever they say on such a matter must be received as authoritative. I do not propose in this short paper to criticize in any way these contributions; all the more so, that with the full knowledge of the subject which these gentlemen possess, each of them states that no formula can be absolute; it, at best, can only express an approximation, or perhaps only indicate the directions in which a solution is to be obtained.

An author who was also an authority, the late Professor Peter Guthrie Tait, is reported to have said that it was quite impossible to formulate anything which involves human volition. We might go a step further, and say it is impossible to reduce to mathematical formulae anything involving human action based on individual human volition and intelligence. Thus, to take an example which seems to me somewhat apropos, I know of one blind man who can scarcely find his way to the house next door, and I know of another who plays an excellent hand at whist, and who on certain occasions has been known to get out on the leads of his house to shovel off the snow. Here it may be remarked parenthetically that because one blind man is able to perform such feats it would be extremely wrong to, say in a court of law or otherwise, act on the supposition that all blind persons are similarly capable.

But, to take a less extreme case, suppose a number of persons who have naturally or on correction of all errors of refraction only $\frac{6}{18}$ of Snellen's scale, and all sound in body and limb, are they all equally efficient as regards vision? Of course they are not, for, in addition to the visual acuteness, there comes in *inter alia* the all-important factor of intelligence. Both Mr. Berry and Mr. Percival at once admit the limitations of their results, and that the question of visual efficiency is, after all, almost individualistic.

As already stated, in the department of mathematical investigations as applied to ophthalmology, I hold that there are no higher authorities than Mr. Berry and Mr. Percival, and I welcome their important communications. It is, therefore, with some degree of diffidence that I have formed the opinion that each of them has left out elements which seem to me of the greatest importance. Each of the authors mentioned has a good deal to say, and very properly, as to efficiency in terms of the acuteness of vision. Rightly or wrongly, I have come to the conclusion that all forms of work may roughly be divided into two great groups. In the first, visual acuteness is of primary importance. To this class belong such occupations as those of a watchmaker, an author, a lawyer, a medical practitioner, and very many others. For the most of these, also, it is absolutely necessary that there be a good binocular sense. In another large class of employment visual acuteness in the strict sense of the term plays only a secondary part. For these occupations the efficiency largely depends on the light sense (minimum and difference) and on the sense of alignment. This group includes almost all those where the work is of a manual or labouring nature.

Here also the important consideration arises as to whether for a particular form of work a man requires, in addition to a good light sense and correct alignment, binocular vision. For a few kinds of employment he may, but for most he does not.

While not in the least depreciating the careful and original work which has been done by the gentlemen mentioned—on the contrary, while acknowledging its extreme importance—it has always seemed to me that the inquiry should go more on the lines of actuarial investigation. There should be the collection of voluminous statistics from which average results for different classes of occupations might in time be derived. Thus, Mr. Berry, in the communication referred to, says:

> In any case, some statistics giving satisfactory evidence as to the extent of the limitations produced in different occupations by visual defects must be got to start with. But it is obvious that it would not be practical to ascertain the extent of limitation produced by all degrees of defect of vision.

Statistics would have to be obtained for each trade separately. Some years ago I investigated the efficiency for

work of a number of men each possessed of only one eye, and communicated the results to the Toronto meeting of the British Medical Association. They showed that men with only one eye had been known by me to work at the following occupations, namely: dock labourer, iron turner, boilermaker, farrier, ship-caulker, engine-fitter, blacksmith. After investigation I have come to the conclusion that there is scarcely any work below ground which a man cannot undertake who has only one eye.

Thus, I have known men with one eye working as holers, brushers, underground managers, and, indeed, carrying on all sorts and conditions of work. In the paper just referred to two cases are recorded in which the vision of the remaining eye was only $\frac{1}{10}$ of Snellen's scale, and in which the workmen had been able to continue their work for years below ground. Such instances seem to me to bear out my contention that there are many forms of work for which visual acuteness in the proper acceptation of the term is not much required. The important functions of vision here are probably alignment and the light sense. Nor is this so surprising when we come to investigate what I have called the field of visual acuteness; it is found to occupy only a very small area round the point of fixation. For these reasons I am not content with the solutions that have been given, for to me the evidence is quite conclusive that a man who has got an ordinary light sense and who has also good alignment can perform almost any kind of manual work. It therefore seems to me that any attempt to express visual efficiency in terms of visual acuteness alone may lead to serious error.

A few remarks must be made as to the necessity of binocular vision or otherwise for this second group of cases.

To begin with, I have known instances where men possessed of only one eye have been known to drive stobs; where they have worked as riveters, as ship-caulkers, and as farriers. So long as the problem is one of alignment, and absolute as distinguished from relative distance, the thing seems quite simple.

An interesting experiment which I have often made on myself and on others is conducted as follows: A point on a flat surface is selected as the fixation point, and a small object, such as a sixpence, is placed in different positions on the same surface. While the person looks steadily at the fixation point he finds no difficulty, while holding one eye shut, in striking the small object with a hammer or other suitable weapon. The test object may be placed practically at any point of the field of vision. Thus I have placed it in such a position that the visual axis made, with a line joining the centre of the test object and the first nodal point of the eye, an angle of fifty or sixty degrees. In such an instance the important factors are obviously the aligument and the actual distance of the object to be struck. Here there is no question of the relative distances of various objects. This experiment alone goes a long way to prove the truth of the view that for many forms of manual work visual acuteness is not much required; for when an object is placed at a considerable distance from the point of fixation, its image is formed at a part of the retina where the visual acuteness is extremely small.

There are factors other than convergence that help the individual in the estimation of distance. Accommodation is certainly one of these factors, and probably the size of the retinal image is another. If a person has for many years relied on that ready estimation of distance which is a function of convergence, then it may take a considerable time before he can estimate actual distances perfectly correctly. Any one, however, who cares to make the simple experiment above indicated will find that he experiences no difficulty in striking the object. Mr. Berry thinks that a man who has been in the habit of working with binocular vision and who is suddenly called upon to work with monocular must at first be under considerable disadvantage, and with that remark we are in accord. Still it must be said that for most manual occupations a man who has only one eye and who has in it fair vision, good alignment, and good light sense, is little inferior in earning capacity to the man with two.

So far it is plain sailing; a man with one useful eye, as defined above, is, after he has recovered from his injuries, for the most part competent for his former employment. There are, however, certain subsidiary questions which are not so easily settled. Two in particular seem to demand some special notice. First, suppose a man's occupation is one of the very few which demand binocular vision, there arises the question as to his having to change his employment for something quite different.

Secondly, there is in all cases in which a man is capable of returning to his original occupation his diminished chances of getting employment on account of the presence of the defect.

As already stated, the manual occupations which a man with only one eye cannot undertake are very few. But suppose that for any given employment it is proved that binocular vision is required, then compensation must be liberal, and the amount should increase with the age of the person. Only very exceptionally after 35 or 40 years of age can a man learn a new trade or profession. The want of adaptability to new conditions is very great in middle life. Philanthropists and others, horrified by the conditions of slum life, often raise the cry of "back to the land," but it is the children or young adults who must go to the land. They alone can be given the training which is necessary to make them successful in the highly technical and somewhat precarious work of agriculture. Adults, with a few exceptions, could not be trained to make such employment remunerative. So it is with other forms of occupation. A middle-aged man or woman may be said in general terms to be incapable of learning a new trade, and in fixing compensation where the lack of binocular fixation destroys a man's power of working at his former employment, compensation should be for permanent disablement.

From this point of view it would be well to have an official list enumerating all the trades at which monocular men in the past have been known to work. That, to a considerable extent, would be of service to judges in giving their decisions. If it can be proved beyond reasonable doubt that men with only one eye have in the past been known to pursue a certain calling successfully, then there is no reason why they should not do so in the future.

In the second place, should compensation be given or continued indefinitely because a man with such a defect may experience a difficulty in getting employment? Many learned judges have held that this is too remote. Their opinion seems to be that if a man has recovered from his injuries, and it is proven that he is fit for his work, there the matter ends, and that he is not entitled to compensation for future contingencies which are only problematic. At the same time, it cannot be denied that, as matters stand at present, a man so situated may experience great difficulty in getting work. Such a person is what may suitably be called an under-average risk, and an employer, either of his own accord or acting under the instructions of the company with which he is assured, may refuse to employ such a man. This brings me, naturally, to the consideration of what I have called under-average risks and the effect of legislation in producing unemployment.

Since the passing of the Act elderly people, persons with any physical defect, or whose employment would involve any undue risk, have been thrown out of work in large numbers. No one can live in an industrial community without meeting this phase of things at almost every turn. It is a mere matter of time till insurance companies will insist on all persons insured by them being sound both in body and limb. Already the Act has compelled many men who are perfectly able to earn their own living, and who are more than willing to do it, to enter the ranks of the unemployed. When the insurance companies become more particular, as they certainly will before very long, then probably as many as one-third of the entire workers in the United Kingdom will be thrown out of work.

Take but one example out of many. Suppose a man has an aneurysm of the aorta. At any moment he may succumb to his malady. If at the time of the fatal termination he happens to be doing something in his usual occupation, then his death is almost certain to be attributed to strain, and damages claimed. Before long insurance companies will insist on the medical examination of all employees, and then the wretchedness and destitution which we regret to think are so characteristic of British city life will be multiplied enormously.

Now, for under-average risks, such as are involved in serious defect of sight, there ought to be the possibility of a contracting-out clause in the agreement between employer and employed. If an individual is certified by some competent and neutral authority, such as a factory surgeon, as being definitely under average, then there should be special treatment. The intention of the Act is a good one; it aims at the prevention of destitution during the incapacity of the bread-winner, but we fear that it has caused infinitely more destitution than it has prevented. Already it has thrown many industrious people out of employment, and the tale of woe has but commenced. The difficulty of any contracting-out agreement would be so to arrange matters that any lawful contracting out would not be taken advantage of to defeat the ends of the Act, which, in the main, we regard as good. The devising of some proper scheme, however, ought not to pass the wit of man. The subject is vast and the time allowed to any one speaker is by the rules of the Association limited. I am glad, therefore, to think that the subsequent speakers in this discussion are likely to supply much of what is lacking in these cursory remarks. On two other points only I would like to say a few words if I have not by now unduly trespassed on your indulgence.

And first I would point out that many employees have the idea that the Act is a sort of accident insurance. As my friend Dr. Marshall of Rothesay said to me the other day, a workman who gets any injury, no matter how trifling, is often apt to regard it as entitling him to a certain amount of money, and the problem that often occurs to him is as to how he is to make the most out of it. An insurance company knows that the expenses of fighting are considerable, and thus often settles for a larger sum than the injured person is strictly entitled to receive.

Now that was never the intention of the Act. It did not aim at accident insurance. All it sought to accomplish was compensation for incapacity, which seems to me a legitimate enough object. This erroneous view has given rise to considerable malingering, and even to a certain amount of neurasthenia. No wonder that insurance premiums have been increased. For one class of work with which I am acquainted the premium was at first 2s. per £100 of the wage bill; to-day it is 30s.

In conclusion, I wish to make some observations on medical refereeships. The idea underlying such appointments is excellent. If a workman knows that he is not going to face a judge and a jury who, however zealous they may be, have no technical knowledge, but an expert, he is not so likely to malinger.

If the medical referee is a man of first-rate professional standing, of high character, and, above all, of a judicial turn of mind who will look at a case in a perfectly unbiassed manner, then the plan of reference is an excellent one. At the same time, medical referees should be precluded from being, on the one hand, medical officers of workmen's friendly societies, and, on the other hand, of being the medical officers of insurance companies doing this class of business.

While the plan is good if the referees are suitable, it is disastrous if they are not.

One medical referee of whom we have heard has been connected with friendly societies during all his professional career and is the medical officer of one at the moment. This man also is extensively employed by one or two insurance companies for workmen's compensation cases and is very largely consulted by injured workmen. He has used his public clinic to a great extent for getting together a large court practice amongst injured workmen, and on one occasion is known to have suggested in a report that as a consequence of corneal ulceration a man had loss of patellar tendon-reflex.

We are glad to think that such a case is quite exceptional. Dodson and Fogg are not the rule but the exception in the profession of medicine, a remark which is equally true of the profession of law. All the same it would be much better that a medical referee should be forbidden by law to act for a workmen's friendly society or for an insurance company during workmen's compensation business. Further, to remove the case from all local bias, the referee for one particular district should reside in another. If, for example, two doctors in Manchester differ as to a case, the reference should be submitted to some one, say, in Liverpool or Leeds. Patients and documents can be so cheaply and easily transferred from one town to another that there can be no objection to this plan on the ground of expense.

Lastly, there are some, with whom I have great sympathy, who advocate that medical referees should be specially retained and paid a proper salary and allowed to do no other kind of practice. For such an area as Scotland, one physician, one surgeon, and one ophthalmic surgeon would probably suffice. The cases would either go to them or they could hold courts in different centres in conjunction with the county-court judges or sheriff's substitute.

DISCUSSION.

Dr. CECIL SHAW (Belfast) said: I desire specially to deal with the unsatisfactory working of the Workmen's Compensation Act with regard to compensation for the loss of an eye. According to the Act, no compensation is given for such loss, but only for partial or total incapacity for work. Where one eye is lost and the other is healthy a man soon learns to work with one eye, and in the great majority of cases work can be done quite as well as before. I know of four men in this district who are daily driving motor cars in spite of having lost an eye; and one of them, a professional chauffeur, told me that six months after the accident by which his eye was lost he had forgotten all about it. According to a strict interpretation of the Act, such cases should only obtain compensation for the few months that elapse before they are fit for work again. But the true injury in loss of an eye is not generally any loss of capacity for work, but lies in the greatly increased risk of total blindness owing to disease or accident in the other eye. Every one is liable to such disease and accident, but to the one-eyed man it is a much more serious event than to the man who has another eye to depend upon. Owing to this many employers avoid one-eyed men, since a slight accident to one eye may totally incapacitate them. Even though perfectly fit for work, they may fail to obtain it on this account. An interesting case occurred in my experience a short time ago, of which the facts were briefly as follows, I believe: A working girl lost an eye by accident, and after some months' incapacity, for which she received compensation, she returned to her work, which she was able to do efficiently. But when slackness of work arose and she had to seek work elsewhere she could not get a job, on account, as she believed, of her being one-eyed. She then brought an action for compensation; but it was pointed out that there was no ground to go upon, since there was no incapacity, as proved by her having worked at full wages for some months after the loss of the eye. I believe that a better form of compensation for the loss of an eye would be a sum fixed according to the average wages, to be paid irrespective of all theories or statements about a workman's capacity for work. The endless litigation involved in such cases benefits the great learned professions, no doubt; but it involves serious loss to the workman, for whose benefit the Act was passed, and out of whose pockets eventually the cost of the litigation comes.

MR. BISHOP HARMAN (London) said that he was surprised at the comparative indifference exhibited by the opener of the discussion to the loss sustained by a man in the one point of deprivation of binocular or stereoscopic vision. It seemed to him that in many of the tasks mentioned, even such a one as bricklaying, the sense of the position of things was immeasurably better with the two-eyed man than with the one-eyed man. He would ask them to try an afternoon's round of golf with one eye obscured, and see how they were "off" their game; yet in that game alignment was perhaps of the greatest importance to skill. No doubt there were men who attained skill with but one eye, and he had known men successfully working for years as engineers and fitters with a single eye, but they did not represent the average; and one might ask how much better might they not have become had they retained both eyes. Next, there was the point of loss of nerve power—"pluck." It was, without doubt, of great importance in the modern workshop filled with rapidly-moving

machinery. If a man lost skill in a game because of a serious accident in that kind of game—and this he had reason to be sure of—how much more in a machine shop! Then there was no doubt that the one-eyed were seriously handicapped in getting work. He found that insurance policies for domestic servants excluded one-eyed persons from the current rates. And perhaps they would remember the evidence of a trial last year, which showed the lengths of deception to which a girl was brought who was persuaded by a rogue that he could make a new eye grow for the one she had lost! Hope to retrieve her lost position led her captive to his snare. There could be little doubt that they were right in urging employers to examine their workpeople—it was good for both parties. Disputes about the former states of injured organs would be eliminated, and work fitting to the capacities of the men would be apportioned. Lastly, he felt that a most pressing need was the removal of these cases from the grasp of the lawyer. The waste of money and time, and the bitterness following their operations were notorious. He would like to see the establishment of "Accident Courts"; to the presiding judge of every such district court reports of all accidents should be compulsory, at the time of the accident, together with the facts of the condition as ascertained by the doctors representing man and master; and that these, together with their final reports, should form the material on which the judge should award compensation in any case where he deemed it was due. Advice he might call in, but argument would be excluded, and the bane of litigation checked.

Mr. W. H. BAILEY (Hove) said: The tendency of modern legislation is to make the employer liable for any injury taking place during employment, without any consideration of the fact that the employee may be partially or entirely responsible for the accident by his carelessness or by his physical condition having rendered him more liable to the accident. As an instance, I saw a case of high myopia (20 D) who was employed carting timber; he received a slight blow, and was rendered blind in one eye by detached retina. He received large compensation, to which I do not consider him entitled. From this it follows that a medical examination before employment must be instituted, which in time will be very strict. When this takes place, all those suffering from the loss of one eye or any other ocular disability will be excluded from employment. I do not agree that a man who has only one eye can be as employable as one who has two, for, however well he may do his work, he must be more liable to accidents, not only to the other eye, but to the body in general, for all of which the employer will be liable. It is, therefore, only wise and natural for the employer not to employ these people. As a remedy, I agree with DR. Shaw, that the workman should be allowed, after competent medical examination, to contract out of the Act, if possible insuring himself, at a necessarily higher premium.

DR. WALLACE HENRY (Leicester) suggested that a consultation between those consulted by workmen and insurance companies as to the facts and possible conclusions to be based thereon would frequently prevent unnecessary legal disputes and much discredit to the profession. He also supported Dr. Shaw's contention that the difficulty of obtaining work afterwards was nearly as important a factor in considering compensation as partial loss of vision.

Mr. JOHNSON TAYLOR (Norwich), referring to the occupations which Dr. Freeland Fergus said a one-eyed man could satisfactorily perform, asked if a middle-aged man, after the loss of an eye, could continue to work as a bricklayer, cabinet-maker, or billiard player (professional). Referring to Mr. Bishop Harman's references to the legal profession, he said it would be a very good thing if, in adjudicating on these cases, the sympathy of juries and county court judges, which was almost invariably in favour of the injured workman and opposed to the employer, could be got rid of.

DR. ARTHUR GREENE (Norwich) was inclined to agree with Dr. Fergus in considering that the individual who had lost the sight of one eye was not (except for a few special occupations) at any great disadvantage from an earning point of view, provided the remaining eye had good vision. Many people (including the speaker) had little or no sense of perspective, and the loss such an individual suffered when he lost an eye was only a loss of size of his ordinary field of vision. He further was very strongly of opinion that any satisfactory legislation must have as one of its principal considerations the question of the possibility or not of the individual being able to "obtain work," and instanced a case where he had done a Mules's operation on a nurse girl. She got employment without difficulty, but as soon as her mistress found she had only vision in one eye she discharged her, although she had no fault with her work.

Mr. G. BERRY (Edinburgh) considered that a difference as regards compensation should be made in the first six months; also a difference in according damage to prospects which was of great importance in the young.

THE IPSOLATERALITY OF OPTIC NEURITIS AND THE LESION CAUSING IT.

By Sir VICTOR HORSLEY, F.R.S.,
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[ABSTRACT.]

SIR VICTOR HORSLEY said he intended to confine his remarks to that condition which De Schweinitz had aptly called "papilloedema," that is, a neuritis that depended solely upon intracranial pressure, and did not include any inflammatory manifestations. He knew Sir William Gowers objected to the idea of a pure mechanical pressure producing these symptoms, but for his own part he adhered to it. So long ago as 1890 he had demonstrated that these symptoms could be reduced by opening the skull and so relieving the intracranial pressure.

The special point he wished to maintain in regard to the special significance of the eye symptoms was that the neuritis was "ipsolateral," that is, on the same side as the brain lesion. In the past several extensive investigations had been made into the case records at Queen Square Hospital, London. In 700 cases tabulated by Middleton Martin 71 per cent. were ipsolateral. Williamson found 85 per cent. of ipsolateral cases in a large series of frontal tumours, the percentage being as high as 15.95.

Recently Paton had published the results of his tabulation of some 300 cases seen at the same hospital up to 1903, and his figures were distinctly smaller than those given. The speaker felt that in these returns too much stress had been laid upon the value of statistically aggregated records.

His view was emphasized by the fact that the cases tabulated included very many of his own cases, which he had seen both before and after their admission to hospital, and on which he had himself operated.

Taking a recent series of 18 cases in their own order, which were believed to be tumour cases, and in which the lesion was absolutely determined by operation with one exception—of these, all were ipsolateral save 3, and in these 3 one was indeterminate, or probably ipsolateral, and only one definitely contralateral. He then proceeded to detail some of the more striking cases, which showed and went against the rule of ipsolaterality.

On the particular points of diagnosis afforded by the appearance of the disc, he said that the earliest signs of oedema were seen in the upper part of the disc when the cause was purely mechanical pressure. Lantern slides of such cases were shown; also of photographs of the *post-mortem* conditions of the nerve.

Again, the field first showed contraction in its lower perimeter. As regards the formation of the macula star, he agreed with Mr. Gunn, who first pointed out that it was due to a radial rumpling of the retina about the fixed point of the macula: and this he had been able to show *post mortem* in a retina which during life did not show the star. Gunn had suggested that the white spots were in the outer granular layer of the retina, but he thought they were in the fibre layer. A number of sections were shown to elucidate this point. Lastly, the speaker dealt with the cellular deposit which formed these white spots. He found they were made up of two elements—connective tissue cells, which absorbed fat and stained well with osmic acid: and

large spheroidal cells, which had been formerly taken for swollen nerve fibres.

In conclusion, the speaker pointed out the necessity of laying stress on the observations of the general appearances of the neuritis rather than on a simple numerical measurement of the height of the swelling of the disc.

DISCUSSION.

Dr. GORDON HOLMES (London) said that, though his general impression, from the observation of a large number of cases of intracranial tumour, was that the optic neuritis was, as a rule, greater on the side of the tumour, Mr. Paton's paper, recently published in *Brain*, convinced him that where a difference between the two eyes existed it was greater almost as frequently on the side opposite to the tumour as on the same side. Mr. Paton's paper did not consist merely of clinical statistics; it was founded on the careful analysis of a large number of cases which were observed under conditions probably as favourable as possible. In confirmation of Paton's conclusions, it was interesting that Cushing and Bordley, who recently succeeded in producing papilloedema in dogs, found in some cases that the neuritis appeared first in the eye opposite to the experimental lesion. The question could be finally decided only by the careful analysis of large series of cases such as that on which Paton's paper was founded. Sir Victor Horsley's faith in the ipsolaterality of optic neuritis in intracranial tumours was so great that he had that day asserted that in the future the ophthalmologist might be of more service to the surgeon who operated in cerebral tumours than the neurologist; but it seemed very difficult to justify this assertion. Even if where there was a difference between the degree of the papilloedema in the two eyes it was constantly greater in the eye of the same side as the tumour, it must be admitted, in the first place, that such a difference was appreciable in less than half the cases which one saw, while in the other half the ophthalmogist could, at the most, only indicate the side of the brain in which the tumour lay, and this was manifestly insufficient for the surgeon who would undertake operative intervention for the cure of his patient. If, however, the doctrine that the optic neuritis was constantly greater on the side of the tumour be tenable, it might be valuable as an indication of the side of the skull a decompressive operation could be most favorably performed in cases in which the tumour could not be localized.

Mr. LESLIE PATON (London) said: Undoubtedly cases occur in which neuritis is greater on the side away from the tumour. A certain number of cases may be explained —for example, cases where there is direct pressure by the tumour on a nerve of one side preventing the development of neuritis in that eye, or cases in which, though the tumour is on one side, the main pressure effects are on the opposite side—but when one allows the exceptions, there still remain a large number of cases which are not to be explained away, a number too large to allow one to take it as a rule that the neuritis is greater in the eye of the side of the tumour In at least 50 per cent. of the cases the neuritis is equal in the two eyes.

Dr. JAMES HINSHELWOOD (Glasgow) said: Dr. Holmes has remarked what use can it be to the surgeon to know that the lesion is on a particular side of the brain? I will briefly relate a case which shows the great importance of this. I was called in to see a young lady who had been suffering from discharge from both ears with headache for some time, and for a few days before I saw her she had become semicomatose. On making ophthalmoscopic examination I found in the left eye mild optic neuritis, but in the right eye only a slight hyperaemia of the disc. The difficulty in the diagnosis was as to whether the patient was suffering from a general meningitis due to the discharging ears or a localized cerebral abscess, and, if an abscess, on which side of the brain. The occurrence of optic neuritis on the left side, in view of Sir Victor Horsley's teaching, was of great importance, as pointing to a localized lesion, probably abscess, in the left side of the brain. Curiously, immediately after the ophthalmoscopic examination the patient developed several excessive attacks of Jacksonian epilepsy, beginning in the face and confined to the right side, which confirmed the results of ophthalmoscopic examination. The patient was operated on within twenty-four hours, and an abscess was found in the left temporo-sphenoidal lobe and pressing upon the motor area above. Such a case shows conclusively that the question of which side of the brain is involved might be a very important one.

Dr. THOMSON HENDERSON (Nottingham) said: The question of the ipsolaterality of optic neuritis is bound up with the physiological conditions which bring about and maintain the normal intracranial pressure, and a consideration of these conditions supports *in toto* Sir Victor Horsley's contention. Dr. Leonard Hill and myself have recently demonstrated that the tension in the brain and eye both stand at the same level and vary together under all physiological conditions. In the fact that intracranial and intraocular pressures are vascular in origin and nature, and that they both stand at the same capillary venous pressure, lies the key to the pathological manifestations of choked disc. The pathogenesis of optic neuritis not being under discussion at the present moment, one cannot pursue the question further, except to point out that in the viscous mass of the brain, divided as it is by the tense structures of the falx cerebri and tentorium cerebelli, a pressure discontinuity can be maintained in one cerebral hemisphere apart from its neighbour, so that the pressure on one side can mount above that on the other. Normally, the intracranial and intraocular pressures are the same, but experimentally the pressure in one hemisphere, and therefore in one of the optic nerves, may rise above that in the other. Physiological and experimental evidence support Sir Victor Horsley's clinical teaching of the ipsolaterality of optic neuritis.

ACUTE ORBITAL PERIOSTITIS CONSEQUENT ON DENTAL DISEASE.

By N. BISHOP HARMAN, M.A., M.B.Cantab., F.R.C.S.Eng.,
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THAT chronic oral sepsis exerts a most unwholesome effect upon the general health of the affected subject, and in particular upon the digestive organs, is well enough known. There can be scarcely a physician who would fail to insist upon the thorough cleansing of the mouth and teeth when an obstinate dyspepsia has to be treated, or when the patient is subject to repeated attacks of inflamed tonsils. To the ophthalmic surgeon the condition of the mouth is often of very special interest. There are cases of mild but long-continued cyclitis, the evidence of which is mainly to be found in precipitates upon the posterior surface of the cornea—the so-called "keratitis punctata;" the cyclitis depends almost certainly upon the irritation of the glands of the ciliary body by the absorption of toxic products from septic foci in the body generally; and most often foci in the mouth and teeth are the sources of the poison. These cases are of mild order, but they are none the less serious in their effect upon the integrity of the eye.

In this communication I shall cite two cases in which the connexion of eye trouble and dental disease was direct and not indirect. The contagion travelled from the teeth to the orbit, with unpleasant enough results in one case, and with truly disastrous results in the other.

CASE I.

W. S., a healthy young woman of 20 years of age. She had suffered no illness within her recollection. In Christmas week, 1907, the bicuspids and first molar of the upper jaw on the left side, which had been carious for some time, became painful. The face swelled up on that side. She attended a dentist, who extracted the teeth, for they were beyond repair; the roots were very septic. The gums healed up well, but the swelling of the face did not decline, it persisted as a hard brawny oedema over the front of the maxilla extending to the internal canthus of the eye.

There was also some oedema of the eyelids. The bone beneath the inner canthus was tender. Hot fomentations were applied to the face continuously, but the swelling did not subside until three weeks after the teeth had been drawn.

Towards the latter part of this time she found that the tears poured over the lid of the left eye, and from thenceforth onwards there had been a constant epiphora.

In December, 1908, I saw her at the West London Hospital. She had a large mucocele on the left side; the contents of the sac were purulent, regurgitation was free on pressure over the

sac; some thickening of the bone could be felt. The sac was syringed out but no fluid passed into the nose. She attended the hospital daily to have the sac syringed. The contents of the sac were a little cleaner for the treatment, but the duct remained impermeable.

Dr. Davis examined the nose but found nothing abnormal therein.

On February 17th, 1909, she was recommended to come into the hospital for examination of the sac under an anæsthetic—she was too nervous to permit of exploration with a probe otherwise—and, if necessary, for excision of the sac.

Operation.—A probe passed into the sac touched bare bone towards the posterior part of the sac. No entry to the duct could be found. The sac was therefore excised and the bare bone scraped. The wound healed by first intention. There is now a scarcely noticeable scar, but the bone remains thickened.

CASE II.

W. W., a robust, well-developed young woman of 19 years, was admitted to the West London Hospital, April 23rd, 1909, with swelling and pain of the face and about the eyes. She came with a note from Dr. J. H. Menzies to the effect that the two upper teeth central incisor had been stopped on March 9th, 1909. The face began to swell on both sides on April 19th. He extracted the two incisor teeth on the 29th, as these seemed to be the origin of the trouble. A discharge of pus from the tooth sockets followed the extractions. This relieved the œdema of the cheek and upper lip, but the œdema and proptosis of the right eye increased. He added, "She can now only faintly see a lighted match with the right eye."

On Admission.—The right eye was greatly proptosed; the cornea projected beyond the level of the left by about 20 mm. The lids were swollen of a deep purple colour: they did not meet over the globe. The conjunctiva was red, it bulged from between the lids like raw beef, and was slightly in patts. The globe was immobile. The pupil reacted very feebly to direct light stimulation better to consensual stimulation. There was no perception of light. A view of the optic disc was obtained; a marked papillitis was seen. The left eye was normal save that the lids were puffy and discoloured. No proptosis or lack of mobility could be detected. The pupil reacted well. Vision was good and the fundus was normal.

The face on the right side was enormously distended and brawny. The greatest density of the œdema appeared to be over the malar bone. Felt from within the mouth the canine fossa was very tender to pressure, but the palate was not tender. The tumour of the cheek was healthy. Temperature 102·4°; pulse 104, respiration 28. There was some headache, but no severe pain or mental disturbance.

Operation.—A horizontal incision was made over the right malar bone to reach the orbital margin. Exploration with the little finger released a quantity of pus. The finger could move freely over the face of the bone to the infraorbital foramen of the maxilla below, to the nose inwards, and upwards over the orbital margin far back into the orbit. The bone was bare; tapping with a steel instrument caused the metal to ring as though it had struck a stone. The cavity was irrigated and a drainage tube inserted. Next the antrum of Highmore was explored; an "elevator" was driven through the thin wall of the canine fossa and a cannula inserted; no pus or other fluid escaped.

The pus from beneath the periosteum was examined by Dr. Bernstein, the bacteriologist; *Staphylococcus pyogenes aureus* and *albus* were found. It was proposed to prepare a vaccine therefrom, but the rapid fall of the patient's temperature after the operation rendered this treatment unnecessary.

In the ensuing days the patient made rapid progress towards recovery. Temperature and pulse became normal. The proptosis of the eye gradually subsided, the vision improved. On April 29th she could see the ward sister with the right eye, the lids closed over the globe, and there was some return of mobility. The wound still discharged pus.

May 20th. Proptosis nearly gone. Discharges lessened. When the wound was irrigated with peroxide of hydrogen the fluid bubbled into the mouth. Vision had improved so that she could tell the time from a watch at the distance of 2 ft.

May 25th. Left hospital, treated as out-patient. Proptosis gone; globe fully mobile. Pupil reaction good, but vision not improving. The optic disc shows signs of atrophy.

June 6th. A small piece of bone escaped from the sinus. Optic disc shows distinct pallor. Patient can count fingers with difficulty, "sees objects better sideways."

July 20th. Fragments of bone have escaped from the sinus on three subsequent occasions, the sinus is slowly closing, and the tissues are no longer tender. But the optic disc is becoming progressively atrophic, and there is a large central scotoma; no changes can be detected in the retina or choroid.

REMARKS.

It seems at first sight a far cry from the teeth to the orbital periosteum, especially when the intermediate antrum is healthy. But there are anatomical features in the periosteum of the facial bones which make it a matter of no great difficulty for contagion to pass along it. The periosteum is but lightly fixed to the bones, except at the foramina and along the ridge of the malar where it is attached to the masseter muscle. Further, Gurwitsch has demonstrated that there is a direct capillary venous connexion in this periosteum between the upper and lower veins, which brings the orbital veins almost directly into connexion with the alveolar veins. Notwithstanding these anatomical peculiarities, I must confess to being prejudiced against the acceptance of this route of infection in the first of these two cases; indeed, I was justified in holding a tentative diagnosis, since I had not seen all the stages of the case myself, but with the appearance of the second and more severe case so soon after no doubt could remain. In this latter case the route of the infection from the teeth to the orbit was clearly proved, both at the operation and later by the evidence of syringing along the track of the affected periosteum.

In the literature of orbital disease such cases are rare. A few have been reported, but it appears in most of these there was coincident antrum sepsis. Such cases are those of Jameson Evans, of Hallcuer, and of Hirsch. In most of these the orbital disease had followed and not preceded the extraction of the carious teeth; but Hirsch has pointed out that in some the phlegmon diminished with the extraction of the defective teeth.

At the two last meetings of this Section of the British Medical Association considerable attention has been given to diseases of the orbit. In 1907, Fish of Chicago read an elaborate paper showing how frequently sphenoidal sinus disease accounted for hitherto unexplained or "spontaneous" orbital disease. In 1908, one of the subjects for discussion opened by Dr. Mackay of Edinburgh and Mr. St Clair Thomson of London, dealt with orbital disease from the same standpoint. But in none of these instances was dental disease mentioned as a likely cause of orbital infection. Further, in 1907, the Dental Section drew attention to the numerous cases of neuralgias, intraocular irritation, and even more distant disturbances, caused by defective teeth; but no cases were cited such as these two. It would appear, therefore, that they are comparatively rare. It is worth while calling attention to the serious results that may accrue from neglected teeth or from the defective "stopping" of carious teeth. And this, not only from the point of view of the direct consequences possible, but because there can be very little doubt that oral sepsis is responsible in not a few cases for infection of the eye in operative procedure.

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DISCUSSION.

Mr. JOHNSTON TAYLOR (Norwich) asked why it was these sort of cases were so rare seeing that dental caries was so common.

Dr. FREELAND FERGUS (Glasgow) said he remembered seeing several years ago just such a case as the second described by Mr. Harman. In that case the orbital periostitis followed extraction of the tooth, and the antrum was septic, but the eye was saved. These cases could not be explained on a basis of antrum infection, for it was not uncommon to find that cavity full of pus, yet the orbit was not affected.

Dr. A. F. MACCALLAN (Cairo) said that after a long experience of operations for cataract extraction, both at home and in Egypt, he was convinced of the important rôle played by the condition of the teeth in the final effect of operative procedures. In Egypt the ordest operations gave good results because of the general good health of the teeth of a population of vegetarians, whilst in England the best of operations sometimes failed, apparently inexplicably, and he thought that infection from septic teeth was most frequently the real explanation.

ADENOIDS AND ASTHENOPIA.

By W. M. KILLEN, M.D., R.U.I.,
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DURING the past few years I have observed a distinct group of cases of asthenopia occurring among school children and young adults, the cause of the symptoms

being naso-pharyngeal obstruction from adenoid hypertrophy, but in the most up-to-date textbooks in my possession I have failed to find adenoids mentioned in connexion with asthenopia.

Any account of this common children's disease as an etiological factor in producing symptoms of accommodative asthenopia and spasm of accommodation I had not myself observed in current medical literature till my attention was drawn by my friend our President a few days ago to an excellent note on this very subject by Maxwell in the *Medical Annual* of 1898—that is to say, ten years ago. In reading it carefully I find he has forestalled me in publishing his observations, and I may have overlooked quite possibly similar extracts from other authors; and if I have I apologize and wish merely to add my testimony to what they may have already stated. Maxwell said he had observed that a number of cases of ear catarrh in children dependent on adenoid obstruction and hypertrophic rhinitis had been relieved of accompanying asthenopic symptoms by the simple adenoid operation and the reduction of the turbinate hypertrophy. He also mentions what I have also observed—that cases of nasal disease where the chambers were large and showed no obstruction did not, on being subject to treatment, show the same relief to the eye symptoms as cases of marked nasal and naso-pharyngeal obstruction. He also came to the same conclusion as to treatment by correction of errors of refraction as I am about to describe as the result of my own limited observations.

A typical case of adenoid asthenopia is something like this: A parent brings a child or young person of school or early college age, with the statement that the teacher complains that the pupil's sight seems defective. He holds his book or work very close to his eyes and very soon becomes fatigued. The print seems to be mixed up or fades after a little, and there is frequently headache. On examination the patient is found to read the even moderate-size test types at about 5 or 6 in., and we suspect a considerable refractive error. The distant vision is commonly normal, or at least $\frac{6}{9}$, and may be improved by -1.25 sphere to $\frac{6}{6}$ if below it. Under atropin retinoscopy shows no error of refraction or at most a hypermetropia of $+0.75$ or 1 D. We remove the adenoids and all the symptoms of eye trouble at once disappear, including the headaches. My first cases were exactly like this, and I at once commenced to examine digitally the naso-pharynx in all cases in children who showed weakness or spasm of accommodation.

You are, of course, all more familiar than I am with this affection where atropin shows considerably or high refractive errors and where atropin, rest, and suitable glasses give complete relief. Even in the simple case where there is no considerable refractive error or the patient is emmetropic you may get complete relief by atropin-produced rest without glasses, although a balance of cases remains where even prolonged atropin treatment only allays the symptoms, which return on the cessation of the use of this drug. Now I think this small class is usually due to the naso-pharyngeal disease. In examining my cases of all kinds of asthenopia in very young patients I was astonished to find adenoids in 9 out of every 10. But in the great majority I found a considerable refractive error, usually hypermetropia with frequently a good deal of astigmatism.

Since in this class I considered it my duty to correct the refractive errors by glasses, with or without the removal of the naso-pharyngeal hypertrophy, it was not easy to divide the responsibility for the eye symptoms accurately between the ametropia and the nasal obstruction. I found, however, as you all do, I think, that the prescription of the necessary glasses in the cases not operated upon usually gave complete relief. A smaller number of patients with only a low degree of ametropia who had both the adenoid operation and the glasses indicated by examination were so completely relieved that they no longer found any use for their spectacles and threw them aside.

I had one or two cases of diplopia relieved by operation on the throat alone, and at least one of esophoria of a low degree. I am sorry that it did not occur to me to examine for adenoids in my cases of strabismus. Now, I am not at all sure that I am a good friend of these little patients in pointing out fresh fields to be reaped through throat curettage by members of our Section and our neighbours, the rhinologists, as I believe that our profession operate for adenoids in this generation unnecessarily often. I am satisfied from an experience of over 2,000 cases of adenoids in my own practice, most of them operated upon—first, that many children with this condition are in perfect health, and have no symptoms of any kind, although this hypertrophy is easily detected by digital exploration; secondly, that the enormous majority have no eye symptoms; thirdly, that in the case of children with adenoids who show considerable degrees of ametropia, the adenoids are merely an accidental accompaniment and need not be removed, unless glasses fail to relieve, or there are other symptoms demanding relief, such as mouth-breathing and deafness.

I may mention that I was led to examine for adenoid obstruction as an accompaniment of eye disease, first, in cases of phlyctenular ophthalmia, a well-known association even many years ago. I found about 45 per cent. of my patients with phlyctenular ophthalmia had marked adenoid naso-pharyngeal hypertrophy, but I believed as large a percentage of all healthy children had probably this hypertrophy, and also my experience in these cases was that the removal of the vegetations had frequently little or no effect in stopping the phlyctenular troubles. I regard the nasal disease, usually hypertrophic rhinitis, as the result of the same constitutional condition as that which produces the phlyctenular ophthalmia and the adenoids as an accidental accompaniment, and I am glad to see that our highly distinguished guest, Professor Fuchs, in the latest edition of his great classical work on ophthalmology, calls phlyctenular ophthalmia "eczematous conjunctivitis."

Finally, gentlemen, I may state that I have not found adenoids as a cause of asthenopic symptoms in adults over 21 years of age, although one finds these vegetations up to 30, or even a little later in life.

I need not mention the contribution of rhinology, so well known to all of us, in making us acquainted with the relation of inflammatory and other affections of the nasal mucous membrane and the accessory sinuses and various diseases of the eye. I believe there is a great future before this combined research, and I merely bring forward this humble class of selected cases of adenoids and asthenopia for your discussion and criticism as a small addition to the growing number of cases which require the consideration of both the rhinologist and the ophthalmic surgeon.

DISCUSSION.

Dr. W. B. INGLIS POLLOCK (Glasgow) said that the association of enlarged glands with asthenopia was a case of the general rule that refractive errors might not produce headaches and other symptoms until some disturbance of the general health reduced the tone of the system, whether it be due to adenoids or other causes. It was the fact that adenoids and phlyctenular ophthalmia were frequently associated, and were the result of a common cause or diathesis. In the former case the patients should be referred to the family physician for general treatment at the same time that glasses were prescribed.

THE twentieth Universal Cookery and Food Exhibition is to commence at the Royal Horticultural Hall, St. Vincent Square, Westminster, on November 2nd, and is to last a week. The list of patrons includes the governing bodies of a good many London hospitals, and representatives of hospitals are also to be found among the judges. The domestic cookery group contains a subsection for invalid cookery, in which the exhibit is to consist of an invalid tray containing fish, or meat, a light pudding, jelly or custard, and two beverages, including beef-tea or a soup. There are two competitions of this character, the one being open, and the other confined to trained nurses. The prizes in this subsection are gold, silver, and bronze medals, cookery books, and certificates of merit. The names of competitors must be sent in on or before October 11th. This exhibition is not a commercial speculation, but is intended to be, and no doubt really is, of true educational value to the community at large. The profits, if any, will, as on previous occasions, be devoted to educational and charitable purposes, including gifts to the London hospitals. The honorary director is Mr. C. Herman Senn, 329, Vauxhall Bridge Road, to whom all communications should be addressed.

A CASE OF COMPRESSED-AIR ILLNESS CURED BY RECOMPRESSION.

BY

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AND

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THIS case of compressed-air illness occurred during salvage operations for recovering the guns and torpedoes of H.M. torpedo boat destroyer *Blackwater*, which sank in 17 fathoms of water off Dungeness after collision with a merchant vessel.

In the course of the operations ninety descents were made by divers to the wreck, the general circumstances being similar to those described below, but in no other case did any symptoms of "caisson disease" appear.

On April 25th, Carpenter's Mate Thomas Milne, together with another diver, went down to the wreck to clear away her anchors and cables. Milne is forty years of age, and of excellent physique. He has been a diver for seventeen years, and never previously suffered from any complaint attributable to his work. He reached the wreck two minutes after leaving the surface, and from then till the time he began to ascend he was very actively exerting himself. In the course of his work he had to clamber right down to the sea bottom and crawl under the forefoot of the *Blackwater*, the gauge at that instant showing the depth to be 98 ft.; but for the greater part of the time he was engaged on her forecastle, which stood up 16 ft. above the sand. The excess of air pressure on his body, therefore, varied between 43½ lb. and 36½ lb. to the square inch. By the time he was ready to return to the surface the weather had become ugly, and a heavy sea threatened to part the wire hawsers by which the diving vessel was moored over the wreck; it therefore became desirable to shorten the time taken in his ascent—that is, the period of decompression—as much as possible consistently with safety from compressed-air illness.

In the whole of the operations the decompression of divers was effected by the system adopted by the Admiralty more than two years ago,[1] pressure being reduced rapidly at first, and then very slowly, as atmospheric pressure is approached. In practice the diver climbs up a rope towards the surface till on reaching a certain depth he is stopped by a signal from above. He waits for some minutes until a signal is made to ascend, when, after climbing 10 ft. nearer the surface, he is again stopped by signal and for a longer period. The number and depth of the stopping places, and the time to be spent at each, are precisely laid down in the Admiralty Diving Manual, and depend on the depth at which the diver has been working, and the length of time he has been down. An officer manages the ascent of each diver.

The diver had been down under water for exactly one hour when he commenced to ascend, and the following are the extracts from Admiralty tables which apply to the circumstances:

Depth in Feet.	Time Spent under Water.	Stoppages in Minutes at Different Depths.			Total Time for Ascent in Minutes.
		At 30 Ft.	At 20 Ft.	At 10 Ft.	
78 to 84 ft. ...	¾ hour to 1¼ hours	—	10	20	32
84 to 90 ft. ...	40 to 60 minutes	5	10	15	30
90 to 96 ft. ...	55 minutes to 1½ hours	5	15	30	52
96 to 108 ft. ...	40 minutes to 1 hour	10	15	20	48

In the Navy it is the custom when a diver varies his depth during work, to use the decompression times tabulated for the greatest depth he has attained. On this occasion, however, considering the somewhat dangerous state of the sea, and allowing for the fact that far more of his time under water had been spent at 82 ft. depth than at 98 ft., it was decided to hasten matters by using the decompression laid down for the case of one hour spent at 90 ft., but to extend the stoppage at 30 ft. from three to five minutes. Unfortunately, owing to the rolling and pitching of the diving vessel, caused by the heavy sea, it was found extremely difficult to keep the diver at the proper distance from the surface during his stops at 10 and 20 ft., and on one occasion, through misunderstanding a signal, he came right up to the surface, and two or three minutes elapsed before he could be got down again to 20 ft. In our opinion, it is to these irregularities in the decompression that the subsequent illness is to be attributed.

The diver was taken on board at 1 p.m., and the diving dress removed as usual. He appeared perfectly well, and gave a clear account of what he had been doing on the wreck. Soon afterwards, according to his own account, he felt pain in the chest, and began to cough; and a quarter of an hour later he was suddenly attacked by giddiness while walking the deck, and found himself unable to stand. At 2 o'clock his condition was first observed. He was found lying down and pale, with violent nystagmus: though intensely giddy, he was quite clear-headed, and answered questions readily. Arrangements were made at once to transfer him to H.M.S. *Edgar*, which was lying close to the diving vessel, and had the recompression chamber on board ready for use. In the meantime Milne became worse. The pulse, good at first, was now imperceptible, and his condition caused the gravest anxiety. There was no cyanosis or dyspnœa at any time.

In the rough sea it was a matter of considerable difficulty to transfer him from the diving vessel to a steam pinnace, and thence on board the *Edgar*, and the movement made him obviously worse; but by 2.45 he had been got into the recompression chamber, one of us remaining inside it to attend to him, while another worked the air valves from outside, communication being effected by pencil notes held up to the round glass window of the chamber.

Compressed air was admitted without delay, and the pressure within the chamber raised to 17 lb. per square inch. He became much better at once, the pulse returned, and he began to talk, spontaneously describing a sensation of warmth flowing down into his arms and legs, which was no doubt due to the rapid improvement of the circulation.

Owing to the existence of a small leak, the pressure in the chamber began to fall gradually when the admission of air was stopped, and, the rate of leakage being appropriate, decompression was allowed to go on in this way, no manipulation of valves being required. By 3.35 p.m. the pressure had fallen to 7 lb. to the square inch, the patient remaining well and bright; but a few minutes later, while the chamber was being ventilated and the pressure unsteady, he became ill again. The pressure was promptly raised to 15 lb., when he immediately recovered, and the pulse again became good.

At 4 p.m. he was given brandy (passed into the chamber by a small air lock), and the pressure was once more allowed to fall by leakage, the rate of which was now slower, as the door was screwed up more tightly. At 5 p.m. pressure was 7 lb. per square inch, and he was given a cup of soup, having had nothing to eat since 7 a.m. He continued well and bright, though the cold and discomfort of the chamber were obviously telling on him. The pulse was normal, but the nystagmus was still present, though in a far less degree than at first, and he preferred to keep his eyes shut, saying that he did not then see objects "swinging round him," which produced giddiness. At 6.15 p.m. pressure was zero, and the door was opened. As slight exertion (such as a change of posture) had produced faintness while he was inside the chamber a stretcher was employed to carry him to the sick bay of the ship, where he was made comfortable in bed with hot-water bottles.

On examination the heart was regular; the second aortic sound was accentuated. He said he felt quite well. He passed normal urine soon afterwards, and, after taking some soup, fell asleep and passed a good night.

The next morning he said he felt quite well except for tenderness over chest and back where the leaden diving

[1] For a full description of this see *Report of an Admiralty Committee on Deep Water Diving*, published as a Blue Book in 1908, or "The Prevention of Compressed-air Illness," Boycott, Haldane, and Damant, *Journal of Hygiene*, 1908, page 342.

weights rest. (This is not uncommon after hard diving work.) There was puffiness over both temples and cheek bones, which quickly subsided. The heart sounds were normal, but the heart was slightly irregular. The following day, April 27th, he was quite well and was allowed up for three hours. On April 28th he was up all day, and he returned to duty on April 29th.

The recompression chamber was an upright steel cylinder, 7 ft. high and 5 ft. in diameter, the bottom being convex upwards. It had been constructed somewhat hastily in case of illness resulting from the very deep experimental dives carried out three years ago for the Admiralty Committee. Owing to its small diameter and the convexity of the floor, it was extremely uncomfortable and exhausting to the patient, besides being very cold.

The case presents several features of special interest. The probable cause of its occurrence has already been referred to, and it is evident that in very rough weather great care is necessary to prevent the diver from being prematurely brought up in consequence of the movements of the vessel. A comparatively slight recompression was successful, although one and three-quarter hours had elapsed since the diver came to the surface. In case of illness caused by rapid decompression from great pressures, recompression is often unsuccessful. This is evidently due to the fact that the volume of the air bubbles liberated in the blood and tissues is too great to be successfully dealt with. There seems every reason to believe that the more dissolved air has been got rid of in consequence of precautions taken in decompression, the greater will be the probability of recompression promptly relieving any symptoms, even after a considerable time from their first occurrence. Another point well shown is the extreme caution and deliberation required in decompression after recompression, and the consequent desirability of being able to keep the patient comfortable during this tedious process. The roomy "medical air locks," designed and first used by Mr. E. W. Moir in connexion with tunnelling work in compressed air, are in this respect far superior to the chamber which we employed. As a result of the above experience the Admiralty have initiated the construction of an improved chamber of the same dimensions, but designed to lie on its side, and to be fitted with a bunk, thus making recompression a far less exhausting and anxious experience for all concerned.

Our best thanks are due to Dr. J. S. Haldane, who has very kindly read through our manuscript and added some notes.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CALOMEL IN ASTHMA.

Living in a small fishing town where asthma is rather prevalent, I have been much impressed by the beneficial effects of a dose of calomel as a curative for the attacks of this distressing malady. My patients have been mostly women, and of varying ages, and the attacks present the usual features in varying degrees of severity.

I prescribe a powder of calomel ½ to 2 grains according to the habit of the patient, accompanied, of course, by some of the usual antispasmodic remedies, and my experience is that relief is rapidly obtained, even before purgation takes place.

Other cathartic drugs do not seem to have the same effect or certainly not so rapidly, and the ease with which the powder or tablet is taken is an important factor.

One patient, a widow of about 35, is so pleased with herself after being a martyr to attacks of dyspnœa for years that she is habitually armed with a supply of ½ grain tablets, of which she takes one whenever she feels the slightest "tightness in her chest," and she was most anxious to treat her niece on the same lines for an attack of whooping-cough!

I am sure there is nothing very original in this line of treatment, but it may be interesting to other practitioners who, like myself, are brought into contact with cases of asthma more frequently than usual.

Brixham. Cecil B. F. Tivy, M.Ch., R.U.I.

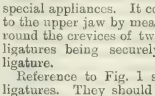
A SIMPLE METHOD OF TREATING CERTAIN FRACTURES OF THE MANDIBLE.

The method to be described is especially applicable to fractures at the angle of the mandible or in the region of the last molar tooth.

For various reasons it may be undesirable in such cases always to cut down from the outside and wire or screw the fragments in apposition; the only treatment then consists in fixing the mandible to the maxilla in its normal position and maintaining it so until union has occurred. This fixation may be attempted by means of a four-tailed bandage or some modification of the same, which usually fails to immobilize the jaw, and is, moreover, exceedingly uncomfortable for the patient. Interdental splints are practically of no use in such cases, as they fail to secure the smaller fragment and cause too much separation between the upper and lower jaws, which separation may possibly be permanent.

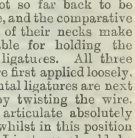
The following method has none of the above disadvantages and has the merit of being so extremely simple that no specialized skill is required in its application, and it can be carried out in a very short time and without any special appliances. It consists simply in fixing the lower to the upper jaw by means of horizontal ligatures passing round the crevices of two or more teeth in each jaw, the ligatures being securely connected by a third vertical ligature.

Reference to Fig. 1 shows the arrangement of these ligatures. They should be of silver gilt wire, but copper or German silver gilt or gold may be used. (Gauge 21 or 20, B.W.G.) The premolar teeth are the most suitable to which to affix the ligatures; they are not so far back to be inaccessible, and the comparative narrowness of their necks make them suitable for holding the horizontal ligatures. All three ligatures are first applied loosely. The horizontal ligatures are next tightened by twisting the wire. The lower teeth are then made to articulate absolutely accurately with the upper teeth, and whilst in this position the vertical ligature is tightened. Ligatures should be placed on both sides of the jaws, as otherwise a small lateral movement may be possible.



Lateral ligatures on the premolar teeth.

The method may be used as a temporary measure in all kinds of fracture of the mandible, in which case ligatures of silk or silkworm gut may be placed round the anterior teeth, as shown in Fig. 2. This affords the patient much relief, and is much more reliable than a four-tailed bandage. The method may also be used as an adjunct to the open surgical methods of wiring the fragments, when fixation of the temporo-maxillary joint may be desirable for a time at least. Even if all teeth are present, the patient does not suffer from inability to take sufficient nourishment.



Anterior or temporary ligatures.

There is always sufficient space between the teeth and behind the last molars for liquid food to pass. Patients do not suffer very much from a diet of milk, porridge, arrow-root, soups, etc., for five or six weeks. In a similar way a patient can use an antiseptic mouth-wash, and use the tongue as a toothbrush on the lingual surfaces of the teeth.

The vertical wire ligature may be left on for a month, after which it may be removed and passive movements allowed; it may be replaced by silk ligatures, as being easier to apply. A vertical ligature should be continued until the sixth week, especially during the time or times the patient sleeps in order to prevent yawning, as the latter does far more harm than even a slight amount of mastication.

The method is, of course, only applicable to those cases in which there is a sufficient number of sound teeth present, but such fractures usually seem to occur in strong vigorous patients with a good set of teeth.

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Reviews.

OSLER'S "MEDICINE."

THE general plan of Professor OSLER'S *Principles and Practice of Medicine*[1] is so familiar that it is not necessary to refer to it in this review. We offer a hearty welcome to the seventh edition of a work which in the past has won such well-deserved approval.

The trend of medicine which Professor Osler has observed since the issue of the last edition is very definite, and some idea of the changes in this edition may be gained from an observation he makes that nothing is more remarkable in the last few years than the rapid advances which have taken place in our knowledge of the acute infections, as shown, no doubt, by the progress made as a result of the discovery of the etiology of syphilis and the adaptation of haemolytic studies to its detection. Another subject to which well-deserved attention is drawn is the work of the Yellow Fever Commission of the United States Army, which has shown that the disease is transferred to man by a mosquito, the *Stegomyia fasciata*, when previously fed on the blood of infected subjects. Practical results of the greatest importance to civilization have followed upon this discovery, for Major Gorgas stamped out the disease in Havana during the years 1901–4, and a slight recurrence in Cuba has again been eradicated; no doubt the specific germ of this disease will be discovered before long. The advances made in the study of bacillary dysentery are fully described, and a perusal of the account of the three types of the bacillus and of the similarity of the intestinal lesion produced by each, recalls the results of the studies on another pathogenic denizen of the intestines—the typhoid bacillus—which is common with allied but distinctly different organisms, produces but one clinical picture and but one macroscopic expression of intestinal damage.

The deliberations of the Congress on Tuberculosis held at Washington last year are made use of for the reader's benefit. Koch's position with regard to the statement made by him, that the bacillus of bovine tuberculosis does not cause human tuberculosis, and vice versa, has been found by our own Royal Commission and Continental writers to be untenable, for bovine and human tuberculosis are interchangeable. Too much has been said, perhaps, of late years of the absence of any proof that tuberculosis is frequently inherited. Such a statement is calculated to overreach its mark, and Professor Osler does well to remind us of Professor Karl Pearson's work, in which he has shown that the diathesis of pulmonary tuberculosis is certainly inherited. So widespread is the risk of infection in urban populations of England that it is doubtful if our artisan classes can escape infection except by the absence of diathesis. The specific treatment of tuberculosis by the tuberculins is acknowledged in certain cases to have a definite value, but the independent work in America and England appears to be against accepting opsonin measurement as a reliable guide to the reaction of the body as a result of vaccination; no doubt similar criticism of the reliability of opsonin estimations accounts for the fact that Professor Osler does not refer to its diagnostic value in cases of chronic tuberculosis; von Pirquet's test is not even referred to, and yet there are good reasons for preferring it to the ophthalmo-reaction, and it would appear to be as much or as little reliable.

Another infection which has received special attention is that by the pneumococcus, and reference is made to the work of the New York Pneumonia Commission, which has largely extended Netter's observation on the occurrence of this organism in the body; it was found that the majority of people harbour the organism in the mouth, nose, or throat, so that a catarrh of the upper nasal passages, exposure, alcoholism, etc., by lowering the defensive powers provide the opportunity for the organism to become pathogenic.

So far we have referred to advances in the subject of infection, a principle which year by year is shown to be of increasing importance in the study of medicine. The reader will, however, find that Professor Osler has not failed to put before him the advances made in other directions in which infection has not been found to be immediately responsible for the changes that have been brought about in the body. Freund's theory has been revived as an explanation of the development of emphysema, more especially in the young. This theory attributes the change to alterations in the cartilages of the first three pairs of ribs, which undergo chronic hyperplasia and premature ossification. Professor Osler offers the suggestion that resection of these ribs would be indicated in such cases. Reference will be found to the views put forward by Marie that the older conception, according to which motor aphasia is due to a lesion in Broca's convolution, is erroneous; according to Marie such a defect is due to a lesion involving the left lenticular nucleus and the adjacent tissue. Marie's views have been severely criticized, but the result nevertheless is that though the older localization is affirmed, it is also true that lesions of the lenticular zone interfere with the mechanism by means of which speech is made possible. We would commend the section dealing with neurasthenia (psychasthenia), the description of the treatment of which is embellished with one of those masterly pieces of literary workmanship to which we are so frequently treated in Professor Osler's writings; the paragraph is short, but it says what should be said for faith healing with much trenchancy and wisdom. All the additions made in this seventh edition need not be mentioned; the reader will discover them for himself, and may feel fully assured that little of the advances made in medicine since the publication of the last edition has escaped the writer's notice.

[1] *The Principles and Practice of Medicine.* By William Osler, M.D., F.R.C.P., F.R.S., Regius Professor of Medicine, Oxford University. Seventh edition. London: Appleton and Co. 1909. (Roy. 8vo, pp. 1150; charts and coloured diagrams, 21s.)

HEREDITY AND DISEASE.

IN view of the importance of studying *The Influence of Heredity on Disease* the Council of the Royal Society of Medicine has published in a separate volume, bearing this title, the discussion on heredity which was held by the society during November and December, 1908.[2] In his introductory address, the President of the Society, Sir William Church, referred to the vexed problems of mutation and Mendelism, and remarked that the various facts on which Mendel's laws are based were known to Darwin, although he did not work out the numerical proportions of the variations which he observed. The president also discussed, amongst other subjects, Weismann's doctrine of the continuity of the germ-plasm, and the analogy between cancer formation and the growth of galls. He was followed by Sir William Gowers, who opened the discussion with regard to diseases of the nervous system. We have already published *in extenso* the remarks of this distinguished neurologist, who presented a valuable collection of clinical data pointing to the influence of heredity in diseases of this class (BRITISH MEDICAL JOURNAL, 1908, vol. ii. p. 1541). Professor Bateson put forward the arguments in favour of the Mendelian theory, and the debate was continued by Drs. Savage, Mott, and Mercier. Dr. Mercier directed attention to the logical fallacies with which the subject is beset, and, in particular, to the dangers of the *argumentum per enumerationem simplicem*. The mere enumeration of data showing that in certain cases insanity or other forms of nervous disease run in families does not amount to a proof that these diseases are hereditary; we must also take into account cases in which the appearance of such diseases is not followed by their repetition in subsequent generations of the same family, and, furthermore, cases in which these diseases arise *de novo* in previously normal families. The evidence for or against hereditary influence cannot be logically assessed at its true value until substantial information upon all these three aspects of the problem has been accumulated. Professor Karl Pearson, who took up the discussion later on, supported this plea of Dr. Mercier's as to the necessity of obtaining statistics of normals as well as abnormals. He criticized in detail many of the arguments which had been brought forward in favour of Mendelism, and gave his reasons for believing that their supporters had not proved their case. "My own standpoint," he said, "is that there is no definite proof of

[2] *The Influence of Heredity on Disease, with special reference to Tuberculosis, Cancer, and Diseases of the Nervous System.* A Discussion opened by Sir W. S. Church, Bart., K.C.B., M.D., Sir William Gowers, M.D., F.R.S., Arthur Latham, M.D., and E. F. Bashford, M.D. London: Longmans, Green and Co. 1909. (Imp. 8vo, pp. 154. 8s. 6d.).

Mendelism applying to any living form at present; the proof has got to be given yet." The discussions on the influence of heredity upon tuberculosis and upon cancer were opened respectively by Dr. Latham and Dr. Bashford. Amongst other problems which figured largely in the debate were the hereditary transmission of albinism and the inheritance of other distinctive features in pigmentation or morphology. We congratulate the Royal Society of Medicine on having collected expressions of opinion upon the important subject of heredity in disease from so large and representative a body of men. The value of the debate would have been enhanced if it had been possible to formulate some general conclusions. But this could hardly be expected, as the subject is still in the throes of controversy, and the available evidence which will bear the test of scientific scrutiny is relatively small. In closing the debate, the President described it as "extremely interesting and somewhat profitable." Perhaps there is justice in the "somewhat" with which he qualifies this eulogium, though, as he makes no attempt at a judicial summing up of the points which merit this faintly damnatory praise, the criticism is not particularly helpful. Many of the speakers treated the debate as an opportunity for contributing their views on the Mendelian controversy, and made no effort to limit their remarks to the subject of disease. It would have been an advantage if the discussion had been divided up into two separate debates—one devoted exclusively to the Mendelian theory in all its aspects, and the other confined with equal strictness to the evidence of facts concerning the hereditary transmission of disease, regardless of theories about the laws of heredity.

The third part of *The Treasury of Human Inheritance*[3] maintains the high standard of its predecessors, a statement which those who have examined Parts I and II will acknowledge to be the highest possible praise. In this third part Dr. Bulloch deals with angioneurotic oedema and hermaphroditism, Dr. Urquhart with insanity, and members of the Galton Laboratory staff contribute pedigrees illustrating the inheritance of various kinds of ability. Where all is so good it is difficult to single out any one part for special commendation. Dr. Bulloch's article on hermaphroditism will be of peculiar interest to that large number of readers who have found the literature of this subject extremely confusing. No authentic case of the co-existence of an ovary and testis in the same person is on record, and only five genuine cases of both ovarian and testicular tissue occurring in one and the same gland. In none of these cases were both tissues functionally perfect. Most of the recorded cases are examples of *pseudohermaphroditismus masculinus*; in the complete form there are testes, vasa deferentia, and prostate, but also some development of Müller's ducts, the external genitals being apparently of female character. In this section 56 pedigrees are engraved, the most complete being Lesser's, which deals with five generations, comprising 57 individuals, of whom 11 were affected. Only 2 of these were personally examined by Lesser, but he considered the information obtained respecting the others to be trustworthy. The malformation was hypospadias; in one subject the prepuce was short, and on the lower surface of the glans was a wedge-shaped depression with a minute opening ending blindly, while about a centimetre behind this was the orifice of the urethra, and between the two was a small opening from which some drops of urine came. In another member of the family the condition was almost the same, except that the minute opening between the depression and the urethra was further back. These two were brothers; the father was normal, but the grandfather and great-grandfather were probably affected. One of the two had three normal children, the other no recorded offspring. The article on angioneurotic oedema includes Ensor's case, revised and extended for the *Treasury* by Dr. Ensor. The family as published consists of 141 members in seven generations, of whom 28 males and 21 females were certainly affected. We desire once more to congratulate Professor Karl Pearson and his coadjutors, and wish this venture the success it deserves.

[3] *The Treasury of Human Inheritance.* Part III. With 11 plates of pedigrees and 1 plate in colours. London: Dulau and Co. 1909. (6s.)

EMBRYOLOGY.

THE ova of many marine animals undergo a change immediately after the entry of a spermatozoon, which results in the development of a so-called membrane—the "fertilization membrane" produced by swelling and liquefaction and final precipitation of a substance in the surface of the ovum. Professor JACQUES LOEB in his last publication on artificial parthenogenesis[4] says that he can produce this membrane in starfish eggs by the action of a monobasic fatty acid for a short time, and that all the ova so treated, if then put into a hypertonic solution of sea water for some half-hour, develop into free-swimming larvae. The hypertonic solution must contain oxygen. Eggs which are acted on by the fatty acid and are not put into the hypertonic solution of sea water die at room temperatures and more quickly at higher temperatures, but may develop if the temperature be kept very low. Eggs can be protected from death after the development of the membrane by keeping them in sea water deprived of oxygen or to which a trace of potassium cyanide has been added. Loeb concludes that the action of the spermatozoon resembles that of a lysin; the first stage is a lytic process resulting in the alteration of the surface and changed relation of the ovum to the solution which forms its environment. The fatty acid can take on the lytic action of the spermatozoon; so, too, can any other lysin such as soap solution, saponin, etc. The change of the egg from the active to the resting stage is associated with increased oxidation—oxygen, hydroxyl ions, and possibly other substances entering into the egg from the sea water. The lytic process is too rapid when set up by a fatty acid, and ends in death unless the temperature is very low. Exposure to low temperature, temporary withdrawal of water by immersion in a hypertonic salt solution, or withdrawal of oxygen allows the lysin to be anchored, neutralized or destroyed, and then the parthenogenetic development proceeds as far as the pluteus stage. The spermatozoon on its entry not only produces the lytic action, but by some other chemical action controls it and prevents it proceeding too far. The fact that a superficial lytic process starts the development of an ovum is of pathological interest, for as all foreign serums and body fluids have a lytic effect, it is possibly due to a similar mild lytic process produced by their excretions that tubercle bacilli provoke the formation of tubercles, while other unknown parasites or changes in internal secretions may similarly provoke the formation of tumours. Professor Loeb has done most admirable pioneer work in breaking away from the mechanical theories of histologists, with their centrosomes, astrosphere formation, etc., and by showing that these structural details can be produced not only by the entry of a spermatozoon, but by the action of hypertonic solutions. It is by physico-chemical methods that these great problems must be attacked, and the reader will find much that is interesting and suggestive in Professor Loeb's new work.

The *Textbook of Embryology*[5] which Dr. BAILEY and Mr. MILLER have produced is very well adapted to the purposes of the medical student and medical practitioner. The general principles and the main facts of the subject are clearly, shortly, and definitely stated, and the peculiar features special to human development are carefully noted. For the main part the authors keep to the plain, broad road of description; they avoid polemic discussions, and on subjects upon which opposite opinions are held they either adopt one or they mention the more important. On the whole, the various sections are well up to date; that dealing with the nervous system is, perhaps, the most complete and interesting, and the chapter devoted to teratogenesis will prove very useful to every one interested in abnormal development and its results. At the end of each section the authors have inserted suggestions and instructions regarding the best methods of obtaining, preserving, and preparing specimens similar to those upon which the descriptions are based. The suggestions and instructions may be valuable to those who can command the necessary appliances and facilities, which, however,

[4] *Die chemische Entwicklungserregung des tierischen Eies.* By Professor Jacques Loeb. Berlin: J. Springer. 1909. Med. 8vo, pp. 283, figs. 56. M. 9.)

[5] *Textbook of Embryology.* By F. R. Bailey and A. M. Miller. London: J. and A. Churchill. 1909. (Sup. roy. 8vo., 686 pp. and 565 figs. 21s.)

are only to be found, as a rule, in well-equipped embryological laboratories. The illustrations are mostly borrowed from the works of other authors, and the majority are well selected and well reproduced, but here and there photomicrographs of sections of chick embryos, which were evidently not in a very good state of preservation, have been somewhat heedlessly introduced when better figures might easily have been obtained. It has already been mentioned that the authors have generally avoided discussion regarding disputed points and have contented themselves with recording the more important opinions—a plan well adapted to the type of book they have produced; but in their selection of opinions concerning the development of the vitreous of the eyeball they have scarcely given sufficient prominence to the view that the primary vitreous consists not of secretion from retinal cells, but of processes of those cells more or less comparable to the processes which become the sustentacular fibres of the retina. This omission is, however, a very small blemish, and can scarcely be said to detract from the value of a book which is well arranged, well illustrated, well printed, readable, interesting, and not overloaded with unnecessary detail. Its good qualities are numerous, and will commend it to all who are interested in or who are desirous of studying the subject with which it deals.

ANATOMY.

THE volume of Professor KARL VON BARDELEBEN'S handbook of human anatomy[6] devoted to the consideration of the bones of the upper and lower extremities, and that which treats of the muscles of the upper extremity, maintain the standard of the preceding sections with regard to the amount of information and detail they supply. The volume which deals with the bones of the extremities is written by Professor W. Krause. It contains rather short but clear descriptions of the individual bones; a consideration of their architecture, in which Dixon's researches on the laminæ in the femur are not included, though other investigations of less interest are mentioned, and chapters on the development, the ossification, and growth of the bones of the extremities. Other sections treat of the homologies and varieties, and the latter part of the volume is devoted to a survey of the bones in the groups of animals which may be considered as man's more immediate relations. The book is an extremely valuable contribution to anatomical literature, and is obviously the work of a master of his subject. The text is worthy of better illustrations, and it is somewhat remarkable, in a book of this type, to find the femur depicted in so inadequate a manner. The volume which deals with the muscles of the arm is the work of Dr. Frohse and Dr. Max Fränkel, and is the most complete account of the muscles of the human arm which we possess. The work upon which the greater part of the text is based was commenced in 1897, when Professor Bardeleben and Dr. Frohse communicated to the Anatomical Society of Germany a paper dealing with details of the innervation of the human limb muscles, and Dr. Frohse read a paper upon the finer ramifications of nerves in the muscles at the meeting of the Anatomical Society of Great Britain and Ireland held in Dublin. Since that time the authors have devoted themselves to a detailed and minute investigation of the shape, size, weight, method of attachment, surface contour, actions, relations, and nerve supply of muscles. It will be readily understood, therefore, that the book which is the outcome of part of their work teems with facts; in addition it is embellished with illustrations which increase the value of the text, and which will be of value to artists as well as to anatomists, whilst the explicit and exact descriptions and illustrations of the points where nerves can best be stimulated will be serviceable to physicians and surgeons.

The first part of Dr. TOBY COHN'S work upon the palpable forms of the normal human body was reviewed in the BRITISH MEDICAL JOURNAL of August 19th, 1905, p. 388. The second part, which deals with the lower extremity, is now published.[7] It displays the same thoroughgoing and painstaking accuracy as the volume devoted to the upper extremity, and we need not repeat our commendation of the general merits of the work. Dr. Cohn divides the extremity into eleven carefully defined regions from the buttock to the toes. Everything that it is possible to make out by palpation or inspection is minutely described, and the visible forms are shown in a large number of photographs, which have been reproduced for this work. It will be useful to those artists who want to know the names of the forms which they paint or draw, as well as to students of medicine, whom it should stimulate to verify their knowledge of anatomy by palpation and close inspection, thereby cultivating the *tactus eruditus* and acquiring a useful familiarity with the normal, which will render the recognition of departures from it easy and sure. Once more, however, we must protest against multiplication of names and the use of German terms, where the universally-known Latin ones answer every purpose. It is bad enough that the scaphoid bone should be called, in the space of a page or two, "Kahnbein," "Schiffbein," and "os naviculare"; but why should the ilio-tibial band be called "tractus iliotibialis" in Fig. 44 of Plate VI and "Massiatscher Streifen" in Fig. 45 of the same plate?

EXPERIMENTAL PHARMACOLOGY.

DR. C. W. GREENE states, in the preface to his *Experimental Pharmacology*,[8] that "it is only on such intimate personal experience with the facts that one can reach a rational understanding of the principles of pharmacology." We may be disposed to accept this statement while at the same time insisting that the experiments should be carefully chosen so as to bear as far as possible upon the action of drugs in man. In the present book experiments on animals are described in considerable detail, but their significance is not discussed, and oftentimes drugs are shown to produce in animals effects of a nature which can never occur in man. Thus, on page 18, the effect of perfusing the mammalian heart with 0.5 per cent. of morphine is described; it seems to us that the student who faithfully performed such an experiment would become impressed with the idea that morphine was a powerful cardiac depressant. In reality, of course, morphine administered in any dose would paralyse the central nervous system long before it showed any toxic effect on cardiac muscle. This experiment is typical of the descriptions that occur throughout, and the book, therefore, cannot be regarded as the type which it is desirable to place in the hands of the student who studies pharmacology with a view to the practice of medicine. The descriptions of experiments are insufficient for the novice and of little value for the English medical student, involving as they do the estimation of blood pressure and urinary flow upon anæsthetized mammals. The book is freely illustrated, but many of the illustrations are worse than useless to the student of medicine. Thus, no less than three are given to show the "depressant" action of morphine upon the heart.

PATHOLOGICAL ENTOMOLOGY.

A SCHEME for the preparation of a monograph dealing with blood-sucking insects in general was made by Sir E. Ray Lankester while director of the Natural History Department of the British Museum; he was no doubt moved thereto by the great practical importance attaching to these insects since it has been shown that they act as the carriers of certain diseases. Unfortunately the collections of such insects contained in the museums are very incomplete, perhaps because the diptera, or two-winged flies are not only unattractive in form, but for many and on the whole sufficient reasons, are regarded with dislike by most people. Some time ago the Trustees of the British Museum decided, on the suggestion of Mr. Charles O. Waterhouse, assistant keeper in charge of the insect section,

[6] *Handbuch der Anatomie des Menschen.* Von Professor Dr. Karl von Bardeleben. Band I, Abteilung 3, *Skelet der oberen und unteren Extremität.* Von W. Krause. Band II, Abteilung 2, Teil 2, *Die Muskeln des menschlichen Armes.* Von Dr. Fritz Frohse und Dr. Max Fränkel. Jena: Gustav Fischer. 1908. (Sup. roy. 8vo, pp. 254 and 454 respectively; Lfg. 15. M.24.)

[7] *Die palpablen Gebilde des normalen menschlichen Körpers und deren methodische Palpation.* Nach eigenen Untersuchungen an der Leiche und am Lebenden von Dr. Toby Cohn, Nervenarzt in Berlin. Part II, Lower Extremity. Berlin: S. Karger. 1908. Sup. 8vo, pp. 376, 39 illustrations, 16 in the text and the rest in 9 plates. M.6.40.)

[8] *Experimental Pharmacology: A Laboratory Guide.* By Charles Wilson Greene, Ph.D. Third edition. Philadelphia: Blakiston's Son and Co. 1909. Med. 8vo, pp. 85; 37 illustrations. $2.

to issue a series of volumes dealing with blood-sucking diptera as the materials became available. Four volumes on mosquitos prepared by Mr. F. V. Theobald, were issued between 1901 and 1907, and a fifth volume is in preparation. The tsetse-flies were described by Mr. E. E. Austen in a volume published in 1903, and the Trustees have now issued a volume entitled *Illustrations of African Blood-sucking Flies other than Mosquitos and Tsetse-Flies*.[9] This volume, which has been prepared by Mr. E. E. AUSTEN, consists of an introduction and enumeration of the families and genera mentioned, descriptions of each species, lists of African blood-sucking flies exclusive of mosquitos and tsetse-flies, arranged under countries, and thirteen plates containing over a hundred coloured drawings of the insects described. Mr. Austen, in his introduction, states that the book applies to the Ethiopian zoo-geographical region, that is to say, to the whole of Africa with the exception of Tripoli, Tunis, Algeria, and Morocco. Dahomey and German South-west Africa are also, perforce, omitted, as no collections or specimens of diptera from those regions have yet reached the museum. With regard to the geographical lists, Mr. Austen has to state that they are of the most fragmentary description, owing to the small amount of material at present available, and we trust that his expectation that the very imperfection of the lists will stimulate further work may be fulfilled. Though the blood-sucking flies of Africa belong to the same families as those found elsewhere, certain genera of Tabanidae, as well as the tsetse-flies are confined to the Ethiopian region. Mr. Austen gratefully acknowledges the assistance rendered by many colonial medical officers in Africa during the last few years, who, acting under official encouragement, in compliance with instructions from the Colonial Secretary, have made and forwarded to the museum collections of blood-sucking flies occurring within their districts. Had it not been, he says, for their efforts, "the production of this book would have been well-nigh impossible," but in a concluding paragraph he says "that in the matter of practical investigation by means of experiments on the spot, in order to determine the conveyance or non-conveyance of disease by means of blood-sucking flies other than mosquitos and tsetse-flies, the British have not lagged somewhat behind other nations." The information given as to the bionomics of the families, subfamilies, genera, and species mentioned is as full as possible, but in the case of many of the species the data at present available are limited to a record of localities and dates. The all-important subject of the dissemination of disease has been kept prominently in view, and the statements of investigators and observers who have devoted themselves to this question will be found summarized under special headings. The coloured drawings have been admirably made by Miss Grace Edwards, and are very well reproduced. The book, which is provided with an adequate index, is altogether an excellent example of how such a piece of work should be done. We can only regret, having regard to the importance of the volume finding its way into the hands of all workers in this field both at home and abroad, that it should have been necessary to issue it at so high a price.

Professor BLANCHARD has issued the first fasciculus of a systematic work, entitled *L'Insecte et l'infection*,[10] in which he proposes to deal as fully as present knowledge permits with the natural history and medical importance of pathogenic arthropods. It ought to prove very useful, especially to those engaged in the study and practice of tropical medicine. This first fasciculus is devoted to the natural order Acarina, of which by far the most important group or family is the Ixodidae, or ticks. The whole book, in fact, with the exception of a few pages at the end, is devoted to this little-studied group of parasitic insects. After a preliminary chapter on the definition of the Acarina, in which a table of classification is given, the morphology and anatomy of the ixodides or ticks is discussed. The study of the internal anatomy of ticks has always been specially tedious, owing to the difficulty of being able to cut good sections on account of the hard, chitinous coat in which the insect is enclosed. A very clear account is nevertheless given of the external and internal anatomy, free use being made of the excellent diagrams of sections by Bonnet, who has done a large amount of work in this branch of the subject. A few more schematic diagrams, representing the whole of the alimentary system and showing also the salivary glands and Malpighian tubes, would have been very useful; students of mosquitos will remember such schemes in Theobald's monograph on these insects. However, even without these a thorough grasp of the important anatomical features can be obtained. The digestive apparatus is distinctly peculiar, and the voluminous glandular apparatus, consisting of salivary glands proper and poison glands, cannot be too closely studied when it is remembered that it is through these that the piroplasmata and spirochaetes must find their way, in some form or other, back to their mammalian or avian hosts. On the whole, the anatomy is somewhat more complicated than that of mosquitos and other dipterous insects. The third chapter deals with the evolution and biology of the ticks—a subject on which a good deal has been written, much information being available as to the habits of the different genera and species. We do not notice any reference to those ticks whose larval and nymphal stage are said to be passed completely on the same animal. Such a train of events does occur, though perhaps it is commoner for most to revisit the external world before undergoing a further stage in their life development. More observations as to the habits of the males and the natural enemies and parasites of the ticks are also needed. There is, for instance, a general impression that the ordinary starling, when seen, as it frequently is, sitting on the back of a sheep, is feeding off the ticks and other insects to be found in the fleece. The question also of parasiticides for ticks when infesting animals is very important. Good work may be done on the value of different washes, or powders for dusting on the skin, to keep these pests down. The fourth, and last, chapter deals with the classification of the ticks, and no fewer than 107 pages are devoted to this subject. Neumann's classification is more or less closely followed, but the chapter, like all systematic work of this kind, is necessarily very technical. The number of species has been considerably increased of late, and some new generic names appear also. Pen-and-ink diagrams and sketches help to simplify some of the special points. The absence of a table of contents or index is a fault in a publication so full of detail, and the omission ought to be rectified when the other parts appear. The work should supplement, though not replace, the recent English work on ticks by Nuttall and his collaborators at Cambridge.

[9] *Illustrations of African Blood-sucking Flies other than Mosquitos and Tsetse-Flies*. By E. E. Austen. London (printed by order of the Trustees of the British Museum). Longmans and Co., B. Quaritch, Dulau and Co., and at the British Museum (Natural History). Sup. roy. 8vo, pp. 256; 13 coloured plates. 27s. 6d.

[10] *L'Insecte et l'infection. Histoire naturelle et médicale des arthropodes pathogènes*. Par Raphael Blanchard, Professeur à la Faculté de Médecine de Paris; Membre de l'Académie de Médecine. Premier Fascicule: Acariens. Paris: Libraire scientifique et littéraire. 1909. (Sup. roy. 8vo, 160 pages; 197 figures. Fr. 6.)

NOTES ON BOOKS.

DR. MALAESIDA, who is already known for his writings on pharmacology and materia medica, addresses himself in his new book on the art of prescribing and applying remedies[11] mainly to the advanced student and to the young practitioner, and, with these requirements in view, he lays stress chiefly on the commoner and practicable methods of treatment, not necessitating the use of costly apparatus or special skill in their use. In the nineteen chapters very much the usual lines are followed—drug idiosyncrasy, the form of prescription, incompatibility, antidotes, epidermic and hypodermic uses of drugs, baths, anaesthetics, bleeding, and uterine applications, are each dealt with in turn. An excellent feature of the book is the very full index, running to twenty-seven pages, whereby any drug or remedial application can be quickly referred to and consulted. Like all the Hoepli manuals, the book is of a convenient size for the pocket.

The late Mr. HENRY SETON MERRIMAN had a remarkable power of contriving a plot and telling a story, and as, after all, the first duty of a novelist is to tell an interesting story, it is not surprising that his novels were successful. It is not, however, every successful novelist who will bear reprinting for another generation; but judging from a perusal of the first two volumes in Messrs. Smith, Elder,

[11] *L'Arte di Prescrivere e di Applicare i Rimedi*. Dott. G. Malaesida. (Manuali Hoepli). Milan: U. Hoepli. 1909. (Ott 8vo, pp. 412. L 3.50.)

and Co.'s thin-paper edition. *The Slave of the Lamp* and *The Sowers*,[12] Merriman will stand the test well. In spite of all that has happened in Russia since 1896, perhaps partly because of what has happened, *The Sowers* reads quite freshly, for Merriman, as was his wont, had studied Russian life carefully on the spot, and probably understood the Russian character better than most foreigners. The new edition is to be published in fourteen volumes, and will be completed on November 17th. The first volume contains a preface, which embodies a short biography of Merriman—all, it would appear, that the public is to expect.

[12] *The Slave of the Lamp* and *The Sowers*. Vols. i and ii of the thin paper edition of Henry Seton Merriman's novels in fourteen volumes. London: Smith, Elder, and Co. 1909. (Fcap. 8vo. pp. 355 and 454 respectively. Cloth, 2s.; leather, 3s.)

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 801.*)

ENTERTAINMENTS.

Reception by the Lord Mayor.

On the evening of Monday, August 30th, the Lord Mayor of Budapest received the members of the Congress at the Town Hall (Redoute). A large gathering collected in the handsome building at 9 o'clock, and remained until 11. In the large hall an orchestra performed, and several lady and gentlemen artistes contributed to the success of the evening. A lady, whose name was given in the programme as Miss Marschalko, but whose identity as the wife of a professor of medicine of the University of Budapest was soon disclosed, received much applause for her rendering of some German songs. At about 10 o'clock the doors of the buffet were opened, and a rush ensued, fortunately without accidents. A large placard, bearing the magic words, "The guests are requested to pass out of the buffet after fifteen minutes," apparently caused dismay to some, but was generally ignored. Champagne and sweets were to be had in the first room, but, further in, more solid refreshment was provided.

Reception by the Ladies' Committee.

On Tuesday evening the Ladies' Committee gave a reception to those members who were accompanied by their wives and daughters. This was held in the Stadtwäldchen (City Park) and was a great success. The tables were spread in the open air, the surroundings were extremely beautiful and all apparently enjoyed themselves thoroughly. On the same evening the German members held a social reunion, to which several foreign guests were invited.

Reception at the Royal Palace.

On Wednesday evening the Archduke Joseph received the members of the Congress in the name of His Imperial and Royal Apostolic Majesty. Some 1,500 invitations were issued, although it was stated that more than 800 had never previously assembled in the apartments. The palace is situated on the hill on the Ofen or Buda side of the Danube, and the police had issued instructions that the cabs proceeding to the palace should pass over the bridges without the payment of the usual toll. A long string of single- and pair-horse cabs and motors raced up the hill and lined the carriage way leading to the Royal abode at an early hour. In the palace, the scene which met the eye was a most impressive one. The handsome staircase, with its massive marble walls and columns, was richly decorated with ferns and palms. A bright red carpet paved the broad stairs, and on each side picked soldiers of the Royal Body Guard, in red and gold uniforms and glistening helmets, completed a most picturesque scene. The guests were conducted to the Ceremonial Hall, where opportunity for conversation was given. The official delegates were required to line up in groups according to their nationality, and each batch was called upon by Count Apponyi, supported by Count Zichy, the Court Minister and two Secretaries of State, von Bolgár and von Molnár, to proceed to the Hapsburg Apartments, where the Archduke was prepared to receive his guests. The British delegates were kept waiting for a considerable time, but were received in audience before 10 o'clock, and each group were addressed in friendly and interested words by the Archduke. At about 9 p.m. champagne, ices, sandwiches, and lemonade were served, according to the custom of the Court, on trays carried around by servants. Although the Archduke had retired at about 10 o'clock, the members remained for a full hour later, and a pleasant evening was spent.

Receptions by Presidents of Sections.

Thursday evening was reserved for the receptions by the Presidents of the Sections. The general secretary, Professor Gross, gave a large "at home" at the Park Club, while various other entertainments were well attended. Your correspondent was invited to a dinner given by the President and local committee of the Otological Congress, which served at the same time as the Otological Section of the Medical Congress. This dinner was tastefully arranged, and among the guests were a fair sprinkling of English, a large number of American, and a few German and French. Professor Lichtenberg, a most interesting and amiable man, spoke first in French, then in German, and lastly in English—a language which, it is said, he had studied specially for this Congress—and extended a warm welcome to all the foreign members and their ladies present. Professor Pritchard replied for England. A Hungarian Gipsy Band played the various national anthems as a representative of each country rose. The music was perhaps more impulsive and resonant than artistic, but in any case it was appreciated by those present.

Performance at the National Theatre.

A performance of Madach's *Tragedy of Man* in Hungarian was given at the National Theatre on Wednesday evening. A limited number of members were enabled to obtain seats. An excellent summary of the plot of the play in three languages was distributed. This assisted the audience in following the plot, and, together with some artistic acting, rendered the play intelligible and enjoyable to the foreigners. The revolution scene was especially appreciated.

Reception by Count and Countess Apponyi.

On Friday evening one of the most brilliant and, at the same time, most successful *soirées* was held. Count Apponyi and the Countess received some 400 members at the Park Club in the City Park. The club house is most beautifully situated in the neighbourhood of the lake and is elegantly appointed. A commanding staircase, leading from the entrance to the reception rooms, was tastefully decorated. At the head of this staircase, just within the portals of the large hall, the Count and Countess stood and received their guests. Each one received a few words of greeting in his or her native tongue, spoken by the Count with no perceptible accent. Within there was a brilliant gathering. Among the Hungarian Ministers and members of Parliament present were Counts Zichy, Tóth, Molnár, von Bezerédi, Náray-Szabo, Thurn-Taxis, Fontenay, and Boda. An attractive figure further presented itself in the person of the Cardinal, Graf Peter Bay, whose literary achievements and enterprising feats in connexion with the Far East have secured for him a world-wide reputation. An excellent orchestra played a suitable programme of music during the evening. After a short interval, which was pleasantly spent in conversation, the guests were ushered into the rooms on the ground floor, where there was an excellent buffet. Some sought the refreshing air of the verandah, while others preferred the luxury of the various apartments. The guests included representatives of every nation—for the most part the official delegates and the representatives of the medical press. A rumour had gone abroad the day before that an appeal addressed by a German society in Vienna to the German members attending the Congress, calling upon them to refrain from attending any function at which Count Apponyi was officially present, had fallen on fruitful soil. The reason for this request was the recent order to exclude the teaching of the German language in the Hungarian elementary schools, which owed its inception to Apponyi. While this is not the place to discuss matters of a political nature, it may perhaps not be superfluous to state that the tendency of the present Ministry is to support the feeling of independence of the Hungarian race, and to foster the feeling of animosity felt towards the

races living among the Hungarians, but wholly distinct from them. On the evening of Thursday, the behaviour of some of the German representatives, either accidentally or intentionally, gave support to the rumour, but on Friday it became clear that the appeal had failed. The Germans were well represented, and no trace of ill feeling could be detected. This action of our German colleagues is all the more to be applauded since the atmosphere of Budapest seems to be especially adapted to political ferment, and yet there can be no shadow of a doubt that in the great world of medicine, fraternal feelings and unanimity must reign supreme.

Semmelweis's Monument.

In the Erzsébet-ter, a fine monument of Semmelweis, of which an illustration was published in the JOURNAL of September 11th, p. 707, attracted much attention. During the course of the week numerous wreaths with appropriate inscriptions were deposited at its foot, and in several instances messages of appreciation were dispatched to the members of the great obstetrician's family.

The Eighth Section (Gynaecology) met on Wednesday, September 1st, at the monument, and some speeches were delivered. The wreaths were laid down by the representatives of the various countries.

Washington's Monument.

On Monday the Americans assembled at the statue of Washington, and were supported by Count Apponyi. Here wreaths, flags, speeches, and song demonstrated the reverence with which his countrymen held the great hero of freedom.

Esperanto.

A meeting of the members desirous of extending the use of Esperanto took place on Tuesday morning. The number attending was fair, but outside the gathering the movement did not awaken any appreciable interest. It appeared to be felt that there was no need for a new language.

Medical Women at the Congress.

A hearty welcome was given to the medical women attending the Congress, to the number of about fifty. From within, general satisfaction was expressed at the manner in which the position of the ladies had been recognized. It is true that some slight difficulties had been created by the confusion resulting from the fact that the organization had not realized how the medical women would desire to receive social invitations, whether as ordinary members of the Congress, like the men, or as ladies, like those accompanying their male colleagues. But there was a sort of triumph visible in the faces of the nine "*Aerztinnen*" who were present at the *soirée* at the Royal Palace, to which no ladies in the ordinary acceptation of the term were invited. It was noticeable, however, that the "flunkies" regarded these medical women as "mere ladies," and insisted in handing them refreshments before the men were allowed to help themselves. The *Pester Lloyd* devoted a column and a half to a description of the achievements of some of these colleagues, and informed its readers that many of them were scientifically capable and much in earnest, with no loss of the attractive qualities of their sex. Several of them read papers in their Sections, notably on gynaecology, obstetrics, diseases of children, and hygiene. These communications were listened to with interest and frequently loudly applauded.

Social Democrats and the Congress.

The Social Democrats and the Congress came under one roof on Wednesday evening. A leaflet, taking the form of a special edition of the newspaper, *Nepszava* (Voice of the People), was distributed on Sunday evening and Monday. In this a descriptive article of the position of the working man in Hungary was produced in three languages. While there is no doubt that exaggeration played a considerable part in this pamphlet, and the grievances as cited must be regarded as exceptional and to a certain extent temporary, there can be no doubt that the poorer population have much to complain of both in the town and in the country. The question of housing was dealt with in clamouring terms. The want of hygienic regulations, the failure to provide sufficient medical attendance for the poor, the consequent high death-rate and short duration of the average life, the oppression of the Parliament on the labourer, and the price of food are all subjects touched upon in violent language. In conclusion, the members of the Congress were invited to attend a public meeting on the Wednesday. At this meeting a number of the members attended, and considerable sympathy was shown to the cause. The speeches were delivered by a Hungarian organizer, a medical man speaking in German, and another Budapest Socialist in French. No vote was taken and no disturbance occurred.

Hygienic Conditions.

The state of affairs affecting the poorer population and the pauper classes is indeed far from satisfactory. It is true that much has been done during the past few years to mitigate some of the distress, but very much still remains to be done. There appear to be several determining factors which affect the life of the lower classes. In the first place, the population of Budapest has increased more rapidly than in any other town in Europe since 1801. In 1880 there were but few more than 370,000, while in 1909 the town counts nearly 1,000,000 inhabitants. The town of Pest is closely built in, no gardens surround the houses, and there is only one park of any size. There are squares, but chiefly in the area bordering on the Danube. Formerly the dwellings of the poor, miserable as these were, were scattered over the eastern side of the town. As the need for fresh houses and building land made itself felt, these hovels were pulled down, big houses which were to serve as dwellings for the upper and upper middle classes and for business premises, arose; the rentals were high and the poor were driven from pillar to post. Cellar dwellings, in which overcrowding and no drainage existed, had to become the asylums for these wretched people. Gradually the municipality realized the importance of this problem and barracks were erected, but in too few numbers. The rents were too high, and the labourer was compelled to take in lodgers into his already insufficient home. The result of men, women and children crowding together in one room, and in one bed, conduced neither to health nor to morals. However, the frequency of the overcrowded dwellings soon diminished, and that of the cellar dwellings also diminished rapidly. Within nineteen years the number of persons living in cellars has sunk from 31,637 to 6,083; during the last ten years the frequency of overcrowded dwellings has sunk by 2·8 per cent. of the whole population. The improvements in the housing of the poor depend on municipal enactments dating from 1885, which, however, were first enforced in 1892. According to these arrangements, no municipal rates are chargeable for fifteen years on labourers' dwellings, while lodging-houses, let to tenants in apartments of one or two rooms, are exempt for twenty years. After these periods have expired the rates are not to exceed 10 per cent. of the usual house-rates. Certain regulations with regard to hygienic conditions of dwellings point in the right direction, even if the terms are not comprehensive enough.

Another factor which contributes to the dissatisfaction is to be sought in the fact that, while certain laws exist for the protection of the classes, many of them are not enforced. Two striking instances of this laxness occurred within the past few weeks. On the Thursday preceding the Congress, as the writer was inspecting the St. Stephan Hospital, a number of boys and young men were admitted suffering from very extensive burns received in an explosion which took place at a cartridge factory. Of the 15 injured, 5 succumbed at once, and all the rest save one or two died within the next forty-eight hours. Although a law exists whereby it is made a penal offence to employ minors in dangerous trades, no notice is taken of this enactment, and the police do not trouble themselves to enforce it. The works manager in this case bears the reputation of a most humane and lenient employer of labour, but nevertheless boys and youths were daily set to handle the dangerous implements. One rule was in force which mitigates the state of affairs. A reward of a few fillers is paid for each defective cartridge which the girls employed in the packing house find and put aside. The result of the explosion was: eleven or twelve young lives wasted; a few crowns paid in compensation to the mourning relatives, and some sympathy; and a short spell of greater care to be exercised in the factory before the old state of affairs again

dominates. The second example was that of wholesale poisoning with impure rum. The law condemns the sale of adulterated or impure merchandise for human consumption, but no prosecutions are entered until a large number of lives are lost and much illness produced as a result of general poisoning.

In the third place, while lodging is dear, food is also very dear. The price of cereals is high; it has been gradually rising for the last few years. Meat is expensive, and cannot be indulged in by the poorer labourer; vegetables, but not potatoes, are almost prohibitive. Milk and other dairy produce on the other hand are cheap and excellent. The labourer cries out that his necessaries cost him too much. But it is at the same time true that during the past 15 years the price of labour has increased considerably. Formerly the wage of an agricultural labourer depended on the temper of his employer. Mostly he got a little food and no money; at times he received a few fillers irregularly. Now he commands a fair regular wage. Skilled trades command good wages. The factory hand does not earn much, but the mason, carpenter and bricklayer receive from 2s. 6d. a day upwards; 35s. a week is not uncommon, and in skilled work this sum is often exceeded. In this way, the working man is better off with dear food than he was with cheap food and low wages.

Lastly the reason for the demonstration mentioned above is to be sought in the fact that the Social Democratic party is just being formed, and is trying to make its influence felt in the face of disadvantages. The Ministry is considering the extension of the franchise —not to women, but to all the male population paying rates—but misgivings as to the intelligent exercise of the vote has caused the majority to hesitate before this principle is carried into effect. It would seem, however, that it is only a matter of time, before the class which now considers itself oppressed will receive some palliatives, even if these palliatives are not extensive in the course of a short time.

Besides the gatherings, meetings of societies, etc., mentioned, a number of other social and quasi-political events insinuated themselves into the large net of the Congress activity, and were duly accorded a place according to their face value.

CLOSING SESSION.

On Saturday, the 4th, at 10 o'clock, the members once again congregated in the handsome hall of the Municipal Town Hall (Redoute) to witness the closing scenes of the Congress. The numbers were considerably smaller than at the opening meeting, but, nevertheless, the hall wore a picturesque appearance. The Commission had met at 9 a.m., and the result of their deliberations was anxiously awaited by many interested in the formation of a permanent bureau. Shortly before 10 the officials and the other members of the Commission filed on to the platform, and in a brief space of time the President opened the proceedings. First, the reply telegrams of the King of Hungary and the King of Portugal were read. Next, the awards of the prizes were announced. With regard to the prize for the best work in ophthalmology on the etiology of trachoma, the jury had determined not to award the prize this time but to postpone it until the next congress. The Paris Prize was awarded to Professor Bordet, of Brussels (3,000 francs), while the Moscow Prize of the value of 5,000 francs was given to Professor Oscar Hartwig, of Berlin. The Lenval Prize for otology was given to Professor Gray, of Glasgow (to whom we offer our warmest congratulations) and Professor Neumann, of Vienna. Two new prizes were instituted—namely, one of 3,000 crowns for otology, offered by Professor Politzer, and the second, offered by Dr. Seaman, of New York, of 2,500 crowns for the best work on improvements in the service of the medical corps in warfare. The next business was the reading out, and adoption of, the resolutions of the Sections. The more important of these will be referred to subsequently when the proceedings of the Sections are dealt with.

The Next Congress.

It was then announced that the next Congress will be held in London. Dr. Pavy had been in communication with the Secretary of State for Foreign Affairs, Earl Grey, and had received from him a message toward the middle of the week to the effect that the Government approved of the suggestion that the next Congress should be held in England, and authorized him, Dr. Pavy, to invite the Congress to hold its next meeting in England in the name of the Government. This invitation was received with obvious approval, and a motion to send telegrams both to His Majesty King Edward and to Earl Grey, cordially accepting the invitation and expressing the hope that His Majesty would consent to become the Patron, was carried by acclamation. The next Congress, therefore, will be held in 1913, that is, in four years' time, although the British Medical Press Association had urged the proposal that a five years' interval would be advisable.

Permanent Bureau of the Congress.

The Commission next announced that a permanent bureau of the Medical Congress had been formed. The scheme put forward by the British Medical Press Association, which had been referred by the International Medical Press Congress to the Commission for consideration, as well as a less detailed scheme put forward through the Commission, had been considered, and a sort of compromise between the two had been accepted. As far as your correspondent has been able to gather details as to its composition, the bureau will consist of the presidents of the various national committees attending the Commission, one member of the International Medical Press Association (the President), and a permanent Secretary. A smaller working committee will be formed. Dr. Pavy was elected President, and the head quarters chosen are at The Hague. While the medical press only gains one direct representative, Professor Blondel, who is the General Secretary of the International Medical Press Association, has been elected Vice-President.

THE SPEECHES.

The PRESIDENT (Professor Müller) spoke a few words of regret that he had been robbed of the pleasure of filling his post during the earlier part of the Congress week, on account of sudden illness. He briefly reviewed the work of preparation and of the Congress itself, thanked those who had contributed to the success of the meeting and bade the members a hearty *au revoir* in London. Next followed the speeches of the national delegates. UHTHOFF, speaking in the name of Germany, referred to the part played by the ladies, then to the scientific importance of the lectures and interesting discussions and, lastly, to the important scientific contributions of the Hungarians. LAYER spoke for the United States, SIFTO for the Argentine, and POLLITZER for Austria. The last named stated that his expectations had been surpassed and that the organization of this Congress should serve as a pattern for future congresses. He made graceful reference to the splendid hospitality of the Hungarians, and especially of the Hungarian medical men. DE SOUSA spoke for Brazil, IVANOFF for Bulgaria, and SALMONSEN for Denmark, the last named delighting the audience by stating that he would only say three words, "*Merci, adieu, au revoir!*" LANNOUZY, speaking for France, obtained an ovation; SIMENA for Spain was also well received. PAVY was received with a burst of cheers, and in clear tones made an excellent speech in English. Several other members followed, among whom Osawa (Japan), Wenckebach (Holland), Bourget (Switzerland), and Zoëros (Turkey) may be mentioned. Blondel, speaking as the representative of the medical press, closed this part of the programme.

The MAYOR (Dr. Bárczy) expressed his gratification at having been able to take some part in the successful meeting, by representing the town and receiving the members, who included the most celebrated medical scientists, in the municipal buildings. He was able to assure himself of the immense importance of the meeting for the public weal, and concluded by taking leave of the members in the name of the people of Budapest.

Count APPONYI rose, and stated that he had come to the closing session without having prepared a speech, trusting that some ideas might come to him from the speeches of the foreign delegates. The hope had been fulfilled when the delegate of Denmark had spoke his three words. "*Merci.*" He extended thanks to science, thanks to all the eminent men of the world of culture for the light which they had shed and for the warmth of their hearts, which

had left indelible impressions behind. "*Adieu.*" In wishing the members good-bye, he was able to express the hope that the advances recorded and the gain registered at the Budapest Congress would find an endless continuation in the development and endeavours of the medical world. "*Au revoir.*" Here he had some difficulty, for, as representative of the Hungarian Ministry, he would not even have the right to attend the next Congress. But, inasmuch as it is the duty of the Minister of Education to follow the advances in medical sciences, he felt that by knowing what the medical men in every country had done, and were doing, he would constantly be with the profession, and he was, therefore, justified in modifying the three words, "*Merci, adieu, et nous nous verrons toujours!*" The speech called forth loud and prolonged cheers. Finally, the PRESIDENT declared the Congress closed.

(To be continued.)

SCHOOL ATHLETICS AND BOYS' RACES.

WE have received from the Medical Officers of Schools Association a report of a discussion on *School Athletics and Boys' Races*,[1] a discussion which was evoked by the letter which appeared in the daily press last January signed by Sir Lauder Brunton, Sir Thomas Barlow, Dr. James Goodhart, Dr. Hale White, and Sir Alfred Fripp. The following review of this discussion should be read in connexion with the papers on the medical aspect of athleticism read at Belfast and published elsewhere in the present issue. The signatories of this letter stated that they considered "school and cross-country races exceeding one mile in distance wholly unsuitable for boys under the age of nineteen, as the continued strain involved is apt to cause permanent injury to the heart and other organs." Dr. William Collier, of Oxford, opened the discussion, and after expressing regret that the letter was ever written pointed out that "it was likely to weaken the confidence parents should have in the medical officers of our schools." He asked "Why did the signatories wait for a prominent football player to get this information out of them?" Sir Lauder Brunton a year and a half ago was president of the International Congress on School Hygiene. Sir Thomas Barlow and Dr. Goodhart had both been presidents of the association, an association established for the express purpose of discussing everything connected with the health of the schoolboy. "Surely they might have suggested the subject for discussion if they had been so much impressed with the dangers of long-distance running." Forty-two years ago Mr. Skey, a then well-known London surgeon, raised an outcry against the university boat race, and asserted that many a constitution was ruined by that race. Dr. Morgan of Manchester carried out an exhaustive inquiry into the after-health of competitors, and proved that the number of men injured by the boat race was very small indeed. Even in this small number the proof of injury by racing was far from convincing. Drs. Blake and Larrabee, between 1900 and 1903, carried out a set of observations on Marathon runners in Boston, and reported that:

> The Marathon races of the past five years prove that it is entirely possible to train considerable numbers of picked young men to develop speed far beyond anything obtained in modern armies.
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> Mobility of armed forces is admitted to be of the first importance.
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> If we consider the speed at which the winners ran, the character of the roads, the frequency of hills, and the oppressive atmospheric conditions, it seems marvellous that the human body can be trained to withstand so much with so comparatively little depression. The unpleasant results of longest duration seems to have been blisters on the soles of the feet. In the entire three years we neither saw nor heard of any serious persistent after-effects, and it has yet to be proven that even strenuous contests leave behind them a permanent injury.

These authors, just as Dr. Collier and Sir Clifford Allbutt, rightly describe the hypertrophy of the heart which is found in the athlete as a physiological reaction, natural and beneficent, just as are the enlarged biceps of the blacksmith. In six out of eighteen of the Marathon runners systolic murmurs were audible over the heart just before the race at the starting post. These murmurs were attributed to disturbed action under nervous excitement, as athletes examined by Williams and Arnold in 1899 some days before a Marathon race had none. In several systolic murmurs were audible after the race; their capricious occurrence, variable locations, and fugitive characters suggested that no one cause accounted for them all. Three were cardio-respiratory, ceasing on holding the breath, and three apical systolic murmurs. Sphygmographic records signified a great fall in blood pressure and dicrotism, facts confirmed by the recent sphygmometric observations of Drs. Hill and Flack on boxers. Blood counts showed an increase of polymorphonuclear and large mononuclear capsules. The body temperature in most rose, in some even to 104.4° F., just as Drs. Hill and Flack have observed temperatures of 104° and 105° F. in English athletes after a three-mile race. This is a physiological reaction. The urine in every case showed the presence of albumen, which lasted some thirty-six hours, there were very many hyaline and granular casts, with a little blood in the sediment. Dr. Collier says that in the past he has advised many an athlete to give up because he found a cloud of albumen after exercise. He now advises nothing of the kind, for, after systematic observation of 156 specimens of Oxford undergraduates, 130 showed a cloud of albumen, while, of 38 boys after racing, 37 showed traces. How many men must have been warned off healthy and enjoyable exercise by the finding of albumen, which cannot be considered otherwise than a physiological phenomenon after severe muscular exertion! The wearing off of a little kidney substance is of no greater import than the wearing off of the skin of the soles of the feet. Repair puts both skin and kidney right.

At the two universities some 1,300 men enter each year most of whom come from public schools, and many of them in the first year pass under medical inspection. The opinions of the medical men at Oxford and Cambridge, including the evidence given by Sir Clifford Allbutt, is that damage to heart and lungs caused by over-exertion in school races and other forms of school athletic exercises is extremely rare. Sir Clifford Allbutt said that:

> For thirty-five years he has been watching for cases of injury to the heart done by boys simple and solely by over-exertion at some game. He did not say he had not seen any harm at the university, but it was strange that when he had so many medical friends all over England who had sent their boys up saying they wished him to look them over, he had never seen an instance in which he had reason to suppose that any particular harm had been done by exercises.
>
> When undergraduates got overstrain of their hearts through exercise there was nearly always a previous infection.
>
> The young and healthy heart was so resilient that it was, he believed, impossible for any harm to be done to it by any effort which the boy's own muscles were able to entail upon it. He did not see any permanent harm in these cases where school races were indulged in, unless the boys were untrained or there had been some previous infection.

These opinions were confirmed by Dr. Armstrong of Wellington College. Some 3,000 boys had passed through his hands in twenty-five years, and nothing but good had come out of the sports, properly regulated. He had circularized the long-distance runners among the old boys of the last twenty years, and had received over fifty replies stating that nothing but good had come from their having taken part in cross-country races. Dr. Robert Michell said that, as far as his experience went at Cambridge, it was a very rare occurrence for a healthy man to do himself any harm while training for or taking part in an athletic contest. This opinion he based on the facts obtained by overhauling a comparatively large number of undergraduates when healthy as well as when ill.

Out of 38 school medical officers 29 do not know of any case of permanent after-damage from athletics: 9 mention instances in which they believe harm has resulted from house runs, rowing, gymnastics, or where boys have been allowed to take part in the above without previous medical examination. In these cases we require the careful elimination of cases, whereof infection, undetected heart lesions, etc., before we can ascribe any importance to them in the face of the overwhelming negative evidence of the 29 and the "Varsity" practitioners. Neither Sir Lauder Brunton nor Dr. Goodhart, who spoke at the meeting, instanced any cases of permanent harm which had come under their review. Certain resolutions were submitted

[1] *School Athletics and Boys' Races.* By William Collier. Issued by the Medical Officers of Schools Association. London: J. and A. Churchill. 1909. (Demy 8vo, pp. 32. 1s.)

to and approved by the meeting, the more important of which insisted on—thorough medical examination of every boy on entering school; observation of effects of games on young and new boys; interval of one hour at least between the previous meal and active exercise (to neglect of this simple rule is attributed the cause of most of the evils attributed to over-exertion); caution in resumption of games after convalescence from diphtheria, influenza and influenzal catarrhs, rheumatism and measles: caution during a period of rapid growth; grouping of boys of like strength for runs suited to their strength. Games and athletic exercises are absolutely necessary to ensure proper development, to prevent loafing and immorality. The discipline of games is of the highest value in training and developing both body and mind, certainly of no less value than that of school work. The point for attack, we believe, is not the indulgence of boys in games, but the pernicious habit of making the boys who should all be playing watch the school eleven or fifteen, and loaf or shiver round the playing fields on a half-holiday.

LITERARY NOTES.

AMONG the autumn announcements of the Oxford University Press is a new edition of Sir Thomas Browne's *Religio Medici*, with Sir Kenelm Digby's observations thereupon. The volume forms a part of the Tudor and Stuart Library. From the same press will issue the following volumes of the new translation of Aristotle's works appearing under the editorship of Messrs. J. A. Smith and W. D. Ross: *Historia Animalium*, by D'Arcy W. Thompson; and *De Mirabilibus Auscultationibus*, by L. D. Dowdall.

Messrs. J. and A. Churchill's *Illustrated Catalogue* for October, 1909, may be commended to all intending purchasers of books dealing with medicine and science. It is well arranged for easy reference. The books are classified under thirty-four heads, and many specimen illustrations are given. A glance at the Index to Authors shows the important nature of the works published by this well-known firm.

Messrs. Rebman, Limited, will publish about October 1st a romance entitled *The Prince of Destiny*, by Sarth Kumar Ghosh, which is described as presenting a picture of Indian life from the inside, with its social customs and moral ideals, its eternal patience, its religious fervour, its passionate love. The book is also said to reveal the Indian view of the causes of the present unrest, and Britain's unseen peril in India.

In *Old Etruria and Modern Tuscany*, by May Lovett Cameron, recently published by Methuen, it is stated that in regard to scientific knowledge the Etruscans were at least the equals of their contemporaries. They had an extremely accurate method of determining time, which, strangely enough, was also known to the Mexicans. Long periods were measured exactly by astronomical calculations and formed the basis of their calendar. Surgical instruments have been found which show that in the knowledge of anatomy and of the methods of treating disease they had anticipated some of the latest discoveries of our own times. Dentistry was also practised, as is shown by the gold settings of the false teeth in a skull from Falerii in the Papa Giulio Museum at Rome, and in the complete set of teeth found at Corneto.

In Messrs. Methuen's *Illustrated List of Announcements of Forthcoming Books for the Second Half of the Year 1909* we find the two following books dealing with medicine: *Air and Health*, by Ronald C. Macfie, M.A., M.B., and *The Hygiene of School Life*, by Dr. Ralph H. Crowley, late Medical Superintendent Bradford Education Committee. The physical condition of the child is dealt with, stress being laid upon the defects and diseases which have more especial connexion with school life. Medical inspection in its newer aspects is fully considered, and particular attention is paid to the more important of the special groups of school children, such as the feeble-minded, epileptic, blind and deaf, crippled, etc. A chapter is devoted to the treatment of defects and diseases, and particular attention is given to the more recent developments of school hygiene, such as the provision of meals to school children, the provision of school baths, physical exercises, the open air school, the school clinic, etc. Two chapters are given to the infectious diseases connected with school life. In regard to the surroundings of the child, school planning and the problems of ventilation are dealt with in one chapter, and in another the general equipment of the school building.

We have received from the Editor of the *Medical Officer* a bound and indexed volume of the special issues of that journal which appeared daily as the official journal of the recent Leeds Health Congress. The price is 2s. post free, net, and those who may wish to possess this valuable record can procure it from the publisher of the *Medical Officer*, 36–38, Whitefriars Street, E.C.

The Edinburgh Parsi Union has issued a booklet *In Memoriam* of Dr. Cawas Lalcaca, who was murdered at the London Imperial Institute when attempting to save the life of Sir Curzon Wyllie on July 1st. It gives an account of his life and of the tragedy which ended it, together with the numerous tributes to his character which appeared in the newspapers at the time. The booklet, which is justly described on the cover as "the record of a brave deed," can be obtained from the Edinburgh Parsi Union, 38, Chalmers Street, Edinburgh. The entire profit of its sale will be devoted to the perpetuation in some suitable form of the memory of Dr. Lalcaca.

In the *Recollections of a Long Life*, by Lord Broughton, Byron's friend, recently published by Mr. John Murray, there is the following entry among the chronicles of 1814:

> Miss Bayley told me to-day that Mr. Phipps, the oculist, told a gentleman, who told her, the following anecdote of the late Duchess of Devonshire. Mr. Phipps was sent for to Chatsworth to operate upon the duchess's eye. He stayed there some time, and at parting received from the duke a fee of £1,000. Just before he stepped into his carriage a message from the duchess brought him to her chamber. She hoped the duke had done what was handsome by Mr. Phipps. The gentleman protested, "Yes, and more than handsome." "It is an awkward thing," continued Her Grace, "to ask, but really I am *at this moment* in immediate want of such a sum, and if you *could*, Mr. Phipps." What could the oculist do? He produced his £1,000, took his leave, and has never heard of his money from that day to this.

This is about as impudent a way of swindling the surgeon out of his fee as we have come across. And the duchess had not even the excuse of a hen-roost-robbing Budget to plead in palliation of her meanness!

In the *Book of the Chronicles of Keith, etc.*, by the Rev. J. F. S. Gordon, D.D., printed at Glasgow in 1880, there is a curious account of an old medical worthy of that northern town, written by James Henry, a local watchmaker, in 1832. Dr. William Douglas, who died some thirty years before that date, was celebrated for his humanity and professional skill, and also for his eccentricities. After completing his studies he intended to go to India, but was accidentally detained by a summons to attend a patient in Keith. One patient brought another, and the number increased to so encouraging an extent that he determined to fix his abode among people so appreciative of his merits. He gained a great reputation, and patients came to him from distant parts. He took care to keep himself abreast of the medical science of his time, and collected a large library. He was deservedly held in universal respect for his learning and integrity, but his eccentricities doubtless helped to keep his memory living among the people of Keith long after his death. He was a man of herculean frame with strongly marked features. His costume was that of the old Scottish fashion: he wore a large "Tie-Wig" and carried a gold-headed cane of bamboo. Of the stories told of him only a few examples can be given. A purse-proud matron who had occasion for his services took care to remind him that she was the "Guidwife o' Boat o' Brig," but to this the doctor merely answered, "Aye, aye," adding "an' ye're the Guidwife o' Boat o' Brig?" The lady on asking his fee was somewhat taken aback by its amount. Immediately after her departure some humbler patients were attended to; and, on their anxiously inquiring what they had to pay, they were informed that "the Guidwife o' Boat o' Brig had settled their account"! Another guidwife asked the doctor about her eyesight: "I wunner fat maks my een so weak in the mornins?" Quick and sharp came the reply: "Just, guidwife, because they are in a weak place." On another occasion the doctor was called to see a sick lad, and prescribed syrup of buckthorn or *Ramus catharticus*, writing it, according to the customary abbreviation,

"R. Syr. Ram. Cat." Soon afterwards the mother came and upbraided him for trying to "mak' ony ane tak' *seerup o' Ram's Guts*." The answer was racy if somewhat rough: "Faugh, Bach, Ach! Ye bullheaded fat SOO! Gae hame wi' ye, and gar yer loon take the *Recipe*, neither frae a Ram nor Tam cat,—but *Seerup o' Buckthorn*. Ha, ha, ha! The muckle Wife yellin' aboot *seerup o' Rams and Tam Cats*. Lord preserve us!—that beats cockfechtin'." To another woman the doctor remarked: "Weel, I see ye're progressin'. The minister has been catecheezin' in yere barn last ook." "Oo, aye; speerin' and speerin'; he speert fat I was compos'd o'." "Fat said ye to that?" "*I said that we wer' a' fearfully and wunnerfu' made*." "Faugh! tell him fan he speers at you again—that an umman is composed o' twa hunner an' forty-three banes, a hunner and saxty-nine muscles, an' three hunner an' saxty-nine *Pins*; faith ye'll blek the minister: tell him to back speer ye there." "Doctor," said another dame, "examine my tongue an' tell me what it needs." "It needs rest," was the doubtless appropriate reply.

CERTAIN BIOLOGICAL PHENOMENA IN CONNEXION WITH CANCER.

OVER and over again we have uttered a word of warning against far-reaching deductions from experiments in connexion with malignant disease. As a rule, as soon as an observer comes across a new phenomenon or a new variation of an old one, theories are built up and a plan of treatment is evolved which is described as the long-sought cure for cancer. Each new observation contributes to the fund of knowledge, which in time must inevitably lead to the clear understanding of the pathology and etiology of cancer. Our warning is merely directed against premature interpretation of stray facts, and building up a house on the foundation of a single brick.

Professor Spiro Livierato, working apparently under Professor Maragliano,[1] has sought for a means of diagnosing gastric cancer, and has found that the gastric secretion in cases of cancer of the stomach together with an extract of a neoplasm is capable of inhibiting the solution of blood corpuscles in a haemolytic system. He speaks of antigen in this case, but in order to keep an open mind and not to confuse the issues it will be better at present to name his reagents according to their origin, and not according to what they are supposed to be. The reaction is carried out as follows:

Gastric fluid is obtained from the cancer patient as usual, filtered under pressure aseptically, neutralized with 10 per cent. caustic soda, and heated for one hour to 60° C., and then preserved in the cold.

The extracts are prepared by grinding up mammary carcinoma or sarcoma of the skin with sterile glass fragments in sterile physiological saline solution. A few drops of chloroform are added; the mixture is then placed for twenty-four hours in the incubator and filtered through a sterile paper filter, after which it is placed in tubes and kept in the cold room.

One-tenth of a cubic centimetre of normal guinea-pig's serum (containing complement), from 1 to 1½ c.cm. of gastric juice, prepared as above, and 1 or 1½ c.cm. of the cancer extract are placed in test tubes. After shaking, the tubes are allowed to stand at room temperature for four hours, and then the haemolytic mixture, consisting of 0.2 c.cm. of the serum of a rabbit previously treated with ox blood corpuscles and 0.8 c.cm. of an emulsion of ox blood corpuscles in physiological salt solution, is added.

Of 8 cases of cancer of the stomach tested in this manner, the inhibition was complete in 7, while in 1 only traces of solution of the blood cells were seen. On testing the gastric juice of healthy persons or of those suffering from affections other than cancer, haemolysis took place in each case. Six such gastric juices were examined. Professor Livierato records these facts, and states that up to the present it is not easy to explain them. He believes that the inhibition cannot be the result of mere accident.

In recording these experiments, it seems to be necessary to consider what the reagents contain, in order that when these investigations are repeated by others and extended, it may be seen in what respects such phenomena are parallel with other forms of inhibition of haemolysis. As far as the haemolytic system is concerned, the constituents are identical with those used for other purposes. It will be remembered that Ehrlich and Morgenroth described the process of haemolysis as the action of complement, present in normal serum but destroyed by heating to 56° C., on blood cells through the intermediation of a specific amboceptor, which is produced as a reaction-product by the injection of blood cells into an animal of another species. The complement can act only in the presence of this amboceptor. Wassermann, Bruck, and Neisser, in describing complement deflection in connexion with syphilis, state that when the serum of a syphilitic patient and an extract of a syphilitic organ were mixed with the haemolytic system, the complement was deflected from the amboceptor, and no solution of the blood cells took place. Later investigations showed that the extract of the liver of the syphilitic infant could be replaced by other fluids, and it therefore became doubtful whether Wassermann's interpretation that the extract acted as an antigen—that is, the substance causing the production of the antibody—could be accepted. If the antigen theory were true, it would mean that that portion of the poison of the virus which produces an antibody in the organism, joined chemically to the antibody, forms a compound which has a greater affinity for complement than the specific amboceptor has. But, even if the antigen theory is not accepted, it can still be said that the antibody produced as a reaction product by a disease poison together with another chemical substance forms a compound which combines with the complement with avidity.

To return to the gastric juice, it seems that after neutralization with caustic soda and heating, both the free acid and the pepsin and rennet as such must be destroyed. The juice would then no longer be a digestive substance, but must contain a number of constituents of which we have no knowledge. If the substitution of the gastric juice of normal persons for the cancerous gastric juice is not followed by the same inhibition, then it is clear that this juice must contain something which the normal gastric juice does not contain. The fact that it combined with the extract of a malignant tumour need not mean much. That the abnormal constituent is not likely to be a simple compound, like sodium lactate, is evident from the knowledge obtained as to other forms of haemolysis inhibition. Other products of partly disintegrated proteid, however, might take a part in the reaction, and it is therefore necessary for the biologist to ascertain whether the reaction is truly specific for the gastric juice of patients suffering from cancer of the stomach; whether the extract can be replaced by other substances; whether the reaction is influenced by the type of gastric juice, including the pepsin and acid content before treatment; and whether other fluids of the body have a similar action. These and many questions need investigation before the diagnostic significance of the reaction can be established.

[1] *Berl. klin. Woch.*, vol. i, No. 17, 1909.

LUNACY IN EGYPT.

IN the summary of the annual report for 1907 of Dr. John M. Warnock, the Director of the Government Hospital for the Insane at Abbassia, near Cairo, published last year, allusion was made to the fact that, although the asylum accommodation had that year been raised to 877, there was already at the end of the year an excess of 19 patients over accommodation. The report for 1908,[1] recently received, shows that at the end of that year the patients had increased to 1,017, an excess of 140 over the provided accommodation. Actually there was an excess of 161 in the male wards and 21 vacancies in the female wards. Owing to want of accommodation numbers of insane are discharged. Care is taken to select the most peaceably disposed, but, notwithstanding this, the results, Dr. Warnock says, are often disastrous. Of this he gives a few examples: Two committed suicide two months and another four months after discharge; one killed his wife a fortnight, and another committed murder a month, after discharge, and another broke his father's ribs in the same month in which he was discharged. The written promises made by the relatives to take care of these discharged patients have been found to be worthless. Both lunacy organization and lunacy legislation in Egypt

[1] Fourteenth Annual Report of the Egyptian Government Hospital for the Insane. For the year 1908. Cairo: National Printing Department. 1909.

appear to be very defective, and the regulations which exist are frequently contravened. Certificates have to be returned for the correction of glaring mistakes; foreigners are occasionally admitted without consular order, and many of the ordinary certificates are found to be worthless as evidence of insanity. Dr. Warnock says that in some cases it takes months to get the certificates corrected, after prolonged correspondence, and that by the time this has been done the patient, on several occasions, has died or been discharged. Many patients are brought to the asylum without certificates, and the responsibility of admitting or rejecting is left with the director. Some of the rejected cases have returned home and there committed crimes. These are only some of the difficulties which Dr. Warnock encounters, and we hope that he will soon be able to secure the reforms for which he is pressing.

Statistics.

On January 1st, 1908, there were 896 patients in the asylum, and on December 31st there were 1,017. The total number treated during the year was 1,489, and the average number daily resident 952. During the year 593 were admitted, of whom 472 were first and 121 not-first admissions. Of these 27 were admitted severely ill or injured, most of whom were not in a fit state for removal. Eleven were already moribund from illness or injury, and the remaining 16, with the exception of 3 who had enteric fever or severe diarrhœa, had either broken bones or cut throats. Of the total admissions 335 were dangerous and 197 suicidal. The admissions were classified according to the forms of mental disorder as follows: Mania 130, melancholia 37, chronic mania and dementia 66, pellagrous insanity 88, insanity from hasheesh 36, insanity from alcohol 35, general paralysis 33, adolescent insanity 31, weak-mindedness 25, epileptic insanity 21, senile insanity 19, imbecility and idiocy 17, puerperal insanity 6, post-febrile insanity 5, paranoia 4, traumatic insanity 3, organic dementia and morphinomania 1 each, and not insane 12. The large number of cases of pellagrous insanity and hasheesh insanity, the small proportion of cases of melancholia, and the fact that the general paralytics (nearly 6½ per cent. of the male patients admitted) form about the same proportion of the admissions as in England and Wales are worthy of note, more particularly because it has been stated on more than one occasion, and that recently, that in Mohammedan countries where syphilis is rife, general paralysis is rare.

With regard to causation, the relative importance of hasheesh, alcohol, pellagra, epilepsy, congenital defect, old age, the puerperium and injury has been given above. To these, however, may be added syphilis in 25 and mental and moral stress in 29. Dr. Dudgeon, Subdirector, reports that 24 of the 33 general paralytics, or 75.7 per cent., had symptoms or gave histories of former syphilitic infection. Also 29 of these were men and 4 women, and most of them dwellers in towns.

The results of an interesting investigation by Dr. Dudgeon into the atoxyl treatment of pellagra is contained in the report. Atoxyl was given hypodermically in 158 cases, each case being injected six times, extending over one month, so that each received 1 gram of pure atoxyl. Other cases, in which the treatment was stopped before reaching the above dosage for various reasons, are not included in his figures. Of the total 158, 93 did not improve; and 65, or 41.1 per cent., did improve; whereas, of 216 cases of pellagra of the 1907–8 admissions not treated with atoxyl, 101, or 46.7 per cent., improved. These results, therefore, do not confirm the Roumanian observations quoted in last year's report, but show that the value of atoxyl, in the treatment of advanced stages of pellagra at any rate, such as are met with in this asylum, has not been demonstrated.

Discharges and Death.

During the year 85 were discharged as recovered, giving a recovery-rate on the total admissions of 14.3 per cent.; 216 as relieved, 50 as not improved, and 14 as not insane. During the year also 107 died, giving a death-rate on the average numbers resident of 11.2 per cent. The deaths were due in 44 cases to cerebro-spinal diseases, including 22 deaths from general paralysis; in 19 to chest diseases; in 16 to abdominal diseases, including 10 deaths from dysentery and diarrhœa; in 2 to the results of violence; and in the remainder to general diseases, including 10 deaths from tuberculosis, 8 from pellagra, and 3 from bilharzia disease. Serious but non-fatal accidents were numerous, 15 involving fractures of bones. Mechanical restraint by means of camisole was used for a total of 4,946 hours, and the amount of seclusion remained high on account of the number of homicidal criminals detained at this asylum.

PERSONAL EXPERIENCES ON EMIGRANT SHIPS.

[FROM A CORRESPONDENT.]

"SAY not thou, 'The former times were better than these,' for thou dost not enquire wisely concerning this." The preacher might have uttered a converse word of as much wisdom; "Say not thou, 'The former times were much worse than these.'" The fact that conditions on emigrant ships are much improved compared with what they were fifty or even twenty years ago, does not mean that they are as yet anything like what they should be.

It has been the present writer's lot to travel in various capacities and various classes on emigrant and other boats. The personal experiences of a medical practitioner, not the paid servant of a steamship company, may be useful, particularly when it is considered that the bulk of emigrants are usually rather ignorant people, who have little idea how to ventilate their wrongs. In any case, steamer grievances are apt to be forgotten in the stress and strain of a start in a new country. It is only the thoughtful observer who realizes the possibly lasting consequences of bad hygienic conditions.

The longer the journey and the worse the climatic conditions, the more serious are the consequences. For this reason, Australian and New Zealand emigrant ships should be most carefully regulated. On the whole, I have come to the conclusion that British ships are better regulated as regards actual safety of the vessels and proportion of air and floor space per passenger, while voyages on an Italian, a German, and an English emigrant ship in succession made me conclude that there is not much to choose between them in quality of rations, though the quantity seemed on the whole more liberal on the German boat.

The great grievance on all boats (except, of course, first-class on the Atlantic fliers and by the Anglo-Indian liners) is the cooking. No doubt ventilation, sanitation, and cooking are all rendered much more difficult by shipboard conditions, but British lines have done much in the first two matters and are being closely followed by other flags, and surely the last word has not been said on the third. Board of Trade regulations in the case of ships clearing from British ports, and competition in the case of foreign ships, insist on inspection (usually medical) of the quality of a ship's stores, and the scale of food per passenger is usually posted in conspicuous places or put on the reverse of the ticket. Most companies, in the highly-coloured pamphlets they issue to attract passengers, add that, on the recommendation of the ship's doctor, special diet is given to women, children, and invalids.

What is needed, however, is inspection during the voyage, and this not by the ship's doctor, who is in a hard position between the Scylla of his duty to his profession and his patients and the Charybdis of his obligations to his employers. Only on an Italian Atlantic steamer have I met a doctor specially appointed by Government to the charge of emigrants, besides the ordinary ship's surgeon. Such an inspector, naturally a medical practitioner, might well be carried during the emigrant season by every boat taking more than, say, 100 third-class passengers. It should be his duty to inspect the passengers on sailing and on arrival and at weekly intervals, the women and children, say, twice a week. This would prevent such scandals as the use of public baths and wash-houses by persons with scabies and impetigo, if not actually with venereal skin lesions, till at last the infection of clean and healthy persons, or the nervousness of decent passengers, calls the attention of the ship's doctor to the matter.

Any one who has witnessed the embarkation at Syrian ports of passengers, many of them children, some perfectly healthy, others in all stages of ophthalmia from granular

to purulent, is struck by the folly of exposing the healthy to the imminent risk of contamination. Unfortunately the Oriental is the worst sufferer from ophthalmia, and his characteristic wiliness often supplements his defective physical sight organs. The Syrian, on his way to his El Dorado, America, changes ships at Marseilles; the Levantine, to avoid a ticket with the suspicious superscription of "Port Said," takes a cheap deck passage from Alexandria to Naples, and there, posing as an Italian, catches a big Australian liner. It can hardly be expected that all colonial immigration officers shall be conversant with Arabic, and so weakly Orientals of the lowest classes land in the new countries, to spread the diseases and, one must add, the habits of the worst part of the East. A medical inspection would prevent women in the first stages of septicaemia from self-procured abortion from remaining in stuffy cabins, a danger to themselves and every one else. The presence of a Government official would also prevent the treatment of fractures in parts of the ship subject to the maximum of movement.

One of the duties of the Government inspector should be to attend the third-class meals, actually tasting the dishes provided. I have known potatoes left wholesale by hungry men because absolutely unpalatable for lack of salt, and beef-tea served to children so salt that their ulcerated mouths forbade their taking it. I have seen roast pork and apple dumpling served as a Sunday dinner on the day we crossed the line, and have not marvelled at the hard run on patent pills during the next twenty-four hours, nor at the number of quarrels even ending in blows. I have seen good condensed milk so diluted as to be merely opalescent water, but the only nourishment children under a year could get, and on going on deck after meals have seen buckets of this thrown overboard. Allowing one tin of milk to each bucket, it would surely have been better to use it to improve the quality of the babies' milk than to throw several tins daily overboard.

The inspector I dream of could remedy all this, and with no extra expense to the company. It may be said that mothers and sick people can apply to the doctor; they are sometimes too ignorant, sometimes too long-suffering to do so, until serious mischief has resulted. The ship's doctor is often in a very unsatisfactory position; he can only *recommend* alterations to the purser, and his own life would often be unendurable were his recommendations to become even troublesome, and still more if expensive. Moreover, he has his duties to officers and crew, and to passengers of other classes. His tenure of office is often limited to one voyage, and he is very frequently a young man with little knowledge of how to get things done with least friction. Lastly, in my view (perhaps Utopian) an emigration inspector would promote ventilation, sanitation, and cleanliness. The presence of persons from Eastern and Southern Europe, from Egypt and the Levant, as well as from Indian ports, is usually signalized at once by the state of the lavatories. The cleanest lavatories I have seen were on the Italian ship referred to, where the authorities were evidently apprised of the squatting attitude adopted by the races above mentioned in defaecation. There were no seats, but a marble platform with a central hole, rests for the feet, and supports for the hands, and a gentle flow of water was secured over the platform. Another very clean idea I found in a port of the Mediterranean—a watercloset with a horseshoe seat, the portion which would fall under the pubes being omitted. The next cleanest boat I have observed was one of the North German Lloyd, where special lavatories were told off for "Italians"—a generic term for all dark-hued persons getting on at Naples, and, as I have said before, usually hailing from North Africa, Egypt, and Syria. In all the lavatories there was a flush of water every minute from an automatic tank. The hospital bath was reserved for children every afternoon, and a stewardess was in attendance, thereby reducing the spread of contagious and infectious disease through ignorance to a minimum. Ample accommodation was provided for third-class passengers wishing to wash their linen, and a Chinese laundry on the boat washed for those able to pay.

Finally, a Government official actually travelling with the boat would be far better able to judge than one in a port of the actual working of the arrangements *while at sea*. I have seen staircases so dangerous that on an American run the ships concerned would have advertised "carry men only," and yet women travelling alone to join their husbands and usually encumbered with infants had to haul themselves up and down as best they could, in storm or calm. There is a tendency to forget that, though perhaps the majority of emigrants still consists of lads and men of active habits, there is now an increasing proportion of women and children, and even of old men and cripples, going out to join relatives who have already made their start on the land. There is an increasing proportion also of people of the respectable, and even of the educated, classes, who cannot afford even second-class rates on a long voyage, but suffer intensely from such avoidable evils as I have alluded to. The restaurant system, with a library attached, to which admission could be gained by a small fee, and the provision of a lavatory worked on the "penny in the slot" principle, and looked after by an attendant, would be a great boon to occasional third-class travellers.

Nova et Vetera.

DOCTOR AND PATIENT IN 1775–6.

OUR nomadic modern habit of living in a hired house for the term of a short lease and then flitting to another, coupled with a certain contempt, inherited from utilitarian mid-Victorian forbears, for everything belonging to the ages previous to our own, is an influence entirely hostile to the preservation of old prescriptions, and those kindred *obiter scripta* which are so dear to the heart of the medical antiquarian. We have known the modern suburban leaseholder to tear up everything left behind in writing by "dear papa," lately deceased, on the ground that the latter, being a very learned man, left a great litter of papers behind him, of which it was a pleasure to rid the house at the earliest opportunity. Of course, some confidential matter is thus rightly destroyed, but much is denied to posterity which the latter has a right to be shown. If eighteenth or early nineteenth century trivialities of a medical kind, or, indeed, of any kind, have by any chance survived to our own days, we may be sure that they have owed their preservation to mere chance in the first few years of their existence. After these first few years, perhaps they have survived for other reasons—because they look old and faded, or merely quaint. It is the first decade of the existence of a trivial old document which decides its fate.

We have lying before us a quaint correspondence between doctor and patient, or, rather, the letters of a doctor to his patient and to his patient's other medical adviser, which owe their continued existence to the accident of their having been forgotten in a dower or muniment chest, which for generations stood secluded in the laundry of an ancient house in Shropshire. It was probably nobody's business to destroy these papers, which were put away in the first instance by an anxious invalid of the kind that sets great store by medical instructions, even when he neglects them.

It is not of course a very important correspondence. John Hunter or Sir Astley are not advising a great statesman as to how to preserve his health. On the contrary, an unknown Worcester physician, a certain Dr. William Thomson, is advising, as doctors in every age have been compelled to do, a self-indulgent and apparently not too candid patient (a Mr. Walker, whose house has vanished, like that of Tennyson's Aylmers) how to combat a disease caused in some measure by alcoholism and indolence, as well as by a radically wrong diet. The letters are very conscientiously written, if we bear in mind the fact that Dr. Thomson is indebted to Mr. Walker, the Squire, for sundry guineas and presents, which would be enough in themselves to silence the voice of righteous protest in ears less sycophantic than were found in the eighteenth century.

The Squire appears to have been what was called a scorbatic subject, and his correspondent writes to a Ludlow surgeon as a preliminary to addressing the patient himself. It is a sensible letter, a fair specimen, probably, of the correspondence of medical men in 1775. The object to be aimed at is that the sufferer should "clear any of his bowels that may have been obstructed." The use of water impregnated with "the neutral salts" is advised, as also "moderate and long-continued exercise on horseback."

"Were he to come every morning from Fernyhall to Saltmore, and drink two or three pints of that water, and then ride back to dinner, I think he would soon find the good effects of it, especially if he were to wash his legs with the same water three or four times in the day, which might easily be contrived, if his servant will carry home a quart bottle of it every day."

The idea that two pints of water are enough for a foot-bath, that will be taken several times daily, is surely characteristic of the eighteenth century, that little-washing age, which has handed on to us the smallest washstands of Chippendale design it is possible to imagine. There follow some curious notions on the subject of sea-bathing, then in its early infancy. "I agree with you that the sea water would probably be quicker in its effect, if he were to go to the seaside and drink as much of the water as would purge him 4 or 5 times every morning, and at the same bathe in the sea every day, or every other day, and besides that, wash his legs frequently through the day with the sea water."

A prescription, not preserved, seems to have accompanied the letter, but it must have been voluminous, to judge by others that remain. "During the use of the prescription he should use a cold bath every 3rd morning." This, of course, reminds us that the daily cold tub is quite a modern fad, introduced into England from India by retired army men as late as 1845, or thereabouts. When we say England we mean expressly to exclude Scotland, for a friend, whose memories reach far back, reminds us that, in the Fifties, he heard an old lady north of the Tweed addressing her military guests overnight in some such words as these: "And ye'll no require cauld baths in the morning, or any o' that nonsense!"

A second letter, dated June 14th, 1775, expresses sorrow that the Squire labours under a difficulty of breathing. "But as you say it is temporary, and only affects him in a morning, and as you do not mention any constant and troublesome cough, I flatter myself there is no obstruction in the chest, and that the whole is scorbutic. The decoction of the bark with Oxym. Scill. is a good medicine upon either supposition, and I would wish to have it tried; but if it does not remove the complaint, I would recommend the following." The prescription, owing to old abbreviations, is beyond present day deciphering, but it contains quinine and opium. "I must, however, again recommend it to him to rely greatly on his horse, whom he will find the best Doctor among us. If he would take a little round in some of his neighbouring counties, and thereby vary the air and the scene, he would find his account in it."

Here, then, we have the beginnings of the tour in search of health, which is not as modern as some suppose.

The three letters in this small collection which are addressed to the Squire himself are couched in terms of great respect. "Before I prescribe for you," says the writer, "I must beg leave to enquire a little about this frequent making of water in a morning after drinking your chocolate. Is it discoloured?" and so forth. The patient of course is the last person who can give accurate particulars as to himself, and we find him with a tippler's subtlety suggesting that he should drink a particular water; for his adviser commends the water in a hopeless kind of way. After which we hear no more about it.

Quaint details as to diet occur. The patient is to eat fish, if it be not fat, or rich, as we should say. "I will speak to one of our fish-catchers, whom I can depend upon, and get a salmon killed on the morning the post sets off for Ludlow." The post, however, seems unwilling to carry fish, for the voyage from Worcester to Ludlow appears to be a long one. Still a salmon is got through to its destination. "The fish was pretty large and the woman cut off more than she intended. You had nine pounds and a half at a shilling a pound, which, to me, appears an extravagant price, but I can tell you you have it cheaper than any I have bought myself this spring. You may be sure I do not buy it often." At the time of writing this (August, 1909) the price of salmon at Christchurch, Hants, was 2s. 3d. the pound. Lobsters also are promised the sick man, who thus does not seem to lack the indigestible.

In another letter, dated in April, 1776, two guineas and a half are gratefully acknowledged, but the treatment is not neglected. "The medicine I chiefly depend on is an electuary, to be taken twice a day, and washed down with a strong decoction of the inner rind of the elm tree. But previous to the use of it I would have you take a couple of pills, one each night, and work them off on the third day with a gentle purge." The Squire is suspected of drinking a good deal, and he is urged to take cider, if it does not make his skin itch, or "small mild malt liquor."

The correspondence ends here, and we are not informed whether the patient was cured. The bills sent him by his surgeon, Mr. Cole, of Ludlow, are partly preserved. One, a very long one, covers a period between the years 1743 and 1751, and amounts to some £98 odd. The Walker household seems to have been large, and the wagoner's and the dairymaid's bills are included in that of the master. The items mentioned are various and singular, and include such entries as Venice treacle, cordial julep, carminative purging mixture, stomach plaisters, cephalic juleps, tamarinds, corroborating pills, manna, liquorice, and a host of other small matters from a forgotten pharmacopoeia. The several items cost from sixpence to three-and-six. The bills were duly paid.

How the Squire died we are not likely to know. It seems, in some instances, to have been the grim but sensible custom of that or the previous age to go and stay with some skilled person when one felt the end drawing near, just as patients now sometimes go to a nursing home. Among the Walker papers is the following curious bill, made out to the deceased, and delivered to his attorney. The bill dates from 1734, and the dead man is a Mr. Jonas Berrington, a connexion doubtless of the family of Walker. We trust that at this long distance of time we are committing no breach of confidence in reprinting the document!

MR. BERRINGTON DR. TO JOHN DAVIS.

	£	s.	d.
Delivered a Bill to Mr. Harris Attorney ...	14	10	11½
Paid since ye bill delivd. Shirt Washing ...	0	0	9
For Damage of my Bodye Lining (? linen) ...	1	0	0
For Candles and my Chambers at his Departure	0	6	0
For two Women to Lay him out and three Nights sitting up and Eating, Drinking, and Candles at his Funeral	0	15	6
Twelve Quarts of Syder	0	4	0
For making Oath of his being buried in Woollen	0	0	6
	£16	17	8½

MUNICH ROYAL PSYCHIATRICAL CLINIC.

THE annual report[1] for 1906 and 1907 of this clinic, of which Professor Kraepelin is the director, shows that during these two years 3,746 patients were admitted, of whom 2,446 were male and 1,300 female patients. The striking preponderance of the male over the female admissions was due to the large number of cases of alcoholism treated. Inasmuch as the formation of psychiatrical clinics in England and Wales in the near future appears probable, the clinical forms and their relative frequency at the Munich Clinic are of interest. These were as follows: Alcoholism, 630; manic depressive insanity, 415; dementia praecox, 317; epilepsy, 317; hysteria, 277; general paralysis, 263; psychopathies (psychopathic personality), 237; senile dementia, 77; imbecility, 56; arterio-sclerosis, 50; cerebral syphilis, 28; idiocy, 11; paranoia, 4; various other categories (morphinism, organic cerebral disease, chorea, not insane, etc.), 98; and not diagnosed, 56.

The large number of alcoholic cases in the above list is notable, and in this relation it should be mentioned that in Munich the police have the power to take helplessly drunk and incapable or drunken and disorderly persons to the clinic, instead of, as formerly, to the police cells. Each of the clinical classes above-named is treated in the report by one or other of the medical staff, and in the following digest the more important of these are outlined.

Alcoholic Insanities.

The total number of cases of alcoholism admitted to the clinic in the two years under review numbered 791 (males

[1] *Jahresbericht über die Königliche Psychiatrische Klinik in München für 1906 und 1907.* München: J. F. Lehmann. 1909. (Demy 8vo, pp. 183; 4 figures. M. 3.60.)

692, females 99), but of these 161 were readmissions, leaving 630 persons admitted. That is, 19.2 per cent. of the male alcoholic cases and 28.2 per cent. of the female cases were readmitted, in some cases several times, during the two years. Of the 630 persons, 353 were cases of simple intoxication; 164 cases of chronic alcoholism; 58 cases of delirium tremens; 14 of Korsakow's psychosis; and 41 of alcoholic delusional insanity. Dr. Filser, who discusses these cases, analyses their total distribution according to age periods, month of admission, and so on, and shows that the cases of simple inebriety were mostly under 40 years of age, whereas the other forms of alcoholism were most common at higher ages. Of the cases of Korsakow's psychosis, for instance, only 4 were below 40 years of age, proving, he says, that this disease is the final stage of many years of over-indulgence.

With regard to the importance of hereditary predisposition to alcoholism, Dr. Filser has to acknowledge the impossibility of obtaining trustworthy histories, a difficulty enhanced by the average short stay—one to three days—of these cases in the clinic. Nevertheless, a drunken parentage was ascertained in 193, or 25.8 per cent., in 3 of epilepsy, and in 13 of other psychoses. An interesting fact disclosed was that the mortality among the children of the alcoholic patients was 45.5 per cent., to which had to be added 15.1 per cent. of prematurely or stillborn children, leaving only 39.0 per cent. who survived their first year. Dr. Filser's contribution also contains an account of the clinical phenomena exhibited by the separate classes of alcoholic patients, which, however, do not require detailed mention here. Most of the cases showed the usual finger and tongue tremor and tender calves, whilst in many cases Romberg's sign was present. Increased knee-jerks were common in the cases of simple intoxication (199 times out of 235), and the usual triad of tremor, neuritis, and Rombergism in the numerous cases of chronic alcoholism. In the great majority of the cases of this latter category, which also offered marked mental symptoms, the importance of delusions of jealousy was well shown. Possibly, as Dr. Filser suggests, these delusions may have some connexion with the heightened *libido sexualis* and lowered potency so frequently encountered in alcoholics. With regard to the true alcoholic delusional insanity (*Alkoholwahnsinn*), the disorder appeared in most cases to set in with a certain hypersensibility to sounds. To this followed suddenly the delusions of persecution and reference with definite auditory hallucinations of an abusive and menacing kind. As already said, the great majority of the alcoholic patients were discharged at the end of a few days; 13.8 per cent., however, were removed to asylums.

Dementia Praecox.

The number of admissions diagnosed as dementia praecox in 1906 was 183, as compared with 134 in 1907. This considerable fall was due to an increasing stringency of classification, the groups of manic-depressive insanity increasing at the expense of the dementia praecox group. This point is discussed at some length by Dr. Weiler, who deals with these cases. He says that an inquiry into the after-history of the 183 cases of dementia praecox admitted in 1906 showed that by the end of January, 1909, there remained in asylums still unrecovered 113, that 11 had died, that 6 were stated to have recovered, and that 26 more were known to have recovered and to have returned to their occupations. Concerning 20 more it was impossible to obtain any information. With regard to these 26 patients apparently entirely recovered, Dr. Weiler asks whether they were the subjects of temporary remission or whether mistakes in diagnosis had not been made. This question Dr. Weiler considers it impossible to answer with certainty, but he clearly inclines to the view of mistaken diagnosis. So long, he says, as the diagnosis is based upon simple clinical observations and the statements of relatives, failures in diagnosis are bound to occur. Amongst other aids to accurate diagnosis, he mentions the absence of Bumke's psychic pupil-reaction (widening of the pupils in response to sensory or psychic stimuli) as of great value. Curiously enough, the uncertainty of diagnosis was much more marked in the female than in the male patients, largely, he says, because of the difficulty of fathoming the female mind. Hereditary influences were ascertained in about one-third of the cases, and 42 per cent. of the male patients were alcoholics. In the great majority of cases the onset was chronic (124) or subacute (64), and in only a few cases (30) was it acute. It is interesting also that in almost all of the cases which afterwards recovered the onset was acute or subacute.

Dr. Weiler gives a detailed description of the nosological features of these cases, for which readers may consult the report. It should be mentioned that an increase of the tendon reflexes was common, and that failure to elicit the psychic pupil reflex above referred to occurred in about 25 per cent. of all the cases of dementia praecox. Also, it is important from the point of view of prognosis to note that no case with absence of this sign subsequently recovered.

General Paralysis.

Only the more prominent of the features of Dr. Plaut's analysis of the 263 cases of general paralysis admitted during 1906–7 need be mentioned here. Syphilitic infection was proved or probable in 113, or 78 per cent., of the male, and in 21, or 57 per cent., of the female general paralytics. Unfortunately, accurate information on the important question of previous antisyphilitic treatment could not be obtained in all cases, but it was ascertained that certainly 57 of the male and 9 of the female patients had undergone specific treatment. The average length of time intervening between infection and first appearance of paralytic symptoms was fifteen years for the men and twelve years for the women patients. Also 41.2 per cent. of the male patients and 15.6 per cent. of the female patients were heavy drinkers. Dr. Plaut furnishes a significant table on the descendence of the patients, showing in the 169 paralytic patients who were or had been married that 29 had been sterile unions; that there had been 153 abortions or stillbirths, and 454 liveborn children, of whom 182 had died, giving a total number of abortions, stillbirths, and deaths of 335, as compared with 272 still left alive. On the clinical side, far the most common initial symptom was a brief vertiginous attack followed by speech disorder or difficulty, and transient palsy, with or without disturbance of consciousness. Of the total general paralytics, the mental state in 56 per cent. of the female and 73 per cent. of the male patients was that of simple dementia; expansives with pronounced psycho-motor excitement and grandiose ideas formed 21 per cent. of the male and 22 per cent. of the female patients, and hypochondriacal delusions with depressive emotions were encountered in 9 per cent. of the male and in none of the female patients. As to somatic signs and symptoms, disturbances of speech were most frequent (males 889, females 82); then disturbances of writing (73 per cent.); next alterations of pupil reactions (males 65 per cent., females 75 per cent.); then hypalgesia; and lastly altered knee-jerks. With regard to this latter phenomenon, the knee-jerks were absent in 17 per cent. of the males and 15 per cent. of the females; different in 5 per cent. of the males and 8 per cent. of the females; increased in 40 per cent. of the male and in 45 per cent. of the female patients; and normal in 38 per cent. of the male and in 23 per cent. of the female patients. The serological investigation of the cerebro-spinal fluid in the paralytic cases is treated in another part of the report by Dr. Plaut, but may be alluded to in brief here. Wassermann's reaction appears to have been mainly used, and proved of great diagnostic value. With this test general paralysis gives a positive reaction with both blood serum and cerebro-spinal fluid, whereas cerebral syphilis gives a positive serum and a negative cerebro-spinal fluid reaction. Occasionally, here and there, with undoubted cerebral syphilis, the serum reaction was not present, but, on the other hand, in general paralysis the serum reaction was so generally obtained that its absence, Dr. Plaut says, almost certainly excludes paralysis. Further, Dr. Plaut says, the fortunate circumstance, that even in the earliest stages, where clinical signs are doubtful, the spinal fluid and serum reactions are so invariably present that they furnish most weighty evidence. No reaction; no general paralysis.

Epilepsy.

The number of epileptics admitted to the clinic during the two years was 317, but so many of these were *Stammgästen* (regular customers) that, in all, 534 cases were admitted on account of epileptic mental disorders.

The greater number were admitted because of ordinary epileptic attacks, but 51 on account of epileptic excitement, 10 after having made attempts at suicide, and 60 because of intoxication. The importance of alcohol was well shown by the fact that 199 of the male epileptics, or 78 per cent., were, according to their own accounts, given to drink; whilst inquiry into the family history showed that 25.2 per cent. of the male and 28.8 per cent. of the female epileptics had drunken parents. Touching this question of alcohol, the ages at which the first symptoms of epilepsy appeared is instructive, for whereas in none of the women did the illness begin after the thirty-fifth year, it began after this age in 11.2 per cent. of the men. Of 59 men in whom the epilepsy appeared after the thirtieth year of life, 81.3 per cent. indulged to excess in alcohol, mostly in the form of schnaps.

At the end of the report Dr. Rohde gives a summary of work done by him in the chemical laboratory with regard to some cases of epilepsy. The excreta were carefully analysed over lengthy periods, in particular the output of nitrogen, uric acid, ammonia, and chlorinm being estimated. In the first three cases investigated no specific anomaly was found, but only a retarded and insufficient conversion of nuclein bodies into uric acid. In a fourth case, and two others of status epilepticus, fully reported in the *Deutsch. Archiv. f. klin. Med.*, Bd. 95, the uric acid and albumen metabolism was normal during the intervals between the attacks. The nitrogen of the food, however, was not later fully excreted, but was retained in great mass and excreted in large quantity at the time of the attacks. During the days of the attack the increase in the pulse and blood pressure was accompanied by an increased acid excretion, pointing to a disordered metabolism with the formation of an abnormal organic acid (? lactic acid). Immediately after the onset of the attacks the acid excretion reached its maximum, as much as 2.5 grams of dextro-lactic acid being found in the urine. Parallel with this went a rapid hyperleucocytosis, the number of leucocytes rising in a few minutes from 7,500 to about 19,000, and falling again in half an hour. The attacks closed with an increased excretion of uric acid and phosphoric acid, beginning some hours after the first attacks. As attack succeeded attack, however, the evidences of disordered metabolism given above grew less and less, so that towards the end, notwithstanding the attacks were as frequent as ever, the urine differed only slightly from the normal.

Other papers will be found in the report on manic-depressive insanity (Dr. Zahn); on hysteria and psychopathic personality (Dr. Wettermann); and detailed accounts of different smaller groups of mental disease by Dr. Weber; and cases of doubtful diagnosis by Dr. W. Specht.

Finally, Dr. Alzheimer furnishes the usual information as to the *post-mortem* results in those who died during the two years, and describes the microscopical findings in a number of selected cases.

Medical News.

THE authorities of the Metropolitan Hospital Saturday Fund have fixed Saturday, October 16th, as the date for the special appeal this year.

THE annual dinner of the Association of Public Vaccinators of England and Wales will be held at the Adelphi Hotel, Liverpool, on Friday, October 29th, at 6.30 p.m.

THE House of Representatives of the State of Georgia has passed a bill giving legal recognition to osteopathy as a system of medical practice in that State. The medical profession is urging the Governor not to give his assent to the bill.

THE next meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, October 12th, 1909, at 4 p.m. Dr. J. Milne Bramwell will open a discussion on suggestion and its role in the treatment of inebriety.

AT the Middlesex Sessions last Wednesday a nurse on the staff of the North-Western Fever Hospital—Miss Stebbington—was highly commended by the Bench for her courage in bringing about the capture of a street thief. She saw him snatch a gold watch and chain, and pursued him through sundry courts and alleys until he was caught. The man was sentenced to three years' penal servitude.

THE Lord Mayor of London, Sir George Wyatt Truscott, will lay the foundation stone of the new building of St. Mary's Hospital for Women and Children at Plaistow, E., at 3 p.m., on the afternoon of Saturday, September 25th. The cost of the work and furnishing will amount to £17,000, and with a sum of £3,000 promised by King Edward's Hospital Fund, the committee of the hospital has available for the purpose £14,100. There is, therefore, a deficiency of £2,900 to be made up, and any donations for the purpose will be gladly received by the committee.

THE Caledonian Medical Society held its annual meeting this year at Lancaster. The meeting was held under the presidency of Dr. Blair, who explained that devotion to Gaelic medical literature was a special feature of the society. It had received a translation of a valuable manuscript. Most of the Gaelic manuscripts he had read had been translated by the agency of the society, and the scholar engaged in the work was endowed by the society. During the year its members had made several contributions to general medical literature

CHOLERA is said to be again increasing at an alarming rate in St. Petersburg and other ports of Russia. A suspicious case of death which occurred in Amsterdam on September 15th is officially declared to be due to Asiatic cholera. Rotterdam is free from the disease. Owing to the presence of cholera in Holland, however, the Belgian Government has instructed the burgomasters to warn people against the eating of oysters and mussels. The reports that cholera has appeared in Belgium are stated to be false.

A RECEPTION of the members of the Child Study Society, London, will be held by the President, the Earl of Stamford, at 8 p.m., on Thursday, October 7th, at 90, Buckingham Palace Road. Short addresses on child study will be given by Miss Alice Ravenhill, F.R.S.I., C. W. Kimmins, D.Sc., M.A., and G. E. Shuttleworth, B.A., M.D. Among the lectures to be given at later dates are the following: The care of children under the Poor Law, by the Right Hon. Sir John Gorst, M.P. (October 28th); the child criminal, by W. C. Sullivan, M.D., Medical Officer of Holloway Prison (November 18th); and on mental fatigue, by A. R. Abelson, D.ès.L. (December 9th).

QUESTIONS as to Chinese pigs have recently somewhat relieved the weariness of the debates on the Budget. A very bad character, in a sanitary sense, was given to these animals. A report by Dr. Herbert Williams (Medical Officer of the Port of London) on a consignment of pigs received on July 24th has just been issued. He says that the pig carcasses on arrival were found to be very large and fat, and each one had a label attached to it stating that it had been subjected to a medical examination at the port of shipment. Dr. Williams selected 100 pigs at random, and after examination found nothing indicative or suspicious of trichinosis.

THE fifty-fourth annual exhibition of the Royal Photographic Society of Great Britain commenced at the New Gallery, Regent Street, on Thursday. It will be open from 10 a.m. to 6 p.m. until the end of October, and from 7 p.m. to 10 p.m. in the evening on Mondays, Thursdays, and Saturdays, on which days lantern lectures will be given in one of the rooms. By the courtesy of the committee we had an opportunity of examining the accepted pictures before the opening, and found the exhibition thoroughly worth a visit, even by those who do not take any special interest in photography. An exceedingly high standard of work would appear to have been imposed on would-be exhibitors. In any case the proportion of really artistic work among the pictures shown is very high. In some of the sections we recognized the names of a good many medical men. In the scientific and technical photography section Dr. J. Gray Duncanson of Shooter's Hill (metamorphosis of the dragon fly); Dr. G. H. Rodman of Monlake (magnified photomicrographs of the diatom *Heliopelta metii*, and radiographs of shells); Dr. C. L. Leonard (pictures illustrating the actual movements of the heart and stomach); Dr. G. Fedor Haenisch (the normal kidney); Dr. Francis Ward, of Ipswich (the life-history of plaice); Mr. Francis Heatherley, of Birkenhead (a hooded crow feeding its young). In the Autochrome Section: Dr. A. Goodman Levy, of Manchester Square (watercress beds); Dr. H. G. Drake-Brockman, of Cleveland Asylum (still life and the casting of pig-iron); Dr. G. Lindsay Johnson (a stained glass window). Among those who are to deliver lantern lectures are Dr. Francis Ward (September 27th, a visit to a marine biological station), and Mr. Adolphe Abrahams (October 9th, the photography of sport).

British Medical Journal.

SATURDAY, SEPTEMBER 25TH, 1909.

SCHOOL SPORTS.

DEBATES have this in common with babies, that they are commonly christened at their birth, and, when grown up or completed, continue to bear names as little appropriate to their true character as that of Diana to a contented sewing maid. Something of this inconsequence attaches to the series of papers which commence this issue. And, in the circumstances, this is perhaps fortunate. The phrase "medical aspects of athleticism," strictly interpreted, covers but a narrow field, while the matter recorded spreads over so wide an area as to be of interest and importance to the fathers and mothers of all public schoolboys and to all well-wishers of the nation at large.

The papers represent a debate carried on at the Belfast meeting of the British Medical Association in July, and, for the most part, the views held are expressed in such simple and natural terms that, in all senses, he who runs may read with clear understanding and advantage. Furthermore, the men whose beliefs the papers present are, in varying professional connexions, of such weight and authority that, taken as a whole, the papers may be regarded as the last word on the subject so far as principles are concerned.

In arranging for the holding of such a discussion, the authorities of the Section of Medicine were perhaps influenced by the fact that early this year an attack was made on the outdoor exercises common in schools and other places where the young of both sexes congregate. Possibly, on the other hand, it was held merely because the right upbringing of young people is a subject of perennial interest, and it is well that it should be seriously debated from time to time if only by way of bringing into true focus facts and ideas which in a somewhat namby-pamby age are apt to have too much importance attached to them.

The general facts concerning the early and late effects of active exercise in boys and young men were reviewed in an editorial article in this JOURNAL some six months ago, and a mere quotation of the verdict which we ventured to return on our own account on that occasion would serve, we are glad to find, as a not inadequate summary of what was said by the experts assembled at Belfast. In an age, however, when questions of interest pass before the mental vision of all educated people with cinematographic rapidity, six months is a very long time: it may be well, therefore, to review the subject again solely in the light of what was said at the recent annual meeting.

Time and again the public has been invited to believe that the youth of the nation is being physically ruined on those very fields on which, according to Wellington, the battle of Waterloo was won. It is illuminating, therefore, to find that, dispassionately examined, this charge proves to be nothing more than a hasty generalization based on a not always correct interpretation of certain rare incidents. On the other hand, the converse view is supported by general professional experience, and in addition has the assured foundation of statistical investigations carried out by competent persons over a sufficiently long period and dealing with a sufficiently large number of individuals to satisfy the requirements of even that somewhat exacting person, the latter-day biometrician. For details we refer to the papers themselves, and here merely state that, whether as regards immediate mortality or eventual morbidity, the ill results even of the most strenuous and sustained school and university physical exercises would seem properly to be represented by an extremely small decimal.

It is not really surprising, however, that erroneous views on the subject should often gain prevalence. Mankind is human, and boys, as a famous American character used to say, are the same, only more so; and our public schools contain a considerable proportion of youths whose undesirable tendencies are fostered, not checked, by their home lives. Self-indulgent and averse from active endeavour of any kind, they are only too glad of some excuse for passive resistance—for shirking taking part in games in which they do not excel, and in sports in which they do not feel any particular interest. Their mammas are malleable, and a visit to the family medical man does not always result in a well-balanced opinion. If symptoms of ill health are found or evidence of cardiac morbidity be present, it is easy to overlook the fact that their existence may often be much less readily explained by a theory of over-exercise than by other circumstances common in the lives of schoolboys. A clear and full account of the habits of the patient under examination should be obtained—a task often of extreme difficulty in dealing with reticent schoolboys—and in addition Mackenzie's observation that the cardiac area in perfectly normal young people often appears enlarged and that the heart rhythm is habitually more easily disturbed in children than in adults, should be borne in mind.

Even, however, if the view that damage to health is commonly the outcome of athletics in general were very much better founded, it would still be the duty of the medical profession and of parents to encourage schoolmasters to carry them on. Whatever their present frequency, the ill results are entirely preventable, and the net value both to the individual and to the nation at large of the strenuous games and exercises popular in English public schools for an untold number of generations can hardly be over-estimated.

Modern investigation has in nowise discounted the belief in a direct inter-relation between mental and physical development represented by the old saying, *Mens sana in corpore sano*, and the effect on body and mind of the formal gymnastic exercises common in Continental schools is in nowise comparable to the outcome of the English system. By taking part in organized games demanding observance of rules, rapidity of decision and action, courage and co-operative action, boys acquire instincts of infinite value in after-life, while the school runs and paper chases occasionally substituted often bring out and develop unexpected good qualities in boys less capable than their fellows in ordinary games. Furthermore the English system—if excellent for normally active-minded, active-bodied boys—is still more desirable in the happily exceptional case of those in whom early training or a long bygone bout of illness has accentuated an inclination towards loafing and more or less solitary forms of amusement; and, except in

the case of cripples and definite invalids, participation in organized games of one sort and another should be absolutely compulsory in every school.

In respect of such ill-results as are ever attributable to over exercise, it is important to note that professional experience shows them to occur as a rule not in the weakly, but in those who habitually excel at games and sports. Some degree of injury is not very uncommon among exercise-loving adults, young and old, who, mindful of their prowess in the past, forget when on a holiday the need for preliminary work; and, in somewhat different sense, the same remark holds good of quite young people. The average schoolboy, it is true, is habitually in fairly good training, but it is not realized either by boys or by their elders and guardians that quite a short bout of ill health—a bad cold, a touch of influenza, and still more an attack of infectious malady—is the equivalent of a prolonged period of entire inactivity. It is on the necessity for caution in this respect that the medical profession should insist.

For the rest, it lies in the hands of school authorities to rid school sports of all fear of reproach. The present trouble, so far as any exists at all, originates in the fact that, while it is recognized in theory, it is not sufficiently recognized in practice that the object of a public school career is physical, as well as mental, education and development. Every boy on entry should have his physical capabilities assessed by the school medical officer as carefully as is his mental knowledge; and by one means and another throughout their school career all boys should be classified and reclassified for athletic exercises not according to age but to actual ability shown, and as habitually and carefully as they are for school work commonly so called.

All this could be arranged without material interference with the system on which all well organized schools are already worked. The facultative officers already exist—the school medical officer as consultant, games-loving masters, and intelligent boys; in short, all the foundation of a complete system for classing boys and watching and guiding their progress. Every headmaster is capable of working out details for himself, and the only direction in which outside stimulus is perhaps required is in respect of a due interval being allowed to elapse between meals and the commencement of games. Schoolmasters know just as well as other people that active exercise on the top of a heavy meal is a very undesirable thing; but sometimes they are disposed to overlook the fact, because the circumstances of school life make the arrangement of a sufficiently long interval a matter of some difficulty.

THE CARE OF THE EYES AMONG THE WORKING CLASSES.

ADAM SMITH, in his *Wealth of Nations*, points out that one of the chief factors in the production of wealth in a State is the proportion that the number of workers bears to that of the non-workers. Every worker, therefore, who has to leave the active ranks because he is unable to see sufficiently well to continue at his trade represents a direct loss to the potential wealth of the State. In addition, he and his dependants may become a public charge, and then the loss of wealth is a double one.

In every modern civilized country a very large number of active workers are annually incapacitated by eye diseases, the direct or indirect results of their occupations. A great deal of this complete or partial blindness could be prevented, and thus a great loss of capital to the State and hardship and suffering to the individual would be avoided.

Much has already been done to supervise the eyesight of children in elementary schools, but up to the present his parents have been in this respect much neglected. In France the subject has been brought before the Academy of Medicine by Motais, and the Committee have agreed to recommend certain procedures.[1]

Motais considered the subject from two aspects: that of definitely dangerous trades, where the eye was likely to be wounded or injured, and that of trades which caused excessive eye strain (*métiers appliquants*). He found 30 per cent. of myopes among compositors, and 65 per cent. among lithographers, figures strictly comparable with the percentage of myopes found in the upper forms of the German *Gymnasia*. He drew attention to the enormous number of eye accidents caused by emery wheels, fragments of iron, and other similar agencies, treated in the hospitals, most of them ending in more or less deterioration of vision. Another fertile source of partial blindness is the common hypopyon ulcer which so often follows a trifling abrasion of the cornea, received perhaps from a minute fragment of flying emery.

As regards the trying occupations—engraving, dressmaking, and similar trades—immediate attention should be given to the question of illumination, a subject generally considered by the manufacturer rather from a financial than from a hygienic standpoint. So bad is the lighting of some dressmaking establishments, that the workers frequently, Motais says, prick their noses with their needles. He asks, if our scholars under vastly superior hygienic conditions develop myopia, what can we expect to happen to our seamstresses and engravers? The question is a vast one, and even in the department of Maine-et-Loire concerns 17,000 individuals. In the whole of France over a million and a half of seamstresses, tailors, engravers, and clerks are working under conditions which are generally inimicable to the preservation of good vision. We may add that in England the conditions are substantially the same. To remedy this state of affairs it is necessary to reform the factories and to teach the working classes ocular hygiene.

In the dangerous trades in France, nearly two million are liable to accidents which may cause partial or total blindness. Much can be done to obviate the large majority of them, or to discount their effect. Irritating vapours in chemical works can be excluded by a mask; dust can be kept away from the eyes by efficient ventilation; flying objects can be excluded by spectacles; and a knowledge of the value of surgical cleanliness inculcated. Almost every engineering shop contains one or more "eye specialists" to whom the employees resort when a foreign body lodges in their cornea. The fragment is or is not removed with a filthy penknife after the cornea has been well scratched, and perhaps inoculated with a staphylococcus. A diffusion of knowledge would lead a small proportion of these victims to seek medical aid.

Motais made the following suggestions, which were adopted by the Committee: No child under 13 shall

[1] *Bulletin de l'Académie de Médecine*, No. 18, Séance du 4 Mai, 1909.

be admitted to any factory where a trying trade is carried on without a certificate of physical aptitude, to be obtained gratuitously from a medical man appointed for the purpose; pamphlets on ocular hygiene are to be distributed among the working classes; the Factory Acts prescribing sufficient light, ventilation, and washing accommodation to be rigorously applied; suitable spectacles to be used in all trades in which foreign bodies are liable to be projected into the eye; if the workman be exposed to excessive glare, the spectacles are to be orange yellow.

The subject is such a large one and is of such essential importance in this country as well as on the Continent, that it would be highly desirable for the present Government to appoint a Commission to inquire into the whole question, and adopt legislation to alleviate the evil.

NATIONAL EUGENICS.

THE staff of the Galton Laboratory having found the need of an introduction to the science of eugenics more likely to be intelligible to the layman than are their technical memoirs, Professor Pearson has recently published an abstract of a lecture entitled *The Problem of Practical Eugenics*.[1] The lecture is informed with the public spirit and composed in the incisive language which have always distinguished Professor Pearson's writings; in view, however, of the fact that it is addressed to a lay audience, it appears to us that many statements contained in it are apt to lead to serious misunderstanding with regard to public health legislation during the last fifty years.

Professor Pearson first summarizes the evidence published by himself and his pupils which proves, in his opinion—an opinion which we share—that the mental and physical characters of man are inherited in a manner susceptible of direct quantitative expression, and calls attention to the important truth that these results depend in no way on the acceptance of any special physiological theory of inheritance. He next adduces evidence that the marked fall in the birth-rate, which has attracted so much attention in recent years, is associated with modern factory legislation, the latter having destroyed the value of young children as wage earners, and therefore removed the economic incentive to procreate a numerous progeny. This leads him to make rather strong comments on the authors of modern factory legislation. Professor Pearson writes:

"We pride ourselves as a nation on our factory "legislation. We have limited the employment of "women and children, and sought thereby to improve "their conditions of life and health. Environment "must be bettered; our legislators never once asked "what will be the effect of this betterment on "parentage?" Further on, he writes: "Now it seems "to me that we have an illustration in this matter of "a case—and it is not an isolated case—in which "legislation intended to promote national progress—"to improve the racial qualities of future generations "—has directly tended to enfeeble the race; in the "first place by reducing the intensity of natural "selection, and in the second place by producing a "population of lower average fitness." These criticisms seem to us to indicate an imperfect understanding of the legislation in question—legislation which has received the general approval of the medical profession. Legislators have to consider not merely the problematical reaction of their measures upon a subsequent generation, but also their effect on contemporary conditions of life. That the factory legislation was conducive to a more civilized, we might almost say to a less bestial, state of existence among the industrial classes, is a proposition no medical publicist will challenge. Professor Pearson may retort that the penalty has been paid by a later generation in the form of a diminishing birth-rate among the "fit" classes, and a more or less stationary rate among the "unfit" strata of the population; but it is not quite clear that such a statement is unequivocal. To reduce the intensity of natural selection, to use Professor Pearson's phrase, may not be by any means an unmixed evil. It is an elementary truism that "the fittest" means the fittest under a given environment. What reason have we to think that the fittest to survive under pre-factory Act conditions are desirable citizens of a modern State? Under those conditions the parents who were most successful in placing their children in profitable employment had an undoubted advantage in the struggle for existence over those more self-sacrificing persons who sought to protect their offspring as long as possible from the weary round of toil. Neither the desire nor the ability to exploit one's young children argues the possession of that type of social qualities we wish to see propagated. Professor Pearson states that from inquiries he has made, the "condition of the child as a pecuniary asset "was not wholly a bad one; it must be kept in health "because it ceased to have a pecuniary value if it "broke down." This is somewhat misleading. That a certain minimum of physical efficiency was necessary for the labouring child is obvious, but numerous official reports demonstrate how low that minimum was pitched and how desperate was the condition of many persons of tender years when unprotected by sanitary enactments. It must also be observed that the evils from which we suffer may be as much due to the conditions which the Factory Acts were intended to remedy as consequences of those Acts themselves. It may be that the "unfit" population which now over-reproduces itself is the offspring of the population which was "fit" under the old conditions, and would itself be "fit" if those conditions could be revived.

Professor Pearson inveighs against the Old Age Pensions Act ("hasty vote-catching legislation") and the facilities provided for rearing degenerate offspring in public and private institutions, urging as an alternative the national importance of endowing healthy parenthood. He proposes the diversion of some part of the funds now expended on the maintenance of the degenerate to the subvention of healthy parents. If the supply of public institutions and money for the degenerate and "unfit" exceeded the demand such a scheme would be admirable, but this is hardly the case. It can scarcely be maintained that a diminution in the amount spent on "unfit" children would really lower the birth-rate in the degenerate classes of the population to an extent which would compensate us for the increased misery inflicted. Degenerates are, unfortunately, not likely to be deterred from reproducing their kind by the thought that the fate of their offspring will become even less advantageous than it is at present.

While Professor Pearson's pamphlet does not, as a whole, impress us very favourably, we gladly recognize its strong points, as, for instance, its powerful advocacy

[1] *The Problem of Practical Eugenics*. By Karl Pearson, F.R.S. Eugenics Laboratory, Lecture Series. London: Dulau and Co. 1909. Pp. 38.)

of a scheme of national insurance. An interesting investigation would be to make a comparison between national fertility at the present day and at a period before the rise of early nineteenth century industrialism. It seems possible that the dangers of race suicide may be exaggerated by choosing for comparison with the present day an epoch in which children were pecuniary assets. It is to be feared, however, that the imperfections of the earlier records would render such an undertaking difficult.

DOCTORS AND THE DEATH DUTIES.

THE letter signed "A Hard-working Physician," which appears in another column, draws attention to an aspect of the proposals in the Finance Bill that closely concerns the medical profession. With most medical men life assurance is a practical necessity. Not only have they to provide for the day when they are no longer able to earn fees, but the special risks incidental to their vocation make it imperative in most cases that the provision should take the form of life assurance. The encouragement given to this form of thrift by the Legislature by means of relief from income tax to the extent of the amount of the premiums is given alike where the income is derived from property and where it is derived from the exercise of highly-trained skill in an arduous profession. Differentiation is made to a certain point in the rates of income tax charged on earned and on unearned incomes, but when it becomes a question of the toll to be levied by the State on the family provision made perforce by the setting aside of income hardly earned in the rendering of an often insufficiently paid social service, no regard whatever is had to the source from which the "sum passing at death" has arisen, nor to the necessities imposed by the conditions under which the provision has arisen. The Chancellor of the Exchequer has, more particularly in his Limehouse speech, shown his appreciation of the exceptional conditions under which the medical man's work is performed, and it will surely not be asking too much of him that at least the same extent of differentiation should be made in the death duties charged on a medical man's estate as is now made for income-tax purposes between earned and unearned incomes. The clauses of the Finance Bill relating to the death duties have passed the Committee stage in the House of Commons, and the bill will reach the Report stage within a few days. Immediate and energetic action is therefore called for if an amendment of the provisions relating to the death duties is to be obtained before the bill finally passes the Commons.

COURT-MARTIAL ON A FLEET SURGEON.

A REPORT of a court-martial recently held at Portsmouth for the trial of Fleet Surgeon C. G. Matthews for behaving with contempt towards his superior officer will be found at p. 921. The case affords a striking illustration of the grave dangers to which naval medical officers are exposed without any chance of redress. A senior medical officer, holding the same relative rank as the temporary superior whom he was charged with treating with contempt, is subjected to gross insult, to treatment no self-respecting man would endure without protest, to having charges of the most trumpery kind in themselves made against him, and finally has to undergo the indignity of a trial by court-martial, with all its attendant anxiety and the risk of being ruined professionally—all this, because a young officer, dressed in a little brief authority, takes advantage of the absence of the captain of the ship on leave to abuse the enormous authority with which he is invested by the Admiralty. Fortunately, the evidence was so flimsy in itself, and so entirely unsupported, even by the commander's subordinates, that the court-martial had no alternative but to acquit the medical officer. But the matter might very easily have had a different ending, and the service might have lost a first-rate medical officer, sacrificed to the whim of a jack-in-office. The case illustrates very well the feeling a certain class of executive officer has for the naval medical officer. Here the commander, although he had been six weeks in the ship, is far too high and mighty a person in his own esteem even to take the trouble to know the name of an officer equal to him in rank and superior to him in age, and probably in manners and everything else that goes to the making of a gentleman. This feeling is unfortunately not altogether so uncommon in the navy as it should be, although it is not easy to see why this particular class of executive officer should think so much of what is after all its not very exalted dignity. There is no redress; the medical officer has to suffer in silence, or, should he venture to protest, he must risk the ruin and disgrace of an adverse verdict of a court-martial, with none of the safeguards which would be offered if representatives of his own branch of the service were members of the court. The Admiralty are now advertising fifteen vacancies for commissions in the medical branch of the navy. This case will have served a useful purpose if it deters young doctors from entering a service in which they are exposed to such treatment. Young medical men whose inclinations may point towards the Royal Navy as a career cannot be too often or too strongly warned that they are liable at any moment to be the subject of trumpery charges should they happen to serve under some commanding officer who rejoices in showing the arbitrary authority with which the wisdom of the administrators of the service has clothed him, and that their careers in life may thus be ruined. These charges can be brought with absolute impunity, and without any fear of consequences to the officer who brings them. Even should a medical officer be fortunate enough to secure an acquittal when tried by court-martial, the stigma remains for ever, and his future prospects of advancement in his profession are blighted. However insulting and however provocative a commanding officer may be, the medical officer must "know his place." Any objection he may make, however respectfully worded, can be construed into an offence against the fetish miscalled discipline, with unfortunate results to the so-called offender. Discipline is, of course, necessary, but that under its cloak it should be possible for such a case as that recorded to occur shows the need for drastic reform in the position of the naval medical officer. In the meantime the attention of the First Lord of the Admiralty might advantageously be called to the conduct of Commander Walters.

PROFESSOR JOHN CLELAND.

ON the initiative of the Business Committee of the General Council of the University of Glasgow, it has been resolved to take steps to recognize in some appropriate manner in connexion with the university, the long and distinguished services of Dr. Cleland as a teacher, author, and man of science, on the occasion of his retirement from the Chair of Anatomy. The form which the recognition will take must in large measure depend upon the amount subscribed, but it is thought that it might fitly include the provision of some fund for the advancement of anatomical and

anthropological science and the presentation to the university of his portrait or bust by an eminent artist. A committee, with power to add to its number, has been appointed to carry out the proposal. Among its members are President Anderson, Sir William Arrol, Sir Matthew Arthur, Bart., Professor Bayley Balfour, F.R.S., Sir James Crichton-Browne, J. H. Balfour Browne, K.C., Professor Alex. Crum Brown, Professor Thomas H. Bryce, Professor Sir Hector C. Cameron, Professor Murdoch Cameron, Professor Chiene, C.B., Sir Henry Craik, M.P., Professor A. Francis Dixon, Sir Nathaniel Dunlop, C.O. Hawthorne, M.D., Professor G. G. Henderson, William Henderson, Esq., Sir James King, Bart., Brevet Lieutenant-Colonel Sir William B. Leishman, R.A.M.C., A. Ernest Maylard, B.S., Professor Robert Muir, Professor Alexander Macalister, F.R.S., Principal Sir Donald MacAlister, K.C.B., Principal J. Yule Mackay, Professor J. G. McKendrick, Donald J. Mackintosh, M.V.O., James MacLehose, D. C. M'Vail, the Right Hon. Lord Newlands, Sir Thomas Oliver, Professor D. Noel Paton, Professor A. M. Paterson, Professor J. S. Phillimore, Sir John Ure Primrose, Bart., the Right Hon. the Earl of Rosebery, Professor R. W. Reid, the Lord Provost of Glasgow (the Hon. A. M'Innes Shaw), Professor William Stirling, Professor Ralph Stockman, President Bertram C. A. Windle, F.R.S. A circular which has been sent out to all university graduates and to members of other learned bodies bears the signatures of the Earl of Glasgow, Sir John Stirling Maxwell, Bart., Sir James Fleming, Professor John Glaister, President of the Faculty of Physicians and Surgeons in Glasgow, and Dean of the Faculty of Medicine in the University; A. M'Innes Shaw, Lord Provost; Sir Hector C. Cameron, John Smith, D.D., Convener of Business Committee, University General Council; and Dr. John Yule Mackay. The Honorary Secretary and Treasurer is Archibald Craig, Esq., LL.B., 149, West George Street, Glasgow.

THE RELATIONS OF OPHTHALMOLOGY AND MEDICINE.

WE remember a well-known surgeon delivering himself of an aphorism as to specialists: "Specialists" are specially ignorant." Ophthalmologists have in the past merited this sweeping condemnation in some degree; concentrating their regard upon one organ of the body, they have neglected the general organism; and have often shown much special ignorance of morbid conditions outside the eye which were responsible for the local defect they were vainly endeavouring to remedy. Who has not seen a surgeon forcing enormous probes down a lacrymal duct, to remedy an obstruction caused by a deformity of the inferior turbinal, which he never thought of examining. Again, how many patients have lost much useful vision, because the ophthalmic surgeon never recognized that the amblyopia was due to a suppurating ethmoiditis or a distended spheroidal sinus? Green[1] traces the dependence of the ophthalmic surgeon upon the general physician, the neurologist, the rhinologist, the dermatologist, the urologist, the dentist, and the gynaecologist. The growing belief that many obstinate cases of phlyctenulae, of cyclitis and choroiditis are really tuberculous toxaemias, and the knowledge that they can often be most effectively treated with tuberculin renders collaboration between the ophthalmic surgeon and the physician highly desirable, nay essential. The intimate connexion between ophthalmology and neurology need not be insisted upon; they are indeed so close that the neurologist must be a good ophthalmologist and have an intimate knowledge of ocular dynamics, and no one can truly call himself an eye specialist who has not a thorough knowledge of the essential symptoms of the commoner disorders of the nerves. The epoch-making researches of Onodi upon the anatomy of the accessory sinuses of the nose have made it essential for the ophthalmic surgeon to be in some degree a rhinologist, otherwise he cannot recognize the ultimate cause of many morbid processes both within the globe and external to it in the orbit. Finally, the certainty that much chronic cyclitis is the result of oral sepsis brings him into relationship with the dentist. We are somewhat surprised that the author seems to regard the urethral origin of iritis as not proven, for gonorrhoeal iritis is a very real pathological entity. Papers further illustrative of the interdependence of ophthalmology and general medicine will be found in the account of the Proceedings of the Section of Ophthalmology at Belfast in this issue.

[1] *Ophthalmology*, April, 1909.

THE OPHTHALMOLOGY OF THE PHARAOHS.

THE knowledge of diseases of the eye and their therapy among the ancient Egyptians would appear to have been very meagre; in fact, as Galen says, it was "foolish stuff." In 1872 Ebers brought a papyrus from Egypt, which when deciphered proved to be a treatise upon medicine. A small portion of the hieroglyphic manuscript was devoted to the eye and its diseases. Even at that early date cataract was treated, as it now is by the *fellah hakim*, by couching with a sharp reed. Nebenchari, a celebrated oculist, was sent by Amasis, King of Egypt, to Persia to operate upon Kassandare, the mother of Cambyses, son of Cyrus, who was blind from senile cataract. While he was away his rival Pentammon stole his manuscripts and learnt how to perform the operation, which he undertook upon Amasis himself. In the tenth century B.C. there was a medical college among the priests at Thebes, where, among other subjects, ophthalmology was taught. After learning the preliminary work at Thebes the students went to Heliopolis to perfect themselves in special work. They then returned to Thebes to practise their art. Wilkinson, in the *Annals of Ophthalmology* for July, 1909, gives a full account of the manuscript.

THE MECHANISM OF MOTOR FATALITIES.

IN reading the accounts of motor-car accidents, now unfortunately of daily occurrence, one cannot but be struck by the fact that in most instances some of the occupants of the car usually escape with little or no injury, while others are more or less horribly mutilated. The driver, in fatal cases, usually succumbs to injuries inflicted by the car overturning, and pinning him between the steering-wheel and the soil, to crushing of the thorax by violent contact with the steering wheel in forward collisions, or to his getting jammed between the steering-wheel and the back of his seat. With regard to the others, it is worthy of note that nearly all the fatal injuries are caused by persons being pitched out of the car, and it is indeed remarkable how trivial an accident may determine serious results from this cause; a slight collision, nay, even the rather sudden application of the brakes, may suffice to disturb the relationship of the car and its occupants. In considering the question as to how these lethal consequences are to be avoided, we apprehend that little can be done to protect the driver in the absence of some more commodious appliance than the present steering-wheel. Much, however, might be done to minimize the risk of being flung out of the car by unexpected variations of speed. As at present arranged, the seats are so deep that the legs of the average person do not reach the floor; consequently, abrupt arrest causes the body, unprovided

with any *point d'appui*, to be thrown forward, and the head is driven against the glass panel, or the person is hurled bodily into the roadway. Even when the feet do rest on the floor they have no trustworthy grip, it being a plane surface at an obtuse angle with with the body. The inference to be drawn is that cars should be provided with adjustable foot-rests at a proper angle. Such a contrivance, which should not baffle the ingenuity of motor engineers, would not only afford some measure of security of tenure in respect of the seat, but would add considerably to the general comfort of travellers, who pass many hours in a more or less cramped position.

INDIAN INDIGENOUS DRUGS.

THE committee appointed at Calcutta for the purpose of making trials of the therapeutic effects of indigenous drugs has issued a second report which covers the following twelve drugs: (1) Podophyllum emodi, (2) alstonia scholaris, (3) picrorhiza kurroa, (4) adhatoda vasica, (5) calatropis procera and gigantea, (6) acacia catechu, (7) caesalpinia bonducella, (8) ipomaea hederacea, (9) andrographis paniculata, (10) embelia ribes, (11) rheum emodi, (12) cassia montana. The evidence regarding the action of these drugs is summarized, but varies considerably in character and value. Much of it consists of vague opinions, favourable or otherwise. Podophyllum emodi is pronounced to possess the same merits and defects as podophyllum pellatum. Ipomaea hederacea (*Kaladana*) was ascertained to be a strong purgative resembling jalap. Calatrophis (*Mudar*) was found to be useful as a substitute for ipecacuanha in mild cases of dysentery. The leaves of cassia montana have found their way into the London market and been sold as senna, but reports of its use are discouraging. The evidence regarding the other articles is inconclusive, and further and more searching trials are necessary.

SLEEPING SICKNESS.

IN the *Sleeping Sickness Bureau* for August (No. 9, 1909) Dr. Bagshawe gives another paper by Professor Kleine on the etiology of sleeping sickness. It deals with the development of the trypanosomes inside the tsetse flies and is interesting though perhaps not quite conclusive. Parasites, according to Kleine, were never found in flies which had not become infective three weeks after feeding on a sick animal (that is to say, if the fly after three weeks was incapable of giving infection parasites would not be found in its stomach), nor in flies which had had no opportunity to infect themselves, nor in fifty bred flies fed on healthy monkeys. In infected flies many different forms were met with; typical *Gambiense* forms could easily be demonstrated in the intestine, and sometimes in the proboscis juice as well, while in addition, broad forms staining blue (females), forms without flagella, slender forms poor in cytoplasm coloured red, with a dark nucleus (males), and large trypanosomes with a long nucleus and very pointed hinder end were also seen. In the proventriculus masses of trypanosomes were found massed together and indistinguishable from one another, chromatin inclusions also being numerous. No mention is made of the supposed harmless trypansome forms of Gray and Tulloch, specially described by Minchin, but from the description some of the forms described by Kleine would seem to be of this nature, and it is clear that a considerable amount of further work will be required to settle the identity or otherwise of these and other forms. It is interesting to note as regards treatment that arsenophenylglycin, a drug which is supposed to be far in advance of atoxyl or arsacetin and other compounds, has now been used on human subjects suffering from general paralysis of the insane without any untoward results, doses of 1 gram on two successive days (intramuscularly) having been given. Many will look forward with interest to its early trials in human trypanosomiasis, where, if as successful as it has been in animal therapeutics, much is to be hoped from it.

THE SEQUELAE OF MENINGITIS.

THE relative amount of success attained by vaccine treatment has brightened the prospect of curing cases of meningitis, but this hopeful view has been shadowed by the fear that although life may be saved, the brain will undergo such grave impairment of function that the prolongation of existence is a doubtful benefit. It is therefore satisfactory to read the account given by Dr. Leo Cohn[1] of the cases which survived from the epidemics of cerebro-spinal meningitis in 1905, 1906, and 1907, after treatment in the Municipal Hospital at Posen, where in each case the diagnosis was placed beyond question by the finding of meningococci in the cerebro-spinal fluid. Out of 82 patients 50 died, and of the 32 remaining the condition of only 27 could be investigated, as 3 had left the town and 2 had died—one from a condition having no relation to meningitis, and the other from hydrocephalus. Dr. Cohn divides these 27 cases into three classes: (1) Eight mild cases with short fever, slight general symptoms and rapid recovery; (2) fifteen cases of moderate severity, with longer fever marked by remissions; (3) four serious cases which had run a prolonged, variable, and complicated course. All the cases in the first category were children, and his examination showed them to be completely cured, their subsequent bodily and mental growth having been quite normal. The same may be said for a part of the second group even in the case of several children who on leaving hospital had paralysis of the limbs or ocular muscles. Of the others, among which were four adults, there were complaints of headaches coming on after exertion, stooping or straining; 3 complained of weakness of the limbs, and 3 adults had distinct impairment of memory, and in 2 there was diminished intelligence. One man, discharged as cured, presented, after a time, signs of hydrocephalus, weakness of the legs, intellectual torpor, syncopal attacks, and spasms of the left leg. Another case had paralysis with atrophy of the left arm and leg and loss of memory. A child, a year after the meningitis, exhibited a large hydrocephalus with idiocy, and, finally, a man had total sexual impotence, and two years later atrophy of the sexual organs. In the third group of 4 persons, 3 showed bilateral deafness; in 2 of these a coexisting facial paralysis had disappeared, but the loss of reflex nystagmus on the injection of hot water into the ear proved that the labyrinth was damaged, but as the function of equilibration was supplemented by other senses the deafness was the sole persistent clinical sign. The third child died a year later from diphtheria, and at the *post-mortem* examination nothing abnormal was seen, except adhesions of the dura mater to the anterior fontanelle and some thickenings of the pia mater, so that the anatomical cure was complete. The fourth child had suffered from a particularly grave attack, but presented clinically nothing abnormal, and seemed to have been completely cured. The conclusions Dr. Cohn draws are that in all light

[1] *Berlin. klin. Wochensch.*, January 11th, 1909.

cases there may be complete recovery from a clinical point of view, and that even in more severe cases this is possible, the probability being greater in children than in adults; in the latter traces of the disease may be noticeable two and half years after the attack. Hydrocephalus may come on as late as four weeks after apparent convalescence. The complication most to be feared is deafness, while all other paralyses may disappear, even rigidity of the pupils: deafness once established seems to be permanent. It is noteworthy that the agglutination of the blood serum with meningococci was in two cases positive after more than two years.

THE FREQUENCY OF TUBERCULOSIS IN CHILDHOOD.

NAEGELI's observation that 97 per cent. of adults present evidence *post mortem* of tuberculous lesions in a latent or in an active condition showed that nearly everybody comes into contact with tubercle bacilli in the course of a few years, and that sooner or later the bacilli will attempt to invade the organism. In all the cases in which inactive localized foci alone were found, it may be assumed that the bacilli fought hard to get in, succeeded to some extent for a short time, and were destroyed by the protective power of the organism. Though these changes cannot be discovered by clinical examination, practically every tuberculous focus, no matter how small, reacts to tuberculin, so that the physician who diagnoses tuberculosis in this way has to include practically all Naegeli's adults. To get over the difficulty of the delicacy of this reagent, the ophthalmo-reaction, the cutaneous reaction and the like have been suggested; but is it justifiable to found a diagnosis on the sole evidence of a reaction to a reagent which has been shown to be too sensitive when it gets into the body? The altered method of application undoubtedly places some difficulty in the way of "getting in"; but a local reaction may take place, if the tubercle bacilli has manufactured products which persist after the decease of the bacilli themselves, and which, through the circulation, may reach the place where the tuberculin is applied? Statistics, which claim to show the frequency of tuberculosis in any decade of life, when the method employed is a modification of tuberculin application, must, therefore be received with caution. Drs. F. Hamburger and R. Monti, who have used the subcutaneous method alternatively with von Pirquet's cutaneous method, consider that the latter method does not reveal every case of active tuberculosis, and does indicate some inactive cases. They examined all children admitted into hospital suffering from acute infectious diseases, such as scarlatina, diphtheria, and cerebro-spinal meningitis, assuming that tuberculous children would not be more prone to catch these diseases than healthy children. The tests were applied by giving tuberculin by von Pirquet's method first. When a child reacted it was entered as tuberculous, while when a negative result was obtained a subcutaneous injection of from 0.1 to 1 mgr. of tuberculin was given. As only 23 of the children were under 1 year, this age-period was omitted on the ground of an insufficient number. Of 46 children in the 2nd year of life, 4 (9 per cent.) reacted, the proportion steadily increasing up to the 12th year, when it was 94 per cent. These statistics are not conclusive. The frequency may be as high as Drs. Hamburger and Monti put it; it could scarcely be higher, but evidence has been brought forward in recent times which tends to indicate that some of the invasions by tubercle bacilli end in a more or less powerful protection against the disease as such.

IT is stated in the *Times* that Dr. E. A. Wilson, of Cheltenham, who was second medical officer, zoologist, and artist in the *Discovery*, has accepted the post of medical officer to the Captain Scott expedition to the South Pole. Dr. Wilson did some zoological work among the penguins on the occasion of his former expedition, and published a volume through the Natural History Museum.

Medical Notes in Parliament.

The Poor Law Commission.—The Archbishop of Canterbury last week called attention to the report of this Commission in a valuable speech in the House of Lords. After a historical survey of the treatment of the poor before 1832, he considered the results of the present system. As figures for the earlier years were difficult of comparison he took 1871, and found that there were then 31 paupers per 1,000 of population as compared with 22 in 1908; but, considering all the varied methods of relief introduced of late years, the lessened figures gave little satisfaction. There were, he said, serious administrative defects, and there was an overlapping of existing authorities which often worked on different lines. One of the first remedies he suggested should be enlarged areas under one authority in order to obtain a fairly uniform system of outdoor relief—education, sanitary inspection, and the like—and the classification of the indoor poor in special institutions. He contended that the recommendations of the Majority and Minority Reports were not widely contradictory. The main recommendations made by the whole of the Commissioners were the enlargement of the area of administration, the abolition of the present boards of guardians as such, the ending of the system of *ad hoc* election to guardianship, and classification by institutions and not in institutions. All these hung together and were common to all. Again, both were in agreement in urging that the curative rather than the deterrent purpose should always be kept in mind. The reports diverged when they came to consider the authorities to be set up to do the work. The majority proposed that the powers and duties of the guardians should be transferred to statutory committees of the county and county borough councils working in co-operation with the existing committees established by law for cognate purposes—health, education, and so on—and that the manifold organizations that existed for the purpose of charitable aid should be correlated under authority and given a legal status in each of the new areas of administration. The minority of the Commissioners, on the other hand, proposed to distribute the powers and duties of boards of guardians in this way: so far as the non-able-bodied were concerned, they would be handed over to the existing committees of the county and county borough councils—for example, the existing education, health, asylums, and pensions committees. Their work was to be carried on under the supervision and control of registrars of public assistance, appointed by and responsible to the finance committees. The able-bodied were to be dealt with by a new organization, set up and controlled by the Board of Trade or a new Minister of Labour. Between these two he did not discriminate, though he confessed that he did not see how the existing authority, even if enlarged, could take over all these varied duties without bringing about another form of overlapping and a reversion to the small areas which every one condemned. For instance, there were now more than 1,800 different sanitary authorities in England and Wales—three times as many as boards of guardians. It was for the Government to decide which line they would adopt when they framed their bill. Lord Crewe thanked the Primate for his speech, and agreed with much that had been said. He thought the general sense of the urgency of the question was widespread, and that it could not be deferred. He admitted the gravity of the figures given, and pointed out that the number of paupers, though it had fallen after 1871 for

one cycle, had since risen ominously, while the cost of maintenance had nearly doubled. In 1871 the cost was almost 8 millions, in 1895–6 it was over 10 millions, and in 1905–6 it was upwards of 14 millions. He was glad attention had been called to the points of similarity between the two reports; there was a general agreement over the abolition of boards of guardians, on the abolition of the general workhouse, and mainly on the kind of classification to be adopted. Both reports agreed as to the necessity that in the last resort recourse must be had to compulsion in the treatment of certain cases of poor relief, and there were various other common grounds. It was true that there were certain differences of approach, but he thought he might say that the Majority Report in the main sought to develop individual responsibility, while the Minority Report tended towards giving a stimulus to the consciousness of social obligations. He hoped that it might be possible within a reasonable time to deal with this subject, vast as it undoubtedly was. The Bishop of Southwark made an earnest speech, appealing for an early consideration of the whole of the recommendations made by the Commission. The discussion then closed.

The Housing Bill occupied the Lords all day on Tuesday, and the Committee made several alterations in the bill. The most important was on Clause 2, in which, on the motion of Lord Camperdown, the plan of the Government for the acquisition of land for housing was rejected, and another and more deliberate method substituted. The plan of the Government was that adopted in the Small Holdings Act, and for it, after a long debate, the plan in the Port of London Act was carried on a division by 112 to 30. Lords St. Aldwyn, Alverstone, Salisbury, and Lansdowne supported the amendment, which was opposed by Lord Crewe and Lord Beauchamp. Clauses 3 to 7 were next passed, with a slight amendment in Clause 7 with regard to settled land. On Clause 10 an attempt was made to amend the bill by taking away the power of the Local Government Board to force a local authority to act by mandamus, but after a short discussion the amendment was withdrawn. An amendment was then accepted on the motion of Lord St. Aldwyn, which required the Local Government Board to be satisfied that the need for housing was likely to be permanent before declaring a local authority to be in default. Lord Midleton next moved an amendment requiring that an order of the Local Government Board under Part III should be laid before both Houses of Parliament for thirty days before taking effect. Lord Beauchamp objected to the amendment as causing serious and needless delay; Lord Lansdowne supported it on the ground that the Bill put too much power in the hands of a department, and on a division the alteration was carried by 72 to 24. Lord Midleton then moved to exclude from the scope of Clause 10, the London County Council or the Council of any County Borough, which was agreed to after a discussion. Clauses 10, 11, and 12 were then passed, and Clause 13 was amended as regards the incidence of housing charges. Clause 14 was altered by fixing the rental standard for rural districts of £8 instead of £16 after a division. On Clause 14 Lord Dartmouth moved a lengthy amendment, which the Government declined to accept as a whole, but agreed to put in a portion relating to the inspection of houses by the local authority or the landlord. The debate then stood adjourned.

The Admission of Women, Royal College of Surgeons.—Mr. Keir Hardie asked the Secretary of State for the Home Department whether he had received for sanction and ratification the new by-laws of the Council of the Royal College of Surgeons regarding the admission of women to their examinations, agreed to on April 1st last; whether he was aware that the delay in issuing the by-laws was causing inconvenience to women students waiting to go up for their examinations; and whether he could say when the by-laws were likely to be issued. Mr. Gladstone replied that he had already, on August 25th, signified to the council his decision to approve these by-laws. His approval would be given as soon as they submitted the formal document for his signature. He understood that they could not do this before their meeting on October 14th, but it would still, he believed, be possible to complete the necessary formalities in time for women to be allowed to enter for the examination of the Royal College to be held in January next.

Patent Medicine Labels.—Captain Craig asked the Home Secretary whether he would consider the advisability of issuing regulations making it compulsory on all manufacturers of medicines liable to Patent Medicine Duty to print on the label on the bottle, or other vessel in which such was sold, the full ingredients of such bottles or vessels, as well as the diseases they purported to cure; and whether he would consider the advisability of increasing the size of the lettering of the Government stamp as a further precaution against ignorant people believing that the contents were guaranteed by the Government. Mr. Gladstone said that he was in communication with the Privy Council Office about the point raised in the first part of the question, but he was disposed to think that the matter might be one of sufficient importance for an inquiry by a Select Committee next session. As regards the second part of the question, he was informed that new designs for medicine stamps had recently been adopted, and the printing plates were being prepared by the engravers. In the new designs it would be more clearly indicated that the stamp did not imply any Government guarantee.

Mortality in Transvaal Mines.—Last week Colonel Seely stated in answer to Mr. Markham that the following were the available figures of mortality from disease for Chinese and British Central Africa labourers on the Rand per 1,000 per annum: Chinese, 1905, approximately, 12; 1906, approximately, 11; 1907, approximately, 9: 1908, approximately, 7. British Central African: 1904–5, 118.3; 1905–6, 116.3; 1906–7, 52.8. In spite of the striking reduction in the death-rate of these British Central African natives from 116 to 52 per 1,000 in the last year mentioned, the Secretary of State did not feel justified in continuing to permit recruiting under official sanction. In answer to Sir Gilbert Parker on Monday last, Colonel Seely gave the following figures, which included the first quarter of 1909, namely:

(i) Death-rate from all causes per 1,000 per annum:

	1905.	1906.	1907.	1908.	1909.
Chinese ...	18	20	16	16	16
Natives ...	46	34	32	33	35

(ii) Death-rate from disease per 1,000 per annum:

	1905.	1906.	1907.	1908.	1909.
Chinese ...	12	11	9	8	6
Natives ...	41	29	27	29	28

(iii) Death-rate from accident, homicide, and suicide:

	1905.	1906.	1907.	1908.	1909.
Chinese ...	7	9	7	7	10
Natives ...	5	5	4	4	7

Plague and Rat Fleas.—Mr. Alfred King asked the Under Secretary for India last week whether the Indian Government still adhered to the theory that plague in man was due to bites of infected rat fleas; and, if they did not, what theory were they acting on, and had they made such changes in their administration as were necessary to meet the new situation? The Master of Elibank replied that the connexion between bubonic plague in man and plague in rats was well established, and rat destruction continued to hold a prominent place among the preventive measures adopted by the Government of India. As he had already stated in reply to a question the steps taken to prevent plague had been published through the Moral and Material Progress Report and other publications. Besides these special measures, the Government of India were now considering an important scheme for the improvement of the sanitary service. In reply to a further question, he said that he had not seen a statement in the public press to the effect that the rat flea theory was disproved. A well-known medical

authority who had taken up an independent attitude on this question did not generally agree that this theory had been disproved.

Factory Surgeon (Hull District).—Mr. W. Thorne asked the Home Secretary if he was aware that the permanently-appointed factory surgeon for the Hull district was a medical man in connexion with the sick club at the firm of Messrs. Blundell, Spence, and Company, Hull; whether the Government allowed the permanently-appointed factory surgeons to act as medical examiners to sick clubs for private firms; and whether he intended taking action in the matter. Mr. Gladstone replied that he had no information as to whether the certifying surgeon at Hull was connected with the sick club referred to, but it was a very usual thing for certifying surgeons to be connected with clubs under the management either of employers or of workmen, and in some districts it would be difficult to find a doctor who was not so connected. If there was any allegation of grievance in this particular case he should be happy to make inquiry on receiving a statement of the details.

Lady Medical Missionaries in Madagascar.—Sir Gilbert Parker asked the Secretary of State for Foreign Affairs whether lady medical missionaries, fully qualified, and one of whom held a gold medal given in 1895 by the French Government for her care of the wounded, had been forbidden to give out medicine to the natives in Madagascar under pain of legal proceedings; and whether this Government had made any representations on the subject to the French authorities. Sir Edward Grey replied that he was not aware of the circumstances referred to. The question of the qualification of foreigners to practise medicine in France or her colonies was governed by French law, according to which no one was allowed to practise medicine in France or in French colonies without a diploma of medicine given by the French Government, subject to certain conditions.

Antivaccination Declarations.—Sir Maurice Levy asked the President of the Local Government Board whether he would give instructions to vaccination officers to accept declarations under the Vaccination Act, 1907, made by mothers in the absence of their husbands at sea or anywhere where they were unable to make the declaration. Mr. Burns replied that the law officers advised in 1898 that under ordinary circumstances the father was the person to obtain a certificate of conscientious objection, and a similar view would no doubt apply to the making of a statutory declaration under the Vaccination Act, 1907. A declaration made by the mother would not relieve the father from liability. It would, however, relieve her from liability, and for this purpose it should be accepted by the vaccination officer. Where it had appeared to him necessary, he had informed the vaccination officer to this effect. It did not seem to be necessary to make any general communication on the subject.

Amendment of the Inebriates Act.—Mr. Gladstone stated on Monday last that he hoped to introduce a bill on this subject next session.

British Army and Small-pox.—On Monday last, in answer to Sir F. Channing, Mr. Haldane submitted the following table showing the average strength of the British troops serving at home and abroad during the years 1888 to 1908, also the admissions and deaths with the percentage to strength, and the percentage of mortality to attack, for small-pox amongst the troops serving in the United Kingdom, India, Egypt, and the Colonies, during the years 1888 to 1905, inclusive:—

Small-pox in the British Army.

Year.	Average Strength.	United Kingdom.					India.					Egypt.					Colonies.*				
		Admissions.	Deaths.	Percentage. Admissions.	Percentage. Deaths.	Percentage of Mortality to Attack.	Admissions.	Deaths.	Percentage. Admissions.	Percentage. Deaths.	Percentage of Mortality to Attack.	Admissions.	Deaths.	Percentage. Admissions.	Percentage. Deaths.	Percentage of Mortality to Attack.	Admissions.	Deaths.	Percentage. Admissions.	Percentage. Deaths.	Percentage of Mortality to Attack.
1888	198,851	14	1	.01	.00	7.14	107	10	.16	.01	9.35	14	4	.42	.12	28.57	4	—	.02	—	—
1889	198,446	2	—	.00	—	—	152	17	.22	.02	11.18	42	6	1.22	.17	14.29	5	—	.02	—	—
1890	196,502	—	—	—	—	—	36	4	.05	.00	11.11	—	—	—	—	—	—	—	—	—	—
1891	196,270	1	—	.00	—	—	14	1	.02	.00	7.14	1	—	.03	—	—	4	—	.02	—	—
1892	199,049	6	—	.01	—	—	18	3	.03	.00	16.67	2	—	.05	—	—	—	—	—	—	—
1893	202,125	8	—	.01	—	—	33	4	.05	.01	12.12	4	—	.08	—	—	5	—	.02	—	—
1894	203,969	11	—	.01	—	—	13	3	.02	.00	23.08	—	—	—	—	—	2	—	.01	—	—
1895	200,681	3	—	.00	—	—	19	2	.03	.00	10.53	5	—	.11	—	—	—	—	—	—	—
1896	203,145	1	—	.00	—	—	123	10	.17	.01	8.20	2	—	.05	—	—	—	—	—	—	—
1897	198,294	—	—	—	—	—	24	4	.04	.01	16.67	3	1	.07	.02	33.33	4	—	.01	—	—
1898	202,166	—	—	—	—	—	2	—	.00	—	—	—	—	—	—	—	2	1	.01	.00	50.00
1899	201,004†	1	—	.00	—	—	14	1	.02	.00	7.14	2	—	.05	—	—	1	—	.00	—	—
1900	226,276†	1	—	.00	—	—	36	3	.06	.01	8.33	3	—	.08	—	—	5	—	.02	—	—
1901	196,796†	6	1	.01	.00	16.67	20	3	.03	.01	15.00	—	—	—	—	—	4	—	.02	—	—
1902	254,357†	11	3	.01	.00	27.27	23	4	.04	.01	17.39	—	—	—	—	—	3	—	.03	—	—
1903	242,182	2	—	.00	—	—	68	8	.10	.01	11.76	1	1	.02	.02	100.00	1	—	.00	—	—
1904	244,425	3	—	.00	—	—	49	5	.07	.01	10.20	2	—	.04	—	—	2	—	.00	—	—
1905	240,075	—	—	—	—	—	99	1	.14	.00	1.01	—	—	—	—	—	7	—	.02	—	—
1906	230,128	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1907	217,844	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1908	215,467	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Includes Gibraltar, Malta, Cyprus, Canada, Bermuda, Barbados, Jamaica, Western Africa, South Africa, St. Helena, Mauritius, Ceylon, South China, North China, Straits Settlements, and Crete.
† Does not include troops in South Africa serving during the late campaign.

Scotland.

[From Our Special Correspondents.]

Aberdeen.

Medical Inspection of School Children.

An important meeting of representatives of 87 out of the 91 school boards in Aberdeenshire, along with the members of the County Committee on Secondary Education, was held at Aberdeen on September 18th for the purpose of considering a scheme for the medical examination and supervision of the school children in the county. The scheme, which had been drawn up by the County Committee on Secondary Education, proposed that for the purposes of medical examination and supervision the county, including the burghs, should be treated as one area. It proposed to appoint a principal school medical officer to have charge of the whole scheme at a salary of £300 per annum, rising by annual increments of £25 to £400 per annum, with necessary travelling expenses; and an assistant school medical officer for the county at a salary of £200, rising to £300, and with the necessary travelling expenses; district nurses to be employed to assist the school medical officers, the sum of £200 to be allocated for the current year for the payment of such nurses, either by subscription to district nursing associations, or otherwise, as might be arranged. Necessary clerical assistance and office accommodation, printing and stationery, is estimated to cost £200; and each school is to be provided with a weighing machine and a measuring rod. The total cost for the first year is estimated to be £2,050, half of which would fall to be allocated amongst the several boards in proportion to the average number of pupils on the rolls of the schools.

The scheme was subjected to a good deal of criticism, and the conference was adjourned for three weeks to enable the representatives to get a mandate for or against the scheme, so that a decision on the scheme might be arrived at.

Newhills Convalescent Home and Sanatorium.

While we hear in the present day of enormous sums being expended on the construction of convalescent homes and sanatoriums it is interesting to note the progress of the Newhills Convalescent Home, which, from a small beginning, has now assumed large proportions. Mrs. Smith (wife of the parish minister), Newhills, Aberdeenshire, began to interest herself in the Home thirty-five years ago. At that time, for a rental of £5 a year, she took a small cottage which had only accommodation for two or three patients. The work was continued for about eight years, when the cottage became too small, and was getting into rather a dilapidated condition. Mrs. Smith then took steps to have another cottage built on the top of the hill, surrounded by pine woods, and commanding an excellent view. A few years after the present cottage was built it became too small, and it was enlarged so much that it can now accommodate 26 patients. Mrs. Smith found, after this new cottage had been built, and before the present movement for dealing with phthisis arose, that there were always a few consumptives applying for admission, and she set aside part of the new cottage home when it was enlarged—one room for men and another for women—for the special benefit of such patients. The results proved so satisfactory that when the newer ideas about open-air treatment of phthisis came into vogue, and the infectious nature of the disease to be understood, she took steps to have a small separate sanatorium built in connexion with the Cottage Home, the intention being to exclude phthisical patients from the convalescent home, and to give such patients the benefit of open-air treatment and special dieting. The consumptive block, which has accommodation for 13 patients, was erected on the footing that, if it should be ultimately superseded by suitable hospitals on an adequate scale for Aberdeen and district, it could then form part of the convalescent home. Of late years the number of those applying for admission has greatly increased, and those in charge hope that means will soon be provided to extend the work. The institution has always been managed with the utmost economy, although there is no stint of excellent food; and it reflects great credit upon the management that the average expenditure per patient, inclusive, does not exceed 10s. a week.

Reference has been made to this home at some length with the object of showing that from small beginnings and capable management much can be done in the building up of an institution such as this one. Mrs. Smith worked the home single-handed until a short time ago, when a committee was formed to manage it. Following her example, cottage homes have been opened at Maryculter and at Culter; they supply a much felt want, many poor people from the towns getting a chance of fresh air and good food and rest, thus preventing in many cases a premature breakdown.

Glasgow.

Medical School Extension.

About a year ago a report on the provision of facilities for the extension of medical teaching in Glasgow was approved generally by the University Court and by the Senate. The matter was referred to a committee, which has been conducting negotiations with the managers of the Royal and Western Infirmaries and of St. Mungo's College, with the Muirhead Trustees, and indirectly with the Carnegie Trustees. What is aimed at is the establishment of university chairs at the Royal Infirmary for the teaching of (1) medicine and clinical medicine, (2) surgery and clinical surgery, (3) midwifery, and (4) pathology. It is proposed that these four professors should form the teaching staff so far as the Royal Infirmary is concerned. Under this arrangement in place of a complete there would be a partial medical school at the Royal Infirmary, so that university students, if they preferred, might take their final year at that institution instead of at the Western Infirmary and Gilmorehill.

Towards the accomplishment of this object it is understood that the Muirhead Trustees are willing to give two sums of £400 a year each to found two of the chairs, that the funds of St. Mungo's College are to be concentrated on one chair, and that the Carnegie Trustees are to supply the funds for the fourth chair. The scheme will require to be sanctioned by Parliament, and draft provisional orders for that purpose are being prepared. These will be submitted to the members of the University Court for their approval, probably at a meeting in October.

Consumption of Milk in Glasgow and Edinburgh.

Some interesting figures regarding the proportion of milk consumed in various towns were brought forward in the presidential address at the autumn conference of the Federation of Dairymen's and Cowkeepers' Association of the United Kingdom, held in Dublin on August 24th. While Dublin consumed 6½ oz. a head and Manchester 4½ oz., Glasgow and Edinburgh used each 10 oz. a head. The advantages of milk were dwelt upon, and mention was made of the theory of Dr. E. C. Latham, who maintained that the desire for strong drink might be overcome without the aid of drugs or "cures," and simply by the use of buttermilk. It was possible, Dr. Latham said, to subdue and finally destroy the desire for alcoholic stimulants by drinking from 3 to 6 oz. of buttermilk whenever the desire for intoxicants manifested itself.

Education, Industrial Diseases, and the Compensation Act.

Sir Thomas Oliver, of Newcastle, delivered an address in the new waiting hall of the Glasgow Royal Infirmary on September 1st in connexion with the opening of the post-graduate course of studies at that institution. Sir Thomas spoke on modern moods and movements in medicine. There were few cities, he said, that offered the wealth of clinical material that was to be found in Glasgow, and it was pleasing to find that the movement for post-graduate studies should have been taken up in that city. It was of the utmost importance to the medical man that he should keep abreast of the times, and to do this it was necessary that he should be continually building on the foundation of knowledge gained in his studies at college. The effects of post-graduate study did not concern only those who took part in it, but was of the greatest good to the people generally. It had hitherto been a well founded complaint that in medicine there were few salaried appointments compared with those in law, but recently the sphere of practical medicine had been widened by the State. The rise of the factory system, the nation's care

for the common health, and the medical inspection of school children had opened up careers for numbers of the medical profession, and brought medicine into touch with social problems in a manner until recently undreamt of. One unsatisfactory aspect of our educational system was seen in the absence of any attempt to deal personally with the mental and physical disabilities of the children. All were treated alike, with the result that the brilliant were pushed ahead, and the dull lagged behind. It was never thought that some of the dullness might be due to defective sight or hearing, or be the result of adenoids or impaired health. There was excellent reason and room for remedying all this; the present amount of educational waste was astounding, and showed how faulty our system had been. The trend of modern days was in the direction of the prevention of disease. Since there were millions of men and women in the country who were spending many hours daily in factories, amid surroundings that made for ill-health, the study of industrial diseases and the conditions which caused them, would in the future become more and more a national requirement. Then a larger place would have to be assigned to the study of such problems in the medical curriculum. The diagnosis and treatment of industrial disease might with some advantage find a place in a course of post-graduate instruction. Parliament had imposed new duties on the physician, in regard to which there should be some special training. The operations of the Workmen's Compensation Act were bringing medical men into conflict with one another, with their patients, and with employers. Human life had, by Act of Parliament, a money value properly assigned to it in the case of accidents, and upon the medical man devolved the task of guarding the interests of employer and employed alike. Sir Thomas said that it was an unfortunate circumstance that the Act had brought into evidence a class of lawyer and medical practitioner whose behaviour was creditable neither to themselves nor to the professions to which they belonged. There were lawyers who on unmistakably insufficient grounds urged men and women to proceed to law to recover for imagined effects of injuries, and there were medical men who stooped to similar methods. It was not right to question the motives of others, but unless a medical man was thoroughly convinced of the reality of an illness, and that it was a proper basis of a claim for compensation under the Act, he should not advise a case being taken into court.

School for Defective Children in Wishaw.

At a meeting of the Cambusnethan School Board at Wishaw it was agreed to erect a school for the education of defective children in the parish. The building will be a composite one, consisting of two class-rooms, a teachers' room, a hall, a kitchen, and other conveniences, and will cost, approximately, £800, including fittings and apparatus. The estimated cost of driving the children (about fifty in number) to school is about £150 a year. This will be one of the first, if not the first, schools specially built for the education of mentally defective children in Scotland.

Perth.

A special meeting of the subscribers and contributors to the Perth City and County Royal Infirmary was held at Perth on September 6th to consider a recommendation by the directors as to the adoption of a site for a new infirmary. The report by the directors was submitted, in which they recommended as the most suitable site a plot of ground at Tullylumb, lying to the south of Western Avenue, Glasgow Road, containing a little over eleven acres. A sketch plan, prepared by Mr. James Millar, architect, Glasgow, showed a modern hospital thoroughly up to date, with 120 beds at an estimated cost of £36,800. On the motion of the Chairman, Mr. C. A. Murray, the meeting approved of the site, authorized the directors to acquire it, and to take such action as they may see fit to mature the scheme for a new infirmary.

Scottish Vital Statistics for 1907.

The most salient features of the Scottish vital statistics for 1907, which have just been issued in Blue Book form, are a continued fall in the birth-rate, the birth-rate of the year being the lowest yet recorded, a marriage-rate of average amount, and a death-rate which, though slightly higher than those of the two previous years, 1905 and 1906, is less than those of all other previous years since the institution of national registration. The infantile mortality-rate of 1907 was low. It is less than the corresponding rates of all the years since 1879. The slight increase of the death-rate of the year over those of the two previous years may be ascribed to the existence of an epidemic in Scotland of cerebro-spinal meningitis. Compared with the estimated population of the previous year, those of each of the urban districts show an increase, while those of each of the rural districts show a decrease.

Women's Voluntary Detachments.

Lieutenant-Colonel Barnes, Convener, and Miss I. Hamilton M'Ilroy, M.B., interim Secretary of the Scottish Women's Red Cross Brigade of St. Andrew's Ambulance Corps, have issued a circular letter in the following terms:

It has recently been decided by the War Office and the British Red Cross Society in conference that voluntary aid detachments of both men and women shall be formed in connexion with the county territorial associations to fill the gap left in the medical arrangements for the field army of defence. Under these circumstances there will be no necessity for the proposed Scottish Women's Red Cross Brigade of the St. Andrew's Ambulance Corps, and its establishment would indeed lead to the very overlapping and waste of effort we are anxious to avoid. It has, therefore, been decided not to proceed further with its organization. In intimating the same to those concerned, the thanks of the Association are tendered to all who have gone to considerable trouble in the matter. No doubt those who contemplated joining the proposed brigade will have an opportunity of offering their services to the voluntary aid detachments of their several counties when formed.

Results of Medical Examination of School Children.

Dumbarton School Board was one of the first boards to decide upon the medical examination of school children, and the first report deals with one school—College Street—where 654 children (339 boys and 315 girls) were examined. The parents offered objections in 5 per cent. of the cases. It was ascertained from the children what illnesses they had previously suffered from, and the highest percentages of illnesses were discovered to have been—Measles, 67.5; whooping-cough, 39.4; chicken-pox, 16.3; scarlet fever, 10. One important finding was that, gauged by the figures of the Anthropometric Commission of the British Association, the Dumbarton children, while little divergent in height, were 4.13 lb. under the average weight for British children and 5 lb. below those of Aberdeen. Dr. Little, the reporter, makes out from these figures that Dumbarton children require more nutrition, and suggests a tentative experimental feeding of a group of local pupils. Dr. Little also maintains that an immediate improvement in the general health of the children would follow the appointment of a medical officer for the schools.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

Cardiff Medical School.

At a meeting, held on September 15th, of the Cardiff Infirmary Board of Management, Colonel Bruce-Vaughan said he wished to offer hearty congratulations to the University of Wales on the additional grant of £15,000 a year from the Treasury, and more particularly on the allocation of the grant of £1,500 for the Cardiff Medical School. The welfare of the college, whose professors had done and still were doing so much for the infirmary, must deeply concern that institution. He hoped that by private benefactions and adequate further support from the Treasury the Cardiff University College would be able to complete its fine scheme of buildings and maintain them, and pay its professors and lecturers stipends worthy of its position as the chief college of the Principality. The progress made by the Cardiff Infirmary in the last few years from a building point of view, and the excellence of its staff, had contributed in no small degree to the allocation of the grant to a medical school. Dr. MacAlister, one of Sir Thomas Rayleigh's Committee, who paid a visit to the Cardiff Infirmary last year, laid special stress on

the provision for clinics in the new out-patient department, and the efficiency of every other department of the hospital. He was also informed of the intention of the board immediately to add 78 beds, which would make a total of 168, also to add another operating theatre, with the provision of laboratories to the old and new ones and the building of a well-equipped pathological block. These details connected with the infirmary and Dr. MacAlister's observations on the great possibilities of Cardiff as a school of science had undoubtedly led to the recommendation of his committee of this grant. Probably the first step which would be made by the council of the college would be the appointment of a professor of pathology. The advantage to the infirmary staff of such an appointment and the benefit to the whole community would be great indeed. They had made provision for this appointment by including in the new wing scheme the provision of buildings which would cost, including equipment, £4,600. The infirmary had done something, then, to facilitate the appointment of a professor of pathology. It was hoped to make this appointment as speedily as possible. The foundation of a medical school meant much for Cardiff, the Principality, and the infirmary, and he asked them to offer to the council of the college the use of rooms for its professor of pathology whenever he might be appointed, and to congratulate all those gentlemen who had been instrumental in laying the foundation of a Cardiff Medical School. Colonel Vaughan's suggestion was supported by Dr. T. Wallace and unanimously agreed to.

NEW WING OF THE CARDIFF INFIRMARY.

At the ordinary monthly meeting of the Board of Management of Cardiff Infirmary held on September 16th a vote of condolence was passed with Mr. John Cory on the death of Mrs. Cory, and with Mr. Richard Cory on the death of his son. The Chairman (Colonel Bruce-Vaughan) announced the receipt of a communication from Sir W. T. Lewis to the effect that Mrs. John Nixon would lay the foundation-stone of the new wing on October 21st at 3 o'clock. The addition, costing £33,000, to which Mrs. Nixon has generously contributed 10,000 guineas, is in memory of her late husband, Mr. J. Nixon (Nixon's Navigation Colliery).

The financial statement referred to an overdraft of £21,160 19s. 11d., and in discussion Mrs. Henry Lewis of Greenmeadow sounded a note of warning as to the probable effect of the Budget, which bore hardly upon many, as they heard over and over again. The Chairman said this was an important question, and they must do their utmost to cope with it. There are 633 patients waiting admission, because the institution is too small and the income insufficient. Madame Patti and the artistes who assisted were cordially thanked for their services at the recent concert in aid of the infirmary funds, and thanks were conveyed to Dr. Howell Rees, through whose instrumentality Madame Patti came to Cardiff once again.

MERTHYR HOUSING.

The housing problem is ever present in Merthyr, and the Borough Council has considerable difficulty in dealing with it. At every meeting of the Health Committee the medical officer of health, Dr. Duncan, recommends the closing of certain houses unfit for human habitation, but this step is opposed by many of the members on the ground that no provision is made for the displaced population. Instances are also on record where houses which have been condemned are still occupied, owing to the tenants, after careful and continuous inquiry, being unable to find other houses. Dr. Spencer Low, in his report in 1906 to the Local Government Board on the sanitary condition and administration of Merthyr Tydfil, stated that there could be no question as to the chief want of Merthyr—it was more abundant and better dwellings available for the working class population. Since 1906 a large number of workmen's dwellings have been erected by the Borough Council and by private enterprise, but the building of new houses does not seem to keep pace with the closing of condemned premises. In the years 1906, 1907, and 1908, 611 houses were built in various parts of the borough by private enterprise. About seven years ago the Borough Council erected 100 houses for workmen at Penydarren In 1907, 38 were built at Penywern; and in 1908, 50 at Twynyrodin. Others are being erected at Danyderi, and these will be completed in a few months. A contract has also been accepted for the erection of 68 houses at Penywern, and a portion of the land purchased at Gellifaelog has been set apart for the building of workmen's dwellings, and the deputy surveyor has already presented a scheme for 200 cheap houses for the very poor. There still remains, however, acording to the latest report of Dr. Duncan, a considerable amount of insanitary property in the borough, and the council is faced with the difficulty of a dearth of houses, especially of houses with a rent sufficiently low to suit the case of tenants who would have been displaced from slum areas. For this reason certain areas have not been dealt with. That the Borough Council is doing its best is certain, but one of the greatest difficulties that this body has to contend with is the difficulty of getting land to build upon, as some ground landlords do not seem disposed to sell sites for building purposes, and the solicitors for one estate, when applied to, replied:

> We are sorry to say that the housing scheme of the Council does not seem to the landowners to be of any advantage to their estate, and, in fact, if agreed to, might result in their being unable to sell any more land to private builders, except on remarkably low terms, and therefore it is not worth while to further consider the proposal.

This communication was severely commented upon by members of the Council, and it was resolved to send copies to the Chancellor of the Exchequer, the President of the Board of Trade, and the local members of Parliament. The question was recently raised in the House of Commons, and Mr. John Burns, in reply, said that local authorities were already empowered by Section 57 of the Housing of the Working Classes Act, 1890, to apply to the Local Government Board to enable them to purchase lands compulsorily for the purpose of providing houses for the working classes, and he added that under the Housing and Town Planning Bill now before Parliament the procedure in relation to this matter is proposed to be carefully simplified and improved.

SANITARY INSPECTORS' ASSOCIATION.

The annual meeting of the South Wales and Monmouthshire Centre of the Sanitary Inspectors' Association was held at the Cawdor Hotel, Newcastle-Emlyn, on September 10th. Representatives from Glamorganshire, Monmouthshire, Carmarthenshire, and Cardiganshire were present, and these were met by Mr. John Bowen, Llwyncinon, the Chairman of the Council of the Association. After luncheon and the usual toasts business was commenced; in the unavoidable absence of the President, Dr. W. Williams, the chair was taken by Dr. J. Powell, among those present being Drs. D. G. Lloyd, D. L. Thomas (M.O.H. Stepney), and D. J. Thomas (M.O.H. Acton), and the clerk and surveyor to the Newcastle-Emlyn District Council. Dr. Lloyd, in an excellent paper on "Consumption, its Causes and Prevention," dwelt upon the exceedingly high death-rate in his district from consumption. It was higher, he said, than in the worst districts of London. During the last century sixteen millions more succumbed to consumption than were killed in the wars. About twenty-five years ago the following could well be written over the doors of an establishment allotted for the receipt of consumptives: "All hope abandon, ye who enter here." To-day the more encouraging words, "Cure sometimes, and relief always" might be substituted. One step in the right direction was taken by Mr. John Burns in his Town Planning Bill. Dr. Powell, in thanking his colleague for his admirable paper, stated that he had always thought highly of him, but after hearing the paper he had enhanced himself immensely in his sight. Dr. D. J. Thomas, Acton, said he was dissatisfied with voluntary notification. There were two reasons for the failure of sanatoriums: one was that they could not get people in early enough, the other being the fact that at the sanatorium they were not taught any new occupation. When they got out of the institution they had nothing to do but to fall back upon their old occupations, and live under the same old conditions. Consumption was entirely different from scarlet fever and diphtheria. When they were cured from the latter they were far less likely to get second attacks, but consumption, although the patient was cured, would break out again under unhealthy conditions. The sanatorium

would do an immense good in educating the parents. A large number of persons who were now suffering were undoubtedly emigrants from the towns with a view of obtaining a cure or relief amid healthier surroundings. Dr. D. L. Thomas (Stepney) totally disagreed with what his brother said regarding consumption in Cardiganshire. Ten years ago he made inquiries into the death-rate in South Wales, and he found that—compared with that unsavoury district, Whitechapel, with its 58,000 inhabitants—consumption was most rife in Cardiganshire, with its mountain air and Atlantic breezes. Dr. Powell thanked the medical gentlemen for their excellent contributions. After the usual votes of thanks were passed, Dr. W. Williams, county medical officer for Glamorgan, was unanimously re-elected president of the centre for the forthcoming year, whilst Mr. Orlidge (Panteg) was appointed chairman of the council and Mr. D. T. Williams, county inspector for Glamorgan, vice-chairman, and Mr. J. Towy Thomas, chief sanitary inspector Rhondda, as secretary of the centre.

MR. E. J. EVATT.

Mr. Evelyn John Evatt, M.B., B.S., who for several years past has been a member of the staff of the University College of South Wales and Monmouthshire as lecturer in applied anatomy and assistant lecturer and demonstrator in anatomy, has been appointed Professor of Anatomy in the University of Winnipeg, Canada.

BRISTOL.

THE HANDEL COSSHAM MEMORIAL HOSPITAL.

THE Handel Cossham Memorial Hospital, after being open for a brief eighteen months, has now been closed for six months. The ostensible reason for this step was the occurrence of a case of haemorrhagic small-pox, which was followed by several cases among the staff and patients. This, however, really gave the committee the opportunity that they had long wished for, to close the hospital in order to get their affairs in order. It will be remembered that the late Mr. Cossham left about £150,000 to found a hospital in the neighbourhood of Kingswood, an outlying part of Bristol, with which he had long been connected in business. Of this large sum the committee spent about £50,000 in erecting a hospital built in the best modern style and fitted with all the requisites needed for the treatment of patients in a general hospital, leaving the balance invested to produce an income sufficient to maintain 52 beds. After eighteen months the committee find that they are in debt to the amount of £3,000, and the incident referred to above formed an adequate excuse to close the hospital and allow the income to be spent in the payment of the debt that had accumulated.

Under the rules three members of the committee are appointed by the City Council, and on September 15th the appointment of three "representative trustees," as they are called, came before the Council, and led to an interesting discussion. Alderman Hare, after remarking that the hospital was an asset to the city, said that he could not help feeling that there was a great deal wanting to make it a useful adjunct to Bristol. He thought the Council would be surprised at some figures that he could supply—one, for instance, that the cost per bed was £150, whereas at the Infirmary or the General Hospital the cost was one-half that amount, while it was further proposed to spend £2,300 on occupying twenty beds, as the committee suggested opening again with only twenty beds. The discussion was continued by Dr. Christy, who referred to the fact that the patients had to go before the trustees to obtain admission, and suggested that there had been extravagance in the building and fittings, instancing a clock that was said to have cost £450. Mr. Britton, a member of the committee, said the committee had a complete answer. It was due to the medical experts that the hospital had been built in such an extravagant way, and they were advised by them that the income was sufficient. The hospital would never be managed except at a higher rate of expenditure. Alderman Swaish, another member of the committee, said that there had been some friction with the doctors, and the question was whether the committee or the staff should manage the institution. The committee had tried to meet the views of the staff, but they were not prepared to hand over the hospital to the doctors. The clock cost £36. The theatre had been a very heavy expense, for they had made provision for the performance of expensive operations, and, as a result, their expenditure was vastly increased. In reply to a question, Mr. Swaish avoided saying how many beds the committee proposed to open, but assured the Council that they could rely on the hospital being used to the fullest extent. Mr. Perry asked if it was true that £985 per annum were spent on salaries, and £506 on sundries, out of an income of £2,200, and Alderman Swaish said those figures must be wrong.

It is evident from this report that some dissatisfaction exists about the affairs of the hospital, and no very adequate assurance was given by the members of the committee that matters were going to be bettered in the future. If it is finally determined to open the hospital with only twenty or at the most thirty beds, with no resident house-surgeon and not to admit any acute cases, as, it is rumoured, is the intention of the committee, it would not be worth the while of any medical man to give his time and skill to what will, when all is said, be nothing more than a convalescent home. It is more than doubtful whether Mr. Handel Cossham contemplated his legacy being used for such a purpose. The truth would seem to be that the committee embarked on a scheme the details of which they were quite ignorant, and when they find that they have got heavily into debt they try to throw the blame on their medical expert—who happens to be out of England—and on the staff, with whom they say that they have had friction. The friction that arose with the staff was due to the fact that the committee had little experience of the ordinary way in which medical charities are managed, and when the staff, pointed out that their actions were unusual they were not only snubbed, but their letters were unanswered and their grievances ignored. To try to cast the responsibility of the present state of affairs on the staff is unfair and ungenerous, as the staff were not allowed to be members of the committee and they were present at its meeting only on sufferance.

MANCHESTER AND DISTRICT.

ST. MARY'S HOSPITAL.

A VALUABLE report on the clinical work of the maternity department of the St. Mary's Hospital, Manchester, has just been issued. The report is prepared by Dr. Fletcher Shaw, late resident surgical officer, and is approved by the Medical Committee. During the year 1908 the hospital has treated 3,735 maternity patients, 3,301 at their own homes and 434 in the wards. This is an increase of 358 over the previous year, but is much below the numbers in former years, the area served by the hospital being restricted and the beds for maternity patients being kept at twenty owing to lack of funds. On account of the small number of beds, multiparae are not admitted unless for some complication. Thirty-eight medical students and 59 pupil midwives received their training during the year, and seven qualified medical men attended the practice of the hospital. According to the new regulations of the Manchester University all candidates for the degree must now spend three months in a maternity hospital, while the pupil midwives, as formerly, stay four months. About 800 patients were attended at their own homes by the resident staff for complications, and of this number 41 were brought into hospital, but many cases suitable for admission had to be attended outside. Seventeen patients died in the wards during the year. This may seem to be a high mortality for the 434 patients admitted, but it is due to the fact that all the serious cases in the large home district are transferred to hospital. The mortality thus represents that of the whole maternity department. Many serious cases also are sent in by outside practitioners or midwives, often after attempts at delivery have failed. Probably one of the most beneficent acts of the hospital is to admit those serious cases from outlying districts, and no one is refused if room can possibly be made. As reports of maternity hospitals are naturally compared, it is only fair to make the peculiar position of this hospital quite clear.

The total mortality, using the standard recommended in the JOURNAL for May 19th, 1906, amounted to 16.8 per

cent. Here again the character of the work done needs to be taken into account. There is a home patient district of 3,301 patients, and the hospital has only 20 beds. An attempt is made to admit all home patients who require interference, so that the beds are seldom occupied by normal cases. Thus of necessity the morbidity is high, and not fairly comparable with that in hospitals that admit a large proportion of normal cases. The total number of cases of morbidity was 73; a morbid rise of temperature occurred in 62 cases, of which only four were normal deliveries, 26 were sent in by outside doctors after attempts at delivery, and 16 were after Cæsarean section, most of which had a slight rise of temperature sufficient to bring them into the morbidity list. Of the 62 cases in which pyrexia occurred, active measures were required in only 18, blunt curettage being done, followed by gauze packing, and all made good recovery.

The report gives full details of all the abnormal cases dealt with. Breech presentation occurred in 15 cases, with 5 infant deaths, but some abnormality was present in every case, apart from the presentation. Persistent occipito-posterior presentation occurred in 6 cases, all of which were treated by manual rotation and extraction by forceps. Placenta prævia occurred in 29 cases, of which 26 were multiparæ, and three mothers died, while 21 infants were stillborn. This is an infant mortality of 72.4 per cent., but only 3 of the infants were at full term. The treatment in 12 of these cases was dilatation and rapid delivery, while version was used in 6 cases, natural delivery occurred in 6, labour was brought on with bougies in 3, and spontaneous evolution occurred in 1. It is noted that all these modes of delivery gave bad results as far as the infants were concerned, but only 5 were at full term, the remainder varying from twenty to thirty-six weeks. Twelve patients were admitted for accidental haemorrhage, 11 apparent and 1 concealed; none of the infants was born alive, but of the mothers only the one with concealed haemorrhage died. Only 4 cases lost sufficient blood to warrant the term "*post-partum* haemorrhage," and the haemorrhage ceased after the use of hot intrauterine douche and ergot. Seventy-one cases of contracted pelvis were treated. Of these, 14 were delivered naturally, 15 required forceps, premature labour was induced in 11, the method used being to insert two sterilized bougies between the membranes and the uterine wall after careful cleansing of the vulva and vagina. In 23 cases Cæsarean section was performed, with 3 deaths of the mothers, but in each case of death attempts to deliver had been made before admission, and all died of septic infection, showing the gravity of the operation after attempts at forceps delivery. Craniotomy was needed in 9 cases, all of which did well, but it is stated that "now that Cæsarean section is attended with such slight risk to the mother, craniotomy should be seldom necessary, but, unfortunately, attempts at delivery are often made in contracted pelvis before sending them into hospital," and this greatly increases the risk. Out of the 341 deliveries in hospital, forceps were used in 38 cases, with 12 deaths of the infants and 2 of the mothers, 1 dying of eclampsia, and the other being a case of after-coming head. Internal cephalic version was done 3 times and internal podalic version 21 times. Two patients were admitted with rupture of the uterus, and one occurred spontaneously in the wards; all made good recoveries, two being treated with gauze packing and hysterectomy being done in the third. Twelve patients were treated for albuminuria of pregnancy, being kept in bed on a milk diet with a diaphoretic and diuretic mixture; all were discharged in good condition, though in 5 a small amount of albumen persisted. This contrasts with the experience of eclampsia, where albumen generally disappears a few days after delivery. Fourteen cases of eclampsia were admitted, of whom 5 died, giving a mortality of 35.7 per cent. In 4 cases convulsions began after labour, with 3 deaths. Three were admitted with convulsions without signs of labour, and in 7 convulsions began during labour. In all the 5 fatal cases there was a high temperature, and in 4 there was only little albumen, and it is noted that "convulsions commencing after labour, a small amount of albumen, and a high temperature are all bad signs." In 1 case, however, recovery took place, though the convulsions began after labour and the temperature was 103.8°. The treatment was generally rest in bed in a warm room with milk diet, infusion of normal saline under the breasts or per rectum, opening the bowels with calomel or croton oil and a saline mixture. In 2 successful and 1 fatal cases thyroid extract was given as well as a diaphoretic mixture, while venesection with transfusion was sometimes used. In only one case is morphine mentioned as being given for restlessness. No rule was observed as to bringing on labour, several cases being dismissed still pregnant after the fits had ceased. In some labour came on naturally, while in others instrumental or manual dilatation was used, with forceps or version. Five cases of hyperemesis were admitted, of which one aborted, one had hydatid mole removed, one was curetted, and two recovered after being kept in bed on milk diet, with small doses of calomel and high rectal lavage. Six cases of chorea gravidarum occurred, all recovering and being dismissed still pregnant. The treatment adopted is to keep them in bed on milk diet, and to aid elimination by the bowels, skin, and urine, on the supposition that the condition is caused by a toxin, as in eclampsia and hyperemesis. The total infant mortality was 105, that is about 30 per cent., but this high rate is accounted for by the fact that almost all the mothers were admitted for some special reason, the child often being already dead. The small number of beds available makes it necessary to confine them to serious cases, and shows how fallacious must be any comparisons between the infant mortality at different maternity hospitals.

South Australia.

THE ADELAIDE HOSPITAL.

MANY changes have taken place lately in the staff of the Adelaide Hospital. After nearly thirty years' service Dr. J. C. Verco has resigned his appointment, and become consulting physician. He had so well dovetailed his clinical instruction with the systematic lectures at the university that, although he will continue to deliver the latter, the medical school will feel itself the poorer for his resignation. The vacancy has been filled by the promotion of Dr. H. Swift, a graduate of Cambridge, who has served an unusually long apprenticeship in the out-patient department. Dr. E. A. Johnson has been appointed full physician, vice Dr. Niesche, who has accepted the dignified ease of the consulting ranks. The out-patient posts thus rendered vacant have been filled by the election of A. H. Gault and J. B. Gunson, graduates of London and Adelaide respectively. The memorial stone of the new nurses' quarters was recently laid by the widow of the late Premier, the Hon. T. Price.

THE ANNUAL MEETING OF THE SOUTH AUSTRALIAN BRANCH.

The usual business meeting and dinner took place on June 24th, and both functions were well attended. The incoming President (Dr. W. A. Verco) is, like his immediate predecessor, an Adelaide native and graduate. Dr. Morgan's retiring address was a comparison of things medical twenty years ago with now, a very fertile source of inspiration for such addresses. He acquitted himself in an interesting manner. A graceful compliment was paid the Treasurer (Dr. W. T. Hayward) by electing him Vice-President, so that he may succeed to the Chair which he occupied just a quarter of a century ago. Dr. Gunson, for many years the valued Secretary, takes the treasurership, and Dr. H. S. Newland succeeds him as Honorary Secretary.

DIPHTHERIA.

A couple of years ago or so, it was no uncommon event for the diphtheria wards of the Children's Hospital to be unoccupied for some weeks at a stretch, so much so, indeed, that the management wondered whether it was necessary to reserve so much accommodation entirely for this disease. The opinion of the medical staff was sought and they pronounced in favour of being prepared for any possible emergency. This opinion has unhappily been fully justified, for during the past twelve months there have been several rather serious epidemics, which, if they did not originate at, were disseminated in, the State schools of Adelaide and suburbs. The Chairman of the Central Board of Health, Dr. Ramsay Smith, held a sort of court-

martial on the Walkerville Local Board of Health. To the impartial mind the failure seems rather to be in the mode of administration of the Health Act by the Central Board than by the local boards or their officers of health.

New South Wales.

LUNACY.

THE annual report of Dr. Eric Sinclair, Inspector-General of the Insane for New South Wales, for the year 1907 shows that the total certified insane of the colony on January 1st, 1907, numbered 5,525, and on the last day of the year 5,607, giving an increase for the year of 82, as compared with the increase of 248 for 1906, or of 140 for the vicennium. The proportion to general population was 1 in every 230, which closely approximates to the ratio in England and Wales for that year. A table giving the proportion of the insane to population in the Australian States and New Zealand since 1882 shows that the ratio has progressively increased in New South Wales as at home, but with wider fluctuations and somewhat more rapidly. Like statisticians in England, Dr. Sinclair considers that this increase is due mainly to accumulation and not to an increasing rate of occurrence. The considerable numerical increase, however, has resulted in a great excess of patients over provided accommodation in the State hospitals, amounting at the end of 1907 to as much as 508. Of the total number remaining at the end of the year, 5,320 were in the six State hospitals, 57 in the three licensed houses, 199 were absent on leave, and 31 were in South Australian hospitals. The total cases under care during the year numbered 6,657, and the average number daily resident 6,355.

Admissions.

During the year 977 were admitted, as compared with 1,123 for the preceding year, or the average for the preceding five years of 1,032. Of the admissions 824 were first and 153 not-first admissions. As regards nationality, 519 were natives of New South Wales and 89 of other Australian colonies. England contributed 169, Ireland 91, whilst, as usual, the number of Scotsmen (41) was low. The small remainder were from France, Germany, China, and other countries. The admissions were classified according to the forms of mental disorder into: Mania of all kinds (including delusional, alcoholic, and puerperal mania), 457; melancholia of all kinds, 220; primary, secondary, senile, and organic dementia, 109; general paralysis, 49; epileptic insanity, 28; congenital and infantile defect, 113; and not insane, 1. As regards causation, alcohol was assigned in 171, or 17.5 per cent. This is possibly an under estimate, however, for considerable numbers of patients pass through the reception houses at Darlinghurst and Newcastle, and, being discharged as recovered therefrom, do not appear in the returns of the State hospitals and licensed houses. Venereal disease was assigned in 25, critical periods in 142, previous attacks in 146, bodily trauma in 18, sunstroke in 3, pregnancy, parturition, and the puerperal state in 32, epilepsy in 32, previous bodily diseases and disorders in 115, and moral causes in 179.

Discharges, etc.

During the year 413 were discharged as relieved, giving the satisfactory recovery-rate on the admissions of 42.27 per cent.; 88 as relieved and 183 were transferred. Also 3 escaped and were not recaptured, and 136 died. The deaths, giving a death-rate on the average numbers resident of 7.39 per cent., were due in 161 to cerebro-spinal diseases, including 70 deaths from general paralysis; in 112 to chest diseases, including 48 deaths, or 12 per cent. of the total deaths, from pulmonary consumption; in 52 to abdominal diseases; in 29 to senile decay and debility; in 5 to accident or suicide, and in the remainder to general diseases.

Cost.

The average weekly cost of maintenance per head in the State hospitals was 8s. 9d.

Reception Houses, Darlinghurst and Newcastle.

On December 31st, 1906, there remained 8 patients in the above reception houses. During the year 1,005 were admitted, 844 of these being admitted on remand from the courts, and 161 under lunacy certificates. During the year 5 were discharged recovered under certificates, 1 on remand, and no less than 453 as recovered to the police courts, without being sent to a hospital for the insane. Presumably many of these cases were suffering from temporary mental disorder, the result of alcoholism, but no table is furnished as to the clinical forms of the admissions to the reception houses. During the year 339 were sent to the police court and returned to the reception houses, 32 were transferred to hospitals or licensed houses on remand, and 156 under lunacy certificates. In all, 987 were discharged and 8 died, leaving 18 in the reception houses at the end of the year. The fact that 494 were discharged recovered without passing through asylums testifies to the value of these institutions.

Arrangements have been made to erect in the grounds of the reception house at Darlinghurst a small building with twenty beds for the early treatment of insanity, apart from the regular hospitals for the insane, without certification. Also, within a short period of the publication of Dr. Sinclair's report, each of the larger hospitals for acute cases of insanity, was to have an admission ward so arranged as to form a special mental hospital in itself, and Dr. Sinclair hopes that at an early date the general hospitals will provide special wards for mental cases.

Cape Colony.

LUNACY IN 1908.

THE reports on the Government-aided hospitals and invalid homes, on asylums for lepers and lunatics, and on chronic sick hospitals, including the report of the Inspector of Lunatic Asylums of the Cape of Good Hope for the year 1908, have recently been issued. The report of Dr. W. J. Dodds, Inspector of Asylums, shows that on December 31st, 1907, excluding the children in the Institute for Imbecile Children, there were 1,924 certified insane in asylums, gaols, licensed houses, and in single care, and that on December 31st, 1908, there were 2,005—an increase of 81 for the year. The increase, however, appears to be governed by the accommodation available, and does not represent the actual growth of insanity in the Colony. According to the census returns of April 17th, 1904, there were then 3,019 insane persons in the Colony, whereas the number registered was only 1,773.

The ratio of the total registered insane to population now is 1 in 1,359, distributed according to race as follows: White insane to white population, 1 in 678; white insane born in Africa to white population born in Africa, 1 in 944; white insane born elsewhere to white population born elsewhere, 1 in 366; and other than white insane to other than white population, 1 in 1,994. It is thus evident that the immigrant whites give far the largest ratio of insanity and the native population the lowest, so far as registered insanity is concerned. These insane were detained in the seven asylums and mental hospitals of the Colony and in the insane leper wards of Robben Island. The average number daily resident in 1908 was 1,934, and the total numbers under treatment, 2,259. Of the total patients at the beginning of the year 917 were white and 1,067 coloured. Of the white patients 521 were born in the Colony, 1 in another part of South Africa, 168 in England and Wales, 36 in Scotland, 50 in Ireland, 10 in other British settlements, 5 in Holland, 38 in Germany, 81 in other countries, and in 7 the birthplace was unknown. Of the coloured patients 894 were born in the Colony, 143 in other parts of South Africa, and the rest in other countries.

During the year 539 were admitted (white 236, coloured 303), or, excluding readmissions after lapsed or quashed reception orders and transfers, 361. The admissions were classified according to the forms of mental disorder into: Mania of all kinds, 202 (white 41, coloured 161); melancholia of all kinds, 64 (white 49, coloured 15); senile and secondary dementia, 96 (white 47, coloured 49); general paralysis, 24 (white 16, coloured 8); insanity with epilepsy, 22 (white 10, coloured 12); delusional insanity, 39 (white 30, coloured 9); confusional insanity, 8; stupor, 8; moral insanity, 3; insanity with gross brain lesions, primary dementia, and volitional insanity, 1 each; unclassified, 4; and congenital or infantile defect, 56 (white 17, coloured 39). The preponderance among the coloured admissions of mania and imbecility and the comparatively small proportions of melancholia, delusional insanity, and general paralysis are here well marked. As regards probable causation, the returns from Valkenberg, Robben Island, Fort Beaufort, Grahamstown, and Port Alfred, to which asylums there were 417 admissions, show that in 267 no cause could be assigned; alcohol in only 11 of the white and 2 of the coloured admissions; venereal disease in 2 (24 general paralytics admitted); critical periods in 28; previous attacks in 60; and mental and moral stress in 20 of the white and 8 of the coloured admissions. Hereditary influences were ascertained in 21 of the white and 18 of the coloured

admissions, and congenital defect in 18. During the year 109 were discharged as recovered, giving a recovery-rate calculated on the direct admissions of 30.2 per cent., as compared with the average since 1892 of 37.0 per cent. The recovery-rate for Europeans was 35.71 per cent., and for the coloured 25.39 per cent. The average recovery-rate for Europeans is 40.9 per cent., and for coloured 28.8 per cent. Also 20 were discharged as relieved and 23 as not improved. During the year there were 127 deaths, giving a death-rate on the average numbers resident of 6.6 per cent. The European death-rate was 7.2 per cent., and the coloured 5.9 per cent., as compared with the averages of European (7.6 per cent.), and coloured (9.9 per cent.). The deaths were due in 59 cases to cerebro-spinal diseases, including 20 deaths from general paralysis (European 17, coloured 3); in 22 to chest diseases, including 9 deaths from pulmonary consumption (European 1, coloured 8); in 19 to abdominal diseases; in 32 to general diseases, including 16 from tuberculosis (European 2, coloured 14) and 9 from senile decay; and in 3 to accident or violence. Tuberculous disease caused thus 4.6 per cent. of the European deaths, and 35.5 per cent. of the deaths in the coloured.

India.

THE BOMBAY BACTERIOLOGICAL LABORATORY.

THE report for the year 1908 has been submitted by the Director, Captain W. Glen Liston, M.D., D.P.H., I.M.S. The institution continues to carry on the plague work for which it was originally organized, and fulfils the purpose of a general bacteriological laboratory for the province in addition. The report gives details of work done in both aspects. Notwithstanding that plague was milder than in 1907, the issue of antiplague vaccine was little short of that of the preceding year, when the disease was severely and widely prevalent, the number of doses dispatched being 533,315 against 620,923. This fact is held to indicate that the practice of inoculation is becoming more popular. Evidence is recorded in support of the protective power, and no accident has been brought to notice from the use of over one million doses in both years. Experiments were carried out regarding the efficiency of rat and rat-flea destroyers, but they were not satisfactory or conclusive. The general bacteriological work was of a varied description, and must have been very helpful to medical officers. Special inquiry was made regarding an outbreak of malaria in the fort and dock area of Bombay; the investigation is still in progress. An outbreak of relapsing fever in the Kolaba district was also made the subject of special study. The laboratory rendered assistance and advice regarding questions relating to plague and other infective diseases, and courses of instruction were arranged for hospital assistants and others with reference to plague inoculation and bacteriological work.

THE HEALTH OF BOMBAY.

The report of the health officer of the city of Bombay, Dr. J. Turner, D.P.H., for the year 1908, gives evidence of improved sanitary conditions. The birth-rate—20.62—was higher than usual. The health officer gives reasons for concluding that the rate is too low, and calculates that 32.4 is near the actual rate. Estimating the infantile death-rate on the adjusted birth-rate, the result is an infantile mortality of 286 per 1,000, still a very high figure, demanding for its reduction strenuous efforts the nature of which the health officer suggests in detail. The death-rate of the year was 39.13, the lowest recorded since 1896, the year of introduction of plague. There was a great reduction in the prevalence of this disease, which commenced later and lasted longer than usual. The deaths, 5,361 (5.48 per 1,000), the smallest aggregate since 1896, the highest (20,788) being in 1903. Efforts were made to commend inoculation and rat destruction; 374,386 rats were destroyed, of which about a third were examined, and 12.3 found to be infected. Outbreaks of small-pox and measles in the early part of the year enhanced the mortality. Vaccination and revaccination were pushed. In December 66 cases of cholera, of which 58 proved fatal, occurred in consequence of importation from the "Linhasta" fair at Nasik. Active measures were taken to stamp out the disease, with success. An unusually severe outbreak of malaria occurred in the third quarter of the year, against which an active antimosquito campaign was undertaken. There was a reduction in the mortality caused by enteric and relapsing fever and phthisis. The report contains ample details regarding sanitary administration and work which betoken intelligence and action, and give evidence of substantial progress. The municipal laboratory, under Mr. B. T. Ghadially, rendered excellent service, and gave a large outturn of analytical and bacteriological work.

Correspondence.

CLINICAL TEACHING.

SIR,—I venture to say it is too apt to be forgotten in the education of the medical student that medicine and surgery, while scientific, are yet technical subjects.

To become a properly accomplished physician, or, still more, an expert surgeon, requires, not only knowledge of, but practice in, the art of treating disease.

Ars longa, vita brevis. Surely no opportunity from the first should be lost for acquiring that intimate relationship with his life's work which is to become the very foundation of the future medical man's success in his calling.

To understand any subject in the proper sense of the term is to come to close quarters with it.

Without the actual living reality before him, the tiro can only at the best have a "second-hand" knowledge of his business.

To take an extreme example. I yield to no one in the necessity for a thorough knowledge of human anatomy. Without such scientific equipment, a medical practitioner is not worthy of the name of "doctor." He can only be a quack in disguise.

And yet I am fairly convinced that by the present methods of study a great deal of time is wasted in the teaching of anatomy. No doubt an industrious student acquires a fair stock of anatomical facts, mainly because he knows he has to. But, even when he does his dissection work faithfully, the knowledge he gets is more for the object of passing examinations than for any really recognized after-purpose. He entirely fails to see clearly what relation such a study holds to his future vocation.

All this vagueness results in mere cram, with the inevitable effect that, sooner or later, the knowledge so painfully garnered, falls away from his mind and is forgotten.

On the contrary, by the well-established law of association of ideas, starting from the actual patient, the anatomy, learnt bit by bit, is connected with something tangible, and is retained for life.

I hold that the young student of medicine should straightway be introduced into the out-patient room of his hospital and, *under the guidance of a suitable instructor*, be set to take the temperature, count the pulse, examine the tongue, inquire as to the more outstanding symptoms, make a rough record of the particular case, with name, age, occupation, residence, and other plain facts, all to be entered on a card for future reference.

This process should be gone on with day by day, while all the time he was attending anatomical and physiological lectures and working in the dissecting rooms, and continued to the end of the curriculum.

In this way his interest in these scientific subjects would be stimulated. Without such stimulus his efforts to learn are more than likely, as we have said, to be barren of any permanent good effect.

Apprenticeship bred many good and some distinguished doctors, of whom I may be allowed to mention the late Sir James Paget and the still-living and honoured Sir William Turner.

The system had its drawbacks, which it is unnecessary here to specify. On the other hand, it had the undoubted advantage of *atmosphere*. Why not retain the good and avoid the bad side of the old plan?

Of all the faults of modern advanced education the greatest, as has been lately so well pointed out by Sir J. J. Thomson, himself a noted specialist, in his presidential

address in Canada, is over-specializing. Nowhere is specialism more rampant than in the medical schools, where, as the rule, every teacher plays off his own bat, and no captain regulates the innings. When in general practice I had many years' experience of newly qualified assistants. I can call to mind two examples of the kind of man fresh to his duties. One, in the course of a fairly busy fortnight, was so taken up with studying German irregular verbs, that he never got beyond prescribing mustard poultices for all and sundry, and another, a first university prizeman in medicine, whose brains were so addled by overstudy that after some time I had to send him away as useless for any good purpose.

With clinical education on its present footing I quite grant the changes I am advocating are open to grave objections. Fooling about the out-patient room or the wards is sheer waste of time. The loafer is only in the way of the worker. Students would require to be put under the strict surveillance of a proper tutor. And this leads me to affirm that the present system of clinical teaching is altogether on wrong lines in so far as the physician and surgeon have to do a kind of work which they should not be called upon to do, and the opportunity of employing younger and less busy men is not taken advantage of as much as it should be. Hospitals should be looked upon as technical workshops or training schools.

I am well aware that this aspect of their functions meets with much opposition from the nursing sisterhood, and in some cases also from the managers of these institutions. So much is this so, that on the part of the surgeons and physicians there is a disposition to keep this department of their work in the background so as to escape opposition. Surely cowardly behaviour on their part. How else is the budding doctor to be trained? If the master is willing to devote his time and give the result of his experience, with small fee or reward, for the public advantage, he has a clear right to demand that he should have all freedom and every opportunity to help his younger brother and pupil.

If this be true, then it follows that the clinical teacher is entitled to such an amount of *paid* assistance as will enable him to properly perform the particular duty which his position as the holder of a hospital appointment and his relations to his fellow-practitioners make it incumbent upon him not only not to neglect but cheerfully to discharge.

What help, then, does he require, and how is it to be arranged for? For every twenty beds a capable junior physician or surgeon should be appointed to take charge of the corresponding patients, under the supervision of the full surgeon or physician, in the interests of the sick as well as those of the students. He would arrange matters so that nothing would be done to injure those allotted to his care. The number of his pupils should not exceed, say, twenty, so that he might have ample time to teach the significance of normal as well as of abnormal signs and symptoms, and be able to thoroughly drill and train his class.

It may be objected that in the larger hospitals, with the number of pupils limited as has been suggested, too many tutors would be required. The answer is that a good half of all the patients in hospital would most probably be unsuitable for demonstration purposes, and further, within certain limits, there would always be a certain number of older pupils, such as clerks and dressers, able to take charge of a moiety of available beds and to make use of them for the purpose mentioned. On the other hand, the out-patient department, as the most valuable field for instruction, would remain in the hands of the regular staff of assistant surgeons and physicians attached to the hospital.

Given such a system as sketched, two fruitful by-results would follow. The *Privat-docent* would himself continue to learn and there would be an ample field for research work—the best of all means for the sound training of the medical mind.

In what I have attempted to show in the way of reform of clinical teaching I have assumed, first, that in due course there will be established a preliminary examination in science for the aspiring student so that the medical curriculum may be wholly devoted to its special purpose, and, secondly, that the nefarious system of frequent examinations will be abolished in favour of the seminar method of ensuring attention on the part of the pupil by careful records of work done under his teacher with one final testing of the complete results before granting him his degree or diploma.—I am, etc.,

WM. BRUCE, Hon. LL.D.Univ.Aber.

Dingwall, N.B., Sept. 20th.

DEATH DUTIES AND LIFE ASSURANCE.

SIR,—There is no class of the community to which life assurance is more necessary than to medical men, for, owing to the additional risks they run from overwork, exposure, and infection, their life is more uncertain than that of most others. Unfortunately, also, the life of most medical men is a very hard one. Not only do they give gratuitously much of their time, skill, and labour to the poor, but often their just dues are unrighteously withheld from them by those who could well afford to pay. The smallness of the margin between their necessary expenses and their yearly income prevents most medical men from rapidly accumulating money, and the only way of providing for their families is that of life assurance by the annual payment of small sums. The value of foresight and thrift, not only to individuals but to the community, has been recognized by former Governments, who have encouraged the growth of these virtues by exempting from income tax the premiums for life assurance. But how does the present Budget propose to treat thrift and forethought? If you will allow me, I will give my own case as an example, because a concrete instance will serve as an illustration better than general statements. When I married, more than a quarter of a century ago, the income I derived from my consulting practice was very small indeed, and although I supplemented it by examinerships and by literary work, my wife and I were obliged to live in a small house, in a small street, and with great economy. Yet out of our scanty income we paid every year for life assurance a sum which would have made all the difference between straitened means and easy circumstances. We were willing to do this for the sake of each other and of the children, and were encouraged to do it by the action of the Government in remitting income tax on the money we were laying by. But this policy of fostering thrift, which previous Governments have followed, has now been thrown aside, and the present Government now proposes to penalize it. Because my wife and I denied ourselves luxuries and enjoyment in order to lay aside a provision for our children, instead of spending the money every year on our own pleasures, the Government proposes to confiscate a large proportion of our savings as death duties. It may be said that in doing this the Government is only collecting taxes which had been remitted on the premiums for life assurance in previous years. But is the Government justified in doing this? Let us see what would be said about such conduct in the case of an individual. Let us suppose that an employer gives to one of his men 2d. a week extra wages on condition that he shall lay by 5s. a week in order to prevent him or his family ever becoming a charge on his employer. Stimulated by his employer's action, the man denies himself, let us say, beer and tobacco, for the rest of his life, his wife economizes in every possible way, and thus he accumulates enough to secure his wife and family from want; but on the man's death the employer steps in and extorts from the poor widow a large proportion of their hardly-won savings, on the plea that the 2d. a week had once been his money and he had a right to have it back with interest and compound interest. Would this act be just and right, or would it be robbery of the basest kind? I should like to ask this further question, Is the morality of the action different if it be done by Government officials instead of by a private individual? I leave these questions for the readers of the BRITISH MEDICAL JOURNAL to answer and to decide what action, if any, they will take in relation to them.—I am, etc.,

September 20th. A HARD-WORKING PHYSICIAN.

THE POSTMASTER GENERAL AND POST OFFICE APPOINTMENTS.

SIR,—I would like to add my testimony as to these appointments being non-political.

Some years ago I heard incidentally from one of the postmen that there was no medical officer within the

district. I promptly sent in my application for the post to head quarters. It was duly acknowledged. Some time after an official called and informed me that there were other applications, but that I was "first in the field," and was very near the sorting office, and that, should I still be desirous of doing the work, I might consider myself duly appointed.

My natural modesty forbids my giving what I personally consider better reasons, but of this I am sure, politics had nothing to do with the matter.

I would like to add that in the Postal Medical Service one meets with the utmost courtesy, both from head quarters and from those entrusted to one's care.—I am, etc.,

J. P. O'HEA, F.R.C.S.,
September 20th. Medical Officer, Post Office, Catford.

COLOUR BLIND ENGINE DRIVERS IN FRANCE.

SIR,—With reference to your article on colour-blind engine-drivers in France, may I state that in 1905 I pointed out in the *Indian Medical Gazette* that there was a distinct variety of colour-blindness under the title of "Defective Distant Colour Vision." While examining the eyesight of men for the East Indian Railway I came across cases which could pass the wool tests with ease, and lamps for night vision when near, but completely failed to distinguish colours at a distance when quite easily seen by normal eyes.

This article seems to have quoted from M. Clerc exactly the same thing, and perhaps after some others have noticed and reported cases of "defective distant colour vision," the necessity for all railwaymen, seamen, and others employed in duties necessitating good distant colour vision, being tested for this type of defect will be recognized.—I am, etc.,

H. G. WATERS,
Buxted, Sept. 18th. Medical Officer, East Indian Railway, India.

RADIOGRAPHERS AND TREATMENT.

SIR,—The remarks of "Vacuum" on the subject of the safety now attending the use of x rays should be more widely known. The President of the Roentgen Society summed up the present situation by saying: "He is a fool who burns himself, and a knave who burns his patient." X rays can now be so safely measured that there is no longer any danger from them in experienced hands.

By the use of Sabouraud's pastilles it is possible to measure the dose of x rays sufficiently accurately for practical purposes. By their use it is also possible to show that so little x rays escapes from the back of the tube, that if the operator keeps behind the tube he gets rays of so little power that they can do him no harm. X ray tubes are nowadays covered in so that only a cone of rays is allowed to escape, and the operator can easily avoid this cone. The x rays which penetrate through the protecting devices are not of any power and can do no harm. But of more value than protecting devices is the fact that the power of x rays diminishes inversely as the square of the distance.

While giving a therapeutic dose in half an hour to a patient placed at 17 cm. (6¾ in.) from the source of the rays, suppose the operator sits in the path of the rays at a reasonable distance, say three yards, from the tube. One can calculate from the square of the distance the dose which the operator will receive. He would have to sit for 6 days and 22½ hours at a distance of three yards before he got a dose equal to that received by the patient in half an hour at 6¾ in. (17 cm.).

To put it another way, under the same conditions, while the patient received his therapeutic dose in half an hour, the operator would receive $\frac{1}{3\,3\,3}$ part of the dose the patient received.

It is thus evident how safely one can expose oneself to the rays, provided one keeps at a reasonable distance. There should be no risk to any x-ray operator who understands these principles.—I am, etc.,

London, W., Sept. 19th. A. HOWARD PIRIE.

THE POOR LAW REPORT AND THE SANITARY SERVICE.

SIR,—Every member of the Public Health Service must have experienced a considerable amount of relief when they read your assurance, given in the issue of August 28th, in reply to the letter of Dr. H. Beckett-Overy on the above subject, to the effect that you trusted that you may number yourself among those wise men who have not yet made up their minds as to the effect of either the Majority or the Minority Report. Otherwise there would have been an obvious danger of your leading article in the issue of August 21st being regarded as a most determined attack on the Minority Report. All public health officials must have felt great regret to think that a paper of the importance of the BRITISH MEDICAL JOURNAL should have thought fit to use the word "calamitous" in describing the results of a scheme that must commend itself to all medical officers of health of experience. It is true that in the article referred to you also mention the dangers of unlimited contract practice and provident dispensaries as inevitable parts of Dr. Downes's scheme, but the remainder of the article is apparently devoted to presenting as favourable as possible a view of the Majority Report, and an unfavourable one of the Minority Report.

The first statement made is, that the sanitary service will become far less attractive if the Minority suggestions are carried out, and it is inferred that it would continue to remain as attractive as it is at present under the Majority scheme. The facts are that Dr. Downes's scheme, if carried out, would take from the medical officer of health all his isolation hospital work, his sanatorium work, his rapidly developing work in connexion with the crusade against tubercle, his school medical work, and his work in connexion with the problems of infantile mortality. It would, as you say, leave him "strictly sanitary duties." One has only to read the reports of the medical officers of health of the present day to realize how much would be left when all the above spheres of activity had been removed. In such a scheme the medical officer of health would be degraded to the level of a kind of superior sanitary inspector.

The next point that is dealt with is a comparison between the machinery for working the two schemes. A little experience in public affairs, and in official work, would convince any one that the Minority scheme is workable with very few modifications, while that of the Majority would lead to endless confusion, and would, as I have shown above, most injuriously affect the position of the medical officer of health. The medical officer of health in all important counties and boroughs is at present accustomed to deal with several separate committees, so that the prospect of dealing with four committees under the Minority scheme is not at all terrifying. Experience in public work convinces most people of the advantage of having separate committees dealing with separate matters, and it is certainly no argument to say that because there would be four committees there would be overlapping. Carefully studied, the Minority scheme appeals to one very forcibly, on account of the fact that it would tend to *remove* the enormous amount of overlapping and omissions that exists under the present system.

Next comes the bogey of the "registrar." Although you say that "this is no fanciful picture," I should imagine that most people who read the report in question will find it difficult to stretch their imaginations so far as to follow you.

The registrar would be an ordinary official serving the General Purposes Committee of the council; he would have no autocratic powers at all, and he would in every case have to obey the orders of his committee and council. He would have no veto on medical treatment, and no power whatever to criticize it.

It would be interesting to know on what grounds you base your statement that the registrar is to be invested with power absolutely to veto the decisions of the medical officer of health when he decides that home treatment and home aliment are necessary. Moreover, there would certainly be no question of health committees having their "carefully considered resolutions overridden by a single paid official." Even if this were possible, it is not the position of the medical officer of health that would be unenviable, but the position of the registrar, because the General Purposes Committee would undoubtedly contain

some members of the Health Committee. The registrar would *not* decide disputes between committees. His duty would be merely to see that the medical officer's certifications are complied with.

Reference is also made to the difficulty of dealing with different members of a single family by separate committees, and of the difficulty of deciding whether a person is able-bodied or not. It appears to me obvious that the county medical officer himself would decide under which committee any particular case came, because, apart from fixed limit of age, every person who is not medically certified to be (*a*) sick, or (*b*) mentally defective, or (*c*) so infirm as to need nursing, etc., is assumed to be able-bodied. The certificate of the county medical officer would decide every case, and the registrar would not have anything to do with his classification.

The registrar's temporary receiving house would be used only for cases that have failed to be found, or to be dealt with, by the committee concerned. Its main usefulness would probably be during the earlier working of the scheme. When the scheme was once established, and in smooth working order, the receiving house ought always to be empty.

To those who have had active association with the medical officers of health of small urban and of rural districts, your allusion to these gentlemen as "each one the head of his department" is distinctly amusing. Such medical officers of health in existing conditions are paid a miserably inadequate salary, are heads of no departments at all, are subject to impertinent interference from clerks to the petty local council, have practically no control over the so-called sanitary inspector, who is usually local surveyor as well, and who does little or no public health work—and, in addition to all this, the medical officers of health have no security of tenure and may be suddenly deprived of office without a moment's notice. I should imagine, therefore, that you will find it difficult to arouse antagonism against the Minority Report among the rural medical officers of health. They fully realize that if they do their work as it should be done they would lose their appointments, and a large number of such medical officers have personally expressed to me their hope that the public health work of their districts would shortly be taken over by the county authorities. The conditions under which they are doing their work at present are disheartening and degrading. Under the Minority scheme all offices abolished would, of course, receive full compensation. It is extremely likely, however, that these medical officers of health would be retained as the local assistants to the county medical officer, and would thereby obtain not only security of tenure, but also adequate remuneration for their work as well as the assistance of properly qualified whole-time sanitary inspectors.

Existing assistant medical officers of health instead of being "swamped," as you suggest, would, if they have proved their suitability for the work, have first claim for the great number of new posts to be filled by medical men that would undoubtedly be created under the Minority scheme.

Every one must admit that there is an enormous amount of unrecognized and untreated disease among the poorer classes. If the treatment of these cases is to be undertaken, and if all treatment is to take place under more favourable conditions and to be more thorough, it is obvious that there must be an enormous demand for medical services, and it simply rests with the medical profession to so organize itself as to take proper advantage of this demand. A very large number of new posts will have to be created to deal with the work connected with the poor and public health. These posts will attract applicants from among those members of the profession who are at present engaged in unremunerative practice, and, in its turn, the depletion of the ranks of the general practitioners will necessarily tend to the increased prosperity of those who are left. In most practices there is a varying proportion of unremunerative work which is being done at present by the general practitioner either without pay or without proper pay. These cases would be taken over by medical officials whose work would be properly paid for. It is obvious, therefore, that the total remuneration from the public to the medical profession would be enormously increased under the Minority scheme, and at the same time the work would be made more thorough, and would be done under much more satisfactory conditions.

All members of the medical profession who have not already done so should make a careful study of the Minority Report. They would see that the existing conditions of medical work in hospitals, in dispensaries, and by Poor Law medical officers have been properly appreciated by the authors, and that the scheme aims at putting an end to those disgusting conditions of work, as well as the overlapping and abuse that are so common.

A great deal more might be said on this subject, but I think that most medical officers of health will agree that your statement that "the interests of the medical officers of health are threatened" is as yet unproved, and is not justified by a careful perusal of the Minority Report. In fact, there is no doubt that a large number of medical men claim that the reform of the Poor Law upon lines of the Minority Report would be a distinct gain to every branch of the profession, and would introduce reforms that have long been demanded by medical officers of health and district medical officers.—I am, etc.,

Winchester, Sept. 9th. ROBERT A. LYSTER.

"PROFESSIONAL ADVERTISING."

SIR,—I happen to be one of those obscure individuals alluded to in your article, entitled, "Professional Advertising," which appeared in the last issue of the BRITISH MEDICAL JOURNAL. My name was included in a list of surgeons mentioned in a publication styled *To and Fro*, a distinction equally undesired and undesirable.

I, for one, did not deem it worth while to indicate in the medical press that I was not responsible for the appearance of my name in that list. Since, however, there seem to exist persons, such as the writer of the article in question, so charitably disposed as to imagine that any surgeon would willingly have his name included in this list, and would even pay for that privilege, I beg to assure both your readers and him that I am not to be included in that category.—I am, etc.,

London, W., Sept. 18th. J. ERNEST LANE.

There was no suggestion in the annotation in question that any of the medical men whose names have so far appeared in this book have paid for their insertion. Indeed, we thought we had made it clear that we did not believe this to be the case. On the other hand, it would appear from the correspondence mentioned that the publishers intend in future lists to limit the insertion of names usually to those of persons from whom they have received a definite *quid pro quo*. Hence the inference from the habitual appearance of any name will be obvious. Fresh and revised editions of the guide are supposed to appear monthly, so there should be no difficulty in the way of any medical man who desires to have his name omitted.

CONTRACT PRACTICE.

SIR,—I quite agree with your correspondent "F. W. S." when he says the General Medical Council should prohibit contract work or state a minimum fee below which no self-respecting practitioner should accept the work. I, like thousands of others, have had the misfortune to get into club work, and know something of the mean servility in such practices. Club patients as a rule get more attention, even when they are malingering, than private patients, the medical officer wishing to stand well with the members in case his brother practitioner across the street steps in and takes the club from him. All this work and anxiety brings him is £20 or £30—that is the average amount from most clubs. If we club doctors would consider that contract work does not keep us, and by our rivalry and competition in such work we really induce people to join friendly societies, for the principal "draw" is often a good doctor for 2s. 6d. or 3s. per annum, we would be taking the first step to free ourselves and descendants from a degrading bondage. I enclose my card, but do not sign my name, as two of my club patients take the JOURNAL weekly.—I am, etc.,

August 18th. C. B.

THE DOCTOR AS A PHILANTHROPIST.

SIR,—I think the letter of "Anglo-Colonial" calls for remark. With his views on the subject of charging good fees we must all agree. A man who is worth anything in

his profession can always obtain these fees; the only people who go to a medical man simply because he is "cheap" are not worth having as patients; they naturally have a poor opinion of the doctor, and they treat his advice at the value he does, and unless it is quite convenient they don't follow it.

I have been in a surgery in South London where the medical man's advice and *three* bottles of medicine could be obtained for one shilling. I cannot help thinking that probably even then the people were paying that particular member of our profession too much.

But when "Anglo-Colonial" goes so far as to refuse attendance unless he is sure of his fee I cannot agree with him. We must expect to do a certain amount of work for nothing. The butcher, the baker, the fishmonger, give away much food for nothing; the members of the St. John Ambulance Association give up time and money to render assistance in cases of accident, and yet "Anglo-Colonial" refuses to go to a street accident. A busy city man coming upon an accident would stop to render help; the shopman will lend shutters, the publican will come out with brandy and what not, and yet a medical man will refuse his help. One would have thought that "Anglo-Colonial's" commercial instincts would have shown him it was better to attend to an accident and not get paid than to be abused (and I contend rightly) round the district.

The medical profession has always had the credit with the public of being a noble profession, and it is the duty and privilege of each member of it to uphold its dignity, and, if possible, to make it really a noble profession, neither degrading it by taking ridiculous fees, or refusing help to suffering humanity. Many of us have to depend entirely on our professional income for a living, but if any man enters our ranks purely as a commercial occupation he had better have chosen some labour where humanity is not required as a stock-in-trade; we are here to alleviate suffering and we must do our utmost, "to the last gasp," to do so whether we are paid for it in coin of the realm or not.

A third point raised by your correspondent is the inadequate payments to medical men by public bodies: this is a different matter altogether, the poor salaries paid to the medical officers of health is a disgrace. The care and watchfulness of these men not only is the means of saving lives and making them healthier and happier, but it actually saves the community a considerable sum of money in medical fees, probably some thousands of pounds for every hundred spent on the medical officer of health, and when we see the salaries paid to other employees of the public we notice how inadequate, in comparison, these payments to our profession are; this is a matter on which I think, as a whole, the profession can take action without detracting in the slightest from its dignity or nobility.—I am, etc.,

Leytonstone, August 23rd. ARTHUR TODD-WHITE.

PLACENTA PRAEVIA IN PRIVATE PRACTICE.

SIR,—Whatever method of treatment of this complication of parturition is adopted in towns, the country practitioner who has to deal with placenta praevia "on his own" should stick fast to the old way by turning and bringing down a foot.

I have so treated (in cottages without help) four cases—two marginal, one each lateral and central. In every case I had to dilate the cervix somewhat with the fingers to permit of the foot being grasped and brought down. It may be taken for granted that the child will die under this method, but, if properly carried out, I believe there should be practically no risk to the mother. In my "central" case the child was delivered through the tear in placenta, as on expressing the after-birth the membranes were found untorn, but the haemorrhage during the process of manipulation and delivery was trifling; there was no *post-partum* haemorrhage, and I left the cottage eighty minutes after going in. This treatment, too, avoids a risk attendant on the use of dilator and forceps—tearing of the cervix.

It is a serious call upon the self-possession of a young practitioner to find himself suddenly confronted with a case of placenta praevia miles from assistance, but I am confident that if he will carry out this method as admirably directed in Herman's *Difficult Labour*, he will be so satisfied with results as never to desire change.

While on the subject of midwifery, may I be allowed to say that I think there is one condition in which I believe the use of such a dilator as Bossi's would be most timely and good—the condition of greatly protracted first stage with either rigid os or "disturbed polarity"? I have had many cases of this sort, some of which have dragged on for days, wearing out the patient, and laying seeds of future mischief. In a recent case (primipara) the os remained small in spite of vigorous and exhausting pains, the patient became ill, and temperature rose to over 101°. Finally I dilated with the fingers, put on forceps, and delivered a dead child. I believe that had Bossi's dilator been used twenty-four hours earlier, much anxiety to the practitioner, much suffering to the patient, and the child's life would have been saved. In cases of this kind some use cocaine to the cervix. This seems to answer, but seems also to predispose to bad *post-partum* haemorrhage, and so should not be used. I would like to know if any of your readers are familiar with the use of the dilator in the condition named.—I am, etc.,

Cambridge, Sept. 18th. W. J. YOUNG.

SIR,—Your editorial on this subject is very interesting. In ten years' general practice I have only seen one case of placenta praevia, and that was an interesting one. A child of about 11 years came to my door and said her mother was ill. On asking what was the matter the child said, "A cold." I went to the house, and found the mother in bed almost pulseless, the bed and floor below covered with blood. On turning down the bedclothes (as they had been arranged by the "howdy woman" to allow the mother to die in peace) I was astonished to find a placenta and cord between the woman's legs, and a child's head just born. I delivered the child at once, giving it to the "woman" present. I had nothing with me but a hypodermic syringe. I injected some strychnine and digitalin. I then procured a Higginson's syringe, and per rectum injected a large quantity of salt and water. The mother revived and did well. The child lived and to-day is healthy. The explanation of the child's living is to be found in the midwife's description of the case—that is. "She (the patient) had about a couple of good pains, and then the *after-birth and the child's head come thegither.*" I did not get a chance of seeing the placenta, for when I had finished with the mother the female friends had the cord tied and the placenta in the fire. It was discarded as being small, and the short glance I got of it in the early part of the case confirmed this.—I am, etc.,

Lisburn, Sept. 21st. J. L. RENTOUL, M.B.

THE DIAGNOSIS OF SYPHILIS BY SOME LABORATORY METHODS.

SIR,—In the JOURNAL of August 28th there was a letter from Dr. F. J. Clemenger concerning the simplified methods for the serum diagnosis of syphilis. Working with Professor Sabrazès during the last few months, I have been using a method which is very similar to that of Dr. Fleming. Up to the present the results obtained agree with those given by Dr. Clemenger, both as regards syphilitic cases and controls.

In over 250 observations the number of serums which did not possess any haemolytic power for sheep's corpuscles is 4.5 per cent., but I have never found any difficulty in obtaining a result when the test has been repeated, after adding fresh normal serum.

The important point in such methods is, as Dr. Clemenger points out, the choice of a suitable heart extract. I have made several which have proved to be of no use, but once this has been obtained and the proper dilution found, no difficulty should be encountered. After all, none of the methods, complicated or simple, can be said to be absolutely exact, and the saving of time obtained by using the shorter technique is a great practical advantage.

I should like to add that these simple methods may also be applied to the serum diagnosis of hydatid disease.—I am, etc.,

KENNETH ECKENSTEIN, M.B., B.S.Lond.,
Assistant in the Clinical Laboratory, Bordeaux.

Bordeaux, Sept. 4th.

ACANTHOSIS NIGRICANS AND PROLONGED EXPOSURE TO HEAT.

SIR,—The interesting case of acanthosis nigricans published by Dr. Wild (in abstract) in the JOURNAL of August 28th suggests a comparison of the effects of prolonged exposure to heat with those of chronic *x*-ray dermatitis. The patient, a sugar-boiler, aged 39, developed a number of pigmented warts, chiefly on lips, face, and hands, with roughness, induration, and pigmentation of the skin of face, neck, axillae, and other parts of the body. The warts appeared gradually after removal of a carcinomatous gland from the neck about eighteen months before death. Most of the signs appear to have developed during the same period, although at the time of operation deep pigmentation of the axillae was noted.

From a study of the illustration accompanying the report one would find little difficulty in arriving at a diagnosis of chronic focus-tube dermatitis were one told that the patient had been working with the *x* rays. That observation brings us very much to the position advanced in the first edition of *Röntgen Rays in Medical Work*, in which I first described focus-tube dermatitis as a "species of burn" (p. 115), and pointed out the analogy between dermatitis produced by exposure to the sun, to a focus-tube, and to electric light. My suggestion was that there existed in all those agencies some common traumatic rays capable of stimulating the cutaneous surfaces of the body (sometimes also of the deeper tissues) in varying degrees of severity, probably determined largely by conditions of personal predisposition. In Dr. Wild's case the peculiar predisposing conditions may not unreasonably be ascribed to carcinoma and to the local effects of long-continued exposure (especially of uncovered parts) to the heat of the boilers at which the patient worked.

The coal-black pigmentation of the skin of the neck after exposure to the focus tube is also interesting, and may possibly be connected with the cancerous predisposition. A similar discoloration has been noted after *x*-ray exposure, but so far as I am aware, not specially in connexion with that particular cachexia.—I am, etc.,

London, W., Aug. 30th. DAVID WALSH.

THE EFFECT OF THE LEUCOCYTE COUNT PRODUCED BY THIOSINAMINE INJECTIONS.

SIR,—The clinical experience that Dr. Charteris has had with fibrolysin coincides with its results in a case of mine.

It was used for a haemophilic knee in which movement was limited, though some adhesions had been broken down under chloroform. In the hope of softening those left, and so increasing the range, fibrolysin was tried; 76 injections were given over a period of six months, but the results were disappointing, the increase in the amount of movement being very slight, and not more than could be accounted for by the subsidence of a certain amount of chronic inflammation that took place in the joint during the lengthened period of trial.

It was at first believed that the knee was freer from effusions under the injections, and that when they did occur they cleared up more rapidly; but further experience failed to confirm this, and they were discontinued.—I am, etc.,

H. S. GETTINGS, L.R.C.P.Edin.

Chasetown, near Walsall, Aug. 31st.

POISONOUS HAIR DYES.

SIR,—With reference to the editorial of last week regarding the evil results of the use of paraphenylendiamine for toilet purposes, having been for some years past in the habit of seeing and treating cases of traumatic dermatitis due to this chemical I am familiar with its effects. Perhaps you will allow me to remind your readers that it is very extensively used for dyeing purposes and that fur workers are continually liable to be affected by it. The condition is probably more prevalent in London than elsewhere, as it is the centre of the fur trade.

When used as a hair dye no symptoms may be produced for weeks or months, but toxic conditions may then appear and are intensified when water is applied to the head.

The danger arising from the use of paraphenylendiamine for toilet purposes is fully recognized by members of the medical profession. Many authors on the Continent[1] have written fully on the subject from observations of cases which have come directly under their notice, while the Government of Saxony has gone so far as to issue an official warning against its use. Dr. Burke, in the *Journal of the American Medical Association*,[2] gives a detailed account of a case of dermatitis caused by the use of a "walnut-juice hair dye." This preparation has also been referred to by other contributors in the *Journal*.[3]

As, however, I do not think any cases of the kind have been recorded in the London medical journals, it may interest your readers to know that I have, within the past week, seen no less than three such cases occurring in healthy females, all of which exhibited the symptoms of typical dermatitis, and were directly traceable to the use of a hair dye containing paraphenylendiamine. The cure for such cases lies in the complete removal of the source of irritation, and this can be best carried out by shaving the head, a procedure which probably results in as little disfigurement and discomfort to the patient as any that can be adopted.

That the manufacturers of these hair dyes are well aware of the probable effect of this chemical is undoubted, and they seek to protect themselves from the consequences by inserting (not in the instructions for application, but inside the lid of the containing box) a notice stating that they cannot be held responsible for any "inconvenience" which may result from the use of the colouring. Apparently the cheapness of the paraphenylendiamine is the only cause of its substitution in place of nitrate of silver and other dyes.—I am, etc.,

London, W., Sept. 22nd. T. P. BEDDOES.

SOME POINTS IN THE MECHANICS OF RESPIRATION.

SIR,—I have read with the greatest pleasure Dr. Scanes Spicer's most interesting, useful, and timely paper on the above subject, which appeared in the BRITISH MEDICAL JOURNAL of September 11th, 1909. And I hope, in the interests of those patients who suffer from respiratory affections of one sort or another—amongst which Keith places visceroptosis—that many of his conclusions "will be embodied in that reconstruction of modern teaching concerning respiratory mechanics which is so urgently needed."

If an appeal is made to Nature for information regarding the correct method of using the respiratory apparatus during muscular exertion, the mechanism employed by the runner who is going strong with his "second wind" naturally suggests itself as the ideal one. This is the mechanism aimed at by the Italian school of voice production, who look upon vocalists and speakers as vocal athletes; it is also the method so well described by Dr. Scanes Spicer, who has suggested the term "back breathing" as more definitive in its leading characteristics than that generally known as costal or thoracic. In the latter the spine is extended at each inspiration, but a greater or lesser degree of spinal collapse takes place during expiration, whereas in "back breathing" spinal extension is maintained throughout the whole of the respiratory act, and perforce expiration then becomes a muscular act, instead of an elastic recoil, as is so generally taught, in spite of the fact that Keith showed some five years ago that expiration, equally with inspiration, was brought about by muscular action.

The good physique of the singer or speaker, who has a perfect command over his or her respiratory apparatus, coupled with the excellent general health such an individual enjoys, speaks volumes for this method of respiration. But such individuals are extremely rare, owing to the unscientific and empirical methods of respiratory culture, which can be properly termed the "Hit or Miss" systems, so much in evidence to-day not only in the vocal, but also athletic, world.

It is not clear to me whether Dr. Scanes Spicer condemns all forms of abdominal breathing, or only the

[1] *Annales de dermatologie*, p. 901, 1902. Berger, *Archiv. of Ophth.*, July, 1909, p. 397. Brocq, *Traité élémentaire de dermatologie*, 1907, vol. i, p. 374. Darier, *Précis de dermatologie*, p. 451. Sabouraud, *Regional Topographical Dermatology*, English edition, p. 29; French edition, p. 34. Dubreuilh, *Precis de dermatologie*, second edition, 1904, p. 208. *Tribune médicale*, March and February, 1901, pp. 172 and 192. Mewborn, *Journ. Amer. Med. Assoc.*, May 18th, 1901, p. 1389. *Journ. Amer. Med. Assoc.*, August 14th, 1909, p. 528.

[2] Ibid., 1909; February 13th, p. 557; March 6th, p. 787; April 3rd, p. 1121 (with editorial comment).

vitiated type described in his article, and which he calls "Belly Breathing," but which I would term "Pot-belly Breathing," or the type of breathing which tends to produce that abnormal condition in those who eat in excess of the requirements of nutrition, and lead a more or less sedentary life. And teachers who would give, as many do, a victim of this type of respiration exercises in the use of this harmful mechanism are, in my opinion, little short of criminals.

Abdominal breathing, however, as I understand the term, is found in many physiological specimens of humanity —for example, every rightly formed, healthy human infant, unhampered by tight clothing, breathes abdominally; that is to say, spinal extension is a constant factor, the ribs remain stationary throughout the whole of the respiratory act, on inspiration the nostrils dilate more or less, and the upper part of the abdomen—not the whole belly wall—is pushed slightly outwards by the descent of the diaphragm. During expiration the abdominal muscles contract, and the pit of the stomach is drawn inwards. This is the mechanism aimed at (but rarely attained) by the followers of the French School of Voice Production, who argue that as the healthy child is yet to be born that cannot make itself heard in the largest hall, and all normal children, when not exerting themselves violently, breathe abdominally, therefore this method of respiration is the right one, for voice production purposes, at any rate.

Not being an expert vocalist, I am unable to say whether the type of respiration aimed at by the French school or that advocated by the Italian school is the correct one for vocal purposes. But I am convinced from practical experience that both mechanisms should be assiduously cultivated by every one who values his health. Apart from the spinal extensors, the diaphragm and abdominal muscles are those chiefly concerned in the production of these two types of breathing, and inasmuch as they are separate and distinct, it is only reasonable to suppose that unless both actions are daily made use of premature physical and respiratory degeneration is invited.

In by far the majority of cases there is nothing but a lack of proper development of the muscles governing the respiratory act—either of the synergic or fixing muscles, or the true muscles of respiration—or a want of their co-ordinate action that is hindering the reattainment of these much-to-be-desired mechanisms. But, as Dr. Scanes Spicer very truly says, "In adult life such defects can only be corrected by arduous study, practice, and determination."

I practise myself what I teach my patients, and have acquired thereby a degree of immunity from colds, sore throats, headaches, and other ills that few individuals living under modern conditions of life possess at the age of 43, which is my age.

The views I hold on the subject of respiratory mechanics and their relation to health were first introduced by me in a course of Lectures on Personal and External Hygiene given to the officers of the Malta Garrison in the summer of 1905, and later by articles and letters which have appeared from time to time in the BRITISH MEDICAL JOURNAL and the *Journal of the Royal Army Medical Corps*.

In conclusion, I would add that it is most gratifying to me to find that so eminent a member of our profession as Dr. Scanes Spicer, whom I have never seen and with whom I have never had any communication, not only arrives at many of the same conclusions with regard to the mechanism of respiration and its influence upon health that I formed some four years ago, but also, apparently, holds much the same opinion as I do regarding the dangers lurking in present day physical culture methods when uncontrolled by expert medical advice. And it is to be hoped that other medical men will, by their own observations, test for themselves the soundness or otherwise of the views herein expressed.

The following references to the subject may be useful to those interested in it:—Major R. F. E. Austin, R.A.M.C.: "Physiological Exercises for Misused Voices," *Journal of the Royal Army Medical Corps*, August, 1905; "Defects of the Present System of Respiratory Training of the Soldier, with Hints towards its Improvement," *Journal of the Royal Army Medical Corps*, October, 1906; "Respiration and Pulmonary Tuberculosis," BRITISH MEDICAL JOURNAL, December 29th, 1906; "Respiration and Disease," *Journal of the Royal Army Medical Corps*, April, 1907 "Diaphragmatic Drill for the Improvement of the 'Wind' and General Health," *Journal of the Royal Army Medical Corps*, June, 1907; "Respiration and Fatigue," BRITISH MEDICAL JOURNAL, May 1st, 1909. Dr. Keith: "Why does Phthisis attack the Apex of the Lungs?" *London Hospital Gazette*, January, 1904.—I am, etc.,

Chatham, Sept. 20th. R. F. E. AUSTIN, Major R.A.M.C.

THE STRENGTH OF DIGITALINS.

SIR,—An infant who was recently and temporarily under my care with bronchopneumonia was having $\frac{1}{120}$ grain of digitalin (Parke, Davis and Co) every two hours hypodermically for several days. There was no indication that this dose was in any way excessive. As the adult dose is given as $\frac{1}{60}$ to $\frac{1}{30}$ grain, I concluded that the tablets must be very weak. When standardized physiologically on frogs by the Clinical Research Association, each tablet of $\frac{1}{120}$ grain proved only equal to $1\frac{1}{2}$ minims of a standard tincture (that is, 2 tablets required to kill a 22 gram frog in two hours).

As digitalin is generally used in critical cases where potency and reliability are of the utmost importance, I venture to ventilate the unsatisfactory position in your columns, and trust that any one who has special knowledge and helpful suggestions will follow suit.

Messrs. Parke, Davis and Co. answered my inquiries most courteously, and equally lamented the state of affairs, to which they have responded by issuing a much stronger hypodermic tablet of $\frac{1}{60}$ grain, which should be useful. But they say it is an unsatisfactory product, and recommend digitalone (fluid) instead. In Switzerland recently I heard excellent reports of an aseptic fluid called "digalen," consisting chiefly of digitoxin.

There is great confusion in the profession between digitalin (which is a mild, amorphous glucoside resembling digitoxin in its action) and digitoxin (which is a very toxic cumulative crystalline body). The latter has the same dosage as Nativelle's digitalin, which it resembles ($\frac{1}{2500}$ to $\frac{1}{500}$ grain). Hence the confusion in names.

Digitoxin can readily be standardized by chemical (?) or physiological means. But can the same be said of digitalin? Messrs. Burroughs, Wellcome and Co., in kind reply to my inquiries, state that they "are not aware of any reliable method of standardizing these products further than the chemical controls to which they are submitted."

But the main purpose of this letter is to expose the tragic absurdity of the ordinary tablet strength of digitalin being $\frac{1}{120}$ grain if each is only equal to $1\frac{1}{2}$ minims of standard tincture.

There is the wider question of whether the drug which is most potent in arresting the frog's heart is the most successful in healing the human heart. Medical sufferers from heart disease should have special experience of this.—I am, etc.,

Hull, Sept. 14th. FRANK C. EVE, M.D., M.R.C.P., Physician, Hull Royal Infirmary.

*** Digalen, an amorphous soluble digitoxin, isolated by Professor Cloetta of Basle, was shown at the annual exhibition at Belfast Meeting by the Hoffman La Roche Chemical Co., 7, Idol Lane, E.C., and briefly described at p. 204 of the SUPPLEMENT for August 28th, 1909.

CANCER OF THE BREAST.

SIR,—It would be interesting to know, Is cancer of the breast most common with those women who refuse the duties of nursing their infants, or with those who use this gland for its natural function? Some of your many readers may be able to supply the desired information.

—I am, etc.,

September 15th. INQUIRER.

WILLIAM BLAKE'S DRAWINGS.

SIR,—In the Literary Notes in the JOURNAL of September 11th there is a communication from Mr. G. Munro Smith of Bristol, drawing attention to the character of some of William Blake's drawings, and suggesting that the zigzag features which he has introduced are based on the "fortification figures" seen in the migraine aura. I wonder if Mr. Smith is aware that Sir Lauder Brunton, as long back as 1902, in an article printed in the *Journal of Mental Science*, traced a similar likeness in some of

Doré's illustrations to Dante's *Divina Commedia*. If so, the fact should have been mentioned in the Notes; but if not, it is a very interesting point that the two have come to the same conclusions absolutely independently.

Mr. Munro Smith's example is, I must say, more convincing than Sir Lauder Brunton's, even to the point of the "seething" character of the space inside the fortification figures which the sufferers so often describe. If there are any original journals or diaries of Mr. Blake extant, it would be of great interest to search through them with the object of detecting any reference to attacks of migraine, though, even in the absence of any mention of headaches, it must be remembered that the characteristic visual phenomena may be present in some persons without the subsequent headache.—I am, etc.,

Manchester, Sept. 14th. CHARLES H. MELLAND.

SIR,—Production is everything, rather than a fleeting or the critic's judgement, in the estimate of a useful brain. Mr. Smith's note attributing a tiny, dim scotomy for the origin of the peculiarly, but solely and always inspirational drawings of William Blake does not carry definite support. His very strained coincidence does not explain, nor give justice to, William Blake's descriptive power. And, in spite of all the meddling and explanatory critics, William Blake cannot be robbed of what he gave to the world—a simple, abiding, spiritual art and insight, out of his own grace and light, and happily clear of the absolute sanity and decaying day-issues of business clippings.

William Blake was a master, but also in his way a seer, and therefore a genius. The only psycho-physiological border part to be woven into his nature, tenderly and not meanly or critically put, is that he cultivated the receptivity of the seer's art, and, as such, the flexible, but controlled, lability of ideas. That permits largely of the seer's insight and visionary. Shakespeare chose it, taking it from the dominion of words; and it must have helped him to conjure up and clothe his scenes, and tellingly produce a temporary madness in *Hamlet*, his ghosts and that unapproached welding of the sweetest story of entrancement in Denmark of his time. William Blake chose engraving and painting, or, rather, drawing, as his medium to transmit his message. As he communed with the fancies of spirits, and enjoyed apparently fanciful courts with all the ancients, and also, through the bigotry of his times, had to embrace the narrow sphere of the biblical range, he characteristically became forcibly spiritual. I can see nothing psychopathic in his choice. However much one might wish to have seen him exhibit his wonted force in other commoner strains, still, it is nobody's right to cavil or criticize. His occasional excursions of hurried necessity into incidental or general subjects, for Mr. Butts and others, or with the miniatures he did when in lower association with Mr. Haley and the peculiar gentry of Felpham, proved that he might have excelled in successful commercial demands, but consequently in a thoroughly inferior way. If his mild training and the biblical scope of many of his inspirations be borne in mind—and that right of his ought never to be questioned—there will then be found nought to substantiate the usual interference of the critics, and the often insisted upon unnatural and eccentric bent, nor any real trace of the madman about him. He purposely tried, I hold, in his own words, "to see visions, dream dreams, prophesy, and speak parables"; he added, elsewhere, very sensibly in "this spirit of abstraction."

Mr. Smith's attempt to perpetuate the popular fallacy of a wrongly-disordered eccentricity to William Blake, with a negligent derangement of migraine for an obviously broader study in engraving, rests on no solid foundation. Mr. Henry B. Wheatley points out no corroboration can be found in Gilchrist's long *Life*. In the Collected Letters lately published by Mr. Russell no personal complaint occurs to his friends of anything like migraine. He and his wife make mention of suffering severely from ague and rheumatism, due to the dank, horrid Bognorian flats of clay at Felpham. Mr. F. Tatham, too, who was an artist, and described William Blake's process of prints for Gilchrist, in his *Intimate Life* does not mention any reference to sick headaches or eye disturbances. So a suggested resemblance to "fortification figures" in a picture of characterization and chance creation can have nothing whatever tangible to do with his marvellous series of genuine, and not copied, productions. Moreover, the one distortion of migraine, with its known clouding and torpor of mental action, would only be a miserable subterfuge for dexterity, and would rather have stopped and spoilt, instead of produced, the prolixity and delectable magnificence of William Blake's unfettered, and, luckily, sometimes rambling, art. He, like our first admiral, Admiral Blake, preferred moderate poverty with freedom so as to work in his own way.

No, Sir, migraine would be a mean counterpart for William Blake's actual creations! William Blake himself unconsciously summed up his efforts; his own words ran pregnantly: "He who can invent can execute."—I am, etc.,

Bognor, Sept. 14th. H. ELLIOT-BLAKE.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

"CONTRIBUTIONS" IN THE *MEDICAL DIRECTORY*.

NEWLY FLEDGED asks whether there is any objection to giving non-medical contributions in the *Medical Directory* under the heading of "Contributions," and he draws attention to the fact that non-medical contributions appear under the names of certain practitioners.

*** The usual custom is to restrict such contributions to those on subjects related to medicine and the allied sciences, but a cursory examination of the *Medical Directory* confirms our correspondent's statement that the editors allow references to be made to publications which have no such relation. We are, therefore, of opinion that our correspondent may mention his photographic writings without fear of being charged with an infringement of medical etiquette.

ADVERTISING.

A MEMBER asks whether it is right for a medical practitioner to display a large and prominent notice in a grocer's shop to the effect that messages will be immediately forwarded to him, he living two or three miles away.

*** It has been frequently pointed out that such notices can only be excused in wide-spreading country districts, and in the suburban neighbourhood from which our correspondent writes such a notice does not seem to be needed. We would suggest that the conduct of the practitioner concerned should be brought before the local Division of the Association.

OPTICIANS AND SIGHT TESTING.

P. J. B. sends a cutting from a local newspaper containing an account of the arrangements made by a local optician for sight testing and the supply of spectacles. He is said to have obtained the services of a gentleman as "oculist and consulting ophthalmic expert who comes from the north of England, where for many years his careful attention in all cases where the accurate fitting was the matter of the greatest importance has won for him the commendation of the medical profession as a whole." Presumably this "oculist and consulting ophthalmic expert" is not a member of the medical profession, and this is only another example of the pretensions of "oculists" to which this JOURNAL has drawn attention many times and at considerable length.

Medico-Legal.

DEATHS UNDER CHLOROFORM ANAESTHESIA.

AT Barnsley, on September 14th, an inquiry was held into the circumstances attending the death of a man during chloroform anaesthesia, at Beckett Hospital. The jury returned a verdict of death from collapse, attaching a rider to the effect that the medical men concerned were in nowise to blame, and were entitled to much sympathy in regard to the occurrence. The patient had been brought to the hospital from the workhouse for the performance of what appears to have been an operation for empyema. Owing to his condition the medical men objected to putting him under general anaesthesia, and commenced the operation under eucaine. The patient strongly protested, and

when the operation was half through declined to allow it to continue unless he were given chloroform. Its administration was therefore reluctantly commenced, but before the patient was completely under its influence heart failure set in, and the patient could not be brought round in spite of massage, the injection of ether, and the maintenance of artificial respiration for over two hours.

At Bristol, on September 15th, an inquest was held on the body of a boy, aged 12, who died at the isolation hospital during the performance of a tracheotomy. A local anæsthetic not proving effective, chloroform was given, and the deceased almost immediately collapsed. The *post-mortem* examination showed that the heart was in a state of fatty degeneration. The patient had been admitted the same day, late in the course of a severe attack of diphtheria.

THE EFFECTS OF BELLADONNA LINIMENT.

X. writes that a patient was treated by him with belladonna liniment, the use of which was followed by a troublesome rash. When the rash appeared a friend took her to another medical practitioner, who declared she was suffering from belladonna poisoning, and at once undertook her treatment. She appears to have got worse instead of better, and now claims that X. should pay the doctor's bill. He wishes to know whether this would be reasonable.

*** X. should repudiate any liability in the matter.

LOCUMTENENT AND COMPENSATION FOR INJURIES.

A CORRESPONDENT inquires whether a locumtenent can legally claim from his employer compensation for severe injuries received while riding a bicycle in the performance of his visiting duties, which disabled him for four weeks. He was engaged on the understanding that he provided his own bicycle, and he would like to know further whether the employer is not also liable to pay for the repairs of the bicycle, which was also much damaged by the accident.

*** If our correspondent were habitually engaged every year by the same employer as locumtenent he might have a claim under the Workmen's Compensation Acts. Otherwise his employer is not legally liable to pay any compensation for such an accident. If he were entitled to compensation, he could only claim half his salary for the time during which he was disabled, and no allowance would be made for the damage to bicycle.

The Services.

COURT-MARTIAL ON A FLEET SURGEON.

ON September 16th a court-martial was held on board the *Victory* at Portsmouth, for the trial of Fleet Surgeon Charles G. Matthews of the *Fisgard*, boy artificers' training establishment, who was charged with behaving with contempt towards Commander Richard R. Walters, his superior officer, also with wilfully disobeying the commands of Commander Walters, his superior officer. According to a report published in the *Times* of September 17th, Commander Walters said that on September 3rd he was in command of the *Fisgard* during the absence on leave of Captain R. Hyde Smith. During the forenoon of that day he saw the prisoner coming aboard in plain clothes after the boy-artificers had been dismissed for divisions, about 9.20 a.m.; he therefore sent for the prisoner to his cabin and asked him whether he had read his (the witness's) order book. The prisoner replied "No." He gave the book to the prisoner and told him where to initial it when he had read it. He then told the prisoner that the orders of the ship were that all officers must be aboard by divisions in the morning, and as it delayed the boy-artificers going to their instructions, if he did not come aboard at that time he must conform to the orders. The prisoner replied, "I refuse to obey your orders." The witness thereupon sent for Lieutenant Gouldsmith to witness the order he was about to give the prisoner. The witness made an accidental mistake in the prisoner's name. The latter called the attention to this, and upon the witness asking what his name was the prisoner made a contemptuous remark to the effect that "If you look for it in the Navy List you will find it." A little later the prisoner told the witness his name. The witness then ordered the prisoner to be on board at nine in the morning and personally report the sick to him. When this order was given to the prisoner in writing the latter refused to initial it. The witness replied that if he did not he would be put under arrest. The prisoner then said he would sign it if it were understood that he signed only as having seen the orders, not as accepting them as binding upon him. The witness declined to accept any conditions and said the prisoner could complain to the captain on the latter's return. The prisoner then left the cabin. The witness wrote in the log, "Cautioned Fleet Surgeon Matthews for behaving with contempt towards me as commanding officer of the ship." This the witness sent by Lieutenant Gouldsmith to the prisoner for him to sign. It was returned with the following addition written underneath by the prisoner: "Signed by order of the commander but not as an admission of the offence alleged, nor as having received the caution referred to." The witness sent for the prisoner, told him he had no right to make such an entry in the log, struck out what the prisoner had written, and ordered him to sign the log. As the prisoner refused to do this the witness placed him under arrest, but liberated him at 5 p.m. the same day and ordered the prisoner to report himself at 8.55 a.m. every day.

In cross-examination by the prisoner, the witness said that the prisoner asked him to refrain from altering the routine until the captain's return, but this was not until the witness had threatened to put him under arrest for not obeying orders.

The Prisoner: Do you suggest I said I would not obey the order in your order-book until the captain's return? The Witness: Not exactly in those words. You at first refused to initial my order-book. Then, after I had threatened to put you under arrest, suggested some conditions which I should accept.

Replying to further questions from the prisoner, the witness said that whilst waiting for Lieutenant Gouldsmith to come, the prisoner expressed readiness to obey any orders given by the witness in the captain's absence. The witness did not actually administer the caution referred to in the log, but intended the entry to constitute the caution. The witness admitted referring to the prisoner as "Dr. Richardson, Dr. Richards—or the Fleet Surgeon anyhow," but did not apologize for making an error in the name owing to the prisoner's irritating and contemptuous manner.

Lieutenant Arthur Neville Gouldsmith, R.N., corroborated the previous witness's statement as to what took place in the commander's cabin. He added that the prisoner's manner towards the commander was courteous except in one instance, that being when the commander gave him an order to initial the log, and the prisoner would not reply.

Did you consider the prisoner's behaviour contemptuous when he told the commander he could find his name in the Navy List? asked the prosecutor. "No," was the witness's emphatic reply.

Captain E. Hyde Smith, commanding the *Fisgard*, said that he had received only made three exceptions to his orders as to officers coming on board at 8.30 in the morning, the prisoner being one of the officers thus excepted. He told the prisoner that he should be aboard so that the boy-artificers were not delayed in going to the workshops in the morning. This would mean the prisoner being on board about 9.20 or 9.25 a.m. The witness did not tell the commander of the verbal exception he had made in the prisoner's case. Replying to the prisoner, the witness said that the prisoner's conduct had been satisfactory to him; also that he (the witness) had found it necessary to issue orders defining the commander's position aboard the *Fisgard*, as there seemed some misunderstanding about it.

The prisoner, in his defence, denied that he behaved contemptuously towards Commander Walters, or that he refused to carry out his orders.

The Court found that the charges were not proved, and acquitted the prisoner, to whom the President handed back his sword.

ROYAL NAVY MEDICAL SERVICE.

DEPUTY INSPECTOR-GENERAL C. BUCHANAN-HAMILTON (RETIRED) writes: In the excellent Educational Number of the BRITISH MEDICAL JOURNAL you hardly do the Royal Navy Medical Service justice, inasmuch as the grant of a free ration is unnoticed, as by this officers are enabled to maintain an excellent mess for the small sum of 2s. per diem. They had also a free spirit ration suitable for men (Viri) keeping the seas, but this of recent years has been discontinued.

INDIAN MEDICAL SERVICE.

R.N. writes: The letter of "Major, I.M.S." in the JOURNAL of September 18th (p. 825) is most valuable. The emoluments of the Indian Medical Service have never been stated in English money before. He gives his ordinary pay as Rs.900 (£60) a month, with increments that did in his case amount to another £20—£720 per annum almost certain, and perhaps £960 with luck. A naval medical officer of sixteen years gets £365, with very little chance of increment. The Indian medical officer has, of course, more expenses, but no one who has seen them at work will deny that they are much more comfortably off than officers of the Royal Navy Medical Service, while his last paragraph gives food for reflection to those of us who have joined that service.

TERRITORIAL FORCE.

THE MEDICAL ORGANIZATION OF THE TERRITORIAL FORCE. MAJOR E. CARRICK FREEMAN, M.D., Staff Officer to A.M.O., East Anglian Division, writing in reference to the paragraph headed "The Obstruction of Medical Organization Territorial Force," which appeared in the JOURNAL of September 11th, points out the proper remedy in cases in which head quarters are inadequate. He says: The commanding officer of the field ambulance concerned should apply in official form to the Administrative Medical Officer of his division in the Territorial Force stating his grievance and the failure of his County Association after official application, to remedy it. The Administrative Medical Officer would then himself set forth the case to the County Association, and, if he did not obtain satisfaction promptly, would write to the

General Commanding the Territorial Division. He would in this letter point out that the field ambulance in question had no adequate accommodation for the proper training of its men, and that they, in consequence, being unable to carry out the drills laid down in the regulations, were in a fair way to be debarred from obtaining the annual efficiency grant.

He could also draw attention to the very adverse effect the lack of head quarters exercised on recruiting. It might also be the case that from lack of proper storage accommodation the field ambulance had been unable to receive or to keep in good order its mobilization equipment, and therefore was not in a position to be available on sudden mobilization; if so, this fact should also be duly reported. The matter would then pass into the hands of the military authorities, and your correspondents would soon find their legitimate necessities attended to by the County Associations concerned.

Public Health
AND
POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Manchester.—The annual report of the Medical Officer of Health for Manchester for the year 1908, which has just been issued, is a most valuable book of 250 pages containing not simply statistics, but a series of useful monographs on various subjects affecting the health of the city. The population is estimated at 648,846, with an annual birth-rate of 28.89, and a death-rate of 18.1 per 1,000. The birth-rate is 0.5 per 1,000 higher than in 1907, but 3.05 lower than the mean for 1891-1900. The death-rate is 0.2 per 1,000 higher than in 1907, but 4.4 lower than the mean for 1891-1900. This difference in the death-rate means a saving of 2,551 lives in the year, though Manchester is still in a bad position compared with the seventy-six other large towns, and it is noted that it is in the middle period of life that the rate is so excessive in Manchester. The extent of unemployment in the second half of the year was very great, and there can be no doubt that a high degree of poverty generally means a high death-rate. The infant mortality was 152 per 1,000 births, while in 1907 it was 147, and in 1902 it was 151; but, except for these two years, it was lower than in any previous year. It is noted that in recent years there has been a shifting of the mortality, so that it has become relatively more severe in the first three months of life; not that there is any absolute increase, but that the improvement is less in the first three months. It is suggested that "this may with a high degree of probability be held to indicate that less care is bestowed on the physique of the mother than is given to the nurture of the infant." A useful table shows that the general death-rate descends from birth to the age of 10 to 14, and then gradually begins to ascend. The death-rate at all ages in males exceeds that in females by 3 per 1,000: this is due in some measure to the fact that a considerable section of males live in common lodging-houses, and are exposed more to the injuries and stress of occupations than females. By far the highest death-rates occurred in the central districts and in Ancoats and Hulme, while the lowest were in Harpurhey, Withington, Cheetham, and Moston. The total deaths numbered 11,930, and the chief causes of death were: Pneumonia, 1,293; bronchitis, 1,150; phthisis, 1,088; heart disease, 1,119. There were fewer deaths from lung disease than in 1907, but an increase under diarrhœa and infectious diseases, and the deaths from cancer, of which 1,007 numbered 498, in 1908 reached the high figure of 584. Pneumonia and bronchitis are lower than the average for the last ten years. It is noteworthy how tuberculous and other respiratory diseases increase in the central areas at ages 45 to 65, while they decrease in North and South Manchester, and we are told "it is therefore on the lungs that the gathering fatality in the central parts of Manchester expends itself with the advance of years." There was a general increase in the notifiable infectious diseases which cannot be explained, and seems to depend on epidemic laws not properly understood. No cases of small-pox or typhus fever were notified. Scarlatina, however, was more prevalent than in any recent year, except 1906, though, on the whole, it was of a milder type. There was also a slight increase of diphtheria. Enteric fever shows a greater number of cases than in any year since 1898, and the death-rate was also very high. Measles and whooping-cough cause great trouble owing to the carelessness of parents about isolation, and the great number of deaths from these two diseases is a matter of the greatest concern. The death-rate from phthisis was lower than in any previous year except 1905, and it is evident that the efforts of the health authorities to prevent the spread of the infection are bearing fruit. It is somewhat disquieting, however, to find that Manchester has still by far the highest death rate among males from phthisis of all the great towns of England and Wales. A full account is given of an investigation into an outbreak of poisoning by arsenical sweets. No fewer than 56 school children, with 5 others under school age and 1 adult, were affected. The sweets were sold at 4 oz. for 1d., and an ounce contained about ten sweets. The effect after eating even one sweet was severe vomiting, generally within an hour, and the effects after eating a large quantity do not appear to have been either more severe or more lasting. In some cases there was abdominal pain and purging, but in most cases, after vomiting, the children were quickly well. Of all the children affected, only 5 missed school for half a day and only 1 for two days. Professor Delépine found that each sweet contained about $\frac{1}{25}$ grain of arsenic and no other poison. Samples of the raw materials were obtained, and were principally glucose, sugar, and starch, but no arsenic was found in any of the samples examined, and up to the present no explanation has been obtained of the presence of so large a quantity of arsenic in the sweets. The outbreak brings into sharp contrast the effects of acute and chronic arsenical poisoning. In the former there is vomiting and diarrhœa, with rapid recovery, as in all these cases, while with very small repeated doses, as occurred in the arsenical beer poisoning, there are symptoms of a cold in the head, with anæmia, pigmentation, tingling in the hands and feet, muscle atrophy, and great weakness which lasts for months and may be fatal. Much attention has been paid during the year to the housing of the working classes, and some hot acrimonious disputes have arisen, especially with property owners. No less than 2,844 midden privies and 10,081 pail closets have been converted into water-closets. In every case attention has been paid to the general sanitary condition of the houses, and if this was not found satisfactory the cottage was condemned. A sum allowance of £2 for every pail closet altered to a water-closet is made to owners by the Corporation, but sanction for the alteration is not given, and the £2 not paid, until the houses themselves are made fit for human habitation in other respects. Good work has also been done in dealing with back-to-back houses. A scheme for the erection of tenements was not carried out owing to the opposition to what are called "barrack dwellings." The Housing Bill, 1909, will give the sanitary authorities far greater powers in dealing with insanitary houses, but there are some complaints from property owners that the great bulk of the expenses falls on them, and the closing of so many insanitary houses has left a scarcity of small houses suitable for newly married people and has enhanced the rents of those that are left. Nevertheless the medical officer of health is confident that the work that is being done will greatly improve the sanitary condition of the city and will be reflected in the health reports of the future. The report gives a detailed statement of the work of the health visitors, who, since March, 1908, have been taken over entirely into the service of the Corporation. The chief duties of the health visitors mainly are to visit infants under 12 months of age and to instruct mothers in everything relating to the welfare of the children, to visit notified cases of phthisis and give instructions in the prevention of infection, and to make a systematic house-to-house visitation to discover, if possible, simpler cases. Their work covers a large field left untouched by the sanitary inspectors in connexion with general household arrangements. At the end of 1908 they had 533 cases of phthisis under observation, visiting each case regularly to see that the house was kept clean, and that the patient carried out instructions for preventing infection. They also record over 36,000 visits to infants and over 9,000 house-to-house inspections. They appear to have distributed a considerable amount of personal help in the way of food, milk, and clothing, which is mostly provided by the Ladies' Health Visiting Society, as well as recommends to various charitable institutions. The health visitors, of course, have no right of entry to any house, and have often to use tact to get the confidence of people. They are specially enjoined to use great care not to interfere with the work of medical practitioners and midwives. They often advise the calling in of medical assistance, but on no account may they offer any independent medical advice or criticize the orders of doctors or midwives. A successful Guild for mothers has been established during the year in Ancoats under the auspices of the Ladies' Public Health Society. The Guild seeks to lessen the infant death rate by providing dinners at small cost to pregnant and nursing mothers, by demonstrations in cookery, clothing, and domestic economy, and by medical consultations for delicate babies up to the age of 12 months. The advice and supplies of the health visitors, who in turn find suitable cases for the Guild to assist.

The report of the work of the Midwives Supervising Committee was summarized in the JOURNAL of July 24th.

BLACK SPOTS ON CHILLED BEEF.

IMPORTERS of chilled beef from the Argentine recently have been much exercised on account of the presence of more or less circular black spots which have made their appearance upon certain consignments which have arrived in this country. With a view to ascertaining the nature of this unusual appearance, Professor Klein was requested by the Frozen Meat Association to make suitable investigations. A report which he has just issued on the subject is of reassuring character. He found that the spots were caused by a fungus of the nature of an oidium, and which he has named *Oidium carnis*. The mycelium forms oval gonidia, either by short lateral branches of the free hyphæ, or along and at the ends of the superficial threads in the fat tissue. In both instances the oval gonidia are capable of multiplying in the manner of yeast cells. Experiments upon guinea-pigs with large doses of an emulsion of the mould gave a negative result. No change in the animals' condition was noticeable. In spite of this satisfactory conclusion to Professor Klein's observations, it is probable that purchasers will still

desire to have meat which is not spotted with *Oidium carnis*, so that those who are concerned in the trade would be well advised if they sought some means of preventing the growth of the fungus.

APPOINTMENT AT LEIGH.

THE recently instituted post of School Medical Officer and Medical Officer of Health for the Borough of Leigh, Lancashire, was filled on September 14th by the election of Dr. Frederick Wynne of that town. There were sixty-one candidates. In sanctioning the salary of £400 per annum, the Local Government Board stipulated that the holder of the office should be allowed to accept other public appointments approved by the council; to take pupils; to make pathological and other examinations for practitioners; to act as consultant in cases of infectious disease; to make *post-mortem* examinations; and to act as a medical witness in courts of law.

OXIDE OF IRON IN WATER.

H. R. writes: My water supply is from a shallow well in gravel. If the water is left for a day or two in w.c. cistern without emptying, when drawn off it is quite red from oxide of iron (I suppose). The water, however, in a large galvanized cistern is not red, proving that the iron is not in the water, but is caused by the action of the water on the iron fittings. What ingredient in water would have this effect?

THE M.O.H. AND THE PRACTITIONER IN SCARLET FEVER CASES.

J. F. R.—Most medical officers of health direct an infected house to be disinfected at the request of the medical man who has been in attendance upon the infected patients. The Local Government Board has several times pointed out the impropriety of a medical officer of health visiting the patients of other practitioners except in consultation. The power possessed by the sanitary authority to disinfect a house is contained in Sec. 120 of the Public Health Act 1875, as follows:

"Where any local authority are of opinion, on the certificate of their medical officer of health, or of any other legally qualified medical practitioner, that the cleansing and disinfecting of any house or part thereof, and of any articles therein likely to retain infection, would tend to prevent or check infectious disease, it shall be the duty of such authority to give notice in writing to the owner or occupier of such house or part thereof requiring him to cleanse and disinfect such house or part thereof, and articles within a time specified in such notice."

If the notice is not complied with a penalty may be enforced, and the local authority must carry out the disinfection, and may recover the cost from the owner or occupier of the house. Where the Infectious Disease Prevention Act 1890 has been adopted, the above section is superseded by Sec. 5 of that Act, the material difference being that the clerk of the authority must at once act upon a certificate of the medical officer of health, or of a registered practitioner, and insist that a house which is certified to require it is to be disinfected. For the purpose of carrying out this section, officers of the local authority have power of entry upon premises between 10 a.m. and 6 p.m.

W.C. FLUSHES.

COLONNA.—It is extremely important that the water used for flushing a water-closet should pass through a disconnecting cistern. This is provided for, as a rule, in the regulations of the water supplying authority. A water-closet with the flushing pipe in direct communication with the main water supply would be a nuisance and injurious to health and could be dealt with as such under the provisions of Sect. 91 et seq. of the Public Health Act 1875.

Obituary.

THE funeral of DR. THOMAS BRIDGWATER took place on September 11th in the parish church of Glasbury (Breconshire). The funeral service in the parish church was fully choral, the officiating clergyman being the Vicar of Glasbury, the Rev. Mr. Gibbons, who was assisted by the Rev. John Bridgwater, nephew of Dr. Bridgwater, and Vicar of Old Charlton. The mourners were Messrs. Harvard Bridgwater, his son, Harold Bridgwater and Thomas Bridgwater, his nephews. There was also a large assembly of friends in the church. The grave, which was alongside the last resting place of Dr. Bridgwater's relatives, was lined with moss and white flowers. The following was the inscription on the coffin: "Thomas Bridgwater, 85 years, 8th September, 1909."

THE prizes of the Royal Dental Hospital of London will be distributed by Sir Victor Horsley, F.R.S., at a *conversazione* to be held at the Royal Institute Galleries, Prince's Hall, Piccadilly, on Wednesday, October 20th, at 8 p.m.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

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TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. WILLIAM ODELL (Ferndale, Torquay) writes: A lady medical missionary is anxious to obtain a "Harvard" or similar chair for operating purposes, and I shall be glad if any member of the Association having one to dispose of at a small cost, will kindly communicate with me, stating price, etc.

ANSWERS.

LITHOS.—We know nothing of "Sal Hepatica" beyond what is stated in the advertisements. We have made inquiries, but cannot find that the preparation has been examined or that its composition is known in this country.

IGNORAMUS asks what outfit is necessary for the most recent and approved method of producing high-frequency currents.

*** The essential parts of a high-frequency apparatus are a condenser, spark-gap, solenoid, and resonator. The secondary discharge from an induction coil is connected to the inside coatings of the condenser, which preferably takes the form of a series of metal plates. These plates are separated from one another by glass, or, what is now considered more satisfactory, mica. The spark-gap is usually a glass cylinder with ebonite ends. The solenoid is constituted by a coil of copper wire connecting the outside coatings of the condenser. The resonator most generally employed is that of Oudin, and consists of a number of continuous turns of wire which are wound on a cylindrical wooden framework. In applying the currents a large helix for autoconduction and a condensation couch, as well as special electrodes for the effluve, may be required. A book which goes very fully into the question of apparatus is the 1907 edition of Crookes's *High Frequency Currents* (Bailliere, Tindal and Cox). Mr. W. Duddell, F.R.S., devoted his presidential address before the Roentgen Society to modes of production of high frequency, and the paper—a very valuable one—is published in the Journal of the Society for December, 1907.

BUTTER MILK.

RUSTICUS.—The composition of ordinary butter-milk is: Water, 91 per cent.; protein, 3 per cent.; fat, 0.5 per cent.; sugar, 4.8 per cent. It differs from full milk which has been soured by lactic acid bacilli in containing much less fat. In what is now known as the "sour milk treatment" the milk is soured by the addition of a special breed of lactic acid bacilli derived from Bulgarian sour milk. These are more active and resistant than the ordinary lactic acid bacilli found in butter-milk, and the latter is on that account believed to be less effective in promoting a diminution of intestinal putrefaction. It should be noted, however, that any form of milk, if taken in sufficiently large quantity, tends to lessen intestinal putrefaction.

RECOVERY OF THE ABATEMENT OF DUTY ON PETROL.

"A. B." refers to the reply of "D. P." in the issue of August 21st, and states that he has applied to the local officer of Customs and Excise, only to be informed that the officer had no instructions in the matter. If "A. B." will apply again to the officer he will shortly be furnished with the necessary forms, as we understand that specific instructions have now been given for the treatment of the abatement claims of medical men, and special forms are about to be issued. The conditions referred to in the former reply are those imposed generally where motor spirit is used for any non-dutiable or half-dutiable purpose.

LETTERS, NOTES, ETC.

TUBERCULOUS SINUS.

IN the sixth line of Dr. T. Walker Love's communication, published last week, p. 828, the word "anal" should have been "Anel."

COLOUR BLIND ENGINE DRIVERS IN FRANCE.

WE regret that in our reference to the paper by Clerc on the vision of French railway drivers, in the JOURNAL of September 18th, p. 811, we did not give Dr. Edridge-Green the priority to which he is entitled in bringing out the necessity for examining engine drivers with a lamp test. Dr. Edridge-Green has been not only the pioneer, but the most energetic of those who have worked to bring about a reform in this matter.

DUTCH DROPS.

DR. Y. M. JONES-HUMPHREYS (Cemmaes, Montgomeryshire) writes: In Hoblyn's *Dictionary of Terms used in Medicine*, eighth edition, published in 1858, I find the following: "Dutch Drops. Haarlem Drops." The basis of this nostrum consists of the balsam of turpentine. A preparation, however, is frequently sold as "Dutch drops" which is a mixture of oil of turpentine, tincture of guaiacum, and spirit of nitric ether, with small portions of the oils of cloves and amber. When a student at Guy's a sailor on a Rotterdam boat told me of the preparation, which he said was largely used in Holland for lumbago and rheumatism; and some years ago a patient asked me if I could get him some, he being a great sufferer from lumbago.

THE TREATMENT OF BOILS.

DR. DOUGLAS MACDONOGH, D.P.H. (London, N.), writes: I notice in the Epitome of Current Medical Literature in the JOURNAL of September 11th an account from the *American Journal of Medical Sciences*, of treatment of boils by carbolic acid. I have myself for many years treated them by a pointed wooden match—or harder wood—dipped in pure carbolic, and a simple antiseptic dressing; of late years a pad of lint steeped in hot oyllin solution. I have always found it satisfactory, though it may have to be repeated several times in troublesome cases. The first application generally relieves the pain. I treated a very large boil on the back of a man's neck some few months ago in this way, without leaving any mark, and I use the same treatment in any stage of the disorder.

SPECIFIC GRAVITY OF THE URINE IN HEALTHY WOMEN.

C. writes: In the JOURNAL of September 11th Dr. French claimed to show that the urine of normal women possesses a high specific gravity. The women he chose were not, strictly speaking, normal. As a nurse, each was engaged on what is, for a woman, an excessive amount of physical work. This naturally sends up the specific gravity. Such high figures as he records are not found in women leading a less strenuous life. The average woman's urine has the same specific gravity as that of the average man.

FEEDING AND CARE OF INFANTS.

THE National League for Physical Education and Improvement is issuing cards containing hints on the feeding and care of infants. It can be said that the majority of the instructions have been carefully and well selected, and are expressed in terms calculated to impress their importance upon mothers and nurses. Most of the instructions, indeed, could hardly have been improved upon for their purpose. We may be pointed out, however, that the opening sentence on handfeeding, "When the breast is not enough give cow's milk and water or barley water as well," is not sufficiently clear. Many mothers, we have little doubt, would infer from it that barley water might be used as the equivalent of cow's milk and water. The instructions as to the preparation of barley water, too, might be fuller and more precise. These points are of minor importance. To the advice, however, "If cream be obtainable add one teaspoonful in each bottle up to five months old; if not, give one teaspoonful once a day of cod-liver oil," we would take the strongest exception. To add a teaspoonful of cream to each bottle, irrespective of the age of the infant and the amount of the feed, is to court a grave risk of causing vomiting, and, possibly, diarrhoea as well. Cod-liver oil, too, is not a drug to be left to the discretion of even the most intelligent mothers. Given in a teaspoonful dose at any time it is apt to upset the digestive system of any infant, and in hot weather the results would probably be disastrous. We would strongly counsel the omission, or very careful alteration, of the whole sentence in future cards of instruction.

RHINOLOGY AS AN AID TO DIAGNOSIS OF PULMONARY TUBERCULOSIS.

MR. W. C. RIVERS, in the course of a letter on this subject, asks for space to make some observations on the criticism of his Belfast paper on rhinological evidence of phthisis. He writes as follows: Captain Sharpe states that it is fairly generally known that nasal deformities favour the development of consumption. This must mean those affected thus are specially likely to become phthisical; and therefore, logically and mathematically, that consumptives present a larger proportion with nasal defect than do the non-tuberculous. But then he also says that another matter of fairly common knowledge is that nasal deformity abounds so amongst both consumptive and non-consumptives, as to have no pulmonary diagnostic significance. In the same breath, then, it is asserted that affections of a certain nature are so rife amongst consumptives as to constitute a cause of their condition, and yet that they are not in the smallest degree characteristic of them. The preponderance of nasal insufficiency amongst my tuberculous cases is surely real enough. 12 per cent. excess as regards septal deformity, 10 per cent. for atrophic conditions, 7 per cent. for post-nasal catarrh, and 24 per cent. for a positive anamnesis—these strictly minimum estimates, in the formation of which subconscious mental bias has been very fully guarded against, and up to a good total, even allowing for only of the same case under different headings. Supporting the facts described in this paper there is a widespread literature; against them, as far as I am aware, only Gottstein's: "It is not known to me that consumptives are specially characterized by liability to nasal disease"; and Ingals's facultative exercitation; neither author recording any actual examination of control cases.

ALLEGED PERSONATION.

MR. WILBERFORCE J. J. ARNOLD, B.A., M.B., Colonial Surgeon, Island of St. Helena, writes, under date August 14th, as follows: I have received by the last mail a letter from Liverpool, informing me that some one had presented himself at the Royal Southern Hospital in that city, and gave my name as his own, stating at the same time that he was home on leave from St. Helena. He represented himself as an invalid, and was admitted with a view to operation; but prior to the operation he obtained a loan of money on a plausible pretext from a member of the staff and disappeared. It subsequently transpired that he had the same operated on at the Northern Hospital at Liverpool, and by similarly using my name had succeeded in borrowing several sums of money. He answered questions as to qualifications, etc., correctly, having doubtless gleaned information from the *Medical Directory*. He is described as being about 5 ft. 7 in. in height, of slight build, looking about 28 years of age, though giving his age as 44, with dark hair, and a small moustache. He has an impairment of speech, and a slight paralysis of face and arm on the right side. He may still be pursuing his course of fraud, and, if not using my name, may be attempting to pass under that of another medical man abroad. On this account, I have thought it my duty to make the facts public. In cases of doubt, should any medical man's name in the Colonial Service be made use of, information can be at once obtained from the Colonial Office. I have no idea as to the identity of the individual who has impersonated me in Liverpool, but write in the hope of assisting to check the career of an impostor.

THE CAUSES OF PUERPERAL FEVER.

DR. A. P. THOM (Mount Magnet, Western Australia) writes: In the JOURNAL of June 19th your special correspondent stated the remarkable fact that in Salford there were more cases of puerperal fever amongst the cases attended by doctors than amongst those attended by midwives. It is remarkable, but none the less it has been my conviction after an experience of twenty-six years, that there are two or three times as many cases of puerperal fever amongst women attended by doctors than amongst those attended by midwives. The reason for this is the greater amount of handling to which the patient is subjected from doctors, and the too frequent use of the forceps without proper preparation. Another point I would like to emphasize is the frequency of tears of the perineum in spite of precautions, possibly every fourth or fifth case which requires stitching up immediately, however small they may be. My experience has been gained in England and Australia.

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NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

Remarks ON THE MEDICAL LIBRARY IN POST-GRADUATE WORK.*

BY

WILLIAM OSLER, M.D., F.R.S.,

PRESIDENT OF THE MEDICAL LIBRARY ASSOCIATION.

With collectivism the order of the day it is very natural that those interested should associate themselves in an organization which has for its object the welfare of the Medical Library. As stated in the circular, the Provisional Committee has given the new society a wide basis. The objects are:

(*a*) To bring together those engaged in or interested in medical libraries and medical literature, and for the discussion of matters associated with their fostering and care;
(*b*) To maintain an exchange for the distribution of duplicate books and periodicals;
(*c*) To increase the facilities for reference work;
(*d*) To encourage the study of the history of medicine;
(*e*) To issue publications dealing with medical library work;
(*f*) To form a library union amongst those of the medical libraries between which the exchange of books can be arranged—

all unexceptionable objects, and with the additional merit of being within reach of accomplishment.

Let me say at the outset that this is not to be simply a society for those whose work is more or less officially concerned with libraries, but it is for all interested in the book as a living factor in the education of the members of a learned and consequently of a very bookish profession. Whether the British doctor has been a better book-lover or book-maker is an open question, but from the first Oxford movements in the thirteenth and in the early fifteenth centuries we find him ever in the ranks of the keenest bibliophiles. He has never been a great student of the book as such, and it is strange not to find in the long line of splendid bibliographers, from the lovable Conrad Gesner to the encyclopaedic Billings, an Englishman of the first rank. I do not forget the useful books of Douglas, of Young, and of Forbes, nor the Rabelaisian (in the mirth-loving sense) two-letter bibliography of Atkinson †; but they are feeble efforts in comparison with the works of our foreign and American brethren. But the Englishman has made up by being a great book-lover. Some of the best known of collections have been made in this country by physicians. It would be impossible to parallel elsewhere the libraries of Mead, Askew, and William Hunter. The sale catalogues of the former tell of treasures (and of prices) that send a thrill of regret through the book-lover that his lot was not cast in those happy days. The William Hunter Library met a better fate, and in the University of Glasgow is an enduring and worthy monument to the elder of the two great brothers, so unlike in mind and manners, so like in the capacity to see the true value of collections. It is to be hoped that a complete catalogue of this library may be issued before long, in companion volumes to the splendid catalogue of the manuscripts recently edited as a memorial to the late Professor Young.

It is safe to say that in proportion to population there are more medical libraries in these islands than in any other country in the world. We hope before long to have a proper census of them, and meanwhile I base the statement on casual observation. One of the first questions I ask on visiting a new town is, "Where is your medical library?" and I have been astonished at their extent and value. Usually in connexion with the county hospital or the medical society, or both, many of them go back to the middle or later part of the eighteenth century, and bear witness to the culture and intelligence of the provincial physicians of those days.

There are three groups:

First, in the national libraries of the capitals and of the universities, such as the British Museum and the Bodleian, are large collections of medical books—that of the British Museum the largest in the country. Upon these public storehouses of bibliographical knowledge we all draw freely. In many of the small libraries there are special collections of great intrinsic or historical value. The college libraries of Oxford and Cambridge contain manuscripts and old books of exceptional interest. Diel's topographical catalogue shows how rich some of the colleges are in the Greek medical manuscripts, particularly Balliol, New, Merton, All Souls, and Caius. Stowed away on their shelves are many fine folios, the gift of old members. Gulston's books are at Merton; New College has a very choice collection, including some of Walter Bayley; Floyer's books are at Queen's, Paddy's at St. John's, Coggan's at Oriel—indeed there is scarcely a college library without interesting medical associations.

Secondly, the medical libraries proper, among which those of the Royal Colleges of the three capitals are the most important. Easily first in extent and in the wide sphere of its influence is that of the Royal College of Surgeons of England, which is a model of good management. The library of the Royal Society of Medicine is the largest, I believe, connected with any medical society, and with the new organization is rapidly growing. The libraries of the Faculty of Physicians and Surgeons of Glasgow, of the Medical Institution of Liverpool, of the Birmingham Institute, of University College, Bristol, the Worth Library of the Steevens Hospital, and the Manchester Medical Society, form collections of the first rank. One of the most valuable of professional libraries is that of the British Medical Association, under whose auspices, so to speak, we meet to-day. Founded in 1889, it now possesses more than 20,000 volumes, with a card catalogue. The books are chiefly modern, with a large proportion of monographs and valuable sets of foreign periodicals. It receives also, and this is a very important point for borrowers, the theses of the French universities. Through it the Association has already done good work by aiding in the formation of local libraries, and between 6,000 and 7,000 duplicates have already been distributed. An important step has recently been taken to make this a lending library for members of the Association, who will be able to borrow expensive works and periodicals such as are only occasionally required for consultation. Having frequently visited the library in the old building, I very gladly bear testimony to its usefulness and to the admirable way in which it is managed by the librarian, Mr. Honeyman. I am not surprised to hear that the annual number of readers is very large, more than 6,000 in 1906. In the new building the arrangements are excellent, and I have no doubt that provincial members visiting London will more and more resort to this library. In all matters of management and detail these large libraries will be able to guide and assist us with their experience. Certainly we shall get much more from them than they from us, but theirs will be the richer blessing of the giver. With a well-managed exchange we may be able to help them fill the lacunae on their shelves, and it should be our aim to make these national collections more and more complete.

By far the best work we can do is in the organization, preservation and extension of the smaller libraries already existing in the provincial cities and towns. Many of these are already well housed and well arranged, as for example the Reading, York and Norwich libraries, to speak of those which I know personally. There are scores of hospitals with good collections, some of the greatest value, as those of Exeter and Bath and the Brackenbury Library, Preston. Some of them have associations of exceptional interest. I have always been an admirer of Caleb Hillier Parry of Bath, type of the old naturalist-physician, more common a few generations ago than now. His library in the Royal Hospital remains a fitting monument to a scholarly man of wide sympathies, and who left a deep impression on that part of the West Country which has given us such men as Jenner, Pritchard and Symonds. In those days life was not so full, and competition was less keen, so that men had more time to read and to think. Many of the best of these smaller libraries date from the latter part of the eighteenth century and the

* Delivered at the inaugural meeting of the Medical Library Association, held at Belfast, July 28th, 1909.

† The only man, so far as I know, who has had the courage to write a diverting bibliography, but unfortunately he only got through A and B.

beginning of the nineteenth century. Some of them have died into cupboards and barrels, and sadly need the kind care of a Philip de Bury, one of the founders of Oxford libraries, who, in the fourteenth century, complained bitterly that he found precious volumes defiled and injured by mice, worms and moths. A collection of this sort, offered me a few years ago, I was able to buy through a friend, for the Johns Hopkins Medical School. It had associations with Joseph Priestley, with John Aikin, Thomas Percival and James Kendrick, well-known names in the North. As illustrating how valuable may be some of these out-of-the-way collections, there were in this one scores of seventeenth and eighteenth century pamphlets which were not in the London libraries.

Our best work will be in stimulating an interest in these smaller libraries, either in connexion with the medical society or with the hospital, and in helping to organize them; and from every one of them we hope to have in our society a representative.

And, lastly, there is the private library of the practitioner, the scope of which will depend on his training, his tastes, and his purse; and this brings me to the subject of my remarks, "the value of the library in post-graduate study."

Some of the best of men have used books the least, and there is good authority for the statement that shallowness of mind may go with much book-learning. Descartes, one of the most brilliant of thinkers and observers, had no library. At Egmond, asked by a friend the books he most read and valued, he took him into his dissecting room and showed him a calf—"There is my library." An identical anecdote is told of John Hunter. But these were exceptional men; and few will be found to doubt the importance of books as a means to what the same author called the end of all study—the capacity to make a good judgement.

It cannot be denied that many men practize, and do so successfully, with few journals and still fewer books. Radcliffe, whose memory is enshrined in two of the finest library buildings in the kingdom, and whose travelling Fellows are supposed to have at least a triennial thirst for new knowledge, neither read nor wrote books; and he is credited with the famous *mot* that he could set down the whole art of medicine on a sheet of paper. But conditions have changed, and medicine is now a rapidly progressive science, as well as an exceedingly complicated art, of which, at qualification, a man has only laid the foundation; and if he is to develop his intelligence—that is, get an education—it must be by systematic post-graduate study. Out of leading-strings he must himself be at once teacher and pupil, and make and keep certain self-made laws. Whether he will get this education, whether, indeed, he will be able to keep what he has, will depend in part upon the sort of training he has received, and in part upon the type of mind with which he has been endowed. Unless as a student he has got that "relish of knowledge" of which Locke speaks; unless he has got far enough to have his senses well trained to make accurate observations; unless he has been taught how to use his intelligence so as to form a good judgement, the teacher will have more or less of a fool for a pupil, and between them make a sad mess of an education. After a few years such a man gives up in despair, and without mental exercise grows stale and is fit to do only the ordinary reflex practice, in which cough means an expectorant mixture, and heart disease digitalis, just as surely as a tap on the patellar tendon brings out the knee-jerk. A glance at the consulting-room suffices for the diagnosis of this type: the BRITISH MEDICAL JOURNAL or *Lancet* lies uncut in heaps on the table, and not a book is in sight! Some of the men of this type play a good game of tennis, others shoot and ride well, more play a good game of bridge, but they are lost souls, usually very dissatisfied with the profession—the kickers, the knockers, the grumblers, without a glimmer of consciousness that the fault is in themselves.

Post-graduate study is a habit of mind only to be acquired, as are other habits, in the slow repetition of the practice of looking at everything with an inquiring spirit. A patient with pneumonia has grass-green sputum. "Have I ever seen it before? Have I a note of it? Where can I get a good description of it? What does it signify?" These are questions preliminary to getting a bit of clinical education, trifling in itself apparently, but when stored up and correlated with other facts may become the basis for an intelligent judgement on an important case.

There are many factors in this training—note-taking, reading, the medical society, and the quinquennial brain-dusting at a hospital or a post-graduate school. But I am only here concerned with one—books. I would like to speak of the value of notes, however brief, collected through long years as the sole means whereby a man gets his experience codified and really helpful; but I cannot wander to-day from the book, in which I include the JOURNAL.

But how can a busy man read, driven early and late, tired out and worried? He cannot. It is useless to try, unless he has got into the habit when he was not so busy; then it comes easy enough, and the hardest-worked man in the land may read his journals every week, even if he has to do it in his carriage. My old teacher and colleague at McGill, Palmer Howard, was the busiest practitioner in Montreal, but the weeklies and the monthlies, English and French, the good old Quarterly, the hospital reports, the new monographs—nothing escaped him, and I have often heard him say that he did his best reading as he drove from patient to patient.

It is not so much a question of *when* but of *what* and of *how*. What sort of reading will best help a man in his education, will help him to keep up with the times and to develop into a thinking, reasoning practitioner? Let him get rid of the notion that much has to be read; one or two journals, a good weekly—the *Lancet* or the BRITISH MEDICAL JOURNAL—a good monthly—the *Practitioner* or the *American Journal of the Medical Sciences*—suffice; but let them be read thoroughly. Then each week strip the husk of advertising sheets, and keep on the desk a file of reasonable proportions, and to the articles which have been of interest refer again and again. At the end of the half-year bind your journals and insert slips where you have found articles bearing directly on your cases.

Carefully studied, a couple of journals are the very basis of post-graduate work, and year by year the files on the shelves become not simply the nucleus of, but actually a good working library, and, well marked in his mind, he has in them volumes on every special disease and a complete summary of the progress of medicine.

Let him follow the same practice with books. Buy with discrimination, and not too many, as here again it is a question of reading. If, as is said, the man of one book is dangerous, the man of a few books is more useful and more apt to keep the open, plastic mind. A good "System" of medicine and of surgery, an occasional monograph or work on special diseases, a new edition of a favourite textbook (when you can trust that it is really an editor's, not a publisher's, edition!), should suffice, and do not mean a large annual expenditure.

It is much simpler to buy books than to read them, and easier to read them than to absorb their contents. Too many men slip early out of the habit of studious reading, and yet this is essential to a man if he is to get an education. To be worth anything it must be associated with concentration—with that mental application which means real effort. Of the new Allbutt and Rolleston "System" I can read comfortably about twenty pages in an hour—sometimes of a tough author not more than fifteen. Half an hour a day would finish the six volumes already published within a year.

More than once I have referred to the three essentials in the house of the general practitioner—the library, the laboratory, and the nursery—and of these the first is much the easiest to get, as he starts with a nucleus in his students' textbooks. Effort and system gradually train a man's capacity to read intelligently and profitably, but only while the green years are on his head is the habit to be acquired, and in a desultory life, without fixed hours, and with his time at the beck and call of everybody, a man needs a good deal of reserve and determination to maintain it. Once the machinery is started, the effort is not felt in the keen interest in a subject. As Aristotle remarks, "In the case of our habits we are only masters of the beginning, their growth by gradual stages being imperceptible, like the growth of a disease"; and so it is with this habit of reading, of which you are only master at the beginning—once acquired, you are its slave.

So far as the library is a factor, the greater part of a man's post-graduate education must be at home. In this

country no man practises very far from a county town in which there is a medical society or a general hospital with a library attached. A notebook for special points to look up, or for certain books of reference, will get him into the habit of frequenting it, and he should become a subscriber, as in this way not only does the library widen its influence, but finds means for its support. The county library, wherever situated, should be the much-esteemed consultant of the general practitioner.

But it is in the towns of 20,000 in population and upwards that the library is of the greatest value, and where it becomes a factor of the first importance in the development of the progressive man. These are days of great opportunities, when we have discovered other ways to the top, toilsome all the same, than up the old rungs of the academic ladder, or the weary climb of the stairs of a London hospital. We are waking up to the fact that the man may make his own environment, and may make it just what and where he pleases; he may even perform a miracle—the mountain may come to Mahomet. Let me give you a notable illustration.

A few years ago when two young Irish-Americans called Mayo began to frequent the surgical clinics of Europe, no one knew where they came from; no one had ever heard of Rochester, Minnesota, and when informed that it was on the "Prairies," about 1,000 miles north-west of Chicago, there was a shrug of the shoulders and "Oh!" Self education, post-graduate study, books, journals, laboratory work, have enabled these remarkable men to build up one of the largest and in some respects the most important surgical clinic in the world, and a town of less than 20,000 inhabitants has become the Mecca of all surgeons.

To the man who is ambitious to use his opportunities in a town or city, a well selected library is essential, and whether he be surgeon, physician, or specialist, he needs as a rule more than his own shelves supply, often indeed a good deal more than the library can offer. As I have already stated, the library of the British Medical Association is offering great facilities to its members. In England, too, he can and should join the Royal Medical Society, from which monographs and special journals may be had, but he cannot always wait, and there is no reason why in the larger towns there should not be a library which ministers to the ordinary wants of all ranks. The journals at once become a serious consideration—French, German, and American—but a few of the best suffice when supplemented by the admirable German *Centralblatte*. By means of an exchange this association can render great assistance, while in the thickly populated districts a system of exchanges between libraries would cut in half the cost of the more expensive journals. In this matter, too, a central library like that of the British Medical Association may be most helpful.

In large cities the profession should have its own home in connexion with the leading medical society, and of such an organization the library forms an important part. Belfast has set a good example, and through the munificence of Sir William Whitla you have a splendid building for the Medical Institute. About such rooms or buildings should centre the life of the profession, present and past. Portraits of the old worthies, memorials of friends, and to our heroes (such as the beautiful stained-glass window in the Institute here to Dr. William Smyth), show-cases full of the interesting relics of the profession, with manuscripts and books illustrative of local history—all these memorials make the past live again. At York you may see in the medical library the actual forceps with which Dr. Slop broke the bridge of Tristram Shandy's nose, and in every county there are relics of the profession well worth preserving.

It should be the ambition of the men in each county to have well-equipped rooms, such as those I have visited with much pleasure at York and Norwich. If, as at Reading, Exeter, Preston, and Dublin (Steevens' Hospital), rooms have been furnished in the hospital, see that the equipment is attractive; many libraries have deservedly fallen into disuse because men will not seek books or journals in dull, dark, cold, dusty, uninviting rooms.

Like everything else that is worth having, a library costs money. Do not try to do too much, strive to have a large membership, which enables the fees to be low; and when the library is in connexion with a hospital, the current English journals should be furnished by the governors to the staff. In towns with a tax for the upkeep of a public library, a grant should be made for the medical library. But the financial and other questions of organization and support will be discussed, I hope, at an early meeting.

Were there time I should like to say a few words on the subject of *how* to read, but the essence of the whole matter I found the other day in the Bibliotheca Lancisiana, Rome (founded in 1711, and containing the books of the famous Lancisi). In the opening address, 1714, *De recto usu Bibliothecae*, the Abbé Carsughi discusses the subject in three sections, and gives some good rules. The first section, *Librorum scilicet delectum*, need not detain us, but in the second, *Legendi methodum*, he urges two important points—to read in a certain order and with a definite object, and *lente festinans*, "unhasting but unresting." In the third section, *Admotandi modum*, he urges the necessity of careful note-taking, quoting the praise of Clement of Alexandria, "Oblivionis medicamentum, monumentum senectutis et adjumentum memoriae." He dwells upon the importance of study in the morning, which was all very well in those days, but is not one hour after six in the evening worth now two before night in the morning? (I am sure it is to me!) With half an hour's reading in bed every night as a steady practice, the busiest man can get a fair education before the plasma sets in the periganglionic spaces of his grey cortex.

But there is another side of the question of books and libraries—man does not live by bread alone, and while getting his medical education and making his calling and election sure by hard work, the young doctor should look about early for an avocation, a pastime, that will take him away from patients, pills and potions. One of the best features I find in my "old country" colleagues is the frequency with which they have hobbies. No man is really happy or safe without one, and it makes precious little difference what the outside interest may be—botany, beetles or butterflies, roses, tulips or irises, fishing, mountaineering or antiquities—anything will do so long as he straddles a hobby and rides it hard. I would like to make a plea for the book, for the pleasant paths of bibliography, in which many of us stray to our great delight. Upon this how charming is old Burton (really one of us, "by profession a divine, by inclination a physician," he says), whose *Anatomy of Melancholy* is the only great medical work ever written by a layman. "For what a world of books offers itself, in all subjects, arts, and sciences, to the sweet content and capacity of the reader! In arithmetic, geometry, perspective, optics, astronomy, architecture, sculpture, painting, of which so many and such elaborate treatises are written; in mechanics and their mysteries, military matters, navigation, riding of horses, fencing, swimming, gardening, planting, great tomes of husbandry, cookery, falconry, hunting, fishing, fowling, etc., with exquisite pictures of all sports, games, and what not! In music, metaphysics, natural and moral philosophy, philology, in policy, heraldry, genealogy, chronology, etc., they afford great tomes, or those studies of antiquity, etc., *et quid subtilius Arithmeticis inventionibus, quid jucundius Musicis rationibus, quid divinius Astronomicis, quid rectius Geometricis demonstrationibus!* What so sure, what so pleasant?"

Our society will, I am sure, be very helpful to men who take up this study. We hope to have two groups, mutually helpful—the professional bibliographers, the men in charge of our libraries, who have to do with the book, as such, and who care little or nothing about its contents; and amateurs, like myself. As Professor Ferguson says in his charming essay[1]:

> He (the bibliographer) has to do with editions and their peculiarities, with places, printers, and dates, with types and illustrations, with sizes and collation, with binding and owners, with classifications, collections and catalogues.

There are scores of book collectors whose hobby also takes them in this direction, but we should have a large amateur group who will be happier in following other lines. Personally, I collect on two principles—first, interest in an author, which is a good guide, as the book illustrates the biography, a principle which has the advantage of helping at least to keep you within the limits of purse and shelves, more the latter than the former. Take, for example, the two small groups of books I have placed

in our exhibition, the one illustrating Servetus, the other Ulrich von Hutten. Valuable as they are from the standpoint of the professional bibliographer, this is nothing to the interest awakened in the men themselves, in their aspirations, their labour, and their tragic fates. For the amateur this personal note clothes the dry bones of bibliography and makes them live. And my other principle is this: a student of the history of medicine, I look out for books which have left their impress on it in some special way. If one is particular to examine carefully into the claims of a book before admitting it to the select company on your shelves, you here again cultivate a due regard for purse and space. For example, five or six books illustrate the whole subject of auscultation and percussion, only the masterpieces are chosen. I confess there may be a certain satisfaction in tracing out the biography of a book, but it is cold work unless you love the author.

Judiciously cultivated, bibliography has many advantages as a pastime for the doctor; a little patient care, a very small expenditure of money, and a constant look-out for the books wanted are the essential requisites. Nor is there ever any difficulty in the choice of a subject—anything he may be interested in has its bibliographical side. One friend (Dr. Turrell), a very busy man, is a keen fisherman, and has found the time to collect a library on this subject, and has written the article on it for the *County History of Oxfordshire*. Another man has kept up his classics, and collected everything relating to Horace. Another has a library relating to the order of St. John. Another friend in large general practice has found time to make a collection of the masterpieces of English literature, which has not only been a diversion and an education, as it has brought him into the best company of the past four centuries, but he tells us there is another side—it has been a better investment than life insurance. A member of our profession, the late Professor Corfield, made one of the best modern collections of bindings, the sale of which at Sotheby's in 1904 was one of the bibliographical features of the year. Once in a subject it is extraordinary how it grows and develops. As Atkinson says, "It is an art of itself, which is not easily sought into or acquired, but which, if so acquired, may stand both his pleasure and profit in very great stead in a very long or a short life." And the busiest general practitioner may find the time for first-class work. Many of you may have seen a book issued two years ago from the Oxford Press on Greek and Roman medical and surgical instruments, the only separate treatise on the subject which has appeared in English. It illustrates the hobby of a very hard-worked practitioner in the town of Hartlepool—John Milne, whose spare time and whose vacation have been spent in studying this aspect of Greek and Roman archaeology.

We shall hope to have in our society both the professional and the amateur—the man whose life-work is in libraries, and those of us who are fond of books, either from a biographical or a bibliographical standpoint. We should be able to encourage library organization, and once established as a common meeting ground for all interested, the society should be of great value to the profession. We look for a large membership, and many will join who do not belong to either of the above-mentioned groups, the men who feel that, as a matter of policy, such a society should be supported. *Non sibi sed toti*—let us work in the spirit of this motto, and our future is assured.

In starting an organization of this sort the work always falls on one or two men. We have to thank Dr. Stanley Hall, of Bristol, and Mr. C. E. A. Clayton, of the Manchester Medical Library, to whom is due entirely the success of this preliminary meeting. We have also to thank the university authorities for allowing us to meet here, and furnishing us with rooms for the exhibit.

REFERENCE.

[1] *Some Aspects of Bibliography*, Edinburgh, 1900.

UNDER the will of the late Rev. Edward Llewellyn Adams, a Congregational minister of Scarborough, sums of £4,000 are bequeathed to Manchester Royal Infirmary and the Scarborough Hospital, for the endowment of wards to be called the Elizabeth Adams Ward and the Sophie Adams Ward respectively. A sum of £500 is also left to the Smedley Memorial Hydropathic Hospital at Matlock.

A PLEA FOR A MORE LIVING PATHOLOGY.

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IT is universally acknowledged that a diligent frequenting of the *post-mortem* room, supplemented by a careful study of the shelves of its annexe, the pathological museum, is essential to the education of the student of medicine and surgery. Admittedly it is not possible in any other way to gain that fuller insight into the problems set by disease, without which that fuller solution of these same problems, the final objective of the art of Hippocrates, must wait. Yet even now, in this twentieth century, after so much earnest labour and such an abundant ingathering, it is questionable whether we do look at the subject, pathology, from the right point of view; whether we utilize to their fullest the treasures of the dead-house and museum.

In the remarks which follow, those pathological changes which are discernible by the naked eye will have chief consideration, but the remarks are applicable to all changes in whatever scale of magnitude they present themselves.

Do we, then, look at the subject from the right point of view? The question is fundamental, but to its answering another question must be put—namely, What is the object of the *acta cadaveris*? The reply seems obvious enough—the cause of death. But death is a negative quantity, and the search after negatives is apt to be unfruitful; moreover, the ultimate objective being the healing art, it is not apparent what bearing negative quantities can have upon this art—what appeal, that is, the *materia medica vel chirurgica* can make to this variety of nothingness. Can we define death more positively? Yes, death is the cessation of life; and, substituting this definition, the object of our search now becomes the cause of the cessation of life. Ah, that is more illuminating. We wish, then, to know why life tripped here, stumbled there, now slackened its pace and *rallentando* came gradually to a halt. Is this a real difference, or is it only a matter of words? It is a real difference in the *point of view*; for, whereas in the former case we looked at death, now we look at life. Let us, therefore, enter the *post-mortem* room or the pathological museum, looking at life and seeing not inanimate structures, not pictures of still life, but the instruments, more or less faulty, of life, the impediments, more or less obstructive, to life. Let us endeavour to conjure back the vital spirits, and see these in active play, within the organs and tissues, up to the moment when the play ceased.

The ordinary procedure of the pathologist is to seek out the spoiled organ or organs, and having found, to set apart in some suitable fixative, fixing so rigidly that it becomes a difficulty to conceive how these tissues ever moved; the epitaph follows in due course: *obiit*, he died, for reasons plain to view: note the want of proper gland tissue here, the structural disturbance there. The comment of the intelligent reader of epitaph and specimen is inevitable: What, in the face of this disintegration, could any self-respecting man do, one priding himself upon being *integer vitae*—what else but die?

Is, then, the method of the pathologist wrong? No, so far as it goes it is all right even to the fixative; the fault is that it does not go far enough: it stops short just at the point of real interest. The method would show abundantly why the man *is* not, but just why he *was*, a few moments, hours, days, before his tissues put off vitality, that is not apparent; yet that is the one thing which interested himself and his family before *dies illa funesta*. In commenting thus we are not alluding to such major catastrophes as a massive aneurysmal rupture, or a smaller haemorrhage at a point of vantage, as in the medulla oblongata, or an embolism of the trunk of the pulmonary artery—in cases such as these the reason of the event is seen at a glance; but to those deaths, more or less gradual, which reveal to naked eye as well as to microscope changes we are wont to regard as essentially chronic in their development—for example, fibroid, fatty, caseous, or calcific changes. If these are the causes of death, then, as they have gradually amassed themselves by increments which from day to day must have been imperceptible, a summation of infinitesimals, should not life have dwindled in the same propor-

tion and have disappeared by an insensible efflux? But do these cases die like that? Is not life often at full swing in semblance up to within six months, a month, a week, twenty-four hours of death? True it is always possible to escape from this predicament and to take refuge behind the toxin, since nowadays we are barely permitted to live, much less die, without it; but, if a toxin is the cause of death, then it must be allowed that the specimen before us is not illustrative, since it is silent concerning it.

Clearly we must approach the problem from another point of view, and seek to discover how the man lived in spite of the obstacles which the specimen exhibits: how vitality triumphed over the want of gland tissue here, the structural disintegration there, *until* the resistances grew to such a height that the vital spark could no longer overleap the interval and complete the circuit—the round of life.

The formula of Life may be thus expressed:

$$\text{Momentum} \overrightarrow{>} \text{Resistance},$$

"Momentum" standing for the sum total of the living momenta of the several parts of the body, organs, and tissues; "Resistance" for the sum total of the inertias and resistances within and without the body, in opposition to the momentum. The formula shows that life *is* when momentum preponderates over resistance.

The formula of Death, similarly expressed, shows us:

$$\text{Momentum} \overleftarrow{<} \text{Resistance}.$$

Resistance now preponderates, the sign is reversed, and life as a particular kind of momentum ceases.

Now, if an organ die in part, for instance, a liver or kidney become cirrhotic—and it is a partial death when a tissue of a lower functional order replaces the proper secreting cells of a gland—then the new fibroid elements may be said to add themselves to the internal resistances of the body. The vascular system affords the best illustration of this statement, for if we suppose the branchings of the arterial tree to become cirrhotic upon a large scale, then the momentum of the circulating blood, into which the ventricular contraction has been converted, will meet with an additional resistance, and forthwith death threatens, nearly or remotely, according as the reserve of ventricular contractility is small or large—according, that is, as the powers of cardiac compensation are small or great.

In the past it has been customary to look at the resistance side of the formula to the exclusion of the active, momentum, side, and for this reason the pathologist has tended to become the sceptic. Busy with the obstacles to living, he has overlooked the fact that life did obtain; confronted with the spoiled organ he has been apt to exclaim, "But what could you or I have done? What appeal was possible to that fibrosis, that calcification?" He is wrong, in the first instance, from his own point of view, for if we are to credit modern teachings, even fibrous tissue can be appealed to. The use of fibrolysin may be given in illustration, and though this drug should disappoint us in the extent of its serviceability, yet it opens the door to possibilities along this line of approach. He is doubly wrong in that he ignores the appeal to all those living tissues which a little reflection will assure him have been in triumphant operation for so long.

At the *post-mortem* examination, therefore, at the same time that the obstacles to life are being demonstrated—nor can this be done too forcibly—let the student's attention be directed in the next instance to the fact of life, hitherto, against such odds; then, if possible, let the compensatory reactions which the obstacles have called forth be made evident: here will come the hypertrophies, the vicarious workings of functionally allied parts, the anastomotic adjustments and so forth. Thus, having shown where the system is unsound, let it be shown next where it is sound, since it is upon the last named, the sound elements, that we shall have to lean in practice.

In pursuance of this method let us first examine the spoiled organ, and, having carefully inspected the morbid elements—fibrous, fatty, amyloid—and in these elements seen encumbrances only to function, let us next inquire in how far these changes did actually spoil the working of the organ. To that end let us obtain the living data secured in the wards. We shall then learn that this fibrous kidney, for instance, was secreting so many ounces of urine, of such a specific gravity and holding in solution such-and-such ingredients; that this fatty heart was maintaining such-and-such a blood pressure, was driving the blood through its circuit with or without evidence of stases or capillary oozings (oedemas)—in fact, was circulating it more or less satisfactorily: that, so far as could be judged, this amyloid liver was, functionally, surprisingly little impaired by the pronounced degeneration. In this way we shall discover to what extent the damaged organ has preserved its functional capacity, shall determine (to borrow of the physicists) its functional coefficient, and shall have to admit, without any question, that the naked-eye and microscopic appearances are insufficient criteria of functional capacity, and that the working powers of the spoiled organ are often far in excess of that which these appearances would have led us to expect. The conclusion to be drawn will be that the spoiled organ may still be appealed to therapeutically; nay, that it must be so appealed to if we would do our best for the patient, since it is our clear duty to make call upon all the available powers of the system. Experiment alone can determine the limits of this power of appeal, which must be gauged by a cautious advance.

The first reform to be advocated is, therefore, that each specimen exhibiting the spoiled organ shall be so labelled as to set forth, as briefly as clearness will permit, the functional coefficient of the organ, that is, the amount of life it possessed. There will be revelations in store for us little short of marvellous when in this way we come to look at the residual vitalities of damaged tissues: before our eyes these dead structures will become living mechanisms in active movement.

In the next place we shall endeavour, both in *post-mortem* room and museum, to demonstrate the interaction of living parts. I have already touched upon this subject, but inadequately. In order to do this we must associate as many parts as are concerned in the interaction to be shown. Let us take, for example, a case of chronic Bright's disease of the fibroid type. We shall now bring together first the fibroid kidney and the sclerosed artery as exemplifying either a primary concomitance or sequence; next we shall add to the preparation the hypertrophied left ventricle, which the widespread vascular degeneration, as an added circulatory resistance, has called forth; and next we shall show in the same preparation the cerebral haemorrhage which has been the immediate cause of death, if possible exhibiting the degenerate artery which was unable to withstand the powerful contraction of the left ventricle. Such a specimen need not be of undue size, and certainly will not exceed the size of the preparations of anatomical dissections; its advantage will be obvious, it will be a lecture in itself, and whilst following its teachings we shall sit at the feet of that great physiologist and pathologist, Isaac Newton, and see his law of action and reaction in active operation.

Again, let us take the sequence of an embolism of a cerebral artery following upon a fungating endocarditis; or of an embolism of the pulmonary artery trunk in sequence to a phlebitic thrombosis; how much more telling the teaching becomes by the association in the same specimen of all the parts involved! Here will be comment sufficient upon *abiit, excessit, evasit, erupit.*

The toxaemias will not lend themselves exactly to this associative illustration unless the chemists will come forward and separate and crystallize the peccant matter, and even then the method will be by default rather. That, however, will be exactly its merit; for let us look again at the chronic fibroid kidney of Bright's disease in a case where death was not by cerebral haemorrhage but by uraemia, and consider the value of the preparation, showing on the one hand the damaged kidney, on the other a small tube containing in crystalline form the toxin. What an incentive to the student, when the examiners have ceased from troubling, to think a little over the problem and endeavour to link up in reasoned sequence these terminals—fibroid kidney and toxin.

The method, therefore, has the merit either of demonstrating a sequence or of showing a hiatus, of signalling a triumph or accentuating an ignorance. Its possibilities in the last-named direction admit of further development; thus the toxaemia does not always give rise to the same symptoms in the same class of disease—for example, the

granular contracted kidney may in one case be attended by symptoms of cerebral irritation (epileptiform convulsions); in another by symptoms of cerebral benumbing (coma); while in yet another case the incidence of the poison may be upon another system altogether, or produce symptoms in another system, as when an uncontrollable vomiting or diarrhœa is set up. It is possible that the chemist may discover different forms of toxin in these several cases, but it is possible also that one and the same poison may declare itself thus differently, according as it selects different parts of the mechanism to work upon—according, that is, as these parts happen to differ in their susceptibilities. Now, this difference in susceptibility may be an individual matter, and belong to the personal equation.

We witness the same kind of selective incidence when we observe a case of heart failure manifesting itself now as a general anasarca, and now, predominantly, as a portal area congestion. Why should an ischæmia—a physical shortcoming—select now this vascular area, and now that? Why, except the vessels in question happen to be less resistant, now here, now there.

Reverting to the fibroid kidney—the museum shelves will be well occupied by a series of specimens which, though to the naked eye and even to the microscope appearing to be replicas only of the same essential tissue changes, do actually illustrate different modes of death, different groups of symptoms. The labels will describe these symptomatic differences succinctly, and in this way will show the dynamic differences of *apparently* one type of tissue disturbance. The conclusion follows: either the tissue changes comprise differences yet to be discovered or we must go outside the organ for the complete pathology of the granular contracted kidney. In either case the specimens will have become dynamic in place of being static.

In the past the methods which have been practised in the collection and arrangement of museum specimens have recalled too much the methods of the postage-stamp collector; the bonds uniting the individual specimens have been of the slightest, whereas the unique specimen has figured all too prominently. The guiding principle, indeed, has been dissociative rather than associative, and in this association structure has received attention at the expense of function. It is imperative that these two be reunited, and that without ignoring the use of the unique specimen, the lessons to be learnt from the average or typical specimen be inculcated with more insistence. First let us learn all we can from types, then we can proceed to exceptions.

In yet another direction we would plead for a more living pathology. We come upon a fibroid state—say, an adhesion, a cicatrix, a diffuse sclerosis. What is its date? Is there anything about which we are more ignorant? Yet the reading of the case may depend in chief part upon the answer to the question. That fibrous tissue may develop very much more rapidly than we are wont to think; that we are apt to assign a chronicity often far in excess of the actual, is most probable; as it is also probable that the rate of formation is a very variable one, in different individuals and in different states of health in the same individual. The same is almost certain to hold for fatty and calcareous changes, though these—in particular the latter—are often held to indicate great age. Whilst, therefore, we shall be prepared for wide variations, and to admit that in many cases it may be impossible to approximate to the actual rate of movement, what we do seriously need is a hither limit, the power of saying: "Well, that change cannot have taken place in less than such-and-such time."

To solve this question we have, of course, the observations upon the surface of the body during life, which the surgeon in particular can study; but to complete the study we need all the evidence we can obtain, from all sources, of the movement of disease during the time the patient has been under observation. Here is a case of extreme hob-nailed contraction of the liver; how long has it been in active development? The out-patient record is that on such-and-such a date the liver was found to be distinctly enlarged and tender. Again, here is a case of double cystic degeneration of the kidney in the adult, the left organ very large and very palpable in the wards two years previously the patient was in the hospital, and, though a tumour could be felt on the right side in the kidney region, nothing could be felt on the left side. What is the rate of march of cystic disease of the kidneys in the adult? Evidence of this kind must give the answer.

In the case of tumour formation the question of primary and secondary is often of great difficulty, and anything which will mark symptomatically, or by physical sign, the site of development may be of primary import. A man is admitted into the wards some months after an operation for a growth of the testis; a large abdominal tumour is found along with crossed symptoms of pressure, namely, slight œdema of the *left* foot and leg, *plus* marked enlargement of the abdominal veins leading up from the *right* groin; death occurs, and there is found an enormous retroperitoneal mass completely compressing the left common iliac, whereas the right common iliac is only partially occluded. The examination of the partial blockage by clot on the right side suggests, however, an older mischief than the œdema symptoms on the left side, and the fact of the enlarged abdominal veins on the right side makes it certain that the tumour must have developed its pressure first on the right side. Of course, in this case the whole retroperitoneal mass was secondary, but the fact that by physical signs or symptoms it was possible to locate the march of the tumour formation teaches us that by like evidence we may in other cases be able to determine correctly the sites of the first and secondary stages of growth development.

Wherever it is possible, then, let the labels set forth the evidence of the line of march and rate of movement of the morbid process before us.

It would be easy to multiply instances in illustration of this subject, but no useful purpose would be served thereby, the cogency of the argument would not be enforced. In brief, then, the plea is that post-mortem room and museum shall be made to teach, as I have ventured to express it elsewhere, not so much the ways of Death as the steps of Life under difficulties. As things are, our specimens are admirably fixed, they could scarcely be more fixed if Medusa herself had them in keeping, and it requires some faith to believe they were ever less stonily dead. But appearances delude, and if we cannot say of the specimen, as Galileo said of the earth, and yet it moves, "E pur si muove," it is our duty to proclaim that it *has* moved and to demonstrate that movement.

Is, then, the germ to receive no mention? The most prominent figure, perhaps, in modern pathology, shall it not have a corresponding prominence assigned to it in post-mortem room and museum? Well the germ is in a sense *sui generis* and therefore not capable of placing in the same class with those morbid sequences which we have been considering. It is a cause of disturbance, as a mechanical injury, exposure to heat, the incidence of a poison are causes of disturbance—the disturbance once set agoing, the lines of propagation depend upon the structure of the fabric disturbed; it is those lines of propagation which we have been considering. However, the germ is finding its place on the shelves of the museum, and we must therefore ask ourselves, Is it being regarded from the right point of view? It figures there as the microscopic specimen and as the culture in various media—that is, it figures *morphologically*, whether as unit or as colony. But it is the potency of the germ that we want, and we have reason to hold that this potency has less relation to the form of the germ than to the intrinsic qualities of its protoplasm—namely, its powers of elaborating a virus. The germ castigates less as rod or flagellum than as toxin; the morphology of the germ, therefore, should be supplemented, as far as possible, by endeavours to demonstrate the chemical nature of the poison carried, and the direction and intensity of its working. The same principles, therefore, will guide us in the demonstration of the germ as of the morbid tissue: we shall aim at exhibiting its dynamics as a *toxifer*.

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[7] It does not take a moment to throw down an earthy deposit from its solution in a test tube. Why should it take so long to separate it from the blood or from the fluids moistening the tissues?

The Treasurer of Middlesex Hospital has received from Miss B. Worton a gift of £500 Consols for the benefit of the cancer charity of the hospital.

NOTES ON DOUBLE CERVICAL RIB,

WITH AN ILLUSTRATIVE CASE,

BY

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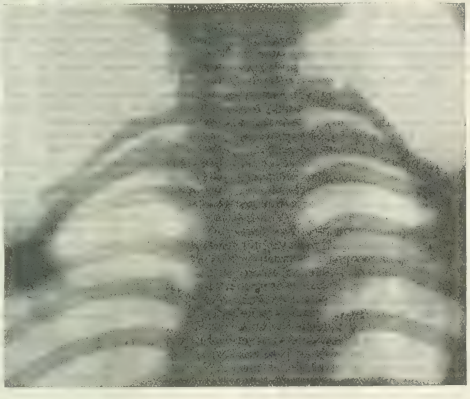
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As some attention has recently been paid, especially abroad, to this condition, probably stimulated thereto by the availability of Roentgen rays as an aid towards diagnosis, the following case which came under my notice is not without interest as showing some of the evils attendant on this condition, and the benefit to be derived from operation.

The patient, an unmarried female, aged 22, residing in the North of Scotland, complained of a dull, aching pain in the left shoulder and armpit, weakness in the left arm, and numbness after prolonged use. She also complained of a deformity in the neck, due to the presence of a lump.

History.

The family history presented nothing of interest; so far as the patient knew no other member of the family was afflicted with any similar abnormality. There was nothing in her previous history of importance beyond the fact that she had suffered from enlarged glands in the neck, probably tuberculous, since she was 6 years old, and had been operated on once for this condition.



Eight years previous to the present operation, she discovered quite by accident a small hard lump in the neck about the size of a marble. It was situated just above the left collar bone, and although palpable could not be seen. Pressure over the lump caused pain. Medical advice was sought, and an enlarged gland was diagnosed. Iodine was ordered to be painted over the site of the swelling; this was persevered in for some considerable time, but no benefit was derived.

The patient remained in this condition with occasional bouts of pain in the shoulder till twelve months before I saw her. Then she noticed that the little lump was gradually getting bigger. The dull, aching pain felt round the shoulder had now become constant and was occasionally felt down the arm. It was unrelieved by anything the patient could do, and was always more pronounced after any slight exertion. There had never been any cramp, tingling sensations, or numbness in the hand or arm. The left side of the neck felt hotter than the right side. She made no complaint, however, about the right side of the neck or about the right arm.

Condition on Admission.

On examining the patient, the contour of the left side of the neck was notably altered by the presence of a swelling or prominence, visible above the mid-point of the clavicle. Its upper border appeared to the eye to be on a level with the cricoid cartilage, while its lower border came within a fingerbreadth of the left clavicle. Its inner margin was separated from the outer border of the left sterno-mastoid muscle by a slight hollow, but its outer limit merged insensibly into the anterior border of the trapezius.

The left external jugular vein was seen to cross the swelling, but perhaps the most noticeable feature was the very marked pulsation over this prominence, so that on superficial examination aneurysm might have suggested itself. On the right side a slight fullness was observed about 2 in. above the right clavicle and in a position corresponding to that on the left side. The only other point to be noted in the examination of the neck was the presence of a few enlarged glands on the left side. There was also present a scar denoting the site of a previous operation for the removal of enlarged glands.

On palpation, etc., strong pulsation was felt over the prominence on the left side of the neck. The very slightest pressure downwards and slightly backwards over the bony mass was sufficient to obliterate completely the left radial pulse at the wrist. Comparison of the two radial pulses showed that the left was much weaker and lagged slightly behind the right. Pressure over the area of fullness on the right side did not detect pulsation. On the left side a very distinct thrill was communicated to the fingers, while, with the stethoscope over the prominence, a loud systolic bruit was heard. There were no other signs of vascular disturbance.

The slightest digital pressure over the prominence elicited tingling sensations, while, with firmer pressure, very severe pain was complained of. Further, by selecting certain spots over the prominent area, pain could be induced either in the axilla, down the front of the chest, or down the inner side of the arm. There was no wasting of any of the muscles of the hand or of the arm, but the patient's grip was slightly weaker on the left side than it ought to have been.

The hard, bony mass could be traced upwards, inwards, and backwards on very deep palpation, as far as its origin from the seventh cervical vertebra. This could also be done on the right side, but with greater difficulty. The most anterior point of the prominence was about 2¼ in. from the middle line of the neck, while about 3⅜ in. intervened between the middle line of the neck and the outer border of the swelling. The upper limit of the prominence was about 2 in. above the middle of the left clavicle, as already noted, and the lower limit was separated from the upper border of the clavicle by a fingerbreadth. The greatest breadth of the prominence was thus about 1¼ in., and the centre of this was situated about midway between the posterior border of the sterno-mastoid and the anterior border of the trapezius. On the right side the upper limit of the hard mass detected on deep palpation was about 2 in. above the right clavicle, and deep pressure over it caused numbness and tingling down the right arm.

The case was diagnosed as one of double cervical rib, and radiographs were kindly taken for me by Dr. Thurstan Holland, Liverpool. These confirmed the diagnosis and showed beautifully the presence of the abnormal ribs.

Operation.

As the patient was anxious to get rid of her symptoms and to submit to operation for the relief of the same, she was sent into hospital. Mr. Robert Jones made an incision in one of the natural creases of the neck with its centre over the bony prominence. The subclavian artery, as is usual in these cases, was higher in the neck than normal because of its passing over the supernumerary rib. It was found to be adherent by its sheath to the periosteum of the rib, as was also one of the cords of the brachial plexus. These naturally required careful dissection from the rib, part of which was then removed so as to obviate all further pressure on the nerves and to allow the artery to occupy a less constrained position. The only anxiety experienced during the operation was on account of the persistent cyanosis and the extreme shallowness of breathing, which, even after the operation was over, gave some cause for alarm.

After-History.

When last seen the patient was able to use her left arm freely without experiencing any of the tired aching feeling she complained of at first. The arm appeared to be as strong as ever. There was still a slight fullness in the neck, but the marked prominence had gone and no pulsation was visible. The radial artery at the wrist was now equal in volume and time with that at the right wrist.

More or less well-developed ribs are liable to be met with in connexion with the seventh cervical or with the first lumbar vertebrae. According to Turner[1] and Gruber, "cervical ribs may be either the unusually developed rudiments of the anterior transverse process or rib of the seventh vertebra, or merely unusually developed epiphyses." There is an independent development of the costal element on the anterior limb of the transverse process of the seventh cervical—that is, on the anterior root of the transverse process we get an independent centre of ossification,

which may develop and assume the importance of a cervical rib. There are, according to Turner, four types of cervical rib—namely, three incomplete varieties, and one complete, so-called according to the extent of development:

1. Cases in which the costal element is represented by a small projection not much larger than a transverse process.
2. Those in which the costal element is still longer, and whose end is free or attached to the first rib.
3. Those in which the cervical rib is long enough to find attachment to the costal cartilage of the first rib.
4. Those in which the cervical rib actually joins the manubrium sterni, either alone or in conjunction with the first rib.

The first causes no symptoms and the fourth is extremely rare. The majority, therefore, of cervical ribs which cause symptoms, fall into either the second or third groups of incomplete cervical ribs.

As regards the etiology of this condition, opinion is divided. According to Planet,[2] all animals possessed at one time as many ribs as vertebrae, but in course of time these have dwindled down to the number of twelve in man with only rudiments in the cervical region. Some writers accordingly class the condition as a species of atavism. Others have laid stress on the frequency with which several members of the same family are affected. For instance, Israel[3] is of opinion that heredity plays some part, and that there is sometimes a history of degeneracy in some member of the family. Occasionally also the condition is associated in the same person with some other congenital malformation.

Formerly the condition was looked upon as rare, but with the advent of Roentgen rays and greater precision in diagnosis the condition has now come to be recognized as comparatively common. The majority of cases probably pass unrecognized during life because no symptoms manifest themselves. Of those which cause symptoms, the majority appear to be found in young females, the reason for this being undetermined. The age at which symptoms are noticed is generally between 12 and 20, owing probably to the activity of the skeletal growth between these ages.

In those cases which do not cause symptoms, the supernumerary rib probably is not large enough to project into the posterior triangle and there cause symptoms due to pressure or deformity.

Cases which do present symptoms, however, are very frequently diagnosed wrongly, because the neck is not examined for a possible extra rib to account, for example, for the symptoms of a neuritis in the arm. Hence, before the introduction of radiography, the condition was frequently discovered only accidentally, or, if attention was by any chance directed to the neck, the condition was as often mistaken for something else. The condition is now more often recognized, and it becomes possible to relieve pain and to obviate further complications such as possible aneurysm of the subclavian, gangrene, or paralysis of the muscles of the hand. In some cases it is possible, by simple palpation, to diagnose the condition and even to trace the ribs upwards and backwards to the spine. The patient generally complains of the presence of a swelling in the neck, or of symptoms referable to pressure on the artery or on the nerves, or on both. As regards the blood vessels, the vein, owing to its position low down and in front of the scalenus anticus muscle, escapes the injurious effects of pressure, as it is pushed out of the way. The scalenus anticus, in these cases, is generally attached to the cervical rib, either in part or altogether, with the result that the subclavian artery which lies behind it, is lifted high up in the neck by the extra rib over which it dips abruptly and is pressed on by the muscle. It is thus pulled upon and is unable to get away from the pressure. Hence, the more prominent the rib in the neck, the more pronounced will be the pulsation, and hence the mistake sometimes made of taking the pulsating tumour for an aneurysm. Aneurysm has formed sometimes in cases of cervical rib, owing to trauma or to injury to the vessel from continual pressure in the strained position.

A difference in the pulses may often be detected. In the case above recorded the left radial at the wrist was slightly delayed, and of smaller volume when compared with that of the right side. This diminution in the radial pulse is due to compression in the way above described, and, after operation has removed the cause, the pulse generally becomes normal. It is therefore not due to any permanent obliterative condition within the vessel. A bruit, systolic in time, can often be heard quite distinctly over the site of the rib in the neck, due probably to the acute bend of the artery over the supernumerary rib. Other vascular phenomena, such as pallor, coldness, oedema, or even gangrene of the hand, may be present, due to interference with the blood supply, but were absent in my own case.

The symptoms attributable to nerve pressure vary from slight tingling and other paraesthesiae to intense neuralgic pains felt along the distribution of the nerve fibres pressed upon. Pain, if not present, can nearly always be elicited, or if present, aggravated by digital pressure over the bony prominence, and may be made to radiate in different directions according to the fibres pressed on. The effect on the muscles as a result of pressure on the nerves, varies. There may be no apparent effect, or there may be a very appreciable feeling of weakness. This weakness may in turn merge into more or less paralysis of the muscles, generally of the hand, which undergo a certain amount of atrophy.

In the case described above the symptoms were mainly sensory, as the effect of pressure, although causing weakness, had not gone on to paralysis. The symptoms generally point to involvement of the first dorsal nerve root.

The tendency is for matters to get worse either in the direction of increased nerve disturbance or of vascular mischief. Cases, therefore, which complain of progressive nerve or of vascular trouble ought to be subjected to early operation. The longer this is deferred the more serious are the lesions likely to become. The operation, which is not by any means devoid of risk, consists in obtaining free access to the parts, thorough isolation of the artery and nerves by blunt dissection, and removal of as much as is necessary of the rib, to obviate the possibility of further pressure on these structures.

Some surgeons recommend the removal of the entire rib; others are content with a less ambitious and at the same time less dangerous operation, removing just enough to relieve the pressure. Whichever method is adopted, the periosteum must be removed as well. The special dangers are injury to the subclavian artery, to the nerve cords or to the pleura, and on the left side to the thoracic duct.

The result in cases operated on, to judge from reports in the journals, is uniformly good.

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A NOTE ON FORMALIN IODINE CATGUT.

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I HAVE now used iodine catgut prepared in various ways for more than three years, and for the last two and a half years I have been using that prepared by the method I am about to describe for all purposes and with uniform success. When I say with uniform success, I mean that (1) it has not in any case been known to be absorbed too soon; (2) it has not been known to cause any irritation; (3) it has not caused any stitch abscess, showing that it is uniformly sterile.

My experiences as regards the use of iodine catgut are as follows:

In the first place, Claudius iodine catgut was used—that is, ordinary raw catgut steeped in 1 per cent. iodine for ten days. This was given up because it soon became brittle, and because the surface was rough and uneven. In other respects it was satisfactory.

Next, catgut prepared by the method suggested by Salkindsohn was tried—that is, ordinary raw catgut steeped in iodine dissolved in spirit and water. This was also given up, as the catgut swelled to an inconvenient size, and also became much too elastic. In other respects it also was satisfactory.

I then began to prepare, and have, as I have said, used continuously for about two and a half years, formalin iodine catgut. This is ordinary commercial formalin catgut, obtainable from any instrument maker, made up into short skeins (each skein containing about the right

quantity for one operation), and steeped in 1 per cent. solution of iodine in water for ten days. It is usually sterile in five days, but I say ten, for safety's sake.

At the commencement of the operation, skeins of the sizes required are picked out of the stock jars with sterile forceps, and placed in carbolic acid, 1 in 20, till needed. This dissolves out excess of iodine, which might possibly cause irritation.

The advantages of this preparation over any other variety of catgut that I know of are:

1. Its preparation is extremely simple, and can be carried out quite easily by surgeon or house-surgeon. The advantages of this over suture material prepared by complicated processes by instrument makers and others are obvious.

2. It is very strong, although after it has been kept for several months the very fine sizes do certainly become brittle.

3. It is very resistant, and there is consequently no fear of too rapid absorption.

4. It is beautifully smooth, uniform in diameter, inelastic and delightful to handle.

These characters constitute the main advantages over the other varieties of iodine catgut that I have mentioned, the ordinary Claudius catgut being rough, uneven, and brittle, and the Salkindsohn being soft and elastic, and consequently unsatisfactory for tying knots.

Owing to its tensile strength and its resistance to absorption quite fine sizes can be used, and so the difficulty of threading needles is overcome. For instance, for skin sutures the No. 000.000 is used. This does not become absorbed for eight to ten days if the wound is dry, and thus lasts long enough to ensure firm union but does not require removal. Moreover, being very fine, the stitch holes soon disappear. For intestinal work, peritoneum, etc.—the No. 00 is used and has given complete satisfaction. For muscles, aponeuroses, and tendons, etc., the No. 1 or No. 2 is used. This is not absorbed for quite a month, as is shown by the fact that on two occasions when it became necessary to reopen abdominal wounds on the twenty-fifth and twenty-seventh day after operation respectively, the No. 2 catgut sutures that had been used for muscle and aponeurosis were not only not absorbed but were still quite strong.

In addition to the advantages that I have already mentioned, it may be noted that there has been no case of tetanus, or disease simulating tetanus, in all the hundreds of cases in which this material has been used.

CHRONIC OEDEMA OF THE FACE AND MUCOUS MEMBRANES.

By JAMES ADAM, M.A., M.D.,

AURAL SURGEON, GLASGOW ROYAL INFIRMARY DISPENSARY.

Chronic oedema of the face is not a common condition, and, although Sir Jonathan Hutchinson[1] clearly described it in 1883, its true nature, and still more its appropriate treatment, have not been sufficiently understood. This is obvious, not only from the fact that the two cases now recorded had been to many doctors, specialists and hospitals, without benefit, but also from the fact that, regarding two cases, apparently similar, recently exhibited in London and New York, most divergent opinions were expressed, especially as to treatment.

Case I.

My first case[2] was a joiner, aged 22, who had suffered from the condition for nearly three years. In 1902, scab formation began to trouble him at the orifice of the left nostril; in 1905, swelling began at the inner canthus of the left eye, and slowly increased, involving the cheek and side of nose. By his doctor's advice he had six teeth extracted. In 1904 he saw two specialists in Edinburgh.

In 1905, when I first saw him, solid oedema extended from eye to mouth, and from the nose over the whole cheek; it caused him much mental misery owing to the disfigurement. There was no pain or tenderness, but occasionally a feeling of heat and a red flush; the edges of the nostrils, especially the left, were covered with thick, hard crusts; the mucous membrane of both inferior turbinals was much thickened, that on the right showing a growth, like a small cherry, occluding the nostril. The tissue of the soft palate and uvula was much thickened; adenoids were still present.

I regarded the condition as one of eczema of the nostrils, with a chronic erysipelatous process grafted on it, and asked Dr. Alex. Morton to see the case. He agreed with me, and the treatment we adopted was the removal of crusts in the nostrils with H_2O_2, followed by application of $AgNO_3$ dissolved in sp. aeth. nit., and by Brooke's ointment; reduction of turbinal hypertrophy, removal of adenoids and tip of uvula; application of mercurial ointment to cheek, overlaid with cotton-wool and a firm elastic bandage; iodide and thyroid internally.

After two months the oedema disappeared, and remains cured; there is still slight thickening of the soft palate and inferior turbinals.

Case II.

The other case was referred to me at Glasgow Royal Infirmary by Dr. Morton, Dermatologist to the infirmary. A woman, aged 22, had had chronic oedema of the left cheek, upper lip, and the left lobule of the nose for four years, had attended several hospitals, and seen nine doctors. The oedema, especially that of the upper lip, was very disfiguring; crusts were found inside the left nostril, and an ulcerated groove down the centre of the mucous surface of the upper lip, due to the sharp and carious edges of the everted central incisors.

The treatment adopted was similar to that in Case I, but the lip proved somewhat obstinate, owing to difficulty in dealing with the teeth. It has taken six months to cure the case. The antrum was healthy. A culture from the labial fissure gave mixed staphylococcus and streptococcus; a vaccine was prepared accordingly by Dr. J. A. Campbell, and four injections given at twelve-day intervals, and then discontinued. The condition was improving by this time, but whether the injections had material influence is doubtful.

The tumour-like tissue from the first case was kindly examined by Dr. R. M. Buchanan, Bacteriologist to the City of Glasgow. He reported:

> At one point there is some superficial ulceration; here there is distinct cell proliferation; also the orifice of some of the mucous ducts is distended with retained secretion. The structure of the tissue is dense fibro-cellular, very vascular, and rich in mucous glands. The numerous irregular channels are venous and not lymphatic; no lymphatic obstruction can be definitely recognized; no evidence of bacterial invasion; no streptococci after culture.

This report cannot be regarded as conclusive for various reasons, of which the only one that need now be mentioned is that the tissue was intranasal and some distance from the primary seat of invasion, and therefore not certain to show the essential lesion.

Sir Jonathan Hutchinson, when in 1883 he first drew attention to cases of solid oedema of face, expressed the opinion that the condition was due to recurrent attacks of erysipelas, and of the same nature as elephantiasis. In 1888 he said that the condition in all typical cases ought to be symmetrical; if only on one side of the face, some local cause ought to be suspected; that the attacks of erysipelas which produce these conditions are in some cases very frequent, and usually attended by great swelling; after each attack more and more deformity is left. "The treatment is the liberal use of tonics, and especially of steel, and the avoidance of sudden changes of temperature. If it occurs in early life, I think it is generally outgrown in the end."

I wish to point out (1) that the disease is a local and not a constitutional one; (2) that, so far as the face is concerned, the primary lesion is probably always one of a mucous membrane, or more usually of a mucous orifice; (3) that the oedema may affect the mucous membrane as well as the skin; (4) that the condition is curable.

That the condition has nothing to do with any constitutional dyscrasia seems obvious from the clinical history of the cases, from the results of local treatment, and from the fact that in most of the cases no constitutional taint has been discoverable in either the family or personal history. Both of my patients are of excellent physique. Erysipelas of the face in most cases starts from some fissure about the nose, less usually from about the eyes or ears; when frequently recurrent the nose ought always to be carefully supervised; in this way recurrence can often be prevented. Several of the published cases, as well as both of mine, had crusts in the nostrils.

That the offending microbe is always the streptococcus is not proved, but it is the most likely. In any case, there is a chronic infective lesion of recurring potency, and the "solid oedema" is obviously a local defensive barrier against systemic invasion. That such an oedema, therefore, should be, as Hutchinson suggests, symmetrical in typical cases, is unlikely; it was not in either of mine. That chronic oedema of such origin should appear in mucous membrane as well as in skin is likely, but does not seem to have been definitely stated; yet it is well

known to occur in connexion with acute lesions. In their recent elaborate report on the oedemas of the larynx, Bourgeois and Egger mention, among chronic lesions, only tuberculosis, syphilis, and cancer. With regard to his case of solid oedema of face, Mr. Herbert Tilley expressly said that the nose was normal, so far as he could see; but, curiously enough, at the same meeting of the Laryngological Society in 1906, Mr. Scanes Spicer showed a case of chronic oedema of the larynx in a teacher, almost certainly not tuberculous, and he raised the question whether it might not be a septic infection of dental origin. Halsted's remarkable case, shown to the American Laryngological Society in 1908, is most interesting in this respect:

A woman of 30, with personal and family history absolutely free of all constitutional taint, had a peritonsillar abscess: this had not cleared up four months later, when some pus was let out from the anterior pillar, and there was thickening of the soft palate and over the arytenoids, and crusts in the right nostril; a month or two later excoriation of the nostrils was noticed; three years later the condition was still the same, fissure and redness at tip of nostril; again, at five years' date from the quinsy, the same condition, except that the patient had just had "an attack of what her physician diagnosed as facial erysipelas, differing from erysipelas in that a thickening of the lip and of the skin over the cheeks persisted after the acute disease had subsided." She has recently had five or six of these erysipelatoid attacks with increase of oedema over face. Her physician, Dr. Dana, had given up his idea that the attacks were erysipelas; Halsted regarded them as a persistent angio-neurotic oedema involving the face with "some underlying cause, constitutional or local, some dyscrasis, the nature and source of which we do not know."[1]

The interest of this case is that, first, we have an infective focus in the mucous membrane remaining uncured for four months; by this time an oedema of the surrounding mucous membrane indicating spread of infection has developed, and remains confined to it for three years; then the characteristic solid oedema of the face develops, with crusting of nose and typically recurrent erysipelatoid attacks. Angio-neurotic oedema is something quite different, and depends on a toxaemia usually of intestinal origin; as Bourgeois and Egger say, "Il suffit de la connaitre pour poser le diagnostic." It is clear, then, that a chronic septic infection of a mucous membrane or about a mucous orifice may cause oedema of the membrane long before it affects the skin; this almost certainly happened in both my cases.

The essential point in treatment is to get rid of all septic foci; till this is done attempts to deal with the oedema are worse than useless. Crusts about the nostrils are best got rid of by H_2O_2 solution; the surface is then dried, $AgNO_3$ dissolved in sp. acth. nit. immediately applied to fissures, followed by an antiseptic ointment. For the oedema I have used ung. hydrarg. co.* covered with cotton-wool in thick layer, and pressed down by cotton elastic bandage; this only at bedtime. This treatment was continued for months, and was considered more important than the iodide or thyroid which were given internally.

REFERENCES.

[1] Sir J. Hutchinson, *Medical Times and Gazette*, 1883, I., p. 4: also *Illustrated Medical News*, October 20th, 1888, p. 82. [2] This case was shown at the Glasgow Medico-Chirurgical Society, May 3rd, 1907. *Transactions*, vol. vi. [3] Bourgeois and Egger, Les oedèmes du larynx, *Revue Hebd.*, May 22nd, 1909, p. 611.

SUPPURATION TREATED BY VACCINES.

By S. MALLANAH, M.D.EDIN.,
HYDERABAD, DECCAN.

CASE I.

A LABOURER, aged 40, with a chronic varicose ulcer of the right leg of one year and a half duration, came for treatment at a local dispensary. The ulcer had a very unhealthy appearance, was somewhat circular, being in diameter 2 in., and resisted the routine antiseptic treatment for nearly a month. I isolated a pure culture of *Staphylococcus pyogenes aureus* from the discharge, and prepared a vaccine containing 100 million of organisms per c.cm. On August 15th, 1907, half a c.cm. of this vaccine was given subcutaneously in the right thigh. On August 16th, 1907, there was a profuse discharge, and on August 17th a scab formed over the ulcer, and no dressing was applied. On August 21st the scab fell off, and I was astonished to see the ulcer completely healed.

* Dr Morton prefers Brooke's ointment: Acid. salicyl., gr. 30; ichthyol, gr. 60; unq. hydrarg. oleat. (5 per cent.), pastae zinci co., $\frac{5}{1}$ss.

CASE II.

A patient, aged 56, suffering from a large carbuncle on the back. He was weak and anaemic, and had a temperature of 101° F. The size of the carbuncle was 10 in. from above downwards and 9½ in. from side to side. There were about forty apertures scattered all over the surface, through which thick slough could be seen. The skin around was brawny in appearance. The urine was free from sugar. *Staphylococcus pyogenes aureus* was isolated from one of the pustules, and a sterilized emulsion, containing 10 million organisms, was prepared and injected in the arm on October 6th, 1907. On October 8th, 1907, all the apertures became larger, and there was free discharge of thick fluid pus from every opening. The growing edge seemed to become somewhat paler. On October 11th a second injection was given subcutaneously, the vaccine fluid containing 20 million organisms. On October 14th all the apertures were found suddenly closed up—that is, healed—and a big slough was left in the centre. On October 18th a third injection was given, containing 20 million organisms. On October 20th, 1907, a big gap formed in the centre, and the whole of the slough was extruded through it. There was a big cavity left, covered with granulations, which communicated with the exterior through a large opening in the centre. On October 24th a fourth injection, containing 30 million organisms, was administered. The whole cavity healed, leaving a central oval ulcer, which became covered with healthy granulations, and on November 17th, 1907, the whole was completely cured.

CASE III.

An officer in the Revenue Department, aged 37, suffering from diabetes for a number of years, consulted me in the month of February, 1908. He had a large crop of boils upon the thighs and legs, and was passing 4½ pints of urine a day, containing 20 grains of sugar to the ounce. *Staphylococcus pyogenes aureus* was isolated from one of the boils, and a vaccine containing 20 million of organisms per c.cm. was prepared. Three injections, repeated every fifth day, completely cured the crop of boils. The quantity of sugar fell to 5 grains an ounce during treatment, although the diet was not changed.

CASE IV.

A man, aged 60, belonging to the Customs Department, presented a carbuncle about the size of a fist, situated over the front of the chest on the right side. He complained of frequency of micturition, and the urine showed a trace of sugar, which disappeared later on during the treatment. *Staphylococcus pyogenes citreus* was isolated, and four injections of sterilized emulsion of this organism given every four days completely cured his condition within sixteen days. The first injection was given on August 11th, 1908. The vaccine contained 20 million organisms per c.cm. The rise of temperature recorded was only 100° on the day of inoculation: during the treatment a crop of boils, four in number, developed on August 15th, 1908. One appeared over the left upper eyelid, one on the left cheek, one over the right forearm, and one over the belly above the umbilicus. All these boils aborted after the third injection. The opsonic index was taken in this case only, it was 0.6 before injection, and after injection it rose to 1.2.

CASE V.

A diabetic, aged 42, suffering from abscesses and boils for nearly a year, consulted me in September, 1908. He had been operated on several times without much benefit. He was passing 4 pints of urine daily, containing 30 grains of sugar to the ounce. The abscess was about the size of an orange; a small opening was made to allow a free flow of pus, because in a closed abscess an outlet is always necessary for the free discharge of pus, which increases a few days after the vaccine. Three injections of *Staphylococcus pyogenes aureus* isolated from the pus of the abscess cavity completely cured the abscess and the boils. There was a considerable reduction of sugar during the treatment. The opsonic index in diabetes is generally very low, varying from 0.5 to 0.6, and hence vaccine inoculation will be very useful in cases of diabetics to protect them from getting boils if used prophylactically.

CASE VI.

I was consulted in March, 1908, as to a boy aged 15 who was in a very low state of health, and had on the inner side of the left cheek cancrum oris, which was rapidly increasing in spite of the local application of strong nitric acid. His condition was considered hopeless at the time. Three injections of vaccine prepared from staphylococci isolated were given every third day, and completely cured the malady within fourteen days.

CASE VII.

A girl aged 10 suffering from suppuration of the middle ear for more than two years was completely cured by six vaccine injections of *Bacillus pyocyaneus* isolated from the case, and given every fifth day in May, 1909. In this case every other treatment was useless.

THE Lord Mayor of London laid on September 22nd the foundation stone of a home for the nurses of the City of London Asylum at Stone, near Dartford, to be built in the grounds of the institution. The object of the home is to provide the nurses with a place of recreation and rest apart from the asylum building.

UNCURED RICE AS A CAUSE OF BERI-BERI.

By W. GILMORE ELLIS, M.D., M.R.C.S.,
MEDICAL SUPERINTENDENT AND MEDICAL OFFICER BERI-BERI HOSPITAL, SINGAPORE.

The theory of the relationship between rice-eating peoples and beri-beri is very old. As long ago as 1892, the perusal of some old Japanese reports caused me to institute some experiments on a small scale, experiments that were misleading.

The disease, endemic since the opening of the Singapore Lunatic Asylum in 1887, broke out in an appalling manner early in 1896 and resisted all endeavours to combat its ravages until towards the end of 1901, when I began to experiment with Bengal (cured) rice.

Table showing Number of Patients, Number of Cases of Beri-beri and Deaths, Singapore Lunatic Asylum, 1896–1908.

Year.	Average Daily Number of Patients Resident in Asylum.	Total Treated for Beri-beri.	Total Deaths.	Deaths from Beri-beri.	Percentage of Deaths from Beri-beri to Total Deaths.
1896	233	165	85	40	47.06
1897	228	189	81	48	59.26
1898	203	201	95	55	57.89
1899	184	121	65	29	44.61
1900	180	153	123	51	41.46
1901	164	102	56	15	26.79
1902	174	99	42	4	9.52
1903	209	21	55	3	5.45
1904	268	15	59	1	1.69
1905	287	38	67	3	4.47
1906	290	0	75	0	—
1907	292	101	57	10	17.54
1908	326	18	65	2	3.07

In these earlier experiments carried on throughout the years 1902 and 1903 some of the patients were given a diet with cured rice and some with uncured rice for varying periods, and from watching the results, I was inclined to think, for the first time, that there might be something in the theory, so persistently maintained by Dr. Braddon, that the consumption of stale uncured rice was in some manner the causative agent of the disease.

In 1904 all patients were kept on cured rice until October 16th without a case of beri-beri occurring; upon this date a change was made to uncured rice, with the result that we had 15 cases in December with one death.

Throughout 1905 several changes were made from cured to uncured rice and back again. These experiments so increased my belief in the theory that in 1906 we ran the first eleven months of the year on cured rice and without a single case of beri-beri. This result decided me to make one last and systematic trial of the two varieties of rice, and I determined that for a year or longer all patients should be placed alternately four months on a diet containing cured rice and four months on uncured rice. Our full native diet consists of rice, 1½ lb.; meat, 4 oz.; fish, 4 oz.; vegetables assorted, 6 oz.; salt, ½ oz.; onions, ½ oz.; garlic, ½ oz.; and lard ½ oz. daily. This trial was carried out with the exception that the second and third spells of four months on uncured rice were cut short on account of the rapid manner in which patients from all parts of the asylum succumbed to beri-beri.

I am happy to say that on cured rice we have had no recurrence of the disease for over a year. It is needless to say that a return will never be made to the uncured grain. A few new patients have been admitted with beri-beri, but all have made rapid recoveries.

Formerly relapses were frequent and difficult to deal with in beri-beri outbreaks, and this is to be understood when one considers that sick patients were put on bread and milk diet, all rice being cut off. Upon convalescence and a return to full diet further doses of poison were ingested, with the natural result.

At the Beri-beri Hospital (120 beds) on the sea coast 5 miles from Singapore, opened on April 14th, 1907, 738 patients have passed through my hands with only 20 deaths, and only 8 of these were due to beri-beri. The healthy site, the open-air treatment, the daily sea-bathing (all patients are kept in the sea for half an hour daily and massaged), the prohibition of uncured rice are doubtless the factors in our success. I may say that we never have a case relapsing to the slightest extent. It is gratifying to watch the bedridden begin to feed themselves and then to crawl, the crawlers commencing to walk with the help of two sticks; to see first the one stick and then the other discarded, and finally to see the patient become a sound man once more—of course, often a matter of many months in the chronic cases. Several patients unable to stand or even lift their hands have been discharged recovered within six months—if they may be called recovered before the return of the knee-jerks, a return that may have to be waited for for years in my experience.

Braddon has written in his book, *The Cause and Prevention of Beri-beri*, very fully on the different methods of rice curing. That we use is Siam rice soaked in water for forty-eight hours, the water being once changed. It is then placed in boilers and steamed (not under pressure) until the grains burst, generally a matter of from ten to twelve minutes; it is then sun dried, and afterwards goes through the mill, and is husked in the ordinary way.

SEVENTY-SEVENTH ANNUAL MEETING
OF THE
British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Thomas Sinclair, M.D., F.R.C.S.,
Professor of Surgery in the Queen's University of Belfast,
President.

PRESIDENT'S INTRODUCTORY REMARKS.

Gentlemen,—My first duty on taking the chair is to thank you for the honour you have done me in electing me President of this important Section, and to express my high appreciation of the distinction attached to this office.

I rejoice that I have associated with me as Vice-Presidents some eminent surgeons, whose support and guidance in the business of the Section will be helpful and encouraging; and I trust that the matters discussed and the papers read will prove of great interest and instruction, so that the Belfast meeting may not be without permanent and illuminating influence upon our surgical thought and practice.

My next duty is the exceedingly pleasant one of welcoming the members of the Section to Belfast, and to the Queen's University, in which, through the kindness and sanction of the Vice-Chancellor and the Academic Council, we are privileged to hold our meetings.

Since we last had the pleasure and advantage—twenty-five years ago—of entertaining the British Medical Association in this town many important changes have occurred, which some of the older and more experienced members who were with us on that occasion will recognize. Belfast has graduated from a town to a city, and its Queen's College has been erected into a university. Although the university has scarcely emerged from its embryonic stage, great preparations for its birth have been in progress for some time in the provision of numerous well-equipped laboratories—many of them in connexion with the Faculty of Medicine. Indeed, recently, through the generosity of benefactors, we were enabled to open in one day no less than seven new laboratories. Moreover,

in the same interval, the general hospitals in Belfast have been rebuilt and extended on modern lines and in more open and attractive sites; while the population of the city has increased at the phenomenal rate with which we are familiar in the development of American and Colonial cities.

As the President of the Association has touched upon these developments—or one might call them transformations—in his comprehensive address last evening I need not dwell upon them, though I should point out for the information of those exploring our new hospitals that these two medico-chirurgical hospitals afford an excellent opportunity of contrasting two totally different types of hospital construction. The Royal Victoria Hospital is built on the one story pavilion plan, with the artificial or "plenum" system of ventilation and heating, and with peculiar arrangements for lighting, securing comparative freedom from dust and flies. The Mater Infirmorum, on the other hand, is built in superimposed stories with a garden roof or recreation ground for convalescents, and with a natural type of ventilation, illumination, and heating such as are found in the best houses. It may be instructive to some of our members interested in hospital construction to examine these hospitals, and contrast their various features.

May I extend a hearty invitation from the staffs of both hospitals to the members to inspect the hospitals. Representatives of both institutions, by favour of your suffrages, are with me as Vice-Presidents upon this platform, and I am sure they will cordially emphasize or endorse my invitation. It will give us great pleasure to conduct the members over our wards, and explain any details that may excite attention.

I must, however, recollect that the rules for sectional meetings virtually prohibit the President from delivering a formal introductory address, unless he actually undertakes to open one of the discussions. Now I feel sure I shall best consult the wishes of the Section by not anticipating by my observations the surgeons of high eminence and attainments who have kindly consented to inaugurate the discussions.

May I bespeak your indulgence for another moment or two if I briefly draw attention to the class of cases which bulk most largely in our surgical practice in this city and district?

Belfast is an industrial centre, and in its development until lately the utilitarian principle has been more in evidence than the artistic. In most people's minds the city is mainly identified with the linen trade and shipbuilding, but very many other industries carried on here provide employment for both sexes of all ages. The city attracts whole families from country districts by this variety of employments, and by the educational advantages—primary, secondary, and technical—it affords to the members of such families.

As might be expected, occupational diseases of various sorts abound, and on the surgical side the casualty practice is enormous. Injuries to the head and spine and limb fractures are plentiful, enabling my distinguished predecessor, Professor Gordon, to collect an unrivalled array of fracture specimens for the college museum and to add notably to the surgical literature on fractures. Accidents to the eyes and hands from the spinning mills, bleaching, dyeing, and laundry works, from the many mineral water establishments, and from the distilleries and tobacco manufactories, etc., are numerous.

On the other hand, our wards rarely contain aneurysms, and in correlation with this fact the incidence of syphilis on our ward population is singularly light. Stone in the urinary organs, apart from prostatic diseases, though commoner than formerly, does not bulk largely, and acute gout is practically unknown in our hospital practice, but rheumatoid arthritis is quite common. We have quite an extraordinary number of gastric and duodenal ulcers to treat, furnished by the underfed tea-drinking workers of the mills and factories; and on occasion as many as three gastro-enterostomies may be carried out in the same hospital theatre on one morning, so that our experience in this field grows apace.

Notwithstanding the influx of new blood from the rural districts to which I have alluded, tuberculosis is still far too prevalent among us, and quite an extraordinary number of tuberculous gland, bone, and joint cases flood our wards, and constitute almost one half of our surgical work. Spinal caries is very common, and some of my colleagues have had remarkable success in the operative treatment of these rather unpromising cases. One would expect that the immigrants from the country would exhibit the most resistance to tuberculous infection, but this is not so, the incidence of this disease being quite as often and as speedily manifested in these as in the human product of the city. This is probably due to the indifferent feeding of country children and consequent want of stamina on their arrival in the city. It would indeed be a positive relief to the operating surgeons here if our distinguished townsman, Sir Almroth Wright, and his co-workers could improve and perfect their method of combating the ravages of tuberculosis, thus lessening our operative labours in this domain. For so far we have but few conspicuous successes from substituting "tuberculin" injections for operative methods in the surgical or caseating type of tubercle in glands, bones, joints, and spine, but we cherish the hope that this highly scientific and rational plan may be successfully elaborated, and ultimately prove more fruitful.

We may now proceed to our regular business of to-day, which is the discussion on the proper selection of cases for operative treatment in obstructive jaundice. We are very fortunate in having two such distinguished surgeons with large operative experience in this difficult field—Mr. Moynihan and Sir Thomas Myles—to introduce the discussion. I am sure you will accord them a hearty welcome and an attentive hearing.

DISCUSSION ON THE OPERATIVE TREATMENT OF OBSTRUCTIVE JAUNDICE AND THE PROPER SELECTION OF CASES.

OPENING PAPER.

By B. G. A. Moynihan, M.S.Lond., F.R.C.S.Eng.,
Surgeon, Leeds General Infirmary.

In the proper selection of cases of obstructive jaundice for surgical treatment, the surgeon may find his capacity for accurate diagnosis taxed to the very utmost. It is true that there are certain types of case easily to be recognized, about which hardly any doubt or difference of opinion can be entertained, but it is also true that there are elusive cases in which no refinement of clinical acumen, nor any subtile investigation of the chemical changes occurring in the body, will enable a confident diagnosis to be made. Such cases cannot be too closely examined, nor too strictly debated, and a discussion such as this will doubtless help to throw light upon a difficult, interesting, and important problem.

Diagnosis.

In endeavouring to arrive at an accurate diagnosis in a case of obstructive jaundice, and therefore at a proper selection of those cases for which surgical treatment is necessary, three separate branches of inquiry must be followed. These are concerned with: (1) The clinical history; (2) the physical signs; (3) the chemical investigation of the urine and faeces.

1. *The Clinical History.*

I am inclined to think that a close inquiry into the most intimate details of the clinical history will afford the most substantial help. The exact details of the mode of onset of the jaundice must be ascertained. In some cases the onset is most insidious; the slight tinge of sallowness in the skin is not at first recognized as being due to a faint jaundice, and the earliest discovery of the patient's condition is made, not by himself but by another, who comments upon his altered appearance. It is then noticed that by slow degrees the jaundice deepens. There is neither haste nor pause in the process, and to the patient, and to those who see him constantly, the change may seem imperceptible from day to day. The progression is never checked, nor is there at any time a temporary lessening of the colour. The change is slow, and is always from a lighter to a deeper tinge. Finally a jaundice which the older physicians described as "black" may be seen; the colour is intensely deep and is dark green,

rather than yellow or "black." The deep green tinge of the skin together with the amber colour of the conjunctivae, makes the appearance of the shrunken features of the patient very striking. In a patient whose jaundice has so progressed, the constitutional symptoms are significant. A period of general weakness, ill health, and emaciation may have preceded, and will certainly have accompanied, the jaundice. There is rarely any pain, usually indeed the patient denies the experience of any discomfort. He complains chiefly of a general languor, increasing feebleness and loss of flesh, distaste for food; and as the bodily health and vigour decrease so the jaundice deepens.

In another and very dissimilar class of case, the jaundice will appear abruptly; and is then preceded, with the rarest exceptions, by an acute, often agonizing, attack of pain. Within a few hours of the cessation of the agony, and before the stiffness and soreness which it leaves behind have passed away, the skin may be everywhere tinged with yellow, the urine is dark, and in a day or two the motions are pale and clay-coloured. The jaundice rapidly deepens, and may then gradually subside, and in a few days may pass completely away. Or it may be otherwise: the jaundice may deepen at first rapidly, and then may seem to attain its maximum, and remain stationary for a period that varies from a few days to a few months. At the end of this period something occurs—it may be a riger, or a repetition of an attack of pain of the same character as the original seizure, or both may occur together. Soon it is clear that the jaundice is perceptibly deeper, but within a few days it begins to lessen, and may seem almost to clear away. But soon another attack of pain occurs, often accompanied or preceded by a rigor or a sensation of chill, the temperature rises rapidly, and presently the jaundice begins to deepen. This sequence of events is repeated sometimes with the most exact regularity, but usually with apparent caprice. The jaundice may at last become very slight indeed, and I have known it to be so constant and sustained a feature of the case that the recollection of the patient, and of the relatives, of the original natural colour of the skin has long been forgotten. When, however, an operation has removed the obstructive causes of the jaundice it is seen that what has been so long called sallowness is really a discoloration of the skin by bile. In such a case the orderly repetition of the rigor with the accompanying abrupt elevation of the temperature may lead to a diagnosis of malarial fever.

The foregoing represent the two chief types of obstructive jaundice, the one beginning insidiously without pain, and going on unchecked to the deepest tinge—the "black jaundice" of the older writers—the other beginning abruptly, and then following upon an acute and agonizing attack of pain, deepening for a time, but at length yielding, only to increase again and again, it may be, upon the recurrence of acute seizures of epigastric pain. The former type appears commonly in those who have before suffered little or no abdominal trouble, who have been free from all "indigestion," and in robust health to the moment of the onset of jaundice, and who then rapidly waste and lose all interest in, or capacity for, their ordinary daily tasks. The latter type appears always in those who have suffered long from flatulence, indigestion, colic, and all the characteristic "inaugural symptoms" of gall stones.

The conditions which may cause the first type of jaundice, due to a progressive, unremitting, and finally complete obstruction of the duct, are:

1. Carcinoma of the pancreas.
2. Carcinoma of the common hepatic, cystic, and common ducts.
3. Carcinoma of the ampulla.
4. Stricture of the common hepatic or common bile ducts.
5. Stricture of the ampulla due to the cicatrix of a duodenal ulcer.
6. Compression of the common duct from without—for example, by the scar of a duodenal ulcer, by a large stone in the cystic duct, by enlarged glands in the portal fissure or below it; rarely by carcinoma of the stomach or duodenum.

The conditions which may cause the second type of jaundice, due to an obstruction, at first perhaps complete, but soon becoming incomplete and variable, are:

1. Stone in the common hepatic or common bile duct.
2. Chronic pancreatitis, with or without stone.
3. Hydatid cysts in the common duct.
4. Pressure from without, as in renal and other tumours.

2. Physical Signs.

(*a*) In these two types of case the condition of the gall bladder affords a sign helpful in differential diagnosis. In the former class the gall bladder is dilated: in the latter contracted. The recognition of this fact we owe to Courvoisier. "Courvoisier's law," as it is called, asserts that "in cases of chronic jaundice, due to blocking of the common duct, a contraction of the gall bladder signifies that the obstruction is due to stone; a dilatation of the gall bladder that the obstruction is due to causes other than stone." Violations of this law, as of all clinical laws, are found, but an extended inquiry revealed less than 10 per cent. of error. The errors, moreover, are not so significant as this statement would lead one to suppose: for, as a rule, inquiry into the other conditions of the case makes the diagnosis clear. The infractions of the law are found in the following circumstances:

1. Where there is a stone or a stricture in the cystic duct causing hydrops or empyema, together with the acute impaction of a stone in the common duct.
2. Where there is a stone in the cystic duct pressing upon the common duct.
3. Where there is distension of the gall bladder by an acute inflammatory process, with obstruction of the common duct by stone.
4. Where there is chronic induration of the head of the pancreas, with a stone in the common duct.
5. Where there is malignant disease of the common duct at any part of its course, or cancer of the head of the pancreas, and a chronic sclerosing cholecystitis.

(*b*) The presence of an ovoid or oblong abdominal tumour in the lower epigastric region, or at the junction of the epigastric and right hypogastric areas, is significant of an enlargement of the pancreas. This enlargement may be due to a malignant growth in the pancreas, the swelling then being hard, a little irregular and painless; or it may be due to a chronic inflammatory deposit in the gland, the swelling then being rather softer and decidedly more painful. It is rare, decidedly, for a malignant tumour in the head of the pancreas to be felt on examination; it is not very infrequent, especially in thin people, for an inflamed and enlarged pancreas to be palpable.

(*c*) Enlargement of the liver is generally noticed in cases of biliary stasis. When the obstruction is intermittent, as in calculous impaction, the variations in the size and in the tenderness of the liver may easily be recognized. After an acute seizure of pain the jaundice deepens, and the liver becomes larger, more easily palpable, swollen in fact; and it is decidedly more tender. Irregular bosses on the surface of the organ are strongly indicative of carcinoma.

(*d*) The presence of free fluid in the abdomen is very suggestive of malignant disease. In the late stages of cancer of the head of the pancreas, ascites with oedema of the lower limbs is rarely absent. But ascites which is due to pressure upon the portal vein may result from the impaction of a stone of large size in the cystic or common ducts. In *Gall Stones and their Surgical Treatment* (second edition, p. 211) I have recorded a case in which a large stone, fixed in the cystic duct, had so compressed the portal vein and the common bile duct as to cause jaundice and ascites, for which the patient was several times tapped in the belief that malignant disease of the pancreas or liver was present.

3. Examination of the Urine and Faeces.

The work of Cammidge on the condition of the urine and faeces in cases of obstructive jaundice and of pancreatic disease has, I feel sure, given us great assistance in arriving at a correct diagnosis in those difficult cases where the ordinary clinical signs leave one in great perplexity and doubt. In the case just quoted, for example, an examination of the urine would have shown the absence of pancreatic disease, and the faeces would probably have contained some small quantity of stercobilin. The characteristic needle-shaped crystals can be obtained from the urine when treated by Cammidge's method in cases of pancreatitis, acute or chronic. In cases of malignant disease they are found only in about one fourth of the cases, and in these a zone of inflammation probably surrounds the cancerous area. If the obstruction to the common duct is above the pancreas, and is complete, no bile will pass into the intestine, the stercobilin reaction

will therefore be absent from the faeces, and all the pancreatic juice will pass into the bowel. The digestion of food will therefore be unaffected. A deficiency of pancreatic juice is shown by the fact that the fat-splitting process is being inadequately performed, and that consequently a large part of the fat, even more than 90 per cent., may be discharged unabsorbed. If all the bile passes into the bowel and the pancreatic juice is prevented from doing so, the stools, as Claude Bernard and Walker have shown, are colourless, probably because of the large amount of undigested fat which they contain. No better example of the value of Cammidge's methods could be found than in the record of the following case:

J. D., male, 50. Complains of jaundice of great intensity. Until nearly the end of July was quite well; at that time began to suffer from flatulence and distension after food. Pain never acute or colicky; no vomiting. Occasionally periods of relief for a few days, but the attacks continued to return until six weeks ago, when he became jaundiced. Since then pain has been absent, but jaundice has gradually deepened. There has been no pyrexia, no rigors, nor does he think the jaundice has been in intensity. Has lost 2 st. in weight.

State on Examination.—The liver is felt to be enlarged, and is smooth and regular. The gall bladder can be indistinctly felt; it does not project far beyond the liver border. Just above the umbilicus an indistinct mass was felt on one occasion which suggested an enlarged pancreas.

The Urine and Faeces (Report by Dr. Helen G. Stewart).—A well-marked pancreatic reaction in the urine points to some degree of chronic pancreatitis, which is confirmed by examination of faeces. There is a high percentage of total fats, of which nearly half are combined fatty acids, indicating that although the pancreas is affected, occlusion of the pancreatic duct is not complete, and the obstruction to the common bile duct must be above its junction with the pancreatic. That obstruction of the common duct is almost complete is shown by the presence of only a trace of stercobilin in the faeces; but the absence of undigested matter in the faeces also supports the conclusion that the primary site of the disease is in the common bile duct and not in the pancreas.

Diagnosis.—The case was diagnosed as one of obstruction of the common bile duct at a point above the bile papilla from some other cause than carcinoma of the pancreas.

Operation, October 15th, 1908.—The liver was enlarged and gall bladder much distended with thickened walls, although it did not project beyond the lower margin for more than a short distance. Common duct dilated as far as upper margin of duodenum. There was an indurated scar in the duodenal wall which involved the duct and compressed it to complete obstruction. The scar was adherent to and seemed to involve the adjacent part (only) of the head of the pancreas. No tumour of the head of the pancreas. No calculi palpable. Gall bladder aspirated and found to contain clear mucus only. It was decided to perform a cholecystenterostomy. The duodenum could not be brought up to the gall bladder without dangerous tension, so the anastomosis was made between the gall bladder and transverse colon. Wound closed.

The patient was sent by Dr. Dunderdale (Blackpool), who reports in March, 1909: "He is somewhat sallow, his appetite is good, and he has gained 2 st. since the operation. Between December 28th, 1908, and January 5th, 1909, had three attacks of colicky pain over the gall bladder region, followed by elevations of temperature and jaundice lasting three or four days. He now appears to be quite free from all his former inconvenience. The urine contains no bile. The pancreatic reaction has almost disappeared."

SELECTION OF CASES FOR OPERATION.

The selection of the cases suitable to operation depends exclusively upon the accuracy with which a diagnosis can be made. The conditions most commonly met with are carcinoma of the pancreas, chronic pancreatitis, and gall stones impacted in the common ducts.

In carcinoma of the head of the pancreas the first type of jaundice with insidious onset, and finally becoming absolute, is characteristic. The gall bladder is constantly palpable, petechial haemorrhages or even large subcutaneous effusions of blood occur, and rapid and severe wasting, loss of appetite and all energy, and anaemia are constant features. The pulse, as a rule, is slow; the itching of the skin intolerable; ascites with oedema of the legs and abdomen comes at the last. When the urine is examined, the "pancreatic" reaction indicative of an inflammatory change is absent in the great majority of cases; in the minority it is found, and in them it is probably always the case that, in addition to the carcinomatous deposit, an inflammatory condition in the parts of the gland immediately adjacent has recently developed. The faeces very rarely show any evidence of stercobilin. This is due to the fact that it is not usual for a case to be submitted for examination in the early stages, when the compression of the common duct is slight. In the later stages, when no drop of bile can pass through into the intestine, the stercobilin reaction cannot of course be obtained. In cases of incomplete obstruction of the duct by a stone, the presence of stercobilin, though possibly in very small quantities, is constant.

Chronic pancreatitis is, of course, most often found in association with cholelithiasis, and usually with, or sequent upon, the presence of a stone in the common duct. It is now well known that the effect—chronic inflammation of the pancreas—may long survive the cause—a gall stone—but it is not so generally recognized that the inflammation of the gland may progress insidiously even though the irritant which initiated it has been removed. So, finally, the pancreas is sclerosed, and diabetes may result. The recognition of the presence of gall stones at an early stage and their removal is, therefore, the surest means of preventing the development of chronic inflammation of the pancreas. There are clinically two types of chronic pancreatitis; in the first the symptoms and signs approximate to those of carcinoma of the pancreas; in the second, to those of intermittent calculous obstruction of the duct. In the former the jaundice is sometimes very deep, but is rarely complete or unremitting. The tinge may vary in depth, even during the course of a single day, or may ebb and flow so slightly as just to be recognized. The gall bladder is then distended by bile, not by mucus. The faeces are abundant, frequent, soft, and greyish-white in colour, and greasy in appearance by reason of the great excess of neutral fat which is undigested and unabsorbed. Stercobilin is present, and the urine gives the Cammidge reaction. The duration of the disease and the absence of the extreme cachexia help to distinguish the simple from the cancerous condition.

In the second form there are the varying jaundice, the occasional rigors and sweating, the rapid elevations and depressions of temperature which characterize a case of chronic obstruction of the common bile duct; but all these things seem rather less in degree. Pain is not severe, and is rather a sense of epigastric oppression and uneasiness than an acute agonizing colic.

In cases of acute calculous obstruction of the common bile duct, a difficulty of differentiation from carcinoma of the pancreas may well be experienced, for the jaundice is deep and progressive in both. The history, however, gives the surest clue. With few exceptions, pain is absent in carcinoma, and is present in high degree before the onset of jaundice due to a stone. In the former the jaundice appears insidiously, in the latter rapidly. A stone does not lie long in the duct, however, before secondary changes appear; the duct dilates, and the stone comes to fit loosely. Then appear the signs so characteristic of the "floating" stone—attacks of severe epigastric pain of a colicky character, rigors, "steeple" elevations of temperature, and the rapid transient deepening of a jaundice which never entirely clears away. The gall bladder is contracted as a result of many old attacks of cholecystitis, and is therefore never, or very rarely, palpable. Wasting is often extreme; in one of my cases there was a loss of 12 st. in weight—from 22 st. to 10 st. Within six months of operation 7 st. of this loss were recovered. The liver is almost always enlarged, and is especially so immediately after an attack of pain. It is smooth, and there are no irregularities upon its surface. In the intervals of the attacks of pain the patient often feels well and may gain a little in weight; constipation is usually present at all times. A point upon which stress has been laid as distinguishing gall-stone impaction from chronic pancreatitis is that in the former the radiating pain is to the right, in the latter to the left. I have not found that any reliance can be placed upon this.

When carcinoma affects the hepatic or common bile ducts, or the ampulla of Vater, the symptoms strongly resemble those due to cancer of the head of the pancreas.

There is, however, a possibility of making an accurate diagnosis by giving attention to the history, and by making use of Cammidge's methods. The history points more frequently to gall-stone disease; in carcinoma of the pancreas, as I have seen it, a history of cholelithiasis is very rare, nor are stones found in the ducts or in the gall bladder at operation or autopsy. In cancer of the larger bile ducts, stones are found, though by no means so frequently as in cancer of the gall bladder. Rolleston found stones present in 23 out of 62 cases of primary carcinoma

of the bile ducts. In both cancer of the pancreas and cancer of the common bile duct the gall bladder is usually distended. Devic and Gallavardin in 18 cases of primary carcinoma of the common duct found that the gall bladder was enlarged in 17. The examination of the urine and faeces should enable a diagnosis to be made if the growth in the ducts is above the papilla, for the canal of Wirsung is then free, and the pancreatic juice can flow unimpeded into the intestine. The "pancreatic reaction" is negative, no stercobilin is present.

Simple stricture of the common hepatic or common bile duct may result from the healing of an ulcer due to a gall stone, as in a case of my own, or it may occur independently of gall stones as a sequence to typhoid or other infection. In my case, a diagnosis of obstruction of the duct, due possibly to stricture following on old calculous obstruction, was made upon the history alone.[1]

Operative Procedure.

The operations practised for obstructive jaundice are concerned either with the direct removal of the impediment, or with the making of an alternative path for the bile, or in certain cases with prolonged drainage of the bladder and ducts.

The following are the procedures:

A. *Removal of the Obstruction.*—*(a)* Choledochotomy; *(b)* Choledochectomy; *(c)* Choledochoplasty.

B. *Short-circuiting Operations.*—*(a)* Cholecystenterostomy; *(b)* Hepatico-duodenostomy; *(c)* Cystico-duodenostomy; *(d)* Choledocho-duodenostomy; *(e)* Hepato-cholangio-duodenostomy.

C. *Drainage Operations.*—*(a)* Cholecystostomy; *(b)* Choledochostomy.

In cases of prolonged jaundice a tendency to haemorrhage has been noticed. Petechial haemorrhages or even large effusions of blood beneath the skin may occur. During an operation every smallest vessel may ooze continuously, and after the wound has been closed bleeding may go on quietly between the stitches, or haemorrhage may occur within the abdomen near to, or at some distance from, the parietal incision. There are those who believe that the haemorrhage is more likely to occur, and is of more significance if the pancreas is involved, but I have not been convinced that there is evidence for this belief. In some cases of prolonged biliary obstruction the coagulation time of the blood may be lengthened, but this is not often or even usually the case, and I have known it to be shortened. But of the tendency to haemorrhage in a few cases, whatever the coagulation time may be, there can be no doubt. And the question at once arises as to whether anything can be done to forestall or counteract this. A. E. Wright suggested many years ago that calcium chloride would increase the coagulability of the blood, and Mayo Robson and others have consistently advocated the use of the salt, and have quoted cases in which they believed it to have been of value. My own view is that no good comes of its use; the evidence seems insufficient. It is well known that the coagulation of the blood in any species is greatly accelerated by the injection of an alien serum, and upon this fact I have based the practice of injecting sterilized horse serum (diphtheria antitoxin will do in an emergency) before operation upon jaundiced patients. It may be coincidental, but it is true, that since doing so haemorrhage has not occurred in any case of mine (the effect of the serum was marked in the case of a "bleeder" who had had two teeth extracted and had bled almost to death). J. C. Munro[2] has administered fresh rabbit serum in doses of 30 c.cm. subcutaneously twenty-four hours before operation in 15 or 20 patients, some of whom were purpuric, without seeing "the least tendency to oozing except in one or two instances, when it was checked at once by the use of more serum." Further experience of the use of these alien serum injections is necessary before their real worth can be estimated; but, so far as I have been able to see, I think that they are the most reliable of all methods.

1. *Operations concerned with the Removal of the Obstruction.*—These are now, as a rule, easily performed, and the results, both immediate and remote, are very satisfactory. The position of the patient, the back being arched over a cushion placed behind the liver, and the upward and outward displacement of the right lobe of the liver make the approach to the common duct very much easier. The bile in the common duct is usually infected; in more than half the cases a culture of an organism can be obtained; it is therefore necessary to protect all parts within the abdomen and the abdominal wall also from infection. The duct may be exposed by the free separation of all adhesions around and about it, or, if the patient's condition be very poor, by the method of "rotation of the duct" which I have described elsewhere. The duct being opened and to all appearance cleared of obstruction, the finger must be introduced to explore the interior, for in no other way can it be made certain that all stones have been removed. The duct should always be drained by a tube which passes upwards to the hepatic duct; it is never prudent to attempt its complete closure by suture. The gall bladder also may be drained; it is never wise to remove it in these cases unless it is useless or diseased beyond power of recovery. The results of choledochotomy followed by drainage are most satisfactory. The mortality is now about 5 per cent., and the after-history is almost always free from incident. I have only once had to operate a second time on a patient whose common duct had been opened and drained, by myself, for calculous obstruction.

2. *Short-circuiting Operations.*—In malignant disease of the head of the pancreas, for example, short-circuiting operations are hardly justifiable in the average case. Every aspect of the case is unfavourable. The patient is ill, wasted, extremely feeble; his blood condition is bad, and the tendency to haemorrhage is remarkable: the relief obtained by operation, of whatever kind, is slight, and does not justify the desperate risk.

The one distressing symptom which urges the patient to cry for relief is itching of the skin. This is an intolerable torment. To give some ease to it by any outward application is, I believe, almost impossible. The surgeon may therefore be persuaded to attempt relief by cholecystostomy or by cholecystenterostomy. The former operation I have several times done under eucaine or novocain anaesthesia. The gall bladder is large, and the operation rapid and easy. The relief occasionally is considerable, though it may be many days before bile begins to flow freely, the functions of the liver have been so long suppressed. Cholecystenterostomy for these cases is a dangerous operation; its mortality would appear to be near to 75 per cent., almost prohibitive. But if the disease is recognized early, and the patient's condition be otherwise favourable for operation, a rare case for surgical treatment may be encountered. The relief then (in no more than three cases of my own) is great, and the awful distress, inevitable if jaundice develops deeply, may be entirely avoided. Some faint tinge of yellowness, however, remains in the skin, but the itching, even when felt, is never unbearable.

The operation of cholecystenterostomy finds its most suitable application in cases where the obstruction of the duct is considerable, likely to be permanent, and is of a non-malignant character. Chronic pancreatitis is certainly the disease most often needing this relief. But here a word of warning is needed. The range and the rôle of chronic pancreatitis must not be unduly enlarged. It is a very real disease, but it is not to be diagnosed in any rough and haphazard manner. I have known cases in which large stones were present in the lower part of the common duct treated by a short-circuiting operation, the concomitant enlargement and induration of the head of the pancreas being then attributed to chronic inflammation. A very sufficient examination of the common duct is necessary before the presence of stones can be excluded, and a preliminary examination of the urine and faeces must have been made in most cases before a diagnosis of pancreatitis can be confidently established. In the great majority of instances chronic pancreatitis is almost a negligible complication of cholelithiasis. The treatment of the gall bladder or of the ducts will then suffice to relieve the lesion in the pancreas, which is secondary. The drainage for two or three weeks of the bile passages is all that is needed. But there are cases in which long after the stones have passed the pancreatic inflammation endures, and in such cases an anastomosis between the gall bladder, which is often distended, and the duodenum may alone be competent to give relief. In my own work I look upon the need for cholecystenterostomy as very

[1] British Medical Journal, 1895, vol. ii, p. 1380.
[2] Lancet Med. and Surg. Journal, 1909, March 27th, p. 865.

restricted, partly because the great majority of cases are equally well treated by less serious means, partly because I am doubtful of the permanence of the drainage by a short circuit in the absence of complete obstruction, and partly because I do not feel sure that in some cases an escape of organisms from the intestine to the bile passages may not occur. This last objection is, of course, reduced to the smallest proportion if the duodenum is selected for the anastomosis; unhappily this is not always possible, the jejunum or even the colon being sometimes more accessible. The operation is one, therefore, of restricted use; it finds its surest application in the obstructions which are complete and permanent, and it is most aptly applied when the duodenum is accessible for the anastomosis.

The operations by which the main bile channels are anastomosed to the intestine (hepatico-duodenostomy, cystico-duodenostomy, and choledocho-duodenostomy) are rarely necessary. They are performed either after the removal of a stricture (simple or malignant) of the ducts or when operation defects are present. Dr. W. J. Mayo has demonstrated the best methods of their performance and the chief indication for their employment.

DISCUSSION.

Sir THOMAS MYLES (Dublin) said: I should like to endorse Mr. Moynihan's words as to the imperative necessity for prolonged and exhaustive clinical examination before operation. Some twenty-six years ago I did the first successful operation for obstructive jaundice in Ireland; it was a simple cholecystotomy, and would now be looked upon as a very ordinary procedure, but at the time I was called over the coals severely for my "wild cat" surgery. The case is chiefly memorable now for the size of the ventral hernia that developed in the scar. It seems to me that the difficulties of diagnosis cannot be exaggerated, and whatever may be the truth of Courvoisier's law, I cannot help calling to mind the much older dictum that "there is no clinical law worth remembering." In the first place it is not always easy by any means to solve the problem as to the existence of a distended gall bladder. In fact, paradox though it may sound, the larger the gall bladder, the more difficult its recognition, and when it exceeds a certain size, diagnosis becomes impossible. I remember a case in which there was a history of gall-stone colic, but in which I could find evidence of nothing but a dilated stomach and a floating kidney; there was no jaundice, but the gall bladder was found in the pelvis. It appears to me that Irish surgeons have hitherto paid somewhat scant attention to clinical pathology, but after what has been said by the opener of the discussion the importance of the chemical side of these investigations is not likely to be overlooked. As regards operative treatment, I am of opinion that removal of the gall bladder should be avoided when possible; one objection is that it precludes subsequent free drainage of the ducts as a measure for the amelioration of symptoms, if that should unhappily become necessary. I should like to record a case in which all the symptoms of chronic pancreatitis were relieved by a gastro-enterostomy which previous drainage of the biliary tract had failed to improve, and I should be glad to hear some explanation of the circumstance.

Mr. STANMORE BISHOP (Birmingham) said: I have found Murphy's sign of great value in assisting me to a diagnosis of cholecystitis which is the essential element in biliary lithiasis. It enables the clinician to distinguish between renal, duodenal, and biliary inflammations. The method of injections with rabbit's serum is new, and, whilst extremely welcome, I am bound to testify to the great benefit I have obtained from calcium chloride: I have been in the habit of giving large doses, ½ drachm three times a day, and 40 or 50 grains per rectum as well. Before using this I had many consecutive cases of haemorrhage; since using it, none. I wish to emphasize the necessity of union of the gall bladder to the small intestine, and under no circumstances to the colon.

Mr. W. I. DE COURCY WHEELER (Dublin) said: For the benefit of those whose work is not specially surgery, it should be emphasized that obstructive jaundice is a late and avoidable complication of such common lesions as pancreatic inflammations and malignant disease, gall stones, cicatricial contraction after duodenal ulcers, floating kidneys and more rarely floating spleen, and its prevention would be accomplished by early diagnosis of these conditions. Examination of the urine and faeces is very important; iodine has been absent from the urine after administration of Sahli's iodoform capsule in my cases and present in other patients used as "controls" in the neighbouring wards. Clay coloured stools are due less to the absence of bile than to the presence of undigested fat. In an unusual case of gall-bladder disease in an old woman, simulating chronic intestinal obstruction from malignant disease, I found the ascending colon was pressed upon by a greatly enlarged gall bladder tilted backwards and firmly adherent to the ascending colon. The tumour was fixed, and could be felt in the right iliac fossa; loss of weight, vomiting, and alternate constipation and diarrhoea were the marked symptoms. Forcible peristalsis was most noticeable through the abdominal wall. The patient was cured by cholecystectomy. I should like to lay stress on the importance of removal of gall stones before an endless chain of pathological lesions is produced, especially since early operation with drainage of the gall bladder is perfectly safe.

Mr. C. P. CHILDE (Southsea) said: Obstructive jaundice embraces many other varieties besides that due to gall stones. As, however, jaundice due directly or remotely to gall stones is the most common and the most important surgically, and as my own experience, in common probably with that of most surgeons, has been chiefly in connexion with jaundice from this cause, I shall confine the few remarks I have to make to it. When I read the title of the subject selected for discussion, it seemed to me that it would not be outside its scope to include the preventive surgical treatment of obstructive jaundice, as this is clearly of the first importance. It is in the gall bladder that gall stones are known to have almost exclusive origin. They give rise to obstructive jaundice usually by passing from their site of origin in the gall bladder into the common duct and directly blocking it, less frequently by exciting pressure on the common duct owing to their presence in the cystic duct, or by causing localized peritonitis round the common duct and compressing or kinking it, or by giving rise to ulceration of the common duct and subsequent stricture in it, or by inducing malignant disease somewhere in the bile channels, or lastly by inciting disease in a neighbouring organ, the pancreas. In whatever way gall stones cause obstructive jaundice, this sign is a late result of their presence, and the ideal operative treatment of obstructive jaundice is the anticipatory or preventive treatment, and the proper selection of cases entails the early recognition of gall stones while they are still in the gall bladder and their surgical treatment there. For the operation of removal of stones from the gall bladder and even of the gall bladder itself is, as a rule, a simple and safe one, accompanied by a very low mortality, whereas operations upon the deep ducts are frequently severe and difficult, and, even in the hands of those who have had altogether exceptional opportunities in this department of surgery, are followed by a considerably higher mortality. With the view of attaining this most desirable object, the prevention of obstructive jaundice due to gall stones, medical education and advancement are, I think, required in two directions. The first is the general recognition of the many dangers of gall stones. It used to be confidently taught that gall stones in the gall bladder gave rise to no symptoms, and were not generally dangerous to life. Maxims of this kind die hard, and the one in question is no exception to the rule. But since during the past decade gall stones in the gall bladder have been withdrawn from their comparatively unimportant and obscure position by the attention of modern surgery, those who are in the habit of witnessing within the abdomen their consequences will be forced to admit what dangerous intruders they are, and to advocate their removal at the earliest possible moment. My experience of operations for gall stones is limited to about 50 cases, yet in this comparatively small series I have witnessed some striking illustrations of their dangers. Obstructive jaundice is only one of their ultimate results. There are many others, as the following cases show:

In 1902, a lady suffered from attacks of pain in the upper abdomen, accompanied with sickness, so-called functional indigestion, in reality no doubt due to gall stones in the gall bladder. Six months later she had pain, sickness and jaundice. A year after her first symptoms she passed twenty-six stones during an attack. A year later she again passed stones. Towards the latter end of 1904, that is, two and a half years after her first symptoms, she commenced to experience constant uneasiness in the gall bladder region. Early in 1905 she was first submitted to surgical treatment. At operation malignant disease was found in the gall bladder along with gall stones, and secondary nodules were present in the liver. A microscopical report of one of the secondary nodules confirmed the demonstration at operation that her cancer had originated in the gall bladder.

There can be no doubt that the original disease was gall stones in the gall bladder, the second phase obstructive jaundice, the final catastrophe cancer of the gall bladder. The preventive treatment—cholecystostomy or cholecystectomy—in 1902 would almost certainly have obviated the subsequent disaster.

A second patient, aged 44 years, had for many years suffered from attacks of epigastric pain and sickness. I had myself seen her in 1897 or 1898 in one of these attacks, and had told her she had gall stones. Matters were not so advanced in the treatment of gall stones at that date as they are to-day, and I did not advise surgical interference.

In 1905—that is, seven years afterwards—she had one of her usual attacks, accompanied with dragging pain. Three weeks after this she was suddenly taken ill with intestinal obstruction. Tenderness was present in the right iliac fossa. Abdominal section revealed a large gall stone impacted at the ileo-caecal orifice. This I extracted by an incision in the bowel.

She had a narrow escape, and made a fortunate recovery. The removal of this stone years before from the gall bladder would have saved her a dangerous illness.

A third patient had for many years suffered from gall-stone attacks, which had been diagnosed. In October, 1907, the acute abdomen supervened. I saw him in consultation within forty-eight hours. Immediate operation revealed a ruptured gall bladder, and the peritoneal cavity full of infective bile. The patient's condition on the table precluded any further procedure than drainage, and he died in twenty-four hours. There is no doubt that at any time during many years this catastrophe could have been prevented by a simple operation.

A fourth patient had for six years suffered from attacks of pain and vomiting, followed by tenderness over the gall bladder. In August, 1909, she was seized with one of these attacks, which did not pass off in the usual way. I saw her four days afterwards. Her temperature was 102.6°, her tongue dry, her general condition bordering on typhoid. A very tender swelling was discovered in the region of the gall bladder. Immediate operation revealed an acutely inflamed gall bladder full of stinking pus, its walls in parts gangrenous, and a stone impacted in the cystic duct. Cholecystectomy was fortunately followed by recovery, but cholecystostomy, or cholecystectomy, at any time during the preceding six years was the proper treatment.

The above four cases—carcinoma of the gall bladder following gall stones, acute intestinal obstruction consequent on the ulceration of a gall stone from the gall bladder directly into the intestine, rupture of the gall bladder, and acute gangrene of the gall bladder—occurring in a series of but 50 cases, sufficiently illustrate the dangers to which patients the subjects of this disease are liable without stones ever reaching the common duct at all, and drawing attention to their presence by the production of obstructive jaundice. I now pass, in the same series, to cases in which stones had escaped from the gall bladder into the common duct and caused obstructive jaundice.

In this series two patients died of shock after very severe operations. One of them gave a history of gall stones extending over seven years, and for five years had been suffering continually from attacks of obstructive jaundice and the passage of stones by the bowel. She was very stout, a confirmed invalid from her constant illnesses and suffering, and a bad subject for a severe operation. Three stones were removed from her gall bladder and eight from her common duct. The other had a five years' history of stones in the gall bladder and a six months' history of stones in the common duct with obstructive jaundice. The gall bladder was full of pus, a stone was present in the cystic duct, and one in the common duct. The stones and gall bladder were removed, and the common duct was drained through the stump of the cystic duct. A third patient died of repeated attacks of secondary haemorrhage, in whom eleven stones were removed from the gall bladder and four from the common duct. She gave a six years' history of gall stones in the gall bladder and common duct, and was deeply jaundiced at the time of operation. I may mention incidentally that she was put on full doses of calcium chloride before operation and continued to take it till her death, fourteen days afterwards. It did not, apparently have the slightest effect in checking the haemorrhage. Lastly, two deaths occurred in old women, close on 70 years of age, both suffering at the time from acute cholangitis, with rigors, high temperature, sweating, and jaundice. In neither of them was recovery expected from operation, but an attempt to check an otherwise obviously fatal illness seemed justifiable. In one, stones were removed from the gall bladder and a large one from the common duct. Drainage of the gall bladder and common duct were provided, and, although the temperature fell, the rigors ceased, and the jaundice was rapidly clearing, she died of exhaustion on the fifth day. In the other case the gall bladder was full of stinking pus, adhesions were numerous, and a stone was thought to be felt impacted in the cystic duct. The patient, however, was so ill on the table that it was impossible to do more than drain the gall bladder. She died of exhaustion some days afterwards. Both of these cases gave histories of gall-stone attacks previous to their fatal illnesses.

The cases I have narrated well illustrate the dangers to which patients are liable, either from a prolonged sojourn of stones in the gall bladder or subsequently owing to their presence in the common duct. They illustrate also that the danger are of two distinct kinds. There are, first of all, those dependent on the complications which have arisen. In these cases, if death occurs after operation, the operation, though frequently credited with it, is not the cause of death, but simply fails to save life—a totally different thing. The deaths, for instance, following operation for rupture of the gall bladder and acute suppurative cholangitis belong to this category. But they also illustrate another point, which is that the operative dangers themselves are greatly increased in old cases where stones have long inhabited the common duct. This point is exemplified in the two cases that died of shock after very severe operations in patients worn out by long and painful illness, and in the fatal case of secondary haemorrhage after operation in a case of prolonged jaundice. On the other hand, the results of my operations for early gall stones are in marked contrast, for in a series of between 30 and 40 cases of cholecystostomy, with removal of stones and drainage of the gall bladder, I have no mortality to record at all.

It should be universally recognized, in the interest of our patients, that gall stones are among the most serious of abdominal diseases. Indeed, I know of no other disease within the abdomen in which danger threatens from so many quarters and in so many different ways. If it be established, then, that gall stones are exceedingly dangerous to life and should be removed as soon as diagnosed, the second matter requiring revision is the symptoms of gall stones. There are two symptoms commonly associated with gall stones to the almost total exclusion of all others. These are gall-stone colic and jaundice. If obstructive jaundice and the many other dangers of gall stones are to be surgically anticipated, it will be necessary in the future to relegate these symptoms to a subordinate position. First, with regard to jaundice. It cannot be too forcibly emphasized that obstructive jaundice is a terminal symptom of gall stones, and evidence that the most favourable time for their removal has escaped. Of 19 cases of stones removed from the common duct, in only two was the first evidence of gall-stone disease accompanied with jaundice, and in only two others did jaundice occur within the first year of definite symptoms. The remaining 15 gave unmistakable histories of stones in the gall bladder before the onset of jaundice for the following periods: 1 for one year, 1 for between two and three years, 2 for six years, 1 for seven years, 2 for ten years, 2 for twelve years, 1 for fourteen years, 1 for sixteen years, and 1 for many years (time not stated). Jaundice is therefore a terminal symptom, generally first appearing after many years of illness. With regard to gall-stone colic, it is an important symptom when present, but its absence is not of much value, and it is, in my experience, not very common.

I have carefully analysed the histories of 33 cases of gall stones under my care, which were diagnosed as such, and in which the diagnosis was proved correct by operation, with the view of ascertaining the frequency of the occurrence of gall-stone colic. I find that only 10 had certainly had such attacks. In 3 it was doubtful from their description whether the attacks were definite colic, and 19 had never suffered from true colic. Definite gall-stone colic occurred, therefore, in only about one-third of these cases. It follows that obstructive jaundice and colic are not the symptoms on which attention should be riveted in the

diagnosis of gall stones. On a further analysis of these 33 cases I find that no less than 25 of them had suffered from repeated attacks of pain in the upper abdomen, accompanied with flatulence and vomiting, and followed by tenderness in the right hypochondrium; 7 had suffered from similar attacks without vomiting. Only one had felt slight uneasiness, and, soon after, herself discovered a tumour. These patients had generally been supposed to be suffering from that omnigenous complaint, indigestion.

Attacks of pain in the upper abdomen usually followed, occasionally preceded, by vomiting, sometimes occurring without vomiting, coming on generally independently of food, and leaving tenderness anteriorly below the right rib border, are the points on which attention should be riveted in the diagnosis of gall stones.

Such symptoms, especially if found in women about mid-life, will as a rule warrant an operation for removal of stones in the gall bladder, a simple procedure attended with hardly any appreciable mortality, and will obviate the dangers to which I have drawn attention either from the prolonged sojourn of gall stones in the gall bladder or from their passage into the common duct. I have endeavoured in these remarks to emphasize the fact that the proper operative treatment of obstructive jaundice due to gall stones is preventive, and to be secured by an early recognition of the disease; and it follows that the proper selection of cases for operation is that of cases before stones have escaped from the gall bladder. Of course, in cases where gall stones give rise to no symptoms they cannot be diagnosed, but I am certain that the belief which has held so long, that gall stones in the gall bladder generally or frequently give rise to no symptoms, is a myth, due mainly to too rigid a concentration of attention on the symptoms of colic and jaundice. If these symptoms have not undue prominence in the diagnosis, gall stones will usually be found to give very unmistakable indications of their presence. The youngest patient on whom I have operated for gall stone was 22 years of age. She had had definite symptoms of gall stones for four years. Her gall bladder was enlarged and thickened, full of pus, and fifteen stones were removed from it; after which she made a good recovery. The oldest patient from whom I have removed stones from the gall bladder was 74. She was suffering intensely, and cholecystostomy was followed by complete recovery.

Dr. J. CRAWFORD RENTON (Glasgow) said: When are we to operate in cases of obstructive jaundice? When a patient has intense pain and vomiting, followed by jaundice, and, although the jaundice may be relieved, the probability is, if there are no stones passed, that they are in the gall bladder; and when, if the jaundice does not disappear after such a typical attack, it is probable that the stone or stones are in the common duct; in these circumstances most surgeons are agreed that an operation is absolutely necessary. The *x* rays have not as yet given us as much help in gall stones as they have given in renal and urethral stones, but I was glad to observe lately that Dr. Ironside Bruce had been successful in getting shadows of stones. I consequently, in the last three cases of gall stones, asked our radiographer, Dr. Somerville, to take photographs, and in one case slight shadows were obtained, and I have no doubt that we will soon be able to localize gall stones by the *x* rays. In the three cases above referred to we removed a large number of gall stones. Thanks to the labours of Mayo Robson and Cammidge, we have got a valuable test as an aid to diagnosis in connexion with gall stones and affections of the pancreas. Cases of gall stones are not quite so common in Scotland as in England, but a very fair proportion come under the care of most surgeons there. The number of gall stones in each patient varies considerably; we have had as few as one and as many as 600. The ages of the patients have varied from 19 to 70. After removing all the stones from the gall bladder and examining the ducts we always drain the gall bladder, fastening the tube with a purse-string suture in the way that Mayo Robson has recommended. We do not now stitch the gall bladder, but we sling it to the last stitch in the aponeurosis, in the way that the Mayos have recommended. The tube is drained into a glass bottle at the side of the patient. When there are stones in the common duct we remove the stones, draining the common duct also into a bottle. As a rule, patients are out of bed in a fortnight and able to return home. We have had several cases with pain and jaundice in which there were no stones but adhesions around the gall bladder. These were separated, and complete relief followed. There are cases which cause no pain but give rise to a certain amount of jaundice and enlargement of the liver, and in elderly people suggest malignant disease. Such cases should be explored, as in several I have found a large number of gall stones without malignant disease. In one lately we removed 110 gall stones, the patient's age being 62. There are other cases of chronic jaundice in which there is no evidence of any tumour or any enlargement of the liver, and where there has been no pain, and the patient sometimes looks so ill that even an exploratory incision seems unwise; the deep olive-green colour of the jaundice is very suggestive, and yet in several such cases improvement has taken place and the patients are well. Were these cases of chronic inflammation of the duct, or what were they? They occurred in elderly people, and malignancy was naturally suspected. I merely mention these cases in order that our prognosis may be given with caution, and that we may avoid saying that the patient has no chance of recovery.

Mr. A. B. MITCHELL (Belfast) said he should like to thank the introducer for the emphasis he laid on the necessity for accurate diagnosis, and the value of the work done by special workers in the laboratory. He must enter a plea for these gentlemen, for their material support by their professional brethren. Their assistance should be invited in every case where the slightest doubt exists, and adequate remuneration should be secured for them.

Professor SONNENBURG (Berlin), in illustration of the difficulties that might be encountered in diagnosis of acute icterus, mentioned a case in which the symptoms were due to acute yellow atrophy. It occurred in a patient after perfectly aseptic appendectomy, and, as the necropsy showed, was referable to the chloroform. The clinical appearances indicated an obstructive jaundice, but the rapid onset of coma aroused a suspicion of liver atrophy, and prevented operative interference.

Mr. W. MCADAM ECCLES (London) said: I am sure that we all wish that the cases of obstructive jaundice were as simple in diagnosis as Mr. Moynihan's remarks were clear in their expression, but unfortunately they are not. I should like to ask Mr. Moynihan's opinion as to the value, present or future, of *x*-ray examination. I agree that a small incision under a local anæsthetic, and the introduction of one finger ought to enable the surgeon to diagnose what should be done to relieve that most distressing symptom of intense itching. With regard to the use and value of calcium chloride, I think I can say that I have had success, for in the cases in which I have used it no bleeding has occurred. But there are three points in its use which must be observed: large doses, frequently repeated; given at least two days before operation; and the drug given per rectum.

Mr. B. G. A. MOYNIHAN, in reply, said the discussion had elicited one fact—namely, that the subject was full of interest and of difficulties. He was much interested in the divergent expression of opinion as to the value of calcium chloride. His own tests of coagulation time made him think it of no value whatever. Statements as to its value had to be taken on trust, as there was no experimental evidence in its support. He quite agreed that the surgeon ought not to be confronted with cases of obstructive jaundice; but it must be remembered that it was the business of the surgeon to discover the earliest symptoms, and not to rest content with looking out for textbook signs, which were generally those of late stages. Study of inaugural symptoms could be furthered by accurate observations on the organs when investigating the abdomen for any cause. The majority of the cases he had operated upon had never had jaundice, or at least anything but the slightest tinge. He did not wish to lay much stress on the value of the *x* rays in diagnosis. Routine use of the *x* rays tended to permit some laxity in the investigation of the clinical history, and there was too much inclination to put the responsibility of making a diagnosis on the radiographer.

SOME CASES OF RESECTION OF INTESTINE.

By G. P. Newbolt, M.B., F.R.C.S.,
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Though the subject I have chosen is a well worn one, it still presents some points worthy of debate, and as far as my experience goes it is a rare thing even nowadays to get chances of operating upon early malignant disease of the intestine. During the last few years I have resected portions of intestine in 24 cases. Eleven of these operations were done on the small intestine, with 8 recoveries; in 7 of the 11 cases the resected intestine was gangrenous and contained in a hernial sac, and 6 recovered. They were all operated upon by enlarging the hernial opening and in no case was a median abdominal incision made. The table I hand round contains some details of my work, and all I propose doing now is to mention some points in connexion with the cases which I think may be of interest.

With regard to those involving the small intestine I feel sure that when the conditions for operation are favourable it is far safer to resect than to return gut the viability of which is uncertain. I have never regretted resecting gut, but I remember several cases in which resection would in all probability have saved my patient. End-to-end union is quickly and safely done, and there is not the fear of leakage which occurs in dealing with the large intestine. In my first five resections I used the Murphy button with four successes, and the scrotum of the case that died was full of faeces at the time of operation. I took the precaution of sewing over the button, thus making doubly secure. Latterly I have discarded all mechanical appliances but still carry the buttons in my operating bag for emergencies.

The question of treating these cases by means of an abdominal incision arises, and was advocated by Mr. Hutchinson, jun., in vol. xxxiii of the *Clinical Society's Transactions*, 1900; but I think, as a rule, one can get plenty of room by extending the hernial incision upwards and without the additional shock occasioned by a second incision into the abdomen. In cases of femoral hernia it may be more difficult to obtain room without seriously damaging the abdominal wall, but so far I have not found it necessary. The advantages gained are those of inspection of the abdominal contents and drainage of distended intestine if desired; the disadvantages, that the peritoneum may become soiled from the hernial region and the additional shock. Amongst the resections of small intestine, No. 7, a case of sarcoma involving the first part of the jejunum, is worthy of attention.

The patient was a male, aged 32, who had suffered from symptoms of dilated stomach for four months, and the physician in charge suggested that a gastro-enterostomy might be done to relieve him. A lump was present in the right iliac fossa, measuring 4 in. long by 1½ in. across, which seemed to move from side to side. An incision over the tumour in the right iliac fossa showed that there was a growth, some 4 in. long, involving the jejunum, high up, the small intestine and stomach above it being much dilated. The growth was freely excised and an end-to-end union done. The man made a good recovery from the operation, and I have not seen him since. The prognosis could hardly be good. The symptoms of vomiting, etc., were, of course, due to the partial obstruction caused by the growth.

My experience of intussusception is not large; in Case 9 the mass was gangrenous, and I excised it, doing an end-to-end union.

The child, aged 6 months, had been ill for three days before admission, and did not long survive operation. In Case 8 the boy was suffering from peritonitis at the time of operation; the volvulus was excised, together with the tuberculous gland, which apparently had caused the mischief. The gland was found torn open, and some caseous and purulent material had escaped. He died thirty-six hours after operation from shock and peritonitis.

The Nélaton's operation done in Case 6 was called for by the fact that there was acute obstruction, with enormous distension of the abdomen, and the conditions for operation in the house were most unfavourable. I therefore opened the most distended coil of small gut through a left inguinal incision. Later on, as clamping the spur failed, I opened the abdomen, excised the artificial anus, and did end-to-end union, with good result.

It is generally recognized that in cases of intestinal obstruction in which the cause is doubtful the median incision is the correct surgical procedure, and in the modern textbooks this statement is generally supported. In many instances, however, though the cause is doubtful, yet the chances are in favour of a certain region being affected. For instance, take the case of an elderly patient with indefinite symptoms of obstruction ending in an acute condition. The chances are that, with the well-known frequency of malignant growths in the sigmoid, an incision in the left ilio-lumbar region will give access to the disease. If it does, our operation is shortened and shock lessened.

But having adopted this plan when it seemed likely that there was a growth in the sigmoid, I found it did not answer. In the first case in which I used it the obstruction was in the hepatic flexure of the colon, and I had to make a right iliac incision to relieve matters. This entailed two incisions, and, although no worse off as regards this point, I had not the advantage of exploring the abdomen which a median incision gives. In Case 15 I made a left iliac incision, and then drained the caecum. Later on I explored the abdomen through a median incision in order to find out where the obstruction was, and, finally, I removed it through an incision in the right hypochondrium immediately over the growth itself. I now invariably make a median incision below the umbilicus, and, having found out where the obstruction is, proceed accordingly, unless the rectal examination, made whilst the patient is under the anaesthetic, reveals anything. Those who still object to rubber gloves will at least acknowledge that with them one can make this examination safely and without delaying subsequent operative technique.

In Case 14 I felt the growth per rectum, and by making an iliac incision removed it right away, tying in Paul's tubes. This patient was very ill at the time, and would not have stood a prolonged operation. This, to my mind, is the ideal method of treating obstruction caused by a growth of the large intestine which is operable. Other methods are the following: In malignant disease of the caecum, in which the diagnosis may be made early on account of a lump being felt, or because it is mistaken for a chronic appendicitis, operation is performed under favourable conditions, and after excision of the growth an immediate end-to-end union can be done. Case 24 is a good example of this. Union took place by first intention, and only one dressing was needed. In another case, in which the disease was more extensive, an infection of the wound took place. This delayed matters, but did not interfere with a good result.

I have already said the diagnosis of growths in the colon and sigmoid is usually made by the occurrence of obstruction—at least that is my experience—so that when operating we have quite a different condition of affairs to deal with. The gut is not in a condition to manipulate, it may not hold stitches, and it varies in calibre above and below the obstruction. The first indication, therefore, is to drain the distended gut, and this may be done in several ways.

The first stage in all operations in which the seat of obstruction is doubtful is the median incision below the umbilicus and the location of the disease causing the mischief. How apt one is to be mistaken is shown by Case 21, in which a man aged 32 was admitted with acute obstruction, the cause being a carcinoma of the sigmoid. About the same time an elderly man also came in, but though the cause seemed likely to be malignant, he had a hernia of the small intestine through a hole in the omentum—just the reverse of what one would have expected in the two cases. A year or two ago I explored the abdomens of two people, thinking that in all probability malignant disease was present, but I was agreeably mistaken. Bismuth radiographs were taken in one case, but the shadows given did not assist in the diagnosis. In one case, a male, there were adhesions tying down the transverse colon in several places, and in the other, a woman, the colon was partially obstructed by a mass of omentum binding it down. Both were cured by the operations. I can remember at least three cases in elderly men in my neighbourhood in which there were symptoms of obstruction which seemed likely to demand operative interference. Malignant disease was suspected in each

of these, but two of them yielded to treatment; the third died of carcinoma later on. The growth having been located through a median incision and obstruction being present, we have the choice of several methods of treatment:

A. A second incision is made over the growth; the latter is withdrawn from the abdomen, excised, and Paul's tubes tied in for drainage. The artificial anus is closed later on—a two-stage operation.

B. A colostomy is done on the proximal side of the growth through a second incision, and later on the growth is removed by reopening the median incision; later on the colostomy wound is closed—a three-stage operation of which No. 22 is an example.

C. A second incision is made over the growth, which is withdrawn and fixed outside the abdomen with a glass rod, and a colostomy opening made on its proximal side. Later on the growth and colostomy opening are excised and an end-to-end union done, leaving in a gauze drain—a two-stage operation, of which Cases 15 and 21 are examples.

Naturally the ideal method is Method A, as it needs only a subsequent closure of the artificial anus after cutting away the spur. The objection is that one cannot search for glands. It is the operation which was done in Case 14, only here, in consequence of my being able to feel the growth per rectum, the median incision was unnecessary.

In Method B the growth can be excised at a time suitable to the abdominal conditions—that is, when all distension has subsided and the patient's condition is good—we can then search for glands. In Case 22, at the first operation I was unable to get the growth out of the abdomen; at the second operation it was with the greatest difficulty that I could resect it, as the meso-sigmoid was so very short. In this case the small intestine was adherent and was also resected, but an examination later on did not reveal any malignant infiltration of its walls. One was able to feel the line of union in the sigmoid through the colostomy opening, and when it was secure the spur was cut away and the anus closed. Owing to the rather shortened condition of the gut the clamp tended to slip off the spur, but an ordinary pair of curved forceps did all that was necessary, and the man made a good recovery.

The third method, numbered C, is not quite satisfactory to my mind, as the wound is so liable to get infected from the colostomy. However, if drainage is ensured it is probably a safe method; I used it in Case 21. The point as to whether it is safe to do end-to-end union in the undistended colon arises; I think it is. Many prefer a lateral anastomosis. No doubt great care has to be taken at the meso-colic junction or one will get leakage.

In Case 19, where the growth was in the transverse colon, after draining the gut in the first instance, I reopened the abdomen, excised more bowel, and searched for enlarged glands. After excising the artificial anus I did an end-to-end union, and the result was good, though there was a slight wound infection.

In Case 23 I removed a growth of the sigmoid solely with a view of relieving the great pain caused by the involvement of the anterior crural nerves. The woman was very thin and ill

CASES OF RESECTION.

Resection of Small Intestine (11 Cases).

No.	Initials and Age.	Sex.	Disease.	Date of Operation.	Nature of Operation.	Result.	Remarks.
1	B. G., 75	F.	Strangulated femoral hernia, L.	May 15, 1903	Resection of 6 in. of gut	Recovery	
2	P. C., 41	M.	Strangulated inguinal hernia, L.	Sept. 18, 1903	Resection of 8 in. of gut	Recovery	
3	E. M., 32	M.	Strangulated scrotal hernia, R.	Dec. 25, 1901	Resection of 12 in. of gut	Death	Five days' duration. Faeces in scrotum.
4	P. C., 63	M.	Strangulated femoral hernia, L.	Dec. 29, 1901	Resection of 6 in. of gut	Recovery	
5	E. I., 48	F.	Strangulated femoral hernia, L.	June 18, 1904	Resection of 6 in. of gut	Recovery	
6	R. W., 54	M.	Acute intestinal obstruction	July —, 1904 May 9, 1905	Nélaton's operation Resection of gut and excision of artificial anus	Recovery	Obstruction due to tuberculous peritonitis?
7	G. B., 32	M.	Sarcoma of jejunum	June 26, 1907	Gut and growth excised	Recovery	
8	B. C., 15	M.	Volvulus of jejunum, tuberculous gland	Sept. 25, 1907	Volvulus and gland excised—end-to-end anastomosis	Death	Shock and peritonitis.
9	R. T., 6 mo.	M.	Gangrenous intussusception	Nov. 14, 1907	Resection of intussusception	Death	Shock.
10	J. C., 57	M.	Strangulated inguinal hernia, L.	June 12, 1908	Resection of 10 in. of gut	Recovery	
11	W. H., 58	M.	Sloughing gut in hernial sac, R.	Nov. 3, 1908	Resection of 12 in. of gut	Recovery	

Resection of Large Intestine (13 Cases).

12	E. G., 38	M.	Colloid Carcinoma of caecum	April 21, 1904	Excision of caecum	Recovery	Lived 1½ years. Secondary liver.
13	L. H., 53	F.	Carcinoma of sigmoid Acute obstruction	May 24, 1904 Sept. 1, 1904	Colotomy Excision of growth and artificial anus	Recovery	Lived 2 years. Secondary glands (abdominal).
14	P. McE., 51	M.	Carcinoma of sigmoid Acute obstruction	Dec. 1, 1905	Excision of growth; Paul's tubes and drainage; closure of artificial anus later	Recovery	Well 2 years later.
15	R. B., 63	M.	Carcinoma of hepatic flexure Acute obstruction	April 2, 1907 April 30, 1907	Left iliac excision; caecostomy Excision of growth in hepatic flexure later on	Death	Peritonitis.
16	J. H., 69	F.	Carcinoma of splenic flexure Acute obstruction	July 18, 1907	Excision of splenic growth; Paul's tubes	Death	Shock.
17	M. P., 25	F.	Colitis sinistra	Dec. 3, 1907 March 31, 1908 Nov. 10, 1908	Adhesions to ovary freed Excision of sigmoid Ovary excised and adhesions freed	Recovery	Well.
18	A. H., 53	M.	Carcinoma of caecum Lateral anastomosis done previously elsewhere	May 19, 1908	Caecum excised; lateral anastomosis enlarged three days later	Death	Peritonitis.
19	E. S., 40	F.	Carcinoma of transverse colon Perforation of growth	June 2, 1908 July 7, 1908	Excision of growth; Paul's tubes Abdomen drained; end-to-end union later	Recovery	Well.
20	? W., 60 ?	M.	Acute volvulus of caecum Acute obstruction	Sept., 1908	Excision of volvulus; Paul's tubes tied in	Death	
21	D. W., 32	M.	Carcinoma of sigmoid Acute obstruction	Nov. 24, 1908	Growth brought outside and colotomy done above it; excision of growth with anus and end-to-end union	Recovery	Well.
22	D. W., 47	M.	Carcinoma of sigmoid Acute obstruction	March 28, 1909 April 13, 1909	Colotomy; left inguinal Excision of sigmoid growth; also piece of small gut	Recovery	Well.
23	E. G., 52	F.	Carcinoma of sigmoid	April 2nd, 1909	Excision of growth with end-to-end union	Recovery	Relieved.
24	E. H., 64	F.	Carcinoma of caecum	June 3rd, 1909	Excision of growth with end-to-end union	Recovery	Well.

and the operation was a hurried one. I drained posteriorly, and there was a slight fistula. I do not think this fistula would have occurred if I had had more time.

The opinion I have formed is that where one has plenty of gut to overlap a side-to-side union is desirable; but, if this is not so, end-to-end may be done, but the greatest accuracy in suturing is necessary, and it is safer to drain when in doubt.

Amongst the other cases classified I should like to call your attention to No. 19, in which there was a growth involving the lateral wall of the transverse colon which had perforated. The lower abdomen was full of semi-purulent fluid with a faecal odour.

The patient was a well-nourished woman, aged 40, and the mass lay in the left iliac region. It was excised and Paul's tubes tied in, the lower abdomen being cleared out and drained. She made a good recovery, and five weeks later I excised the artificial anus, searched for glands, and did an end-to-end union. My idea in performing this extensive operation was to remove another piece of gut with any enlarged glands which might be present, otherwise clamping the spur and closing the artificial anus would have sufficed.

Case 18 was unfortunate. Six months before I saw him he had a lateral anastomosis done for obstruction, but nothing further was suggested.

He came to me complaining of intense pain caused by the growth, so I excised the malignant caecum: at the same time I explored the lateral anastomosis, to be sure that it was patent, and on finding it was, closed my incision with sutures. Unfortunately, the lateral anastomosis kinked after removal of the growth, causing obstruction. An attempt to relieve this by enlarging the anastomotic opening failed and he died. An examination showed that there were no enlarged glands left and no secondary deposits, so that it was a favourable case for operation. There was some local peritonitis around the incision which I had made into the lateral anastomosis, due I think to a leak caused by the manipulation at the second operation.

A clean sweep of the growth and anastomosis at the first operation would probably have saved the man.

No. 17, a case of colitis sinistra, was interesting and obstinate as regards treatment.

The patient had a distended abdomen, with pain and attacks of semi-obstruction. I first tried to relieve the trouble by freeing adhesions between the lower sigmoid and the left ovary. There was a big loop of sigmoid, which was thickened and contracted in calibre. As the symptoms continued I reopened the wound, excised all the loose sigmoid, and did an end-to-end union of the descending colon and lower end of the sigmoid. She improved for a time, but relapsed, and I again operated. The left ovary was removed, all adhesions separated, and the raw surfaces covered with peritoneum. The union of the resected portion of gut was perfect and difficult to find.

Since this operation the girl has had comparatively good health. The portion of gut removed was contracted in parts from old ulceration. There were three pouches above the constrictions.

No. 20 was a case of much interest. The patient, an elderly farmer, had acute obstruction when I saw him. He was in poor condition, but with a fairly good pulse.

On opening his abdomen I found the caecum twisted on itself, occupying the left hypochondrium; it was enormously distended, and I had to withdraw all from the abdomen before it could be untwisted. As with the general distension there seemed to be no chance of returning it I excised it and tied Paul's tubes in the colon and ileum. The flow of faecal matter was good, and although the colon was damaged at the twisted point, it seemed as if the result would be good. However, he died four days later, but I could get no further details.

The remaining cases are all varieties of growth in the large gut, and call for no special comment. The points which seem to me worthy of discussion are the following:

1. The difficulty in the early diagnosis of malignant disease affecting the large intestine.

2. The best methods of uniting resected large intestine in the absence of obstruction.

Every one, I think, will agree that when obstruction is present preliminary drainage of the large intestine is essential.

DISCUSSION.

Sir Thomas Myles (Dublin) said that in his earlier days he used immediate resection of the gut in cases of gangrenous hernia, followed by immediate end-to-end anastomosis, but that he had now abandoned this method in favour of merely relieving the obstruction at a first operation, putting a tube into the gut if necessary. The point was that in the obstructive stage the infection had not yet spread to the peritoneum, which must be opened to perform resection. At a second operation this danger was no longer to be considered, and an incision should be made parallel to Poupart's ligament (he was speaking of femoral hernia more especially), and a side-to-side anastomosis be performed. He believed this form of anastomosis performed with Murphy's button was the quickest and safest, and had stood him in very good stead in difficult cases, such as one of acute volvulus of the caecum, in which the caecum had to be disentangled from beneath the whole of the small intestines.

Mr. McAdam Eccles (London) said that with regard to those interesting and important cases of strangulated hernia, and particularly femoral hernia, where gangrenous gut is found, he agreed with Mr. Newbolt that primary resection was the ideal operation, but it was not always possible. This, he thought, was performed most safely through a separate incision made above the site of a femoral hernia, but the peritoneal wound should always be drained, and thoroughly drained. With regard to the question of end-to-end or lateral anastomosis, he was sure lateral anastomosis was the safer method, particularly where the proximal portion of the gut was dilated in comparison to the distal.

Mr. G. A. Syme (Melbourne) said he was in favour of opening the abdomen and resecting the bowel from inside by lateral anastomosis in cases of gangrenous femoral hernia and draining the sac. In cases of caecal volvulus with gangrene he had resected the caecum and laterally implanted the end of the small intestine in the ascending colon, and with success.

Mr. A. B. Mitchell (Belfast) expressed a decided preference for lateral anastomosis. In performing this anastomosis he strongly urged the inserting of the second or through-and-through row of sutures before opening the lumen of the bowel, thus avoiding infection of the peritoneal edge by *B. coli*. Having inserted the usual continuous peritoneal line of sutures, he made an incision through the peritoneal and submucous coats, allowing the mucous membrane to project. The first half of the through-and-through line of stitches (preferably of catgut) was then inserted. The bowel was then opened, and this could be done without any danger of dividing the sutures already inserted. If necessary a fourth row of stitches might be applied to the mucous membrane. The junction was then completed in the usual way.

Mr. C. P. Childe (Southsea) referred to 7 cases of enterectomy which he had performed for gangrenous intestine—2 cases in umbilical and 5 in femoral hernia. He had in each case excised the intestine and performed lateral anastomosis in the wound, adopting drainage in all cases. He preferred lateral anastomosis in all cases in which it was mechanically possible. He referred to one case in which he had excised 8 ft. 6 in. with perfect immediate recovery, but followed after a few months by marasmus, with diarrhoea.

Mr. W. Thelwall Thomas (Liverpool) alluded to the necessity of considering intestinal anastomosis in two stages where acute obstruction was present, using local anaesthesia for an enterostomy (preferably with Paul's tube). End-to-end anastomosis, although ideal, was, in his opinion, rarely possible. In any given case one could hardly ever predict the exact operation which would be performed before the exploration; one had to be prepared to adopt any of the many known expedients or methods.

Mr. Newbolt, in reply, stated that in his case of volvulus of the caecum the small intestines lay over and bound down the twisted large intestine, as already described by Sir Thomas Myles. Personally he avoided dividing small intestine wherever possible, as he was not satisfied with the results of the proceeding. He considered a second abdominal incision unnecessary in the resection of gangrenous intestine. Though agreeing that lateral anastomosis was good, and the only available method when the calibre of the gut varied greatly, cases occurred, such as No. 22, in which end-to-end union only was possible.

PERFORATIVE DUODENAL ULCER.

By A. B. MITCHELL, M.B., F.R.C.S.I.,
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A PROLONGED search through the published records of perforative duodenal ulcer has convinced me that the best contribution I can make to the literature of this subject will be effected if I confine myself strictly to my own records and those of the Royal Victoria Hospital. I trust that in doing so I will be acquitted of any want of appreciation of the brilliant work done by surgeons in this field in all parts of the world. This paper, however, must be brief, and its scope must therefore be limited. The list I submit for your consideration is, as far as I know, complete, and I have to thank our surgical registrar, Dr. S. T. Irwin, and my house-surgeons, Dr. Sinton and Dr. Joy, for the trouble they have taken to collect and verify the cases.

It is of interest to note that in his classic work on *Diseases of the Intestines*, published in 1901, only eight years ago, Boas[1] refers to operations in duodenal perforation as follows:

> Operations for perforative peritonitis have been successfully performed in several quarters. In view of the absolutely hopeless prognosis of ulcer of the duodenum after perforation, surgical intervention should be undertaken as soon as possible—within ten to twelve hours at least after the diagnosis is assured, and the primary shock has been recovered from.

How different is the position to-day! How great the strides of surgical technique in these eight years! My entire list yields 28 cases, with only 3 deaths. That all the cases which fell to my own lot resulted in recovery is one of those happy accidents for which I claim no special credit, nor do I ever hope to be in a position to publish such another series. We all know how treacherous such cases are, and how the very case which seemed to be an ideal one for recovery unaccountably fails to respond to our assistance, and the shadow of death damps our hopes. If, however, we eliminate the first two cases in the supplemental series of operation at the Royal Victoria Hospital, which, as I shall point out later, were not under conditions fairly comparable with the others, we would have in this list 10 cases with only 1 death, which would give a total of 26 cases with 1 death. Arising out of these records, a few points are worthy of attention.

FREQUENCY OF DUODENAL ULCER.

The occurrence of perforation places beyond question the nature of the disease. Whatever doubt any one may have as to the pathological condition of a viscus on inspection at an ordinary operation, the finding of a perforation is decisive. That so many cases should have been met with in a limited area proves that duodenal ulcer, in our locality at least, must be a common disease. There is no reliable method of estimating the frequency with which these ulcers perforate, for we have no approximate idea of the number of such ulcers in the community. The list before you—32 cases, 28 operated upon, 4 moribund on admission to hospital—suggests that the perforation risk is a very great one; Boas[2] puts it at 69 per cent.

The signs of perforation are now so well known that it would be a waste of your valuable time to refer to them at any length; one or two points I feel bound to emphasize so constantly do they force themselves on my notice. In the first place, as the result of what, for want of a better term, I may call hereditary teaching, far too much weight is attached to what is known as "shock" as a symptom of perforation. How often are we told, "I do not think there is a perforation, there is no shock"! We could almost wish this word "shock" had never appeared in our textbooks.

In the early stage, when diagnosis is all-important, it is oftener absent than present, and if we are to reach the highest level of success in the treatment of perforation of the duodenum, stomach, or any viscus, this mythical shock must be relegated to its proper place, and a diagnosis made without regard to it. A pulse of 60 to 80 and of good volume is quite usual. To be deceived by it probably means the sacrifice of a life.

Sudden intense pain, associated with hardness and rigidity of the abdominal muscles, with characteristic peritoneal stillness, are the outstanding features of perforation.

If I were to select one sign in preference to all others I would, without hesitation, choose rigidity. The moment perforation occurs the watchful muscles promptly, suddenly, firmly contract, their object being to prevent further escape of visceral contents, to diminish extravasation, and thus limit the harm already done. This vital spasm, this watchful rigidity, is a trumpet call for help. It is never relaxed till, weary and worn with their useless vigil, or slumbering at their posts, drugged by opium, the muscles give up the unequal combat; distension supervenes, and toxic peritonitis claims another victim. You may hurry all the resources of modern science to the battlefield at this stage, but only a miracle can avert defeat.

There appears to be a general impression that duodenal perforation is more dangerous than gastric perforation. With this view I take the liberty of dissenting. The moment duodenal perforation takes place the pylorus contracts sharply and firmly, Nature instinctively doing all she can to prevent further harm, and so for a time after the initial discharge no further escape of stomach contents is permitted. A parallel to this is familiar to all of us, in the action of the sphincter of the bladder in cases of ruptured urethra. Dreading, as it does, the danger of extravasation of urine, the sphincter obstinately refuses to relax, even when the unfortunate victim is suffering the intolerable agony of a distended bladder. In perforation of the stomach, on the other hand, a gaping opening persists, through which the various potions, administered by anxious and well-meaning friends, pour freely into the general peritoneal cavity. This action of the sphincter is an additional reason for the avoidance of opium.

Further, if we consider that the duodenal contents are less likely to be septic than those of the stomach, and that the area of extravasation is bounded by well-defined limits, we might reasonably expect more favourable results from treatment, and our experience in this school fully supports this expectation. My own operative results in gastric perforation are not nearly so favourable as in duodenal. I now refer very briefly to a few points in connexion with operative treatment.

TREATMENT.

To operate, and operate at the earliest possible moment, is now universally recognized as the only intelligent treatment of perforation. It would be mere waste of time to submit figures or arguments in support of a principle so thoroughly established. Some points in the operative technique may, however, be referred to with advantage:

1. The incision is best made through the right rectus muscle, because if the ulcer is in the second portion, or surrounded by adhesions, a median incision involves unnecessary pulling and straining in order to reach the perforation.

2. The perforation having been found, should be rapidly closed by a purse-string or other form of suture at the choice of the operator; the exact method of suture does not appear to be a matter of much importance, but if possible the line of suture should be transverse, so as to diminish the risk of stricture. I do not think it either safe or sufficient to attempt closure of the opening by application of an omental patch.[3] Such a method leaves the ulcer untreated, whereas suture, by infolding the diseased area, offers some prospect of cure.

3. Having closed the ulcer, we proceed lightly to cleanse the area of extravasation by use of gauze sponges. This area has been shown by S. M. Smith[4] to be confined to the right side of the abdomen, little or no fluid escaping to the left of the ascending colon, the current being guided along the right side of the ascending colon, over the caecum and into the pelvis. Overflow into the general peritoneal cavity only occurs when the pelvis is full. It is therefore clear that to flush out the peritoneum is unwise, especially in an early case, as in this way you must inevitably soil a very large area of peritoneum which would otherwise escape infection. It is infinitely better not to cleanse at all than to cleanse too much. Personally I am doing less each time I operate, but I still have a hankering after mopping out any free fluid lying around the right kidney. It must, however, be borne in mind that the contents of the duodenum, having enjoyed a full course of gastric digestion, are fairly sterile and not so dangerous as would at first sight appear.

4. An incision, about 1 in. long, is made over the pubes, and a large glass drain inserted into the pelvis; from this a free escape of fluid at once occurs. It is surprising how much fluid is found in the pelvis even when there is apparently very little local extravasation.

5. Our next consideration is, Shall we perform gastro-jejunostomy? If the case has been operated on sufficiently early, and if the general condition warrant a little additional exposure, I do not hesitate to say Yes. Our list shows that it is reasonably safe, all of the 7 cases in which it was done having recovered. One of my cases required gastro-jejunostomy on the eighth day owing to dilatation of the stomach (Case xii). One had the operation performed within eighteen months owing to a similar condition (Case iv). One perforated a second time within eight months (Case x). Two at least now suffer from symptoms calling for gastro-jejunostomy. The advantages of immediate gastro-jejunostomy are very great. Mouth feeding can be carried out almost from the first; recovery is more rapid; the period of convalescence is diminished, and a complete cure may be guaranteed.

Drainage.

6. In many cases local drainage may be dispensed with. This, however, is a matter for individual judgement. Where any doubt exists, it is safer to drain. The best drain is a rubber tube with a gauze wick. Pelvic drainage is necessary in all but exceptional cases, and for this a glass tube into which a gauze wick is inserted is the most efficient. The tube should be removed not later than the third or fourth day. If there is any purulent discharge from the drainage opening, I find instillation of a solution of perhydrol (Merck) 1 in 10 or 12 by far the most effective treatment. A rubber catheter fitted with a small glass funnel is introduced into the bottom of the sinus, and the solution poured in. This is repeated once or twice daily.

7. On returning to bed the patient is at once propped up in the sitting position, and continuous administration of saline solution by the rectum set on foot.

This is the keystone of success. Indeed, I feel justified in asserting that no surgeon has any right to operate for perforation, either in the duodenum or elsewhere, who has not thoroughly mastered the principles underlying the continuous use of the rectal saline. A nurse who understands the process and who will not be satisfied unless she can get in at least 1 pint per hour is essential. If this is not done, then the mistake is in the administration.

I take this opportunity of paying my tribute of gratitude to Dr. J. B. Murphy for his advocacy of this method of treatment. I know of no therapeutic measure in recent years which has been the means of saving so many lives. Like many others, I at first doubted the reliability of his statement as to its efficacy in septic peritonitis. I have now humbly to apologize for my former want of faith.

It is interesting to note that of the 3 deaths in the list of cases I have submitted 2 occurred before we had regularly adopted this line of treatment in the Royal Victoria Hospital. If these were omitted, we should have 19 cases operated on in that institution (including those in my own list which were in hospital), with 1 death, and that in a case operated on thirty-six hours after perforation. The record speaks for itself. Further treatment is on ordinary, well-recognized lines.

In conclusion, I have to apologize for the fragmentary nature of my remarks, but I venture to hope, however, that this Belfast record may be of some service to the literature of perforative duodenal ulcer.

DETAILS OF CASES.

CASE I (*May 15th, 1904*).—W. P., aged 43. Had "a bad stomach" all his life. He suffered from attacks of painful indigestion lasting three to four weeks, followed by intervals of three to six months' comparative health; then another attack, and so on; during these attacks he never vomited, he never had melaena. Pain coming on two to three hours after food, and when at its height promptly relieved by food, was his most characteristic symptom. On May 15th, 1904, he suddenly perforated. Operation, undertaken at his own house eleven hours later, revealed an indurated duodenal ulcer, about half an inch below the pylorus. The ulcer was infolded and abdomen flushed out with saline and the pelvis drained. He made a good recovery, and is to-day in excellent health.

CASE II (*June 17th, 1905*).—James S., aged 49. Suffered from indigestion for many years. Had typical hunger pain, but rarely vomited. At 12.30 p.m. on June 17th, 1905, perforation occurred. He was admitted to hospital at 6.30 same day. Operation, seven hours after perforation, revealed a hole the size of a quill pen in the first portion of the duodenum. This was situated on the posterior aspect, half an inch below the pylorus, and was surrounded by a zone of induration the size of a shilling. Perforation closed, peritoneal cavity flushed out with about 8 gallons saline water; pelvic drainage; good recovery.

CASE III (*March 4th, 1907*).—John W., aged 32. Victim of intermittent indigestion for ten years; hyperacidity; occasional vomiting; no haemorrhage. Perforation on March 4th, 1907. Operation, eight hours later, revealed a perforation on anterior wall of duodenum half an inch from the pylorus. Pyloric end of stomach and duodenum surrounded with inflammatory exudations and adhesions. Perforation closed; pelvic drainage. Recovery complicated by bronchitis. Left hospital in good health on April 4th, 1907, one month after operation.

CASE IV (*March 27th, 1907*).—Dr. L., aged 30; a prominent athlete. Intermittent "indigestion" since boyhood; typical hunger pain; never vomited; melaena for first time, January, 1907. Perforation March 27th, 1907. Operation, thirty-six hours later, revealed an indurated ulcer at junction of first and second portions of duodenum. Closure of perforation effected with great difficulty. Slow recovery. Required gastro-jejunostomy later on.

CASE V (*July 21st, 1907*).—John M'C., aged 43; publican, retired police constable. Never had the slightest pain or discomfort of any kind. Had been a steady drinker. Perforation at 10 p.m., July 21st, 1907. Promptly sent into hospital by Dr. Stevenson. Operation, four hours later, revealed a chronic indurated ulcer on first portion of duodenum. Perforation closed; pelvic drainage; rapid recovery.

CASE VI (*July 31st, 1907*).—Robert A., aged 38; clerk; patient of Dr. Williamson. Had been a dyspeptic for years, symptoms indicating gastric ulcer. Perforation on July 30th, 1907. Operation twelve hours later. Gastric ulcer a little above the pylorus. Indurated duodenal ulcer, which had perforated on anterior wall half an inch below the pyloric ring. Perforation closed; abdomen flushed with saline; pelvic drain. Recovery.

CASE VII (*September 15th, 1907*).—Robert L., aged 40; Crossgar. Indigestion of the intermittent type for over ten years. "Hunger pain" typical. Melaena on several occasions. Perforation September 14th, at 1 o'clock; operation twenty-five hours later. Perforation found on anterior surface of duodenum three-quarters of an inch below pylorus; sutured with difficulty; direct drainage and pelvic drainage. Recovery. In good health five months later.

CASE VIII (*November 15th, 1907*).—Robert F., aged 30. Had suffered from intermittent attacks of indigestion for eighteen years. During these attacks pain came on about two hours after food, and was always relieved by a full meal. Occasionally he noticed something in his motions which he took to be blood. He had no vomiting. At 11 a.m. on Friday, November 15th, 1907, whilst at business, he was suddenly seized with intense abdominal pain. He was sent into hospital at 11 a.m. on Sunday, 17th. He was then greatly collapsed, with a quick, feeble pulse, subnormal temperature, and general abdominal distension. Operation, which was carried out forty-nine hours after perforation, revealed a perforating ulcer on the anterior aspect of the duodenum about half an inch beyond the pylorus. The edges of the ulcer were as usual, thickened and oedematous. The opening was closed by purse-string suture; the abdomen mopped out very lightly and rapidly; suprapubic drainage employed. He was kept in sitting position with continuous rectal irrigation. He made a good recovery, but is now again complaining of indigestion, and will probably require gastro-jejunostomy.

A very interesting feature in this case was the following: For the past three years, as a result of a severe attack of influenza, he had suffered from complete loss of smell. The day after operation he noticed that his power of smell had returned, and it soon became unusually keen.

CASE IX (*January 25th, 1908*).—Archie M'C., aged 22. Ailing with intermittent attacks of epigastric pain since 19 years of age. Pain always came on about three hours after food, and was always relieved by food. The pain was confined to the epigastrium, never radiated into the back. He never vomited, and had no eructations of gas or pyrosis.

Perforation.—On January 25th, 1908, at 7.30, whilst out walking, he took sudden abdominal pain. He managed to walk home. He was sent into hospital the following night. Operation was undertaken seventeen and a half hours after perforation. A perforation the size of a threepenny-piece was found on anterior surface of duodenum, three-quarters of an inch from the pylorus, surrounded by a zone of inflammatory induration about the size of a shilling. The perforation was closed by catgut suture, abdomen flushed out and drained suprapubically. He was kept in the sitting position, and continuous rectal irrigation with saline solution maintained. At the time of operation he was profoundly collapsed; pulse 140, and very feeble. He made a good recovery, which I attribute to the posture and rectal irrigation.

CASE X.—John M'C., aged 44. Operated on for perforation on July 21st, 1907 (see Case V). Shown at a meeting of the Ulster Medical Society on March 5th, 1908, when he declared he had been in perfect health since the operation. On March 9th, 1908, he again perforated without any premonitory symptom. Operation four hours after perforation. An opening the size of a threepenny-piece was found at the site of the old ulcer. This was closed by a purse-string suture. It was clearly inadvisable to run the risk of a third perforation, so we decided to perform gastro-jejunostomy. (1) As the jejunostomy commenced at the

right side of the vertebral column, and (2) there was a very thick deposit of fat between the layers of the transverse mesocolon (which I regard as a contraindication to the posterior operation), an anterior gastro-jejunostomy according to Roux's Y method was carried out. He made a rapid and complete recovery, and remains in perfect health.

CASE XI.—Mrs. O., aged 56, suffered from typical hunger pain for six years. On May 7th, 1908, perforated whilst on her way to see Dr. Jameson. He promptly sent her into a nursing home. Operation within five hours. On opening the abdomen we found the stomach enormously distended. I at first thought we had made a mistake in diagnosis, and that our case was really one of acute dilatation of the stomach. I incised the organ, and removed about three pints of fluid contents. When the stomach had collapsed we at once found a perforation on the anterior surface of the duodenum ½ in. from the pylorus. This was closed and poster o-gastro-jejunostomy was performed. A glass drain was inserted into the pelvis, the peritoneum gently mopped out, and the abdominal wound closed with three stitches. The operation occupied forty-five minutes. She was nursed in the sitting position, with continuous rectal saline. Recovery was rapid and complete.

CASE XII.—Mr. H., aged 36, seen with Dr. R. M'Dowell. History of hunger pain at intervals for several years. Perforated on May 25th, 1908. Operation in a nursing home nine hours later. Perforation in centre of a cicatricial mass on anterior duodenal wall, about ½ in. from pylorus; this was rapidly closed, as collapse was profound; local and pelvic drainage employed. He was nursed in sitting position, with continuous rectal saline. He did well till fourth day, when he began to complain of abdominal discomfort. Next day he vomited. Examination showed that the stomach was becoming dilated. He was accordingly washed out, and this gave great relief. Lavage was repeated several times, but as he was evidently sinking, we decided to perform gastro-jejunostomy. This was done on the eighth day after perforation; the original wound being separated by blunt dissector. Convalescence was delayed by a severe attack of septic broncho-pneumonia, but recovery was ultimately complete, and he is now, one year after operation, in excellent health.

CASE XIII.—Wm. C., aged 28, a painter. Had occasionally passed blood per rectum, and for two weeks before perforation had complained of epigastric pain. On evening of June 11th, 1908, whilst in the street, he was suddenly seized with intense abdominal pain, and brought to the Royal Victoria Hospital in a collapsed condition. Diagnosis of perforative duodenal ulcer was made, and operation undertaken about three hours after perforation. An opening the size of a pea was found on the anterior surface of the duodenum, immediately outside the pylorus. This was closed. As the pelvis contained a large quantity of fluid a glass drain was inserted. The peritoneal cavity was not "cleansed." He was nursed in the sitting posture, with continuous rectal saline. Recovery was uninterrupted. He left hospital three weeks after operation.

CASE XIV.—Saml. K., aged 30, a bread server. Had suffered for years from typical "hunger pain." On October 30th, 1908, whilst at work, he was seized with intense abdominal pain. Dr. Blakely saw him shortly after; diagnosed perforation, and had him removed to hospital. Operation about five hours after perforation. We found an opening the size of a small pea on the anterior surface of the duodenum, about ¾ in. from the pylorus. This was surrounded by a zone of dense indurated tissue. The opening was closed. Posterior gastro-jejunostomy was performed, pelvic drainage provided, and the usual arrangements made for continuous rectal saline. He made a rapid recovery, and was discharged seventeen days after operation, feeling in excellent health, and remains well.

CASE XV.—Brandum M'K., aged 19. History of indigestion with melæna. On December 24th, 1908, was seized with abdominal pain after supper. Sent for Dr. Blakely on 25th, who diagnosed perforation, and sent him into hospital. At the operation, eighteen hours after perforation, we found a small opening on anterior surface of duodenum at junction of first and second portions. The opening was closed, and pelvic drainage provided. He was as usual nursed in the sitting posture, with continuous rectal saline. He made a good recovery, and left hospital three weeks after operation feeling quite well. About a fortnight ago his brother came to inform me that he was again suffering from indigestion. I advised gastro-jejunostomy.

CASE XVI.—Ed. M., aged 50, gravedigger. Typical history of duodenum ulcer for years. Perforation while at work on July 6th, 1909, at 5.30 p.m. Seen by Dr. John Jameson about 9 o'clock; promptly sent into hospital, where operation was undertaken at 10.30—that is, five hours after perforation. We found very extensive induration, involving pyloric end of stomach and first portion of duodenum. A perforation large enough to admit the tip of little finger on anterior surface of duodenum just beyond pylorus. This was closed, and as pyloric obstruction was sure to follow, posterior gastro-jejunostomy was performed. Local and pelvic drainage provided. Usual continuous saline. Satisfactory recovery.

In addition to the above, the following cases have been operated on in the Royal Victoria Hospital during the past five years:

Twelve Cases—Nine Recoveries.

*1. William P. Time after perforation not stated. Operation July 7th, 1905. Died.

*Operated on before the use of continuous rectal saline had become routine.

*2. Samuel H. Operation January 7th, 1906. Died.

3. Agnes C., aged 40. Operation April 26th, 1907, four hours after perforation. Posterior gastro-jejunostomy at same time. Ulcer on anterior surface, just beyond pylorus. Recovery.

4. Samuel G., aged 45. February 11th, 1907. Time after perforation not stated. Ulcer on anterior surface, just beyond pylorus. Recovery.

5. Lizzie M'K., aged 50. September 1st, 1907. Time not not stated. Suture and gastro-jejunostomy. Recovery.

6. Bernard B., aged 30. March 29th, 1907. Time not stated. Ulcer just beyond pylorus. Recovery.

7. Thomas M. September 25th, 1908. Recovery.

8. William N. January 9th, 1908. Recovery.

9. John M'G., aged 58. August 5th, 1908, thirty-six hours after perforation. Ulcer at junction of first and second portions. Died.

10. John L. December 11th, 1908, twenty hours after perforation. Recovery.

11. John M'B., aged 40. April 8th, 1908. Repair and anterior gastro-jejunostomy. Ulcer on first part of duodenum. Recovery.

12. Robert H., aged 30. June 13th, 1909. Operation three hours after perforation on first part of duodenum. Recovery.

Four cases were admitted on which no operation was performed, as they were obviously moribund.

The complete lists give 28 operations with only 3 deaths.

In 7 cases gastro-jejunostomy was performed immediately after closure of the perforation, and all of these recovered. One of my patients (Case 12) required gastro-jejunostomy on the eighth day. He also recovered. Another case had gastro-jejunostomy sixteen months later, and is now in excellent health. Two others have again complained of "indigestion," and I have recommended gastro-jejunostomy. One patient perforated twice within nine months.

REFERENCES.

[1] *Diseases of Intestines*, p. 292. [2] Ibid., p. 291. [3] Corner, BRITISH MEDICAL JOURNAL, May 29th, 1909. [4] *Lancet*, March 31st, 1906.

DISCUSSION.

MR. WARD COUSINS (Portsmouth) said the amount of shock which occurred in some of Mr. Mitchell's cases could be easily explained by the escape of only a small amount of fluid at the time of the perforation into the peritoneal cavity. He had in several of his own cases found this to be the probable cause. He thought that the delay in performing the second jejuno-gastrostomy was a very wise proceeding. Sometimes the cure was perfect without it, and when urgent gastric trouble continued it could be done afterwards under more satisfactory conditions.

MR. W. THELWALL THOMAS (Liverpool) agreed with Mr. Mitchell on the need for the abstinence from morphine, and the importance of the Fowler position and the Murphy rectal perfusion of saline. He thought they also owed much to the use of ether by the open method. These modern methods were unfortunately often imperfectly applied, and much depended on the careful attention to the detail insisted upon by the originators.

MR. MITCHELL, in reply, desired to emphasize the harm done by opium: (1) Even if diagnosis has been made and operation decided upon, opium should still be withheld, because its use is liable to be followed by relaxation of the pyloric sphincter and further escape of stomach contents. (2) The effect is to make the patient feel so much better, and the friends think him so much better, that he and they are very apt to plead for delay, in the hope that operation may be avoided, whereas, while the pain is severe, they are quite willing to permit anything to be done.

DISCUSSION ON MODERN METHODS IN THE TREATMENT OF TUBERCULOUS DISEASE OF JOINTS.

OPENING PAPERS.

I.—Sir WILLIAM MACEWEN, LL.D., M.D., D.Sc., F.R.C.S., F.R.S.,
Regius Professor of Surgery, University of Glasgow, etc.

[ABSTRACT.]

THE pathological phenomena associated with tuberculosis of bones and joints must be clearly determined before a rational basis of treatment can be formulated.

The importance of gaining a conception of the exact pathological conditions present in each individual joint cannot be over-estimated, as it is only in this way that an intelligent discrimination may be made of the special

variety of treatment required and the best mode of applying it. Treatment that is applicable to tubercle in one stage of its development may not be equally applicable in other stages. In the grey stage of tuberculosis, while the tubercles are small and discrete, and there are still dilated blood vessels in their immediate vicinity, it may be treated with success, and its further progress may be arrested both by acting through the blood stream and by the topical application of chemical substances. When once the tuberculous foci have become confluent and caseation has ensued, such dead tissue cannot be so easily acted on. The blood stream does not reach it, and action on this inert mass must be through the medium of the surrounding living tissues, which, while maintaining their own vitality at such a level as to resist further microbic invasion, will at the same time afford means for the production of either of two conditions.

First, the throwing out of a barrier which will wall off the tuberculous focus from the surrounding living tissue and stop its further progress; and secondly, which will produce absorption of the dead material and destruction of the tubercle bacilli. In this case the surrounding tissues must be aided in doing this work. Where the dead focus is too large for ready absorption, it may be directly acted on by chemical agents, and, in some instances, by operative removal.

When the tuberculous process has spread between the bone and the cartilage to such an extent as to produce shedding of the latter, the so-called ulceration of cartilage becomes manifest. If left alone, such a joint would at best, under favourable circumstances, become ankylosed, so that a stiff joint would ultimately result. Here a definite issue is raised as to the course of treatment required. Should it be palliative, or should opening of the joint and removing therefrom all the tuberculous matter be resorted to?

Is it advisable to leave all such joints to become stiff and meanwhile to run the risk of liquefaction of caseated material, and have the joint capsule destroyed and tuberculous sinuses form for the evacuation of the liquefied caseated matter, with the possibility of secondary infection and of auto-tuberculous infection, followed it may be by disseminated miliary tuberculosis? Or is it better to remove the whole of the diseased tissue of the joint and neighbouring bones, so as to enable the patient to make a speedy recovery and to have his general health restored?

In determining this question, one requires to bear in mind that in tuberculosis of a joint it is not the joint structures alone which suffer by the persistence of this disease, but the muscles, nerves, bones of the limb, and also the body as a whole. The atrophy of the muscles of the limb, due partly to disuse, but more often to ascending trophic neurosis, when allowed to proceed for a prolonged period is not easily recovered from. Therefore, the condition of the muscles, nerves, and bones, as well as the articulation immediately concerned, requires careful consideration, and causes us not to defer unduly or to delay operative procedure meant to hasten the cure. It must be apparent that the individual joints require to be considered separately when advanced treatment is concerned. In those joints in which excision can only result in ankylosis, the possibility of attaining this end by other means, such as rest and extension, may be advisable according to the degree of destruction which has ensued, provided the muscles do not atrophy meanwhile; whereas in those joints where, after excision, free movement is attained, such operations may be advised at a much earlier period, when the muscles and other soft structures are still in a good condition and long before atrophy ensues.

If it be possible to operate before the capsule of the joint be destroyed and the epiphyses are disintegrated, the operation will be less extensive and the results much better. Where movement is required after such an operation, it is of great moment to preserve all the attachments and relations of the tendons intact. This can hardly be done in such a case as the shoulder-joint, if the destruction of the articulating bones be great; but at an earlier period operation may arrest the disease, and a very much better result from excision may be obtained.

It ought to be remembered that the extension of the tuberculous process into the synovial sheaths of the tendons often produces adhesions which, if fully formed, may limit or prevent the ultimate movement of the limb. Excisions ought to be performed before such an extension into the synovial sheath ensues.

It must be further determined whether the tuberculous process has attacked the bone, the synovial membrane, or both. In children the epiphyses are usually attacked first, and in the long bones the rarefying epiphysial osteitis which ensues prevents enlargement, and thus a sign which indicates tuberculosis in the long bones of the hand and foot, that of swelling, is here usually wanting *as long as the disease is confined to the bone.*

The patient is often not brought to the surgeon at this period, but in the later stage, when the synovial membrane begins to be enlarged. This swelling of the synovial membrane appeals to the parents, whereas the original deposition in the bone is hidden and often develops to a marked extent before its presence is discerned. Yet it is just at this period, while the tubercle is confined to the bone, that treatment can effect so much, and in such cases treatment directed to the synovial membrane alone will not cure the disease.

Every endeavour ought to be made to check the advance of the disease from the epiphyses to the potential space between the cartilage and the bone, in which once it has started it spreads with such rapidity, and to the synovial membrane which is attacked usually from the margins.

The anatomical arrangement of the joints relatively to their capsule is such that it is difficult for the surgeon to have access to the epiphysis without penetrating the synovial membrane or the epiphysial cartilage; and if this membrane be still free from disease, auto-infection would be apt to follow any extensive removal of tubercle from the epiphyses. In the early period of epiphysial bone invasion it is of importance that access to the bone be freely secured. In order to obviate any such mishap as tuberculous infection of the synovial membrane during such procedures, the operation is divided into two stages. The first stage is the opening of the synovial membrane at a part which would give access to the epiphysis, and which would at the same time not interfere with the movements of the joint. Adhesions are thus secured between the two layers of the synovial membrane, so that the part selected for the operation on the epiphysis will be freely exposed, while the infection of the synovial membrane is thus prevented. In this way also the epiphysis may be tunnelled without interfering with the articulating cartilage. It is needless to say that such an operation must be conducted with strict asepticity.

Treatment (in abstract).

In the early stage, where grey tubercle is still discrete in the epiphyses, one may act through the blood stream by inducing active phagocytosis and increased leucocytic vigour, and locally, by the application of chemical substances introduced into the centre and immediate vicinity of the tuberculous part. One of the best of these is sterilized iodoform emulsion, introduced through sterilized tissue, the injection to be maintained until the needle is withdrawn from the skin. This ought to be carried out before the synovial membrane becomes involved, and while the disease is confined to the epiphyses, as the treatment is then most efficient. When the synovial membrane is affected at the early stage the parenchymatous tissue ought to be injected with the same emulsion.

Massage of the muscles of the limb ought to be resorted to from the outset to prevent atrophy. Rest, fixation of the joint, and relief of pressure, combined with exercise in the fresh air, and living out of doors, generous diet and warm clothing, are necessary adjuncts.

In the second stage, when the tubercles have become confluent, and caseation and liquefaction ensues, the treatment is directed to stimulating the action of the surrounding tissues and the inhibition of the activity of the tuberculous organisms. Iodoform emulsion is still of service, though at this stage it takes longer to produce its effect, and requires to be given frequently and in gradually increasing doses. If this advanced lesion is still confined to the epiphyses, its rapid eradication may become advisable, access being gained through a space walled off from the joint by synovial adhesions. This procedure should be carried out radically, so as to prevent the joint

from becoming involved. When a cavity is left in the bone by the removal of the caseating and necrotic tissue, it is filled with a mixture of iodoform and boracic acid, 1 to 4. The iodoform used in this mixture is in the form of large scales, which are not readily absorbed, but which remain in the tissues, producing their effect locally over a long period. By using these large scales the poisonous effect produced by the fine powdered iodoform is prevented, though the systemic effect of the drug is then very slight. The *x* rays will show the presence of these large scales of iodoform. The finely powdered iodoform generally in use is never employed for such purposes, as serious symptoms may ensue from rapid absorption, and because its local effects pass off too quickly.

All pressure on the articulating surfaces must be studiously prevented, the limb being fixed in a splint which will enable the patient to take exercise in the fresh air and to remain out of doors. Massage of the muscles of the whole limb above and below the joint must be looked to to prevent trophic changes and to increase the flow of blood not only into the muscles themselves, but into the periarticular structures.

When the synovial membrane is involved at this stage of the disease the potential interspace between the articulating cartilage and the bone is usually already implicated.

Collections of liquefied tubercle ought to be carefully injected with sterilized emulsion, the limb being placed in different positions in order to allow the action of gravity to aid in the deposition of the iodoform on all surfaces of the false membrane forming the wall between the liquefied tuberculous product and the normal tissues. The liquefied product ought to be subsequently evacuated through the hollow needle, and every endeavour ought to be made to prevent the formation of sinuses, which exposes the patient to secondary infection. If sinuses have already formed, the injection of the subnitrate of bismuth is of service in showing their tortuous course by the *x* rays, and the subnitrate of bismuth seems also to have a curative effect.

The treatment of the joint by Bier's method when unaided does not seem to be efficient, but as an adjunct it is of service when judiciously applied and in the earlier stages of the disease.

In the third stage of the disease, when articulating cartilage is shed and when one is confronted with ankylosis as the best result of palliative treatment, the question of removal of the disease by exposure of the articulating extremities of the joint requires to be decided. As soon as the articulating bones and the joint structures are the seat of liquefied tuberculous products general dissemination is apt to occur, and tuberculous meningitis frequently follows, especially in children. In many such cases the disease has been primarily located in the epiphyses or in the joint and confined to that focus for a considerable period, and the general invasion of the system has come from that source after caseation and liquefaction of the tuberculous product has ensued.

In considering the question of excision one has to bear in mind that the remarks here made do not apply to the classical excisions of joints given in most textbooks, but to specially modified excisions, aiming first at the thorough removal of the disease; secondly, at the preservation of the length of the limb and especially the restoration of its function. Where possible these are best attained by intracapsular excisions of the articulating extremities, without disturbance of the insertion of the tendons. Such operations can best be carried out before the capsule of the joint has become destroyed and the synovial sheaths of the tendons and the peri-articular tissues have disintegrated. In performing these operations the inter-articular structures and the whole of the cut surfaces must be protected from auto-infection.

(Details of the special excisions of joints and the excellent results ensuing were afterwards referred to.)

Such excisions give excellent results and have the following advantages: First they remove the disease—radically—prevent thereby dissemination, shorten the treatment and enable the patient rapidly to regain his general health. They also preserve in great measure the length of the limb, and its function is quickly restored.

II.—ROBERT JONES, F.R.C.S.Edin.,

Honorary Surgeon, Royal Southern Hospital, Liverpool, etc.

SURGEONS of large experience in the treatment of joints must needs be struck by the differences which tubercle exhibits when it affects the adult as compared with its behaviour in the young. In the child, under suitable control, its progress is benign; in the adult, it is intractable and infinitely more grave. It is very many years since I have had occasion to excise a joint in a child, while I constantly, at a comparatively early stage, operate on the adult. In a child an early excision is not justified by our experience of the clinical history of the disease, while a late excision is useless, an amputation being usually needed. Either an early or a late excision in childhood, to be mechanically effective, will involve serious interference with subsequent growth. We occasionally see even yet the shortened and frequently flail limbs which resulted from the operative surgery of over twenty years ago, before the teachings of the late H. O. Thomas, of Liverpool, had brought about a change in practice. In the adult, general dissemination is more apt to occur, time is of more importance, and operative result is mechanically more effective. It means an earlier and more complete fixation of joint than Nature laboriously and often unsuccessfully strives for. Operations with the object of preserving function are rarely possible. Without laying further stress on this point I will chiefly direct your attention to tuberculosis in the child.

Certain chronic infective articular affections simulate tubercle, but this is the case much more often in the adult than in the young. In such cases, for the purposes of diagnosis, reaction to the new tuberculin is fairly reliable, while radiography is of little use; indeed in many instances the discovery by exploration of the staphylococcus, streptococcus, or pneumococcus is essential to diagnosis.

To begin with, I would draw attention to the interpretation of the important sign we all call rigidity, and the comparatively unimportant symptom, pain. Rigidity is the very early sign, and is ascertained before there is any evidence of muscular shrinkage. In arthritis, no matter what the joint, the rigidity affects it in all directions—flexion, extension, abduction, adduction, and rotation. In a suspected joint, if there be no limitation of movement, there is no arthritis. I have come to look upon this as an axiom, for the exceptions to the rule are so extremely rare. In early cases the rigidity must be examined for without an anaesthetic, as it is primarily due to muscular action; later, contractures or muscular shortening will follow as secondary effects, but by this time a diagnosis will be obvious.

As an illustration we will take the case of the spinal column. A boy complains of pain in the centre of the spine. The surgeon asks him to flex, extend, and laterally bend it, which he is able to do. We can therefore exclude a spondylitis. Another boy may be tender over the spine, have great difficulty in flexing his column, but he can hyperextend it with ease, and here again we can place to one side our suspicion of tubercle. In a third case the spine is rigid in all directions, and this symptom is quite in accord with a tuberculous lesion. This general rigidity is more reliable than any single symptom, or any single group of symptoms. Pain, as evidenced by pressure on the vertebral spines, is hopelessly unreliable, and, if present, is an argument against rather than in favour of a Pott's lesion. The same is true of all other joints. A youth complains of swelling and stiffness of a joint which he cannot fully flex, but he is able to fully extend; we may be sure he has no tuberculous trouble. I would desire to press the point, therefore, that in arthritis the movements of a joint are limited not in one, or some, but in all directions.

Pain, so often referred to, is neither a constant nor a valuable symptom, and in a tuberculous joint is often practically absent from first to last.

Our textbooks are very silent as to any tests whereby we may judge of the recovery of joints, and yet it is very important, if our treatment is to be effective, that we should possess some reliable data as to when treatment should be discarded. This lack of definite instruction is the source of many so-called relapses. We may consider that a joint has recovered from its disease when its range of movement is not diminished by use, or, if the joint be ankylosed, where its position does not alter by use. For

instance, an elbow joint has been slung up at an acute angle until the surgeon thinks it may be well. He then lengthens the sling two or three inches and notes the result. If the patient's arm has shortly dropped these inches, and he can voluntarily raise it back again, recovery with movement may be predicted. If the arm stiffens in its new position disease is still active. If it does not fall from its acutely flexed position to the lowered sling, then a recovery by ankylosis has been attained. Similarly in other joints. A knee which has been kept fully extended and at rest is released. Should it begin to flex and stiffen, it is still unsound. Should it remain fixed and extended, it is a sound ankylosis; if it should both flex and straighten ever so little, it is a sure sign of recovery with movement. In the hip the most convenient diagnostic test is that of flexion. If the patient leaves with a flexion of 20 degrees and returns with one of 40 degrees, then recovery has not taken place. The test of recovery is, therefore, based upon a careful experiment, and the cautious surgeon will so conduct that experiment that all unnecessary risk may be avoided.

I have always advocated that tuberculous joints in the young should be treated by complete rest, open air, and good food. The more I see of the disease in my own clinic, and in those of others, the more assured I am of the paramount value of rest. The more complete the rest, other things considered, the more benign is the course of the affection. The joint should be rigidly fixed in an appliance, and weight-bearing denied. Traction or extension should be looked upon as an inferior method of procuring rest. Efficient fixation without traction will very soon govern muscular spasm. Traction may, of course, be used to correct deformity, but there are more effective ways of doing even this than by weight and pulley.

I place great importance upon keeping tuberculous children in the open air, and have for many years refused to admit them into a town hospital excepting for the short time necessary to rectify deformity. They do infinitely better lying out of doors in a slum than indoors in a mixed ward in even the most sanitary of town hospitals. I happen to work at institutions where (*a*) tuberculous children are indoors all day, (*b*) where they are out several hours a day, (*c*) where they are out all through the day, and, lastly, (*d*) where they are out by day and by night. My experience is entirely favourable to the maximum of open air. This fact is happily being generally recognized abroad, and doubtless in time all tuberculous and most other children will be treated outside. The days of children's hospitals in town are numbered. The children of the poor can be kept lying in the open on an improvised couch chained to the railings if there be no one to act as nurse. The windows of their sleeping apartments should be open all night. An immediate result of sleeping in the open is an increase of appetite, and specially generous diets should be given. At Baschurch, one of the institutions above referred to, excellently cooked food of unusual variety is given without limitation. The children are encouraged to eat, and it is inspiring to note their rapid physical development.

The splints used should be of the simplest kind, and should be so devised as to minimize or prevent deformity. In the hip the limb should be secured in the extended and abducted position. This will mechanically remedy any shortening due to arrest of growth or displacement upwards of the head, and prevent the rolling gait inseparable from adduction. The spinal column should rest on a convex surface to prevent angular flexion. When we recollect the site of disease in front of the vertebral bodies and the subsequent telescoping that occurs, the value of this hyperextended position will be apparent. The ideal position for the shoulder is a lateral one at an angle of 45 degrees from the body, in order to secure better abduction. The knee should be kept extended and the elbow flexed, according to the ultimate needs of the patient, while every wrist should be kept hyperextended. The hyperextended position is of great importance in the treatment of the wrist, and yet it is invariably treated on a straight splint, which results in ankylosis in a somewhat flexed position. If one wishes to grip powerfully, the wrist is first instinctively hyperextended. One *cannot* grip effectively with the wrist flexed or straight. If disease at the wrist be directed to ankylosis in the hyperextended position, every advantage will accrue to the patient's power of grip. So true is this that, when a patient comes with flexed and stiffened wrist and faulty fingers, I attack the ankylosis with a wrench and place the wrist in full extension. In ankle-joint trouble, especially where the mid-tarsal joint has been involved, the ankle should be fixed in such a position that the heel should first impinge upon the ground. We nearly always find it stiffened in a position which prevents the heel from touching the ground. This is wrong, for at every step the patient takes a cross-breaking strain is cast upon the joint. Ankylosis is so commonly the result of treatment that we must always study the most useful position for a stiff limb.

Should abscesses present, what are we to do? In days gone by I used to open up and drain nearly every abscess cavity I could find—this irrespectively of any symptoms that were present. Since then I have employed incision and immediate suture, aspirations, and the injection of a variety of emulsions, including the creosote and camphor naphthol of Calot. The experience of such cases with those treated expectantly has convinced me of the value of leaving certain types of tuberculous collections alone as long as possible. I disregard them if they give rise to no symptoms. They are only serious or urgent if they are infected from within or without. It is a mistake to attach the clinical importance to a tuberculous abscess that we do to a collection of pus. The tubercle bacillus we know is not pyogenic. Where true suppuration occurs, it is due to a secondary infection. Efficient fixation undoubtedly lessens the liability to abscess formation, and also facilitates their disappearance. In a well immobolized spine quite a large proportion of these abscesses disappear. Writers who do not observe this obviously never give time for it to occur. In the hip-joint they are especially apt to become nomadic, changing their residence from within the joint to residence without. They become extra-articular in the sense of having no connexion with the joint. Often I have noticed collections having appeared from the joint travel down the thigh, become isolated, and then gradually dwindle away. The process of absorption is not characterized by any clinical manifestation. I refuse to open tuberculous abscesses early, not because I dislike a radical operation, but because an operation is necessarily incomplete and ineffective if it cannot remove the disease of which the abscess is but a symptom. If opening the abscess meant the eradication of disease, clearly the problem would be solved.

In many cases, however, the abscess is not absorbed, but travels towards the skin. An abscess which forms early in tuberculous disease and is evacuated is, in my opinion, a more serious affair than the abscess treated in this later stage. Simple aspiration of a distended sac will prove of value, and this may have to be frequently repeated. Usually, however, I prefer allowing the abscess to invade the surface, when I make a small puncture ½ in. in length (or less), using the strictest aseptic precautions, scrupulously avoiding the Volkmann's spoon or irrigator, for I do nothing to interfere with the thick sac wall, which provides so admirable a barrier against infection. If these abscesses be attacked in this way the terrors of infection are assuredly much diminished, for the delay of many months in opening the abscess has given the joint time to make progress, the supply of débris is shut off, and the long, exhaustive discharge which follows early incision is curtailed. I have no conviction more settled in my mind than that of the value of a conservative attitude towards tuberculous abscesses. When we remember that hospital surgeons, with all the facilities for the practice of a rigid asepsis, see only an infinitesimal proportion of these cases, and that the overwhelming number are in the hands of practitioners in slums and country places, handicapped by their environment, totally unable to insist on surgical cleanliness, the policy I advocate seems to me of great importance. My experience warrants me in saying that numbers of children die in all parts of England and Wales because we do not realize the many responsibilities involved in the routine opening of tuberculous abscesses.

If, however, with the presence of fluid, discomfort, pain, and temperature are present, or if the patient rapidly or steadily declines in condition, then the abscess may be suspected and attacked by good incision, bone searched

for, and antiseptic irrigations adopted. Here there will be found a mixed infection, and surgical interference is urgent and most effective where most radical. Again, for geographical reasons a retropharyngeal abscess demands immediate incision, preferably behind the sterno-mastoid, and in those rare instances of collections in the posterior mediastinum where one finds spasmodic attacks of dyspnoea, evacuation should be immediate by costotransversectomy over the affected articulation.

I do not operate for pressure paraplegia, because 97 per cent. recover withcut. Such cases should be well hyperextended, and recovery may take place after so long as four years of paralysis. The treatment of deformity in the presence of disease cannot be stated authoritatively. One can only tell one's belief and practice, however heretical it may appear. Excepting in the spine, I invariably reduce deformities in whatever stage of the disease they may be presented to me. In the so-called acute stage this is easily accomplished; in the more chronic case with pronounced flexion it is less easy; in firmly ankylosed cases still unsound, osteotomies may be needed. However the reduction be effected, complete rest for a considerable period should follow in order to control reaction. We must remember that sinuses will continue to discharge after Nature has quite immobilized the joint, and such prolonged discharges are invariably of mixed infection. The recent introduction of bismuth in such cases is valuable both as a means of diagnosis and treatment. For diagnostic purposes, a sterile mixture of bismuth subnitrate 1 part, and vaseline 2 parts, mixed while boiling, is injected into each sinus and the track radiographed, preferably by the stereoscopic method. By this means the disease can often be focussed in old cases which are recovered of all but their sinuses.

Careful observers have reported exceedingly well of the treatment of such sinuses by the injection of bismuth paste. It is composed of bismuth 6 parts, white wax 1 part, vaseline 12 parts. This treatment is more favourable in ramifying intricate sinuses not complicated by active bone disease—a class of sinus much more common than supposed. This type of sinus is more frequent in the adult than in the child, and is often the only argument upon which the diagnosis of active disease is founded. In such cases in the adult, accompanied by marked flexion and adduction at the hip, with a thick mass of bone in place of the femoral head and neck, I have often to correct deformity. The patient may have 5 in. or more of shortening with sinuses which have lasted years. In such a case an osteotomy is not adequate, and a wedge must be removed by open incision. Traction applied to the hip, with the necessary forcible manipulation in the presence of a large open wound, is a severe procedure, and to minimize risk it is well to divide the operation into two stages with an interval of a fortnight. The first stage should consist in removing a wedge from the femur, leaving about a fourth or fifth of the diameter intact. The wound is then allowed to heal, when the second operation is performed. This consists of simply fracturing the limb. A somewhat severe operation is thus reduced to quite a simple one, and traction with abduction can forthwith be harmlessly applied. Subcutaneous division of the adductors is generally demanded where we need abduction of the limb.

Although we are not called upon to discuss the treatment of cured but deformed tuberculous joints, I would offer a suggestion in reference to a problem often put to me. An ankylosed adult knee is presented, supposed to have recovered from tubercle, but more often of septic origin. A skiagram shows a barely appreciable damage to the bony contour. Is it safe to endeavour to bring about movement? If the case is otherwise suitable, a careful experiment may be made. Should the knee present, say, an angular deformity of 15 degrees, a splint should be affixed presenting an angle of 20 degrees. The limb should be gently forced and bandaged to it for about ten or fourteen days. The splint can then be removed, and the limb left loose in bed for a week or so. If any additional movement exists, a good prognosis may be given, and the treatment can be safely and more actively proceeded with. If it remain stiff, to persevere may end in disaster. To break down such cases, as a bonesetter would, or to endeavour to enforce "passive movements," would be a highly hazardous adventure.

Sir William Macewen has referred to tuberculin, which I often find most helpful, and to passive hyperaemia, and on these subjects I should like to add a word of warning. The disciples of Bier, Wright, Marmorek and others, if they are to do good service, should exercise moderation in the carrying out of their views. It is a mistake to imagine that any single one of them possesses the whole truth. I have already seen many tuberculous children deprived of their splints for many weeks while undergoing one or other course. The results have often been disastrous and sometimes even tragic. This will surely often recur until all who adopt and practise these methods make a closer clinical study of the natural course of disease. Tuberculin can be given, or hyperaemia applied, without discarding the positive advantages derived from the prevention of deformity and the breathing of country air.

DISCUSSION.

Professor Sonnenburg (Berlin) said: In the last few years I have tried every method of treating tuberculosis of joints. I now operate much more seldom than formerly, as the results were not satisfactory. Later on I have also tried the serum of Marmorek, and had good results in some cases, especially those with sinuses. With regard to the question of excisions and resections, I adhere to the principles enunciated by Sir William Macewen. For several months past, in association with Robert Koch, I have been using injections of the new tuberculin, and have treated in all about 20 cases by this means.

Dosage.—A preparation from cultures is employed, as thereby better immunization is obtained. Before commencing treatment some blood is drawn, which is tested for antibodies. The Pirquet reaction is also made. On each arm in two places a drop of 55 per cent. old tuberculin is placed, and where these drops are a scratch is made on the epidermis with a suitable instrument, or even with a knife. There should be no bleeding, or the smallest amount possible. Also a control inoculation with physiological salt solution. In positive cases red bumps are caused which, if there is strong reaction, may develop into pustules. After this the treatment begins, premising that at first only a very weak solution, 0.001 mg., is given. This is gradually increased, and, indeed, if no reaction occurs, on the next day but one the next higher dose can be injected, namely, 0.002, then 0.003, 0.004, 0.005 mg.; and after that the dose may be increased more rapidly to 0.007, 0.008, 0.01, 0.015, 0.02 mg., and so on.

Reaction.—It is best and most to be desired that the rise of temperature should be between 37° C. and 38° C. But very often there is a much higher reaction, rising above 40° C. The reaction usually appears some hours after the injection. The higher reactions are accompanied by the usual symptoms of fever (headache, pains in the limbs, etc.), but these soon disappear and seldom last more than one day; but sometimes a fever may be observed where the reaction continues for three days. Generally and as a rule there is a quicker return to normal. If there is reaction, some days should elapse before repetition of the injection, until all is quiet again, and then it is to be recommended that the last dose should be repeated, or even a smaller one used, until no reaction follows, after which the increase of dose can be proceeded with. Every four weeks the Pirquet experiment is to be tried afresh. If this is negative, a new examination of the blood is made to see whether antibodies have formed. This blood is only to be drawn some days after the last injection, so as not to come in the "negative phase."

Site of Injection.—The injections are best made on the chest or on the back between the shoulder blades. It is not advisable to use the arms, or, in the case of patients who are up, the legs for this purpose. The injections are usually somewhat painful and cause infiltrations (glycerine) which sometimes require treatment with compresses (liq. alum acet.). It is advisable to use a cupping glass for twenty minutes immediately after the injection. Local reactions are sometimes observed. Sometimes a shivering fit occurs after the injection, probably resulting from injection into a vein. We first see the formation of antibodies after larger doses have been attained (1 mg.). So long as the antibodies are still

present in the tissues and they do not enter the blood, so long the body will continue to react to tuberculin. (The opsonic index sinks after each injection for two to three days.)

The treatment must be pursued for many months or years. The effect begins when the antibodies are in the blood. In contrast to the first tuberculin of Koch, the new remedy does not cause any reaction.

The antibodies, which are formed by injection of dead material, seem to be the same as those which are formed and found in animals affected with tuberculosis. The time is too short to give positive results of the new treatment. I hope to have aroused your interest for the new treatment by this short communication.

Mr. A. H. Tubby (London), speaking of *para-articular tuberculosis*, said: In some joints, especially where the epiphysial line is entirely without the limits of the capsule or partially so, a deposit of tubercle occurs in the juxta-epiphysial region, either on the shaft or epiphysial side of the lesion, and for a time the focus of disease is entirely extra-articular. But unless the case is recognized early and adequately treated, experience shows that the morbid process extends through the bony substance of the epiphysis, and eventually invades the joint. It is therefore necessary to recognize the existence of this type of the affection. Sometimes, however, pus forms externally to the joint, and then bursts its way through the capsule into the joint. In joints where the epiphysial line is entirely included within the limits of the synovial membrane, involvement of bone generally results in tuberculous arthritis, but in certain instances to be noted the joint escapes for a time, and for a time only. At the lower end of the radius, the lower end of the fibula and the epiphysis of the great trochanter a para-articular tuberculous abscess may be present for a time without involvement of the joint. The epiphysial lines of the lower end of the radius and the lower end of the fibula are markedly within the articular limits, while the epiphysis of the great trochanter is, especially at its posterior part, outside the limits of the hip joint. As to the olecranon, involvement of it usually means disease of the elbow joint, but Ménard has reported a striking example to the contrary, and according to C. G. Cumston[1] if the lesion is localized either laterally or on the posterior aspect of the olecranon the articulation may escape for a time. Epiphysial or juxta-epiphysial tubercle at the lower end of the femur and upper end of the tibia, at the lower epiphysis of the humerus, and the head of the radius, are associated very early with invasion of the joint, although Bonnet described a case of typical tuberculosis limited to the epicondyle. It therefore follows that some joints are more quickly invaded than others, but there is no doubt that all will become involved in time if the extension of the lesion be not prevented. Tubercle is deposited near the growing line, either in the form of multiple granulations or in foci. It breaks down and forms pus, and this may, as we have stated, either spread through the bony tissue into the articulation or open on the extra-articular aspect of the bone by a minute orifice, and give rise to a para-articular abscess of considerable size. In many instances the two lines of extension go on simultaneously; in others the para-articular form is predominant, and it is this we wish to consider. Such an abscess is usually situated upon one side of the bone, and spreads out along it. It often covers an entire side of the joint, being separated from it only by the capsular ligament and synovial membrane. Sometimes it is not recognized until it has burrowed its way for a long distance between the muscles and tendons and beneath the aponeuroses. In such instances it is most difficult to discover its connexion with the epiphysial region, and prolonged search is often necessary. But the focus in the bone is often situated at the point of insertion of one ligament of the joint, and this point is of clinical significance, because when that particular ligament is drawn upon pain is elicited. Thus, in one case a boy aged 15 complained of pain only when he stood on one foot with it inverted. The painful spot corresponded to the insertion of the long external lateral ligament into the femur, and a local tuberculosis was suspected. An *x*-ray examination and operation confirmed the finding.

[1] *Albany Med. Annals*, vol. xxvi, No. 8, p. 517. To this writer I am much indebted for some points in this discussion.

Symptoms.—The onset is insidious, and marked only by pain, which is quite different from, and not so continuous as, the pain of joint disease. It is well marked after fatigue, but after a period of rest it subsides entirely. The constant recurrence of pain at a particular spot should draw attention to the fact that there is probably a small focus of disease there. Such an instance occurred in the case of the wife of a medical man I was asked to see.

She complained constantly of pain over the great trochanter, and there was distinct tenderness, but no fullness. Further, the pain was exaggerated in one movement of the hip-joint only—namely, when the limb was fully adducted; all other movements were quite free. This led to the suspicion that there was a focus of inflammation at the base of the great trochanter in the site of the former growing line. An operation was done, and on cutting down upon the painful spot we found an old caseous focus, which was removed. She made a complete and satisfactory recovery.

In many cases of para-articular tuberculosis muscular atrophy is present, although at the same time the movements of the joint are quite free, except in that one direction where the ligaments or the attachments of muscles pull upon the painful spot. This spot is fixed and unvarying, and while other parts around the joint are quite painless, pressure on the diseased area always provokes tenderness. If in this comparatively early age, during which it not infrequently happens that the surgeon's attention is not called to the condition, the bone be carefully palpated, a distinct thickening of the bone may be felt. The thickening is perfectly hard and non-fluctuating; but later, evidence of fluctuation is readily obtained. By the time that enlargement of the bone is evident the lymphatic glands draining the site of the lesion are involved, but as a rule not so much so as when the synovial membrane itself is affected. When the patient consults the surgeon the pain has become more constant, more marked and definite, but is still associated with one movement only as a rule. Muscular atrophy is readily noted, and the thickening near the joint can be appreciated. The swelling, which is hard and circumscribed, now shows extension, and its outline becomes less definite and softer, probably due to extensive involvement of the soft tissues over the bone. Pressure gives rise to acute pain, but so far the neighbouring joint is still free from disease and friction of the surfaces is painless. An *x*-ray examination shows the tuberculous affection to be extra-articular, and clearly defines its outline. The final stage is an involvement of the joint, and occasionally of the medulla.

Prognosis.—In some instances the disease may not advance beyond the early stages, and it becomes encysted. For a long time it may remain dormant, but in adult life may light up again and give trouble, as in the case quoted above. As a rule abscess eventually forms, and with that event the danger to the joint is imminent. The most vital points in prognosis are early recognition and thorough and radical treatment of the tuberculous deposit.

Diagnosis.—It is most important to decide as to whether the joint is primarily involved or not. In the latter case the natural movements are limited or lost with great rapidity, and nearly all, if not all, movements are painful, while rapid atrophy of the muscles is characteristic, and the involvement of the lymphatics is more considerable than in the para-articular form. Contractures set in early, and with them there is often a quick deterioration in the patient's general health. Some reliance should be placed in the matter of diagnosis upon the patient's history. A localized extra-articular pain in such a patient should give rise to the suspicion that we are dealing with para-articular tuberculosis. Syphilis of the bones may cause pain, which is, however, entirely different in character and position. In specific disease pain is nocturnal, and it is generally rather in the shaft than in the epiphysis. The most valuable aid to diagnosis is radiography. Osteo-sarcomata present in the early stages difficulties in diagnosis, especially if they soften and fluctuate.

Treatment.—At the commencement absolute rest, immobilization and counter-irritation may be of service, but in all except the slighter cases it is imperative to cut down to the bone, evacuate the granulations or pus and thoroughly scrape the cavity, afterwards treating it with camphorated naphthol, or, better still, a solution of chloride of zinc of a strength of 10 per cent. In operating, it is important that the edges of the cavity should be chiselled away until

perfectly healthy bone is reached. On three occasions I have prevented involvement of the hip-joint by early recognition of disease at the posterior aspect of the neck of the femur, and rapid and decisive treatment. In dealing with a large number of bone cases, in the course of exploration for joint disease, all surgeons must have come across this para-articular tuberculosis unexpectedly, and it is often more by chance than otherwise that the joint has been saved. It is evident that we should carefully watch our cases with the objects of making a clear diagnosis and of justifying surgical intervention.

Mr. J. CRAWFORD RENTON (Glasgow) said: In the early stage the diagnosis is of the greatest importance, and is often difficult. X-ray photographs done by an expert have given me much help. If the evidence is not sufficient use Calmette's tuberculin eye test, which has greatly pleased me, and in no case has given rise to trouble as regards the eye. The test must be used carefully, as he has advised. As for treatment at this stage, the following is an outline:

(*a*) Bier's bandage, cautiously used, commencing twenty minutes, and increasing to an hour daily. (*b*) Wright's tuberculin vaccine every fourteen days. (*c*) Plenty of fresh air and good food, either at home or in sanatoriums for surgical tuberculosis. It is disappointing that so little has been done towards establishing sanatoriums of this kind, but it is hoped that in the future this will be remedied. (*d*) Extension. Thomas's splints for knee, hip, or ankle are necessary. Coxa vara splint is very useful in hip-joint disease, as it fixes the pelvis and abducts both limbs.

Cases seen early do well, and do not require any operative interference; but they must be kept under observation. X-ray photographs are taken from time to time in order to watch progress in the parts affected. If not improving, the foci are removed, and glycerine and iodoform emulsion used to fill the cavity. Mosetig's wax has also been tried with advantage. In the advanced stage in young people where the synovial membrane and cartilage has become affected, and where there is pain on pressure and starting pains at night, treatment consists in extension to reduce flexion and relieve pain, and thereafter, fixation in plaster-of-Paris for the knee or ankle. If it is the hip which is affected Thomas's splint must be used, and a patten applied to the sound limb, the patient going on crutches. When other means fail, operation is essential. In the shoulder fixation helps, but better results are obtained in it by glycerine and iodoform injections or opening the joint and scraping away as much as possible of the diseased part. In the elbow-joint we do not delay operation, for excision is one of the most successful surgical measures that can be employed, and the results are so satisfactory, if properly carried out, that I can with confidence recommend it. It must never be forgotten that in addition to performing the operation correctly, the after treatment, with reference especially to good movement, must be carried out by either the surgeon himself or a skilled assistant.

I have used glycerine and iodoform injections, and also Mosetig's wax in a number of cases, continuing in addition tuberculin vaccine and staphylococcic vaccine where a double infection existed, and the results have pleased me. Excision of the knee-joint is absolutely essential, the tibia and femur being pinned together with steel nails. After healing is complete and the nails removed, a plaster-of-Paris splint is kept applied for eighteen months. In advanced hip-joint disease, I open the joint, scraping away all the diseased structures, removing as little bone as possible. In cases where deformity has resulted after tuberculous disease of the knee or hip joints, accompanied with considerable shortening, I have done operations to straighten the limbs, and by means of the O'Connor extension boot the patient is able to walk without any one being able to recognize the least shortening.

MR. WARD COUSINS (Portsmouth) said: The treatment of tuberculous disease of the joints is in many respects different from that of every other form of joint disease. The diagnosis of a tuberculous joint is seldom a matter of difficulty. Sometimes the primary position of the infection is obscure, and the early symptoms very insidious; but in other cases the mischief can be traced at once to disease in the respiratory or abdominal organs. In children it is often intimately associated with tuberculous inflammation of bone, and in many chronic cases there are special indications by the presence of granulation tissue and centres of caseation. Sudden disturbance in a joint following slight injury or overwork, and occurring with marked depression of the vital powers, arouses the suspicion of tuberculous infection. In all cases we can obtain much diagnostic evidence from the character of the local changes and the general condition of the patient.

Fortunately the advance of pathology has exercised a very salutary influence over surgical treatment. Tuberculous disease of to-day, recognized as it is as a specific and infectious disorder in all its various manifestations, has placed the hope of arrest on a much broader basis to that which it previously occupied. To-day we can see no reason why a joint should not recover, and the tuberculous infiltration atrophy and ultimately shrivel into a scar, just like a similar deposit in the apex of a lung. If the number of bacilli found on examination in a part are to be taken as an indication of the activity of the disease, then observations are favourable to the conclusion that incipient disease in the articulating apparatus is more hopefully situated than incipient disease in the pulmonary tissue. Under favourable conditions, patches of tuberculous formation may undergo atrophy, and the infiltration around them cease to extend. This arrest is the result of the death of the bacilli, for surely, by their destruction alone the morbid action can be localized and the individual delivered from the danger of a diffused tuberculosis. How, then, can this curative process be established? Experience teaches us arrest is possible by the complete destruction of the specific cause within the affected structures, and that this fortunate issue may be obtained by complete rest and the healthful influence of sunlight, pure air, and good food upon the whole organism. In some cases expectant treatment may be carried out for months by combining protection of the limb in a well-adjusted appliance with healthy surroundings and daily exercise.

Now, in many incipient cases it is a serious question when expectant treatment ought to be abandoned. The early symptoms advance very slowly, and localized tuberculous osteitis often extends at first over a very limited area; but the insidious changes in the joint ends tend to involve the articular cavity. Whenever signs of progressive disease are present no time should be lost in opening up the bone with the chisel or trephine and clearing out the cavity with a sharp spoon or gouge. When a sequestrum is present, it must be removed, and the part regularly and antiseptically dressed. The treatment is tedious, but often the results are excellent.

In primary synovial cases the disease advances slowly, and sometimes ends in well-marked white swelling, with the characteristic changes in the synovial membrane, with thickening and pulpy infiltration. Centres of suppuration follow in the surroundings of the joint, which may involve tendon sheaths and bursae, and end in long fistulae lined with tuberculous granulations. At length active disease may subside, with more or less joint deformity and impaired mobility. In the early stages of synovial disease local injections into the joint, or in the margin of the synovial membrane, have gained a position on the Continent, but I have had very little experience of this treatment. When the stage of quiescence is reached and all active disease appears arrested, the deformity and contraction of the joint cannot be treated by free manipulation without the risk of arousing again the old mischief in the diseased structures. In some cases it is possible to improve the utility of the limb by performing an osteotomy of the shaft of the bone in the neighbourhood of the joint without any interference with the joint itself.

Whenever the indications for surgical treatment are clear, early operation is attended with many advantages. The risk of delay is always in proportion to the progressive and obstinate character of the disease, and timely aid will often prevent its extension. The hope of cure must depend upon the complete removal of the morbid tissue and softening patches in the bones, and the facility with which this can be accomplished rests entirely upon the extent of the local mischief.

Partial arthrectomy, with ordinary surgical precaution, is attended with little risk, even when portions of bone have to be resected. After a free incision in the most convenient position for exploration and carefully defining the

disease, the infiltrated tissue must be excised and the cavity thoroughly flushed with hot water. To ensure rapid union, the surface should be then dried and the wound closed with sutures. The limb must be kept at rest until the healing process is complete. Many operations of partial arthrectomy of the ankle-joint, tarsus, os calcis, wrist, and elbow have, in my own practice, been followed by good results and with almost complete restoration of function. Every case was treated by complete rest until all inflammatory symptoms had subsided. In these operations tendons rarely require division, as they can be removed from their grooves and turned out of the way before exploration of the joint.

Before the operation of resection of any of the larger joints, the constitutional state of the patient demands very careful investigation, together with the extent of the local disease, and the condition of the osseous structures.

The knee is a complex joint, and the removal of the cartilages and section within the epiphysial lines of the femur and tibia cause often very considerable shortening in young subjects before the age of 14 or 15 years. In performing complete arthrectomy, it is my practice to freely open the joint, and to remove as thin a layer of bone as possible from the articulating surfaces. After completely cleaning out the capsule and cutting out with the gouge every infiltration, the patella is divided vertically with the saw, and the bones jammed together as tightly as possible. The periosteum is then sutured with strong catgut, and the wound closed except at the extreme ends of the incision. The majority of my patients have been young adults, but several were over 45, and one at the time of the operation had reached the age of 52 years. One amputation has occurred in a series of forty excisions of the knee. I have often questioned my patients with reference to the inconvenience of the ankylosis, and without exception they have regarded it with indifference.

Mr. Maynard Smith (London) spoke of the results of tuberculin inoculation, and the use of the opsonic index in diagnosis and in deciding as to when a cure had been accomplished. He handed round tables which showed the results obtained in the inoculation department of St. Mary's Hospital in 34 cases which he had observed personally. Of these cases, 21 had been cured, 9 were improving and still under treatment, 2 had only had two or three months' treatment, and 2 had made no improvement after six and ten months' treatment respectively. He advocated strongly the conservative treatment, and deprecated the attempts to eradicate the disease by early operation. (The full tables of cases will be found in the Section of Haematology and Vaccine Therapy, in a paper entitled "The Inoculation Treatment of Tuberculous Arthritis," which will be published shortly.)

Mr. Rushton Parker (Liverpool), after expressing his general agreement with the openers of the discussion, said: The importance of exact diagnosis has been mentioned, it being supposed that the variety of treatment depends on the variety of pathological cause, and the subject of discussion being solely that of "tuberculous joints." No doubt the use of tuberculin and other tests may make it possible to be thus exact in well-equipped clinics, but seldom elsewhere in the hurry of daily work, especially in general practice, where the cases are often first met with. I consider it of infinitely more importance to recognize the early signs of joint disease, and to treat them promptly whatever be the cause, than to attempt a discriminative pathological diagnosis. For instance, an untreated case of hip disease, to the slightest degree, from whatever cause, is recognizable by the unmistakable evidence of muscular rigidity indicated by flexion. As Mr. Robert Jones well says, if there be no limit of movement there is no arthritis; and the same law applies to all other joints.

The mention of mechanical treatment by Sir W. Macewen, though in very few words, may be taken to imply the careful, skilful, and to the best of the circumstances, the efficient attainment of the stillness and rest desired. In his hands, as in the hands of Lord Lister and other skilful manipulators, the application of older-fashioned appliances may have left little to be desired; but such attempts have too often failed, and the attainment of the necessary rest has continued unrealized, in less skilful hands. Even cases ending in what is called "recovery" often present the rigidity referred to as a sign of an "uncured" state.

The great value of the late Mr. Hugh Owen Thomas's splints has been the much more precise and efficient management of the limbs by those who can use the appliances to the fullest advantage in difficult cases, and by many others in slighter cases. There is almost as much superiority in Thomas's splints over the best of all others, as there is in the best of all others over the absence of any apparatus whatever; and the gain to surgery by their use and distribution has been incalculable. It used to be said by some surgeons adopting these splints that their great advantage lay in the liberty afforded to the patient in getting about; and it was a not uncommon report that "after the pain and tenderness had passed off, a Thomas's splint was applied, and the patient allowed to get up and take exercise." But their greatest value really lies in their utility from the very first, during the painful and tender stages, when the patient has to be kept in bed. Later, their effect in still procuring efficient mechanical treatment while the patient gets about, with exercise of the rest of the body in the fresh air, is of great additional value; and, moreover, with these splints all the resources of antiseptic management can be combined.

The achievements of Hugh Owen Thomas by means of his splints impress very forcibly on my mind the greatness of the debt owed by the art of medicine in various ways to the efforts of empirical invention. No scientific process or system of pathology could ever have resulted in Thomas's splints. He devised them after trying every known conventional apparatus, and gradually evolved them by perseverance in the attempt to prevent movement in joints, and by the force of his own mechanical genius, untrammelled by any system of pathology, and undaunted by previous failures or imperfect successes. When he made these known to me about or before the year 1875 I regarded them as a revolution in, and simplification of, our mechanical resources. Though admirable when I first saw them, he quickly made improvements in detail at that early date, and I at once persuaded him to publish them, and thus secure for ever the credit of his invention.

May I stray a moment here to ask a question I have often asked myself and attempted to answer? What is the kind of mechanics most required for the surgeon, especially in the treatment of bones and joints? Not that of the joiner, smith, or engineer, but surely that of the sailor, whose business it is to attach any one thing to some other thing—somehow. This was the kind of mechanics I recognized as eminently present in the manipulations of Mr. H. O. Thomas. In the first years of my use of his splints I, too, paid no regard to the pathological causes of joint disease, but treated all alike mechanically, with a faith in the apparatus that has never wavered. A distinguished surgeon to whom I was showing joint cases fitted with Thomas's splint in Liverpool about the year 1878 remarked that I appeared to hold peculiar views as to the pathology of the affection. He was thinking of one thing to him paramount, while I of another equally paramount to me. Some time later, on the suggestion of Mr. F. T. Paul, who had then succeeded me as Pathologist to the Liverpool Royal Infirmary, I was led to regard numerous spontaneous joint affections, not otherwise explained, as tuberculous, a view that was generally gaining ground. So, on finding most of such cases, some acute, some chronic, assumed to be tuberculous, quickly remedied by purely mechanical treatment, the inference naturally followed "that tuberculous joint disease is capable of resolution under rest secured by fixation." When abscess occurred, especially if in the course of such treatment, it usually yielded to aspiration, once or oftener performed, while the rigid fixation was kept up.

In more recent years, while looking back upon some of these most successful cases, it gradually dawned upon me that such abscesses which could often be recognized as beginning in bone disease, especially of the epiphyses, might probably not be tuberculous at all, and the spontaneous "recovery" not only of joint cases but also of Pott's disease of the spinal column, where health and strength remained and deformity alone persisted, lent probability to the supposition. The question could only be settled by bacteriological examination of the pus when

freshly withdrawn under antiseptic precautions, and when this was done the discovery of staphylococci as the sole organisms left no option but to conclude that periostitis, ostitis, or osteomyelitis of a non-tuberculous kind, often lay at the root of the malady. I can only advise the systematic continuance of such investigation wherever practicable, as a means of some day ascertaining the relative proportions of these pathological varieties. Instead, therefore, of assuming a tuberculous origin for so many joint cases not otherwise obviously explained, but not submitted to a tuberculin test, it is probably correct to assume that a good proportion are not tuberculous at all, and on that account alone may be more hopefully treated. Mr. Robert Jones makes allusion to this when he says that "chronic infective articular affections resemble tubercle. . . ."

As Sir William Macewen has aptly said, "Tubercle in children" (perhaps I might substitute "joint disease in children, whether tuberculous or not") "most frequently begins in the bone, in the epiphysis, rather than in the synovial membrane," and the conservative operative measures so thoroughly devised and so clearly explained by him, such as tunnelling the bone through the synovial membrane or away from it, avoiding the cartilage when practicable, also the intracapsular operation when excision is practised, are worthy of every attention, and, under suitable conditions, of careful imitation. But I should always begin with rigid mechanical fixation in Thomas's splints, or those modifications and improvements in them made by Mr. Robert Jones, as operative measures are thereby so frequently made unnecessary or lessened in scope owing to the reparative effects of early and effective rest. If, in spite of good rest, the local pathological state should be aggravated, it would then be time enough to operate, and in so doing to scoop the bone when entered. In the event of abscess, I agree with Mr. Jones in postponing the opening as long as fairly practicable; since the results of later operation, and even of spontaneous bursting when proper precautions are adopted on the event, are better than those of early opening.

It is impossible for surgeons, accustomed to operate early in the absence of the careful mechanical treatment which alone satisfies the followers of H. O. Thomas, to imagine the extent to which dangers and difficulties are warded off by the early and efficient use of his splendid appliances.

The tests of recovery mentioned by Mr. Jones, but usually omitted from the textbooks, are of almost equal value with the details of early treatment; for next to knowing how to begin it is important to know when to end the necessary treatment. These three points: (i) the detection of rigidity; (ii) the test of recovery, and (iii) the late opening of abscesses, were among the most valuable and original of H. O. Thomas's observations and teachings.

Finally the sanatorium treatment, which Mr. Jones so properly advocates as an adjunct to the strictly surgical management, is highly to be approved. I have also found hospital cases lag and languish until dismissed to fresh air treatment even in a stage long before the patient could get up for exercise. A few years ago, at a visit to the wards of Monsieur Brunon, physician in the Hospice Générale at Rouen, I was much impressed by the attention paid and the constant trouble taken to effect, and to teach the value of, open-air treatment in all kinds of tuberculous cases, by that strikingly capable clinical practitioner and teacher.

Mr. C. W. CATHCART (Edinburgh) said: I believe that the guiding principle in the surgical treatment of tuberculous joints should be that *tuberculosis is a curable disease*. Clinical experience has taught us that long ago in all forms of tuberculous disease and in joints, especially where rest has been employed. In recent years we have learned to appreciate the value of fresh air from our medical colleagues, while the results of tuberculin treatment of certain gland cases I have observed have been nothing less than marvellous.

From a surgical standpoint, therefore, it seems right to give the first place in the treatment of surgical tuberculosis to natural means of arresting the disease when these means are supported and stimulated by the various methods which modern science can now supply. We cannot afford to ignore any of the methods meanwhile, although in time, perhaps, some of them may be found to render others unnecessary. We have thus at our disposal mechanical rest to the joint, extension in certain cases, passive congestion by Bier's methods, iodoform injection especially of cold abscesses, open air by day and night, and the careful use of tuberculin, with, of course, bodily and mental rest, good food, and other generally accepted remedial measures. Mr. Maynard Smith's contribution to this discussion seems to me to be of great importance.

When, after a fair trial of these various measures, the progress of the disease is not arrested, or when the disease has already advanced so as to make a return to much functional usefulness impossible or improbable, the question of operation will have to be considered. The nature and extent of the operation will depend on the age and constitution of the patient, on the joint affected, and on the locality and extent of the disease in it. In estimating the possible return to functional usefulness, it should be borne in mind that there seems to be a greater degree of return to usefulness in tuberculosis than in other forms of joint affection which have reached an apparently similar stage.

SOME UNUSUAL CASES OF ECHINOCOCCUS (HYDATID) CYST, WITH REMARKS ON DIAGNOSIS AND TREATMENT.

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THE diagnosis of unruptured and uncomplicated echinococcus (or hydatid) cysts in their most frequent situations—the liver and lung—is usually easy, especially with the valuable aid given by *x* rays, the shadow on a screen of a cyst in the lung or on the upper surface of the liver being quite typical. When a cyst in the liver has ruptured diagnosis may not be always quite so simple. The rupture may occur into the bile passages, and portions of the cyst or small daughter cysts may pass down the bile ducts, and the symptoms then will closely simulate those of gall stones, as in the following case:

W. W., aged 21, admitted into the Melbourne Hospital on May 1st, 1905, under the care of my colleague, Dr. Nihill, complaining of abdominal pain and vomiting. His temperature was 100° F., pulse 96. He had slight icterus, and the urine contained bile. The abdomen was rigid, especially in the right hypochondrium, which was very tender. The liver dullness extended from the fifth space to 3 in. below the costal margin. He had been suddenly seized with violent pain in the pit of the stomach on April 29th, then had a shivering attack, soon after vomited, subsequently he had frequent loose stools. The case was regarded as one of gall stones, and the nurse was instructed to carefully examine the stools. On May 4th she reported that three bits of yellow "skins" had been passed in the motions I then saw him in consultation; operation for hydatid was decided on and performed on May 5th. The needle of an exploring syringe was introduced in the eight intercostal space in in the mid-axillary line and pus found at some depth. A portion of the eighth rib was excised, the diaphragm incised, and a trocar introduced into the upper part of the liver. Turbid hydatid fluid escaped. The track of the trocar was opened up with a thermo-cautery revealing a cavity full of broken-up daughter cysts and membranes. The contents were irrigated out with saline solution and the cavity drained after suturing the adventitia and diaphragm to the parietes. The patient made a good recovery. In another case, seen recently with Dr. Somers, of Mornington, with very similar history and symptoms, exploration with a needle was negative, and I opened the abdomen over the gall bladder, which was found to be enormously distended, apparently with cysts. By squeezing I was able completely to empty the gall bladder, and then closed the incision. A large number of cysts were vomited as the patient recovered from the anæsthetic, and others were subsequently passed per rectum.

It is doubtful if this was good surgery, but I thought it the safest under the circumstances, as the patient was a long way from town, in an inaccessible part of the country. I proposed later, when he could be moved to town, to operate again, and try to find and evacuate the cyst, but so far it has not been necessary, as he has made an apparently perfect recovery; and when he called to see me in town had no symptoms or abnormal physical signs, and the *x*-ray screen showed no evidence of a cyst. The most frequent method of rupture, however, if such it can be called, is by gradual absorption from pressure through the diaphragm into the lung, when pulmonary symptoms predominate, and the condition may be mistaken for

pulmonary tuberculosis, or new growth; or the chronic bronchopneumonia which is induced may be regarded as the sole trouble. In these cases the *x* rays are less useful, the screen shadow not being characteristic. Careful and repeated examination of the sputa, and the discovery of some abdominal enlargement of the liver will generally elucidate the case. The following may be selected as fairly illustrative:

L. L., aged 51, admitted to Melbourne Hospital October 19th, 1908, with the history that he had been suffering from a paroxysmal cough for the last seven months, at first unaccompanied by any expectoration, and coming on almost every night. Two months previous to admission he began to expectorate—thick, whitish phlegm—and to cough during the day. About six weeks ago blood appeared in the sputa at times, and on one occasion he felt a pain below the right ribs, and then coughed up a quantity of thick, purplish, jelly-like material, with a foul smell. A few days later a swelling was noticed below the left ribs, which increased in size somewhat rapidly. About October 10th he coughed up about a cupful of this purplish jelly, in which were three bits "like grape skins." He also began to vomit after nearly every meal, and lost weight.

On examination the liver dullness extended from the fourth rib to the costal margin in the nipple line, and was continuous with that of a swelling in the left epigastric region: this swelling was firm, elastic, but apparently not fluctuant, moved freely with respiration, and was not tender. In the right lower axilla, and at the right base posteriorly, the percussion note was impaired, vocal resonance and fremitus diminished, breath sounds distant, with some friction, and a few crepitations. The blood count gave 10,000 leucocytes, with 6 per cent. eosinophiles. Screened with the *x* rays, a patch of irregular opacity was seen in the right axillary region, but not like the opacity of hydatid. No tubercle bacilli could be found in the sputum. The blood was examined for the precipitin test with hydatid fluid, but gave no reaction. (The same hydatid fluid used in four other undoubted hydatids gave no precipitin reaction with their blood.)

On October 28th, under ether, the base of the right lung and the upper surface of the liver were explored with a needle, with negative results. The abdomen was opened over the swelling, which was a hydatid of the left lobe of the liver. It was incised, evacuated, and marsupialized, with drainage. Daughter cysts continued to discharge up to December 19th, when the tube was removed. He was discharged from hospital on December 25rd, having gained greatly in weight, pulmonary symptoms gone, and feeling very well. The incision was all but healed.

Hydatid cysts of the liver may also be ruptured by violence and give rise to anomalous abdominal conditions. Such a case I have reported elsewhere.

But it was the rarer cases, where the echinococcus had invaded structures such as bone, to which I wished more particularly to call attention, where diagnosis is more difficult and treatment less satisfactory. In bone the echinococcus reproduces itself chiefly exogenously in the cancellous structure, resembling in appearance the true multilocular or alveolar hydatid, a form which is never seen in Australia. Professor Watson of Adelaide has pointed out that when the environment of the echinococcus is favourable—as in the lung—the cyst grows spherically, with little adventitia, and rarely forms daughter cysts. On the other hand, when, as in bone, its spherical expansion is mechanically hindered, the parasite expends its energy in reproduction, forming scolices, growing exogenously, and becoming sacculated. The following is a very good instance:

Miss X, aged 24, was admitted to the Melbourne Hospital on July 30th, 1908, complaining of pain in the left buttock, shooting down the left thigh and leg to the ankle, along the outer side of the limb, and of a swelling in the left buttock. She had an attack of what was called "neuritis" in the left lower limb two years before and had been subject to attacks of pain ever since, coming on every two or three weeks, but for the last three months the pain had been constant. She noticed the swelling six months before admission, and it was about the same size then, but at times it got much smaller and almost disappeared. She had lost flesh. Her mother died of chest disease, "had only one lung," and a sister had consumption.

On examination, a swelling was present in the gluteal region, 4 in. in diameter, between the crest of the ilium and the left sacro-iliac joint. It was tense and elastic, and doubtfully fluctuant, lobulated, and moved freely about on the subjacent structures. A slight impulse was obtained on coughing. In the left iliac region, with its centre opposite the anterior superior spine, was an ill-defined, oval swelling, and in the left Scarpa's triangle was another swelling, the size of a small orange, which gave a distinct impulse on coughing and increased in size when the patient stood up. Pressure on the swelling in the iliac region was communicated to that in the groin, and *vice versa*, but apparently not to that in the gluteal region. The movements of the spine and left hip-joint were free, and there was no tenderness along the spine or pain on jarring the spine or squeezing together the sacro-iliac joint. The evening temperature was 99° F. The blood showed 3 per cent. eosinophilia. The tuberculous opsonic index was normal. A skiagraph showed a great rarefaction of the upper ilium and sacrum.

On August 5th, under ether anæsthesia, an incision was made over the gluteal swelling, exposing a hydatid cyst, the adventitia of which was connected to the subjacent bone by a pedicle ½ in. in diameter. The adventitia was dissected out, and this pedicle was found to pass into the sacrum, and a probe entered a cavity in the bone; the sac was full of an immense number of very small daughter cysts. The incision was temporarily protected with gauze, and the patient turned on her back. The swelling in the iliac region was then explored by a muscle-splitting incision and found to contain a quantity of putty-like material and pus. It extended down under Poupart's ligament to the insertion of the ilio-psoas and up along the middle, undermining the iliacus. The cavity was irregular, but the saline solution could not be freed through the posterior incision. It was plugged with iodoform gauze and dressed, and the patient again turned on her face. The cavity in the sacrum was opened up with gouge and bone forceps, and innumerable cysts and fragments of bone containing cysts gouged out and scooped out with the flushing scoop. The cavities in the sacrum and ilium were very irregular and sinuous. Drainage tubes were introduced and dressings applied.

Next day the temperature rose and remained up for several weeks, with quickened pulse. Cysts continued to discharge, with pus.

On December 15th she was anæsthetized with ether, and more bone and cysts gouged and scraped out of the ilium.

When I left the discharge was diminishing. No cysts had escaped for some time, and she was up and steadily improving. The fragments of bone removed containing cysts show very well the exogenous mode of growth with sacculation. The following was another instructive case:

A. C., aged 40, admitted to the Melbourne Hospital September 14th, 1908. Four years previously he had pains in the right chest fairly constantly, and that night aching in chambers, and he felt sick and "generally out of sorts"; he lost flesh and strength. He went to a country hospital, and while there a swelling was found to the right side of the spine, and was removed by operation. He was free from pain for nine months when the pain returned. Four months later the swelling returned, and in three weeks it burst and discharged matter. He gradually lost flesh, got very weak, and a cough developed, with slight expectoration of phlegm.

On examination, he looked very thin and ill. On the right side of the spine, 5 in. from the mid-line, at level of seventh and eighth dorsal vertebræ, was a vertical scar, with a small sinus at its lower end. Above the scar was a movable elongated swelling, firm and solid to the touch. From the sinus was a purulent discharge, in which occasionally were some shreds which proved on microscopic examination to be hydatid cysts. There was slight dullness and tubular vocal resonance in the neighbourhood of the scar but no other abnormal physical signs in the chest. Screened with the *x* rays a slight shadow on the right side of the thorax was seen but no definite tumour.

On September 16th, under chloroform anæsthesia, the old scar was opened up, and the adventitia of an old hydatid dissected out from among the muscles down to the ribs, but no communication could then be found with the thoracic cavity. The wound continued to discharge pus, and a few daughter cysts escaped occasionally. Convinced that there was a cyst deeply situated, on October 25th I again operated under chloroform anæsthesia, making a very free exposure of the chest wall at the upper end of the old incision, and found a small daughter cyst escaping from a small opening near the costo-vertebral joint. A probe passed through this entered the thorax. The adjacent ribs were grooved and obliterated, enabling the finger to be introduced into a considerable cavity, bounded in front by thickened pleura and internally by the body of the vertebra, which was irregularly hollowed out and full of exogenously developing hydatid cysts, as was also the transverse process. A quantity of pus and cysts came away. The surfaces of bone were well curetted and gouged, the cavity irrigated, and plugged with iodoform gauze. Pus and an occasional small cyst continued to escape until October 22nd. The discharge of pus gradually ceased, and he left hospital on November 4th.

A very similar case is figured by Professor Watson in his paper on Hydatids in Surgery, Gynaecology, and Obstetrics, June, 1907, in which a hydatid of the vertebral body "beaded forwards between the transverse processes into the thorax, retropleurally," with small cysts in the bone and larger ones in the retropleural space. In Watson's case the cysts had also "beaded off into the spinal canal." In the following case, recently under my care, cysts were present among the spinal muscles, the vertebræ were eroded, and cysts had also formed between the laminæ and dura mater, but which of them was primary, or whether they were independent, is doubtful.

M. C., aged 28, was first admitted to hospital on April 26th, 1892, with an ill-defined swelling on the right of the eighth dorsal vertebra. It proved to be a hydatid, closely packed with very

small daughter cysts, and fixed to the lamina of the vertebra. It was dissected out, and also three smaller cysts situated higher up among the vertebral muscles. On May 31st he complained of pain above the incision, and another cyst was discovered and excised.

He was readmitted on May 11th, 1895, and two cysts removed from near the second dorsal vertebra. On March 12th, 1899, a cyst was removed from the lumbar region close to the lamina. The wound suppurated and discharged daughter cysts until April 7th, 1899.

He was readmitted on March 27th, 1904, complaining of a feeling of numbness in both legs as high as the knee, and said that pressure on his back (over the eighth dorsal spine) caused a feeling of tingling in his legs and a pain in his upper abdomen. On examination, no alteration of sensation could be made out, either to touch, temperature, or pain. The reflexes were normal, and no objective signs of any kind could be found.

On April 26th he returned, saying the numbness had increased; the pain in the upper abdomen was more marked when he pressed on his spine, so much so that it hurt him to lie down, and that he occasionally staggered when walking. On examination he had some loss of sensation in his legs, but it was very variable, his knee-jerks were increased and he had a slight stagger on walking, and a slight swaying on applying Romberg's test.

On May 3rd operation under ether, and laminae of eighth and ninth dorsal vertebrae exposed. The right lamina of the eighth was eroded into the canal, and several flattened and much compressed small hydatid cysts were removed from between the dura and the bone. He left hospital June 28th, 1904, with no symptoms.

On January 31st, 1908, readmitted with pain in abdomen on both sides, just below umbilicus, but chiefly on right side, and pain in back in upper lumbar region, and with numbness in his legs and lower abdomen; also the staggering had returned. On examination there was some loss of sensation to light touch, but he could not fix its upper limit, and it seemed very variable. His knee-jerks were now slightly diminished, and his gait very ataxic.

On May 2nd operation and spinal canal opened through eleventh and twelfth laminae, but no cysts were found. After this the symptoms increased. He got rigid spasms, sometimes of the flexors, and sometimes of the extensors of the legs and feet, retention of urine, and gradually increasing loss of sensation up to umbilicus, and some paresis of the legs, especially the right. Patellar reflexes quite absent; no Babinski.

On May 28th, 1908, operation. As the limit of anaesthesia appeared to be at the tenth dorsal vertebra, it was thought the segmental lesion was probably three vertebrae higher. The laminae from the fifth to tenth were exposed, and those of seventh removed, but nothing abnormal found. Those of the eighth and ninth were next removed, and seven cysts were exposed and removed, lying on the dura and much compressed. He gradually improved, and is now practically well.

The value of the precipitin reaction in the diagnosis of echinococcus remains to be seen. Welsh and Chapman[1] proposed this test, and in a paper read at the Australasian Medical Congress at Melbourne they said, "We have evidence of interaction between hydatid fluid and serum from hydatid patients, but we have not been able to find a method of applying the reaction that will hold good in all cases in conditions of diagnosis. A negative test is inconclusive, but a positive reaction is conclusive, and may be obtained in conditions of diagnostic importance." Our experience at the Melbourne Hospital has been limited, but in almost every case we got negative results in cases of undoubted hydatid. The difficulty is to keep the hydatid fluid ready for use as wanted, and even with fresh fluid negative results were obtained.

The presence of eosinophilia is a useful help in diagnosis. Repeated examinations of the blood must be made, as eosinophiles may be in excess at one time and not at another in the same patient.

As regards treatment, no one method is universally applicable; but the treatment most generally satisfactory is removal of the mother cyst and daughter cysts if present, marsupialization of the adventitia, and drainage. Cysts in the soft parts of the parietes may be dissected completely out and the incision closed, also omental cysts; when these are numerous, as is generally the case, repeated operations are necessary, as it is a great mistake to attempt too much at one operation. Care must be taken not to allow the contents to escape into the peritoneal cavity and get into the margins of the incision, as scolices may become implanted there and grow. Of this I have seen undoubted instances. Cysts in the spleen may be treated by removal of the mother and daughter cysts, dropping back the spleen, and closing the abdomen. Some lung and liver cysts, when small and barren, may be treated in the same way, but generally require marsupialization. When liver cysts have invaded the lung, it is important if possible to evacuate the primary cyst through the abdomen.

Suppurating cysts have been almost universally treated by drainage; but Mr. Hamilton Russell has washed out the cyst, then filled the cavity with saline solution, and closed the adventitia closely and also the abdomen. I have never ventured to do this myself, though Mr. Russell reported a successful case. In bone the cancellous tissue containing the cysts must be thoroughly gouged out; sometimes the whole portion of bone must be removed, leaving the periosteum, and in some very advanced cases in the lower limb amputation may be necessary. Such cases, however, are extremely rare.

REFERENCE.

[1] *Lancet*, May 9th, 1908, and *Austral. Med. Gaz.*, January, 1908.

DISCUSSION.

Mr. WARD COUSINS (Southsea) referred to cases of abdominal hydatids of enormous size, simulating ovarian tumours. Many cases of this description have led to errors in diagnosis. A woman came under his care in this condition, and after careful investigation of the pelvis, which was filled with the growth, and also the history of the case, he opened the abdomen and found a universally adherent uniloculer cyst, with thick walls, and intimately connected with the under surface of the liver. The cyst contained no secondary cysts and other traces of hydatid disease. The tumour had been stationary for several years. On two occasions he had operated upon subdiaphragmatic hydatid tumours after puncture for diagnostic purposes. Both contained cysts in a necrotic state mixed with stinking fluid, and both patients were in a condition of great exhaustion from septic fever. The operations gave great relief. In evacuating large hydatid tumours of the liver he found that, when the cystic cavity was fully opened, by suspending the anaesthetic and with every precaution around the wound to prevent escape of any of the contents into the abdomen, the hydatids could easily be discharged by the involuntary action of the abdominal muscles.

Mr. SYME, in reply, said that liver hydatids often attained enormous size and occupied the pelvis. He had operated on one case treated by tapping as one of ascites, a tumour which on operation proved to be a cyst occupying the whole abdominal cavity and containing large masses of bilirubin, showing the great age of the parasite.

OPERATIONS FOR LIVER AND LUNG HYDATIDS.

By FRED. D. BIRD, M.S.Melbourne.

OPERATIONS for the treatment of a hydatid cyst of the liver are these:

1. Incisions, removal of the parasites, and marsupialization of the adventitial sac.

2. Incisions, removal of the parasites, complete closure of the parietal wound, no further notice being taken of the adventitia after its incision.

3. Incision, bodily removal of the parasites contained in its adventitial casing. This can only very occasionally be done in cases of pedunculated cysts, cysts attached by a pedicle to the anterior border, or under surface of the liver and floating almost free in the coelum.

4. In a very few cases trocar puncture, with or without aspiration, may be resorted to, rather on account of the condition of the patient than on that of the hydatid. It can very rarely indeed be the operation of choice.

It should be noticed that I have made no mention of removal of the adventitial sac, except where it can be got rid of *in toto*. Any operations involving its partial removal are to be deprecated. It is part of the patient, and will disappear after marsupialization in a very surprising manner, even when very thick. The adventitia often invites partial removal, but the surgeon has nothing to gain by the attempt and may involve himself in difficulties.

With reference to these operations, incision, with removal of the parasite and marsupialization of the cut adventitia, is the operation of choice in most cases of hydatid of the liver. Thus very large and large ones should be treated in this way, suppurating examples also. Small hydatids

and multiple ones are operable by the second method. Adventitia which abut on each other or nearly so allow of the second cyst being opened through the coalescing partitions from the one incised, thus saving another parietal incision. Much depends on the judgement of the operator, as if the hydatids have not "contiguas domos," the intervening portion of liver substance may contain a large hepatic vein, whose incision will cause bleeding very difficult to stop, because any measures have to be undertaken through the vestibule of the adventitia first incised.

The selection of the site for the parietal incision depends on the location of the cyst and its size. As the hydatid clement tends to seek the periphery of the organ, and as a large cyst must perforce impinge on the surface of the liver somewhere, it may be stated that most hydatids which have been diagnosed will have reached the surface of the liver somewhere.

It is this somewhere which we wish to incise. A general rule, with some reservation, is that a cyst should be incised at the place where it makes most prominence on the surface, or where its rotundity most impresses the surgeon's palpation. The reservation is that if a hydatid having grown to large size bulges into the coelom by much of its circumference, the greatest prominence on the surface may be far down away from the original nidus in the liver, and with the removal of the cyst and subsequent shrinkage of the fibrous sac, the incision into what was the most prominent place may come to be at much disadvantage. Thus in such a case a site nearer the liver than the most obvious part of the prominence should be chosen. Again, it is obvious that a large hydatid may have so grown out of the liver that its globularity may be satisfactorily attacked from more than one point. This is often found to be the case during operation. The positions for incision are these:

(*a*) The anterior abdominal. The most common.
(*b*) The transthoracic.
(*c*) The subcostal. The least common.

(*a*) The *anterior abdominal incision* should be small. A length of 2 in. is ample in most cases. A larger incision involves present embarrassments and subsequent disadvantages. It is sufficient to be sure of the cyst being immediately beneath the cut in the parietes and the adventitia is easily recognized.

No prospecting is necessary; on the contrary, it is inadvisable, as the single large cyst would alone be dealt with at this operation. A very large incision would be required to even reasonably satisfy oneself that there are no more cysts. My experience makes me very sure of the impropriety of doing much at a time when cysts are multiple. It is better to perform several separate operations than to endeavour to deal with several cysts in one. I have already referred to cysts whose adventitiae are touching or nearly so.

It is to be remembered that the presence of a large cyst may inhibit the growth of another one behind it, and an operation which removes the former may allow the latter to grow, sometimes very rapidly, to the disgust of the patient, but no justifiable operation would prevent this development. I have known of a third cyst appearing in this way.

Allow me to describe the operation I perform for a hydatid cyst of large or moderate size, which allows of being removed by an anterior abdominal wall incision. Under an anaesthesia not deep a small incision is made where Nature gives you so good a lead by the prominence of the wall. As soon as the peritoneum is opened, the white, or yellowish-white, occasionally opalescent, adventitia is seen. A line is picked where no thinned out edge of liver exists, and the knife is plunged into the adventitia, cutting edge upward, with exactly the same firm dig which we impart to it in suprapubic cystotomy.

A gush of fluid usually results (sometimes the hydatid cyst is too full of daughters for this to occur), and a convulsive movement of the patient's abdominal muscles ensues, if he be not too deeply anaesthetized. At this psychological moment the surgeon's left forefinger enters the hole in the adventitia and pulls it up into the wound; he has thus command of the situation, and no leakage occurs into the abdominal cavity, because of the presence of strong intra-abdominal pressure forcing anything to the small opening.

Four or more sutures are now inserted by the surgeon and tied by his assistant; they should include adventitia, peritoneum, and any fibrous structure that is apposite, muscle and skin being avoided. The stitches should be cut long. The mother cyst is removed by forceps, daughters baled out, but no irrigation is used, and no attempt at complete cleansing of the cavity made. A drain tube is inserted into the depths of the adventitia (a great distance sometimes), and the operation area covered by a bulky gauze dressing.

This method by small incision is to my mind much superior to the larger incision with suture of the adventitia before it is opened by the knife. With the large incision the intestines come into the wound, swabs must be inserted to prevent their exit and to keep back omentum, and these get in the way when suturing is being finished. The adventitia being a very tense globe, even a small round needle piercing it leaves a leaking hole, or rather two leaking holes, from which much hydatid fluid spurts. Multiply this loss ten or twelve times (for you have to put in as many stitches as this with the large incision), and a very considerable drain occurs from the cyst, much of which goes into the cavity of the abdomen. Whether this entrance of fluid does harm or not depends on whether reproductive elements are present in it or not, and this we cannot tell at the time of operation.

With the small incision in such a case as I describe, neither intestines nor omentum is seen, no leakage into the cavity is allowed, the manipulations are easy, the danger of sewing in omentum or intestine is *nil*, no swab has to be got out, and the time spent is small, the whole operation being compassed in ten minutes or less. The definiteness of result after this operation is complete. A small scar which is never the seat of ventral hernia remains after the wound has healed in a few weeks, a thin adhesion passes to the former hydatid site in the liver, and this disappears in time, the only sign left of the previous echinococcal presence being a fine white line in the liver.

(*b*) The *transthoracic* route is applicable to cysts situated on the upper surface of the liver. The mortality of its use may be reduced to very small limits indeed by attending to two points: first, let the portion of rib removed be as far forward as possible; in this way, with a good-sized cyst immediately beneath the diaphragm, the pleura covering the diaphragm and the costal pleura will be in apposition and can be treated as one membrane. Secondly, let the surgeon incise freely, as in the anterior abdominal incision; his knife goes through muscle, two layers of pleura, diaphragm, two layers of peritoneum, and adventitia. If he uses firmness and his knife is sharp, these various parts become for the moment one tissue; his finger is at once in the cavity of the cyst and he has everything pulled up taut against the ribs, so that he can put in his sutures as if it was only one tissue. In this way leakage into either pleural or peritoneal cavity is avoided and the operation is reduced to the simplicity of the anterior abdominal wall procedure. To suture these various structures in detail is very difficult, nothing is gained, and harm may accrue by admitting air into the pleural cavity in quantity and hydatid fluid into both serous cavities. As it is difficult to be sure absolutely of the cyst being immediately below the costal bed, I always use a small needle or aspirator, to be at once followed by the knife, if it proves, as it very generally does, that the cyst is beneath. The fluorescent screen is of great use in locating the cyst. If we are too far forward another portion of rib may be removed towards the axilla. As a rule the cyst is big when the surgeon sees it, and can be readily attacked from near the cartilage.

There is one instance in which I use a careful dissection rather than a plunge into the cyst, and that is where large veins are seen on the surface of the skin; the diaphragmatic veins are probably also enlarged, and it is safer to dissect alongside the needle or trocar, boring one's way into the cyst. These cases are the exceptions.

(*c*) *The Subcostal Incision.*—This incision outside the line of the gall bladder is occasionally very useful for cysts extending along the lower surface of the liver which are not susceptible to the anterior abdominal incision further forward. It is made parallel with and just below the costal margin. It is awkward in that it cuts across much thickness of muscle, and marsupialization is not

easy. The incision has to be made a good deal larger than the front one, and packing is usually necessary. It is decidedly a more difficult operation than either of the other two. A vertical incision does not afford enough space, as the muscles are thick and the cyst extends away from you; the enlargement of a vertical incision leads you still further from your objective.

Hydatids may be found anywhere in the liver, but there are two positions which are particularly deadly—near the vena cava and in the portal fissure. Those in the former position are very inaccessible, and occasionally burst into the cava with fatal results. When they suppurate, the invitation to operation is great, but I believe the safer course is to wait for an empyema to declare itself, although in the waiting period the patient may die from evacuation into the cava (which is too big a channel to be obliterated by the advancing adventitia), or he may become much enfeebled by prolonged sepsis and persistent cough and bronchitis. However, in the latter case, the opening into the bronchus is very small as a rule; the sepsis is very chronic indeed, and an empyema is by no means an unlikely complication, which, if it occurs, gives the surgeon a good lead by which he may attack the parasite either at once, or better by a second operation after the evacuation of the empyema.

When a cyst growing from the vicinity of the portal fissure attains a fair size, no difficulty is experienced in its treatment, but when it remains small, its adventitia becoming very thick, it is very likely to produce profound jaundice, and the diagnosis becomes as formidable as the treatment. The operation will generally start as an exploratory one; the adventitia, after being emptied, will not approach the surface sufficiently to be marsupialized. We might close the abdomen but for the fact that the adventitia may fill up with serum and bile to such an extent as to render the pressure on the common duct almost as great as ever, or much bile may be extravasated into the coelum. Gauze packing and a drain tube give, I think, the best chance to the patient who is from both a general and a local point of view a bad subject.

A growing hydatid cyst of the lung bursts into the bronchus or pulmonary vessel, or the pleura, or it approaches the costal surface. If it does the latter it lends itself to operation, which consists in the removal of a portion of rib, the plunging of a knife into the cyst through both layers of pleura, the insertion of the surgeon's finger, the pulling up of the adventitia and the removal of the mother cyst (there are only rarely daughters). The further procedure varies according to the condition of the adventitia; if this be tenuous, as it usually is, the surgeon can withdraw his finger and sew up the wound entirely and closely; especially can he do this when the lung expands well and there is no cavity left. Sometimes the lung expanding only partially fills the space previously occupied by the hydatids, then I prefer to put in three or four sutures, mattressing the two pleural layers together before I close the wound entirely. If the adventitia be thick, as sometimes obtains, marsupialization is necessary, the greatest care being taken to attain near to asepsis, as the next day the lung may have expanded so much as to render the tube a superfluity, and the wound may then be securely closed. As in the case of the liver operation, the patient should be but lightly anaesthetized, because, shortly after the plunging of the knife into the cyst, hydatid fluid forces its way up a bronchus, and it is important that none should get down the opposite main bronchus; it is also obvious that the more fluid comes out through the wound the less will there be to go up the bronchus, hence, position and light anaesthesia are important aids.

Sometimes blood is added to the fluid in such quantities as to cause death very soon; the possibility of this should always be explained to the relatives. If more moderate in quantity, morphine and lactate of lime will do much good. The position of the unbroken cyst can be most accurately gauged before operation by the fluorescent screen.

When the cyst has already burst into a bronchus, a natural cure will result if the adventitia is thin and the opening into the bronchus sufficient, so that operation is not needed at once; but if the adventitia be thick, removal of a portion of rib, with incision into the cavity and subsequent drainage are needed, and here the x rays afford valuable aid. When the cyst bursts into the pleura the patient is in a very bad way, and an opening into the pleural cavity in the quickest way is the only thing to do. Later on a large opening may be made, with removal of hydatid débris and further drainage.

It may be noticed that I have made little mention of irrigation. It is inadmissible, I take it, in lung cases. It is unnecessary in live hydatids of the liver, and I am sure it is productive of terrible harm in suppurative cases.

NOTES ON FOUR CASES OF REMOVAL OF THE GASSERIAN GANGLION.

By ALEXANDER BLAYNEY, M.B., F.R.C.S.I.,
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In the following paper I propose to give an account of my experiences in four cases in which I removed the Gasserian ganglion for the cure of epileptiform neuralgia, and in addition to make some remarks on the pathology of the affection and the surgical measures which are available for its relief.

As in all essential features the four cases and the procedure which I adopted were alike, I shall give a detailed account of the first only. I shall then indicate briefly the minor differences which existed between this and the other cases.

The first patient was a man, J. D., aged 72, who was admitted to the Mater Misericordiae Hospital in November, 1904, on account of intense pain in the right side of his face. He was a herd by occupation, and had always enjoyed vigorous health till about four years previously. At that time he began to be troubled by a pain which was referred to the molar teeth on the right side of his lower jaw. The pain was very intense and came on at intervals, each attack lasting about half a minute. As the teeth showed evidence of decay they were extracted, but without any relief to the pain. During the two years following the pain gradually extended, involving the remaining branches of the superior maxillary and spreading to those of the inferior maxillary division of the fifth nerve. During the first two or three years there were intervals when he was completely free from pain, but for the two months before admission to hospital the pain was practically constant.

The patient was a rather spare man of good physique. His face presented from time to time an aspect of intense suffering. The pain was strictly unilateral, and was referred to the upper and lower jaw, and the parietal region of the right side. The paroxysms occurred at very frequent intervals, so frequent as to be almost constant. When not present they would be induced by movements of the jaw, as in mastication. When speaking, the lower jaw was kept clenched, and he spoke through closed teeth. Some twitching of the facial muscles took place when the pain was greatest. He was unable to sleep, except for a few minutes at a time; and owing to this, and to the difficulty in mastication of his food, he was in a very exhausted condition. His urine was normal, the heart sounds were good, and his lungs were quite sound.

The case was a typical one of epileptiform neuralgia, which had involved two of the divisions of the fifth nerve, leaving, as is frequently the case, the ophthalmic division free. With such an extensive involvement of the nerve it seemed to me that operations on the peripheral branches of the nerve would be useless, and that the only procedure which gave a promise of complete relief was the removal of the Gasserian ganglion. His advanced age made me hesitate for some time before deciding on subjecting him to this very formidable operation, but I was encouraged to do so by finding that in Sir Victor Horsley's successful cases some of the patients were even more advanced in life. Having determined on the operation, the next question to decide was the method which was to be adopted in carrying it out. Rose's mode of approach to the ganglion was rejected as being difficult of performance and unsatisfactory in its results, many cases having been recorded *in which no ganglionic cells could be recognized in the supposed ganglionic tissue removed*, and in which recurrence of the pain took place.

Consequently the temporal route remained as the method of choice. After a careful perusal of Cushing's

method and experimentation on the dead subject, I decided on the procedure which I followed in all four cases. The main features of this method are the making of an aperture with a trephine as low down as the situation of the zygoma will permit, followed by the removal with a rongeur forceps of the bone down to the level of the base of the skull. I did not divide the zygoma, as recommended by Cushing, but, notwithstanding this, I found it possible to expose the ganglion fully without being compelled to ligature the middle meningeal artery. I cannot too strongly insist on the advisability of becoming thoroughly familiar with the details of the operation on the dead subject before undertaking its performance on the living, as thus one learns to recognize at once the various landmarks and to appreciate the amount of force necessary to detach the fibrous bands which secure the ganglion to its dural sheath.

The actual details of the operation are as follows: The patient having been prepared in the usual manner, received a hypodermic of morphine about a quarter of an hour before being anaesthetized. Chloroform was the anaesthetic selected. Great care was taken that none of the antiseptics used on the skin should enter the eye, which subsequently was kept covered with a sponge moistened with normal saline solution. In order to lessen somewhat the venous oozing which is one of the chief difficulties of the operation, the patient was supported in nearly an upright posture. A flap of skin corresponding to the temporal muscle was now cut and turned down, the muscle being raised with the flap from the underlying bone. An inch trephine was applied and a corresponding portion of bone removed. The aperture was then rapidly enlarged with a rongeur forceps to the level of the base of the skull. The dura mater was elevated, a step which was accompanied by comparatively little bleeding, till the two fixed points at the foramen rotundum and foramen ovale were brought into view. These two points having been clearly identified, an incision was made into the dura on a line between them, thus opening the cavum Meckelii. The aperture was enlarged with a blunt dissector and the clearing of the ganglion was begun, starting from the two posterior nerve trunks. Very considerable bleeding now ensued, which kept constantly filling up the space. After several attempts to check this by pressure the foramen spinosum was plugged with gauze. This lessened the bleeding very considerably and allowed of further clearing. Still the progress was slow on account of the oozing, which required prolonged pressure, each advance in freeing the ganglion having to be followed by pressure for some minutes. At length the upper surface of the ganglion from the ophthalmic branch in front to the nerve root behind could be seen distinctly. The nerves of the second and third divisions were lifted up on a blunt hook and severed. An angled pressure forceps was placed on the ganglion. This was closed, and by a gradual rotating movement the structure was removed, bringing with it the whole of the nerve root. The cavum Meckelii could now be seen to be quite empty. As there was still some oozing of blood a gauze drain was left in and the wound closed. The operation in all had lasted about an hour and a half.

The patient suffered considerably from shock for some hours after the operation, but rallied well towards evening. His subsequent progress was excellent, the pain had completely disappeared when he recovered from the anaesthetic and has not since returned. The only thing calling for comment was the condition of his eye. This was washed out with boric lotion every day and was then covered with lint moistened in the same lotion. About four days after the operation slight ulceration appeared in the cornea which caused me some alarm, but this healed up in a few days more without any change in the treatment being necessary. Anaesthesia was present in the regions corresponding to the distribution of all three divisions of the nerve, and this persists to the present time with but slight diminution of area.

I have received an account of this man's condition in June of this year. He has had no return of the pain, and is in excellent general health.

The second case, Mrs. G., came under my care in February, 1905, about three months after the previous case. She was aged 52, and had suffered from tic douloureux for six years. The pain in her case began in the upper jaw, and for this she had undergone an operation on the superior maxillary nerve, which gave her relief for two years. The pain then returned, and gradually extended to the inferior maxillary division. She had been an inmate of a lunatic asylum for some months between the time of her first operation and her coming to me. The pain was so intense in her case that she had frequently contemplated suicide. Operation was carried out on February 3rd, 1905, on the same lines as in the previous case. There was much more trouble from venous oozing than in the first operation, and in clearing the upper surface of the ganglion I believe I opened the cavernous sinus, as during part of the manipulation there was a gush of venous blood. The bleeding was very free for a time, but was checked by prolonged pressure. After the operation this patient had paralysis of all the ocular muscles, which disappeared after about a fortnight. There was no tendency to corneal ulceration, and I am rather of opinion that the ptosis from which she suffered for some time had served as a protection to the eye.

I have recently received a letter from this woman's husband, saying that she is in excellent health, has been quite free from pain, and has never shown any symptoms of mental aberration since the operation.

The next patient, Mrs. M., was operated on in December, 1905. She had suffered for five years from pain, which began in connexion with the branches of the inferior maxillary division, and subsequently extended to the superior maxillary. In carrying out the operation, the subdural space was opened in making the incision to open the cavum Meckelii. There was a discharge of cerebro-spinal fluid for a few minutes, but the subsequent progress was unaffected by this. I have not been able to trace the subsequent history of this case, but she left the hospital quite well and free from pain.

The last patient was a man, J. D., aged 52, who had suffered from tic douloureux for eight years. He was operated on in December, 1905. Both superior and inferior maxillary divisions were affected. There were no special features to record in connexion with the operation. He has had no recurrence of the pain since he was operated on.

In all, four cases have been operated on, with no mortality and complete relief to the symptoms, which relief I know has persisted to the present time in three of the cases. The subsequent history of the other case I do not know, but I have no reason to think that any recurrence of the pain took place.

The ganglia removed were submitted to Dr. McWeeney, who found evidence of pathological change in all four. In one of them there was a marked increase of connective tissue, with patches of small-celled infiltration. The capsules of the ganglion cells were thickened, and there were changes in the nucleus of the cells. In addition numerous corpora amylacea were present, which were not seen in normal ganglia which were examined for comparison. These changes correspond to those which were found by Spiller in a number of ganglia examined by him for Keen. They would seem to indicate that a process of chronic inflammation, spreading from the periphery, had involved the ganglion. The view of the pathology of this affection which is generally adopted is that the disease begins as a peripheral neuritis in one of the divisions of the fifth nerve, which gradually creeps centrally till it involves the ganglion. The inflammatory process then spreads, involving the cells of the nerve fibres of the remaining divisions. What the exact seat of the pain is is difficult to decide, but it would seem to me probable that it arises in connexion with the nerve-cells of the Gasserian ganglion which are receiving abnormal impulses from the periphery. This view would be in accordance with the facts observed in connexion with the operations for removal of the ganglion and in those for the removal of the peripheral nerves. In the former case, the ganglion cells being removed, the pain ceases at once. In the latter the abnormal impulses are cut off, but the ganglion cells being in a state of irritability only gradually return to their normal condition, and hence for some time after the operation pain is experienced. Under this view, if one could prevent restoration of nerve connexion after the peripheral operation a permanent cure might be hoped for. Hence the procedure of Abbé, who resects intracranially portions of the second and third divisions and then interposes a sheet

of rubber tissue between the ganglion and the cut ends, has much to recommend it. It is much easier of performance than the removal of the ganglion, and Abbé has reported cases in which recurrence had not taken place after intervals of two or three years. With regard to the treatment by injection of alcohol or osmic acid, these seem to act by causing a degeneration of the nerve fibres. But the physical continuity of the nerve not being interfered with, it would seem to me highly probable that restoration of nerve conduction would follow, more especially when we remember that complete restoration of some inches of nerve has been proved to have taken place after peripheral operations.

In the four cases which came under my charge the two posterior divisions of the nerve were involved, and consequently I did not think that peripheral operations held out any hope. The only procedure promising a certain cure which was known to me at the time was the removal of the Gasserian ganglion. Although I was aware this operation had a very distinct mortality (10 per cent.), the melancholy condition of the patients seemed to me to justify the undertaking of this very formidable operation. It may be that further experience of the method of Abbé will establish it on a firm basis, but for the present the removal of the Gasserian ganglion is the only method which certainly promises a permanent cure for this frightful malady.

ON THE SCOPOLAMIN-MORPHINE NARCOSIS.

By CHARLES LEEDHAM-GREEN, F.R.C.S.,
Surgeon to the Queen's Hospital, Birmingham.

Two years ago, at the Annual Meeting at Exeter, I gave my opinion of the value of spinal anaesthesia, and emphasized the fact that I regarded it as almost ideal from the *operator's* point of view. My experience since that time only confirms my previous favourable opinion. The more I use it the more convinced I am of its value, safety, and efficiency. From the point of view, however, of the *patient*, it cannot be denied that spinal anaesthesia leaves something to be desired. For, probably, the majority of patients, if given the choice, would prefer to be oblivious as well as insensible to pain at the operation. Nay, more, they wish to become unconscious before anything is done and not to wake up again until all is over and they are once more back in bed.

From this point of view spinal anaesthesia leaves much to be desired. The injection itself is slightly painful and can only be given immediately before the operation, and though the anaesthesia is complete and of sufficient duration for the performance of all operations, it rather excites than deadens the cerebral activity while it lasts, and when its action passes off it does so suddenly, leaving the pain of the wound unmitigated by any anodyne. It cannot, therefore, be regarded as an ideal anaesthetic from the patient's point of view. In order to be that, it is necessary to have some means of so influencing our patients that they become not only perfectly anaesthetized and oblivious at the time of the operation, but also that this condition should last, at any rate in part, for some hours afterwards.

It is perhaps difficult for a surgeon to enter fully into the feelings of a sensitive patient at the time of an operation. Knowing that the operation itself will be painless, and that the healing of the wound will be rapid and unaccompanied by fever or other trouble, he is apt to forget the physical and mental distress which the patient experiences before and after the ordeal. But those of us who have had the misfortune of learning by personal experience the real feelings of a patient on this point, will probably have a vivid recollection of the horror of the long, sleepless night before the operation, the discomfort of the early morning preparations, and the nerve-racking time of waiting for the arrival of the surgeon, followed by the suffocating bewilderment of the anaesthetic, and the return (all too soon) to consciousness, nausea, and the feeling of pain and general discomfort. No, even under favourable circumstances, the twelve hours immediately preceding and succeeding a major operation are anything but pleasant.

Within the last few years a mixed form of narcosis has gradually been evolved which materially reduces these discomforts, and more nearly approaches the ideal anaesthetic from the patient's point of view. I refer to the scopolamin-morphine narcosis, which was first introduced by Schneiderlin in 1900, but has since undergone considerable modifications and improvements at the hands of Korff, Kummel, and others. This form of anaesthesia has hardly received the recognition it deserves in this country, and therefore I have ventured to lay before you my experience in its use.

When the method was first introduced it was hoped that it would prove capable of producing such a deep slumber that the operation could be carried out without having to resort to chloroform or ether. Experience, however, soon showed that the production of so deep a coma was accompanied by a certain amount of danger, especially in the case of debilitated patients, and that it was not advisable to administer more of the drug than was sufficient to produce a drowsiness, or light sleep, as a preliminary to the administration of chloroform or ether.

The reason for giving both scopolamin (hyoscin) and morphine is to obtain a maximum of the hypnotic effect common to the two drugs, and a neutralization of their toxic action. Scopolamin is an alkaloid of the atropin group, having many of the properties of atropin, but differing in that it produces a marked lowering of the irritability of the cerebrum. Unlike atropin, in small doses it causes a slowing of the pulse. The peripheral blood vessels are dilated, thus producing a certain redness and warmth of the face. Like atropin, it inhibits the secretion of the salivary and mucous glands—an action which is of great value in lessening the dangers of broncho-pneumonia. The anodyne and narcotic action of the second component, morphine, is too well known to need description. Under its influence the breathing becomes reduced in frequency and depth, the pupils contracted, and the mucous secretion, if anything, slightly increased.

The chief difficulty in the use of this form of anaesthetic has been to determine the proper dose to administer. As I have said, it was at one time hoped that the drugs might be given in sufficient quantity to produce a sleep deep enough to permit of the performance of even major operations. In robust patients this can usually be done without difficulty, and I have several times removed even large bronchoceles without awakening the patient. But experience soon showed that the administration of scopolamin and morphine in sufficient doses to produce deep narcosis was attended by danger, and the use of these drugs for this purpose has been universally abandoned. All that is now sought is the production of a drowsiness, or light sleep, as a preliminary to the administration of chloroform or ether. As the action of both the alkaloids, especially scopolamin, varies with the individual, it is found advisable to give it in small repeated doses until the desired effect is produced.

The method which I now use is as follows: The night before the operation the patient is given 10 grains of veronal or bromural, in order to ensure a good night's rest with unbroken sleep—the best preparation for the ordeal. An hour and a half before the operation takes place a subcutaneous injection of morphine $\frac{1}{3}$ grain, and scopolamin $\frac{1}{100}$ grain, is administered. The room is darkened and the patient told to go to sleep. The effect of the injection is immediately to produce a pleasant feeling of drowsiness, in which all fear of the impending operation is lost; and a little later the patient falls into a light sleep from which he can easily be aroused, but only to fall asleep again when he is left alone. If, at the expiration of an hour, the patient is neither asleep nor feeling decidedly drowsy, another injection of morphine $\frac{1}{3}$ grain, scopolamin $\frac{1}{100}$ grain, is given. In the case of women and debilitated patients slightly smaller doses are given, whereas robust men may sometimes with advantage be given a larger second dose than the one mentioned above.

The solution of scopolamin is very liable to undergo decomposition, and should therefore be freshly prepared on each occasion. It should not be mixed with the morphine solution, but the two alkaloids given separately. The manufacturing chemist, Riedel, makes up a special preparation, called "Skopomorphin," in which both the alkaloids are present in a sterilized form, which is very convenient for use, and which has proved most satisfactory in my hands. The only disadvantage is that the proportions of

both the scopolamin and morphine are fixed once and for all and cannot be varied to suit the special needs of the case. An hour and a half from the time when the first injection was administered a general anaesthetic is given in the usual way. Chloroform, or a mixture of chloroform and ether, may be used to start the anaesthesia, and then as soon as consciousness is abolished, replaced by pure ether. Owing to the effect of the scopolamin and morphine, the inducing and maintaining complete anaesthesia is singularly rapid and easy. There is no struggling or choking on the part of the patient, very little of the anaesthetic is required, and the rapid change from a condition of deep to partial anaesthesia, with its accompaniment of struggling and straining, is avoided. Another most valuable consequence of using scopolamin-morphine is that it prevents the excessive mucous and salivary secretions which so frequently accompany and follow the administration of a general anaesthetic—particularly in the case of ether.

The frequency with which bronchopneumonia follows the use of ether has long been largely attributed to the aspiration of this mucous secretion, and consequently it is hoped that by means of using scopolamin-morphine the risk of this serious after-effect will be considerably diminished. Already evidence in support of this claim is accumulating.[1]

The beneficial action of the scopolamin-morphine injection is perhaps even more marked after the operation. For, owing to its administration, the patient, instead of rapidly waking up to pain and discomfort, quietly passes into a peaceful sleep of several hours' duration.

Lastly, the justly-dreaded post-anaesthetic vomiting is either absent or, at any rate, reduced to a minimum. I have accurate notes of the last 80 of my patients who have been anaesthetized by this method. In 72 of these cases no vomiting took place: of the rest, in 4 the vomiting was very slight (generally limited to a single effort), and in only 4 was there repeated vomiting, and in these the nature of the operation (such as exploration of the kidney, gastric ulcer, intestinal obstruction) was likely to produce sickness.

In the case of patients who have undergone an operation on the abdomen this marked diminution in the liability to post-anaesthetic sickness is in itself sufficient to justify its being called "the humane anaesthetic." It may be convenient to summarize the advantages of the scopolamin-morphine injection briefly. They are as follows:

1. The patient is spared much nervous tension while being prepared for and awaiting operation.
2. He is already drowsy when the general anaesthetic is administered, consequently the full narcosis is quickly and easily obtained without distress.
3. The amount of general anaesthetic (ether or chloroform) required is greatly reduced.
4. Full anaesthesia with perfect muscular relaxation is quickly obtained and easily maintained. Moreover, there is no sudden passage from full to semi-anaesthesia with its accompaniment of struggling on the part of the patient.
5. The secretion of mucus is lessened, and consequently the administration of ether facilitated, with diminished risk of post-operative pneumonia.
6. Absence of vomiting.
7. The operation is followed by a long and peaceful sleep.
8. Increased safety.

On the last-claimed advantage it is necessary to say a few words, for on its substantiation the general adoption of the method must ultimately depend. For should further experience go to show that the scopolamin-morphine narcosis is less safe than the simple ether, or chloroform-ether, anaesthesia, then all its other advantages would not justify its employment.

At the annual meeting of the German Surgical Society in Berlin last April, Professor Neuber, of Kiel, presented the anaesthetic statistics of the large German hospitals for last year, and compared them with those collected by Gurlt from the same sources from 1890 to 1897.

The figures were most interesting, and, as they are most scrupulously compiled, are probably the most authoritative statistics we have on the present mortality from general anaesthesia. The statistics for the years 1890–1897 were as follows, according to Gurlt:

1890 to 1897.	Cases.	Deaths.
Chloroform	240,806	116=1 in 2075
Ether	56,233	11=1 in 5 12
Chloroform and ether ...	15,226	2=1 in 7613
Billroth's mixture	6,740	2=1 in 3370
1903.		
Chloroform	20,613	10=1 in 2050
Ether	11,859	2=1 in 5930
Chloroform and ether... ...	10,232	3=1 in 3410
Billroth's mixture	2,791	4=1 in 698
Scopolamin-morphine ...	23,809	5=1 in 4762

	Anaesthetics.	Deaths.
1890 to 1897...	319,005	131=1 in 2425
1903	71,052	24=1 in 2959

It will be noticed that the ether narcosis is increasing in favour in Germany. But I wish to draw attention to the mortality-rate of that anaesthetic. It will be seen that, with the exception of a slight improvement in the ether statistics, the figures for chloroform and chloroform-ether mixtures are not so good as they were in the period 1890–7. That is to say, the large adoption by the German surgeons of the Roth-Dräger apparatus, whereby the proportion of ether and chloroform vapour is regulated with scientific accuracy and duly mixed with oxygen gas, has not led to that improvement in the mortality which was expected.

The mortality of 1 in 4,762 in the scopolamin-morphine narcosis is extremely good when we remember:

1. That the method is quite in its infancy, and many surgeons have undoubtedly been administering unduly large doses of the drugs.

2. That the grave respiratory after-effects, which so frequently follow the use of simple ether, are absent in the case of scopolamin-morphine narcosis.

It is my opinion that in this mixed form we have not only the most humane, but also the safest, of general anaesthetics.

DISCUSSION.

Dr. Clement Dukes (Rugby) said that he had used the method freely, and valued it most highly. He asked the author why he gave veronal the night before rather than scopolamin and morphine.

Mr. Leedham-Green, in reply to this question, said it was a routine he had adopted from previous workers.

A RECENT SERIES OF 212 CASES OF TOTAL ENUCLEATION OF THE PROSTATE.

WITH SPECIAL REFERENCE TO OCTOGENARIANS.

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Eight years have now elapsed since, in the British Medical Journal of July 20th, 1901, I brought my operation of total enucleation of the prostate for radical cure of enlargement of that organ to the notice of the profession. At several meetings of the Association I have placed the results of my work in this direction before the members, and at the Exeter meeting in July, 1907, I gave a review of 432 instances of the operation, my entire experience up to that date. Since then I have operated on a further series of 212 cases, the results of which I will briefly place before you to-day. In the brief time at my disposal it is impossible to deal with more than some limited aspects of the subject. I propose, therefore, directing your attention mainly to two very important applications of the operation—namely (1), to the case of

[1] Kümmel (*Verh. d. Deutsch. Gesellsch. f. Chir.*, 1903) reports that since using the scopolamin-morphine narcosis the frequency of post-operative pneumonia in his clinic has fallen from 2.5 per cent. to 0.61 per cent.; v. Eiselsberg (*Wiener klin. Wochenschr.*, 1909, No. 13) also notices a marked reduction in the occurrence of post-operative pneumonia. His figures were 3.5 per cent. formerly, and now, since using scopolamin, only 0.9 per cent.

octogenarians, and (2) to the case of very large prostates. I feel that I shall best convey my impressions on both these subjects by, in the first instance, giving details of a limited number of cases from this series, several of which illustrate both the subjects under notice.

CASE 444.

A., aged 81, sent by Dr. E. D. Cave, Bath, October 3rd, 1907. Prostatic symptoms nine years; retention of urine six years ago relieved by catheter. A year later retention again and Italy; aspirated suprapubically by a French surgeon at Nice. After this employed the catheter, but only occasionally. Has had repeated attacks of cystitis, a prostatic abscess, and septic pneumonia during last two months, but no catheter employed, though he has had intense frequency of micturition with pain along the urethra. I failed to pass any kind of instrument into the bladder. Prostate enormously enlarged per rectum, bilobed, soft, smooth, and movable. General health bad. Under an anaesthetic on October 4th, 1907, I failed to pass any soft catheter; metal catheter manipulated into the bladder with much difficulty; 16 oz. filthy urine drawn off; suprapubic cystotomy; no stone in bladder. I then enucleated the prostate entire with much difficulty, as it was unusually adherent to the surrounding tissues. The prostate is of a peculiar shape, flattened transversely to the urethra, but very broad; weight 6½ oz. Uninterrupted progress for three weeks, when the temperature rose for a few days to 102° F. Saw Sir Thomas Barlow in consultation; we could detect no cause for the rise in temperature.

Though the temperature subsided progress was slow, and the wound, though clean, did not finally close till the beginning of December. On July 11th, 1909, Le wrote: "I am very well, and have no trouble in any way with my bladder; I can walk two and three miles daily."

CASE 485.

B., aged 80, seen with Dr. Maynard, London, December 25th, 1907, for retention of urine. Catheter passed and over 3 pints of urine drawn off. Prostatic symptoms had existed three or four years. Prostate felt much enlarged per rectum and movable. The patient being entirely dependent on the catheter from December 26th, I enucleated the prostate entire on January 3rd, 1908, its weight being 3½ oz.

The patient made an uninterrupted recovery, passed some urine naturally January 15th, and the wound closed on January 19th. On February 11th he left the home able to retain and pass his urine normally.

CASE 486.

C., aged 84, seen with Dr. R. M. Hugo, Purley, January 2nd, 1908. Prostatic symptoms for ten years. Retention of urine on December 25th, 1907; relieved by catheter, which has been employed two or three times daily since then. Prostate enlarged, bilobed, soft and movable. Residual urine 9 oz., clear and acid. On January 4th I enucleated the prostate entire in three and a half minutes, weight 1½ oz.

Save that the suprapubic wound was slow in closing there was no unfavourable symptom. Passing all his urine naturally by February 17th. On February 25th he went home in excellent health, passing and retaining his urine normally. On July 24th, 1909, he wrote that he was free from all urinary troubles.

CASE 500.

D., aged 74, seen at Maidstone with Dr. Charles Hoare, February 15th, 1908. Usual prostatic symptoms for fifteen years; threatened retention of urine frequently. Catheter used twice daily for a fortnight. I drew off 8 oz. of residual urine, faintly acid and of fishy odour. Prostate enormously enlarged, soft, bilobed, movable. General health indifferent. On February 20th I enucleated the prostate entire, Dr. Hoare assisting. The prostate, which weighed 7½ oz., presented a large median projection in the bladder and was easily enucleated. Progress uninterrupted except by a slight orchitis which yielded easily to treatment.

On April 15th the patient left for the country in good health, retaining and passing urine as well as he ever did. On July 15th, 1909, he wrote: "I can report favourably on my old troublesome organs. I have no trouble in passing urine."

CASE 514.

E., aged 85, consulted me on April 13th, 1908, on the advice of Dr. Pryce Mitchell, of Monte Carlo, and Dr. E. B. Travers, London. Haematuria thirty years previously; sounded with negative result by the late Sir H. Thompson. Prostatic symptoms for twenty-five years, during which he had been in the hands of various surgeons. Entirely dependent on the catheter for seven years. Several attacks of cystitis and haemorrhage. During the last three or four years condition very pitiable, the catheter being employed six or seven times daily. Frequent failure to pass the catheter; waits and then tries again. A few days before I saw him he failed to pass the catheter at Monte Carlo, though he made seven or eight attempts to do so. Eventually called in Dr. Mitchell and a French surgeon, and a catheter was introduced after nine hours' retention of urine, during which the patient suffered fearful agony. After this was so ill that he had to be accompanied by Dr. Mitchell from Monte Carlo to London to undergo operation. I found the prostate enormously enlarged, filling the bladder and rectum, bilobed, soft and movable. Urine alkaline, containing pus; specific gravity, 1010. For years he had suffered from profuse urethral thick discharge of pus. On April 15th I enucleated the prostate entire in six minutes, Dr. Travers and Professor Spencer of the Army Medical School being present. Two shards of the prostate lay in the bladder, the lateral lobes being symmetrically prominent, with large median tongue-shaped outgrowth; weight 11 oz. There was scarcely any bleeding and no shock. The temperature remained normal for fifteen days and the wound quite clean. On April 30th the temperature rose to 101 F., and the patient complained of intense pain in the right side of the head, which continued till May 6th, when an abscess burst in the ear. This incident retarded the closing of the wound. Some urine passed naturally May 20th; wound dry May 28th. On June 5th he left for the seaside, able to pass and retain urine as well as he ever did. Alburia a fortnight after his right mastoid was successfully trephined for abscess by my friend, Dr. William Hill.

On July 23rd, 1908, he came to see me in excellent health, passing his urine, which was normal, naturally as well as he ever did, and retaining it five hours. On July 15th, 1909, he wrote: "So far as the prostate operation is concerned, it has been an unqualified success. The flow of urine is perfect." I saw this gentleman next day: he was in excellent health, untroubled by any urinary symptom.

CASE 527.

F., aged 72, seen with Dr. Saudford Smith, Eltham, May 27th, 1908, suffering from prostatic symptoms twelve years. Retention of urine in 1901; catheter employed since then; entirely dependent thereon for six years. Some haemorrhage nine months ago. Catheter causes much pain, and some bleeding. I drew off 10 oz. urine containing some pus; specific gravity, 1025. Prostate extremely large, bilobed, smooth, movable, easily felt bimanually. General health fair. On June 1st, 1908, Drs. Smith and Habershon being present, I enucleated the prostate. It presented a large median outgrowth in the bladder; weight 2½ oz. On June 16th some urine was passed per urethram, and entirely in this way on and after June 18th.

He went home in good health on July 3rd, able to retain and pass urine naturally as well as ever. I have recently seen this patient; he is in excellent health, able to retain and pass urine naturally as well as he ever did, and looks ten years younger than his age.

CASE 545.

G., aged 86, seen with Dr. Fyson, St. Leonards-on-Sea, July 15th, 1908. In 1896 had haematuria, after retaining urine for a long time. Repeated attacks of haematuria during past two years, increasing in frequency and intensity lately. Scarcely any increase of frequency in micturition, but some pain in the penis during the act. Residual urine 6 oz. Prostate much enlarged, bilobed, smooth, dense at points; felt bimanually to be fairly movable. Loss of flesh during previous year. On July 17th I enucleated the prostate at St. Leonards, the time occupied by the operation being seven minutes. The gland was unusually adherent on the left side, but came away entire; weight 2½ oz. On microscopic section, found to be a benign adenomatous growth, though suspicions of incipient malignancy were entertained by me before removal.

He made an uninterrupted recovery, and commenced to pass urine naturally July 31st; the wound was dry by August 2nd. This patient wrote, July 17th, 1909: "I am glad to tell you I am very well indeed, and have no trouble whatever in the matter you asked me about" (the power of passing and retaining his urine).

CASE 582.

H., aged 70, seen with Dr. Richmond, Wimbledon, November 4th, 1908. Had an attack of influenza in March, 1890, and shortly after, in April, retention of urine, which was relieved by the catheter. Cystitis with high fever followed. Entirely dependent on the catheter for eighteen and a half years, during which patient has had innumerable attacks of cystitis with rises of temperature to 104° or 105° F. Repeated attacks of haematuria, the haemorrhage in August, 1908, being very profuse. Latterly, much difficulty in introducing the catheter, which passes in 6 in. before urine flows. I drew off 8 oz. of urine, which contained pus and mucus with a considerable deposit of albumen. The prostate was enormously enlarged, filling the bladder and rectum; bilobed, dense, smooth, movable. On December 7th, 1908, Drs. Richmond and Pocklington being present, I enucleated the prostate entire. I found that the prostate (Fig. 1), presented an enormous gutter-shaped outgrowth in the bladder, formed by the lateral lobes, which were separated in front by a deep cleft. The enucleation was easy only for the difficulty of reaching the distal aspects of the growth adjacent to the rectum.

Time occupied by operation, seven minutes, very little haemorrhage or shock. Not an unfavourable symptom for twelve days, during which the temperature remained normal. It then gradually increased to 102° F., when I had the advantage of Sir Douglas Powell's advice. A pneumonic patch was found at the base of the left lung. There was also tenderness in the left loin. Temperature normal on December 31st; some urine was passed per urethram December 28th, and entirely in this way on January 7th. In washing out the bladder I detected some small phosphatic concretions. These I crushed and evacuated by the aspirator on January 21st, without the aid of an anaesthetic. Next day there was a rigor with sharp rise of temperature, which was normal again on January 23rd.

On January 27th the patient went home, able to pass and retain his urine naturally, as well as he ever did, after eighteen and a half years' complete dependence on the catheter. On February 12th he wrote: "I could walk six or seven miles without difficulty." On July 9th he wrote: "I make and retain my water thoroughly satisfactorily." In fact, he can go for nine or ten hours without passing urine, and then pass it in a full and strong stream. The bladder is so capacious that on one occasion he retained and passed with ease 33 oz.

The prostate (Fig. 1) is a fine specimen, weighing 17 oz., the lateral lobes being symmetrically enlarged. You will observe that it was removed entire, without a single tear in the capsule. It is open along the anterior commissure, so that it was delivered from the bladder like an open oyster, the left lobe coming first, then the median bridge, and lastly the right lobe, thus avoiding the necessity of making a very large wound in the bladder and abdominal wall.

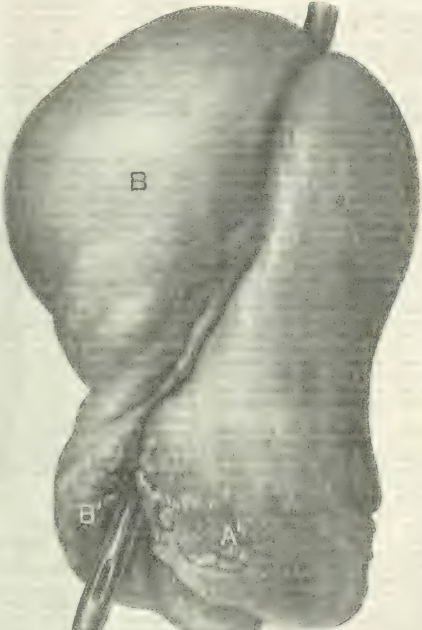


Fig. 1.—Prostate weighing 17oz., removed from a patient aged 70 (Case 582). A, Right lobe; B, left lobe; A', B', outgrowths of these lobes in the bladder.

CASE 583.

K., aged 80, seen with Dr. Ruck, Ealing, November 30th, 1908. Prostatic symptoms for eleven years. Consulted a London specialist nine years ago, who proposed castration for cure of his disease. The patient did not relish this, so kept clear of specialists since then. Now has intense frequency of micturition, every quarter of an hour night and day, so that he cannot sleep. I drew off 8 oz. of stinking urine by the catheter. Prostate much enlarged per rectum, bilobed, soft, movable. On December 8th I enucleated the prostate (weight 2½ oz.) entire. Dr. Ruck assisting. Recovery uninterrupted. Passed some urine naturally December 22nd, and wholly in this way on and after December 25rd.

He went home on January 11th in excellent health, passing and retaining his urine normally. He is now in good health, untroubled by any urinary symptom.

CASE 597.

L., a retired army surgeon, aged 80, had internal urethrotomy performed in 1862, and again in 1880. Bougies passed periodically, but during last two years could not get them beyond the prostate. Usual symptoms of prostatic enlargement for two or three years; now intense frequency of micturition, particularly at night. Bladder much distended, but I could pass no instrument, owing to a narrow stricture in the bulbous urethra, admitting a catheter No. 4, which impinged against the prostate. Per rectum the prostate was felt much enlarged, bilobed, smooth, and movable. On February 12th, 1909, the patient being anaesthetized, with much difficulty I manipulated a No. 5 steel sound into the bladder, and then rapidly dilated the stricture to No. 8, when I performed internal urethrotomy, a No. 15 steel sound passing with ease immediately after. I then enucleated the prostate, which weighed 1½ oz. On February 25th some urine was passed naturally, and on March 5th the suprapubic wound was dry.

On March 22nd the patient went home, passing and retaining his urine as well as ever. On July 15th he writes: "My general health is good. I can empty the bladder naturally though the stream is small" (due to the stricture).

CASE 621.

M., a physician, aged 77, seen with Dr. Latham, London, May 10th, 1909. Prostatic symptoms for twenty years: catheter employed since 1895; entirely dependent thereon for the last six years. Sounded by two different surgeons with negative result. During last four years much bleeding, repeated attacks of cystitis, and gradually increasing difficulty with the catheter. Can now pass only a No. 6, which passes in 16 in. before urine flows. Prostate enormously enlarged, the size of a cocoa-nut, filling the rectum; quite soft, smooth, and movable. General health fair. On May 13th I enucleated the prostate. Mr. Pendlebury of St. George's Hospital being present. On opening the bladder suprapubically the prostate was found globular, the lobes being symmetrical, with the urethra in the form of a deep slit between them. About two-thirds of the prostate lay in the bladder and one-third outside. Enucleation was quite easy, save that the distal portions towards the rectum were reached by the finger in the bladder with difficulty. The lobes opened along the anterior commissure, and the prostate was delivered entire through the wound, like an open oyster. There was considerable haemorrhage during the enucleation, but this ceased on delivery of the prostate. Time occupied by the operation, nine minutes. The patient was rather collapsed shortly after transfer to bed, but in the evening the pulse was strong and regular. Uninterrupted recovery. Passed 5 oz. urine, June 5th: wound dry and all urine passed naturally, June 7th.

On June 28th the patient left the surgical home in good health, passing and retaining urine naturally as well as ever. The prostate, you will see, is a fine specimen of globular shape, removed without a rent, and weighing just a pound. This gentleman came to see me on July 22nd when passing through London, in good health, untroubled by any urinary symptom.

CASE 633.

N., a Portuguese general, aged 80, consulted me June 14th, 1909, on the advice of Dr. Kalker, Neuheim, Germany. Prostatic symptoms for nine years. Underwent Bottini's operation in Berlin in 1902, but without any amelioration of his symptoms. Catheter employed for nine years; entirely dependent thereon for three years. Has had lithotrity performed on more than twenty occasions during the last seven years! Much haemorrhage lately, which has rendered him very anaemic and weak. Much difficulty with the catheter at times, as the urethra is

much contracted. Prostate greatly enlarged per rectum, bilobed, soft, movable; easily felt bimanually, but examination painful, probably due to the presence of a stone in the bladder. Urine contains much pus, alkaline; specific gravity, 1010. On June 17th I enucleated the prostate after removing a small phosphatic stone from the bladder, Dr. Kochman being present. It presented a large tongue-shaped projection in the bladder, was very soft, easily enucleated, and weighed 5½ oz. Time occupied by the operation, including removal of the stone, six minutes. The patient bore the operation well, but an hour afterwards became collapsed, with feeble pulse and cold perspiration. This condition passed off in a couple of hours, and afterwards he had no unfavourable symptom. Some urine passed naturally on July 3rd, and on the 5th the wound was dry. On July 17th he drove to the Zoological Gardens and walked about the grounds.

He is now in excellent health, having put on flesh rapidly, and can pass and retain urine, which is normal, as well as he ever did.

On July 27th his son-in-law wrote: "He is very pleased with the results of the operation. He feels himself quite another man. He holds and passes his water quite well and freely. After so many years of suffering, his actual condition is really marvellous."

REMARKS.

One of the remarkable features of this operation is the success that has attended its employment in advanced old age. In my entire series of 644 operations of enucleation of the prostate to date there have been 48 octogenarians ranging from 80 to 89 years, and 9 bordering on this period, aged 79, with 6 deaths. Indeed, I may say that age has comparatively little influence on the results of the operation, provided the vital organs, and particularly the kidneys, are unaffected or fairly sound. Still, patients of this advanced age are a source of much anxiety, and operation should not be undertaken in such cases without the most careful nursing being available, as well as the constant supervision of the surgeon. The most anxious period is during the first few hours after operation, for, though when placed in bed the patient's pulse may be strong and regular and everything seem progressing satisfactorily, in an hour or two collapse may set in, when restoratives of all kinds must be had recourse to—namely, normal salines, brandy and strong coffee per rectum, warm clothing, hot-water bottles, and strychnine hypodermically. Once this period is passed and reaction sets in, as a rule the patient progresses uninterruptedly towards recovery.

Prostates weighing from 2 to about 5 oz. are those most easily enucleated. In proportion as they are smaller than 2 oz. in weight, they become more difficult to enucleate. Amongst this series of 212 operations there were 13 prostates weighing from 5 to 17 oz. The line of cleavage between the capsule and sheath in prostates of these sizes is almost invariably well defined, but in the extremely large ones it is difficult to reach with the enucleating finger the distal portions—those in proximity to the rectum and triangular ligament—so that the enucleation frequently requires very great exertion on the part of the surgeon, particularly if the patient be stout. Owing to their size, they are also frequently impacted tightly beneath the pubic arch, so that there is some difficulty in sweeping the enucleating finger round them in this direction. The removal of prostates of these sizes is no light or easy task, but with patience and the employment of much physical force they can invariably be enucleated entire.

It would appear at first sight that for the delivery of one of these enormous prostates the incision in the abdominal wall must be very extensive; but in reality this is not so, for the simple reason that in enucleation they almost invariably open out along the anterior commissure, and can be delivered like an open bivalve. One lateral lobe is gripped by the forceps and slowly delivered through the wound; this is followed by the median portion, and lastly by the other lateral lobe. It must also be remembered that the adenomatous prostate is spongy and very compressible between the blades of the forceps. So that, when delivered in the manner indicated, the wound in the bladder need not be more than about one-third the size through which the prostate, closed as you see them suspended in these jars, could be delivered.

One would naturally expect that the haemorrhage attending removal of these large prostates would be severe, but this is not the case. Indeed, the haemorrhage is often trifling, and scarcely ever more than in enucleation of prostates of much smaller sizes.

The average age of all my cases is 69 years, the prostates ranging from ½ oz. to 17 oz., with an average of 2½ oz. In connexion with these 644 operations there have been 39 deaths, in periods varying from six hours to thirty-seven days after operation, or a mortality of 6.05 per cent. The mortality has been gradually diminishing from 10 per cent. in the first 100 cases to 4.24 per cent. in the last 200. The causes of death were: Uraemic symptoms due to chronic kidney disease, 16; heart failure, 6; septicaemia, 2; shock, 4; exhaustion (kidneys much diseased), 1; mania (hereditary in 1), 2; malignant disease of the liver, 2; heat stroke, 1; pneumonia, 1; acute bronchitis, 2; pulmonary embolism, 1; and cerebral haemorrhage with paralysis, 1. Though all these deaths are accepted in connexion with the operation, in not more than half the number can the fatal result be attributed thereto, the remaining deaths being due to disease incident to old age and unconnected directly with the operation. In 114 cases vesical calculi were removed at the same time; but all the deaths in these cases are accepted in connexion with the prostatectomy, none being put down to the suprapubic lithotomy involved.

DISCUSSION.

In reply to observations from the PRESIDENT and others, Mr. FREYER stated that in two or three of his earlier cases he noticed that there was some difficulty in introducing a large catheter, and this he attributed to an hour-glass contraction referred to by Professor Sinclair. To obviate this occurrence and for other reasons, he now, on removal of the large drainage tube on the third or fourth day, placed a small drainage tube in its place, which he kept in till the twelfth or thirteenth day, thus preventing any urine from passing through the urethra. On the removal of this tube a large catheter was passed daily, and the bladder washed out through it, till the surface wound was completely closed. This passage of the catheter daily had the additional effect of moulding the parts and obviating spasm at the neck of the bladder, which was the cause of the feature referred to by Professor Sinclair. Since he had had recourse to this procedure the speaker had not noticed this phenomenon. It was his endeavour to drain the bladder suprapubically occasionally preparatory to prostatectomy—namely, in cases of severe cystitis with symptoms of blood poisoning, and when there was prolonged retention leading to uraemic symptoms. When, in the course of ten or fourteen days, the uraemic symptoms passed off and the bladder became clean, the prostate was enucleated.

DIAGNOSIS OF CANCER BY EXAMINATION OF THE BLOOD.

By E. C. HORT, B.Sc., M.R.C.P.Edin.

THE VALUE OF THE ANTITRYPTIC INDEX IN THE DIAGNOSIS OF MALIGNANT DISEASE.

THE difficulties attending the diagnosis of "cancer" (carcinoma and sarcoma) during life are well illustrated by the following figures:[1]

In three years the total number of cases, at all ages, of disease proved to be malignant, occurring in the practice of thirteen of the leading London hospitals,[2] was 3,532, including cases in which recurrence had taken place. Of this number 582 had not been diagnosed clinically. In addition, 220 cases had been wrongly accused of suffering from malignant disease. Of 303 cases proved by the microscope to have been carcinomatous or sarcomatous, occurring in the first twenty-five years of life, the disease was not diagnosed before inspection in 128, approximately 1 case in 2·3. In addition, 14 cases in the same period of life diagnosed as malignant were proved not to be so.

These figures afford abundant evidence of the pressing need for further refinements in the diagnosis of malignant disease than we at present possess.

To show to what extent this need may be met by measuring the antitryptic power of the serum of patients suspected to be suffering from malignant disease is the primary object of this paper. Incidentally, as will be

seen, the observations here recorded appear to throw some light on the essential auto-infective nature of the disease itself. By the antitryptic power of the serum is, of course, meant the power that a serum has of antagonizing or inhibiting the digestive activity of the ferment trypsin.[2]

Apparently the first to demonstrate variation in the antitryptic activity of serum in disease was von Dungern,[4] who in 1898 showed that the serum of a patient, the subject of suppurative osteo-myelitis, was many times more inhibitory of the proteolytic ferment of the invading coccus than was the serum of a healthy adult. He even suggested that this observation might be of value in determining the identity of an infective agent. The next clinical observations on variation of antiferment activity in disease were those of Ascoli and Bezzola,[5] who demonstrated a rise in the antitryptic content in the serums of several cases of lobar pneumonia before the crisis. In 1907 similar variation in other infections was shown by Wiens,[6] Müller,[7] Kolaczek,[8] and also by Bittorf.[9] Following this came the work of Marcus,[10] and in 1908 Dr. Golla[11] began his observations on variation in the antitryptic content of tuberculous serums, published in 1909. In 1908 I began to study the antitryptic content of cancerous serums, and found, very constantly, marked variation from the normal. The results of examination of some thirty cases of cancer were published by me in June of this year,[12] the results of still further observations being embodied in the present communication. In 1908 work on the same subject was independently undertaken in the Brieger Institute by Brieger and Trebing,[13] of which I had no exact knowledge till June of this year, when I first saw their papers. Their results, unfortunately, as will be seen, cannot be relied on on account of the unsatisfactory nature of the method of measurement employed.

Of the various ways of measuring the inhibition of ferment activity exerted by the antiferments of serum the following, previous to 1909, are the chief:

1. That of Professor Dean,[14] who in 1901 adopted a suggestion by Fermi of gauging the inhibitory power of serum on tryptic digestion of measured columns of gelatin.

2. That of Müller and Jochmann,[15] whose method, introduced in 1906, consisted in adding varying quantities of serum, measured in loops of platinum wire, to drops of pus on a Loeffler plate, and estimating thereby variation in the degrees of pitting caused by the tryptic ferment contained in the polymorphonuclear cells.

3. That of Marcus,[16] and of Brieger and Trebing,[17] who in 1908 adopted the method of Müller and Jochmann, which they modified by substituting commercial trypsin for pus ferment.

4. That of Cross, Bergmann, and Meyer,[18] who in 1908 used the end-point of a tryptic digestion as a guide to the inhibition exerted by serum.

5. That of Herzfeld,[19] who used Fuld's titration method as modified by Bergmann and Meyer.

None of these methods, however, can in practice be relied on to give constant results. All the methods involving the use of a Loeffler plate are particularly unreliable, because (1) as was shown by Hedin,[20] neutralization cannot be thus obtained, and (2) because the degree of pitting can only be very roughly gauged, especially as the bouillon and serum used in preparation of the plates contain, according to the samples taken, varying quantities of albumen. The impossibility of preparing plates with a uniform surface, and of a uniform depth, is also an insuperable objection to their use. They are, it is true, capable of roughly gauging the difference between the inhibitory power of a normal serum and that of a pathological, provided that the difference is sufficiently gross. But for finer degrees of variation, and for showing the differential values of pathological serums from each other, they cannot be recommended.

The only scientific way of measuring antiferment activity, such as the antitryptic, is to estimate the velocity of action of the ferment itself. From this the restraining value of the inhibitory body under investigation can be readily deduced. The first observer to recognize the importance of this in determining the antiferment values of serums was Dr. Golla,[21] who, choosing the physical method of electro conductivity, has already demonstrated its clinical value in measuring the relative antitryptic content of tuberculous serums.

The method I have adopted is a chemical one based on Sörensen's mode of estimating by titration the velocity of tryptic digestion, though further work on the subject may well demonstrate the advantages of even a simpler method. The *modus operandi* of the chemical method has been already published, and for details of manipulation the original papers can be consulted.[22] Briefly the test is this: A measured quantity of normal serum is added to a standard solution of trypsin, the mixture being added, after incubation, to a third standard solution of casein. After incubation at a temperature of 38° C., a fixed quantity of phenolphthalein and formaldehyde is added to a sample of the digest, which is then titrated with soda. The number of cubic centimetres required to neutralize gives the amount of hydrolysis effected. The pathological serums it is desired to examine are treated in exactly the same way, and the differences of inhibitory power recorded, also in terms of hydrolysis.

The first step was to ascertain the constancy of the antitryptic content of serums from subjects that might reasonably be considered healthy. For this purpose the serums of seventeen apparently healthy adults were examined, the results appearing in Table A, where, as will be seen, sixteen out of seventeen, of both sexes, exhibited such slight variation in the antitryptic content of their serums as to justify the establishment of a reliable normal. The seventeenth observation revealed a high antitryptic content, the significance of which was subsequently explained by a history of recent haemoptysis, considered clinically to be tuberculous in origin.

TABLE A.—*Showing the Antitryptic Content of the Serum of Seventeen apparently Healthy Adults, in Sixteen of whom a Normal Antitryptic Content was found.*

A represents the antitryptic content of the serum under examination expressed in terms of the amount of NaOH N/5 required to neutralize 10 c.cm. of a standard solution of trypsin and casein, containing 0.5 c.cm. of serum A, after digestion at 38° C.

B represents the antitryptic content of known healthy human serum expressed in terms of the amount of NaOH N/5 required to neutralize 10 c.cm. of a standard solution of casein and trypsin, containing 0.5 c.cm. of serum B, after digestion at 38° C.

(This explanation of the figures noted applies to all the tables in this paper.)

1	Healthy adult	A : B : : 0.60		
2	,,	A : B : : 0.58		
3	,,	A : B : : 0.60		
4	,,	A : B : : 0.58	: 0.60	(healthy serum I)
5	,,	A : B : : 0.62		
6	,,	A : B : : 0.61		
7	,,	A : B : : 0.76		
8	,,	A : B : : 0.70		
9	,,	A : B : : 0.70		
10	,,	A : B : : 0.64	: 0.70	(healthy serum II)
11	,,	A : B : : 0.64		
12	,,	A : B : : 0.70		
13	,,	A : B : : 0.76		
14	,,	A : B : : 0.48		
15	,,	A : B : : 0.52	: 0.50	(healthy serum III)
16	,,	A : B : : 0.60		
17	Tuberculous subject, apparently healthy	A : B : : 0.40	: 0.60	(healthy serum IV)

The second step was to ascertain in what class of case of non-infective disease the antitryptic content of the serum is normal. In Table B, therefore, are placed all those cases examined in which a general infection, bacterial (heterogeneous) or cellular (autogenous), was apparently absent. The results appear to show that for all practical purposes the serums of individuals afflicted with many diverse conditions (non-infective in the widest sense of the word) can be regarded as normal, and for purposes of comparison used as such. This list of morbid conditions, not associated with variation in the antitryptic content, is of course only a preliminary one and is open to extension.

TABLE B.—*Certain Morbid Conditions, showing a Normal Antitryptic Content, in which General Infection (Auto- and Hetero-) could be excluded.*

1	Cut throat	Normal
2	Removed fibroids	,,
3	Fractured ribs	,,
4	Haemorrhoids	,,
5	Haemorrhoids	,,
6	Varicose eczema	,,
7	Colic	,,
8	Polycythaemia	,,
9	Stricture of urethra	,,
10	Convalescent after appendectomy	,,
11	General psoriasis	,,
12	Chronic mastitis	,,
13	Chronic mastitis	,,
14	Chronic gastric ulcer	,,

15 Chronic gastric ulcer ... ... Normal
16 Chronic duodenal ulcer ... ... ,,
17 Simple hypertrophy prostatic ... ... ,,
18 Non-specific venereal sores healed two years before (Wassermann —) ... ... ,,
19 Domestic specific disease fifteen years before (Wassermann —) ... ... ,,
20 Gall stones ... ... ,,
21 Carbuncle ... ... ,,
22 Carbuncle ... ... ,,
23 Hydrocele of cord ... ... ,,
24 Furunculosis ... ... ,,
25 Acne ... ... ,,
26 Varicose ulcer ... ... ,,
27 Floating kidney ... ... ,,
28 Bronchial catarrh ... ... ,,
29 Bronchial catarrh ... ... ,,
30 Chronic gastric ulcer ... ... ,,
31 Chronic gastric ulcer ... ... ,,
32 Chronic gastric ulcer ... ... ,,
33 Acute gastric ulcer ... ... ,,
34 Chronic duodenal ulcer ... ... ,,
35 Varicose veins ... ... ,,
36 Thoracic aneurysm ... ... ,,
37 Œsophageal stenosis ... ... ,,
38 Gall stones ... ... ,,
39 Gall stones ... ... ,,
40 Haematemesis (? cause) ... ... ,,

The third step was to determine in what class of disorders, apart from malignant disease and apart from obvious general infections, serums that might reasonably be expected to exhibit a normal antitryptic content do actually exhibit an abnormal content. All the serums examined which showed abnormal antitryptic contents, except those from cancers and obvious infections, are included in Table C. This list, again, is of course only a preliminary one:

TABLE C.

1	Varicocele	A : B : : 0·40 : 0·65
2	Varicose veins (leg)	A : B : : 0·35 : 0·50
3	Multiple uterine fibroids	A : B : : 0·25 : 0·60
4	Appendicectomy after seven days ...	A : B : : 0·35 : 0·55
5	Hernia, seven days after operation ...	A : B : : 0·45 : 0·65
6	Hernia	A : B : : 0·48 : 0·60
7	Hernia	A : B : : 0·40 : 0·55
8	Hernia, four days after operation ...	A : B : : 0·40 : 0·50
9	Fractured femur	A : B : : 0·30 : 0·60
10	Fractured patella	A : B : : 0·45 : 0·60
11	Fractured ribs	A : B : : 0·49 : 0·60
12-14	Nephritis	All raised.

The chief interest of this table lies in the fact that it appears that the cellular disturbance produced by fractures, by hernias, by attacks of nephritis, and no doubt by many other conditions, is just as potent a factor in producing profound blood changes as are severe bacterial infections. The significance of such phenomenon will be referred to later.

The final step, prior to systematic examination of cancerous serums, was to determine to what extent the antitryptic content of the serum undergoes variation in infective disorders as a class. For this purpose 52 cases were examined, the diseases selected being scarlatina, measles, typhoid, acute septicaemia, syphilis, leprosy, and tuberculosis. As will be seen by reference to Table D, the antitryptic content was found to be raised in all the cases in which the respective infection was still in force, except in two cases of the anaesthetic form of leprosy, one tertiary syphilide, and one case of scarlet fever, in which there appeared to have been an experimental error.

TABLE D.—*Showing Antitryptic Content of Serum in Certain Infective Diseases.*

1	Measles during fever (figures lost) ...	Antitryptic content raised.
2	,, ,, ,, ...	,, ,, ,,
3	,, ,, ,, ...	,, ,, ,,
4	Measles, convalescent ...	,, normal.
5	Syphilis (tertiary) ...	,, raised.
6	,, ,, ...	,, ,,
7	,, ,, ...	,, ,,
8	,, (III) ...	,, subnormal
9	Leprosy, nodular form ...	A : B : : 0·40 : 0·60
10	Acute septicaemia, ruptured ovarian cyst ...	A : B : : 0·40 : 0·65
11	Typhoid, second week ...	A : B : : 0·48 : 0·60
12	Typhoid, time not stated ...	A : B : : 0·50 : 0·60
13	Scarlatina, temperature 104° F. ...	A : B : : 0·45 : 0·65
14	,, ,, 103 F. ...	A : B : : 0·40 : 0·65
15	,, ,, 101° F., tenth day ...	A : B : : 0·65 : 0·65 (? experim. error)
16	Scarlatina, temperature normal for two days ...	A : B : : 0·43 : 0·65
17	Scarlatina, temperature normal for six days ...	A : B : : 0·37 : 0·65
18	Scarlatina, twenty-second day, complicated by measles second day ...	A : B : : 0·43 : 0·65
19	Scarlatina, temperature normal for [illegible] days ...	A : B : : 0·37 : 0·65
20	Scarlatina, temperature normal for [illegible] days ...	A : B : : 0·45 : 0·65
21	Scarlatina, temperature normal for thirty days ...	A : B : : 0·64 : 0·65
22	Scarlatina, temperature normal for thirty days ...	A : B : : 0·64 : 0·65
23	Scarlatina, temperature normal for thirty days ...	A : B : : 0·75 : 0·65
24 to 43	Nineteen cases of pulmonary tuberculosis, disease active ...	Antitryptic content raised in all
44	Renal tuberculosis, active	Antitryptic content raised
45	Suppurating glands, neck	Antitryptic content raised
46	Peritoneal tuberculosis	Antitryptic content raised
47	Interstitial hepatitis	Antitryptic content normal
48	Healed or arrested pulmonary tuberculosis ...	Antitryptic content raised
49	Leprosy, nodular form, last stages ...	A : B : : 0·25 : 0·60
50	,, anaesthetic form	A : B : : 0·58 : 0·60
51	,, ,, ,, ...	A : B : : 0·53 : 0·60

Table D is of peculiar interest because it shows that in bacterial infections, and in other infections in which the "*materies morbi*" is unknown, the serum has a high antitryptic content during the course of infection; that the content remains high during convalescence, but that it becomes normal when convalescence is fully established. The significance of these observations, at present necessarily incomplete, in their bearing on a similar phenomenon occurring in malignant disease will also be referred to later.

The next step was the examination of the serums of patients proved either by clinical history or by microscopical section, or by both, to be subjects of malignant disease. In Table E are given the results of examination of all the cases of carcinoma in which a high antitryptic content was found.

TABLE E.—*Ninety-four Cases of Carcinoma, in all of which a Raised Antitryptic Content was found.*

1	Carcinoma of breast	A : B : : 0·90 : 1·00
2	,, ,, ...	A : B : : 0·68 : 0·96
3	,, ,, ...	A : B : : 0·70 : 0·90
4	,, ,, ...	A : B : : 0·51 : 0·65
5	,, ,, ...	A : B : : 0·40 : 0·60
6	,, ,, ...	A : B : : 0·62 : 0·65
7	,, ,, ...	A : B : : 0·65 : 0·90
8	,, ,, ...	A : B : : 0·35 : 0·70
9	,, ,, ...	A : B : : 0·42 : 0·60
10	,, ,, ...	A : B : : 0·50 : 0·60
11	,, ,, ...	A : B : : 0·35 : 0·65
12	,, ,, ...	A : B : : 0·45 : 0·55
13	,, ,, ...	A : B : : 0·55 : 0·65
14	,, ,, ...	A : B : : 0·43 : 0·56
15	,, ,, ...	A : B : : 0·30 : 0·60
16	,, ,, ...	A : B : : 0·48 : 0·60
17	,, ,, ...	A : B : : 0·30 : 0·65
18	,, ,, ...	A : B : : 0·45 : 0·65
19	,, ,, ...	A : B : : 0·58 : 0·65
20	Carcinoma of cervix	A : B : : 0·41 : 0·56
21	,, ,, ...	A : B : : 0·45 : 0·75
22	,, ,, ...	A : B : : 0·40 : 0·70
23	,, ,, ...	A : B : : 0·35 : 0·75
24	,, ,, ...	A : B : : 0·58 : 0·65
25	,, ,, ...	A : B : : 0·35 : 0·65
26	,, ,, ...	A : B : : 0·85 : 0·95
27	,, ,, ...	A : B : : 0·41 : 0·56
28	,, ,, ...	A : B : : 0·38 : 1·00
29	,, ,, ...	A : B : : 0·75 : 0·90
30	Carcinoma of body	A : B : : 0·45 : 0·75
31	,, ,, ...	A : B : : 0·45 : 0·75
32	,, ,, ...	A : B : : 0·35 : 0·65
33	Carcinoma of cervix	A : B : : 0·45 : 0·65
34	,, ,, ...	A : B : : 0·35 : 0·65
35	,, ,, ...	A : B : : 0·45 : 0·65
36	,, ,, ...	A : B : : 0·77 : 0·98
37	,, ,, ...	A : B : : 0·50 : 0·62
38	,, ,, ...	A : B : : 0·56 : 0·56
39	,, ,, ...	A : B : : 0·40 : 0·60
40	Carcinoma of œsophagus	A : B : : 0·40 : 0·60
41	,, ,, ...	A : B : : 0·70 : 0·86
42	,, ,, ...	A : B : : 0·40 : 0·65
43	,, ,, ...	A : B : : 0·50 : 0·60
44	Carcinoma of tongue	A : B : : 0·45 : 0·75
45	,, ,, ...	A : B : : 0·70 : 0·90
46	,, ,, ...	A : B : : 0·90 : 1·05
47	,, ,, ...	A : B : : 0·60 : 0·90
48	Carcinoma of sigmoid	A : B : : 0·60 : 0·78
49	,, ,, ...	A : B : : 0·76 : 0·96
50	,, ,, ...	A : B : : 0·45 : 0·60
51	Carcinoma of pylorus	A : B : : 0·80 : 0·96
52	,, ,, ...	A : B : : 0·60 : 0·90
53	,, ,, ...	A : B : : 0·68 : 0·80
54	,, ,, ...	A : B : : 0·50 : 0·70
55	,, ,, ...	A : B : : 0·60 : 0·80
56	,, ,, ...	A : B : : 0·50 : 0·80
57	Carcinoma of colon	A : B : : 0·56 : 0·70
58	,, ,, ...	A : B : : 0·45 : 0·64
59	,, ,, ...	A : B : : 0·46 : 0·60
60	Carcinoma of larynx	A : B : : 0·68 : 0·95
61	,, ,, ...	A : B : : 0·45 : 0·65
62	,, ,, ...	A : B : : 0·55 : 0·70
63	,, ,, ...	A : B : : 0·55 : 0·70
64	Carcinoma of mouth	A : B : : 0·35 : 0·70
65	,, ,, ...	A : B : : 0·85 : 1·00
66	,, ,, ...	A : B : : 0·45 : 0·65
67	,, ,, ...	A : B : : 0·45 : 0·60
68	Carcinoma of cervical glands (III) ...	A : B : : 0·62 : 0·82
69	,, ,, ...	A : B : : 0·40 : 0·50
70	,, ,, ...	A : B : : 0·60 : 0·60
71	Carcinoma of palate	A : B : : 0·52 : 0·60
72	,, ,, ...	A : B : : 0·40 : 0·60

73	Carcinoma of tonsil	...	...	...	A : B : : 0.30 : 0.70	
74	,, ,,	...	...	...	A : B : : 0.45 : 0.75	
75	Carcinoma of lip	...	...	...	A : B : : 0.45 : 0.75	
76	,, ,,	...	...	...	A : B : : 0.50 : 0.65	
77	Carcinoma of prostate	...	...	...	A : B : : 0.60 : 0.65	
78	,, ,,	...	...	...	A : B : : 0.53 : 0.68	
79	Carcinoma of cæcum	...	...	...	A : B : : 0.55 : 1.05	
80	,, ,,	...	...	...	A : B : : 0.45 : 0.75	
81	Carcinoma of uterus (omitted)	...	...	...	A : B : : 0.35 : 0.95	
82	Carcinoma of nose	...	...	...	A : B : : 0.30 : 0.60	
83	Carcinoma of sternum	...	...	...	A : B : : 0.25 : 0.60	
84	Carcinoma of scrotum	...	...	...	A : B : : 0.40 : 0.60	
85	Carcinoma of anus	...	...	...	A : B : : 0.34 : 0.68	
86	Carcinoma of mesentery	...	...	...	A : B : : 0.84 : 0.96	
87	Carcinoma of throat	...	...	...	A : B : : 0.40 : 0.60	
88	Carcinoma of lip	...	...	...	A : B : : 0.50 : 0.60	
89	Carcinoma of rectum	...	...	...	A : B : : 0.30 : 0.65	
90	Carcinoma of breast ...				A : B : : 0.40 : 0.85	
91	Carcinoma of uterus	...	...	...	A : B : : 0.35 : 0.50	
92	Carcinoma of breast	...	...	...	A : B : : 0.30 : 0.65	
93	Carcinoma of rectum	...	...	...	A : B : : 0.40 : 0.70	
94	Carcinoma of anus	...	...	...	A : B : : 0.45 : 0.70	

I desire to draw particular attention to the fact that the rise in antitryptic content observed in these cases bore no relation whatever to the presence or absence of cachexia. In at least 30 per cent. of the cases no cachexia, in the accepted use of the word, could be demonstrated.

In Table F are given all the cases of carcinoma examined in which estimation of the antitryptic content before operation failed to show any rise. In these cases, therefore, the test was of no value whatever as a diagnostic aid.

TABLE F.

No.	Situation of Growth.	Antitryptic Content.	Proof of Malignancy.
95	Carcinoma of breast	Normal	By recurrence.
96	,, tongue	,,	,,
97	,, ,,	,,	,,
98	,, rectum	,,	Clinical only.
99	,, antrum	,,	,,
100	,, œsophagus	,,	,,

In the first case, that of a mammary cancer in a lady aged 83, it is possible that the normal antitryptic content found is an indication of the extreme chronicity occasionally associated with carcinoma mammæ in elderly subjects, or, in other words, of effective spontaneous immunization. In the remaining cases no such explanation appears possible.

Granting proved malignancy in all six cases in Table F, the antitryptic content of the serum failed to give any indication of the nature of the disease in 6 cases out of 100, literally 6 per cent. On the other hand, Table E shows that out of a total of 100 consecutive cases of indisputable malignant disease a high antitryptic content was found in 94 cases, literally in 94 per cent.

The object of the next table is to show that the antitryptic content of a cancerous serum becomes normal, and remains normal, in cases submitted to operation in which the operation has been, up to the time of blood examination, effective—effective, that is, in the sense of complete ablation of the tumour requiring operation, and thereby of preventing recurrence. In each of the cases recorded in Table G the patients were in perfect health at the time of the examination of the blood, and did not show any clinical signs of recurrence. It is to be noted that there is in these cases no evidence that the antitryptic content was high before operation, as operation took place before the test had been elaborated. Since, however, a high antitryptic content was found in 94 of 100 cases examined in which the presence of carcinoma was indisputable, and since a high content was found in all the cases in Table H, where recurrence was proved, it is a fair assumption that the content was high before operation. In all the cases in Tables G and H positive evidence is available that the tumours removed were carcinomatous.

TABLE G.

No.	Situation of Growth.	Operation.		
1	Carcinoma breast	Radical, 1905	A : B : : 0.75 : 0.75	in June, 1909.
2	,, rectum	,, 1907	A : B : : 0.75 : 0.75	,,
3	,, breast	,, 1909	A : B : : 0.75 : 0.75	,,
4	,, ,,	,, 1909	A : B : : 0.75 : 0.80	,,
5	,, ,,	,, 1905	A : B : : 0.74 : 0.80	,,

In Table H, as will appear, the reverse picture is seen—that is, in all the cases examined in which recurrence had already taken place, the antitryptic content was high.

TABLE H.

No.	Situation of Growth.	Operation.	Recurrence.	
1	Carcinoma breast	Radical, 1907	May, 1909	A : B : : 0.49 : 0.67
2	Carcinoma rectum	Amputation, 1907	June, 1909	A : B : : 0.65 : 0.75
3	Carcinoma tongue	Radical, 1907	In cervical glands, June, 1909	A : B : : 0.62 : 0.80
4	,, ,,	,, 1905	In cervical glands, 1909	A : B : : 0.49 : 0.60
5	Carcinoma breast	,, 1906	In scar, 1909	A : B : : 0.67 : 0.66
6	Carcinoma tongue	,, 1907	In cervical glands, 1907	A : B : : 0.54 : 0.60
7	Carcinoma breast	,, 1904	June, 1909	A : B : : 0.66 : 0.77
8	,, ,,	,, 1905		A : B : : 0.6 : 0.6

Cases 7 and 8 in this table are of interest because the recurrence in both cases had been treated with considerable success, judged by the diminution in the size of the recurrent swelling, under *x* rays. In spite of the apparent clinical improvement, the blood examination tends to show that the recurrent focus of disease was at the time of the blood examination active. If these results are compared with the figures obtained from examination of the cases operated on in which, up to the time of examination, no recurrence had taken place, it appears that surgery is still to be preferred to treatment by *x* rays.

The diagnostic value of determination of the antitryptic content of the serum in cases where any suspicion has arisen of the presence of carcinoma may be best appreciated by reference to a few illustrative cases.

CASE I.—In this case the clinical symptoms pointed to simple hypertrophy of the prostate on account of mechanical obstruction to evacuation of the bladder. There was no haemorrhage, or pain, or cachexia. Examination, however, of the blood revealed a high antitryptic content, the figures being A : B : : 0.40 : 0.65. The prostate was enucleated, and the correctness of the diagnosis of malignancy based on the blood examination confirmed by sections of the organ which revealed the carcinomatous nature of the growth. In this case, then, all the weight of clinical evidence was against malignancy, but the blood examination afforded a truer guide.

[Owing to exigencies of space the rest of the cases are omitted.—ED.]

CONCLUSIONS.

The finding of a normal antitryptic content in any case where the question of malignancy has arisen appears to be of the greatest value in excluding a diagnosis of cancer. Unfortunately, the positive value of a negative diagnosis is not absolute, since the test was of no value in 6 cases out of 100.

The finding of a raised antitryptic content in any case where the question of malignancy has arisen does not justify a positive diagnosis of the presence of cancer, since I have found constantly a raised content in measles, scarlatina, enteric, tuberculosis, acute septicæmia, some cases of leprosy and syphilis, and a similar rise will also almost certainly be found in many other infections, as well as in certain auto-infections, such as nephritis. In spite of this, however, a raised antitryptic content appears to be often of great value in deciding a doubtful opinion as to the presence of malignant disease, since the greatest incidence of cancer is at the period when the infective incidence (hetero-infection) is at its lowest.

In the absence of obvious infection, the possibility that a raised antitryptic content may sometimes be due to auto-infection from non-malignant cell aberration must constantly be borne in mind.

A raised antitryptic content appears to be often of the greatest value in distinguishing between an innocent neoplasm and a malignant. Its chief value appears to lie in distinguishing, for example:

1. Chronic mastitis and benign neoplasms from cancer of the breast.
2. Simple hypertrophy of the prostate from cancer of the prostate.
3. Simple gastric ulcer from carcinoma of the stomach, and the complication of the former by the appearance of the latter.

4. Carcinoma of cervix and uterus from simple inflammatory conditions of those organs.

Quite apart from the diagnostic value of measurements of the antitryptic content of serums suspected to be cancerous, the observations here recorded throw, I submit, a strong light on the relation of auto-infection to hetero-infection, and, more important still, on the essential nature of cancerous disease itself.

The popular conception of infection as a process that is purely dependent on the presence of micro-organisms is, as I have elsewhere postulated,[2] a conception that bars the way to progress in the modern interpretation even of disease admittedly bacterial, and arrests all our efforts at its cure. If we find, as these observations show that we do find, variation in the antiferment activities of serums from cases of disease where the bacterial element is incapable of demonstration, as in simple fracture, or in non-suppurative nephritis, or in hernia, or in non-ulcerated carcinoma, side by side with a similar variation in cases of disease that are patently bacterial, we surely hold a strong position. For here we have weighty presumptive evidence not only that auto-infection from cells and their derivatives occurs in the absence of bacterial invasion, but is also a factor that cannot be neglected in diseases in which we know bacteria to exist. The bearing of such argument on modern methods of treatment of bacterial infections that vainly hope to achieve success by bacterial vaccines only I have already dwelt on.[3]

As regards the direct significance, *quâ* malignant disease, of the enormous variation that I have shown to occur in the antitryptic content of cancerous serums, it is premature to hazard explanations. But the mere fact that such change in antiferment activity should be intimately and constantly associated with the "metabolic vice" that we call cancer at the least is an indication that we must look to intracellular derivatives, such as enzymes, co-enzymes, and the products of morbid cell activity, to provide us with a key to effective immunization against malignant autoinfection. Not the least significant of the facts here noted, in its bearing on the cellular factor in the complex immunization machine, is the return to normal of an antitryptic content after removal of the malignant focus and its maintained high level when recurrence or extension occurs.

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SOME CASES OF INTESTINAL ANASTOMOSIS.

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Intestinal anastomosis has for a long time excited interest. The frequent necessity for its performance has stimulated the ingenuity of the surgeon in the direction of simplification and improvement in technique, and its feasibility, coupled with the benefits which in many cases it confers on the patient, have so completely justified the procedure that it may now be looked upon as firmly established. The following cases are examples of some of the conditions in which anastomosis is required, and they enable us to estimate its usefulness, whether as a curative or palliative measure.

The cases fall into three classes, according to the part of the bowel concerned in the operation. In the first of these the anastomosis concerns the small intestine alone —*entero-enterostomy* (Cases I–IV); the second comprises cases where the anastomosis is made between the ileum and the colon—*ileo-colostomy* (Cases V–IX); in the third class, represented by a single case (Case X), the communication involves the large intestine alone—*colo-sigmoidostomy*. For permission to record such of these cases as occurred in hospital practice I have to thank Sir Hector Cameron, in whose wards in the Western Infirmary I had the opportunity of treating them.

Class I.—*Entero-enterostomy.*

In this class there are 2 cases of gangrenous strangulated hernia and 1 case of gunshot wound of the mesentery, in all of which enterectomy was performed. In a fourth case an almost complete transverse rupture called for occlusion of the bowel without enterectomy.

Case I.—*Strangulated Umbilical Hernia. Gangrenous: Resection of Gut and Omentum: Entero-anastomosis: Gangrene at Seat of Anastomosis: Faecal Fistula: Cure.*

J. H., aged 58, inspector, a patient of Dr. Horne, was admitted to Western Infirmary, Ward 30, on December 29th, 1908, with strangulated umbilical hernia. The hernia, which had existed for many years, became strangulated fourteen hours before admission.

State on Admission.—The patient, who was very obese, looked ill, but made no complaint of great pain. The umbilical swelling was *extremely hard*, tense, and tender, was covered with reddened skin, and projected very little. The percussion note was tympanitic in parts; there was no palpable impulse on coughing.

Operation.—Median incision. Sac contained greenish omentum and a loop of small intestine, black, and with here and there yellowish streaks. The umbilical ring was notched above, and the bowel drawn down. Lateral anastomosis was performed, and the loop was cut away, the mesentery being tied in sections. The hypertrophied omentum in the sac was ligated in sections and cut away. The abdominal wound was partially closed with through-and-through sutures, and at its upper end gauze packing inserted into the peritoneal cavity.

Progress.—He was fairly comfortable till the third day, when he became very restless and even delirious at night. Two days later he passed *per anum* a quantity of blood, and the following day he had haematemesis. General condition remained unsatisfactory till January 7th, when there was a profuse bloody faecal discharge from opening at upper end of the wound. Condition at once improved.

Result.—He left the hospital on February 22nd. The fistula had almost closed, and the bowels were acting well. I saw him again on March 12th, when the fistula was completely healed, and I have since heard from his doctor that he keeps well and is able to attend to business.

This case is interesting from the diagnostic point of view. The great hardness, the inflammatory condition of the skin, and the absence of marked protrusion were suggestive of acute cellulitis; and it was chiefly Dr. Horne's corroboration of the history that helped me to a correct diagnosis. I believe, further, that the patient owed his life to the fact that the wound had not been completely closed. This permitted the escape externally of bowel contents, after gangrene at the seat of anastomosis had occurred; and in this respect this case may be contrasted with the one which immediately follows.

Case II.—*Strangulated Femoral Hernia, Gangrene at Seat of Constriction: Resection through Laparotomy Wound: Entero-anastomosis: Gangrene at Seat of Anastomosis, with Leaking and Commencing Peritonitis: Death.*

Mrs. J. McT., aged 57, sent by Dr. McQueen, Cumnock, admitted to Western Infirmary, Ward 29, on June 9th, 1909, with strangulated femoral hernia of two and a half days' duration. The hernia had been noticed for four years. After admission she vomited a quantity of yellowish fluid matter, having a faecal odour. The abdomen was flaccid, and the pulse 92 per minute. There was a strangulated femoral hernia, of the size of a large hen's egg, on the left side.

Operation.—On opening the sac, a quantity of omentum, greyish in colour and adherent to sac, was exposed. On raising this, a knuckle of small intestine was seen. The gut was light purple in colour, was tightly constricted at the femoral ring, and during manipulations it gave way. The abdomen was opened

above Poupart's ligament, the ring notched from within, and bowel pulled up. Gangrene at seat of constriction; excision of loop and lateral anastomosis performed; omentum cut away, sac invaginated and abdominal wound closed in layers.

Progress.—She kept well till noon on June 11th, when she vomited a mouthful of fluid faecal matter. This being repeated, the abdomen was reopened on the 12th. The bowel at seat of anastomosis was found to be gangrenous. The wall of distal piece had sloughed in the neighbourhood of the closed end, and the anterior part of the anastomosis wound had gaped widely. Tubes were tied into both pieces of gut. A quantity of faecal fluid, similar to what had been washed out of the stomach, came away through the tube in the proximal piece of gut; and both pieces were syringed with saline.

Result.—These measures gave temporary relief, but she began to have difficulty in swallowing. She became progressively weaker, and died at 6 a.m. on June 14th, four days and six hours after the first operation.

When this case is contrasted with the preceding one, it must be admitted that it would have been safer to leave the wound partly open. If this had been done, the peritonitis, fairly widespread, which was demonstrated *post mortem*, might have been avoided.

The occurrence of gangrene in both cases is interesting in view of the fact that in both the affected loop had been freely excised, and that the anastomosis was made in apparently healthy bowel. There must be a limit to the amount of bowel which should be removed in these cases. The difficulty in fixing this limit is shown in both of the above cases, when we consider the apparent healthiness of the parts. That the gangrene was not connected with *operative* interference with the mesentery in the performance of the enterectomy is shown by the next case.

Perhaps the best plan to follow in cases such as the above would be to leave the abdominal wound partly open with gauze packing, and if things went well to close it secondarily in the course of a week or so.

CASE III.—*Gunshot Wound of Abdomen: Implication of Mesentery: Resection of Corresponding Portion of Bowel: Lateral Anastomosis: Recovery.*

T. B., aged 25, baker, was brought to the Western Infirmary on February 24th, 1909, by Dr. McGeogh of Girvan, with gunshot wound of the abdomen. The accident happened at lunch time, and he received the contents of a fowling-piece at a distance of 5 yards in the right thigh and abdomen. Shortly after the accident he vomited, and there was a small quantity of blood in the vomitus.

State on Admission.—When admitted nine hours after the accident, he was suffering from shock, and complained of pain in the wounded area. There were numerous shot holes in the right iliac region, and longitudinal scratches over the region of Scarpa's triangle. The percussion note in the right iliac region and right flank was dull. The liver dullness was (?) somewhat diminished.

Operation.—The abdomen was opened through the sheath of the right rectus, the muscle being hooked inwards. Many pellets were felt in the different layers of the abdominal wall and some in the wall of the gut. On opening the peritoneal cavity a considerable quantity of blood escaped. There was some ecchymosis on the postero-external aspect of the caecum. Working up from the ileo-caecal junction for several feet, a part of the small intestine was reached, which showed at the mesenteric attachment two ecchymotic spots, with irregularity, as if the mesentery had been torn. The bowel higher up was unharmed. A portion of bowel, about 12 in. long, including the two areas mentioned, was excised, the ends closed, and lateral anastomosis made. A drainage tube was passed into the pelvis and the abdominal wound closed by through-and-through sutures.

Result.—He made a good recovery, and left the hospital on April 6th. For some days after operation he had slight jaundice. On March 2nd he had a tarry motion after a glycerine enema, and there was evidence of blood in the stools till March 12th. On March 9th he complained of abdominal pain and vomited, but was quite well on the following day. During convalescence numerous pellets worked their way out through small sloughing openings in the skin. A stereoscopic x-ray photograph, taken by Dr. W. F. Somerville after the patient was convalescent, showed a large number of pellets situated deeply in the iliac and femoral regions. I last saw him on May 27th, at which time he continued well.

The history of haematemesis, the condition of shock, and the area of dull percussion extending up from the wounded region of the abdomen, pointed to visceral injury with intra-abdominal extravasation of blood. This was demonstrated when the peritoneum was opened. Active haemorrhage had ceased, and it was difficult to determine the seat of serious injury. It was questionable whether enterectomy was necessary; but the risk of gangrene following the injury of the mesentery determined me to remove the piece of bowel concerned. The subsequent melaena was probably due to extravasation of blood into the bowel as an immediate result of the gunshot injury to its walls.

The following case of entero-anastomosis, I wish merely to mention: it has been elsewhere published in detail:[1]

CASE IV.—*Almost Complete Transverse Rupture of Ileum, of Traumatic Origin: Occlusion of Torn Ends: Lateral Anastomosis: Recovery.*

George W., aged 12, was jammed between a lamp-post and a barrow over which he had lost control. His abdomen came into violent contact with the lamp-post. Immediate and repeated vomiting set in, and he had severe generalized pain in the abdomen. Within a few hours the abdominal wall had become board-like, and restlessness had set in.

Operation.—The abdomen was opened about eleven hours after the accident. There was a large quantity of brownish bloody fluid in the recto-vesical pouch; and a transverse rupture of the ileum was found about 80 in. above the ileo-caecal junction. The mesentery at the seat of the rupture was slightly torn, and a considerable area of it was ecchymotic. The rupture was completed, the ends occluded, and lateral anastomosis made. Recovery was uneventful. When I saw him recently he was well, and had no complaints.

One feature which I would refer to, and which this case possessed in common with Case II, was the narrowing of the torn ends of the bowel. In Case II, although a wide opening up of the anastomosis wound was found at the second operation, there was very little extravasation of intestinal contents into the peritoneal cavity. Not only had peristalsis ceased in the gangrenous portion of the bowel, but from the fact that the proximal limb of gut was distended with fluid faeces which poured out through the rubber tube inserted into the gut, I think there can be little doubt that the faecal current was *mechanically* obstructed by prolapsed mucous membrane, and probably also by some contraction of the circular muscle of the intestine.

In Case IV the orifices of the torn ends of the gut were narrowed by the everted mucous membrane, but the empty state of the proximal limb prevented me from coming to any conclusion as regards the efficiency of any obstruction thereby produced.

CLASS II.—*Ileo-colostomy.*

This class comprises 5 cases in which, with one exception, an irremovable cancerous tumour involved the caecum and ascending colon. The exception referred to was probably a case of tuberculosis of the caecum. In all the cases there was some degree of obstruction, and in all save one (Case VII) the operation, while not curative, may justly be looked upon as distinctly palliative.

CASE V.—*Mass—(?) Tuberculous—in Caecal Region for Eighteen Years, with, of late, Slight Obstruction: Ileo-transverso-colostomy: Faecal Fistula between Caecum and Abdominal Wall: Secondary Occlusion of Ileum partly Successful in Stopping Discharge from Fistula.*

Mr. B., aged 50, was sent to me by Dr. Watt, of Ayr, on June 5th, 1908. A fairly healthy-looking man, he had suffered from digestive troubles for thirty years. Since 1890 he had noticed a "lump" in the right iliac region, and there was a complaint of occasional attacks of pain in this region, with sometimes an interval of several months between the attacks. Constipation was habitual. About six weeks before I saw him violent physical exertion had been followed by pain in the "lump." He was put on liquid diet three or four weeks later, and this alleviated the pain. At the same time constipation gave way to diarrhoea. He described also as a symptom "flatulence," which seemed to settle in the iliac swelling and to "pass through" with gurgling.

State on Examination.—There was in the upper part of the right iliac region an easily palpable, firm, and not very movable swelling of the size and shape of a large duck-egg and with long axis vertical. The known duration of the swelling was in favour of its being non-malignant. Anastomosis was recommended to relieve symptoms of obstruction.

Operation.—On June 17th the abdomen was opened through the right rectus. To the outer side of the incision was a mass adherent to the anterior abdominal wall. The mass involved the ileo-caecal portion of bowel, and extended some way up the ascending colon, and the ileum entered its lower pole. A loop of ileum, a little way up from its termination, was anastomosed to the somewhat shrunken transverse colon, the loop being twisted so that its peristaltic wave would, at the seat of anastomosis, pass from right to left. Six days later a superficial abscess formed external to the laparotomy wound, and proved to be the beginning of a faecal fistula. I saw him again on October 10th. He had been, on the whole, very comfortable, and able to get about. The discharge from the fistula continued,

but occasionally ceased for a day or two, and he experienced some pain, which was relieved when discharge reappeared.

Second Operation.—The abdomen was opened, and the ileum occluded between the anastomosis and the cæcum. At the same time I opened externally a fetid abscess close to the iliac spine.

Result.—When I saw him on December 11th the median wound was soundly healed. The original laparotomy wound had puckered considerably; there was still a fistula from which there came occasional faecal discharge, particularly after taking purgative medicines. The abscess cavity near the iliac spine was still discharging, though slightly. The patient was fat, and in good condition.

I have little doubt that in this case we have an example of tuberculosis of the cæcum. I feel that an absolute diagnosis could be made only by a microscopic examination of the affected tissues; but the clinical history of the case, the condition of the parts found on opening the abdomen and the subsequent formation of fistulae are all in agreement with the description given by Mr. Maylard in his recent work on abdominal tuberculosis.[2]

The simple ileo-colostomy did not act so well as I expected, and the secondary operation of occlusion of the ileum was followed by distinct improvement so far as quantity of discharge from the fistula was concerned. The persistence of the faecal character of the discharge is explicable as resulting from the reverse current in the colon; but I am in hopes that the deviation of the main faecal current will in time be followed by healing of the lesion in the cæcum, and I am encouraged in this hope by the experience of other surgeons.[3]

The remainder of this group of cases were malignant, and palliation was all that could be hoped for from operative interference.

CASE VI.—*Cancer of Cæcum Involving Ileum and Ascending Colon: Intermittent Obstructive Seizure: Ileo-transverso-colostomy: Subsequent Rapid Increase of Tumour, and Death in Three Months after Obstruction for one Week.*

Mrs. M. B., aged 45, a patient of Dr. R. M. McLennan of Partick, was admitted to Western Infirmary, Ward 29, on May 9th, 1908, with intestinal obstruction. Four weeks previously she began to suffer pain in the abdomen, coming on gradually fairly severe, and located around the umbilicus. The pain lasted for five or ten minutes and recurred at intervals, sometimes three or four times in a day. Some days she was quite free from pain. The bowels were kept regular by the use of purgatives. After about one week she took to her bed on account of feeling faint. She had then frequent vomiting of yellowish material and constant pain in the abdomen, with exacerbations at intervals of half an hour to an hour. The vomiting ceased but the pain remained, though neither so severe nor so frequent. For the next few days she remained free of symptoms, but pain and vomiting again troubled her. The pain was paroxysmal and was accompanied by audible rumbling. The day before admission the bowels moved very slightly after a large enema; for six days prior to this there had been no movement.

State on Admission.—There was slight distension of the abdomen, with a tympanitic note. Tender mass felt on palpation in right iliac region. On the day following admission she had neither pain nor vomiting, but the next day the pain was very severe and she vomited five or six times, the vomit consisting of bile-stained fluid. There was great tenderness and rigidity over the abdomen, slight distension, and peristalsis on palpation. Improvement followed by relapses till 14th, when operation was performed.

Operation.—Median laparotomy. The cæcum was found fixed down by adhesions, and a loop of ileum was adherent to it. There was marked enlargement of the colic glands. The transverse colon was brought down out of the wound, and at its middle anastomosis was made with loop of ileum.

Result.—Vomiting persisted for four days after operation. After vomiting ceased she had free evacuation of the bowel. She left the hospital on June 16th, taking light diet and having regular action of the bowels without requiring medicine.

In a subsequent communication from her doctor I learned that she died on August 11th. The tumour took on rapid growth a week or two after she left the hospital, and within four or five weeks filled up nearly the whole of the right side of the abdomen and extended across the middle line. There was rapid emaciation, and intestinal obstruction existed for one week before death.

CASE VII.—*Cancer of Cæcum and Ascending Colon, with Secondary Growth in Peritoneum and Omentum: Intermittent Obstruction Severe: Ileo-transverso-colostomy. Death Thirty-six Hours later. Unrelieved by Operation.*

Mrs. P., aged 56, a patient of Dr. Watt, of Ayr, was seen on December 11th, 1908, on account of partial obstruction. She had been ill for six or seven months with abdominal "rumblings," and had latterly some pain and distension. The obstruction was not complete, and copious liquid motions were obtained by castor oil. Examination showed an elongated mass in the region of the cæcum, and extending upwards along the ascending colon. I did not consider excision was possible, and advised short-circuiting.

Operation.—Median laparotomy. Widespread infection of peritoneum. Cæcum was rolled up into a globular mass, which involved ascending colon. Anastomosis was made between lower part of ileum and transverse colon.

By the following day the pulse had gone up to 140; temperature was over 102° F. She vomited matter with a faecal odour, and there had been no movement of the bowels. She died in the evening, without having got any relief from the operation.

CASE VIII.—*Cancerous Stricture of Ascending Colon: History of Inflammatory Attacks in Region of Cæcum: Ileo-transverso-colostomy.*

Mrs. H. B., aged 56, was sent into the Western Infirmary, Ward 29, on September 19th, 1908, by Dr. John Ritchie, on account of a hard mass palpable in the region of the cæcum. About six months previously she experienced pain in the right iliac region, and on placing her hand there to support the part she felt the mass. The pain was not severe, and did not last longer than a few minutes. Ever since she has had occasional spasms of pain in the same region. Four months ago the mass became "inflamed." She was confined to bed for three weeks with severe pain, and for the first day or two vomiting was persistent. A second attack occurred seven weeks ago, and lasted for four or five days. She has lost flesh rapidly during the past two or three months; her bowels have been constipated for the past year, and for some months she has required purgatives. Apart from the acute attacks she has never had vomiting. Dr. Ritchie considered that while the acute attack resembled appendicitis, the case was probably one of malignant tumour. On admission she was very pallid and emaciated. A slightly tender lump or mass could be felt in the region of the cæcum and ascending colon.

Operation.—On September 23rd the abdomen was opened through the right linea semilunaris. Inflammatory adhesions stretched from the front of the cæcum to the iliac fossa, and to the ileum. The appendix was free. The ileo-cæcal junction was pushed forwards by a mass (retro-peritoneal) which involved the postero-internal part of the cæcum and was continuous with a tumour which constricted the ascending colon about its middle. Several enlarged glands were felt along the inner side of the colon. Ileo-transverso-colostomy was performed. No clamps were used, the bowel being steadied with toothed forceps.

Result.—She made an uneventful recovery and was discharged on October 24th.

I saw her on June 22nd, 1909. She says she is weaker than before, but she does not look any worse. Physical examination shows the mass still present, as above, but she has had no "inflammation" since she left the hospital.

CASE IX.—*Colloid Cancer of Cæcum and Ascending Colon: Inflammatory Attack resembling Appendicitis: Secondary Nodules in Omentum: Ileo-transverso-colostomy: Death nearly Four Months later from Ascites, with Emaciation and Constant Vomiting.*

J. D., miner, aged 26, a patient of Dr. Marshall, Muirkirk, was admitted to the Western Infirmary, Ward 30, on August 13th, 1908, with a tender swelling in the iliac fossa. For two months previously he had not felt well and had had practically constant pain in the right iliac region. The pain was mild and did not, as a rule, keep him from work, but fourteen days before admission it became very acute and was accompanied by sickness and vomiting. The vomiting ceased in a few hours, but the pain, although diminished, continued sufficiently severe to confine him to bed. On admission a distinct mass, which was dull on percussion, was palpated in right iliac region. Examination six days later, when pain and tenderness had quieted down, revealed a hard nodular mass, elongated vertically, in the right iliac fossa.

Operation.—On August 19th, abdomen opened through sheath of right rectus muscle being pulled inwards. The omentum showed numerous hard and brittle cancerous nodules varying in size from a small shot to a bean, and situated chiefly on the free edge of the omentum. The cæcum and the lower part of the ascending colon were the seat of a hard nodular mass, and on the serosa of the lower part of the ileum were small whitish, shot-like nodules. One of the nodules on the omentum was removed for examination. Anastomosis was made between the ileum—about 8 in. from lower end—and the transverse colon, near the hepatic flexure.

Result.—He was discharged on September 12th, quite free from symptoms. The nodule removed showed histological characters of colloid carcinoma (J. H. Teacher).

Dr. Craig (Muirkirk) subsequently informed us that in one month after leaving hospital the patient began to go downhill, developed progressive ascites, and, after extreme emaciation and prolonged and obstinate vomiting, died on November 13th.

Of these four cases, two (Cases VI and VII) suffered from severe obstruction, and the comparatively long period of

relief given by the operation to Case VI was unexpected. The other two (Cases VIII and IX) suffered from inflammatory attacks which bore a resemblance to appendicitis: but in both this diagnosis was questioned by our finding a distinct mass after the subsidence of the inflammatory symptoms.

Of the three who recovered from the operation, one only (Case VIII) has had a prolonged respite—nine months when I last saw her. The others died three and four months respectively after operation, and one of them certainly from recurrence of obstruction. The outlook is not very cheering; but if the patient desires relief, I do not think that the surgeon is justified in refusing it, or at any rate in refusing to perform an exploratory laparotomy.

Class III.—*Colo-sigmoidostomy.*

In the case belonging to this class the seat of the disease in the colon necessitated the junction of the sigmoid with the transverse colon. The septic process, superadded to the malignant, was a grave complication, and his failure to rally from the operation is not surprising.

Case X.—*Adeno-carcinoma of Descending Colon with Colloid Degeneration and Septic Infection of Growth: Sigmoido-transverso-colostomy: Sudden Death a few Hours later.*

R. H., 47, baker, was sent into the Western Infirmary, Ward 30, September 15th, 1908, by Dr. Roxburgh (Troon), with the following history: Diarrhœa for eleven months, without any pain in abdomen; for eight weeks before admission persistent vomiting, generally one hour after meals; and great loss of weight. The patient was markedly emaciated, and a large fixed mass was palpable in the situation of the descending colon.

Operation.—September 18th. Abdomen opened through left linea semilunaris. A coil of small intestine was adherent over the mass. The adhesions were evidently inflammatory, and on separating opposing pieces of small bowel a sinking abscess cavity was opened. The abscess had no direct communication with the mass. The latter pushed forward the mesentery of the upper jejunum, and was at first thought to be enlarged glands. A piece was broken off by the finger during attempts to separate the mass, and the lumen of the colon was opened into. Subsequent investigation showed that the mass involved most of the descending colon. The opening was packed and anastomosis made between the sigmoid and the transverse colon.

Result.—He rallied by the evening, but died very suddenly before 8 o'clock. Histological examination of the tissue removed was made by Dr. Logan Taylor, who reported the condition to be adeno-carcinoma, with marked colloid degeneration, and septic infection of the growth.

Conclusion.

Lateral anastomosis was employed in all of the cases. In the group where entero-anastomosis was performed, the gut was placed in such a position that the occluded ends pointed in the same direction, and the strain on the anastomosis suture was lessened by additional stitches tacking together these ends.

The mesentery was cut close to its attachment to the piece of bowel to be resected, and its edge was puckered by segmental ligation; no infolding was practised.

In performing ileo-colic anastomosis the loop of ileum was in all cases turned so that its peristaltic wave would correspond in direction with that of the transverse colon.

In all, two layers of suture were employed, the one sero-muscular, usually silk, the other catgut, including all the coats of the bowel.

The method is satisfactory in both its performance and its results; but, as I have found in a recent case, the ingenious method of implantation described by Mr. Maylard[4] is, in circumstances where it is possible, more easily and speedily performed.

The foregoing cases present in themselves points of interest. They are given mainly, however, as an experience of the efficiency of intestinal anastomosis, whether demanded as a method of cure, or as a means of palliating suffering in an incurable condition.

References.

[1] *Glasgow Medical Journal*, December, 1908. [2] *Abdominal Tuberculosis*, London, 1908, p. 132. [3] Maylard, loc. cit., p. 149. [4] *Annals of Surgery*, May, 1909.

SECTION OF OPHTHALMOLOGY.

J. Walton Browne, B.A., M.D., President.

DISCUSSION ON DISEASES OF THE LYMPHOID TISSUE OF THE CONJUNCTIVA.

OPENING PAPERS.

I.—E. Treacher Collins, F.R.C.S.Eng., Surgeon, Royal London Ophthalmic Hospital.

Trachoma is a disease of such exceedingly long duration that few observers have the opportunity of watching cases from the commencement to the finish. In this respect I have had exceptional advantages. The Metropolitan Asylums Board has established ophthalmia schools for the isolation of children who, while under the charge of the Poor Law authorities in London, are found to be suffering from any contagious eye disease. The number of children admitted to these schools in the past five years—during which time I have held the appointment of ophthalmic surgeon to them—has been 2,441, of which 700 were suffering from trachoma. It is the outcome of the experience which I have gained at them that I now propose to lay before you.

Contagious Character.

That trachoma is a contagious disease has been proved by inoculation experiments. I have had, however, some very definite confirmatory evidence. When first one of these ophthalmia schools was started a "house mother" and an assistant nurse employed there contracted trachoma. In one case there was the history of some water having splashed into the woman's eye while she was engaged in washing a child who had trachoma, and it was from that time that the onset of the affection dated.

The way in which the disease started in these two cases is of interest because they were seen from the very commencement. In both the symptoms at first resembled those of an acute muco-purulent ophthalmia. There was swelling and redness of both ocular and palpebral conjunctiva, some papillary enlargement of the latter and muco-purulent discharge. The symptoms, however, did not yield to treatment in the satisfactory way which is usual in that affection, and when the congestion of the palpebral conjunctiva had somewhat subsided, the typical lymphoid follicles in the tarsal conjunctiva and the retro-tarsal folds became apparent. In one case the affection remained confined to one eye, in the other both eyes ultimately became involved. Both cases were cured after about eighteen months' treatment.

The contagious character of trachoma being definitely established, there can be little doubt that the contagious element is some micro-organism.

Trachoma Bodies.

During the last two years Prowazek and Greef, working independently, have discovered in the cells from trachomatous conjunctiva, by the use of Giemsa staining methods, minute slightly ovoid bodies considerably smaller than the smallest of the known cocci. They are found massed together in the cells near the nucleus in the form of a cap but separated from it by a clear space. The enclosure containing the granules enlarges rapidly, causing the cell to swell and ultimately burst, the granules then being discharged.

Contagion not Airborne, but Due to Transference of Moist Discharge.

Whatever may be the contagious element of trachoma, we may feel sure that it is one which is not spread through the air—that it is like many of the other organisms which give rise to contagious ophthalmia, easily killed by drying, and not spore-producing.

Adenoid Layer Chief Seat of Disease.

In some diseases of the conjunctiva due to microbic infection—for example, gonorrhœal ophthalmia and diplobacillary ophthalmia—the organism is found chiefly in the epithelium. In others—for example, tuberculosis—the organism is located, not in the epithelium, but in the subepithelial tissue. A comparison of the histological

characters of a tuberculous nodule of the conjunctiva with those of a trachoma follicle would suggest that the position in which the trachoma organism is usually situated is like that of the tubercle bacillus, the fibro-adenoid layer.

Mayou[1] has pointed out that in trachoma follicles plasma cells are absent, though occasionally found in its outer zones. As there is good evidence to show that plasma cells are not very resistant to toxins, this arrangement of them is evidence that the intensity of the toxin is greatest in the centre of the follicle.

Prowazek insists that the ovoid bodies which he has found in cases of trachoma are met with only in the epithelial cells, not in the lymphoid cells. Greeff states that after a case has been treated with sulphate of copper these bodies disappear from the superficial cells and the secretion long before the case is cured. He suggests that they pass into the deeper parts, where they can still excite changes.

Wherever the trachoma organism is located, the changes which it or its toxin excite are most marked in the adenoid layer of the tarsal conjunctiva and the retro-tarsal folds—that is, in those parts of the conjunctiva over which the epithelium is thinnest.

Most observers speak of the upper retrotarsal fold as the part which is generally first affected. Having seen, as already stated, many very early cases of the disease, I am inclined to consider the appearance of grey, scattered, avascular spots, rather smaller than a pin's head, in the tarsal conjunctiva of the upper lid as quite as early a symptom as the presence of follicular enlargements in the upper retrotarsal fold.

Elementary or Primary Granulations.

These grey spots have been termed "elementary or primary granulations" (v. Graefe, Jacobson). Their appearance is quite characteristic and of considerable diagnostic importance. Their presence when there is much muco-purulent ophthalmia in association with the trachoma, and consequently considerable congestion and papillary enlargement, is often obscured from view, and it is not until these other symptoms have subsided that they become visible.

The trachoma organism appears to be a non-pyogenic one, the reaction which is excited by its toxin being an immense new formation of lymphoid tissue, a large increase of plasma cells, and in the latter stages a formation of fibroblasts. Though in many cases of trachoma some polynuclear leucocytes are found in the discharge, they do not appear to be a consistent element, and when present can usually be attributed to infection with other organisms or the presence of other chemotactic substance. Mayou has pointed out that a characteristic of smear preparation obtained from trachomatous conjunctiva by gentle friction is the presence of an enormous number of plasma cells.

Trachoma a Chronic Disease; Acute Symptoms due to Mixed Infection.

Trachoma *per se* is essentially a chronic disease, the acute symptoms which sometimes usher in an attack, or which arise from time to time in the course of it, can always be accounted for by mixed infection. In the trachoma cases admitted to the ophthalmia schools I have frequently found organisms in the discharge, such as Koch-Weeks's bacillus and staphylococci, and when by appropriate treatment these have been eliminated the trachoma has remained as a chronic disease. In these schools, where the children's eyes are regularly bathed and attended to several times a day by skilled attendants, acute exacerbations of symptoms are very uncommon.

Koch while in Egypt in 1883 found in the conjunctival discharge in trachoma cases two different kinds of micro-organisms, the gonococcus and what is now known as the Koch-Weeks's bacillus. As neither of these is the specific organism of trachoma, the cases must be regarded as having had a mixed infection.

The descriptions which are given of the outbreak of ophthalmia in this country in 1801 and 1802 as the result of the return of Sir Ralph Abercromby's troops from Egypt, is that of an acute purulent ophthalmia, with rapid destructive ulceration of the cornea. Some of the cases later on, however, presented the characteristic cicatricial contraction and pannus of trachoma. I think that there can be little doubt that these cases were of a mixed character—of gonorrhoeal ophthalmia *plus* trachoma.

I think it is incorrect and misleading to speak, as so many of the textbooks do, of two types of trachoma—a papillary type and a follicular type. The essential element of trachoma is the follicle; it is the characteristic form of reaction on the part of the tissue to the irritation of the trachoma organism. Papillary formation over the tarsal conjunctiva, on the other hand, is present in many acute and chronic inflammatory affections. It may, it is true, exist with the follicles in trachoma, and sometimes be so extensive as to obscure them; but without the presence of lymphoid follicles we have no right to diagnose a case as one of trachoma.

Natural Destruction of Follicles by Rupture.

A characteristic of the trachoma follicles is their tendency to become confluent and produce bodies resembling in shape the grains of boiled sago. This running together of the follicles is most met with in the loosely attached tissue of the retrotarsal folds, but may occur in severe and more advanced cases in the more firmly attached tarsal conjunctiva. As the follicles increase in size the epithelium overlying them becomes thinned and the central part disintegrates until ultimately they rupture, a gelatinous contents escaping. On everting the lids in an advanced case of trachoma many follicles may often be seen just on the point of rupturing, and with a very little pressure their contents can be extruded.

Microscopical examination of a follicle which has been ruptured by expression shows (as pointed out by Mayou) invasion of its walls and cavity by polynuclear leucocytes, due, he suggests, to the presence of septic organisms from the conjunctival sac, or possibly, I would suggest, to chemotactic action set up by products eliminated from the damaged epithelial cells.

By Absorption.

It has been long recognized that chronic cases of trachoma may be considerably benefited by an acute inflammatory attack. Microscopically it has been found that the trachoma follicles may become invaded from the periphery by polynuclear leucocytes. Such cells do not form part of what may be considered the normal constituent of a trachoma follicle. When, however, an exudation of these highly phagocytic cells is brought about by pyogenic organisms, or the application of some irritant to the conjunctiva such as jequirity or sulphate of copper, they will invade the follicles and effect their absorption.

Besides the follicular formation in trachoma, there is a considerable formation of plasma cells immediately beneath the epithelium between and beneath the follicles, also in the later stages a formation of fibroblasts.

Stellwag's Brawny Oedema.

In the later stages of some cases plasma cells may undoubtedly break down and produce a hyaline material which gives rise to the condition known clinically as "Stellwag's brawny oedema." In it portions, sometimes large areas, of the palpebral conjunctiva have a smooth surface and waxy, gelatinous appearance. This condition is similar, though more extensive, to the milky, opalescent appearance of the surface of the conjunctiva met with in spring catarrh, which is produced not, as was at one time thought, by a thickening of epithelium, but by a hyaline degeneration of plasma cells immediately beneath the epithelium.

Fibrous Tissue Formation and Destruction of Follicles by it.

The fibrous tissue which forms in trachoma is probably mainly developed from fibroblasts derived from connective tissue cells. It makes its appearance either as strands and irregular networks, or over a large area which loses its transparency and becomes a dull yellowish-white colour. The formation of fibrous tissue and areas of hyaline degeneration are often associated in the later stages of the disease. The fibrous tissue, as it forms, replaces the adenoid layer; it destroys the trachoma follicles partly by forcing them to the surface, where they rupture, and partly by compressing them, and in its

[1] *Changes Produced by Inflammation in the Conjunctiva*, 1905, p. 111.

contraction causing them to shrink. Some small superficial scar areas are no doubt formed at the seat of the ruptured follicles, but the most extensive growth of fibrous tissue begins in the deeper layers of the membrane and extends forwards to the epithelium.

It is possible for very extensive replacement of the adenoid layer by fibrous tissue to take place without much distortion of the lid being produced. It is the formation of fibrous tissue in the form of a longitudinal band along the line of the sulcus subtarsalis (Arlt's scar streak), which most frequently gives rise to entropion and boat-shaped lid.

Similarity of Palpebral Conjunctiva in Late Stages of Trachoma to Skin.

The palpebral conjunctiva differs from skin in the following three particulars:

1. The thinness of the epithelium. Over the tarsus the epithelium of the conjunctiva has only two layers of cells; there is no prickle layer and no keratinized layer.

2. The absence of papillae.

3. The presence of the adenoid layer immediately beneath the epithelium instead of the dense fibrous tissue of the corium.

The thinness of the epithelium of the conjunctiva exposes it to greater risk of microbial infection than the skin. The lymphoid tissue, or the potentiality for the formation of lymphoid tissue, immediately beneath the epithelium, limits the risk of general systemic involvement from any such infection.

In severe and long-standing cases of trachoma, immediately beneath the epithelium of the palpebral conjunctiva, fibrous tissue is formed similar to that of the corium of the skin, which like it is raised into papillae. Instead of being composed of only two layers of cells the epithelium is thickened into several layers, the surface ones being flattened and squamous; it also sends down numerous finger-like processes between the papillae. In some cases these processes are converted into gland-like structures, the orifices of which may become occluded, small retention cysts being formed. These little retention cysts are seen clinically as small yellow-coloured patches about the size of a pin's head. If from the contraction of the new-formed fibrous tissue the ducts of the lacrymal and other conjunctival glands become obliterated, so that the membrane is no longer kept moist, then its resemblance to skin becomes still more marked, keratinized layers of epithelial cells being formed on the surface, and the condition termed "xerosis" being established

Possibility of Cure of Trachoma Without Formation of Fibrous Tissue.

I have seen several cases treated at the Ophthalmia Schools for characteristic trachoma follicles in the tarsal conjunctiva and retrotarsal folds, which, on leaving, have shown no sign of fibrous tissue formation sufficient to have revealed the fact that they had suffered from the disease.

Pannus the Result of Abrasion of Corneal Epithelium and Infection.

There has been much discussion as to whether the vascular affection of cornea which is met with in trachoma, termed "pannus," is the result of irritation from a roughened eyelid or a real infection of the cornea with trachoma. I would suggest that it is the outcome of both.

The formation of lymphoid tissue in a structure like the cornea, devoid of any normal lymphoid tissue, serves to show that a trachoma follicle is not a mere hypertrophy of pre-existing lymphoid tissue; but that it is a new production for the purpose of defence against the attacking organism.

Treatment.

A study of the natural history of trachoma, as above described, serves to show that the lymphoid follicles which form in connexion with it, are eliminated in three different ways.

(*a*) By rupture of the follicles on the surface and discharge of their contents.

(*b*) By intercurrent inflammation causing follicles to become invaded with polynuclear leucocytes and absorbed.

(*c*) By the replacement of the adenoid layer by fibrous tissue, which, cutting off the blood supply to the follicles, causes them to atrophy.

Of the immense number of different treatments which have been employed for trachoma, those which have proved most efficacious can, I think, be shown to aid in getting rid of the lymphoid tissue in one of the three above-mentioned ways.

Expression.

In the operation of expression a large number of follicles are ruptured and their contents evacuated. If, immediately after expression, the surface of the ruptured follicles is painted with a 1 in 100 solution of perchloride of mercury, an exudate into them of polynuclear phagocytic leucocytes is excited which promotes absorption of the remains of the follicles.

In the operation of expression, I prefer to use the flat Grady's forceps rather than Knapp's roller forceps. With the latter I find, unless exactly the right amount of pressure is made, there is a tendency to tear the tissue. My endeavour always is to squeeze, and not to tear.

In performing the operation I employ two pairs of expression forceps, holding the upper lid everted with one pair, and with the other grasping the retrotarsal fold and squeezing the follicles out of it. In the tarsal conjunctiva it is frequently impossible to get rid of the follicles by expression owing to its firm attachment to the tissue beneath. The so-called "elementary or primary granulations" cannot be squeezed out of the tarsal conjunctiva. To get rid of all the lymphoid follicles from the retrotarsal fold it is often found necessary to repeat the procedure of expression at several different sittings. Even when all follicles seem to have been completely removed from the retrotarsal fold, if the disease is not cured in other parts of the conjunctiva, fresh ones make their appearance which in their turn have to be expressed.

Excision of Retrotarsal Folds.

The operation devised by Galezowski of excision of the retrotarsal folds is a very effectual way of getting rid of the follicles and shortening the duration of the disease. I have performed it several times, in cases where there has been much redundance of tissue behind the tarsus. In some cases I have removed all four retrotarsal folds, with satisfactory results.

Removal of Tarsus and Conjunctiva.

Kuhnt's operation of removal of the tarsus and conjunctiva which covers it I have not performed, not having met at the Ophthalmia Schools with cases which I thought sufficiently severe to justify the employment of so radical a procedure.

Sulphate of Copper.

Time-honoured sulphate of copper still, I think, maintains the foremost place as the best application in trachoma to stimulate the absorption of follicles which cannot be removed by expression. The reason why a copper salt proves specially useful for this purpose is, I think, to be found in the experiments of Leber. He introduced into the anterior chambers of the eyes of rabbits sterilized substances of different chemical characters, and found different kinds of reaction followed. Thus pieces of gold and glass excited no inflammation, slowly becoming encapsuled by a delicate connective tissue. Pieces of copper or drops of quicksilver, introduced in precisely similar manner, gave rise to a localized suppuration; whilst croton oil and cantharides caused no pus-formation, but a fibrinous exudate with necrosis of tissue. Copper or its salts, then, applied to the conjunctiva in a similar way, probably sets up a mild aseptic purulent inflammation—that is, an exudate of polynuclear leucocytes which will invade the trachoma follicles, and tend to bring about their absorption.

Kataphoresis.

In several cases I have endeavoured to increase the efficacy of the copper treatment by forcing it into the tissue by kataphoresis. The process is a decidedly painful one and is followed by considerable hyperaemia. It is more painful than the application of the sulphate of copper stick, and I cannot say that so far I have found it any more efficacious. I have also, at the suggestion of Dr. Lewis Jones, tried treating the follicles in trachoma by puncturing them with a copper needle and then passing through it a current of 2 to 3 milliampères for one minute. The haemorrhage and hyperaemia occasioned prevents more

than one or two follicles being dealt with satisfactorily at one sitting, but by it their absorption certainly seems to be promoted.

Wirtz[2] in an article on "Ionic Therapeutics in Ophthalmology" says that in trachoma he has used ½ per cent. solution of copper sulphate with 2 to 3 milliampères for two to three minutes every few days, and that in 4 acute cases, after four weeks, the conjunctiva was nearly normal, and four chronic cases were discharged cured, "as far as one can speak of cure in trachoma."

In former times a more violent reaction than that excited by sulphate of copper was effected by the inoculation of gonorrhoeal matter. Mackenzie[3] in writing of this practice says, "Although it by no means appears a very safe one, it is undeniable that cures have been effected of the hypertrophied state of the conjunctiva, with the vascular-nebulous condition of the cornea depending on it."

The immense exudation of phagocytic polynuclear leucocytes which was in this way excited doubtless led to the invasion and disappearance of many of the follicles. It can be easily understood that in a tissue normally avascular like the cornea an increase in leucocytosis would be specially useful in promoting absorption of the lymphoid material.

Jequiritol.

On the introduction of jequirity the use of gonorrhoeal matter with its uncertain amount of reaction was abandoned. Now, with Merck's extract of abrin, which has received the name "Jequiritol," we have a most efficacious means of exciting by a chemical irritant an acute inflammatory attack of limited duration. I have frequently employed it in cases with pannus with good effect. One application of Merck's strongest jequiritol usually suffices to produce the desirable amount of reaction. I have never found it to be so excessive as to necessitate the use of the antiabrinic serum.

X Rays.

The *x*-ray treatment of trachoma has the advantage over all other methods of treatment in being painless. It was first introduced by Mayou in 1902, who in writing of it says[4]: "In the *x* rays we have a method of setting up a leucocytosis with the absolute minimum of destruction of epithelial or other tissues; and further, we have a means of producing an inflammation, varying from a very slight leucocytosis to an actual gangrene of the part, which with due care and experience we have under almost perfect control." At the Ophthalmia Schools the *x*-ray treatment has been largely employed for trachoma with variable results. These exposures are repeated each day for ten days, and are then stopped for ten days; if at the end of that time little or no reaction has been set up, applications for another ten days are made.

Some cases treated in this way have steadily improved, follicles disappearing and pannus, when present, clearing up. Some, on the other hand, after very prolonged use of the rays, have shown but little amelioration. In no case have any disagreeable consequences been occasioned from the employment of *x* rays in the cautious way above described. The varying results are doubtless to a great extent attributable to varying degrees of dosage according to the hardness or softness of the tube employed. It would be very advantageous if some method for regulating the dosage in the *x*-ray treatment of trachoma could be introduced, similar to the use of the Sabouraud and Noiré pastilles in the treatment of ringworm by *x* rays.

Radium.

In 1904 I tried treating cases of trachoma with radium. A 5 mg. glass tube of radium bromide of low radio activity was held over the everted eyelids for five to seven minutes daily. This was continued for from three to ten weeks before any definite reaction ensued. The results were not very encouraging. Probably with the improved apparatus for the application of radium introduced by Drs. Wickham and Degrais and longer exposures more satisfactory effects might be obtained. Success in the treatment of trachoma by radium has been reported by Cohn,[6] Thieleman,[6] and Sclenkowsky.[7]

Grattage.

The third method by which a natural cure of trachoma is effected is, as already stated, the replacement of the adenoid layer by fibrous tissue. I would suggest that some of the more violent mechanical methods of treating trachoma which have been attended by good results act to a large extent by stimulating this natural tendency to fibrous tissue formation. The methods I refer to are those which may be included under the comprehensive term "grattage," whether carried out with a hard brush, a spiked iron instrument, or a knife blade.

Possibility of Curing Trachoma.

I may conclude describing my experience of the treatment of trachoma by saying that I have found it possible to so thoroughly eradicate the disease that it shows no tendency to relapse. In cases where a relapse seems to have taken place I believe the disease was never completely cured, or that some other inflammatory conjunctival infection (such as that due to Morax's diplobacillus) has become implanted in an eye showing the fibrous tissue sequelae of trachoma.

I always mistrust statements as to the cure of trachoma in the course of a few weeks. Rapid and striking improvement in some cases is often made by treatment in the first weeks, but the complete cure of the disease, in my experience, always takes several months, and sometimes years, whatever procedure be adopted.

I do not consider any case as satisfactorily cured so long as any follicular enlargements can be detected in any part of the conjunctiva, or abnormal discharge persists. To ensure that all follicular enlargements have been got rid of a most careful scrutiny of the conjunctiva and all its folds has to be made. As an aid to such examination I have found the binocular magnifier, a modification of Berger's stereoscopic loupe, made for me by Messrs. E. W. Dixey and Son, of the greatest assistance.

It is probable that when the conjunctiva has its adenoid layer replaced by fibrous tissue its powers of resisting the attack of micro-organisms becomes lowered. I have frequently seen cases with fibrous tissue formation in the conjunctiva of long standing become the subjects of fresh attacks of inflammation. An examination of the discharge has revealed the presence of Morax's diplobacillus, and the use of sulphate of zinc has soon cured the inflammation. Such cases were clearly not recurrences of trachoma.

Reappearance of Pannus not Necessarily a Recurrence of Trachoma.

I do not think that the reappearance of a vascular condition of the cornea as an accompaniment of fresh inflammation in an old case of trachoma necessarily implies a recurrence of that disease. We know that the tracks of the blood vessels in the cornea, when pannus subsides, never completely disappear. Slight causes will sometimes lead to their fresh distension with blood. I have known it to occur as the result of an injury, and I believe it may follow on any undue hyperæmia of the conjunctiva, such, for example, as that produced by some form of intercurrent conjunctivitis.

Diagnosis.

Whether or not the presence of "Prowazek granules" or "trachoma bodies" is to be regarded as a diagnostic sign of trachoma has yet to be decided. Clausen,[8] writing on this point, says: "The individual granules cannot be recognized with certainty, or considered as forming a standard for the diagnosis of trachoma, but when the specific granules are present, whether the small or large ones, absolutely specific clusters of them can be found near the nuclei of the epithelial cells or else lying free."

So far the differentiation of trachoma from other affections, characterized by the presence of follicular enlargements, has rested on a clinical basis.

The close histological resemblance of the follicles whenever enlarged has led some observers to regard all conditions in which such enlargements are met with as stages of one and the same disease. Most, however, are now

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[2] *Klinisch monatsblat. f. Augenheilk.*, November-December, 1908, and *Ophthalmic Review*, May 1909, p. 149.

[3] *Diseases of the Eye*, fourth edition, p. 547.

[4] *Changes Produced by Inflammation in the Conjunctiva* [illegible] 140.

[6] *Berl. klin. Woch.*, No. 1, 1905.

[6] *Zeitschr. f. Augenh.*, December, 1905.

[7] *Arch. f. Augenh.*, Bd. lx., 1908, Heft 1, S. 85.

[8] *Trans. XI Congresso Internation. di Oftalmol.*, 1909, p. 854.

prepared to agree that there is one affection characterized by follicular enlargements which are liable to be followed by fibrous tissue formation in the palpebral conjunctiva and involvement of the cornea with pannus, and other affections accompanied by follicular enlargements which never under any circumstances have such sequelae.

In countries where trachoma is rife and where the majority of the inhabitants suffer from it, the recognition of different classes of cases with follicular enlargement is very difficult.

In countries or localities where the disease which has the serious sequelae—namely, trachoma—does not occur, the occurrence of affections accompanied by follicular enlargements without such sequelae is readily realized.

Other Conditions than Trachoma with Enlarged Follicles.

The conditions in which non-trachomatous follicular enlargements occur may be classified as follows:

(*a*) In atropine and eserine irritation.

(*b*) In children with a general tendency to adenoid formations.

(*c*) In muco-purulent ophthalmia.

Careful examination of the retrotarsal folds reveals small follicular swellings in a very large number of children who make no complaint of their eyes, who have no abnormal discharge from them, and no undue redness. Such children are frequently found to be also the subjects of new formation of adenoid tissue in the pharynx and nasopharynx. In some children these follicular enlargements in the conjunctiva may be very numerous, especially in the lower retrotarsal fold. They form rows of little rounded protuberances, never bigger than a pin's head, and have no tendency to run into one another and become confluent. When large their presence may give rise to some irritation, causing the child to rub its eyes, or giving rise to blepharospasm. In such cases hyperaemia or inflammation may become superadded. The diagnosis of this form of follicular enlargement from trachoma in its early stages rests on the position, size, and non-confluent character of the follicles. They are always located in the retrotarsal folds, never larger than a pin's head, and do not run into one another. In the later stages of trachoma the tendency to fibrous tissue formation or involvement of the cornea are characteristic features.

To diagnose such cases from early cases of trachoma which commence as a mixed infection with acute symptoms is often a matter of extreme difficulty. Indeed, in some it seems to me impossible to be quite sure of the diagnosis until the cases have been watched carefully for some weeks.

Other Conditions than Trachoma with Fibrous Tissue Formation.

The presence of fibrous tissue formation in the conjunctiva, though such a frequent accompaniment of trachoma, is not pathognomonic of that affection. Besides occurring in the process of cicatrization of injuries and burns it may also be an accompaniment of other diseases.

In tubercle, in pemphigus, and in severe membranous ophthalmia portions of the conjunctiva become destroyed by ulceration. In the treating of these ulcers fibrous cicatricial tissue forms, producing an appearance closely resembling that seen in the late stages of a bad case of trachoma. So close may the resemblance be that the nature of the affection from which the condition arose can only be diagnosed by careful study of the history of the case.

Spring catarrh is another disease of the conjunctiva in which an extensive new fibrous tissue formation takes place. In this affection, unlike those first mentioned, the new-formed fibrous tissue is not cicatricial fibrous tissue: it is not produced as a sequela of ulceration. It is one of the primary essential features of the disease. It grows forwards from the deeper layers, replaces the adenoid layer, and forms on the surface of the membrane the characteristic flat-topped elevations. In its non-cicatricial character it resembles much of the fibrous tissue formation in trachoma, and the two diseases are also alike in the formation of large numbers of plasma cells, which undergo degeneration, forming the hyaline material already referred to. Spring catarrh differs, however, from trachoma in the complete absence of follicular formation, and also, as was first pointed out by Herbert, in the development of immense numbers of eosinophiles. A remarkable feature of the fibrous tissue formation in spring catarrh is the way in which it disappears as the disease subsides. It produces no contraction, and leaves little, if any, sign of its former presence.

II.—Professor Dr. Richard Greeff, Berlin.

THE ETIOLOGY OF TRACHOMA.

[Abstract.]

Professor Greeff said that in response to the invitation he had received he had the pleasure of reporting the recent progress which had been made in the etiology of trachoma. In common with many authors he had always been of opinion that trachoma was a definite specific infective disease. During the last fifteen years many workers had been engaged in attempting to elucidate the etiology of the disease without any striking result, and with the then known methods of investigation he had come to the conclusion that it was not possible to determine the microbe. While investigating the *Spirochaeta pallida* with different methods of staining, he applied the same to search for the trachoma microbe, and in the base of the new staining methods of Romanowsky and Giemsa he was led to take up the subject once more. In common with other observers he found on the surface of the conjunctiva organisms belonging to the spirochaete family, not only in trachoma but in other conjunctivae which had been irritated for any length of time, and also in the mouth, but they were only saprophytes. Using Giemsa's stain, which had brought about such excellent results in protozoon diseases, such as malaria, he was able to obtain characteristic results in trachoma.

He had found many round cellular inclusions which were much more minute than the smallest known cocci, and they stained intensely, sometimes violet and sometimes reddish or blue, with "Giemsa" diluted with aniline, and not at all with "Gram," and they were surrounded by a distinct zone. With the highest powers they were seen to be not quite round but slightly oval, like bacteria with rounded extremities, and grouped in pairs. If intracellular they lay close to the nucleus. They were found in the epithelial cells in the discharge, in the pressed-out follicles, and, in short, everywhere. At the same time two physicians, members of a committee appointed to investigate syphilis in Iowa, published a paper on the same subject, and comparing the two discoveries, it was clear that they had found the same bodies in Iowa as he had discovered in Germany.

He first called them "double bodies" because at times they sometimes lay in pairs, but this name was not suitable for all conditions. He consequently discarded this name and termed them "trachoma bodies."

(The author then showed a number of lantern slides. Fig. 1 showed the development of the trachoma bodies when intracellular. Here the double bodies were seen in the protoplasm. In Figs. 2 and 3 dark blue stained spots were seen close to the nucleus. In Figs. 3 and 4 were what the author termed the "mass form" of trachoma bodies. This was the most frequent form they assumed, and they were easiest to see. In Fig. 5 the mass was surrounded by a distinct and clear mantle, but in the earlier stages seen in Figs. 1, 2, 3, and 4 the mantle had not made its appearance; it was incomplete in the later stage, Fig. 6, and had entirely disappeared in the last drawings. The mantle was, therefore, only characteristic of one stage. Fig. 7 showed a swollen cell densely packed with granules while in another the cell had burst and the granules were set free in their surroundings. As this bursting occurred only in cells filled to overflowing with granules, he was of opinion that the bursting was a natural process and in no way due to the reagents used. The best results were obtained by a modified Giemsa method, which he described.)

As the trachoma bodies were so frequently seen in the epithelial cells, several authors considered trachoma to be a purely superficial disease confined to the epithelium; but he did not agree with this theory, for the following reasons:

1. Clinically it was known that the disease went very deeply into the tissues, even intruding into the dense tarsus and finally destroying it.

2. In cases where the trachoma bodies were numerous they absolutely disappeared on the surface after a few

days of treatment, but they soon reappeared if the treatment was stopped. This he took to indicate that although absent on the surface they were still present in the deeper structures, and thus working their way to the surface and causing a relapse.

3. He had succeeded in finding the granules in the squeezed-out follicles, but the matter was thus always contaminated by the surface cells. In order to avoid this he had now succeeded in finding them in the follicles cut in section, and this showed them not only in the epithelial cells, but also in the subepithelial tissue, in the lymph spaces beneath it, in the cells of the follicles (the lymphoid and so-called Leber's cells), and between the cells

Owing to the many failures in the past, objections constantly arose in his mind, and so for a long time he did not publish his results. First, it was necessary to prove that these formations were present in cases of trachoma only. This he had now done, and had proved that they never occurred in simple or follicular conjunctivitis, diphtherial, gonorrhoeal, or venereal, etc. On the other hand they were found in every fresh case of trachoma examined in various countries and cities, and were constantly present. He was able to prove that the bodies were different from all known cell degenerations, and special care must be taken not to confound them with the eosinophile granules in the leucocytes. These could be seen growing in the cells, and disappearing under treatment. Therefore it was probable they were living agents. Thus it was proved that the much sought after organism had finally been found. It would be premature to put them in the zoological series; they certainly were not bacteria, but appeared to be more allied to protozoa.

DISCUSSION.

Professor ERNST FUCHS (Vienna) said that after the discovery of the trachoma microbes by Prowazek, and in the second place by Professor Greeff, the trachoma cases in his clinic had been examined with regard to the presence of the trachoma microbes. One of his assistants, Dr. Lindner, was devoting much of his time to these researches. He stated that the trachoma microbe was present in a large number of the trachoma cases, acute and fresh cases as well as old and chronic cases. In early cases, as well as in chronic and in treated cases, the microbes were mostly found only in the upper retrotarsal fold; in fresh and more acute cases they were found all over the conjunctiva, and in one case they could be detected even in the epithelium covering a fresh pannus. The microbes could be shown in the scraped off epithelium as well as in sections through the conjunctiva. They were to be found only in the epithelium, never in the conjunctival tissue or the follicles, so that they might regard trachoma as a pure epithelial infection. The appearance of the trachoma microbes had been found to be as Prowazek had described it. The presence or absence of the trachoma microbe might be a very valuable means of ascertaining the diagnosis in doubtful cases. He mentioned in particular the case of a man taken into the clinic with a gonorrhoeal ophthalmia; after a fortnight's treatment, the swelling of the conjunctiva having subsided to a certain degree, a great number of follicles appeared. The question whether these follicles were to be regarded as a sequel of the gonorrhoeal infection, or as belonging to a trachoma pre-existent to the gonorrhoeal infection and unnoticed by the patient, was settled in favour of a pre-existing trachoma by the proof of the presence of the trachoma microbes.

Mr. SYDNEY STEPHENSON (London) remarked that when he first was brought into contact with trachoma amongst the Poor Law children of London there was great confusion between follicular conjunctivitis on the one hand, and trachoma on the other. The former was commonly regarded as an early stage of the latter. In order to settle this point he examined the eyes of about 15,000 children in schools of every class outside the parochial ones, and he found that the conjunctiva was free from follicles in only about 5 per cent. This observation made the theory named above quite untenable. It led him to distinguish between single folliculitis and specific folliculitis or trachoma. He agreed that trachoma was not airborne, and gave examples from his own experience to prove that it was due to contagion—that is, actual transfer of morbid material—and on that view he had formerly succeeded in extirpating trachoma from the schools at Norwood, and from the Central London District Schools at Hanwell.

Mr. J. A. CRAIG (Belfast) dealt with the question of the great prevalence of trachoma in the industrial schools in Ireland, and pointed out the danger to the community which resulted from this. He referred to the want of any attempt on the part of the Legislature to prevent its admission to the country and its subsequent spread. Proceeding to the etiology of the condition, he stated that in a number of cases where nurses had become infected the incubation period had apparently been very short, and the onset and progress of the cases had always been that of an acute trachoma. The progress of the disease when occurring in healthy individuals living under suitable hygienic conditions was always more favourable than in poorly nourished and unhealthy patients, and in these cases, with suitable treatment, a fairly speedy recovery without visible cicatrization was common. He deprecated the employment of too vigorous surgical treatment, and asserted the superiority of sulphate of copper over other medicinal remedies in the treatment of chronic trachoma when the chief clinical feature was the presence of the typical granulations.

Dr. JOSEPH NELSON (Belfast) said that with regard to the prevention and treatment of trachoma more attention than was usually given was needed. All were agreed as to ordinary local, constitutional, and hygienic measures, but he contended that the latter were not carried out as fully as they ought to be. They knew and recognized the difficulties amongst the poor and in schools and institutions of limited means owing to the expense that might be incurred. He held that the powers or authorities—local and Imperial—ought to step in and help, by money if need be, but in all cases enforce what might be necessary in trying to stamp out this terribly contagious disease. Without doubt properly-arranged methods would not only relieve the afflicted patients, benefit the community, prevent blindness, raise the physique of their own nation, but it would also cement international relations, and all that with true economy. He suggested that the Section should pass a resolution calling attention to the matter.

Professor W. GORDON BYERS (Montreal) suggested to the Section that the question of trachoma in Great Britain was one that might with advantage be brought to the attention of the Government. In Canada, thanks especially to the efforts of the Hon. Mr. Monk, the Dominion Parliament had, during the last few years, taken steps which had markedly checked the spread of granular conjunctivitis in the country.

Mr. TREACHER COLLINS moved:

That the Council of the British Medical Association be asked to draw the attention of the Local Government Boards of the United Kingdom to the prevalence of trachoma amongst the lower classes, to the damage to sight which it frequently entails, to the contagious character of the discharge from the eyes of those affected, and to the importance of preventing any transference of such discharge from one person's eyes to another by the washing appliances in the institutions under their control.

The resolution was adopted.

A CASE OF SARCOMA OF THE CHOROID.

By JAMES HINSHELWOOD, M.A., M.D.,
Surgeon to the Glasgow Eye Infirmary.

THE patient, a man 36 years of age, was first seen by me in May, 1906. He was complaining of defective vision in the right eye. He stated that two and a half years previously he had first noticed a distinct visual defect in the right eye. This defect, when first observed, was only a slight blurring of vision, but this had slowly and gradually increased up till the time I saw him, and had been becoming rapidly worse of late. There had never been anything abnormal about the external appearance of the eye, nor had there ever been the slightest pain or discomfort of any kind. He was in excellent health, and said that he had always been a very healthy man.

On examination, the external appearance of the eye and the tension were absolutely normal. On testing the vision of the right eye, I found that the central area of the field was abolished, but that he could count fingers easily and recognize large objects in the peripheral parts of the field. On ophthalmoscopic examination, there was seen at the posterior pole of the eye, slightly below and to the temporal side of the optic disc and involving the macular region, an area in which the retina was slightly raised above the surrounding parts. This area was greyish in colour, and there were no folds observable, nor were any undulations visible on movement of the eye. The condition was regarded as probably due to an exudative choroido-retinitis.

I saw the patient again in May, 1908, two years later. He had had no discomfort whatever with the eye during that period, but his vision had become much worse. He could no longer count fingers, but could only see in the periphery of the field very large objects in a dim way. On ophthalmoscopic examination it was seen that the area of retinal detachment, previously noted below and to the outside of the optic disc, had become much more prominent and projected considerably into the eye. The surface could be seen distinctly with a + 6 D. lens. The external appearances of the eye and the tension were still absolutely normal. A tumour in the eye was diagnosed, but the patient would not consent to excision, as he had no pain or discomfort whatever, and said he would prefer to wait for a time.

I saw the patient again in February, 1909. He had had no discomfort since his previous visit. On ophthalmoscopic examination it was evident that the growth was rapidly increasing and projecting further into the eye. The surface of the projecting mass could now be best seen with a + 10 D. lens. Tension and external appearance still normal.

I strongly urged removal of the eye, as there was no doubt that the growth was rapidly increasing. After some hesitation, the patient allowed me to enucleate the eye on March 2nd, 1909, nearly three years after the time I first saw him. I have seen the patient quite recently. The socket is quite healed and normal in appearance, and he is in excellent health. The eye was examined by Dr. Leslie Buchanan, late Pathologist to the Glasgow Eye Infirmary, and he has kindly furnished me with the following report:

The eye is normal in size and shape, and there is no evidence of external propagation of the tumour growth. The anterior segment of the eye presents normal characters and the iridocorneal angle is open and the filtration spaces free. In the posterior segment, the retina is raised over a tumour, which is growing from the choroid at the temporal side of and slightly below the optic nerve entrance. The optic nerve entrance itself is not visible, being overgrown by the tumour. The tumour presents a somewhat flattened dome shape merging gradually into the choroid, except at the upper part, where a nodule of similar structure projects forwards from it. The growth measures 15 mm. in its largest diameter and attains a height of 6 mm. at its centre, but the nodule above mentioned rises about 4 mm. above this. The mass is non-pigmented. The base of the tumour has its centre almost in the macular area or slightly below it. The retina is raised over and firmly adherent to the surface of the tumour mass, and is overlain, as it were, by a projecting edge of the nodule at the upper part. Histologically the growth is a spindle-celled leucosarcoma. There is no evidence to show that the growth has invaded the sclera or the optic nerve, although the latter is completely overlain by it.

Leucosarcoma is much less common than the melanotic variety. According to Fuchs,[1] about nine cases of melanosarcoma occur for every one of leucosarcoma. Leucosarcoma is said also to be met with, on the whole, at an earlier age than melano-sarcoma. Whilst melano-sarcoma is most frequently met with between the ages of 40 and 60, my patient was 36 years of age when I first saw him, and the growth was probably present at least two and a half years before that.

The case reported is especially noteworthy for the long period during which there were absolutely no symptoms apart from gradually increasing loss of vision. This period has been named the first stage, in contrast to the second or glaucomatous stage, when increased tension with pain and other symptoms dependent upon increased tension appear. Then comes the third stage of extraocular extension, when the tumour bursts through the envelopes of the eye; and finally comes the fourth stage, that of metastasis, the development of metastatic nodules in the internal organs.

Early diagnosis is, of course, very important in the first stage of the disease, and hence every clinical fact observable in this stage is of the utmost importance. The case reported is specially remarkable for the long duration of this stage. If we seek information in books as to the duration of this stage, it is rather vague as a rule. Parsons[2] says in most cases the first stage lasts about half to one year, but may last several years. Berry[3] says that the average duration of the first stage is from eighteen to twenty-one months, the lower limit being for cases of sarcoma of the ciliary body, the higher for those of the choroid proper. In many cases, he says, no doubt the period intervening between the first appearance of the growth and the occurrence of irritation is longer, but escapes observation. Fuchs[4] says that the first and second stages last a long time, whilst afterwards the growth of the tumour becomes continually more rapid.

The present case illustrates the truth of Dr. Berry's observation that in many cases the period intervening between the first appearance of the growth and the occurrence of irritation is longer than the average of eighteen to twenty-one months generally given, but escapes observation. The first symptom is failure of vision, and this will occur at a very early period only if the growth is situated in or near the macular region. I first saw the patient in May, 1906, and he was very clear and positive that the visual defect in his right eye was observed by him at least two and a half years previously. I removed the eye in March, 1909. This gives a period of nearly five and a half years for the duration of the first stage, during which there were absolutely no subjective symptoms apart from gradual and progressive loss of vision in the affected eye.

When a patient presents himself with a detachment of the retina in an otherwise healthy eye without myopia or without any history of injury, the possibility of its being due to a tumour of the choroid should never be lost sight of, and the patient should be kept under very careful and continuous observation. If the detachment of the retina be near or in front of the equator of the eye, great help in the diagnosis may be had from the use of transillumination of the globe. This method has been well described in detail by Stephenson.[5] But when the detachment is at the posterior pole of the eye, as in the present case, transillumination is impracticable and can afford us no help. The diagnosis in such cases must depend upon the ophthalmoscopic appearances as revealed by successive examinations and the careful study of the progress of the detachment.

The clinical lesson to be learned from a study of the present case is that a very long period of increasing visual defect, in the case reported extending to nearly five and a half years, without elevation of tension, without pain or any other subjective symptom, is quite compatible with the diagnosis of sarcoma of the choroid.

References.

[1] Fuchs, *Das Sarcom des Uvealtractus.* [2] Herbert Parsons, *The Pathology of the Eye*, vol. ii. p. 498. [3] Berry, *Diseases of the Eye*, p. 349. [4] Fuchs, *Textbook of Ophthalmology*, p. 383. [5] Sydney Stephenson, *The Ophthalmoscope*, December, 1908.

DISCUSSION.

Mr. Johnson Taylor (Norwich) stated that many years ago he published a case in the Ophthalmological Society's *Transactions* of a leucosarcoma at the yellow-spot region, with a clear history of defect of sight for eleven years. He removed the eye, and the patient is, as far as he knows, still alive and in good health.

Mr. Devereux Marshall (London) said that the line of demarcation between a leucosarcoma and a melanotic sarcoma was very difficult to define, for however devoid of pigment a choroidal sarcoma appeared to be to the natural eye, it was always possible to find a certain amount of pigment microscopically. As regards the question of tension, he laid but little stress upon it as a point of diagnosis. The tension was entirely dependent upon whether the angle of the anterior chamber was closed or open, and this was altogether independent of the size or the presence of the tumour. In examining a large number of cases he found that if the tumour was situated far back

a considerable number had increase of tension, and the rest had normal tension, and it was the rarest thing to find the tension below normal. If, however, the growth involved the ciliary body, a good half of them never had any increase of tension at all. a fair number had *minus* tension, and some *plus* tension. To fail to diagnose a sarcoma just because the tension with a detachment present was not raised, was one of the most foolish things to do. Even now it was not fully recognized how variable a thing tension was in cases of intraocular neoplasms.

DR. ANDREW LITTLE (Bradford) said: By way of throwing light on the duration of those cases of leucosarcoma, I should like to mention a case of twenty-five years' duration. The case I examined a year ago, and found a white tumour involving the lower part of the ciliary body and anterior part of the choroid of the right eye. An iridectomy had been done on a previous occasion. On inquiry into the previous history of the case I found that the iridectomy had been done in the Royal Eye Hospital, Manchester, twenty-five years before, for sarcoma of the iris. The histological examination of the tumour proved the diagnosis of leucosarcoma to be the right one.

DR. R. A. REEVE (Toronto) said: I should like to raise the point whether, in view of our knowledge, or want of knowledge, of the genesis and essence of sarcoma, we are not justified in regarding the sarcoma of the iris in the case just cited as really "cured," that of the ciliary body found twenty-five years later being really a separate occurrence. Thus, one removes a globe for sarcoma of choroid in a subject 50 years of age, and after a quiet interval of full fourteen years, sarcoma of the orbit occurs requiring exenteration. It would seem not irrational to regard the second growth as arising from a distinct focus with a much longer period of latency.

THE VISUAL ACUITY OF SCHOOL CHILDREN.

By W. B. INGLIS POLLOCK, M.D.Glasg.,
Pathologist, Glasgow Eye Infirmary; Ophthalmic Surgeon, Ayr County Hospital.

ALTHOUGH the general medical inspection of school children has only now become general throughout Great Britain as the result of the passing of the recent Education Acts, the examination of the visual acuity of school children has been carried out at various centres for a considerable number of years. In many instances these took the form of private researches by interested ophthalmic surgeons, and from their work the study of school hygiene sprung. The earliest of these investigations, it may be mentioned, was by James Ware, of London,[1] in 1813. The annual medical reports which have been issued recently by the educational authorities present great variations in the number of children with defective visual acuity. It is only necessary to cite one of these publications,[2] where the returns are made up from the individual reports of eleven medical officers, each having three schools to examine. The defective visual acuity for both eyes varies from 6·5 to 77·8 per cent. per school. The school board adds the following comment: "Unfortunately the returns as sent in are not uniform, and statistics regarding the vision would be misleading." My own investigation,[3] carried out some years ago in three of the same schools under this board, gave an average of 11·65 per cent. of defective vision. Another report[4] gives 49·9 per cent. of the urban scholars normal, and 50·1 per cent. defective. The following table has been compiled from the two latest reports[5] of the inspection of the pupils in the provided and non-provided schools of the London County Council:

London County Council Schools.

Year.	Total Scholars.	Returned Defective by Teacher.		Returned Defective by Oculist.		Cards Given.	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
To March, 1907	409,944	44,139	10·7	32,149	7·8	28,492	6·9
To March, 1908	473,145	50,854	10·75	35,142	7·43	29,504	6·24
To Dec., 1908...	313,425	29,326	9·36	20,584	6·58	17,314	5·52
Total ...	1,196,504	124,319	10·39	87,875	7·34	75,310	6·29

It will be seen that among 1,196,504 school children there is only 10·39 per cent. with defective vision after examination with Snellen's test types, carried out by their teachers. When those found defective were examined by the oculists, they discovered 7·34 per cent. with refractive errors, or a difference of 3 per cent., while to 6·29 per cent. cards were given advising their parents or guardians to seek medical treatment. With regard to the difference between teachers' and oculists' results, it is well known that the number of children with defective vision exceeds those with either refractive error or ocular disease. The 3 per cent. of extra children submitted to the oculists is, however, of advantage in giving to them the more complete examination. Various theories have been advanced to account for the difference, and they include shyness, want of cerebration in analysing the images formed upon the retina, anaemia, and immaturity of the retina.

The differences which have thus appeared in the published reports may be accounted for in the two following directions—the method of compiling statistics or the definition of defective vision. The results may be based upon the number of children or the number of eyes examined. In the former case they may be drawn from the binocular vision of the child, as in the London statistics; from the eye with better vision, as in my own statistics of the visual acuity; or from the vision of the worse eye of the child, as in the school with 77·8 per cent. On the other hand, the results may vary according to the definition of normal and defective vision. I have brought this subject forward to urge the desirability of uniformity of method and of definition in the comparatively simple but important subject of the visual acuity of school children.

In the first place, then, the results may vary according to the method of compiling the statistics. The view has been advocated of taking "the vision of the worse eye—the eyes being tested singly, because binocular vision tends towards the vision of the worse eye." My own experience has been that binocular vision is very often superior to the vision of the better eye.

This view is supported by the difference between my own statistics and those from the London schools when estimating from the better eye gave 11·65 per cent. and binocular vision 10·39 per cent. of children with defective vision. And how often do we find that the patient after the refraction of each eye has been separately corrected, can read an extra line of the test types when both eyes are open. Upon only one occasion do I recall a patient stating that his vision seemed weaker when both eyes were open and exact tests did not corroborate the statement. In fact I have never found binocular vision worse than the vision of the better eye. Had the method of basing statistics upon the vision of the poorer eye been for the detection of all abnormal conditions, one could have understood the position to a certain extent; but in that case the results should be analysed according to the number of eyes and not the number of children examined. It is, however, well known that the medical inspection of school children was founded with the view to the detection of those defects which interfere with the education of the scholars. It is undoubtedly of advantage that the parents or guardians of every child should be informed when defects are present; but as experience has shown that a large percentage do not act upon the information supplied to them through medical inspection, it seems useless to waste time and resources upon more than is required for educational purposes, except in serious cases.

My own results were based upon the vision of the better eye for the reason that it is not necessary for school purposes that children should have normal vision in both eyes, or even have binocular vision. It is also true that in most trades or occupations binocular vision is not required.[6] The method of employing binocular vision, or rather the vision when both eyes are open, is used by Dr. James Kerr[5] for the very good reason that such represents the ordinary condition of life. Both of the latter methods has the disadvantage of returning children with normal vision although one eye may be blind. It is, therefore, of importance that the vision of each eye should be tested singly, and every child with one or both eyes defective referred to the medical officers. Statistics may then be drawn up from the number of eyes examined, or preferably from the number of children referred. The latter course

would not be scientific, but it would indicate the numbers examined by the medical officers.

In the second place, variations may result from the standard of normal and defective vision adopted. My own conclusions were obtained by following the method used by Dr. Kerr[1] in the London schools since 1902. His earlier returns were classified in the following three groups: Vision normal ($\frac{6}{6}$), vision fair ($\frac{6}{9}$ to $\frac{6}{12}$), vision bad or defective ($\frac{6}{18}$ or less). The children with both eyes open are examined at a distance of 6 metres from the standard Snellen test types by their teachers. The denominator of the fraction representing the visual acuity (which ought not to be reduced) is then entered in a special column of the register opposite the name of the scholar. All "whose vision is $\frac{6}{18}$ or worse and children in Standard V and above whose vision is $\frac{6}{12}$ or worse" are put on a list and examined later by the medical officers. Such a method is thoroughly practical, although it may allow the higher degrees of hypermetropia to escape. These, as well as affections of the fundus, can be detected if every child is examined by means of the ophthalmoscope by a competent ophthalmologist within the year of entering school, four years later, and, finally, during the last year of school life.

Attention may here be directed to the theory which has been brought forward again of late, that the normal vision of the child is not equal to the normal vision of the adult, or rather that the average visual acuity of the child is not equal to the average visual acuity of the adult. Statistics in support of this theory ought not to be based upon the vision of the weaker eye of the child. To be of any value the results must be drawn from the number of eyes examined, and not from the number of individuals. It is also requisite that the investigation includes very large numbers, and it should only be carried out by those who have had a complete ophthalmic training. I have unfortunately not any comparative tables at present to lay before the meeting, but the following facts may be mentioned: It is not uncommon to find children with vision of $\frac{6}{9}$, but such visual acuity is comparatively rare for adults; while a vision of $\frac{6}{6}$ may be discovered occasionally among children, and it is almost unknown among adults.

In testing the vision of children below 6 years of age it is absolutely necessary that the test conform to their knowledge and intelligence. With children unversed in the alphabet it is useless to employ alphabetical tests. It is difficult to interest them in Snellen's test for illiterates. Much greater success will be gained with tests containing outline pictures of common objects. In such cases it is not necessary that they recognize each object in every line; if two are named correctly that may be taken as sufficient evidence for the given line, since it is possible that the other objects in the same line are not known.

A curious error in association with this subject has appeared in an educational committee's medical report,[2] where it is stated that it is "impossible to estimate correctly the vision of infants unless they are examined in a dark room with accommodation temporarily suspended by the use of a mydriatic." What the writer probably refers to is the estimation of the refraction of the eyes in infants, because, with the high power of the accommodation at the ages of 4, 5 and 6, results obtained without the aid of a mydriatic are unreliable. It is not very difficult to encourage the children of these ages to attempt the test types.

They can be taken for examination in groups of three, and when one is naming the test objects the other two are placed so that, while having their companion under observation, they are unable to see the test types. It will then be found in most instances that the desire of emulation stimulates the others with a considerable degree of eagerness during examination.

Covering the eye with the palm of the hand on the same side is probably the simplest and quickest method of excluding one eye while testing the other. The fingers are not sufficient, as the child may peer between them, and if too firmly pressed upon the eyelids, the vision of the affected eye becomes disturbed for some time. Neither of these disadvantages occurs when the hollow of the palm is pressed over the eye, with the ulnar border filling the bridge of the nose and the fingers lying upon the forehead. The trial frame is satisfactory when the child is closely overlooked, otherwise by rotating the head the test types can be seen with both eyes. The adjustment of the trial frame occupies a minute or two. The method with the palm of the hand allows the examiner to stand near the test types in order to point out the different objects while keeping the child under observation. It is well, of course, to have two or more sets of test types, so that by changing from one to the other no opportunities are given for remembering the order of the objects.

In conclusion it may be said that uniformity of method of examination and of definition of defective visual acuity is the only means of furnishing reliable statistics. The extraordinary variations which have been cited are bound to produce a bewilderment of the lay mind, if not a feeling of doubt as to the ability of the medical officers. It is scarcely possible under any system to persuade an intelligent educational committee that 77·8 per cent. of their scholars have defective vision. The average of 10·39 per cent. among the 1,196,504 scholars in the provided and non-provided schools of the London County Council during the last two years and nine months is as accurate a figure as can be obtained, and it has remained practically the same since 1902. Exaggeration will procure no advantage to any cause, and it will bring the whole system of the medical inspection of school children into discredit and contempt, when found in a division of the subject so easily comprehended and so much worked out as the examination of the visual acuity.

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[1] James Ware: Observations Relative to the Near and Distant Sight of Different Persons, *Phil. Trans.*, London, 1813, vol. i, p. 31. [2] Digest of Reports of Medical Officers for the Year ended June, 1908, Govan Burgh School Board. [3] W. B. Inglis Pollock: The Eyesight of School Children; being a Record of the Examination of over 3,000 School Children. *Trans. Glasg. Roy. Philos. Soc.*, 1905. [4] Lindsey County Council Education Committee, First Annual Report of the School Medical Officers, 1908. [5] London County Council, Report of the Education Committee Submitting the Report of the Medical Officer (Education) for the Year ended March 31st, 1908; and London County Council, Report of the Education Committee Submitting the Report of the Medical Officer (Education) for the Twenty-one Months ended December 31st, 1908. [6] Rowland Temple, Tavistock in Relation to Compensation, BRITISH MEDICAL JOURNAL, December 29th, 1905.

DISCUSSION.

Mr. N. Bishop Harman (London) said that his large experience of school eye work in London led him to the conclusion that the recent edict of the Board of Education—that the vision of each eye of a child must be taken separately—caused a futile waste of time. They wanted to find out how much the child could see under ordinary conditions. Binocular testing was said to fail in discovering odd eyes; that he thought was an objection that did not mean much in practice. He had made comparative tests and found the alleged error of this mode of testing so small as to be negligible. He regretted Dr. Pollock had nothing to tell them of the eye conditions responsible for those defects in vision. Recently he had tabulated the results of the examination of the eyes of 1,100 London children, with results that were to be found in the *Proceedings of the Royal Society of Medicine*, Children's Section, April, 1909. It was worth noting that, of all the bad vision there shown, 43 per cent. was due to simple hypermetropia, 29 per cent. to hypermetropic astigmatism; both of these conditions were practically natural states. Of the rest, 7 per cent. had mixed astigmatism, 9 per cent. myopia, 10 per cent. myopic astigmatism, and 2 per cent. odd eyes: that was to say, if all those last four groups were taken as "myopia," then 25 per cent. of the defective vision was due to that cause. But, since those defective children represented barely one-tenth of the school children, the amount of myopia in the child population was no more than 2·5 per cent., and probably less, for their tests caught the myopes, but did not catch those hypermetropes who had good accommodation. Further, his returns demonstrated clearly how myopia increased, and what kind of eyes became myopic.

Dr. R. A. Reeve (Toronto) said he had been struck by the large number of cases applying for relief of asthenopia, due to hypermetropia or hypermetropic astigmatism at, say, 16 to 24 years of age, who had declared that they never had suffered from headache or other effect of eye-strain previously.

Reply.

Dr. Inglis Pollock, in reply, pointed out that defective vision remained practically at 10 per cent. throughout

school life, and the condition producing the defect differed at the different ages. In the earlier years it was mainly due to hypermetropia and the external conditions of the eyeball, but in the later years myopia played a much greater part. He had dealt with the question in his other papers. The fact that the inverted hypermetropic curve corresponded to the myopic curve was first pointed out by Professor Greeff, of Berlin, the guest of the Section. It was unfortunate that the children did not seek medical treatment, but the Representative Meeting had been considering the general question. The reason why Mr. Reeve did not find young children complaining of asthenopia was because the eyeballs were becoming myopic. He had, however, often seen children with asthenopia, both in private and in the clinic, but in these cases there was hypermetropic astigmatism as a rule.

DISCUSSION ON OPHTHALMIA NEONATORUM.*

OPENING PAPER.

By SYDNEY STEPHENSON, F.R.C.S.Edin.,
Ophthalmic Surgeon, Evelina Hospital for Children, Queen's Hospital for Children, and Queen Charlotte's Hospital.

IN introducing to your notice the report of the Committee on Ophthalmia Neonatorum (issued on May 8th last), and in inviting discussion thereon, I shall be extremely brief.

The Committee was of a responsible character, including, as it did, representatives of the various interests concerned, such as the gynaecologists, the obstetricians, the ophthalmologists, the bacteriologists, and the sanitarians. The interests of the medical profession at large were represented by the presence upon the Committee of the President, the Treasurer, the Chairman of the Council, and the Chairman of Representative Meetings of the British Medical Association. The co-operation of the Central Midwives Board was also invited, but unfortunately without success. The report of the Committee is now in your hands.

The Committee, recognizing that some of its recommendations are of a far-reaching nature on which there might be legitimate differences of opinion, resolved that the report should be referred for consideration to the Divisions of the British Medical Association. It also determined that the report should be discussed at this joint meeting of the Sections of Obstetrics and Ophthalmology. Any recommendations that may meet with the approval of the present joint meeting will, in due course, be submitted to the Ophthalmia Committee, with a view to their incorporation, if thought desirable, in an amended report.

At the same time I may remind my hearers that, according to the rules of the Association, while a Section or Sections may pass any resolution they think fit, yet such resolution or resolutions merely represent the expression of opinion of those present. As a matter of fact, a Section, as such, has no corporate authority in the Association. But it is the practice, so I am informed, for the Council of the Association to consider and to refer to the appropriate committees all resolutions which the honorary secretaries of Sections officially forward for that purpose.

DISCUSSION.

DR. J. H. TAYLOR (Salford) said he hoped that nothing he might say would be regarded as any reflection on the excellent report on ophthalmia neonatorum, as he felt it would be sheer presumption on his part to criticize the work of men chosen for their eminence in this special department. He felt, however, that a general principle was involved which might have far-reaching consequences. He drew attention to the fact that while the Representative Meeting had only approved of pages 1 and 2 of the report with a few alterations, Mr. Stephenson now asked the meeting to approve also of page 3. Now, the third page contained some suggestions for treatment by medical men which ought not to be included in any report, as they tended to crystallize treatment, which ought to remain in a fluid condition. Fresh methods of treatment might soon be advised, and if the Association undertook to advise any special treatment now, it ought periodically to be revised by the Association, as new methods were devised. Further, for a great association specially to recommend any one line of treatment would be extremely dangerous for general practitioners. If a practitioner were brought up on a charge of malpraxis, and if it were proved that he either did not know or failed to carry out the treatment which had received the special sanction of the British Medical Association, that would be taken as presumptive evidence that the practitioner had not kept himself abreast of the best that was known. There would thus be serious danger in stamping with the authority of the Association any one line of treatment which might in a short time be superseded. If the whole report received the approval of the British Medical Association it would become the standard reference in courts of law, though other lines of treatment might be equally as good. The speaker therefore suggested that Mr. Stephenson should accept some addition to his resolution recommending the Council to add some words to the report which might act as a safeguard to general practitioners who did not follow out the suggestions of the report. If Mr. Stephenson would not accept this, he hoped the meeting would refuse to specially approve of the suggestions for treatment by medical men.

MR. NIMMO WALKER (Liverpool) drew attention to the condemnation in the report of the use of Credé's method by midwives, as this method was still being taught to midwives' pupils by obstetricians. He agreed with the condemnation on the grounds that Credé's method, as now taught, not only was not absolute protection, but caused actual injury to the eyes by the use of too strong lotions, or even infection by contaminated lotions, as evidenced by cases which he had seen lately; he considered that the eyes should be "tabu" to the midwives. In regard to the recommendation of compulsory notification, while not opposing it, he asked whether its inclusion in the schedule of the Infectious Disease Act was workable, and pointed out that this Act applied to medical practitioners only. Notification could be made compulsory for midwives under the Midwives Act, 1902, by the order of the local health authority. In conclusion he emphasized the usefulness, as evidenced by his experience in St. Paul's Eye Hospital, Liverpool, of an ophthalmia department in eye hospitals, where cases of suspected infection could be taken on the day of birth for prophylactic measures, and cases of actual infection admitted with their mothers into a special ward.

DR. WENDELL REBER (Philadelphia) said: There are two or three phases of this subject that appeal to one who has thought much on it. In the United States of America too much honour cannot be given to Dr. Lucien Howe, who, in season and out of season, for many years has campaigned against this dread disease, and who is responsible for most of the legislation relating to its control. Touching the matter of the professional relation, it is the feeling of the United States that the midwife should be allowed no liberty whatever in the use of Credé's method. Our own legislation does not permit the use of any prophylaxis other than the usual cleanliness imposed upon the midwife. A medical man must be summoned the moment any inflammatory signs whatever are noted. The feeling everywhere all over the States is that so fulminating a disease as ophthalmia neonatorum should be kept entirely under the control of the medical profession. Another point I wish to make is that better final results for the child will almost surely follow if arrangements can be made to have the mother nurse the child during the whole treatment. In the Philadelphia General Hospital arrangements were made some years since to admit both the mother and the child to the hospital at the same time, and excellent results have followed.

DR. J. WHARTON (Manchester) said that a modified system of notification had been in vogue in Manchester for the last three years (1906 to the present), and as a result of a working arrangement between the Public Health Office and the Royal Eye Hospital, such notification had resulted in a marked reduction of the number of cases of

* Joint discussion of the Ophthalmological and Obstetric Sections.

ophthalmia neonatorum, amounting to about 40 per cent. In addition, not a single eye was lost, whereas previously the reverse was the case, in some instances amounting to 3 per cent.

Dr. Cecil Shaw (Belfast) supported the report as one sharing responsibility for it. He pointed out that the report made no attempt to crystallize treatment, as had been said, but merely made suggestions for a better routine method than Credé's. He agreed with Dr. Nimmo Walker's observations on the danger of Credé's method as applied by nurses, and urged the adoption of the report as pointing out a better way.

Dr. R. A. Reeve (Toronto) said: Might I suggest that, to meet the views of some opponents of this important resolution, the paragraph dealing with suggestions as to treatment be modified somewhat, especially since other lines of treatment than strict "Credé" have been found practically satisfactory?

Mr. Bishop Harman (London) said the report was excellent in its general features. But to get any real success in their efforts after legislation or the application of existing legislation, they must create a public feeling on the matter. Government officers and Ministers would not take any steps in advance of public demands; they had to be forced to work, for independent action only brought them into difficulties. They had been in some degree successful in awakening opinion. Only last year, at the International Congress of the Blind in Manchester, the subject came up for discussion, with the result that a committee of members of the different blind societies and colleges of the kingdom met, and with the help of two ophthalmic surgeons, drew up a report in simple yet instructive language the ordinary man might understand, and that without offence. Some of the men on this committee were county councillors, and they had exerted useful influence on their colleagues. By such means they could do much. On the matter of "definition," and the difficulty of notification, he thought that the original description of the disease by the Committee of the Ophthalmological Society made years ago was ample for all purposes. "If the child's eyes become red or swollen, or begin to run with matter. . . ." Nothing could be more explicit than that. All such cases should be notifiable. Then the local authorities' bacteriologist would examine films, and say whether the case was dangerous or not. In the work of the London County Council Blind Schools, where he had seen 600 children, he had perhaps the largest experience of any man in the country of these blinded children in after-years. His figures indicated that the disease was diminishing, but not so much as to warrant them in diminishing their efforts.

Dr. H. C. Mactier (Wolverhampton) proposed an amendment to page 3 of report, that immediately after the words "suggestions to medical practitioners" the following words be inserted:

> These are suggestions only, and not definite instructions for treatment.

Dr. R. C. Buist (Dundee) said: Notification is a social net which sweeps in fish other than those we want, but it is the only way of securing the capture of those we do want. All cases of ophthalmia are not gonorrhoeal, but we get hold of the gonorrhoeal cases by notifying all. In page 3 two general principles have dictated the recommendations. The first is the exclusion of routine treatment and the individualization of each case. The second is the restriction to the medical profession of every medical measure, such as an instillation into the eye, to the exclusion of the nurse or midwife.

MALFORMED CORNEA IN INHERITED SYPHILIS.

By Professor E. Fuchs,
Vienna.

[Abstract.]

Professor Fuchs, in a paper on malformation of the cornea in cases of inherited syphilis, paid tribute in the first place to the work of Sir Jonathan Hutchinson on the eye condition in congenital syphilis, and since the time of his writing scarcely anything had been added to our knowledge, so complete had been his observations and deductions. His own paper was a slight addition to the work previously described. He had noticed that in some cases of congenital syphilis the cornea was shaped as a vertical ellipse, while the normal cornea tended to have the shape of a horizontal ellipse, because the tissue of the limbus encroached upon the cornea above and below, but this was more apparent than real. In these cases of disease, however, the vertical ellipse was real, and not due to encroachment of the limbus. So far, he could not explain the malformation, nor had he enough material as yet to say with what frequency it was observed. In 23 cases noted it occurred 20 times in females, and it was noteworthy that interstitial keratitis was more frequent in females. Half the cases had interstitial keratitis, 5 chronic iritis, 1 congenital cataract, 2 corneal opacities, probably the result of strumous keratitis. The remaining six were old people with senile cataract. Excluding the last six old people—for in age the diagnosis of inherited syphilis was not readily made—he found that in the other 22 cases 8 showed definite inherited syphilis, 8 some indication of it, and 6 no symptom of it. During the year he had only seen about 50 cases of fresh interstitial keratitis, and only 8 of these had the ellipse, so that it was by no means common. He thought that the malformation might prove to be another of the signs of the inheritance of syphilis, although it must, like other signs, be taken with due regard to other conditions.

DISCUSSION.

Mr. Treacher Collins (London) asked if Professor Fuchs had examined any of these oval corneae anatomically, so as to eliminate the possibility of the ellipse being due to encroachment of the limbus.

Professor Fuchs replied that he had had as yet no opportunity for anatomical examination, but the vertical ellipse was a striking feature, and with it went marked irregular astigmatism, often to as much as 5 or 10 dioptres.

TREATMENT OF GLAUCOMA BY TREPHINING.

By Freeland Fergus, M.D.Glasg.,
Surgeon, Glasgow Eye Infirmary.

[Abstract.]

Dr. Fergus said that the operation which he had used had given him excellent results, and was essentially a mere modification of that of Lagrange. So far as that went he had no hesitation in saying that this modification stood or fell with that of Lagrange. From the clinical standpoint sclerectomy was perhaps as reliable as iridectomy, and certainly was more easily performed. It had some obvious advantages over iridectomy: (1) As it was all but painless, there was no need of a general anaesthetic. Many glaucoma patients were particularly bad subjects for general anaesthetics. There was often marked sclerosis of the vessels, and patients frequently had various circulatory troubles. In one case that he had seen the cardiac condition was so bad that he would have undertaken any operation requiring the administration of an anaesthetic with great reluctance, and it would have been impossible to have operated without one. (2) There was no danger of injuring the lens, a thing that was not unknown when a keratome was used. (3) The risk of septic infection was by this method reduced to a minimum, for the wound was at once covered by a large conjunctival flap; thus the underlying structures were effectively protected.

The operation was simplicity itself. A large conjunctival flap was dissected up to the sclero-corneal margin, just as for the operation of advancement. Then the trephine was used to remove a piece of sclera as near to the cornea as possible. The point of a fine iris repositor was next passed from the scleral opening right into the anterior chamber; lastly, the conjunctival flap was replaced, and stitched back into position.

DISCUSSION.

Dr. Andrew Little (Bradford) said he would like to point out, in connexion with this operation of trephining

the sclera for glaucoma, that there was a danger of septic infection of the eye as a late symptom. He had had to remove eyes for general infection of the eyeball years after what were admitted to be cases of successful filtration cicatrices.

Dr. Berry (Edinburgh) considered that Dr. Fergus's operation might be useful in forming a cystoid cicatrix. The operation was obviously not called for in cases in which iridectomy was at all likely to be successful.

Mr. Treacher Collins (London) said that in the operation described by Dr. Freeland Fergus he did two things: (1) The removal of a piece of the sclera by trephining; and (2) the breaking through the ligamentum pectinatum with a spatula—that is, a cyclodialysis. In estimating the value of the operation it was important to recognize these two different factors, because one aimed at the relief of tension by the formation of a cystoid scar, and the production of an artificial channel for the exit of fluid from the eye; the other aimed at the opening of the normal passage of exit through the ligamentum pectinatum.

Mr. Johnson Taylor (Norwich) asked (1) whether Dr. Freeland Fergus ever found it necessary to remove a part of the iris; (2) whether he would do his trephining operation in blind, painful glaucoma cases in which probably most ophthalmic surgeons would excise the eye.

Professor E. Fuchs (Vienna) said he had tried trephining but further away from the cornea. He found only temporary relief from the operation. He had also tried cyclodialysis in several cases, but he had recently given it up as he had found the symptoms recurred, and pathological examination had shown that in the places where the cyclodialysis was performed the tissues were more cicatrized, and that no permanent communication between the anterior chamber and the perichoroidal space had been obtained. He still placed his reliance in the first place on the old operation of iridectomy.

Dr. Freeland Fergus, in reply, said that as regards the preparation of the eye he used nothing but washing with sterilized normal saline. A few days of such treatment had been found to put the matter right. It was important to pass about a pint of the fluid through the conjunctival sac every four or six hours, and the fluid should have a fall of about 18 in. As regards the time that had elapsed since the first operation Dr. Fergus wished to point out that his operation was only a modification of that of Lagrange; it was merely an easier and more convenient way of performing that operation. If Lagrange's operation was bad, so was his; if Lagrange's operation was good, his was only a simpler manner of performing it. The important point in operating was so far as possible to make sure of the asepticity of the parts by careful bacteriological investigation. That was a plan he had adopted during the last twelve or fifteen years, and, as showing the benefit of it, he might say that of the last 710 cases done by him in the hospital, not one had been lost by panophthalmitis. As regards the remarks made by Mr. Treacher Collins that it was trephining along with cyclodialysis, he might say that in 3 cases he had contented himself with simple trephining. The operation was a much easier one than iridectomy, and if it should prove equally successful, then it should be adopted.

THE SERUM DIAGNOSIS OF SYPHILIS.

By Alexander Fleming, F.R.C.S.Eng.,
Assistant in the Therapeutic Inoculation Department, St. Mary's Hospital.

The method which I am about to demonstrate for the serum diagnosis of syphilis differs very much from the Wassermann's original adaptation of the Bordet-Gengou method. Wassermann used a saline extract of the liver of a syphilitic fetus, serum from a rabbit which had been immunized to sheep's red corpuscles, and fresh guinea-pig serum. Very soon, however, the French observers, and especially Levaditi, demonstrated that the test would come off when one used saline extracts of normal liver and other organs. Then the Viennese school, headed by Landsteiner, showed that alcoholic extracts of these various organs would serve for the test. This may seem at first sight as a very small point, but in practice it was an enormous advance owing to the very uncertain character of the saline extracts and the difficulty one had in keeping them free from contaminating organisms. This was soon followed by the discovery that some lipoid substances such as lecithin, and even simpler substances such as oleate or glycocholate of soda, would serve. In practice I find an alcoholic extract of heart to be very suitable for the test, and it does not seem very material from which source the heart is obtained—human, sheep, rabbits, or guinea-pigs being all useful.

Next the various observers set themselves to simplify the other steps of the test. Bauer did away with the immunized rabbit, and made use of the natural haemolytic power of human serum for sheep corpuscles. Hecht went further and used the complement as well as the haemolytic amboceptor which is present in fresh human serum, and the test I am about to show you is an adaptation of Hecht's method for use with very small quantities of serum, as in most cases it is impracticable, in England, at any rate, to draw off the much larger quantities which are necessary for the performance of the test as described by the Continental authorities. Especially is this so in connexion with ophthalmology, where one deals largely with children suffering from congenital syphilis. For the performance of the test the following substances are required:

1. An extract of heart muscle made by grinding up 1 part of heart with 5 parts of alcohol and extracting for one hour at 60° C. This can be kept in stock and diluted to 5 or 10 per cent. (according to its strength) before use.
2. Sheep's corpuscles washed and made up to 10 per cent. in normal saline.
3. Serum to be tested in an ordinary blood capsule such as is used for a Widal's test or an opsonic index.

A pipette is taken such as is used for the opsonic estimations and a mark is made about 1 in. from the end of the capillary with a saline pencil. Another mark is made higher up the stem corresponding to about four times the volume marked off by the lower mark. (The exact volumes are immaterial, but if one is doing large numbers of the tests it is convenient to have two pipettes, one with a volume marked off corresponding to 10 c.mm. and another with 40 c.mm. marked off.) These latter volumes I find convenient as one can always get from an ordinary blood capsule two volumes of serum of 10 c.mm., without having to take the trouble to centrifuge the blood to separate the serum.

The following mixtures are now made:

1. Extract 4 vols., syphilitic serum 1 vol.
2. Normal saline 4 vols., syphilitic serum 1 vol.
3. Extract 4 vols., normal serum 1 vol.
4. Normal saline 4 vols., normal serum 1 vol.
5. Extract 4 vols.

These are incubated for one hour at 37° C., then 10 c.mm. (1 vol.) of 10 per cent. sheep's corpuscles are added to each of the tubes and the incubation continued for another hour.

The results one obtains are:—No haemolysis in tubes 1 and 5; haemolysis in tubes 2, 3 and 4.

The results which I have obtained with this method are as good as by the more complicated procedures, and, taking all syphilitics indiscriminately, a positive result can be obtained in almost every case, while out of a very large series of controls only a very small percentage failed to give a negative reaction, and of those supposedly non-syphilitic controls who gave positive reactions the majority, on being questioned closely, gave histories so suspicious as almost to warrant the conclusion that they had suffered from syphilis.

The test comes off quite as well with congenital syphilis as it does in acquired cases. Most of the congenital cases I have tried have been from the Eye Department of St. Mary's Hospital, and I am much indebted to Mr. Paton for the kind way in which he has placed the material at my disposal. Out of a number of cases of typical interstitial keratitis the test has been positive in every case, and the same applies to the cases of choroiditis which I have tested. Of course, there were one or two cases where the clinical diagnosis was not certain and where the test was used to help in the diagnosis, but these I have left out of the reckoning, whether the result was positive or negative.

As regards conditions other than eye affections, primary cases have been found by many not to be certain in their results, but of the primary cases I have tested only one failed to give the test, that being the first one I tried. I have not been able to trace this patient, but it is conceivable that the chancre which he showed was not a

syphilitic one. All the secondary cases I have tried have yielded positive results, and practically all the tertiaries. The parasyphilitic conditions, as instanced by tabes and general paralysis, vary somewhat in their results, for whereas general paralytics give positive results in almost every case, the tabetics do not give it in more than about 60 per cent., and I have noticed that in most of those who failed to give the reaction all history of syphilis was strongly denied.

Treatment, when efficiently carried out, modifies the reaction, so that cases, when they have been vigorously treated for a long period, fail to show it, and from what I have seen I have come to the conclusion that when a case is cured the reaction disappears. If time proves that this conclusion is warranted, then the value of the reaction is greatly enhanced, as it would be possible, by testing at intervals, to lessen the duration of the treatment in many cases; and in others, where the test remained positive, it would indicate that further treatment was necessary to avoid the troublesome recurrences of the affection which often take place, even after a full course of treatment with mercury.

THE DIAPHRAGM TEST FOR BINOCULAR VISION AND ITS DISORDERS.

By N. Bishop Harman, M.A., M.B.Cantab., F.R.C.S.Eng.

This test is one of rare simplicity, and yet one that will elicit a surprising amount of information when applied to practice. It is simple because it rests upon a phenomenon that is of everyday occurrence. On looking out of a window

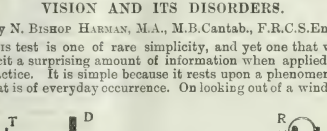


Fig. 1.

the man who has natural binocular vision sees more widely than does the man who has but one eye, or who sees with but one eye at a time. With this test the patient looks through a hole in a screen (D, Fig. 1) at the test card (T). The paths of the vision are shown in Fig. 1, and the manner in which right and left monocular and also binocular vision is arranged for. The form of the instrument is shown in Fig. 2. The appearance of a test card for reading is seen in Fig. 3; the dotted lines on the print enclose the band of print seen by both eyes, and the lateral portions are seen by each eye singly by crossed vision.

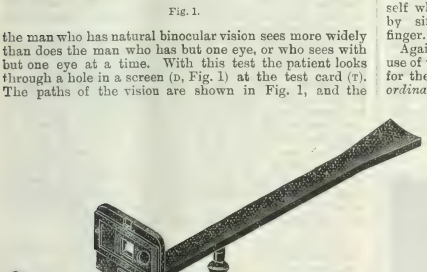


Fig. 2.

The test cards are of great diversity. Print of any size, from diamond in set paragraphs to canon in paired capitals; black or coloured squares, variously disposed; pictures for children.

The test is of value for the following purposes:

1. To determine the equality of visual acuity in the two eyes.
2. To determine the presence, the absence, or a defect of binocular vision.
3. To exercise the vision in squinting eyes.
4. To detect malingerers feigning monocular blindness.
5. To demonstrate certain physiological phenomena.

A large selection of Screens in Chippendale, Sheraton, Louis XV. and XVI. and other styles, also Lattice Screens, Japanese Screens, Cheval and Wing Screens. An example of value, the Four-Fold

Fig. 3.

Take, for example, latent squint. The phenomena produced by the various orders can be best shown by the use of the test card with a single line of letters or figures:

123456789.

The man with good binocular vision reads 1 2 3 4 with the right eye, 6 7 8 9 with the left, and 5 with both eyes.

In convergence (esophoria) the middle letters are overlapped and are suppressed, so that the man reads something like this:

126789.

In divergence (exophoria) the middle letter is reduplicated, and the man reads:

12345 56789.

In vertical displacement (hyperphoria) the parts of the line of letters seen by each eye are on different lines or levels, thus:

12345

56789.

All these phenomena can be seen by the surgeon himself when an excessive prism is placed before one eye, or by simply displacing one eye by the push of the finger.

Again: A malingerer can hardly escape detection by the use of this test. Answers by the mouth are not necessary, for the surgeon, watching the man's eyes, will see *the co-ordinate movements of the eyes as the man looks from one to other area of crossed vision.* The movement is proof of two-eyed vision: the man with only one sighted eye does not make it.

Mr. Harman said that in recent experiments with the instrument he had found that by varying the size of the hole in the screen it was possible to estimate numerically the value of the desire for perfect binocular vision, or what is known as the "fusion faculty."

The instrument is made in suitable materials in excellent fashion by Messrs. George Calver, Limited, of White Lion Street, London, N. It costs only a few shillings.

DISCUSSION.

Dr. W. B. Inglis Pollock (Glasgow) said he found this instrument always useful after prescribing reading glasses. It took only a minute to read the line of figures, and this informed the surgeon whether the patient was using both eyes.

Professor Fuchs (Vienna) said he thought the test exceedingly simple and of great value.

A SECTOMAGRAPH WITH BINOCULAR FIXATION.

By J. H. Tomlinson, M.R.C.S., L.R.C.P.,
Clinical Assistant, Royal Westminster Ophthalmic Hospital.

This instrument can be used for general perimetry or for accurately mapping out blind or anaesthetic areas. The test object used to prove the sensitiveness of the retina is

a second image of the spot used as the fixation point. This second image is obtained by reflection from a mirror hinged within a cone, the angle of the mirror determining the angular position of the second image on the retina. The cone can be rotated round its axis so that the second image is caused to make a circular excursion on the retina; in this way Bjerrum's method of investigation can be employed. An automatic registration is obtained by means of a needle which is carried by the mirror and extruded pneumatically by mechanism similar to that used for operating a photographic shutter. The second eye looks down a tube at a small spot the same size as the spot looked at by the eye under examination; the brain interprets this as the same spot, and stereoscopic fixation is thus obtained.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF GUNSHOT WOUND.

A MILITIAMAN, aged 21, was admitted to the Lockhart Hospital on June 19th, who, a few hours previously, had been accidentally shot in the back during manœuvres by a man some 5 to 10 yards behind him. At the time of the accident the patient felt as though he had been struck from behind, but did not fall, and even wished to walk over to the camp immediately afterwards. He experienced comparatively little shock, and on admission to hospital was not suffering much inconvenience. The temperature was 99°, and the pulse 80. The skin wound, a vertical slit with scared edges, was situated $\frac{1}{2}$ in. to the left of the middle line at the level of the eleventh dorsal vertebra.

The *x* rays were not available, so under chloroform an incision 3 in. long was made downwards and outwards from the wound, this being the direction of maximum tenderness. Nothing was discovered on superficial dissection, but a slight gap in the fibres of the lumbar fascia close to the original wound led one to introduce a probe, which passed obliquely outwards and revealed the bullet deeply imbedded in the erector spinæ muscle 2½ in. from the point of entrance. It was easily removed with forceps, the incision was stitched, the wound drained and recovery was uneventful.

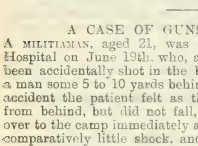


Fig. 1.

The accompanying photographs will serve to illustrate the main facts of the case.

Fig. 1 represents the bullet, of regulation Lee-Enfield pattern, as it appeared just after removal. The missile had carried along with it a small piece of the man's shirt, and this, as the photograph well shows was matted with blood and closely adherent to its base at one side, where the cupro-nickel coating had burst slightly. The hole in the shirt where the part was torn away is shown in Fig. 2. The two projecting fibres to the left as well as the inner surface of the garment were bloodstained. Examination of the tunic through which the bullet first passed revealed only a small horizontal tear close to one of the seams.

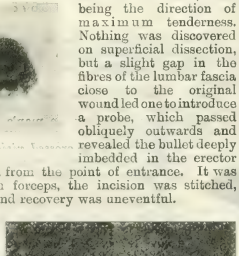


Fig. 2.

The most noteworthy point in the case is the comparatively slight injury in a gunshot wound inflicted by a military rifle at close quarters. The distances given me by several eyewitnesses varied from 5 to 10 yards, and, according to one, was "certainly not more than 15 yards." How a modern bullet having a muzzle velocity of over 2,000 ft. per second could merely inflict a flesh wound at a few yards' range is somewhat difficult of explanation. It had encountered no hard object—belt, button, etc.—in its course, nor had it struck bone on penetrating the body.

Lanark. DOUGLAS J. GUTHRIE, M.B., Ch.B.

TICK FEVER IN NYASALAND.

My object in writing this note is to draw attention to the extremely wide range of distribution of tick fever in Nyasaland. At one time presumed to be confined more or less to the country to the south-west of Lake Nyasa, cases of spirochætosis have now been met with over quite three-fourths of the Protectorate, the most highly infected areas being the districts bordering the lake. The disease appears to decline in incidence as one approaches the southern end of the Protectorate—that is to say, in the districts furthest away from the lake.

This precise knowledge of the distribution of tick fever has been obtained by medical officers at present engaged on sleeping-sickness investigations in the lake districts, which hitherto have been a *terra incognita* from the medical standpoint. In a native prison in one of these districts the floor, walls, and ceiling of the building were found to be teeming with *Ornithodoros moubata*, although none of the inmates of the prison complained of any febrile indisposition. The Indian hospital assistant, however, who was engaged on sleeping-sickness duty, but who happened, incidentally, to visit the prison, was shortly after laid up with what proved on blood examination to be a heavy spirochæte infection. This circumstance alone would establish the proof, if proof were necessary, that natives residing in localities infested with *O. moubata* must be more or less immune to the infection.

That this immunity is by no means general is evidenced by the frequent references in the medical officers' reports to the large number of natives constantly met with who in the course of routine blood examinations are found to harbour the parasite. One of the medical officers has observed that the clinical symptoms in heavy infections are often found to be less severe than in those cases where the organisms are scanty.

Before bringing this note to a close I should like to say one word regarding an affection which a few years ago—before the pathogenicity of *O. moubata* was recognized in this country—used to be called "Tanganyika blindness." It occasionally happened that a European came under treatment for a complaint which went by this name. There was a history in these cases of recurrent attacks of what was presumed to be malarial fever, and the eye condition was accordingly regarded as a malarial iritis. In the light of our present knowledge, however, there is little reason to doubt that a spirochæte infection was the cause of the iritis in these cases, and the name which this so-called "blindness" bore would indicate that tick fever must be prevalent on Lake Tanganyika also.

Zomba, Nyasaland. H. HEARSEY, Principal Medical Officer, Nyasaland.

DR. FREDERICK A. COOK, whose name has recently been in all men's mouths in connexion with the alleged discovery of the North Pole, was (says the *Journal of the American Medical Association*) born in Sullivan County, New York, on June 10th, 1865. After attending public schools in Brooklyn and graduating from the University of the City of New York, he took his medical course at the College of Physicians and Surgeons of Columbia University, New York, and practised in Brooklyn for a brief period. His interest early turned to scientific exploration, and he became surgeon of the Peary Expedition in 1891. Since then his time has been devoted largely to exploration work. He was surgeon of the Belgian Antarctic Expedition, in which he conducted himself so well that he was awarded medals by the Royal Society of Belgium and the Royal Geographical Society of Belgium, and was decorated with the Order of Leopold by the King of the Belgians. Another exploit was the ascent of Mount McKinley in Alaska, in which he was the pioneer, in 1906. In a work entitled *Through the First Antarctic Night*, he described his trip with the Belgian Expedition; in another, bearing the title *To the Top of Mount McKinley*, he gave an account of his ascent of that mountain.

Reviews.

GENERAL MEDICINE.

In our review of the first volume of *Ergebnisse der Inneren Medizin und Kinderheilkunde*[1] (British Medical Journal, vol. ii, 1908, p. 504) the objects of this great undertaking were fully described, and we have now to record the appearance of a second volume wherein a series of critical analyses is presented of many of the most prominent clinical and pathological problems of the day. Fifteen articles are included in the series, all of them from the pens of writers well qualified for the task, and from each paper the reader will be able to extract the latest modern information as distilled from the many hundreds of references that are quoted. Foremost amongst them is placed an analytical account of recent research on the subject of trypanosomiasis in human beings, by Dr. Martin Meyer of Hamburg, who traces the various steps which have led to the present views on the subject. The value of preventive measures and the complete failure of curative efforts are fully recognized, and a useful list of drugs that have been found to be useless—86 in number—is appended. Purulent affections of the urinary tract in infants are next considered, and as the subject is but lightly touched upon in most of the English textbooks, the article is of more than common interest. The etiology and causation have not been fully made out, but the disease may properly be described as a pyelo-cystitis occurring in infants under 2 years of age, and mostly among female babies of the lower class. It has proved amenable to treatment by salol and urotropin with careful dieting. This article is by Dr. Göppert of Kattowitz, in Silesia, where the disease appears to have been seen frequently. A long account of the treatment of diabetes mellitus, by Dr. W. Falta of Vienna, deals with a very large number of references, and the main object of the paper is to indicate the broad lines of connexion between the pathology of the disease as at present known, or conjectured, and its treatment. In this, as in some other of the more voluminous contributions, it is to be desired that only a concise account were given of those observations which are of doubtful value. Many of the contributors, doubtless with a laudable desire to do justice to those whom they quote, have rather overloaded their articles with unnecessary detail. This cannot be said, however, of an admirable account of primary intestinal tuberculosis, by Dr. Edens of Munich. A large amount of information is conveyed in but little space, and the article contains some very suggestive remarks as to the way in which a primary infection may bring about increased susceptibility. The arthritic diathesis in childhood is discussed by Drs. Méry and E. Terrien, of Paris, in an analysis of fifteen recent papers, mainly by French writers. A very elaborate study of the chemico-biological aspects of malignant growths by Dr. Carl Lewin, of Berlin, carries the subject a step forward into the dark, but no indication is given of any glimmer of light in the future. Many of the difficult problems, physiological and pathological, in the study of children and their diseases are in like manner inquired into, and a series of *x*-ray photographs of different morbid conditions at the end of the volume are of especial interest as showing the ranges of shadow that may be cast in health as well as in disease. Space will not admit of individual reference to each paper, and it must suffice to record that the whole work is carried out in the same thorough manner as it was begun, and although its errs occasionally on the side of prolixity, it cannot fail to be of immense service to all who may be pursuing investigations on any of the matters dealt with, and who may wish to ascertain at little trouble to themselves the opinion of previous workers in the same field.

The first volume of the book by Professor De-Giovanni, of Padua, the Italian edition of which was reviewed some five years ago (British Medical Journal, 1904, vol. ii, p. 1015), now appears in an English translation by Dr. J. J. Eyre, under the title *Clinical Commentaries deduced from the Morphology of the Human Body*.[2] The translation has been made from the second Italian edition, and the volume will be found an interesting and instructive attempt to show that the methods of morphology are of the utmost use in clinical observations, and that, as a matter of fact, no proper conception can be gained of any individual's tendencies toward diseased conditions, unless his general and special morphological characteristics are carefully inquired into and thoroughly understood. In other words, Professor De-Giovanni believes that every individual possesses special characteristic bodily conditions, which differentiate him more or less from his fellows, whilst at the same time they make him more or less liable to pass into certain conditions of disease; or, to quote the Professor, "the cause of a special morbidity resides in the special morphology of the organism," from which it follows that many morbid phenomena are the expressions of two factors—the action of the cause and the reaction of the substratum—and it becomes obvious that, granted the correctness of the contentions, the object of preventive medicine should be to recognize, as soon as possible, in the life-history of an individual his special morphological characteristics, and then lay down the rules which must be observed in order to nullify special morbid tendencies. But, although Professor De-Giovanni lays great stress upon individuality and the consequent tendency to special morbidity, he fully admits that individuals may be grouped, for many practical clinical purposes, into classes, and the means he adopts for the recognition of special and general morphological characteristics are relative measurements, of which the most important are the stature, the stretch or greatest distance between the tips of the fingers when the arms are at right angles to the body, the thoracic circumference, the sternal length, the abdominal length, and the relative proportions of its xipho-umbilical and umbilico-pubic sections, the bi-iliac length, and the size of the heart. When the above measurements have certain definite relations to each other they indicate, according to Professor De-Giovanni, morphologic combinations, and point to more or less definite tendencies to morbidity. These great morphological combinations, which are subject to many variations, are described and discussed. The book is interesting and suggestive, but the essential facts it contains might have been compressed into a smaller number of words.

NEUROLOGY.

The great progress in the study of diseases of the nervous system that has been made in recent years is well brought out in the new textbook of nervous diseases,[3] edited by Dr. H. Curschmann, of Mainz. The first 63 pages, by Dr. S. Schönborn, deal with the general diagnosis of nervous diseases; disorders of the peripheral nerves are discussed by Dr. H. Steinert; and the normal and pathological physiology of the spinal cord by Dr. M. Rothmann. Tabes dorsalis and Friedreich's ataxia are described by Dr. Schönborn, who dismisses in but a few words the important subject of deep anaesthesia in tabes, so well put forward by Grasset of Montpellier in his recent monograph (*Le Tabes, maladie de la sensibilité profonde*. Paris. Dr. J. Grasset, British Medical Journal, 1909, vol. i, p. 903.). Dr. Fr. Jamin contributes 50 pages on various paralyses and atrophies due to inflammations of the cord and bulb. Syringomyelia, appropriately enough, is treated by Dr. Schlesinger, as are disseminate sclerosis and haematomyelia, in three excellent articles. Traumatic affections and tumours of the cord are described by Dr. Finkelnburg, while a comprehensive account of the affections of the conus terminalis and cauda equina is contributed by Dr. L. R. Müller. Some twenty pages are given to the muscular atrophies in which no changes in the central nervous system have been found, and this section is by the editor; it is well illustrated by photographs, but does not exhibit a very extensive acquaintance with the literature of myasthenia gravis, for example, for no reference is made to the work of the Italian or

[1] *Ergebnisse der Inneren Medizin und Kinderheilkunde*. Contributed by F. Kraus, O. Minkowski, Fr. Müller, H. Sahli, A. Czerny, O. Heubner; and edited by Th. Brugsch and Langstein of Berlin. Eric Meyer of Munich, and A. Schittenhelm of Erlangen. Second volume, with name and subject indices to first and second volumes. Berlin: J. Springer. 1908. (Sup. roy. 8vo, pp. 708; Taf. vi. M.24.)

[2] *Clinical Commentaries deduced from the Morphology of the Human Body*. By Professor A. De-Giovanni. Translated from second Italian edition by J. J. Eyre. London: Rebman, Limited. 1908. (Med. 8vo, pp. 448 figs. 11. 15s.)

[3] *Lehrbuch der Nervenkrankheiten*. Herausgegeben von H. Curschmann. Berlin: J. Springer. 1909. (Sup. roy. 8vo, pp. 887; 289 illustrations. M.24.)

English investigators who have done not a little to clear up the pathology of this interesting but rare disorder. The normal and pathological anatomy of the brain are detailed in 100 pages by Dr. H. Liepmann, who gives lucid accounts of the difficult subjects of aphasia or apraxia; the varieties of meningitis are described by Dr. H. Starck, tumours and inflammations of the brain by Dr. M. Lewandowsky, disturbances of the cerebral circulation by Dr. C. Hirsch, general paralysis of the insane and epilepsy by Dr. R. Gaupp; there are, it appears, 35,000 epileptics in Germany. The organic nervous disorders of infancy are discussed by Dr. J. Ibrahim; a chapter on "Hyperkinetic Diseases," from the pen of Dr. Fr. Pineles, deals with a heterogeneous collection of eleven maladies, beginning with chorea and ending with Menière's disease. Hysteria and other psychasthenias are well described by Dr. G. Aschaffenburg, and the little that is known about affections of the sympathetic nervous system is set out by Dr. L. Müller. Vasomotor and trophic diseases, among which are included intermittent claudication, myxoedema, and Graves's disease, are treated of by the editor, who betrays no great knowledge of the literature dealing with the first of these three disorders, and in consequence is not seen at his best when describing it. Dr. F. Quensel contributes a chapter on the toxic diseases of the nervous system; the last chapter, by Professor F. Krause, gives an account of the operative treatment of nervous disorders. As is inevitable in a large textbook to which many writers have contributed, a certain unevenness of style and treatment is apparent in this textbook of nervous diseases, but much of it is first-rate. It is handsomely got up, well printed, and well illustrated; the names of authors quoted are given, but room has not been found in it for references to the literature. It is up to date, and may be taken as an authoritative exposition of the views and methods of the best-known German neurologists, taking for the most part but scant notice of the work done and the opinions held by the neurologists of other countries. With this qualification it may be warmly recommended to the attention of all who are interested in nervous disorders.

Dr. EMIL VILLIGER'S introduction to the preparation and study of the brain[4] is a brief summary of the methods best adapted to display the main macroscopical features of cerebral anatomy and an enumeration of the structures which can be rendered evident by the means suggested. The methods do not differ very essentially from those adopted in the majority of the dissecting-rooms in this country, except that Dr. Villiger wisely lays stress on the fact that it is not possible to display properly all the main features of the anatomy of the brain on a single specimen, and he advises that two specimens at least should be used. He also draws attention to the necessity of leaving the membranes undisturbed on the specimen which is to be utilized for the study of the velum interpositum and the vela choroidea inferior. The instructions given are quite clear but they are scarcely full enough to enable a junior student to locate all the parts mentioned, and there are no diagrams or illustrations.

Dr. CRITCHLEY'S *Atlas of the Muscular System*[5] consists of eight plates, in which many of the muscles of the human subject, the skeleton, and diagrammatic representations of some of the peripheral nerves are more or less clearly depicted by means of the collotype process. The plates are accompanied by short descriptive accounts of the general characters and the attachments of the muscles. In the absence of preface or introduction it is difficult to discover the object of the atlas. It is certainly too incomplete and not sufficiently definite to be of much use to medical students. It might have been thought that it was intended for the use of artists were it not that the surface contours are not shown, and that two out of the eight plates are devoted to some of the special deeper muscles of the upper and lower limbs. The object of the atlas must therefore remain doubtful, but it may be said that the representations of the more superficial muscles as seen from the front, the back, and the side are sufficiently correct, though the figures are not vigorous or striking. The latter facts may possibly be due to the process of reproduction which has been adopted.

Dr. HERMANN DÜRCK'S researches on the Pathological Anatomy of Beri-Beri[6] form a most useful contribution to the study of the histology of the peripheral nervous system in health and disease. He considers that the most important result arising from his minute examinations of 11 cases of beri-beri is that the new-formed tissue associated with the degenerative process is not connective tissue, as is usually maintained, but nervous tissue which has lost its differential characteristics. It has a fibrous structure and possesses elongated, oval nuclei, but the resemblance to connective tissue is purely superficial and highly misleading.

The tissue so arising never was connective tissue; its mode of development is not that of connective tissue, and it never will become connective tissue; it remains even for protracted periods, perhaps until the death of the individual and as long as the noxa damaging the specific characters of the nerve fibres persists, as latent nerve tissue—neuroplasma with neuroblasts.

This tissue, the author holds, retains the capacity to recreate the nerve, but in beri-beri does not usually exercise this capacity owing to the fact that the toxic substance, which has a specifically destructive influence on nervous tissue, continues to operate, and prevents the formation of the medulla and the primitive fibrils of the axis cylinder. The morphological processes of degeneration found in the peripheral nerves in cases of beri-beri polyneuritis resemble those found in many other affections which attack the peripheral nervous apparatus, and Dr. Dürck considers that they afford strong support for the neuroblast theory of the peripheral nervous system, though he recognizes that the central cell of the neuron must exercise a "trophic or regulating" influence in order that the chain of neuroblasts may rebuild the requisite conductive material (sheath and neuraxon). In nine of his cases the author examined the spinal cord, in which he invariably found lesions. The changes observed varied in intensity from slight alterations in the minute structure of the ganglion cells to complete symmetrical sclerosis of the two posterior columns of Goll and Burdach. Special praise must be given to the abundant and most excellent illustrations, each of which is separately mounted on black paper; this plan adds to the artistic effect and also makes it easy to place side by side on the same page drawings requiring the use of different sets of colours or reproduced by different processes. The coloured drawings of the artist, Herr Dirr, are marvellously good, and on examining their delicacy and minuteness of detail we can well understand that they involved eighteen months' work. The firm of Werner and Winter, which undertook the lithography, is also to be congratulated on the excellence of its reproductions.

ELECTRICITY IN MEDICINE.

THE electro-pathological collection in the museum of the University Institute for Forensic Medicine in Vienna has been reproduced for the benefit of the world at large in the form of an *Atlas*,[7] of which Dr. S. JELLINEK, the well-known authority on this subject, is the compiler. It is no detriment to the value of the German text to say that the outstanding feature of this tome is the extraordinary success of the coloured plates—the result, we believe, of the four-colour printing process. The plates illustrate in marvellous detail the changes which take place in the tissues under the influence of the electrical current. Dr. Jellinek's method of setting to work may be commended to other atlas makers. He takes about thirty typical cases of electrical injuries, including one case of deliberate self-mutilation, briefly describes the circumstances of each, and then discusses it separately in its clinical, forensic,

[4] *Anleitung zur Präparation und zum Studium der Anatomie des Gehirns.* Von Dr. Med. Emil Villiger. Leipzig: W. Engelmann. 1909. (Royal 8vo, pp. 23. M. 1.)

[5] *An Atlas of the Muscular System with Anatomical Description.* By H. G. Critchley, M.A., M.D. London: Allman and Son. (Imp. 4to; eight plates. 5s.)

[6] *Untersuchungen über die pathologische Anatomie der Beri-Beri.* Von Professor Dr. Hermann Dürck. Achtes Supplement der *Beiträge zur pathologischen Anatomie und zur allgemeinen Pathologie.* Herausgegeben von L. Aschoff und F. Marchand. Jena: Gustav Fischer. 1908. (Sup. roy. 8vo, pp. 190; with numerous illustrations, many in colours. M. 25.)

[7] *Atlas der Elektropathologie.* Von Dr. S. Jellinek. Berlin and Vienna: Urban and Schwarzenberg. 1909. (Demy 4to, pp. 103; 230 engravings on 96 plates, and 16 figures in text. M. 35 = £1. 42.)

and electro-technical bearings. These three points of view cannot, of course, always be divided in the clear-cut manner in which Dr. Jellinek divides them in his synopses, but nevertheless the plan is useful. A large proportion of the accidents which occur seem to be due to the disregard of elementary precautions on the part of the victims. Electricians and persons in their employment who have sustained accidents while repairing wires or cleaning machinery, form the majority of the cases, but injuries to laymen, due to defective installations and other causes, are perhaps of even greater public importance. The additional precautions which the author recommends in a given set of circumstances should be studied by the electrical engineer. From the medical point of view, some of the cases are unexpectedly complicated. Dr. Jellinek describes how a lad, a butcher's assistant, startled by a peremptory order, brought his head into contact with an insufficiently protected switch. Although the pressure was only 200 volts, he received fatal injuries. He was wearing wooden shoes and no stockings, and was standing on a damp stone floor. There was no doubt that the current passed through his body, but the only external sign was a scratch on the temple. The *post-mortem* examination showed that the organs were in a condition which exposed the lad to cardiac failure at any time, apart from electrical shock. On the other hand, a case is described in which a similar current entered directly over the heart region, and the only serious consequence was the singeing of the skin of the breast. Of the two remaining sections of the *Atlas*, one deals with the effects of lightning on the body and the clothes, and the other with the effect of the electrical current on metals. The corrosive influence exerted upon gas-pipes and water-pipes by vagrant earth-currents is well brought out, and the illustrations show in a striking manner how lead and iron—particularly the former—become pitted and perforated as a result of this electrolytic action. The author states that lead poisoning, through the decomposition of lead in the drinking water carried by the conduits, may sometimes be set down to this factor. A good deal depends upon the chemical composition of the soil in which the action takes place. For its authority and its lucidity the *Atlas* deserves a place in all medical libraries.

The first of four volumes dealing with physical agents in therapeutics, Dr. Nogier's work on electro-therapy[8] is something between a manual and a textbook, and is as full of useful detail as either the student or the practitioner can desire. The first section is concerned with the technical matters involved in the production of the different currents—galvanic, faradic, high-frequency, etc—for medical purposes, and this is followed by a discussion of the physiological actions of electricity and the uses of the currents in diagnosis. Nearly half the volume however, is given up to the question of electricity in treatment, and here the electro-therapeutist will find several things to interest him from the point of view of his own protection. In discussing paralyses of cerebral origin, the author lays stress upon the necessity of warning the family of a hemiplegic patient against the appearance of the secondary contractions, otherwise the electro-therapeutist may be accused of having aggravated the patient's condition. He says that electrical treatment, properly applied in cases of hemiplegia, never provokes these grave after-effects, but the faradic current, given more or less indiscriminately, may have serious results. He finds the galvanic current the more satisfactory, and in certain forms of hemiplegia he advocates its exclusive use, though he is rather disappointed with results in this condition, as well as in syringomyelia and tabes dorsalis; with regard to tabes, however, he is more optimistic than some of his French colleagues. He is more hopeful when speaking of neuralgias; in dealing with facial paralysis, contrary to the advice of some British specialists, he recommends that the current should not be applied immediately, but about fifteen days after the commencement of the attack. More than one hundred affections in which the currents have proved of more or less benefit are noted, and the Cinderella of the therapies has good reason to be gratified by the way in which she is represented in Gilbert and Carnot's noteworthy *Bibliothèque*.

Although it is largely a compilation of the experiences of others, Dr. H. Evelyn Crook's *High Frequency Currents*,[9] which has deservedly reached its second edition, is an interesting work, well calculated to commend the judicious employment of vibratory electrization to the medical profession. Dr. Crook describes very lucidly the methods of producing this form of electrical disturbance, and gives an outline of its physical properties. From these he passes to a consideration of the physiological effects of the currents, reciting at length the experiments of Continental workers. It is useful to have this summary by one evidently so well acquainted with French and German work, even though some of the experiments in question will be already familiar to many readers. A chapter on the effects of the currents upon micro-organisms is included. It is the author's conclusion, after noting the observations of d'Arsonval and others, that high-frequency currents do not exert any specific influence upon micro-organisms, although by modifying the chemical constitution of the culture media they appear to retard their development to some extent. In the final section—on the therapeutical uses of the currents—many interesting cases are brought forward. The best results on Dr. Crook's list have been obtained in the treatment of chronic rheumatism and gout, but the currents are unsuitable for the acute form of those disorders. A new chapter in this edition describes the influence of the currents upon the circulatory system, where the effects are strikingly divergent. Indeed, the author points out that with regard to their action on arterial tension there seems to be a kind of antagonism between the two forms of high frequency. There is also a note on "fulguration," respecting which the author says that the effects are produced "by a coarse kind of mechanical action." But recent work by Bergonié and others seems to point to a finer and deeper effect upon the tissues.

GENERAL ANAESTHESIA.

In the preface of his little book on *Surgical Anaesthesia*[10] Dr. Bellamy Gardner expresses the hope that it may be read through in three sittings, "so that the reader may be interested more in the bearing of medicine and surgery upon the subject than perplexed by the mechanical detail of apparatus." No one who reads the opening chapter on the history of anaesthesia can fail to be interested; in the ensuing chapters on cardinal principles, the physiology, pathology, and peculiarities of anaesthesia, he will find instruction simply but insistently instilled. Inhalation narcosis alone is dealt with; there is no reference to any method of producing analgesia by local injection, and none to such adjuvants as scopolamine, but nitrous oxide, ether, and chloroform are dealt with pretty thoroughly in all the better known combinations and methods. Some account of ethyl chloride is found, but the author says he has discontinued its use. The Vernon Harcourt inhaler is described, but evidently not with the familiarity of constant usage. In this connexion it is worth remembering that in some of the German hospitals in which similar apparatus has been installed no improvement in the mortality figures as regards chloroform is apparent. Dr. Gardner is a warm adherent of the "gas and oxygen" combination for dental work, especially when given through the nose, combining the instrument of Paterson and the concentric bags of Levy. He also speaks very highly of ether as administered by the "open" method; the large quantity of the drug employed is of little moment compared with the material advantages of great safety and good muscular relaxation. It is already well known that the author shares Dr. Hewitt's predilection for the CE mixture. As regards apparatus, he has his preferences of course, but he is not dogmatic as to the choice of any particular form, and his descriptions are as satisfactory as book descriptions need be. The best part of his work is

[8] Gilbert and Carnot's *Bibliothèque de thérapeutique. Physiothérapie: (1) Electrothérapie.* Par Dr. Thomas Nogier, Professeur agrégé de la Faculté de Médecine at Lyons. Paris: J. B. Baillière et Fils. 1909. (Post 8vo, pp. 544; 251 illustrations. Fr.10.

[9] *High Frequency Currents.* By H. Evelyn Crook, M.D., F.R.C.S. Second edition. London: Baillière, Tindall, and Cox. 1909. (Demy 8vo, pp. 244; 49 illustrations. 7s. 6d.)

[10] *Surgical Anaesthesia.* By H. Bellamy Gardner, M.R.C.S., L.R.C.P. London: Baillière, Tindall, and Cox. 1909. (Cr. 8vo, pp. 247; 35 illustrations; 12 plates. 5s.

a thoughtful attention to details, that must impress the most casual reader; many of his remarks will be noted with profit by surgeon and dental surgeon alike. It is, perhaps, not always possible to reach the required depth of anaesthesia whilst keeping in touch with the corneal reflex—a criterion of safety rather emphatically laid down.

EXPERIMENTAL PSYCHOLOGY.

THROUGHOUT the numerous textbooks on general psychology, in many books, and still more in monographs dealing with psycho-pathological research printed in special journals, are to be found scattered the descriptions of the methods employed by their authors in the new and promising field of experimental psychology. The student, however, as Professor MYERS says in the preface to his *Textbook of Experimental Psychology*,[1] who wished to pursue a course of independent reading, would require a small library of books and periodicals. A special manual on this subject, therefore—at any rate, in English—has been for long badly needed. This lack Professor Myers's book admirably fills.

Assuming a knowledge by the reader of general psychology, and after a survey of the scope and aims of psychological experiment, Professor Myers opens with a description of the work on sensation—cutaneous, visceral, auditory, visual, etc. This subject is treated very fully, occupying, indeed, over one-fourth of the whole book; but, as the author says, the best training for the beginner lies in the field of sensation. The student is next introduced to statistical methods. It is true that this introduction is somewhat brief, and might be extended with advantage; but as the methods concisely outlined in this chapter, which only takes up eight pages, are employed throughout the following chapters and are supported by explanatory exercises at the end of the book, the reader should be able to obtain that grasp of modern refined statistical methods which is essential for serious work. As Professor Myers says, from the psychological standpoint, an average is often a blurred result, the chief value of which is to draw attention to individual variations and to the conditions producing them. What is meant by the "mean," the "mean variation," the "standard deviation," and the "probable error" is therefore explained in the text, and still further elucidated in the exercises, before passing on to the succeeding chapter on reaction times.

Memory is treated at considerable length, both in the chapter expressly devoted to it and also in the following chapter on muscular and mental work, but the description of Kraepelin's analysis of the work-curve is treated rather cursorily. Possibly this is because the author does not believe that in the present state of experimental psychology a separation of fatigue and practice and a more or less accurate estimation of the relative values of these two factors in the results of work tests is possible.

The remaining chapters deal with psycho-physical methods; the estimation of weight and the sense of effort; "local signature," that is, the difference in respect of character of sensations—for example, retinal and cutaneous—similarly excited by the same stimulus; identity and difference; binocular and binaural experience, attention, and feeling. These last two chapters are very brief; in the former no doubt because so little is known of the fundamental nature of attention and because of its doubtful susceptibility to measurement. The chapter on feeling, however, might very well have been amplified, not only because of the interesting work which has been done in this direction, but also because of its great importance in the study of psycho-pathological states. The work of Jung and Peterson it is true is included in the bibliography, but the valuable results of word-pairing methods and the light which modern psycho-analysis throws on hidden and subconscious effective processes are nowhere discussed. Breuer is mentioned only in connexion with labyrinthine sensations, and we have looked vainly for the name of Freud. The reason for this is given in the preface, where the author states that owing to unsatisfactory methods and insufficient knowledge of subconscious and abnormal states, these subjects are as yet too controversial in character to come well within the scope of an elementary textbook. It is not to be denied that there is some truth in this, but considering the importance of the subject and the great amount of valuable work which has been done within recent years, it would surely be possible to sift from it much valuable evidence, or, at any rate, to describe methods which are already giving important results. We hope that this will be done in the future editions of a book which we cordially commend to the student as a most helpful work.

[1] *A Textbook of Experimental Psychology.* By Charles S. Myers, Lecturer in Experimental Psychology in the University of Cambridge; Professor of Psychology, King's College, London. London: Edwin Arnold. 1909. Xvi + 270 pp. 143; 65 figures and diagrams. 8s. 6d.

NOTES ON BOOKS.

WE have received from the National Food Reform Association a revised edition of its little booklet, entitled, *Hints Toward Diet Reform, with Twenty-four Simple Recipes*. Such of them as we have tried proved excellent. The objects of the society are to enlighten public opinion on matters of diet: to point out the dangers of our present system of food supply and its bearings on such problems as the adulteration of food and milk, infant mortality, consumption, and physical deterioration; to make known the intimate connexion of diet with (*a*) moral and physical well-being, (*b*) social reform, (*c*) economy—national and domestic; to urge the necessity of reconsidering the dietary of schools and colleges, the army and naval hospital asylums, prisons, and other institutions; and, finally, to recommend more humane, hygienic, and scientific methods, both in the selection and preparation of food. The society has its habitation at 178, St. Stephen's House, Westminster.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 890.*)

SECTION OF BACTERIOLOGY AND MICROBIOLOGY.

The Mode of Infection in Tuberculosis.

THE chief papers on this subject were read by BAUMGARTEN (Tubingen) and KITASATO (Tokio). The former first examined the theory of aerogenic infection. Leaving aside the question of predisposition, he found that the human patient, by expectorating, hawking, speaking, etc., sprayed bacilli into the air. The bacilli would thus be suspended on droplets for a considerable time, and could gain an entrance into the body by way of the mucous membranes of the cavities to reach the lungs, glands, and other organs. Experimentally attempts had been made to demonstrate a direct aerogenic infection by spraying large quantities of dried bacilli which animals were forced to inhale. But the conditions of these experiments were such as never occurred in actual life. Next he referred to experiments with spraying of fluid containing masses of virulent bacilli. Here, again, he contended that the forced conditions were quite artificial, and could not be accepted as proof of the aerogenic infection in human beings. On the other hand, he stated that it could be experimentally demonstrated that, provided the lungs were allowed free play, and the air contained considerable quantities of bacilli, the lungs remained free from germs, while the epithelial cells of the mucous membranes caught up the bacilli from the air and passed them on through the lymph stream to the filters—the lymphatic glands—and thus on to the various organs. Recent observations had tended to disprove the existence of a direct aerogenesis of tuberculosis. Enterogenesis in Baumgarten's opinion did not play a part in tuberculosis in man. This conclusion he attempted to base on the results of experimental work. He passed on to the consideration of what he termed *gennaeogeness*, by which he meant a form of intrauterine infection. Bacilli had been found in the ova of some animals. In man bacilli had been found in spermatic fluid, even if they had not been found in spermatozoa. The experiment of injecting an emulsion of bacilli into the vagina of animals immediately after a fertilizing coition had been followed by a latent infection of the embryo, although the mother remained healthy. This he regarded as proof that spermatic fluid containing bacilli could infect the ovum. Renzi's experiments had proved that tuberculous mothers could pass on bacilli to their fetus. He stated that

the maternal infection took place through the placenta. About 50 per cent. of the placentae of tuberculous mothers showed signs of disease. Severe tuberculous implication of the placenta no doubt would lead to the death of the fetus, but mild affections would be likely to produce a latent tuberculosis, which might become generalized under certain conditions in later life. He was therefore inclined to regard "gennaeogenesis" as much more important than enterogenesis or aërogenesis. An animated discussion followed, in which, among others, PFEIFFER, LUBARSCH, WYSOKOWICZ, HEYMANN, SALOMONSEN, GRUBER, GENERICH, and HÜTYRA took part. The majority of the speakers did not accept the views put forward, although Baumgarten obtained support on some points.

KITASATO described the measures employed in Japan of combating tuberculosis, and spoke of the occurrence of the disease and of his work in its investigation. The main facts and views of this communication have already been published by the author.

Bacteriology of Acute Rheumatism.

ROSENTHAL (Paris) read a paper on the bacteriology of acute rheumatism and its treatment. He criticized the researches of Poynton, Paine, Walker, Meyer, and others, and attempted to prove that the diplococcus, which has been associated with the disease by the observers named, was nothing else than the enterococcus of Thiercelin, and that it played only a secondary part in rheumatism. He then discussed the characteristics of the anaërobic bacillus of Achalme, which he believed to be the causal organism. His methods of employing sealed capsules in Thiroloix's haemobioculture (the bacilli are sown in the blood during the life of the animal) gave him excellent results. He further stated that the bacilli could transform themselves into diplococci both *in vitro* and *in vivo*. His methods of treatment included the employment of colloids (electrargol), sodium salicylate, bacterial vaccines, and a serum prepared by injecting aërobic and anaërobic cultures of the Achalme bacillus into horses.

Histogenesis of Cancer.

RAYMOND TRIPIER (Lyons) attempted to show that the histogenesis of cancer and the constitution of the disease were analogous to the histogenesis and constitution of other pathological lesions usually spoken of as inflammatory. He regarded the initial lesion in all neoplasms, both benign and malignant, as mechanical, depending on an alteration of the vascular apparatus.

Teratoid Tumours.

ASKANAZY (Geneva) dealt with some investigations on teratoid tumours. He found that the rat served best as the experiment animal. Positive results were obtained by inoculating only portions, and not whole embryos, into the peritoneum or subcutaneous tissue, but not into the cranial cavity. After relating several points of interest in connexion with his observations, he stated that he was able to prove that the animal organism as well as the influences exercised on the embryonal tissue, played an important part in determining the nature of the ultimate fate of the embryonal tissue. He found that it was not possible to increase the power of growth by repeated inoculations, and that the fourth transplantation always failed. Mixing emulsified embryonal tissue with an emulsion prepared from freshly removed human carcinoma regularly prevented the appearance of teratomata. This, he considered, was analogous to the inhibition of cancerous tumours in mice, etc., by the inoculation of embryonic tissue of the same species. The development of the teratoid tumours was inhibited by soaking the embryonal emulsion in Fischer's scarlet oil. On the other hand, when he mixed the embryonal emulsion with *Aether-wasser*, the tumours took on extraordinary growth. This he regarded as proof that the embryonal tissue could be directly influenced to grow in its new host. The author further reported a single observation in which a malignant tumour developed on the basis of an experimental teratoma. In conclusion, he reviewed the present state of knowledge concerning teratomata and blastomata in general.

SECTION OF THERAPEUTICS.

The Congress as an Advertising Medium.

The programme of this section included some eighty-three papers, and this number was increased by a few announced at the last minute. A large proportion of the papers were printed or typed beforehand, and several of those which were distributed in this way were never read, the authors not having taken the trouble to travel to Budapest. That many of these communications are of doubtful scientific value increases the suspicion that the Section of Therapeutics at medical congresses is utilized for the purpose of advertising some special method of treatment. More than that, a careful perusal of some of the papers awakens a further suspicion that the readers are anxious to bring their names before the medical world in the hope that some special mode of dealing with disease may, perchance, bring some new patients. In some cases the authors of papers derive a large proportion of their patients in this way, by seeking other members who will recommend the author. It is not surprising that, in some of these instances, the medical practitioner in question should have the reputation among his local colleagues of not being able to retain any of his old patients, and of being dependent on a constant supply of fresh ones, in order to keep up his practice.

Serum Therapy.

BOURGET (Lausanne) expressed his belief that the modern doctrine of toxins, antitoxins, endotoxins, aggressines, alexins, bacteriolysins, and so on, was nothing more than a display of learned sounding words without any meaning, and that the serum treatment of typhoid fever, diphtheria, tuberculosis, tetanus, meningitis, etc., was useless. The paper was followed by a discussion, in which Gerloczy, Blondel, Carrien, Deutsch, Bokay, Kiraly, and Herczeg took part; the author's views found no support.

Animal Poisons.

FAUST (Würzburg) presented a communication on some actions of the animal poisons. In the first place, he dealt with the pathogenesis of bothriocephalus anaemia, referring especially to the part played by oleic acid as a blood poison. He further raised the question whether this substance might not be responsible for some of the so-called pernicious anaemias. Turning to the venom of the cobra, the author spoke of a toxin, which he called *ophiotoxin*, which he regarded as the active substance. This ophiotoxin is not a toxalbumin, but should be classed among the sapotoxins, both on account of its pharmacological and of its chemical properties. He also dealt with the active substances of the poisons of snakes, fishes, scorpions, and spiders.

Muco-membranous Entero-colitis.

RAOUL BLONDEL (Paris) dealt with the etiology and treatment of muco-membranous entero-colitis. He regarded this disease as a manifestation secondary to some disturbance of the nervous system. The symptoms were explicable on the assumption of a reflex disturbance of the secretion and motor functions. The patients, he said, always exhibited a neuro-arthritic stigma. He, however, recognized external causes which determined the onset of the colitis. These causes included enteroptoses, floating kidney, displacements of the uterus, adhesions in the neighbourhood of the uterine appendages (either post-inflammatory or post-operative), peritoneal bands, intestinal lithiasis, intestinal parasites, and hyperacidity of the gastric secretion. The treatment which he advised was: First, to remove, whenever possible, the external cause; secondly, to treat the general condition by means of a vegetable diet, forbidding alcohol, tobacco, and coffee; hydrotherapy, massage, exercise, and drinking of Plombières waters; thirdly, to treat the intestines locally (including bacterio-therapy), forbidding eggs in any form, and employing little or no intestinal lavage: and, fourthly, to treat the painful attacks by compresses, to treat the constipation by castor oil, gelose, enemata of bicarbonates, and the diarrhoea by ichthyol.

Leucocytes and Absorption and Elimination of Medicaments.

ARNOZAN and CARLES (Bordeaux) read a paper on the part played by the leucocytes in the absorption and

elimination of medicaments. The authors found that several substances were taken up by the leucocytes at times after the medicaments had been split up or otherwise altered chemically. The drugs were thus not dissolved in the total quantity of fluid blood, but were concentrated in the blood cells, to be liberated in certain situations, notably ulcerated surfaces, where an intense medicamentous action might be evolved. Reference was also made to the effect which this loading of the leucocytes had on their phagocytic action.

Roncegno Water in Graves's Disease.

GARRY (Cairo) read a paper on the therapeutic value of the water of Roncegno in Graves's disease. This water contains arsenic and iron. The author stated that 37 cases had been treated during the past six years, of which 20 had been completely cured, 8 had been almost completely cured, and 5 had been slightly improved; the remaining 4 did not benefit.

(To be continued.)

LITERARY NOTES.

IN a note on an old medical worthy of Keith which appeared in the JOURNAL of September 25th, the name was printed "Douglas." It should have been "Dougall." The writer wishes to say that he has not even the somewhat doubtful satisfaction of laying the blame on that convenient scapegoat, the printer's devil. The fault was wholly his own, and he apologizes to the shade of William Dougall for his inadvertence.

We learn from the *New York Medical Journal* that the *Transactions* of the Sixth International Congress on Tuberculosis held last year at Washington have recently been issued. They make six volumes, containing in all 4,832 pages. These volumes constitute in themselves an almost exhaustive library on the subject of tuberculosis. "At the time of the Congress," says our contemporary, "it was announced that the *Transactions* would be published in the course of three months, but everybody of much experience in editorial work felt that such an expectation could not be realized with due regard to careful editing. Those who had the work in charge must soon have come to take the same view of the matter, and they have shown wisdom in doing the work thoroughly rather than in hasty compliance with an ill-advised promise."

Mr. Henry Frowde, of the Oxford University Press, informs us that the forthcoming number of the *Quarterly Journal of Medicine* includes the following articles:—On leukanaemia, by Dr. Charles H. Melland; a contribution to the study of rheumatism, with notes on the after-history of 25 cases of "scarlatinal rheumatism," by Dr. F. J. Poynton; on lymphocytosis of the cerebro-spinal fluid in relation to tabes, by Drs. Judson S. Bury and Albert Ramsbottom; polycystic disease of the kidneys, by Dr. Carey Coombs; an investigation into the histological condition of the suprarenal glands in conditions associated with a high blood pressure, by Dr. Austin Philpot; on the diuresis of chill, by Dr. Alexander Gibson; toxic arthritis, by Dr. J. Campbell McClure; some observations on the oral administration of T.R. tuberculin in pulmonary tuberculosis, by Drs. David Lawson and H. S. Gettings; some further remarks on leukaemic and chloromatous affections, by Dr. C. H. Treadgold; the estimation and quantitative significance of hydrochloric acid in the gastric contents, by Dr. W. H. Willcox.

We are informed by Messrs. J. and A. Churchill that the *Medical Directory* for 1910 will contain a descriptive list of all the most important British spas and health resorts. It has been compiled by Dr. Norman Hay Forbes, ex-Vice-President of the British Balneological and Climatological Society. The *Medical Directory* for next year is now being compiled, but the editors can still receive information. The same publishers have published another revised edition of Hale White's *Manual of Materia Medica*. This work was first published in 1892. The present is the eleventh edition of the book.

The Council of the Bethnal Green Free Library is making an earnest appeal for a reserve fund of £10,000. The institution was founded by the late Dr. William Tyler, brother of Sir James Tyler, well known in the City of London as a prominent citizen and friend of all good work. Although his ample private means should have allowed Dr. Tyler to have passed a life of ease amid more congenial surroundings, he chose to pass a life of self-denial among the poor. In founding the library he did a work which attracted the notice of the late Queen Victoria, who sent her works with her autograph; of the present King, who contributed handsomely in books; and of the Prince of Wales, who has sent £10 to the reserve fund. There are now over 30,000 volumes in the reference section, while the lending department has over 8,000 in addition. The year's income of £1,222 leaves an adverse balance of £215. The library does not merely receive gifts, however; grants of surplus stocks are often being made to outside institutions. Evening classes are held, and free concerts are given; both are increasingly appreciated.

Messrs. W. B. Saunders Company will publish shortly a work on malaria by Dr. Wm. H. Deaderick. Special stress is laid on diagnosis and treatment. It is stated that the third cycle of the malarial parasite—the parthenogenetic cycle—is described for the first time in any language. The book will be fully illustrated by a number of original pictures.

The *Revue Mensuelle de la presse médicale Italienne*, the first number of which was issued in June last, is intended to make the results and observations of Italian workers more widely known to their professional brethren throughout the world, to a large proportion of whom Italian medical literature is a sealed book. The new journal is published at Milan, under the editorship of Dr. L. Mongeri, who has many of the leading members of the profession in Italy as collaborators.

We take the following extract from "The History and Antiquities of Kilmacduagh," from the *Canadian Practitioner and Review*:

> The circumstances under which Ulick de Burgo received the name, Ulick of the Heads, was extraordinary. It is difficult to discredit them, considering they are found in the pages of a scholar so learned, so conscientious, and so favourably known as the author of *Combrensis Evernus*. Ulick was confined in his castle at Dunkellin for a considerable time by paralysis, which in those days (1542) of active warfare was sure to be attended with serious consequences. Accordingly, his possessions were seized on by neighbours, some of whom were his own kindred. After plundering his extensive territory, they attacked his residence, intending to make him prisoner, and seizing all that remained. Bedridden as he was, when it was told that those bound to him by the closest ties of blood had hearts so merciless as to deprive him, a cripple, of the necessaries of life, his rage knew no bounds. He forgot his weakness, and cried aloud for "A horse, a horse!" "May not," he added, "the great God who took away the life of my limb restore it again, and enable me to recover my cattle from those merciless thieves?" His attendants, moved by his anger, yielded to his wishes, and placed him with difficulty on horseback. So feeble was he, that he was unable to remain in the saddle without assistance. Nothing daunted, he persisted to sit upright, "till at length the bones emitted a sound loud enough to be heard by his attendants, and in an instant the sinews recovered their strength." His enemies were terror-stricken as he came on the scene; he not only retook his cattle, but he brought back in triumph the heads of many of his enemies. Such was the remarkable occurrence that got him popularly known as Ulick of the Heads.

Cases are on record of paralytic patients recovering the use of their limbs to escape from a burning house, of an attack of gout being cured by a railway accident, of obstinate mucous colitis which had resisted all kinds of medical treatment disappearing under the influence of sudden danger, and of a lost voice being recovered under the stress of great mental emotion. A number of examples of such effects will be found in the late Dr. Hack Tuke's well-known book *Mind and Body*.

Public Opinion published its 2,500th number on September 24th. The first number of this well-known weekly review was published forty-eight years ago on October 5th, 1851, the editor in this issue calls attention to the history of *Public Opinion* and the stirring days in which it was started. The title of *Public Opinion* was suggested by Sir Robert Peel to George Jacob Holyoake when he said that "England was governed by Opinion." It was an immediate success, and won a big circulation both at home and abroad. The object of *Public Opinion*, which is edited by Percy L. Parker, is, while focussing the opinions and views of the week as given in the world's best newspapers, magazines, and books, to emphasize those movements and opinions which are becoming important and which promise to loom large in the future.

Medical News.

Dr. Daniel John Cunningham, late Professor of Anatomy in the University of Edinburgh, left personal estate valued at £17,846.

The next meeting of the International Congress of Otology will be held in Boston, U.S.A., under the auspices of Harvard University, in August, 1912. Dr. Clarence J. Blake, of Boston, has been chosen to be President.

A special commission of the French Senate, the reporter of which is M. Strauss, has recommended the prohibition of the use of feeding bottles with tubes, under penalty of fines from 2 to 100 francs, and imprisonment in case of repetition of the offence.

The subject of Professor Osler's address at the London School of Tropical Medicine, which is to be delivered on October 28th, is The Nation and the Tropics. The work of the winter session will begin in the first week of October as usual.

Sir John Byers has been re-elected President of the Belfast Natural History and Philosophical Society for the session 1909-10. The society is one of the oldest provincial bodies of the kind in the United Kingdom, the present being the eighty-sixth year of its existence.

The annual medical service of the Guild of St. Luke will be held in St. Paul's Cathedral on Wednesday, October 20th, at 7.30 p.m. The preacher will be the Rev. Father Waggett, S.S., J.E. For tickets and particulars application should be made to the Honorary Secretary, Dr. C. St. Aubyn-Farrer, 1, Harley Street, W.

At the opening meeting of the Eugenics Education Society to be held at the Caxton Hall, Westminster, on Thursday, October 7th, at 5.15 p.m., Lieutenant-Colonel C. H. Melville, R.A.M.C., Professor of Hygiene, Army Medical College, will deliver an address on Eugenics and Military Service. Mr. Arnold White will preside.

The Clinical Section of the Royal Society of Medicine is to hold its first meeting for the winter session next Friday, at 8 p.m. In addition to demonstrations of cases and specimens, papers will be read by Sir Dyce Duckworth on some cases of gout—one in a Mohammedan, the other in a boy of 14; and by Dr. Herringham on some cases of pneumonia in which displacement of the heart simulated pleural effusion.

The new laboratories for physiology, chemistry, and physics of the London Hospital Medical College will be opened by Professor William Osler, F.R.S., on Friday, October 15th, at 4 p.m. At 4.30 he will deliver the Schorstein lecture on Syphilis and Aneurysm. Members of the medical profession will be admitted on presentation of their cards.

The opening of the winter session at the Faculties of Science and of Medical Science at University College will be marked by the delivery of two public introductory lectures. The one dealing with radium emanations is to be delivered by Sir William Ramsay at 9 a.m. next Monday, and the other on Wednesday, at 7 p.m., by Professor H. R. Kenwood, the title of his address being, What Hygiene Demands of School Teachers.

According to recent reports from East Africa sleeping sickness is causing fearful ravages, both among natives and Europeans on Lake Tanganyika, particularly in the Ujiji district. The principal centre of the disease is at the mouth of the river Malagarayi, where it enters the lake, and the district running south from that point. The head of the East Africa medical staff, Dr. Speissner, has gone there to inquire into the measures taken against the disease.

The autumn meeting of the South-Eastern Division of the Medico-Psychological Association will be held, by the courtesy of Drs. Adamis and Johnston, at Brooke House, Upper Clapton, N.E., on Wednesday, October 6th. Dr. F. W. Edridge-Green will read a paper on the theory of vision and colour perception, which will be illustrated with coloured lantern slides. Dr. T. Duncan Greenlees will present a communication on lunacy matters in Cape Colony. The members will dine together, after the meeting, at the Café Monico, Piccadilly Circus, W., at 6.45 p.m.

The nineteenth Congress of Internal Medicine will be held at Milan from October 4th to the 8th. Among the communications promised are a report of the existing state of knowledge in regard to cancer, by Professors Devoto, Moreschi, and Veratti; one on Italian work in the field of internal medicine, by Professor Guiffrè; and one on the mechanical and biological factors in the pathology of pregnancy. A special session will be devoted to tropical medicine, at which Professors Feletti, Gabbi, and others will read papers on Mediterranean fever, kala-azar, and other subjects. In connexion with the Congress there will be a meeting of those who take an active interest in the struggle against endemic cretinism, when a report on the subject will be presented by Professor Tamburini, and a meeting of the National League against Malaria.

The Board of Education of New York is, we learn from the *New York Medical Journal*, planning to remodel twenty class rooms in different public school buildings into open-air rooms, and equip them with special furniture. These rooms will be for the use of children who are anæmic and have a tendency to tuberculosis. Those already afflicted with the disease will not be accepted. The Board of Education now furnishes teachers for classes of tuberculous children on the ferryboats *Southfield* and *Middletown*, and is planning to supply teachers for the class on the roof of the Vanderbilt Clinic.

On the initiative of Dr. Castellino, Professor of Medical Pathology in the University of Naples, an Italian National League against malaria has recently been formed. The first meeting will take place at Milan on October 6th and 7th, when the Congress of the Italian Society of Internal Medicine will be in session in the same city. Among the communications promised are the following: Professor Bordoni-Uffreduzzi, on the present state of knowledge in regard to malaria; Professor Castellino, on prophylaxis against malaria; Professor Golgi, on the pathology of malaria; Professor Grassi, on some questions relating to the pathology and treatment of malaria; Professor Queirolo, on little known abortive forms of malaria. Professor Baccelli will preside, and will deliver an inaugural address.

Under the name of *Scapa*, or *A Beautiful World*, the Society for Checking the Abuses of Public Advertising has just brought out an issue of the occasional journal in which it records its work. The society came into being some sixteen years ago, and, considering the nature of the forces with which it is contending, has achieved some excellent results. Among them is the passage of an Act specifically dealing with the matter by authorizing local authorities to frame by-laws to protect landscapes, promenades, and public parks within their area from disfiguring advertisements of any kind. So far advantage has not been taken freely of the existence of this Act: but the leaven is working, and this year several county councils have submitted by-laws for approval by the Home Office. Apart from this the society has, by memorials and representations, induced certain advertisers to remove or modify advertisements to which objection was taken. The more specific objects of the society are to protect the picturesque simplicity of rural river and other scenery, and to assert generally the importance as a great public interest of maintaining the elements of interest and beauty in out-of-door life. The journal contains many illuminating descriptions of the way in which beautiful scenery is at present prostituted to other uses, and a great deal of interesting information as to what is being done on the subject in other countries. The address of the honorary secretary is The Keir, Wimbledon Common. He, like the editor of the journal, modestly conceals his name. We wish the society well.

The quarterly monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society, was held at 429, Strand, London, W.C., on September 17th, Dr. J. Brindley James in the chair. The accounts presented showed that the business of the society was steadily progressing. In every year of the quarter of a century during which the operations of the society have been carried on there has been an increase in the number of members and in the amount of the accumulated funds, and the records of 1909 show that this year will be no exception to the rule. The number of members now approaches 3,000, and the funds amount to nearly a quarter of a million sterling, a most satisfactory result for a society which pays no commission and has no agents. The sickness experienced by the society in its early years was very much under the amount expected and provided for in the tables of contributions; but year by year the difference between the experienced and expected sickness has grown smaller until it has almost vanished, and it seems likely that for the future there will be but a small margin of this kind. A considerable saving is made each year in management expenses and the funds earn a large margin of interest over the rate assumed in the valuation. In this way a substantial surplus is produced and there is every reason to hope that the society will be able for many years to come to pay the handsome bonus which is now allotted to every member at 65. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 35, Chancery Lane, London, W.C.

British Medical Journal.

SATURDAY, OCTOBER 2ND, 1909.

THE FUNCTION OF THE MEDICAL LIBRARY.

AN old gibe against the clergy was expressed in the saying, *Initium sermonum finis studiorum*. This, we fear, might find an application to our own profession, though perhaps within a narrower range. Medicine being essentially progressive, both as a science and as an art, those who practise it must make some effort to keep up with its advance, unless they are content to be left behind. This they can now do by post-graduate study, but it is not easy or even possible for many doctors to find time for such refurbishing of their knowledge to an extent adequate for the purpose. But all can follow the onward march of science in books, or, better still, in the medical journals. The latter we think the better way for most, for it is easy and inexpensive, and shows as in a cinematograph the gradual growth of knowledge. In the book the results are winnowed, classified, and summed up; in the journal the work can be followed step by step. There are some excellent practitioners who think they can dispense with journals and even with books; their reading, they would say, is on the living body itself, and, like John Radcliffe, they would undertake to write down all medical knowledge on a sheet of paper. Yet Radcliffe founded a magnificent library, which made some wit compare him to a eunuch who should leave money to establish a seraglio. John Hunter was not a reading man; his library, as he boasted, was the dissecting-room. But Hunter was a genius, and then it must be said that he was more a biologist than a surgeon. Pascal, too, was no reader, but then to him geometry, as taught in the schools, was a collection of self-evident propositions. He went, like Herbert Spencer, on his way self-centred, and paying no heed to the work of others. How much "fuller," in Bacon's sense, would these men have been, and how much more they would have done in enlarging the boundaries of truth, if they had read more! Ordinary men cannot work alone in such splendid isolation; the doctor, in particular, must know what is being done in the medical world. If, as has been said, the whole art of medicine lies in observation, each man's own narrow sphere must be enlarged by knowledge gathered by others. It is not merely facts, but suggestions, that he gets from fellow workers; even their mistakes help him to avoid pitfalls in his path. In medicine, more perhaps than in any other department of intellectual work, it is impossible to be stationary; if we do not press forward we fall, slowly it may be but surely, backwards. To be successful the practitioner must be a student throughout his professional life.

In the address delivered at the inaugural meeting of the Medical Library Association held at Belfast in July, which will be found at p. 925, Professor Osler discusses the value of the medical library in post-graduate study with the fullness of knowledge and the charm of style characteristic of all his utterances. It is a truth which cannot be dwelt upon too much that what a man learns at college is to walk by himself without the help of leading strings, to see with his own eyes, and to use the weapons for fighting disease which science places in his hands. The foundation is laid for him; it is for him to build upon it. If he does not read, he inevitably falls into the state described by Professor Osler, when he "is fit to do only the "ordinary reflex practice, in which cough means an "expectorant mixture and heart disease digitalis." A glance at such a man's consulting room suffices for the diagnosis of this type: "The BRITISH MEDICAL "JOURNAL or *Lancet* lies uncut [to speak by the card, "this should have been *unread*] in heaps on the table "and not a book is in sight!" In this category of practitioners, according to Professor Osler, are "the "kickers, the knockers, the grumblers" of the profession; and they have not even a glimmer of consciousness that the fault is in themselves.

But how, it may well be asked, is a busy and worried man to find time for reading? He cannot do so unless he has acquired the habit. As Professor Henry Morley said long ago, a taste for reading can be gained in the same way as a taste for smoking. Every one, therefore, should sedulously cultivate the art of reading in the days of his youth. We speak of reading as an "art" deliberately. Samuel Johnson never read a book through in his life, but he got all he wanted out of a vast number of books, "tearing the heart out "of them," as Boswell tells us. The habit of reading, acquired when the mind is plastic, enables one to find readily what one wants in a book or journal: the rest can safely be skipped, for it is only what one reads with interest that remains in the memory. Professor Osler rightly urges people to get rid of the notion that much has to be read; one or two good periodicals—we are proud to note the BRITISH MEDICAL JOURNAL occupies a place among those which he enumerates—suffice. But they must be read thoroughly, each reader selecting what he requires and keeping the articles filed for ready reference.

In regard to books, Professor Osler gives the sound advice to buy with discrimination. It is here that the function of the medical library is most usefully exercised. From a library the doctor can borrow the monographs or large textbooks which he may require for reference, but cannot afford to buy. We are glad to have so weighty a testimony to the value of the library which the British Medical Association has collected for the benefit of its members. How greatly it is appreciated by them is shown by the numbers who come to read therein. Every effort is made to make it more and more useful to members and to the profession at large.

Much more could be said on the subject so well treated by Professor Osler, but we prefer to refer our readers to the address itself. Naturally, as a lover of books he has a good deal to say about bibliography and bindings; but we have not space to discuss these things. We join earnestly in his recommendation that all doctors should have a hobby. It matters little what it is provided it interests him sufficiently to distract his mind from the cares of professional life.

MENTAL ATTITUDES IN PATHOLOGY.

IN this very material world living things are usually classified according to their physical characteristics, but conceivably biologists in Mars adopt a different system and class all vertebrates as embodied Interrogatives. In any case a mental glance over the animal kingdom suggests that among less tangible attributes the one least indisputably characteristic alike of birds, beasts, and fishes is Curiosity—subjectivity to the attraction of the unknown. In respect

of some animals—for instance, *Felis domesticus*—curiosity would appear to be a quality not without its disadvantages, for we have the high authority of nursery tradition for believing that it was Curiosity that killed the cat—robbed it at one fell swoop of all its many lives—while time and again travellers, and other folk proverbial for their accuracy, have assured us that it is by an appeal to this characteristic that they induce animals to come within range of their weapons. But in mankind Curiosity truly appreciated is a virtue without blemish, an attribute so valuable, yet often so maligned, that by way of protest we spell its name with reverence and a capital letter. It is a quality with such outcomes that it might almost be said that it is to his greater endowment in this respect that man owes all his bygone progress—his discovery that two limbs can be made to do the work of four; his knowledge of, among other trifles, the law of gravity; his mastership over the brute beasts which have no understanding, or in other words, less curiosity; his position at the head of the general class in which our Martian biologist would place him. In some individuals this quality is entirely absent—we have it on their own authority—so it would not appear to be an attribute essential to man's mere existence, but it is only by fostering and exercising his curiosity that he can hope to develop still further. It exists, of course, in several grades—the curiosity which merely says What? that which asks How? and that which cries When and Why? The "What" type, represented by the boy who loses all interest on finding that his sister's doll is stuffed with sawdust, is not very productive. The next type, represented by the child who rests satisfied when informed—correctly or incorrectly—how the milk got into the cocoanut, is a somewhat higher grade. But we only reach the really productive type with the When? and the Why? These are the greater which include the less, for the efforts which they induce involve an answer to all lesser interrogatives and thus lie at the root of all progress.

For these reasons we are inclined to side with Dr. Sainsbury, whose article, published at page 928 of this issue, has evoked—perhaps rather unexpectedly—the foregoing considerations. He is dissatisfied with the attitude towards their work of the pathologists of to-day, and if he adopted our classification would be disposed, we fancy, to put them at present among people gifted only with the lowest grade of curiosity—with the little boys who merely say "What?" As a rule a pathologist, when engaged on a *sectio cadaveris*, merely asks himself what was the cause of death—searches for the peccant organ, and, having found it, enters the title of its condition in his book; or, if its characteristics are especially well marked, removes it in whole or in part, mounts it in an appropriate medium, and places it in the museum with a label denoting its origin and general characteristics. That done, he deems he has fulfilled the whole duty of man in matters pathological.

But the mental attitude of the pathologist at a *sectio cadaveris*—of a curator in his work-room—should be somewhat different. It should be less one of What than of Why; Why did life cease? not, What was the cause of death? To some minds, of course, the two phrases may seem absolutely interchangeable, but really they connote very different things. For instance, as Dr. Sainsbury would seem to suggest—not by way of putting forward a theory, but in illustration of his meaning—that the difference between life and death is the sum of two forces, momentum and resistance. So long as the momentum is the higher, the vital, the electric, current is continuous. When resistance gets the upper hand the current is cut, life ceases. It is the peccant organ which, among other things, represents the resistance, but why, at a given instant, does it become fatal? The peccant organ does not become peccant in a moment, but in days, in weeks, or years. A kidney, for instance, which is slowly becoming cirrhotic—the major part of which is already, indeed, cirrhotic—continues to secrete urine for years; but when did it begin to limit its output, and why did it suddenly cease to be merely peccant and become actually criminal, overcoming momentum, and arresting the course of life?

We gather, in short, that Dr. Sainsbury would have the *post-mortem* room officer, the hospital pathologist, devote his researches less exclusively to ascertaining the ostensible cause of death, pay more attention to the correlation between the condition of imperfect organs and the continuance of function; find out how far a given organ, arrived at a certain degree of imperfection of structure, has yet proved capable up to the moment when life gave place to death of fulfilling its normal function, and label his specimens accordingly. Let the pathologist continue to satisfy himself—to point out to students—what is primarily the offending organ: but let him go further, and discover and describe how it is that, in spite of the condition of that organ, life has yet for a time continued. Our curiosity at present is insufficiently insistent; we are content to leave unanswered a thousand questions which might well be asked and answered. Why in this case of heart failure was there general anasarca, and in that one only limited visceral congestion? Why did A, whose lungs show merely one or two cavities, die a lingering death in his bed, while B, whose lungs are riddled, lived to be killed by a motor car? What is really the difference between the cases? Why was the factor, which in the one case enabled momentum to overcome resistance, lacking in the other?

In many cases, indeed, we are so incurious, or our curiosity is so essentially of the type of What, that when we speak as pathologists pure and simple, our ascriptions of the cause of death—though they satisfy Mr. Troutbeck as long as they are furnished by an "expert"—are often no more really elucidatory than would be a statement that the patient died from want of more breath. We should, in short, as Dr. Sainsbury suggests, enter the *post-mortem* room and the pathological museum looking at life and seeing not inanimate structures, pictures of still life, but the instruments—more or less faulty—of life, the impediments—more or less obstructive—to life. We should endeavour to conjure back the vital spirits and see these in active play within the organs and tissues up to the moment when life ceased, and continually ask why it ceased. If this attitude towards pathology were the rule rather than the exception, progress in our knowledge of the processes of health and disease, of the true relation of function to structure, would possibly become more active, and in any case the teaching of pathology to students would certainly be more vivid and inspiring. Light, too, might be thrown upon such very practical points as the prognosis of heart disease—on the comparative mystery represented by the fact that one person dies of heart disease in a month or in a year, while another, whose heart is morphologically in an apparently infinitely worse condition, lives to a good old age. Similarly, it seems likely that the everyday work of the

practitioner would be furthered; the true cause of a chronic malady can rarely be absolutely removed, the diseased organ made thoroughly sound, but within certain but at present unascertained limits continuance of life is compatible with great imperfections of visceral structure. Partial performance of its function by an organ, or the vicarious efforts of a functionally allied part, suffice to spell all the difference between gaps which the vital current can and cannot overleap—between life and death—and it is on his knowledge of the possibilities in this direction, on the extent to which he knows how to make other organs give their assistance, that a medical man who treats his patient scientifically must mainly depend for therapeutic success.

Ideas such as those contained in Dr. Sainsbury's paper have doubtless passed through the mind of every pathologist, of every habitual visitor to a *post-mortem* room; indeed, in his laboratory museum at Claybury Dr. Mott deals with his specimens, we believe, much on the lines advocated; while Sir Jonathan Hutchinson presented to the Polyclinic an admirable collection of the same general order. But certainly they have never, so far as we are aware, been put forward in such concrete form as that which Dr. Sainsbury has given them. For that reason we direct special attention to his paper, the complete bearing of which is here but very imperfectly indicated.

THE PRACTITIONER AND HIS TUBERCULOUS PATIENTS.

WITHOUT in any way wishing to dictate to the family doctor what should be his attitude towards his tuberculous patients, we venture to make some suggestions which may be of assistance not only to the patient, but also to the practitioner in whose charge he or she is placed.

At the outset it should be understood that our remarks apply more particularly to the cases such as have been described as cases of "open" tuberculosis—that is, cases in which the contents of a tuberculous lesion reach to the outside of the body in the form of discharges, expectoration, etc., and so forth. There is no need to insist upon the highly infectious nature of this material, for that is well known. But what is equally well known is that patients who are so afflicted are frequently kept in complete ignorance of the malady which has fastened upon them; and what is also well known is that even those to whom the patient is related or who live in the closest relationship are also kept uninformed of the true state of affairs. No doubt in the first case the doctor is acting upon the principle that the patient should be spared the distress which is inevitable when the pronouncement of the infection is made; and it is probable that in the second case the practitioner is actuated by the same benevolent purpose. The medical man is now, however, no longer looked upon as an individual to whom are entrusted all matters relating to this disease, and he must realize that his kind intentions may be interpreted in quite another sense.

It may be difficult at the present day to convince the sufferer or his relatives that the true state of affairs was not disclosed out of consideration of their feelings. The patient may, after six months' private treatment, seek admission to a special or general hospital to the wards of which only early cases are admitted, the rest being treated as out-patients, and with full knowledge of the true state of affairs, since the sputum has been found to contain the germs of the disease and elaborate rules have been given to the patient to guide him so as to prevent the spread of the disease. Moreover, the patient, with his own consent, may have been notified to the local sanitary authorities as a tuberculous subject, his home visited and cleansed, while other suspect members of his family have been singled out for special examination by the hospital physicians. As to the patients who are found to be in advanced stages the hospitals can do no more than recommend them to seek aid at the local Poor Law infirmaries.

Can the family doctor wonder for a moment how it is that the net result is his discomfiture and undoing? It is also a fact that the hospital physician is in an equally difficult position, for by the rule of his institution he is perforce obliged to act the part of an informer against the practitioner who has had charge of the case for so many months without giving the patient or his friends the fullest information about the malady. The remedy for this most serious state of affairs is a simple one, but it entails more trouble on the part of the private doctor and in some cases fresh study by him regarding the developments which have taken place in the hospital management of these cases, and in respect of sanatorium treatment. He must learn to treat all such cases with the full knowledge that hospitals eager to obtain subscriptions for their maintenance will not hesitate to sacrifice the reputation of a practitioner. They do not mind whether his particular management of his cases has been prompted by humanitarian motives or by motives of personal gain, or, sad to relate, by that carelessness or wilful negligence with which his former patients are disposed to charge them. When tales of apparent neglect get about, is it to be wondered at that lay district visitors hearing such accounts spread them broadcast, stir up the charitable rich, and collect funds to originate all sorts of schemes for building dispensaries and endowing them, so that special medical officers may be employed with fixed salaries, to look after such cases to the distinct loss in a pecuniary sense to the medical man who, a few doors away, is endeavouring to maintain himself and family?

One thing is quite certain, that our profession is, in its present condition, incapable or unwilling to check these efforts; the arguments used cannot always be be gainsaid, and medical men have not the initiative or desire to correct the present state of affairs. So long as hospitals, dispensaries, and other charitable institutions are run on the lines upon which they have been started and maintained in this country, the general practitioner must realize how much is being done by them to stem the tide of the spread of consumption, to detect it in its earliest stages, and to treat it on rational lines. He must, in the first instance, realize that it is impossible to be accurate in his diagnosis without an appeal to the microscope. Every effort should be made to prove the existence of tubercle bacilli in the discharges, and he has the right to expect payment for such extra trouble. There is little doubt that herein is the root of the present trouble, for general practitioners, and for the matter of that consultants are to this day often heedless of the propriety of examining the sputum of all cases of suspected tuberculous disease.

And here a word is necessary as a warning to our medical schools. Their methods of teaching are in some degree out of date, and they are responsible for the ignorance not only of older practitioners but of the recently qualified student in matters connected with

the diagnosis of the disease in its early stages. A glance at our textbooks shows that in the case of tuberculous infection, which is more thoroughly understood than any other, and which is responsible for so much of the misery of the lives of rich and poor, too often the site of the impact of the infection is regarded only, but the nature of the infection is not considered. To show how well founded is this charge, it is only necessary to watch the process of examination for our final examinations. Again and again a candidate will give the diagnosis of "pleurisy," and for its treatment a belladonna plaster, but little effort will be made to find out whether tuberculosis is responsible for it; again, our out-patient departments show the carelessness with regard to this diagnosis of "site" of disease without reference to "cause." A patient may be treated for months for "bronchitis," whereas a preliminary examination of the expectoration for the tubercle bacillus would have established the true nature of the malady.

The reader may consider these remarks as platitudinous; but the fact remains that, owing to the advance of hospital methods over those made use of by the ordinary practitioner, the latter is suffering, and will suffer more in the future, at the hands of those who are responsible for the more thorough methods of the hospital, and the cure is that the private doctor must make himself not a mere carping onlooker, but an active participant in advances which, though more exacting of time and knowledge, tend in the end to lessen the rôle of cases which have been bungled from the outset, and so allowed to accumulate as a residuum of incurable advanced cases.

THE HOUSING AND TOWN PLANNING BILL.

It will be gathered from the account of the Committee stage of this bill in the House of Lords given in our Parliamentary Notes that great changes have been made by the peers which will reduce the measure to comparative uselessness. The Housing Acts already on the Statute Book have utterly failed in rural districts on account of the tediousness and expense of the procedure laid down. The bill of this year sought to remedy this by introducing quicker and cheaper methods of acquiring land, of demolishing insanitary property, and of providing wholesome homes for the working classes. It may be admitted that the bureaucratic powers asked for by the Local Government Board were open to objection, but in the absence of energetic action by local authorities, stimulated by health officials secured from arbitrary dismissal for doing their duty, such central powers must be exercised if we are to have speedy housing reform. The debate was redeemed by an attempt made by the Bishop of Southwark to restore the old Clause 30, which provided for a census and register of all small house property and so ensured the publication of the names of owners of insanitary dwellings. The Archbishop of Canterbury supported the proposal; but the Government declined to accept it, and as the lay peers did not come to the bishop's aid the clause was not restored. The House of Lords has thus, we are sorry to say, checked the prospect of good housing in the near future. In its zeal for the authority of local government it has even struck out of the bill the power of the central authority to prescribe the duties of county medical officers, and rejected their right of appeal against dismissal. Its attitude to the town planning clauses of the bill has been equally disappointing from the point of view of public health. In the present temper of political parties, and with the present feeling between the two Houses of Parliament, we fear that a promising opportunity of remedying a great sanitary scandal has been seriously endangered.

FASTING PRISONERS AND COMPULSORY FEEDING.

As our readers are aware, the attention of the House of Commons was drawn to the compulsory feeding of prisoners who persistently refused food by Mr. Keir Hardie last Tuesday. Mr. Keir Hardie wished to know under what rule a female prisoner named Lee, one of the nine suffragists detained in Winson Green Prison, Birmingham, had had food "pumped "down her throat against her will." Mr. Masterman replied that although no prison rule or regulation specifically dealt with the subject, it was the duty of the prison authorities to take such steps as were necessary to prevent prisoners from committing suicide or doing themselves personal injury. He very properly added that if the prison authorities allowed any prisoner to cause his or her own death by starvation, these authorities would incur the severest censure, even if they did not lay themselves open to criminal proceedings. The method of dealing with the "hunger-strikers" by "forcible feeding" is so simple that the only cause for wonder is that it was not put in practice as soon as this cheap way of escaping the penalty of law breaking was adopted. If the prison authorities had had men to deal with it certainly would have been. To speak of it as a "dangerous outrage" and to describe it, as Mr. Keir Hardie does, as "pumping down" food, is simply grotesque. But absurd as Mr. Keir Hardie's description is, he is outdone by Mr. Snowden, who asked if "it were not a fact that the women were put "in irons during the time of the medical treat-"ment"! Lest a most unmerited odium should be aroused by these misleading suggestions it may be said that in prisons the *instrumentum et apparatus belli* is the ordinary soft red rubber oesophagal tube with funnel attached, such as is painlessly employed daily in asylums throughout the country, and such as many patients pass themselves for stomach lavage. The tube is passed into the stomach, either through the mouth or through the nose, according to circumstances, and the food, usually milk, or thin cornflour and milk, beef-tea and eggs, thereupon administered. The operation is one requiring a certain amount of dexterity and great care and gentleness, and that is all. "Forcible feeding" is the term consecrated by use, but is decidedly a misnomer, for force would cause reflex vomiting and defeat the purpose. The only force introduced into the procedure is that supplied by the persons fed, in resisting the offices of those who "must "beg and pray for leave to do them good." The operation is at first somewhat disagreeable to the person fed, but quickly becomes tolerable, and, finally, a matter of complete indifference. In the case of asylum patients who resist violently the subjects have often to be manually restrained during the process, and a mouth-opener, with the points guarded with rubber or tape, employed; but in prisons, where the persistent refusal of food is oftentimes merely in protest against the supposed iniquity of incarceration, this is not so common. In cases where compulsory feeding over prolonged periods is required, a tube of larger calibre is used, and the ordinary full diet is pounded in a mortar and strained through a moderately fine sieve, the patient being

fed as a rule twice a day. We have heard of one patient who was fed in this way for over two years, with no alteration in his bodily condition except a considerable gain in weight. Lastly, we may draw attention to the statement of Mr. Masterman with regard to the Birmingham suffragists, that artificial feeding was only employed as a last resort. Suffragettes have described this form of feeding as a brutal and dangerous outrage. That it is not dangerous is vouched for by the fact that tube-feeding is of daily occurrence throughout the asylums of the country, and for the rest the description remains either outrageous nonsense or a brutal perversion of fact.

THE SANITARY CONDITION OF GRAVESEND.

IN the year 1877 Mr. Netten Radcliffe inquired into a series of complaints made to the Local Government Board by several persons resident in Gravesend with reference to the prevalence of dangerous infectious disease in the town, to certain alleged defects in its sanitary arrangements and administration, and to the existence of sundry specified nuisances. Mr. Radcliffe found that the sewage from the houses in the town, numbering nearly 4,000, was stored up for periods varying from two to thirty years in cesspools hollowed out in the porous rock upon which the houses stood, and in their immediate vicinity, each house, or group of houses, having its particular cesspool, or group of cesspools; and he very properly recommended that the town should be systematically sewered, and that the full statutory powers of the local authority should be exercised for the disuse of all cesspools. In 1885 Sir (then Mr.) Shirley Murphy inspected the town for the purpose of ascertaining what sanitary improvements had been effected in the intervening eight years, and he reported that among the insanitary conditions still existing was the system of storing vast accumulations of excremental filth in cesspools in proximity to inhabited dwellings. Eight years later, in 1893, Dr. Theodore Thomson, on behalf of the Local Government Board, met the corporation of Gravesend in conference, and made formal recommendations with regard, among other matters, to the sewerage of the town and the disposal of excrement. It is not a little startling to find after the lapse of sixteen years, in the report of Dr. R. J. Reece which has just been issued by the Board, that there is still no main sewerage scheme in Gravesend, and that the bulk of the house drainage and excremental filth is still received into cesspools varying in depth from a few feet to 60 ft. or more. They are domed over with brickwork as a rule, though some are covered with stone slabs, which in their turn are covered with earth, and in some cases their exact whereabouts is a matter for conjecture. In the last eight years there appear to have been no fewer than 550 new cesspools added to those previously existing in the town. They are all emptied at the expense of the rates, the total cost averaging about £2,000 yearly. It may readily be conceived that an authority which could allow such unsatisfactory conditions to continue after having their attention so frequently called to them would be lax in many other directions. Such indeed is the case, for Dr. Reece reports that although by-laws with respect to slaughterhouses have been in force in the town since 1895, and regulations under the Dairies, Cowsheds, and Milkshops Orders since 1899, that neither in the one case nor the other are they enforced. Of the thirteen slaughterhouses he says that not one, either from its position, construction, or condition is fit for the slaughtering of animals for the food of man. Indeed, the entire report is a continuous record of ineptitude on the part of the Gravesend corporation, and in reading it it is difficult to believe that it can refer to conditions existing at the present day.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

ON September 27th, at the Liverpool Club, Moorfields, Sir Alfred L. Jones, President of the Liverpool School of Tropical Medicine, entertained at luncheon Sir William M'Gregor, who sails on October 15th to take up his new duties as Governor of Queensland. Sir William M'Gregor said he had spent thirty-one years in the service of the Sovereign in the tropics, and he thought that few people had had a better opportunity than he had of seeing how much an institution of this kind was wanted in the world. He had had the opportunity of renewing his studies at the school, and what he had been able to learn had been of considerable use to him and would be of great value to others. It was a great school, not on account of its size, but because it was the nucleus from which were to develop tropical schools all over the empire. The two greatest events that he had assisted at during the sixty-one years he had spent on this earth were, in his opinion, the introduction of antiseptic surgery by Lord Lister, who was his first teacher in surgery, and, to put it briefly, the propagation amongst men of the knowledge and science of the Ross cycle. The outcome of that cycle was an extension of knowledge more or less of the same kind that embraced other diseases than malaria. Sir Alfred Jones congratulated Sir William M'Gregor heartily upon going to Queensland. They were glad to think that he was to be accompanied by one of the experts from the Liverpool School, Dr. Anton Breinl. He thought that Liverpool men would help to make the world very much more healthy than it was, and a great deal of that credit was due to Professors Ross and Boyce. Sir William had had a remarkable career. He was the only Governor who had visited the Eskimos in their lair, and in West Africa no man had been more active: and, speaking from personal knowledge of the people who traded with that country, Sir Alfred Jones could say they owed him a deep debt of gratitude for the way in which he benefited that territory. In regard to cotton growing, much of the development in that country was due to Sir William and men of his class, and the great improvement in its health was also largely due to him. Major Ross remarked that Sir William M'Gregor was the first Governor in British possessions to deal with malarial fever in a rational and scientific manner. In 1900 Sir William attacked malaria in Lagos by every method possible with the money that he had. He began to drain those dreadful marshes round Government House, and they had now been informed that that house was mosquito-free. That was one other result of Sir William's work. Unfortunately, his health failed, or he would have certainly taken a leading part throughout the British dominions in that important work. In Liverpool they particularly wanted him to be appointed Sanitary Commissioner under the Colonial Office, so that he might go from colony to colony, but his health failing at Lagos he went to Newfoundland. He was now going to Queensland, and the first thing that would be done was to open a laboratory in their own special work, with Dr. Breinl at its head. In Australia he would have great facility for dealing with disease. He (Major Ross) did not claim to have begun this tropical work; Sir Patrick Manson took the initial step, and Sir Alfred Jones was the first to open a tropical school. Dr. Breinl said he could assure them that, as the director of the Tropical School in Queensland, he would do his utmost to carry on in Australia the work which the Liverpool school had carried on in

other parts of the Empire. Gratifying was it to him to know that he was going to have the help not only of the Governor, but also of the Government of Queensland.

THE CARDIFF MEDICAL SCHOOL.

THE allocation by the Treasury of £1,500 a year to the Cardiff School of Medicine came as pleasant and most unexpected news to most of those connected with the school. In spite of Sir Donald MacAlister's note upon the Faculty of Medicine in the University College, Cardiff, published in the recent report of the Committee on the University of Wales and the Welsh University Colleges, few imagined that the committee would second his praise in such a practical manner. It may not be superfluous to give, in a very few words, the history of the Cardiff Medical School. It was started less than twenty years ago, chiefly through the enterprise and energy of Dr. Edwards of Cardiff. By founding two chairs, one of anatomy and the other of physiology, and by the foundation of a lectureship of materia medica, all of which were attached to the Cardiff and Monmouthshire University College, in which institution chemistry, physics, botany and zoology were already taught, students of medicine were enabled to spend at least three out of their five years at Cardiff. The wisdom of this step has since been amply justified, both by the number of students attending the school and by the high quality of the examinations for which they have presented themselves. The school has grown in numbers, and, for the last two or three years, the entries have been higher than those in most London or provincial schools of medicine. Moreover, by far the greater number of the Cardiff medical students prepare for the degree in medicine of the London University. The school, therefore, claims consideration not alone because of its numbers, but also because of the quality of its students. This fact has been recognized, and the University of Wales has appointed a medical board whose chief work has been the drawing up of regulations for the Welsh M.B., B.Ch., under the able guidance of Sir Isambard Owen. The Cardiff Infirmary has at the same time been advancing by leaps and bounds. It has an excellent staff of surgeons and physicians, and is in most respects up to date; and in two years' time, when its new wing is built, it will be fitted to accommodate students who wish to spend all their five years of study in Cardiff. Cardiff possesses also a fever hospital, and an asylum within a tram drive of the infirmary. The town is therefore actively preparing for the possession of a complete school of medicine in its midst. There are, however, many steps to be taken before this complete school can become an accomplished fact, and the grant of money from the Treasury must at least be doubled by local effort if Cardiff is to have a complete school, for at the least £5,000 a year is required for the purpose. For it will be necessary to build two entirely fresh laboratories, one of pathology and the other of pharmacology. Colonel Bruce-Vaughan, one of the most efficient administrators, was able to announce to the Cardiff Infirmary Board of Management on September 15th that within a year the infirmary will possess a Pathological Department which will be quite up to date. It will include a lecture theatre, practical rooms for students, and rooms for research. It will be built and equipped for £4,600. This is another windfall for the medical school, whose members are unanimous in their appreciation of this magnanimous gift. In respect to pharmacology laboratory accommodation is specially required, for there is a paragraph in the rules and regulations for the taking of a Welsh M.B. to the effect that the course in pharmacology shall include one term of lectures, accompanied by laboratory work, including work on the physiological action of drugs. This will mean the services of a trained pharmacologist, acting as an assistant lecturer, to begin with. The college authorities will not only have to pay these teachers, but will also require to keep up the annual expenditure of their departments. The existing departments of anatomy and physiology require to be placed upon a proper footing, and there is a second demonstrator required in anatomy, another teacher in histology and embryology, as well as one in organic chemistry and chemical physiology, and these necessary changes will swallow up at least the £1,500 already granted. A further sum yielding another £1,500 a year at the very least will be required for the new chairs of medicine and surgery and other branches of the healing art. It is earnestly to be hoped that the people of Cardiff will generously support this great undertaking by endowing the necessary new chairs. The sum of £1,500 a year voted by the Treasury requires to be supplemented by an equal sum.

THE PATHOLOGY OF THE TRAMP.

THE now extensive literature dealing with what the French call "fugues" and vagabondage has received a valuable addition by the publication of the *Fugues and Vagabondage* of Professor Joffroy and Dr. Dupouy,[1] whose appearance in print Professor Joffroy was fated not to see. Up to now "fugues" have been considered mostly in relation to epilepsy and hysteria; doubtless because in these disorders they are at once most common and most striking. They nevertheless occur in many other forms of mental disorder—for example, in mania, melancholia and dementia, and also in imbeciles and degenerates. In collecting and classifying all the varieties of "fugues," therefore, and further in relating them to the kindred forms of pathological vagabondage, the authors have filled an important lacuna. By "fugue" the authors mean something more than the usually accepted variety of ambulatory automatism followed by amnesia, and define it broadly as an impulsive desertion of the domicile, either with or without conservation of consciousness and memory. Similarly, they define vagabondage as "the fact of wandering without the "power or the will to return to a fixed domicile." That is, that fugues and vagabondage are symptomatic, like all other morbid impulsions, of alterations in volitional power. Therefore, after defining the will, not as a physiological or psychological entity, but as the resultant of multiple factors—inborn ancestral and atavistic instincts, spontaneously acquired tendencies, in a word, the total elements composing personality—they pass under review the various modalities of what may be termed conative pathology. If the course of normal psychic life, they say, could be represented diagrammatically, it would appear as the regular curve of the superior activity called volitional; beginning from zero with the newborn, gradually attaining its maximum in the adult, and ending only with death after a gentle period of senile involution. In describing the pathological alterations of this normal curve, therefore, of which fugues—in their extended meaning—are common features, they begin with the romantic fugues of childhood, and then proceed to the study of the same phenomena in idiots, in whom they are rare, and in imbeciles and the debilitated, in whom they are very common. Many writers have commented on the frequency of periodic fluctuations of emotional tone and intellectual

[1] *Fugues et vagabondage: Etude clinique et psychologique.* By (the late) Professor A. Joffroy and Dr. R. Dupouy. With preface by Dr. G. Deny. Paris: Felix Alcan. 1909. (Med. 8vo pp. 378. Fr. 7.)

ability in feeble-minded persons and degenerates, and have considered these to be epileptic in nature—that is, forms of masked epilepsy. Parenthetically, it may be recalled that Aschaffenburg considers that periodic fluctuations in emotional tone constitute the most pathognomonic feature of epilepsy, and not convulsions. Many of these attacks are accompanied by fugues, or by other grouped phenomena of identical origin—obnubilation of consciousness, reasonless excitement, or depression, and powerful impulses to escape or break through the restrictions of their position, followed by partial or complete amnesia. Some of the cases described by the authors under the *fugues du déséquilibré* recall such cases, and would doubtless be considered by some to be epileptic in nature, though the authors, in the absence of epileptic fits, rule out this diagnosis. The authors then proceed to describe a form of obsession under the term *fugue dromomaniaque*. Here the fugue or flight is the result of a true obsession—that is, is due to the idea of wandering imposing itself irresistibly upon the mind, defying the will of the subject, who on account of this is emotionally disturbed at the same time that he recognizes the idea as foreign and absurd. There is no loss of consciousness, and therefore no subsequent amnesia. When the subject gives way to the dromomaniac impulse he wanders, inexorably impelled by this parasitic Old Man of the Sea, till the impulse exhausts itself, when he returns exhausted, penniless, and repentant to his family. True dromomaniacs declare that they feel a doubling of their personality; but this, the authors say, is illusory and does not correspond to the actual dissociations of personality found in hysterical cases, which they next describe. Hysterical fugues have been so frequently described that the detailed analysis and interesting examples from the Asylum of St. Anne given in the chapter dealing with these flights may be passed over here. The succeeding chapter on "ambulatory paranoia," however, though brief, is arresting. Here the authors discuss the great group of instinctive tramps, homeless beggars by choice, idlers who pick up a living but never earn one, true vagabonds who would rather starve under the blue lift of Heaven than work in a palace. It is impossible to deny a lurking sympathy for these picturesque nomads of the *grand' route*, the truly rich, who, as Richepin sings,

> Possédant ce qui n'est à personne: la friche
> Déserte, les étangs endormis, les halliers
> Où lui parlent tout bas des esprits familiers,
> La lande au sol de miel, la ravine sauvage,
> Et les chansons du vent, dans les joncs du rivage,
> Et le soleil, et l'ombre, les fleurs, et les eaux,
> Et toutes le forêts avec tous leurs oiseaux!

Most writers have explained the inextinguishable love of freedom and the hatred of the yoke of settled employment of these people by assuming in them ancestral instincts and by regarding their vagabondage as an atavistic phenomenon, an hereditary archaism of ethnological rather them of pathological significance. The glamour of this romantic history vanishes, however, under the cold scrutiny of Professor Joffroy and Dr. Dupouy. For them the vagabond is a "psycho-path," ego-centric, "autophile," extrasocial, often antisocial; in a word, a paranoiac! After this the authors consider the fugues of excited, depressed, delusional demented, and confusional states, and, lastly, there is a valuable chapter on ambulatory automatism. Enough has been said to demonstrate the value of a work which collects and collates the different forms of fugues and vagabondage, and explains their mechanism on the basis of volitional disorder or defect.

THE RESULTS OF CATARACT EXTRACTION.

SOME of the results of cataract extraction are so brilliant, that we are all apt to adopt a too optimistic attitude when discussing the probabilities of good vision with patients who are about to submit to the operation. Goleseeano contributes an article to the *Recueil d'ophtalmologie* for June, 1909, which should lead us to adopt a more cautious attitude. The author analyses the results of his last 100 extractions, with the following final results: Perfect vision ($\frac{6}{6}$) not one case; $\frac{6}{9}$, 3 cases only; $\frac{6}{12}$, 13 cases; $\frac{6}{18}$, 11 cases; $\frac{6}{24}$, 11 cases; $\frac{6}{30}$, 5 cases; $\frac{6}{36}$, 11 cases; $\frac{6}{48}$, 15 cases; $\frac{6}{60}$, 11 cases; less than $\frac{6}{60}$, 9 cases, 4 of whom only possessed perception of light in the eye operated upon. If we regard any acuity over $\frac{6}{18}$ as a good result—a low enough estimate—we get a percentage of about 60 per cent. of good results. These statistics are not nearly so good as some published by the German clinics—as, for example, Basle—but even these latter figures teach that the final result of a cataract extraction, performed under the very best conditions, is not always a good one, and is often very bad. Even when the first result is almost perfect, the vision may deteriorate later from choroiditis or optic atrophy. The lens is not only a refractive medium, it has a bio-physiological function as well, and its extraction may unfavourably modify the metabolism of the eye.

AT the Leprosy Conference recently held at Bergen, it was decided that the next meeting should be held at Serajewo in 1917.

THE members of the Section of Orthopaedic Surgery of the International Medical Congress recently held at Budapest have decided to form an international orthopaedic society. Professor Dollinger is president of the Organizing Committee.

WE regret to announce the death of Dr. John Milson Rhodes, of Didsbury, Manchester, which occurred on Saturday, September 25th, at the age 62. Dr. Rhodes was one of the leaders in the movement which led to the establishment of the Association of Poor Law Unions in England and Wales. We hope to publish a full obituary notice of his career in the next issue of the JOURNAL.

THE third Congress of French Medical Practitioners will be held in Paris next Easter. Among the questions proposed for discussion are the following: Unqualified practice, friendly societies and the free choice of doctors, hospitals for the indigent, administrative structure of hospitals, the raising of the scale of medical fees, the application of the law as to public health.

WE are requested to state that the Royal Colleges of Physicians and Surgeons, having disposed of the Examination Hall on the Victoria Embankment to the Institution of Electrical Engineers, have now secured a site for a new Examination Hall in Queen Square, Bloomsbury. As already stated in the JOURNAL, this building will probably take two and a half years to erect. In the meantime the Royal Colleges have made arrangements with the Institution of Electrical Engineers to occupy a considerable amount of space in the present Examination Hall building for the conduct of the examinations. The entrance to the office, under the new arrangement, is on the west side of the building facing the Savoy Hotel.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The Housing Bill.—The Committee stage in the Lords last week resulted in many amendments being made. On Clause 15, on the motion of Lord Clifford of Chudleigh, the time given to the landlord to execute repairs was extended on a compromise to twenty-one days, and it was made compulsory on the local authority to specify the necessary repairs. A new subsection was then carried, after some discussion, giving the landlord power to meet an order for repairs by closing the tenement instead of repairing it. Lord Salisbury then moved to provide that the appeal made by the landlord under the clause should be to the county court judge, not to the Local Government Board. The Lord Chancellor opposed the amendment as needless and expensive. Lords Camperdown, Alverstone, and Halsbury supported it; and after an appeal by Lord Crewe against going to law to settle so small a matter as the repairs of a cottage, the amendment was carried by 119 to 31. On the next clause a similar change was made; and then on Clause 17, which deals with closing orders, the minimum period given the tenant to quit a bad house was extended to fourteen days, and the expenses of removal it was agreed should not be paid for him if the bad condition of the house was due to the tenant. On the motion of Lord St. Aldwyn, the regulations in the bill as regards sleeping places were omitted, and only general powers given to the local authority. On Clause 23 coming under consideration, the Duke of Northumberland secured the omission of paragraph (*f*), and then Lord Camperdown obtained the omission of Clause 24, which dealt with improvement schemes. Lord Belper next objected to Clause 25 which provided for local authorities carrying out the works of an improvement scheme themselves. Others objected to the clause as encouraging municipal trading, and the clause was struck out. After Clause 30 had been passed the Bishop of Southwark made an earnest attempt to restore the old census clause to the bill which ordered a register to be made of all small dwelling houses, and argued for it as a means of exposing the owners of insanitary property. The Archbishop of Canterbury also supported this view, but Lord Crewe and Lord Beauchamp opposed on behalf of the Government, and the new clause was negatived. Other clauses up to 44 were passed with some slight amendments. Clause 45 was altered on the motion of Lord St. Aldwyn by exempting from acquisition land belonging to local authorities, railways and other public undertakings, after Lord Beauchamp had pointed out that the amendment made a serious change. Lord Camperdown next moved a new clause defining the working classes and putting in a wage limit of 30s. a week. After considerable discussion this clause was carried against the Government by 83 to 37. The remaining clauses up to the Town Planning Section of the bill were passed with some small amendments. On Clause 54 dealing with the preparation and approval of town planning schemes, Lord Cawdor objected to the procedure under this part of the bill, and condemned the excessive powers given to the Local Government Board to interfere with local authorities. What had become of the great confidence of the Liberal Party in local authorities? There was an absolute and direct interference in a most undesirable and unfair way. He moved the omission of Subsections 4, 5, and 6 of the clause. Lord Beauchamp defended the clause, and said the Government were prepared to make concessions, but it seemed that they would be useless. Lord Cawdor's scheme would involve great delay, and would be most hurtful. Lord Onslow said there was no objection to town planning schemes, it was only where a scheme was opposed to or interfered with a statutory enactment that a provisional enactment would be required, and the delay would be two years at the outside. The large interests involved should have the opportunity of appearing before a committee if they desired. Lord Cromer thought people interested should not be left at the mercy of the Local Government Board. He hoped a stand would be made against giving large powers of control to Government departments. Lord Crewe expressed his deep disappointment at the attitude of noble lords opposite, and said the difference between them and the Government was unbridgeable. He regarded the amendments as likely to destroy the usefulness of the measure. Lord Lansdowne replied, and the amendments were carried by 73 to 31. Other changes were made, and a new clause, embodying Lord Cawdor's view, was added to the bill. The other provisions with reference to town planning were discussed, and many of them amended, Clause 58 being altered so as to require arbitration for settling questions arising under this section. On Clause 61, the London County Council and the councils of county boroughs were exempted from the operation of the Act, in spite of the protest of the Government. The clause dealing with the appointment of county medical officers was altered, on the motion of Lord Belper, by the omission of the power given to the Local Government Board to prescribe their duties, as unnecessary and contrary to the principles of local government. Lords Crewe and Beauchamp defended the provisions of the bill as useful for obtaining a minimum standard of efficiency, but the amendment was made. In the same way Subsection 5, which made the county medical officer removable only with the consent of the Local Government Board, was struck out, on the motion of Lord Belper, supported by the Duke of Northumberland and Lord Lansdowne. An amendment to relax the provision as regards practice by a county medical officer was withdrawn, and the clause as amended passed. The remaining clauses and schedules were agreed to with some amendments, and the bill ordered to be reported for consideration on Monday, October 4th.

Feeding Suffragettes in Prison.—Mr. Keir Hardie raised the question on Monday of the artificial feeding of the Suffragettes who refused to take food, and Mr. Masterman said that the medical officer of Birmingham Prison reported that certain women prisoners had persistently refused to take food. The Prison Commissioners therefore, with the approval of the Home Secretary, instructed the medical officer to apply such ordinary medical treatment as was, in his opinion, necessary to prevent the risk of their committing suicide by starvation. In answer to other questions, he said the authority under which action was taken was the general responsibility of the Prison Commissioners to the Home Office. It was the duty of those in charge to prevent prisoners committing suicide. The treatment was the ordinary hospital treatment in such cases, and the ordinary treatment which was frequently applied to men and women—to contumacious or weak-minded persons. Nine women altogether were in a condition which necessitated this treatment for their health. He rather gathered that some of them at least found no necessity to persist in their resistance to food, and that the full hospital treatment was only done in the case of one of the nine. In answer to a question whether the full treatment meant pumping food through the nostrils or by a tube down the throat, Mr. Masterman said he thought the ordinary method was the second one. On which Mr. Keir Hardie described it as a "horrible outrage." On Tuesday Mr. Keir Hardie again questioned the Under Secretary, and Mr. Masterman said that the Secretary of State had received a report that morning from the Governor of Birmingham Prison to the effect that six of the Suffragist prisoners were still under special medical treatment, and that in consequence of the treatment the condition of health of these prisoners showed progressive improvement. No prison rule or regulation dealt specifically with this subject. It was the duty of the prison authorities to take such steps as were necessary to prevent prisoners from committing suicide or doing themselves personal injury.

If they allowed any of their prisoners to cause their own death by starvation they would incur the gravest censure, if indeed they did not lay themselves open to criminal proceedings. In previous similar cases of this kind the prison authorities had always recognized their duty. In answer to a further question whether six of these women were still fed by the stomach pump, Mr. Masterman said that his information was that there were various means of persuading these women to take nourishment, and only in the last resort was the ordinary hospital instrument used. He believed that was only done in three cases.

The Spirit Duties and Drugs.—On Clause 61 of the Finance Bill, Sir W. Bull moved an amendment to remove the proposed additional duty off spirits intended for medical purposes. He had been informed that these extra duties would cost the London hospitals alone £50,000 a year. Mr. Hobhouse said there were practical difficulties in the way of the acceptance of the amendment. If those spirits were given duty free to chemists or hospitals it would be impossible for the Customs and Excise authorities to control their subsequent use, such as their illegal sale to public-houses. Mr. Austen Chamberlain and Mr. Lyulph Stanley supported the amendment, and Mr. Fell said that there would be an increase of about 37 per cent. in the amount of the tax on certain drugs, and that would deal a heavy blow to hospitals and dispensaries. The Committee divided, and the amendment was rejected by 159 to 84.

Motor Car Licences.—When Clause 66 of the Finance Bill came up for discussion in the Commons on Friday last, Subsection (4), which is as follows: "(4) If a duly qualified medical practitioner proves to the satisfaction of the Commissioners or council by whom the licence is granted that any motor car kept by him is kept for the purpose of his profession, he shall be entitled to an allowance in respect of the duty payable under this section on the car equal to half the amount of duty so payable," Mr. Hunt moved to insert the words "or veterinary surgeon" after medical practitioner, urging that this class had a claim for exemption on humanitarian grounds only second to that of doctors. The Chancellor of the Exchequer could not see his way to accept the amendment. The moment he began to extend the exemptions there was a difficulty in drawing a line. In the case of doctors there was everything to be said in favour of encouraging the use of motor cars, but considerable difficulty would arise with an extension of the abatement. The amendment was supported by Mr. G. D. Faber, Captain Craig, Mr. Essex, Mr. Gretton, and Mr. A. S. Wilson. The Committee divided, and there voted for the amendment 61, against 156; majority against 95.

Soldiers' Defective Teeth.—Mr. W. Thorne asked whether the eleven soldiers who were discharged during the week ending September 19th, 1909, at Colchester, on account of bad teeth, were discharged from the army entirely, or only discharged from the colours to the first-class Army Reserve. Mr. Acland said that the thirteen men of the 8th Hussars, who were under orders for service in India, were rejected as medically unfit on account of defective teeth. The sum of £1 per head was granted for dental treatment of men with defective teeth, but as the cost of such treatment was assessed at a larger sum for these men, they were given the option of paying the extra amount required to make their teeth sound or of being discharged as medically unfit for further service. Three men elected the former course and ten the latter. In answer to further questions, Mr. Acland said the men were discharged as medically unfit. The military authorities attached great importance to soundness of teeth, particularly when men were going on foreign service. If a man could not get his teeth made sound, it was very much better, especially considering the large number of suitable recruits coming forward at present, not to retain him. It was true they had lost the services of eleven men for the sake of £33, but they did not think it justifiable, considering the other expenses, to pay more than £1 towards the expenses of putting a man's teeth right. If the teeth were so bad that the expenditure of that sum would not put them right they preferred to dispense with the man's services.

The Tuberculosis Prevention (Ireland) Act.—Last week, in answer to Mr. Farrell, Mr. Birrell stated that under Part I of the Tuberculosis (Ireland) Act, the Local Government Board had made (*a*) The Tuberculosis (Conditions of Notification, (Ireland) Order, 1909, and (*b*) The Tuberculosis Regulations (Ireland) Order, 1909. These Orders were issued in June last to all local authorities and medical officers in Ireland, together with a Memorandum explanatory of the objects and provisions of the Act. Copies of these documents had been furnished to any persons who had applied for them, and the Board had made arrangements for placing them on sale as Stationery Office publications.

Vaccination Notices, Lambeth.—Mr. John Ward asked the President of the Local Government Board whether he was aware that the Lambeth vaccination officer did not serve Form Q on Mr. Silvey, Lambeth, reminding him of the date on which the four months from the birth of his child expired, during which period he could have declared his conscientious objection to vaccination; and whether, in view of this fact, he would notify the officer not to prosecute Mr. Silvey for the non-vaccination of his child after it attained the age of 6 months. Mr. Burns said that he understood the facts were as stated in the question. The fact that he did not receive Form Q did not relieve the parent from liability to proceedings for not having his child vaccinated. It rested with the vaccination officer to determine in the circumstances what action he would take.

Military Assistant Surgeons (India).—Mr. Hazleton asked the Under Secretary of State for India whether any positions as military assistant surgeons in India were open to Indians; whether the salaries of these positions were higher than those of civil assistant surgeons who were chiefly Indians; and whether it was proposed to remove the disqualification in the way of competent Indians entering all the ranks of the medical service of their country. The Master of Elibank said that the answer to the first question was in the negative, military assistant surgeons being recruited primarily for service in European military hospitals. The answer to the second question was in the affirmative, but the difference in rates of pay was not very considerable, being confined to the highest grades. The Secretary of State would consult the Government of India as to the advisability of some revision of the constitution of this branch of their medical services.

The Mortality in Transvaal Mines.—Last week Colonel Seely gave the following statement: The general statistics of mortality furnished to the Secretary of State were for periods of three months, and the figures for the three months ending on June 30th, 1909, had not yet been received. The figures for the quarters ending March 31st, 1907, 1908, 1909, respectively, were as follows:

		Whites.	Chinese.	African Natives.
Average number employed	1907	19,350	53,738	130,351
	1908	19,195	28,797	160,696
	1909	21,814	10,527	196,674
Mortality per 1,000 per annum from all causes	1907	20.051	16.375	31.361
	1908	19.590	15.696	30.616
	1909	18.336	15.959	35.408

Ireland.

[From Our Special Correspondents.]

Annual Report of Irish Local Government Board.

By the courtesy of the Vice-President of the Irish Local Government Board we have received a copy of its report to the Lord Lieutenant for the year ending March 31st, 1909. It is a narrative of the efforts of three Irish gentlemen to induce the local councils to carry out the law of the land; as the Irish peasant is a clever obstructionist, their efforts have not been always successful.

Maintenance of Roads.

The first subject dealt with is the maintenance of the roads, a subject of unusual interest to the Irish medical practitioner. Every assistance and encouragement possible is given to the local councils to improve the highways, with, for the most part, little success. They can obtain money at a low rate of interest for the purchase of road-rolling machinery, and they can obtain loans, repayable in five years, for the repair of the roads at equally low rates, yet the majority of them will not borrow the money for either. In some parts of Ireland, where the labouring class has the preponderance of vote, direct labour schemes have been adopted, and, where there is a good county surveyor, this is no doubt the best plan, but in most counties the peasant farmers are in the majority, and they regard the contract system as most profitable for themselves and their friends, and are most hostile to the introduction of machinery. The result is that the Irish roads are still the worst in the kingdom, and, we fear, are long likely to remain so under the present system of administration. Diminution in the cost of upkeep does not appeal to the people who make a profit out of the present inefficient and most wasteful practice.

Boarded-out Children.

As in former years, the reports of the two lady inspectors of boarded-out children are most instructive: but we regret to observe a note of pessimism throughout them, and can well understand it. These ladies began their work with enthusiasm and have carried it out with great assiduity, but they find little encouragement to be got from boards of guardians. They complain that many boards of guardians seem to regard the boarding-out system as an easy and cheap means of shifting their responsibility for the care of these little children, and take little care in the selection of the foster parents and less in the subsequent treatment of the children. We observe that the number of children boarded out in 1908 was 2,787, a small increase on the previous year; and the cost of their maintenance was £17,912, which works out at £7 per child per annum. As the average cost per week of indoor maintenance in workhouse is 4s. 5¾d., there is a saving of nearly £5 per head on boarded-out children; so it is small wonder the lady inspectors are continually complaining that these children are badly clad, badly housed, and not infrequently badly fed. But they bear testimony to the attention paid to those poor children by many of the Roman Catholic clergy, to which faith most of the children belong. We fear, however, there is no hope of improvement under the existing Poor Law.

District Midwives.

The Local Government Board deserves the greatest credit for the way it has urged boards of guardians to appoint district midwives, generally in the face of strong opposition. A few years ago there were no district midwives under the Board, and now, out of 741 dispensary districts, only 51 are still unsupplied. We trust the Board will extend its good work by soon requiring a qualification in general nursing, for as midwives these women have not in rural districts much work to do, and women competent, like the Jubilee Nurses, to undertake the nursing of the poor are badly needed. The labourers and small farmers are, in sickness, dependent upon ignorant relatives for nursing in the most acute ailments, not infrequently with the most disastrous consequences, and the lack of trained nurses often renders the efforts of the doctor futile.

Typhus Fever.

Only 162 cases of typhus fever were reported during the year, as against 194 in the previous year. The greatest outbreak occurred not in the western unions where it is supposed to be endemic, but in the midland County of Cavan where an outbreak occurred also the previous year. Both were attributed by Dr. Brandon McCarthy, the inspector, to the sale of clothes from infected houses. We believe none of the unions in which it occurred have been prevailed upon to erect disinfecting chambers, and the people prefer to sell infected clothing to dealers rather than have it destroyed.

Dispensary Doctors.

Up to March 31st, 64 unions out of 149 into which Ireland is divided had adopted graded scales of salaries for their medical officers, the initial salary starting in most cases at £120, and increasing to £180, or £200 after twenty-five years' service. Of the unions adopting the graded scales there are 28 in the Province of Munster, 24 in Leinster, 6 in Connaught, and 6 in Ulster out of 43 unions in that province.

There is the excuse of poverty in Connaught, but none such exists in Ulster, where we believe the salaries are lower than in any other part of Ireland. The Ulster unions which have adopted graded scales are Belfast, Newtownards, Banbridge, Ballycastle, Coleraine, and Bailieboro', and we trust the other 37 unions are proud of their parsimony.

Since the return under review was published we understand the union of Westport, in Connaught, has fallen into line, but we very much fear the dispensary doctors of Ulster will have to await justice at the hands of a new Poor Law authority.

The report does not contain much anent the new bill for the prevention of tuberculosis, as it only came into force on July 31st, but a small decrease is noted in the percentage of deaths.

As regards other statistics dealt with in the report we observe that the total number of new cases attended by dispensary doctors has increased by over 3,000 in the past year, and that their salaries and emoluments were increased, owing to the adoption of graded scales, by over £3,500 per annum. The number treated in workhouse hospitals remains about the same as it has been for some years, but the number of inmates of workhouses shows a steady increase largely due to the increased number of tramps admitted.

Scotland.

[From Our Special Correspondents.]

Glasgow.

Medical School Extension.

The draft provisional order to extend and vary the deeds of foundation of the clinical chairs of Medicine and Surgery in connexion with the proposed transference of these chairs to the Royal Infirmary, has now been passed by the court, and has been sent to the General Council for approval. The duties of the chairs are extended to include both clinical and systematic tuition to students, irrespective of sex. Additional funds have been offered by the Muirhead Trustees and by the St. Mungo Trustees to raise the emoluments of each chair to £500, and sanction is sought to call the chair of clinical medicine the Muirhead Chair of Medicine, and the chair of clinical surgery the St. Mungo Chair of Surgery. The electing bodies are to consist of ten members. For the Medicine chair six are to be nominated by the University Court, two by the managers of the Royal Infirmary, and two by the Muirhead Trustees. The electing board for the Surgery chair is to consist of six members nominated by the University Court and four members nominated by the managers of the Royal Infirmary.

EDINBURGH.

Honour for Dr. Gibson.

Dr. George A. Gibson, Physician to the Edinburgh Royal Infirmary, has been offered the Doctorate of Science (D.Sc.) of Harvard University, U.S.A., and he has sailed for America to receive the honour at the hands of the university.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

PONTYPOOL WATER SUPPLY.

At the monthly meeting of the Pontypool Urban District Council, held on September 22nd, the medical officer, Dr. S. B. Mason, reported 6 births and 13 deaths during the month, equivalent to rates of 11.2 and 24.3 per 1,000 of the population. Diarrhoea and gastric disturbances had led him to have tested a sample of the water supplied by the Gas and Water Company, and the public analyst reported that organisms of the *coli* group were present in 10 c.cm. There were also distinct evidences of animal matter, and owing to the presence of the *coli*-like organisms he considered it probably pointed to inefficient filtration. That was a very serious matter, and might be the thin edge of the wedge towards another typhoid epidemic. He advised the inhabitants to boil all drinking water. It was proposed by a member that a general conference of the public men of the parish of Trevethin, including Abersychan and Pontypool, on the question of the desirability of amalgamating the districts. They were beset by many difficulties on account of the limited area of the urban district, and the problems they would have to solve in the near future included a fever hospital, cemetery, and refuse destructor. The matter was referred to the General Purposes Committee.

WATER PROBLEM.

The Monmouthshire County Council, as well as a number of local authorities in that county, have from time to time promoted various water schemes, but, so far, the several efforts have been more or less in vain. Some of the local authorities have made temporary arrangements. The Abertillery, Abercarn, and Risca authorities have had the question under consideration. Abertillery already possesses a reservoir capable of storing 40 million gallons, but this, it is feared, is seriously interfered with by various subsidences. Abercarn is more seriously situated, for the district, which is rapidly increasing in population, is mainly dependent on mountain springs, and these are gradually diminishing as mining development takes place. The Risca Council has recently acquired the waterworks of the Western Valleys Gas and Water Company, but here again the supply is not sufficient for the demand, and as the population of the Risca area is increasing at a greater rate than at either of the other districts, the position has become serious. It was with these facts before them that representatives of the local authorities mentioned met to consider the general position. After a number of meetings they decided that Mr. Baldwin Latham should advise them, and he has now presented his report, in which he recommends the formation of a water board for the Western Valleys. He has submitted a number of schemes with the source of supply in the Grwyne Valley in Breconshire. A modified scheme shows the cost of constructing one reservoir in the Grwyne Valley at £250,000. This reservoir will have a capacity of 315 million gallons, and will supply 1½ million gallons per day, and will provide compensation water at the rate of three-quarters of a million gallons per day. The site is at an altitude of 1,650 ft., which will give ample pressure to supply the highest points in the district connected with the scheme. It is proposed by the scheme to take over the whole of the existing liabilities of the three authorities interested, namely: Abertillery, £59,801; Risca, £30,000; and Abercarn, £8,108. It is also proposed to obtain Parliamentary powers for supplying water to other local authorities. A meeting will be held in a week's time further to consider the question.

GOWERTON SEWERAGE LOAN.

Mr. H. A. Reed on September 21st conducted a Local Government Board inquiry at Gowerton into the application of the Swansea Rural District Council for sanction to borrow £3,900 for the purpose of completing the sewerage of Gowerton. The clerk to the council furnished particulars of the proposed loan, and the surveyor produced plans of the complete sewerage of the district. Dr. W. Williams, county medical officer of health, emphasized the urgent necessity of the drainage of the village, and Dr. Trafford Mitchell, medical officer for the district council, stated that there had been many cases of typhoid fever and other infectious diseases. Mr. D. R. Thomas, sanitary inspector, said there were 110 houses without drains. No opposition was offered, and Mr. Reed afterwards went round the district on a tour of inspection.

EBBW VALE HOUSE FAMINE.

On September 22nd Mr. H. A. Reed, M.Inst.C.E., an inspector of the Local Government Board, held an inquiry at the Ebbw Vale Council offices into the application of the District Council for powers to borrow £10,880 under Part III Housing of the Working Classes Act 1890, for the provision of dwellings at Tothill Street, Ebbw Vale. The clerk to the council stated that it was intended to erect sixty-four houses at a cost of £170 each. In 1903 the council made a similar application, when the Ebbw Vale Company opposed, and the Local Government Board refused to sanction the loan on the grounds that the proposed site was not suitable. The Ebbw Vale Company did not oppose the present application. There were several houses in the district which the council would like to close, but could not see its way clear to do so unless there were houses for the people to go to. There was not a single vacant house in the district, while several of them were occupied by two or more families. The surveyor said the site was a very suitable one. The total area of the ground would be 8,514 superficial yards, the average area of each house would be 133 square yards. The average rateable value of similar properties in the district was £9. Each house would be provided with a scullery, in which would be fixed a bath with a wooden cover that could be used as a table. The estimated rental would be 6s. 3d. a week. The chairman of the council said that there was considerable overcrowding in the district. Dr. J. W. Davies, Medical Officer of Health, said 140 houses reported upon as being unfit for human habitation could not be closed as the inmates could not get other houses. The chairman of the Finance Committee said that the class of houses erected by building clubs were not suitable for working men. He was a trustee of a building club, but was in favour of the application.

CARDIFF HEALTH COMMITTEE.

At a meeting of the Cardiff Health Committee held on September 21st, attention was directed to certain houses in the docks district at which there was reason to believe sailors were lodged, such houses not being duly licensed. The officers of the local authority, however, had no power of entry unless they had direct information that there were sailors there. It was resolved that the medical officer of health be instructed to report upon the advisability of getting the Board of Trade to insert a clause in the by-laws giving the health officials of the city greater powers of entry. Dr. Walford, medical officer of health, presented to the committee a report upon the injurious effects of road dust, in which he stated that while it was impossible to provide actual figures, there was no doubt that the increase of road dust during the hot, dry weather, was responsible to some extent for the higher death-rate. The rate of infant mortality and the diarrhoeal death-rate were invariably higher when the summer temperature was above the average, and when the rainfall

was deficient. Much depended upon the nature of the dust and the damage and injury to food exposed for sale in shops must not be lost sight of. The city engineer urged that the best course to adopt in order to abate the nuisance was to spray all macadamized roads in the city, and it was resolved to adjourn the matter until the next half-year estimates are under consideration. The report of Dr. Walford showed that in the four weeks ended July 31st there were 386 births and 150 deaths. The birth-rate was 25.8 per 1,000, and the death-rate 10.0 per 1,000. There were 42 cases of scarlet fever notified, as against 48 during the previous four weeks, and 22 cases of diphtheria, as compared with 12 cases during the preceding four weeks. The committee decided to request the Seamen's Home to take out a boarding-house licence.

MANCHESTER AND DISTRICT.

Hope Hospital.

The dispute between the Salford Board of Guardians and the medical profession represented by the Salford Division of the British Medical Association with respect to the appointment of a senior resident medical officer at the union infirmary, Hope Hospital, has now lasted about two months, and in spite of repeated advertising, the guardians have been unable to obtain a medical man to accept their terms. The grounds of the dispute were fully explained in the Journal of September 11th, p. 723. It was there stated that the guardians' first advertisement brought not a single applicant for the post, and as the senior resident medical officer left on August 31st, it was necessary to engage a locumtenent to whom 6 guineas per week had to be paid. The guardians comforted themselves with the thought that as it was the holiday season the reason for want of applicants was that young men were "mostly "doing locum work, which pays better." It was therefore decided to advertise again. The advertisement was refused by the British Medical Journal, and at the request of the Salford Division the warning notice inserted was continued. The *Lancet* also gave its support to the local profession by refusing the advertisement and issuing a warning notice. Some other medical papers, however, accepted the advertisement, and by the appointed day it was announced that four applications had been received. There was some boasting that the British Medical Association had been defeated, but this was somewhat premature. When the infirmary committee considered the applications one candidate was at once rejected as unsuitable, as he was 54 years of age. It appears that the late senior medical officer was about 30 years old, but the guardians thought that a younger man might take his place. "Too old at 30" seemed to be the idea of some of the guardians as to a medical man who was to take the responsibility for 800 pauper patients. The other three candidates were invited to appear before the General Board on September 24th when the appointment would be made. On that day, to the evident surprise of the whole board, the Clerk announced that two of the three candidates had written withdrawing their applications without giving any reasons. The third had not answered the letter of invitation. It appears that he had never sent in any application, but had only written for information, and the guardians had no right to include him as a candidate. Thus there were for the second time no applicants for the post. The position was felt to be somewhat serious, all the more since the present second medical officer had notified his intention to refuse reappointment when his year ended in October. There was, of course, nothing to be done for the moment but to appoint a small committee to make temporary arrangements. But some of the more reasonable members of the board recognized that something more would have to be done before long, and it was proposed and seconded that a committee be appointed to negotiate with representatives of the Salford Division. This met with considerable opposition, one guardian saying that "he would go black in the face before he would vote for that," and another "objected to going cap in hand to the British Medical Association," and in the end the proposal was lost. This is the position of affairs up to September 27th. No secret is made of the fact that the Salford Division would be willing to discuss the matter with the guardians; that has been understood all along. As far as the patients at the hospital are concerned, the board has been assured that they are being attended to as usual with the assistance of a locumtenent and the Salford Division has made no attempt to prevent the guardians obtaining such temporary medical help as is necessary in the interests of the patients.

Manchester University.

There has been an unusually large number of changes in the teaching staff of the university during the past year, and the winter session, which opens on October 1st, will see four new professors. Professor Elliot Smith will take the place of Professor Young, whose health has compelled him to retire from the Chair of Anatomy. The new Chair of Cryptogamic Botany, founded by a bequest of Professor Barker, will be occupied by Professor Lang, a new laboratory having been equipped and fitted up for his work. Professor Kastner will begin his duties as Professor of French Language and Literature, and Sir T. Holland as Professor of Geology and Director of the Geological Laboratories. Professor Boyd Dawkins, who is now Honorary Professor, will continue for some time to give some lectures, but the general duties of the chair will be undertaken at once by Sir T. Holland. In addition to the above, there are two new appointments in the chemical department—namely, Dr. Lapworth as Assistant Director of the Inorganic Laboratories and Dr. Weizmann as Assistant Director of the Organic Laboratories.

It is announced that the new chemical laboratories will be formally opened on Monday, October 4th, and it is expected that Lord Morley, the Chancellor of the University, will preside at the ceremony, while the laboratory will be declared open by Sir Henry Roscoe. Great disappointment has been expressed that Lord Morley will not be able to give the promised address at the general opening of the university on October 5th, owing to pressure of parliamentary duties.

Special Correspondence.

VIENNA.

Feeding with Preserved Human Milk.—The Dangers of Celluloid.

In a communication made to the Vienna Medical Society Drs. Mazerhofer and Przibram, of Professor Escherich's paediatric clinic, reported the results of feeding newborn babies with preserved human milk. The milk is drawn with a specially designed breast-valve-pump. It is possible to obtain all the milk contained in the gland by its action without the least discomfort to the woman. Then the milk is, for purposes of storage, sterilized by means of the Budde process (heating to 55° C. in the water bath, with an addition of a few grams of hydrogen peroxide). The milk thus treated is completely sterile, without any alteration in its nutritive value, taste, or appearance, as reported by Escherich and many other observers. The authors have fed forty infants with this milk; the babies throve just as well as the babies of the mothers from whose breasts the milk was obtained. The breasts seem to adapt themselves to the increased demand to which they are subjected. The advantage of this process lies in the fact that the milk can be drawn off whenever a wet-nurse is present, and can be kept until needed. As there are daily about 120 suckling women in the Vienna lying-in hospitals, and each application of the pump easily yields three ounces, a quantity of about 120 pints could be had daily for the feeding of babies of mothers who cannot suckle them. The matter was taken up by some daily papers here, and precautions have been demanded to prevent the method being made a form of commercial enterprise. The only way of preventing mischief is to restrict the use o the

method to hospitals for infants. The lives of many babies born before full term, hitherto carefully but only with difficulty reared in the *couveuse*, will in future be much more easily saved, as the keeping qualities of the milk are practically unlimited.

A number of accidents, happening quickly one after the other, in the celluloid factories, has turned the attention of the public health boards and of the industrial inspectors to the conditions prevailing in these factories. There are altogether eleven large factories and numerous dépôts of this article in Vienna itself, situated mostly in densely-populated districts. In a report presented to the Principal Board of Health by its special commissioner, the risks run by the factory hands are explained. The substance is obtained by treating cellulose by a special method; the material contains more than 5 per cent. of camphor, and when heated gives off camphorated gas. It is easily combustible, and when dealt with by machinery a very fine dust is readily produced, which being finely mixed with air, is highly dangerous, as the least spark suffices to ignite the whole mass. The result is a fearful explosion, with a very long and high flame, and enormous production of smoke and noxious gases. The only means of protecting the workers is to handle the substance under water. The principal danger for the general public lies in the fact that the flames spread rapidly to every place where the least trace of the celluloid dust is present. Thus, in the series of the last accidents, the neighbouring houses suffered from the smoke, and twelve persons were choked by the fumes. The recommendations of the Principal Board of Health are to permit the manufacture of celluloid solely in houses containing only one ground floor, no upper stories, and having at least every ten yards a door leading directly into a free space. The Municipal Board of Health, however, urges the removal of all these dangerous factories from the city into the outlying districts, where ample space can be had without endangering any other interests. The inhalation of the finely-distributed dust seems to produce chronic bronchial lesions similar to coal and iron and stone dust, but this danger can be minimized.

Correspondence.

POOR LAW REPORT AND THE SANITARY MEDICAL SERVICE.

SIR,—The letter of Dr. Lyster in your issue of last week is very interesting. In my opinion, it shows how easy it is to draw up a fascinating and convincing scheme if you only regard one side of the question. Under a system where every "poor" person might demand of the State all he required, subject of course to the "consistent code," whereby he might be made to pay, if able, I am ready to admit that the arguments put forward by your correspondent are not without weight. But to those who are opposed to such a system, and, rightly or wrongly, consider it would be injurious to the best interests both of the public and the medical profession, it is hardly necessary to deal with them till we are assured that, in spite of our utmost efforts to the contrary, that system is bound to come; then, it seems to me, will be time enough to deal seriatim with the various points that Dr. Lyster so ably puts before us.

At the present time the great evil in our profession is the amount of gratuitous work given to the public. The proposal of Dr. Lyster, and the supportors of the Minority Commissioners, is to increase this gratuitous work, but to pay the present general practitioners by making most of them State officials. To those practitioners who have little or nothing to lose under the present system no doubt the proposal is not unattractive; but to the rest, who, I hope, are a much larger class, I fail to see the attraction. It must always be preferable to a man of average ability to live an independent life, relying on the public for support, rather than be a poorly paid official, provided that his practice is not subject to unfair competition on the part of the State. If in every poor district there were State doctors from whom all "poor" persons could obtain gratuitous medical attendance, the "depletion of the ranks of the general practitioners" would not in my opinion tend to the "increased prosperity of those that were left." Where the independent practitioner knew that his patients, if they chose, could go to the State doctor, and be attended for nothing, he would have to be satisfied with very moderate fees. The "sixpenny doctor" might have to become a "threepenny doctor" to secure an independent living. But I think that here Dr. Lyster's views run contrary to those of the Minority Commissioners, who rightly consider that their system would be death to the cheap doctor, and speak openly of getting rid of the "cheap substitute." So that, as only cheap doctors could expect to thrive in poor districts, the State doctors would get the whole field to themselves. I demur, likewise, to the statement "that it is *obvious* that the total remuneration from the public to the medical profession would be enormously increased," etc. It might, or it might not be.

The scheme that Dr. Lyster so well enunciates has been not inaptly termed the "apotheosis" of the Sanitary Medical Service. The Poor Law medical officer might well ask where he comes in. Dr. Lyster shows the position the Sanitary Medical Service takes in Mrs. Webb's proposed county medical service; but the latter admits "that at present, with his D.P.H. diploma, the M.O.H. is apt to get all the plums." According to Dr. Lyster's views, he would continue to keep all the plums, and I do not see how his proposals would bring about the reforms "long demanded by district medical officers."—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor Law Medical Officers' Association of England and Wales.

London, N.E., Sept. 25th.

SIR,—Dr. Robert A. Lyster has written a long letter in support of the Minority Report of the Poor Law Commission, and seems to think that all general practitioners, all Poor Law doctors, and all medical officers of health should encourage and support it. Why?

It seems that every one of them is to have his "job" taken from him more or less in its entirety and given to somebody else—some hypothetical new official.

This, I believe, will be most probable: A "county" man at £400 to £800 per annum with a subordinate staff of medically qualified persons at £250 per annum, or less—all whole timers, because they are not so independent and, therefore, can be "handled" better. Under these a medley of inspectors, health visitors, nurses, school teachers (pressed into the "service"—gratis, of course), midwives, dispensers, perhaps followed by unqualified "oculists" and "aurists," *et hoc genus omne*.

Heaven help us as a profession if we let things slide in this direction, as we have done in the past!

Dr. Lyster says that medical officers of health to small districts are paid a miserably inadequate salary, are not heads of their departments, are subject to impertinent interference from clerks, have no control over sanitary inspectors, and work under disheartening and degrading conditions. That they are underpaid is true; but they are much better paid than club doctors. If they are not heads of their departments—well most of them are, I think, and of those who are not, it may be that some owe it to their own behaviour. That there may be places where things are wrong I admit, but if there were not, it would be a phenomenal service; these remarks apply also to the "control" of inspectors.

As to being subject to impertinence from clerks. Well, who is not? Fortunately some clerks are gentlemen, and although friction will occur, I do not quite see that "impertinent clerks" should be a reason why officers in another branch of the service should lose their posts.

That the work is disheartening is true, *sometimes*, but not nearly so much so as club practice and practice among the poor, where the necessities of life are very meagre or even absent altogether. That it is degrading I deny. Honest and conscientious sanitary work under the worst conditions cannot degrade—rather the reverse. Of course, a "small" district has a small pocket, and it cannot do as wealthy boroughs do, any more than the poor clerk can emulate the wealthy merchant, but is he on that account more degraded?

The real crux of the whole matter is Payment. The public bodies pay the market price. However small an appointment is, it is invariably canvassed for most energetically when vacant, and why should more be paid? If I were a member of a public body and could get properly qualified and experienced men at a certain figure, and knew

that five or six equally eligible men were ready to take it, I would not pay more.

It is not the public bodies who are our enemies; it is ourselves—our noble selves.

If we can unite for each and every branch of the profession to get proper remuneration, be he general practitioner, club doctor, or public officer, then there will not be such an incentive to undersell one another or get hold of another man's "job," and we could then look with equanimity upon any suggested alteration of Poor Law or Sanitary Law.

Last of all, is it not the acme of credulity to imagine that if the present holders of these posts are displaced the newly appointed men will be better off?

If money cannot be found to pay adequate remuneration for the work now, how is it likely that it will be found to pay men to do five or six times the amount of work at even the present rate of pay?

Let us get a proper scale of pay for work now, and after that, let them pile on as much work as possible, for all we want is work—properly paid for.—I am, etc.,

Northwich, Sept. 27th. HENRY EDWARD GOUGH.

SIR,—Your leading article of August 21st, and the subsequent correspondence arising out of my address on the Poor Law Commission report, impel me to offer a few remarks in reply.

It is a matter of great regret to many of my colleagues in the public health service, and also to many outside it—all members of the Association—that while the article disclaims any desire to appear hostile to the large body of medical officers of health, the value of that disclaimer is at once discounted by the suggestion that not only is it undesirable to entrust the members of the sanitary service with additional duties, but that they should be deprived of some of their present functions.

It is true that Dr. Downes in his extremely valuable memorandum suggests that fever hospitals might fitly come under the control of a revised Poor Law authority, but it is a matter of surprise that a scientific journal should not be alive to the manifest disadvantages which must arise from the combination of midwifery practice and daily attendance at a fever hospital. Personally, when in private practice, I well know that in many cases my practice suffered, especially among children, from a very natural hesitation to employ a doctor who saw twenty or thirty cases of scarlet fever every day. Public officials are apt to forget these things, but the general practitioner is fully alive to them.

The position of the part-time rural medical officer of health demands serious consideration, and, while I quite agree with the views of Dr. Lyster, I would remind you that his extinction has been approved by the Representative Meeting of the Association, although this course may not commend itself to the existing holders of the office.

The danger which we have to face here is the break-up of combined districts under the auspices of the Local Government Board and the creation of a number of small whole-time appointments which will be insufficiently paid for. At the same time, it is hard to resist the impression that whatever scheme for the reform of the medical relief of the poor the country may adopt the time is at hand when most men in general practice will have to choose between an official appointment with a small but secure income and the hazardous chances of competition with the State, either on the dispensary system or as suggested in the report of the Minority.

I am sorry that there should be some misapprehension as to my reading of Dr. McVail's report: it is a document which should be read from cover to cover by all who aspire to master the subject. The passage upon which my remark was founded reads as follows:

> It ought to be the duty of every medical officer of every such institution not merely to attend patients during illness but to offer a periodical, perhaps an annual, medical examination of every individual on his list, child and adult.

At the present time every child of the class indicated is medically examined four times between the ages of 4 and 14, is then further examined by the factory surgeon before going to work, and is subject to inspection by other officers such as I have mentioned. If, as Dr. McVail suggests, the medical officer possessed a complete life-history of every patient on his list, the functions of the school examiner, the factory surgeon, etc., would become superfluous or the amount of overlapping would be extensive and costly.

Other opportunities will arise for discussing our respective views, and I desire to thank Dr. McVail for his courteous criticism and correction.

In conclusion, Sir, like my friend Dr. Lyster, I humbly deprecate *ex parte* utterances in the official organ of the Association. There is already a committee appointed by the Council to consider the report, there is every prospect of a joint committee of the Poor Law Medical Officers' Association and the Society of Medical Officers of Health, and there is no immediate hurry for a decision. When a decision of policy is arrived at in the Association after full discussion, I trust that if I and those who agree with me are a minority we shall accept any real effort on behalf of the profession as a whole.—I am, etc.,

West Bromwich, Sept. 25th. HERBERT MANLEY.

SIR,—I feel sure that all medical officers of health must join issue with Dr. Lyster in the feeling of relief experienced by your assurance in the JOURNAL of August 28th that you have not yet made up your mind as to the effects of either report of the Poor Law Commissioners. Your previous article of August 21st certainly left me under the impression that you were strongly in favour of the Majority as against the Minority Report.

It appears to me to be most essential that in a crisis of this kind district medical officers, medical officers of health and general practitioners should all rally together to obtain that which is most beneficial to the profession generally as well as to those for whom the improvement is required—namely, the poor.

So far as the general practitioner is concerned the poor are a burden to him, as I think the experience of all practitioners is that work among them always ends in giving gratuitous advice, and he will be only too pleased to see the poor properly provided for. As regards the district medical officer, his position since the establishment of medical inspection in elementary schools has been rather an ambiguous one, and is fated under existing circumstances to become more so.

As regards the medical officer of health, the poor are his special charge. In urban districts he protects them from overcrowding, and in rural districts he obtains for them a pure water supply. In both districts he inspects their children in the elementary school in the neighbourhood. If he finds in the latter capacity that children who have adenoids to a severe degree have parents who are too poor to employ a local surgeon or even to pay their train fare to the nearest hospital, he has no jurisdiction over the methods of obtaining relief, and the consequence generally is that nothing whatever is done.

The Education (Administrative Provisions) Act of 1907 has placed in our hands a means of improving the physique of the race, but it is impossible to do so without some means of co-ordinating the various influences which affect the poor.

What is required is one medical officer at the head of a department, who can give advice to the various committees which have some dealings with the poor, whether it is a complaint of overcrowding, a badly-nourished child discovered in school by one of his assistants, a case of typhoid fever in a cottage with a polluted water supply, or a case of phthisis in a bread-winner.

He will be the means of communication between the various committees, each of which will have its own medical officer, who will act under the instruction of the chief medical officer.

In the Minority Report, as I read it, both the county medical officer and the registrar would act in this way as intermediaries between the various committees.

I am strongly in agreement with Dr. Lyster in his opinion that the Minority Report if adopted would remedy in a great measure a number of the present unsatisfactory conditions of the profession, as general practitioners would be freed from gratuitous patients, whilst district medical officers and medical officers of health would be placed in a more secure position.—I am, etc.,

J. ALBERT GIBSON.

September 27th. Medical Officer of Health, Newport, I.W.

SIR,—Although there is but slight probability that the suggestions in either the Majority or the Minority Report will become law at an early date, your leading article suggests a wide field for discussion.

Dr. Lyster's experience can hardly be derived from the Home Counties, or he would not have made such sweeping assertions as to the position of medical officers of health in rural and small urban areas. I can assure him that many of us (at all events, those devoting our whole time to the work) *are* heads of our departments, are treated with the greatest respect and courtesy by both our local authorities and their clerks, and have as much control over our sanitary inspectors as we can legitimately expect or require. If a medical officer of health has acquired practical as well as book knowledge, and possesses the knack of dealing with men, he need have little fear on these scores—at all events, in some parts of England. Sanitary inspectors, like all other officials, vary; my experience of them is that most are reasonably reliable and efficient—at least, the younger generation of them.

We have, of course, among our grievances, that of insecure tenure—a matter which might have been dealt with once and for all by the present Government, had they so chosen, in the Housing and Town Planning Bill, and it was not for want of support from their own side of the House that they failed to do so. To remedy this it is suggested that we shall either receive "full compensation" or become "local assistants" to the county medical officer. The former alternative is not attractive to whole-timers, since the compensation is never adequate under such circumstances, while—speaking for myself and many of my colleagues—we have not the slightest desire to be assistants to any medical officer of health—county or otherwise.

At present we are responsible executive officers who can control our own comings and goings, and we should be sorry to account for our actions to an official who might be junior in age and experience, and who might perhaps have never held an important executive appointment. Presumably, we should not even be assured of the humble salaries that we now draw. It is not difficult to conceive that a county council, after providing for a chief and one or two principal assistants, would consider £250 a year adequate for the hosts of assistants that would be required for the sanitary, education, and other functions of the department.

Dr. Lyster criticizes Dr. Downes's scheme as taking away from the medical officer of health many of his present interests. With the possible exception of the education work, surely this suggestion is fanciful? Even as regards the inspection of school children, at the present time it is by no means every education authority that has availed itself of the services of the medical officer of health, and, until the recent Act was passed, the number of medical officers of health who undertook such work could almost have been counted on one's fingers. Did the remainder find time hang heavy?

The Minority Report must strike some who have had experience of administration on a large scale as the scheme of a visionary whose idea is centralization, but who has no knowledge of what practical and efficient supervision of such an enormous number of subjects, many of them demanding prompt action, by one individual would involve in county areas, at all events outside that of London. It is difficult to believe that it would lead to efficiency; it would be much more likely to lead to interminable delays and red-tapeism.

Even in some large towns with which I am acquainted it has proved desirable to decentralize the water, sewage, and general engineering departments, formerly under one management, but now under separate responsible heads, to the great benefit of the community. If this be so in a town with its compactness, with its common interests, and with this comparatively small field of energy, how much more is it likely to be true in a county of considerable area composed of all types of communities, and ranging over so vast a field of activity as is suggested by the authors of the Minority Report!

The field is so extensive and the number of meetings of the councils and their committees would be so great that the present constitution of these authorities would have to be entirely changed. It may be possible for a man of affairs to attend his numerous committees in a town with reasonable regularity, but it is entirely different in a county, where a member may not be able to reach his home the same day if he stays till late in the afternoon. Hence it is doubtful if men who had other occupations could find time to serve on county councils.

The alternative would be for the administration to become a mere bureaucracy—perhaps an advantage in some respects, but entirely contrary to popular notions of local government.—I am, etc.,

September 27th. M.O.H. TO A COMBINED DISTRICT.

COURT-MARTIAL ON A FLEET SURGEON.

SIR,—The thanks not only of the Naval Medical Service, but of the entire medical profession, are due to you for your outspoken editorial on the scandalous prosecution of Dr. Charles Geekie Matthew. I hope also that the matter will form the subject of a question in the House of Commons.

As an old naval surgeon I know to my cost how very true your words are. As a rule, to which there are few exceptions, every self-respecting naval surgeon leaves the service as soon as he can possibly afford to do so. When I resigned my commission I was holding a special appointment with a house and extra pay; but even this, and the fact that the Director-General himself pressed me to stop on, and I think I can truthfully say, it was hinted that I was about to receive special promotion—even in spite of all this I resolved to be one of the many who prefer the self-respect of mufti to the glittering gold stripes, which in a naval surgeon's case mean nothing.

When the navy makes up its mind to treat doctors properly, it need not fear for the qualities of those members of the medical profession who enter its service.—I am, etc.,

Sevenoaks, Sept. 25th. GERALD SICHEL, F.R.C.S.

SIR,—With all respect, I think that the tone of your article (p. 901) on this unhappy incident is greatly to be deplored, and that you are not promoting the welfare of the Naval Medical Service by trying to deter the best men from entering it. You must know that this case is most exceptional. The normal relationship between the medical and executive officers is excellent. They are generally the best of friends, as was evidenced even in this court-martial, where the witnesses in the defendant's favour were the captain and a lieutenant. The current number of the BRITISH MEDICAL JOURNAL affords a striking instance of the friendship generally existing between the medical and executive officers, where, on p. 881, a lieutenant and a surgeon combine to write a paper on a subject each is equally interested in. The Naval Medical Service has been brought to a high state of professional efficiency under our present able Director-General, and we do not want to throw it open to the wasters of the medical schools. It is a splendid service, and no one need regret joining it either from a professional or a social point of view. With the best of companions (and who so popular as the average naval officer?) one sees the world; the opportunities for visiting foreign hospitals and studying rare diseases are to be envied; whilst the naval hospitals are up to date, and the work done in them is of a high order, as may be seen from a study of the operation tables in the Statistical Report of the Health of the Navy which has just been published. It would therefore be most deplorable if this wretched case should prejudice the entries into the senior service, whose glorious traditions are shared alike by all naval officers, in whatever branch they are serving.—

September 25th. ANOTHER FLEET SURGEON.

*** We may point out that no charge was made against the bulk of the executive officers of the navy, who are generally level-headed and sensible. The article was directed against a certain class which it is evident does exist, or this "unhappy incident," as it is termed, would not have occurred. No one can read the evidence as reported without indignation, and not to resent such an occurrence would indicate a lack of self-respect which is happily not wanting in the majority of medical officers. Rhetorical commonplaces about the "glorious traditions of the senior service" will not ameliorate the unfortunate conditions under which medical officers sometimes have to serve, and professional ability in hospitals will not make up for arbitrary

treatment on board ship. It is necessary to point out the grave disadvantages as well as the advantages of the Naval Medical Service. That the latter exist is unquestionable.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

Sir,—After a lapse of some years Dr. Brockbank has again come forward[1] to try and convince the profession that the so-called presystolic murmur is in reality caused by the commencing systole of the ventricle, and not by the auricular contraction at the end of ventricular diastole. This view, as he reminds us, was strongly advocated by the late Drs. Barclay and Charlewood Turner and by Dr. Dickinson, and he claims to have brought forward additional arguments in its favour, and to have shown that the more generally accepted view is not tenable.

It appears to me, however, that Dr. Brockbank is taking a somewhat different standpoint from that occupied by the champions of twenty or thirty years ago. The discussion then was as to the physical explanation of the whole of the long rumbling or churning sound which occupies the apparent diastolic interval in many cases of mitral stenosis, varying in duration, but often one-third of the heart's cycle, and ending in a loud first sound. On the other hand, Dr. Brockbank puts very severe limits to the murmur in question, his so-called "crescendo murmur." He says:

"It is that murmur which has for its essential characteristics a pitch which rises progressively and a force which increases progressively and a sudden termination, with an abrupt first sound when at its highest pitch and maximum vigour. It only occupies the terminal part of the interval between the second and first heart sounds, and is probably not more than 0.1 second in duration, and generally less than this."

I observe that this murmur has grown shorter, for in his former paper (1897) Dr. Brockbank stated that "it only occupies one sixth of a second of time, or less."

I gather that he allows that mitral stenosis may cause a diastolic murmur beginning immediately after the second sound, and continued through the diastole; and that such murmur may directly or indirectly end in a loud first sound. But what he insists upon is that the last small portion of this long murmur, equal to 0.1 of a second or less, occurs during the beginning of ventricular systole and not during the end of ventricular diastole. If the reader will look at his diagram[2] (Fig. 2, under line E), it must appear to him that Dr. Brockbank's position is that somewhere about five eighths of the heart's cycle, beginning at the second sound, the murmur of diastole is replaced by, or runs into, the crescendo murmur, which, he says, is produced by systole; and that this last portion is the only one which increases in pitch and loudness.

But if he admits that the long rumbling or churning murmur is in four-fifths or five-sixths of its length diastolic and due to a direct current, he concedes a great part of what Dr. Barclay and others denied, and his own contention is confined to the method of causation of a short murmur of rising pitch and loudness, in duration not more than one-tenth of a second, whether it stands alone (Fig. 2, B C D) or is in continuation of a longer admittedly diastolic and obstructive murmur.

Thus put, it seems to me that the matter is of much less importance than as it was formerly presented. On the other hand, it is much more difficult for either disputant to prove his point.

One of the difficulties I find about this view is the following: I do not see by what auscultatory criteria the change from a direct-flow murmur to a regurgitant murmur can be recognized unless it be by a rise of loudness and pitch in the last one-tenth of a second preceding the first sound.

In the first place, as to loudness, it must surely be the experience of all of us that the long, rumbling diastolic (or presystolic) murmur often increases in loudness long before the last tenth of a second—sometimes almost from the beginning. This is supported by the tracing from Weiss and Joachim which forms Fig. 5 in Dr. Brockbank's paper.[3]

[1] British Medical Journal, August 28th, 1909, p. 509.
[2] Loc. cit., p. 511.
[3] Loc. cit., p. 513.

Then, as to the pitch of the sound upon which Dr. Brockbank lays much stress. It is, indeed, the chief argument by which he carries the discussion beyond the stage at which it was left twenty years ago: and it is that upon which he based his article in 1897. But the pitch of the murmur was never considered at all in the older controversy.

He looks upon a rising pitch as indicating a narrowing orifice, which rising loudness does not. I have tried the experiment with the indiarubber tube, but I am not impressed by it. There is too much personal equation, and the effort of closing the teeth upon the tube must, of course, interfere with the volume of air in the mouth being delivered to the tube, and must alter the size and shape of the resonating cavity. The observation must be influenced by the proximity of the jaw-joint and masseter muscles to the ear. If in trying to imitate exactly the cardiac conditions the teeth are closed upon the tube at the relatively slow rate of sixty times in the minute, it is to me very difficult to appreciate an increase of pitch and loudness in the terminal tenth of each of those seconds. Possibly a more satisfactory method of demonstrating this point could be devised. For myself, I have often listened to typical presystolic murmurs, and have failed to appreciate any rise of pitch at all.

Weiss and Joachim, in the article to which Dr. Brockbank refers, say nothing about pitch in this connexion. They give a few figures showing the duration of the waves of which the normal first and second sounds appear to be made up; and they vary from 66.7 to 166.7 per second. In any given sound there was little uniformity in the wavelengths. Beyond this I think no positive conclusions of any value could be drawn.

But granting that in some murmurs increasing loudness and pitch are the characteristics of the latter portion, I fail to see that Dr. Brockbank has yet shown that such a condition cannot be produced by the direct flow or by auricular contraction, and must be due to ventricular contraction alone. The pitch of cardiac and pulmonary sounds is a subject which still requires a great deal of investigation.

Dr. Dickinson urged that the presystolic murmur must be systolic, because in cases in which it was followed by a systolic murmur, he could only perceive these two murmurs as continuous and identical in sound and characters; and he regards it as inconceivable that the engines could be reversed, so to say, without some more striking indications. Other people said, first, that such indications, or at least accompanying phenomena, were the first sound of the impulse; and secondly, that the two murmurs were by no means identical or even similar. But Dr. Brockbank is assuming a reversal of engines in the course of a long rolling murmur with either no indication at all, or for less than Dr. Dickinson would have allowed.

Sir John Broadbent[4] has dealt with the argument which Dr. Brockbank bases upon cardiograms. I should like to add that it is obvious that Dr. Galabin's tracings, xi and xiii, recorded the movements in connexion with a murmur much longer in duration than one-tenth of a second; indeed, demonstrably, two-fifths, in Fig. xiii.

Dr. Brockbank's appeal to the recent work of Weiss and Joachim is not, to my mind, much more successful. They point out, he says, that in Fig. 4 (their Fig. 20) the first vibrations of the murmur are only 0·13 or 0·14 sec. removed from the carotid elevation; but in Fig. 5 (their Fig. 22) the vibrations begin within 0·05 sec. of the second sound and 0·41 sec. from the carotid elevation. There is a roughly uniform increase in the amplitude of the vibrations from this point: the three large waves obviously represent the "very loud first sound," and there is no indication before this point of the interposition of the ventricle in what is clearly, from its length and relations, a diastolic murmur. Either it is a diastolic murmur running on to the first sound, or if it is a crescendo murmur of ventricular origin, it occupies 0.3 of a second, instead of 0.1, and it leaves only 0·05 second for ventricular diastole—one-twelfth of the heart's cycle.

A consideration which weighs with me in inclining still to the ventricular systolic theory is the following: The presystolic or crescendo murmur of mitral stenosis occurs in a relatively early stage of the disease. In many cases the later stages are entirely free from it, and the murmur

[4] British Medical Journal, September 18th, 1909, p. 821.

or combination of murmurs which succeeds it is a short systolic murmur, followed by a diastolic (mid-diastolic) murmur varying in length, coming a little after the second sound, and ending before the next first sound. Dr. Brockbank ascribes the crescendo murmur to the rigid valves preventing the rapid closure of the orifice when the ventricle first contracts. But the valves are just as rigid and slow of movement months later when no crescendo murmur occurs, and when, nevertheless, the ventricular systole lifts the aortic valves and the impulse occurs without any preliminary loud crescendo regurgitant murmur.

A regurgitant murmur there is, but it is with and after the impulse, with and after the first sound, so far as this is present. If the valves were too rigid to close promptly in the early stage, they are not less rigid now, and yet there is no crescendo murmur preceding the first sound and impulse. This, too, is in a stage, as a rule, of less compensation, and less ventricular efficiency.

Further, in many cases of mitral stenosis there occurs a period in which a mid-diastolic murmur is heard without any crescendo portion while compensation is lacking; and the presystolic murmur returns when cardiac efficiency is temporarily improved or restored; and there may be frequent changes from one to the other condition, even in the course of a few hours or a few days. There can be no alteration of the valves to account for it. On Dr. Brockbank's theory, the stronger the ventricle is, the less able is it to lift the aortic valves without a preliminary regurgitant mitral flow, and vice versa. The view that the ventricle cannot contract upon its contents sufficiently to open the aortic orifice until it has closed the mitral valves seems to me to want a solid foundation. Cases of mitral regurgitation exist by thousands in which the valves are never effectively closed, and yet the blood is distributed through the system by ventricular action. It is rather a subtle distinction to draw between a regurgitation in stenosis, which practically abrogates the function of the ventricle for the time being, and the ordinary mitral regurgitation which does nothing of the kind.

And these ventricular contractions which cannot drive blood through the mitral orifice and the aortic valves at the same time, and are too feeble to give an impulse, yet produce one of the loudest murmurs in cardiac pathology.

There are cases, too, of mitral stenosis in which the only murmur present is purely systolic in time, and begins with the impulse of the heart—that is, in spite of the rigid mitral valves, and the demonstrable ventriculo-auricular leakage, there is no delay of ventricular impulse.

Does the fact that the crescendo murmur is only heard in the back with extreme rarity present no difficulties?

The position I should take at present is that in mitral stenosis murmurs occupying the greater part of diastole are admittedly auricular in origin either by direct flow or by muscular contraction. That these are sometimes accompanied by thrill and sometimes increase in loudness. That there is nothing to show that the last small portion cannot be produced by auricular contraction, or that they must be produced by ventricular contraction. That what is true of the last fifth of a lengthened murmur is probably true of a similar murmur when occupying diastole in its last fifth alone.—I am, etc.,

London, W., Sept. 28th. FREDERICK TAYLOR.

LINACRE AND THE "GRAMMARIAN'S FUNERAL."

SIR,—In the JOURNAL of September 11th Mr. Munro Smith refers to Professor Osler's identification of Linacre with the scholar pictured by Browning in his "Grammarian's Funeral." I suggested in one of my notes to the reproductice of one of Linacre's translations, published at Cambridge in 1881, that Browning's poem might be based upon a passage in Erasmus's "Praise of Folly," referring to (though not naming) Linacre as a very accomplished scholar, who showed an excessive devotion to the study of grammar. In my Harveian Oration for 1892 I referred to the subject again, quoting the passage from Erasmus and two passages from Browning's poem for comparison.

I hesitate to reproduce the quotation from Erasmus, but if you think it worth the space, it may be thus translated (*Folly* is supposed to be speaking):

> I know a certain man, skilled in many arts; a Grecian, Latinist, mathematician, philosopher, physician, and in all these a supreme master, now 60 years old, who, neglecting everything else for twenty years past, tortures himself in the study of grammar, thinking that he will be fortunate should he live long enough to distinguish with certainty the eight parts of speech.

Erasmus's satire was evidently meant for a piece of good-natured chaff at the expense of his friend Linacre, as it was written in his lifetime. The work hinted at was Linacre's treatise on Latin composition, dealing largely with "parts of speech," which occupied him till the very end of his life. Erasmus could not know that Linacre would be correcting the last proofs of this book almost on his deathbed; but so it was, for the book came out soon after his death. Possibly Browning did know this, and hence wrote:

> So with the throttling hands of Death at strife
> Ground he at *grammar*;
> Still through the rattle, *parts of speech* were rife.

Another point of resemblance is that the grammarian is represented as suffering from calculus, the disease of which Linacre died, but this may have been a coincidence.

On the whole there seems enough to show that Browning had Linacre in his mind, at least so far as he was portrayed by Erasmus, and I quite agree with Professor Osler's later identification.

But, as Mr. Munro Smith justly remarks, it was probably a composite picture, since there are features in it which do not belong to Linacre. It is possible that Browning may have known something of Isaac Casaubon, but he does not seem to me likely to have been his model. Casaubon, though a scholar, could not be called a grammarian, and lived in the seventeenth century, not at the time of the revival of learning. The early life of Browning's hero is quite unlike that of Linacre or Casaubon, or any one else who has been mentioned—a young man who up to middle life is nameless, then leaves play for work, and "gowns him." This fits very well a member of our profession, Julius Caesar Scaliger, a great scholar and grammarian, born 1484, and so a younger contemporary of Erasmus and Linacre. Till middle life he was one of the Emperor's pages and a soldier, when, suddenly giving up the life of camps and courts, he devoted himself to learning and medicine, so that the rest of his life was much like that of Linacre, and he had an immense reputation as a scholar in his day. I know nothing of his last days. Indeed, the career of Scaliger might almost be enough by itself to explain Browning's poem, only I feel sure the poet must have known the passage in Erasmus, as he was a great reader of neo-Latin literature.—I am, etc.,

New Barnet, Herts, Sept. 18th. J. F. PAYNE.

MEDICAL SCHOOL INAUGURAL ADDRESSES.

SIR,—In view of the present unsatisfactory financial state of the profession, which continued overcrowding will only increase, would it not be just both to the profession and intending members if the medical school inaugural addresses contained a few home truths as to prospects instead of the usual platitudes they mostly do to the effect that "Medicine is its own reward" (which it is, but not in the sense meant)? It would be well to point out in no uncertain voice that in no other profession or calling are the results so meagre in "profit and pleasure" for the majority as usually understood, especially under present conditions.—I am, etc.,

Ayr, Australia, Aug. 13th. J. BOOTH-CLARKSON.

THE DOCTOR AS A PHILANTHROPIST.

SIR,—Referring to the letter of Dr. Arthur Todd-White, in which he expresses disapprobation of the small fees charged by certain medical men, is it not the fact that these fees are the logical outcome of the cut-throat and ruinous (to us) competition of hospitals, public dispensaries, and the host of other medical charities?

I contend that medical men in poor neighbourhoods, especially when they are surrounded by charities, are forced in self-defence to unwillingly lower their fees. I live not far from that palatial, exuberant, but indiscriminating charity, the London Hospital. There all and sundry can have advice, medicine, etc., possibly as good as they would get from the general practitioner, for 3d. This charge is, of course, regarded by the patients as full

market value for the attention received. Hence, why should they go to a general practitioner and pay more?

There is only one reason that I can see, and that is the delay in the ever crowded waiting-rooms before the patients' more or less urgent needs are attended to. Rather than wait, a few find it worth while to pay a "private" doctor a little more. I think the action of the doctor in South London in charging the fees quoted by Dr. Todd-White is to be commended, assuming that he had unscrupulous competition from medical charities to meet. It is better that the fees, small as they are, should go into the pocket of a doctor rather than swell the receipts of one of his competing charities. After all, 5d. or 4d. per head per consultation is better paid than club practice, and it has the further advantage that one need not turn oneself into a doormat, as many "clubbers" expect their doctor to do.—I am, etc.,

London, E., Sept. 27th. EAST-ENDER.

CLINICAL TEACHING.

SIR,—The reference in "Progressive's" letter (September 18th) to the clinical study of the out-patient is very important. Like most of the men of my time, I attended a clinical lecture once a week more interesting than the systematic lecture, inasmuch as it referred to one case or a group of cases considered only as to diagnosis and treatment. We went round the wards with the physician almost daily, and studied some cases more closely as clinical clerk in charge of two or three beds. But all these were serious cases; many appeared subsequently in the *post-mortem* theatre. The training was most important and valuable, but it was too ponderous. The earliest patients one sees in practice are not bed-ridden at all, nor deadly, nor even obscure. Yet the very thoroughness impressed upon us as all-essential tended to confuse when we met with a trifling illness—trifling medically, not so to the sufferer. A complete and careful diagnosis is not appreciated by the common or everyday patient, who likes a doctor to tell him the matter before he has told him his complaint. I was locumtenent to a provincial doctor who was said sometimes to settle what was the patient's illness while on the way to the house, and at least on one occasion made his diagnosis to fit in to his preconceived opinion—quite erroneously. Something between these extremes should be taught. Show to the student how with a brief inspection he can distinguish between a patient complaining of illness in whose case elaborate or detailed examination of the different systems, family history, is required, and so forth, and the case of a patient who may be summarily dismissed with a simple prescription such as mag. sulph. or inf. quass. As a question of bread and butter this is really of importance, and is perhaps the chief virtue of the old apprenticeship. The methods of Harley Street are all right in their place; but we do not all live there, or near there in club practice. If I mistake not, the out patient clinic, where it exists, is limited to a percentage of the numbers that actually attend—that is, it is an extension of ward teaching.

Is it not worth while to consider those crowds of trivial ailments? Is a bottle of medicine everything? A former junior resident told me that he usually saw from 100 to 120 out-patients every day, and that after a week or two's experience he got this work over in about three hours. One who a year or two ago had been assistant to a doctor who had many clubs, told me that he frequently saw 130 patients a day, including, of course, his visiting list. Both of these are capable men, and I think I may believe their statements. Is this sort of thing necessary in the interest of the young medical man? Nay, is it not injurious, as tending to induce a superficial and careless habit of treatment? The strain to a too conscientious mind must be ultimately injurious. Then what opportunity has the resident—in London at all events—for study for higher professional honours?

As to examinations. In the final the clinical should be counted separately from the written part. That is, a man who passes well in the written, and is not quite successful in the other, should *not* have the worry of another written examination, but should come up again after two or three months' study of concrete illness only. The examinee should not be needlessly harassed. I have been told that a certain body of examiners hold their clinical examinations in the evening between 6 and 10 o'clock, and that the candidates are delayed in town many days awaiting their alphabetical order. This, if true, would be rather brutal, for the student and examiner alike are more or less fagged at the close of the day. The former has already a weight of anxiety hindering him that the other has not, therefore give him an open field and a fair chance of showing his best in the race.—Yours faithfully,

September 28th. NOT A CONSULTANT.

CANCER OF THE BREAST.

SIR,—The following might be of interest to "Inquirer" on the above subject: Dr. A. J. Chalmers of Ceylon, who has studied the incidence of cancer in that country, finds that cancer of the breast occurs in only 8 per cent. of the cases in females; and in answer to a similar inquiry wrote me that in his opinion the comparative freedom from cancer of the breast among the natives was due to two causes: (1) The proper functional use of that organ; and (2) the entire absence of the irritation and pressure of corsets so common among European women.—I am, etc.,

Forest Gate, E., Sept. 28th. F. B. SKERRETT.

PROFESSIONAL ADVERTISING.

SIR,—The subject of professional advertising is not a pleasant one, and there must be many practitioners who could say a good deal about it if they chose, but they not unnaturally shrink from doing so. It is quite impossible to acquit most of those practitioners of the consultant class, whose names are classified in various little publications as being pre-eminent in this or that speciality, of ignorance of the fact that their names appear, and of direct or indirect responsibility in the matter.

In common with many others, I have received "change of address" cards from consultants who were absolute strangers to me, so that these must have been scattered pretty broadcast.

In one instance a lady whom I had never met sent me a highly technical reprint describing a radical operation devised and carried out by a surgeon of some repute. This was accompanied by a letter asking me to recommend him, and as apparently she had a whole batch of these reprints to dispose of, it is hardly likely they could have been obtained without his knowledge. A patient of mine who lets rooms not long ago had a medical man as a tenant who told her at the outset that his name occupied quite an important position in *Who's Who*, and that few people had more letters after their names. I have verified this. The only letters with any significance are those of the triple qualification of Edinburgh and Glasgow, and these by themselves scarcely seem to justify the inclusion of his name in the publication referred to.

Among some firms of general practitioners, the systematic visiting of all newcomers to the district by the wives is reduced to a fine art, and so barefaced are the methods adopted that there seems hardly any length to which they dare not go. Among other firms it is the religious drum that is constantly beaten for advertising purposes. While one partner is a militant political dissenter, another is a staunch Churchman, while the assistant is, as in a case I know of, a Roman Catholic. Those patients not swept into the net of this triumvirate would be classed as professed agnostics.

All these are matters which, however objectionable they may be, are best left alone. Professional advertising has always existed, and I imagine will do so to the end of time.—I am, etc.,

September 27th. F.R.C.S.

THE TREATMENT OF CHRONIC DYSENTERY.

SIR,—I must enter a protest against the method of passing the sigmoidoscope which Mr. Cantlie describes in his paper on the above subject in your issue of September 18th. Anyone reading his description would, I think, infer that the instrument is passed by feel with the obturator in position, the sensations of the patient, painful or otherwise, being used as a check on the amount of force used in introducing it. This is an absolutely wrong and dangerous method of passing the instrument, and if followed may easily lead to serious consequences. As soon as ever the

end of the tube has passed the anal sphincters the obturator should be withdrawn, and the instrument passed by sight alone. The instrument should not be pressed into the bowel at all, but guided in, a way being made for it by a puff of air from the bellows when necessary.

Mr. Cantlie goes on to say that if the patient complains of pain when the end of the instrument reaches the recto sigmoidal junction the bowel is abnormal. I entirely disagree with him. Pain under such circumstances is due to improper use of the instrument, and can be equally easily caused in persons with a perfectly normal bowel. The mucosa of the higher part of the rectum and of the sigmoid flexure is quite insensitive, and pain experienced by the patient during the passage of the instrument is not due to contact with ulcers or other lesions, but to the meso-sigmoid being stretched, generally as a result of attempts to pass the tube round an acute angle in a patient with a short meso-sigmoid. If the instrument is properly passed, the patient should not experience any pain even when ulcers or other lesion exist in the bowel.

Personally, although I have examined a large number of cases of chronic colitis, both ulcerative and dysenteric, I have never once seen any stenosis of the bowel complicating the condition. In fact, specimens of stenosis of the bowel following dysentery are so rare that, although I have taken some trouble to look for them, I have never yet succeeded in finding one. Mr. Cantlie also states in his paper that a cure of chronic colitis after the operation of appendicostomy is always a slow and tedious process. Our experience at St. Mark's Hospital, where we have treated a considerable number of such cases by this operation, has been the exact opposite. Cure is generally very rapid, all symptoms disappearing in from about three to four weeks. And surely this operation is in every way much to be preferred to a left inguinal colotomy.—I am, etc.,

London, W., Sept. 27th. P. LOCKHART MUMMERY, F.R.C.S.

WILLIAM BLAKE'S DRAWINGS.

SIR,—There are two letters in your issue of September 25th with reference to the short communication of mine on the above subject which appeared in the Literary Notes of the JOURNAL for September 11th.

In one of these Dr. C. H. Melland points out that Sir Lauder Brunton drew attention to the resemblance between the "fortification figures" sometimes seen as a migraine aura and Doré's illustrations to the *Divina Comedia* in the *Journal of Mental Science* for 1902. I had not seen this interesting article before, and am much obliged to Dr. Melland for calling my attention to it; but the resemblance, as he says, is certainly not so great as in Blake's drawings. I first noticed the likeness in February of 1901, when I mentioned it in a paper read before the Bristol Scientific Club.

The other letter in your JOURNAL, by Mr. H. Elliot-Blake, does not carry any very definite meaning to my mind, owing partly, perhaps, to my ignorance of abstruse psychological terms; but I gather from such expressions as "meddling explanatory critics" that he resents my observations as an attempt to depreciate Blake's genius, which was certainly not my intention. He refers to my "attempt to perpetuate the popular fallacy of a wrongly disordered eccentricity to William Blake," who, he says, was "happily clear of the absolute sanity and decaying day-issues of business clippings," whatever that may mean. He also speaks of my "very strained coincidence"; but I venture to think that a further examination of Blake's drawings will convince him that "the coincidence" is very striking. I have a great admiration for much of Blake's work, and do not consider that my suggestion of a possible explanation of these weird zigzag lines need be considered a depreciation. As it is by no means unusual to get these "teichoptic" premonitions *without* the headache, the absence of evidence that William Blake suffered from migraine is, as Dr. Melland says, of no great import.—I am, etc,

Clifton, Sept. 27th. G. MUNRO SMITH.

DURING the academic year 1908-9 the total number of students registered in the seventeen medical faculties of Italy was 4,387. They were distributed as follows: Naples, 1,437; Rome, 454; Turin, 381; Bologna, 307; Pavia, 290; Padua, 220; Palermo, 200; Genoa, 172; Florence, 155; Catania, 151; Siena, 50; Sassari, 42; the rest being scattered about the smaller schools.

The Services.

HEALTH OF THE NAVY.[1]

THE *Statistical Report of the Health of the Navy for the Year 1908* was issued on September 21st. Attention is called to a new feature in the report: What previously appeared as the Home Station has this year been divided into the Home Station and the Home Fleet. No comparisons with the preceding five years could therefore be made.

Summary of Returns for Total Force.

The returns for the total force for the year 1908 show a continuous improvement in the general health of the fleet as compared with the preceding five years. Not only are the case, invaliding, and death ratios for the year under review lower than the average ratios for the last five years, but the average loss of service for each person has dropped from 11.28 to 10.36 days. The final invaliding ratio, however, shows a small increase in comparison with the previous five years' average. The total force, corrected for time, in the year 1908, was 109,210, and the total number of cases of disease and injury entered on the sick list was 75,608, which gives a ratio of 692.31 per 1,000, being a decrease of 53.49 as compared with the average ratio of the preceding five years. The number of entries per man for disease and injury was: Home Station 0.78, Home Fleet 0.64, Channel Fleet 0.61, Atlantic Fleet 0.6, Mediterranean 0.61, North America and West Indies with Fourth Cruiser Squadron 0.72, China 0.85, East Indies 1.09, Australia 0.68, Cape of Good Hope 0.6, and the Irregular List 0.76. For the total force the average was 0.69, the same as in 1907. The average number of men sick daily was 3,093.81, giving a ratio of 28.32 per 1,000, a decrease of 2.58 in comparisou with the previous five years. The total number of days' sickness on board and in hospital was 1,132,336, which represents an average loss of service of 10.36 days for each person—a decrease of 0.92 in comparison with the average for the preceding five years. The ratio per 1,000 of men sick daily on the various stations was: Home Station 34.72, Home Fleet 27.2, Channel Fleet 22.64, Atlantic Fleet 23.71, Mediterranean 24.6, North America and West Indies with Fourth Cruiser Squadron 25.52, China 29.04, East Indies 28.68, Australia 26.2, Cape of Good Hope 23.05, Irregular List 48.02. For the total force the ratio was 28.32. As was the case in the three preceding years, the Channel Fleet shows the lowest, and the Irregular List the highest, sick-rate.

Invaliding.

The total number invalided was 2,184,2 which gives a ratio per 1,000 of 19.98, a decrease of 2.91 per 1,000 in comparison with the average ratio for the preceding five years. The total number of persons finally invalided was 1,889, of whom 57 were invalided after undergoing operative treatment. The ratio per 1,000 of final invalids was 17.29, an increase of 0.33 per 1,000 as compared with the average for the previous five years. Of the 2,184 invalids, 2,025, giving a ratio of 18.54 per 1,000, were for disease, and 159, a ratio of 1.45 per 1,000, were for injury. In comparison with the average ratios of the previous five years, the ratio per 1,000 of force invalided has decreased in the Mediterranean from 31.99 to 16.25; in China, from 24.1 to 22.04; in Australia, from 18.56 to 16.14; Cape of Good Hope, from 24.47 to 14.03; Irregular List, from 16.44 to 15.78; and Atlantic Fleet, from 25.7 (three years' average) to 16.48. In these stations there have been increases—namely, Channel, from 13.99 (three years' average) to 18.84, and in the East Indies from 31.08 (five years' average) to 45.34.

Deaths.

The total number of deaths was 369, giving a ratio of 3.37 per 1,000, a decrease of 0.54 in comparison with the average ratio for the last five years. Of this number, 227, or 2.07 per 1,000, were due to disease, and 142, giving a ratio of 1.3 per 1,000, to injury. In comparison with the death-ratios of the preceding five years, the ratio per 1,000 decreased from 4.18 to 2.04 in the Mediterranean; from 4.5 to 2.29 in China; from 4.47 to 3.72 in Australia; from 4.0 to 0.87 at the Cape of Good Hope; from 2.89 (three years' average) to 2.12 in the Channel Fleet; from 3.27 (three years' average) to 2.01 in the Atlantic Fleet. In three stations there have been increases—namely, in the East Indies from 7.27 (five years' average) to 7.55; North America and West Indies with Fourth Cruiser Squadron from 2.9 (three years' average) to 3.83; and Irregular List from 3.89 (five years' average) to 4.78.

General Diseases.

The following is a summary of the returns under the head of general diseases:

Small-pox.—4 cases; 1 each from the Home Station, China, East Indies, and Irregular List.

Coir-pox.—233 cases, 163 of which were from the Home Station.

[1] London: Printed for His Majesty's Stationery Office by Eyre and Spottiswoode, Ltd., Printers to the King's Most Excellent Majesty. And to be purchased, either directly or through any bookseller, from Wyman and Sons, Ltd., Fetter Lane, E.C., and 32, Abingdon Street, Westminster, S.W.; or Oliver and Boyd, Tweeddale Court, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. (Price 8d.)

[2] This number includes men temporarily invalided from foreign stations, many of whom are again able to join the active force. The number finally invalided represents the waste of the service from this cause during the year.

Measles.—231 cases; 151 from the Home Station and 69 from the Home Fleet.

Scarlet Fever.—171 cases; 122 from Home Station, 17 from Home Fleet; 2 deaths.

Mumps.—177 cases; 108 from Home Station.

Influenza.—3,645 cases, with 1 final invaliding and 4 deaths. This gives a case ratio of 33.39 per 1,000, as compared with 21.09, the average of the preceding five years. The Home Station contributed 1,201 cases, the Home Fleet 1,062, and the Channel Fleet 879 cases.

Diphtheria.—75 cases, with 3 deaths; Home Station 60 cases, and Home Fleet 7. This gives a case ratio of 0.68 per 1,000, as compared with 0.32, the average ratio of the preceding five years.

Cerebro-spinal Fever.—2 cases, with 1 death; both from Home Fleet.

Enteric Fever.—151 cases, with 2 final invalidings and 20 deaths. The case, invaliding, and death ratios per 1,000 were 1.38, 0.01, and 0.18 respectively, as compared with 1.82, 0.01, and 0.27, the average ratios of the preceding five years. The Home Station returned 31 cases; Home Fleet, 36; Channel Fleet, 21; Atlantic Fleet, 11; Mediterranean, 18; North America and West Indies, with Fourth Cruiser Squadron, 15; China, 10; East Indies, 4; Australia, 2; and Irregular list, 3.

Malta Fever.—9 cases; 3 from Channel Fleet and 6 from Mediterranean. The case, invaliding, and death ratios per 1,000 were 0.08, 0.01, and nil respectively, as compared with 2.66, 0.15, and 0.05, the average ratios of the preceding five years. The number of days lost to the service was 1,000; five years ago (1904) it was 30,541.

Pyrexia.—419 cases. The Mediterranean contributed 119; China, 107; and East Indies, 109. The case ratio per 1,000 was 3.83, as compared with 6.69, the average ratio of the preceding five years.

Cholera.—1 case from China.

Dysentery.—32 cases; 3 final invalidings, and no deaths. China furnished 15, and the other stations from 1 to 4 each, excepting the Channel Fleet, which had no case.

Pneumonia.—506 cases, with 7 final invalidings, and 47 deaths. The case, invaliding, and death ratios per 1,000 were 4.72, 0.06, and 0.43 respectively; as compared with 4.57, 0.09, and 0.36, the average ratios of the preceding five years. The Home Station furnished 180 cases; the Home Fleet, 136; Channel Fleet, 78; Atlantic Fleet, 33; Mediterranean, 27; North America, West Indies with Fourth Cruiser Squadron, 24; China, 14; Australia, 12; Irregular List, 8; East Indies, 3; and the Cape of Good Hope, 1.

Malaria.—764 cases with 28 invalidings from foreign stations, and 1 final invaliding from the service; there were 3 deaths. The case, invaliding, and death ratios per 1,000 were 6.99, less than 0.01, and 0.02 respectively, as compared with 5.63, 0.01, and 0.02, the average ratios of the preceding five years. The year 1908 was a bad one for malarial disease in the East Indies, where 435 cases occurred, representing a case ratio per 1,000 of 252.9; the next highest case ratio was the Irregular List, with 23.44; the third, China, with 13.95. The total number of cases (764) does not imply that that number of men was affected, as some men had as many as four and five relapses.

Septic Diseases.—40 cases; 35 of erysipelas, with 3 deaths; 1 pyæmia, with 1 death; and 4 septicæmia, with 3 deaths. The case and death ratios per 1,000 were 0.36 and 0.05 respectively, in comparison with 0.36 and 0.07, the average ratios of the preceding five years. The Home Station furnished 18 cases, and the Home Fleet 11.

Tuberculosis.—537 cases, with 268 final invalidings and 37 deaths. The case, invaliding, and death ratios per 1,000 were 3.08, 2.45, and 0.33 respectively, as compared with 3.41, 2.5, and 0.42, the average ratios of the preceding five years. Of the total number, pulmonary tuberculosis contributed 286 cases, with 31 deaths; disease of testis, 16; joints, 9, with 1 death; glands, 7; meninges, 3, with 3 deaths; peritoneum and kidney, 5 each; bladder, ulcer (*sic*), and spine, 2 each; bone and rectum, 1 each; and general tuberculosis, 2, with 2 deaths. The Mediterranean contributed the highest case ratio, and the Channel Fleet the lowest.

Venereal Diseases.—The total number of cases recorded is 13,379—namely, chancroid, 1,027; syphilis (primary), 1,037; syphilis (secondary), 3,055; gonorrhœa and sequelæ, 7,335. The final invalidings were: Syphilis (secondary), 89; gonorrhœa and sequelæ, 40. The six deaths were all due to secondary syphilis. The case ratio shows an increase per 1,000 of 2.46. The total number of days lost by service was 325,432, while the average daily number of men ineffective from these diseases was 889.15, as compared with 903.9 in 1907. Australia shows the highest case ratio per 1,000 with 153.08, closely followed by the Home Station with 152.77; the Channel Fleet, with a ratio of 79.7, is by far the lowest.

Rheumatic Fever.—112 cases, with 81 final invalidings and 1 death. The case-ratio shows an increase of 3.83 per 1,000, but this disease and muscular rheumatism were formerly classed as one. Of the total (712) the Home Station contributed 339 cases and the Home Fleet 124.

Other Infective Diseases.—11 cases, which include 4 from beriberi, with 3 deaths; 1 of typhus fever; 4 of whooping-cough; and 2 of osteo-myelitis, with 1 death; and 2 deaths from endocarditis.

Parasitic Diseases.—3,878 cases, of which scabies represented 3,780. The Home Station contributed 1,672 of the latter; Home Fleet, 1,079; Channel Fleet, 556.

Poisons.—115 cases with 2 final invalidings and 4 deaths; ptomaine poisoning gave 70 cases, and lead 16. Under this head it is stated that 2 deaths occurred during the administration of anæsthetics; 1 death was due to opium and 1 to mercury.

Alcoholism.—113 cases with 2 invalidings and 2 deaths.

New Growths.—171 cases of "non-malignant," and 9 of "malignant;" of the latter, 2 died.

Local Diseases.

The following is a summary of the diseases under the heading of "local diseases."

Diseases of the Nervous System.—862 cases, with 266 final invalidings and 10 deaths. The case, invaliding, and death ratios per 1,000 were 7.89, 2.43, and 0.09 respectively, in comparison with 8.84, 2.45, and 0.15, the average ratios of the preceding five years. "Nervous diseases" accounted for 803 cases, with 200 invalidings, and mental diseases accounted for 59, with 66 invalidings.

Diseases of the Eye.—797 cases with 157 final invalidings.

Other Organs of Special Sense.—614 cases with 125 final invalidings and 1 death. Ear diseases accounted for 548 cases and 117 final invalidings and the one death.

Diseases of the Circulatory System.—610 cases. Organic heart disease accounted for 205 cases, functional heart disease for 158, aneurysm for 16, diseases of veins for 218, other diseases included under this system for 13; 201 cases were finally invalided, of which 151 were for organic heart disease and 21 for functional disease. There were 28 deaths of this class, namely, 10 from organic heart disease, 7 from aneurysm, and 1 from other diseases under this system. The case ratio showed a slight decrease in comparison with the average ratio of the last five years.

Diseases of the Respiratory System.—8,143 cases with 57 final invalidings and 14 deaths. The case ratio, which last year showed a decrease per 1,000 of 16.08 on the previous five years, this year shows a decrease of 1.03 only. "Catarrh" furnished 6,920 of the cases under this heading.

Diseases of the Digestive System.—11,166 cases with 277 final invalidings and 26 deaths, giving a case, invaliding, and death ratios per 1,000 of 102.24, 2.53 and 0.23 respectively as compared with 112.04, 2.94 and 0.22, the average of the preceding five years. "Mouth and teeth" diseases accounted for 862 cases; sore throat for 2,119; tonsillitis for 3,169; diseases of the stomach and intestines for 3,858; and hernia for 612, 24 of which were invalided after refusing operative treatment; haemorrhoids for 351; phlebitis for 71; and other diseases for 124. The highest case ratios were furnished by the East Indies, and the lowest by the Cape of Good Hope.

Diseases of the Lymphatic and Glandular System.—475 cases with 6 final invalidings.

Diseases of the Urinary and Generative Systems.—836 with 66 final invalidings and 10 deaths. Diseases of the kidneys accounted for 8 deaths, and stricture of urethra for 4 deaths.

Diseases of the Organs of Locomotion.—1,811 cases, with 66 final invalidings and 1 death. Diseases of the joints furnished 11 final invalidings.

Diseases of the Connective Tissue and Skin.—8,986 cases, with 1 death from angina Ludovici in the Mediterranean. The case ratio varied from 184.3 in the East Indies to 64.27 in the Home Station.

Injuries.

A. General.—234 cases, with 1 final invaliding and 115 deaths. The case ratio per 1,000 shows a decrease of 0.69, and the death ratio an increase of 0.12, as compared with the average ratio for the last five years. The deaths were due to: Burns and scalds, 4; lightning stroke, 1; multiple injury, 11; suffocation from submersion, 98; and 1 case instantaneous, namely, that of the disappearance of an officer while shooting on the West Coast of Africa. He had landed with another officer to shoot game, subsequently they separated. He was never seen again. The theory that found most acceptance was that an elephant had attacked him, and pressed him below the surface of the swamp. Two cases of caisson disease were recorded.

B. Local.—15,421 cases with 133 final invalidings and 15 deaths, giving a case, invaliding, and death-ratio per 1,000 of 141.3, 1.21, and 0.13 respectively, in comparison with 152.96, 1.16, and 0.16, the average ratios for the last five years. The East Indies Station returns 2 "wounds in action," both of which proved fatal. The cases occurred in the *Proserpine* when it was patrolling the Makran coast for arms-running dhows about thirty miles north of Jashk.

Suicide.

Ten deaths under this heading are returned. This gives a ratio per 1,000 of 0.09, which is a decrease of 0.03 in comparison with the average ratio for the five preceding years.

ON September 25th the new infirmary and extended workhouse provided by the City of London guardians at Homerton was formally opened. The new buildings are the outcome of a scheme which has been before the City guardians for some time, for reducing their Poor Law expenditure by giving up their present institution at Bow and concentrating all their work at Homerton. The practical result is that the guardians find themselves with a workhouse and infirmary sufficient for all their purposes designed and equipped for 681 indoor inmates and 65 officers. The cost has been between £50,000 and £60,000, while £3,300 has been expended on the provision of a lunatic block.

Public Health AND POOR LAW MEDICAL SERVICES.

MEDICAL MEN AS MEMBERS OF COUNTY COUNCILS AND URBAN DISTRICT COUNCILS.

WE have received a communication relative to a reply to a query which appeared under this heading in the JOURNAL of September 18th, p. 826. We may point out that fees for notification of infectious diseases are not "earned" in the ordinary sense of that term; they are not paid for voluntary services, but occasionally automatically accrue by special legislation to members of urban and other councils.

DUTIES OF MEDICAL OFFICERS OF HEALTH AND SCHOOL MEDICAL OFFICERS.

H. M. H.—The duties of a medical officer of health are set out in the Order of the Local Government Board dated March 25rd, 1891. In December of each year it is the custom for the medical officer of the Local Government Board to send to every medical officer of health a communication concerning the annual report of the latter. This communication is actually a memorandum on the duties of the medical officer of health. For an account of the powers and duties of a school medical officer the following circulars of the Board of Education should be consulted: 576, price 2d.; 582, price 1d.; 596, price 1d.

FEES FOR CERTIFICATION OF WORKHOUSE LUNATICS.

H. W. S., a workhouse medical officer, writes saying he is surprised to learn that our former correspondent, "G. W.," (to whose inquiry an answer appeared in the BRITISH MEDICAL JOURNAL of September 18th, p. 826), has received even 10s. 6d. per case for his lunacy certificates. He (H. W. S.) says: "When the Act, 1890, came into operation he was informed by the relieving officer that in future no fee was payable, and since then he has received none." H. W. S. asks our opinion as to his own claim for certifying workhouse lunacy cases.

*** We are afraid our correspondent has been misled as to the fees for certifying workhouse lunatics. These are of two classes: (1) Those certified as being fit to be detained in the workhouse; (2) those certified for removal to asylum. For certifying the first of these the medical officer of the workhouse does not appear to be entitled to any fee; for certifying those sent to an asylum the medical officer of a workhouse (when called upon to certify) is by Clause 235 of the Lunacy Act, 1890, clearly entitled to reasonable remuneration for his certification, and we still believe that a guinea is generally paid as such.

CERTIFICATION FOR TEMPORARY DETENTION OF ALLEGED LUNATICS IN WORKHOUSES.

R. B. A. writes as follows: (1) An alleged lunatic is brought to a workhouse by a relieving officer under Sec. 20, 1890. A doctor and justice see the lunatic but cannot agree as to the insanity of the patient. If the medical officer of the workhouse sees that the patient is insane, must he detain the patient for fourteen days under Sec. 24 without any further reference to the justice? or can the justice order the detention of an inmate in the workhouse who is already an inmate for further observation? (2) When a relieving officer gives notice to a justice that a lunatic resides at a certain place, does his responsibility cease, or is the relieving officer responsible for the safe custody of the alleged lunatic until the justice orders the patient's removal?

*** (1) By the provisions of Section 24 of the Lunacy Act, 1890, the medical officer of a workhouse can certify that a person is a proper subject for detention in a workhouse for a period not exceeding fourteen days, a step often taken to secure that an alleged lunatic shall be under observation. The medical officer can take this step where a justice has declined to make an order in the case of an alleged lunatic brought to the workhouse by a relieving officer under Section 20 of the Act, 1890. This does not empower the justice to make an order for the detention of an inmate for fourteen days' observation; that can only be done by the medical officer of the workhouse. (2) The relieving officer can remove the alleged lunatic to the workhouse for a period not exceeding three days pending the order of the justice for his removal to an asylum; if there be no accommodation in the workhouse, and the persons in the house of the alleged lunatic be unable to control him, the guardians might be asked to provide such assistance as may be necessary for his safe keeping in the interval.

Medico-Legal.

FIFE COLLIERY MEDICAL MAN'S FEES.

DECISION was given in the Sheriff Court at Dunfermline on September 23rd in a test case arising out of a dispute between the Fife and Kinross Miners' Association and the Fife and Clackmannan Coalowners' Association. The action was decided upon at a debate between the respective agents for the parties concerned. David Adam, miner, Kelty, President of the Fife and Kinross Miners' Association, sued the Fife Coal Company for 1s. 6d. in respect of deductions which had been made from his pay for three fortnights for doctor's fees. There had been a change of doctor, and the pursuer claimed that he was not entitled to pay for the dues which the defenders were collecting on behalf of a certain medical man. The Truck Acts were pleaded on behalf of the pursuer, but it was contended for the defenders that the provisions of these statutes did not apply to the case. In absolving the defenders, with 10s. of expenses, the Sheriff said that the pursuer signed his pay lines, which embodied an authorization to deduct "from my wages in future, so long as I am in your employment, the amount of my house rent, also the sums paid by you for medicine and medical attendance." On July 13th and 27th and August 10th pursuer signed pay lines containing the above authorization, and on each occasion he accepted without question a balance of wages from which 6d. had been deducted for "doctor." These were the three sums of 6d. each now sued for. Prima facie, the pursuer was barred by the terms of his own receipts. The pursuer's answer was that this authority to deduct only held good for things actually supplied.

COMPENSATION CLAIMS.

T. B. R. writes that a club secretary, calling at his house to pay him his quarterly fees, on leaving his house, instead of returning by the ordinary path, took a short cut over a sloping bank of the terrace, stumbled and fell, fracturing his tibia. As a club member, our correspondent attended him for the injury, and he has now received a letter from his patient's solicitor, asking what compensation he proposes to pay for the accident on account of the dangerous condition of his premises. What course ought he to take?

*** Our correspondent has only one course to take, and that is to repudiate the claim, and to put the matter into the hands of his solicitor should it be persisted in.

J. I. M. asks if a debt collector, who works for him and for other medical men in his neighbourhood, and is also an insurance agent and rent collector, can claim on him for an accident incurred while collecting his accounts under the Workmen's Compensation Acts.

*** If the collector were regularly employed by our correspondent, and the accident occurred while in such employment only, it is to be presumed he might claim compensation, and it would be wise to insure against the contingency.

FEES TO MEDICAL WITNESSES.

"INQUIRER" received a summons to attend the police court with a guinea fee, which he understood to be "conduct money." He wrote to the solicitor, sending him the guinea, that he should refuse to give evidence on attending, unless another guinea were paid him. In court he at first refused to give his evidence, but on threat of detention, finally gave way. He would like to know: (1) Was the case a criminal or civil one? (2) Was he entitled to more than a guinea? If the money paid was "conduct money," as he contended, he has received nothing for his attendance. (3) In the case of a police subpœna, should "conduct money" be given at the time and are travelling expenses allowed? (4) Is there a time limit legally between the serving of a subpœna and the appearance in court?

*** (1) Clearly a criminal case. (2) "Conduct money" simply means the money necessary to defray the expenses of the witness in travelling to the court, and might be more or less than a guinea, according to distance. The usual fee for giving evidence at a police court is half a guinea. (3) "Conduct money" should be given and implies reasonable travelling expenses. (4) There is no time limit, but a "reasonable" time must be allowed the witness to travel to the court.

PROFESSIONAL INFORMATION TO CORONERS.

W. F. L. D. writes that he was requested by a police officer to travel five miles to view the body of a man found dead on the roadside. The officer showed him a telegram from the coroner instructing him to apply to a doctor to go and view the body and report to the coroner the same evening. This request was complied with and the opinion given in writing that there were no external appearances to indicate the cause of death. No inquest was subsequently held. Our

correspondent asks what fee (if any) he is entitled to and to whom he is to apply for it.

*** We fear that our correspondent will not be able to establish his *legal* right to a fee in the circumstances. We believe it is not usual for the police to pay fees for professional services rendered in roadside cases, and as no inquest was held, the coroner would have to pay the fee (if any) out of his own pocket, and it is hardly likely he would be prepared to do this. We therefore suggest that our correspondent should courteously draw the attention of the coroner to the strong moral claim he has to some remuneration for his professional services. We may add that we think the coroner might at least have written a special letter of thanks for assistance so readily asked for and not less readily rendered.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

HEALTH LECTURES AND ADVERTISING.

D. C.—A public vaccinator, or any other member of the medical profession possessed of sufficient knowledge, is only performing a duty to the public and to the profession by taking advantage of an opportunity to explain to a popular audience the aims and purpose of vaccination: and no exception ought to be taken to the publication of the title of the lecture on the syllabus of the society under whose auspices it is to be given, or on the large poster version of the syllabus which is placed outside the hall.

SUPERSESSION BY A CONSULTANT.

Ethics complains that he was asked to meet B., a general practitioner, in consultation on a case under his care, and in due course this consultation took place. The following day B. called again upon the patient, after intimating to our correspondent his intention to do so. Four days later the patient asked our correspondent to meet B. again. He did so, but before seeing the patient expressed his objection to B.'s action in calling the day after the consultation without being requested to do so. B. said he was requested by the patient. Our correspondent replied that he ought to have been told of this by both B. and the patient; consequently he declined further attendance. We are asked to say whether B. was guilty of a breach of ethics by calling the day after the consultation, and again by taking over the case having been called to it as a consultant, and whether A., in the circumstances mentioned, could have done anything but decline further attendance without loss of dignity?

*** B. was guilty of a breach of ethical rules in visiting the patient by himself, and the fact that he was asked to do so by the patient is immaterial, but as he intimated his intention to visit her at a certain time he gave our correspondent an opportunity to be present, or to demur to the arrangement. A. need not have declined further attendance; he should have insisted that B. should pay no further visits except in consultation with him, and at times mutually arranged between them.

Universities and Colleges.

UNIVERSITY OF LONDON.
ST. GEORGE'S HOSPITAL.

Lectures on Public Health.

A course of six lectures on public health will be given in the Medical School of St. George's Hospital by Mr. F. E. Fremantle, Edward Jenner Lecturer on Public Health at St. George's Hospital, on Tuesdays, November 2nd, 9th, 16th, 23rd, 30th, and December 7th, at 4 o'clock. The following subjects will be discussed: (1) The Declining Birth-rate, (2) Vital Statistics, (3) Infant Health, (4) School Health, (5) Isolation Hospital, (6) Housing and Town Planning. The lectures are open to those interested in public health, a fee of half a guinea being charged for the course. Application for tickets of admission should be made to Mr. S. A. Williamson, Clerk to the Dean, St. George's Hospital Medical School, S.W.

The last quinquennial census of medical practitioners in France shows that in 1906 there were 18,211 doctors of medicine and 928 *officiers de santé*. In 1876 there were 19,743 doctors and 6,633 *officiers de santé*. The latter diploma was abolished in 1892. Between 1898 and 1907 the average number of persons on whom the degree of doctor of medicine was conferred annually by the French faculties was 1,100. In 1908 the number fell to 966.

Obituary.

HUBERT ELWYN JONES BISS, M.A., M.D.Cantab., D.P.H.

Dr. Hubert Biss, second son of Dr. C. Y. Biss, Physician to the Middlesex and Brompton Hospitals, died at Eastbourne on September 20th, at the age of 37.

He had, during the last year, suffered much pain, and, though it had been hoped that rest and treatment would restore his health, grave haemorrhage occurred shortly after he, under advice, entered a nursing home only a week or two ago.

In spite of the assiduous care of Dr. Harper and other friends his condition became rapidly worse, and, when after some days of unconsciousness the end came, he was laid to rest at Ocklynge Cemetery on September 25th.

Biss was educated for the medical profession at King's College, Cambridge, and the Middlesex Hospital. He held the diplomas of M.R.C.S., L.R.C.P.Lond., and the degrees of M.A. and M.D.Camb. After holding office in 1897 as House Physician at the Brompton Hospital for Consumption, he was chosen to be in immediate medical attendance on the late Mr. Gladstone, with whom he resided for some months before his death at Hawarden in 1898.

The marks of esteem and confidence that Dr. Biss received then, and throughout the remainder of his career, from the family of his illustrious patient, sufficiently prove how well and wisely he justified the trust reposed in him. Subsequently Biss became an Assistant Medical Officer in the hospitals of the Metropolitan Asylums Board; obtained at Edinburgh a diploma in public health, and paid much attention to epidemiology and allied subjects.

Amongst other valuable papers written by him at this time one on The Borderlands of Scarlet Fever and Diphtheria deserves permanent recognition as a really masterly contribution to the elucidation of a difficult subject. On his marriage in 1903 Hubert Biss settled for a while at Eastbourne, but returned to London, attracted by opportunity for continuing his literary work as assistant editor of one of the medical journals, and at the same time engaging in assurance and other work.

Here his reputation and practice rapidly extended; his success seemed certain and secure; and, even when it was made clear to him that rest was necessary, he was full of plans and hopefulness for the future, while to the very last fresh demands on his time and abilities were being pressed on him. He had found work in which he delighted, and his peculiar abilities served him in such good stead in court and elsewhere, that a desire, if not an intention, of being called to the Bar had already been formed. This and other things were, however, not to be.

Dr. Hubert Biss was a man who will not soon be forgotten by those who really knew him. He possessed unusual capacity, and had read and thought much.

His keen literary sense and humorous appreciation, his wide sympathies and his charm of manner made him to his friends the most delightful of companions. And the epithet of "freehearted," applied by a ballad writer whose MS. may be found in the Pepysian collection, to a Biss of the early seventeenth century—a once popular but now forgotten hero—arises in the mind with peculiar insistence. He has left a widow and a little son.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Hermann Lossen, Honorary Professor of Surgery in the University of Heidelberg, aged 66; Dr. Santi Sirena, Professor of Pathological Anatomy in the University of Palermo; Dr. Antonio Curci, Professor of Materia Medica and Pharmacology in the University of Catania; Dr. L. Hendrix, a pioneer of paediatrics in Belgium, and one of the founders of polio-clinics in that country; Dr. Alfons Edler von Rosthorn, Professor of Obstetrics and Gynaecology, first at Graz, then at Heidelberg, finally at Vienna, aged 52; Dr. Agnes Hacker, a well-known medical woman who practised as a surgeon in Berlin, aged 49; Dr. E. C. Hansen, Professor of Anatomy in the University of Copenhagen; Professor Max Eduard Jaffé, Surgical Director of the Jewish Municipal Hospital at Posen, aged 51; and Dr. R. Boddaert, some time Professor of Pathological Anatomy in the University of Ghent, aged 75.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

LOCOMOTOR asks if there is any home where Frenkel's treatment for tabetic ataxia is carried out in Great Britain, and if there is, what the fees are.

MERSEY asks for details of the construction and use of the lamp-trap for mosquitos, and if it would be of any use for gnats and mosquitos found in England.

KELOID writes: Will any member kindly give his experiences after using fibrolysin or iodolysin for keloid scars, such as those occurring after suppurating glands in the neck?

PERPLEXED invites suggestions for the treatment of two cases of chronic insomnia of two and three years' standing. *Enormous* doses of all the usual hypnotics are tolerated and required to produce *any* sleep. Withholding of hypnotics results in mental and physical collapse. Baths and wet packs give no results. The writer has tried hypnotic suggestion with no success. There are no worries in either case.

CONTINUOUS NEURALGIA.

SEVENTY-TWO writes: Can any member suggest a remedy for intense and continuous neuralgia following shingles? I have an old lady patient for whom I have run over the whole gamut of drugs and been obliged to fall back on morphine. One shoulder and arm are affected, and the pain has lasted over six months.

ANSWERS.

DIAGNOSIS OF DIPHTHERIA.

J. G.—On the information given it is not possible to state the probable cause of the epidemic. Can the correspondent obtain any information as to the incidence of the disease amongst those customers of the dairy who boiled the milk before drinking it and those who did not? That 2 cases out of 12 occurred amongst non-consumers of the suspected milk is against the milk as a source of infection, unless the 2 cases caught the disease from some of the other cases. Manure has been suspected of harbouring the organism of diphtheria, but definite proof that it has really done so is wanting. But it does not seem to be desirable to have a manure dépôt in the middle of the byres. The age-incidence is certainly unusual and points to the activity of the cause of the disease being limited to adults.

LETTERS, NOTES, ETC.

METHODS OF QUACKERY.

DR. JAMES W. KIDD, of Fort Wayne, Indiana, U.S.A., who last April was offering to give the people in this country who had previously applied to him for treatment "the chance of a lifetime to be restored to perfect health" for 10s., has recently repeated his offer to a correspondent at the reduced price of 6s., as he states that he is "determined to have a cured patient in your vicinity within the next two months." The treatment consists of a series of tablets, and the result of their analysis will be found in the JOURNAL of March 13th, 1909, *p.* 671. The chief ingredients of these tablets appear to be sodium carbonate, gentian, sodium benzoates, oil of wintergreen, and aloes.

WEAK ANKLE.

DR. F. BUTCHER (Medical Officer, Fife and Kinross Asylum) writes: "C. E. W." (p. 580) will find his patient benefited by wearing a strong laced boot in which the stiffening ordinarily inserted over the heel has been carried up above the ankle. Some little moulding or cutting may be required over the external malleolus, but an intelligent shoemaker will easily arrange that. I have found this boot quite satisfactory in the case of a very stout elderly patient who sustained a severe sprain some months ago.

RAILWAY PASSENGERS' ASSURANCE COMPANY.

WE are asked to state that the Railway Passengers' Assurance Company, which has been housed at 64, Cornhill, for the past half-century, has determined (in co-operation with the Union Bank of Scotland) to rebuild its premises, which will in future comprise 61, 62, 63, and 64, Cornhill, 124 and 126, Bishopsgate Street, and 1, White Lion Court. During the rebuilding, which will commence at once, the company's address will be 81, Cornhill, E.C.

JELLY FOR THE EXAMINATION OF LEUCOCYTES IN THE BLOOD.

MESSRS. EVANS SONS, LESCHER AND WEBB, LIMITED (Liverpool) write: Our attention has been drawn to an article in your issue of August 28th by Dr. Charles J. Macalister, "Observations Concerning the Blood in Chorea and Rheumatism." We notice mention made in this article of certain jellies recommended by Dr. H. C. Ross for the examination of leucocytes in the blood. It may be of use to some readers of the BRITISH MEDICAL JOURNAL to state that at the request of Dr. Ross we are making these jellies, and are, therefore, able to supply them to any interested in the matter.

VULVAR TUMOUR.

DR. JOSEPH SCOTT (Teheran, Persia) writes: A short time ago a Persian woman presented herself at the hospital with a vulvar hypertrophy. The history was unimportant. The tumour was fully 5 in. long, presented the appearance and colour of integument, firm, leathery, and not at all sensitive; it had an irregular and nodulated contour. The circumference of the tumour at its most dependent part was 4½ in.; it involved the prepuce of the clitoris and most of the right nympha. The affected parts were thoroughly removed, the patient making a good recovery.

ASTHMA AND DIPHTHERIA ANTITOXIN SERUM.

WITH reference to a note on this subject which appeared in the JOURNAL of July 30th, Dr. J. Aikman, of Guernsey, has drawn our attention to a letter from him which appeared in the *Lancet* some years ago. In this he pointed out that it was doubtful whether some vaccines, serums, and antitoxins were really as specific or individual in their character as they were supposed to be, and suggested that their influence and possible utility was not limited to diseases for the cure and prevention of which they were originally put forward. Perhaps they really contained a specific principle, and antitoxin was, possibly their effect was due to a by-product—a nuclein derivative—in the serum. In any case, he had found antidiphtheritic serum of decided utility in dealing with boils and in septic conditions in young children. Since then he has had corresponding experience in the treatment of asthma. His attention to the utility of antidiphtheria serum in this disease was drawn by an old asthmatic to whom, having been in contact with some diphtheria cases, he had given a small prophylactic dose. The old asthmatic found his asthma benefited and asked for the same treatment to be continued but with his asthma as the point of attack. He had given similar doses to other asthmatics and found most cases relieved thereby. He has been chary of publishing results, he says, since asthma is such a tricky disease, and for his knowledge of ultimate results he usually has to depend on patients' letters, because his patients seldom remain permanently in Guernsey. Of such letters he has forwarded several for examination, and they certainly suggest that the benefit received is of marked and enduring character. The dose which Dr. Aikman has found valuable is 1,000 units, repeated at intervals. He tried larger doses in his first case, but found that it increased the expectoration to an uncomfortable degree. He would advise the use of antidiphtheria serum in any asthma case in which the condition of the heart was such that a mild bronchitis, if any should occur, would not be likely to give material trouble.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	3	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication; and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

An Address

ON

EXPERIMENTAL RESEARCH AND MEDICAL PROGRESS.

Delivered at the Opening of the Winter Session, University College Hospital Medical School, London.

By Sir JOHN TWEEDY, LL.D., F.R.C.S.,

EX-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; PRESIDENT OF THE MEDICO-LEGAL SOCIETY; AND EMERITUS PROFESSOR OF OPHTHALMIC MEDICINE AND SURGERY IN UNIVERSITY COLLEGE, LONDON.

Gentlemen,—The thought which first seeks expression on this occasion is one of sorrow for the loss, through sudden death, of one who was for many years a distinguished teacher in this school. At the end of last summer session the friends and colleagues of Dr. Radcliffe Crocker expected with a reasonable degree of confidence that he would be present with us to-day to take part in the inauguration of another Annus Medicus. It has been otherwise ordained. There remain with us the memory of an able and amiable fellow worker and the grateful recollection of a long record of much good work well done.

The next sentiment is one of congratulation to those who have just received the tokens of their triumphs. May these rewards prove harbingers of future success in the sterner battle of professional life. I trust that I shall not be thought guilty of dropping *aliquid amari* into the cup of happiness if I venture to caution those who are the victors of to-day not to regard the distinctions which they have just attained as ends in themselves, but rather to consider them as incentives to a higher purpose. The successes which we celebrate to-day are indications of ability, of industry, and of steadfastness, but for complete success in life it is not enough to be apt in acquiring knowledge or to possess a retentive memory, or to have facility in written or verbal expression. A man may possess these and yet lack many of those qualities which are requisite to ensure success in practical affairs. Mere cleverness is not enough, nor industry, nor zeal. Character is also needed, and all that this term connotes—thoughtfulness, sympathy, courtesy, and culture. And by culture I do not mean what has been scoffingly described as a smattering of Greek and Latin, but that higher discipline so finely described by Matthew Arnold as

> a pursuit of our total perfection by means of getting to know, on all matters which most concern us, the best which has been thought and said in the world; and through this knowledge, turning a stream of fresh and free thought upon our stock notions and habits.

The proverb runs "Knowledge is power"; but this is not always or necessarily true. Knowledge is one of the elements and conditions of power; to be effective it must be directed and controlled by wisdom. There are many learned men in all professions who, for some reason or another, do not succeed in the practical departments of their calling. It is not easy—sometimes it is not possible—to say why this is so. Sometimes the fault is in external circumstances; more often, perhaps, it is some inherent personal failing or defect. Conspicuous ineptitude for practical art is scarcely possible nowadays. Every student, before obtaining a medical degree or diploma, must go through a prescribed curriculum of study and practical training, and must pass certain statutory examinations as to his knowledge and skill. This was not always so. Until the intellectual awakening of the sixteenth century thought was largely scholastic and trammelled by ecclesiasticism, and professional skill often manifested itself in dialectics rather than in action. Arnald of Villanova, one of the chief medical luminaries of the thirteenth century, relates that he knew an excellent professor of natural science, learned in medical theory, who could not treat the simplest ailment. This is an extreme type, which is now extinct. As the antithesis of the learned but inexpert man there is in all professions the so-called "practical man," whose merits are generally overrated in popular estimation, and whose lack of theoretical knowledge is often imputed to him for righteousness. Nor can it be denied that not infrequently he does attain a certain level of success, but he has narrow limitations. He deals in particulars, is often quick to observe similarities, and, in the treatment of disease, concerns himself with symptoms without troubling to investigate the physical conditions upon which these symptoms may depend. Science arises from the discovery of Identity or Unity amid Diversity of Manifestation, and it is precisely here that the practical man so often fails. He appreciates agreements and similarities, but fails to discriminate differences. Such men are not altogether without illumination, but the light within them is what Jowett has called "a luminous mist." They see things at false distances and in erroneous proportions. In the long run, it will be found that the sanest and safest guide is one whose practical training is based upon sound and sufficient learning.

We are assembled to-day not merely to distribute prizes to those who have already made some progress in their medical study, but we are more particularly gathered together to welcome those who are now beginning the study of medicine. I congratulate all such upon the choice they have made of a career. From the days of Homer to our own times much has been written in praise of the physician and of the profession of medicine, and not a little has been said in dispraise and disparagement. But, take it all in all, I maintain there is no secular calling so philanthropic in its aim, so refining in its influence, and so beneficent in its operation as the practice of medicine. Like Mercy, it is twice blessed: it blesses both patient and practitioner. Doubtless most of those who enter into the medical profession do so with the ultimate object of earning a livelihood, but in the study and pursuit of medicine personal interests gradually become merged in an altruistic Hedonism—the good of others; and there is, I believe, no pursuit which so surely humanizes a man and calls forth his better self, or one in which average ability and good character more certainly meet with reasonable recompense. But, paradoxical as the statement may be, even worldly success is generally most assuredly attained when it is not pursued as the chief end and aim. Medicine is only worthily served when it is practised as a cult in the devout spirit of worship. It must be served loyally and for itself.

It has been said that the criterion of the professional spirit, in contradistinction to the commercial and industrial spirit, is this:—the professional man thinks first and chiefly of the nature and the merit of his work, the commercial man thinks most of the amount of his wage. Nevertheless, one must live, and most of those who enter the medical profession must live by what they can earn. Here, if anywhere, the labourer is worthy of his hire. For some of those who enter the medical profession it may be well that they should possess financial resources sufficient to relieve them of the carking cares of earning their daily bread and of making provision for future contingencies when work is no longer possible. But, for some at least, it is better that they should lack these pecuniary aids and have to rely upon their own spiritual and intellectual resources. Thousands of medical men have lived happy, useful, and honoured lives, and not a few have risen to great eminence and honour who have had to start practice with no other equipment than their technical training and the prayers and good wishes of their friends.

Those who are now beginning medical study may at the outset be perplexed and discouraged, as I was myself, by the new method of study and by the new order of ideas to which they are introduced. Heretofore the education of the student has been chiefly literary, based upon pedagogic authority and the dictatorship of books. Henceforth both the character and method of study will be altered. The influence of authority will still obtain; much knowledge must be taken on trust, but it is a critical trust. Whatever is taught here is based upon a knowledge which may have been the accumulation of centuries, or it may be knowledge recently acquired, but it is knowledge which in due time and place is capable of verification and demonstration. Though this knowledge is based upon authority, it is the authority of persons who have examined it with care and attention, and who have been competent to form a sound opinion upon it. In later life most of us, as Cornewall Lewis has remarked in his essay on Authority, must accept much of our knowledge on the trust of our

own authority. We have gone through a process of thought and investigation, and have arrived at a given conclusion, but the reasons of that conclusion have passed out of memory. We hold these opinions rather upon the recollection of having once ascertained them to be well-grounded than from a present perception of these grounds. If this were not so we should, as Locke observes, be perpetually floating about in doubt, and be at the mercy of those who have a readier or more retentive memory, or who have happened to master the arguments on one side of the question only. Meanwhile, and throughout the greater part of the time you spend here in pupilage, you must depend to a very large degree upon the authority of your teachers and of accredited textbooks, but there will never be lacking means of testing the accuracy and scientific value of this teaching by appeals to the evidence of positive data.

The primary purpose of medicine is the relief of human suffering and the cure of disease, but it has a higher ulterior motive, inasmuch as it aspires to the more important office of endeavouring to prevent disease and to remove or antagonize the causes and conditions which induce disease either in the individual or in the community.

The growth of medical knowledge has been slow and subject to cyclical variations, sometimes to retrogression, sometimes almost to eclipse. But it *has* grown, "creeping on from point to point." The history of medicine furnishes many illustrations of this. In human anatomy, for example, it would at first sight seem to be easy with due diligence to ascertain and correctly describe the structure of the human frame, but it took many centuries of practical observation to reach even an approximate degree of accuracy. Aristotle, Hippocrates, Praxagoras, and other physicians of the Hellenic and the Alexandrian schools, studied anatomy, and yet the records of their observations contain many errors both of observation and of reasoning. Even Galen, who was considered the infallible oracle for fourteen centuries, and who was the first to study seriously the science of anatomy and made many discoveries therein, also promulgated many errors. But notwithstanding the impulse which Thaddeus and Mundinus gave to the study of anatomy at the school of Bologna in the thirteenth century, the authority of Galen was so firmly established that, when Vesalius in the middle of the sixteenth century published his famous work on human anatomy, in which he corrected many of Galen's errors, there were not wanting anatomists who impeached the accuracy of Vesalius, or, when this was no longer possible, affirmed that the human organization had undergone structural change since Galen's time. Now, there is not a first year's student who will not be able daily to verify every statement made by his teacher or contained in his textbook. The progress of physiology has been even slower than that of anatomy. Indeed, scientific physiology is almost entirely the work of our own time. Forty years ago physiology was taught in University College by the greatest exponent of the day—I mean the illustrious Sharpey; but the physiology which he taught was almost entirely didactic and expository. There was practically no experimentation and scarcely any attempt at practical demonstration. Now physiology is pre-eminently experimental, and the splendid position which it has attained amongst the natural sciences is the result of the employment of the experimental method.

The course of medical education is progressive in complexity. In the earlier studies the method is authoritative and demonstrative, but in the final studies of medicine and surgery the method is more conjectural and ratiocinative. Here, exact observation, well trained senses and correct reasoning are the critical apparatus required. The problems to be solved are more complex and more obscure than those of anatomy and physiology. The difficulties of investigation are greater, the phenomena to be observed more difficult of interpretation, and the means of verification are fewer. "Art is long," says Hippocrates, "the occasion fleeting, judgement difficult." The investigation of disease involves the study of a compound and aggregate of many phenomena, some of which are common to many different physical states. A pathognomonic sign is often wanting. Moreover, some of the phenomena expressed in a diseased state may be essential, some accidental, and some mere concomitants, and these must all be differentiated and their relative values separately determined. In clinical medicine it is rarely possible to conduct an exact experimental inquiry. As Mill has pointed out, there is this essential difference between observation and experiment: in observation we *find* our instance in Nature; in experiment we *make it* by an artificial arrangement of circumstances. In clinical medicine we can seldom isolate the phenomenon under observation by an artificial arrangement of circumstances. Hence the growth of medical knowledge has been slow and halting. Centuries of observation by experienced workers have been needed to raise practical medicine to its present high level. But these observations have, for the most part, only improved the art of medicine and have done comparatively little for the advancement of its science. The science of medicine has mainly been advanced by the researches of those who have not been directly engaged in the treatment of disease. When new knowledge has been discovered by these means it has been received by competent judges, and, by the influence of their authority, it has been accredited and diffused. John Henry Newman in his discourse on the Idea of a University, has portrayed the qualifications which are required for the advancement of knowledge as distinguished from those which are needed in the dissemination of knowledge. He says:

> To discover and to teach are distinct functions; they are also distinct gifts and are not commonly united in the same persons. While teaching involves external engagements, the natural home for experiment and speculation is retirement.

Failure to appreciate the difference between the dissemination of knowledge and the advance of knowledge has given rise to much confusion of thought and not a little waste of endeavour. Perhaps the crudest manifestation of this confusion is the belief, real or feigned, by some persons, that inquisitorial experiments are performed in hospitals on men, or on animals, or both. Less crude—nay, even creditable in a sense—is the notion that, by establishing sanatoriums or endowing special hospitals for the treatment of particular classes of general diseases, it is possible to solve the problem of the nature and origin of these diseases and to hasten the discovery of the means of prevention and cure. Logically, this assumption is false; economically, it is wasteful. It is based on a misapprehension of the function of hospitals and the methods by which scientific discoveries are made. Far be it from me to discourage the most generous pecuniary support of hospitals. Money is greatly needed for their maintenance, and will be needed in increasing proportions if hospitals are to avail themselves of the resources which scientific research is continually placing at their disposal. The great desideratum of our day is adequate endowment of biological and pathological research as the surest and most humane way of discovering the nature and cause of disease and the means of its prevention.

Clinical observation only deals with disease when and as it manifests itself in man and animals; it throws but little light upon the causes of disease or upon the intimate processes which constitute the pathological state. Supremely useful as hospitals are for the purpose of treating the sick by means of the best skill and knowledge of the time, and as schools for the training of successive generations of medical practitioners for the service of the community, it is nevertheless true that most of the capital discoveries of scientific medicine have been made outside hospitals, and very often apart from clinical observation altogether. Among the most remarkable of these discoveries I may mention those relating to malaria, Malta fever, yellow fever, and many other diseases which have baffled the best clinicians for centuries. In surgery, too, it may be said that the scientific basis of the modern aseptic method has been established not by clinical observation but by experimental research. Another simple but striking instance supporting my thesis is afforded by the history of the use of the ligature for the arrest of haemorrhage from wounded arteries. Nothing, it might seem, can be more obvious than to tie a bleeding artery. The records of surgery inform us that the ligature had been so employed more or less systematically by surgeons for over two thousand years; but, simple as the procedure may seem, the true method of tying an artery was not established until the beginning of the last century. Ambroise Paré, about the year 1560,

recommended tying bleeding arteries in primary amputation instead of applying the cauteries then in vogue; but his plan of securing the vessel was so difficult, and was attended with so much subsequent risk, that most surgeons condemned it. An English surgeon, Alexander Read, in lectures which he delivered at the Barber-Surgeons' Hall, about the year 1630, condemned Paré's practice as "a troublesome and dangerous toy, as he shall finde who shall go to make trial of it."

For more than two centuries surgeons were divided in opinion as to the value of the ligature, and even those who did employ it were afraid of injuring the arterial tunics by applying the ligature too tightly. Various contrivances were used to avoid damaging the coats of the vessel. Thick and broad threads, tapes, ribbons, cylinders of cork, wood or linen, reserved ligatures, and other expedients were employed to stop bleeding without injuring the walls of the vessel. Recurrent and secondary haemorrhages were frequent. Dr. J. F. D. Jones at the beginning of last century, by a series of ingenious experiments on dogs and horses, proved that the endeavour of surgeons to apply the ligature without injuring the arterial tunics was precisely the cause of the failure of the ligature to permanently arrest bleeding. Jones demonstrated that the true method was to employ a small, firm ligature drawn sufficiently tightly to cut through the inner and middle coats without rupturing the tougher and external coat. It is instructive, in view of the modern outcry against the experimental method, to read Jones's *Apologia*, bearing in mind that his experiments were performed before the days of anaesthetics and painless operations.

> He regrets (he writes) the necessity of obtaining this important knowledge by the sacrifice of brutes. But when we remember the incessant scourge of war which has followed man through all the ages of his history, not to mention the consequences of accident and disease, it is not too much to assert that thousands might have been, and may still be, saved by the knowledge of these subjects; which can only be directly obtained by experiments on brutes; indirectly and very slowly by observations on the injured arteries of men; and even this cannot be made until he has fallen a sacrifice to the want of assistance or to the imperfect knowledge of the surgeon.

Every practical surgeon will bear testimony that, as the result of Jones's experiments, tens of thousands of lives have been saved.

I have lingered about this question because you, as future practitioners of medicine, will have to form an opinion on the justifiability of experiments upon living animals for the purposes of scientific research, and if you are satisfied that these experiments are justifiable with proper safeguards, you will be called upon to defend the practice and to justify your opinion. To do this intelligently it is necessary not only that you should be acquainted with the arguments for the defence, but that you should also make yourself master of the arguments on the other side. It is not enough to ascribe the opposition of the public to ignorance or fanaticism. There may be either or both, but objection can only be overcome and acquiescence gained by enlightening and educating the public mind. It should be remembered that the mass of a nation must be convinced of the value of a general principle which is being carried out, else what we might judge the most salutary change will be ineffectual. Ritchie, in discussing the Rights of Minorities, has remarked that on matters of public health only the scientific expert can, in the first instance, form a sound judgement. In democratic societies there is often a distrust of scientific opinion. The remedy is not despotism, but public enlightenment, and the scientific specialist is bound, therefore, by patriotism, as well as in the interests of his own science, to lend what aid he can to the popularization of science from which he is too apt to recoil. It is the sole antidote to ignorance or pseudo-science. Those whom science neglects, fanaticism and quackery will claim for their own.

Gentlemen, I have said nothing about your scheme of work or of the manner of your lives. These I confidently leave to the help and guidance of your teachers and to the moral and religious impulses which you bring with you. As touching medical ethics, I believe the Law and the Prophets are summed up in the vow prescribed by the Hippocratic oath: "In purity and in holiness I will pass my life and practise my art." You are heirs to a great inheritance. Into your care and keeping will be entrusted the health, the happiness, and the lives of many of your fellow-creatures. So acquit yourselves that at the trial you may be found not unequal to your responsibilities.

Remarks
ON
COMPLEMENT FIXATION
AS A METHOD OF DIAGNOSIS APPLIED TO SYPHILIS AND GENERAL PARALYSIS: THE WASSERMANN REACTION.

BY

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We have investigated the method in a considerable number of cases of syphilis and general paralysis, and in presenting our results we take advantage of the opportunity briefly to review the vexed question of the nature and specificity of the reaction as applied to these diseases. Whether or not the current view that it is not "a true antigen antibody" reaction, and "not due to the interaction of antibody or syphilitic antigen in the usual sense of the word and has no relation with the *Spirochaeta pallida*" (Mott[47,71]), be correct, the test cannot be regarded otherwise than as a highly reliable and specific one for the disease caused by that organism.

Into the technique of the method and the facts on which it is founded there is no necessity to enter in detail. The introduction of modifications[72] of the original method devised by Wassermann and his co-workers[8] for showing the presence in syphilitic serums of substances induced or pathologically increased by the disease, and of new[73] methods for effecting the same object, is so rapid as to make it difficult to become practically acquainted with them all. It seems probable that some of these may prove more suitable for diagnosis than the original. Our experience is based chiefly on the latter, with but slight modifications; and so far we have not found sufficient reason for departing from it. A difficulty involved in the original technique described by Wassermann,[8] by the necessity for obtaining a comparatively large quantity of serum, is satisfactorily obviated by diminishing the amounts of the reagents used. If 0·1 c.cm. of each of the properly diluted reacting substances be taken, and tubes used made from ¼-in. glass tubing, in which the ultimate total quantity—0·55 c.cm.—can easily be thoroughly mixed by rotation between the palms, the results are as accurate as when large quantities are employed, and the gain in convenience is great. The handy 1 c.cm. pipettes graduated in one-tenths and one-hundredths can then be employed for complement, extract, and saline; for the serums and cerebro-spinal fluid, ordinary Wright's pipettes, graduated in 0·05 and 0·1 c.cm. by means of mercury, conveniently measured by Wright's small pipettes for measuring 0·005 c.cm. (0·01359 grain) of mercury, are the best.[74] A convenient means of marking these graduations is a blue grease pencil, which is pressed against the glass while hot; such a mark will stand repeated sterilization.

We found it well to test the complement each time to ascertain the minimum haemolytic dose; thus:

Guinea Pig's Serum (1 in 10).	Sensitized Sheep's Corpuscle (5 per cent. Suspension of Blood).	Saline (0·9 per cent.).	Usual Result.
0·05	0·1	to 0·55 c.cm.	+
0·04	0·1	,,	+
0·03	0·1	,,	+
0·02	0·1	,,	80–95 per cent.
0·01	0·1	,,	30–50 per cent.
—	0·1	,,	No haemolysis

The corpuscles are sensitized by the addition of rabbits' immune serum in the proportion of 1 to 500 (about five times the haemolyzing dose) to a 5 per cent. suspension of washed defibrinated blood. The corpuscles are, after incubation, rewashed, and again suspended in normal saline. Complement is obtained easily by bleeding the ear veins of one or more guinea-pigs, after washing with hot water.

With regard to antigen our experience has decidedly pointed to the watery extract of a liver rich in spirochaetes as the best. When testing cerebro-spinal fluids we thought that an alcoholic extract answered as well as a watery one. The use of two extracts in doubtful cases is sometimes of assistance. The following is a convenient and satisfactory method of conducting a test:

Number of Tube.	Normal Serum (1 in 5).	Syphilitic Serum (1 in 5).	Suspect Serum (1 in 5).	Syphilitic Liver Extract (1 in 7).	Complement (1 in 10).	Sensitized Corpuscles (5 per cent. blood).	Result (Saline 0.9 per cent.).	Result Haemolysis.
	c.cm.	c.cm.	c.cm.	c.cm.	c.cm.	c.cm.	c.cm.	
1	0.1	—	—	0.1	0.1	0.1	to 0.55	+
2	0.1	—	—	,,	0.07	0.1	,,	−
3	—	0.1	—	,,	0.1	,,	,,	0
4	—	—	0.1	,,	,,	,,	,,	
5	—	—	0.1	,,	0.07	,,	,,	
6	0.1	—	—	—	,,	,,	,,	+
7	—	0.1	—	—	,,	,,	,,	+
8	—	—	0.1	—	,,	,,	,,	+
9	—	—	—	0.1	0.1	,,	,,	+
10	—	—	—	,,	0.07	,,	,,	−

The complete reaction is considered to be given when 0.1 c.cm. of complement 1 in 10 (about four haemolytic doses) is "deviated." Indications of great value are, however, often obtained by reducing the complement or by increasing the extract or serum, especially the former. Readings taken at half, one, and two hours in the incubator, as well as the final one after eighteen hours in the ice chest, are sometimes of value. It need hardly be insisted upon that the greatest cleanliness and attention to details is essential for satisfactory and consistent results. The glassware should be sterilized before use and washed as soon as possible afterwards.

In the interpretation of results, apart from the general question of the specificity of the reaction, we have found some difficulty in ascertaining the exact standard adopted by the various workers. If the term "complement binding" be taken to represent accurately what occurs, then the method of estimating as accurately as possible the actual number of haemolytic doses of complement fixed, as used by McKenzie,[9] seems rational and useful. A considerable amount of European and American literature is not available in New South Wales, and we have possibly missed some papers giving more definite information on the subject. Our practice is that if there be a complete, or practically complete, absence of haemolysis and the controls be correct, we make a positive diagnosis of syphilis. In suspected cases, if haemolysis be partial or complete, the further tests above indicated are carried out, using perhaps another extract, and a judgement formed, in accordance with the results, as to the presence in modified degree of the reaction. In such cases the diagnosis is qualified. Under similar circumstances Bruck and Stern[18] recommend varying the amount of antigen and of serum. In the cases tabled, only those which gave the full reaction are recorded as positive. In most of our investigations two extracts were used at the same time, one acting as a control of the other. We are much impressed with the necessity for using full controls. The serums and cerebro-spinal fluids seldom bind alone to any extent; the extract should be standardized to bind alone not more than one haemolytic dose of complement. If the duration of the test be long, as when a large number of tubes are put up at once, the complement tends to deteriorate, and this must be allowed for.

The following are the results given by the serum and cerebro-spinal fluid of the cases of general paralysis which we investigated:

Number of Cases of General Paralysis.	Serum.			Cerebro-spinal Fluid.		
	Number tested.	Result.	Percentage of Positive Results.	Number tested.	Result.	Percentage of Positive Results.
57	56	56+ 0−	100	57	56+ 1−	98.2

In connexion with these cases we did a number of controls. The results of these are shown below:

Disease.	Number Tested.	Serum.		Cerebro-Spinal Fluid.	
		Results.	Percentage Negative Results.	Results.	Percentage Negative Results.
Dementia praecox	3	0+ 3−	100	0+ 3−	100
Epilepsy ...	2	0+ 2−	,,	0+ 2−	,,
Imbecility	1	0+ 1−	,,	0+ 1−	,,
Mania del.	2	0+ 2−	,,	0+ 2−	,,

Cases of syphilis or definitely suspected to be such, also used as controls:

Disease.	No. of Cases.	Serum.	
		Results.	Percentage Positive Results.
Congenital syphilis	2	2+	100
Primary syphilis	2	2+	100
Secondary syphilis with symptoms	34	33+ 1−	97
Tertiary syphilis with symptoms...	3	3+	100

In addition to the above, which represent the cases done with the definite object of adding to the sum of experience which is being accumulated with regard to the efficacy of the test in known cases of syphilis and parasyphilis, we have made a very large number of examinations of serums of cases for diagnosis. The results, while they fully confirm our experience of the high clinical value of the test, do not, on account of the doubtful nature of the clinical diagnosis in many cases, lend themselves to the purpose of comparative results.

Reliability of the Test for Diagnosis.

For the practitioner who has constantly to deal with these syphilitic cases the question of the reliability of the test is one of the first importance. Can he give definite advice, the correctness of which is a matter of the most vital and far-reaching importance to his patient, based on the result of the test? In the first place, it must be definitely borne in mind that there are limitations as well as great possibilities in the test. Only harm can result from the idea that it is infallible. It is not yet an "open sesame" to every case suspected of syphilis, but it is a most valuable aid in many cases of difficulty.

Only the result of a vast number of examinations of syphilitic and non-syphilitic persons can settle the question of the absolute value of the reaction, and probably the last word in technique and method has not yet been

spoken. But sufficient work has been done to enable a fairly definite opinion to be arrived at, and extensive series of statistics by different workers are almost daily becoming available.

As regards a positive finding there can be little doubt: the experience of almost all workers seems to show that with proper technique and control a positive reaction means syphilis. Though in a few diseases, such as leprosy,[10 22] trypanosomiasis,[13 49 55 56 57 58 1] noma,[59] yaws,[61 18] etc., some works report positive findings, the reaction in these diseases, though of great theoretical importance, is not likely to affect the question of diagnosis often; while, apart from an occasional case, such as that given by McKenzie,[5] where it must be considered doubtful if syphilis can be excluded, a positive reaction in non-syphilitic cases, such as scarlet fever, is usually either slight or based on doubtful technique.

With regard to the most important question of the value of a negative reaction, we have been given some indications for the formation of an opinion in the course of our own work, and we have also endeavoured to make use of the work, and to ascertain the opinion of those best qualified to judge. The outstanding fact seems to be that with improved technique the number of definitely syphilitic cases not giving a reaction becomes fewer and fewer. Undoubtedly, proved reliability of technique is essential in any one presuming to offer an independent opinion on this question.

We have touched on the indication given in cases of doubt by altering the quantities of complement, extract, etc., in the test. It is undoubtedly a remarkable tribute to the acumen of Wassermann and his colleagues that, for the test, the same substances, prepared in the same way, and used in the same quantities advised originally by them are found most generally useful to-day. It seems to us, however, that in some cases the deviation of somewhat less complement than that given in Wassermann's original paper will often furnish information of definite value. We have found also that cases giving a doubtful reaction with one extract of proved efficiency may occasionally give a positive reaction with another of no obviously greater power. The absence of the reaction in undoubted non-syphilitics, or in cerebro-spinal fluid in cases definitely not paralytic has, in our (of course, limited) experience, greatly struck us. In no normal person have we been able to obtain with any extract a reaction which could be thought syphilitic, in the conditions of the experiment given by Wassermann. The normal cases which we have used have varied to the extent of not more than 2-minim doses of complement. A curious fact was noted that the normal cases which gave the greatest deviation with syphilitic extract gave an unusually large deviation also with typhoid, with plague, and with diphtheroid "extracts."

Though of prime importance in relation to this question, it is perhaps unnecessary to consider here in detail the statistics concerning the percentage of positive reactions in different stages of the disease, and after treatment given by the recent workers on the subject.[27 28 35 21]

A case seriously suspected of syphilis, or in whom a certain diagnosis is important, should be examined with varying amount of complement and with different extracts, well controlled with known normal and syphilitic serums. The results must, of course, be judged with due regard to the effect of any treatment the individual may have undergone, to the stage of the disease, and to the presence or absence of active morbid changes. Undoubtedly in secondary or in active tertiary untreated syphilis the value of the reaction must very nearly approach the Widal reaction for typhoid[39] done under the best conditions; while with regard to general paralysis it would almost seem that in a case whose cerebro spinal fluid and serum have been carefully and repeatedly examined with negative results, a clinical diagnosis of general paralysis must be seriously questioned.

In addition to the matter of diagnosis, a question of the highest importance is the bearing of the reaction on the prognosis in all its aspects—for example, in the duration of treatment, in the question of marriage, and of liability to late or remote effects of the disease. On all these guidance is much needed, and will be sought from the information afforded by the reaction. It must be acknowledged that this guidance is not as yet to be obtained in any full degree, but it may confidently be expected that when the results of investigations extending over sufficient time, and including sufficient observations directly bearing on these questions, are available, our knowledge on these most important matters will be enormously increased.

Some Theoretical Considerations.

The discovery of the property in the cerebro-spinal fluid in general paralysis and tabes of specific complement binding, and its association with the presence therein of new substances, or increase of substances, originally present in slighter degree, has led to much investigation and conjecture as to the nature of these substances and their relation to the Wassermann reaction. In the course of our practical investigations with the Wassermann test we made some observations which bear in some degree on the subject, and these we think it well to record.

The fact that a degenerative process, associated with breaking-down of nervous elements in the central nervous system, is an essential feature in general paralysis and in tabes, suggests the possibility that in other conditions where extensive destruction of neurones is taking place the products of degeneration may, in view of the supposed chemical explanation of the phenomenon, give similar complement deviation to that given in general paralysis or tabes. To investigate this we obtained the cerebro-spinal fluid and serum of 3 cases of extensive vascular cerebral lesions leading to more or less complete hemiplegia, and investigated these for antibodies. The lesions had occurred three, twelve, and twenty-four weeks previously. No evidence whatever was obtained of specific complement deviation. The total albumen content, as shown by precipitation with salicyl sulphonic acid, was the same as that of a normal cerebro-spinal fluid obtained at the same time, and was one-tenth the amount of that in the cerebro-spinal fluid of a case of general paralysis also taken at the same time as a control. The deviation test showed that the three hemiplegic fluids, and the normal fluid did not, even in large amounts, influence the complement to the extent of one minimum haemolytic dose above the amount absorbed by the substances separately, while in the general paralytic at least twelve extra doses were neutralized.

In a case of tabo-paresis investigated at the same time the albumen content was scarcely more, as shown by centrifuging, than in the hemiplegics, though it characteristically separated in larger flakes when allowed to deposit slowly. The Wassermann reaction, however, in the tabetic was well marked. This observation is of interest in connexion with that (vide infra) of the absence of complement binding property in the concentrated alcoholic precipitate of normal fluid as compared with one of similar concentration from the fluid of a case of general paralysis, and points to the responsibility of other factors than a general increase in proteins for the specific complement-binding reaction.

We have investigated the question whether a specific deviating substance could be thrown down from the cerebro-spinal fluid in general paralysis by certain chemical agents. Our choice of these was conditioned by their convenience with regard to the separation of the precipitate and supernatant fluid, and to their own intrinsic effect on the test rather than by their importance as specific precipitants, in accordance with the current views as to the nature and import of the bodies contained in the cerebro-spinal fluid.

In view of recent investigations into the nature and reactions of the globulins,[41] it would appear premature to accept unreservedly the at present widely held belief[60 17 33 32 31] that the increase in protein content is due to globulins, and that these globulins are definitely the source of the complement-deviating reaction given by these fluids.

At the outset we assured ourselves that in the cases we were working on there was a marked difference between the albuminous content of the general paralytic fluids and the normal fluids. There is no room for doubt that, apart from acute or subacute diseases, a heavy flocculent precipitate occurring in a cerebro-spinal fluid on the addition of a general albumen precipitant is very strong evidence that the fluid was derived from a case of general paralysis or tabes. It would seem that, apart from any specific reagents for precipitating globulins, or other supposed characteristic substances in the fluid,[14 43 36 29] the simple test of complete precipitation of the albuminous contents

with any suitable reagent—for example, salicyl-sulphonic acid—will give almost equally certain diagnostic information. We estimated approximately the albuminous content of a number of cerebro-spinal fluids in the following manner. A large number of specimens were obtained at the one time. A corresponding number of small calibre tubes made from the same length of glass tubing were prepared, and into each 0.3 c.cm. of a cerebro-spinal fluid was pipetted. Three drops of salicyl-sulphonic acid were added to each tube, and the whole of the tubes were immediately centrifuged together for two minutes on the same centrifuge. At the end of this time the supernatant fluid was carefully pipetted off and discarded, and the deposits were carefully measured in a fine pipette. The results in the large number of cases examined was a definite differentiation of general paralytic from all other fluids examined. One case only of tabes was examined, that referred to above.

Three reagents were used to obtain precipitates: alcohol (80 per cent.), phenol (3 per cent. solution), and salicyl-sulphonic acid. The alcohol was added to the fluid in the proportion of 4 parts of alcohol to 1 part of fluid. The precipitate obtained—which consisted of the total precipitable contents of the fluid, as tested, after separation of the precipitate, by salicyl-sulphonic acid—was well washed and redi luted or suspended in normal saline to the original bulk of the fluid. The supernatant fluid was freed from the alcohol at a low temperature under an exhaust. Both supernatant fluid and the precipitate were then tested as original cerebro-spinal fluids. The precipitate from the normal fluid was dissolved in about six times less saline than that from the general paralytic fluid; treated in this way, the total precipitable material in the normal and the general paralytic dilutions were made approximately equal. The phenol precipitate obtained by adding 3 per cent. phenol to the cerebro-spinal fluid was treated in a similar manner. The phenol supernatant fluid contained 3 per cent., of course, phenol; the action of this was therefore examined by controls. According to Wassermann's direction, 0.5 per cent. phenol is added to the cerebro-spinal fluid to be tested before inactivation. His object in directing this we could not ascertain. In one experiment of our own, involving a large number of cerebro-spinal fluids, these were tested in duplicate with and without the phenol. The results were most definitely more satisfactory when this was added—that is, the cerebro-spinal fluid with phenol absorbed the complement more completely without the controls being affected in such a way as to influence the results of the test.

This is in accord with the action of phenol on complement when tested with and without syphilitic antigen in quantities insufficient to cause physical haemolysis. The salicyl-sulphonic acid precipitate was treated similarly, the precipitate, well washed, being suspended in 0.9 per cent. saline; the excess of the reagent in the supernatant fluid so interfered with the reaction that it could not be used.

The results of a large series of examinations can be briefly summarized as follows:

Alcohol.—The alcoholic precipitate from the cerebro-spinal fluid of cases of general paralysis had very high complement absorbing properties, but not of a specific nature, that is, the addition of syphilitic extract did not increase it. The precipitate from normal fluids fixed complement to a very slight extent indeed, even when used concentrated as described above. The supernatant fluid of normal and general paralytic cerebro-spinal fluid did not bind even in large amounts.

Phenol.—The results with the phenol precipitate were similar, but the precipitate had very much less complement fixing property than the alcoholic. There was no precipitate with normal fluids. The supernatant fluid had some slight complement fixing properties.

Salicyl-sulphonic Acid.—The precipitate exhibited no complement fixation properties when used in large amounts with or without extract.

As the complement deviating power of the cerebro-spinal fluid might have depended on two factors, one of which was precipitated and the other remained in the supernatant fluid, we examined the action of a readmixture of the washed precipitate and the supernatant fluid with regard to specific complement binding action; our results, as far as they went, tended to show that the precipitate and supernatant fluid, when recombined, possess no specific deviating power.

It would, therefore, appear that the chemical agents used, where they did not destroy the whole binding action, destroyed its specific nature—that is to say, that as regards these precipitates, binding occurs to an equal extent with or without the presence of syphilitic virus or other antigen, which, with the unaltered fluid, brought about an enormously increased complement inhibition. Whether the explanation of this is that a specific binding substance is destroyed by the chemical agents used, or whether it is that a complex and easily disturbed relation existing between substances which occur to a larger extent in the cerebro-spinal fluid in cases of general paralysis than in others is broken down, we are unable to offer an opinion.

Recently Noguchi and Bauer have succeeded in precipitating the specific deviating bodies. Such a result cannot fail to have an important bearing on the elucidation of the theoretical aspect of the question.

It would almost appear that there may be two properties inhibitory to complement action possessed by general paralytic cerebro-spinal fluid—one a general one differentiating general paralytic from normal fluids but not specifically syphilitic, and another more definitely and specifically syphilitic and more easily destroyed.

Brain Extract as Antigen.—We tested extracts of normal and paralytic brains for antigen and for antibody. The extracts were prepared in an exactly similar manner to the liver extract. The general paralytic brain extract contained antibody, but not to a large extent. The antibody reaction with syphilitic liver extract as antigen persisted, though in greatly diminished degree, for about six weeks. The normal brain was not found to contain nor to develop any specific antibody reaction, as compared with the paralytic, on keeping.

Antigen.—No definite superiority in antigen action by the extract of paralytic over that of normal brain was found, though on some occasions we thought that there was perhaps slightly more specific complement binding with the paralytic than with the normal brain. Both extracts gave some specific binding with syphilitic serums and the cerebro-spinal fluid of cases of general paralysis, though in a very much slighter degree than the liver extract. One peculiar fact was noticed—that very much more definite and positive results were obtained when using cerebro-spinal fluid than when using serums. Serums which gave an extremely marked reaction with liver extract, gave in the same quantities hardly any result with the brain extracts, while cerebro-spinal fluid whose complement binding power with liver extract was known to be not so great as that of the serums, gave a complete reaction with the brain extract.

Antigen in Cerebro spinal Fluid.—We examined specimens of cerebro-spinal fluid, which gave strong antibody reaction, for antigen. We did not succeed in demonstrating the presence of antigen.

In a recent paper in the BRITISH MEDICAL JOURNAL by Mott references are made to the reaction in the blood and cerebro-spinal fluid of cases of syphilis and parasyphilis. It seems that in active syphilis of the nervous system the characteristic reaction in the blood is an antigen reaction, and that it indicates the presence and activity in the body of the syphilitic virus, while in parasyphilis—for example, general paralysis—there is a different reaction. In this case the reaction in the blood is the antibody reaction, and it gives no indication of any active syphilitic process. These facts are obviously of the highest importance. We have not yet had an opportunity of becoming acquainted with the work on which these conclusions are based.

RELATION OF GENERAL PARALYSIS TO SYPHILIS.

The nature of the relationship of general paralysis to syphilis is a matter which has, since its first inception by Fournier, been productive of much investigation and many theories. The term "parasyphilitic" is but a concise restatement of the fact that there is undoubted and close relationship between the diseases included under that term and syphilis, and does not in any way explain the relationship.

The nature of the complement deviation reaction in general paralysis is especially a matter calling for much further investigation. That a disease the syphilitic

nature of which has only recently been definitely proposed and its relation thereto still generally considered secondary or remote, should give a reaction—the specific nature of which, for syphilis, investigation more and more definitely shows—in a greater proportion of cases than in any stage of the original infection, is a fact both unexpected and undoubtedly difficult to explain on the original conceptions of the nature both of the reaction and of the disease. One or other or both of them seem to require modification. Opinions on the matter are very ill-defined and uncertain. At present it appears to be taken as undoubted that the relationship between the parasyphilitic diseases and the *Spirochaeta pallida* is an extremely remote one, and due not to the direct action of the spirochaete or its toxins on the tissues concerned, but rather to certain degenerative processes brought about by a profound alteration in the whole metabolic life of the body, the result of an infection with syphilis at some time more or less remote.

The apparent uselessness of mercury and other anti-syphilitic remedies in preventing the onset and progress of these diseases, and their steadily progressive course, their occurrence in cases of mild or even unnoticed syphilis, and where the primary disease has been vigorously and apparently effectually treated, and the ineffectiveness hitherto of the search for the spirochaete, are taken to indicate this.

But may not the theory of latent spirochaete infection, as suggested to explain late tertiary syphilitic manifestations, be applied also to general paralysis? To explain late syphilitic lesions an analogy may be drawn from other infective diseases, such as tubercle, and many protozoal diseases in man and animals. It certainly seems possible that in an apparently cured or recovered case of syphilis, an attenuated infection, or a focus, encapsuled, or otherwise rendered temporarily incapable of producing toxic results, and possibly likewise incapable of producing demonstrable "antibody" formation (meaning thereby the bodies which produce the specific complement deviation of the Wassermann reaction), may exist in the body, capable under special circumstances of being roused into activity, and of giving rise to tissue change, local or general, slight or extensive, with the accompaniment of the formation of deviating bodies. It has been proved, by the observation among others of Furecz,[68] Murero,[67] and Katzenstein,[66] that the *Spirochaeta pallida* may be found in old healed lesions even after two years, and after intense and prolonged treatment. Reuter and Schmorl,[63] and Benda,[61] found the spirochaete in the vessel walls in old syphilitic arteritis, an exceedingly common lesion, by the way, in general paralysis. Wechselmann[63] is definitely of the opinion that in "occult syphilis" the disease may be present in the internal organs. That a latent infection may exist capable after long periods of quiescence of renewed activity and the production of active pathological changes can hardly be doubted.

The disappearance, under treatment and otherwise, of the Wassermann reaction, and the latency and recrudescence of syphilis in its various forms may thereby be explained. Two cases examined by us are of interest in this connexion. In one case in which an ulcerated swelling of the tip of the tongue caused anxiety, a most definite Wassermann reaction was given, the original infection having occurred thirty-two years previously; in the other, a condition of buccal leucoplakia occurred many years after the original infection, which had been actively treated by kataphoresis, etc., and the test proved completely positive. It is to be noted that Fournier classes this condition among the parasyphilitic diseases.

In general paralysis there seems no valid reason for considering it as very improbable that the organism may not have been during years in which the disease was apparently "latent," present in or acting upon the central nervous system. The alternative conception, of an altered condition of the body fluids or blood, or of one of the internal secretions; or, as held by Mott[17] to be most probable, of a "latent toxin," produced by the action of the original infection with spirochaetes, which then presumably died out; which condition remained unaltered through years of metabolic change, to give rise ultimately to the tremendous physical cataclysm the results of which we know as general paralysis, is one of which it is difficult to form a clear conception. It seems to us more easy to account for general paralysis on the supposition, not as far as we are aware negatived by any observations, that the syphilitic infection was not, in cases of syphilis which ultimately became paretic or tabetic, ever destroyed or completely latent. Probably these cases never lost the Wassermann reaction which presumably they gave at first. The fact that apparently slight and well treated cases of syphilis have become paretic or tabetic does not negative this. A progressive deterioration, or possibly simply an increased susceptibility to adverse influences of the cells of the system most disposed (by inheritance, stress, etc.) to degeneration, would thus be the result of direct syphilitic toxaemia.

The presence of the Wassermann reaction in the cerebro-spinal fluid of general paralysis, and its absence in cases of ordinary syphilis, and even, except possibly in a very slight degree,[57 47] in cases of cerebral syphilis, and its constant association with the presence in the fluid of certain constituents, albuminous and otherwise, presumably the result of cerebral degeneration, is a matter of great theoretical as well as practical interest and importance. The investigations of Noguchi,[13] Mott,[17] Nonne,[57] and many others on the albuminous, lipoidal, and other substances peculiar to or characteristically increased in the serum in syphilis and in the cerebro-spinal fluid in general paralysis and tabes, though they have much enlarged our knowledge on the subject, are still very far from giving us an exact explanation of the specific complement binding reaction in these diseases, though investigations on these lines can hardly fail greatly to enlarge our knowledge in the near future.

In connexion with the question of the specific quality of the degeneration products present in the cerebro-spinal fluid in general paralysis, our experiments (vide supra) undertaken with cases of extensive hemiplegia in various stages may be of interest. The fact that the cerebro-spinal fluid in general paralysis possesses no spirillicide properties,[14] while the serum of syphilitics does, is an observation which, if confirmed, is undoubtedly of considerable importance. The observations of Kolle and Schatilloff[40] and others, that the complement binding bodies in the blood in infections are probably antibodies *sui generis* and not possessed of bactericidal or bacteriotropic properties, may receive important confirmation from this observation.

The observations of Levaditi and Yamanouchi and others on the use of certain "chemical" substances, and of extracts of normal organs as antigen, and of Blumenthal, etc.,[61] on the increased lecithin content of the blood, etc., in syphilis, has led to the belief that the reaction is only remotely connected with the *Spirochaeta pallida*.

Progressive impoverishment of the body cells in lipoid substances (most marked in those of parts specially affected, for example, the brain in general paralysis) under the influence of a "latent toxin," or of a certain vicious metabolic tendency, the result of previous spirochaetal influence, is taken to account for the presence in the cerebro-spinal fluid and serum of a substance which acts as a complement binding antibody. The formation of a hypothetical soapy substance round the fat globules in the infected liver is taken to account for the superior antigen effect of an extract of that organ. Thus we are led to theories which are held by many to account for the reaction in general paralysis. According to Mott it is apparently the reaction of the body itself against the spirochaetal infection which (contrary surely to other reactions to chronic infection, unless amyloid disease be an anology) produces changes which result later in a condition whereby the cells of specially vulnerable parts have their vitality so lowered that progressive degeneration inevitably ultimately ensues, and manifests itself, for example, in general paralysis, with the production of the various degeneration products which bring about the Wassermann reaction.

Is, then, the reaction in the cerebro-spinal fluid of general paralysis identical with that in the serum of early syphilis? If so, we must suppose an identical influence to have produced the bodies, whatever their nature may be, which give this specific complement binding reaction. In early syphilis the direct influence of the spirochaete can hardly be questioned. In general paralysis the accepted conception, as we have seen, is that of a progressive "degeneration" of the nervous elements in the cortex, the result of toxic influence acting only indirectly, and quite

independent of an actually present syphilitic toxin formation. The existence of definite tissue changes, and of the production thereby of bodies whose importance in the vital economy, and also in reactions involving complement deviation, is undoubted, cannot, of course, be denied. But, in considering the nature of this deviation reaction, its definitely specific nature in active syphilis must ever be borne in mind; whatever be the chemical composition of the substances concerned, they are definitely and specifically syphilitic in their reaction.

From these considerations we are hardly content to accept unreservedly the view that this specific reaction is only due to some body or bodies quite accidentally and fortuitously produced by the tissues as a remote result of the presence of the spirochaetes. We are persuaded that these bodies—chemical as they must be in their nature—will ultimately be shown to be due in the most direct manner to the action of the infective agent, and to be, therefore, antibodies produced by the spirochaetal antigen.

The view that lipoids and lecithin as such are the only substances playing a rôle in these reactions is also not a little doubtful.

It would seem almost incredible that in syphilis alone the characteristic and specific result of infection should be the production in the body fluids of antibodies (in the complement deviating sense) consisting of substances of almost universal occurrence normally throughout the system, and of vital importance in the ordinary bodily metabolism. It surely seems more likely that in syphilis, as much as in other infections, substances of a definitely specific nature are produced, the presence of which can be determined by the complement deviating reaction, even though their exact origin and rôle may still be uncertain. The complement binding reaction in syphilis is probably just as definitely (and no more so) a "true antigen antibody reaction" as similar reactions in other infections.

A General Consideration of the Nature of the Reaction.

The numerous tests, chemical and biological, which have recently been devised to bring out the remarkable differences which exist between syphilitic and non-syphilitic serums and between the serums of patients at different stages and in various phases of the disease, have resulted in a corresponding activity in the formulation of theories to account for the results obtained. The masterly presentation of the whole subject by Mott[47] is full of interest, bringing to a focus, as it does, the most recent discoveries of the various workers on the subject and the theories evolved to explain them. It seems to us, after a fairly full examination of the literature, that there is a tendency in some quarters to unduly question the directness of the relationship of the *Spirochaeta pallida* to the various phases of syphilis, and especially to the phenomenon of complement binding between syphilitic serum and the "syphilitic virus." The opinions regarding the specificity or otherwise of the substances concerned in the reaction are most difficult to interpret. First the antigen then the antibody is pilloried as being solely some relatively simple chemical body with no pretence to being a "true antigen" or "true antibody." Yet the antibodies at any rate appear to be produced, in the human body at least, in no other way than by an infection with the *Spirochaeta pallida* or possibly of closely allied organisms, and it is certainly found to produce specific complement binding when combined with the syphilitic virus.

The test was undoubtedly founded on the analogy of the Bordet-Gengou reaction, in view of the specific causation of syphilis by infection with the *Spirochaeta pallida*, the only difference being in the use of extract of a highly-infected organ as antigen. Tuberculosis had just previously been investigated by Wassermann and Bruck [7] on similar lines, and the use of extracts of highly-infected organs as antigen instead of pure culture of the causative agent is fully justified, though with limitations and precautions, as pointed out by Meyer.[62]

Working with spirillary infections Kolle and Schatilloff [60] obtained definite complement binding in serums from patients suffering from relapsing fever, using as antigen extracts made from organs and blood rich in spirilla. In our own work one of us (A. G. B.) obtained definite results in serums from cases of plague, using as antigen a watery extract of the spleen of a guinea-pig dead from plague (inoculation), prepared in exactly the same way as the extract of syphilitic liver. It seems generally agreed that the best antigen for syphilis can be prepared from a liver rich in spirochaetes. That there is in syphilis, in some respects at all events, a specific antigen antibody reaction definitely connected with the spirochaete and analogous to similar reactions found in other infections, it is difficult to escape. The fact that various bodies of known chemical composition and extracts of organs other than syphilitic will in some degree give the reaction cannot, we think, be taken to negative this view.

In the first place, it must be remembered that the exact nature of a "true antigen antibody" reaction has still to be defined and the chemical composition of the interacting substances ascertained. Kolle[40] says that "all complement deviating antibodies are antibodies *sui generis*," and not true protective substances, as are bacteriolysins and bacteriotropins.

Interesting observations bearing on the question in relation to syphilis are given by Wechselmann,[63] who gives reference also to others dealing with the question of the relation between the deviating bodies in the blood in syphilis and the protective substances. It is also ably dealt with by McKenzie[57] as well as in the paper by Mott[47] already referred to. The reaction in infection would thus seem to be placed in the same category with the complement binding which occurs with all antigen antibody reactions—for example, in the case of a serum and an antiserum with or without precipitin reaction. It seems necessary under this supposition to consider that certain chemical substances of a highly organized nature—for example, albumens in the body of the infecting organism—produce the antibodies whose presence is evidenced by complement deviation, and that the receptors involved and their immune bodies are not in the case of bacterial infections identical with those which are concerned in immunity production. In any case, in the matter of syphilis it does not seem justifiable to characterize the reaction as not a true antigen antibody reaction, since the exact nature of the reactions which are acknowledged as such are so little understood.

With regard to antigen, the fact that the syphilitic antigen is in some degree, at least, soluble in alcohol is stated by Mott to prove that it cannot be a true antigen. But can the solubility or otherwise in alcohol be taken as the sole test of a "true antigen"? We are not ourselves aware of any sufficient evidence to show that a specific antigen antibody reaction may not be obtained with definite chemical agents in other diseases than syphilis. Possibly all complement binding reactions will eventually be explained in this way. The specific nature of the reaction in cobra venom is undoubted, yet, as Preston Keyes [22] showed, complement may be furnished by a definite chemical substance, lecithin. But all complements are not necessarily lecithin. It is interesting to note that the same substance is a substitute for antigen in the syphilitic reaction. The composition of the body of the *Spirochaeta pallida* has yet to be determined. Mott, indeed, states that the spirochaete consists of a viscid plasm covered with a membrane consisting of lipoid substance; though in spite of this he considers that "the reaction has nothing to do with the *Spirochaeta pallida*." It would almost seem that the minds of many observers have been so diverted by the discovery of the possible explanation of the Wassermann reaction by the interaction of known chemical substances that their attention has in some degree been drawn from the biological aspects of the test. All "antigen antibody" reactions are probably ultimately chemical in their nature, and sooner or later the nature of the substances which act as antigens in infection, whether contained in the substance of a micro-organism or formed by its influence and of the other reacting substances, will be more or less exactly determined. Much more light requires to be thrown on the subject before the exact nature of the Wassermann reaction and its relation to the *Spirochaeta pallida* is understood. Our knowledge of the nature of the reaction of the body to chronic infection in general is still in its infancy. But undoubtedly any conception of the nature of syphilis and explanations of its observed phenomena, to be fruitful in results, must take the fullest cognizance of its character as a chronic infection with the *Spirochaeta pallida*.

Conclusion.

The whole subject of syphilis has reached a stage of great interest and importance. For years the extraordinary clinical manifestations of the disease and the difficulty of obtaining a definite clue to its exact pathology engrossed the attention of observers of the highest powers of observation. Increasing attention was also given to the national importance of the disease as a factor in the production of degenerative processes resulting in serious individual inefficiency and in national physical deterioration. But until the pathology of the disease was placed on a definite and certain basis, all thought in connexion with it was more or less incoherent and action vacillating. To the genius of the lamented F. Schaudinn, in the view of practically every authority on the subject, are we indebted, by the discovery of the *Spirochaeta pallida* and of its role in the production of the disease, for an "open sesame" which will undoubtedly result in a coherent and definite conception of syphilis in all its aspects, biological, pathological, and clinical, and will thus clear the way for organized efforts, founded on definite knowledge of the etiology of the disease, for neutralizing its effects, and in some measure at least, minimizing its incidence. The great discovery of Wassermann —a discovery which, whatever the ultimate theoretical explanation of it may be, was undoubtedly based on the conception of syphilis as an infective disease—has opened the way for investigations into which very many workers in the field of biological research have seen sufficient inducement to enter, and new light is almost daily being thrown on the nature of the disease and of its manifestations. The method of complement deviation upon which this most important and far-reaching means for extending our knowledge of the nature of syphilis depends, is one which has proved highly fruitful in results in other fields of investigation, and engrosses a large amount of attention in both its theoretical and practical aspects. The conditions which lead to active or passive anticomplement action and the explanation of the action, the nature of complement, antibody, antigen, etc., and the meaning of their variations under different conditions are being studied with such vigour that our knowledge of them will undoubtedly soon be much more definite and certain. Our conception, indeed, of infective disease in general, and probably of many diseases not at present so regarded, will, in the not remote future, be so altered and enlarged that our present knowledge will seem rudimentary and crude. It is more and more becoming apparent that every man aspiring to practise medicine must in the future, if he wish to keep abreast of the advances, not only in the science, but in the art of medicine and surgery, have a very much fuller and more practical acquaintance than is at present considered necessary with the knowledge now available, as the result of an enormous amount of research and thought, of the mechanism and conditions of infective disease.

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70 Fleuning: *Lancet*, May, 1909.
71 Muir and Ritchie: *Bacteriology*, Fourth edition, p. 103.
72 See References 1, 11 to 24, 28 to 34, 42 to 49.
73 See References 29 to 33 and 44 to 49.
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NOTE ON ALCOHOL IN RELATION TO MULTIPLE NEURITIS.

By JUDSON S. BURY, M.D.Lond., F.R.C.P.,

PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY.

Nearly nine years have elapsed since the epidemic of multiple neuritis which occurred in Manchester and the surrounding district. It will be remembered that during the latter part of the year 1900 a great increase in the number of cases of multiple neuritis was noticed, and especially in persons who were drinking beer. The idea occurred to many medical men that there must be some unusual toxic substance present in the beer, but it is to my colleague, Dr. Reynolds, that the credit is due for first thinking of arsenic, and for first detecting its presence in the beer. His discovery was soon confirmed by others, and the matter was thoroughly investigated.

Before this epidemic it was assumed that the development of neuritis in an alcoholic subject was due to the action of alcohol on the peripheral nerves. Doubts as to the correctness of this assumption were raised by the discovery of arsenic in the beer, and by the views expressed by Dr. Reynolds. The epidemic drew attention to the importance of considering not only whether neuritis in a drinker might be due to the presence in his beverage of some poison other than alcohol, but also as to whether alcohol by itself could cause neuritis.

In his account of the epidemic Dr. Reynolds stated:

> I have for many years doubted whether ethylic alcohol *per se* does cause peripheral neuritis at all, and I have personally felt more and more confirmed in this opinion each succeeding year.

Again, in responding to the discussion on his paper read at the Medico-Chirurgical Society he said:

> I am willing to admit that alcoholic neuritis exists, but I am not convinced thereof.

He further threw out the suggestion that all cases of so-called alcoholic neuritis might be really due not to alcohol but to arsenic. More recently he has stated that he never meant to deny the existence of alcoholic neuritis, but his belief is that it is of rare occurrence and usually slight in degree.

Such statements were opposed to the generally accepted views on the subject, and it was obvious that subsequent experience was necessary before their correctness could be

estimated. Now if arsenic were the chief cause of so-called alcoholic neuritis, we should expect to find a great diminution in the number of cases occurring after the epidemic, that is, when the beer was free from arsenic. On the contrary, the percentage of cases admitted to the Manchester Royal Infirmary since the epidemic is almost identical with that of cases admitted before the epidemic. Thus, if we take the seven years included by the years 1892–1898, there were 109 cases of peripheral neuritis out of 9,300 medical in-patients, that is, 1.01 per cent.; whilst in the seven years, 1901–1907, there were 116 cases out of 10,630, that is, 1.09 per cent. But in the year of the epidemic, namely, 1900, there were 62 cases out of 1,343, or 4.6 per cent.

Hence it is clear that, before and after the epidemic, arsenic, if present at all in the alcohol consumed, was in very small quantities. Further, it is to be noted that pigmentation, keratosis, and other skin lesions, so prevalent in the epidemic, were not mentioned in the reports of earlier cases by such acute observers as Dr. Ross and Dr. Dreschfeld. On the other hand, we must admit that the majority of Manchester cases occurred in beer drinkers, and that a small amount of arsenic in the beer may have been a contributory factor.

It is therefore desirable to consider the question of neuritis in drinkers of spirits. In this connexion we may note the valuable statistics of Dr. F. Buzzard. In the ten years included by the years 1891–1900, out of 6,453 cases admitted to the National Hospital there were 108 cases of alcoholic neuritis—that is, 1.6 per cent. Of these 103 cases, 25 were due to excess in spirits only, and only 1 case due to beer only. Dr. Buchan, also, in 19 cases of alcoholic neuritis found that whisky was the chief beverage in 18, and the only one in 6.

These results are in accordance with the records of the earliest observers of peripheral neuritis in alcoholic subjects, as witness the graphic account by Dr. Lettsom of the disease as occurring in those who drank brandy and gin in excess, and that by Dr. James Jackson, who attributed the disease to ardent spirits. They are also borne out by the statements of modern authorities on the subject. Thus Dr. T. Buzzard says his experience has been that neuritis is due especially to spirit drinking. The late Dr. Ross, in an analysis of 90 cases, found that the form of alcoholic beverage was as follows: In 22 spirits, in 3 absinthe and vermouth, in 13 beer and spirits, in 5 beer only, whilst in 47 the kind of alcohol was not given. Moreover, of recent years many cases of peripheral neuritis from spirit drinking have been observed in which beer could be definitely excluded. Dr. Williamson has recorded a case from excessive whisky drinking, no beer having been taken, in which the diagnosis was verified by a microscopical examination of the peripheral nerves. In this case three samples of the same whisky gave no reaction for arsenic with Reinsch's test.

Reverting to the question of beer drinking, I may mention that several cases of *well-marked* and *severe* multiple neuritis, which have come under my care since the epidemic, have been carefully investigated, and arsenic as an etiological factor definitely excluded, no trace of this poison being found in the hair or the urine of the affected patients nor in samples of the beer that had been taken.

It is open to any one to say that it is not the ethylic alcohol but some accidental impurity that is responsible for the neuritis, but until this toxic agent is discovered, which is certainly not arsenic, it is impossible to resist the conviction that alcohol, whether in the form of beer, wine, or spirits, is a common cause of multiple neuritis.

But this statement does not necessarily imply that multiple neuritis is of frequent occurrence in alcoholic subjects, nor that the disease is a direct result of alcohol. Indeed the proportion of alcoholics who suffer from neuritis is a small one, and in such sufferers other factors may play a contributory part. The action of alcohol may be an indirect one in the production not only of neuritis but of hepatic cirrhosis and of changes in the muscle of the heart. It is a reasonable assumption that the lowering of tissue resistance by alcohol permits the successful attack of toxins, derived from micro-organisms or from the changes associated with chronic inflammation, upon the nerves, liver, heart or other structure.

A similar view is held by Dr. F. Parkes Weber, who suggests that the true causes of multiple neuritis of alcoholic type are infectious, alcohol being merely a predisposing agent.

But whether the neuritis is a direct or an indirect result of the poison there is ample evidence to justify the view that well-marked cases of multiple neuritis (although not common) are produced more frequently by alcohol than by other poisons.

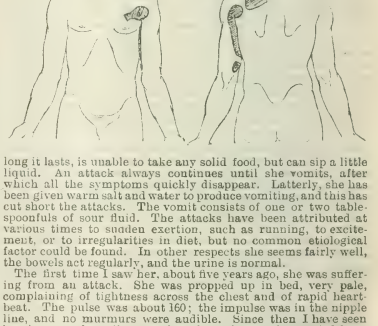
PAROXYSMAL TACHYCARDIA DISAPPEARING AFTER AN ATTACK OF HERPES ZOSTER.

By ALAN C. TURNER, M.R.C.S., L.R.C.P.,
SHEFFIELD.

THE following case presents features of sufficient interest to make it worth recording. The history is briefly as follows:

L. S., aged 15 years, has been under my care for some time suffering from recurrent attacks of tachycardia.

She is rather short, somewhat anaemic, and has never been very strong. She easily takes cold, and has had repeated attacks of influenza. The first attack of tachycardia occurred when she was 5 years old. She awoke suddenly about midnight, feeling "as though she were going to die." She was very pale, and the heart beat very fast. After a short time she vomited a small quantity of liquid; the heart at once became quiet, all symptoms quickly passed away, and she soon fell asleep. This attack was attributed by her friends to a strong cup of tea she had taken the evening before. From that time onwards she had been subject at least every two months to similar attacks. She is obliged to sit still whilst the attack is on, and, however



long it lasts, is unable to take any solid food, but can sip a little liquid. An attack always continues until she vomits, after which all the symptoms quickly disappear. Latterly, she has been given warm salt and water to produce vomiting, and this has cut short the attacks. The vomit consists of one or two tablespoonfuls of sour fluid. The attacks have been attributed at various times to sudden exertion, such as running, to excitement, or to irregularities in diet, but no common etiological factor could be found. In other respects she seems fairly well, the bowels act regularly, and the urine is normal.

The first time I saw her, about five years ago, she was suffering from an attack. She was propped up in bed, very pale, complaining of tightness across the chest and of rapid heart-beat. The pulse was about 160; the impulse was in the nipple line, and no murmurs were audible. Since then I have seen her in several similar attacks; the pulse-rate has varied from 120 to a rate faster than could be counted. They have lasted for various periods, from less than one hour to nearly three days. No drug among the many that have been tried has had any effect in cutting short the attacks, nor has attempted pressure on the vagus been more successful. The attacks have always lasted until she has vomited, when, within fifteen to thirty minutes after the pulse would fall to normal.

On October 10th, 1906, she had severe pain in the left wrist which continued to the next day, when it affected the inner side of the left arm, the front of the left shoulder, and the back. On the morning of October 12th a rash appeared about the left shoulder and arm, the left ear became tender, and she had also some pain in the right wrist. Dr. Arthur Hall saw her at that time in consultation. She had typical herpes zoster, affecting the area of the second left dorsal segment—namely, the inner and inner part of the left arm, the left breast in the region of the axillary fold, and over the left scapula in the upper part (see diagram).

The eruption ran the usual course, and from the cardiac attack which preceded the eruption by about a month up to the present date—that is, for three years—she has had no recurrence of the tachycardial attacks, her heart is quite normal, and she has never felt in better health than she does now.

There is no family history of any particular tendency to nervous disorders or heart affections.

I have used the term "paroxysmal tachycardia" for this case without thereby meaning to imply any certainty as to the nature of the type of heart beat which characterized it.

Mackenzie (*Diseases of the Heart*, 1908, p. 129) would include under this term only those cases in which a "nodal rhythm" is present. Whether this case fulfilled his requirement or not I cannot say, since no tracing was taken during an attack, and no attacks have occurred since we have been in a position to take such tracings.

The case, however, is typical of the class described by Bouveret (*Revue de Médecine*, 1889) as "La tachycardie essentialle paroxystique," and concerning which Herringham (*Edinburgh Medical Journal*, 1897) has contributed a valuable monograph.

This case in most of its features agrees with one or other of the recorded cases, the variations being chiefly in minor and unessential details. The termination of the original attacks in vomiting and the artificial cutting short of subsequent ones by the administration of emetics is interesting, but does not warrant us in forming any wide inferences therefrom.

The feature which in this case seems to call for publication is the coincidence of an outbreak of herpes zoster of the left second dorsal area with complete cessation of the heart attacks.

Possibly it is no more than a "coincidence," in the popular sense of the word. Cases of paroxysmal tachycardia do cease spontaneously, and it is possible that in this case the cessation may only be a temporary one and that further attacks may occur later. On the other hand, the fact that the second left thoracic nerve is very closely associated with the nerve supply of the heart, and particularly with its accelerator fibres, and the fact that previous to the outbreak of zoster the heart attacks had recurred fairly regularly every two months for ten years, seem to suggest that the two things stand in some direct relation to each other.

TRAUMATIC RUPTURE OF THE SMALL INTESTINE: SUTURE AND APPENDICOSTOMY: RECOVERY.

By FRANK RADCLIFFE, M.D.,
ASSISTANT SURGEON TO THE OLDHAM INFIRMARY.

In the BRITISH MEDICAL JOURNAL of May 29th, 1909, Mr. William Sheen of Cardiff records a case of traumatic rupture of the sigmoid colon, in which, after commenting upon the rarity of the lesion, he, by reference to a paper by Berry and Giuseppi, shows that the mortality in the London hospitals in cases of traumatic rupture of the intestine has been over 87 per cent. Under these circumstances it becomes a duty to record such cases, and especially so if, as in the following case, they present features of special interest attached to their treatment.

A. L., aged 33, bricksetter's labourer, was admitted to the Oldham Infirmary on May 10th, 1909, at 6 p.m. He said that he had received a violent blow from the end of a plank, which struck him in the epigastrium; that afterwards he was able to walk a few yards and descend a ladder, but then felt too ill to move. He lay upon the right side with the knees drawn up, and was evidently in great pain. The abdomen was of board-like rigidity, retracted to the scaphoid shape, with the skin thrown into transverse folds, and very sensitive to pressure. The flanks were dull on percussion, but this dullness did not move on changing the position of the patient. The liver dullness was normal in extent. There was no external mark of violence except a few small superficial scratches. Shortly after admission he vomited a little brownish fluid.

It was decided to operate, but the patient would not consent until he had seen his wife, thus delaying the operation until nearly 10 p.m.—that is to say, seven hours after the injury.

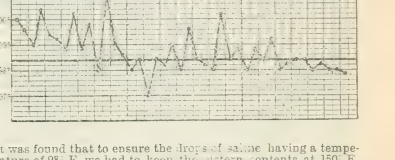
Operation.

Chloroform was administered by the junior house-surgeon, Dr. Gray, and I had the assistance of our senior house-surgeon, Dr. Mackenzie.

An incision was made in the middle line above the umbilicus. On opening the peritoneum there was an escape of brownish, clear fluid. On exposing the liver margin more of this fluid welled up, and with it some bubbles of gas. Examination of the stomach revealed no lesion. The transverse colon and omentum were then drawn up, thus allowing more fluid to escape and with it some flakes of lymph. The intestines were deeply injected, and in places covered with large flakes of lymph. Systematic examination of the small intestine revealed a longitudinal rupture about ¾ in. in length, with pouting mucous membrane on the free border of the ileum, about 2 ft. from its commencement. The rupture, after sponging with weak mercury biniodide lotion, was closed with a continuous Lembert suture, and the examination was continued but no other lesion was found. A suprapubic incision was then made, and on opening the peritoneum more fluid of the same slightly turbid character and containing small food particles escaped; through this opening a Keith's tube was passed down to the bottom of Douglas's pouch. Another incision was then made through the parietes over the appendix, which was brought through this incision, and its mesentery cut after ligaturing it. The appendix was then amputated, leaving about an inch of stump. This was dilated, and a rubber catheter inserted through it into the caecum and fixed by a purse-string suture; the stump of the appendix was anchored to the skin by two fine silk sutures, and this incision closed round the appendix. The epigastric incision was completely closed by through-and-through sutures and dressings applied. The patient was removed to bed and put into the Fowler position. The whole operation took less than an hour from the first incision to the patient being removed from the table.

After-Treatment.

A cistern was arranged about 2 ft. above the level of the patient's abdomen, and under it a spirit lamp; the cistern was connected by rubber tubing with the rubber catheter, and the tubing clamped so as to allow one drop of normal saline solution with which the cistern was filled to escape every second.



It was found that to ensure the drops of saline having a temperature of 98° F. we had to keep the cistern contents at 150° F. By this arrangement we were able to cause a continuous flow of saline solution into the caecum for four eight hours. The tube then came out, and on reintroduction there was so much pain that it was discontinued. The total quantity of saline solution introduced was two gallons.

The patient continually perspired, passed urine freely, and at the end of the time had some incontinence, passing faeces along with a moderate quantity of saline fluid. Moreover, what was more interesting, there was fluid continuously welling up through the Keith's tube, so that the pad over the tube had to be changed every half-hour.

On the fifth day the Keith's tube was removed, as the flow of fluid through it had almost ceased.

On the seventh day some flatus was passed through the appendix.

On the eighth day the stump of the appendix came away as a slough, and left a faecal fistula, which remained open for a fortnight. There was some suppuration along the track of the sutures in the epigastric wound.

The patient was out of bed at the end of three weeks, and walking in the garden within a month.

I relied entirely upon the infusion of saline solution into the caecum to rid the peritoneal cavity of its irritating contents, by causing the membrane to secrete instead of to absorb, and that this occurred was evident by the copious flow from the Keith's tube, continuing for five days, even after the infusion was discontinued.

The man's condition never caused any anxiety after the first twenty-four hours.

If I should meet with a similar case I would diminish the rate of flow of the saline after the first twenty-four hours, for the patient had considerable inconvenience, from the thirty-sixth to the forty-eighth hour after operation, from the rectal incontinence.

It is stated that a motion is about to be submitted to the Duma making vaccination compulsory in Russia. The Inspector-General of the Medical Department has asked the various administrative authorities and institutions to report on the subject, and the Minister of Public Instruction has sent out a circular to the faculties of medicine.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

JOHN CAMPBELL, M.D., F.R.C.S., President.

DISCUSSION ON THE TREATMENT OF ENDOMETRITIS.

OPENING PAPER.

By E. HASTINGS TWEEDY, F.R.C.P.I.,
Master of the Rotunda Hospital, Dublin.

WHEN I was asked to open the discussion on endometritis I accepted the invitation with pleasure and yet with considerable misgiving lest I should fail in my efforts to guide our discussion into a practical channel and find myself involved in the labyrinth of uncertainty which is gathered round the diseases classed as endometritis. In the time allotted for the opening of a discussion it would be impossible to include an adequate description of the pathological varieties of endometritis, so I divide cases of this condition clinically into two classes, acute and chronic; anatomically into corporeal and cervical.

Acute endometritis is a disease which has its origin in microbic invasion. Its symptoms are definite and its course acute; moreover, it is liable to end in the chronic form. Under the title "chronic endometritis" I include all other non-malignant diseases of the endometrium. To those who object to the vagueness of the above classification I urge its merits from a practical standpoint, particularly in respect to treatment. Gynaecologists of the present day combat diseases of the endometrium on well-defined lines. These yield satisfactory results, despite a want of knowledge of the pathological conditions present at the period of their most active treatment. In indicating the treatment which I personally adopt in practice I await with the greatest interest the views of the speakers who will follow me, whether or not they subscribe to my opinions.

Acute Endometritis.

In acute endometritis we have a membrane invaded by pathogenic bacteria, and our treatment should be on the lines which the general surgeon has found applicable in conditions of a similar nature. On general principles, dead areas of infection should be removed, pus pools drained, and the body resistance raised to the utmost to counteract the results of infection.

Surgeons show no anxiety to remove a partially detached slough. They know the exercise of roughness in such a condition will cause bleeding, injury to living cells, and fresh microbic invasion of the tissues. Gentleness, cleanliness, and patience, are the watchwords of the surgeon; these, in my opinion, should denote the principles which guide us in the treatment of acute endometritis. An intrauterine douche of salt solution, administered with the most rigid aseptic precautions, is the best method of removing pus collections or detached necrotic tissue.

If there is any reason to suspect that there is a disintegrating mass in the uterus, it should be explored with a gloved finger if possible. This operation occasionally necessitates the administration of a general anaesthetic. With the patient in the gynaecological or cross-bed position, the whole or half hand is introduced into the vagina, as this is the only way in which it is possible to pass one or two fingers into the uterus and explore its cavity. Even then it is usually necessary to use the other hand to push the uterus down on to the exploring finger.

Such exploration is only to be advised in acute endometritis of puerperal origin. In non-puerperal inflammations the douche nozzle will probably indicate the presence of pathological tissue such as necrotic fibroids, etc. To drain the cavity of the uterus nothing is better than a wick of iodoform gauze soaked in a 2 per cent. solution of carbolic acid. This gauze should be removed in from twelve to twenty-four hours and reinserted after the next douche. Treatment should be continued as long as septic discharges collect in the uterus. Before the first douche a specimen of the uterine discharge should be taken for bacteriological examination. This affords valuable information from a diagnostic standpoint and enables us to prepare vaccines, which are amongst the most efficient remedies at the disposal of the modern therapeutist.

Acute anteflexions and retroflexions are potent factors in preventing proper drainage. The correction of such malpositions must on no account be neglected. The gauze drain is of especial value in such cases.

Occasionally good results follow the gentle use of the blunt flushing curette. It will have its chief indication in cases where digital examination would be harmful, as for instance, after the recent repair of the perineum. Under these circumstances it often succeeds in entangling and detaching foreign matter laden with deleterious toxins, which would unduly tax the resources of the living tissue if they were allowed to remain. The sharp curette has no place in the treatment of acute endometritis. It is ridiculous to use it with the expectation of removing all bacteria from the uterus. It most certainly injures the living tissue cells. I have known the softened muscle of the uterus to be removed in great masses, the operator believing that he was scraping away necrotic endometrium. With such possibilities present it is obvious that sinuses, veins, and lymphatics can be opened and inoculated, as in vaccination, resulting in further spread of the local infection and possibly in general systemic sepsis. To my certain knowledge such a softened uterus has been ruptured so easily that the surgeon was quite unaware of the appalling accident which had befallen him. Moreover, it is an utterly hopeless undertaking to thoroughly scrape a big cavity, blindly, with a curette. This is comparable to an effort to remove the dust from a table by scraping it with a spoon in a darkened chamber. In my opinion such curetting is no more justified than scraping the male urethra as a means for curing acute inflammation. Until the surgeon demonstrates the efficacy of the curette in acute urethritis I cannot believe that it has any greater field of usefulness in the disease under consideration.

Chronic Endometritis.

The chronic diseases of the endometrium always have some underlying cause, and their cure cannot be complete until this cause is removed. But it is not sufficient to discover this cause when endometritis is established. Pathological tissue has an extraordinary aptitude to imitate in its growth that which has preceded it. When a departure from the normal is established, for a long time it will show little tendency to revert to its former condition. As an example of such imitation, let me cite an ingrowing or cracked toenail. Month after month and year after year the crack will reproduce itself as the nail grows. Surgical help is at length sought. With a knowledge of this underlying fact the surgeon proceeds to cure the defect by avulsion of the nail. Under this treatment the chances are enormously in favour of the new growth reverting to a standard or normal type. Similarly the gynaecologist must remove the lining membrane of the uterus in his serious effort to cure the disease. In the presence of persistent retroversion, heart disease, or other underlying cause, removal of this lining can afford but temporary benefit. On the other hand, I claim that the operation is a complete cure when performed in a proper manner under ideal circumstances; failure should then be expected no oftener than after the avulsion of a diseased nail.

Before going further it is necessary to discuss the symptoms which are usually considered to be associated with chronic disease of the endometrium. The most usual of these will be menstrual in character. Thus, amenorrhoea, dysmenorrhoea, menorrhagia, metrorrhagia, the passage of decidual casts and blood clots, are all well-known accompaniments of the disease. Of referred symptoms, pain in

the back, weakness in the loins, weariness on standing or after slight exercise, headaches, dyspepsia, and constipation have a possible origin in endometritis. However, all these symptoms may be wanting in severe types of endometritis, the presence of which can only certainly be ascertained after miscarriage, abnormalities of the pregnant or parturient state, such as *ante-partum* or *post-partum* haemorrhage, abortions, hydatidiform mole, hydrorrhoea gravidarum, etc. Or, again, the accidental discovery of a large uterus may alone direct attention to the condition. Therefore, whether symptoms are present or not, if dealing with a condition which you have a reasonable suspicion will cause endometritis, treat your patient for endometritis irrespective of precise symptoms. It must be remembered that endometritis is always present before it manifests itself by symptoms.

Curettage.

The operation of curettage requires brief mention. That it is possible to do it in an improper manner is evidenced by the number of cases we observe uncured after what I may term the "bedroom operation." I do not intend to describe the operation in detail, but shall content myself with mentioning a few important points. The most absolute cleanliness is as necessary as for any other surgical operation. The cervix should always be dilated before curetting, care being taken to avoid tearing it. A sharp curette should be used, but not so vigorously that the power of menstruation is ever afterwards abolished. Handling the portion of an instrument that is inserted into the uterus will most certainly introduce germs of a more or less harmful nature. Blood clots and débris should be washed out with saline through a two-way Bozeman catheter. To more completely remove débris, Playfair's sound wrapped with cotton-wool is very useful. The wool should be applied to the sound, both boiled, and then dipped in a 1 to 3 solution of formalin before using. This has the effect of removing little masses which, partially attached to the wall of the uterus, have resisted the douche fluid. Formalin stimulates the uterus to contract. A wick of gauze in the uterus for twenty-four hours ensures drainage, and, keeping the internal os open, stimulates the uterus to contract. The only subsequent treatment is rest in bed for one week.

Rupture of the uterus will happen to every one who has a large experience in curetting. In many instances the rupture is unavoidable, and often requires some skill on the operator's part to recognize it. In the presence of a ruptured uterus curettage should cease; douching also should be avoided. On the other hand, a solution of formalin on a Playfair's sound is very valuable. It can be used gently to swab out the uterus. It will remove detached fragments, cause contraction, and act as a mild antiseptic. Gauze should also be inserted. Under such treatment recovery is absolute and entirely free from untoward symptoms. The endometritis is often cured, and we have seen many cases in which an uneventful pregnancy has followed.

I now enter on an important consideration, namely, the treatment after curettage. I know that some operators do not look upon the primary operation as an ultimate or sufficient cure, and that they resort to frequent douches and local applications before they are finally satisfied with the result, whilst others, discarding the curette, rely entirely upon this mode of treatment. My own practice is opposed to both of the methods. Again, I bear in mind the cure of the ingrowing toenail. I know of no surgeon who, having removed the nail, resorts to frequent applications of strong caustic to the sensitive matrix. Yet, the conditions we have to deal with are very similar in both affections. We remove diseased structures and put the parts in as favourable a condition as possible, trusting that Nature will reproduce normal tissues.

I have heard gynaecologists declare that the glairy or muco-purulent discharge seen at the cervix cannot be cured by the method above suggested. For my part, I never held that it could, nor do I believe that the mucous membrane of the body of the uterus is in any way accountable for this discharge.

It will thus be seen that I give first place by a long way to the curette in the treatment of chronic endometritis. At the same time, in mild cases I have seen much good follow local application of a 1 to 3 solution of formalin in water, without previous curettage, or the careful injection of iodine into the uterus. By this I do not mean that the cavity of the uterus should be swabbed out twice a week, or even once a month. We know that it often takes three months to reproduce a fully developed functionating endometrium. It is at such intervals that I suggest the use of local applications, which should be used immediately after the cessation of a menstrual period.

We need not delay longer on the consideration of drugs which act specifically or indirectly on the uterus and its mucous membrane. Ergot, hydrastine, belladonna, strychnine, salines and iron, are the best known. They certainly have a place in the treatment of endometritis, but by themselves are powerless to cure.

Most of us have followed with interest the recent controversy on the use of the curette. I should like to take this opportunity to range myself with those who believe that no operation for repair of the perinæum, the cervix, or for displaced uterus should be undertaken without preliminary curettage. It is impossible to say precisely to what extent symptoms in a given case are due to the lacerated cervix, the prolapsed vaginal walls, the retroverted uterus, or to their accompanying endometritis. I can conceive nothing more calculated to bring discredit upon gynaecology than the neglect of this detail. Thus, when a patient is already under anaesthetic we know that we can curette with safety, we know that endometritis may be present without symptoms which definitely mark its existence, we know that we shall do no harm even if it is not present. Therefore, the practical gynaecologist, disregarding all theoretical objections, will continue to curette, and not sleep any the less soundly because of the fear that occasionally he has curetted without any necessity.

Cervical Endometritis.

Cervical endometritis is a condition that has given rise to much confusion. To it are due the abnormal albuminous and muco-purulent discharges which may cause erosion and are known as leucorrhoea. It must be confessed that the treatment of endocervicitis by astringents applied on a Playfair's probe or through a Bandl's sound yields anything but satisfactory results. On the other hand, great improvement always follows a well-performed partial amputation of the cervix. I use the word "improvement" designedly, for an absolute cure is not forthcoming in the majority of cases. In these cases of incomplete cure I strongly advise dilatation of the cervix and light cauterization of its canal with Paquelin's or the electric cautery, as suggested by Hunner. This application will do more towards curing the condition than weeks of treatment by milder medications. Cauterization can be carried out under local anaesthesia, and when performed carefully seems free from any danger of cervical narrowing.

Finally, there are cases of endometrial disease which manifest themselves by frequent and alarming haemorrhages and defy the usual forms of treatment. For these amputation is a valuable remedy. From personal experience I can speak as to its utility, and I have never seen dangerous or untoward symptoms follow its use.

I should like to hear the opinion of those who have practised Bier's treatment for endometritis. The instrument I have used for the purpose is that designed by Dr. Alexander Duke, but my experience has not been sufficiently great to warrant the expression of any opinion.

DISCUSSION.

Professor Fehling (Strassburg) said: I am glad to be the first to offer our best thanks to Dr. Tweedy for his valuable paper. It is well that we should not neglect simpler gynaecological things, like endometritis, in our attention to the great operations. First, I should like to ask Dr. Tweedy whether he recommends the same treatment for acute gonorrhoeal endometritis. I would rather prefer not to do that with regard to the risk of adenitis. Concerning the treatment of acute endometritis in childbed, I regard the inner surface of the uterus like a surgical wound. In cases of beginning phlegmon, the first principle is to leave it alone; even a finger covered with an india-rubber glove may cause fresh infection. For the treatment of chronic endometritis I agree with the indications laid down, especially for such after miscarriage,

placenta praevia, and *post-partum* haemorrhage in the puerperal state. But it is not to be forgotten that in cases of general weakness, chlorosis, and anaemia, local treatment should be deferred. In cases of bleeding there is curetting; in cases of leucorrhoea, local treatment with dilatation, especially of the os internum, then packing with gauze, and no cauterization, only thigenol or scarlet ointment. The student must be carefully taught to avoid perforation. Too violent curettage has often caused bad amenorrhoea; then the patient suffers more than before. I quite agree with Dr. Tweedy that the treatment of cervical leucorrhoea is very unsatisfactory: for this and erosion I generally use the Volkmann sharp spoon. Von Herff has recently recommended for drainage of the puerperal uterus flexible tubes of metal.

Dr. A. Donald (Manchester) said difficulty attached to any discussion on endometritis owing to the various conditions which were classified under that name; some of them were certainly not inflammatory in origin. Dr. Tweedy had not dwelt much on the causes of endometritis, but from one sentence in his opening remarks he seemed to attribute a certain importance to the effect of retroversion and heart disease in producing a relapse after improvement. This is the old "congestion" hypothesis, which supposes that a condition indistinguishable from an endometritis can be produced by passive congestion of the uterus, with the further assumption that a passive congestion of the uterus could be set up by its backward displacement. There was not a vestige of proof in support of either hypothesis. One frequent source of failure after curetting was that the operation was not performed with sufficient thoroughness. It was an operation which, if good results were to be obtained, must be done with most careful precautions and at the same time with a thoroughness that in many cases only a gynaecologist was justified in using. It was an operation that, almost more than any other, required the educated touch. As to a preliminary curetting in plastic operations on the cervix and perineum, it seemed reasonable to believe that a confinement which was so severe as to produce severe lacerations was also probably responsible for some intrauterine trouble. In any case it could do no harm, and very often it revealed very marked endometritis. The gauze packing after curetting was useful for several purposes—it helped to straighten a flexed uterus, it promoted drainage; but, more important still, it stimulated uterine contractions and favoured that involution which was often one of the main reasons for the operation. Dr. Shaw, of Manchester, had been engaged recently in collecting the results of cases of curetting performed in the speaker's ward in St. Mary's Hospital. The result of these investigations would shortly be published.

Professor Kidd (Dublin) agreed with Dr. Tweedy as to the difficulty of distinguishing between the different forms of endometritis in regard both to nomenclature and treatment. He also agreed as to the risk of curetting the cavity of the uterus in the acute condition, as such treatment might give rise to even more serious conditions. It was very difficult to differentiate between forms of inflammation affecting the cervical canal and the cavity of the uterus. He agreed with those who believed that the diseased condition of the cervix in the great majority of cases was not shut off by the insuperable barrier of the os internum from the cavity of the uterus; therefore, that the common sense treatment of diseased conditions of the cervix should consist in an extended treatment to the cavity of the uterus. He did not agree with Dr. Tweedy in his contention that that amputation of the cervix should be necessary in treating the majority of diseased conditions of the cervix, and thought that by scraping with some such instrument as a Volkmann spoon the diseased condition might be effectually removed and further treatment facilitated. An excessively vigorous application of the sharp curette had sometimes resulted in the removal so completely of the endometrium along with muscular tissue, that the individual operated on had been the subject ever afterwards of a permanent amenorrhoea. Should such a misfortune happen in the case of a young married woman it would be most lamentable.

Dr. Frederick McCann (London) said: I desire to add my tribute of admiration for the able and practical manner in which the subject has been introduced by Dr. Tweedy. He has lightly skipped over any attempt to classify endometritis in detail, and the division of the subject which he made is convenient and practical. I would say at once that curetting is only a part of the treatment of chronic endometritis, for it is a frequent experience in practice to find women who, for this disease, have been repeatedly curetted without benefit. Many of those who suffer from endometritis chronica are in a depraved state of health, neurasthenic, dyspeptic, martyrs to various forms of headache, and whose general nutrition is at a low level. For this reason I have been for some years in the habit of combining the operation of curetting with a six weeks' rest cure. By massage, feeding, and rest, the general condition of the patient is improved; she gains in weight, and a cure may be confidently anticipated. If curetting alone is done, there is little general improvement, and the result is disappointing. Rest in bed for fourteen days is beneficial after curetting, even when it is not thought necessary to advise a "rest cure." As to the technique of the operation, in acute puerperal infections I do not use a sharp curette; indeed, in the majority of cases I do not use a curette at all, and if one is employed it should be as a rake and not as a scraper. I much prefer to sponge out the uterine cavity with squares of gauze on a pair of long forceps, and in this manner the cavity can be more thoroughly cleansed than by the use of an intrauterine douche. When curetting is done for "chronic endometritis" my rule is to employ two curettes—a blunt curette for the body of the uterus and a sharp curette for the cervix. I prefer to use a blunt curette for the body of the uterus, because I believe that what is intended to come away will do so after the use of a blunt instrument. In some cases the discharge continues after curetting, causing considerable disappointment to the patient, and for such the application, once or twice during convalescence, of a 50 per cent. solution of chloride of zinc to the cervical canal, taking care to wipe away any excess of the fluid, will cure this condition. Lastly, a word as to the so-called gauze drainage. If gauze is used as a drain where pus exists, the gauze becomes sodden and acts as a plug and not as a drain. The introduction of gauze into the uterus may be called for to arrest bleeding after curetting, and then it is used as a plug. Its supposed advantages as a drain in the uterus are largely mythical.

Dr. Thomas Wilson (Birmingham) expressed his satisfaction at the general agreement that appeared to exist in the Section on the advantage of digital evacuation over the use of the curette, blunt or sharp, in cases of acute puerperal endometritis. The exploration of the uterine cavity in these cases was based on the sound surgical principle of removing any foreign body, such as débris of placenta and clots, the presence of which was likely to keep up the inflammation. In the diseases classed for convenience under the name "chronic endometritis," bleeding that did not yield readily to simple treatment formed the indication for curetting; the operation had proved of small benefit when employed for pain or discharge. He did not agree with the suggestion that routine curetting should be done as a preliminary in most operations on the perineum, vagina, or cervix. When preliminary dilatation of the cervix was continued beyond about No. 14 Hegar, a certain degree of lateral longitudinal laceration could generally be observed by passing the little finger up the internal os. Curetting should be considered as merely one factor in the treatment. The speaker had found that the subsequent application twice a month for three months of Churchill's tincture of iodine to the endometrium appeared to diminish the number of relapses following curetting to a considerable extent.

Professor Cullen (Baltimore) said: I have been greatly interested in the able presentation of the subject by Professor Tweedy. The term "endometritis," as it is usually employed, is just as vague as is the term "neurasthenia." Professor Tweedy is to be congratulated on the simple classification of endometritis that he has made. A true inflammation of the endometrium—that is, one in which there has been a pouring out of polymorphonuclear leucocytes or small round cells—has been

relatively rare. In the examination of all the pathological material from the gynaecological department of the Johns Hopkins Hospital during a period of four years we only found 48 cases of endometritis—in short, on an average, only one a month Often when examining the endometrium where pus tubes were present we were surprised to find that the mucosa was perfectly normal. The almost perpendicular arrangement of the uterine canal favours good drainage, thus enabling the uterine mucosa soon to regain its normal character. On the contrary, the fluid in the tubes keeps accumulating; thus the inflammation of the tube long continues. I agree fully with Professor Fehling and Dr. McCann that in many cases the uterine discharge is due to a run-down condition of the patient, and not to any local lesion. In such cases a general building up without any local treatment will bring about the desired relief.

Professor A. Smith (Dublin) divided endometritis into acute, gonorrhoeal, and chronic. He recommended in all acute cases intrauterine exploration if the symptoms were not relieved by douching, but no intrauterine douche should be employed in gonorrhoeal endometritis. Strict rest, frequent hot compresses, and antiseptic vaginal douching gave the best result. He advocated the use of the curette in chronic endometritis, and emphasized the necessity of microscopic examination in ascertaining whether there was any increase of the glandular elements foreshadowing malignancy. In that way patients could be kept under control. Over-dilatation of the cervix was dangerous by causing lacerations where the cervix was small, and he therefore recommended primary dilatation with a laminaria tent. Erosion he considered as an overgrowth of the columnar epithelium displacing the squamous epithelium of the cervix which grew down into the substance of the cervix, and gave rise to an enlarged mucous secreting area. He recommended scarification of the erosion and bathing with sulphate of copper solution, 30 grains to the ounce.

Dr. Henry Jellett (Dublin) said he was glad the Master of the Rotunda had confined himself to the practical points in discussing the subject. The discussion served to show that there was still a great deal of difference of opinion on points which seemed obvious in the treatment of this common condition. This showed that there were more roads to success than one. He had, however, to differ from the opinion that curetting, if properly done, always caused a final cure. The uterine glands dipped below the portions of mucous membrane abraded by the curette, and it was, therefore, impossible to remove all the possible sources of a future infection or prevent recurrence of the disease. He thoroughly agreed that there should be no vaginal operation such as perineorrhaphy or amputation of the cervix, without an accompanying curetting, and would like to supplement that statement by saying that there should be no curetting without any adjunctory vaginal operations which might be necessary; if there was a retroversion or an erosion a suitable operation should be performed, and they should not trust to the effects of the curetting to remove the effects of such complications. There were some who, like Dr. Donald, thought that the displacement was the result of the endometritis, and others who thought endometritis was the result of the displacement; the speaker would like to say "a plague on both your houses!" cure both conditions and you will cure the patient. In acute endometritis he strongly recommended the use of 50 per cent. solution of formalin injected into the uterus and quickly washed out. It was not so dangerous as chloride of zinc.

Dr. Frederick Edge (Wolverhampton) said: Curetting is not always good practice before plastic operations, and is only necessary when the condition of the uterus is doubtful and there is discharge. It is impossible to get all diseased endometrium away by the sharp spoon, and consequently we only remove soft, diseased parts. The use of strong caustics after curetting is illogical, as they destroy the uterine wall, and if they are combined with gauze plugging this retains the caustic fluid and lengthens and intensifies the amount of sloughing. The uterine cavity should be dilated with hollow dilators, as otherwise the dilator acts as a ram and drives fluid from the uterus into the tubes, and possibly into the peritoneal cavity. Hence the peritonitis noticed sometimes after dilatation. For catarrhal endometritis with neurasthenia, with general abdominal relaxation and Glenard's disease, where so often nephropexy and six weeks' rest is ordered, the gynaecologist will often find that curetting, with the rest, will obviate the necessity of nephropexy, and it has none of the crippling results which we have all seen after nephropexy. Curetting cures haemorrhagic endometritis. Dilatation and discission cure dysmenorrhoeic endometritis. Septic and catarrhal endometritis require dilatation, curetting, drainage, douches, aperients, rest, and tonics.

Dr. S. J. Cameron (Glasgow) thought that all acute cases associated with infection of retained products of conception should be treated by dilatation and digital removal of the remains of the ovum. In acute cases of corporeal endometritis due to gonorrhoeal infection no curettage should be performed, but when the disease reached a subacute stage the cervix should be dilated, but curettage should be avoided. Instead, the interior of the uterus should be swabbed out with some antiseptic. They were too apt to look upon endometritis as being always an inflammatory process, whereas it was in very many cases a new growth, and, as such, a cure was often possible. In all chronic cases of endometritis of the uterine body a sharp curette should be used. The flushing curette should be avoided, especially by those who were not constantly using the instrument, as the uterus might be unconsciously perforated, whereupon the peritoneal cavity might be filled with an antiseptic solution. It seemed to him that, although cervical endometritis had usually a common origin with corporeal endometritis, yet the cervical erosion was often more difficult to cure than the endometritis of the body. Probably a cervical erosion was the most difficult of all endometrial lesions to cure, if it were of gonorrhoeal origin. In these cases he believed that the erosion should be scraped and then cauterized. If a cure was not effected, he did not hesitate to excise this portion of the cervix. He was of opinion that a preliminary curettage should be done wherever the operation of perineorrhaphy had to be performed. Rest and tonic treatment often gave admirable results after a curettage for chronic endometritis. He would like Dr. Tweedy to inform him whether he had met with cases of endometritis similar to those described by the speaker in a past number of the *Lancet*, in which the endometritis followed ectopic pregnancy. He thought that this was a commoner cause of endometritis than was generally supposed, and believed the endometritis to be then due to infection of portions of the decidual cast which had not been expelled from the uterus.

Dr. A. W. Russell (Glasgow) said an almost bewildering wealth of suggestions had been put forward, but greater stress, it seemed to him, should be laid on the importance of general constitutional treatment, especially the so-called rest cure, which included sexual as well as ordinary physical rest. Sufficient notice had not been taken of the slower form of dilatation by means of tents under the precautions that were now possible. In spite of the many opinions to the contrary, he was compelled, as a result of his own experience, to speak favourably of the judicious use of the proper form of curette—namely, the broad and not too sharp loop curette, which he believed to be in the skilled hand a scientific prolongation of the imperfect finger. With regard to the extent of the operation that might be necessary, he always advised and carried out at one time whatever combination of operations was necessary for the relief of the condition, whether plastic, suspensory, or both together, in addition to the simple curettage of the uterus.

Dr. Munro Kerr (Glasgow) referred especially to the fact that in many operations for endometritis the tissues removed showed no distinct microscopic changes. Many years previously, in Professor Olshausen's laboratory, he had investigated this subject, and had had exactly the same experience as Professor Cullen—namely, that in many cases there were no obvious changes in the mucous membrane. The second matter Dr. Kerr referred to was the fact that in very many cases, in spite of curettage and replacement of the uterus, and even in spite of repeated

curettage, the symptoms of leucorrhœa and menorrhagia continued. There were a considerable number of such cases. They were cases of metritis, and their treatment was most disappointing.

Dr. E. J. Maclean (Cardiff) said that the difficulties and risks of rupture of the uterus usually supervened after the passing of dilator No. 9. A distinction should be drawn between curettage and exploration of the uterus. Where, for the latter operation, the major degree of dilatation was required, the amount of unavoidable rupture was sometimes disconcerting. The flushing curette was much preferable, and strong mercurial solutions were to be avoided. As to the particular form of dilators, there was no need to insist on the use of hollow instruments. If solid, having regard to the fact that the uterine cavity was potential only, there was no risk of forcing air or fluid into the peritoneal cavity via the tubes. Where, after the operation, the uterine cavity was packed, the recovery was afebrile in a smaller proportion of cases. It was to be hoped that, as a result of the discussion, the valuable operation of curettage for certain cases of endometritis would be preserved in an amended and approved form.

The President (Dr. John Campbell, Belfast) regarded a sharp curette as essential. The diseased tissue of the endometrium could not be brought away with a blunt instrument.

AN OVARIAN TUMOUR, CLINICALLY MALIGNANT, ARISING FROM THE OVERGROWTH OF LUTEIN CELLS.

By Smallwood Savage, M.B.Oxon., F.R.C.S.,
Hon. Surgeon, Birmingham Maternity Hospital.

On account of the peculiar histological characters of the tumour I am about to describe, of its producing marked symptoms of malignancy out of proportion to what the microscopical appearances suggest, and of the rarity of the case, I have ventured to bring this communication before the Association.

Solid tumours of the ovary are usually an interesting study because of their comparative rarity, varying degrees of malignancy, and their obscure mode of origin. Apart from fibroma, fibromyoma, sarcoma and carcinoma, no mention, so far as I have been able to find, is made in the literature of gynaecology of the etiological connexion between lutein tissue and ovarian tumours, except in an abstract by Dr. Fothergill of a paper by Grouzdew, published in the *Archives of Gynaecology*, 1905. In this paper the following cases are mentioned: (1) Voigt has described a case of Porro's operation in a twin pregnancy, performed on account of a malignant ovarian tumour. This was as large as a man's head, solid, and of soft consistence. The growth was yellowish-grey in colour, and was said to represent an enlarged corpus luteum. (2) Scholler and Pforringer report a case of lutein retention cysts in a case of hydatid mole in which lutein cells had shown an energetic proliferation which they described as a sort of "carcinomatous degeneration"; and (3) in the same article Grouzdew relates a third case in which both ovaries showed small irregular growths, the peritoneum was studded, the lymphatic glands enlarged, and there was ascites. The ovaries contained a proliferation of lutein cells. He suggests the name sarcoma ovarii cysticum luteino-cellulare.

A very similar case to my own occurred under the care of Sir W. J. Sinclair in November, 1899, and a short clinical account, together with a microscopical section of the tumour, has been kindly sent to me by Dr. Fothergill. The patient, aged 30, was in hospital a long time, and probably was very ill on admission, and in consequence the operation was delayed. There was ascites, and the tumour on either side was the size of a fetal head; it was rounded, and showed bosses on the surface. The patient died about two months after the operation. There is no information to hand about recurrence, but the circumstances of the case pointed to malignancy of the tumour. Microscopically the appearances are the same as in my case.

The tumour upon which this communication is based was removed at the Redditch Hospital on October 5th last year.

History.—The patient was referred to me by Dr. Mogg of Feckenham. Her age was 38, she had been a widow ten years, had four children, of whom the youngest was 12 years old. Menstruation had been regular up to three months before, after which there had been a slight show of one day's duration every fortnight. She had complained of pain of a sharp character in the abdomen causing nausea, and vomiting for seven weeks, and had lost strength and flesh, and had sweatings.

State on Examination.—The lower part of the abdomen was enlarged by a hard, movable lump the size of a fetal head. There were signs of free fluid in the peritoneal cavity. On opening the abdomen, solid tumours of both ovaries were removed and there were two pints of a clear yellow ascitic fluid.

Result.—The patient made a very slow recovery owing to extreme weakness. After going home on November 16th, she never really regained her strength, and she died of exhaustion on March 22nd, or five and a half months after the operation. No *post-mortem* examination was made.

Pathological Report.—The right ovary of greyish-white colour is solid but of soft consistence except for one small cyst near the surface. The size of the tumour is about that of a fetal head, 5 in. by 4½ in. by 3 in.; its contour is uneven by irregular bosses projecting on the surface. On section two parts may be recognized, a large central patch of opaque, pale yellow, firm, and compact tissue, and a surrounding clear, grey-coloured, oedematous-looking tissue of which the projecting bosses are composed, and which on squeezing exudes a watery fluid as from a sponge. Small irregular yellow patches are seen scattered in this loose tissue. The left ovary, enlarged to about the size of a green walnut, 2½ in. by 1½ in., shows on section the same appearances. In the cortex there are seen to be many small follicles.

Microscopic Examination.—The features of the tumour under the microscope are the growth of new cells which undergo degeneration, the formation of a fibrous connective tissue network the result of a reactive change, and an oedematous infiltration of the ovarian stroma and connective tissue. The cells may be described as follows: The most characteristic are some "stuffed cells," which I have so called because many of them have the appearance of being stuffed with protoplasm. Their distribution is very variable; in places they appear in large patches, being wedged or closely packed together, while in others small groups only are to be made out, and here and there they form columns of cells, and between these lymphatic channels are seen. These cells are large and round, oval, or polygonal in shape, and contain coarsely granular protoplasm, which stains faintly. The nucleus is small and flattened against the cell wall by an excess of protoplasm. In some cells the nucleus is enshrouded or hidden. The tissue of which these cells form a part corresponds to the opaque yellow-coloured compact patches noted in the gross section.

In many parts there are also masses of cells of the same shape and size as these stuffed cells. They contain a relatively small nucleus, which in most of these cells is similarly displaced against the cell wall, but the protoplasm, instead of being granular, has become vesicular and translucent and does not stain. In some cells part only of the protoplasm has become vesicular while the remainder is still granular. This alteration in appearance is, I think, due to a degenerative oedematous infiltration of these cells. Staining with osmic acid does not show the presence of fat. In other parts the ovarian stroma cells appear somewhat swollen as if they are about to become converted into tumour cells.

In the less compact and loose outer zone the tumour is largely made up of a fine and a coarse reticulum of connective tissue which stains readily with van Giessen; the meshes of this tissue contain but few cells and appear wide as if stretched by an oedematous infiltration. The connective tissue trabeculae represent ovarian stroma in part and also to some extent the result of a polynuclear round-celled infiltration which is brought about by the irritation of the new growth. The final stage of the degenerated vesicular condition of the stuffed cells is in certain situations shown by patches of necrosis produced by pressure from blood extravasation and oedematous infiltration of the tumour.

Nature of the Growth.

It is in attempting to classify this tumour that difficulty arises, and it is my object in this short paper to try to consider:

1. The nature of the tumour in reference to other recognized growths of the ovary, as fibroma, sarcoma, and carcinoma.

2. The origin, if it is possible to determine, from any pre-existing and normal tissue in the ovary—namely, lutein tissue; and

3. The question of malignancy.

1. Fibroma of the ovary is often bilateral, and with it ascites commonly exists, but it is a slow-growing tumour, and does not produce any constitutional symptoms. On section a fibroma has a whorled appearance, and microscopically it is represented by spindle cells like those of

the ovarian stroma. There is nothing, I think, in the tumour like the small round-celled sarcoma; nor, again, is there any alveolar or tubular arrangement really suggestive of carcinoma. In places where there are columns of stuffed cells between lymphatic channels there is a gross resemblance to endothelioma, but the cells are not like sarcoma cells, and there is not the same degree of proliferated lymph spaces.

2. I am indebted to Mr. B. J. Ward, to whom I showed sections of the tumour, for the suggestion that the cells resemble in very many particulars those of the corpus luteum. How far this is the case, and the further consideration as to whether lutein tissue with its subsequent degenerations may give rise to a tumour, I shall now consider.

It is generally recognized that the growth of lutein cells takes place by a differentiation of the ovarian stroma immediately surrounding the developing ovum in a zone called the theca interna. Sections taken through a well-developed corpus luteum show a festooned yellow ring which is made up of polygonal epithelioid cells containing granular or vesicular protoplasm and small round nuclei. The lutein layer is traversed by numerous tolerably thick connective tissue partitions which are richly supplied with blood vessels and lymphatics. Lymphatic spaces are seen between the lutein cells.

In the tumour the appearance of the yellow patches

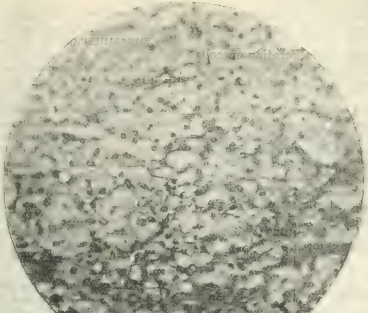


Fig. 1.—Area of vesicular cells, in which the cell protoplasm is translucent. The nuclei in many cells are pushed over to the cell wall. This probably represents a stage of degeneration.

seen in the gross section is not unlike lutein tissue, and microscopically the stuffed cells have characters very similar to lutein cells; as compared with the latter they tend to be round or oval rather than polygonal in shape, and the nucleus to be pushed to the periphery. The protoplasm is coarsely granular in both, but while the lutein cell is swollen the tumour cell seems stuffed with it. The nucleus in both is small. When we come to consider the subsequent degenerated forms of cells in both tissues they seem very similar; there is the same clear or vesicular appearance in part or in the whole cell, although this change is more marked in the tumour.

Fraenkel by experiments on rabbits has demonstrated and proved the influence not only of the ovaries but of the corpora lutea on the implantation and the further development of the ovum in the uterus. These results were obtained by destroying with the galvano-cautery all the corpora lutea in the ovaries where pregnancy existed, and in each case the latter was brought to an end. Further, in non-pregnant animals, removal of the corpus luteum brought about atrophy of the uterus; and in the human subject burning out the corpora lutea modified menstruation by deferring it until the following ovulation in 8 out of 9 cases. And further it is well known that in a considerable number of cases of chorion-epithelioma—a disease due to an increased activity of the chorionic epithelium—there is found an excess of lutein tissue taking the form of lutein cysts in both ovaries.

Beyond these established facts concerning the influence of lutein tissue on the embedding and the development of the ovum in the uterus and on the occurrence of menstruation, it is difficult without more evidence to say what part, if any, lutein tissue plays as an "internal secretion" in the nutrition and economy of the body, nor is one justified from this single case to connect as cause and effect the grave constitutional condition with the excess in growth of the lutein-like cells.



Fig. 2.—Section of fully-developed lutein layer of a normal corpus luteum, showing very similar cells to those seen in sections of the tumour.



Fig. 3.—"Stuffed cells" arranged in columns and separated by lymphatic channels.

3. Question of malignancy. That the tumour is clinically malignant I cannot doubt. The marked wasting with the occurrence of vomiting before the operation, together with the extreme exhaustion ending in death five and a half months afterwards, points in this

direction. The same kind of weakness was probably present in Sir W. J. Sinclair's case.

CONCLUSIONS.

1. That the tumour was of rapid growth, producing ascites and symptoms of a malignant nature.

2. That pathologically the type of new cell growth does not conform to fibroma, sarcoma, or carcinoma.

3. That the gross sections show a new tissue formation of an opaque yellow colour, not unlike corpus luteum tissue.

4. That this tumour is caused by a proliferation of cells (stuffed cells) which has a close resemblance to lutein cells at the height of their development and produced from the ovarian stroma.

5. That these cells undergo a degeneration (vesicular change) similar to their physiological prototype.

6. That the final stage in the tumour formation is shown by necrosis due to pressure from blood extravasation and oedematous infiltration of the cells and the stroma.

7. That in parts little affected by the lutein cell proliferation there is an extraordinary amount of oedematous infiltration of the ovarian stroma. This is seen in the outer part of the tumour.

I am indebted to Professor Leith for allowing me to have my microscopical sections photographed at the University, Birmingham.

DISCUSSION.

Dr. LOUISE MCILROY was much interested in Dr. Savage's paper. She had experience of a similar case within the last few months, the whole abdomen being filled with an enormous solid tumour of the ovary. This she removed, but the patient only lived for about ten days, not being able to take any nourishment. Dr. McIlroy had the advantage over Dr. Savage of following the case to the *post-mortem* examination, and thus proving the primary growth of the tumour in the ovary. This tumour was not like a sarcoma or an epithelioma, and she suggested to Dr. Savage that in both cases the tumours belonged to the class of the peritheliomata.

The paper was also discussed by Professor FEHLING, and Drs. MUNRO KERR, EDGE, and H. T. HICKS, the chief point raised being the connexion, if any, of similar growths with antecedent vesicular mole, with which they had been found associated in many cases.

TREATMENT OF CONTRACTED PELVIS.

By Professor FEHLING,

Strassburg.

SINCE, through Deventer in 1701, we became acquainted with contracted pelvis, many endeavours have been made to lessen its disadvantages during confinement. The most important advance in the treatment of the condition was the idea of inducing premature labour, spread from England by Denman more than a century ago. No further progress was registered until the introduction of enlargement of the pelvis by Gigli, who, following Morisani's efforts, kept alive symphysiotomy, as brought forward first by Sigault.

To-day we can protect a woman in labour from the dangers of a contracted pelvis much more surely than before. Three different methods are open to us:

1. Knowing the approximate size of the pelvis, we can try to obtain a corresponding size of the child's head. This can be effected by feeding the mother during pregnancy in a sparing manner. On the basis of the so-called Schweninger diet, Prochownik put forward a special form of diet for the pregnant, with which he obtained satisfactory results. Scientifically his proposition was supported by certain experiments made by an earlier assistant of mine—Dr. Reeb. They were undertaken on the same mother animals, fertilized every time by the same male, the one time fed with good, rich food, the second time with bad. The total weight of the young gave on the average in cases of underfeeding 41·2 per cent. less than in cases of good feeding; the total fat is in cases of bad feeding 61·9 per cent. less than when the food is good; the nitrogen and ash content, on the other hand, are not influenced. These results are in keeping with Prochownik's views; but they cannot, of course, be taken as a complete guide to human treatment without further corroboration. The putting on of fat takes place mostly in the last six to eight weeks of pregnancy, and results will be achieved by the withdrawal of food in these last weeks; but it must not be forgotten that initial differences can arise—as when a girl follows a boy, or the reverse.

A second way whereby a small fetus can be obtained is by inducing premature labour at a time when the child's head is still capable of passing through the narrowed pelvis. It is a treatment specially to be considered in cases of simple flattened and rachitic flattened pelvis, and in slight cases of generally contracted pelvis. After much vacillation, it is now generally accepted that the induction of premature labour should be undertaken only in the case of multiparae. In primiparae with contracted pelves, one should first observe the course of a spontaneous birth, but the main reason for not artificially producing labour, is that then the slow extension of the soft parts makes the prognosis worse. Moreover, the time during which the procedure can be adopted is limited. I choose from the thirty-fifth to the thirty-seventh week, induce the labour with a hydrostatic dilator, and seek to obtain, or retain, a cephalic presentation. By this method the results are by no means bad. In the Strassburg clinic 80 per cent. of the children were born alive, and 76.46 of those born living discharged living.

In contradiction to the teaching of Zweifel, I accentuate the fact, with v. Herff and Pfannenstiel (to whose brilliant results one may well refer), that the number of living children at the end of the first year is a really large one (82 per cent. of those discharged alive), larger than in the case of children born by Caesarean section.

From what I have said, I hope this treatment may be recognized as a means which a practical accoucheur can practise with success.

2. Now there are cases to which the foregoing methods are not applicable, or in whom the patient with narrowed pelvis comes under notice for the first time when labour has commenced. For a few of these cases the widening of the pelvis produced by the use of the Walcher position during labour is successful. In the Walcher position, the anterior half of the pelvic ring sinks, and thereby increases the length of the conjugata vera by from 1 to 1.5 cm. It is unfortunately of use only in few cases, but we can employ it with success for the passage of the after-coming head. Its use is of less value in cases of delayed entry of the head into a narrowed pelvic brim.

In hospitals the best means of all is pubiotomy; how far it can be undertaken in private practice has yet to be proved. Let us first decide what enlargement of the pelvis pubiotomy offers. With a space of from 4 to 6 cm. between the pelvic bones at the symphysis, the available conjugata vera is increased by from 1½ to 2 cm.—that is, it measures approximately the same as the conjugata diagonalis, but only when there is free movement at the sacro-iliac synchondrosis. Therefore in cases of oblique distortion of the pelvis one avoids pubiotomy.

The non-rachitic and rachitic flattened pelves come again here into consideration, because in their case the conjugata vera never sinks below 7 cm. In cases of generally contracted pelvis, both symmetrical and asymmetrical, as also in cases of rachitic generally contracted pelvis, the true conjugate should never measure less than 7 cm. In the rarer forms of contracted pelvis (as the obliquely distorted, the triradiate, the osteomalacic, etc.) pubiotomy is to be entirely avoided.

In any given case I do not consider it very difficult to decide upon the indication and moment for operating. The operation is indicated when from the beginning of the labour it is known that there is a disproportion between the size of the child and the pelvis, and when during the course of the labour it is seen that danger for the mother or child is arising therefrom, such as commencing stretching of the cervix, fever, slowing of the fetal heart sounds, and the impossibility of bringing the labour to an end by more usual means. A man in private practice will have but seldom the opportunity of performing pubiotomy. The better course for him, when longer waiting is too dangerous, is to save the mother by a high forceps operation, and, if this fails, to perforate, even a living child.

In hospital work on the other hand one is, thanks to pubiotomy, in a position to avoid the perforation of a living child. Pinard put that clearly before us. The one important point is that the child be in good condition. If it is endangered—as, for instance, by prolapse of the umbilical cord—I prefer Caesarean section, because through it, the child can be more quickly brought into the world. I do not, as a matter of principle, exclude primiparae. As regards the technique, the large skin incisions recommended by Gigli and van de Velde have been given up, and one uses in the open method only the small incision on the horizontal pubic ramus advised by Doderlein. One works then with a blunt instrument from above downwards behind the pubic bone, guides the saw afterwards in the track made, and further round the under edge of the ascending pubic ramus towards the labium majus.

This was my procedure in the first 17 cases; in the 15 later ones I have followed Bumm's subcutaneous method, which is as follows: The needle recommended by him for the purpose is made to pierce the skin, under the control of one hand in the vagina, at the lower edge of the pubis, is then pushed upwards, when possible, under the periosteum, until the skin above the pubis and somewhat to the outer side of the tubercle is reached. A small incision is then made down on to the needle point, the point is pushed through this, the saw attached to it and drawn back in the same course. If, up to this time, severe bleeding has been avoided, it is not likely to occur from the sawing.

As soon as the bone gapes enough—this can be best controlled from the vagina—the saw is withdrawn and at once the subcutaneous wound compressed from outside and from the vagina with gauze, to prevent further venous bleeding and the production of haematomata. Whereas in my first 10 cases I delivered the patient immediately after having sawn through the bone, I now follow Zweifel's advice and await, if possible, a spontaneous birth. The advantage of this is the avoidance of injury to the soft parts, which threatens more especially in primiparae; but if, in the meantime, the child shows signs of danger, the forceps must be used or version undertaken. Immediately after the birth of the child, as also after that of the placenta, the tamponade must be repeated. This remains in place for twenty-four to thirty-six hours; a catheter is introduced for forty-eight hours.

Of my 32 cases, I lost one mother. The placenta had to be manually removed. She died after more than two months from an uncommon form of *coli* sepsis. Of the children, 27 were born alive. This gives a maternal mortality of 3.2 per cent., an infantile of 9.6 per cent. Thus the maternal mortality is lower than that due to Caesarean section, the infantile higher.

The operation, therefore, makes the perforation of a living child unnecessary in a hospital, and comes into competition during labour with relative Caesarean section; during pregnancy, with the induction of premature labour. With regard to symphysiotomy, I have much less experience, but have gained the impression that it gives rise to severer bleeding, as either the corpus or crura clitoridis is torn, and, further, the urethra and bladder are more endangered.

The latest that one hears with regard to pubiotomy shows that also in midwifery fashion plays its rôle. At the present time the newer methods of performing Caesarean section have pushed pubiotomy into the background, but I am convinced that, in spite of this, it will always retain its place in midwifery.

I have, moreover, no anxiety in still performing pubiotomy when, in a case of induced premature labour, the head proves too large to pass through the pelvis.

The introduction of pubiotomy has very much simplified the conduction of labour in contracted pelves. In the first place wait as long as possible—in more than 80 per cent. of the cases the result is a spontaneous birth. Should danger for mother or child ensue, then in practice one must first try forceps, and, if this fails, follow it by perforation. But in hospital, rather than this, so long as the child is in good condition, we employ pubiotomy.

3. The third method of evading the dangers of labour with narrowed pelvis is the radical. One delivers by Caesarean section. The absolute indication is here, when the child lives, very simple—when the true conjugate measures 6.5 cm. or less and the child is viable.

The boundaries within which I perform relative Caesarean section are narrow on account of pubiotomy. The indication is given when the true conjugate of a multipara measures between 6.5 and 8 cm., and when other methods, as forceps, premature labour, even pubiotomy itself, have given bad results for the child. The upper limits (7.5 to 9 cm.) generally accepted as indication for relative Caesarean section I reserve for pubiotomy.

Relative Caesarean section is out of the question for primiparae, especially unmarried ones, for infected cases, and when the child is dead. There is no doubt but that Caesarean section, even in the hands of the best operators, gives a higher mortality than myotomy. In the first place, this arises from the uncertainty concerning the bacterial content of the internal genitals—one cannot ascertain from the look of a patient, who comes into hospital after having been examined outside, whether her genital canal contains only saprophytes or haemolytic streptococci.

In the second place, the conditions under which the wound heals are absolutely different. The wound in the uterine muscle is continuously retracting, especially in the first twenty-four to forty-eight hours. Owing to this the sutures become loose and bacteria can make their way from the uterine cavity into the wound. This occurrence is further aided by the changing states of contraction and relaxation of the organ, whereby the germs are to a certain extent sucked into the lymph vessels. Therein lies, at least according to my opinion, the difference between the healing of the Caesarean section wound and that of other abdominal operations.

Others believe that when the uterine contents are infected the peritoneum is able to stand very much less than the connective tissue of the pelvis; hence the newer methods of Frank (suprapubic Caesarean section), Sellheim (extraperitoneal Caesarean section), with numerous modifications by Veit, Pfannenstiel, Latzko, etc. In this operation it is necessary to push upwards the peritoneal fold lying between the posterior surface of the bladder and the lower uterine segment in order to reach the cervical segment. Numerous operators have shown that it is not always possible to attain this without injury to the peritoneum, but a small injury, immediately afterwards closed, does not seem to matter much. On the other hand, the operations have shown that when a patient is infected with really virulent germs, she is, even by this means, not to be saved. She may die later with or without peritonitis, and this seems only likely.

I do not agree with the point of view of those operators who consider the peritoneum especially sensitive to infection. As we have seen from numerous operations on purulent adnexa, and also from Tavel's varied experiments, the healthy peritoneum can fully deal with bacteria, even streptococci, which have found their way into it. One must only avoid leaving in out-of-the-way spaces stagnating fluid and large surfaces robbed of their serous covering. This can be avoided in Caesarean section, and then the peritoneum is not any more endangered in the uncertain cases than the parametrium, rich as it is in blood and lymph vessels. On the contrary, the latter operation has an advantage in that the incision is made through the thinner part of the uterus, where the blood supply is much less than the cervix. Then, whether one makes a longitudinal or horizontal cut (I prefer the former), one is surprised to see how little it bleeds: the healing of the wound is not interfered with as above, when the thicker part of the uterus is cut through: the wound can readily be stitched in stages; last of all the easily movable peritoneum. Of later births in these cases I have as yet no further experience.

As a matter of fact, the occurrence of rupture of the uterus should have hinted to us long ago that the incision for delivering the child had better be made in the stretched cervix rather than in the thick uterine wall. When the cervical method is undertaken the operation must not be made at the beginning of the labour, but later, when the cervix and lower uterine segment are well stretched, so that one can comfortably cut down on them from above the symphysis. The child is then delivered either spontaneously, with the forceps, or by version this varies according to the case.

I intend in the future to replace the classical Caesarean section by the cervical, expecting better results from it

rather than from the extraperitoneal method. Time and results will teach us what is right.

As regards relative Caesarean section, we cannot give in millimetres exactly between which limits this should be undertaken, since the size of the child's head and its consistence, the force of the pains, etc., also come into consideration. Only by careful observation of the individual cases can this be decided, but then the doctor in a well-arranged hospital will find himself, through pubiotomy and aseptic Caesarean section, in a position to save both mother and child, where earlier one or both had been lost.

DISCUSSION.

PROFESSOR MURDOCH CAMERON (Glasgow) said: Professor Fehling has laid more stress on induction of labour and Caesarean section than on the question of the use of the forceps. He has, I think, stated that the chance of the survival of the child is greater after induction of labour than after Caesarean section. Might I ask him how he explains that a child born at the thirty-fifth or thirty-seventh week has a better chance of life than a child born at full term? As regards the method of diet, our experience is amongst poor ill-fed women. I agree with him as to the measurements and operations advocated by him.

DR. HASTINGS TWEEDY said: Professor Fehling's experience has been so great and his results so good that we in this country are bound by his findings until our own experience is sufficient to unable us to judge for ourselves. Caesarean section is not a rival operation to pubiotomy, but should be considered supplementary. We are now in possession of methods that should make it unjustifiable in hospital practice to perforate a living child. In general practice premature labour will be always preferred to any cutting operation. Accurate measuring of the pelvis is much neglected in our country. Skutch's pelvimeter will alone give accuracy in pelvic measurement; it is a troublesome method, necessitates an anaesthesia, and a considerable amount of manipulation, but no major operation for contraction should be undertaken without its employment.

Professor FEHLING, in reply, said: I quite agree with Professor Cameron that there are not very many cases for Prochownik's diet in pregnancy, but the practitioner may certainly obtain good results in private practice, especially in cases of slightly contracted pelvis. The question why, in Caesarean section, children have a higher mortality than premature labour children is easily answered. You make Caesarean section in married and unmarried women even for the first child. Now premature labour is induced in multiparae, and especially in married women, who have the greatest interest bringing their children up by feeding at their own breast, or a wet nurse. Hence the difference found for my clinic. I am a great friend of induction of premature labour, especially in the hands of the practitioner, and beg Professor Cameron to believe that my indications for interfering by pubiotomy or Caesarean section are as strict as his. My operated women walk after pubiotomy as easily as after Caesarean section, and I invite him to come over to Strassburg, and he will see that they are able to dance as well as others. With Dr. Munro Kerr I do quite agree as to the bad results of high forceps; my opinion is to wait as long as possible and you will have spontaneous delivery in 80 per cent. of the cases. I also agree that the operation when done on primiparae is more dangerous, because of the lacerations, but there are still cases in which it has to be done. I quite agree with Dr. Munro Kerr that the practitioner cannot avoid perforation of the living child; the clinician is obliged to save the child by pubiotomy or Caesarean section. To Dr. Tweedy I must confess I am quite an antique. After many years' use of all kinds of different pelvimeters, I have returned to the use of the hand; the first time I measure the pelvis under chloroform, and I remeasure two or three times without; then I take the average. The chief thing is the exact consideration of the labour. I only interfere when I am convinced that there is disproportion between the head and the pelvis, and that either mother or child is in danger. I cannot quite agree that the prognosis of Caesarean section should be as good as that of perforation. I am delighted to hear that Dr. Tweedy will try Bumm's subcutaneous method of pubiotomy, and am sure that in his skilled hands it will give as good results as in those of others.

DYSTOCIA DUE TO VENTRIFIXATION OF THE UTERUS.

By MURDOCH CAMERON, M.D.,
Regius Professor of Midwifery and Diseases of Women, University of Glasgow.

CASE I.

THE patient in the following case, a married woman aged 32, was admitted in her fifth pregnancy into the Glasgow Maternity Hospital on November 11th, 1908. Her previous labours had been normal and conducted without difficulty. After her fourth confinement she suffered from prolapse of the uterus, and on this account had had ventrifixation performed. About the seventh month of the present pregnancy she began to have pains like labour pains, and these continued to trouble her more or less during the last two months. True labour pains set in early on the morning of admission, and the membranes ruptured during the afternoon.

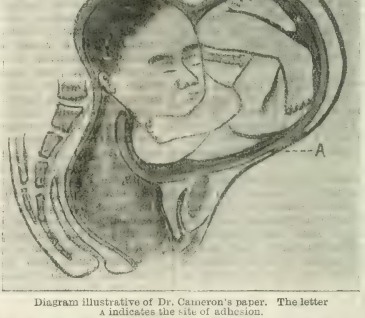


Diagram illustrative of Dr. Cameron's paper. The letter A indicates the site of adhesion.

State on Admission.—She was pretty well exhausted, and the uterus was in a condition of tetanic contraction. The scar of the previous operation was seen in the abdominal wall. On examination per vaginam, the edge or margin of the os uteri could not be felt until the whole hand had been passed into the vagina. The condition was obviously one of a ventrifixed uterus in a condition of pregnancy. The os uteri pointed directly to the sacral promontory; no posterior lip of the os could be felt, the vaginal wall being continuous with the posterior uterine wall and greatly stretched. The margin of the anterior lip was close to the sacral promontory. On passing the fingers round the latter, the head could be made out lying above the promontory with the shoulder also presenting.

Craniotomy.—Under chloroform craniotomy was performed with a perforator and a crotchet. No other form of instrument could be passed. With great difficulty the roof of the skull was removed piecemeal by means of the sharp hook. By this means the rest of the head was pulled gradually into the vagina. The body had to be delivered by forcing a hook between the ribs.

Result.—After delivery a tear was found in the upper part of the posterior wall of the vagina, caused no doubt by the dragging of the posterior wall of the uterus. The tear

was only through mucous membrane, and after being examined was left alone. She was dismissed well on November 28th, seventeen days after delivery.

Patient is again pregnant, and will undergo Caesarean section at an early date.

Case II.

The patient in the second case, aged 35, and likewise in her fifth pregnancy, was admitted about a month later—namely, December 7th, 1908.

Two years after her fourth confinement she had ventrifixation performed on account of prolapse of the uterus. Labour set in on the day previous to admission. The membranes were said to have ruptured five hours previous to admission. The child was found lying transversely. The os uteri could only be felt by introducing the whole hand into the vagina as it was pointing over the sacral promontory.

Caesarean section was performed by Dr. Jardine in my absence. The adhesion band of the ventrifixation was broad and firm. The patient made a good recovery.

Remarks.

Now whilst ventrifixation has its advantages as a method of treatment for uterine displacements, the disadvantages of its seriously interfering with labour, along with the great risk of rupture of the uterus from over-distension of the posterior wall, calls for consideration as to whether this method of dealing with displacements in child-bearing women should not be modified or even extended. In such women I think the anterior wall of the organ should be chosen, and, with the patient's consent, the tubes could be tied and divided. When this is not desirable pessaries should be used to support the uterus. The relation of the parts is shown on the annexed diagram.

DISCUSSION.

Professor Jacob (Brussels) said: I am glad of the opportunity afforded me by the interesting communication of Professor Cameron to protest against ventrifixation. It should be recognized as one of the most dangerous operations in gynaecology—dangerous for young women, as Professor Cameron's case shows, dangerous for women who may still have children, and dangerous for the aged, in whom, for prolapse of the womb, it has been so highly praised. Permit me to mention three fatal cases that have come under my own observation. The first underwent ventrifixation in 1886 and died of ileus in 1891; the second, operated upon in 1890, died of ileus in 1898; the third, operated upon in 1898, died in 1901. In the first case a pedicle 9 cm. long had formed between the uterus and the abdominal walls; in the second a pedicle 7 cm. in length was found, and it was round these pedicles that the intestine had come to form the adhesions that proved fatal. The third case was one of prolapse which recurred three years after the operation, with the curious complication that the pedicle formed between the uterus and the abdominal wall dragged the wall down; there was, in fact, a true prolapse of the abdominal wall towards the vagina. In brief, I look upon abdominal hysteropexy as a dangerous operation which should not be performed save in case of necessity.

Professor Cameron, in reply to questions, explained that the ventrifixations in his cases had not been done by himself, and that he could not describe the technique that had been adopted.

DEVELOPMENT OF THE EPITHELIAL ELEMENTS IN THE OVARY.

By Annie Louise McIlroy, M.D.Glasg.,
Gynaecologist, Victoria Infirmary, Glasgow.

[Lantern Demonstration.]

Dr. Louise McIlroy demonstrated the various stages of growth of the embryonic germ cells in the mammalian ovary. The types taken for comparison were those of the pig and human fetal ovaries for the embryonic stages, and the dog and kitten for the post-natal stages. The oocytes and cells of the stratum granulosum were shown to have their origin in the early germ cells, and the stroma cells appeared later as a framework or supporting structure only. The various forms of cell changes during maturation of the germ cell were shown and also the formation of the Graafian follicles, the research having been carried out in the physiological department of Glasgow University with Professor Noel Paton, the expenses being defrayed by a grant from the British Medical Association.

DISCUSSION ON THE TREATMENT OF THE GRAVER FORMS OF PUERPERAL SEPSIS.

OPENING PAPER.

By Thomas Wilson, M.D.Lond., F.R.C.S.,
Honorary Obstetric Officer, General Hospital, Birmingham.

For long puerperal fever was considered by different observers to be due to contagion or infection, but it has remained for the last half-century to give precision to this conception, and to demonstrate the solid foundation on which it rests. Agreement is now universal that the disease is a special case of wound infection; that it is caused by the entry of germs or their poisons at the placental site or through breaches of surface in the cervix or body of the uterus, the vagina, or the vulva; and that many different germs, streptococci, staphylococci, *Bacillus coli*, and others, are capable of producing the infection. The germs may act by themselves invading the tissues, or by giving rise to poisons which are absorbed, or in both these ways. In grave cases they probably always gain entrance from without during or soon after the process of parturition.

As the direct result of increased knowledge and improved methods of prevention based thereon, the mortality from puerperal infections in properly conducted lying-in institutions has been reduced almost to vanishing point. Outside these institutions parturient women have not shared in the benefit; upwards of 40 per cent. of the total child-bed mortality is still caused by septic diseases, from which on the average more than 2,000 women die every year in England and Wales.

Advisability of Segregation of Cases.

The mortality percentage of cases of puerperal sepsis is uncertain, but 10 is probably not far wide of the mark. At this rate there will be in England and Wales every year an average of something like 20,000 puerperal infections, and among them there is still plenty of opportunity to study and treat grave cases. Unfortunately, the cases are scattered, and only here and there provision is beginning to be made for collecting them in hospitals or other institutions suitable for research and effectual treatment. Notably in Manchester a considerable number of the worst cases are sent for treatment to the Monsall Fever Hospital, where Dr. Knyvett Gordon is making good use of opportunities of studying the treatment of these affections, opportunities that are unrivalled elsewhere in the kingdom. Throughout the country generally the rule appears to be that where patients infected in child-bed are not left to work out their own fate as best they may in their own homes, they are sent into Poor Law infirmaries, where the provision for effectual treatment is either non-existent or inadequate. The disease has been made notifiable, and there are the strongest possible reasons for the community to provide effective means for isolation and treatment, as is already done in scarlet fever, small-pox and diphtheria. At present the recognition of puerperal sepsis is made with reluctance for fear of unjust blame being imputed to doctor and nurse by the half-informed laity, and the treatment is often half-hearted and futile because of the lack of proper appliances and convenience, and of the dread of spreading infection to other patients. Prompt diagnosis followed by segregation in a properly equipped hospital is to be desired. Curative treatment would thus be made easier and therefore more effectual; the nurses would be specially trained, and the doctor have a chance of increasing his skill by extended practice under favourable conditions. The absence of such organized provision renders the investigation and study of the disease not only difficult, but incomplete and scrappy, and makes impossible a sufficiently extended practical trial of new and promising methods of treatment.

Initial Treatment.

Grave cases of puerperal fever are such as threaten the life and health of the patient. The worst cases usually

arise in the first few days after delivery, either at or near term, or much less commonly after abortion in the earlier months. At the onset it is impossible to tell whether we are at the beginning of a serious or even fatal illness, or are merely witnessing a mild and passing toxaemia. In either case the symptoms are those of fever, often ushered in by shivering or distinct rigor, and attended often, but by no means always, by lower abdominal tenderness, and by changes in the lochia. This may be scanty, suppressed, or offensive, but in the worst cases of streptococcal infection may present no obvious change in quantity, appearance, or odour. The rise in temperature is the earliest and most convenient symptom on which to decide upon treatment. So soon as the temperature is observed to be raised to 102° F., a careful examination of the patient should be made, and in the absence of an obvious and sufficient cause, such as a hard swollen breast, or a sore throat, the presumption is that infection has taken place, and this presumption should be acted upon without the delay of a single hour. Procrastination at this point is the most fatal, as it is the most usual, error. The delay of a few hours in commencing treatment may make all the difference between a slight and transient illness and a grave infection that may lead inevitably to the death of the patient.

The indications at this stage are to kill and remove the germs in the neighbourhood of the absorbent raw surfaces; to remove as far as possible all necrotic and putrescible materials, solid and fluid, and to do this without injuring the healthy living maternal tissues. The administration of a copious uterine douche by a funnel and tube through a glass Budin's tube meets these indications. Before giving it, the vulva, vagina, and cervix should be thoroughly cleansed, and, through a speculum, some of the contents of the uterine cavity obtained for bacteriological examination. This may conveniently be done by means of a glass tube 10 in. long and ¼ in. in outside diameter, or by passing into the uterus a pencil or small swab similar to that commonly used to obtain specimens from diphtherial throats. Films and cultures enable a working diagnosis of the germ implicated to be made within a few hours.

The uterus must be washed out copiously and thoroughly, at least 5 or 6 pints being used. Opinions widely differ as to the best addition to be made to the water used for injection. Plain water is not suitable, and the addition of carbolic acid or corrosive sublimate is too dangerous. Some practitioners use normal saline solution, and claim very good results. I am in the habit of using large quantities of iodine solution, which forms a reliable antiseptic, and at the same time has not appeared to give rise to any symptoms of poisoning.

Instead of, or in addition to, the use of a copious douche, strong antiseptic applications to the inside of the uterus are often employed, but with questionable advantage. It is impossible by any method of cleansing to free the uterine cavity entirely from the invading germs; and the application of caustics, such as 10 per cent. solution of carbolic acid in spirit, of pure liquid carbolic, izal, strong solutions of iodine and the like, have the disadvantage of causing the death of a certain thickness of the tissues to which they are applied. Usually, however, this method thoroughly carried out appears to be successful in causing attenuation of the germs, while the superficial necrotic layer saturated with strong antiseptic forms a sufficient barrier to the spread of the germs, until the living tissues have had time to form a protecting and separating granulation layer.

In most cases the use of the uterine douche is followed by a decided fall of temperature, together with marked improvement in the other symptoms. If the fever does not drop, further active treatment should be undertaken after an interval of not more than twelve hours; or, if the temperature rises again later, the uterus should be explored without delay. The indication is to make quite certain that no putrescible materials, such as clots, portions of placenta or membranes, are retained in the uterus.

Digital Evacuation v. *Curetting.*

In attempting to fulfil this indication, we find practitioners fairly sharply divided into two classes—those who advocate the use of the curette and those who rely upon digital evacuation. In either case a copious intrauterine douche is indicated both before and after the intervention. An anaesthetic is usually required, either for curetting or digital evacuation, and one should be administered without hesitation. The digital method has the advantage of enabling one to ascertain whether there is any coarse débris or retained clot present in the uterus, and what is the condition of the wall of the organ, while doing little or no injury to the surface of the mucous membrane. It has been objected that if the uterine walls are stiff the finger cannot reach the fundus, an objection that rarely has any foundation in fact when the examination is made in the early stages of the disease. In favour of the curette it is urged that the removal of dead material is much more thorough than with the finger, but I have seen several cases where much coarse débris has been left behind in the uterus after the use of the instrument. It may be objected, of course, that the curette was not used in these cases by skilful hands; but in an affection so widely spread and so frequently occurring in places where assistance is not available other than that of the general practitioner of average skill, that is the better of two equally good methods which is the more easily acquired, and in this respect digital evacuation has the advantage. To the use of the curette, even in the most skilled hands, it may be objected that the scraping is applied to the whole interior of the uterus, to surfaces that may be unaffected, as well as to the diseased parts; and that new lymph and blood channels are opened up which offer the germs easy access to the deeper layers of the uterine wall. It is quite impossible to get the whole of the injured tissues away, and much less is the curette or any other method able to get rid of all the germs. It has further been objected to the curette that by its use the protective barrier of leucocytes which forms the first line of defence of the body against bacterial invasion is removed, but this argument has little weight here, since the operation we are considering ought to take place before this barrier has had time to form. Taking everything into consideration, I am of opinion that digital evacuation presents solid advantages over the use of the curette in cases of puerperal infection, and an extensive practical acquaintance with the method has confirmed me in this opinion.

General Management.

Throughout the course of the case the general care of the patient requires absolute rest in bed, together with careful attention to the diet, which, it is agreed, must be at once as nutritious as possible and easily digestible. The administration of an effective aperient is useful at the outset, and means must be taken to control any pain that may be present.

Among drugs, quinine, alcohol, and strychnine are those which, in my experience, have been of most service. Quinine, in doses of from 2 to 5 grains every four hours by the mouth or of 10 grains twice a day in the form of suppositories, has appeared to me in many instances to exert a favourable influence on the nervous system and on the body generally. In carefully regulated doses frequently repeated, and controlled by the observation of the pulse, temperature, tongue, and skin, alcohol has appeared to me to be of conspicuous service in many cases. In severe cases with failure of circulation, strychnine, especially in hypodermic injections, is often given with marked benefit. The use of antipyretics is not to be recommended. The rise of temperature appears to be a measure of the patient's general resistance against bacterial invasion. Only in very high fever does the increased temperature itself appear to harm. When the temperature is unduly high tepid sponging of the surface of the body controls the fever and at the same time comforts and soothes the patient. The sponging may be repeated with advantage whenever the temperature rises above 103° F.

When local measures, douching and curetting or digital evacuation, have failed, and it becomes probable that septic germs have penetrated more or less deeply into the tissues, the problems of treatment become much more difficult of solution. The indications still are to attempt to injure or destroy the germs and their poisons, and to encourage and reinforce the natural powers of resistance of the body.

Direct attempts to paralyse or kill the germs have been made by the injection into the circulation or under the skin of certain substances such as formalin, corrosive

sublimate, and collargol. The obvious difficulty here is to find a substance that shall be effective on the germs and still not injure the patient's tissues.

I have made trial of collargol, injected into a vein or administered by enema, in a fair number of cases, but have not hitherto satisfied myself that the drug has any definite influence over puerperal sepsis; there have been no ill results, and I think it is worth an extended trial in suitable cases. The collargol disappears from the blood stream in the course of a very few hours, and it is desirable, therefore, to repeat its administration at frequent intervals—at least twice in the twenty-four hours. It is only likely to be beneficial in a bacteriaemia or toxaemia in the early stages, when the patient's resistance is still strong. As with immune serum, so collargol cannot get into abscess cavities, sloughs, or thrombi, and therefore it cannot be expected to be of direct service in the local manifestations of septic infection. Over the serum it presents at least the advantage that its use is not necessarily limited to one variety of germ, but may be extended to all cases of bacterial invasion.

Indirect means of attacking the invading organisms include, in the first place, attempts to favour the production and activity of phagocytes, which originate chiefly in the bone-marrow, and appear to play a principal part in the defence of the body against infection. With this end in view trial has been made of subcutaneous injections of nuclein, and of the production of so-called abscesses of fixation (Fochier) by the hypodermic use of quinine or oil of turpentine. The introduction of large quantities of water or normal saline solution has been supposed to act partly in the same way, and is in any case very useful in many instances, especially in the early stages of severe infection. Large amounts of water or soda water may be drunk with advantage by the patient; if she is vomiting, half-pint saline enemata may be given every four or six hours; or subcutaneous infusions may be administered of half to one pint twice or three times a day. These are often useful in helping to support an embarrassed heart and flagging circulation: excretion from kidney, skin, and bowel is increased, and the flushing of the tissues aids in carrying off bacterial poisons and waste products.

Immune Serum.

Encouraged by the success that has apparently followed the use in diphtheria and certain other diseases of specific immune serums derived from animals, attempts have been made in the last dozen years or so to find a serum that will cure puerperal fever. The results hitherto have been disappointing.

I have never been able to convince myself that the use of antistreptococcic serum has been of distinct service in the grave cases of puerperal infection in which I have employed it. In the less rapid cases its use has occasionally been followed by obvious improvement; but in most of these also there has been no recognizable effect.

Vaccines.

More recently vaccines have been prepared from the invading organism actually present in the patient, and have sometimes appeared to give good results. Hale White and Eyre[1] claim two recoveries out of three cases of puerperal infections treated by vaccines. In a recent case of my own the patient suffered from a subacute pyaemia, of which the first effect was a suppurative panophthalmitis. The use of a vaccine of streptococcus, kindly prepared for me by Dr. Wynn, appeared to be of service after the injection of collargol, antistreptococcic serum, and other treatment had all proved abortive. Within a day or two of the first injection of vaccine abscesses began to make their appearance in the cellular tissue of various parts of the body, and as each succeeding abscess was opened a continued improvement was observed. How far the recovery of the patient, which quickly ensued, was to be attributed to the use of vaccine or to the reassertion for some other reason of the natural resistance of the patient's body it is impossible to say.

The Surgery of Puerperal Infection.

The success that has attended surgical intervention in such affections as peritonitis from diseases of the vermiform appendix, or phlebitis following on inflammations of the middle ear, has encouraged a more extended trial of various operations in puerperal infections. Experience is still too limited to allow the formation of settled opinions as to either indications or technique. Puerperal infection is of infinite and ill-understood variety, and the affection undergoes sudden and unexpected turns, so that prognosis is ever doubtful and the result of any therapeutic method hard to estimate. In the meantime a careful study of the natural course of the disease, patience, and a judicial mind are most desirable aids in the endeavour to settle the best method or methods of treatment.

In the worst cases of puerperal infection the bodily resistance, local and general, is rapidly overwhelmed by the invading micro-organisms, which spread through the walls of the uterus without hindrance into the peritoneum, and lead to the unavoidable death of the patient in a few hours or days. The expectation of good from treatment of any kind is very small, and especially is it vain to expect help from surgery; any operation is useless, and can only hasten death.

Incisions and Drainage in Puerperal Peritonitis.

In other cases, where large collections of turbid serofibrinous or purulent exudations collect with few adhesions, the patient's life may sometimes be saved by timely incision and drainage. Without surgical interference death is unavoidable, and in these grave cases the operation must be done early—in the first two or three days after infection. The indications for the operation are difficult to define. In many cases the symptoms come on with great severity, but soon moderate, the disease running a favourable course. Where there is progressive failure of strength, increasing pulse-rate, general tenderness, and distension of the abdomen, together with retching or vomiting, operation should not be delayed until the patient is too much exhausted to justify the hope of recovery. In puerperal cases operations have not been so successful as in certain other varieties of spreading peritonitis, such as those due to perforation of a gastric ulcer, or to appendicitis. In cases of puerperal sepsis the avenue of infection is by the uterus, large, soft and vascular after recent delivery; the invading germs are very virulent, and the patient frequently in a profound condition of toxaemia. As in all septic states, anaesthesia is ill-borne and should be shortened as far as possible. In proportion as the symptoms progress more gradually and as larger amounts of fluid collect and become shut off from the rest of the peritoneal cavity by adhesions, so does the chance of saving the patient by operation increase.

The best method of operating is still unsettled. Most surgeons open the abdomen either by one large or several small incisions; in the latter case an incision is made on each side of the lower abdomen, and in either case counter-openings are practised through the posterior vaginal fornix, and sometimes in the loins. In the treatment of the peritoneal cavity there is much diversity: some still flush out the peritoneum with large quantities usually of normal saline solution; others mop out as clean as possible with gauze swabs; and still others make no attempt at complete cleansing, arguing that new germs will continue to gain access from the unremoved sources of infection, and that handling the intestines increases collapse and lessens the powers of resistance, local and general. All are agreed that free drainage should be provided by the use of glass or rubber tubes, or gauze, or both. Where the intestines are distended and inactive in these cases of septic peritonitis there is greatly increased danger of toxaemia, and experienced surgeons advocate emptying the bowel by punctures or small incisions.

Another group of operators advocate early and free opening of the peritoneal cavity through the posterior vaginal fornix by the method first described by the late Dr. W. R. Pryor. This includes a thorough cleansing of the interior of the uterus, which is packed with iodoform gauze; a posterior vaginal incision is then made, through which the peritoneal cavity is examined, and adhesions about the back of the uterus and the appendages broken down; the pelvis is then carefully packed with gauze carried up high behind the uterus, with the intention of segregating this organ and its appendages from the rest of the peritoneal cavity. I have tried this method in a few cases that appeared suitable, and have been reasonably satisfied with the results obtained.

[1] *Lancet*, vol. i, 1909, p. 1583.

There are not sufficient data to justify the formation of a definite opinion as to the best treatment of puerperal peritonitis. Those cases offer the best hope of recovery that arise gradually, run a slow course, and do not fully develop until the second week. Large series of cases are to be desired in which adequate bacteriological investigations are carried out, so that the results of treatment may be separately considered for peritonitis due to each variety of form. It is well known, for instance, that in peritonitis caused by the gonococcus operations are successful, but even without operation the prognosis is, as a rule, favourable.

Hysterectomy.

In the treatment of peritonitis in puerperal cases, as in affections of the vermiform appendix, the removal of the port of entrance of the germs would at first sight appear likely to be of the greatest service, but as practical methods of treatment abdominal and vaginal hysterectomy have yielded very unsatisfactory results, and the removal of appendages infected by virulent germs has proved a very fatal operation. In any case the selection of suitable early cases for radical operation would be of extreme difficulty. The operation does not avert death in half the cases, while some of the recoveries following its performance are far from convincing. It is difficult to understand what good operation can possibly have done in a case, for instance, where the patient recovered although there were general systemic infection and septic pneumonia.

In certain definite groups of cases operation is clearly indicated. In sloughing fibroids, certain cases of rupture, and in suppuration of the wall of the uterus where this can be diagnosed, radical intervention offers the best chance of recovery. In well-marked cases of hour-glass contraction of the uterus due to septic infection, hysterectomy would appear to offer the best chance of success. A case of this kind came under my care at the Maternity Hospital last year, and the result of the *post-mortem* examination suggested that the patient's life might possibly have been saved by removal of the uterus.

Surgery of Infected Uterine Appendages.

The removal of the infected uterine appendages is not good treatment in recent cases of puerperal infection. Operation, whether abdominal or vaginal, involves the gravest risk of setting up a spreading peritonitis, while inflammation of the appendages often clears up and leaves remarkably little change behind it. It is therefore advisable to wait if possible for at least from six to twelve months before undertaking any radical operation. By this time the invading germs have died out or become much attenuated, the natural powers of recovery and repair have had a reasonable chance to complete their work, and it is thus possible to ascertain the amount of permanent damage to organs. It is not always possible to wait; in some instances suppuration about the appendages causes prolonged fever, with the attendant symptoms of severe absorption, pains, rigors, vomiting, sleeplessness, and progressive wasting and loss of strength, and it becomes desirable to intervene even in the earlier acute or septic stages of the affection. When this is necessary it is best to operate through the posterior vaginal fornix, not removing the appendages, but opening up any purulent foci that may be present in them or in their immediate neighbourhood, and providing for adequate drainage. Suppurating cysts of the ovaries must be removed, because the dangers of leaving them are greater than those of removal; the risk is comparatively small if the cyst can be delivered entire, but this is often difficult, because of the friability of the inflamed walls.

In certain cases of acute pyaemia where numerous small collections of pus containing virulent germs form in the peritoneum and in the pelvic connective tissue, early incisions for the evacuation of pus have appeared to me to do harm; this may have been due to unintentional breaking down of peritoneal adhesions, or to the opening up of new avenues to the invading germs in a large fresh wound. In such cases experience in the future may teach one to hold his hand for a time; but there can be no hesitation in agreeing that where large collections of pus have formed these should be dealt with on ordinary surgical lines, by early and free incisions in the most accessible direction, through the vagina, or by laparotomy through the middle line or through a lateral incision. The greatest care has to be taken not to open up the general peritoneal cavity, and where this is done the best plan is to pack the wound with gauze in order to promote the formation of adhesions, and not to let out the pus until after the lapse of two or three days.

Ligature and Excision of Veins.

Where infection has spread into the uterine or ovarian veins, giving rise to thrombo-phlebitis, the attempt has been made to cut short the disease by ligature or excision of the diseased vessels.

While it seems likely that this operation may be the means of saving life in carefully chosen cases, the indications for the operation are difficult to define. In acute pyaemia, and in cases where collections of pus have formed in important organs, the operation is of no avail. Fortunately a considerable proportion of patients in both these categories recover without operation. The most hopeful cases for the operation are those typical ones with up and down temperature and pulse, where several—say, five or six—rigors have occurred, and where there are few or no secondary foci, and those not in dangerous positions. When the patient's general condition is good and the pulse still strong, a carefully planned operation affords a fair chance of recovery. The best method of operating is still a matter for discussion. The intraperitoneal route is preferable to the subperitoneal, because it affords the opportunity of examining all four groups of veins. The complete removal of the affected portion of vein is to be preferred to simple ligature, but when the vein is suppurating the removal through the peritoneum is fraught with danger of general peritonitis.

In cases of pyaemia many other operations have to be performed—incision and drainage of superficial abscesses and of empyema, the opening of localized collections of pus in the peritoneum or in joints, the amputation of limbs in cases of gangrene, and others. These call for no special consideration in a discussion like the present.

The curative treatment of grave cases of puerperal infection is not, and from the nature of the process probably never will be, satisfactory. Hope for the future must still centre round prevention. The methods of prevention are known, and a more general and intelligent application of them by a better trained generation of nurses and doctors may reasonably be expected to bring about the practical abolition of grave cases of puerperal sepsis, just as spreading traumatic gangrene has been banished from our hospitals.

DISCUSSION.

Professor FEHLING (Strassburg) said: I am happy to be able to agree with Dr. Wilson in almost all that he has said. I wish to bring forward one point—that is, that the best preparation for the successful treatment is exact diagnosis; but bacteriology does not yet enable us to ascertain with certainty whether we have to deal with haemolytic or anaemolytic streptococci; moreover, haemolytic streptococci may become dangerous, and it seems possible that anaemolytic streptococci may become haemolytic and vice versa. If that is possible *in vitro*, it will also be possible in the interior of the uterus. The second difficulty is that, though streptococci in the uterus always indicate severe disease, a patient may die without streptococci in the blood or survive in spite of their presence. I am of opinion that, for purposes of treatment, a strong distinction must be drawn between cases of sapraemia or toxaemia and streptococcic infection. As regards internal treatment, I agree with Dr. Wilson that neither antistreptococcic serum nor collargol (intravenously or per rectum) has been of much value, though in favourable cases the pulse-rate and temperature diminish. The treatment of streptococcic infection with vaccine is a different matter, and we have begun to give vaccine in severe cases and also in pregnancy prophylactically. It is too soon to give results of this treatment. On one point I cannot agree with Dr. Wilson—that is, the internal examination of the uterus in the first week of the puerperium. I think it dangerous and of no value. The risk of implanting germs in the uterine wall is too great compared with the advantage. Concerning the washing out of the uterus, I

do not agree with Professor Winter, who, in the recent Congress of German Gynaecologists, condemned it altogether. In cases of high fever I take the secretion out of the uterus for examination. If we find only saprophytic germs or *B. coli*, the fever falls after the intrauterine irrigation, but not so when there are streptococci; so we have in the result of bacteriological examination and irrigation a point for our prognosis. Pieces of placenta should always be removed; but curetting in cases of septicaemia is dangerous after full-term delivery; it is only allowed in cases of sapraemia after miscarriage or sapraemia in the second week. Concerning the operative treatment, we must confess that our results are not satisfactory. The extirpation of the uterus gives a mortality of more than 50 per cent. If streptococci are in the blood the extirpation of the womb cannot be sufficient. The operation in cases of peritonitis seems to have more effect, especially if it is done early. I prefer one medial incision and two in the flanks, with introduction of drainage tubes, but without washing out. It is easily to be understood that the opening of local peritonitis and the extirpation of suppurating tubes and ovaries will give good results if not undertaken too soon. Still, it is very difficult to decide when operation should be done in cases of thrombo-phlebitis followed by pyaemia. Bumm recommends us not to operate in the acute stage, more in the chronic, and only to ligature the thrombosed or purulent vessels. There are certainly some good results. We can only hope to have better results in the future by the better instruction of students and midwives, and by the invention of bacteriological and serum methods which will enable us to make the diagnosis of septicaemic infection much sooner.

Professor MURDOCH CAMERON (Glasgow) said: I have never seen death from sapraemia in any case seen early and properly treated by the removal of all débris, swabbing out the cavity, and then swabbing it out with camphor and carbolic acid—crystals of carbolic acid rubbed down with sufficient camphor to liquefy them. In true septicaemia I have had very good results from serum treatment. The important point is to train our nurses, midwives and students in aseptic and antiseptic precautions.

Dr. MUNRO KERR (Glasgow) referred first of all to the difficulty in deciding how soon the uterus should be explored when there were manifestations of sepsis. One saw many cases improve with merely raising the foot of the bed and giving vaginal douches; consequently he thought that the uterus should not be immediately explored unless there was some débris left, and the uterus was infected. The former condition might be suspected if the placenta or membranes did not come away easily and entire, while the second condition should be suspected if the hand had been introduced into the uterus during parturition, and could be decided by the removal of some material from the inside of the uterus with a swab for bacteriological examination. If, after expectant treatment, no improvement followed, then the uterus should be explored. Curettage of the uterus he was opposed to, preferring to remove any débris with the fingers and gauze, and wash out the cavity with some antiseptic solution. He had not found plugging with antiseptic gauze to be followed by any better results. It was difficult to decide when to operate in the graver forms of sepsis, for so many of these serious cases ultimately recovered. There was, however, he considered, one type of cases always most grave, and nearly always fatal, namely, acute peritonitis. This type fortunately was very rare. In such cases drainage of the pericoecum or removal of the uterus might result in benefit. Cases which went on for weeks should be treated surgically. Treatment with antistreptococcic serum he found of no value, but vaccine treatment was a different question. At present one could say that chronic cases would certainly often be benefited by vaccines, but it was still impossible to say that acute and subacute cases would be at all improved. The prophylactic vaccination against septicaemia referred to by Professor Fehling was a matter of very great interest.

Dr. HASTINGS TWEEDY (Dublin) said: It is a mistake to consider that sepsis has been abolished in maternity hospitals. It is still seen, and we encounter large numbers of cases of curable sepsis. It is curable because we start treatment at an early stage, and do not wait, as suggested by Dr. Wilson, until temperature reaches 102° F. To wait so long is to waste valuable and all-important time. Incision through the posterior fornix is at once the simplest and most satisfactory method of draining the abdomen. The insertion of iodoform gauze through this incision will cause isolation of the pelvic organs from those of the general peritoneum. An efficient drainage will also be established, and this with infinitely less shock than that which is produced by abdominal section.

Dr. FREDERICK EDGE (Wolverhampton) said: The general practitioner is blamed for puerperal sepsis, but really it is the professors of midwifery who are to blame for their lack of simplicity and clearness in instructing him as to the dangers of touching the cavity of the uterus after the placenta and clots have cleaned it during their expulsion. In other words, he is not taught the management of the third stage of labour. The germs in the vagina become from want of cleanliness more virulent and haemolytic after some hours or days, and any manipulation hours or days after the labour is over is correspondingly dangerous. Such a manipulation is douching when the vulva and vagina have not been cleansed as a preliminary. Most medical men conduct the confinement quite successfully, but occasionally one gets nervous and spoils a good job by unnecessary interference. My routine practice is to clean out the uterus with finger and *blunt* copper curette, then wash out with normal saline solution, and drain by packing with iodoform gauze. When a case is septic I open the pouch of Douglas and pack with gauze. There is always some sero-purulent fluid to come away and abscesses. The patient should be placed with her trunk elevated (Fowler's position). As soon as possible public provision should be made for these cases, both in respect of hospital accommodation and also as to vaccines, so soon as these have been worked out better.

Professor ALFRED SMITH (Dublin) confined his remarks to the purely operative treatment. For puerperal peritonitis he advised opening the abdomen by an extensive incision. He places a large drainage tube in the upper angle of wound, another in the lower angle, and with a modification of Moynihan's continuous rectal irrigation he causes normal saline at a temperature of 100° F. to flow continuously through the peritoneal cavity—if necessary openings may be made in flanks or posterior cul-de-sac; this continuous use of saline prevents the formation of adhesions around the drainage tube and encourages free drainage. In regard to thrombo-phlebitis, he emphasized the difficulty of differential diagnosis, and drew attention to the importance of the leucocyte count. With regard to the position of hysterectomy, he was not in a position to dogmatize, but thought badly of it both as a curative and prophylactic procedure. He advocated prophylactic removal as best for the patient if the pathologist proved the presence of haemolytic streptococci associated with placental débris.

Dr. CUTHBERT LOCKYER (London) stated that his custom was first to obtain a swabbing from the fundus under strict antiseptic precautions: he then explored the uterus with the gloved hand, and removed any products of conception if they were present. Next, instead of curetting, as he used to do, he contented himself with firm swabbing or brushing of the uterine wall with gauze wrapped around forceps and steeped in a strong iodine solution. The uterus was then drained by 10 per cent. iodoform gauze, and ernutine and trianine injected hypodermically. From the swabbing Dr. Eastes provided a diagnosis of the organism within an hour of its being sent to the laboratory. If the *Streptococcus pyogenes* was the predominant organism in the smear, acting on Dr. Eastes's advice, the speaker was in the habit of injecting 30 c.cm. of polyvalent serum, giving any subsequent dose by the bowel to obviate any of the untoward sequelae—for example, irritative rashes, joint pains, or synovitis. In about forty-eight to fifty-six hours a vaccine was made, and in the case of streptococcal infection administration was begun by a minimal dose of $\frac{1}{10}$ million, given during a positive opsonic phase (in cases where the index had been taken) or during general improvement as

estimated clinically where the index could not be taken. The dose of $\frac{1}{10}$ million was followed by $\frac{1}{4}$ million, and so on. In one grave case, for example, the doses were: June 25th, $\frac{1}{10}$ million: June 30th, $\frac{1}{4}$ million; July 7th, $\frac{1}{4}$ million; July 13th, $\frac{1}{4}$ million; July 19th, $\frac{1}{2}$ million. This was in a case where streptococcal pus formed in the right knee-joint, and the woman was now (July 28th) making a good recovery. In conjunction with Dr. Eastes he had used vaccine in 4 cases with markedly good results. In a fifth case no vaccine was made, the blood being sterile, but the woman was given in all 150 c.cm. of polyvalent serum, and recovered without any local lesion. With regard to drainage by the pouch of Douglas, he had twice had to do this for definite indications (retrouterine swellings), but saw no reason to do so as a routine method of treatment. Ligature of veins might do good in cases which ran a chronic course with recurring rigors, but it was difficult to choose the right cases for this operation. In one case, in which the patient lived for fifty-six days after delivery, there were repeated rigors, and the patient ultimately died of multiple emboli in the lungs. At the *post-mortem* examination a suppurating thrombus was found in the right pampiniform plexus of veins. This would have been a suitable case for ligation of the pelvic veins if the right time had been chosen for operating. It was his practice to use subcutaneous injections of saline solution, believing that the toxins were diluted and their elimination favoured thereby. He believed in the administration of large doses of perchloride of iron, but found quinine of little value. Vaccine treatment had a future. It was a pity that in London there was no adequate provision made for the reception and treatment of puerperal sepsis in any institution. If the cases of puerperal fever met with among the poor were admitted into an institution where the services of a bacteriologist and opsonist were available, many cases which now proved fatal (when dealt with by clinical methods alone) would recover.

MIDWIFERY IN PRIVATE PRACTICE:

A CRITICISM OF METHOD BASED ON ACTUAL RESULTS.

By John J. Austin, M.D., M.Ch.R.U.I.,

Belfast.

In bringing the subject of midwifery in private practice before you to-day, I do so from the standpoint of one engaged in general practice. The views expressed, though they may differ in certain respects from present-day teaching, are based entirely on the results of my own cases. Never having seen a report of cases treated in private practice, I began a few years ago to keep a record of my own cases, that I might know what results could be obtained and how they would compare with those treated in a well-equipped hospital, where all arrangements are perfect and the treatment of the patient is under complete control after admission.

My cases were all attended while I was engaged in the ordinary routine work of a general practitioner. No case was refused because it might turn out unusually difficult or dangerous, nor was attendance on any case declined because I happened at the time to have infectious or suppurating cases under my care.

My present series, consisting of 465 consecutive cases, includes 29 miscarriages, 9 breech presentations, 1 placenta praevia, 1 *post-partum* haemorrhage, 1 accidental haemorrhage, 1 eclampsia, 1 induction of premature labour owing to pelvic contraction, and 5 adherent placentae. There were no deaths among the mothers, and all made good recoveries.

Temperatures.

The temperatures do not include those of the first twenty-four hours after delivery, and were not taken after the seventh day. They were all taken by myself, sometimes in the mouth, but more frequently in the axilla. They were taken at all periods of the day, as suited my own convenience. Of the 465 cases the temperature in 358 (77 per cent.) did not rise above 99°. In 64 cases (13.7 per cent.) the highest temperature reached a point between 99° and 99.5°; in 22 (4.7 per cent.) between 99.5° and 100°; in 17 (3.6 per cent.) between 100° and 101°; in 3 (0.6 percent.) between 101° and 102°. In one case (0.2 per cent.) it reached 103.8°. In the latter case the patient's temperature had been normal during the first six days, and on the seventh day it was 103.8°, the pulse being 96. At this visit I observed the nurse had an inflamed and swollen hand, resulting from a punctured wound. She was sent as quickly as possible to the Royal Victoria Hospital, where she was detained under treatment for about two months. The patient's temperature and pulse remained 103.8° and 96 respectively until the twelfth day, when they both fell to normal. In the other cases the rises of temperature were only temporary, many being normal next day, and all were normal in two days without any treatment, except in one case where the patient suffered to an unusual degree from engorgement of the breasts, accompanied by pain and tenderness. This case was normal in three days. In 31 of the cases where the temperature was elevated, the patients suffered considerably from engorgement of the breasts, the result of commencing lactation, while in 23 other cases where patients were suffering similarly the temperature was normal.

Miscarriages.

Twenty-nine of the cases were miscarriages occurring between the second and seventh month of pregnancy. In 18 of these a sharp flushing curette was used to remove the ovum, either in whole or in part. In one case occurring at the fifth month the fetus had been dead for ten or twelve days, while in two others occurring in the seventh month the fetus was believed to have been dead in each case for two months prior to expulsion. All the patients made a good recovery. The highest temperature recorded in any of these cases was 99°. The separation and removal of an abortion by the finger-nail is a feat which I have never been able to accomplish satisfactorily, and until adopting the curettage treatment I seldom or never left an early abortion case with an easy mind.

After deducting the miscarriages there remain 436 cases at term, 308 being multiparae and 128 primiparae. Of the 308 multiparae only 4 (1.3 per cent.) were delivered by forceps, the remainder (98.7 per cent.) naturally. Of the primiparae 34 (26.56 per cent.) were delivered by forceps and 94 (73.43 per cent.) naturally. By way of contrast I might mention that in the first 436 full-term cases I attended after commencing practice there were 103 (23.61 per cent.) forceps cases, as compared with 38 (8.71 per cent.) in the present series.

While I think the statistics I have given show that I could never have been accused of being in a hurry to apply the forceps, I am certain that we have been in the habit of using forceps more frequently than was either necessary or advisable. I am convinced that many of the difficult forceps cases met with are of our own making; that all the patient requires is a little time and she will deliver herself. Many cases delivered by forceps with the head in the occipito-posterior position would rotate and be easy natural cases if time were allowed. Cases are not uncommon in which attempted delivery by forceps failed, and in a comparatively short time afterwards the patient delivered herself unaided. The too common practice of giving an anaesthetic and applying forceps long before the maternal parts are ready for such treatment is much to be deplored. When pains are weak and labour is progressing slowly, instead of the application of forceps the administration of 10 grains of quinine will frequently bring about the desired result. Quinine, like ergot (which used formerly to be given for feeble pains), sometimes fails to produce any effect; but, unlike ergot, it does not cause tonic contraction of the uterus, but merely strengthens the natural pains and facilitates, rather than hinders, the expulsion of the placenta. It may be safely given, in my experience, even in primiparae before the cervix is fully dilated.

Perineum.

The condition of the perineum after delivery was carefully examined in each case, and the result forms another argument against delivery by forceps. Many lacerations occurred in multiparae as well as in primiparae. Each laceration, however small, was sutured with silkworm gut and healed satisfactorily. When done with due antiseptic precaution, care being taken to remove all blood clot, this is one of the most satisfactory operations in midwifery. Besides adding greatly to the after-comfort of the patient,

this practice largely diminishes the risk of sepsis. The sutures were removed about the tenth day.

In primiparae the perineum was torn in 86 cases (67.2 per cent.), and not torn in 42 (32.8 per cent.). Of the cases with lacerations, 30 (34.8 per cent) were delivered by forceps, and 56 (65.2 per cent.) naturally, while of the 42 cases not torn, only 2 (4.7 per cent.) were forceps, and 40 (95.3 per cent.) natural. In a number of the cases recorded as not torn, there was a laceration of the inner or vaginal surface, though externally the perineum seemed to be intact. These internal lacerations were sutured with catgut.

Eclampsia.

One patient, a primipara, developed eclampsia a few minutes after the birth of the baby. I had only been engaged to attend her late in the evening, and labour set in early the following morning, so that I had no opportunity of using prophylactic treatment before labour, though she had been suffering from marked toxaemic symptoms for a month before delivery. When a patient, especially a primipara, comes to engage me, I ask her to inform me at once if she notices the urine becoming scanty and dark coloured, or if the ankles swell, or if she suffers from headaches or dimness of sight. If I have reason to be specially apprehensive, I teach the patient or her husband to examine the urine, and request that this should be done at short intervals. In this way I have often got threatening cases under treatment early, with the result that in no case except one did eclampsia ensue when I had seen the patient before she was in labour. In the one exception the patient had no sign whatever of toxaemia; I observed that she had hardly any loss of blood at the birth, the draw-sheet having been scarcely soiled. The late Dr. Fordyce Barker described two similar cases where the patient had scarcely any loss of blood at the birth, and each developed eclampsia. I look on eclampsia as being quite as preventable as puerperal fever.

Post-partum Haemorrhage.

One patient, a primipara, who had been delivered naturally, showed a decided tendency to *post-partum* haemorrhage. It was difficult at the time to understand why this should have happened, as it is of rare occurrence in primiparae. A few days after delivery the nurse informed me that when this patient was born her mother died of *post-partum* haemorrhage. I have met with the same condition in several patients whose mothers had died of *post-partum* haemorrhage.

Routine Treatment.

In working out the routine treatment, which, with slight modifications, I have adopted for the past fourteen or fifteen years, my aim was to arrive at a method which could be carried out by any general practitioner, and which would eliminate the risk of all preventable complications, and leave the patient at least as well as she was before conception occurred. During the last few weeks of pregnancy my patients are prepared for the approaching event by means of a tonic consisting of:

℞ Tr. ferri perchlor.	...	...	...	mxv
Quiniae sulph. ...	...	...	...	gr.j
Liq. strych. hydrochlor.	...	...	...	miij–v
Glycerine ...	...	...	...	5ss
Tr. aurant. ...	...	...	...	mxv
Aquae ...	...	...	ad	5ss

To be taken three times daily in water after food. Besides counteracting the tendency to anaemia, it greatly lessens the chance of tedious labour, and decidedly diminishes the risk of *post-partum* haemorrhage. Patients have frequently told me of the benefit they had derived from this treatment. It also seems to have quite as beneficial an effect on the fetus as on the mother. When labour sets in the external genitals and surrounding parts are cleansed by the nurse, and bathed with a 1 in 2,000 sublimate solution. The inner surfaces of the labia and the lower part of the vagina are wiped with gamgee dipped in sublimate solution before each examination. My own hands are thoroughly cleansed with soap and water, and soaked in biniodide solution 1 in 1,000 before each examination.

The first half of this series of cases were examined with the naked hand, in the latter half a sterilized rubber glove was worn on the right hand. Although it made no appreciable difference in the results obtained, I prefer wearing the glove owing to the greater feeling of security. The present-day tendency to regard the making of vaginal examinations as harmful to the patient does not agree with my experience. The rules laid down by teachers with regard to vaginal examinations, however well they may be adapted to hospital practice, are quite impossible in private practice. A busy practitioner must know at regular intervals of the progress of his patient, in order that he may allay the anxiety of the patient and her relatives, and also may best economize his own time. Consequently, he must make examinations as frequently as may be deemed necessary, and, if carried out on the lines already indicated, this may be done with absolute safety. The vast majority of my cases were examined only by myself. Until quite recently the nurses were not allowed to make examinations; now, when in doubt, they are permitted to do so, wearing a rubber glove sterilized immediately before use.

On completion of the third stage of labour each patient is thoroughly douched with a 1 in 4,000 or 1 in 5,000 hot sublimate solution, beginning with the vulva, then the vagina, and lastly the uterus up to the fundus. As a precaution against the introduction of air or lotion into the Fallopian tubes or uterine sinuses the left hand of the practitioner should firmly grasp the uterus while it is being douched. Having douched all my cases for the past fourteen or fifteen years I am perfectly satisfied as to its beneficial effect, notwithstanding the fact that it has, for a time, gone out of fashion with obstetricians. It has a cleansing and soothing effect upon the bruised and overstretched or lacerated tissues of the genital tract, and helps to establish the circulation which may have been long impeded through pressure of the presenting part. The washing away of large clots which frequently remain *in utero* saves the patient much after-suffering, and lessens the risk of *post-partum* haemorrhage and sepsis. Cases which have been examined without due precaution being taken have still more need for the douche. I have been repeatedly told by nurses that after being douched the patient and the bed are much more easily kept clean. I use an ordinary Rotunda douche with a uterine tube made to my own pattern by Young of Edinburgh. The curve is such as to allow of its easy introduction into the uterus without the aid of a guiding finger. It has a single large opening at the end and has no return channel. This allows of better irrigation of the vaginal and uterine walls. Any lotion remaining should be expressed. The douching is not repeated, the nurse being instructed merely to cleanse the external genitals. The douche must, of course, be thoroughly sterilized before use.

Adherent Placentae.

The placenta was adherent in five cases. A sterilized rubber glove was worn during removal in the last two cases. It is in cases where the placenta has been adherent and has required manual separation that the good effects of sublimate douching are most readily seen. Since adopting the douche as a routine the temperature in these cases rarely exceeds 99°, while formerly it was, as a rule, much higher.

Nursing.

Next in importance to leaving the patient in an aseptic condition after delivery is the securing of a reliable nurse. For many years I have tried as far as possible to have my patients under the care of the same nurses, and to keep these nurses employed all their time among my own cases. Until I succeeded in carrying this out I could not obtain uniformly good results. I must be satisfied with the nurse, and so must a large majority of her patients. Nothing conduces more to the wellbeing of a patient than to know that everything is going on smoothly in the house. If a nurse upsets the household arrangements, or worries her patient with household affairs, the patient is not likely to have a normal temperature, or make so good a recovery. It is not essential that the nurse should be highly trained. When I did a considerable amount of midwifery amongst the working classes I had a few nurses of the "handy woman" type, whom I selected and trained myself. These women were taught how to clean their hands, sponge a patient, bath a baby, and give an enema when necessary, but they were not allowed further to interfere with a patient. I taught them to judge the stage of labour by the character of the pains, and after a little

practice it was surprising how seldom I was needlessly summoned. Their cases did as well as those in which a trained nurse was employed. They nursed only my own cases. What I object to most of all is a nurse being present at the birth, and coming morning and evening to attend to mother and child. Such a person frequently has several cases on hand at the same time and then trouble begins.

To the care and attention bestowed upon the patients by the nurses and to the intelligence with which they carried out instructions I attribute in no small degree the results that have been obtained, and which I venture to submit show that, provided the measures I have suggested are adopted, as good results can be obtained in private practice as in the best equipped maternity hospital.

DISCUSSION.

Dr. Hastings Tweedy (Dublin) said that Dr. Austin's paper was of great value, and about the first statistics that had been given in respect of private practice since the days of McClintock. He hoped that Dr. Austin would adopt the Morbidity Table of the British Medical Association, and at some future period show the results of his practice based on this criterion of morbidity.

UTERINE CANCER COMPLICATING PREGNANCY.

By Cuthbert Lockyer, M.D., F.R.C.S.,

Senior Officer to Out-patients, Samaritan Hospital; Obstetric Physician to Out-patients, Great Northern Central Hospital, etc.

My personal experience of cervix carcinoma as a complication of pregnancy and the puerperium is limited to four cases, two of which may be dismissed in a few words as they came to me after abortion in the one case, and labour at term in the other, therefore from the obstetric point of view my own observations were nil, and the cases were dealt with as ordinary cervical carcinomata.

Case I.

A. T., aged 31 years, married nine years, two children, four abortions, the last two months ago at sixth week of gestation. Admitted into Great Northern Central Hospital on February 25th, 1907, complaining that three months before whilst pregnant she noticed a bad-smelling brown discharge, and also haemorrhage on coitus. A month later the patient aborted and the discharge became more profuse. Pain in the left side of the pelvis and frequency of micturition followed, then rapid loss of flesh. On examination, the cervix was expanded into a flat fungating mass, the size of a five-shilling piece, the growth extended also on to the vagina where it covered two square inches of the right and posterior walls. The growth was very haemorrhagic and the discharge very offensive. On February 27th, 1907, the growth was cut away and its base cauterized, and 2 per cent. formalin tampons inserted. On March 2nd I removed the uterus and upper part of vagina by Wertheim's method. The uterus was adherent to bowel and omentum. No glands were found. Time of operation 1 hour 20 minutes. April 15th: Patient quite well. March, 1908: Recurrence.

In this case the cancer was probably present at the time of conception, the abortion was a probable result of the cancer. The extensiveness of the disease was a probable result of the pregnancy. The early recurrence one year may be explained by the fact that the cancerous vaginal wall was torn by traction before the operation was concluded.

Case II.

The patient was delivered on January 4th, 1909, after very severe *ante-partum* haemorrhage due to placenta praevia; this necessitated forcible dilatation and turning with extraction; the patient nearly died of haemorrhage. Examination after the puerperium was over revealed some induration around the cervix which was thought to be parametric cellulitis, then the patient was not seen again for six weeks, as her doctor went away. On second examination she was immediately sent to Mr. Targett at Guy's Hospital, who kindly handed the case on to me at once, as he had no bed vacant and considered the condition urgent, if not actually hopeless. On admission into the Samaritan Hospital the patient, a woman of 35 years of age, gave the history of losing ever since, and for a month before her confinement. I found the cervix almost eaten away, leaving an excavating ulcer extending to the anterior vaginal wall; both parametric and utero-sacral folds were infiltrated. I decided to explore, but as the cancer had extensively involved the base of the bladder I closed the abdomen without attempting the removal of the uterus.

Case III.

On July 30th, 1903, I was called in consultation to see a lady (Mrs. C.) who had been in strong labour for fourteen hours. The patient was a multipara, aged 38 years. The doctor's diagnosis was placenta praevia, but what was taken for placenta proved to be a mass of cancer blocking the vagina completely. The patient was extremely collapsed, the pulse-rate varied between 120 and 140 beats per minute, the expression was anxious, and delivery *per vias naturales* was impossible. I removed a healthy male child by Caesarean section, and as the patient was *in extremis*, I considered it best to simply remove the placenta, inject ergotin, sew up the uterus, and close the abdomen. Removal of the uterus was out of the question as the growth extended into both broad ligaments and above the bladder reflection fixing the lower segment firmly in the pelvis, and a Porro's operation would have prolonged the technique and added to the shock. The patient made a good recovery and was able to get about at the end of the puerperium, but died from exhaustion a few weeks later. The child lived and was strong and healthy. The error in diagnosis of mistaking a cancerous mass for placenta praevia has been made elsewhere. Lovrich of Budapest mentioned a case in the *Zentralb. für Gyn.*, 1904, p. 761, in which carcinoma cervicis was mistaken for placenta praevia, and a living child obtained by turning and extraction, and the uterus not removed.

With regard to employing conservative Caesarean section for carcinoma cases I feel that it is not so good as the Porro-Caesarean, and in future I should perform the latter operation on cases at term, unless, as in the case just described, the patient was *in extremis*, when I should leave the uterus and take the risks of bad drainage rather than those of increased shock.

Case IV.

E. M., aged 32 years, was admitted into the Samaritan Free Hospital for Women on November 11th, 1908.

History.—She was thirty-six weeks pregnant with her sixth child. She had five children born alive; the first two were delivered spontaneously, the last three with the aid of forceps. There had been no puerperal complications. After the birth of the last child catamenia was regular for a year. No proper period had been seen since March 19th, 1908. Haemorrhage per vaginam started on July 16th and lasted three or four days. On August 4th there was a further loss of blood, and ever since July there had been an offensive watery discharge. No haemorrhage of moment had been noticed. The patient went from London to Kingston in October, and whilst there had a severe flooding which necessitated her admission to Kingston Infirmary, where Dr. Pattison Armstrong removed a large cauliflower mass from the anterior lip of the cervix. There was a good deal of haemorrhage from the cervix, and Dr. Armstrong thought of the possibility of placenta praevia. Dr. Donald, the senior officer, sent for me with a view to immediate interference, and I first saw the patient on the evening of October 7th, about twenty hours after the removal of the growth. The bleeding had ceased; the vagina was the size of a twenty-eight weeks' pregnancy. The surface of the cervix was smooth; no growth was discoverable; it felt as if the entire anterior lip had been cut away. The patient was very anaemic from recent haemorrhage; otherwise her condition was good. I examined the cauliflower mass attached to the anterior lip which had been removed by Dr. Armstrong, and came to the conclusion that there was no immediate need for interference, and that provided there was no sign of the growth recurring the case might be left to go to term for the sake of the child. Accordingly the patient remained in the Kingston Infirmary for five weeks after amputation of the cancerous lip of the cervix; she was then transferred to the Samaritan Free Hospital on November 11th.

State on Admission.—During the five weeks' interval there had been no further haemorrhage and no discharge; the patient's health had improved—that is, she had lost her anaemia. On examination it was evident that the growth had returned. There was a mass on the left side of the external os the size of half a crown. It was a soft sessile plaque, which could not be described as haemorrhagic on examination, since there was only a slight brownish stain on the finger on examination. After a consultation with my colleague, Dr. Hubert Roberts, it was decided to operate forthwith, for, although the child was small in comparison with the dates given, interest in the mother's condition, seeing that the cancer had started to grow again, outweighed further consideration for the child.

Operation.—Caesarean section, followed by panhysterectomy by Wertheim's method, was performed on November 17th, 1908, in the presence of Dr. Amand Routh, Dr. Oxford, Mr. Butler Williams, Drs. Drysdale, Frost, and others. I was ably assisted by my colleagues, Dr. Hubert Roberts and Dr. Clifford White. The operation took one hour and twenty-five minutes. The median incision was 9 in. long. The uterus was brought out of the abdomen, the intestines packed back. The ovarian vessels were clamped, the uterus incised, fetus removed, the cord divided and returned into the cavity of the uterus; the latter was then rapidly sewn up with thick-linen thread without the placenta being disturbed. The uterus was now wrapped in gauze and held over the pubes. The ureters were easily found where they crossed the iliac vessels, from whence it was noted that they ran across the pelvis at a higher level than usual. The vagina and parametric tissues were much more easily dealt with than is usual in a non-pregnant case. Every structure came up within easy reach, and the entire operation was carried out in comfort. In transfixing sutures considerable care was necessary in passing threaded needles owing to the large size of the veins.

Result.—The patient bore the operation well. The child required artificial respiration in a warm bath, but soon revived. One tube of ergotin, injected immediately after removal of the child, seemed to produce but little effect on the body of the uterus. No catheterization of the bladder was needed after the operation. The child died twenty-five hours after birth. The mother's convalescence was afebrile and uneventful, and she was discharged twenty-three days after operation. The cancer was squamous epithelial in type. There was no recurrence when last seen in May, 1909.

It will have been observed that in the Caesarean section I eventrated the uterus and clamped the infundibulo-pelvic folds before incising the anterior uterine wall. Both these steps are open to criticism. I notice that many, if not most, operators prefer to leave the fundus in the abdomen whilst the incision for the delivery of the child is made, but it seemed to me that it would be easier for my assistant to control the uterine vessels with the uterus outside the abdomen, and I cannot think that such a procedure causes an increased risk to the child. The clamping of the ovarian vessels may have been unwise, and as the child was born in a state of asphyxia and died twenty-five hours later it may be argued that it suffered from my operative technique prior to delivery. This is a point on which I invite the opinion of those present. E. Schroeder, of Königsberg, delivered a premature child by vaginal Caesarean section after ligaturing the uterine arteries at the bases of the broad ligaments. The fetal heart was only just appreciable, and the child was practically stillborn; he attributed the fetal death to the ligation of the arteries, and I am equally ready to admit that the clamping of the mesosalpinges in my case contributed to my disappointment as regards the child, although delivery was effected a few seconds after the ovarian vessels were clamped. It was my first experience with such a case, and I was very anxious to spare the mother a loss of blood which would have added shock to a prolonged dissection of the pelvic connective tissues and the vagina, such as is entailed in Wertheim's technique.

There is one more point, perhaps the most important of all, in which it may be fairly argued that I departed from the correct rules of surgery—namely, that I did not operate on the case directly I saw the patient. It is an accepted surgical canon never to delay operation in a case of operable cancer complicating pregnancy. On the other hand, Schauta mentions a case from Innsbrück in 1883 in which a woman five months pregnant had a carcinoma of the cervix limited to the anterior lip. The carcinoma was excised and the diagnosis confirmed. Normal delivery occurred at term; a healthy male child was born. Operation for recurrence took place on October 16th, 1886, and the patient was quite well twenty years later (1906). Schauta states that he would not break a lance in favour of excision of carcinoma in pregnancy, but adds, "One ought not *without exception* sacrifice the whole uterus in a case of early carcinoma in pregnancy." In my case the excision had been so thorough that I could not have conjectured the presence of recent carcinoma had I not been shown the tissue removed. I arranged for the close observation of any sign of recurrence, and as soon as it appeared I operated. Had there been no sign of return of growth I should have allowed the pregnancy to go to term as Schauta did in his case. In spite of the good result in Schauta's case, v. Franqué stated that he would not have taken such a risk, and there may be those present who feel the same. I admit that I shall have grave misgivings on this point if my patient gets a recurrence, especially as I was finally defeated in the object for the delay by losing the child on the day after its birth.

This is the first recorded case in this country and America in which Wertheim's total hysterectomy has been combined with Caesarean section. It has been successfully carried out since my operation by my friend Dr. Gray (in the absence of Dr. Herbert Spencer) at University College Hospital; and by the courtesy of Dr. Herbert Spencer and Dr. Gray I am permitted to mention that on April 26th, 1909, Dr. Gray successfully performed the Caesarean-Wertheim operation for a patient who had been thirty-six hours in labour, for whom forceps had been used and abandoned (by a general practitioner) on account of haemorrhage from an obstructing carcinoma of the anterior lip of the cervix. This growth presented at the vulva on admission. There was some difficulty in delivery of the child owing to its head being fixed in the pelvis. Moreover, the vagina could not be drawn up satisfactorily, as traction simply stretched the lower uterine segment; accordingly a portion of the vagina had to be removed four days after operation by the galvano-cautery. The patient suckled her child from the first, and was quite well when last seen on June 29th, 1909.

Prior to these 2 cases of Caesarean-Wertheim operations for carcinoma cervicis Sarwey last year put on record 13 others. All the mothers recovered; all the children were born alive. One (Micholitsch's) case has remained well for five years. Two cases suffered from vesico-vaginal fistulae.

For some years past the favourite method of dealing with cancer in the later months of pregnancy has been by vaginal Caesarean section, as recommended by Czerny and Dührssen, Olshausen, Wilson, and others. At the Oxford meeting in 1904 Dr. Munro Kerr described vaginal Caesarean section and subsequent removal of the uterus per vaginam as the most up-to-date method, but added that he did not think the method suitable when the disease is at all extensive, owing to risk of implantation and the difficulty in pulling down a friable cervix, whilst the child is placed in greater danger. The method favoured by Dr. Munro Kerr in 1904 was Zweifel's plan of carrying out classical Caesarean section, supravaginal amputation, followed by removal of the cervix per vaginam.

At the Leicester meeting in 1905 Dr. Thomas Wilson recorded 2 successful cases of vaginal Caesarean section in which both mothers and children were spared, but in one recurrence descending low into the vagina took place eleven months later, although the growth was polypoid and localized at the time of operating. In Dr. Wilson's second case the primary result was good, but the subsequent history is not given. Dr. Wilson states that decision as to the route taken in operating will depend upon the method generally adopted by the operator in cases of cervical carcinoma generally. He regarded the risk of implantation by both routes as equal, but this was at a time when we in England had no personal experience of Wertheim's technique, which is specially devised to obviate the infection by cancer cells of newly cut surfaces. Among other points advanced by Dr. Wilson in favour of the vaginal route was that it caused less shock, no abdominal scar, and gave a lower general mortality. Since 1905 the latter objection to the abdominal route has been swept away, and we now have 15 cases of the Caesarean-Wertheim operation in which all the patients recovered and all the children were born alive.

It is only fair to look into the results obtained by the advocates of the vaginal route.

In 1906 Dührssen published a list of 46 cases in which vaginal Caesarean section followed by vaginal total extirpation was carried out. There were 5 deaths. This series did not include Dr. Wilson's 2 cases, and since then Nagel, Seitz, Büttner, and Graefe have recorded 1 case each, making in all 52 cases with 5 deaths.

These results are exceedingly good, and compare favourably, as far as primary mortality of the mother is concerned, with the Caesarean-Wertheim method. What we still wait for is a comparison of after-results—the fate of our patients after a lapse of five years, and also a record of the child mortality. The data concerning the latter I cannot give in the cases of vaginal Caesarean section, but I agree with Dr. Munro Kerr in regarding the vaginal route as the more dangerous for the child.

Now that Wertheim's technique is becoming more popular in this country for cases of carcinoma of the cervix uncomplicated by pregnancy, I believe it will eventually prove to be the operation of choice for cancer complicating pregnancy also, especially when we remember that the lax state of the cellular tissues due to gestation is all in favour of the operator, and makes the procedure much more easy than it is found to be as a general rule. I have myself performed Wertheim's operation thirty-three times—that is to say, since my report at the meeting of this Association at Exeter in 1907 I have had 20 cases in which I have carried out Wertheim's technique for cervix carcinoma. Of these, I lost 3 cases—one from autoinfection from a pyometra, one from ileus without peritonitis, and one from diabetic coma fourteen days after operation; thus my mortality in my last 20 cases is 15 per cent. The Caesarean-Wertheim operation was the easiest performed of them all.

for reasons already given; in fact, had my other cases been so favourable, I believe the mortality would have been *nil*.

DISCUSSION.

Dr. MUNRO KERR (Glasgow) entirely agreed with Dr. Lockyer that the Wertheim operation was the best treatment. When the speaker recommended the combined abdominal and vaginal operation some years ago, in 4 cases of carcinoma of cervix complicating advanced pregnancy, he believed that at the time that was the best treatment. He was glad to learn that the Wertheim operation was really easier in the gravid than in the non-gravid condition.

Dr. S. CAMERON (Glasgow) stated that the gravid uterus could always be brought up easily into the abdominal wound. He was certain from the pathological condition present—namely, the early involvement of the lymphatics of the ureters—that within a short time all operators would divide the ureters and transplant the cut ends into the bladder. The wisdom of adopting this step was borne out by Leitch's researches into this disease. The speaker believed he had two specimens of involvement of the lymphatics of the ureter by a cancerous extension from the cervix on exhibition in the pathological museum in connexion with the Section.

Dr. CUTHBERT LOCKYER, in reply, said he was glad to find that both Dr. Wilson and Dr. Munro Kerr approved of the method he had employed for dealing with cancer of the cervix in the later months of pregnancy. He had endeavoured to make it quite clear in his paper that at the time Dr. Munro Kerr advocated Zweifel's combined method, and Dr. Wilson favoured vaginal Caesarean section, their data regarding the Wertheim operation was too scanty to draw any conclusions, or even to make a comparison between it and the vaginal method of operating. He was very gratified to hear Dr. Munro Kerr say that he believed the Wertheim operation would be the one of election after Caesarean section for operative carcinoma cervicis. He could not support Dr. Cameron's view that the ureters should be divided and subsequently implanted in the bladder as a routine practice. He had met with a case in the last few weeks where the last inch of the right ureter was embedded in cancer, which necessitated the resection of the ureter to that extent, but in such advanced cases it was very questionable if the patient derived much good from the operation. Dr. Munro Kerr had raised the question as to whether venous bleeding was a trouble in Wertheim's technique for pregnancy cases. It had not been so in Dr. Lockyer's case, and he attributed the fact to the powerful action of the large parametric forceps, and to care taken in transfixion of the connective tissues. In fact, the risk of haemorrhage was said (by those who had employed both methods) to be far less by the abdominal than by the vaginal route.

SECTION OF HAEMATOLOGY AND VACCINE THERAPY.

Sir ALMROTH WRIGHT, M.D., F.R.S., President.

THE INOCULATION TREATMENT OF TUBERCULOUS ARTHRITIS.

By MAYNARD SMITH, M.B., B.S.Lond., F.R.C.S.,

Surgeon to Out-patients, St. Mary's Hospital; Senior Assistant Surgeon, Victoria Hospital for Children.

THE revival of the administration of tuberculin during the past few years has been coincident with and dependent upon the work of our President on opsonins and the opsonic index, but this work has not alone been applied to the regulation of dosage as regards amount and timing, but has also been brought to bear upon the question of diagnosis and the problem as to when a cure may be considered to have been accomplished.

I have endeavoured to set down in this paper the results of investigations which I have carried out from the point of view of a surgeon into the value of tuberculin administration in the treatment of tuberculous joints, and the utility of the opsonic index in the diagnostic and therapeutic problems just mentioned. The patients who had been under treatment in the Inoculation Department of St. Mary's Hospital supplied the material for this investigation.

1. *The Problem of Diagnosis.*

I need not remind you that the effect of a dose of tuberculin is to produce a fall in the tuberculo-opsonic index (the negative phase—of greater or lesser degree, according to the dose), quickly followed by a rise up to and above the normal. This effect is produced either in a healthy or in a tuberculous individual. In a patient who has a focus of active tuberculous disease, constant auto-inoculations are taking place from that focus, and each of these is followed, more or less regularly, by similar fluctuations of the opsonic index. It is clear, therefore, that in a tuberculous patient observations of the opsonic index to tubercle may show that index to be above or below the normal limits. This constitutes the first method of applying the opsonic index to the problem of diagnosis. There are, however, two fallacies associated with this method. In the first place, although the index of a tuberculous patient is at times above and below normal limits, yet for a considerable proportion of any period it is within those normal limits. Many examinations must therefore be made before a negative diagnosis can be justified. In the second place, it is quite possible for a patient to have a knee which is the seat of, say, congenital syphilitic disease and also a tuberculous focus in the thorax. The thoracic focus may be causing variations in the tuberculous index which, if this test alone be relied on, may be attributed to the joint lesion. For this reason, when a diagnosis is needed, other methods are employed. The principle of these methods depends on the production of an auto-inoculation of the patient from the lesion under examination and by subsequent estimation of his tuberculo opsonic index, at intervals of a few hours, to ascertain whether that fluctuation had taken place which would have been expected had a tuberculous auto-inoculation been produced. The auto-inoculation is brought about either by massage or a Bier's bandage. In the case of tuberculous joints in the lower extremity, causing the patient to walk on the affected limb affords another useful method. [A table of cases illustrating the employment of auto-inoculation tests in diagnosis was passed round, and charts were shown.]

Before leaving this part of the subject I wish to add that the cases in the table printed herewith were, almost without exception, sent to the Inoculation Department of the hospital with a diagnosis of tubercle from a surgeon. A few were sent over with a doubtful diagnosis. In the former class inoculations were begun forthwith: in the latter, experiments were done with a view to decide the diagnosis. In one case which was sent over with a diagnosis of tuberculosis no diagnostic experiments were carried out; after six months no improvement had been made, and the patient ceased to attend. In response to a communication she came up with the other patients to be inspected. It occurred to me at once that it was a case of rheumatoid arthritis, and I asked that diagnostic experiments might be made. The results of these were negative, and the idea that the case was not of a tuberculous nature was confirmed.

2. *The Influence of Tuberculin Treatment.*

In dealing with the results of treatment I have a difficult task in front of me. I have, therefore, collected and represented as clearly as I could, in tabular form, the particulars and results of treatment in all cases which have been under treatment at St. Mary's Hospital by inoculation during the past few years, utilizing only those cases which I have been able personally to inspect in order to judge of their present condition. Of 72 cases written to, 34 attended; others wrote and regretted their inability to attend, but said that they were well and at work; others did not reply; others were in hospital elsewhere (see Table). Of these 34 that attended, I have attempted to lay before you sufficient information to enable you to formulate conclusions; the series is, however, a small one, and it shall be my endeavour to rectify this fault on a future occasion. There are, however, factors which cannot be put in tabular form, and these I would ask you to note.

TABLE OF CASES OF TUBERCULOUS ARTHRITIS TREATED BY VACCINES.

No.	Age and Sex.	Disease.	Date of Onset.	Duration and Nature of Inoculations.	Treatment Previous to Inoculation.	Additional Treatment during Inoculation.	Condition at Start of Inoculation.	Condition in July, 1909.
1	16, F.	Tuberculous shoulder (confirmed by indices of 1.46 and 0.58 at interval of four days)	June, 1906	Aug., 1906, to May, 1907. Tuberculin	*Nil*	Poroplastic shoulder cap	Pain in shoulder; limited mobility; wasting.	Shoulders normal; no difference on two sides.
2	13, M.	Tuberculous knee	June, 1906	Dec., 1906, to Nov., 1907. Tuberculin	*Nil*	Splint	Knee flexed; no movement possible; wasting; pain	Knees normal; no difference on two sides.
3	21, F.	Tuberculous dactylitis and hip	1892	Has had inoculations for two months only. Tuberculin	——	——	——	No change at present.
4	4, M.	Tuberculous disease of tarsus	October, 1907	Oct., 1908, until present time; still under treatment. Tuberculin	Plaster case	Plaster case	Ankle swollen; rigid; pain; mother describes child as "quite transparent."	No swelling; about 10 degrees of movement; general condition of child excellent.
5	38, F.	Tuberculous wrist (as a child had tuberculous elbow and dactylitis)	January, 1907	Feb., 1907, to Oct., 1907. Tuberculin	*Nil* for wrist	Carr's splint	Wrist swollen; painful; hot; impaired mobility	No swelling or pain; some deformity of wrist; movement through 20 degrees; uses wrist and hand for light work
6	16, M.	Tuberculous hip	1898	March, 1907, to Jan., 1908. Tuberculin	In hospital with extension; also as out-patient in splint	Splint	Great pain; wasting; ½ in. shortening; trochanter above Nélaton's line; was getting worse	Walks fairly; occasional pain; head of bone deformed and dislocated; fair movement; very little wasting.
7	4, M.	Tuberculous disease of ankles and tarsus	January, 1907	July, 1907, up to the present time; still under treatment. Tuberculin and staphylococcic vaccine	Splints; three operations	Splints	Both ankles swollen; rigid; extended; two sinuses	Slight puffiness inner side of right ankle; otherwise normal; walks well; sinuses healed (healing was complete in July, 1908).
8	22, F.	Tuberculous knee	1901	July, 1907, up to present time; still under treatment. Tuberculin	Plaster and rest in bed; in hospital for a year	Splint	Knee swollen; painful; fixed; straight	Knee fixed in straight position; much less swelling and pain; walks, but pain and oedema of leg after much exercise.
9	5, F.	Tuberculous disease of ankle and tarsus	June, 1908	Nov. 1908, up to present time; still under treatment. Tuberculin and staphylococcic vaccine	Plaster	Plaster	Ankle and tarsus swollen; painful; inverted; rigid; sinus	Much improvement; sinus healed; some swelling over tarsus; still inversion and limitation of movement.
10	7, M.	Tuberculous disease of knee	July, 1907	Feb., 1909, up to present time; still under treatment. Tuberculin	Extension; Thomas's knee splint	Thomas's knee splint	Swelling; pain; flexion; limitation of mobility; not improving	No improvement up to present.
11	12, M.	Tuberculous knee	January, 1907	Sept., 1907, to Jan., 1909. Tuberculin	Thomas's knee splint	Thomas's knee splint	Swelling; pain; limitation of movement; no flexion	Knees normal; no difference on two sides.
12	7, M.	Tuberculous knee	July, 1906	Oct., 1905, to April, 1909	Extension; poroplastic splint	Splint	Swelling; pain; almost fixed in straight position	Flexion possible to 60 degrees; no pain or swelling; still wasting of limb; walks.
13	10, M.	Tubercle of head of tibia; afterwards tubercle of knee-joint; secondary staphylococcic injection with many abscesses and extensive bone infection	January, 1907	April, 1907, up to present time. Tuberculin and staphylococcic vaccine	Operation on head of tibia	Fourteen operations; chiefly opening abscesses from secondary infection; splint	Multiple sinuses and abscesses around knee and tibia; great swelling of knee and rigidity; hectic fever; general wasting; amputation considered	All healed; no pain; general condition good; movement free, and walks without pain.
14	21, M.	Tuberculous hip	1904	March, 1907, up to present time. Tuberculin	Thomas's splint for three years	Thomas's splint	Pain in hip and knee	Can find no evidence of active disease; movements somewhat limited; still complains of pain
15	6, M.	Tuberculous ankle and cervical glands	March, 1906	Aug., 1906, to February, 1907. Tuberculin	Plaster; operation	Plaster	Two sinuses; ankle swollen; rigid; "cries night and day"	Sinuses healed; runs and walks normally; no pain; "never complains" (condition in February, 1907)
16	43, M.	Tuberculous knee	March, 1905	March, 1909, up to present time; still under treatment. Tuberculin	Splint; operation	Splint. Bier's bandage	Very swollen; painful; starting pains at night; rigid	Patient says it "is a treat." Some thickening of synovial membrane; movement through 10 degrees; no pain.
17	25, M.	Tuberculous knee (as a child spinal caries)	1895	June, 1906, up to present time. Tuberculin	Splint	Splint. Aspiration of pus July, 1908. Abscess in thigh opened and scraped September, 1908	Knee swollen; painful, doughy, rigid; could not walk	No pain; movement through 5 degrees; thickening of synovial membrane has entirely disappeared; can walk without pain.

* Since the above note was made, there has been a slight recrudescence of disease, the ankle becoming puffy and painful. This is rapidly subsiding with rest and tuberculin.

TABLE OF CASES OF TUBERCULOUS ARTHRITIS TREATED BY VACCINES *continued*.

No.	Age and Sex.	Disease.	Date of Onset.	Duration and Nature of Inoculations.	Treatment Previous to Inoculation.	Additional Treatment during Inoculation.	Condition at Start of Inoculation.	Condition in July, 1909.
18	50, F.	Tuberculous knee	August, 1908	December, 1908, up to present time. Tuberculin	Bier's bandage	Plaster	Chronic synovitis of left knee; much swollen; fainted with pain at night; only slight flexion possible	Knee appears normal to examination except for some thickening each side of ligamentum patellæ. No fluid; movement free through 60 degrees; still complains of very occ'l pain.
19	18, M	Tuberculous disease of head of tibia and knee-joint	December, 1905	March, 1906, to July, 1909 Tuberculin and staphylococcic vaccine	Operation in February, 1906, head of tibia scraped out; splint	Second scraping; splint	Sinus from head of tibia; joint swollen; limitation of movement	Sinus healed; knee movement normal. Whilst inoculation was being carried out extensive ulceration of leg developed, which became gradually worse. These ulcers had the appearance of those due to syphilis, and the history of the case was suggestive of congenital syphilis. Wassermann reaction positive.
20	16, F.	Tuberculous knee	December, 1905	Sept., 1906, to Jan., 1907. Tuberculin	Thomas's knee splint	Thomas's knee splint	Right knee much swollen; limitation of mobility; pain on movement	Knee normal; no difference on two sides.
21	22, F.	Tuberculous knee	1904	June, 1906, to Sept., 1907. Tuberculin	Splint	Splint and Scott's dressing	Knee much swollen; limitation of thigh; flexion; not much pain	Knee normal; no difference on two sides.
22	51, F.	Tuberculous hip	Childhood. Symptoms recurred May, 1905	July, 1906, to July, 1907, and May, 1909, up to present time; still under treatment. Tuberculin	Several operations; bone removed (as a child)	Splint	Two sinuses; hip rigid and flexed	Sinuses closed and pain gone by July, 1907; then sinuses opened again May, 1909, with swelling and pain; inoculation recommenced; rapid improvement.
23	7, F.	Tuberculous knee, ankle, and hand (dactylitis)	October, 1907	Feb., 1908, to May, 1909. Tuberculin	Operations on hand and ankle (erasions of joint and scraping)	Splint	Swelling of synovial membrane; limitation of movement; wasting; no pain	All feel appear cured. Movements good.
24	2½, M.	Tuberculous ankle	January, 1908 (?)	Feb., 1908, to April, 1909. Tuberculin. Staphylococci and streptococcic vaccines	Operation February, 1908 (erasion and scraping of bone)	Plaster	Three sinuses; ankle swollen; painful; stiff	Normal ankle; sound scars; walks with slight limp.
25	10, F.	Tuberculous elbow	March, 1904	March, 1906, to June, 1906 (then ceased to attend). Tuberculin	Splint for one year	Splint	Elbow swollen; painful; rigid	When inoculation discontinued, no change; arm now fixed at right angle; no pain.
26	5, F.	Tuberculous hip	December, 1906	May, 1908, to Feb., 1909 (then ceased to attend). Tuberculin	Two years in Thomas's splint; convalescent homes; during this time improved	Thomas's splint	Hip rigid and flexed; no pain except on attempted movement	Improvement continued in same way as before inoculation until abscess developed in Feb., 1909. Patient then admitted to hospital and operated on. Since then has not been inoculated. Now discharging sinus.
27	18, M.	Tuberculous hip	July, 1906	Oct., 1906, to June, 1907. Tuberculin	Rest; Thomas's splint; crutches	Splint and crutches	Pain; could not sleep; hip rigid; limb wasted	Hip normal.
28	4⅞, M.	Tuberculous knee	January, 1906	April, 1907, up to present time. Auto-inoculation test now negative, and treatment will be stopped. Tuberculin	Thomas's knee splint. Rest	Plaster	Swollen; painful; limitation of mobility	Walks well; no pain; flexion possible through 50 degrees.
29	40, F.	Tuberculous disease of both wrists and both ankles	1902—left wrist 1905—other joints	May, 1906, to June, 1909. Tuberculin	Operation, 1902, left wrist (erasion of wrist-joint); splints	Splints for wrist; bandages for ankles; did not lie up	Ankles swollen and painful; could not walk; wrists swollen and painful; fingers stiff and useless	Walks well, but left ankle weak; slight thickening about right wrist; uses hand and wrists easily; no pain.
30	3⅝, F.	Tuberculous disease of left knee (confirmed by auto-inoculation experiment)	August, 1907	Sept., 1907, to Jan., 1908. Tuberculin	Splint (knee became worse)	Splint	Knee swollen; limb wasted; limitation of mobility	Knee normal; no difference on two sides.
31	58, M	"Compound palmar ganglion" and tuberculous disease of carpus	November, 1906	July, 1908, to Jan., 1909. Tuberculin (then ceased to attend)	Splint. Operation; scraping out palmar synovial sac; (melon-seed bodies); disease of carpal bones	Splint; Bier's bandage	Sinus; wrist stiff; fingers stiff; great pain	Wrist moves well; no pain; sinus; slight limitation of movement of fingers.
32	18, F.	Tuberculous disease of wrist (confirmed by index of 0.64)	September, 1906	Nov., 1906, to March, 1907. Tuberculin	Splint for six weeks; no better	Splint	Wrist swollen; almost complete rigidity; movements of fingers almost lost	Wrist normal; all movements of wrist and fingers good; general health greatly improved.
33	12, F.	Tuberculous hip	1902 (wore Thomas's splint for one year, then ran about normally) 1905 (symptoms recommenced; Thomas's splint again)	March, 1906, to July, 1907. Tuberculin	Thomas's splint; said to have been getting worse all the time	Splint until January, 1907; then started walking	Pain; rigidity; wasting; progressive shortening (noted as 2 in.)	Shortened 1½ in.; rigid; walks fairly well.
34	5, F.	Tuberculous right knee	May, 1905	Aug., 1905, to June, 1908. Tuberculin	Splint; said to have been getting worse all the time	Leather splint	Knee swollen; wasting; pain; movements of knee good	Knee normal; no difference on two sides. General health improved.

In the first place it will be noted that of the 34 cases only 5 (Nos. 1, 2, and 5) were treated by inoculation from the time that they first came under observation. Of these 2 were cured, with complete restoration of function; the third was cured, but some deformity and limitation of movement remained.

In 16 cases treatment by splinting, rest, and in some by operation, had been carried out for a period of twelve months or less before the administration of tuberculin was begun, and in the majority of cases it is but fair to state that it was because of the unsatisfactory progress of the case that inoculation treatment was instituted. In 10 of these 16 cases cure ensued with complete and absolute restoration of function (Nos. 11, 13, 15, 19, 20, 23, 27, 30, 32, 34); two (Nos. 12, 24) were cured with slight limitation of movement; four (Nos. 4, 7, 9, 18), are improved and still under treatment.

Of the remaining 15 cases which had been of more prolonged duration, 2 only had two or three months' treatment (Nos. 3 and 25); in two no improvement had taken place after six and ten months' treatment respectively (Nos. 10, 26); six are cured (Nos. 6, 17, 21, 28, 29, 33), and five are improved and remain under treatment (Nos. 8, 14, 16, 22, 31).

Eight cases had sinuses, and in all the sinuses healed under inoculation treatment except in the case of a man who ceased to attend after six months' treatment.

Lastly, it must be noted that these were out-patients; they had to visit hospital, as a rule, once in ten days; complete rest was therefore often impossible, and, moreover, such advantages as seaside convalescent homes were not available whilst they were under treatment.

I would touch for a moment on the "surgical" aspect of the treatment of these joints. It must be remembered that it is not sufficient merely to arrest the disease. It is essential, in addition to this, that the best functional result shall be obtained when the cure of the disease is complete. The province of the surgeon here lies in the direction of splinting, extension, and other similar methods; at a later date tenotomies and osteotomies may be called for. In the treatment of abscesses, the removal of masses of inert dead material, and the treatment of sequestra of bone, operation is necessary, and, in passing, I may say that aspiration of abscesses is the ideal method of treatment, although more radical measures in the way of opening and scraping may become necessary. Lastly, there remain a certain small proportion of cases where everything has failed, and amputation gives the best chance to the patient.

3. *The Question as to When a Cure has been Accomplished.*

I wish next to speak of the question of cure. It has always been a difficult question for the surgeon to decide when he might consider his case to be cured, when it would be safe for the patient to discontinue rest, to commence again to use the affected joint, to walk on the affected limb, and to discard the apparatus with which rest to the diseased part has been obtained. Most surgeons have some such rules as these: First, a minimum period of rest is usually insisted on, varying with the predilections of the surgeon; secondly, there must be no local pain, tenderness or heat of the affected joint; thirdly, there must be no effusion into the joint, nor must there be any great swelling or thickening of the synovial membrane; and, lastly, there should be no recrudescence of pain, etc., when use of the joint is again permitted. These rules are excellent, and have served their purpose well. Nevertheless, there must be few surgeons who cannot call to mind cases in which a rapid and disastrous recrudescence of disease has followed cessation of rest and splinting, when all clinical evidence of the disease had completely disappeared. Again, more than one surgeon having determined not to err on the side of boldness, has ordered "just another three months in splints," to find that the anxious and tired parents have taken the child to a bonesetter, who has replaced a small bone in the hip joint, hurled the splints away, and, with the orthodox dramatic gesture, bidden the child to arise and walk. No ill results have followed, and the bonesetter has been firmly installed in the minds of parents, relations, and friends, as the man who cured in ten minutes a hip which Mr. X. had been attending for two years without success. Are we not, then, prepared to admit that there is a place for some method which will aid us in determining when a cure has been arrived at? It is claimed that experiments in ordinary inoculation similar in every way to those employed in diagnosis will supply this aid. Tables were passed round and charts were shown illustrating the employment of auto-inoculation tests, with a view to decide whether the disease was cured.

THE TREATMENT OF BRONCHIAL ASTHMA BY A VACCINE.

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Many persons who suffer from chronic bronchitis complain of attacks of spasmodic dyspnoea as an especially distressing symptom. These attacks are generally called "bronchial asthma." They are precipitated by any exertion, and are also prone to occur at night and disturb sleep, the patients very frequently complain that they cannot lie flat, but have to be propped up in bed. Spasmodic dyspnoea occurs, further, in heart disease and uraemia, and also as a more or less independent affection sometimes called "true" asthma; how far the latter is independent is a matter of dispute. The symptom seems to be the same thing in whatever disease it occurs, and it may be regarded as a reflex disturbance which is precipitated by a variety of causes.

The object of this paper is to suggest that one cause of spasmodic dyspnoea in chronic bronchitis is a specific bacterial toxin, the result of a definite infection and amenable to treatment by the corresponding vaccine.

In 1907, while making some investigations into the bacteriology of chronic bronchitis, in the laboratory of the Inoculation Department at St. Mary's Hospital, I isolated a certain organism in nearly pure culture from the sputum of a female patient. I took her opsonic index to this, and finding it low, I suggested inoculation, to which she agreed. She was given a dose of 25 millions hypodermically, and was instructed to come back in two days. She suffered severely from bronchial asthma. On her return she said that though her cough was no better her breathing had been much relieved. The notes of her case are as follows:

Case I.

L. L., aged 29. Chronic bronchitis and asthma since age of 16. Father died of same.

November 23rd. Inoculated 25 millions. Felt better the same evening.

November 24th. Marked improvement in breathing, able to light the fire for the first time for seven weeks.

November 25th. Not so well, but better than usual.

December 2nd. Continued improvement; one slight attack of dyspnoea after a heavy supper. Cough better. Inoculated 30 millions.

She was inoculated weekly throughout December without any recurrence of dyspnoea, and after that did not attend till March 4th, when she had the first recurrence and was inoculated again; she attended throughout March and April, and had in that time two slight attacks. After that date she did not attend again.

I had at this time access to a large clinic as Casualty Physician at St. Mary's Hospital, and I used the same vaccine extensively among patients suffering from bronchial asthma, in about 70 cases in all, and of these I have collected 52, who gave the experiment a fair trial, that is, who attended for inoculation at least twice. The degrees of disability at the outset and improvement under treatment were very various, so that any tabular presentation of the results would be arbitrary and misleading. The results obtained will be best indicated by quoting a few cases at length:

Case II.

E. B., aged 24, carman. Asthma since age of 8, worse in winter, especially in rain and fog. Attacks at night and when at exercise.

January 6th, 1908. Inoculated 50 million.

January 9th. Breathing much better.

January 10th. Breathing very good since attending, but cough troublesome. Able to go up and down stairs without difficulty. Inoculated 50 million.

January 30th. Breathing still good; much better than for nine months previous; quite normal for three weeks. This is the first time he has been through any part of the winter in London without asthma. Inoculated 50 million.

April 2nd (two months later). Kept well till three days ago; now slight recurrence. Has lost no work; has slept well. No definite attacks, but trifling dyspnœa on rising in the morning and after meals. Inoculated 50 million.

June 3rd (two months later). Slight recurrence. Has been able to run with ease for the first time in his life, has run as much as three quarters of a mile. Is playing cricket, has never been able to play any game for more than ten minutes before. The patient volunteered this information. Six weeks later he had a recurrence, but owing to my own absence from London I lost sight of him.

CASE III.

G. C., aged 24, employed in motor garage. Chronic bronchitis and asthma for several years. The patient has kyphosis and a deformed chest, and very marked physical signs of chronic bronchitis.

May 6th, 1908. Inoculated 50 million.

May 13th. Slight improvement in sleep and breathing. Inoculated 100 million.

May 27th. Short of breath when at work, otherwise better. Sleeps better, sometimes sleeps night through. Inoculated 100 million.

June 3rd. Much better, sleeps night through. Less short of breath on exertion, has run for the first time for a long time. Is better than he has been for four years. Inoculated 100 million.

June 7th. Slight recurrence. Now carries water and pushes motors. Inoculated 100 million.

July 15th. Away a month; recurrence in change of weather. Inoculated 75 million. Did not attend again.

CASE IV.

M. L., 25, domestic servant, had suffered for two years from attacks of dyspnœa, which occurred regularly once a fortnight, and lasted for three days, occurring at night and forcing her to sit up in bed. She was well in the intervals. She was inoculated every week from July 23rd, 1908, to September 9th. The attacks occurred for the first two fortnights as before, but only lasted two days instead of three, and were less severe than before. On the third occasion no attack occurred till the third week had begun, when she had abortive attacks on two days and a severe one on the third.

After September 9th she did not attend till November 18th, during which time she was free from attacks for seven weeks, after which they began again at fortnightly intervals, but with less severity. She was inoculated again at intervals, till March, 1909, and during this period had only three slight attacks.

CASE V.

G. M., signalman. Chronic bronchitis and asthma for two years. Attacks occur chiefly at night.

February 10th, 1908. Inoculated 40 million. On February 12th he wrote: "My breath so far has been excellent. I have had two much better nights' rest than I have had for a long time."

February 19th. Very marked improvement indeed. Sleeps well. Came upstairs, a flight of about twenty steps, without obvious dyspnœa. Far less appearance of distress. Inoculated 40 million.

March 3rd. Has not missed an hour's work. Previous best four and a quarter days per week. One attack of sneezing associated with dyspnœa.

March 20th. Improvement maintained till this date, when he had severe recurrence for three days. Inoculation was continued till April 22nd without recurrence, after which he kept well for four months with out further treatment till August, and gained 8 lb. in weight. He then had several bad attacks for three weeks. He attended for inoculation about once a month till the following March with two slight attacks and one severe one lasting a fortnight. He was accustomed to use two stramonium powders every night, and of late has reduced them to one a week.

These cases are selected ones and represent the best results obtained, the average is not as good as these, but at an arbitrary estimate striking benefit has been obtained thirteen times, or in about one-fourth of the cases.

Taking results as a whole, 51 cases have found some degree of improvement in the frequency and 39 in the severity of their attacks; 26 have improved in their powers of taking exercise and 29 have slept better. In some cases improvement has been slight and in others temporary. In 4 cases no improvement at all has resulted.

In all these cases I have avoided, as far as possible, the use of the usual remedies for asthma. This asthma is a symptom which is liable to great spontaneous variation, and further, it is largely a subjective symptom, so that the records of results depend very much on the patient's statements, not usually considered a source of unpolluted veracity, but even with these allowances, when in three instances out of four in a total of 50 cases, patients inoculated with a specific vaccine find subjective improvement of the same symptom, that may be considered presumptive evidence that the symptom is due to infection with the corresponding organism.

The search for this organism in other cases has been most disappointing. I have examined the sputum of at least 50 cases, and I have only succeeded in finding it in one other instance, and from this specimen an efficient vaccine was made.

Attempts at serum diagnosis have been equally unsatisfactory. Although in the first case I found a low opsonic index I was not able, as a rule, to obtain any valuable information by this means.

There was a very wide variation between normal persons, and a series of daily observations on certain patients who were improving and on others who were not revealed no correlation between the index and the clinical condition. Further, I have been unable to obtain agglutination of the organism with the patients' serum.

The characters of the organism are the following:

It is a short bacillus with rounded ends, about the size of a pair of pneumococci. The size varies, however; short forms are found which appear like cocci, and occasionally long forms occur. It stains readily with basic aniline dyes, and is decolorized by Gram's method. There is marked polar staining, the unstained portion in the middle being so clear as to suggest that one is looking at a pair of diplococci. In an opsonic preparation, however, organisms which have undergone phagocytosis stain homogeneously and are seen to be bacillary in form. It has no visible capsule, is non-motile, and does not form spores. The bacillus grows readily on agar and gelatine and in broth; its growth is not inhibited by the presence of bile salts. On agar the colonies are pale grey, circular, and slightly raised. They vary in size, but as a rule are smaller than staphylococcus and larger than streptococcus. A stroke culture they form a continuous line along the track of the needle, with scattered colonies at its edge. The growth is soft, but less wet than Friedländer's bacillus; it is not tenacious, and is readily emulsified. It grows best at 37° C., at which temperature there is a visible growth in six hours and a profuse one in twenty-four hours. A visible growth occurs in twenty-four hours at 15° C.

It does not liquefy gelatine, it does not coagulate milk, and it does not form acid or gas in any of the following sugars: Cane sugar, glucose, lactose, dulcite or mannite. I have been unable to identify this organism with any described in the textbooks. In appearance and growth it is similar to Friedländer's bacillus, and I have several times isolated bacilli probably belonging to the same group, but in only the two cases mentioned have I found an organism which had no power of fermenting sugars.

Dr. Freeman kindly inoculated a rabbit, a guinea-pig, and a mouse for me, but the animals were all apparently unaffected.

That an organism should be so easily cultivated and yet so rarely found is enough to excite scepticism as to its causal relation to any disease, and it certainly falls far short of fulfilling Koch's postulates. I have found that patients suffering from bronchial asthma frequently obtain benefit from the use of this vaccine, and suggest the probability that this organism is a cause of spasmodic dyspnœa. I have not succeeded in proving this, but it is possible that with research the proof may be forthcoming. In conclusion, I wish to offer my thanks to Sir Almroth Wright for the use of his laboratory and for his sanction; and also to Dr. Willcox for the greatest encouragement and for facilities for making observations on patients under his care in the wards of St. Mary's Hospital.

THE TREATMENT OF PNEUMONIA BY INOCULATION.

BY

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and

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In this paper we give the results of treatment by inoculation of 24 cases of pneumonia. These were cases either of lobar pneumonia or of primary lobular pneumonia (primary bronchopneumonia). In all of the cases the organism present in the lung was the pneumococcus. In two of the cases the pneumococcus was combined with a streptococcus and the influenza bacillus respectively. It is well known that pneumonia is a disease having a high case incidence. Probably in England and Wales the average number of cases is over 100,000 per annum, and the average mortality is about 40,000 per annum. Pneumonia attacks persons of all ages, and it occurs at all seasons of the year.

The examination of statistics shows a close relationship between influenza epidemics and pneumonia, the incidence and mortality of the latter being much higher during the prevalence of influenza. Also, there is no doubt that pneumonia is infectious, and this may explain the frequency of several cases of the disease occurring in the same household or in the same locality. The severity of attacks of pneumonia may show great variation owing to the variation in the virulence of the infecting organism.

Place of Vaccine Treatment.

Since pneumonia is one of the most important diseases, and, as illustrated above, since it accounts for the loss of a great many valuable lives which are snatched away with great suddenness, it is obvious that any therapeutic measure which can increase the resistance of the patient to the disease will be of great value and will be the cause of saving many lives. We have used in all our cases a bacterial vaccine, in addition to the ordinary approved therapeutic measures. Most of the cases have been patients in St. Mary's Hospital, London, under the care of one of us, and the inoculation work has been carried out in the laboratories of Sir Almroth Wright, to whom we are indebted for advice and assistance throughout the work.

It is important to remember that inoculation is in no way intended to replace the usual methods of treatment; thus, where necessary, leeches, sponging, icebags, cardiac tonics, oxygen, etc., have been used. We believe the administration of an appropriate vaccine to be a very valuable therapeutic measure, and that it should be used in addition to the usual methods of treatment. In no single case have we seen the slightest harm result from inoculation. In many cases the benefit following the vaccine has been very striking and marked.

Statistics.

We do not propose to give any statistics based on our cases, for though our results have been extremely good, yet we feel that the number of cases is too small for the expression of a mortality-rate of cases treated by vaccine. Statistics as to the rate of mortality in pneumonia must always be misleading since the disease varies so much. The severity of any attack will depend on the nature and virulence of the bacterial infection, also on the age, physical condition, and habits of the patient. Each individual case must be judged on its merits.

Methods of Procedure.

It is obvious in order that vaccine therapy may be effective that the nature of the infecting organism or organisms must be known. In the large majority of cases the pneumococcus is the causal organism, but sometimes the disease is due to an organism other than the pneumococcus. In some cases—for example, Case I and Case XVI of our series—the pneumococcus is combined with another organism. There are three procedures available, and they depend respectively on—

1. Examination of the sputum.
2. Blood culture.
3. Aspiration of the pleural cavity or superficial part of the lung.

Since pneumonia is a disease which runs a short course it is most desirable that vaccine treatment should be commenced early and that as little time as possible should be lost. The majority of the cases of acute pneumonia are due to a pneumococcal infection, and those cases which are due to other organisms usually present clinical symptoms and signs which indicate the nature of the causal organism. Hence it is advisable that in an ordinary case of pneumonia presenting signs and symptoms of a pneumococcal infection a dose of stock pneumococcus vaccine should be immediately administered. At the same time steps should at once be taken to prepare an autogenous vaccine as rapidly as possible.

The three methods mentioned are as follows:

Method 1.—The sputum is carefully examined and cultures are made on serum or blood agar. It is usually necessary to make subcultures in order to obtain a pure pneumococcal growth. This of course involves delay, so that as a rule 36 to 48 hours elapse before the autogenous vaccine is ready.

Method 2.—A blood culture may be made as follows: About 10 c.cm. of blood are taken from one of the veins of the arm with the usual antiseptic precautions. The blood is added in equal parts to four tubes of ordinary broth, and these are incubated. Sometimes after 12 hours a good growth may be found, but at other times the clot encloses the organisms, which have to be shaken out, and it may then be necessary to make subcultures in order to have sufficient growth to prepare a vaccine, which of course involves delay. Frequently the tubes of broth after admixture with the blood, and incubation, remain sterile.

Method 3.—The third method, which we have much used in our cases, is that of puncture of the chest wall in the region where the signs of consolidation are most marked. A 1 c.cm. syringe with a fine needle is used. About ½ c.cm. of sterile broth is aspirated into the syringe and the needle is passed into the pleural cavity or surface of the consolidated lung. A small quantity of the contained broth is then injected and immediately aspiration is performed by withdrawal of the piston. The needle is now gradually drawn out of the chest, the position of the piston being such that there is a negative pressure within the syringe. In this manner a mixture of blood plasma and broth is obtained, which is added to two culture tubes containing sterile broth. This forms a good medium for the growth of the organisms. The tubes are now incubated and occasionally shaken. Within 12 hours it is often possible to obtain a growth containing 1,000 million per cubic centimetre. The contents of the tubes are then sterilized at 60° C. for one hour and are diluted with ½ per cent. carbolic acid solution to a suitable strength, such as 100 million per cubic centimetre. By this procedure it is sometimes possible to inoculate with an autogenous vaccine in 12 hours. It should be added that not infrequently the fluid withdrawn from the chest by aspiration as described above will prove sterile.

With regard to the three methods above described, the following remarks may be made:

Method 1 causes no discomfort to the patient. It is, however, inapplicable to children, owing to the absence of sputum. Sometimes the organism obtained by cultures from the sputum, although a diplococcus, has different characteristics from that obtained by methods 2 and 3, and may possibly not be the causal organism. This method, even under the most favourable conditions, involves considerable delay in the preparation of the autogenous vaccine.

Method 2 is a good method, but sometimes it involves delay, and in the case of children there may be difficulty in finding a suitable vein.

Method 3, involving puncture of the chest wall, has the great advantage of being the most rapid way of preparing an autogenous vaccine.

Although in our hands there have been no harmful results from the application of this method, yet it is possible that some haemorrhage might result if a vessel were punctured; this, however, is very unlikely if a fine needle is carefully used. It is also possible that some air might be introduced into the pleural cavity if healthy lung were pierced, but if great care be taken so that the part of the chest pierced is over consolidated lung, then it is extremely unlikely that any accidents of this kind should happen. The method is one which some patients might object to, since a little pain is caused. One advantage of this method of procedure is that if the pneumonia is due to an organism other than the pneumococcus, then one readily discovers this organism, and very important information is gained from the point of view not only of treatment, but also of prognosis.

Dosage.—After the preparation of the vaccine the dose to be administered has to be decided upon. At present there is some difficulty as regards guidance in determining the appropriate dose. In many infections the appropriate dose of vaccine is indicated by the opsonic index, but in pneumonia certain difficulties arise. Sometimes the pneumococcus obtained was not susceptible to the action of normal serum, there being no phagocytosis under any circumstances, and then no opsonic index could be obtained. In such a case one has to rely on indices obtained by using a suitable stock culture. Another difficulty is that of agglutination of the organism. This feature is seen late in the disease, especially in cases the course of which is protracted, and it causes great difficulty in the determination of reliable opsonic indices. We have found that sometimes the opsonic power of apparently healthy individuals to the pneumococcus obtained varies considerably, and thus there is difficulty in obtaining a reliable standard. This difficulty may be overcome by using for the standard a mixture of several serums from healthy individuals or else by using in the same series of experiments serums taken always from the same individuals.

We have found that near the crisis there is usually a definite rise in the opsonic power, and in some of our cases the rise has been most striking. In the present series of cases we have been unable to regularly use the opsonic index as our guide to dosage on account of the difficulties described. We have taken as our guide the clinical symptoms of the patient. We have found that an inoculation of from 20 to 50 million of pneumococci has never had any bad effect on an adult case, and we consider that a suitable initial dose would be from 20 to 30 million.

After twenty-four to forty-eight hours a second dose may be given, and further doses given at suitable intervals if necessary. We think that as the crisis is neared the dose should be decreased, because in the later stage of the disease the patient becomes more susceptible to inoculation, and there might be risk if too large a dose were given at this period. The dose of vaccine for children should be proportionately less than that given to adults.

CASES.

The following are the details of the 24 cases which have been treated by inoculation:

CASE I.

E. V., No. 2,164, admitted December 31st, 1907, female, aged 19. Onset December 22nd, 1907, vomiting, severe abdominal pain; these symptoms continued with increased severity. On admission general peritonitis was diagnosed and laparotomy performed by Mr. V. W. Low. No perforating lesion was found, and the peritonitis was considered to be due to a pneumococcal infection. From the fluid pure cultures of a pneumococcus and streptococcus were obtained by Mr. A. Fleming. After the operation patient continued very ill with much pyrexia, pain, and dyspnœa. On examination patches of consolidation were found in both lungs. From January 1st, 1908, until February 8th very acute symptoms continued with frequent rigors. Physical examination showed fresh patches of consolidation occurring continuously during this period.

Vaccine Treatment.—January 1st, 1908, 2½ million of stock pneumococcus vaccine; gave no benefit. January 5th, 1908, 5 million own pneumococci and streptococci each; gave marked benefit. January 23rd, 1908, 5 million own pneumococci and streptococci each; gave marked benefit. January 27th, 1908, 5 million own pneumococci; no benefit. January 30th, 1908, 10 million own pneumococci; no benefit. February 6th, 1908, 10 million own pneumococci and streptococci each; gave very marked benefit. February 15th, 1908, patient had a normal temperature, and was practically better.

This case was undoubtedly much benefited by vaccine treatment, and we think that the life was saved by it, since the symptoms were very severe and the ordinary therapeutic measures produced no effect on the symptoms. The great interest of the case lies in the fact that the infection was a double one, and that it was only with a combined vaccine that marked benefit resulted.

CASE II.

D. L., aged 23, male, admitted April 21st, 1908, No. 615. Onset acute, rigor April 19th, 1908. Clinical examination showed consolidation of lower and upper lobes of left lung and consolidation of the base of right lung. On April 23rd the crisis occurred and after this all symptoms abated.

Vaccine Treatment.—April 21st, 12 million stock vaccine. April 23rd, 25 million own vaccine. Crisis late on fourth day.

CASE III.

C. R., aged 38, male, No. 694. Onset April 2nd, 1908, severe pain in right side, cough, dyspnœa. Admitted April 5th, 1908, with consolidation of right lower lobe and of lower part of left lower lobe. Crisis occurred on April 10th, eighth day.

Vaccine Treatment.—April 6th, 20 million stock vaccine. April 7th, 10 million own vaccine. Patient made a complete recovery.

CASE IV.

A. B., aged 14, male, No. 1,172, admitted August 7th, 1908. Onset August 4th, rigor, fever, severe pain in side, cough, dyspnœa. On admission there were all the clinical symptoms of pneumonia of a severe type, there was marked delirium, hallucinations of vision were present. There was marked dilatation of the left ventricle. There were definite signs of extensive consolidation of right lower lobe, and of some consolidation of left lower lobe at base.

Vaccine Treatment.—On August 9th patient was given 2½ million of his own pneumococci, and in a few hours the crisis occurred (fifth day), and the patient was quite free from symptoms.

At the time that this case was under treatment a private case of almost exactly similar type in a boy was treated without vaccine. This latter case ran a much more severe course and almost succumbed.

CASE V.

M. T., No. 1,352, aged 3½, female. Onset September 11th, feverish, sick, cough, dyspnœa. Admitted September 14th, 1908. Patches of consolidation found in both lower lobes. The symptoms were of a very severe type. The temperature fell by lysis, and on September 24th (the thirteenth day) became normal, and the patient was better.

Vaccine Treatment.—September 15th, 1 million stock vaccine. September 16th, 1 million stock vaccine. September 19th, 1 million own vaccine. September 20th, 1 million own vaccine.

CASE VI.

I. B., No. 1,403, male, aged 23. Onset September 19th, 1908, feverish, delirious, pain in chest. Admitted September 23rd, 1908. Extensive patches of consolidation in right lower lobe, and also of a less extent in left lower lobe. The symptoms were very acute.

Vaccine Treatment.—On September 24th was given 1 million stock pneumococci, and on September 26th (seventh day) the temperature fell to normal and symptoms abated.

CASE VII.

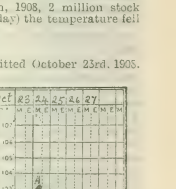
C. D., No. 1,432, male, aged 21. Onset September 29th, 1908 (the day of admission), sick, dyspnœa, cough, fever. On examination patches of consolidation were found in both lower lobes.

Vaccine Treatment.—September 30th, 1908, 2 million stock pneumococci. On October 1st (third day) the temperature fell to normal and the symptoms subsided.

CASE VIII.

E. F., No. 1,559, male, aged 6. Admitted October 23rd, 1908. Onset October 22nd, 1908, feverish, cough, sick, pain in left side, dyspnœa. On examination patches of consolidation were found over both lungs, more marked on right side.

Vaccine Treatment.—On October 23rd, 1908, 2 million stock pneumococci were given. On October 24th (second day) the temperature fell by lysis and all symptoms abated.



Case VIII.—A. Two million stock vaccine.

CASE IX.

Mrs. M., aged 55. Subject to attacks of asthma for years. On November 1st, 1908, had fever, shivering, pain in left side, dyspnœa. There were signs of consolidation of left lower lobe. The symptoms did not clear up under the usual therapeutic measures. A vaccine was made with pneumococci from sputum.

Vaccine Treatment.—November 25th, 1908, 7 million own pneumococci. December 5th, 1908, 10 million own pneumococci. December 15th, 1908, 10 million own pneumococci.

After each dose of vaccine there was a marked improvement, and after the last dose the symptoms completely cleared up, so that patient was able to make the journey to a warmer climate. The case was an interesting example of the marked benefit which an appropriate vaccine has on a chronic pneumonia.

CASE X.

B. J., aged 40, male, No. 45. Onset January 5th, 1909, rigor, cough, pain in side. Admitted January 8th with all the clinical symptoms of pneumonia. On examination definite signs of consolidation of both lower lobes. Marked dilatation of left ventricle was present.

Vaccine Treatment.—January 10th, 5 million own pneumococci. January 11th, 4 million own pneumococci. January 14th, 7 million own pneumococci.

On January 14th, ninth day, the temperature reached normal, having fallen by lysis, and the patient made a complete recovery. The case was a very severe one.

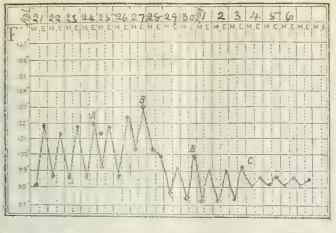
CASE XI.

R. S., No. 381, aged 14. Under Mr. V. W. Low. Operated on February 27th, 1909, for appendicitis, and abscess drained. The temperature remained high for many weeks after the operation. There were no signs or symptoms pointing to an abdominal cause. There was marked cough, dyspnœa, pain in side, and on examination there were signs of consolidation of both lower lobes. On numerous occasions explorations were made with an aspirating needle, but no pus was found in chest. The vaccine treatment did not improve at all under ordinary treatment.

Vaccine Treatment.—April 24th, 5 million stock vaccine given with no benefit. April 27th, 10 million own pneumococci given with very marked benefit. April 30th, 10 million own pneumococci given, with result that all symptoms abated. May 4th, 12 million own pneumococci.

This is one of our most convincing cases, the patient had responded to no form of treatment until vaccine was given, and then it was only the vaccine made from the

patient's own pneumococci which was of benefit. When that was given the cure was almost instantaneous.



Case XI.—A. Five million stock vaccine; B. ten million own pneumococci; C. twelve million own pneumococci.

CASE XII.

L. H., No. 248, aged 9, female, admitted February 23rd, 1909. Onset February 21st, feverish, delirious, vomiting, cough. On admission patches of consolidation diagnosed in both lower lobes.

Vaccine Treatment.—February 24th, 3 million own pneumococci. February 25th, 4 million own pneumococci. February 27th, 5 million own pneumococci.

The patient had acute symptoms, which subsided by crisis on February 28th, the seventh day.

CASE XIII.

I. M., aged 31, No. 249. Onset February 10th, 1909, admitted February 23rd. Definite signs of consolidation of patches of lung in both lower lobes. All the symptoms of acute bronchopneumonia were present. On February 26th, in consequence of severe meningeal symptoms, a lumbar puncture was done; the fluid was sterile.

Vaccine Treatment.—February 26th, 6 million stock vaccine. February 28th, 6 million stock vaccine. March 2nd, 6 million stock vaccine.

The temperature fell by crisis on March 3rd, the twenty-first day, and the patient made a complete recovery. The case was one of great severity, and showed marked benefit from vaccine.

CASE XIV.

W. D., aged 60, No. 287, admitted March 2nd, 1909. Onset February 27th, rigor, pain in left side, cough. On admission patient was extremely ill, with definite signs of consolidation of left lower lobe. There was albumen in the urine.

Vaccine Treatment.—March 3rd, 20 million stock vaccine. March 4th, 20 million stock vaccine. March 6th, 15 million stock vaccine. March 10th, 16 million stock vaccine.

The temperature fell to normal on March 15th by lysis, the fourteenth day, and the symptoms of pneumonia subsided. The patient went on well until March 28th, when symptoms of nephritis developed, and he died from suppression of the urine. There was no pyrexia after March 13th, when the pneumonia subsided.

CASE XV.

J. P., aged 29, No. 291, male. Onset February 28th, with rigor; admitted March 2nd, 1909. On admission there were definite physical signs of consolidation of the left lower lobe and part of the right lower lobe.

Vaccine Treatment.—March 3rd, 20 million stock vaccine. March 5th, 20 million own pneumococci. March 6th, 20 million own pneumococci.

The temperature fell after each dose of vaccine, but more so after the autogenous vaccine; the temperature fell by lysis, reaching normal March 9th, and the patient made a complete recovery.

CASE XVI.

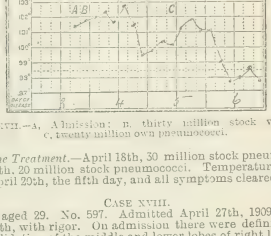
E. L., aged 6, No. 410. Admitted March 23rd, 1909. Patient was admitted with symptoms of pneumonia, which had been present for two weeks. On examination there was definite evidence of patches of consolidation at left base and in left axilla, also in the upper lobe of left lung. The symptoms continued in spite of all treatment, and there was pyrexia from March 25rd until May 26th, with cough, dyspnœa, and cyanosis, and the signs of fresh patches of consolidation of lung from time to time.

Vaccine Treatment.—April 18th, 6 million own pneumococci. April 22nd, 8 million own pneumococci. April 24th, 7 million own pneumococci. April 26th, 10 million own pneumococci and 8 million influenza bacilli. April 29th, 10 million own pneumococci and 10 million influenza bacilli. May 5th, 10 million own pneumococci and 10 million influenza bacilli. May 8th, 10 million own pneumococci and 10 million influenza bacilli. May 12th, 12 million own pneumococci and 10 million influenza bacilli. May 16th, 15 million own pneumococci and 12 million influenza bacilli. May 21st, 15 million own pneumococci. May 25th, 20 million own pneumococci.

This was a very striking example of a persistent pneumococcal infection. There appeared to be definite benefit from the vaccine treatment, since before this the case appeared quite hopeless.

CASE XVII.

A. S., No. 543, aged 18. Onset April 15th, 1909. Admitted April 18th. There were definite signs of consolidation of left upper and lower lobes, and of the base of the right lower lobe.



Case XVII.—A. Admission; B. thirty million stock vaccine; C. twenty million own pneumococci.

Vaccine Treatment.—April 18th, 30 million stock pneumococci. April 20th, 20 million stock pneumococci. Temperature fell by crisis April 20th, the fifth day, and all symptoms cleared up.

CASE XVIII.

J. B., aged 29. No. 597. Admitted April 27th, 1909. Onset April 25th, with rigor. On admission there were definite signs of consolidation of the middle and lower lobes of right lung, and of the lower part of left lower lobe. There was marked delirium.

Vaccine Treatment.—April 27th, 50 million stock, vaccine. April 30th, 20 million stock.

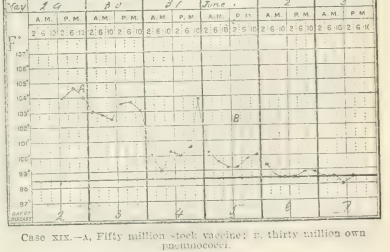
The temperature reached normal on May 2nd, the eighth day, having fallen by lysis. The symptoms showed definite improvement after the vaccine.

CASE XIX.

Mr. F. Onset May 28th, 1909. Rigor, pain in right side. May 29th, definite signs of consolidation of right lower lobe. Temperature, 104.5°.

Vaccine Treatment.—May 29th, 50 million stock vaccine. June 1st, 30 million own pneumococci, from sputum.

Temperature fell after each dose of vaccine, and on June 2nd,



Case XIX.—A. Fifty million stock vaccine; B. thirty million own pneumococci.

the fifth day, the temperature was normal, and remained so. The patient made a complete recovery. (Sir Almroth Wright's case.)

CASE XX.

T. P., aged 23, male. No. 753. Admitted on May 6th, 1909. Onset on the 22nd, with rigor. On admission there were definite signs of consolidation in the right upper, middle, and lower lobes; also at the base of the left lung.

Vaccine Treatment.—On the 29th, seventh day, patient was given 50 million of stock vaccine. The temperature fell by lysis to normal on the 30th, the eighth day.

CASE XXI.

J. D., aged 11. No. 756. male. This patient was admitted for double mitral disease on May 28th, 1909. While in hospital on May 31st definite signs of pneumonia of left upper and lower lobes developed, with herpes, cough, dyspnoea, cyanosis, pain in side. There were definite signs of consolidation in the upper and lower lobes of the left lung. The pneumonia was of a very persistent type, and the temperature did not remain at normal until June 16th, seventeen days after onset.

Vaccine Treatment.—June 4th, 12 million stock pneumococci. June 6th, 20 million stock pneumococci. June 8th, 25 million stock pneumococci. June 9th, 30 million stock pneumococci. June 11th, 30 million stock pneumococci.

After each dose of vaccine the temperature fell, and there was a marked improvement. The respiratory symptoms entirely cleared up.

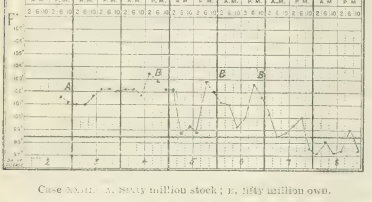
CASE XXII.

C. S., No. 810, aged 3 years 9 months. Admitted June 9th, 1909. Onset June 4th, with fever, cough, drowsiness. There were definite signs of consolidation in the lower lobes of both lungs, most marked on left side.

Vaccine Treatment.—Twenty million stock pneumococci given June 12th. Temperature fell by crisis on the eighth day a few hours after administration of vaccine, and all symptoms cleared up.

CASE XXIII.

W. W., No. 829, aged 40. Admitted June 11th, 1909. Onset June 10th, with rigor and severe pain in side. On admission there were all the symptoms of acute pneumonia, cough, rusty



Case XXIII. A, sixty million stock; B, fifty million each.

sputum, pain in side, pulse 120, respirations 48. There were all the signs of extensive consolidation of the right lower lobe.

Vaccine Treatment.—June 11th, 1909, given 60 million stock pneumococci. June 13th, 1909, given 50 million stock pneumococci. June 15th, 1909, given 50 million stock pneumococci. June 16th, 1909, given 50 million stock pneumococci.

After the last three doses there was a marked immediate fall in the temperature with striking improvements in the symptoms. The temperature fell by lysis to normal on June 17th, the sixth day of disease, and the symptoms completely cleared up. This case was a severe one, and the beneficial effects of the vaccine were very striking.

CASE XXIV.

I. P., aged 49. No. 861. Admitted June 18th, 1909, on the sixth day of disease. Onset five days before admission, with rigor and severe symptoms. On admission there were severe symptoms of pneumonia, with marked dilatation of heart and feeble pulse. There was marked delirium. There were definite signs of consolidation of the upper and lower lobes of the left lung, and also of the base of the right lower lobe. Patient died on the eighth day, June 21st, from cardiac failure.

Vaccine Treatment.—On June 19th, the sixth day, patient was given 40 million of stock pneumococci. No result, beneficial or otherwise, followed this dose.

At the autopsy there was marked grey hepatization of the whole of left lung and a patch of consolidation of base of right lung. The heart was dilated, the muscle soft and fatty.

The Clinical Effects of Inoculation.

In our cases we frequently found that there was a definite improvement in the clinical symptoms of the disease, thus there was often an immediate fall in the temperature, and the dyspnoea and delirium became less after a dose of vaccine.

The duration of the disease appeared in some cases to have been shortened; thus, out of our 24 cases in one the crisis occurred on the second day, in one on the third day, in one on the fourth day, and in three on the fifth day after the onset.

In some cases instead of a fall in temperature by crisis, the fever subsided by lysis; this happened in eight of our cases, a rather larger proportion, we think, than would have been the case without vaccine treatment.

The most striking and convincing evidence of the benefit derived from vaccine treatment was shown by those cases which ran a protracted course. Thus in Cases I, IX, XI and XIII, all of which were severe cases and ran a protracted course, the beneficial effects of vaccine were most striking, and these results could have been due to no other cause, since all the usual therapeutic measures had previously been adopted with no result.

We found in two of our cases, Nos. I and XI, that while the ordinary stock vaccine gave no benefit, an autogenous vaccine almost immediately produced most striking effect, the symptoms rapidly clearing up.

We consider it most desirable that vaccine treatment should be commenced as early as possible in the course of the disease, as then the beneficial effects are likely to be much greater.

DISCUSSION.

Mr. Butler Harris (London) observed that Dr. Willcox's results were in agreement with those published by himself in a paper in the issue of the British Medical Journal for June 26th, 1909, particularly with regard to cases of a prolonged nature. He agreed that large and frequent doses given between the fifth and seventh days, when a crisis might be expected, were contraindicated. In a case detailed in his paper the temperature rose steadily until death occurred on the eleventh day. As regards a vaccine, he was coming to the conclusion that perhaps an autogenous vaccine was not so vital as a vaccine derived from a virulent strain of pneumococcus. In a recent case the patient was ill and run down, and her sputum crowded with capsulated pneumococci. The speaker considered she was suffering from a mild pneumococcic toxaemia, and warned her to take care not to overtax her strength, as she might get pneumonia if not careful. Six weeks after this warning the patient went down with acute lobar pneumonia. A 25 million pneumococcus vaccine from a virulent strain was given at the end of the second day; an artificial crisis occurred within eight hours, and the patient recovered. Another case, where sputum could not be obtained, failed to respond, and died after a desultory illness of a month. A diffuse catarrhal condition was found in the lung, which was crowded with Friedländer cocci. In a vegetation on the mitral valve the *Micrococcus catarrhalis* was also found.

Dr. Parry Morgan (London) said: The difficulties in estimating the opsonic index in pneumonia suggests that there are several factors concerned. It had been found that with pneumococci that give no phagocytosis an extract may be made that inhibits phagocytosis, also that the organism, after the extraction has been made, is now acted on by the serum, phagocytosis readily taking place. This suggests that there are at least two factors concerned in phagocytosis, namely, opsonin which favours, and a substance in the organism which inhibits it. Again, organisms obtained from different sources behave differently as regards phagocytosis, the lung organism, for example, is very often not active whilst the mouth organism is. Again, culture makes a difference in this respect. This suggests that pneumococcus obtained from the lung has more substances against which immunity must be developed than the others. Again, we have found that the pneumococcus obtained from a patient is often agglutinated by the serum of that patient late in the disease, and frequently the serum of one patient will agglutinate the organism from another, but this is not general. We see, therefore, in cases of infection that immunization must be developed to the pneumococcus, to the toxin that inhibits phagocytosis and to the antigen that produces the agglutin. Thus it appears that the organism that possesses all these characteristics will be the one that will make the most effective vaccine. On the other hand, such a vaccine might be the most toxic. Some of the cases certainly show that whilst a stock vaccine is ineffectual the autogenous vaccine is not so.

AUTOINOCULATION IN PULMONARY TUBERCULOSIS.

By Marcus Paterson, M.B., B.S.Durh.,
Medical Superintendent, Brompton Hospital Sanatorium, Frimley.

First, in order to eliminate any ambiguity regarding my use of the word "autoinoculation," I wish to explain that by it I mean the effect of exercise on the blood as shown by general health, temperature, and the increase or decrease of sputum. In 1905, when I first prescribed graduated labour for tuberculous patients at the Brompton Sanatorium, Frimley, I had no idea that it would have any direct influence on the disease itself, but thought rather that work would materially improve the general condition of patients, and consequently they would avoid the lazy habits so frequently acquired at sanatoriums. After one year's experience I began to observe in a few patients that harder work caused a marked improvement while they had remained stationary on light work. This improvement was shown by an increase in weight and a decrease in sputum. At the time I concluded that the harder work had bettered the appetite and through that the entire condition.

In 1907 Dr. A. C. Inman explained to me Sir Almroth Wright's theory of autoinoculation, saying that he believed exercise given to patients had good results because it induced autoinoculation. Dr. Inman accordingly examined the blood of many patients undergoing graduated labour at Brompton Sanatorium, and the results of the investigations confirmed his opinion. From that time I have endeavoured to carry out the treatment of patients suffering from pulmonary tuberculosis along the lines of autoinoculation. This theory has brought me from working in the dark to working with open eyes, and has fixed a point at which to aim to find out how much useful work a patient can do without rise of temperature and with decrease of sputum. This seems to me a more practical object than the old method of fattening—compelling patients to continually rest and eat. Treatment by autoinoculation has the additional advantage of shortening the time necessary for a patient to remain in the sanatorium. Comparing the first six months of 1907, when I was not working in autoinoculation, with the same period in 1909, I find that 50 per cent. more patients have been treated at Frimley in the same building, accommodation and without the addition of a single bed. I have elsewhere given the details of my system of graduated labour, and I should only like to point out that some patients from the first commence to have a decrease in their sputum, whilst others have no decrease at all until on fairly or very hard work, when the sputum entirely disappears, except very little in the early morning. This happens so frequently, that there is no doubt in my mind that it is due to the influence the work has on the blood—that is, to autoinoculation. In the short time at my disposal I do not propose to enter further on the subject of induced autoinoculation than to say that in practice I have found the autoinoculation caused by increase in the grade of work is not very great; but should it be greater than was anticipated, the overdose can be controlled by absolute rest, and the patient on recovery can start again on the same grade, with little fear of another excessive autoinoculation.

What I chiefly wish to impress in this paper, however, are the methods we have of controlling excessive autoinoculation. I think Sir Almroth Wright has laid down that spontaneous autoinoculation, which cannot be controlled, is incompatible with life. Irregular pyrexia in pulmonary tuberculosis is evidence of activity of disease, and is associated with irregular spontaneously occurring autoinoculations of toxin. Persistence of this fever and state of the blood can only lead to the death of the patient, and it is therefore obvious that every possible means must be taken to prevent the spontaneous autoinoculation which is causing the fever. To bring the patient's temperature to the normal is our object, and this is most readily accomplished by enforcing absolute rest. In the system of graduated labour patients who have a temperature as low as 99° F., taken in the mouth, *plus* a headache, are not only sent to bed, but are in addition treated in every way (with the exception of diet) like a typhoid patient; they are not allowed to wash themselves, to move in bed, nor to go to the water-closet. Every possible means are used to stop cough which does not result in the bringing up of sputum—that is, unnecessary cough, and in no case would a patient be examined with the stethoscope and made to take numerous deep breaths, nor be allowed to sit up in bed or to cough for the purposes of physical examination. The reason for these stringent regulations is obvious—namely, to stop all possible sources of further excessive autoinoculation when the patient is already under the influence of such autoinoculation.

When I was quite ignorant of the theory of autoinoculation, and a patient was worked to an extent resulting in a rise of temperature to 99° F., *plus* a headache, and the other subjective symptoms associated with a severe autoinoculation, he was sent to bed but was allowed to wash himself and to go to the water-closet. When thus treated the temperature commonly does not become steady for ten days or a fortnight.

Since I have become more familiar with autoinoculations the patients have not only been sent to bed when they have had such a rise of temperature (99° F. in the mouth, *plus* a headache, that is, excessive autoinoculation) but in addition have been treated with absolute rest, with the result that, as a rule, the temperature becomes normal within three or four days. The patients in consequence are able to return to the work which caused the excessive autoinoculation generally within a week, and they can return to the work which caused the rise of temperature as the autoinoculation has made them immune to that dose. The patients often say that they feel better in themselves than they did before the rise of temperature; and at all events with these precautions mentioned they are never any the worse for the rise of temperature.

The difference made in these cases of even slight departure from the rule of absolute rest is very great. If, for instance, a patient who is on absolute rest, and his fever declining, gets up against orders to go to the lavatory, his temperature chart is likely to show forthwith a reversion to the old type. The wisdom of absolute as opposed to comparative rest is further evidenced by cases such as the following: A male patient previous to his admission was kept in the fresh air at home and at rest, but not absolute rest in bed, and his pyrexial temperatures continued. On his admission to the sanatorium, absolute rest was substituted for this partial rest, with the result that in two days his temperature was perfectly normal. He rapidly regained his appetite, having had no relish for his food, altogether due to excessive autoinoculation; his constant cough and sputum, also due to the same cause, at once decreased, and within a week he was a different man.

If we wish to do anything for a patient with fever in pulmonary tuberculosis, we must keep to the fore in our minds, "How can I prevent this excessive autoinoculation?" Open air alone does not stop excessive autoinoculation, nor does a system of absolute rest unless steps are taken to secure that it is truly absolute. This point is exemplified by a case in which the patient, though nominally on absolute rest, experienced for a considerable time no benefit as regards the fever. The reason was simple; the patient had an irritable cough, which had little to do with the bringing up of sputum. On controlling the cough by giving morphine, the fever rapidly disappeared and the sputum decreased. The morphine linctus was replaced by a simple linctus within ten days. It is obviously useless to insist upon absolute rest unless the coughing can be controlled, because the patient who coughs violently and shakes the whole bed is, as regards foot-pounds of work, taking fairly vigorous exercise.

It will be gathered from what has been said that I regard a temperature of 99° in the mouth, accompanied by a headache in an early case of pulmonary tuberculosis, as a warning of excessive autoinoculation. In women I consider 99.6° to correspond to 99° in men. I found that men with old or rather extensive disease often have a temperature of 99° or over, which is not of the same significance as 99° in early cases.

Sanatorium treatment at present can be summarized, I think, as follows:

1. Placing patients under ideal hygienic condition (the open-air treatment) and keeping them at rest.

2. The above *plus* artificial inoculations of tuberculin.

[* This and other points in connexion with the course of fever in autoinoculation described in this paper were noted in a series of 50 consecutive cases.]

3. Prevention of excessive autoinoculation.
4. Inducing autoinoculation by graduated exercise or work.

The first by itself undoubtedly does good, but it seems to me a combination of all four will give better results.

I hope that anything I have said as to absolute rest in pulmonary tuberculosis will be taken as advice in hopeful cases only, as I consider it a great unkindness to place any restriction on a patient whose life is ending from consumption.

DISCUSSION.

Dr. Butler Harris (London) drew attention to the fact that when, after prolonged treatment with tuberculin and rest, a normal opsonic index had resulted for some time, the patient must not be considered to be necessarily cured of tubercle for all time. He instanced the recurrence of disease after varying intervals from ten months to two and a half years in fresh sites, the patients having in the interval passed out of view. In other words, the tendency to infection in a certain type of cases was not removed. Possibly such patients ought to be inoculated regularly as a matter of routine for many years, perhaps even for life.

Dr. W. H. Willcox (London) thoroughly agreed with everything that Dr. Paterson brought forward. He believed that a thorough grasp of the principles underlying autoinoculation was essential if one was to treat successfully acute tuberculous disease, or, indeed, any acute infective disease. In the course of his work he had seen numerous interesting examples of autoinoculation. Thus, in cases of disease—for example, diabetes, where there was a very slight latent pulmonary tuberculous lesion—unusual exertion, or often simply a prolonged physical examination, would produce a rise of temperature by autoinoculation. Then, again, in several cases of gastric ulcer which had been under his care, where there was a slight latent tuberculous lesion of the lung, and where the operation of gastro-enterostomy had been performed, the autoinoculation produced had caused pyrexia for from one to two weeks after the operation. It was well to warn surgeons of this possibility in similar cases.

Dr. Crofton agreed that it was useless to depend solely on the effect of open air. Both in acute and chronic forms of phthisis he had had complete cures by intravenous injections of iodoform in ether.

ON TYPHOID CARRIERS.

By Thomas Houston, M.D.
(From the Pathological Laboratory, Queen's College, Belfast.)

As the work I have been doing on chronic typhoid infection is in a very unfinished condition, I present this paper as a mere preliminary sketch of some points of interest and as a record of some suggestive cases.

Case I.

In 1898 a female patient was admitted to the Royal Victoria Hospital under the care of Sir John Byers. The typhoid bacillus was isolated in pure culture from her urine, and her blood gave a well marked Widal reaction. As the case was fully reported in the British Medical Journal of January, 1899, attention here need merely be drawn to certain special points:

1. There was no history of an acute attack of typhoid fever.

2. The symptoms of cystitis, severe headaches, and general ill health required hospital treatment for months, and had persisted for at least three years.

3. This case appears to be the first recorded case in which typhoid bacilli were shown to be voided in the urine for a long period.

4. Urinary antiseptics and other methods of treatment were without effect in diminishing the number of bacilli in the urine.

The patient, who in view of the facts noted under paragraph 2 cannot be described as a healthy typhoid carrier, left hospital without improvement and was lost sight of. She is probably, if alive, still disseminating typhoid bacilli.

Case II.

The case has as sequence a house epidemic.

The patient, K. M., aged 26 years, while a servant in a house in Liscard, contracted typhoid fever seven years ago, and was confined to bed for seven weeks. After her recovery she took another situation in Liscard, and in a month's time, about the end of March, her master developed typhoid fever. The next two years she passed in different situations, nothing of importance occurring. She then took a situation in Liverpool, where the son of her mistress developed typhoid fever in March or April. Finally, she came to Belfast, and while in service in this city four people, A, B, C, and D, in the same house developed typhoid fever at short intervals (June to July). In other words, in the course of seven years six people, living in the same houses as the patient, developed typhoid fever. Dr. S. T. Irwin suspected that she might be a "typhoid carrier." Questioned as to her attack of typhoid, the girl at first stated that her recovery was complete, and she was soon able to return to work, but on cross-examination she admitted that since her illness she had not been in robust health. She was easily tired; she suffered from frequent headaches and occasional gastric disturbances. Her general condition evidently varied, but her health was not altogether satisfactory. He had her blood examined. It gave an imperfect Widal reaction in 1 in 50 dilution in one hour, and a good reaction in lower dilutions. She was therefore advised to go into hospital that her condition might be investigated.

She was admitted to the medical wards of the Royal Victoria Hospital on July 18th, 1908, and was placed under the care of Dr. William Calwell. A catheter specimen of her urine was obtained: it was opalescent, acid in reaction, had a specific gravity of 1022, and contained a trace of albumen. The centrifugalized deposit contained pus cells, bladder epithelium, and an enormous number of Gram-negative bacilli. The urine was then plated on Conradi-Drigalski medium, 1 c.cm. and 0.5 c.cm. of urine being placed respectively on each of the two plates. After the urine had been distributed over the surface of the plates any excess was poured off. This procedure was adopted in all further examinations of the urine of this patient. The next day both plates were studded with innumerable colonies. These on further examination gave all the typical cultural reactions of Eberth's bacillus. Several samples of typhoid blood which were found to agglutinate the laboratory strain of typhoid also agglutinated this bacillus, recently isolated from the urine, in dilutions of 1 in 10, 1 in 50, and 1 in 100. The agglutination was not so complete in the high dilutions as the agglutination of the laboratory strain. The blood of the patient agglutinated the laboratory strain well in dilutions of 1 in 10 and 1 in 20, but only partially in a dilution of 1 in 50 in one hour. The bacillus isolated from the urine gave a good reaction with a 1 in 10 dilution of the patient's blood, but in higher dilutions the reaction was imperfect. Several examinations of the urine and blood were made, with the same results as those detailed above. In other words, the urine of the patient contained the typhoid bacillus in pure culture and in enormous numbers, while her blood gave distinct evidence of infection. The faeces were also examined by cultural methods for typhoid bacilli, but none were found. The patient's temperature was found to vary from 98° to 100° F.; with a two-hourly chart the temperature was seen, as a rule, to touch 100° between 12 noon and 4 p.m. On admission her weight was 8 st. 13 lb. For the first five weeks she was treated with tonics, urinary antiseptics, and rest. During this period no improvement was noticed. Her weight fell from 8 st. 13 lb. to 8 st. 11 lb.; she still complained of gastric pain and of headaches; her temperature range was the same as on admission; from the same quantities of urine quite as many colonies developed. A vaccine was now prepared from the typhoid growth which had been isolated from her urine. It was standardized and sterilized in the usual manner. The opsonic index to her own bacillus was determined on several occasions by the formalin method and found to vary between 2 and 3. It was an easy matter to pick out this patient's blood from a series of controls by this opsonic test.

On August 25th 50 million sterilized typhoid bacilli were inoculated. This caused a higher range of temperature for a day or two and considerable general malaise and headache. On September 1st the urine was plated out and numerous typhoid colonies developed.

On September 2nd 100 million sterilized typhoid bacilli were inoculated; the general malaise, etc., were less marked than on the first occasion. On September 16th the urine was plated out as before, and the following is the note written on that date: "The colonies which developed on the plates very much fewer in number than in any previous occasion on which the urine had been plated out."

On September 20th 200 million were inoculated. On the 22nd we were at first disappointed to find on plating out the urine as before that quite as many colonies developed on the plates as ever before. The patient was now put on sodium lactate and her urine was made alkaline in this way. On October 5th no

typhoid bacilli developed; the urine was incubated, but only a staphylococcus was found in the urine thus incubated.

On October 9th 300 million were inoculated. On the 20th no typhoid colonies grew from the urine.

On October 23rd 500 million were inoculated. On the 24th the urine was absolutely clear; no pus, no albumen, no colonies developed on the plates. On November 21st the patient returned from the country to report herself, and was kept three days in hospital. No typhoid bacilli were found in the urine or faeces.

On November 21st 1,000 million were given. On the 23rd no typhoid bacilli grew on the plates. The faeces were again examined with a negative result. Her blood now gave a well-marked Widal reaction in dilutions of 1 in 50, 1 in 100, and 1 in 200 in one hour. During the period in which the patient was being inoculated she gradually improved in general condition and weight; her weight increased from 8 st. 11 lb. to 9 st. 7 lb.; her headache, the feeling of tiredness, and her gastric pain all disappeared. It was noted by weekly weighings that immediately following the first two inoculations the patient lost a little in weight—the first two inoculations produced more general malaise than any of the others. Since November she has reported herself in December of last year, and again on April 24th, 1909. The urine and faeces were examined with negative results. She has been back again at work for months and appears in good health.

The after-history of the four persons, A, B, C, and D, who were apparently infected in Belfast by this case, is as follows:

A (the master of the house) appears to have made a good recovery.

B (a second servant) remained in poor health for six months after her recovery, suffering from malaise, headache, etc. She promised to come to hospital for examination if her health did not improve, but never reported herself, so she has probably regained her health.

C (a hospital nurse) made a slow recovery, and six months afterwards was still suffering from headaches, easily tired, and feeling unable for work.

As her blood still agglutinated the typhoid bacillus in 1 in 50 dilution, she was brought to hospital and the typhoid bacillus was recovered from her faeces in large numbers. (These appeared to clear up under vaccine treatment. She is now back at work and apparently in good health, though not very robust.) Her opsonic index from typhoid fever was originally below normal, and before the inoculations were stopped was keeping above the normal line. Her temperature was subnormal while in hospital.

D (the lady of the house) was consumptive, and had a tuberculous deposit in her apex and some tuberculous glands in her neck. She never made a good recovery from her illness, and six months afterwards she developed a temperature and complained of frontal headache.

Her symptoms were first supposed to be the result of tuberculous mischief. A few small inoculations of tuberculin were given without much effect. Her temperature and the peculiar type of her headache suggested that she might still be infected with the typhoid bacillus. After some difficulty the typhoid bacillus was isolated from her faeces. Several inoculations with typhoid vaccine were then given with very good effect. Her temperature quickly fell to normal, and she appeared in good health and remained so for three months. About the end of March she again became ill, and during April developed an acute febrile illness, with slight cough and some signs of bronchitis. For some time it was difficult or impossible to determine whether this temperature was due to the typhoid or tubercle bacillus or to both. Her blood still agglutinated to the typhoid bacillus to a slight extent, but we failed to isolate the bacillus again.

Unfortunately the progress of the case made it evident that at least one of the factors in her illness was a recrudescence of the tuberculous trouble in her lung, and she was sent to a sanatorium.

Case III.

This patient had been in poor health for four years, suffering from symptoms pointing to some chronic infection—namely, irregular temperature, varying from normal to 100°, or occasionally 101°. This condition had persisted for at least four years.

The temperature was subject to fairly regular exacerbations every fourteen days or thereabouts. She complained of severe frontal headaches and occasional chills. She was thought to have antral disease, but, although a small abscess, probably connected with a carious tooth, was found on operation, nothing to account for her condition could be discovered. Various forms of treatment were tried without any benefit. She was believed to be tuberculous, and a course of tuberculin advised. I was unable to obtain any evidence of tuberculous infection from her blood or otherwise. Small inoculation of tuberculin had no good effect.

Her sister, on her return home after an absence of several weeks, developed an acute febrile illness, which was supposed to be influenza or typhoid. It ran a course of three or four weeks of high temperature, and during convalescence all her hair came out. Her blood was examined on the third day of her illness. There was no leucocytosis and no typhoid reaction. Several months after her acute illness, as she was still in indifferent health, her blood was again examined. It now gave a definite Widal reaction, and the typhoid bacillus was recovered from her urine. Her sister, whose condition was the same as before, was also found infected with the typhoid bacillus, and her blood gave definite signs of infection. These two patients are at present being treated with typhoid vaccine. The girl who had the recent attack of fever is greatly improved, and is probably free from the infection. Her sister is still ill, but appears to be slowly improving.

The above details of these cases show that a condition which may be described as "chronic typhoid" does occur, and that typhoid carriers may suffer from symptoms pointing to a chronic infection. The most characteristic feature found in this series of cases was a peculiar frontal headache which recalled the headache of the first week of typhoid fever. This was marked in all the cases except one.

All the cases, except the first, mentioned above, have been treated with vaccines made from the bacillus isolated from the individual cases, or at least from one of the groups of cases under consideration.

Of these cases, two only can be described as chronic typhoid carriers, the others were still infected several months after an acute attack of typhoid fever.

Of the two chronic cases, one is apparently free from infection, but the other is still under treatment and has improved to some extent. Of the cases of recent infection all have improved greatly, and may be free from typhoid infection, but when we consider the great difficulty in coming to a decision in such a matter, especially when frequent examinations are impossible, we can only state that the symptoms of infection in such cases disappeared under treatment. One of the greatest difficulties in such cases, especially when the bacilli are found in the faeces, is to determine when the patient is entirely free from infection. This can only be done by frequent and repeated examinations. It may also be found of value to give the patient a fairly large dose of typhoid vaccine, and if the bacilli are still present they will probably increase in numbers during the negative phase, and thus be more easily found. This was found to be true in the case of K. M.

Determinations of the opsonic power of the blood are made in all the cases described above. In two cases it was found above normal—that is, the cases with subacute temperatures. In the two with normal temperatures it was below normal. The determination of the opsonic power with regard to typhoid presents the following difficulty: the bacilli are susceptible to an agglutinative and bacteriolytic action for the serum. Nevertheless, with recently isolated cultures grown for a few hours fairly consistent results were obtained. Dr. Rankin and I, when working with the meningococcus, found that after prolonged subculture a meningococcus may lose its power of indicating by a high opsonic index the presence of infection. This result is due to the fact that as the organism becomes attenuated by artificial growth it gradually loses its resistance to the opsonic action of normal serum. This has been shown to hold in the case of some varieties of *Bacillus coli* by Wright. My results indicate that the typhoid bacillus behaves in a similar way. In determining the opsonic power of the serum of patients infected with typhoid it is useless to work with an old laboratory culture. A recently isolated strain should always be used.

A line of research which seems to be of great importance suggests itself in this connexion. Are there different strains of typhoid bacilli? or are the observed differences due to the attenuation of the micro-organisms through growth on artificial media? The answer to this question will determine the best method to prepare a typhoid vaccine. It seems quite certain that ordinary antityphoid vaccine which is made from a frequently subcultured bacillus has not the same potency as an autonomous vaccine. Is this a question of subculture, or are there real differences in the strains, as in the case of coliform organisms? Our work on this subject has not gone far enough to definitely answer this question. A recently isolated culture from the case was used in all the determinations. A few hours' growth was employed, as this

seemed to reduce the bacteriolysis to a minimum. The general law of negative followed by a positive phase was observed. It was found in cases with even a slight temperature that 50 million was probably an excessive initial dose, as it frequently produced considerable general disturbance.

From the experience I have had of these cases, I am of opinion that the clearing up of a chronic typhoid infection which has persisted for several years may prove an exceedingly difficult task, though my investigations in the case of K. M. seems to show that it is quite possible. On the other hand, if the cases be inoculated a short time after their initial attack of typhoid, the infection will usually be quickly eradicated. The critic will of course ask, Would this not have occurred without inoculation? In many cases it would; in a certain percentage it would not. Cases of typhoid, where the convalescence is slow, will derive great benefit from such a course of treatment, and if the infective period of the disease be thus shortened a distinct advance will have been made.

DISCUSSION.

Professor MCWEENEY (Dublin) said that during the past year he had traced the causation of two outbreaks of typhoid to carrier cases. In one case the carrier was a girl employed in a dairy from which milk was sent to a girl's school, where 35 of the pupils were suddenly struck down with typhoid. Although apparently in good health her serum was found to agglutinate the typhoid bacillus in a dilution of 1 in 500. On inquiry it was found that two years previously she had had an illness which resembled typhoid. In the other case, which was also milkborne, several hundred persons had become infected from a dairy where on blood examination several persons were found with high Widal reactions. The question which he wished to raise was whether the agglutinative power of the blood was always raised in carrier cases so that it might be relied upon as affording an indication of the cases whose excreta it was necessary to examine.

Professor WALKER HALL (Bristol) said that the affective periods of typhoid carriers were very variable, and that in the present condition of our knowledge it was difficult to know whether the disappearance of the typhoid bacilli from the excreta was voluntary or due to the effect of any form of treatment. Minute doses of vaccine, such as 25,000 (not millions) in his experience acted equally well with larger doses. He thought that with regard to agglutinative reactions these should be quoted with regard to some standard, and he hoped to make some suggestions in this regard at an early date. Although vaccines apparently produced some action in these cases, it was difficult as yet to attribute any direct action. In order satisfactorily to exclude the periodic factors, and to put the vaccine therapy on a sure basis, the excreta of "carriers" ought to be examined daily for at least two years. This was being done in a case under the care of the Bristol Health Department.

THE ANTITRYPTIC INDEX.

By F. L. GOLLA, M.A., M.B.Oxon.,
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IN a paper published in the *Lancet* last April I was able to show that by using a method depending on the increase of electro-conductivity of a casein digest it was possible to express the value of the antitryptic index of normal and pathological serums with the greatest accuracy, so long as the observations were so arranged as to fall in that stage of the curve of velocity reaction when the relationship of two digests is an arithmetical one. The results obtained were expressed in a ratio which may be either + or −, and which represents the relative strength of the antitryptic power of a pathological serum as compared with normal serum. At the same time it was shown that results obtained by use of a serum plate method or the end-point reaction of Fuld, owing to these methods neglecting the fundamental requirements of a comparative observation of enzyme action, yield contradictory results, and only can be relied on to show the most gross differences of antitryptic power. I need not deal further with methods, except to mention another physical one which I have recently adopted and which, for its accuracy and simplicity, should prove very satisfactory.

This method for estimating a tryptic digestion was devised by Spriggs, and depends on the changes of viscosity taking place during the progress of digestion. Spriggs showed that curves obtained by this method bore a close relationship to the curve of the diminution of coagulable proteid. Bayliss, who is the only observer who has repeated the experiments of Spriggs, showed that the viscosity change is generally brought to a standstill long before the curve of the increase of conductivity has advanced more than a very small degree. This was only to be expected, inasmuch as the increase of conductivity depends to a great extent on the formation of amino acids, a change taking place comparatively late in the course of a tryptic digestion. Nevertheless, though one is measuring two different stages of reaction, I have found a close concordance between the results obtained by the two methods, and though a little less sensitive than the electrical one, the viscosity method yields very reliable results.



Straight viscosity tube in water jacket dipping into a beaker containing digest.

I use the straight viscosity tube shown, and inasmuch as one is only determining the relative changes of viscosity in preparations treated with different serums, and since these are all under the same conditions, the temperature may be neglected as far as the digests are concerned, and the experiment carried on at room temperature. By arranging the strength of ferment used and the alkalinity of the medium so that the observations fall within the early period of the curves when the law of simple arithmetical relation holds, it is possible to obtain correct results with a single initial and a subsequent observation and the time occupied need not be above twenty minutes. The viscosity tube is protected from changes in temperature in handling by a water jacket, and, with the exception of a stop watch and a rubber suction bulb for filling the tube, no other apparatus is required.

To pass now to the results obtained, it is only possible in the time limit assigned to offer a general summary of them. The possibility of estimations of the antitryptic index being of any pathological use is so necessarily connected with the question of the constancy of the antitryptic power of normal blood that the series of investigations previously reported have been much extended. Altogether 40 normal cases have been compared, and in none of these was any divergence from the normal found that lay outside possible slight errors of experiment.

Starvation had no effect on the index, even in cases of gastric ulcer from whom food had been withdrawn for three or four days. The index is apparently unaffected by the age of the patient, but I have not tried the serum of young babies.

Having established the constancy of the normal index, attention was turned first of all to bacterial diseases. As the most promising of these, on account of the length of its duration and the ease with which inoculative experiments can be conducted in it, most of the work has been done on tubercle. In my former paper I have published a table of 25 cases to show that the temperature in tuberculosis has no bearing on the antitryptic index. It is true that if prolonged variations of temperature occur in the same individual his antitryptic index will also vary, but it is impossible from inspection of the temperature chart of a tuberculous patient to say whether the antitryptic index will be greatly or only slightly raised. The first impression gained, therefore, was a rather confused one as to the value of the index. In about 60 per cent. of the cases of tubercle the index was more or less raised; in the remainder it was normal, and in 2 cases subnormal. In all, 53 cases have been examined. In some cases the index was as high as + 0.8, in others only raised to + 0.02.

A clinical survey of the cases, however, conveyed the impression that those cases in which the index was very markedly raised were doing badly, and showed little tendency to improve or recuperative power after some such exhausting process as a bad night, whilst those cases in whom the index was only slightly raised showed a tendency

towards recovery. In order to test this impression it became necessary to follow out a number of cases, noting the relationship of their general symptomatology to the antitryptic index, and further, to trace the effect on the antitryptic index of inoculations with tuberculin. I have detailed elsewhere cases in which these two methods were combined, and since then have added further cases on whom observations extending over some weeks were conducted. In addition, the results of tuberculin inoculation have been studied in a series of 42 inoculations, the antitryptic index having been observed both before inoculation and at varying periods from two to twelve hours after.

As most of these cases have been reported elsewhere, I will only summarize the results arrived at. First, in cases which improved there was a tendency to a progressive decline of the antitryptic index, and in two cases which showed arrest of the disease the index became practically normal. On the other hand, in two cases in which the index to start with was very high and the patient progressively became worse, the index increased slightly, rising in one case from — 0.2 to + 0.4 in the course of two months' observation. In a case which was followed out for three months in a nursing home an index of + 0.2 became progressively lowered to + 0.08, during which time the patient steadily improved, but a bad relapse occurring some two months later the index was found to have risen to + 0.4. In one of these cases detailed in my paper the patient was afebrile nearly all through a progressively increasing pulmonary involvement, and the index, which was high at the beginning, showed an increase which bore no relation to occasional brief bouts of temperature.

Secondly, in the 43 cases of inoculation studied, a rise of the antitryptic index followed the inoculation in 33. Here the interesting fact was elicited that the amount of rise after an inoculation varies inversely to the height of the antitryptic index in the patient as regards normal before inoculation. To illustrate this point I append a list of 4 cases with different antitryptic indices, each of whom received 0.001 gram of tuberculin. It will be seen that where the index was high the response was comparatively small.

1. Antitryptic index = + 0 5. Index of serum after inoculation to that before = + 0.07.

2. Antitryptic index = + 0.4. Index of serum after inoculation to that before = + 0.1.

3. Antitryptic index = + 0 08. Index of serum after inoculation to that before = + 0.2.

4. Antitryptic index = normal. Index of serum after inoculation to that before = + 0 22.

Again the strength of the dose elicited a proportionate response as in this case: $\frac{3}{10000}$ mg. tuberculin—rise = + 0.05; $\frac{1}{10000}$ mg. tubercul n—rise = + 0.2.

In a case under the care of Dr. Latham no rise of antitryptic index followed administration of $\frac{1}{10000}$ mg. tuberculin with 5 c.cm. of horse serum; when a few days later the dose was repeated with the serum omitted a rise of + 0.4 was noted. This confirms the clinical observation of Latham that tuberculin administered with normal horse serum by the mouth has much less effect than the same dose without serum. In the 10 cases in which inoculation had no effect the dose was less than $\frac{1}{10000}$ mg. in 5, and in the remaining 5 the index was very high. As a matter of clinical observation, it may be stated that wherever the index was very high and the patient inoculated, the effect of the dose only appeared to aggravate his symptoms. In three patients dying of pulmonary tuberculosis in whom the antitryptic index was estimated a few hours before death it was very high in all, being + 0.6, + 0.75, and + 0.7 respectively.

The time relations of the antitryptic rise have so far only been roughly determined. The earliest period in which it was noted was two hours after an injection and four hours after administration of tuberculin by mouth. After about forty hours the index again sinks to its previous height. Nothing in the shape of a negative variation has been so far observed.

It would seem, therefore, that in pulmonary tuberculosis this rise of antitryptic power affords an easy method of determining the effect of an inoculation. In several afebrile cases, where the temperature chart has shown no result from inoculation, the antitryptic index has shown a well-marked rise. The temperature chart at the best, when it indicates a reaction at all, cannot quantitatively express the degree of the response; it would appear to bear the same want of relation to the degree of stimulus that the report of a gun does to the force with which the trigger is pressed. In addition, the antitryptic index, besides telling us the effect and the necessity for performing or abstaining from inoculation, may have some value in reinforcing clinical observations of the progress and prognosis of the disease.

In 2 cases of pure surgical tuberculosis involving the joints I was unable to find any alteration of the antitryptic index, nor was there any rise following inoculation. In neither, however, was there any temperature nor any constitutional symptoms.

As to the value of the antitryptic index in diagnosis of tubercle, we are on less explored ground. In 2 cases of normal people inoculated with tuberculin there was no effect on the index; in the comparatively large percentage of failures to observe a rise of index after inoculation, the index was already high in all those in which inoculation failed with a relatively large dose. I am, therefore, inclined to think that in an early case of tubercle with a low or only slightly raised index the chances of a post-inoculative rise would be very great.

With regard to other infective diseases, observations have, so far, been rather scanty. I am at present engaged with Dr. Bailey on a systematic examination of the cases in St. George's. Nine cases of pneumonia have been examined during the height of the fever, and of these the antitryptic index was again examined in 6 after the crisis. In all cases, whilst the fever was at its height, the antitryptic index was very high and it became only slightly lower in serum taken a day after the crisis. The descent appears to be very slow, and normal is only reached when the pulmonary disturbance has completely subsided. In a number of cases of scarlet fever the index was high during the febrile period, remained so after the temperature had come down, and in severe cases only reached normal about fourteen days after the fall of temperature.

In 2 cases of typhoid examined the index continued high two and three weeks respectively after the temperature had fallen. Both these cases showed signs of intestinal ulceration.

In 2 cases of malignant endocarditis the index was very high, going up markedly shortly before death; continuous observations were not, however, made.

In a case of diphtheria the index was only moderately raised, and fell with the temperature after administration of antidiphtheritic serum; the case was a mild one.

Late secondary and tertiary syphilitic cases have the index unaffected. Dr. Bailey is at present engaged in investigating the index in early secondary cases.

I have observed no affection of the index in the 3 cases of mild gonorrhoea I have examined.

In 5 cases of parenchymatous nephritis the index has been found to be raised. In 2 of these cases there was a recent history of acute nephritis; the history of the other cases was unfortunately not obtained.

The effect of cell injury is suggestive. In 3 cases after operation for hernia, which were doing well and were perfectly aseptic, the antitryptic index was raised. Similar results were obtained in 3 cases of fracture which was simple, and a quiet absorption of debris was probably proceeding.

One of the most curious and important variations of the antitryptic index occurs in the serum of patients affected by neoplasms. The increase of antitryptic power is so gross that it can be in most cases readily demonstrated by the plate method or that of Fuld, and Brieger and Trebing, using the latter, found that in a great majority of cases of carcinoma the index was raised. Their results have been confirmed by other observers, including Becker, but the nearly universal occurrence of this rise, when cases of slight rise are taken into account, requires for its demonstration the use of more delicate methods. In 15 cases examined I found only one certain exception to the rule that in patients with neoplasm the antitryptic index is raised.

For permission to use his very extensive observations I am indebted to Dr. Hort, who is reading a paper on the subject in the Surgical Section. This observer collected

100 cases of neoplasm, and found that in only 6 per cent was the heightened antitryptic index absent. After a variable time following complete removal of the growth the index fell to normal, and was found again to be raised when recurrence took place. His estimations of antitryptic power were done by Sörensen's method, which, if less delicate or easy than the physical methods I have mentioned, is quite sufficiently sensitive for this purpose.

The importance of these observations as an aid to the diagnosis of neoplasms cannot be overestimated. It is true that in cases where there is evidence of bacterial disease or parenchymatous nephritis the method is unavailable; but in the majority of cases where we are dealing with symptoms referable to pressure or obstruction in an otherwise healthy man it would appear that rise of antitryptic index is of almost diagnostic significance, and this rise will be of the greatest assistance in investigating the question of recurrence. Unfortunately there appears to be no discrimination in the antitryptic index between benignant and malignant growths.

Finally, a word may be said concerning the significance of the antitryptic index. Here our knowledge is practically *nil*. That the antitryptic power of the serum is attached to the albumen moiety was shown by Cathcart and Landsteiner, and the views of Glaessner, who considered that it was attached to the euglobulin fraction, may be considered to have been definitely disproved by Cathcart. A similar antitryptic power has long been known to be possessed by egg-white. Attached to the globulin portion of the serum is an auxilytic and possibly feebly proteolytic body, which was described by Hedin in the serum of the ox, and has since been noted by many observers. The antitryptic power of serum would appear, therefore, to be the algebraic sum of the antitryptic and the auxilytic bodies. It became, therefore, necessary to know whether variations of the antitryptic power were due to increased or decreased activity of the antitryptic moiety or of the auxilytic moiety. The fact that the antitryptic power is destroyed at 56° C. and the auxilytic power is left untouched enabled me to test this point by the simple method of taking two serums with high and low antitryptic indices, and, after estimating their indices, to use fresh portions of each serum which had been previously heated half an hour at 56° C. In the latter case the amount of tryptic digestion in the digests containing the two heated portions was exactly the same; consequently the variations of antitryptic power were due to the antitryptic content of the two serums. It may be further added that the auxilytic power is so feeble that its activity cannot be demonstrated in the small amounts of serum used and the time during which the observations are conducted. The question as to whether the antitryptic power is really a function of the albumen or of some body bound up with it is the subject of some work on which I am at present engaged. I have found it possible to extract the antitryptic body of serum with chloroform, and a lipoid body soluble in chloroform and ether and insoluble in acetone, possessing feebly antitryptic properties, has been obtained. Experiments are not, however, sufficiently advanced to enable any definite statement to be made.

The universal presence of potential intracellular proteolytic enzymes might make it seem likely that the serum inhibits a constant inhibitory action on such enzymes, and by an increase or decrease of inhibitory power regulates tissue metabolism. The heightened antitryptic power would be in these terms what the Germans have called a "cachexial reaction." The evidence against this view is very strong. In cases starving from non-malignant œsophageal stricture or gastric ulcer there is no rise of index, nor is the rise in malignant disease in any relation to the presence or absence of cachexia. More may be said in favour of the view that a rise of antitryptic index is a response to the introduction of tryptic enzymes into the blood stream liberated by autolysis of cells. This would explain the heightened index in cases where an aseptic operation or a simple fracture has caused cell destruction. I have, moreover, been able to markedly raise the antitryptic index in rabbits injected with rabbit liver and kidney which had been allowed to undergo aseptic autolysis for several hours, and then the ferments extracted by Buchner's method and injected. In such animals the serum showed a slightly increased inhibitory power on the progress of autolysis of normal rabbit and liver and kidneys as compared with that of the serum of a normal rabbit. But in the case of rabbits injected severally with liver or kidney this inhibitory power was not specific for that organ. The rise of index so sharply following inoculation of tuberculous subjects with tuberculin might be explained as due to an increased cytolysis, the liberated enzymes calling forth more antibody. It is hard, however, to reconcile such a view with the heightened index in rapidly growing malignant tumours, such as a fibroma of the uterus. It is hardly possible that in bacterial diseases the increased antitryptic power is due to the products of the bacilli themselves, though the antitryptic power of the bacterial body is amazing, as may be readily shown by growing culture in a trypsin solution kept at full strength by constant additions of fresh trypsin. It is urgently to be desired that some observations on the correlation of the leucocyte count of the blood and the antitryptic index should be performed. A paper on this subject has been published by Wiens, who found no striking concordance, but the unreliability of the plate method he uses allows no safe conclusions to be drawn from this work. I have not dealt with the relation of the antitryptic index to the phagocytic power of the blood, but this also is a subject offering a promising field for research.

DISCUSSION.

Mr. A. Fleming (London) said that he was in agreement with Dr. Golla that in all cases of pneumonia the index was very high, and remained so after the crisis. In tuberculous cases he found that in cases in which there was apparently no secondary infection there was no rise of the antitryptic index, but in cases in which there was secondary infection with pyogenic organisms there was increase of the antitryptic power. He suggested, therefore, that the antitryptic index had no relation to the tuberculous infection, but was in relation to the pus-forming organisms which form the secondary infections.

GENESIS AND TREATMENT OF THE MALIGNANT TUMOURS.

By Professor Sanfelice,
Bologna.

We can divide those who work on this subject into three categories.

To the first belong the pure morphologists, who, if they have rendered a great service to science in some ways, have been wrong in believing that the question of cancer genesis can be solved by dividing the carcinomata into hundreds of sections and studying their morphology and the genesis of the cellular neoplastic elements from the beginning to their complete evolution. They do not care for experimental methods, and violently attack those who, in consequence of experiments, have adhered to the parasitical theory of malignant tumours, denying them even the intellectual capacity to understand what may be a cancer and what may be a sarcoma.

These morphologists have laid down some theories with which they believed that they had explained the genesis of cancer, but without foundation, because when we have learnt that the cells of the organism which give origin to malignant tumours become anaplastic, or are displaced by inflammation in the connective tissue, we do not quite know the etiological agent of the anaplasia and of the inflammation that has afterwards produced the misplacing of the cellular elements.

At present the morphological study of the malignant tumours of man has given all it can.

To the second category belong those observers who also, without neglecting morphological researches, have followed the experimental way, transplanting the tumours from one animal into another of the same species or of different species, studying the more important conditions of development of the neoplastic cells, and seeking to solve the problem of the innate or acquired immunity against the growth of the transplanted cells. In these last years almost all the experimenters have fallen into a real mania to procuring themselves a rat or a mouse with a spontaneous tumour for initiating the series of the transplantations through many generations, as if this method of

research could solve the question. All these trials have taught us very little, and they have not advanced the question of the etiology of the malignant tumours: on the contrary, the result of all these transplantations of tumours from one animal into another of the same species or of different species marks a regression in the way of the important question, because the greater part of the observers tend to elevate the neoplastic cell to the degree of etiological agent by itself without the intervention of a parasitical agent, returning thus to the ancient conception of Colnheim.

To the third category of observers who study the question of cancer belong the partisans of the parasitical theory, grounded on the pathologic action of the blastomycetes. It is a legion of very few labourers if we subtract those who, publishing researches made with little scientific rigour, have contributed to throw discredit on the works which deserve to be considered. One knows already by the researches acquired by science the power of transplantation of malignant tumours from one animal into an animal of the same species. And animals which have overcome a first inoculation show afterwards a resistance to the consecutive inoculations of tumours. The spontaneous tumours, like those obtained by transplantation, are, however, the secondary effect of a cause which has remained till now unknown; thus the study of the cells alone which form the tumour, which is the principal object of the morphologists, although important, could not form a step to the knowledge of the causes—that is, of the agents which are able to make the cells neoplastic; that is to say, to produce a tissue of new formation, a guest pernicious enough for the organism, and at the same time an essential and dangerous condition of every malignant tumour.

From the researches that I initiated at Cagliari in 1894, I found that in malignant tumours of man and of animals one meets pathologic saccharomycetes which can rarely be artificially cultivated, and are often uncultivated, because they are transformed into Russel's atoms for the action of an antibody, that forms itself in the blood of the animal a prey to the infection. This in the same manner as the bacteriologic serums acts on the saccharomycetes, producing in them the fusion of the chromatic substance and the interposition of the parasites in very small round bodies. This transformation is owing to the organism possessing power of neutralization and reparation that are directed to hurt the life of the invading microorganisms. There is another important fact which resulted from the first researches—namely, that when the blastomycetes which we meet in the malignant tumours can be artificially cultivated, they present themselves coagulated, exactly like those forms which were considered by Soudakewitch, by Prusser, by Plimmer, and by others as belonging to protozoa which must not be confused with the usual cellular inclusions and with ordinary degenerations of the cellular protoplasms. This second fact represents the exception, because in the greater part of the malignant tumours the blastomycetes exist, but under the form of certain atoms.

The blastomycetes isolated from the malignant tumours inoculated alone into guinea-pigs and into rabbits give place to the production of tumours, which are for the greater part constituted of parasites. In this case one treats of pseudo-tumours, and not of real cellular neoplasms. These pathogenes blastomycetes inoculated alone into dogs in fewer numbers, but with a percentage superior to those we observe in the spontaneous malignant tumours, give place to a production of real epithelial connective tissue and malignant neoplasms. With this first series of vicissitudes one has not exhausted the study of the pathogenic power which the blastomycetes are able to exercise in animal organisms.

From a series of preliminary researches I was convinced that the cells of the malignant tumours, spreading far from the primitive tumour into the organs and forming the metastasis, do not transport the parasites into their cellular protoplasms. From that we deduce that the cancerous and sarcomatous cells must necessarily bear a stimulus represented by some chemical substance existing in them by which they can be multiplied at a distance from the primitive tumour. One must for that reason think of the existence of special toxins produced by the blastomycetes, and able to stimulate the cellular elements to the atypical reproduction till the formation of the malignant tumours.

Some years ago, while I practised a series of inoculations of the trachea on guinea-pigs and rabbits, in order to study the action that the blastomycetes are able to exercise when they are placed in contact with epithelial and cellular elements, I remarked that when we inoculated the parasites alone they multiplied considerably, and the tissue gave little proliferative reaction, whilst, when we inoculated the parasites together with the solid substratum of nutrition on which they had fed, we obtained a limited multiplication on the part of the cellular elements. I thought then that the different results of the discovery were due to the existence of toxins contained in the solid substratum of nutrition. At that time I began the study of the action which the parasites with the toxins, and the toxins alone, are able to exercise on the common experimental animals. After a long series of researches I succeeded in finding a liquid nutriment in which the blastomycetes isolated from the malignant tumours produce very active toxin. The toxin alone inoculated into the animals gave place to malignant tumours in chemical composition and in structure like those which we remark in man.

With the discovery of toxins we have explained the genesis of malignant tumours. The parasite exists on the skin, on the surface of the mucous membrane, in the little glands annexed to the skin of the normal individual. When, for reasons not yet known, there is a diminution of the organic resistance of the cellular elements which maintain in a state of latent life the microbes which we have in us, these may multiply and give place to the production of the toxins which stimulate to atypical proliferation that group of cellular elements which one finds around the parasites which have multiplied. In this manner the epithelial or connective tissue tumour begins from a limited number of cells. The parasites operate in the first moment of the evolution of the tumour; then the cells altered by the toxins multiply themselves, giving place to the formation of the tumour. When the parasites have finished their vital course they die, and their dead bodies provoke the reaction of the organism, which manifests itself with the formation of an antibody, transforming the blastomycetes into little fuchsinophile bodies.

After having confirmed the existence of the toxin in the culture of the pathogenic blastomycetes, it was interesting to see when they were inoculated into the animals in considerable dose, and for a long time they had the property of determining in the blood of the animals the formation of specific antibodies.

As animal producers of serum, we chose large dogs. On the first days we inoculated subcutaneous connective tissue with the attenuated toxin and then integral toxin, and we saw, after one or two weeks, the antitoxin began to increase to a maximum, which was gained after the third month. The antidote serum may be employed with efficacy in the malignant tumours of dogs and mice, also when $\frac{1}{5}$ c.cm. can neutralize ten times the dose, certainly deadly, of culture containing living parasites and toxin. If, however, the cure does not begin too late. The therapeutic serum, in order to succeed, must be applied early.

It was necessary at this point to study the action of the serum drawn from the inoculated dogs on dogs which presented spontaneous malignant tumours. Dogs, as one says, are subject to contract cancers and sarcoma resembling in course and structure those of man. The theorists have till now considered the malignant tumours as a pathologic process by itself, independent of the organism which brings it. Nothing is more inexact. Malignant tumours, like all pathological processes, provoke, from the part of the organism, a reaction which manifests itself by the production of specific antibodies, as is proved by the slow course of some tumours, the deficient propagation at a distance, the extended regressive metamorphosis in some cases.

When, instead, the reaction is weak, then the tumour develops rapidly; it filters quickly through the healthy tissues, and in the space of a few months the patient dies. All depends on the greater or smaller, slow or swift, active or weak formation of the specific antibodies.

The therapeutic method of the serum consists in

increasing this reaction that naturally exists, but finally, if it is not strengthened by artificial means, it is reduced to a struggle of unequal strength, and the subject generally succumbs. The results obtained prove that this increase of the reparative reaction is possible. In the fourteen dogs affected by cancers of the breast, cancer under the skin, lymph sarcomata, preputial and vaginal, we had complete recovery, without exception, in five or six months. In the dogs in which the tumours had given rise to metastasis—that is to say, it was itself prepared at distance from the original tumour—we remarked that the metastasis disappeared before the principal tumour, and this remark leads us to suppose that the serum operates at first upon the young tumours and after upon those of ancient date. The toxin which represents the stimulus to the proliferation of the cells of new formation, having been destroyed by means of the curative serum, becomes stronger and regresses. From the results obtained up to this we can conclude that treatment by the serum gives the same results in man as in animals. It is a question of pathologic process produced by the same morbific agent, and for that reason they must equally feel the curative action of the serum.

THE MICROBE OF WHOOPING-COUGH.

By Professor Bordet,
Brussels.

The microbe of whooping cough was discovered three years ago, in the course of certain researches which I undertook in collaboration with Dr. Gengou. The discovery is thus a recent one, and the question arises how the etiological factor has so far escaped the notice of the numerous bacteriologists who have devoted their attention to this subject. The microbe of this disease, although not large, is easily visible, and though somewhat dainty, it grows readily enough on special media. The fact that the problem of the cause of whooping-cough has not been hitherto solved, may be due to the unequal distribution of the germ in the respiratory tract, and the slowness with which it grows in the early cultures. The secretion of mucus in the case of children suffering from whooping-cough is usually abundant, and comes from various points in the respiratory tract. If one examines mucus from the nose and throat one finds usually numerous bacteria of secondary infections, such as pneumococci, influenza bacilli, etc., but the specific germ in this situation is rare. It grows by choice deep in the remoter parts, seldom above the level of the larynx, oftener below it. Further it is at the beginning of the whooping period that the germ is most abundant; later it is much more scanty. It follows from the above that to obtain a suitable material from which to take cultures, it is essential to pick out from the phlegm a strip of viscid exudate, rich in leucocytes, coming from the depth of the bronchi, the expulsion of which marks the end of one of the violent fits of whooping characteristic of the disease in this stage. Naturally, the child must be suffering from whooping-cough alone, not whooping-cough complicated by any other disease.

When the favourable conditions above stated are realized the shreds of mucus are seen to contain numerous leucocytes and a vast number of a small ovoid microbe having the following characteristics: it is non-motile, negative to Gram, staining feebly with the usual basic dyes, such as methylin or toluidin blue; this bacterium is the real cause of whooping-cough. At this point the second difficulty to which I alluded presents itself; even on the most favourable media the germ, at least in the first cultures, grows remarkably slowly, two or three days elapsing before the colonies appear. Again, the exudate must contain the specific germ in almost pure culture, otherwise it is at once outgrown by extraneous organisms, such as the influenza bacillus and pneumococcus. If, however, at the end of twenty-four hours, a fair number of extraneous colonies appear on the plate, the specific germ may yet be separated by stroking with the platinum wire the bare surface of the medium, between the colonies: care must be taken not to touch any visible colony. Fresh tubes are then sown with the wire and incubated. It was by this method that we first isolated the specific germ in pure culture.

The best medium is that described by us in our first paper, and consists of defibrinated blood (human or rabbit) thoroughly mixed with an equal quantity of 3 per cent agar containing a little extract of potato and glycerine. This must be melted previous to mixing. The medium is then set aside to cool.

As regards the morphology of the bacterium of whooping-cough, I have already said that it is a small cocco-bacillus, its size and shape being comparable to those of the bacillus of influenza. Examined *in situ*, it is usually rather longer and plumper, but during the process of subcultivation it becomes smaller and smaller, until it finally appears as a mere point, even under the highest powers.

I will touch very briefly upon its cultural characteristics.

On the blood-agar medium described above it shows a fairly thick whitish streak, the subjacent blood being haemolyzed, but not blackened; this appearance is entirely different to that of other bacteria morphologically similar, such as the influenza bacillus.

The bacterium grows well in liquid media, such as serum bouillon, or blood bouillon, provided that shallow vessels be used, so as to offer a large surface in contact with the air, the bacterium being an obligatory aërobe.

It was our idea at first that the bacterium would not grow at all on the ordinary media, sterilized in the autoclave—for example, agar-agar.

It is possible, however—as confirmed also by Mr. Klimenko—to so adapt the bacterium that it will grow readily on the stock media of the laboratory. If an ordinary agar tube be sown richly with a blood agar culture, no growth appears during the first week. After twelve days the process of acclimatization begins, and a feeble growth shows faintly.

Later, the smear becomes denser, and a new race is born, capable of vigorous reproduction.

A somewhat shorter way of arriving at the same result is to make subcultures into a series of agar tubes, containing a progressively smaller quantity of defibrinated blood.

I propose to come back later to this question of the adaptation of the germ to unfavourable media, and to show you that the race so modified has developed new traits, and that it displays differences of a striking type from the mother culture. I will not enter further into the cultural characteristics; far more to the point is it to inquire into the proofs on which we base our claim that this microbe is really the determining cause of whooping-cough. I have already described how, in microscopic preparations from the exudate, taken at the beginning of the disease, the bacterium is present in enormous numbers and in practically pure culture; this in itself is merely suggestive, but that which to my mind is quite conclusive is the serum reaction of convalescent cases. It is true that it does not agglutinate very strongly; but in relation to the micro-organism which we have described it possesses specific sensitizing properties well defined and invariable.

The method by which this sensitizing power of a serum may be evidenced is too well known for me to describe it in detail here. I refer to the one published by Gengou and myself, under the title of *The Fixation of the Alexine*, a method to which we were led by my earlier studies on immunity, and especially by those connected with anti-microbic and haemolytic serums.

As you know, it was shown in 1895 that an immune serum, such as cholera serum, agglutinates specifically the bacteria with which it is prepared. This principle was extended in the following year by Gruber and Durham to other microbes. Further, cholera serum can induce *in vitro*, without the help of any cell, or the intervention of any vital influence, bacteriolysis of the cholera vibrio. This action is due to the joint efforts of two substances—1, the alexines common to all normal serums; 2, a specific substance, to which I gave the name of "sensibilisatrice," or "sensitizer." The haemolytic serums which I prepared in 1898, by immunizing animals against injections of alien blood, showed that they, too—just as the bacteriolytic serums—owed their solvent power to the combined action of alexine and sensitizer. In all these actions the sensitizer acts as a mordant, by which the alexine is enabled to combine with and destroy the blood or germ cell.

Upon this phenomenon of the "fixation of the alexine" we founded a method which for some time past we have applied to the study of divers infections—typhoid, tuberculosis, plague, etc.—and which has recently been

adapted by Wassermann and his collaborators to the diagnosis of syphilis. Now, in the case of whooping-cough, this method shows in the most precise manner that convalescent children acquire an active immunity against the bacterium under discussion. This is a fact of the greatest value in favour of the claim made for this germ as the determining cause of whooping-cough.

If we admit this claim, the next step is, by means of a more rigorous study of the germ, to attempt to formulate an exact idea as to the solution of the disease.

Whooping-cough belongs to the same group of complaints as diphtheria, in so far as it is a localized infection. The microbe grows in a definite area, but, like the bacillus of diphtheria, it hardly spreads at all, and particularly it never reaches the blood.

What is the cause of the intense irritation of the mucosa—an irritation which provokes these violent paroxysms of whooping? To answer this question, we must study the pathogenic power of the germ.

The ordinary laboratory animals seem to be but little, if at all, affected by the infection of this microbe. An exception must be made in the case of monkeys, as certain workers—Klimenko and Fraenkel—claim to have produced a real whooping-cough by infecting these animals with our bacterium. It is true that Klimenko thought that he had produced the same effect on puppies, but a good deal of doubt has been thrown upon his results. At all events, in the case of the rabbit, guinea-pig, etc., the bacterium is unable to invade the organism when injected under the skin or into the peritoneum.

When, however, these animals are given a few milligrams of culture from solid media into the peritoneum, they die with all the symptoms of profound intoxication, without the development of a real infection. We may, therefore, conclude that the bacterium of whooping-cough is endowed with toxin-producing properties of a high order. By making use of the method introduced by Besredka, we have, in fact, succeeded in extracting an endo-toxin—a poison in the guise of a slightly opalescent liquid. In small doses, which represent only a most minute quantity of microbic matter, a fatal result ensues upon its injection into a guinea-pig's peritoneum, with the production of the same haemorrhagic and exudative lesions which follow the injection of the living germ. Inoculated under the skin in the dose of 0·25 c.c.m., it induces a haemorrhagic oedema followed by a widespread necrosis—the skin becoming black—and upon the separation of the slough it leaves a vast ulcer of several square centimetres.

An analogous necrosing influence has been seen clearly on the surface of the bronchi in affected children, as we learn from interesting data furnished by Leonardo Domenici. If, from the bronchus of a child, a small quantity of whooping-cough exudate, containing the specific germ in large numbers and pure culture, be injected into the anterior chamber of a rabbit's eye, no infection takes place, and no microbic growth results. In the course of a few hours, however, there ensues a necrosis of the cornea, which becomes white and opaque, as though it had been cauterized, coincident with a very acute conjunctivitis and extraordinarily profuse lacrymation. We may, therefore, admit that the persistence of the whooping-cough in children can be ascribed to the existence of lesions in the cellular lining of the bronchi due to the action of a remarkably irritant toxin. This would explain, too, why the whooping ceases to be a feature of the clinical picture during the period immediately preceding convalescence, when the germ has become very rare in the exudate.

The child has now succeeded in getting rid of the virulent organism, but repair of the damage caused by the poison takes place but slowly. Precisely for this reason, too, serum therapy has failed to give the results which were hoped for. The diagnosis of whooping-cough is nearly always delayed until the appearance of the characteristic whoop; by this time the infection has obtained a firm hold, and the toxin has already produced its necrotic effect.

I think that vaccination by killed cultures should be much more useful; but the difficulty of introducing into general acceptance such a prophylactic is enhanced by the fact that, in the majority of cases, the disease itself seldom assumes a very serious type.

Such, gentlemen, are the principal facts relative to the etiology of whooping-cough and to the interpretation of its more obvious symptoms. They have already been published for some time, but with your permission I propose to conclude by bringing to your notice, very briefly, certain facts which we have observed quite recently, and which have not been hitherto made public. They will, perhaps, interest those among you who are concerned particularly with the problem of immunity. I have been able to confirm them during the execution of a research undertaken in our institute in collaboration with Dr. Heeswijk, of Amsterdam.

The problem which really seems to be the most puzzling in the study of immunity, and perhaps also the most important, is the question of the specificity of the prophylactic serums obtained by immunization.

We are able, thanks to these serums, to diagnose the nature of bacteria, and to recognize the origin of real blood cells or albuminoid substances. The precision and power of selection shown by the organism in elaborating substances specifically correlated to the vaccine are really marvellous. Now, one of the questions which present themselves in regard to this specificity is evidently as follows. We are able, thanks to these agglutinating serums, to recognize a given microbe and to differentiate it from others. But this characteristic which a microbe possesses of reacting with an appropriate serum, is it inalienable? May it not, perhaps, disappear when the germ is subjected to certain conditions of existence? In particular reference to this point, how far does it depend upon the nature of its food supply? As long ago as 1896 it was noticed by Metchnikoff and myself that the cholera vibrio, as the result of being subjected to certain vicissitudes, such as prolonged contact with leucocytes, acquired a distinct resistance to the agglutinating influence of cholera serum. Analogous examples of this phenomenon have been published since, and the researches of Grasberge and Schattenfrol on quarter-evil are very instructive in this respect.

Quite recently Dr. Heeswijk and I have found that the bacterium of whooping-cough, when it is subjected to special conditions of existence, may lose certain of its characteristic elements, especially the antigen which reacts to the agglutinin of the specific serum. There is thus an actual loss of the distinctive signs which renders possible the sero-diagnosis.

I mentioned a little while ago that the microbe of whooping-cough prefers a blood medium, but that it can be accustomed to live on ordinary agar. We thus get two distinct varieties, which we may call the blood germ and the agar germ.

In relation to the serum reaction, these two varieties behave quite differently.

If on the one hand an animal be immunized against the blood germ, and on the other hand against the agar germ, serums by no means identical are obtained.

Lack of time forbids me to enter into details. I will content myself with quoting one experiment. Let us take the case of the serum of a horse immunized against the blood germ. This serum agglutinates the latter microbe up to a very high standard, whereas it is infinitely less active towards the agar germ.

Moreover, it can be shown that the reason why the blood microbe reacts so strongly towards this agglutinating serum is that it contains a definite chemical radical—an antigen, to use the common term—which is entirely absent from the agar germ.

A large dose of a thick emulsion—in physiological saline—of the agar germ is mixed with a minute quantity of the above-mentioned serum; a few hours later this is centrifugalized and the supernatant fluid decanted.

Even after this prolonged contact the fluid will be found to have retained intact its original agglutinating standard towards the blood germ. On the other hand, control tests made by mixing the blood germ with the same serum show, as is to be expected, complete absorption of the agglutinin.

We may therefore conclude that the microbe of whooping-cough when grown on common agar loses the property of reacting with an agglutinin capable of influencing the same germ when grown on a medium rich in blood. Further, this property is regained when the agar germ is replanted in blood media.

With regard to the agglutination reaction, the bacterium behaves as if it belonged to two different species, depending upon the nature of the medium in which it be grown.

Thus it may be considered that specific antibodies such as agglutinins are aimed not so much at the essential constituents of the bacilli as at products of secondary rank, which may or may not be formed and which are non-essential, and do not remain unchanging through succeeding generations.

DISCUSSION.

Dr. J. FREEMAN (London) said: We are all of us fortunate in the opportunity of listening to Professor Bordet on this subject of whooping-cough, and I particularly so, because in April, 1908, I received from him a culture of Bordet's bacillus, and I have been working at the subject ever since.

In the paper which has just been read M. Bordet has refrained from dwelling upon the unusual difficulties of his task and upon the extreme refinement of method and technique which it demanded. The microbe grows only on special media, and then very slowly, there being a period of three days before the first colonies are visible; and, in addition, the microbe, when isolated from the expectorate, was indistinguishable from the influenza-like bacillus common to 80 per cent. of whooping-cough cases, to throat diseases, and normal throats. Time will not allow me to say anything now about the possible importance of this influenza-like microbe, but without doubt this similarity greatly increased the difficulty of isolating Bordet's bacillus.

These two microbes, which cannot be distinguished in the exudate, are alike in being short, slight bacilli, not staining well, but staining best with weak fuchsin. Neither retains Gram's stain. In artificial culture they are distinct enough: microscopically, influenza tends to be pleomorphic, Bordet, to be more regular; influenza will only grow in the presence of haemoglobin; Bordet will grow abundantly on serum agar; influenza reaches its full growth in twenty-four hours, Bordet, when examined with a lens, rarely shows a trace of growth within the first twenty-four hours; influenza never grows beyond the minute, scarcely visible, dewdrop-like colonies, Bordet will, after forty-eight hours, show a growth as luxuriant as staphylococcus.

As to the specificity of Bordet's bacillus, the conclusions of Drs. Bordet and Gengou, which are based chiefly on the serum reactions of whooping-cough patients, have been confirmed by workers all over the world. I personally was convinced when I found that cultures obtained from Professor Bordet in Brussels were specifically agglutinated by serum of children with whooping-cough in London and would deflect the complement with such serum. The agglutinative reaction is not very strong—complete agglutination in sixty-fold dilution of serum was about the highest found—and it does not always take place. Failures often seemed to be in consequence of differences in the bacterial emulsion, such differences as the age of the culture or the medium on which it was grown. On the other hand, agglutination was not obtained above eight-fold, and was seldom obtained above four-fold dilution in the case of a large number of non-pertussis serums.

In connexion with the statement by Professor Bordet that the immunity to the agar grown variety differs from the immunity to the blood-agar grown variety of his bacillus, I can confirm this by my own experience. After growing the bacillus on both serum agar and blood medium for some time I left off the blood medium because the serum agar was easier to make, and for three months I failed to find any trace of agglutination in serum from pertussis patients. I then learnt through Professor Bordet that if I transferred my cultures to blood medium the agglutinating power would return, and I found this to be so.

There is one more confirmation of the specificity of Bordet's bacillus which will be very convincing to those who have worked at vaccine therapy. Bordet gave prophylactic doses of sterilized bacterial vaccine to some twenty children who were in contact with infected cases. These children shortly after caught whooping-cough and caught it severely, so severely that it was impossible to persuade the mothers that a living culture had not been inoculated. This deplorable result is of value to us because it seems clear that the children got a profound negative phase after the dose and in this state they fell victims to the infection.

These facts point to the specificity of Bordet's bacillus, but it is difficult to make the serum tests quantitatively for the purpose of controlling therapeutic inoculations of the organism. The deflection reaction of Bordet and Gengou has been hitherto qualitative only. The agglutination of the microbe seemed too irregular in its manifestation to give a constant quantitative result, and therefore one turned to the opsonic index as being by nature a quantitative method; but here the fact that the bacillus stains badly proved a terrible obstacle. I have not yet obtained with Bordet or influenza an opsonic film which I felt I could trust. I was constantly coming across leucocytes concerning which it was, after an examination lasting ten minutes, impossible to say if they should be credited with ingesting five or twenty-five bacilli. This difficulty must be due to staining defects or digestion by either leucocytes or serum, or to faults in the bacterial emulsion, and I still hope by investigating these points to obtain trustworthy indices to Bordet.

Having thus failed to get what I wanted from (*a*) the Bordet-Gengou reaction—that is, deflection of the complement, (*b*) agglutinative reaction, and (*c*) the opsonic index, I tried what I could do without the guidance of a serum reaction, and fell back on observation of the clinical result. For this purpose I gave upwards of 1,000 test inoculations of a vaccine prepared from Bordet's bacillus to children with whooping-cough. In order that the children might not be deprived of the advantages of orthodox treatment, the placebos, expectorants, and aperients were administered by another hand.

The following precautions were taken:

1. Every alternative case was kept as a control, and was inoculated with physiological salt solution and not with vaccine, and the mothers or nurses who made the reports as to the coughing of the child, etc., were not told that half the cases were control cases.

2. Each report on a vaccinated or control case was placed by me in one of five classes: Much better, better, unchanged, worse, and much worse.

3. Another precaution was taken after the experience of the first month, the work of which had to be discarded. I took the reports in ignorance of whether the child had been inoculated with vaccine, with the result that I found that during the first month I had been unconsciously biassed in favour of the vaccine cases.

The doses began with 5 million, sank to 2½ million, and afterwards rose gradually to 20 million. To summarize my statistics, the percentages were:

Class.	Vaccine Cases.	Control Cases.
Much better	31.0	21.55
Better	37.1	34.55
Unchanged	15.7	23.9
Worse	15.2	18.15
Much worse	1.0	1.85

These statistics show a steady advantage of the vaccinated cases over the control cases, and the experiment showed that a larger dose gave a greater advantage than a small one.

Two conclusions are suggested to me by my experiment:

1. Before any judgement can be formed by noting results of treatment, close observation for a long time, and with many precautions, is needed. More progress and more certainty would be attained by six days' work in a laboratory than by a year in the wards. When a doctor reports that he has a drug which he has proved to be of distinct benefit, he should be asked, In how many cases have you tried it? Did you have a system of controls? and Did you have a colleague to report who did not know which of the cases were controls?

2. The vaccine of Bordet's bacillus is beneficial in cases of whooping-cough, but the optimum dose has not been ascertained. Possibly better results may be obtained from larger doses, but finality will not be assured until a trustworthy serum reaction has been obtained.

SECTION OF DISEASES OF CHILDREN.

Harold J. Stiles, M.B., F.R.C.S.Edin., President.

DISCUSSION ON THE TREATMENT OF CLUB-FOOT.

OPENING PAPER.

By Robert Jones, F.R.C.S.Edin.,
Surgeon, Royal Southern Hospital, Liverpool.

Although the term "club-foot" is used to denote nearly all distortions of the foot, whether acquired or otherwise, it has been wisely decided to exclude from discussion the paralytic type. Of the congenital varieties, equino-varus is the only one of serious clinical import. Pure varus and valgus are extremely rare, and the treatment of talipes calcaneo-valgus is of the simplest.

Talipes Equino-varus.

The primary distortion of equino-varus is a dislocation inwards of the anterior part of the foot at the medio-tarsal joint. It varies largely in the same case during the process of growth, and it varies according to the severity of the deformity. There are certain elements, however, almost constant. The scaphoid articulates with the side of the head of the astragalus instead of with its anterior surface; it also lies more towards the under side of the astragalus, and thus leaves the astragaloid head abnormally uncovered. The cuneiforms and metatarsals follow the direction of the scaphoid. The cuboid is displaced upwards and inwards, and may be generally found lying to the inner side of the anterior part of the os calcis. The astragalus later is depressed anteriorly and more wedge-shaped than normal. It is plantar flexed, so that much of its body lies anteriorly. Its neck is generally longer than usual; it is depressed and displaced inwards. The os calcis is in the position of plantar flexion, and it lies beneath the astragalus, instead of to its outer side. In a large proportion of cases there is an inward rotation of the tibia and fibula, so that the external malleolus presents in front of the tibia. This last is an important point to remember, and I shall refer to its clinical bearings later. The ligaments and muscles on the concave aspect are shortened and resistant, the adductor and flexor group being relatively stronger than their lengthened and overstretched opponents. In the less advanced cases the most obstructive structures are the plantar fascia and the ligaments which bind together the os calcis, astragalus, and internal malleolus. The muscles which are shortened and tend to increase the deformity are the tibialis anticus, posticus, the gastrocnemius, and the soleus. These changes, as they exist in a case of recent talipes, may be comparatively slight, but later on, as the foot develops, and more especially when walking is commenced, the bones participate with the increasing deformity in making fixed and inflexible the inturned foot.

In consideration of the short time at my disposal, I may be pardoned if I state my own procedures as regards treatment rather than discuss the methods of others.

Age for Treatment.

Believing, as I do, that with appropriate early treatment grave operative procedures would never be needed, I shall largely confine my remarks to the treatment of the early case. We, of course, constantly meet cases where it is expedient to attack bone. Such cases, however, involve neglect on the part of the parents or insufficient treatment on the part of the practitioner. If one has been given a free hand in the treatment of an early talipes, there is no manner of excuse for failure, and the so-called relapsed or intractable case should never result.

Two important questions greet us at the onset—When shall treatment start, and when shall treatment end? The treatment should begin at birth, and should not end until the little patient can voluntarily hold his foot everted and ankle flexed. Treatment should begin at once, for there is no class of case which more bitterly resents procrastination or insufficient handling. We must be taught to realize the responsibility which rests on any one who postpones the immediate treatment of club-foot. The blame cannot be thrown on the midwife, for invariably she calls medical attention to the defect. To any surgeon of practical experience of this deformity it is not necessary to state that a baby of 1 day old is an infinitely easier problem than one a month old, and that very often the treatment of a child at 3 months may require very skilled and forcible effort. I emphasize this the more as, even yet, we have authors who mischievously write of 6 weeks and 10 months as a suitable age to begin treatment. I have never seen a case of club-foot where treatment has been started in the first week where the deformity could not be completely rectified by manipulation and retention in two months. Such cases have not voluntary power in the overstretched muscles for a much longer time. This is due, however, to physiological reasons in connexion with the elongated tendons, and not to rigidity of the foot.

Technique.

It is customary for the textbooks on orthopaedic surgery to allude to four or five classes of cases. The first includes the cases which can, by very mild manipulation, be easily rectified; the last would comprise the adolescent, untreated, so-called intractable case. This merely means that cases are met with in every stage, and obviously must be overcome by various and diverse methods. It is to be remarked, however, that one child a day old may present much more formidable deformity than another of the same age, but we should at once be able to predict an easy or a difficult course.

The simple case is the one which we can quite easily replace in good position, and which shows but little adduction at the mid-tarsal joint. Such a case may not require a division of even the tendo Achillis. If, however, there is a marked adduction at the mid-tarsal joint and a rotation inwards of the tibia and fibula, considerably more difficulty will be experienced.

In the simple case the tibia and fibula should be grasped at the epiphysis, and the foot should be alternately everted and flexed. In all manipulations for club-foot the epiphysis should be grasped tightly to avoid strain. Following eversion and flexion the heel should be grasped in one hand and the anterior portion of the foot in the other, and abduction practised at the medio-tarsal joint. Five minutes spent three times a day in doing this should be followed by gentle massage of the flexors and peronei. Then comes the application of a bandage or of a rectangular splint. Few seem to appreciate how much can be done by the mere application of a calico bandage. To invert a foot the bandage would be started on the outside; to evert, on the inside. In the case of equino-varus it should start on the inner side of the ankle, pass under the sole of the foot, over the front of the ankle, and so evert it. Every turn of the bandage so applied pulls the foot outwards. I have on several occasions, for demonstration purposes in cases of moderate severity, completely overcome pronounced deformity by the simple use of a bandage. Care should be taken if a bandage be used, with or without a splint, not to carry it much above the ankle, lest the muscles be thereby weakened. In these early simple cases, when frequent manipulation is employed without retention, an intelligent nurse can be easily taught to lighten the labours of the surgeon.

Should the surgeon be able with but little effort to restore the foot to above a right angle, division of the tendo Achillis will not be needed. Should the degree of resistance be more marked, division is to be preferred. In such cases I correct the varus and the equinus at one sitting. I begin by placing the foot in a sterile wrap and lever it at the mid-tarsal, in obstinate cases using a block to increase the force. When the adduction is completely over-corrected I divide the Achilles tendon and fix the foot in a retention splint.

A good deal has been written of the advantage of correcting the varus, and at a later date attacking the tendon. Although in full possession of the arguments for this view, I do not subscribe to them, and I know from abundant observation that the tendo Achillis becomes a powerful invertor of the foot. This is due to the altered position of the os calcis, and if you examine a case of club-foot you will generally find the Achilles tendon displaced inwards, the extent of displacement being proportionate to the severity

of the inversion of the foot. This factor of inversion seems to have been quite overlooked, and yet it has a very important clinical bearing. So marked is this displacement in certain advanced cases, that I have divided the tendo Achillis longitudinally, and separated one-half of its insertion, passing it under the outer half of the tendon and affixing it to the outer half of the heel.

For a simple division of the tendon the seat of election should be well above the insertion to avoid the fan-like expansion. The division of the tendon is often done in very bungling fashion. It is better to discard the dangerous old-fashioned knives which even yet adorn our text-books, and to use small-bladed tenotomes. The child should be made to lie on its face, while a nurse flexes the good limb well out of danger. The position of the tendon can be felt with the handle of the knife, and an indentation made with it in the skin to denote its position. The surgeon holds the foot in an extended position with the left hand, and enters his knife to the inner or outer side of the tendon denoted by the indentation made in the skin. The foot is then slackened while the blade is turned beneath the tendon, then extended so that by a short sawing movement the tendon is divided upwards. This short sawing movement is an effective safeguard against dividing the skin, an accident very common in the hands of a beginner.



Fig. 1.—Club-foot shoe.



Fig. 2.—Club-foot shoe.

At this point another problem arises. Having divided the tendon, should the foot be at once placed at right angles to the body? There is no object to be gained, only valuable time lost, by the gradual separation of the ruptured tendon. The fear that union may not take place is groundless. I have divided the tendo Achillis many thousands of times, and only once do I remember a failure of union. The foot should be forcibly flexed by means of the hand or wrench, and at this stage we should satisfy ourselves as to the presence or otherwise of rotation inwards of the tibia and fibula.

We must all have noticed that in many cases where flexion and inversion have been corrected there seems to be a rotation inwards of the leg when the patients walk. There has been much discussion as to the site and cause of this rotation and many theories have been promulgated, but I am convinced after examining many cases that, with rare exceptions, it occurs entirely below the knee. In old cases, where this rotation complicated the result, I advocated osteoclasis for its correction as a substitute for girdle bands and other complicated and hateful machinery. I would urge, however, that this calamitous complication be obviated at the outset. From the moment treatment is started the malleoli should be grasped in one hand, while the leg should be held below the knee with the other. The lower hand rotates outwards and the upper inwards. The leg is thus twisted in its long axis by an action not dissimilar to that used when one wrings a wet cloth. If this be done each day, by the time the foot is straight the rotation of the leg will also have disappeared.

In cases which come to the surgeon for the first time at 3 or 4 months old, other operative procedures may be needed in the form of subcutaneous division of any tightened soft structures. This may include the plantar fascia, the two tibial tendons, the anterior fibres of the deltoid, and any deep plantar ligaments. The anatomy must not deter the practitioner who is outside the call of help. It is far better to divide any of the tendons, with the artery as well, than seriously to delay treatment. In my long experience I have divided many structures best avoided when performing tenotomies, but no appreciable harm has ever followed.

In this, the more severe type of case, ranging from 3 months to 4 years, I supplement manipulation by the use of a Thomas wrench. Thomas himself very seldom tenotomized more than the tendo Achillis, and he effected the restoration of the foot by intermittent stretching and retention in an iron shoe. This method is applicable to any degree of deformity in young children, and the ultimate results are excellent. There is much to be learned as to the use of the wrench. The twisting and bending is done forcibly and quickly, and the foot immediately released, lest the skin be injured. The wrench should tightly grip the foot so that it does not slip and

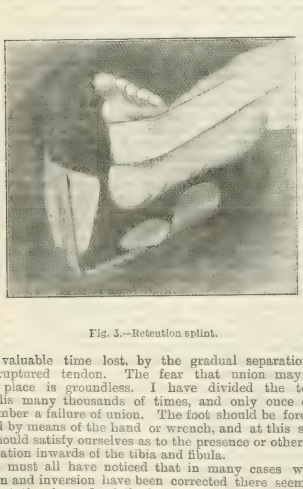


Fig. 3.—Retention splint.

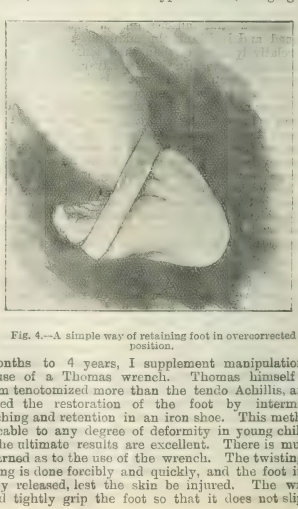


Fig. 4.—A simple way of retaining foot in overcorrected position.

make a sore. In older children the surgeon's hands should grip the epiphysis while the wrench is worked by the hip. In this way a steady and easily controlled force is applied. This moulding should be conducted every day for three weeks, and each time should be carried far enough temporarily to destroy the resiliency of the soft parts. I use a club-foot shoe, modified from that used by Thomas, in order to produce better eversion (Figs. 1 and 2). The details of its application, simple as they appear, require study. After the foot has been manipulated into the best possible position, a piece of plaster should be started on the dorsum to evert the foot and given to an assistant to hold. He should be directed to pull at right angles to the extended leg, whilst the surgeon, or one he can trust, places the retention splint in position (Fig. 3); this should be done every day for six weeks. I much prefer this method to plaster-of-Paris, although in the case of hospital patients the less troublesome fixation by plaster is inevitable.

At the end of two months the most troublesome cases of this class—that is, cases which the surgeon sees during the first two or three years—should present a pliable foot, which can be placed into normal position without encountering resistance, and if the child be sufficiently old he can be taught to walk in such a manner that each step he takes tends to improve the shape of his foot.

No case of talipes equino-varus can be pronounced cured until the patient has tested it by walking. Surgeons think that, as soon as they are able without effort to overcorrect deformity, the case is cured. This is a most serious fallacy. May I impress upon you, for textbooks do not state it, that no case of club-foot is cured until *the patient can voluntarily raise his own foot* from the *deformed into the corrected position!*

Causes of Relapse.

There are three causes of so-called relapse in club-foot:

1. Insufficient correction of deformity.

2. Erroneous deflection of body-weight on tarsus when walking.

3. A slack and lengthened condition of muscles due to over-stretching.

If the deformity be not sufficiently corrected in the first instance, the old condition of things is sure to return because of the altered shape of bones and structures, more especially the ligaments. Roughly speaking, the change in bones and ligaments on the convex aspect of a talipes has resulted in an increased surface measurement. Unless this is quite obliterated by treatment, the unequal growth goes on until the so-called "recurrence" again taxes our resources.

I have said that no case should be looked upon as cured until walking has been practised; in other words, the foot, when the time for walking comes, will either be made worse or perfected by this exercise. If it be made worse, it is due to the fact that the superincumbent body-weight is placed too much to the outer side of the tarsus, and that therefore every step the patient takes tends to emphasize the varus. One can see how harmfully walking would affect such a case. Walking should give the finishing touches to the surgeon's art, and should not be allowed until the body-weight at every step tends to flatten the plantar arch.

The effect of lengthened muscles opposed to deformity is very obvious, and when it is realized that in every case of club-foot the peronei and flexors of the ankle have for months remained in a stretched condition, while the tibials and calf muscles are short and unstretched, it is easy to understand the imperfect recovery where no attention is paid to the strengthening of the weak group of muscles.

In point of fact the flexors of the ankle and the peronei, which have for so long remained overstretched, behave to all intents as paralysed muscles would, and gravity decides the issue, exactly as it does in the case of an equino-varus due to poliomyelitis. When the patient has arrived at the age for walking and the deformity is corrected, and, most important of all, when he can voluntarily evert and flex his foot, he should be taught to walk. Correct deflection of body-weight on tarsus must, however, be assured. This is best done by a simple device which I show you. It consists of an iron bar, called a flapper, which skirts the outer side of the sole, and the foot, aided by this and an inside iron to which it is bandaged, keeps everted during walking.

By means of this little addition to the boot and the iron on the inner side of the leg, the body-weight is deflected from the outside of the tarsus to the inside. Every step, therefore, the patient takes corrects, howsoever little, any tendency that may remain towards inversion. The nurse should further be instructed to train the child to walk with out-turned toes in order that body-weight be employed in stretching the deltoid ligament on the inner side of the ankle. During the whole course of treatment, massage of the flexors of the ankle and of the peronei, together with resistance exercises, should be practised, and every effort made to render flexible and pliant the mid-tarsal joint.

Operation in Adults.

Although deformity, even to an adult age, can be rectified by forcible means, it is often advisable to resort to bone operations. Every year I operate upon twenty or thirty such cases. I have no time even to name the many operative procedures described, but I should like to dwell upon a certain point which should be observed before any operation involving the removal of bone be performed. It is this—that a preliminary and thorough stretching following tenotomies should precede the more radical operation.

This is a matter of considerable importance. Before removing bone in a patient of any age, the foot should be placed in the very best position by means of wrench and tenotomy, and retained there in splints for a week or more. The operative result in consequence of this preliminary will be much more artistic, and will involve far less sacrifice of bone.

If the bone operation is decided upon, I usually make a longitudinal incision at the outer aspect of the dorsum of the foot, its centre being over the prominent head of the astragalus. The extensor tendons of the toes are retracted to each side of the wound, the mid-tarsal joint is opened up, and a good view of the astragalus and scaphoid is obtained. In some cases I remove a large wedge, the base being to the outer side. This involves the astragalus, cuboid, and part of the scaphoid. Enough must be removed to bring the foot into an overcorrected position, otherwise some return of deformity will take place during growth.

Of late years I have improved upon this procedure, and I now remove most of the astragalus, leaving not much more than the superior articular surface for articulation with the tibia and fibula. In order to do this I scoop out the cancellous tissue with an arthrodesis gouge, remove part of the cuboid and scaphoid as before, and run the chisel through any other portions of bone which prevent easy eversion. By this operation one overcorrects adduction at the mid-tarsal joint, and in this way subsequent growth of the deformity is obviated. No operative routine, however, can be prescribed, and each surgeon after studying his case must adopt the operation he thinks the best.

Conclusions.

1. The treatment of club-foot should begin at birth, and should not end until the patient walks.

2. Early treatment should assure a complete recovery without any operation on bone.

3. The mechanical treatment of the rotary deformity of the tibia and fibula should be synchronous with that of the equino-varus.

4. The test of recovery is the ability of voluntary correction of deformity.

5. The so-called relapse is due to inefficient correction, to lengthened extensor tendons, and to erroneous deflection of body-weight during walking.

6. When bone is to be removed a preliminary forcible correction of deformity by tenotomy and wrenching both simplifies and perfects the operation.

DISCUSSION.

Mr. James H. Nicoll (Glasgow) said: In his plea for the earliest possible commencement of treatment, in his condemnation of complicated splints, and in the stress he lays on the importance of making the measure of the success of treatment the degree of *voluntary* correcting movements by the patient, I am thoroughly at one with Mr. Robert Jones, and if I say anything further regarding two points, it is not in the way of disagreement, but rather

by way of extension of what I take to be Mr. Jones's views. These points are:

1. The treatment of the ultimate difficulty in cases of club-foot, the correcting of the "in-toeing" which persists after the club-foot has been cured. With Mr. Jones's view, that the inversion of the limb is entirely below the knee, I quite agree, and that it can be cured by repeated twisting of the leg bones I know from experience. It may be the arrangement of the "heads" of his address which makes it appear that Mr. Jones defers this twisting of the leg till a late stage of the treatment. The general lines of his argument suggest that he and I are of essentially the same practice in the matter. The twisting or wrenching of the leg should be begun at the same time as that of the foot, and persistently carried out in both leg and foot (by the mother or nurse daily, and, if need be, at intervals under general anaesthetics by the surgeon) till cure is obtained.

2. The importance of a judicious decision as to the line of treatment to be followed ere the case is undertaken. Mr. Jones wisely says that the surgeon should carefully study each case and choose the line of treatment which appears to be appropriate to it. Mr. Jones will, I feel sure, agree to this extension of his remark, that the surgeon should devote some of his preliminary study to the *mother* as well as the patient. Given an intelligent mother or nurse, many of even the severe cases of club foot can be cured by manipulation, wrenchings, and plaster-of-Paris; and from that follows this, that our students get from textbooks and what they see in *hospital* practice a badly focussed view of the treatment of club-foot. Personally I regularly employ tarsectomy as routine practice in hospital to obtain an almost absurd degree of over-correction, because I know that that is the child's only chance of cure. Amongst the poor, intelligent after-treatment, or perseverance in manipulative treatment, is not obtainable. Hence students see things done to club-feet in hospital which are quite uncalled for in private practice. Of late I find I am tending to substitute for tarsectomy, in all cases under 1 year of age, the following procedure: Having divided the tendo Achillis, I insert a stout tenotome in the fold on the inner aspect of the sole in front of the malleolus, and (by a combination of tenotomy and syndesmotomy) divide everything within the inner two thirds of the sole to the bones, and then carry the knife clean through the cartilaginous tarsus, stopping short just under the dorsal tendons. Bleeding is trivial, overcorrection is ample, and the foot is fixed in plaster in the fully overcorrected position.

Mr. ALEX. MACLENNAN (Glasgow) said: In the treatment of some cases I would plead for the Adams principle. He aimed at the correction of the varus before the equinus was dealt with; indeed, the fixation of the heel by the tendo Achillis was utilized to reduce the varus element. That the Achilles tendon has a preponderating effect in the production of the common equino-varus type is proved by the fact that during manipulation the varus and the equinus are found to be vicarious. The muscles acting through the tendon are therefore inverters of the foot, and if we can reduce this action we assist the cure. Instead of performing a tenotomy merely, a lengthening of the tendon permits of the localization of the pull to the outer section of the calcaneum, and thereby the tendo Achillis group of muscles becomes a pronating force. The technique I have employed for some years may possibly be that commonly employed by others, though I am not aware of it. It consists in freeing the tendon through an incision, which starts at the inner side of its insertion and passes obliquely upwards and outwards. The tendon is split longitudinally for an amount corresponding to the amount of lengthening requisite. The inner section is severed at its insertion into the calcaneum, stitched at its free end into the unsevered outer section higher up, then the outer part of the tendon is cut above the attachment. This technique is applicable to the smallest tendon. In some cases, where the remaining equinus has been marked, the reduced intermalleolar space forbids the rolling backwards of the astragalus, and if the ankle is forced to a right angle the foot tends to become displaced bodily forwards. In such conditions malleotomy gives a satisfactory result. In those cases where a cuneiform osteotomy is considered necessary, the removal of a large wedge markedly shortens the foot, and to avoid this I have in some cases reduced the breadth of the wedge, and, instead of removing it, have inverted it, so increasing the effectiveness of the osteotomy. As a slight divergence, instead of making the incision parallel with the peroneus tendon, I make it directly at right angles with it, and corresponding to the wedge of bone to be removed.

Mr. LAMING EVANS (London) said that he proposed to follow Mr. Robert Jones's example, and confine himself to a statement of his own practice.

For this purpose he had examined the notes of all cases of congenital equino-varus that he had treated during the septennial period July, 1902, to June, 1909. The cases numbered 232, of which 183 had been operated upon. A large proportion were severe, and of the so-called "relapsed" variety; 505 operations under general anaesthesia had been necessitated. An analysis of these 505 operations showed that 161 were forcible manipulations, 327 were performed upon tendons and soft structures, 17 only upon bone. In infantile cases the régime laid down by Adams was followed in all cases with but slight modifications. The varus of the anterior tarsus and metatarsus was fully corrected and as much of the subastragaloid supination as possible was rectified before the equinus deformity was dealt with. For this purpose, in the very large majority of the cases, subcutaneous tenotomy of the tibialis anticus and posticus was performed; and whilst the varus was being gradually corrected by manipulations and retention by flannel bandages upon a malleable steel splint the os calcis was rotated outwards under the astragalus by manipulation and by the pressure of the bandages. Not until the varus was completely corrected was any attempt made to correct the equinus; this, in every case, necessitated division of the tendo Achillis. The residual sub-astragaloid supination was then corrected by manipulation at the same that the equine deformity was completely corrected.

The technique employed differed slightly from that advocated by Adams in two particulars: (1) At the time when tenotomy was performed, the child being under a general anaesthetic, further correction of the deformity was obtained by more forcible manipulations than he employed; (2) whilst under the anaesthetic the foot was bandaged to the splint, or retentive apparatus, in as fully corrected position as the parts would allow, due precautions being taken to avoid pressure sores, or tourniquet unduly with the circulation. After correction, the foot was kept constantly bandaged in a rectangular tin shoe, except during two intervals during the day when it was massaged and gently manipulated. At an age between 18 months and 2 years a boot and walking support were fitted. The support extended on the inner side as far as the knee, and on the outer side from the knee to the hip. The knee-joint was free, and allowed the child to run about freely; a night shoe at this stage was also imperative. The time during which the child wore the walking support varied rather with the assiduity with which the mother carried out the manipulations and exercises than with the severity of the case. The object of the support was to correct the internal torsion of the leg bones and consequent inversion of the foot.

Among children who had walked, his cases included various degrees of deformity between cases in which full correction had not been obtained or maintained and the most severe cases of inveterate or relapsed cases, and his method had varied according to whether the patient was treated as an in-patient or out-patient. His rule in the former case had been division of any contracted tendon or ligament, supplemented by forcible manipulation and subsequent gradual rectification by a modified Scarpa's shoe, preferably by one with five different movements controlled by five different racks. With out-patients a series of plaster-of-Paris dressings were used until the correction was advanced sufficiently to allow the foot being retained in a rectangular tin shoe.

Of the 17 operations which had involved the skeleton, the youngest child operated upon was aged 6. At this age, a subcartilaginous enucleation of the head, neck, and part of the body of the astragalus was performed. In a child of 8, a linear osteotomy through the neck of the astragalus and anterior part of the os calcis was performed.

In intractable cases after the age of 10, he had in general preferred the operation of cuneiform tarsectomy to that of astragalectomy. In this operation the cuboid, the anterior end of the os calcis, the head and neck of the astragalus, and perhaps the scaphoid, had had to be removed before full correction had been obtained. He aimed at slight overcorrection, as he had found that any subsequent manipulation on an incompletely corrected foot after tarsectomy added little or nothing to the result. He had found that a complete astragalectomy could sometimes be avoided by a removal of the head and neck of that bone and a subperiosteal removal of the cancellous bone of the body. This allowed a freer subsequent movement at the ankle joint than after a complete removal. If the residual deformity—for which a bone operation was necessary—consisted mainly of subastragaloid supination with equinus, a pure astragalectomy had given the best results. His rule had been to try and correct as many cases as possible without interfering with the skeleton, for by this means a more elastic and supple foot had been obtained; but, if a bone operation was imperative, a free removal had been undertaken to obtain a slightly overcorrected position of the foot.

Mr. Edmund Owen (London) thought that it would have been better if the discussion could have been kept in three separate grooves: The treatment of early cases of congenital club-foot, of later or relapsed cases, and of paralytic cases. It was impossible to begin the treatment of congenital club-foot too early. In not a few cases of equino-varus division of the tendon of Achilles sufficed to correct the inversion of the foot as well as the drawing up of the heel. In worse cases various other tendons had to be divided, and that might be best effected by very free use of the scalpel in a subcutaneous operation. Every resisting structure must be cut, ligaments as well as tendons. The late Sir T. Fitzgerald of Melbourne used freely to divide all resisting structures by using a chisel passed in from the dorsum; with that instrument he practically minced up the bones. Mr. Owen also spoke in high terms of the late Mr. Phelps's open operation for relapsed or inveterate cases.

Dr. F. W. Collinson (Preston) suggested that in serious cases external tarsectomy was less severe than Phelps's operation, and more likely to be successful. He had found frequent wrenching under chloroform with the use of plaster-of-Paris most successful, but necessitating very careful watching afterwards.

The President (Mr. Stiles) said he felt sure he expressed the feeling of the Section when he said how greatly he felt indebted to Mr. Jones for his admirable paper, and for the very clear and practical manner in which he had given the methods he himself was in the habit of employing. He acquiesced in all that Mr. Jones had said with regard to the manipulation treatment in infancy. The difficulty, however, was to get this treatment adequately carried out in hospital patients. He agreed with Mr. Owen that in mild cases it often sufficed simply to divide the tendo Achillis. From what he could gather from the gentlemen who had already spoken, it was evident that he (Mr. Stiles) practised tarsectomy more frequently and at an earlier age than the majority of surgeons. The reason for this was that he was not quite so expert in the use of the wrench as Mr. Jones. In an aggravated case of club-foot in a hospital patient 1 year or more old, his practice was to divide the tendo Achillis and then proceed to tarsectomy. He preferred to divide the tendo Achillis by the open method, because in addition to dividing the tendon itself, it was necessary also to divide the whole of the sheath and the fascia over the deep flexors. After this the foot was forcibly dorsiflexed in order to stretch the posterior ligament and the deep flexors. In removing the wedge of bone from the tarsus he preferred the transverse incision recommended by Kocher. The wedge of bone removed comprised the anterior process of the os calcis, the cuboid, and the head and neck of the astragalus. In some cases it was necessary to extend the wedge right across the foot so as to include the scaphoid. It was essential to remove enough bone to enable the foot to be overcorrected. He quite agreed with Mr. Tubby as to the necessity of removing enough of the astragalus. In bad relapsed cases, and in aggravated cases in older subjects, he substituted astragalectomy for the cuneiform tarsectomy.

In the cases in children in which he did complete tarsectomy, he seldom divided either the tibial tendons or the ligaments at the inner side of the ankle, as those structures did not constitute the real obstacle, and moreover, they were readily stretched.

He thought that Mr. Jones's plan of always wrenching the foot before attacking the bones was excellent. He quite agreed with Mr. Jones that much of the apparent adduction of the foot was often due to a spiral twist of the bones of the leg below the knee, and that it was not due to rotation inwards of the limb at the hip-joint. If Mr. Jones's plan of repeatedly manipulating the limb so as to untwist the tibia be adopted, he agreed with the previous speakers that there was no need to condemn the child to the wearing of irons extending up to the pelvis. Nor did he (Mr. Stiles) believe in the elaborate and complicated club-foot boots or other forms of harness which apparently some orthopaedic specialists still considered it necessary to employ. A simple splint, such as that shown by Mr. Jones, was, however, very useful in the after-treatment in some cases. He (Mr. Stiles) generally used plaster-of-Paris, especially in hospital patients. He was of opinion that a radical operation, followed by placing the foot in plaster-of-Paris in the overcorrected position was, on the whole, the simplest way of treating bad cases of congenital talipes equino-varus, especially in the poorer classes.

He could not agree with Mr. Owen about the value of Phelps's operation. He thought the principle of the operation was wrong, and he had abandoned it long ago; the worst cases of relapse he had seen had been after the Phelps operation. Mr. Stiles said that the part of the deformity he had found most difficult to correct was not the equinus or the varus, but the adduction of the metatarsus and anterior tarsus. His experience had been that neither division of the invertors and plantar fascia nor the removal of bone sufficed to remove the pigeon-toe deformity which resulted from this adduction. During the last few years he had been in the habit of dealing with this very troublesome condition by resecting the abductor hallucis muscle through a special incision along the inner border of the tarsus. The muscle, by taking origin from the inner tubercle of the os calcis, and being inserted into the base of the first phalanx of the great toe, acted like a bowstring, and consequently adducted the anterior part of the foot at the mid-tarsal joint.

Speaking for himself, he might say that he intended to seize the first opportunity of seeing how Mr. Jones used the wrench, because he felt that he had much to learn from him regarding the value and the use of that instrument.

Mr. A. H. Tubby, M.S. (London) said: The points to which I shall allude are the reasons for incomplete cure and the causes of relapse and their remedy.

Speaking on broad grounds, we may say that failures in the successful treatment of club-foot are due to three causes:

1. A perverse way of attacking the problem—meaning by this either division of the tendo Achillis before the front part of the foot is fully rectified, or division of the tendo Achillis at the same time that the front part of the foot is operated upon. The result in either case is the same—a fixed point, the heel held firmly by the contracted tendo Achillis, is lost; and therefore there is no point of leverage left for bringing pressure to bear in unfolding the front part of the foot.

2. A want of appreciation of the obstacles to complete reduction.

3. Insufficient retention of the foot after it has been reduced and inadequate supervision during the years of growth.

Experience teaches us that the appearances in imperfectly treated, neglected, and relapsed congenital talipes equino-varus may be grouped under four headings:

1. Insufficient dorsiflexion of the ankle. This is undoubtedly the chief cause, and exerts its effect in nearly every case.

2. A general inward twisting of the structures of the foot in front of the ankle-joint. The foot is rigid and resistant, and feels as if set in plaster-of-Paris. Marked pigeon-toe and adduction of the smaller toes are characteristic of this type. The foot shows a general curve inward, and its inner edge forms a circle of much less diameter than the outer edge.

3. The inwardly twisted or ball-heel type. When the patient stands the heels form ball-like prominences internally, particularly when viewed from behind, due to twisting of the os calcis and with it the front part of the foot. Rotation has taken place at the calcaneo-astragaloid joint, so that the inner surface of the os calcis looks upward and inward, instead of directly inward, and the outer surface downward and outward.

4. The inveterate club-foot, which combines the characteristics of the three foregoing types: the imperfectly dorsiflexed ankle, the pigeon-toes and generally in curved foot, and the ball-like heel.

With the exception of a few cases of generally incurved foot, I am convinced that the dominating cause of persistent deformity is inability to dorsiflex the ankle sufficiently. Limitation of power in this direction causes the patient to inturn the foot so as to relax the tension on the parts about the inner side of the ankle. The patient is also unable to bring the heel to the ground in walking, and he walks on the toes. They, by reason of the varus portion of the deformity, already have an inclination to adduction, and he finds it easier with a raised heel to walk with the foot further inverted than straight to the front.

A spurious form of inversion of the foot must not be overlooked, in which the foot points inwardly because the bones of the limb are rotated, sometimes as much as 90 degrees. In such cases the relationship of the foot to the leg can be and is made perfect, but the foot is turned inward on account of the excessive rotation of the limb on its axis. The treatment of these cases by operation and otherwise has been described elsewhere.

Loss of power of flexion at the ankle is due to three causes: Contraction of the tendo Achillis and of the deeper muscles of the calf, shortening of the posterior ligament of the ankle-joint, and bony malformation. Before we commence treatment we often obtain a hint as to where the difficulty lies. If we examine infantile club-foot, and find that on the outer aspect of the astragalus there is a bony projection, the obstruction to perfect reposition lies in the astragalus, and such cases require operations on that bone sooner or later. Also, after a tenotomy, we may suspect the existence of bony locking if section of the tendo Achillis, followed by forcible movement, allows very little increase of the angle of dorsiflexion. Lastly, if on bending up a foot as far as possible, the tendo Achillis does not become taut, then we know that there is bony locking. This, as will be shown, is due to malformation of the astragalus.

Investigations have been made by me in a number of relapsed cases on the condition of the astragalus, and they have induced me to perform excision of that bone at a much earlier age than is usual. In Fig. 1 a foot of this type is outlined, and in Fig. 2 the appearances and position of the bones during the course of astragalectomy are depicted. The upper and outer non-articular portion of the astragalus is seen to form a more or less quadrilateral surface, A, interposed between the tibia, T, and cuboid, P, effectually preventing complete upward flexion of the foot. In fact, before the anterior ligaments are divided this abnormal surface appears to be directly continuous, and is, in fact, approximately in the same plane as the outer and anterior surface of the tibia. The appearances depicted in Fig. 2 show how complete the bony block is. Figs. 3, 4, 5, and 6 are taken from astragali removed from relapsed and imperfectly cured congenital talipes equino-varus; and here I may be permitted to thank my friend and colleague, Mr. Rock Carling, for his kindness in making the illustrations for this paper.

It will be noticed that in Fig. 6 the head and neck of the astralagus are inverted, but in all we see the more or less marked rough and irregular surface, A, just described as being continuous with the anterior and outer surface of the tibia. Again, in all we see at B a prominent bony tubercle, the prefibular tubercle, which is usually felt in these cases, even in infants, on the upper and outer aspect of the foot. The anterior edge of the articular surface of the astragalus forms a prominent lip (B, Fig. 6), obviously parallel with and projecting against the anterior edge of the inferior articular surface of the tibia, and rendering it absolutely impossible to force the astragalus further upward; the impossibility being due not only to locking of the bony edges in contact, but to the fact that the bulk of the astragalus is greatly increased in front of this point; an increase which commences at the anterior and outer extremity, is exaggerated throughout the quadrilateral rough surface, A, and reaches its culminating point in a ridge, B, at the anterior part of the ankle-joint. It is interesting to observe that in Fig. 5 there is at E a bony facet developed for the articulation of the astragalus with the internal malleolus; and in Fig. 8 the outline of the astragalus, viewed from above the summit of the bony ridge, is well shown. These illustrations will, I venture to think, prove my contention that in the abnormal overgrowth of the preartícular portion of the astragalus, culminating in an anterior articular ridge, B, and in the twisting of the neck, we have the explanation of this persistent inability to dorsiflex and evert the foot.

The treatment is obvious—remove the obstruction. And the question arises, Shall a part or the whole of the astragalus be taken away? By way of parenthesis it may be remarked that we entirely fail to see how wrenching can overcome the difficulties. Some surgeons may contend that in doing so we are able to remould a cartilaginous or comminute a bony astragalus into an entirely new and appropriate shape, so that it will fit easily into the mortice formed by the tibia and fibula. Again, division of the inferior tibio-fibular ligaments is seldom of any use, because the interosseous membrane is left untouched, and therefore we must remove bone. Formerly I contented myself with taking away the upper half of the astragalus along a horizontal axis, but relapse occurred. In some cases there remained incurvation at the medio-tarsal joint, due to insufficient care in maintaining overcorrection of the part, and in other cases the remainder of the astragalus became deformed and formed a prominent obstruction, which reproduced the abnormal conditions. The lower half of the astragalus was retained in the belief that it would serve to maintain the foot straight after operation, but care in the after-treatment will do this just as well. So now complete astragalectomy is done; and when it is clear to me that the obstruction is of this bony nature, I feel no hesitation in doing astragalectomy, even about the age of 3 years, as the results are so uniformly good.

Astragalectomy has this merit: By means of it we can not only secure complete dorsiflexion, but also correct a considerable part of the inversion. We must, however, not trust to it alone. A good mode of procedure is to use every possible means, such as tenotomy, wrenching, and manipulation and remodelling, to reduce the inversion, and only when we are satisfied that the persistence of deformity is due to bony obstruction are we justified in removing the astragalus. We are also compelled in some inveterate adolescent cases to remove a wedge from the tarsus as well. Tarsectomy in any form is not often justifiable for mere inversion, but astragalectomy is frequently called for to overcome the dorsiflexion, and gives a useful, shapely and supple foot.

REPLY.

Mr. ROBERT JONES, in reply, emphasized the causes of relapse and their prevention, and made a plea for simple methods and appliances. Whatever plan the surgeon adopted he should be sure of overcorrection of deformity; nothing less would do. He disagreed with the principle underlying Phelps's operation, which involved a contractile scar on the inner aspect. He had seen many relapses after this operation performed by good surgeons. If relapse occurred with the large internal sac it would be irremediable. Lund's operation of excision of astragalus as advocated by Tubby was inadvisable in any but the severest deformity. An abnormally shaped bone could be less drastically treated. Mr. Jones felt it was better that each surgeon should effect his purpose by the methods most familiar to him. He should, however, not allow himself to fail in producing an artistic result.

TO ILLUSTRATE MR. TUBBY'S REMARKS.



Fig. 2



Fig. 1.



Fig. 7.



Fig. 3.

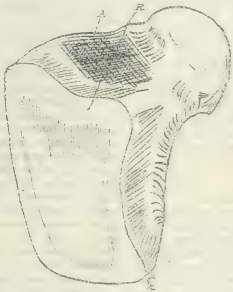


Fig. 4.



Fig. 5.



Fig. 6.



Fig. 8.



Fig. 9.

Fig. 1.—View of a left foot, with relapsed congenital talipes equino-varus, in a child of 12 years of age. At n is seen the prominence of the outer part of the neck and head of the astragalus. (For this and the following illustrations the writer is much indebted to his colleague, Mr. E. Rock Carling.)

Fig. 2.—Illustrating the position of the bones in Fig. 1, and the obstruction formed by the rough quadrilateral surface (A E) on the outer part of the neck and head of the astragalus, preventing normal dorsiflexion of the ankle. T, Tibia; F, cuboid.

Figs. 3, 4, 5, 6.—Illustrations of some astragali removed by the writer for relapsed congenital equino varus. In all, A = rough surface on the outer aspect of the head and neck of the astragalus; R = bony ridge, which locks against the lower end of the tibia; B = bony tubercle (prefibular tubercle) at anterior end of abnormal external surface of head and neck of astragalus; E = new facet for articulation with internal malleolus.

Fig. 7.—View of right foot from a case of relapsed congenital equino-varus. H, Bony prominence on outer side of head and neck of astragalus.

Fig. 8.—View of the parts in the case in Fig. 7 during an operation for astragalectomy. T, Tibia; A B, abnormal surface on the astragalus; R, ridge on the ankle-articular surface of the astragalus; E, abnormal facet for the internal malleolus.

Fig. 9.—View of an astragalus from a severe case. A B, Quadrilateral surface; R, summit of bony ridge, causing locking of the ankle-joint.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SQUAMOUS-CELLED EPITHELIOMATA.

IMMUNITY NEARLY TWO YEARS AFTER OPERATION.

A. H., male, aged 61, had a small ulcer on the highest point of the helix, which ulcer had commenced as a sore place owing to an accidental cut by a barber while having his hair cut in May, 1907. It had remained sore and continued to grow until I saw him on December 6th, 1907. It was then about ⅝ in. in every diameter, with a raw surface at the top; there was very little pain, and no enlarged glands could be felt in the neighbourhood. The growth with a wedge-shaped piece of the ear was removed under cocaine anaesthesia. The wound healed by first intention.

W. P., male, aged 62, was seen in December, 1907, with a "sore place" on the tip of the great toe, which he said started as a corn some nine months previously, and in spite of numberless corn cures and ointments had gradually got larger. The growth was ¾ in. in diameter, with a raw surface, and about ⅛ in. in depth. The last joint of the toe was removed under cocaine anaesthesia. The femoral glands were not enlarged until after the operation, when owing to some suppuration one enlarged and inflamed, but quickly subsided.

W. B., male, aged 61, was being treated in January, 1908, for influenza, when I noticed a small sore about ¼ in. in diameter on the left upper eyelid. He then told me he had noticed a little sore place there for over a year which periodically scabbed over, but each time he picked off the scab. There were no enlarged glands in the vicinity to be felt.

The interest in these three cases lies, first, in that microscopically they were all proved to be squamous-celled epitheliomata; secondly, they were not considered by the patients to be of sufficient importance to lead them to consult a doctor, as all the three were being treated for something else when brought to my notice; and thirdly, the immunity from other symptoms for nearly two years.

Middlesbrough. THOMAS M. BODY, M.R.C.S.

THE CAUSE OF DYSMENORRHOEA.

A BENGALI lady, aged about 24 years, gave a history of dysmenorrhoea before her marriage, at times so painful as to require the use of morphine. Eventually she was prevailed upon by her relatives to submit to local treatment. The cervix was dilated under an anaesthetic, and kept dilated by bougies passed at intervals for some months afterward. This afforded her great relief. She was married about three years ago, and has since had two perfectly normal, and by no means painful, labours. Her last child was born a year ago; I attended her in that confinement. She has had no return of the dysmenorrhoea since her marriage.

Three weeks ago I was called to see her, and she informed me that she had a return of the old pain. She was in the third day of a so-called period, and was suffering acutely. As, however, there was a history of a scanty period the previous month and clots had been passed I insisted upon an examination, and found, tightly gripped in the cervical canal, a mass of clot and membrane, which was with the greatest difficulty removed by the finger. On attempting to pass the finger into the uterus to remove any remaining products of conception I found distinct spasm of the internal os, which was with difficulty overcome. This manœuvre relieved the pain somewhat, but spasms of pain continued to occur daily for four or five days with decreasing intensity until the discharge ceased. The discharge itself was quite normal, and only contained shreds of membrane and small clot. The pain curiously came on regularly at about 11 a.m., and, if not relieved by morphine, continued to increase until about 2 p.m. and then gradually died away, until by the evening it was merely discomfort. As the continuance of the pain suggested that the uterus still contained clots, I examined several times both before, during, and after the spasms of pain; and whilst the cervical canal remained patent, one could distinctly feel a constricting band at the upper end of it, almost impossible to dilate with the finger so long as the pain was present. Before and after the spasms this was not noticeable. The patient herself remarked that a few hours before the pain came on the discharge increased in quantity, but was diminished while the pain persisted and again increased as the pain passed off.

I make no comment upon the above fact, but it seems to me to supply the missing link demanded by your correspondent in your issue of May 15th.

Assam. F. C. MCCOMBIE, M.B.Lond.

TREATMENT OF TRAUMATIC TETANUS BY ANTITOXIN SERUM.

S. M., aged 28, sustained a lacerated wound of the fleshy portion of the second finger of the left hand, caused by a hook of a window-fastener on the evening of March 24th, 1909. The wound was dressed antiseptically on the same evening and began to heal. On the morning of April 7th, fourteen days after the injury, he complained of stiffness of the left jaw, cramp on the left front of his chest over the cardiac region; later in the day the abdominal muscles became tense on pressure, and there was spasmodic contraction of the dorsi-lumbar muscles. The case was seen in consultation by Dr. Pearce. The temperature was 97°, and the pulse 54. The patient was removed to hospital, and at 8 p.m. 20 c.cm. of antitoxin tetanic serum was given by the mouth.

During April 8th 100 c.cm. of the serum was injected subcutaneously, and a mixture containing chloral hydrate 15 grains, pot. bromidi 15 grains, was given every fourth hour. He suffered from slight spasms of the abdominal and dorsi-spinal muscles, from recurring cramps in the muscles of the calves, and inability to open the mouth beyond a very small extent; slight risus sardonicus was present, and there was a peering appearance of the eyes, but no photophobia. The bowels were constipated, and he was very restless and unable to sleep for long.

On April 10th he had severe spasms at 1 p.m., when he bit the right side of his tongue, making a jagged wound; 50 c.cm. of serum were again administered subcutaneously, and 50 c.cm. more within the twenty-four hours. No subsequent severe spasms occurred. He continued in much the same condition with slight recurring cramps in the calves of the legs and clonic contraction of the hamstring tendons. Opisthotonos was slightly marked. He slept in snatches, and hypodermic injections of morphine ⅓ grain were given every second hour without beneficial result. Sodium bromide was substituted for potassium bromide as being less depressing. Subsequently the patient had more prolonged sleep. The wound of the finger had continued to heal except at a small pin-head point from which projected a small hair. On inquiry it was found that the patient, while the wound was healing, used the injured hand grooming a horse, though cautioned not to do so. The hair presumably conveyed germs to the wound, as I am informed the patient had even removed the dressings he felt the wound to be healing so well.

On April 14th the temperature was 100·3°, and 100 c.cm. of antitoxin serum were given. On April 17th the temperature was 101·1°, and 20 c.cm. of antitoxin serum were given. On April 18th he was much weaker and restless. The pulse was 80, small, and wanting in tone; the temperature was 101°. This condition lasted till the evening of April 19th. He had been given sulphate of magnesia to act on the bowels, which continued constipated.

Subsequently he improved steadily, was able to go into the garden on April 30th, and was discharged from hospital on May 12th.

H. V. MCMAHON-DILLON, L.R.C.S.I., L.R.C.P.I., L.M.

A CORRESPONDENT of the New York *Medical Record* calls attention to what he calls the "passing of sectarianism" in America. He says: "A homœopathic college in Denver and one in Baltimore have in effect taken themselves out of the homœopathic ranks. An old homœopathic college in St. Louis has closed its doors. The board of regents of the University of Minnesota has practically abolished homœopathy in that institution. It is said that some of the Iowa authorities are growing impatient over the burdensome homœopathic department in that university. There remain some three or four strong and well-equipped homœopathic colleges, which are largely reduced to a modern basis but which remain nominally sectarian."

Reviews.

DIETETICS.

The excellent work on *Diet in Health and Disease*,[1] by Drs. Friedenwald and Ruhrah, has now reached a third edition, and has been revised in order, as the authors say, to make it more valuable to the practising profession. The articles on milk and alcohol have been rewritten, and additions have been made to those on tuberculosis, salt-free diet, rectal feeding, the caloric needs of infants and others, while several useful tables showing the caloric value of foods have been added, as well as one showing the composition of diabetic foods, and a short account of the simpler methods for detecting food adulterations and preservatives. These additions have been made without any appreciable increase in the size of the book, and will doubtless be appreciated by its readers. The chief value of this work lies in its tabulated information. There are, for example, a number of dietaries of public institutions, prisons, lunatic asylums and hospitals, and the dietaries of the army and navy, besides special diets for various diseases which are all given in great detail. Here can be found accounts of all the various test meals used in stomach diagnosis, with full directions for their administration. On the other hand, there is very little in the way of general discussion of principles. Chittenden's experiments, for example, receive quite inadequate discussion in their bearing upon the general question of diet, and are not even alluded to under the subject of the training of athletes. The references and descriptions of diets are almost exclusively drawn from German authorities; and as the food eaten in Germany is so different from that used in this country, they are not as convenient as they might be to the British practitioner. It is somewhat remarkable to find Haig's diet not even mentioned, although in certain diseases it is undoubtedly useful. Milk soured by the growth of the lactic acid bacillus is mentioned, but there is no reference to its dietetic value in the treatment of chronic constipation. The very interesting subject of idiosyncrasies in diet is dealt with in quite too brief a manner. It may be worth noting that the authors say that sea-water fish should be eliminated from salt-free diet, as such fish contain a large amount of sodium chloride. The authors possess the apt American way of putting things. For example, in their article on milk, they say: "It costs less to buy a baby good milk for a year than to bury it."

The little book on *The Dietetic Treatment of Diabetes*, by Major B. D. Basu,[2] a retired officer of the Indian Medical Service, is stated in the preface to have been written "as much for the general public as for the ordinary medical practitioner." It is mainly composed of judiciously selected extracts from the writings of authorities on the subject, but to some extent it reflects the author's personal experience among the natives of India, where diabetes is common, and where, also, owing to the climate and local habits, it probably runs a somewhat different course to that generally met with in Europe. We gather from the author that diabetes in India, as a rule, is a mild disease which lasts many years. This he attributes to the vegetarian diet of the people and their abstinence from alcohol. How far the former statement may be true we are not in a position to say, but the disease in Europe in elderly people usually runs a prolonged course, although our patients eat a certain amount of meat and take a little alcohol, and without further evidence we are not prepared to admit that "diabetic patients who are vegetarians live longer than those who are meat eaters." We gather that the author is in favour of treating diabetes in natives of India by a strictly vegetarian diet; he certainly condemns the practice of European doctors who in treating such cases prescribe meat; but it would have been interesting if he had given us diet tables showing the kind of food upon which he has been able to manage moderately severe cases of diabetes successfully without the use of animal food or milk. He objects to milk "at all periods of the disease," as in his experience it has always increased the glycosuria; but, if this observation is founded upon a sufficient basis, it does not agree with European results when milk is given in small quantities. He speaks of bread made from "fish roe dried and ground," but tells us nothing about its palatability or the kind of fish from which the roe for this purpose is obtained. It is misleading to speak of saccharine as a "poison," for in small quantities in which it is used as a sweetening agent it appears to be harmless. The author's opinion upon the use of alcohol is apparently adverse, but the extracts given are in its favour. He quotes a far from convincing article by Dr. Ridwill, of Melbourne, on the use of rye bread in diabetes, which was followed by the "happiest results"; it is said to be satisfying, but not to cause any increase of sugar; this is explained by the starch not being digestible, but the digestion experiments upon which the explanation is based were made not with saliva, as one would expect, but with pepsin, hydrochloric acid, and pancreatic extract! The book is disfigured by numerous misprints which occur on almost every page, while the style is marked by that capricious use of the article which is so characteristic of English as written by natives of India.

GENERALITIES.

In a pamphlet on the essential nature of disease[3] Professor Ribbert discusses in philosophical fashion the underlying principles of cellular pathology, the significance of the pathological tissue changes associated with the origin of disease, and the pathological aspects of heredity. He defines disease as "the sum of the lowered vital processes which are dependent on changes in the structure of the body due to an absence of accommodation." Virchow's three-fold division of cell stimuli into the functional, the nutritive, and the formative is discussed at great length; it cannot be regarded, in Professor Ribbert's opinion, as a sound basis for the explanation of morbid processes. "Physiological stimuli, as such, obviously have no pathogenic significance. But if they become too intense they damage the organs concerned. So it is with pathogenic stimuli. Whilst in lower degrees of intensity they only give rise to functional activity, when they are stronger they produce damage. But when operative with these injurious degrees of intensity they can never exercise either a nutritive or a formative influence. There is no such thing as a nutritive or formative stimulus produced by pathogenic influences.' The author's theories about cell stimuli must be taken in conjunction with his doctrine of tissue growth and tumour formation. He regards all growth as an exercise of a "capacity for growth" which is always immanent within the cell, and is brought into activity by a release of the normal "tissue tension." This change may be due to a variety of causes, such as the formation of gaps in a tissue (in regeneration and in compensatory hypertrophy), hyperaemia (in inflammation), other mechanical causes, the escape of cells from their normal situation in a tissue owing to chemiotactic influences, and the displacement of cells from the normal restraints of their environment which occurs in tumour formation. By an elaboration of these considerations the author arrives at his well-known and oft-reiterated views as to the origin of cancer. In the concluding chapter of the book he protests against the improper use of teleological conceptions. For example, the progressive changes which lead to healing must not be regarded as "purposive." They are not produced by an agent acting with a view to an end, but arise as the necessary consequence of the innate properties of the tissue. The changes commonly regarded as purposive would more properly be described as the manifestations of a capacity for accommodation to the conditions of life. As the author admits, some of his theories are still the subject of controversy, and we doubt whether all objections to them have been removed in the present volume, which contains the latest exposition of his favourite doctrines. We refer in particular to his attempted explanation of the origin of cancer by a theory of disturbed "tissue-tension." Whilst everybody admits that in cancer formation there must, *ipso facto*, be a disturbance of normal intercellular relationships, many pathologists

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[1] *Diet in Health and Disease.* By Julius Friedenwald, M.D., and John Ruhrah, M.D. Third Edition. Philadelphia and London: W. B. Saunders Company. (1909.)

[2] *The Dietetic Treatment of Diabetes.* By B. D. Basu. Allahabad: The Panini Office. 1909. (Cr. 8vo, pp. 90. Rs.1.8.)

[3] *Das Wesen der Krankheit.* Von Dr. Hugo Ribbert. Bonn: Friedrich Cohen. 1909. (Roy. 8vo, pp. 175. M. 5.)

fail to regard the conception of disturbed "tissue-tension" as anything more than a restatement of obvious fact in the language of fanciful metaphor; they consider that the use of the word "tension" should be restricted to the precise meaning which it bears in the science of physics. As a teacher of morbid histology and anatomy, Professor Ribbert's gifts of accurate observation and lucid exposition have secured for him an undisputed position in the very first rank, but as an authority on the more speculative and theoretical aspects of pathology, his claims to pre-eminence are less well established.

Dr. RICHMOND's aim in writing his *Essay upon Disease, its Cause and Prevention*,[4] has been "to point out the very large number of diseases which are either spread by food or directly due to impurities found in articles of diet or articles in common use." The essay has, admittedly, been written hurriedly—to which, indeed, it bears inherent witness. After a somewhat elementary exposition of the author's views of "Life, Health, and Disease,"—in the course of which he deduces, first, the "law of constancy of function," according to which cells which have identical functions must have identical chemical composition; and, secondly, the "law of permanency of function," by which every cell in the organism will continue to perform its function normally, unless some influence or poison is brought to bear on it, which interferes with the usual decomposition of its cell substance—he passes to the influence of diet and environment on disease. This part consists mainly of simple and often questionable statements, unsupported by evidence or authority. We give one or two of these precisely as they are printed, in all their amazing baldness and absence of contextual reference.

Conjunctivitis, suffusion of eyeballs, tinea tarsi, caused by diet, and in all probability errors of refraction, and increase of ocular tension and buphthalmos.

Ringing in the ears, deafness, catarrh of middle ear, and pain in the ears, deficiency of wax, excess of wax, can all be caused by such articles of diet as cheese and bread, etc.

Similarly, neuralgia is caused by milk; hysteria in women by toxins in tea, butter, etc.; asthma is "probably due to substance in some article of food or drink"; and, alas! toothache to tobacco. Out of evil, however, good may come, for the author states that it is possible to control the colour of the hair by diet, this being shown "by the Bible stating that Jacob was able to make the sheep bring forth lambs with spots or without, by giving them certain kinds of food to eat." This is the sole authority quoted by the author in this book, and unfortunately, we fear, incorrectly, for we have never heard it suggested that the goats and sheep *ate* the rods of green poplar and hazel and chesnut tree artfully set before the flocks by Jacob to produce what is known nowadays as a maternal impression.

SELF-EDUCATION.

"MAN is the only animal who does not know how to live." This is the opening sentence of Dr. PAUL DUBOIS's introduction to his book, a translation of which by Mr. H. H. BOYD has recently been issued under the title, *Self-Control and How to Secure it*.[5] The title may be regarded as the text of a comprehensive treatise on the means by which it is possible to mitigate functional faults of inheritance, to correct those which we all acquire, and to educate ourselves generally on such lines as will make it possible for us to make the best of our opportunities and get the most out of our lives. The desire for happiness is, so says the author, the guiding motive of human life. He admits that real and lasting happiness is not to be found in the realization of desires, however legitimate they may be, and, though he evades any definition of what true happiness is, he contends that those come nearest to its attainment who observe best the virtues which, according to the doctrines of religion, assure for us felicity in a future life. These virtues are only to be acquired by the education of self and by the development of conscience, which is defined as "a collection of moral conceptions which, at a given moment, exist in the understanding of man and serve him as a guide for the conduct of his life."

In elucidation of his argument the author considers such abstract subjects as meditation, tolerance, humility, patience, courage, sincerity, and kindness—to name a few only—and under each heading we find an interesting and philosophical dissertation which arrests attention, although the argument may not always be so convincing as to command the unqualified assent of the reader. Dr. Dubois strongly urges the need for self-examination as an essential factor in the educative process, and rightly contends that no discouragement need ensue from the discovery of faults and failings if we but use past experience to improve the future, and accustom ourselves to live in an atmosphere charged with a moral perfection which constantly stimulates our endeavours to betterment. Meditation is a habit essential to ethical development, and action is the psychological expression of feelings which, in the case of the commoner virtues, become automatic. To the majority of people who have acquired an average moral control, vulgar crimes like theft, forgery, or murder are inconceivable; the firmly-established conviction that such things are wrong makes their commission impossible. By a wider and more careful cultivation of the moral sense the author argues that the practice of such other virtues as tolerance, patience, chastity, and kindness will ultimately create a similar psychological automatism, and make their daily practice a mere matter of course. The following passage brings home forcibly one aspect of defective self-education with which most men are familiar:

We lack indulgence and patience towards our fellow-beings when, without being really ill, they exhibit those variations of humour to which we are more or less subject. Under the influence of fatigue that apparently is not justified by the work done, when in states of organic disturbance caused by certain physiological and psychological phenomena peculiar to our being, we feel influenced in our mental life; we become sullen and discouraged, without serious reasons; we appear rebellious, wicked, and we are sorry, but our nerves govern us, and we are unable to expel the enemy that is within us. We should more easily escape if those who surround us had determinist indulgence in their hearts; if they could recognize our weaknesses as their own. They forget that they are not always what they would like to be, and they nag us harshly. Impressionable people often suffer real martyrdom in their families. Subject to constant variations in their state of mind they are misunderstood, and the reproaches they receive take away their last vestige of self-control. Doubtless a word may do them good, on occasions even a reproach, provided it be friendly. The person who is impatient and fretful suffers; he does not feel well without being able to say what is the matter. We should regard him as a patient who needs repose or encouragement, and not as a culprit who is willingly sullen.

This is a graphic and very human picture, and its wide-spread application indicates the need for the cultivation of sympathy, which, after all, is the practical expression of personal experience, and of a philosophic adaptation of self to the circumstances and exigencies of life. Dr. Dubois's book is full of thoughtful and suggestive references, and its perusal cannot fail to promote in the reader a true desire to improve the ego, which it is his business to control and his duty to educate. Mr. Hutcheson Boyd is to be congratulated upon the fluency of his translation; but the printers have put the pages so carelessly together that, in the middle of the volume, one or two of the chapters have become mixed up in hopeless confusion.

MYXOEDEMA AND CRETINISM.

FOURTEEN years have elapsed since the appearance of the first edition of Professor EWALD's book on diseases of the thyroid, myxoedema, and cretinism in the Nothnagel series of handbooks. The second edition, which has been brought up to date and almost entirely rewritten,[6] will confirm the favourable opinion expressed in our review of the first edition (1896, vol. ii, p. 655). In the sections on anatomy and physiology the chief alterations are due to the recognition of the importance of the parathyroids. Their anatomy is carefully described, the vitiation of the conclusions formerly drawn from experiments in which

[4] *An Essay upon Disease, its Cause and Prevention.* By G. E. Richmond, M.D., 1886, L.R.C.P. Lond., D.P.H. Camb., London: H. K. Lewis. (Crown 8vo, pp. 96. 2s.

[5] *Self-control and How to Secure it.* By Dr. Paul Dubois, Professor of Neuro-Pathology in the University of Berne. Authorized translation by Dr. Harry Hutcheson Boyd. New York and London: Funk and Wagnall's Company. 1909. (Demy 8vo, pp. 337. Price 6s.)

[6] *Die Erkrankungen der Schilddrüse, Myxoedem und Kretinismus.* By Dr. C. A. Ewald. Second edition. Vienna and Leipzig: Alfred Holder. 1903. (Sup. roy. 8vo, pp. 297; 26 illustrations and map. M. 8.80.)

they were ignored is continually kept in mind, and mention is made of the recent work tending to prove that their removal is responsible for the onset of tetany and other post-operative catastrophes. There is also some timely criticism of the various hypotheses advanced in regard to the inter-relationship of the thyroid and the pituitary. In dealing with cretinism the varieties (sporadic and endemic cretinism) are distinguished from juvenile myxoedema and from Mongolism and achondroplasia—conditions often confused in Germany. Careful and complete descriptions of the clinical and anatomical appearances in cretinism and myxoedema are given, and compensate for the very poor illustrations. In place of a long review of the numerous theories to account for the endemic occurrence of goitre and cretinism there is a most interesting exposition of the "drinking water" theory, illustrated by many striking examples of epidemics and of the disappearance of these diseases from an endemic area when a proper water supply has been obtained. The importance of the subject is shown by statistics, perhaps the most striking fact being the statement that the Swiss army loses about one-sixth of its numbers from cretinism alone. In regard to the treatment of goitre the author still pins his faith to iodine in its various forms. He is very sceptical about the alleged dangers of iodide in goitre, but is too enthusiastic about the virtues of iodine and too pessimistic about the dangers of surgery. There is an excellent chapter which sums up our knowledge of thyroid feeding, not only in goitre, cretinism, and myxoedema, but also in other conditions in which it has been recommended, such as psoriasis, obesity, and acromegaly. The phenomena and causation of thyroidism are discussed at length, a long list being given of all the ill effects which have been ascribed to thyroid feeding. Here, as throughout the book, a statement of the evidence is accompanied by carefully weighed criticism which, coming from such an eminent authority as Professor Ewald, is well worth serious consideration. The bibliography contains over 1,400 references, but they are not well selected. Many of them are English, but appear to have been culled from the index columns of periodicals, and refer in many cases to single patients shown at societies, whilst on the other hand such a valuable monograph as that of Berry is not mentioned. As a work of reference the book is ruined by two faults: there is no index and the reference to an author in the text gives only his name, although in the bibliography we may find half a dozen references under it.

ACCIDENTS TO WORKMEN.

The volume on *Accidental Injuries to Workmen with reference to the Workmen's Compensation Act, 1906*, by H. Norman Barnett, F.R.C.S.,[1] is intended to supply some of the needs of those who are called upon to deal with such matters, both from a medical and a legal point of view. The author was assisted in his work by Dr. Cecil Shaw of Belfast, who devotes some twenty-seven pages to injuries to the organs of special sense, and by Mr. Thomas J. Campbell, M.A., LL.B., B.L., who deals in an interesting manner with the law in relation to accidents and industrial diseases. The appendices contain the text of the Workmen's Compensation Act, 1906, a list of industrial diseases, and the report of the Departmental Committee. The book contains 384 pages, and of these 196 are devoted to injuries and diseases. The chapter giving directions for making a report on an injured workman will be of value to those who have little experience of this kind of work, and the form of certificate in use by a certain assurance corporation is filled in for the guidance of the tiro. Dr. Barnett has collected most of the facts as to etiology and diagnosis which we find in the ordinary textbooks on medicine and surgery, and presents them in an accessible and readable form. The modifying effect of pre-existing disease is considered at some length, and the importance of a medical report as to the physical condition of candidates for employment is noted. In this connexion we believe that in some districts workmen have resisted such an examination, and neither insurance companies nor employers have insisted, nor does the Act itself require it, so it is probable that the test of good health, which is often applied to a claimant, namely, capacity to earn average wages previous to the alleged accident, will hold good in individual cases, unless there is strong evidence proving the existence of disease antecedent to the injury. The information presented in the various sections will be of service, at any rate in the less contentious cases, and the medical man who is occasionally required to examine and report with a view to giving evidence in Court, will find the book helpful. Some of the sections are rather too brief, and might be made more comprehensive in another edition. Questions of diagnosis are dealt with shortly, but quite clearly, and the points are set out in a manner which will serve to refresh the memory of the medical examiner. Under the heading traumatic neuroses, the author warns the medical examiner against falling into the error of regarding the injured workman as an impostor or a pure neurotic, while at the same time due regard is to be given to the possibility of malingering. The work is in clear type, easily read, and will no doubt serve a useful purpose.

[1] *Accidental Injuries to Workmen.* By H. Norman Barnett, F.R.C.S. London: Rebman, Limited. 1909. (Demy 8vo, pp. 384. 7s. 6d.)

THE SIGNS OF DEATH.

Dr. Icard has done useful work in calling the attention of the profession and the public, in his monograph upon the signs of death,[2] to the various methods by which the fact of death can be proved. He discusses with some fullness the various signs of death, dealing with especial care with the "fluorescine test." He points out, however, that all the signs used up to the present require skilled help for their demonstration or reading, and that it is exactly in those cases in which it is impossible to obtain the assistance of a doctor that there is a need for some test which will be both simple and easy of application and at the same time infallible. This, he considers, he has found in the reaction which he names the "*réaction sulfhydrique*." According to Dr. Icard, any signs of putrefaction which may occur in the last stages of life are due to the action of aërobic bacteria, the action of the anaërobic bacteria never becoming evident until life is extinct. One of the first manifestations of the activity of these anaërobes is, he states, the evolution of sulphuretted hydrogen gas; and as the bronchial mucous membrane is one of the first parts of the body to show putrefactive changes, and, further, as in temperate or hot climates putrefaction of the bronchial mucous membrane commences within a very few hours of death, he considers that the demonstration of the presence of sulphuretted hydrogen in the gases coming off from the nostrils or mouth is proof positive of death having already occurred. The author tests for sulphuretted hydrogen by placing either a silver coin or a piece of paper moistened with neutral acetate of lead over the nostrils of the body. If life is still present, no sulphuretted hydrogen will come off and no change will take place in the coin or paper; but if life is extinct, then, in the course of a few hours, the coin or paper will become blackened. This test, he avers, never fails, and it is evident that it is not only simple in its method of application but definite in its results, and can be used and understood by the most ignorant. The author enters fully into the possible fallacies and objections to the test, and certainly shows that errors are at least not likely to occur with it, except in cases in which the surrounding temperature is very low. He contends that the possibility of premature burial is a real and not an imaginary danger, especially in those cases in which the supposed corpse has not been seen by a medical man. Such accidents are, he admits, rare, but he states that it must be allowed that they have occurred in the past, and that, as they may take place in the future, he thinks it of the greatest value to have some test which will serve to render so lamentable a catastrophe more infrequent still.

[2] *Le signe de la mort réelle ou l'absence de signes de la vie.* Par le Docteur Icard. Paris: A. Maloine. 1909. (Cr. 8vo, pp. 252, avec figures. Fr. 4.)

A systematic attempt to exterminate rats is to be made in all parts of the United States under the official sanction of the Department of Agriculture.

The late Dr. Thomas Crawford Hayes, Emeritus Professor of Medicine at King's College, Consulting Physician to King's College Hospital, left estate of the gross value of £50,739 8s. 5d., of which the net personalty has been sworn at £48,765 7s. 5d. He left £100 to the King's College Hospital building fund.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 992.*)

SECTION OF MEDICINE.

THE Section for Medicine always attracts a good proportion of the members of a congress, and for this reason many authors prefer to read their papers before this section rather than before one of the smaller sections to which the subject might be referred. The number of *rapports* (or opening papers) was a large one, and included serum diagnosis, immunity, tuberculin treatment, appendicitis, arterio-sclerosis, and many others.

Clinical Value of Serum Diagnosis.

KRAUS (Berlin) read an interesting paper on the clinical value of serum diagnosis. He urged the clinician to have recourse more frequently than he did at present to laboratory methods of diagnosis. He gave his views with regard to the significance of the variations of the antiferments, to the complement deflection reaction for syphilis (Wassermann's), and to the specific diagnosis of ecchinococcal affections, tuberculosis, etc.

INMAN (London) then dealt with immunity in its relation to practical medicine. He put forward the views which have been taught by Sir A. E. Wright, and showed the same opsonic curves, which had been shown on numerous occasions in this country and on the Continent, including the occasion of the meeting of the *Naturforscher und Aerzte* in Cologne last year. This doctrine does not find much favour in Germany, and the lecture left the majority of those present unmoved. A discussion followed in which several clinicians differed from Kraus and Inman on their respective statements. CITRON suggested that it should be required of all wet nurses to have their blood subjected to Wassermann's test.

Tuberculin Treatment of Tuberculosis.

PEL (Amsterdam) was more successful in awakening active interest by crystallizing his communication into a concrete subject rather than dealing with general principles. He limited himself to the question of the tuberculin treatment of tuberculosis. He said that it was easy to understand that tuberculin was more effective in early cases; but the fact that early cases did well without any special form of treatment made it questionable whether the tuberculin actually contributed to the recovery. The matter could only be tested in cases which had remained stationary in spite of the most favourable conditions. There seemed to be considerable difference of opinion as to the indications for tuberculin, the dose, the selection of cases, and as to the local and general reaction. Pel did not approve of basing the indications on Wright's opsonic index, which he considered to take up too much time and to be too unreliable for practical application. The experience of the past few years in the sanatoriums had shown that selection of cases and indications made on the basis of clinical manifestations yielded very good results. It was undeniable that tuberculin treatment had its drawbacks. Not every practitioner was capable of applying it. An exact knowledge of the minutiae of the technique was required to render it tolerably safe, and even with this knowledge the practitioner must watch his cases carefully all through. The individual variations of susceptibility to tuberculin must be taken into account, and, inasmuch as tuberculin might easily do harm, the dose to begin with must be small, and it was necessary to avoid all local and general reactions. Again, care must be exercised in raising the dose, since anaphylactic symptoms frequently arose. Pel had seen haemoptysis occur as a result of this anaphylactic action. He said tuberculin was a dangerous friend, especially in the hands of those who had not completely mastered the method of application. If this treatment were adopted widely in general practice, he was convinced that it would do more harm than good. But he believed that further careful study both at the bedside and in the laboratory would render it the best weapon of defence against the most destructive disease to which the human race is exposed. MARAGLIANO (Genoa) spoke in favour of his serum. In the discussion CITRON (Berlin) also declared himself opposed to controlling the tuberculin by means of the opsonic index. The object of tuberculin treatment was to induce tolerance to large doses of the substance, but he was of opinion that the old method of attaining this end was dangerous. He then criticized the tuberculins and came to the conclusion that no perfect tuberculin had yet been introduced. He believed that the best results were to be obtained by using tuberculin together with serum (for example, Kraus's tuberculin). POTTENGER (Monrovia) was of opinion that every patient was treating himself automatically with tuberculin. The question to be decided was whether it was better to leave the patient alone to treat himself or whether some advantage could be gained by applying tuberculin in measured doses. Great care was required, but he was convinced that the latter method was advisable. The dose must be increased constantly, and he was of opinion that under certain conditions fever need not be regarded as a contra-indication.

Overcrowding and Tuberculosis.

BERNHEIM and DIEUPART (Paris) dealt with the question of overcrowding, imperfect hygiene, and certain trades in the production of tuberculosis. The measures which they advised should be commenced in the schools, and should have ramifications throughout every building and trade which might be responsible for a spread of infection.

Arterio-sclerosis.

HUCHARD (Paris) opened a discussion on arterio-sclerosis. He found that, in view of the large number of different opinions, it was impossible to set up an exact definition on the basis of morbid anatomy. Experimentation had been able to imitate the lesions but not the disease, and therefore no acceptable definition could be based thereon. From the point of view of the evolution, a sharp line of division must be drawn between atheroma and arterio-sclerosis. Atheroma was a disease of old age (between 60 and 80 years of age), while arterio-sclerosis occurred between 30 and 60. He was inclined to distinguish between valvular cardiopathies of an endocardiac origin and those of an endarteritic origin. The six principal causes of arterial cardiopathies were: Gout and uric acid diathesis, lead poisoning, syphilis, overfeeding, tobacco, and, lastly, mental overwork. The symptoms of cardio-sclerosis were toxic, cardio-arterial, and renal. Cardio-sclerosis might commence clinically by disturbances of the urine, of the heart, or of another organ. He concluded that arterio-sclerosis without a lesion of the arteries or of the kidneys did not exist. This definition enabled the observer to eliminate a large number of maladies, which were usually, though erroneously, included in the term "arterio-sclerosis."

MÜLLER (Budapest) spoke of abdominal arterio-sclerosis. He considered this affection as common, but that it was frequently not recognized as such. It was usually confused with neurosis of the gastro-intestinal canal. The diagnosis became easier when the attacks of pain were associated with cardiac and vascular changes. It attacked men more frequently than women, and was beneficially influenced by vaso-dilators.

V. KÉTLY (Budapest) regarded the process as a degenerative one. As a rule, the process began in the intima. Aortitis produced by syphilis must be distinguished from true angio-sclerosis. Those factors which produced long-sustained or often repeated increase in the blood pressure accelerate the development of arterio-sclerosis. Even frequent exhausting mental work might lead to the disease. The toxic effects of tobacco, alcohol, lead, disturbances of metabolism, renal diseases, etc., played an important etiological part. Some authors believed that heredity also played a part. A sedative mode of life favoured a degenerative process of the vessels, especially if this were associated with overfeeding.

Polycythaemia.

SENATOR (Berlin) gave an excellent lecture on polycythaemia. He first briefly touched on what he termed "physiological polycythaemia," and then passed on to the consideration of the pathological occurrence of the condition. It was met with when the blood underwent pathological inspissation, in various intoxications and infections, especially when associated with haemolysis,

and also in various diseases showing certain changes in the blood. In all the cases save when there was a relative inspissation of the blood, the decrease of the oxygen tension of the blood must be regarded as the cause. Senator distinguished between polycythæmia and polycythæmia megalosplenica, and polycythæmia hypertonica. The last named was very rare. It was characterised by a very high blood pressure and no swelling of the spleen. In both of the two named varieties the blood showed an increased viscosity and specific gravity. In the treatment of polycythæmia a vegetable diet and blood-letting often did good.

Constitution and Diathesis.

There was a discussion on constitution and diathesis, in which the Section of Pathology and that of Medicine took part. The first paper read was one by His (Berlin), in the course of which he recorded his investigations on the real nature of what was called diathesis. He attempted to discover a definite symptom-complex occurring in several members of one family, or in several individuals of one type. The research required to be diligently continued for a long time before final results could be given. For a clear understanding of many pathological conditions it was necessary to obtain a definite meaning of the word "diathesis." Martius (Rostock) dealt with the problem, especially with reference to heredity. He wished to define the word "constitution" in such a manner as to limit its application to general pathological conditions, and to exclude the changes underlying special pathological affections. In every disease constitution played a distinct part. He was of opinion that to speak of a non-constitutional, or a constitutional disease was confusing the question. For example, phthisis was not constitutional, but a case of phthisis was influenced by the constitution of the patient. The constitution was frequently acquired, as in tabes, syphilis, etc. Biological investigations had lent a scientific basis to the doctrine of heredity. The author mentioned observations of this nature, and showed how a disease was often produced by an occasional determining cause, on a soil especially suitable for the further development of the disease process. He attempted to give a clear explanation of the changes which were inherited, in place of the old-fashioned hazy ideas. Lubarsch (Dusseldorf) started by stating that intrauterine infection and germinal carrying-over of disease were quite different from inheritance. He propounded the theory that there could be no such thing as an inherited syphilis; syphilis which was passed on to the offspring was a congenital infection. All inherited processes were determined when the seed joined the ovum. True heredity would be exemplified by a character or protection being passed on from the father to the embryo through the semen. The question of Weissmann's germinal theory and of Lamarckism was discussed, and Lubarsch stated that although a direct damaging of the germinal cells could produce changes in the being to be developed, neither this nor what Forel described as *Blastophoric* influences could be identified with heredity. True heredity was, in his opinion, due to the intermixture of characters of the two parents, and was subjected to the play of chance. Finally he spoke of atavism, and illustrated his remarks by referring to the occurrence of haemophilia.

(To be continued.)

On Saturday, September 25th, the Lord Mayor of London laid the foundation stone of the new St. Mary's Hospital, Plaistow. The Mayor of West Ham having welcomed the Lord Mayor, the Bishop of Barking (chairman of the committee of management) said the hospital was doing excellent work, and King Edward's Hospital Fund had voted them £1,000 annually, to commence from the following January: the sum of £13,716 had been raised towards the £16,000 which was needed, and of this Viscountess Parker had collected a large sum. The Lord Mayor said the present hospital had become totally inadequate. The institution had developed out of a day nursery founded by the Rev. Given-Wilson in 1888, and, a small ward having been set apart for sick children, it finally became a hospital from which at the present time, owing to lack of accommodation, cases were continually being turned away. The new building would contain 62 beds, and would be fitted with a large out-patient department and every modern appliance. The committee wished to open the new building free of debt, and for that purpose they needed £2,234. During 1908, 648 in-patients were dealt with, whilst the out-patients numbered 19,437.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

Nearly all the medical schools in London made a formal commencement of work for the winter session last Friday; the exceptions, in common with most of the medical faculties in the provinces, made the opening of the winter session coincide with the commencement of the present week. As has been the case for several years past, introductory addresses were not numerous, but the good old custom of marking the commencement of a new *annus medicus* by gatherings of old students round the dining table shows no diminution in popularity. Nine of the London schools held such dinners on Friday last, and two on the first days of this week. Of these and of such other ceremonies as took place some account follows. We give pride of place this year to the London School of Medicine for Women.

THE LONDON SCHOOL OF MEDICINE FOR WOMEN.

The opening of the winter term of the School of Medicine for Women (Royal Free Hospital) brought together a very large gathering at its head quarters in Hunter Street, Brunswick Square. It was indeed so numerous that the hall in which the formal ceremonies were in progress was full to overflowing, and a large proportion of the visitors spent their time in exploring the excellent theatres and laboratories which the school now possesses, and in tea and talk. Ladies naturally predominated, and a large proportion of the women doctors who have obtained eminence were present, but there was also a fair sprinkling of their male colleagues, among these being Mr. H. T. Butlin, the President of the Royal College of Surgeons, and Sir Clifford Allbutt, as well as Dr. Sainsbury, Mr. James Berry, and others immediately connected with the school. In the report of the Council, allusion was made to the recent widening of the field of work for medical women by the institution of compulsory medical inspection of school children, and it was noted that several old students had obtained good posts in this connexion. An appeal was also made to all friends of the higher education of women for help in raising a sum of £4,000 in order to free the school from a building debt which gravely hampers its further development. Mrs. Garrett Anderson, M.D., who occupied the chair, added some account of the work of old and present students of the school during the past year. Apart from minor successes, as many as seven students of the school had presented themselves for the M.D. degree of the London University, and all had passed—a somewhat remarkable achievement in view of the comparative rarity with which this rank is attained. The school had also been honoured by the admission of one of its students to the membership of the Royal College of Physicians of London. Speaking of the future, she noted the number of new students showed a very material increase, and rightly pointed out that the prospects and surroundings of those who become students of the London School of Medicine for Women were infinitely superior to those of women who in ones, or twos, or threes, entered schools primarily intended for male students; such women had to live lives of extreme seclusion, and their student career was of a much less kindling and stirring character than that of women at the school in whose halls they were now assembled. In addition to other advantages, the latter had the practice of two hospitals in its immediate proximity entirely given up to them, and the possibility before them of having responsible posts in those hospitals allotted to them. Such opportunities rarely presented themselves to women who joined men's schools. The formal address of the day was delivered by Mrs. Henry Fawcett, LL.D., who chose "pioneering" as her subject, because every one, she said, including herself, was too apt to step in and enjoy what had been won for them by the labours of their predecessors, without a thought of the years of courage and self-sacrifice which had been necessary to attain it, and as if it had been bestowed as the bounteous gift of Providence. The enthusiasm and genius of the pioneer had been sung by several modern poets, particularly Walt Whitman and

Mr. Rudyard Kipling. The latter had shown in his poem *The Explorer* how keenly he had entered into the spirit of the Pioneer. The vision, the compelling necessity, the sacrifice came to one man in ten million; he moved forward and showed the way, then the mass followed and enjoyed the fruits of his labours, and hardly gave a thought to him who had put these advantages within its reach. This was in a sense quite wholesome and natural; just as a healthy person never thought about his health, so those who enjoyed what others had won seldom thought how those benefits were obtained. Still there was a certain ungraciousness and ingratitude in accepting everything without any sort of acknowledgement. There was only one really valid excuse, and that was ignorance. But after all, complete as the excuse was, it was one of which it was scarcely possible to be proud. The speaker then made brief allusion to some women pioneers of medicine—Mrs. Anderson, Dr. Sophia Jex-Blake, Dr. Edith Pechey, and others—but dwelt at chief length on the work done in the same direction some fifteen years earlier by another Englishwoman, resident in the United States, Dr. Elizabeth Blackwell, who was still happily to be numbered among medical women of the present day. Innumerable difficulties had stood in her path, and she showed indomitable spirit in overcoming them; she took deep interest in the moral and religious aspects of her professional work, and womanliness was an essential part of her character. It was characteristic of her great tenacity that she never lost her English nationality, though for forty years of her life she was resident in the United States. The students of the present day could scarcely have a more interesting and charming work in their hands than Dr. Blackwell's autobiography, called *Pioneer Work in Opening the Medical Profession to Women*, published by Mr. Barry of Hastings. In conclusion, Mrs. Fawcett said that the students she then saw before her would go on their several paths out into the world, and although they themselves would know that they were not pioneers—that the real pioneering had been done for them by their predecessors—yet they might very probably find themselves in positions where the qualities of a pioneer would not be misplaced, and in this case one hoped that something of the pioneer spirit might be vouchsafed to them.

ST. BARTHOLOMEW'S HOSPITAL.

"Well, there's another of them over, my twentieth, and you?" "Only once to a dinner, but to half a dozen festas in the hall." These two brief sentences exchanged between old friends journeying westward last Friday night, put in a nutshell the peculiar advantage enjoyed by old St. Bartholomew's men. Old students of other hospitals have the pleasure of seeing old friends, but they meet at a restaurant, or some other ordinary caravansary. St. Bartholomew's men assemble in a hall familiar even to the newly qualified men as a place of pleasant gatherings, and they enter it as of right, as men who assemble once more in the family dining-room. Moreover, the Great Hall of St. Bartholomew's Hospital—one of the finest examples of city halls in existence—is in itself reminiscent of a successful past, and its decorations, from the Hogarth frescoes on the stairs to the paintings of past heroes of medicine between the windows, are all in keeping with the spirit of an old students' dinner. This is the reason, perhaps, why one detects an elusive difference between old students' meetings at St. Bartholomew's and those of other medical schools. There is equal pomp, even greater stateliness, but with it all an old-world flavour, a lack of personal ceremony, a resemblance to a meeting of brothers and sisters rather than of cousins, aunts, and law relations. In any case, old students' dinners at St. Bartholomew's are always a great success, and the dinner last Friday was no exception. Dr. HERRINGHAM, who was in the chair, found himself faced by quite as many old friends as the hall, which is no small one, could hold. Dealing very briefly with the loyal toasts, he proposed "The Hospital and Medical School." Since he first entered its doors the face of medicine had greatly altered. Pathology, with its subdivisions, as now understood, had practically come into existence in the past thirty-two years. What was known of the subject in his student days was taught by one or two men who likewise taught other subjects; now the school staff included nine specialists who taught that subject alone. Another point of interest was the complete change in surgery; at the beginning of that same period modern surgery was then completely in its infancy, and in 1882 Sir William Savory fought his famous rearguard fight in favour of the open wound. Dr. Herringham concluded by an expression of the gratitude of the school towards the late treasurer, Lord Ludlow, and prophesied that Lord Sandhurst would justify an equally warm feeling towards himself. It was the first dinner held since he became treasurer, the first time that he met his constituents, so perhaps he would tell them as between friends—well, what the House of Lords intended to do with the Finance Bill. Lord Sandhurst, in his reply, denied the soft impeachment; he had no notion what the House of Lords would do, but was quite certain that he himself would do his best to justify the goodwill with which he had been received. It had been a great pleasure to him to find what magnificently good relations existed between the governing body of the hospital and the medical staff, and he had voiced some of that feeling in a letter which he had recently written to Mr. Harrison Cripps, expressive of the regret alike of the governors and of the school at his resignation of the post of senior surgeon. The toast of "The Visitors" was proposed by Dr. NORMAN MOORE, who in the course of his remarks applied a somewhat interesting simile to the older universities and that of London. Oxford and Cambridge were noble oaks affording shade and protection to every one, but London University, though, like a eucalyptus tree, it had shot up far above the heads of its compeers, yet put out leaves which somehow failed to fulfil their expected function. The reply came from Mr. BUTLIN, who was present not in his capacity of old student, but as President of the Royal College of Surgeons. He was, he remarked, the first President of the Royal College of Surgeons that the school had had for a good many years, but that was the fault neither of the school nor of the council of the college. Had they been ready to accept the duties of the office, both Sir Thomas Smith, whose grave illness they were all regretting, and Mr. Alfred Willett might, he was aware, have been presidents of the college in the interval. He also referred to the circumstances which had brought about his resignation, some years ago, of his position on the active staff of the hospital, a step which had caused him inexpressible regret. It was, however, unavoidable, for he was not in very good health at the time, and had he kept up his work at the hospital he would have had to abandon that which he was doing as treasurer of the fund for the creation of a combined institute for the teaching of the preliminary sciences. That scheme had finally been abandoned, but he still believed that it was the best way of bringing back the halcyon days of the London medical schools of twenty-five years ago. A reply also came from Professor HILL, who said that the driving power of London University did not come, as sometimes supposed, from its Senate, but from the recognized teachers of the university. Those who formed the Faculty of Medicine numbered some 400, and when they were all agreed as to what was wanted the Senate, he thought, would be very glad to try to meet their views. A toast to the chairman and to the secretary of the dinner, Mr. H. J. Waring, followed, and the company then adjourned to explore the new laboratory block.

CHARING CROSS HOSPITAL.

The ceremonies connected with the opening of the winter session at Charing Cross Hospital took place on Monday, October 4th, the principal feature of the day being, as usual, a prize distribution, and the reading of the Dean's report on the school work during the year. The awards were to have been distributed to the successful students by the Chairman of the Hospital, Viscount Ridley, who was also to have delivered an address, but he being unavoidably absent, Sir CLIFFORD ALLBUTT, Regius Professor of Medicine at Cambridge, kindly stepped into the breach and handed the prizes to the various students. He did not deliver anything in the nature of a formal oration, but nevertheless let drop some interesting observations. It was pleasant, he said, to see the cordial way in which those who were unsuccessful as competitors for prizes greeted those who were more fortunate. It was the best

preparation for life to submit to a certain amount of disappointment, and to do so in a buoyant way without jealousy. That characteristic was, he thought, largely gained by taking part in British games. Through them they learnt the proper spirit in which to take little rebuffs and pains, to subordinate individual opinions to the ruling of a captain without recrimination, without hesitation. Continuing the same theme, he pointed out that if athletics were associated by the student with his other studies, he would enter life with the best spirit in which to take the ups and downs of fortune; but they should be players of games, not merely watchers of them. Of the study of anatomy he remarked that it was a disciplinary subject of the utmost importance, and one which he greatly favoured. He further indicated a belief that medicine in one sense was merely at the beginning of its career, since he seemed to foresee a time when the making and administration of arrangements for the application of the science and art of medicine to the direct benefit of the population in every way would be regarded as no less a duty of the State than its utilization of any other form of knowledge for the common good.

The report of Mr. F. C. Wallis, surgeon to the hospital, and Dean of the medical school, in addition to ordinary matter, contained an important expression of views with regard to the University of London and its influence on the medical schools of London. The representatives of all the London medical schools had, he said, sent a joint letter to the Prime Minister, urging that the new Royal Commission on the University "should be allowed to take evidence as to the means by which the medical degrees of the university might be made more accessible to London students." This, Mr. Wallis said, was a matter of grave, even of vital, interest to the London medical schools, and if the public could only appreciate what it meant, a lively and profitable interest in this most important matter would be taken. At any other teaching school in the United Kingdom, outside this metropolis, a student could obtain a doctor's degree for the same amount of time and money that it took a London student to get the double qualification, which, although an excellent one, did not carry with it the all-important title of "doctor." It might be said that it did not matter what a man's qualifications were if the man himself was good. But this was not true in practice, especially when a man was starting his career. In common with many others, the speaker had received various letters from former students complaining bitterly of the fact that they were surrounded by men with doctor's qualifications obtained at either a provincial, Scottish, or Irish university, at no greater trouble and expense than it had taken the London man to obtain his double qualification, and moreover, it had actually occurred that in advertising for candidates for posts at small provincial hospitals it had been stated that a doctor's degree was essential, thus effectively barring the London man with the double qualification. There was no doubt that the actual medical examinations for the London M.D. degree did not present any unusual difficulties to the ordinary examinee. The whole trouble lay with the matriculation examination, concerning which he could say much if the present were the time and place to do so. The fact, however, was known to all of them, and would, he hoped, be dealt with by the proper people when the evidence was taken at the Royal Commission. The practical outcome, as it at present stood, was that old students of the hospital said—and no one could blame them—that, much as they liked their old school, and although they knew of the many advantages in other ways which a student got in London, still, this stumbling-block of a doctor's degree was so great that they could neither send their own sons nor those of their friends to London, but recommended them to some provincial school where the facilities for obtaining a doctor's degree were made as easy as they were made impossible in London. The speaker said, made impossible, for that was what had been going on for years with regard to the London University, which, in this matter, had been held in subjection by a small body of men whom one would have credited with larger minds and greater foresight than they seemed to possess. Instead of this, with a narrow and selfish outlook they clung to all the old difficulties of the London M.D. degree, which had always made it a nightmare to the ordinary London medical student, and was now rapidly ruining London as a teaching medical centre. All the splendid wealth of clinical material, all the facilities of obtaining the best medical education in the world, were thus being lost, ruined, and thrown away, because of the selfishness of a few and the apathy of the many. These things had been frequently written about in the medical press, but it was vitally necessary for the public to take up this matter, and to do its best to protect its own interests by helping the medical schools of London to have the power to offer to the London medical student a degree which could be obtained with equal facility to any of the other degrees already mentioned. By this, and this alone, would London regain her lost position as the best medical school in the world. At a later hour the old and present students of the school assembled at dinner at the Criterion Restaurant. Dr. William Hunter occupied the chair, and, in moving the toast of the evening, included in his remarks a history of the school and hospital. The toast to the guests was coupled by Dr. Mott with the name of Sir Clifford Allbutt.

KING'S COLLEGE HOSPITAL.

Term commenced at the Medical School of King's College Hospital on October 1st, but this year the occasion was marked by nothing in the way of an address or other formal ceremony. The annual dinner of past and present students, however, took place as usual, and the Waldorf Hotel in Aldwych was again selected as the place of meeting. The arrangements, in short, so far as the dinner was concerned, were on all-fours with those which last year proved so agreeable to all concerned. The chair was taken this year by Mr. T. F. Hugh Smith, now of Farningham, but an old student of the school and a former member of the staff of the Medical Faculty of King's College and surgical registrar of the hospital. He found himself supported by the following members of the consulting and active staff: Dr. Burney Yeo, Dr. Ferrier, Professor W. Rose, Sir W. Cheyne, Mr. Barrow, Dr. Dalton, Mr. Carless, Dr. Pritchard, Drs. Silk, Phillips, Whitfield, Playfair, Flux, Steen, and Priscoe, Mr. Burghard, and Mr. Cargill. The rest of the company numbered about one hundred, amongst them being Drs. Walters, Allfrey, Short, Lewis, Shuttleworth, Child, Essery, E. Wood, Matthews, Davidson, E. Thurston, C.I.E., and the secretaries, Dr. StClair Thomson, Mr. Peyton Beale, Dean of the school, and Dr. Wiltshire. In proposing the toast of the evening, "King's College Hospital and Medical School," the Chairman pointed out the immense amount of work which the student of the present day had to get through in comparison with that of his predecessors, and also how much more strenuous a medical student's career had become. He also reminded his audience that this was the first year of the school's existence as the medical school of King's College Hospital; previously it had been part of the Medical Faculty of King's College, London, but owing to the incorporation of that body with the University of London the medical school of the hospital, though still a school of the university, became independent. This was also necessary in view of the impending removal of the hospital to South London. Dr. Walters, who replied on behalf of the school, said that his memory of it went back a very long time, for he had been one of its students in the year 1853. He gave some idea of the work of the hospital and its staff at that time, and described Farre, Todd, and Partridge as great teachers. He had no doubt whatever that when the hospital was rebuilt at Camberwell its work would be better than it had ever been; its special departments were at present hopelessly cramped, and when they were able to expand, as would be the case on the new site, the hospital, he felt sure, would come to occupy a premier position amongst London hospitals and medical schools. The evening ended with a vote of thanks to the dinner committee and secretaries, whose arrangements had resulted, it was agreed, in a most pleasant and successful evening.

ST. GEORGE'S HOSPITAL.

The commencement of the winter session on October 1st was marked, as usual, by a meeting of the St. George's Club, an old students' dinner, and an address. The latter, delivered by Dr. H. D. Rolleston, senior physician of the hospital, in the afternoon, in the presence of a large gathering, was devoted to an interesting review of the part

which St. George's Hospital and its medical school had taken in the progress of physic as apart from surgery. He commenced by an allusion to some deaths among its alumni which have taken place comparatively recently—Sir Henry Pitman, Dr. Arthur Gamgee, and Lawrence Read, one of the school's most loyal friends and oldest students, who practised for more than fifty years in Gloucester Road, not far from the hospital, and was a model of a general practitioner. Turning to the more specific subject of his address, Dr. Rolleston gave brief accounts of the careers of a number of notable men who had held office as physicians to the hospital in the distant past. Among them were Jenner of vaccine fame, Matthew Baillie, the first author of any book on morbid anatomy, who, after a career of marked scientific and financial success, achieved a monument in Westminster Abbey; and Thomas Young, the most comprehensive genius and the greatest man of science that the profession of medicine had ever possessed. He was an example of the old adage that "a prophet is not without honour save in his own country," for it was not until the greatness of his conception concerning light waves had been realized abroad that his genius was recognized in England. His career as a physician was interesting in connexion with the question of how far the possession of really great abilities and even genius bears on the acquisition of worldly success in the practice of medicine. Dr. W. H. Dickinson, who had analysed his methods of dealing with his hospital patients, said they appeared to have been less meddlesome but more successful than those of some of his more venturesome colleagues. The public, however, judged medical men more by their methods than by their results, and he did not appear to have been popular with students, or to have been financially successful in private practice. A number of other physicians of more recent date were also mentioned by the orator, and in connexion with them he reminded the audience of the observation that there was no profession in which a man might be so distinguished in his lifetime, and leave behind so slight a record of his life as in medicine. Speaking of particular diseases and special forms of treatment, knowledge of which was in a measure due to the work of old St. George's men, he mentioned that in 1821 the Royal Humane Society gave up the use of bellows as a means of restoring the apparently drowned at the instance of Sir Benjamin Brodie. Some fifty years ago Alexander Wood, of Edinburgh, commenced the injection of morphine for the relief of neuralgia, but the injections were always made precisely over the painful part. It was in the wards of St. George's Hospital that neuralgia was first treated by subcutaneous injection at a distance from the seat of pain and hypodermic medication employed for other than neuralgic affections. This advance was initiated by Mr. Charles Hunter, at that time house-surgeon to the hospital, and even as late as 1866 the efficiency of distant injections was strongly contested. Some three years later Sir Clifford Allbutt, also a St. George's man, showed the good effect of what was then an unknown treatment—namely, the injections of morphine in bad cases of heart disease. Finally, the speaker showed that St. George's men had influenced the progress of medicine in a manner often overlooked, but none the less important, by the editorial control of medical journals. Roderick Macleod, among those whom he mentioned in this connexion, was the first editor of the *Medical and Physical Journal*, a paper which Dr. Sprigge, also a St. George's man, who now edited the *Lancet* with such eminent success, described in his "Life of Wakley" as "a decent monthly magazine of some ninety pages with no particular reason for its existence." At that time Wakley was vigorously attacking abuses in the medical world in the pages of the *Lancet*, and the two journals came into opposition, the strained relations eventually landing the rival editors in the Law Courts. In 1827, Macleod left the *Medical and Physical Journal* to direct the *Medical Gazette*, which was started by some leading hospital surgeons, including Brodie and Abernethy, to counteract the "evil influences" of the *Lancet*, but it was not very successful in the fight against Wakley and his energetic methods. Another St. George's physician and editor was John Ogle, who held office for a time at the head of the *British and Foreign Medico-Chirurgical Review*. It was a journal conducted on much the same lines as the *Edinburgh Quarterly*, and probably marked the highest level of medical journalism in this country. The annual dinner of old students took place the same evening at Princes' Restaurant, under the chairmanship of Mr. MARMADUKE SHEILD.

THE MIDDLESEX HOSPITAL.

The authorities of Middlesex Hospital and its Medical School contrived this year, as on several previous occasions, to make a very popular festival out of the First of October proceedings. They included a general visitation of the wards, tea in the nurses' refectory, an address, presentation of prizes and medals both to students and nurses, and the reception of the principal guests, Lieutenant and Mrs. Shackleton, by Lord Cheylesmore and Prince Francis of Teck, Chairman and Vice-President of the hospital, by leading members of the medical and surgical staff, and by a guard of honour furnished by the hospital contingent of the Officers' Training Corps. The address came from Dr. STRICKLAND GOODALL, Lecturer on Physiology in the school, who described the evolution of a medical man at the present date. He had an appreciative audience, which promptly punctuated by laughter the touches of quiet satire by which the account was lightened. Doctors, in his opinion, resembled poets in that they were born, not made; but unlike the latter, and fortunately for the public, they had to undergo a definite course of study known by the laity as "walking the hospitals." It was a mystery which, in the laity's view, lasted a varying number of years, cost parents an indefinite amount of money, and was supposed to be associated with much experimentation on the hapless poor. At the present time, under favourable conditions (such as obtained at Middlesex) the process of walking the hospital took about five years, this being the *minimum* time allowed by law. At other hospitals—and even at Middlesex occasionally—it had been known to take longer—the long distance (time) record at present being, he understood, held by a gentleman who had up to now devoted twenty-two years of his life to it, without either tiring of the amusement, ruining his health from over-study, or satisfying the examiners! In the case of the London University medical curriculum, five and a half years was the *minimum* time allowed, the extra half-year having recently been added, possibly to enable the teachers and the students to master the regulations. During these nominal five or five and a half years the student had to acquire knowledge of no less than twenty-eight subjects and to pass a variety of examinations in them. The examiners demanded that the knowledge shown should be "sound," but each teacher expected the student to obtain an expert knowledge of his own particular subject and to devote the whole of his time to it. Giving an account of the subject of each year's work, he remarked of the preliminary sciences that the main object of their study was to enable the student to understand the later subjects. It was the broad principles underlying these preliminary sciences and their bearing on the later subjects that the student should be taught to realize. A student who began a medical career burning with a desire to "doctor people," was apt to have his enthusiasm damped when asked to retire behind a bench and occupy himself with test tubes and the like, unless the essential importance of this part of his work on his future life was constantly brought home to him by the fashion in which his teachers instructed him. Anatomy was a more popular subject with the average student than physiology, partly because its bearing on his future work was obvious, partly because he did the work largely himself. In physiology the instruction necessarily dealt somewhat largely with theory, the demonstrations were based on lower animals, and the student took a less active part in the study, and had more difficulty in realizing what use it would be to him. Moreover, it might be said that in the London schools physiology was at present less well taught as a rule than anatomy. It would be much better if all teachers of physiology in London hospitals would constantly bear in mind that they were teaching physiology to men who were going to be doctors, and not physiologists, and if they had the strength of mind to eschew the more purely academic parts of the subject and sufficient moral courage and self-denial to abandon for ever Pflüger's law, electrotonus, and the veratrine curve, and to substitute for them work in which the student was

properly taught the systematic application of physiological methods to the investigation of the functions of the different organs and systems of the human body. In that case physiology would occupy a position in the systematic practice of medicine and of treatment, and enjoy a popularity with the student and the practitioner such as it never had had and never would have under existing conditions. One great danger of specialization was loss of judgement and perspective in relation to other subjects, and there had been in the past rather too much specialization in anatomy and physiology. In the case of the teacher of anatomy an up-to-date knowledge of surgery and in the case of the teacher of physiology in medical schools a correspondingly modern knowledge of medicine was essential if they were to teach useful anatomy and useful physiology to medical students. Dealing with later subjects, he remarked that successful doctoring demanded, besides other knowledge, knowledge of patients themselves and their individual peculiarities. The importance of a psychic factor was well recognized in ordinary physiological processes, such, for instance, as digestion, and as regards disease it was, from the patient's point of view, commonly the worst feature in every case. In the case, for instance, of a simple fracture of the leg in a busy man, the mental worry caused by enforced rest and the possible consequences to his business was often a cause of much greater disturbance than the pain of the actual injury. If this were correct, the psychic factor was one to be recognized and treated just as much as the actual pathological condition. The danger of this belief lay in the fact that one might exaggerate its importance, and so overtreat it to the neglect of the actual physical factor, but since nothing was so easy to provoke as mental pain, and nothing so difficult to alleviate, ignoring the psychic factor might in the case of a sensitive patient amount to actual brutality. On the other hand, if the psychic factor were overtreated, the doctor himself became a quack, and risked making his patient a chronic neurasthenic. In the wards of the hospital the students would have an opportunity of studying the methods and manners of some of the most successful and eminent medical men, and by analysing the diagnostic skill of one, the operative ability of another, the kindly tact and common sense of a third, the academic knowledge of a fourth, they would be able to arrive at some conclusion as to what had made them famous; it was not solely a knowledge of their professional work. His concluding advice was, "Do not make friends of your patients or patients of your friends." Dr. H. Campbell Thomson, the Dean, then read the report of the school for the year, after which Lieutenant Shackleton distributed the prizes gained by the students and Mrs. Shackleton the Fardon Memorial medals for nurses. Finally Lieutenant Shackleton made a short speech. Dr. Goodall had said that their joint inexperience, the one in delivering introductory addresses, the other in distributing prizes, made them comrades in distress; but, whereas, Dr. Goodall had acquitted himself well, the speaker personally had never been nearer prizes than when he gave them away at his old school the other day. Those who were explorers did not go in much for theories, but contented themselves with finding out what things happened, and left others to find out what they meant. Among his companions on his expedition he had had three medical men, and several points of practical interest such as could not always be discovered in a laboratory had been noted. Among them was the fact that occasionally their bodily temperatures ran down far below normal—as low as 93° and 94° Fahrenheit. Another was a repetition of the experience of the Nansen expedition, that they remained quite free from nasal catarrh until a bale of clothing from home was opened. Those recovered most quickly who remained the shorter time under cover. It was also observed that rotifers, which were exceedingly fertile in hot climates, flourished equally well when the temperature was even below zero.

At the annual dinner the same evening, Mr. John Murray, who was in the chair, took charge himself of the toast to "Middlesex Hospital and Medical School." They had all, he said, heard with pleasure that day of the re-election of Sir Richard Douglas Powell, as President of the Royal College of Physicians of London; and all Middlesex men were delighted at the conferment of a baronetcy on their senior consulting surgeon, Sir Henry Morris. More patients had passed through the wards than in any previous year, and this they would all admit was in a large measure due to the energy and devotion of their resident medical officer, Mr. E. Johnson. They had only to look at the *Archives of Middlesex Hospital* to see the work which was being carried on in the cancer department under the direction of Dr. Lazarus-Barlow. The munificent Barnato bequest would facilitate its material increase. The question of an athletic ground for the school had been happily settled. In conjunction with St. Mary's Hospital it had been agreed to purchase a piece of ground at Acton at a sum of £4,000, including buildings, and it was estimated another £1,000 would be required to put the ground in proper order; the school's share of the expense would be about £2,500, and towards that sum Mr. Bland-Sutton had given a generous donation of £1,000. Lord Cheylesmore, one of those who responded to the toast, said he regarded the medical school as an integral part of the hospital; if any disaster overtook it the hospital would be equally affected. He urged more students to join the Officers' Training Corps, and thus enable the Middlesex Hospital to have its own company, instead of being combined with another hospital. The other toasts included one to "The Visitors," which, proposed by Mr. Andrew Clark, was responded to by Mr. Chevalier Ganz, who, as has been the case for many years past, supplied the diners with some excellent music. There was also an impromptu toast to Mr. Bland-Sutton. It was proposed by H.S.H. Prince Francis of Teck, who said that he had been asked by the students of the medical school to propose it in recognition of Mr. Bland-Sutton's generous aid in the matter of the athletic club. It was received with much applause, and after its brief acknowledgement by Mr. Bland-Sutton, and a toast to the Chairman, the formal proceedings came to an end.

UNIVERSITY COLLEGE HOSPITAL.

The opening of the winter session at the medical school of University College Hospital took place on October 1st, the event being celebrated by a dinner and a distribution of the scholarships lately competed for by new entrants and of the prizes awarded to existing students of the school for successful work during the past sessions. The proceedings commenced shortly after three o'clock in the library of the new school buildings in Gower Street, alongside the almost equally new hospital, and facing the old familiar frontage of the parent institution, University College, and terminated, so far as the afternoon was concerned, in tea and exchange of news in the board room, and a thorough exploration of the arrangements of the new building by those who had not had an opportunity of examining them before. Meanwhile, Dr. Batty Shaw, the Dean, gave a very satisfactory report of the history of the school during the past year, and the prizes were distributed by Sir John Tweedy, late President of the Royal College of Surgeons, and Emeritus Professor of Ophthalmology at University College. A notable point in connexion with this part of the proceedings was the remarkable success of Mr. C. E. Shattock, a son of the distinguished pathologist of that name. In addition to several prizes for class examinations he received both the Aitchison scholarship and the Bruce medal for proficiency in surgery and pathology. Finally, an address came from Sir John Tweedy, which will be found printed in full at page 1017 of this issue. The annual dinner of the old and present students of the school and hospital took place the same evening, but not, as last year, on the premises of the school itself. This year the Gaiety Restaurant was selected, and there some 126 diners assembled under the chairmanship of Mr. A. Pearce Gould, now senior surgeon of the Middlesex Hospital, but formerly a prominent student of University College. When a toast to the King and Royal Family had been given from the chair and duly honoured, Mr. A. E. Barker, senior surgeon to the hospital, proposed in appropriate terms the toast to "The Navy, the Army, and the Auxiliary Forces," coupling it with the name of Major C. G. Spencer, an old student of University College and now Professor of Military Surgery at the Army Medical College at Millbank. Major Spencer devoted his short and interesting speech to outlining in clear terms the leading principles of the Special Reserve Service and the fashion in which it was intended to use its members in case of need. The chairman himself took charge of the toast

of the evening, that to University College Hospital and its Medical School. In the course of his speech he gave an interesting account of the school as it was in his own time and of those who were his teachers. He spoke, too, of the recent loss which the school and hospital had sustained by the death of Dr. Radcliffe Crocker, and of the value of his work as a teacher and a leader of dermatology. The toast having been duly acclaimed was acknowledged on behalf of the school by its dean, Dr. Batty Shaw, who supplemented Mr. Gould's observations and his own report of the afternoon by some additional facts bearing on the recent past history and future prospects of the school and its students. A further item in the proceedings of a very pleasant evening was a toast to the chairman, which was proposed by Sir THOMAS BARLOW, senior physician to the hospital, and duly acknowledged by Mr. PEARCE GOULD.

ST. THOMAS'S HOSPITAL.

St. Thomas's, which, with its medical school at the southern end of Westminster Bridge, contrives by the extent of its buildings to balance even the Houses of Parliament on the other bank of the Thames, is among those medical schools which for some years past have abandoned winter session introductory addresses. This year it adhered to its rule on the point, so term commenced on Friday, October 1st, without formal ceremony of any kind, or anything to mark the event beyond the holding of the old students' dinner. This took place on the 1st of the month—not, as last year, at the Savoy Hotel, but at the Hotel Cecil, and brought together nearly 150 St. Thomas's men. The chair was taken by Mr. J. B. LAWFORD, ophthalmic surgeon to the hospital and lecturer on ophthalmology in the medical school; while the consulting physicians were represented by Dr. J. F. Payne, the consulting surgeons by Mr. B. Pitts and Mr. E. Nettleship; the physicians by Drs. S. J. Sharkey, T. D. Acland, H. B. Hawkins, and H. G. Turney; the surgeons by Messrs. C. A. Ballance and A. E. Robinson; the out-patient physicians by Drs. C. R. Box and A. E. Russell; and the out-patient surgeons by Messrs. Cuthbert Wallace, E. M. Corner, and P. W. G. Sargent. Other members of the staff present were Dr. W. W. H. Tate, obstetric physician, and Mr. J. G. Turner, the surgeon in charge of the dental department, while prominent among the guests was Professor William Osler, of Oxford. Mr. Lawford himself proposed the toast of the evening, and in doing so pointed out that although the pleasure of meeting old friends was great, their satisfaction was tempered on this occasion by a note of sadness. Several old friends had died during the year, and others whom they were accustomed to see at the annual dinners and elsewhere were on this occasion absent, and unfortunately through illness. Among the former was his immediate predecessor in the office of chairman, Mr. Wakley of the *Lancet*, and among the latter Mr. Clutton, their senior surgeon, and the popular treasurer of the hospital and strong supporter of the school, Mr. Gadesden Wainwright. He was glad, however, to note that they had among them as a hale and hearty father of the gathering Dr. L. W. Sedgwick, of Paddington, who dated his studentship at the hospital back to the year 1845. The toast was acknowledged on behalf of the hospital by one of the almoners, Mr. C. T. Harris, who was glad to be able to report that the harmony which had long characterized the relations between the medical staff of the school and the governing body of the hospital remained uninterrupted. The reply on behalf of the school came from the dean, Mr. CUTHBERT WALLACE, whose speech seemed to his many old friends pleasantly characteristic, even down to the flick with which he turned over his notes. The school, he noted, had done just as well as ever so far as examinations on the mental side were concerned, but in respect of physical exercises it had been somewhat unlucky on the whole. It did not come out as a winner at as many inter-hospital competitions as had been hoped would prove the case, but nevertheless it carried off the cricket cup, and also held the lawn tennis cup for six months, while Guy's had retained the latter for the first half of the year. The school had also proved its capacity on the golf green, and the inter-hospital championship at present stood to its credit. The whole evening passed off very pleasantly, and it was generally agreed that the honorary secretaries were much to be congratulated on the success of their arrangements.

ST. MARY'S HOSPITAL.

The ceremony by which work for the winter session was initiated at the medical school of St. Mary's Hospital on October 1st, included the reading of a report on the work of the school by its Dean, Mr. Clayton Greene, a prize distribution, and the delivery of an address. Both the latter duties were undertaken by Mr. H. A. MIERS, D.Sc., F.R.S., formerly Waynflete Professor of Mineralogy at Oxford, and since last year Principal of the University of London. He was introduced to the assembly by Dr. A. P. LUFF, who presided, and devoted the time at his disposal to a consideration, in broad outline, of systems of subjective and objective education. It was an attractive address, its main statements seeming reducible to the following propositions. Youth is the creative and inventive period of life, and though steady painstaking observation and accumulation of facts is always to be inculcated, it is a mistake—once general education has been completed—to insist too strongly on youth being treated as a time to be devoted solely to the absorption of other men's ideas, of preparation for some period of future performance. If men never undertake anything for themselves until they are fully and completely prepared for it, they will never get very far; some men become so obsessed with a notion of the necessity for preparation that they pass an existence of promise without ever attaining to performance. Education of this order, and also that which deems subjects in which pupils do not take an interest a specially useful form of mental training, lacks vitality, fails to supply that inspiration of ideas which does so much to lessen the drudgery of preliminary studies and stimulate later work. Young men should be encouraged to work out their own ideas, to form their own theories, and to be ready to abandon them when they find that facts do not fit in with them; to do all their work inspired by a restless desire to prove or demolish the theory on which it rests. Work uninspired by an idea is as aimless as a life uninspired by principles. Some modern educationalists seem to expect quite young children to take an interest in theories and first principles; but if this is a mistake it is equally erroneous to urge university students to devote the whole of their energies to provident but blind acquisition of knowledge for some unknown future use. To no one more than to the medical student who has to learn many different subjects and to pass many examinations is a spirit of research in all his work necessary. If he sometimes asks himself why he should be expected to devote so much time to chemistry, physics, and mathematics, and other subjects of no obvious utility when examination days are over, it is partly due to the narrowness of his own outlook, partly to the very zeal and excellence of the teachers of these preliminary subjects. One great fault in modern education at present is that each subject is taught on the same lines to all students alike. A mathematician teaches his subject as though all his students wished to become mathematicians, a chemist as though they wished to become chemists; and textbooks are written in the same spirit. Properly taught and properly studied in the case of medical students, these preliminary subjects ought not to be chemistry or physics or mathematics, but the chemical or physical or mathematical aspects of medicine and illustrations of the principles of that science, the materials and the tools by which its theories can be tested. Of all the branches of science with which a medical student is expected to be acquainted, including mathematics, there is none which cannot be taught and made interesting to him through his own special subject—the art and science of medicine to which he is eventually to devote himself entirely. It would no doubt be very satisfactory if the evolution of every medical man involved his being first a complete mathematician, then a complete physicist, then a thorough chemist, and so on through different stages; but life is not long enough for such a process, and the minds of few men are capable of containing so much knowledge. If it be objected that no one can form theories until he has a complete knowledge of facts, the reply is that every student or other person who endeavours to understand an experiment done

in his presence before its working is explained to him, or to grasp the why and wherefore of any fact or circumstance that he observes in his daily life, is in fact inventing his own explanation, or, in other words, supplying his own theory. The views put forward were illustrated and supported by references to known facts in the careers of several bygone masters of science. The day ended in a pleasant gathering of old and present students at the Café Royal, Dr. Milner Moore taking the chair.

THE LONDON HOSPITAL.

As has been the case during the past few years, the medical school carried on in connexion with the London Hospital dispensed with the formality of an address introductory to the work of the winter session, and nominally commenced work forthwith on October 1st. The day, however, was not allowed to go unmarked, for, as last year, dinner-gathering of old students was held in the evening and in the afternoon the Staff was "at home" to all old friends at the college. The old students' annual dinner used likewise to take place at the college, but more recently has been held in some restaurant. Last year the Savoy Hotel was selected for this purpose, and it was there that about 160 old students assembled last Friday evening under the chairmanship of Dr. F. T. Smith, one of the senior physicians. The toast list was commendably short, for, apart from the usual "Health to the King" and another to "The Patroness of the Hospital, Her Majesty the Queen," whose active interest in the institution is so unfailing and so beneficial, there was only one item, the toast to "London Hospital and its Medical College." This was given from the chair by Dr. Smith, who in the course of his remarks expressed the regret alike of the staff, the old students, and the school at the death of Sir Stephen Mackenzie. He also referred in corresponding terms to the retirement from active connexion with the school and hospital of Mr. Charles Mansell-Moullin, late Senior Surgeon. Another old-time and familiar member of the staff whose name was brought forward prominently was that of Sir Jonathan Hutchinson—the official recognition, by the conferment of a knighthood, of his great abilities, untiring scientific industry, and constant endeavours to promote the progress of the art of medicine and surgery had been warmly welcomed by his old colleagues at the hospital, of which he was now Senior Consulting Surgeon, and by the staff and pupils of the school with which he had been so long directly and indirectly connected. Another subject to which the Chairman drew attention was the work on the gastroscope recently done by two old students of the school—Dr. H. Theodore Thompson, now Assistant Physician and Pathologist, and Dr. H. S. Souttar, until recently a House Surgeon. This important research had been materially aided by a grant of money from the Research Fund lately founded at the hospital through the generosity of an enlightened but anonymous donor who gave £20,000 for the purpose. In conclusion, he drew attention to the Masonic Lodge which had been founded in connexion with the school and hospital, and whose existence, he thought, did not seem to be as yet sufficiently known to old London men.

[Several other reports which reached us too late for insertion in this issue will be published next week.]

LITERARY NOTES.

Messrs. Longmans and Co. will shortly publish a work, entitled *The Relations of Medicine to Philosophy*, by R. O. Moon, M.A., M.D.Oxon., F.R.C.P. It is described as an attempt to trace the influence exercised upon medicine by the current thought and philosophy of the day. Beginning with the pre Socratic philosophers, various important epochs in the world's history have been selected, showing the varying relations of medicine and philosophy. Thus some periods, such as those identified with Bacon and Descartes, have been strikingly favourable to the progress of medicine; others, like the Middle Ages, markedly the reverse. In particular, Dr. Moon deals with the influence of early Christianity, which he says has been favourable to medicine viewed as an art, though inimical to its progress as a science. The German philosophers of the latter part of the eighteenth century are represented as having enlarged the intellectual horizon of medicine, while the tendency in more modern times for medicine to become isolated from philosophy is dwelt upon. Special chapters are devoted to Galen, Arab medicine, and Paracelsus.

The October number of *Travel and Exploration* (the first under the new editorship) covers a fairly wide field, ranging from the Far North to the Far East. Especially noteworthy are the narratives of two of the greatest explorers of the day in their respective fields, Dr. M. Aurel Stein and Knud Rasmussen. Dr. Stein describes a remarkable journey through the arid wastes of Chinese Turkestan, across the "Sea of Sand" (the picturesque native sobriquet for the Taklamakan Desert). Knud Rasmussen, the greatest living authority on the Esquimos, writes a brilliant little impressionist sketch describing a long journey on ski with a Lapp caravan. Passing from the Frozen North to the luxuriant tropics, the reader is introduced to the ex-Queen of Java by Miss Scheltema, a Dutch authoress, who is a keen observer and an experienced traveller. Readable accounts of travel and experiences in Palestine and Cyprus are furnished by Mr. F. G. Aflalo and Mr. Justice Bertram. Finally, Mr. Elliott Stock describes very vividly a dangerous climb of the Great Gable "chimney" in the English Alps region, an article which will appeal to mountaineers in general and rock climbers in particular.

A doubt has always hung over the death of Jean Jacques Rousseau. It has been said, among others by Madame de Staël, Villemain, Grimm, and many others, that he committed suicide. There is nothing intrinsically improbable in this, as it is certain that the Citizen of Geneva was mad in the later years of his life. In 1866 Dr. Dufour of Amiens, Perpetual Secretary of the Académie de Médecine, treated the fact of suicide as proved, and since that time it has been generally accepted. The question has, as we learn from an article by Dr. J. Noir which appears in the *Progrès médical* of September 25th, recently been fully discussed by Dr. Fabien Girardot in a work entitled *La Mort de Jean Jacques Rousseau*, published by Maloine of Paris. He passes all the available evidence in review. He holds that Madame de Staël's hypothesis that Rousseau made away with himself on discovering the infidelity of Thérèse Levasseur is untenable, as Jean Jacques's feeling for her had become one of such indifference as to exclude jealousy. Grimm believed that Rousseau was driven to suicide by the fear that his *Confessions* would be published prematurely—a conjecture still more improbable, as he evidently took a pride in revealing himself to his fellow men. Dubois thought that the cause was insanity. There is, however, the evidence of his doctor, Le Bègue de Presle, that in his very last days Rousseau found at Ermenonville a serenity and peace of mind which seemed to warrant the hope that he would live some years. The cause of death is believed by M. Girardot to have been not a pistol shot through the head, but apoplexy due to uræmia. The wound which is visible in the death mask taken by Houdon is believed to have been due to an injury received when he was struck down.

We have received a reprint of a fine address delivered at the Massachusetts General Hospital on the sixty-second anniversary of Ether Day by Professor William H. Welch, of Johns Hopkins University, Baltimore. The history of anæsthesia was told in detail in the British Medical Journal of October 17th, 1896, and there is little in Professor Welch's address that may not be found there. In the following passage, however, he does justice to the claims of Dr. Crawford W. Long as a pioneer of anæsthesia. As these have often been ignored, we quote the tribute paid by Professor Welch to his memory.

> The honour of making the first trial of anæsthetic inhalation in surgical operations belongs to Dr. Crawford W. Long, a respected and honourable country doctor, then living in Jefferson, Jackson County, Ga., who, in March, 1842, removed painlessly a small tumour from the neck of James M. Venable, anæsthetized by ether. He seems to have performed at least eight minor surgical operations during the next four years upon patients under the influence of ether. Dr. Long is necessarily deprived of the larger honour which would have been his due had he not delayed publication of his experiments with ether until several years after the universal acceptance of surgical anæsthesia. It is also to be regretted that his published details of the mode of administering the ether and the depth of the anæsthesia are so meagre and unsatisfactory. While the accepted rule that scientific discovery dates from publication is a wise one, we need not in this instance withhold from Dr. Long the credit of independent and prior experiment and

discovery, but we cannot assign to him any influence upon the historical development of our knowledge of surgical anæsthesia, or any share in the introduction to the world at large of the blessings of this matchless discovery.

Long's work, though published by himself in 1849, and more fully in 1852, was not made generally known to the profession until 1877, when he found a *vates sacer* in Marion Sims. We may be allowed here to reproduce some of Weir Mitchell's lines on the fiftieth anniversary of anæsthesia quoted by Professor Welch, although they have already appeared in the JOURNAL:

> Whatever triumphs still shall hold the mind,
> Whatever gift shall yet enrich mankind,
> Ah! here no hour shall strike through all the years,
> No hour as sweet, as when hope, doubt, and fears,
> 'Mid deepening stillness, watched one eager brain,
> With Godlike will decree the death of pain.

Authors often find fault with their illustrators for obvious mistakes, as for instance, for giving a character two right feet, or for glaringly misconceiving or misrepresenting the text. But writers themselves are not exempt from human frailty in this matter. Our English writers are often enough careless, but, knowing the enormous importance attached by French writers to minute accuracy of detail, we are surprised and amused by some examples gathered by Dr. Bougon and published in the last number of the *Chronique Médicale*. Thus Paul de Saint Victor tells us that the prophet Ezekiel read with one eye and wrote with the other. Alexandre Dumas in *San Felice* gives a thrilling description of an obstetrician holding between his teeth a handkerchief in which the newborn babe was wrapped, and a pistol in each hand. As if this athletic feat were not enough, he is represented as hurling himself head first into the middle of a crowd, crying out through his clenched teeth, "Room for the dead mother's child!" Ponson du Terrail describes a handsome old man as walking in his garden with his hands behind his back, reading a newspaper. Alfred de Musset speaks of the mouth keeping silence that it may listen to the heart speaking. This may perhaps be forgiven on the score of poetic licence; but what are we to say of Alexis Bouvier who, having mentioned a phial considerably earlier in the narrative, describes a wretch as throwing himself on the child, seizing its head and emptying *its* contents into its mouth? The most striking example of all is taken from Flaubert, who was nothing if not meticulously exact in his descriptions, and who yet tells us in *Madame Bovary* of some one who received as a birthday present "a fine phrenological head, all painted blue and marked with figures down to the—thorax!"

Human nature is always the same, whether arrayed in the velvet and lovelocks of the Restoration or the frock-coat and top-hat of to-day. In common with the rest of mankind, Samuel Pepys, most human of men, suffered from periodical fits of tidiness, when he turned out drawers and desks, and expended much time and energy in sorting and destroying old papers. An entry in his diary dated December 31st, 1664, reads thus:

> This Christmas I judged it fit to look over all my papers and books; and to tear all that I found either boyish or not to be worth keeping, or fit to be seen, if it should please God to take me away suddenly. Among others, I found these two or three notes, which I thought fit to keep.

Amongst these notes are the following charms:

CHARMES.

1. *For Stenching of Blood.*
Sanguis mane in te.
Sicut Christus fuit in se:
Sanguis mane in tua vena
Sicut Christus in sua poena;
Sanguis mane fixus.
Sicut Christus quando fuit crucifixus.

2. *A Thorne.*
Jesus, that was of a Virgin born.
Was pricked both with nail and thorn;
It neither wexled, nor boyled, rankled nor boned.
In the name of Jesus, no more shall this.

3. *A Cramp.*
Cramp be thou faintless.
As our Lady was sinless.
When she bare Jesus.

4. *A Burning.*
There came three Angells out of the East;
The one brought fire, the other brought frost—
Out fire; in frost—
In the name of the Father, and Son, and Holy Ghost.
Amen.

Pepys does not tell us where or when these charms came into his possession, or anything of their history. They are obviously of Christian origin. But long before the Christian era spells were in use for the cure of disease. So hard-headed a man as the elder Cato—he of the *atrox animus*—gives a number, and Dr. Payne in his FitzPatrick Lectures for 1905 (*English Medicine in the Anglo-Saxon Times*) cites several of Pagan origin and others in which Scriptural names, heathen mythology, and old Teutonic folklore are mixed up. Doubtless, in patients of suitable mental constitution suffering from diseases curable by faith, these charms did good in the same way as those of Christian Science do under like conditions at the present day.

Medical News.

THE first meeting for the session of the Medical Society of London will be held on Monday next, when the incoming president, Dr. Samuel West, will deliver an address at 8.30 p.m.

MR. W. A. MEREDITH, of Little Massingham Manor, Lynn, Consulting Surgeon to the Samaritan Free Hospital, London, has been placed upon the Commission of the Peace for the County of Norfolk.

PROFESSOR WILLIAM WRIGHT will read a paper before the London Hospital Medical Society on Some Problems in Teratology. The meeting will be held on Thursday, October 21st, at 8 p.m., in the anatomical theatre of the Medical College.

THE annual meeting and festival of the Birmingham Ward of the Guild of St. Luke will be held on Wednesday, October 27th, at 8 p.m., at Holy Trinity Church, Coventry, when the festival sermon will be preached by the Lord Bishop of Worcester. All medical practitioners in the district are invited to attend.

FURTHER experiments have recently been conducted by the British Fire Prevention Committee with the object of obtaining precise data as to the fire resistance of treated flannelette after many washings, and of devising some easy method of rapidly proving the precise resistance of flannelette sold as non-inflammable. An illustrated report will shortly be issued.

THE next meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, October 12th, at 4 p.m., when Dr. Milne Bramwell will open a discussion on Suggestion and its Rôle in the Treatment of Inebriety.

THE first Hunterian Lecture of the Hunterian Society is to be delivered at 8.30 p.m. next Wednesday, October 13th, at the London Institute by Dr. Sidney Martin, who will discuss certain infective processes in the intestine and their results and treatment. All members of the profession are invited to attend.

IN his address next Monday, on the occasion of the opening of the winter session at the West London Post-Graduate College, Dr. Theodor Schott, of Nauheim, will deal with some further investigations on the subject of acute overstraining of the heart. Tea and coffee will be served at 4.15 p.m., and the address delivered at 5 o'clock.

MRS. SIDNEY WEBB has given notice on behalf of the National Committee to Promote the Break-up of the Poor Law that application for tickets for a meeting at St. James's Hall, London, on Tuesday next, "to inaugurate the Minority Report campaign," have been so numerous that it has been arranged to hold a second meeting on November 16th, when the Earl of Lytton will preside. Tickets for this second meeting can be obtained on application to her at 5 and 6, Clement's Inn, W.C.

A HOME for the treatment of lupus will be opened shortly in Vienna. It will be first of its kind in the Austrian Empire. No other cases will be received. The treatment will be in the hands of a special staff, the members of which are now undergoing instruction in the Lupushellstätte of the general hospital in Vienna. Treatment will be free to all patients sent by hospitals; if a private practitioner sends a patient, a small charge will be made. The hospital will contain twenty-four beds, to accommodate surgical cases, and five sets of Finsen apparatus, together with x-ray apparatus. A home for patients coming from abroad will also be provided for. The expenses will be met partly by the State, partly by charitable contributions.

British Medical Journal.

SATURDAY, OCTOBER 9TH, 1909.

THE POOR LAW COMMISSION REPORT AND PROVIDENT DISPENSARY SCHEMES.

THERE seems to be some ground for fear that discussion of the Poor Law Commission report may be obscured by considerations of almost a party political character, and it is, therefore, with some regret that we observe the propagandism that is being carried on by supporters of the Minority scheme. Meetings are being organized all over the country, personal letters to Poor Law officers and to private individuals are being sent broadcast, with copies of a speech by Mrs. Webb and with leaflets advocating the Minority and attacking the Majority scheme. The slightest reflection will show how calamitous the result might be. A special committee of the British Medical Association is now considering the whole subject, and it may be relied upon to take an impartial view of every question. Meanwhile, however, it would be impossible, even if it were desirable, to prevent discussion, and it has been thought necessary to draw attention to what must be considered certain too confident statements and claims made on behalf of the Minority scheme. To allow them to pass unnoticed might, perhaps, suit certain propagandists, but it would tend to defeat the object of the special committee which is to sift thoroughly all sides of the subject. But we wish it to be definitely understood that we hold no brief for either the Majority or the Minority report. The characteristic of the Majority report is its attempt to develop individual responsibility, while the Minority aims more especially at stimulating the consciousness of social obligations. Both of these are excellent objects, and it may be said that each report is strongest where the other is weakest. That being so, why cannot we adopt the best points from each report and from the special memoranda, so far, of course, as they are not incompatible? The more this idea is considered the more we are convinced that in that direction will be found the best solution of the problems, and that a systematic eclecticism will be infinitely preferable to a slavish adhesion to either one or the other report.

Pursuing now what we claim to be an impartial examination, we come to consider certain serious points in the Majority Report, and first and foremost is the Provident Dispensary scheme. The Minority Report has rightly described in scathing terms what is called "medical demagogy," and none know so well as medical practitioners the evils of club practice, which rival in their absurd and demoralizing character the out-patient departments of many voluntary hospitals. But while all the evils of club practice must be recognized, it is one of the greatest merits of the Majority Report that it fully recognizes the need for fostering self-provision against sickness. It is by no means easy, however, to state in definite terms what the Commissioners intend. The suggested functions of the Public Assistance Authority include one thus described: "A general system "of provident dispensaries shall be organized, "of which existing voluntary outdoor medical "organizations shall be invited to form an integral "part." Mr. Loch, one of the Majority Commissioners, in addressing the Poor Law Medical Officers' Conference, said that the Majority scheme "proposed to merge provident dispensaries and sick "clubs in the Poor Law." It is true that he went on to say, what seems hardly compatible with this, that "the provident system would remain independent of "the Poor Law or public assistance, but the Public "Assistance Authority, acting on behalf of the com- "munity at large, would *'play up to'* the dispen- "saries;" and further on he said that "the division "actually in force would continue at least for some "time." From these somewhat conflicting statements no very clear idea can be got as to the exact relations that are proposed between the State and the dispensaries. There is sufficient material, however, on which to base some criticism, though it must be remembered that the Commissioners advise that the British Medical Association should be invited to suggest a scheme.

Now, at first sight, it may seem to be an attractive prospect to general practitioners that all persons below a certain wage limit, including not only the destitute paid for by the State, but the lower working classes paying for themselves, should be members of a vast provident dispensary system, the medical staff consisting of all medical men who are willing to act. It would seem to offer the chance of fewer bad debts among the working classes. But, on closer examination, its attractiveness is greatly lessened.

In the first place, there is one characteristic of the scheme of the British Medical Association for provident dispensaries which seems to be essential—namely, that its efficiency will depend on the management being kept entirely in the hands of the medical profession. That this should be so we regard as quite reasonable. Whatever may be said by some of the friendly societies, club practice must be regarded as a form of medical charity. The advantage to the patients is out of all proportion greater than the advantage to the doctors, and the difference, whatever it amounts to, is pure charity. That being so, it is not unreasonable that it should be a fundamental part of the provident dispensary scheme of the British Medical Association that medical men should keep in their own hands the entire control and management. The question then arises, Would proper control be retained if the provident dispensaries became part of a State service? The answer cannot be doubtful—the profession would lose such control.

It may be observed that the Majority Report does not propose that the dispensaries should be completely absorbed into a State service. Nevertheless, it is certain that any connexion whatever with the State, even short of complete absorption, means partial State control with various concomitants which need careful consideration. If it were simply proposed that the State should pay the subscription for only the aged and widows with young children, the only classes of persons actually mentioned, even then it must be remembered that the State cannot discharge its liabilities by simply paying the fees. The public will properly demand a right of inspection, and records of attendance and treatment will be required. That involves extra work, which must be paid for, and apart from that we must here again remember that club work is charitable work, and it may well be asked if medical men are to give their charity to the State. If not, then it would seem to follow that the fees for State patients must be higher than those paid by the

working classes. But even supposing this matter of fees satisfactorily arranged, the liabilities of the State will not yet be discharged. The question of food and medical extras still remains to introduce fresh complications. We may ourselves have a high consciousness of the integrity of medical men, but we cannot neglect the objection of the Minority Report that if there is free choice of doctor the number of State patients that any individual doctor would get would depend on the freedom with which he ordered special food, and medical extras, such as brandy, and there would be some temptation to gain popularity by laxness in condemning bad personal habits and hygiene. It is suggested that the right of choosing the doctor might be reserved for those who paid their own fees, the State patients being allotted equally among the staff; but even then the public might very probably object to medical practitioners being able to order food and extras at the expense of the State unless they were under the strict control of the State. It is useless to say that a relieving officer would see to that, for no layman dare interfere with medical orders, except by sending the patient into an institution which would often frustrate the very object of the provident dispensary.

But something far more than this is plainly foreshadowed. A time would seem to be foreseen when all the poor would be members of a provident dispensary, so that it would be possible to do away with the district medical officers. It is true that Mr. Loch thinks that in urban and populous districts this is "rather visionary," but how far it is "visionary" depends on several factors. We imagine it would be blind optimism for the State to depend on poor people voluntarily joining a provident dispensary, for it is practically certain that, with all the inducements that can be offered, a large proportion of the lowest classes could not—or, if they could, would not—join if they had to pay their own subscription. What would happen would be simply this: in some districts authorities with exaggerated ideas about the value of deterrence, would give few, if any, paupers the privileges of a provident dispensary, and the district medical officers would be retained. In other districts, however, authorities with strong ideas about the stigma of pauperism would soon enrol all their destitute in a provident dispensary, and there would be no need for the district medical officers—in fact, their fate would be as settled as it would be under the Minority scheme, where, according to Mrs. Webb, none but whole-time medical officers are intended. There are not wanting those who think that both reports intend to abolish part-time district medical officers. We do not hesitate to say that no necessity has been shown for so radical a change. If and where their work has been unsatisfactory, the fault is admitted to be due to other conditions, not to the fact that they are part-time officers.

There are dangers, too, with regard to the wage limit. A uniform limit can hardly be fixed for the whole country, owing to the different conditions, and there would be a constant struggle between authorities, who are always ready to favour the public, on the one side, and medical men, who are not always united enough to resist exploitation, on the other. We need hardly point out how disastrous to private practitioners such raising of a wage limit might be. It is, indeed, very doubtful whether the profession would not find the public authority as hard, if not a harder taskmaster than the friendly societies are now, both in this and other particulars. It is on this account that it is so important that the control of the dispensaries should remain entirely in the hands of the profession.

We do not here discuss the opposition that would certainly be raised by the friendly societies to the scheme. But looked at from the standpoint of the public, it may well be asked: Is ordinary club practice as carried on to-day suitable for a State service? That it would not be a complete service is self-evident, as it takes little or no note of the prevention of disease. But it may be argued that though prevention and cure may well be functions of one and the same authority, there should be separate individual workers for each. But even if that were granted, it is certain that neglect of hygienic and dietetic treatment, perfunctory examinations, and that treatment which consists in a bottle of medicine with a scrap of advice thrown in, ought not to be tolerated in any service managed or even subsidized by the State. Some difficulty might also arise from the fact that clubs generally refuse to treat certain diseases such as syphilis, alcoholism, etc., and also that persons who are already sick or have some constitutional weakness are excluded by an entrance examination. The ordinary arrangement for the latter cases is that an extra fee for admission is charged. This would be an enormous cost to the State as so large a proportion of persons first apply for assistance only when already sick.

We have by no means exhausted the list of problems that would have to be settled under any scheme of provident dispensaries receiving State patients. We believe the feeling of the profession is one of the strongest sympathy with the desire of the Majority Commissioners to foster self-providence. At the same time we agree with the staunchest supporter of the Minority Report that a huge system of State-conducted medical clubs on the models of the ordinary existing clubs would be a calamity both to the community and the medical profession. Provident dispensaries conducted on the lines laid down by the British Medical Association might do much good, and not least in helping to reform existing clubs; and Mr. Loch's pregnant remark that a Public Assistance Authority might well "play up to" such dispensaries opens up a vista of possibilities that no doubt will receive fullest attention from the Association. But we cannot escape from the conviction that while co-ordination and co-operation between the State and voluntary medical agencies is eminently desirable, and indeed necessary, too much dependence ought not to be placed by the State on agencies which are always variable and often unreliable both in quality and extent.

THE SERUM TEST FOR SYPHILIS.

To solve a problem involving half a dozen variables is a game not worth the candle unless the results are to prove of very great value. In the case of the serum diagnosis of syphilis it is manifest, from the enormous number of papers published since Wassermann and Detre broached the question in 1906, that the highest importance is attached to the demonstration of its feasibility. If it be found possible to anticipate the clinical recognition of recent infection, if the existence of latent disease can be demonstrated in the absence of all overt evidence, if the differential diagnosis of an obscure lesion can be completely simplified, if a reliable measure of the efficiency of treatment can be provided, if a qualitative and quantitative estimate of the virus present in any given case can be obtained—then the establishment

of therapeutic control over syphilis will be much nearer accomplishment than is that of tuberculosis, for instance.

This point has not yet been reached, but everywhere pathologists betray great energy in striving after it. Objections to the original method of Wassermann have been epitomized by Schlimpert.[1] "It is too complicated; too many controls are "necessary; too much material is required; the "results are uncertain." To this indictment may be added the drawback that the expense of its employment in private cases must be considerable.

The majority of the named modifications already in the field aim at simplification. The method of Noguchi does not come into this category, but it is worthy of remark that Howard Fox,[2] Noguchi's collaborator and a warm advocate of this particular procedure, writes: "It is only fair, however, to say "that at present the two methods give fairly parallel "results in the writer's hands."

This is not by any means the only example of an admission—only to be expected where a laboratory method is introduced that involves delicate manipulations and depends upon complex theoretical considerations—an admission that the results, obtained after considerable experience with any one method, tend to exhibit greater uniformity. This is really a hopeful sign, because there is hardly one of the variants of the Wassermann test that has not given excellent results, and yet each one has been vigorously condemned by the adherents of rival modes.

The phenomena involved are not such as to permit classification of the test as an example of the Bordet-Gengou reaction which engendered the idea, but Flashman and Butler, whose able and thoughtful paper is published at page 1019, give reasons for thinking the relations at first believed to exist have been too lightly divorced, and that appreciation of an immediate chemical basis should not exclude from consideration the biological source of the agents involved. Extracts of normal organs and other substances, not competent "antigens," prove to be competent components of the test system. Extracts of syphilitic organs may or may not be better materials than known lipoids, such as lecithin. The quantity and quality of "natural" amboceptor and complement potent in human blood for given corpuscles, may or may not be as easily estimated and controlled as is the case with artificial products. Opinions as to the rapidity of deterioration of complement differ widely. Indeed, there is no limit to the divergencies of observations on each of the details.

Another hopeful sign is that most workers can find a method which in their own hands will give a satisfactory result. Thus Fox, with the Noguchi test, obtained 87 per cent. positive results in manifest syphilis, 62 per cent. positive in cases of syphilis without manifestations, and of 23 non-syphilitic cases the only 2 which gave positive results were instances of leprosy. Leprosy and framboesia, it may be mentioned, are recognized exceptions to the specificity of the reaction; cachexia, which Schlimpert and others found to give positive results with Stern's method, and scarlet fever, which König,[3] using Hecht's modification, accused of vitiating his results, have not proved bugbears to other observers.

It would be easy to multiply examples of the thousand and one pitfalls besetting the investigator of this problem, but it is enough to say that every day advances are being made that will speedily bring the test into daily use.

No one has evinced much clearer appreciation of the factors involved or has projected a simpler *rationale* than Fleming.[4] Criticisms of his plan, which is based directly on that of Hecht, have been chiefly theoretical, but Bassett-Smith's[5] comparative examination of the method throws some doubt on its reliability. His routine requires nothing not easily obtained, and no more than an ordinary laboratory education, whilst the results afford a most striking demonstration. The records with known syphilitics and with those in whom syphilis could be excluded with some degree of probability compare favourably with those given above by Fox, and even with those of MacDonagh, Muller, and Morawetz,[6] who, however, have investigated a very much larger series of cases. Flashman and Butler now furnish statistics for the Wassermann test proper which hardly admit of improvement, but there is room for further simplification before the test can be employed to anything like the extent its usefulness demands.

[1] *Deut. med. Woch.*, August 12th, 1909, p. 1386.
[2] *The Journ. of Cut. Dis.*, August, 1909, p. 338.
[3] *Wien. klin. Woch.*, August 12th, 1909, p. 1127.
[4] *Lancet*, May 29th, 1909, p. 1512.
[5] British Medical Journal, August 14th, 1909, p. 377.
[6] *Practitioner*, September, 1909, p. 307.

THE UNIVERSITY AND THE MEDICAL SCHOOLS OF LONDON.

The first days of this month have seen the opening of another winter session, and by the time these lines appear several hundreds of young men throughout the country will be beginning to realize something of the difficulty of the work which lies before them. Meanwhile at least an equal number of old students have foregathered once more under the aegis of their *Alma Mater*, and while all have listened to after-dinner speeches, a proportion have been present at introductory addresses, which are still popular at certain schools and faculties, and if few now in number, show no falling-off in quality.

One of them, that of Sir John Tweedy, appears in full in this issue, and of others, such as those of Dr. Rolleston, Mrs. Garrrett Anderson, and Principal Miers, some account will be found elsewhere in this issue. It is not, however, to these various deliverances—reminiscent, analytical, or hortatory—that we desire to direct attention in this place, but rather to a dictum in the report on the work of his school, read at Charing Cross Medical School by its Dean, Mr. F. C. Wallis. It referred to the influence of the University of London on the London medical schools, and will be found reproduced in an article on page 1079.

Both Mr. Wallis's discontent with the present and his fears for the future we are disposed to regard as well founded. To put their gist briefly, parents are proving in increasing numbers each year that they do not consider it good policy to enter their sons at medical schools in London when, by entering these same sons at Scottish, Irish or provincial schools, they can be certain that they will blossom, in due course, into degree-holders at the cost of no greater expenditure of industry, time and money, than are required to obtain the diplomas of the licensing corporations.

A university degree has a very definite value in the public mind, so that the parent's view is quite natural. It may be said, of course, that a student who begins

his medical course in London need not necessarily aim only at the diplomas of the English Conjoint Board, but in a large percentage of cases this is practically the only course open to him. It is not that the professional examinations for the medical and surgical degrees of the university are too difficult. On the contrary, now that the courses of study have been rendered less rigid and brought more into touch with the real requirements of a medical student's education, these examinations present no greater obstacle to a fairly diligent student than do the corresponding tests imposed on those seeking the Conjoint diplomas of the Royal College of Physicians and the Royal College of Surgeons. The trouble lies in the matriculation examination, which we have ventured on more than one occasion to call an antiquated barbed-wire fence. It is not that the ostensible standard in any one subject is so high that a fifth or sixth form boy who has turned his opportunities at school to good advantage ought to have cause to fear failure, but all five subjects selected have to be passed together, and this, in the opinion of public school masters, demands in the case of most boys at least some degree of special preparation. Furthermore, the examination as conducted is so tricky that a master cannot take it for granted that even his best boy will pass. No fence imposed between boys in the upper forms of public schools and universities should be of this nature. Moreover, many boys in every way likely to make excellent medical men leave school before their future career has been determined. If later on they decide to take up medicine they find that, so far as the University of London is concerned, the door is closed to them by the matriculation examination.

We hold no brief for the London medical schools, but should regard it as a real calamity if London ceased to be one of our chief training grounds alike for consultants and general practitioners. London possesses the raw material for one of the greatest centres of medical education in the world. The public has benefited from the existence of flourishing medical schools in London not only by the opportunities it affords for practical clinical teaching, but to an extent which it in nowise realizes by the presence in its midst of numbers of young medical men engaged in teaching in the schools, and of consultants who are constantly having their minds revivified and their methods kept up to the mark by daily exposure to the criticism of eager, well-informed young students. This advantage London will lose if the tide in the number of entries continues to ebb.

The reference to the Royal Commission appointed last February, with Mr. Haldane as chairman, is very wide. The Commission is empowered to recommend any changes in the organization of the university which may appear to it to be desirable, and in making its recommendations it is specifically instructed to have regard to the provision of facilities for the best education—general, professional, and technical—for persons of either sex above secondary school age. It seems, therefore, abundantly clear that it will be competent for the Commission to receive evidence from the London medical schools as to the means by which the medical degrees may be made more accessible to London students, and it is most satisfactory to find that the dean of one of the schools at least is impressed with the necessity of bringing to notice the defects of the matriculation examination, which are, as he says, well known to all. The defenders of the present system are accustomed to point to the great number of candidates who seek to pass the matriculation examination: but it is well known that a very large proportion of these persons merely require for some reason or other a certificate of general education; they desire to pass the matriculation examination for this reason, but have no intention of proceeding to a degree. Of such candidates many intend to enter the scholastic profession, and it is, of course, very desirable that the university should encourage their ambitions. We submit, however, that the proper way to afford this encouragement is not by imposing upon all would-be undergraduates a matriculation examination which is far more a test of mere knowledge and memory than of the ability to learn, but that a better method of meeting their needs would be to institute a special examination which might include some elementary test in pedagogics.

Before the Royal Commission was appointed the Royal Colleges in London, on the recommendation of a special joint committee, resolved to approach the university with the view of coming to an arrangement under which the university, while retaining all its existing rights as to the granting of degrees, should consent to exercise them as regards pass degrees conjointly with the Royal Colleges so far as students who have spent not less than four years in study at London medical schools and hospitals are concerned. Among the advantages claimed for this plan were that the average London student would be able to obtain the degree of Doctor of Medicine, that medical education in London would become more systematized, that there would be a reduction in the number of examinations, and that the expenditure on them would be diminished.[1] Unfortunately, as we think, this report made no reference to the matriculation examination; it suggested that the colleges should be associated with the university only in conducting the preliminary scientific, intermediate, and final examinations for the pass degrees in medicine and surgery. The Royal Colleges will no doubt place their views before the Royal Commission, but it is essential also that the obstructive effect of the matriculation examination should be brought to its notice, and it is to be hoped that the statement of the Dean of the Charing Cross Medical School means that the representatives of the medical schools will do this. If the matriculation is not modified, there can be little hope that the expectation expressed by the Royal Colleges that by the plan they propose the average London student will be able to obtain the degree of M.D. will be fulfilled.

Finally, it may be pointed out that, though the university is at present hitting by its matriculation examination chiefly the medical schools, there is reason to anticipate that before long it will be found to be hitting the whole of its faculties and constituent colleges and itself. Until within recent years, it enjoyed a sort of monopoly with regard to young men and young women who could not afford to go to Oxford or Cambridge, but desired some university recognition, whether for their own satisfaction or as evidence to possible employers that they had attained a certain standard in the subjects of general education. During the last few years half a dozen universities have arisen in the provinces, and those who want to get university degrees or certificates of one sort or another will presently come to the conclusion that it is preferable to get them from Liverpool, Manchester, Leeds, Birmingham, Sheffield, Bristol, or Wales, rather than from London, if dealing with London means working for an examination badly conceived and worse conducted.

[1] British Medical Journal, vol. i, 1909, p. 507.

FASTING PRISONERS AND COMPULSORY FEEDING.

We publish elsewhere three letters relating to an article on this subject which appeared in the JOURNAL of October 2nd. A discussion on the political aspects of the question which is agitating Mr. Keir Hardie and the supporters of militant suffragism would be out of place here, but a few points may be noted. Mr. Mansell Moullin says the Government is acting vindictively because it feels that it has made a mistake. It is equally open to an advocate of the other side to say that the outcry against compulsory feeding is caused by anger at the failure of tactics which it was hoped would embarrass the Government. Dr. Edkins accuses us of bias: this charge we simply deny. It is not bias, but a sense of justice, that leads us to wish that persons who throw slates at policemen and stones at railway carriages should not be allowed to escape the penalty attaching to such conduct because they happen to be women. Dr. Edkins admits that the women who refused food should be punished: but he does not tell us what form of punishment should be used. Does he think that the "good whipping" which Queen Victoria said should be inflicted on a great lady of whom she disapproved would meet the case? In default of that, we do not see what can be done. The prison authorities are responsible for the well-being of those committed to their charge, and they would be guilty of criminal negligence if they allowed a prisoner to commit suicide or deliberately injure his health. If women think it necessary to break the peace by way of vindicating what they believe to be their political rights, they must be prepared to take the consequences. While saying this we wish to protest in the strongest manner against the endeavour that has been made by the Home Office to shift the responsibility on to the shoulders of the medical officers. Mr. Masterman stated in the House that the Home Secretary had been advised on good medical authority that no serious injury was to be apprehended in any case of the kind, even if the treatment had to be prolonged for some considerable time. It may, therefore, be taken as certain that compulsory feeding must have been expressly sanctioned by the Home Office before it was carried out, and the Home Secretary has shown what we can only call contemptible pusillanimity in seeking to shelter himself behind his own official subordinates. In the great struggle that took place about Mr. O'Brien's breeches, Mr. Balfour, to use a historic phrase, "faced the music." We commend his example to Mr. Gladstone. Compulsory feeding in the circumstances must be as unpleasant to the medical officer as to the prisoner, and if the whole responsibility is to be thrown on him, he will find himself face to face with a divided duty—that which he owes to his patient and that which he owes to his official superiors. The Home Office has no right to place him in this cruel dilemma.

THE RIGHTS OF MEDICAL WITNESSES.

According to a report in the *Daily Telegraph* of September 30th, a medical practitioner, subpoenaed to give evidence at the City of London Court, who before being sworn, had objected that his lawful fees had not been paid, was told by Judge Rentoul, K.C., that "although not bound to come under the circumstances, being there he must give his testimony." The witness said he was unaware that this was the law, and it must be confessed that this *ignorantia legis* is common to the whole medical profession. As it is a legal aphorism that "*Ignorantia legis neminem excusat*," it would be well that this dictum of Judge Rentoul should be examined, and that it should be made clear whether this latest judicial decision is in accordance with the law of the land. In Glen's manual of the *Laws Affecting Medical Men*, p. 288, we find in reference to the duties of the medical witness: "His reasonable expenses should be tendered to him when served with the subpoena, and even though he actually appear, he cannot be attached for declining to give evidence, unless these charges be paid or tendered, but the objection that his expenses have not been paid must be raised before he has been sworn." Again, in the *Law Relating to Medical Practitioners*, by Craven and Coppock, it is laid down on the same subject, p. 229: "The witness has also another remedy, to refuse to give evidence till compensated for his loss of time, but such objection must be taken before the oath is administered." If the dictum of Judge Rentoul is sound law, the inaccuracy of the above-quoted authorities is sufficiently obvious, and it would seem that the medical witness has no protection in the county court, but may be improperly brought there and then compelled to give his evidence. It may be that county court practice in this respect substantially differs from that recognized in the other tribunals of the country. The matter, however, is sufficiently important to require further elucidation, and in the meanwhile we respectfully dissent from Judge Rentoul's interpretation of the law on this subject.

COURT-MARTIAL ON A FLEET SURGEON.

In the *London Gazette* of October 1st there appears the following announcement: "In accordance with "Her late Majesty's Order in Council, dated April "1st, 1881, Fleet Surgeon Charles Geekie Matthew, "M.B., has been placed on the Retired List at "his own request. Dated September 30th, 1909." Fleet Surgeon Matthew's retirement is doubtless the outcome of the court-martial, a report of which appeared in the JOURNAL of September 25th, p. 921. He was charged with behaving with contempt towards Commander Richard H. Walters, his superior officer, and with wilfully disobeying his orders. The charges were trivial in themselves, and the whole case against Fleet Surgeon Matthew was of the flimsiest description. The evidence of the commander was not supported by his own subordinate officer, a fact which in itself, in view of the system of terrorism which goes by the name of discipline in the navy, speaks volumes. His own admissions show that he behaved with impertinence to a man his equal in rank and his senior in age. Fleet Surgeon Matthew was acquitted. This, again, is, as Carlyle would have said, "significant of much." To the average man it must, we think, appear that the natural sequel would have been the retirement of the executive officer whose behaviour on this occasion, as shown by his own evidence, would seem to the civilian mind to raise the question whether he is fit for independent command. Fleet Surgeon Matthew, having no chance of redress, has shown his sense of the treatment of which he was the victim in the only way possible to him. The net result of the incident is that the Navy has lost a first-rate officer. However much we may deplore his decision, we cannot affect to be in any way surprised at it. We have published one or two letters, the general tenor of which may be summed up as an expression of belief on the part of the writers that, as far as the Medical Service is concerned, all is for the best in the best of all possible navies. Each man, of course, must speak from his own experience, but the information in our possession shows convincingly that the writers referred to cannot be accepted as the spokesmen of naval medical

officers in general. From that information we get the impression that the medical service of the navy in general is not by any means satisfied with the existing state of things. A number of senior medical officers have expressed their approval of the comments which we made on the court-martial in the JOURNAL of September 25th. Medical officers cannot, without detriment to the interest of the service, be left to the caprice of young men inflated with a sense of their own authority. It is not a mere question of the dignity of doctors; the efficiency of the service is involved. We therefore once more commend the incident and the state of things of which it is the result to the attention of the First Lord of the Admiralty. The retirement of Fleet Surgeon Matthew leads by natural association to another matter. Some considerable time ago it was publicly announced that a Commission had been appointed to inquire into the alleged grievances of the Naval Medical Service, and as to why it should be so unpopular as compared with the Army Medical Service and the Indian Medical Service. There is reason to believe that the work of the Commission has been completed and that their recommendations have been sent to the Board of Admiralty. In view of the announcement that the next examination of candidates for fifteen commissions in the Royal Navy Medical Service will take place on the 1st and following days of November, would it not be wise for all those intending to compete to wait until the result of the Commission and the intentions of the Admiralty have been announced? We have shown that there is reason to believe that all is not well with the Royal Navy Medical Service; it remains to be seen whether the Admiralty is disposed to remove the legitimate grievances which exist.

THE CULTIVATION OF MEDICINAL PLANTS.

THE Hanbury medal of the Pharmaceutical Society, which is awarded biennially, went this year to Professor Alexander Tschirch, rector of the University of Bern, who has conducted some excellent research work on the natural history and chemistry of drugs. He came over to receive his honour from the hands of the president of the society, Mr. J. F. Harrington, and delivered an address at the opening of the fifty-eighth session of the Pharmaceutical Society's School of Pharmacy on September 29th. In the course of his address he remarked that the much ridiculed and derided pharmacists of old times, who extolled the various organs of the animal body and their secretions as remedies seemed to have been in a measure justified in their beliefs by the modern science of organ-therapy. Medicinal plants were the most ancient remedies of mankind, and the experience of thousands of years vouched for their utility. In the misty days of Babylon, in Galen's time, and even until quite recent centuries, nothing whatever was known of the manifold nature of the constituents of drugs. Each drug was regarded as an entity by itself, and as possessed of but a single source of power. Nowadays these matters were better understood, and insight was being gained into the life-process of animal and vegetable cells. A time, therefore, was approaching when it should be possible to solve such problems as that of increasing the amount of some desirable constituent naturally present in a plant, and diminishing constituents which were deemed to be of an undesirable kind. Something of this sort had already been attained; experiments with cinchona trees and with opium plants had proved the feasibility of growing cinchona bark rich in quinine, but containing only small quantities of the other alkaloids, and opium poor in narcotine. It had, indeed, been shown to be possible to increase above the normal the valuable constituents of almost all cultivated plants. It is in this direction that much of Professor Tschirch's own work has lain; for years he has combated the opinion that cultivation necessarily impairs the value of medicinal plants and that from the point of view of materia medica and pharmacology wild specimens are without exception preferable. To a great extent he has succeeded in showing that it is only unsuitable cultivation which produces bad results, and that by varying the conditions of cultivation, by careful selection of suitable strains, by crossing, grafting, and other means, brilliant results can be obtained. On the same afternoon a new chemical laboratory was opened at the school, and the prizes for the year were distributed. The Pereira medal, the blue ribbon among students of pharmacy, was handed to Mr. Sydney Smith. Last year it was carried off by a lady, and this year again two ladies—Miss G. H. Wren and Miss G. M. Neve—were among the six principal prize-winners, carrying off between them the Redwood scholarship, the Burroughs scholarship, and the Pharmaceutical Society's medal.

SIMULATED WEAKMINDEDNESS.

THE last two numbers of the valuable clinical journal for mental and nervous diseases,[1] edited by Professor Sommer, of Giessen, contain a contribution by Dr. T. Becker, of the Prussian Army Medical Corps, upon the "Simulation of Weakmindedness." The paper is based upon two patients sent to the clinic for examination as to their mental state from the law courts, where they had been accused of perjury. In both cases careful systematic examination of the mental status was made by simple interrogation, by word tests and comparisons of reaction times, by Ranschburg's word-pairing method, Ebbinghaus's "completion" method, etc., and the results are set forth by the author with a wearisome infinity of detail. In both cases the simulation of weakness of intellectual capacity and mental grasp was apparent, from the contrast between the subjects' behaviour and conversation when with other patients and the attendants only, and when undergoing examination, and also from their manner of response during repeated tests. Many of the tests of power of observation and memory and of reasoning capacity have been so elaborated that purposely faulty answers can almost certainly be detected. The manner of their detection in the cases under review is interestingly worked out by Dr. Becker. As Dr. Becker points out, however, the question of simulation may be regarded from three points of view: (1) The appearance of simulation may be evoked by weakmindedness; (2) weakmindedness may be purposely and entirely assumed; and (3) simulation may be superadded to existing weakmindedness. There can be no question that the great majority of cases belong to this last category, just as the simulation of pronounced insanity is so commonly found in defective individuals that it is in itself of symptomatic significance. Of the two cases discussed at such length by Dr. Becker, the first was diagnosed as belonging to the third category, and the subject was therefore recommended to the court for the application of the exonerative clauses with regard to cases of doubtful responsibility; whilst the second was found to be a pure malingerer and handed over to the court for punishment. Detailed mention

[1] *Klinik für Psychische und Nervöse Krankheiten.* Bd. iv, Hft. 1 and 2. Halle a. S.: Carl Marhold. 1909. (Sup. roy. 8vo, pp. 194. M. 10.)

of the second case is not needed here, but with regard to the first, it is doubtful whether the evidences of feeble-mindedness adduced would be considered sufficient in this country. These were as follows: Senile arterio-sclerosis; finger tremor of anomalous type, but giving curves (presumably with Sommer's apparatus), recognized as pathological; indifference to surroundings and loss of interest in family relations; confabulation; prolixity and diffuseness in conversation; emotional anomalies (cheerfulness out of harmony with his position); undoubted lengthening of reaction-times; blunted sensory perception, defective apperception and poor reproduction, and failures of memory for recent events.

INFECTIOUS RISKS AT HEALTH RESORTS.

Although not so common an occurrence as formerly, it occasionally happens that one or more children in a family returning from a visit to the seaside are stricken down with an infectious disease caught while away from home. It is to be feared that in many instances the initial infection has been caused by the carelessness, wilful or otherwise, of some person in charge of a convalescent patient. Such carelessness when detected ought not to go unpunished, and we rejoice to find that the Tenby justices on a recent occasion viewed this carelessness in a very serious light. A little boy was certified to have been attacked with scarlet fever on August 18th, and the mother and hospital nurse who was in attendance were told by the medical attendant that they must not permit him to go into the public streets until a certain date. In spite of this instruction the child was taken by his mother on to the sands on September 18th, 19th, and 20th. Upon these facts coming to the knowledge of the medical officer of health (Dr. Douglas A. Reid), he wrote to the child's mother pointing out the danger of such a proceeding and her liability to a penalty, and asking her to undertake to keep the boy in the house for another week. This very reasonable request not being acquiesced in, Dr. Reid very properly proceeded under Section 126 of the Public Health Act, 1875, before the borough justices. The mother, who was represented in the police court by a solicitor, set up the defence that in her opinion the child had not had scarlet fever at all, although no medical evidence in support of her view was forthcoming. The chairman of the magistrates in inflicting a fine of £10 with costs amounting to £3 13s., said that the Bench looked upon the case as a very bad one. The children of a poor man living in a small house were taken to a fever hospital, and those persons who were fortunate enough to live in larger houses could keep their patients at home, but in doing so they were practically on their honour to carry out every possible means of preventing the spread of the disease.

DRUG CURES FOR DRUG HABITS.

From time to time the correspondents in the United States of the *Daily Telegraph* make incursions into the field of therapeutics, not always with the happiest results. The latest example is contained in a telegram from New York, published on October 7th, stating that Dr. Alexander Lambert, physician to the Bellevue Hospital, declares that cravings for cocaine, morphine, or alcohol can be obliterated within three, or in extreme cases within five, days. The ingredients of what is called Dr. Lambert's specific are stated to be belladonna, xanthoxylum, and hyoscyamus. Belladonna is, of course, well known as a remedy believed by many to have a distinct influence in assisting an alcoholic to break the habit; atropine has, in fact, been used for the purpose a good deal in orthodox medicine, and either it or some other alkaloid of the belladonna series is an ingredient of many of the secret medicines so largely advertised. Neither is there any particular novelty in the use of hyoscyamus. There remains, therefore, only xanthoxylum or prickly ash, an American shrub, the bark and berries of which contain certain active principles which, when swallowed, produce a sense of heat in the stomach, more or less general arterial excitement, and a tendency to diaphoresis. The drug has been used as a remedy in chronic rheumatism, and the bark has been chewed as a cure for toothache. A fluid extract is official in the *United States Pharmacopœia*, and it would be strange if the addition of this drug to a well-known mixture should produce the striking results said to be claimed by Dr. Lambert. The correspondent benevolently adds: "America gives every new school of healing or "religion a fair chance, and to-day physical culture, "osteopathy, mental healing, and other systems of "drugless treatment are just as popular on this side "of the Atlantic with large, educated sections of the "community as allopaths and homœopaths in "Europe." It is a little odd that a paper commanding the sources of information at the disposal of our contemporary should publish such banal material.

DEMONSTRATIONS AT THE ROYAL COLLEGE OF SURGEONS.

The demonstrations given in connexion with the Museum of the Royal College of Surgeons last year proved so successful that the council of the college has arranged two courses to be given during the present winter by the Conservator, Professor Keith, and the Pathological Curator, Professor Shattock. The first demonstration of the present course will be given by Professor Keith in the theatre of the college on Friday, October 15th, at 5 p.m., on specimens illustrating the various forms of acquired and congenital occlusions and strictures of the alimentary canal. The date and subject of the other demonstrations will be found in our "Diary for the Week." The aim of these demonstrations is to give senior students and medical practitioners an opportunity of studying and appreciating the great wealth of pathological and physiological preparations in the museum of the Royal College of Surgeons of England.

OPENING OF QUEEN ALEXANDRA SANATORIUM, DAVOS.

Our national sanatorium in the Alps, for the successful completion of which the devoted labour of the local secretary, Mr. H. C. Wrinch, has mainly to be thanked, will be open for the reception of patients at the end of the present month, although the inaugural ceremony is to be postponed until the winter season. On the visiting staff are the well-known names of Dr. W. R. Huggard, H.B.M. Consul in Davos, Dr. Arnold F. Bill, and Dr. Florian Buol. The resident staff consists of Dr. Joseph W. Noble, the Medical Superintendent, who has had considerable experience in Davos, and Dr. James Fairley, Junior Resident Medical Officer. The Matron, Mrs. Teesdale, who for some years past has had the entire management of the Davos Invalids Home, will be assisted by a small staff of English nurses with home sanatorium training. Although each patient is to occupy a separate room, the inclusive charge is only 38s. a week. Only early or convalescent cases are eligible. A large number of applications have already been received. Those desiring admission can obtain forms from the local secretary in Davos, Mr. H. C. Wrinch, or from the honorary secretaries in London, Dr. William Ewart, 31, Upper Brook Street, W., and Mr. D. A. F. Vesey, 3, Camp View, Wimbledon Common, S.W.

Medical Notes in Parliament.

Feeding Suffragettes in Prison.—Last week Mr. Snowden asked the Home Secretary if he had any information as to the state of health of the women suffragettes in prison, and whether they were still being fed by force. Mr. Gladstone said he was glad to say that the steady improvement in the health of all the suffragettes continued. He was not absolutely able to answer the question as to whether they were still fed by force. "Force," however, was hardly the right word, because, although, as he understood, three of them were being fed by the medical officers, they were, in a sense, fed without any resistance on the part of the prisoners. He might say that in no case had the stomach pump been used. There was no proof whatever that the women were handcuffed during the time food was administered. Asked by Mr. Arthur Lynch why he so ostensibly put forward the medical aspect of the case, Mr. Gladstone said he put forward the medical officers because it was a medical question, and any responsibility rested upon the medical officers. Mr. Arthur Lynch asked was it usual for medical officers to act on the instructions of the right hon. gentleman or on their own initiative in such cases. Mr. Gladstone retorted: What authority had the hon. member for saying he had given instructions to the medical officers? He might tell him it was the duty of the medical officers to attend to the health of prisoners in their charge, and that was precisely what the medical officers had been doing here. Later, in written answers to questions by Mr. Keir Hardie, Mr. Gladstone said that he had received several reports from the medical officer. From the report received that (Friday) morning it appeared that seven prisoners still refused to feed themselves, but only one of the seven now required to be fed by tube. The others accepted food when administered to them from a feeding-cup. As regards the method adopted to administer food to the women suffrage prisoners, Mr. Gladstone replied that he had received several reports from the medical officer. He found that Blandford's oesophageal tube had not been used; in those cases where a tube was required the ordinary soft rubber feeding tube used in hospitals was employed. No screw gag was used, and the prisoners were not strapped down. The number of attendants present varied from one to five. He did not think it was desirable that he should mention the names of the prisoners. He was satisfied that everything had been done with the utmost gentleness possible in the circumstances; and the prisoners themselves had borne witness to the kindness of the officers. Questioned on Monday by Mr. Keir Hardie, Mr. Masterman said that the medical officer reported that no injury to the throat, teeth, or other parts of the body had been sustained by any of the prisoners who had undergone the special hospital treatment mentioned in the question. The Home Secretary was advised on good medical authority that no serious injury was to be apprehended in any case of this kind, even if the treatment had to be prolonged for some considerable time. He had not seen any reports from eminent medical authorities to the effect that this treatment always produced permanent injuries and very often fatal results if continued. Further questioned as to the frequency of the practice of administering food by force at Winson Green Gaol, Mr. Masterman said that, with the exception of these women prisoners, there had been no cases in Birmingham Prison during the past twelve months in which it had been necessary to feed any prisoner forcibly. This treatment had been administered in some cases by the medical officer, and in other cases by a medical practitioner who had been called in to assist him. The method had been, where practicable, feeding by means of a teaspoon or from a feeding cup, but where necessary the soft rubber tube in use in hospitals had been employed. Mr. Keir Hardie next asked if the representatives of the suffragettes had not petitioned for leave to send their own medical adviser to report on the condition of the prisoners. Mr. Masterman said that applications to the effect indicated had been received, but the Home Secretary had been unable to accede to them. The prisoners mentioned were receiving full and constant attention from the medical officer of the prison, who had been in consultation with the medical authorities of the Home Office at the time when the refusal to take food made the prisoners' state of health serious, and had had the assistance of a medical man in practice in Birmingham, who had been present when food had been administered. According to the latest report received that morning, the health of the prisoners continued to improve. Only one of them still refused to take food without the use of a tube. On Wednesday Mr. Keir Hardie again questioned the Home Secretary as to the opinion of Dr. Forbes Ross that the method of feeding employed was frequently followed by chronic pigmentary colitis, and that asylum patients fed in this way died as a rule of the treatment. Mr. Gladstone said that results such as described could not follow the method of feeding adopted at the Birmingham Gaol. Mr. Keir Hardie then asked if the Prime Minister had received a memorial signed by Sir Victor Horsley and 116 other medical practitioners pointing out that the compulsory feeding of women was attended with the gravest risks, that unforeseen accidents were liable to occur, and that health might be seriously injured. Mr. Herbert Gladstone said the memorial contained statements which were not borne out by the prison medical officer, whose experience of artificial feeding was necessarily much wider than that of the memorialists. He thought it right to refer the memorial to the President of the Royal College of Physicians, and he had that morning received the following letter from Sir Richard Douglas Powell:

> I beg to state that I do not agree with the opinion expressed in the memorial signed by some medical practitioners in protest against the artificial feeding of certain prisoners who refuse to take food in the formal manner. The statements contained in the memorial are inaccurate and greatly exaggerated. The method of artificial feeding is largely employed amongst those who, from mental aberration, refuse to take nourishment otherwise, and also with those who are physically unable to take it. It would be an exaggeration to say that the method of artificial feeding is wholly free from the possibilities of accident with those who forcibly resist, but no such cases have come to my knowledge. Nor can it be said that the method is as convenient or as free from possible digestive ailments or discomforts as a reasonable diet taken naturally would be. But it may be remarked that patients have been so fed successfully for years. It is the only measure that can be adopted to maintain the health and preserve the lives of persons who persistently refuse food. I am assuming in my reply that the feeding of these patients is entirely carried out by skilled nursing attendants under careful medical observation and control.

In reply to further questions, the Home Secretary said that he understood that the feeding was carried out by a medical officer, and an outside medical officer had been called in to assist; he was satisfied that all had been done in the most proper and humane manner.

The Housing and Town Planning Bill passed the report stage in the Lords on Monday. The attitude of the opposition was much less vigorous than in the Committee, but several amendments were made. Lord Salisbury gave notice of an amendment on the third reading to include Crown lands within the purview of the bill. Lord Beauchamp made a series of amendments to Clause 10 which required the Local Government Board before enforcing their powers on complaint to take steps to inquire locally into the whole question of the need of housing, etc. The Duke of Marlborough then proposed to cut out all reference to the working classes in Clause 14, which, he thought, confused the statement of the obligation of the landlord and the definition of the working classes. It was best expressed, he thought, in money rent. After considerable discussion the amendment was agreed to. The question of rent was then raised by Lord St. Aldwyn, but after some figures given by Lord Beauchamp he agreed to withdraw his amendment and allow the old rent standard of £16 to be restored to the bill instead of £8, which he had carried in committee. After another amendment had been made to the clause, Lord Clinton altered Clause 15 by making

the time of notice of closing on part of landlord twenty-eight instead of twenty-one days. The landlord was also given, on the motion of Lord Kimberley, the option of appeal to the Local Government Board or to the county court on the question of repairs, and a similar option was given in Clause 17 with reference to closing orders. An amendment with regard to underground rooms, moved by the Government, was accepted after it had been slightly amended. Clause 26 was also amended by the Government, and then on Clause 30 Lord Clinton moved several amendments to provide that expenses incurred by a rural district council, under Part III. should be charged on the whole area of the authority unless otherwise declared by the Local Government Board. The amendments were opposed by Lord Beauchamp, and supported by the Duke of Northumberland and Lord Camperdown, and finally passed. Lord Onslow then carried, after a good deal of discussion, a clause requiring the local authority in providing houses under the Act to see that they were occupied by persons of the working classes and British subjects. The Duke of Marlborough next amended Clause 47 so as to provide that the words working classes in the Act should "include mechanics, artisans, labourers, and others working for wages and persons whose income did not exceed an average of 30s. a week." The Town Planning clauses were altered somewhat, and on Clause 59, dealing with compensation, Lord Salisbury amended the subsection by providing that the arbitrator could award the local authority such proportion of their expenditure in adding to the value of property by a scheme, as he might think just, instead of one-half as in the bill. Clause 63 was struck out, and a new clause substituted, and a number of drafting amendments made in the other clauses and schedules. The bill was then reported after Lord Beauchamp had said that the Government could not hold themselves responsible for the changes in procedure introduced.

Death from Erysipelas following Vaccination.—Mr. B. S. Strauss called attention on Monday to the case of a child who died after vaccination from erysipelas, and asked what precautions were taken to ensure the absence of erysipelas organisms from the Local Government Board lymph. Mr. Burns answered that he was aware of the verdict of the coroner's jury with regard to the death of this child. His attention was called to the case, and he caused inquiry to be made with regard to it. It appeared that an interval of at least seventeen days had elapsed between the vaccination and the commencement of the erysipelas, and, in these circumstences, it seemed clear that the erysipelas was not introduced with the vaccination, as otherwise it would have made its appearance at a much earlier date. The child was not vaccinated by a public vaccinator, or with lymph supplied by the Local Government Board: but, as regards the lymph which was so supplied and which was that used by almost all public vaccinators, he might state that very complete precautions were taken for the exclusion from it of erysipelas micro-organisms. These precautions included the use of only healthy calves, the careful watching of the calves while the lymph was being developed, the collection of lymph from those calves only whose vaccination ran a perfectly normal course, and the subsequent slaughter and veterinary examination of all the calves from which lymph had been obtained. The lymph was prepared for distribution in sterile apparatus, and was mixed with glycerine which had been proved to destroy the organisms of erysipelas. Moreover, the absence of such organisms was repeatedly tested before the lymph was distributed.

Vaccination (Origin of Lymph).—Mr. Pointer asked the Secretary of State for the Home Department whether he would cause inquiry to be made into the practice of vaccination to ascertain whether the lymph now used had its origin in or was in any way connected with variolous matter; and, whether, should his inquiries go to show that variolous matter was the origin of the present-day lymph, he would institute proceedings under Section 32 of the Vaccination Act of 1867 against persons using such lymph. Mr. Burns said he had been asked to reply to this question. Section 32 of the Vaccination Act, 1867, rendered it an offence to produce, or attempt to produce, small-pox in any person by inoculation with variolous matter or by any other means. Most of the lymph used in cases of primary vaccination was that supplied from the Government lymph establishment. That lymph did not produce, and was not used to produce, small-pox, and persons using it did not come within the section referred to. There was no reason to doubt that the same observations applied with regard to other lymph in use in this country. There did not appear to be any need for inquiry on the subject.

Old Age Pensions and Medical Relief.—Mr. Cecil Harmsworth asked whether an old age pensioner was entitled to claim from the guardians indoor or outdoor medical relief; and, if so, whether the acceptance of such relief disqualified the pensioner for the receipt of his pension. Mr. Burns said that if an old age pensioner applied to the guardians for medical relief it was their duty to consider whether any such relief should be given him, and, if so, in what form. The receipt of any medical or surgical assistance supplied by or on the recommendation of a medical officer would not in itself disqualify the pensioner for the receipt of his pension.

Lavatory Accommodation for Workmen.—Mr. Wardle asked the Secretary of State for the Home Department whether his attention had been called to the practice extensively carried on in Germany and America whereby wardrobe and lavatory accommodation was provided for workmen at the place of their employment; and whether, in view of the benefit in public health and cleanliness to be derived from such a practice, he would consider the advisability of securing the extension of the practice in this country. Mr. Gladstone said that his attention had been called to this matter, and, in connexion with mines, it had received the consideration of the Royal Commission on Mines, in their recommendations on the subject in Part XVIII of their recently-issued Report. In the case of a number of trades where the conditions of work make the provision of lavatory and cloak-room accommodation especially important for the health of the workpeople, the employer was now required under the Factory Acts to provide it; and in many other cases such accommodation was supplied voluntarily by employers. The Report of the Chief Inspector of Factories for 1908 notes, he was glad to say, a growing tendency to provide improved facilities for washing in many districts, and the question was receiving the constant attention of his department.

Housing in West Ham.—Last week Mr. Tyson Wilson asked the President of the Local Government Board if he could state the result of the inquiries into the sanitary condition of the houses at West Ham in which five children had lived and whose deaths were, according to the verdict of the coroner's jury, due to consumption. Mr. Burns replied that he understood that the houses in question had all been inspected during the last eighteen months, but a further inspection had now been made. Certain defects had been found to exist in some of the houses, and notices had been served upon the owners, requiring them to remedy these defects. The notice had been complied with in every instance except one. In that case part of the work had been done, and legal proceedings against the owner had been threatened if it was not completed at an early date.

A Short Holiday.—On Wednesday, in stating the probable course of business, the Chancellor of the Exchequer said that the Government proposed to take the Development Bill on the Report stage on Thursday and to finish that stage and get the third reading on Friday, or if necessary on Saturday. As soon as the Development Bill was read a third time, the House would adjourn till Monday, October 18th. The London Elections Bill would then be taken, and the Report stage of the Finance Bill on Tuesday, 19th inst.

Scotland.

[From Our Special Correspondents]

Royal College of Surgeons, Edinburgh.

It will interest all old students and members of the College of Surgeons, Edinburgh, to learn that recently the Surgeons' Hall has been undergoing important structural alterations which will add largely to its accommodation and usefulness. Those who are interested in the college are proud of the fact that it has a historical record as a body of over four centuries, for the fourth centenary was celebrated in 1905, an event which is to many a very pleasant memory. The college connects the present age with a period when the profession of surgeon was still linked with that of the barber. As in London, the practitioners described themselves as barber-surgeons, and it was at the instance of the barber-surgeons of the period that the college was founded. The charter of the college dates from 1505; the meetings of the college were held for some years in the house of the Deacon or President for the time being; and the first special meeting place of which there is a record was established in premises in Dickson's Close, the first close east of Niddry Wynd, at a rental of £40 a year. Then, in 1669, what was called a "convening house" was built on the lands of Curriehill, within the south-east angle of the city wall, overlooking the "Pleasance." The erection of the Surgeons' Hall in that locality was the origin of Surgeons' Square, which became a well-known medical centre, and was associated with the story of Dr. Knox and his dealings with Burke and Hare. In 1697, on the same site, an improved and more pretentious building was erected. These buildings were really the birthplace of the great Edinburgh Medical School. In 1832 the "Chirurgeons' Hall" of 1697 was relinquished, and its place was taken by the imposing structure now familiar in Nicholson Street. The college no longer exists as a teaching body, although it owns adjoining class-rooms, which are rented to medical teachers. The chief function of the college is that of an examining body. Surgeons' Hall provides accommodation for that purpose, but it also houses the museum, acknowledged to be one of the finest of its kind in the kingdom, free to all medical students, and also to the general public within certain limits. It is the meeting place of the members of the college, and scientific lectures are given there from time to time. The college possesses also an extensive library. The alterations, which have been in progress for some time, affect all these departments. They give additional accommodation without interference with the coherence and proportions of the interior. The council room, which occupied the greater part of the ground story, has been vacated as such, divided into two, one part being added to the library, and the other part forming a reception room. The western portion of the old museum, devoted to the Barclay collection, has been converted into the new council room. To provide for the Barclay collection certain tenement houses have been converted into additional museum spaces. The design of the original museum has been followed in the arrangement of the galleries, but glass shelves have been introduced so as to give good light. The flooring of the galleries has been formed of glass with the same object.

Altogether, the college authorities are to be congratulated on the manner in which these alterations have been carried out; they will undoubtedly be approved by all Fellows and Members.

The Chair of Anatomy, Edinburgh.

Professor Arthur Robinson, the successor of the late Professor Cunningham in the Chair of Anatomy in Edinburgh University, was introduced to the students of the Faculty of Medicine on October 1st, in the McEwan Hall. Sir Wm. Turner, who presided, was accompanied to the platform by the members of the professoriate. After being introduced by the Principal, Professor Robinson delivered an address entitled, "A Glance at Anatomy from 1709 to 1909." He sketched the history of the chair down to the occupancy of Sir William Turner, to whom he paid a high tribute, stating that his influence as a teacher of anatomy might be gauged to some extent by the fact that his pupils held, or had held the Chair of Anatomy in Edinburgh, Glasgow, St. Andrews, Belfast, Newcastle, Manchester, Liverpool, Cardiff, Oxford, Dublin, Melbourne, Sydney, Montreal, and Toronto. He knew of no other such record. After paying a fitting tribute to his immediate predecessor in the chair, Professor Cunningham, he said that in the past 100 years all branches of anatomy had made more progress than in any previous time. Improved methods and improved instruments had enabled an army of observers and experimenters to obtain results never dreamt of in the earlier days, and the occupants of the Chair of Anatomy had ever kept themselves in touch with the more important part of the rapidly growing subjects, and had transmitted to their students a knowledge of all the chief facts. There was little doubt that if the anatomists of the latter part of the eighteenth and early part of the nineteenth centuries could return to-day, they would be amazed by the amount of knowledge which had been accumulated since their time. Nature, as revealed by anatomy, showed plainly that she had no beliefs in any general equality. She produced her children in myriads, cast them into the sea of circumstances, approved and helped only those who could swim, and rewarded them according to their performance. The riddle of life was not yet solved, but members had sought and would seek, and in the search someone would find in the future, as some had found in the past, knowledge useful to mankind.

The Chair of Surgery in Edinburgh.

Mr. Alexis Thomson, who has succeeded Mr. John Chiene in the Chair of Surgery in the University of Edinburgh, was formally introduced in the McEwan Hall on October 4th. Principal Sir William Turner presided, and there was a large attendance of the Senatus Academicus on the rostrum. Professor Chiene and the new Dean of the Faculty of Medicine were present. After giving a eulogy of Professor Chiene, the Principal said they were there along with Professor Chiene and the students to give a welcome to his successor. Professor Alexis Thomson had worked laboriously in that school for many years. He was recognized as an accomplished surgeon, a sound pathologist, and an able teacher.

Professor Thomson said he was deeply conscious of the responsibilities which rested on his shoulders in undertaking the duties of the Chair of Surgery in that great university. He was emboldened, however, by the encouragement which he had always received from his esteemed teacher, the well-beloved and venerable Principal, Sir William Turner. He relied upon the loyalty of his colleagues in the Senatus—some of them his former teachers, a sadly diminishing number; some of them his former fellow-students, and among these he was proud to include the new Dean of the Faculty of Medicine.

The Chair of Surgery, he said, was of comparatively recent foundation. From 1777 until 1831 it was held conjointly with that of Anatomy. The first Professor of Surgery, John William Turner, only held the chair for five years. He was succeeded in 1836 by Sir Charles Bell, who was in turn succeeded by James Miller. Then followed James Spence (1864–1882), and his successor was John Chiene. Since Mr. Chiene was appointed Demonstrator of Anatomy under Goodsir, forty-three years ago, he had been a living force and a tower of strength in that medical school and university. In the Edinburgh of the Seventies Chiene was universally recognized as the most ardent and most faithful disciple of Lister. There had always been good teachers of surgery and brilliant operators in that medical school, but at the critical period when the science of surgery was being revolutionized it was a fortunate thing for Edinburgh to have first as Extra-mural Lecturer and then as Professor in the university a man with the moral force,

the strength of character, enthusiasm, and determination of John Chiene. The surgery of the present, like every other department of human knowledge, was the product of evolution, and had culled from every source that which would contribute to its advancement. A new era dawned when John Hunter left the Lanarkshire farm in which he had been born and brought up, and joined his elder brother William in London, three years after the rout of the Stuart cause at Culloden. It was Hunter who raised surgery to the dignity of a science. Before his time surgery and physiology were far asunder. Never since Hunter's day had the study and teaching of surgery been dissociated from the sciences of physiology and pathology. Surgical anaesthesia, which they owed to America (the word itself to the gifted "Autocrat of the Breakfast Table"), was of all gifts of science to mankind the happiest and the most easily appreciated. The name of their countryman, James Y. Simpson, would always be associated with the birth of anaesthesia, for he not only discovered the anaesthetic uses of chloroform, but he rendered memorable service in advancing its cause. It was Joseph Lister who reformed the whole science of surgery, and it was one of the priceless possessions of their *Alma Mater* that it was during his incumbency of the chair of clinical surgery in that university that he perfected the theory and practice upon which the antiseptic principle was founded. Impressive and encouraging as was the remarkable growth, within recent years, of laboratories devoted to medical science, no one who had any knowledge of the vast field to be covered, of the difficulty and complexity of the problems, of the expenditure of money required, and of the returns in increased knowledge and benefits to mankind which had been attained, and which might be expected in increasing measure, could for a moment suppose that the existing opportunities, considerable as they were, were adequate to meet the present and the future needs of scientific medicine. It must ever be the aim of those who had the interests of universities and colleges at heart to foster the spirit of research in their students, and especially in their graduates, and ever seek to provide greater facilities to enable such research to be undertaken. They as a profession did not grudge the large expenditure which was required to maintain the naval and military forces of the Empire, nor the providing in old age for those who were unable, or had honestly failed to provide a competence for themselves, but they did desire that in the huge expenditure with which the country was charged that more should be forthcoming than the beggarly pittance at present granted for the advancement of those sciences on which the health and happiness of the people so much depended.

Dermatology in Glasgow.

In accordance with the power recently obtained by the directors in a Provisional Order, the Skin Hospital in Elmbank Street, Glasgow, has been closed and ceases to exist as a separate institution. The outdoor department has been transferred to the Western Infirmary, and will be carried on as a department of the dispensary, while, as hitherto, the two skin wards will be available for the treatment of more serious cases. To carry on the new dermatological work, the directors of the Western Infirmary have appointed Dr. J. Wyllie Nicol physician to the wards, and Dr. J. G. Tomkinson to officiate on the dispensary staff. During the next few months the University of Glasgow will establish the McCall Anderson Memorial Lectureship in Dermatology, for which provision is also made in the provisional order.

During the forty-eight years of its existence the Skin Hospital has done valuable work. Originally started for the gratuitous treatment of the poor suffering from the various forms of skin disease and for the advancement of this department of medical science, under the able guidance of the late Sir Thomas McCall Anderson both these objects were nobly fulfilled. The hospital was founded in 1861, and the first physicians were Dr. A. B. Buchanan and Dr. T. McCall Anderson. Dr. Buchanan died in 1865, but McCall Anderson maintained his connexion with the hospital till his death in 1908. The original premises were at 63, John Street, where they remained till 1878, when the directors purchased a house in Holland Street with an entrance from Elmbank Street. In 1871 the directors made a good bargain with the managers of the Western Infirmary, then in course of erection, whereby, on the sum of £2,000, which they had collected for building purposes, being transferred to the Western Infirmary that institution undertook to provide for the use of the Skin Hospital two wards each of 20 beds. It will thus be seen that the connexion between the Skin Hospital and the Western Infirmary is of old standing, and it was natural that when, on the death of Sir Thomas McCall Anderson, the future of the Skin Hospital came to be discussed, the directors should decide that the main objects of the Skin Hospital would be most advantageously ensured by amalgamating with the Western Infirmary and by founding a lectureship in the university for the promotion of study and research in relation to the pathology and treatment of skin diseases and for giving practical instruction in dermatology. To endow the lectureship the sum of £2,500 is to be paid over to the University Court, and the lectureship is to be named the "McCall Anderson Memorial Lectureship in Dermatology." The Western Infirmary has also agreed to call the two skin wards the "A. B. Buchanan Memorial Ward" and the "McCall Anderson Memorial Ward" respectively.

Ireland.

[From Our Special Correspondents.]

Dispensary Doctors' Salaries.

At a meeting held on September 27th, the Limavady Board of Guardians, despite the appeal of Dr. MacCarthy, Local Government Board Inspector, to their feelings of fairness and justice, to say nothing of generosity, decided to adhere to the scale of salaries previously adopted. This scale, proposed in 1905, provided for an initial salary of £100 a year, proceeding by increments of £5 quinquennially to a maximum of £120. At present four of the five dispensary medical officers are in receipt of £120 a year and the fifth £105, although they have been in the service of the guardians for periods of thirty-seven, thirty one, thirty, nineteen, and seven years respectively. It was intended by the guardians that the first increase of £5 should only be granted on the completion of *five more years*. It was thus manifest that these gentlemen could never reach the very meagre maximum allowed. Dr. MacCarthy said the scale was absolutely the very lowest in Ireland. Once medical men have been for some time established in such appointments and districts, it is extremely difficult to abandon all their interests and seek new fields; but how any young medical man, with all England, the services, and the colonies before him, can be induced to apply for such posts and be at the beck and call of every red line, perhaps necessitating a journey of fifteen miles, and at a salary which, all told, will scarcely pay his posting, can only be explained as a matter of sentiment or ignorance of the world, not on principles of legitimate business. The landed gentry have left or are leaving the country houses. Such a house, with attendance on visitors, servants, and mostly a large family, used to be worth anything from £20 to £100 a year to the medical attendant, but they are standing empty by the dozen all over Ireland; the farmers are growing wealthier, but from a medical point of view offer no compensation as yet to the unfortunate doctor.

Health of Belfast.

At the monthly meeting of the Belfast City Council on October 1st, the medical officer of health reported that the death-rate from all causes had been 15.7; there had been a few cases of typhus fever, but the disease had been stamped out, and at the beginning, and no others had occurred. At the next meeting

The Port Sanitary officer and the medical officer of health reported the importation of some 140 tons of inedible lard from the United States of America; the word "inedible" had been whitewashed over. The importers agreed to reinstate the words "inedible" or "non-edible," and to account for all such lard they already had or were about to receive. Professor Symmers reported that the water in the Ormeau Avenue Baths, after four weeks' use of the new system of filtration and aeration, contained 27 per cent. less germs than the original fresh water.

The Belfast Natural History Society.

As already announced in the JOURNAL, Sir John Byers has been re-elected President of the Natural History and Philosophical Society for another year. The society has made application to the Commissioners of Charitable Donations and Bequests to be allowed to transfer upon loan to the Belfast Corporation the various collections of the museum, and the Corporation has agreed to take this over, and strike a rate of ½d. in the £ for the care and use of the specimens. This will leave a certain amount of money to be expended on lectures and the like.

England and Wales.

[From Our Special Correspondents.]

MANCHESTER AND DISTRICT.

The John Morley Laboratories.

The new chemical laboratories, which have been built through the munificence of Mr. Andrew Carnegie, who presented £10,000 to the University of Manchester for the purpose, are, by his request, to be known as the John Morley Chemical Laboratories. The new buildings include a large laboratory for organic chemistry, research rooms, private laboratories, and other accommodation for the professors, and a large laboratory for third-year students, with new service and store rooms, and cold-storage and ice-making machinery. In addition to Mr. Carnegie's gift a considerable sum is required for equipment, but towards this some generous benefactions have already been received.

Lord Morley, the Chancellor, who presided at the Convocation of the University on October 4th, after conferring honorary degrees upon the American Ambassador; Sir Robert Stout, Chancellor of the University of New Zealand: Sir Alfred Lyall, and Dr. Otto Wallach, Professor of Chemistry in the University of Göttingen, delivered a short address, in the course of which he said that he would like every one to consider what was the proper answer to the question, What is an educated person? He would himself put first the power to appreciate the nature of evidence, to know when a thing was proved and when it was not. His experience at the India Office had led him frequently to consider how far circumstances limited the application of abstract principles, and how far circumstances transformed principles, excellent in certain respects at certain times and in certain places, into irrelevant catchwords. The American Ambassador, Mr. Whitelaw Reid, in thanking the university for the honour conferred upon him, said that in some of the newer institutions in America there had sprung up an idea, rather extravagantly expressed in the popular saying that the education of a boy who was to make his way in the world should teach him everything about something and something about everything. A university like Manchester might be disposed to be little more insistent upon the last principle.

Sir Henry Roscoe, Emeritus Professor of Chemistry, having declared the new laboratories open, said that the chemical school of Owens College and the University of Manchester had been, and he firmly believed would long remain, the premier school of chemistry in the country. The new laboratories were admirable, and he was glad that Mr. Carnegie, who had endowed libraries throughout the English-speaking world, should now have taken his share in establishing a scientific laboratory, he hoped not for the last time. It was the teacher's personality that made a school, and in that respect the university was on sure and safe ground. In the course of some reminiscences, Sir Henry Roscoe said that it was almost exactly fifty-two years since, at the age of 24, he was appointed professor of chemistry in Owens College; he was the last survivor of the old staff which in 1857 set itself doggedly to overcome the prejudices that then existed. The college was then a very small affair: there were only thirty-five students, of whom fifteen worked in his laboratory. The progress made in the last fifty years read almost like a fairy tale. The university was now conspicuous in all branches of intellectual activity; it was not a mere school of science, though each of its science departments might well challenge comparison with similar institutes in other universities, but a real university with all its faculties fully and adequately represented.

WALES.

Swansea Sanatorium.

The Swansea Board of Guardians, which has for some time recognized the need of a sanatorium in the Swansea district, has now decided to call the attention of the Swansea Borough Council, as the authority primarily responsible for the health of the town, to the urgent necessity of doing something to prevent the spread of consumption either by providing a sanatorium, or such other means. Mr. Owen, who has taken an active interest in the subject, told the guardians that last week one of the relief committees had thirteen cases of consumption before it. Sir John T. D. Llewelyn, of Penllergaer, recommended that an arrangement should be made with the Alltymynydd Sanatorium, which, he said, had already done excellent service. At present that sanatorium was restricted to the three western counties, but he hoped some arrangement could be made for the erection of chalets to which Swansea patients could be sent. Recently, as a representative of the Glamorgan County Council, he attended a conference in London, at which the feeling was expressed that local authorities might join in a much wider application of powers to get this terrible disease stamped out. He understood that about 50 per cent. of consumptive cases could be cured if sent away in decent time. Some of the members attributed much of the consumption at Swansea to overcrowding.

Correspondence.

THE GASTROSCOPE AND ITS USES.

Sir,—It may safely be assumed that the vast majority of those who read in your issue of September 25th the account of the admirable piece of independent work carried out by Drs. Souttar and Theodore Thompson on gastroscopy, were under the impression that these investigators had struck new ground. Only a select few in all probability were conversant with the pioneer gastroscopic inventions and demonstrations of Mikulicz[1] so far back as 1881, and with the straight gastroscopic devices introduced by Rosenheim[2] in 1895. There must be many, however, who remember reading the lengthy and illustrated article on oesophagoscopy and gastroscopy in the *Lancet* of April 28th, 1900, by Dr. George Kelling,[3] in

[1] V. Mikulicz, J.: (*a*) Ueber Gastroskopie und Oesophagoskopie, *Zentralbl. f. Chir.*, 1881, No. 43, s. 673. (*b*) Ueber Gastroskopie und Oesophagoskopie, *Wien. med. Presse*, 1881, No. 45, s. 1405; No. 46, s. 1437; No. 47, s. 1473; No. 48, s. 1505; No. 49, s. 1547. (*c*) Ueber Gastroskopie und Oesophagoskopie mit demonstrationen am Lebenden. *Verhandlungen der Deutsch. Gesellsch. f. Chir. XI. Kongress, Berlin, 1882*, s. 30. (*d*) Leading article on Oesophagoscopy and Gastroscopy, *Medical Times*, May 5th, 1883.

[2] Rosenheim, Th.: (*a*) Ueber die Besichtigung der Kardia nebst Bemerkungen ueber Gastroskopie, *Deut. med. Woch.*, 1895, No. 45, s. 740. (*b*) Ueber Oesophagoskopie und Gastroskopie, *Deut. med. Woch.*, 1895, No. 45, s. 688. (*c*) Ueber Gastroskopie, mit demonstrationen, *Berl. Klin. Woch.*, 1895, No. 15, s. 239, u. s. 245.

[3] Kelling: (*a*) Zur Oesophagoskopie und Gastroskopie, *Archiv f. Verd. Krank.*, 1895, Bd. ii, s. 321. (*b*) Endoscopy of the Oesophagus and Stomach, *Lancet*, April 28th, 1900.

which a new form of flexible gastroscope was described and figured.

Again, those who attended the Cavendish Lecture at the West London Medico-Chirurgical Society by Professor Mikulicz some three or four years ago had an opportunity of inspecting that surgeon's improved gastroscope. In March, 1907, Chevalier Jackson's illustrated monograph on "Tracheo-bronchoscopy, Oesophagoscopy, and Gastroscopy" was published, and the favourable review which appeared in the British Medical Journal must have been widely read. Jackson's work contains no less than thirty-two coloured pictures of gastric appearances in health and disease, extending from the cardia to the pylorus, and made from views obtained by means of his *straight* rigid gastroscopic tube. Finally, some of those who possess vol. iv, part ii, of Allbutt and Rolleston's *System of Medicine*, published just over a year ago, must have noticed the short section on gastroscopy by Mr. Waggett.

The authors of the latest attempt to construct a serviceable gastroscope appear to belong to the majority who were unacquainted with the achievements of previous workers on the endoscopy of the stomach *per vias naturales*, for they make no reference whatever to the labours of others in this field of research, and the communication opens thus: "It is now nearly three years since we first attempted to solve the problem of gastroscopy." As it is in the highest degree improbable that these able investigators would be guilty of *suppressio veri* and *suggestio falsi*, we may safely conclude that unacquainted with, and unaided by, the efforts of others, they have independently and successfully devised a gastroscope which, whatever its deficiencies (obvious enough to an experienced endoscopist) has enabled them to get a really good view of the interior of the stomach when once the instrument has been introduced *without mishap* into that organ. One cannot but regret that Dr. Souttar did not commence where previous gastroscopists had left off rather than approach the subject *de novo*, without the instruction afforded by the successes and obvious shortcomings of the work of others; for in that case there is, to my mind, little doubt that with his industry and mechanical genius he would have devised in three months a more perfect instrument than this one which represents, as he tells us, three years' work. When Dr. Souttar set out "to solve the problem of gastroscopy," he soon arrived at the conclusion that "beyond the cardiac orifice a straight rod cannot be carried, for it will impinge on the lower dorsal vertebrae where their bodies form the lower portion of the dorsal concavity. The lower end of our instrument was therefore bent forwards at an angle of 30 degrees." Now this was the mistaken assumption made by Mikulicz in 1881; he adopted a tube with a beak bent at the same angle as Dr. Souttar's, and he published a diagram with his gastroscope in position to illustrate this point. This diagram so closely resembles Dr. Souttar's illustration that we may be certain that they each independently borrowed this picture from the same source (probably some well-known anatomical work). Yet at the very time that Dr. Souttar was embarking on his gastroscopic investigations, Jackson's gastroscopic tube had been sufficiently used to show that the pylorus could be reached with a straight tube, despite the assumed obstructing bogey, the body of the tenth dorsal vertebra. In order that this statement should not be merely taken on trust, Jackson reproduces in his monograph an *x*-ray photograph showing the end of his tube in the region of the pylorus in a living subject.

Those in recent years who have attempted to construct a safe and generally practicable gastroscope have fortunately been experienced oesophagoscopists. The statement that the blind passing of an angular gastroscopic tube *without a previous oesophagoscopic inspection* is a proceeding "entirely devoid of danger," as Dr. Souttar ventures to assert, is one which will be challenged by any surgeon who has had any considerable experience in investigating morbid conditions of the gullet by modern methods, and it is a procedure which will be condemned by all who have any cognizance of fatal cases of blind instrumentation of the gullet. The capacity for inflicting serious injury of a flexible oesophageal bougie blindly passed must be comparatively slight compared with that of a rigid *angular* tube. Yet blind bougieing of the oesophagus is recognized by expert oesophagoscopists as dangerous and unjustifiable, and one authority has even described it as criminal. Only to-day a patient suffering from dysphagia refused to allow a well-known laryngologist to endoscope his gullet on the ground that his best friend had been fatally injured by the blind passage of a bougie. Mr. Waggett recently told me that he knew of two cases in which death resulted from blind bougieing, and my colleague, Dr. Spilsbury, informs me that he has made *post-mortem* examinations on two patients who had succumbed to perforations of the gullet caused by bougies. It may be argued that, where disease of the gullet exists, the blind passage of a gastroscopic tube would never be attempted. It is only, however, by oesophagoscopy that we can be quite sure that there is no contraindication to the passage of a gastroscopic tube. Latent lesions often exist without obvious symptoms; dysphagia, for instance, is usually a very late symptom of malignant disease.

The ideal gastroscope should include a straight rigid tube which can be passed through the oesophagus into the stomach *under visual inspection*. Jackson's gastroscope fulfils this condition. If it be proved desirable, as appears likely, to have a distal apparatus inclined at an angle and revolving, then the improved gastroscope should include an inner tube with a joint near its distal end, which could be passed as a straight tube through the outer straight oesophageal portion of the instrument, and afterwards bent at the desired angle at its distal end when well within the stomach. The pharyngeal angle in Dr. Souttar's instrument, and also in Kuttner's, with its reflecting mechanism, is unnecessary, and a disadvantage on account of the varying length of gullets; the oesophageal part of the instrument should pass straight out as in the oesophagoscope, its proximal end being at the angle of the mouth near the molar teeth, with the head extended.

Dr. Thompson speaks of his gastroscopic observations as "direct inspection of the gastric mucous membrane." With two angular reflections by means of mirrors it is obvious that the view is exactly the opposite of direct. Jackson's method *is* direct gastroscopy; the method of Dr. Souttar and Thompson is, of course, indirect.

Although Jackson has devised a practicable and comparatively safe method of gastroscopy, and has removed portions of growths through his instrument for microscopical examination, I believe the procedure of examining the stomach in an empty condition—a necessity in Jackson's instrument—is a distinct drawback compared with the cystoscopic distension method, originally employed by Mikulicz, and now adopted by Dr. Souttar; and I cannot but think that the latter's gastroscope, when modified and rendered as safe as Jackson's, will take its place as the most serviceable one in the immediate future. In its present form its employment, in my opinion, is hardly made justifiable.

Finally, I wish to state quite clearly that my own experience in gastroscopy is of the slightest. It is true that at the end of last year I purchased Jackson's gastroscope and made examinations with the instrument in the deadhouse; and more recently when performing oesophagoscopy on the living subject I have on a few occasions been unable to resist the temptation to go beyond my own field of practice and trespass on the territory of the general physician and surgeon by passing a tube into the stomach. My claim, however, to be in a position to criticize with confidence some of the statements, and the instrument of Drs. Souttar and Thompson, rests mainly on my not inconsiderable experience as an oesophagoscopist. I recognize that these investigators are on the right track, and I can assure them that these criticisms are offered in no ungenerous spirit.—I am, etc.,

London, W., Oct. 2nd. William Hill.

Sir,—Dr. William Hill very kindly informs me that he has written to you pointing out the work which has already been done on gastroscopy. In the *Journal of Medicine* of July, 1903, will be found a paper by Dr. Thompson and myself, in which is given a full account of previous work, with references to all that has been written on the subject. —I am, etc.,

London Hospital, E., Oct. 4th. H. S. Souttar.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

SIR,—The view lately put forward by Dr. Brockbank that the so-called presystolic murmur is ventricular systolic in origin, which has already been opposed by Sir J. F. H. Broadbent and by Dr. Frederick Taylor, seems to me likely to continue to be periodically revived so long as the relative thickness of the auricle and ventricle, and their apparent relative strength, inordinately impress the mind.

As a matter of fact the auricle is not to be despised, especially in mitral stenosis cases. About fifteen years ago, in letters to the BRITISH MEDICAL JOURNAL and *Lancet*, I discussed this question. I then showed that dilatation of the auricle was a late phenomenon in mitral stenosis; thus at autopsies at Guy's Hospital on cases from the surgical wards in four years 18 cases of mitral stenosis were found. In these death occurred from surgical causes and not from heart failure, except in one case where the patient died chiefly of his heart affection, with thrombosis and gangrene. The latter was the only instance among the 18 in which auricular dilatation was noticed.

A second factor, which I believe will have to be admitted, is that in mitral stenosis cases the contraction of the auricle is generally prolonged. This would appear probable *a priori*, because the auricle cannot empty itself so rapidly through a small orifice as through a large one, with the result that the contraction of the ventricle begins before that of the auricle ceases.

Roy and Adami, in the *Practitioner*, vol. xliv, p. 251, published a set of curves showing graphically the relation in time of the contraction of the auricle, the ventricle, musculi papillares, etc., as well as the relative period of the apex beat, outflow from the ventricles, etc. According to their tabulated results, the auricular systole not only commenced before the ventricular but overlapped it, and, in fact, did not cease till after the aortic valves opened. The examination of many traces published by Dr. Galabin and others confirm this view, especially for cases of mitral stenosis.

A third and much overlooked factor in the cardiac circulation one must admit *nolens volens*. It is that a contracting chamber can exert ever-increasing pressure on its contents as its size diminishes. If the force of contraction remain constant, the pressure on its contents increases in proportion as the diameter of the chamber decreases. Thus, if the diameter become one-fourth of what it was originally, the internal pressure will augment fourfold. If the chamber become completely contracted, having a diameter zero, it would require infinite pressure to open it up or dilate it from within. In the same way the pressure in a powerful motor tyre cannot burst the little rubber pump-tube through which it is blown up, nor the pressure in a thick-walled steam boiler burst or dilate up a thin little copper tube leading from it.

Inasmuch as the systole of the auricle commences before that of the ventricle, the auricle is decreasing in size, while the ventricle which receives its contents is increasing. It is physically probable, therefore, that when the outflow from the auricle into the ventricle is somewhat obstructed, the contents of the auricle which leave later are projected into the ventricle with ever-increasing force, and a crescendo murmur under such circumstances might well be expected.

In cases of slight stenosis the auricle might succeed in emptying its contents into the ventricle before the latter commences to contract. As the stenosis became more pronounced it would not quite succeed, and the ventricle would try to force blood back into the contracting auricle while the latter was endeavouring to send its residual blood forward into the ventricle. In such a contest the auricle would probably be the better man, for it would be small and contracted when the opposing ventricle was full and big. By its very smallness at the time it could oppose the ventricle and quite possibly still send blood onward into it, just as a small, thin, inflated indiarubber balloon connected with a large thick one, similarly inflated, will blow its contents into the latter and further inflate the thick balloon.

The auricle in cases of compensated mitral stenosis is the natural defender of an incompetent mitral valve. A contracting, full ventricle could not cause regurgitation while the auricular systole continued, for it would be physically impossible for it to dilate up a contracted auricle whose chamber at the time has a diameter several times smaller than its own. If the ventricle when full could not overcome the contracted auricle it could not later, for it has a safety valve at the aortic orifice which prevents its internal pressure rising appreciably as it decreases in size.

In the earlier stages of mitral stenosis we have therefore, as a rule, what we might expect—namely, a crescendo auricular-systolic—the so-called "presystolic"—murmur, and no ventricular systolic murmur.

As the malady progresses and the auricle fails to sufficiently expel its contents to become adequately contracted before the ventricular systole commences, it cannot resist that systole. Regurgitation will then occur through an incompetent mitral valve, and a systolic murmur will probably become audible. The auricle will now begin to dilate and compensation seriously break down. With rest and treatment the auricle may recover for a time its tone and function of blood propeller and valve defender, which to me explain Dr. Taylor's statement: "The presystolic murmur returns when cardiac efficiency is temporarily improved or restored."

I have said nothing about auricular hypertrophy. It occurred in only 3 of my 18 surgical cases, and obviously only develops when required to overcome increasing resistance. In 70 autopsies at Guy's Hospital, mitral stenosis cases during the four years 1888–91 which I analysed, severe stenosis (one finger or less) occurred in 36 cases. In these severe stenosis cases dilatation of the auricle, without simultaneous hypertrophy, occurred in only 3 instances. In 11 cases dilatation and hypertrophy occurred together, and in 15 hypertrophy was alone noted.

It is evident, therefore, that in mitral stenosis hypertrophy of the left auricle is a much more characteristic phenomenon than dilatation. The advantage the auricle, therefore, has over the ventricle through commencing its contraction earlier and becoming small is supplemented in many cases by a useful hypertrophy of its walls, which we know is frequently accompanied by a decrease in the thickness of the left ventricle.—I am, etc.,

Topsham, Oct. 4th. D. W. SAMWAYS.

FASTING PRISONERS AND COMPULSORY FEEDING.

SIR,—I cannot help expressing my great regret that an article so unfair as that on the compulsory feeding of fasting prisoners should ever have appeared in the BRITISH MEDICAL JOURNAL.

Whatever those women may have done in the way of violence (and it is as nothing in comparison with what has been done in similar circumstances by men, from Irish Home Rulers to Dr. Jameson), the essential cause of their imprisonment is that they are fighting for a political idea. Even the Government, though it will not treat them as political prisoners, does not venture to deny that. For this they are being treated as common criminals in a way that men never are, and forcible feeding is resorted to because that is the only way in which the Government can make the continuance of their punishment as common criminals possible.

Whether six days' complete deprivation of food is accurately described as a "cheap way of escaping the penalty of the law," I am not competent to judge (has the writer of the article tried it?); but there can be no question that to take women, even when enfeebled by prolonged fasting, hold them down by force, and pass a tube down either their nose or their mouth, in spite of their efforts to resist, is both an outrage and dangerous, and that Mr. Keir Hardie rightly described it as such. Forcible feeding may be necessary at times in a lunatic asylum. Here it is not necessary, except to gratify a Government that is vindictive because it has made a mistake and has not the moral courage to acknowledge it.

There are instances on record in which under similar circumstances when there has been resistance, food has passed into the lungs or the oesophagus has been torn. Should anything of this kind happen here, it would come perilously near manslaughter or even something worse.

I notice that Mr. Masterman now is advised that no 'serious injury is to be apprehended" in any case of this kind. I do not know by what standard his adviser judges,

but evidently the infliction of some injury is to be regarded with equanimity.—I am, etc.,

London, W., Oct. 5th. C. Mansell Moullin.

Sir,—I fear that you can hardly be exonerated from showing a certain amount of bias in your paragraph on the above subject in the British Medical Journal of October 2nd.

As to the merits of the case at issue between the so-called hunger-strikers and the present Government I am not here concerned. But we look to you not simply to give us information on the medical side of matters of public interest, but also to indicate the attitude that should be taken by the medical profession towards any matters of public controversy.

Now it appears to me that you have unintentionally ignored an aspect of this forced-feeding controversy which is to me, as a medical man, of the first importance. Do you realize that, by what you say in your short article, you are placing the prison medical officer in a most unenviable position?

I always imagined that the duties of such medical officer involved the treatment of disease and were practically confined to that. By implication, you now support the view that he should also assist the lay authorities in dealing with recalcitrant prisoners. If these prisoners decline to take food let them be suitably punished as they would be for any breach of prison regulations. But if any forcible treatment is to be adopted which the administrative staff of a prison may think necessary, let them be required to do this themselves and at their own risk rather than make use of the professional assistance of the medical officer, upon whom will rest the blame of any accident. And in the forcible introduction of soft rubber tubes this is not remote.

I personally regard it as in the highest degree derogatory to the dignity of the medical profession that its members should be called in to treat with force healthy but recalcitrant prisoners. There is a suggestion in this of the status of the profession being removed only in degree from that of the common executioner or flogging warder. For this reason I view with disgust the employment of the medical officers of prisons to deal forcibly with rational prisoners who decline to eat, and I trust that, if the practice of hunger-striking becomes general, a majority of the prison medical officers will decline to give their services except in urgent cases.—I am, etc.,

Northwood, Oct. 5th. J. S. Edkins.

Sir,—I should like to criticize some statements which appeared in the last issue of the Journal on the compulsory feeding of the suffragist prisoners. The writer says that the dangers of the proceeding are so slight as to be negligible. May I point out that there is considerable divergence of opinion as to the danger of artificial feeding even under the familiar conditions of hospital and asylum practice? The circumstances under which forced feeding is applied to the prisoners are not matters of experience; new factors are present; the proceeding is in the nature of an experiment, and no one is in a position to dogmatize on the extent of the risk which is run. The prisoners are worn out by previous starvation; their hearts, owing to deprivation of food, are in a weak condition; and, instead of acquiescing, they are determined, rightly or wrongly, to resist so that they can only be fed after they have been overpowered by superior physical force.

The "hunger-strike" was not instituted as a cheap way of escaping imprisonment, but as a protest against treatment as common criminals. If the Government recognized these women as political offenders, and placed them in the first division, the need for coercion would cease.

In the Birmingham prison the stomach tube is not employed in order to save life according to its normal use as a surgical instrument; it is not employed in order to prevent the condemned from escaping imprisonment, but in order that political prisoners may be coerced into accepting the status of ordinary malefactors.

It is also a misnomer to describe complete starvation, up to six days' duration, as a "cheap" means of escape. The writer, if he speaks from personal experience, must possess unusual powers of endurance and fortitude. To ordinary people the suffering which a "successful" hunger strike involves is very great, and it might well be regarded as an adequate punishment for any of the offences with which these ladies are charged.—I am, etc.,

L. Garrett Anderson, M.D., B.S.Lond.

London, W., Oct. 6th.

*** We cannot agree that "the proceeding is in the nature of an experiment." Many prisoners, including, we believe, Palmer, the Rugeley murderer, have tried to starve themselves, and have been prevented from doing so by compulsory feeding.

CLINICAL TEACHING.

Sir,—The correspondence in your columns, under the above heading, confirms a widely-held belief that clinical teachers have much to learn—about teaching. As a would-be clinical teacher I feel sure I should only add proof to this belief if in this communication I attacked existing methods or submitted to your readers various schemes of reform which I regard as desirable. I am keenly conscious of the fact that I tumbled into my post as a clinical teacher in the same haphazard manner as did most of my colleagues, and I am therefore not surprised that few of us know much of the great principles of education which are as applicable to professional training as to the acquirement of all forms of knowledge. Our great British Medical Association has done, and will continue to do, invaluable work in diffusing medical knowledge throughout the profession. It might, I think, add to its services by helping our teachers to learn how to teach. For this purpose I would suggest that the proper authorities should consider the question of instituting a section of Medical Education at our annual meetings. On no occasion in the year are more English-speaking clinical teachers brought into contact with each other. Their deliberations would be helped by the criticism of some of their most distinguished foreign *confrères* and, what is of still more importance, by hosts of general practitioners who, having suffered from, or benefited by existing methods, would be able in their own persons to demonstrate the results.—I am, etc.,

October 4th. A Clinical Teacher.

THE POOR LAW REPORT AND THE SANITARY MEDICAL SERVICE.

Sir,—Your correspondent, Dr. Greenwood, talks of the "apotheosis of the sanitary medical service." and asks where the Poor Law medical officer comes in. He does not come in. Apparently, men who have been specially trained in diagnosis and treatment are to give place to sanitary officials who have been trained, and have since practised, on totally different lines. Why not adopt the "Mad Hatter's" tea party of *Alice in Wonderland* at once, and turn obstetricians into ophthalmic surgeons, and laryngologists into rectal surgeons?

As regards the Minority Report, it is pure Socialism, and sets up a system of petty officials throughout the land, who will be employed to look after each other and see that his fellow official performs his duties aright; each one, apparently, is to be paid out of the taxation of his own salary. Another instance of a community getting its livelihood by taking in each other's washing.—I am, etc.,

Wrington, Oct. 4th. Hubert C. Beistowe.

Sir,—I shall be glad if you allow me space to point out that the recent resolution of the Representative Meeting not only affirms the desirability of medical officers of health *not* being engaged in private practice, but is couched in terms which carry with them an affirmation of the undesirability of medical officers of health holding education or hospital appointments, or indeed doing any work outside the "duties of their office."

The Representative Meeting has, in fact, then already adopted a policy which, so far as medical officers of health is concerned, goes beyond the lines of the Majority Report. The day of the "combined district" is, as we all know, passing. The policies of the Representative Meeting and the Majority Report will lead, as many of your correspondents foresee, to a multiplicity of small "whole-time" appointments at £250 a year or so each. Is this in the interests of the public health? It certainly is not in the interests of the profession—I am, etc.,

F. G. Crookshank,
Medical Officer of Health Urban
London, S.W., Oct. 1st. District of Barnes.

COURT-MARTIAL ON A FLEET SURGEON.

SIR,—As a member of many years' standing of the British Medical Association I am concerned in the views represented by its JOURNAL. I write with reference to the general tone of the article appearing in the BRITISH MEDICAL JOURNAL of September 25th, which discusses the recent court-martial on Fleet Surgeon C. G. Matthew. This article conveys a wrong impression of the existing relations between the medical officers and the executive or other officers of His Majesty's navy. Friction is quite unusual, and mutual courtesy quite general.

The authorities were possibly ill advised in allowing the petty charges against Dr. Matthew to be brought before a court-martial. However that may be, the result itself and the evidence given by the executive officers concerned prove that such courts-martial are at least fair and free from class prejudice. The records of courts-martial for several years past can show no parallel case.

The reference to "self-respecting naval surgeons" in Mr. Gerald Sichel's letter of October 2nd is scarcely courteous to such doctors as make an efficient naval medical service one object of their lives. His remarks are untrue to actual conditions, however unfortunate his own somewhat limited experience may have been in the past.

You will understand, Sir, that I have thought it right to add these comments to those of "Another Fleet Surgeon," having regard to the wide circulation of the BRITISH MEDICAL JOURNAL amongst all classes, and to the general reliance on the correctness of the views it expresses.—I am, etc.,

October 5th. AN AVERAGE FLEET SURGEON.

THE STRENGTH OF DIGITALINS.

SIR,—We agree with the opinion of Dr. F. C. Eve (expressed in his letter in the BRITISH MEDICAL JOURNAL of September 25th) that the nomenclature of the various active principles of digitalis must be very confusing to the mind of the busy practitioner who cannot find the time to make a special study of this intricate problem. The confusion is accentuated by the fact that the most active of the constituents of digitalis has received the designation digitoxin, implying a harmful, rather than a beneficial action.

According to Schmiedeberg, digitoxin is a crystalline principle quite insoluble in water, having a characteristic colour reaction, and (we quote from Squire's *Companion to the British Pharmacopoeia*) "most toxic of all the constituents (of digitalis), but uncertain, cumulative, and dangerous in its action."

Professor Cloetta discovered a glucoside with an identical reaction, but amorphous and soluble in water. It is stated to be non-cumulative, certain and safe in its action. "Digalen," which was brought to the notice of Dr. F. C. Eve in Switzerland, is a solution of amorphous digitoxin Cloetta. Its standardization (0·3 mgr. in 1 c.cm.) is designed to make 1 c cm. correspond to 0·15 gram of folia digitalis *B.P.*, or 20·3 minims of tr. digitalis *B P.*

In regard to digitalin we are unable to add to the information already published beyond the fact that four distinct varieties occur in commerce.

The very wide and much debated question as to the admissibility of results obtained by animal experiments to direct application to human therapeutics we are not in a position to decide. Nevertheless, we may perhaps call attention to the publications of Dr. Minder,[1] Dr. Hipp,[2] and Dr. Kumoji Sasaki[3]—We are, etc.,

THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LTD.

London, E.C., Oct. 2nd.

[1] *Berl. Tierarztliche Woch.*, 1909, No. 11.
[2] Dissertation from the Pharmacol. Inst. of the Royal Vet. Academy, Hanover.
[3] *Berl. klin. Woch.*, 1905, No. 26.

AN exhibition of foods, drugs, pharmaceutical preparations, and medical and surgical appliances, organized by the *British and Colonial Druggist*, has been in progress at the Royal Horticultural Hall, St. Vincent Square, this week, and will remain open until 7 p.m. on Friday, October 8th.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

FROM January 1st, 1909, to August 28th, 1909, the deaths from plague in India amounted to 90,000. Distributed in months the returns show that in January there were 9,829 deaths from plague, in February 13,075, March 18,258, April 21,285, May 16,050, June 3,478, July 2,649, August 5,376. The returns are satisfactory, for practically the 90,000 deaths represent two-thirds of the expected amount for the year; so that we may anticipate that the total returns for the year will not exceed 135,000, or just under those of 1908, when 148,700 deaths were recorded. These are, however, eminently satisfactory compared with 1907, when not fewer than 1,316,000 persons died of plague. The Punjab has been the most seriously affected district, for out of the total of 90,000 since January 1st to August 28th no fewer than 23,867 occurred in that province.

HONG KONG.

The deaths from plague in Hong Kong in April, 1909, numbered 19; in May, 34; in June, 35; in July, 12; in August, 4. On August 28th Hong Kong declared free of plague.

CHINA.

In Canton, Amoy, Swatow, and Pakhoi plague has prevailed in varying degrees of intensity since March to the present date. No statistics are available.

JAPAN.

Plague cases have been reported during the spring and summer months from Kobe-Hiogo, Osaka, Yokohama, Himeji, Sugahama. In Kobe-Hiogo alone has the outbreak been serious.

FORMOSA.

In the provinces of Tainan, Kagi, and Yensuika plague was reported in the spring of 1909.

SINGAPORE.

During March and April, 1909, 12 cases of plague were reported from Singapore.

PERSIA.

In June, 1909, 6 cases of plague occurred in Bahrein.

TURKEY IN ASIA.

At Djedda 67 deaths occurred between February 9th and March 7th, 1909; at Bagdad, between May, 1908, and May, 1909, 163 cases of plague were reported.

EGYPT.

Between March 13th and July 9th, 1909, 125 deaths from plague were reported from Egypt. The disease occurred chiefly in Aga, Tautah, Deirut, Mineh, and Mallawi.

BRITISH EAST AFRICA.

In June 4 cases of plague reported from Kisumu.

GERMAN EAST AFRICA.

In April 80 deaths occurred at Buhungukirra, and during April and May at Muansa 12 cases were reported.

ZANZIBAR.

During the summer of 1909 plague occurred in Zanzibar, and 1,731 cases were inoculated with Haffkine vaccine.

MAURITIUS.

During April, 1909, 5 deaths were reported; in May, 4; in June, 4; in July, 6; in August, 10; and in September (to 18th), 11.

AUSTRALIA.

Queensland.—From January 1st to June 30th, 2 deaths from plague were reported.

South Australia.—At Adelaide, in April, 2 cases of plague occurred; in May 1 case, and in June 1 case.

New South Wales.—At Sydney, 18 cases of plague reported during March, April, and May, 1909.

West Australia.—In March, 1909, 2 cases reported from Bunbury.

WEST INDIES.

Trinidad.—During June and July 4 cases reported from Port of Spain.

SOUTH AMERICA.

Brazil.—At Rio de Janeiro, during 1908, 53 persons died of plague. During 1909 to June 30th, 17 cases reported.

Chile.—At Mejillones, Antofagasta, Iquique, Caldera, Taltal, and Port of Arico several cases of plague reported.

Peru.—During March 76 cases of plague were reported as having occurred throughout Peru.

Ecuador.—In January, 1909, some 25 cases of plague reported.

Venezuela.—In the first week in June, 1909, 12 cases of plague occurred.

EUROPE.

Russia.—At Uralsk, during July, 1909, 10 cases of plague were reported; the pulmonary type prevailed.

The Azores.—Plague cases were reported at Terceira as late as June, 1909.

Belgium.—Three cases of plague reported on board ss. *Rubens* on April 11th, 1909.

Obituary.

SIR THOMAS SMITH, BART., K.C.V.O., F.R.C.S.,

HON. SERJEANT-SURGEON TO H.M. THE KING; CONSULTING SURGEON, ST. BARTHOLOMEW'S HOSPITAL AND HOSPITAL FOR SICK CHILDREN; LATE VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, ETC., ETC.

SIR THOMAS SMITH, who died at his residence, 5, Stratford Place, W., on October 1st, was in his 77th year, having been born on March 23rd, 1833. He was the sixth son of Mr. Benjamin Smith, of Great Lodge, near Tonbridge, Kent. His eldest brother was the late Venerable B. F. Smith, Archdeacon of Maidstone, and his surviving brother, the Rev. Canon Maberly Smith, is rector of Penshurst, Kent.

He was educated at Tonbridge School, where he attained to the sixth form, and thence proceeded to St. Bartholomew's Hospital, where he was apprenticed to the late Sir James Paget, to whom and to whose family he continued to be united by ties of close friendship.



Photograph by] SIR THOMAS SMITH, BART. [*Bassano, London W.*

After qualifying he held the post of house-surgeon at the Leicester Infirmary, and in a similar post entered upon his long association with the Hospital for Sick Children, Great Ormond Street, then recently founded. At that hospital he became an assistant surgeon in 1861, was promoted to the office of surgeon in 1868, and on his retirement in 1883, after the full period of fifteen years' service in the wards, was elected consulting surgeon.

The interests of that institution were always very near to his heart, and in his later years he often recalled his experiences there. It was this association which led him to take a special interest in the improvement of the operations for hare-lip and cleft palate.

At St. Bartholomew's he held the posts of demonstrator of anatomy and of operative surgery, in 1860 was elected assistant surgeon, attained to the office of surgeon to the hospital in 1873, and was lecturer on anatomy from 1874 to 1879.

He retired in 1898, having reached the age limit of 65 years, and was appointed consulting surgeon and governor of the hospital, in the affairs of which he continued to take an active interest up to the time of his death.

In addition, Sir Thomas was at one time surgeon to the Alexandra Hospital for Children with Hip Disease, and was an honorary consulting surgeon to the King's Hospital for Officers.

On the death of Sir William Savory, Sir Thomas was appointed Surgeon Extraordinary to her late Majesty Queen Victoria, and at the commencement of the present reign was made Honorary Serjeant-Surgeon to the King.

A baronetcy was conferred upon him on the occasion of the Diamond Jubilee in 1897, and in 1901 Sir Thomas was created a Knight Commander of the Royal Victorian Order.

In 1862 he married Ann Eliza, daughter of Mr. F. Parbury, of Lancaster Gate, and had a family of three sons and six daughters, all of whom survive him. Mrs. Smith died in 1879. He is succeeded in the baronetcy by his son, T. Rudolph Hampden Smith, M.B.Cantab., F.R.C.S., Sir Thomas Smith took an active part in the work of the various medical societies, many of which are now amalgamated into the Royal Society of Medicine, served the office of Secretary of the Royal Medical and Chirurgical Society, was a frequent attendant at meetings, and contributed valuable papers to the several *Transactions*, as well as to the *St. Bartholomew's Hospital Reports*. His remarks in discussions were always to the point, worthy of attention, and enlivened by that genial humour which was so essential a part of his thoughts and sayings. He could not be wearisome or dull as a speaker.

When the International Medical Congress met in London in 1881, he undertook the arduous duties of the Secretaryship of the Surgical Section.

In the Royal College of Surgeons he occupied a seat on the Council and held office as Vice-President.

In spite of all this work done in and for the profession, he declined the Presidential Chairs which were from time to time offered to him. These refusals arose in part from a diffidence which led him to believe that others would fill them better than he would, and in part from a conviction that the adequate performance of the duties which they involved was not compatible with the claims of his hospital work, and of a large private practice. In the medical and some clerical charities he took an active interest, and took part in the work of their administration. Up to the last weeks of his life he was a regular attendant at the meetings of the Marylebone Branch of the Charity Organization Society, of which he was Vice-Chairman.

Brought up in the country in his boyhood and early youth, he acquired a fondness for active sports which he retained throughout life, and in his holidays, which were often spent in Scotland, he resumed the pursuits of his youth with unabated keenness. He was a golfer before the game had obtained any wide vogue in the South, and up to the early part of the present year was regularly to be seen upon the links at Mitcham. Yet at the dictate of failing health he laid aside without a murmur the active habits of a lifetime.

Of his gifts as an operating surgeon, of his teaching in the wards and in the lecture room, and of his diagnostic insight, it may be left for others better qualified than the writer to speak. It was not as a surgeon alone that Sir Thomas Smith received from a wide circle of friends an affectionate respect and regard such as few men are so fortunate as to inspire. He was a man strictly upright in all his dealings, of deep religious convictions which he never obtruded, humorous with a kindly humour which never wounded, endowed with a fund of sympathy which showed itself in deeds as well as in words.

Many a former pupil will remember the kindly interest which made the allotted task seem lighter. Some who have attained to positions of eminence will recall a helping

hand which made easier the first steps of the ladder. Some with whom life has dealt less kindly will think of him as a true friend in trouble, and all alike will deplore the gap which is left by the death of him of whom they always thought and spoke as "Tom" Smith.

Mr. Henry T. Butlin, D.C.L., President of the Royal College of Surgeons of England, writes:

By the death of Sir Thomas Smith I am deprived at once of an old friend and of one to whom I am indebted for many kindly services in my younger medical days.

When I entered at St. Bartholomew's Hospital he was Junior Assistant Surgeon and Demonstrator of Anatomy, and was exceedingly popular amongst the students on account of his genial kindness and his smartness as a dissector. He was to them "Tom" Smith, and so he remained to a large number of persons to the day of his death. I have no doubt the title pleased him, for I have heard him tell patients who were coming again to see him at the hospital: "Ask for Mr. Tom Smith."

I do not think I had an introduction to Mr. Smith, but he was good enough to show some special interest in me during my student days, and invited me to attend some classes which he held at his house before the final examination for the membership (R.C.S.). As there were no public classes in those days I gladly availed myself of his offer. Well do I remember his delight when he asked a rather dull student when he would take the stitches out after an operation, and the reply was: "When erysipelas sets in, sir."

At a later period I was engaged as registrar and chloroformist to the Children's Hospital (Great Ormond Street), to which he was surgeon, so that I was constantly in contact with him. He was just as popular there as he was with all classes of persons at St. Bartholomew's. The nurses and sisters were all glad when it was his morning to visit the wards or operate. The children adored him. It seems to me only yesterday that I stood by the bedside of a poor little creature whose appetite was very bad, and needed tempting, and Mr. Smith said to the Sister: "What would she like, Sister? Periwinkles, eh?" At which the child's eyes lighted up, and he wrote solemnly on the diet board, "Periwinkles and a pin." He said, "She must have a pin, Sister, for that's the way they eat them."

About 1882 or 1883 I became his assistant surgeon at St. Bartholomew's, and helped him at nearly all his operations for about nine years, so that I can speak with some authority of him as a surgeon. He was very rapid and dexterous in operating. He was a master of the operation of lateral lithotomy. Both at St. Bartholomew's and at the Children's, people who came to see him perform the operation would sit with watch in hand to see how many seconds would pass between the first incision and the removal of the stone. It was the most beautiful exhibition of rapid and yet sure surgery of that kind that I have ever seen. He was also unequalled in those days in the operative treatment of hare-lip and cleft palate, of which he was a pioneer. Most of the instruments he used were due to his own invention. What a difference there was to be sure in the way he handled those instruments and the way in which they were used by quite excellent surgeons to whom he had himself taught his method of operating!

In diagnosis he was often brilliant, for he had a natural shrewdness and power of observation which stood him in good stead. But I feel sure, in many cases, he could not have stated in words the exact reasons which had led him to the opinion he had formed. I have heard him say, when asked, "Well, I know because I know." And, the truth is, he did know. He taught in the out-patient department and in the wards more than had been up to that time the custom, but not to the same extent that such clinical teaching has been carried since. I do not think he lost any of his dexterity up to the time he ceased to be surgeon to the hospital. But he became rather more nervous, especially of loss of blood. On his operating days he was uncomfortable if his assistant surgeon was not there to help him, first myself, and, later, Mr. Walsham. Frequently he would say, "What do you think, shall I do so-and-so?" not because he really was in perplexity, or because he had any intention of accepting our advice, but it became a habit with him.

I suppose many persons who were only superficially acquainted with Sir Thomas Smith regarded him chiefly or solely as an excellent operator, and more or less haphazard in his methods, and certainly not given to literary efforts. This estimate would have been very incorrect; he spoke easily, well, and clearly, and was always welcome at the societies, the Royal Medical and Chirurgical, the Pathological, and Clinical. The indices to the *Transactions* of these societies show what an active contributor he was. He also wrote well and clearly, and furnished a number of excellent papers to the *St. Bartholomew's Hospital Reports*. Those on cleft palate, the acute arthritis of infants, and tuberculous disease of the bladder are well worth reading. There is also a paper on Lister's antiseptic treatment, recording his adoption of it during the three years, 1875 to 1878, and speaking of it in decidedly favourable terms. But he was never an antiseptic surgeon in the sense in which Lord Lister would have interpreted the expression.

It may be readily understood that so able a surgeon, so skilful an operator, and so genial a man, rapidly acquired a considerable private practice. For some years I took charge of it during his absence on holidays. But I looked very young, and the patients would not have me in his place, so I fear I was not very successful as his substitute. I have said that I was indebted to him for acts of kindness years ago. I believe that I largely owed my appointment as Surgical Registrar to St. Bartholomew's Hospital to the manner in which he spoke of my work at the Children's Hospital. He frequently took me with him to administer anaesthetics in order to help me

financially. And his interest continued to the other day, for his letter of congratulation on my election to the Presidency of the College was one of the first and the warmest I received. I might have thought, did I not know otherwise, that his sympathy and kindness towards myself was peculiar and a more or less solitary instance. But I have had many opportunities of knowing that similar sympathy and acts of kindness were extended to other persons than myself, and of learning that his liberality in the case of needy members of our profession was quite extraordinary, seeing how large a family he had and that his fees were never high; indeed, they were not nearly as high as they should have been. This was greatly owing to the manner in which he underrated his own services. I suppose it was the same or a similar feeling which led him to decline offices which would have placed him in a prominent position in his profession. If they entailed exhibition of himself and publicity, he shrank from them, and nothing would induce him to accept them. I have every reason to believe that he might have been President of the College of Surgeons some twelve or fourteen years ago if he had been willing to accept the responsibility. I have no doubt he would have made a good President, for I became a member of the Council long before he left it, and know how excellent a councillor he was. He attended to his duties with great regularity, never spoke unless he had a proper excuse for doing so, and then spoke shortly and to the point. All his fellow-members liked him for the same reasons that he was liked in every place to which he belonged.

Sir Thomas Smith's wit and humour made him acceptable at the dinners at which he dined and the places in which he spoke. I remember how he described a case at one of the societies as that of a little boy whose spleen and liver were contending for the mastery of his abdomen, and certainly they were as large (from amyloid disease) as they well could be; and he introduced another case as that of "a tumour, Sir, to which a little child is attached." The students in the rooms and afterwards in the wards were delighted with his ready wit. Every teacher of anatomy is aware of the industrious but not too sharp student, who, at the beginning of his first session in the rooms, finds a penny in the oesophagus and brings it to the demonstrator in triumph as, perhaps, the undetected cause of death. After this had happened two or three times to "Tom" Smith, he became tired of it, and his advice to the next youth who brought him the penny was, "All right, my boy, you look in the stomach and you'll find the change for a shilling." Going his round of the wards one day, he found a woman in one of them with a badly-cut lip, and asked the cause of it. The lip had been damaged by a jug which had been thrown at her during a dispute with another lady. "How shall I head the board, sir?" said the house-surgeon. "Well, I really think you might head it 'jugged hare lip,'" was the reply.

When I sat down to write this appreciation I tried to tune my mind to the serious part of the character of one for whom I had the greatest admiration and personal liking. But, do what I will, his image comes back to me as I knew him forty years ago: that of a tall man, thin and erect, kindly and good to look upon, with his hat a little on one side of his head, quick and ready of speech, and endowed with the wit which students love, for it was never biting nor ill-natured. And I recall, whether I will or no, the anecdotes which tell of his lighter rather than of his more serious vein. During the last year he seemed to me to have become a little graver, but he had not by any means lost the cheerfulness and brightness which endeared him to us all.

Professor Howard Marsh, Master of Downing College, Cambridge, writes: The announcement of the death of Sir Thomas Smith will be received with deep and universal regret, not only by the profession but also by the public. From the highest to the lowest he was known as a personal friend more widely than, perhaps, any other surgeon of his day, while he was honoured by the confidence and regard of many members of the Royal family, especially by Queen Victoria and their present Majesties King Edward and Queen Alexandra, he was also the friend, in the truest sense, of all his patients at St. Bartholomew's Hospital and the Hospital for Sick Children. It may be truly said that every one loved him. It is during illness that the perception of the character of those around becomes most vivid and unerring. It was a lesson, to be present when Tom Smith was at the bedside of a sick child. Take a little girl of 6: there was no trace of fear or shrinking, but a mixture of curiosity and confidence; their eyes met, a little hand was poked out and taken, a wireless telegram seemed to pass, and then there was either a pathetic smile or a coy chuckle, as the case might be, indicating that the doctor had become a sort of favourite uncle or a kind of Father Christmas. Wherever men congregate, in the club or at the coverside, the doings of the prominent surgeons of the day are often the subject of conversation. If any one was speaking hardly of Tom Smith there were sure to be present those who would take the other side. "Ah, I dare say, but he is one of the best. He cured me, and I know he put ——— and ——— right. When you are ill it can't be a bed of roses you know; but he always tried to make it as easy as ever he could. He is a really kind chap." Many a woman after what Tom Smith had done for her, or her child, would have recoiled from any one who spoke against him—there were, indeed, very few who ever did so. He was not only naturally kind, as many are. Kindness is often flabby, and even maudlin, as when a woman degrades a cat by tying a pink ribbon round its neck and undermines its constitution by giving it half a pint of cream at its meals. Tom Smith's kindness was different. It was his answer to the misery of the man whose wife's life was hanging in the balance; to the mother's agony of fear that the life of her only child was ebbing away; and his attitude at such times inspired an unfading memory. No doubt all this was part of his character from the first. But the circumstances of his life had conspired to give it full development. From boyhood onwards he was the intimate friend and constant associate of Sir James Paget, whose kindness of heart was one of his most conspicuous and contagious qualities. And he met with as great a catastrophe as can befall any man, for he lost his wife at the birth of their ninth child. This event changed his whole life, and in a man who had faced such a calamity it was once again seen that a fellow feeling makes us wondrous kind. He was, I need scarcely say, a man of the highest rectitude and the highest ideas. He turned instinctively away from the commercial side of his profession. Till he was nearly 30 he was very poor and was getting his living by coaching and by helping Sir James Paget in his private practice. In those days, I have heard him say, his breakfast was often bread and butter and a penny herring. Throughout his life he lived quietly and limited his expenses very carefully. His wife, a daughter of Mr. Parbury, an Australian merchant, had money, and he had for many years a very lucrative practice, so that he had means sufficient and to spare, although the education of his nine children must have entailed a heavy outlay. He never talked of his money matters, and was content with the motto "*Dabit qui debit.*" But he was very generous. He was one to whom many a St. Bartholomew's man went when he was in trouble, and, if the case was genuine, he was sure to meet with kindness and sympathy. On such occasions Tom Smith, not only by his own giving, but by getting contributions from Morrant Baker, Alfred Willett, Sir William Church, and others in his set, made up a useful sum, which he took care to see was turned to good account. He also gave freely to the various "friendly" societies, the Sons of the Clergy, Epsom College, British Benevolent Fund, and others, and to St. Peter's Church, Vere Street, where for many years he was a constant attendant when the present Dean of Salisbury, Dr. Page Roberts, was the incumbent. Every one knew how genuinely kind he was, but his popularity was in no small degree due to the fact that he never pushed himself forward, and was always courteous and carefully regardful of other people's feelings, while of their failings, although he was well acquainted with them, he said very little. Sometimes his friends wished he would take a more leading part.

Every one called him "Tom," or "Tom Smith"; this was, to a great extent, his own doing. The name, so completely English and unpretentious, exactly suited one who was absolutely free from affectation. It seemed to amuse him, and he often made fun of it. "Oh, my Tummas!" was his only expletive when he

spilt the ink, pricked his finger, or missed a putt at golf. He had a mechanical turn, and was very good with his fingers, and could mend a fishing rod, patch up a favourite pipe, or contrive and make a splint for any special case with notable skill. Had he started a motor he would have known all about its interior, and been very resourceful in overcoming its ingenious misbehaviour. He was a keen sportsman—a good fisherman, a good shot, and a golfer whom many found it hard to beat. One of the pleasures of my life was our round (or two) together, or in a foursome, for he was always, whether winning or losing, the same genial companion, neither obtruding his good nor explaining away his bad shots—as the manner of some is—and neither doing nor saying anything to rub even a sensitive golfer the wrong way. A gift which was one of the secrets of his popularity was a sense of humour of quite rare quality. He often, with perfect good nature great shrewdness and correct appreciation, hit off a character by some droll comparison that was extremely amusing. He never made a speech if he could help it, but whenever he did, adorned with the virtue of brevity, it always contained some quaint turn or whimsical allusion, or some conceit which would not have been out of place in the pages of Charles Lamb or Laurence Sterne.

Sir Thomas Smith stood in the first rank of the surgeons of his day. He kept to surgery, and although he was awake to all the advances which came through physiology and pathology he did not himself undertake a study of surgery from any but a practical standpoint. He had a very wide knowledge of surgical cases, and all who met him in consultation knew how valuable his opinion was. Here his shrewdness and the close attention with which he observed symptoms and worked out a conclusion gave his opinion great weight. In his early days he was an expert aurist when the majority of surgeons knew nothing of affections of the ear, and he was very successful with many cases which Sir James Paget placed in his hands. It was, however, as an operator that he was most distinguished, I should say, without hesitation, that Sir William Fergusson and Sir Thomas Smith were the best two operators of their day. Neither of them posed as a great operator; they would have been equally ashamed to do so, but their pre-eminence was well known. Certainly Fergusson and Smith had no rivals in the operation of lateral lithotomy in children. In the hands of these two masters a proceeding which many surgeons never undertook without serious apprehension appeared to onlookers to be simplicity itself, for which half a minute was fully time enough. And Smith was an expert in the treatment of hare-lip, in tracheotomy, and in plastic and urethral surgery. He will, however, be chiefly remembered for his work on the operative treatment of cleft palate, for having turned chloroform to account, invented a very ingenious "gag," introduced and improved a French tubular needle for passing silver wire, and substituted lateral incisions for the somewhat uncertain method of relieving tension by dividing the tensores palati muscles employed by Fergusson and others, he was enabled, instead of postponing operation till the patients were 12 or 14, to operate on children of 4, or even 3. Advances have since been made, but these have all been the outcome of Smith's original proceeding.

Sir Thomas Smith was not a prolific writer; he only appeared in print when he had something to say; but what he wrote always attracted attention and helped his subject forward. Many of his papers conveyed important contributions to surgery. That on the acute arthritis of infants may be especially mentioned. For many years his handbook on operative surgery was very popular, not only at St. Bartholomew's, but in other medical schools. It was a matter of great regret that he did not accept the Lectureship on the Principles and Practice of Surgery at St. Bartholomew's in succession to Abernethy, Sir William Lawrence and Sir James Paget, and as the colleague of Sir William Savory, for as Lecturer on Clinical Surgery he was excellent, and no one was more popular with the class. But as his nine children were motherless and so largely dependent on his personal supervision of their education, as he was in large practice, and as, though his health was sound, he was never robust, he felt he had neither time nor strength for this highly responsible and exacting office. On the same grounds, later on, and with equal regret on the part of all his colleagues, he declined to be elected President of the College of Surgeons. But though he was never one of the systematic lecturers at his school he was for many years one of the most original and instructive teachers of his day. I was long associated with him both at St. Bartholomew's and at the Hospital for Sick Children, and I was constantly indebted to him: I learnt much from him and I always had his constant good colleagueship and friendship.

We know that "men may come and men may go," and that "so flourish these when those have passed away," but in the long succession of men who have been called upon to do their duty to their school, their colleagues, and the public, the name of Sir Thomas Smith will long be held in grateful and affectionate remembrance.

Sir FREDERICK TREVES, Bart., G.C.V.O., C.B., writes Young surgeons of the present day can hardly realize to its fullest extent the loss the profession of surgery has sustained by the death of Sir Thomas Smith. For a number of years, during which time he was keenly engaged in hospital work and busy with a large private practice, he exercised a dignified influence in surgical affairs which was as remarkable as it was unobtrusive and efficient. This influence was due to rare and estimable qualities, among which were conspicuous a lofty ideal of professional honour, a blunt abhorrence of anything that savoured of pretence or unworthy methods, and a clear, simple common sense which was ever of more worth than the acutest sophistry. Sir Thomas Smith was the soul of honour, a man jealous to a degree of the high repute of his profession, who, in every action of his life, realized the conception of the blameless surgeon, and who, by his example, guided many a stumbler through the pitfalls which lie in the path of ultimate success. Many and many a time, in matters of doubtful ethics, Sir Thomas was appealed to with the assurance that his decision, whatever it might be, would be true and right, and that his counsel would be based upon the dictates of a generous and wide-reaching sympathy. In any controversial discussion in which he was concerned he was always the advocate of peace, while, at the same time, his was the bright grasp of facts, his the prompt conclusion, his the magnanimous award. It was enough for Sir Thomas Smith to find a professional brother in difficulties to make him at once his champion, his advocate, and his friend. He would go far and travail long to do a kindly deed. His unselfishness, his modesty, his gentleness were everyday unconscious expressions of a great spirit, and will ever serve to illumine the records of the life of one of the most lovable of men. He is known to the world as a great surgeon, he is known to the many as a noble and upright man, but I believe that it would best please his gentle heart to think that to a still larger host he will ever be known and affectionately remembered as simply—"Tom Smith."

Sir Thomas Smith was buried at the St. Marylebone Cemetery, Finchley, on Wednesday, October 6th. The funeral service was conducted by the Bishop of Oxford, and was attended by his children and some other members of his family. A memorial service which was held simultaneously at St. Mark's Church, North Audley Street, was conducted by the Dean of Salisbury, who was assisted by the Rev. H. J. Watters. At this service His Majesty the King was represented by Sir Frederick Treves, Bart., G.C.V.O., and there was present, in addition to the Presidents of the Royal College of Physicians and Royal College of Surgeons, a large gathering of relatives, private and professional friends, and representatives of the various institutions with which Sir Thomas was connected.

JOHN MILSON RHODES, M.D., J.P.

THE circumstances of the death of Dr. John Milson Rhodes, which occurred suddenly on Saturday evening, September 25th, at his house, Ivy Lodge, Didsbury, were peculiarly sad. For over three years he had suffered from an incurable heart affection, and on his own accord, as well as under medical advice, had resorted to full doses of nux vomica or strychnine to enable him to cope with his work. Having much Local Government Board work to do, on that Saturday at 5 p.m. he took mx of liq. strychninae and resumed his writing. At 7.30 he felt the

muscles of his limbs twitching, and sent for his nephew, Dr. M. Russen Rhodes, who was in partnership with him. He appeared cheerful, but remarked: "You do not think I have taken a fatal dose?" He was reassured on that point; nevertheless various restoratives were given him. He apparently recovered, and spoke of the public work he had to perform during the following week. Within the next hour he had several relapses, and though strenuous efforts were made to counteract his now visible heart failure he collapsed and died shortly after nine o'clock. It was the end that both he and his nephew had expected for some considerable time, for on the occasion of a projected trip to Budapest to attend a conference he remarked that "probably he might not go, as it would give so much trouble had he to be brought home."

Milson Rhodes, as he was known, was born in Broughton, Manchester, in 1847. He was one of a family of doctors whose name and fame have for years held a dignified place in that character in South Manchester.

His two older brothers, Dr. Francis Rhodes and Dr. Thomas Wemyss Rhodes, predeceased him by many years. Deciding to enter the medical profession, he matriculated at Glasgow University, but completed his studies at Owens College and the Manchester School of Medicine, where he distinguished himself as a first and second prizeman with honours. After qualifying at Edinburgh and graduating at Brussels, he settled at Didsbury in general practice, and had resided there ever since.

But the reputation of Milson Rhodes was far more than local. Indeed, on certain burning topics, like Poor Law administration and, in a special sense, all the conditions relating to epileptics and the feebleminded, as well as the question of infant mortality and its causes, he earned a reputation that might almost be termed world-wide.

His work has been that of the pioneer, and, though many so-called authorities in his earlier days scoffed at his ideals, he had the supreme satisfaction of living to see the fruition of nearly every one of his aims in the most practical form.



Photograph by] JOHN MILSON RHODES. [*A. Conge, Manchester.*

It was chiefly under his influence and lead that Manchester became the forerunner and centre of reform in many phases of workhouse management. After serving for two years as an overseer for the township of Didsbury, Milson Rhodes in 1882 became a member of the Chorlton Board of Guardians, and was paid the unusual compliment of being invited to serve in this capacity by both political parties—Liberals and Conservatives. The satisfaction his place on the board gave to all is shown by the fact that never since had he to fight for his seat.

His first discovery as a guardian was that the workhouse dietary system was in a state of chaos. In some places, for instance, the inmates were allowed 3 oz. of meat for dinner, in others 6 oz.; in one workhouse the amount of suet pudding allowed per head was 8 oz., in another 24 oz. Dr. Rhodes brought the matter before the North-Western Poor Law Conference, and as an outcome of the discussion alterations were made in many unions. It was when, as a guardian in 1884, he discovered that in the Chorlton Union a ton of bread per month was being wasted, that he wrote a paper on workhouse dietaries, a paper so trenchant in its criticism of the prevailing system that in the end the Local Government Board was forced to take up the subject with the result that dietary scales on a scientific basis were prepared by Dr. Downes and are now in use all over England.

Sick nursing was his next subject. In those days many workhouses had no trained nurses, the duties being relegated to pauper inmates who were open to all sorts of bribery. With his usual vigour he directed the attention of local administrators in the first instance to the need for skilled nursing in the sick wards. His paper on trained nurses in workhouses he then read before the conference, and soon afterwards the Northern Workhouse Nursing Association, of which he became chairman, was established. Matters progressed, and the law now compels the employment of trained nurses in hospitals for the pauper sick.

Much anxious time, freely given, and earnest work have been devoted by Milson Rhodes to the condition of the epileptic and imbecile poor in workhouses, and his labours in this direction alone were most strenuous. So long ago as 1888 at a meeting of Poor Law representatives in conference in a paper on pauper lunatics, their detention in workhouses and county asylums, and the laws relating thereto, he advocated the complete removal of those afflicted from the ordinary institutions, and showed the harsh conditions under which the mentally deficient who happened to be poor were forced to live. Portions of his paper were quoted in the report of the Royal Commission on the Education of the Blind and Deaf, and some of his recommendations were embodied in the Act that was subsequently passed.

Some years later he proceeded to Germany and Belgium and examined their outdoor or "colony" system of treatment, which was afterwards described in a valuable report. No less important was his report of his tour of inspection of nearly twenty hospitals and colonies in the United States of America, published in 1902, his object being to obtain information as to the treatment of epileptics in the States, as well as knowledge germane to the subject in other respects.

It was due principally to his continued energy that joint action was taken by the Chorlton and Manchester Boards of Guardians to provide such an institution, for he held strongly "to the belief that the most effectual method of dealing with this afflicted class (the epileptics) is to keep them employed as much as possible in the open air, and that the routine of the poorhouse places restrictions in the way of any improvement of which their condition might be capable. At the same time, their presence among the other inmates is also detrimental to them." Milson Rhodes knew the value of "try again," and generally got his result: the result in this case was the establishment of the Langho Colony for Epileptics on a site occupying 168 acres. He laid the foundation-stone in 1904, and

the institution was opened by the late Earl of Derby in September, 1906.

Prior to this it was his advocacy of the cause of the epileptics that led to the foundation by the Lewis Trust of the David Lewis Epileptic Colony at Sandlebridge which cost £100,000, and which he always asserted is the finest institute of its kind in the world. This he accomplished after first experiencing the most determined opposition to his scheme, but he afterwards had cause to rejoice that its example was followed by many boards throughout the kingdom.

Years earlier his endeavour to secure better advantages for feeble-minded children had led to the foundation of the Birmingham Homes for the Feeble-minded, and of these he was appointed the first president.

Dr. Rhodes's work on behalf of poor children might alone suffice as an epitaph for most men. Frequently did he advocate the removal of children from the surroundings of the workhouse, and it was largely through his instrumentality that the Chorlton Board of Guardians established the excellent cottage homes at Styal in Cheshire under the supervision of skilled foster parents. To obtain this reform of taking children out of the workhouse environment he travelled all over the country addressing Poor Law conferences in all the Local Government districts, as well as many other meetings. For some years he was at frequent intervals invited to address meetings on this subject, and no one responded more readily to the general call, for the matter was dear to his heart.

Milson Rhodes also took an active interest in the work of the Lancashire Asylums Board and in the inquiries of the Manchester Statistical Society into the Poor Law. He also represented the Withington district on the Lancashire County Council, and spent as much of his time as could be spared from Poor Law work in dealing with sanitary questions.

On the ever-present question of poverty his fame as an authoritative writer and speaker spread, and he was invited to address congresses in Austria, France, and Belgium on its various aspects. Before the British Association in 1890 he dealt with Pauperism, Past and Present, in a paper that was translated into French.

He was a most prolific writer, and as a statistician on the subjects that constituted his life's work he had no equal. Among his papers and reports, which are legion, are the following:

The Treatment of Pauper Imbeciles and Epileptics by Combination of Unions; Provision for the Insane in the North-western District; Is Insanity Increasing? The Increase in the Number of the Certified Insane, and the Decrease in the Mortality from Diseases of the Nervous System; The Mentally Defective in Prison; On the Necessity for Increased Provision for the State Insane; On the Best Means of Providing Accommodation for the Imbecile and Epileptic Classes; The Treatment of the Mentally Defective under the Poor Law; On the Employment of Trained Nurses in Workhouses; The Progress of the Poor Law during Her Majesty's Reign; The Local Government Bill as it Affects the Functions of Guardians in Urban Districts; Outdoor Relief; Classification of Workhouses; Workhouse Infirmaries; Pauper Statistics and the Case Paper System; The Law in England for the Protection of Children under the Care of Guardians; Report of the Departmental Committee on the Education of Dependent Children; The Necessity for Increased Power of Detention in regard to Immoral "In and Out" Cases and their Children; Charity True and False; Women's Work and Wages; How Far Water is Responsible for Disease.

The number of official appointments he held at various times were many, amongst them being Justice of the Peace and Alderman of the County Palatine of Lancaster; Chairman of the Chorlton and Manchester Asylums Board; Visiting Justice for His Majesty's Prison, Strangeways; Chairman of the Central Poor Law Committee of England and Wales; Chairman of the Chorlton Board of Guardians; Chairman of the Styal Cottage Homes; Vice-Chairman of the Lancashire Inebriates Acts Board; member of the Committee of the David Lewis Manchester Epileptic Colony; and Chairman of the Manchester South Division of the British Medical Association. He was also one of the founders of the Société International d'Assistance Publique, of which he was a vice-president.

His friends often marvelled that he contrived to do so much hard work in the time at his disposal, for he was also medical inspector under the Factory Act. The secret lay in the regularity of his mode of living. He never appeared to be in a hurry, though his average day's work might well have appalled the heart of a man thirty years his junior; he had a time set apart for every detail of his daily life, and allowed nothing to interfere with it. In his own township "the doctor" was in almost daily request for every public movement that was afoot, and he was ever ready to lend his presence and influence in any and every legitimate cause of charity, as well as in every social phase of village life. Even in local games of lacrosse and cricket he spared time to cheer on the younger members on the field by his genial presence and encouragement.

Dr. Rhodes was unmarried, but his loss is mourned by the whole people, and especially by the very poor, whose champion he had been throughout his entire life. As the Manchester city coroner truly observed:

We all know how he lived his life for other people, and it appeared that he had sacrificed it to cope with that work.

Even in the imbecile wards of the Chorlton Union Workhouse Milson Rhodes knew every inmate not only by headmark but also his life's history to the most minute detail. He was essentially a modest man where anything affected himself personally, but a most strenuous and fearless fighter for the rights of others, especially for the weak and afflicted, and knew humanity so well that he was a born leader of men.

His figure was familiar in the lobbies of the House of Commons when any Bill was under discussion in which he was specially interested. It was said that on one occasion he button-holed a consequential M.P. who had a bill to engineer. Milson Rhodes explained to him that such a thing would have to be prominently brought forward before the House and passed by it. "But my dear doctor, it could not be done," said the M.P. "Could not be

done!" cried Rhodes, looking aghast, "my dear sir, I did not come here to discuss the question with you as to whether it could or could not be done; it will *have* to be done." "Oh, if that's how you speak, doctor, you had better come in here, and we'll have a talk over it and see how it can be managed." This was typical of the man—his earnest personality, his sound judgement, and complete mastery of detail carried the day.

An impressive funeral service was held at Emmanuel Church, Didsbury, on Wednesday, September 29th, which was largely attended by his personal friends and deputations from various public bodies. Cremation followed at the Manchester Crematorium. One of the greatest and most eloquent tributes to his character occurred on the way to the Crematorium when a number of aged pauper men from the workhouse were seen standing with heads uncovered and with visible signs of emotion plainly written on their faces.

It has been written of him with truth—

Milson Rhodes's name will live. The good he has done will not die with him, and generations yet to come will have reason to remember him gratefully.

And we might also add "lovingly."

"Wire-pulling" on his own behalf was alien to Milson Rhodes's nature, and if he did not meet with many of the outward earthly rewards for his unselfish labours in the cause of suffering humanity, we know of no more fitting quotation that could be said of him than: "Well done thou good and faithful servant: thou hast been faithful over a few things, I will make thee ruler over many things: enter thou into the joy of thy Lord."

Universities and Colleges.

UNIVERSITY OF LONDON.

Advanced Lectures in Physiology.

THE first of the course of eight lectures during the first term in the Physiological Laboratory, by Professor G. A. Buckmaster and Mr. J. A. Gardner, will be given on October 12th, at 5 p.m., the subject being recent researches on chloroform anæsthesia.

Professor E. H. Starling's course of eight lectures on recent advances in the physiology of digestion, will begin on Friday, October 15th, at 5 p.m.

The course of six lectures on the pineal and pituitary bodies, by Professor A. Dendy and Professor W. D. Halliburton, at King's College, commences on Monday, November 1st, at 4.30 p.m.

Lectures by the Professor of Protozoology.

Professor E. A. Minchin will give a course of fourteen lectures on protozoan parasites, with special reference to those of man at the Lister Institute of Preventive Medicine on Mondays and Thursdays, at 5 p.m., during the second term (January to March). These lectures, which are free by ticket, will be addressed to B.Sc. students, medical men and others interested in the subject, and will be followed by exhibits of preparations as occasion requires.

THE UNIVERSITY OF BELFAST.

Proposed Lectureship in Scholastic Philosophy.

THE Marquess of Londonderry and others have presented a petition to the Lord Lieutenant of Ireland against the establishment of a lectureship in scholastic philosophy in the university. One of the reasons advanced is that at a public meeting to further the Better Equipment Fund of the college the most explicit promises were made by the authorities that no attempt would be allowed to introduce any sectarian education, and that in reliance on these promises, funds were subscribed, and that the petitioners consider a lectureship in scholastic philosophy is sectarian.

Three petitions have also been presented to the Judicial Committee of the Privy Council, and a preliminary hearing took place, but was adjourned; and the full hearing will be held on October 14th. Both petitioners and the University Commission will be represented by counsel.

The matter, although not strictly medical, is arousing the deepest concern in all circles. Many feel strongly that indirectly the interests of the Belfast Medical School are vitally involved in the issue.

THE UNIVERSITY OF BIRMINGHAM.

Appointments.

PROFESSOR JORDAN LLOYD has accepted the invitation of the Council of the University to succeed Professor Bennett May as Professor of Surgery.

The vacancy caused by the resignation of Professor Robinson, who was Professor of Anatomy, has been filled by the election of Mr. Peter Thompson, M.D., Ch.B.Vict., Professor of Anatomy in King's College, London.

The Chair of Zoology has been filled by the appointment of Mr. Frederick William Gamble, D.Sc., F.R.S., who was Assistnat Director of the Zoological Department and Lecturer and Examiner in Zoology in the University of Manchester. He succeeds the late Professor T. W. Bridge.

Miss Jessie S. Bayliss, D.Sc., a former student, has been appointed Lecturer in Botany.

Walter Myers Travelling Studentship.

Mr. John Dale, M.B., Ch.B., B.Sc., has been recommended for election to the Walter Myers Travelling Studentship, and the Senate has approved of his holding the studentship at Hamburg. This is the first time this scholarship has been awarded since its foundation in 1901.

Matriculation.

The pass list of the September matriculation examination contains the names of fifty-three students, and of these seven have been placed in Class I.

Medico-Legal.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

ETIQUETTE writes: A medical inspector of schools signs a child up as having "a weakness in one lung." This has the effect of greatly disturbing the parents, who bring the child to be examined by their doctor. The doctor finds no symptoms, and no signs of any lung trouble whatsoever, and the parents state that the child has always been perfectly healthy, is gaining weight, and has no cough or trouble of any description. Another medical man examining the child independently agrees with the parent's doctor that there is no lung trouble whatever. What is the course to adopt?

**** A notice given by the medical inspector of schools to a parent is of the nature of a warning, or advice, or recommendation that in his judgement the child requires special care or treatment. The parents in the case related have done their duty in taking the advice of their own doctor with, in addition, the opinion of another medical man. The proper course would seem to be for the parent's doctor to write to the medical inspector, telling him that the child had been carefully examined and appeared free from evidence of disease, and that the parent's doctor had therefore advised them to let the child return to school.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

THE COURTESY CALL.

PEANA.—The courtesy call should be made as soon as possible after the practitioner has settled in a neighbourhood. There can be no reason for deferring it until after the termination of the introduction, unless there is any doubt that he will stop.

Public Health AND POOR LAW MEDICAL SERVICES.

REGULATIONS AS TO IMPORTED MEAT.

It was to be anticipated that the regulations made by the Local Government Board under the Public Health (Regulations as to Food) Act, 1907, would require amendment from time to time as experience in their enforcement was gained. There came into force on September 30th important alterations and additions to the definitions of foreign meat of Class I and Class II. Of special significance is the addition of "stripped" meat to Class I. It appears that the attention of the Board has been called to the fact that meat, particularly beef, is sometimes imported in the form of carcasses, or portions of carcasses, from which the pleura or lining membrane of the thorax have been stripped. The object of this removal of the pleura is no doubt to conceal evidence of disease. When meat in this condition is imported it is now the duty of the Customs Officer to forbid its removal until seen by the medical officer of health.

THE fifth annual public meeting of the Association of Women Pharmacists will be held in the lecture theatre of the Pharmaceutical Society at 17, Bloomsbury Square, W.C. (by kind permission of the President and Council), this day, Friday, October 8th, at 8 p.m. An address on The Power of Little Things will be given by Miss Mary Thorne, M.D., F.R.C.S.I.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A. B. C. asks for information as to the effects of veronal when taken for two months each night, but never more than 7½ grains at a time.

J. E. H. asks whether the bee-sting treatment is likely to be of use in a case diagnosed as rheumatoid arthritis, and, if so, how the treatment can be applied during the winter, when bees are dormant.

NORTHERN CORRESPONDENT asks whether any correspondents have had experience of the beneficial action of exercising the chest muscles for the relief of asthma. It seems to him that such a mode of treatment might be beneficial in other chest troubles as well.

G. P. asks for advice in the treatment of a married lady, aged about 40, who has complained during the past six months of a heavy odour during her periods so perceptible that others, even her little boy, remark it. She wears a pessary, but the condition is thought not to be local. Iron tonics have been tried without effect.

WILLIAM BLAKE'S DRAWINGS.

NORTHERN CORRESPONDENT points out that there is a reference to William Blake in Bulwer Lytton's *A Strange Story*, chapter 64, which may interest Dr. Munro Smith and other correspondents.

ANSWERS.

CONTINUOUS NEURALGIA.

DR. ALBERT E. MORISON (Sunderland) writes: In reply to "Seventy-Two," I have found painting the affected area with guaiacol as frequently as required an almost infallible remedy for this painful condition. After painting it is advisable to cover the part with a thin layer of cotton-wool.

DESTRUCTION OF MOSQUITO LARVAE.

MEDICUS, JUNIOR (India).—The blast-furnace oil recommended by Major Ronald Ross in his book *Mosquito Brigades* could probably be obtained locally, and application might be made to Messrs. Richardson and Cruddas, Bombay, who might be able to supply a waste product at a cheap rate. Possibly crude rock oils could be obtained from the oil works in Burma, and inquiries might be made of any business agent in Calcutta or Bombay having dealings with Burma. While crude creosote is very good for killing larvae, it is too expensive for practical use; it is better to get any cheap local oil that happens to be available.

SAPROPHYTES AND PARASITES.

A. F.—A saprophyte is an organism which derives its nutriment from non-living material; a parasite is an organism which derives its nutriment from living tissues. The bacteriological use of these terms is not in the least confused, and ought not to be confusing, providing the reader is aware that they are commonly used in a merely descriptive sense, and not as a basis of classification. It might seem perplexing if the same person were described by one man as a blacksmith, and by another as a pew-opener; but the perplexity might be removed by the discovery that the person in question pursued the one vocation on weekdays and the other on Sundays. Similarly, many bacteria are capable of thriving either as saprophytes or as parasites. The typhoid bacillus, for example, is a parasite when it is growing in the spleen or a Peyer's patch, but a saprophyte when growing in the intestinal contents or on the bacteriologist's culture media. Most of the parasitic bacteria—a notable exception being the leprosy bacillus—can be cultivated on artificial media—that is, made to grow as saprophytes. On the other hand, there are many saprophytes which have never been found to grow on living tissues. These are not always harmless. The saprophytes, for example, which would thrive on a blood clot would give rise to decidedly pathogenic effects if the clot containing them happened to be inside the uterus.

LETTERS, NOTES, ETC.

THE SCOTOMAGRAPH.

IN the title of the paper in which Dr. J. H. Tomlinson described his appliance for mapping out blind or anaesthetic areas of the retina and automatically recording the result, published at p. 985 of the issue of the JOURNAL for October 2nd, the term "sectomagraph" was applied to the instrument; its correct designation is Scotomagraph.

THE MECHANISM OF MOTOR FATALITIES.

DR. ARCHIBALD G. HAY (Glasgow) writes: In your paragraph under this heading in the JOURNAL of September 25th, p. 902, reference is made to the need for adjustable foot rests at a proper angle. This, I take it, refers to the back part of the car, as in all modern cars the footboard in front is considerably sloped up. In the Lotis car which I am now using in my practice the manufacturers, Messrs. Sturmey Motors, Ltd., Coventry, supply as a standard fitting a large foot rest at a comfortable angle and adjustable at any desired distance from the seat, so that the need referred to has already been met.

DIABETES AND LECITHIN.

DR. FREDK. WM. ALEXANDER (Blackheath) writes: For the benefit of diabetics I should like to draw attention to the administration of lecithin in the treatment of their malady. I have recommended lecithin with marked results in these cases; after a short time sufferers put on flesh, and experience a feeling of well-being. The fluid form of this phosphorized fat I consider the best for treatment, and to obtain the most successful results it should be taken in a little water half an hour before meals on an empty stomach, so that absorption by the system may take place the more readily. No very hot fluids should be drunk for some time afterwards, that the composition of lecithin may remain unaltered.

THE TREATMENT OF BOILS.

MAJOR G. H. FINK, I.M.S. (ret.), writes: Pure carbolic acid in the treatment of boils is an abortive treatment which followed the treatment recommended some years ago with solid $AgNO_3$, inserted into a boil, and which was fairly successful in certain cases I treated. Prior to this method I had seen a favourite treatment in the North-West Provinces and Oudh among our native assistant surgeons—namely, the painting of the base of a boil, or a crop of newly-formed ones, with solid $AgNO_3$, the skin being thus counter-irritated and thus disperse, and also to prevent others forming, as we often notice when poultices are used (not *secundum artem*). The prevention of successive crops of boils around the original one is very necessary, and this is possible if the surface around a fairly large area, say, be periodically washed, and before applying a poultice to either circumscribe the boil as above with $AgNO_3$, or perhaps better, as it is less painful, to apply a ring of collodion around the base, and over the boil a ring of emplastrum belladonnae with a hole in the centre a fair size for the apex of the boil (either linseed, bread, poppy-heads, charcoal, or any of these in combination, according to the state of the patient). Heat—moist heat particularly—is very essential for the alleviation of pain in the inflammatory stage as well as for maturation; and, whether a poultice be applied or fomentations, the heat must be continuous and not lukewarm in both the stages for a salutary change to result. Steaming the surface of a boil is good. In the summer months, and also in tropical countries, the pure carbolic acid treatment is excellent; but pure carbolic acid mixed with equal parts of camphor will be found not only quite as useful, but less painful. You may insert it hypodermically into the base of the boil with very little pain subsequently. If desired a 10 per cent. solution of cocaine for local anaesthesia might be given in suitable cases. The carbolic-camphor treatment is free from much subsequent pain, and it keeps off flies. While on the subject of boils and their treatment, I should like to mention a note of warning in cases where successive crops appear and cover the body and defy dispersion: examine the urine, and also a thorough examination of the hepatic region in the tropics for tropical abscess. In such cases, in addition to medical treatment, the diet requires careful regulation if there should be the slightest indication of sugar in the urine.

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A Post-Graduate Lecture

ON

INTERMITTENT CLOSING OF CEREBRAL ARTERIES:

ITS RELATION TO TEMPORARY AND PERMANENT PARALYSIS.

By WILLIAM RUSSELL, M.D., F.R.C.P.Edin.,

PHYSICIAN AND LECTURER ON CLINICAL MEDICINE, ROYAL INFIRMARY, EDINBURGH.

Gentlemen,—I have been seeking a new word to express the kind of vessel action that I propose to speak to you about this afternoon, but I have failed in the search. Many of you must know the term "intermittent claudication," which has had a place in medical literature for about eighty years. It was introduced from veterinary medicine, where it was first used to describe recurring attacks of lameness or limping, with pain in the affected limbs, which occurred in a mare, and were due to obstruction to the arterial blood supply when the muscles were put in vigorous action. In human medicine the term has always carried with it the conception of loss of power as a result of the closing of arterial channels. A record of mere limping in a horse would be of no more interest to the veterinarian than to us; it was the *cause* of the limping that was of interest; it was this that led to the introduction of the term into human medicine. It is this association of effect and cause that makes the term of interest to us. I have tried to manufacture a new word from "claudère," to close, like "claudication," which is derived from "claudère," but have not succeeded, and so I use the simple word "closing."

I ask your attention to a corresponding loss of brain power due to intermittent closing of cerebral arteries, as it is seen in temporary paralysis, and as it takes a part in the production of permanent paralysis.

As illustrating the subject, I give you briefly, in mere outline, the salient points in the case of a patient who was in my male ward in the Royal Infirmary from March 5th to 31st.

Mr. M., aged 50, a farmer, was admitted for observation. The history was that during the months of May, June, and July, 1908, he had three attacks, characterized by tingling in the right arm and hand, a stiff and numb feeling in the right side of the face, and difficulty in articulating. In August he had an attack of complete loss of power on the right side, and stumbling speech. During this attack the symptoms passed off and again returned. Within ten days he had three similar attacks, but not so severe as the first. In November and December he had slight attacks. In the end of December he noticed that when reading he could not see the beginning and the end of a long word. This eye condition led him to consult Dr. Wilson Black of Inverness, who kindly sent me a report on the condition of the eyes, and I show you the perimeter chart of the field of vision at that time. There was a right homonymous hemianopia, but not of the entire right half of the field, only of its outer half.

On admission, the patient weighed 13 st., looked robust and well nourished. The pulse was 84, regular, and of moderate force, brachial pressure was 210, the vessel wall was thick, but not tortuous. The heart dullness extended to the nipple line. The amount of urine passed in twenty-four hours measured from 50 to 60 ounces; the specific gravity was 1020, and it contained a trace of albumen, but no casts were found. The blood was rich in quality. There was no trace of paresis anywhere, no alteration or loss of the ordinary or of any of the special senses. The reflexes were all normal. Speech was clear. The field of vision in both eyes was normal. Dr. Arthur Sinclair, who examined the eyes, found in the left fundus an area of slight local oedema.

In this patient the symptoms may be summarized thus: Extending over a period of three months there were recurring *premonitory* symptoms; in one month there were four attacks of hemiplegia or of hemiparesis, during which time he was medically treated: slight recurrences of premonitory symptoms: and, finally, a temporary and partial right hemianopia. From all these he had recovered by the time he was admitted to hospital, and during his sojourn there there was no return of the symptoms. He had slight digestive disturbance when admitted, which was readily rectified. The arterial pressure varied between 188 and 234. An exclusively milk diet for some time, the administration of iodide of potassium in 10 grain doses thrice daily, and free action of the bowels made no permanent impression on the haemomanometer readings. On leaving hospital the diet was regulated, and when I last heard of him there had been no return of the special symptoms.

Causes of Sudden Hemiplegia.

Before discussing this case, let us look at the causes of sudden hemiplegia or hemiparesis. They are haemorrhage, embolism, thrombosis, and, I add, temporary closing of cerebral arteries. The effects of these are, in the case of haemorrhage, laceration of brain tissue; in the cases of embolism and thrombosis, necrosis and softening of brain tissue. In both laceration and softening there is no restoration of destroyed brain tissue. In temporary closing of arteries there is impairment of function in the part of the brain affected—a halting of brain function from closing of the channels which convey the blood, a condition comparable to intermittent claudication.

Differential Diagnosis.

Embolism.

Turning to the question of differential diagnosis, a diagnosis of embolism requires at least the coexistence of mitral or aortic disease, or disease of the aorta itself, in addition to sudden paralysis. Putting this aside, there are the other two causes, haemorrhage and softening; the latter as resulting from thrombosis, and much more common than embolism.

Haemorrhage and Thrombosis.

With regard to thrombosis—thrombus, once formed, does not break up and disappear in some mysterious way; it is a difficult thing to get rid of, and we cannot appeal to recurring formation and disappearance of thrombi to explain our clinical phenomena. That is not pathology. With regard to haemorrhage, there seems to me to have been a marked tendency in later years to regard all cases of sudden hemiplegia as caused by cerebral haemorrhage. However this teaching may have arisen, I do not think it is correct. Tooth agrees with Gowers in thinking that thrombosis is the commonest cause of hemiplegia, and that is my experience. The outstanding symptom which differentiates the two conditions is loss of consciousness. Trousseau, following Récamier, pointed this out long ago. He said that "complete loss of motor power, without accompanying coma, belongs more especially to softening"; and he repeated it thus: "Whenever hemiplegia complete and absolute occurs suddenly, without loss of consciousness, softening of the brain may be diagnosed." Tooth accepts Trousseau's position as the "broad rule" to which there are many exceptions. Liddell says that two-thirds or so of all cases of hemiplegia due to haemorrhage show loss of consciousness. If these estimates are even approximately correct, about 1 in 5 cases of hemiplegia without loss of consciousness is due to haemorrhage. This symptom is therefore of predominant importance in the differential diagnosis of these two conditions.

Temporary and Intermittent Closing of Cerebral Arteries.

In this condition the closing of the blood channels is initiated by the channels themselves, and is effected by means of their muscular coat. It is a local closing, and may be partial or total—that is to say, it may only lessen the amount of blood passing, or it may completely arrest the flow of blood to the part. As a result there is either impairment or complete suspension of function, until the vessel opens and permits the blood to resume its course.

That such local closing of arterial channels is possible is seen in the local syncope of "dead fingers," in the "local syncope" of Raynaud's disease, in some cases of migraine, in the vessels of the retina in quinine blindness, and in temporary partial blindness seen to be due to closing of a branch of the retinal artery. A corresponding explanation is required for the phenomena which were exhibited in Mr. M.'s case. His case is only one of many I could give you. They are known to all physicians and practitioners of experience, and, were it necessary, I could gather striking examples of such recurring phenomena from

medical literature. The complete recovery which occurred in Mr. M.'s case could not have occurred had there been either haemorrhage or softening in the motor regions affected, or in the part of the optic radiation which determined the hemianopia.

A WORKING HYPOTHESIS.

The explanation, moreover, provides a working hypothesis of great practical value, and this is the reason of my bringing the subject before you to-day. Take the phenomena in Mr. M.'s case. Extending over three months there were symptoms commonly regarded as premonitory, or as the threatenings of cerebral haemorrhage. But what is meant by *threatening* of cerebral haemorrhage? It is either haemorrhage or not; there is no half-way stage in haemorrhage, although the quantity varies greatly. But these threatenings also precede thrombosis and softening; they also precede the paralysis due merely to temporary arterial closing, as in Mr. M. The "paralytic stroke," due to any of three different pathological processes, has the same premonitory threatenings, and it is of no small practical importance that there should be a clear picture of the clinical pathology of this stage. These threatenings can only, I take it, be due to irregular vessel action, and so to irregular blood flow through the part. There must be vessel constriction, local in site, varying in degree and in extent, coming and going, intermittent.

EFFECTS OF INTERMITTENT CLOSING.

The effects of intermittent closing may be placed in four groups:

1. It leads to impairment or suspension of the function of the part affected, as manifested by sensory disturbances and motor faltering or paralysis.

2. It favours thrombosis in certain states of the vessel wall, or of the blood itself, or of both combined.

3. If the heart be weak the blood flow is more easily arrested, thrombosis is favoured, and the risk of softening is greater.

4. If the heart be strong and the vessels not sound, haemorrhage is liable to occur. The haemorrhage, however, does not take place in the closed portion of vessel; it must take place on the proximal side, where the pressure is raised because of the vessel closing.

The significance of the premonitory warnings and threatenings is thus seen, and the aim of practical therapeutics is made clearer.

ETIOLOGY AND TREATMENT.

We have thus a picture of intermittent closing of arteries occurring in different parts of the brain, occurring in persons of very different types, and occurring, as in our case, at the early age of 50 years. If you ask about the etiology of this irregular vessel action we are at once brought face to face with fundamental problems. There are questions of constitution such as are embraced in the words "gouty" and "rheumatic"; there are questions in metabolism, such as the accumulation of the waste products of cell activity, the fatigue toxins, and the inefficient removal of such. There are questions of food and drink; there is the condition of the bowels, and the absorption of toxins from the intestinal tract. There are questions of skin and kidney action. There are questions of mental work and of mental repose; there is emotion and passion. In no department of our work is it so necessary to form a sound all-round estimate of the patient—habits, digestion, bowel action, kidney efficiency, the cardio-vascular system, have all to be reviewed and estimated aright, if we are to be guided aright. What is to be aimed at is the lowering or removal of the abnormal vessel irritability. In the robust plethoric subject the threatenings of which we have spoken have long been treated by active purgation, diminished food supply, physical and perhaps mental rest. All these measures are good, but the plethoric type does not supply the greater part of the cases we are now considering. In many cases active purgation, and all extreme measures, are to be avoided as positively hurtful. Rest, physical and mental, gentle bowel action, spare diet with no red flesh, are the general lines of treatment. The irritable tonicity of the vessel wall is in many cases wonderfully controlled by spiritus aetheris nitrosi. Or, when symptoms appear to be more urgent I have much confidence in erythrol tetranitrate in ¼ to ½ grain doses, repeated every three, four, or six hours, as may be required. The action is temporary, but it allows time for the bowels to act fully and for the elimination of the excess of waste products in the tissues. Thereafter restricted diet and daily bowel action may prevent the recurrence of symptoms. In other cases the vessel irritability is markedly allayed by the administration of iodide of potassium. I would very strongly warn you against violent purgation with calomel and similar drugs in persons with a feeble circulation, for the lowering of such a circulation is the surest way to ensure softening and even subsequent haemorrhage. The feeble circulation has to be recognized behind thickened and incompressible vessels; see to it that you are not deluded into thinking that there is a strong heart because there is a high haemomanometer reading. A tonic as nux vomica may be a valuable addition to spirit of nitrous ether or to iodide of potassium in cases of this kind.

By a true estimate of the patient as a whole, by the wise use of the simple methods indicated, the irritability of the arterial wall disappears and can be prevented returning to any alarming extent. In this way we can by foresight prevent such truly pathetic cases as must be known to most of you.

The Wightman Lecture

ON

CONGENITAL HEART AFFECTIONS,

ESPECIALLY IN RELATION TO THE DIAGNOSIS OF THE VARIOUS MALFORMATIONS.

DELIVERED BEFORE THE ROYAL SOCIETY OF MEDICINE, SECTION OF DISEASES OF CHILDREN.

BY GEORGE CARPENTER, M.D.,

PHYSICIAN TO THE QUEEN'S HOSPITAL FOR CHILDREN, LONDON.

GENTLEMEN,—In acknowledging the honour that you have conferred upon me by inviting me to deliver the Wightman Lecture, I must confess that the acceptance of this distinction proved far easier than the selection of a suitable subject for the occasion. Passing now to the subject of congenital affections of the heart, I will first draw your attention to the known causes which bring about the various departures from the normal, which are classed under the heading "Congenital Heart Affections."

The coincidence of congenital malformations of the heart with malformations in other regions of the body is a matter of everyday experience. Heart malformations are not always accompanied by other congenital bodily defects, but they are sometimes found in association with such diverse structural faults as hare-lip, cleft palate, ill-developed teeth, supernumerary auricles, and supernumerary nipples, polydactylism, syndactylism, webbed fingers, steepie skull, defects in the abdominal wall, hernias, ill-developed and absent rib cartilages, undescended testis, atresia of the anus and rectum, post-anal dimple, congenital opacity of the cornea, coloboma iris, congenital defects of the orbits, congenital ptosis, not to mention many other congenital irregularities of development which are obvious to the naked eye—cretinism, for instance—which sometimes bear them company.

Since heart malformations have been shown to be a family complaint in some instances, it must be admitted that inherited as well as acquired defects in the sperm and germ cells of the parents are of some importance in the production of malformations of the heart, as in other regions, for erratic tendencies to produce deformities, when once acquired, are handed down from parents to children.

Inquiry has been directed to the state of the mother's health, both bodily and mental, during the pregnancy to serve as an explanation for the production of congenital cardiac defects. When it is realized that the heart is perfectly formed, though in miniature, in seven weeks' time from the date of conception, it is obvious that there must be some error in the various examples that have been recorded of congenital heart disease following upon frights and so on during the last two or three months

of pregnancy: these psychical disturbances cannot possibly have had any effect upon the fetal heart.

Several examples of fetal endocarditis have been shown to the Society for the Study of Disease in Children, or have been spoken of at its meetings. These include 6 cases, while a few others have been recorded by Planchu, Gardère, and André Moussous. Fetal heart murmurs have been recorded by various writers.

In the production, therefore, of congenital affections of the heart two distinct processes can be seen in action—namely, developmental disturbance and inflammation. The one can operate without the other, and both are frequently combined.

It is only in a very small proportion of the cases of congenital defect that endocarditis, when it is limited to the valves, can be viewed as the cause of the disease. The bulk of the cases of congenital malformation of the heart appear to be due to developmental errors when seen by the light of modern research on cardiac development.

Morbus coeruleus and congenital malformations of the heart have been looked upon as synonymous, but without reason, for children with severely congenital morbus cordis are frequently not blue, even when excited or crying. Many verified cases of congenital morbus cordis have been recorded where cyanosis was not a symptom during life.

Some children with congenital morbus cordis are fresh-coloured. Others are strikingly pale. In some the lips are dark crimson, perhaps inclined to blueness rather than redness, or to turn lilac on crying. Or the complexion may be quite good and only the fingers dusky and cold-looking. The majority, however, are cyanosed more or less, and all gradations of cyanosis may be noticed, from that of a dark rubicund face with similar-coloured ears and reddened finger and toe tips, or a state of rather dusky-blue lips and cheeks and tongue, and a similar condition of the extremities, to one where the face is plum-coloured, the conjunctivae suffused, the buccal mucous membrane and tongue the colour of slate, and the body generally dusky. In the majority of those who are blue the cyanosis dates from birth, but in others the children show no signs of blueness until after an attack of one of the exanthems, or following bronchitis or bronchopneumonia, with or without whooping-cough.

By far the most common malformations of the heart in association with cyanosis are those cases where the pulmonary artery or the conus are either absent, rudimentary, or constricted. Next in frequency in the list of malformations, though only to about one-seventh of their number, is transposition of the pulmonary artery and aorta. Apart from these maldevelopments, which form the bulk of congenital cardiac anomalies, the malformations which give rise to cyanosis are numerous and various.

Various views have been and are still held as to the causation of the cyanosis. In many cases the explanation is invited, not that the lungs cannot oxygenate properly, but that they are prevented from dealing with a sufficient proportion of the total quantity of venous blood throughout the body by reason of various defects in the pulmonary region, perhaps combined with weakness of the heart muscle.

Cyanosis, therefore, appears to depend in some cases not upon defective aeration from defects in the lungs, but to be due to the conformation of the heart, which by reason of faulty construction and physical weakness is placed at a mechanical disadvantage, and is not adapted to deliver a sufficient quantity of venous blood to the lungs to be aerated.

But this will not explain all cases, for in some the lungs are not healthy and display considerable microscopical alterations. So wide and so tortuous were the thickened lung capillaries in the case of atresia of the pulmonary artery I examined that those in the alveoli admitted six or more red corpuscles abreast. Changes such as these, permeating as they do the whole of the lung structure, are not conducive to proper aeration. It would appear, then, that diffuse and not localized structural alterations of the lung tissues are favorable to the production of cyanosis.

Here, then, are two factors in operation: the difficulty of getting the blood to the lungs to be aerated, and the difficulty of aerating the blood when it arrives there should it so happen that the lungs are not in a position to undertake the operation by reason of their structural defects.

Clubbing of the fingers and toes in congenital heart disease, the so-called Hippocratic fingers, depends almost entirely on congestive swelling and thickening of the soft parts of the terminal phalanges. The connective tissue is increased, and the capillaries are enlarged and increased in number.

The finger-tips are broadened and the nails cyanosed, a different appearance to that shown in chronic osteo-arthropathy, where the nail is domed like a watch-glass, curls over the finger-tip, and bears a striking resemblance to a parrot's beak, and is combined with osteo-periostitis of the terminal phalanx. The finger looks like a drumstick, and the nail is pink coloured.

There appears to be two varieties of clubbed fingers: in one there is osteo-periostitis of the terminal phalanges, but in the other this has not yet been demonstrated. Whether there are really two varieties of clubbed fingers or whether the conditions are different stages of the same process has not yet been settled.

Common as is this clubbing of the fingers and toes in congenital heart disease, nevertheless it is a feature of this disease which very often is wanting. It is in pulmonary atresia and stenosis that clubbing most commonly arises, and it is in these conditions that congestion is most frequently observed.

Ophthalmoscopic examination in cases of marked congestion reveals tortuous retinal blood vessels of which the veins are very large. The blood in the arteries looks decidedly venous, though they are not quite so dark-coloured as the veins. The red reflex, which is of cyanosed appearance, often appears to start from the physiological pit, and the number of vessels on the face of the disc appears to be greatly increased. In children where the cyanosis amounts to but little more than a ruddy bucolic appearance a want of the usual colour contrast between the arteries and veins is quite noticeable. The retinal blood vessels early display evidences of congestion by enlargement and tortuosity of both arteries and veins. If there be considerable cyanosis retinae, as sometimes is the case, without the associated appearance of curly retinal vessels, such an ophthalmoscopic finding, although not proof that there is no narrowing of the pulmonary region, nevertheless suggests that the pulmonary tract is either not involved, or that right-sided muscular compensation is sufficient to overcome the obstruction.

Blood changes such as polycythaemia, macrocythaemia, and increased viscosity along with a by no means invariable increase in the haemoglobin are not uncommon. In one blue child under my care, aged 2½ years, with clubbed fingers and toes, and who had been blue since birth, there was a blood count of 7,880,000 per c.mm., and the haemoglobin was 122 per cent. That is the largest number of red cells that I have met with in congenital heart disease.

Many of the children under my care with polycythaemia have shown a deficiency in the haemoglobin rather than an increase. In a blue infant, aged 1 year, with clubbed fingers and toes and lips, and finger-tips and toe-tips of purple hue, the blood count amounted to 5,400,000 per c.mm. red, with a haemoglobin percentage of 55 only.

Congenital heart murmurs are of various characters. They may be heard as harsh, roaring, churning, growling, sawing, twanging, rushing, or rasping noises. Musical bruits are not common in my experience. If murmurs of such character be heard in a child under 3 years of age, and if they be conducted over wide areas, the presumption is strong that the affection is of congenital origin. Soft, low, very faint bruits are sometimes present. Murmurs are usually systolic, occasionally presystolic or diastolic, and there is that peculiar rumbling murmur carried through the systole and diastole, which points to a patent ductus arteriosus or a communication between the pulmonary artery and the aorta. Sometimes the bruits become inaudible shortly before death, or during a paroxysm of cyanosis, and I have noticed a loud murmur to almost disappear under the influence of an anaesthetic. A murmur may be detected at one auscultation and cannot be heard at the next, and the causes for this temporary disappearance are not quite clear. Murmurs are also influenced by posture and by respiration. In regard to conduction, in some instances systolic bruits may be

traced along the arteries over the brachials as far as the bends of the elbows, and also be heard in the thighs along the course of the femorals. They can not only be followed up the arteries of the neck, but exceptionally can be heard by applying the ear to the vertex.

In only a small proportion of the cases are murmurs absent. In my series this occurred in 7 per cent.

Thrills are not infrequent; they are usually systolic, occasionally diastolic, or even presystolic. These purring tremors may be localized to the site at which they are produced or be of wide conduction. Further, the site of greatest intensity by no means necessarily corresponds to the seat of production. A systolic thrill of greatest intensity at the second left interspace and conducted towards the corresponding clavicle is, however, pathognomonic of patent ductus arteriosus. A systolic thrill may be felt at the episternal notch over the aorta, and may be conducted into the carotids and subclavians.

Defects in the interventricular septum are the most common of all cardiac malformations. They are associated mostly with stenosis and atresia of the pulmonary artery, transposition of the great vessels, and occlusion of the tricuspid orifice. The combination of pulmonary stenosis, deviation of the aorta to the right, and patent septum ventriculorum is one of the most usual forms of congenital morbus.

The commonest situation for perforate septum ventriculorum is directly beneath the aortic valves and just in front of the undefended space. In front of it lies the fleshy part of the septum and behind it the membranous. On the right side of the heart this opening will be found beneath the septal and anterior cusps of the tricuspid valve. It is rare for a perforation to be found in the anterior fleshy part. The septum may be absent, as in the cor triloculare, or the septum may be represented by a falciform ridge springing from the lower and anterior wall of the ventricle, or irregular defects may arise in it.

Changes in the heart muscle do not necessarily follow septal defects. In some cases, however, hypertrophy and dilatation of both ventricles are seen, and this is especially likely to occur on the right side.

Defects in the septum do not always produce murmurs, but when bruits are present the following characteristics have been noticed by me in the pure cases which have come under my observation. In a child, aged 2 years, there was a loud rough systolic bruit audible all over the chest, the point of maximum intensity being over the pulmonary area. It was not audible in the big vessels of the neck; the second pulmonary sound was accentuated. In an infant, aged 8 months, the systolic bruit was heard loudest at the junction of the xiphoid with the gladiolus on the left, and it was conducted a short way into the axilla. A faint systolic bruit was heard only occasionally at the left base. It was not transmitted to the neck vessels. The second pulmonary sound was accentuated. In an infant, aged 3 months, there was a loud systolic murmur at the left base, which was traceable as far as the left mid-axillary line. The second sounds were normal, and in this infant the heart was not enlarged. In the oldest child there was a marked systolic thrill all over the cardiac area, and in the child aged 8 months a systolic thrill was occasionally felt at the left base, but this might have been due to the patent ductus arteriosus, and in the infant aged 3 months it was absent.

It is not possible to lay down hard-and-fast rules as to the area of maximum intensity of the systolic bruit occasioned by patent septum ventriculorum. It is located on the left side of the sternum on the costal cartilages or interspaces, somewhere between the second left interspace and the junction of the seventh costal cartilage with the sternum, sometimes between the nipple and the left margin of the sternum, and rarely at the apex. The systolic thrill which occasionally accompanies it is not confined to any particular cardiac area; it is sometimes to be felt in the episternal notch, sometimes at the epigastrium. An important feature in the diagnosis of patent septum ventriculorum is the detection at the apex of a healthy first cardiac sound audible through the bruit and the tactile sensation accompanying it of the mitral valvular snap. The second pulmonary sound at the left base is accentuated if the pressure of the right ventricle be increased, and exceeding purity of this sound is important and suggestive.

Defects in the Interauricular Septum.—A patent foramen ovale is so frequently found at autopsy that it can hardly be classed with other congenital abnormalities, and Fisher states that slight patency of this foramen can be found in one quarter of adult *post-mortem* examinations. A widely open foramen, however, must be looked upon as an anomaly. It occurs either alone uncommonly, or frequently in association with other interauricular septal defects. Defects in the lower part of the interauricular septum are rare, and are explained by failure of the septum primum to descend and unite with the endocardial cushion between the ventricles.

Open foramen ovale alone and along with other interauricular septal defects occurs in association with stenosis and atresia of the pulmonary artery, transposition of the great vessels, and occlusion of the tricuspid orifice. Defects in the interauricular septum happen nearly as frequently as defects in the interventricular septum. Very occasionally they are the *sole* lesions, and very slightly exceed in number as solitary lesions the similar conditions found at the interventricular partition.

Patency of the foramen ovale and defects in the interauricular septum are often diagnosed and seldom discovered, and for the reason that they do not often give rise to characteristic bruits; indeed, murmurs are but seldom produced by these abnormalities. Gross interauricular septal defects may be carried through life without causing any inconvenience or giving rise to any suspicion as to their presence.

Septal defects become of consequence if the auricles act unequally, and if there arises an overflow of blood into the right auricle, which produces stasis in the systemic veins. A reversal of the flow into the left auricle may bring about the same conditions by throwing extra pressure on the pulmonary artery and so on the right auricle. A point of clinical interest about defects in the interauricular septum, as in the interventricular septum, is that septic and other particles may be carried from the venous system direct to the arteries of the brain and body.

Stenosis of the pulmonary region is one of the most common of all the cardiac malformations, and in relation to atresia it occurs nearly three times as frequently. In the large majority of cases of stenosis the interventricular septum is patent. When this septum is closed the foramen ovale is often widely open. Both of these fetal passages may remain open. In rare instances both the fetal passages are closed.

In atresia the interventricular septum is more frequently found closed than in stenosis.

Of 13 cases, 6 of stenosis and 7 of atresia, I found the ductus arteriosus closed in all the cases of stenosis and patent in all the cases of atresia except 1, and in that case the lungs were supplied by a large branch from a left innominate artery, and not by the ductus arteriosus as is usual. If the ductus be closed in atresia the septum will be found defective, or the septum and foramen ovale will be open, and vary rarely the foramen ovale only. When there is a defective interventricular septum the aorta, which will then be found large, is frequently transposed to the right, and this irregularity occurs more often in atresia than in stenosis. The aorta may arise from both ventricles over the defective septum, or be thrust more to the right and take origin from the right ventricle only.

The stenosis may involve the whole pulmonary region, there being a hypoplasia of the pulmonary artery and its branches. In some cases the stenosis is valvular in character. It may consist of thickened nodular valve cusps associated with a normal pulmonary artery and normal interventricular septum.

In some cases stenosis has evidently originated later in intrauterine life after the closure of the septum ventriculorum. In the other and the more numerous variety the forms that are met with suggest a developmental origin and a secondary endocarditis infection implanted on a rudimentary pulmonary tract.

In developmental cases the pulmonary artery is usually thin-walled and vein-like. In the other variety the pulmonary artery may be thin-walled also, but it is often either dilated or normal. In stenosis hypertrophy and dilatation of the right auricle and ventricle are common, and if the aorta be deviated to the right these hypertrophies always arise, and this vessel will be found large and thick-walled. The combination of pulmonary stenosis,

deviation of the aorta to the right, and patent septum ventriculorum, is the most usual of all congenital abnormalites.

In *atresia* the obliteration occurs at the conus, or the valve, or the pulmonary artery may be entirely absent.

Regarding the detection of right-sided hypertrophy of the heart in pulmonary stenosis and atresia, a small amount of right-sided enlargement is rather apt to be overlooked, if reliance be placed solely on the superficial area of cardiac dullness. Deep percussion should always be resorted to in addition, and it is well, if possible, to verify the result by *x*-ray examination. The lung on the right side of the heart covers a moderate enlargement of the right auricle and ventricle, and so masks the signs.

The bruit of uncomplicated pulmonary stenosis is systolic in time, and is best heard over the second left interspace close to the sternum or on the third costal cartilage. It is usually conducted over the left front of the chest and crosses the sternum, being heard slightly to the right. It is carried up towards the left clavicle. It usually ends before the axillary fold. There appears to be some doubt as to whether the bruit can be heard in the back in uncomplicated cases. It certainly can: I have *post-mortem* evidence as to that. It can be heard all over the front of the chest and all over the back, the left side more than the right, and also in the left axilla. It is not heard in the carotids.

Should pulmonary stenosis be associated with a patent septum ventriculorum, as so frequently happens, a systolic bruit will probably be heard in the carotids. If that be heard the suggestion is that pulmonary stenosis is combined with this septal defect, as I believe I was the first to point out some years ago. It is not necessary for the aorta to arise immediately over the septal defect to conduct a bruit into the neck vessels.

The prospect of life varies in these cases according to the defect. In atresia with a closed septum the children die in infancy. If the septum be patent the child may live a few years in place of a few months. In stenosis with a closed septum middle age may be reached, but with a patent septum adult life is the limit.

The average diameter of the ductus arteriosus *post mortem* at birth is stated by Thérémin to be 4.8 mm., and, according to Klotz, this measurement is no indication of its functional capacity during life, for he states, on experimental evidence, that the size of this vessel when in action is equal to the capacity of the pulmonary artery itself.

Patency of the ductus arteriosus as an isolated lesion is rare, very few cases being recorded in the literature, but as an associate of other congenital abnormalities of the heart it is quite common.

The patent duct may be cylindrical or conical, with the base of the cone on the aortic side, or globular. The lumen of the vessel in the cases that have come to autopsy has varied from a bristle to that of a finger. Hypertrophy and dilatation of the right ventricle and dilatation of the pulmonary artery commonly take place in chronic cases.

Attacks of dyspnoea, epistaxis, tachycardia, and angina have been recorded by various observers in association with this condition.

The characteristic rumbling murmur accompanying patent ductus has been verified by *post-mortem* examination on adults, but not, as far as I am aware, on children. Gibson times the murmur as commencing soon after the systole and gradually shading off in the long pause. Combined systolic and diastolic bruits have been recorded by Drasche, and a diastolic bruit by Fagge. Systolic bruits have been described by Murray, White, Simmons, and Bittorf.

The systolic bruit is heard loudest in the second or third left interspace close to the sternum. It may be heard only to a limited extent, or it may be carried all over the chest, back and front, and into the arteries of the neck, as in my verified cases. A thrill is by no means constant. When it occurs it is best felt in the second left interspace, and if the thrill be carried up to the left clavicle in the direction of the pulmonary artery, that is pathognomonic. The pulmonary second sound may be unaltered, but if the blood pressure be raised in the pulmonary artery by hypertrophy of the right ventricle or by the contribution from the aorta, then an accentuated pulmonary second sound will be heard. If the *x*-ray picture suggests an enlargement of the pulmonary artery, that point is in favour of patent duct.

If the second pulmonic sound be loudly accentuated, there will probably also be observed visible diastolic pulsation or rebound in the second left interspace at the time of the closure of the pulmonary valves.

Bruits and physical signs cannot be expected to occur in patent ducts of small calibre. In order that a bruit shall be produced it is necessary that there shall be a sufficient space within the walls of the duct and pulmonary artery, in which the conflicting blood currents shall operate best to produce vibration and sound.

Systolic bruits in my experience are the usual accompaniments of patent ductus arteriosus in children, and the rumbling bruit occupying the systole and diastole in adults which is considered to be characteristic of that lesion is not common in them.

Tardy closure of the ductus arteriosus may well explain the disappearance of cardiac bruits in children who have been diagnosed as suffering from a congenital heart affection. Reviewing the morbid anatomy of the congenitally deformed heart, closure of this fetal channel appears to be about the only thing possible in the way of a cure open to these cases.

Coarctation of the aorta is the name which has been given to stenosis or atresia of that vessel, either at or below the isthmus, that part which lies between the left subclavian artery and the ductus arteriosus. Soon after birth that narrow section of the aorta which is not much used during intrauterine life is apt to be smaller than neighbouring parts of this artery, but when the circulation is reconstructed this part soon acquires its proper proportional relationship. Bonnet describes two types. In one, the *infantile*, there is diffuse narrowing of the aorta at the isthmus. In the other, the *adult* form, there is an abrupt constriction as of a cord at or near the insertion of the ductus arteriosus. The infantile type is developmental and may consist of a moderate stenosis only, or, owing to the complete failure of development in regard to that part of the fourth branchial arch which lies between the ductus arteriosus and the subclavian artery, the part corresponding of the aorta—the isthmus—is represented by a cord only or completely disappears. The *adult* form he considers is not of developmental origin, because it does not occur in the fetus and is not met with until the closure of the ductus arteriosus, and is brought about by the act of closure of the duct itself, elements of which are incorporated in the aorta, and which by their contraction constrict that vessel as with a ligature. In the infantile type of case patency of the ductus arteriosus is common, and in the adult type that channel is usually closed. In the adult type extensive collateral circulation is common according to Bonnet. In the infantile type associated cardiac developmental anomalies are common and often severe; in the *adult* type the anomalies are usually unimportant and rarely severe. In the adult type the percentage of cases without associated cardiac developmental anomalies is far greater than in the *infantile*.

From the literature it appears that patients with coarctation of the aorta may live long and the condition not be suspected. In some death takes place suddenly and without obvious reason, sometimes from rupture of the aorta. Or death may occur from heart failure preceded by the signs and symptoms of mitral disease.

Congenital aortic stenosis and atresia are much rarer than the corresponding defects at the pulmonary artery. Conus stenosis in this situation takes the form of a thickened ring of the endocardium, just below the aortic valves, which involves the base of the anterior mitral cusp, and is ascribed by Keith to arrest of development. The danger of this rare anomaly lies in its tendency to become the seat of endocarditis. In aortic atresia, brought about by such conditions as obliteration at the root or by fusion of the cusps, the left ventricle atrophies and the circulation is conducted through the foramen ovale, patent septum ventriculorum, and patent ductus arteriosus. The life of such cases has been limited to a few weeks. In aortic valvular stenosis there are two forms—one in which the septum ventriculorum is perfect, the other in which it is deficient. In this latter variety other developmental anomalies are the rule.

Aortic disease of the acquired type is not as rare in children as is commonly supposed, and some of the cases are no doubt of congenital origin. Another point of clinical interest, a recognition of which will prevent falling into error, is that aortic disease in children is apt to be associated with a bruit which is heard loudest over the pulmonary area, and not over the aortic cartilage.

Hypoplasia of the aorta is characterized by diminution in size of the aorta and arteries throughout the body, the walls of which are thin and elastic.

A congenital origin has been claimed for this condition, because it is so commonly associated with anomalies in the generative and circulatory systems. A congenital tendency to the dwarfing of the arterial system has been ascribed to tuberculosis in the parents, and it may be due to other states of bad health.

Hypoplasia of the aorta is associated with a dwarfed heart in some instances, and in others with an enlarged heart confined to the left side or involving both ventricles. If the heart be small during childhood it hypertrophies at puberty. The period of danger in these cases appears to belong to adolescence, when heart failure is not unlikely to occur, and this is more likely to arise under physical strain.

Defects in the auriculo-ventricular valves are very uncommon. They are commonly combined with other cardiac abnormalities, uncomplicated lesions of the mitral and tricuspid valves being exceedingly rare. Of the two valves the tricuspid is more frequently attacked than the mitral, and of the lesions tricuspid atresia is the commonest.

Tricuspid stenosis in association with disease of the pulmonary valves is occasionally seen.

Mitral atresia is very rare. Cases have been recorded by Rokitansky, Thérémin, and by Lawrence and Nabarro, and in each instance the condition has been associated with somatic abnormalities.

A specimen of *congenital mitral stenosis* was exhibited at the society for the Study of Disease in Children by Fisher in 1901.

Of *mitral insufficiency* Cautley has afforded an example in a girl aged 22 months. The physical signs were those of mitral regurgitation, and another case in a boy, aged 10½ months, has been quoted by Maude Abbott.

Hypertrophy of the heart undoubtedly arises as an idiopathic disease of congenital origin. Simmons was the first to record a case of its existence at birth. He found the heart of a newly born child, who died during the labour, to be enlarged to twice its natural size, all other organs of the body being quite healthy. Prior to that Hauser had recorded a case in a baby, aged 11 months, in which the heart was enormously dilated, with hypertrophied right and left ventricles. Virchow suggested that the hypertrophy might be congenital.

Cardiac displacements such as *dextrocardia* and *mesocardia* are the only congenital malpositions that are of interest to the physician and therefore that need be reviewed. Dextrocardia, accompanied by transpositions of the viscera, is commonly viewed rather as a rare developmental freak than recognized, as should be the case, as a not very out-of-the-way clinical experience.

Dextrocardia without associated transposition of the viscera is rare, and not only is it rare, but it must be view d with suspicion, because the diagnosis of congenital dextrocardia has been made on some few occasions, and this opinion has not been confirmed by autopsy.

Sometimes the position of the fetal heart in the centre of the thorax is maintained, giving rise to the condition known as *mesocardia*. The apex beat will then be felt in the epigastrium, and the position of the organ will readily be demonstrated by the *x* rays.

AT the eighty-first annual meeting of the West Riding Medical Charitable Society, of which Dr. Gibson, of Harrogate, is now President, it was reported that forty-eight grants, amounting in all to £1,680, had been made during the year, and that since the foundation of the charity the total sum disbursed in grants had been £46,295 10s. Of those on the society's list of grantees four had died during the year, and five new applications had been received. Mr. Herbert Rowe, who for twenty years was co-secretary with the late Mr. Claude Wheelhouse, was unanimously elected Honorary Treasurer, and Mr. Michael Teale appointed Honorary Secretary.

THE PERONEAL TYPE OF MUSCULAR ATROPHY

WITH AN ACCOUNT OF A FAMILY GROUP OF CASES.

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THE following cases of hereditary muscular atrophy belong to a family in which it appeared in at least four generations; the cases are examples of the still unclassified peroneal type first closely studied by Dr. Howard Tooth in this country, and by MM. Charcot and Marie in France.

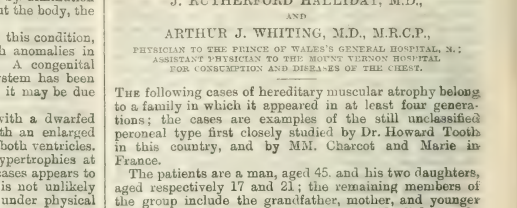
The patients are a man, aged 45, and his two daughters, aged respectively 17 and 21; the remaining members of the group include the grandfather, mother, and younger brother of the present head of the household, all deceased.

CASE I (*Father*).

G. H. S., aged 45, married for eighteen years, has six children, three girls and three boys. One girl died in infancy of whooping-cough. The other children, the youngest of whom is 2 years of age, are living, but the two daughters are the subjects of the same condition as their father; the others are apparently sound. The patient is a cardboard box cutter, and for fourteen years held the position of foreman in the works. He is a man of more than ordinary intelligence, has been steady all his life, and, it may be taken as certain, has not suffered from any venereal disease.

Family History.—His father is still living and is 70 years of age: he is somewhat alcoholic and has been so for many years. The mother died when 50 years of age of heart disease; she suffered from clubbed feet. Such particulars as could be gathered of her case are set forth under Case V. An only and younger brother—there were no sisters—died, when 32 years of age, of pneumonia; he was similarly affected in the lower extremities, and particulars, so far as they could be obtained, are recorded under Case IV.

The following is the patient's family tree, details of the affected members of which follow:



History of Present Illness.—Up to 8 years of age the patient was quite healthy; he then had measles. Soon after recovery weakness of the feet was noticed, and he gradually came to walk on the outer edge of the feet. At 15 years of age he attended an orthopaedic hospital, and was given special boots, which were worn for two years. At 17 he went to another hospital and underwent an operation for the deformity, after which he wore iron supports for three years. He was able to walk fairly well on the level ground, but experienced a little difficulty in going upstairs. From adolescence up to the age of 32 the condition seems to have remained stationary, and he was able to attend regularly at work. Thirteen years ago, when 32, he began to "feel himself going all wrong," he became conscious of increasing weakness in the legs, and then noticed they were getting thinner, especially the left. At this time he also noticed commencing weakness in the hands, which showed itself in clumsiness of movement on attempting to pick up small articles. Gradually the backs of the hands became thin and hollows appeared between the metacarpal bones. He found difficulty in feeling small articles in the dark, so that he was often unable to take matches out of a matchbox, to pick up a coin, or to fasten his collar. About eight years ago an ulcer formed on the outer side of the right sole; this several times healed under treatment, only to break down again on using his foot. At varying intervals during the last thirteen years he has had attacks of pain down the limbs and also round the waist, and these have been more frequent of late. He was able to work up to February, 1904, when, in consequence of the extensive ulceration of the right foot, he was compelled to lay up. On recovery he found himself much weaker and unable to walk far without feeling exhausted.

State on Examination.—In 1904 the following notes were made: The patient's general condition in regard to his respiratory, circulatory, and digestive systems is good. Bladder and rectum are normal in their functions. Sight and hearing are good. The trunk muscles are well developed.

Lower Extremities.—Both feet are clubbed, and there is also claw-toe deformity, the big toe of each foot being most affected. He is unable to abduct or adduct the feet, is only able to extend the feet to an extremely limited degree, and there is complete loss of power to extend the toes. Both legs show marked wasting, the left more so than the right. In both legs the external fibular muscles, namely, the peronei, are markedly atrophied, the tibialis anticus and extensor muscles have also suffered; in the left leg the calf muscles show a greater degree of atrophy than those of the right (Fig. 1). The natural contour of the legs is quite loss. Both knee-jerks are absent. On the inner aspects of both legs at about the lower third the skin is somewhat brownish and glossy. The legs always feel cold to the touch.



Fig. 1.—Case 1. Showing the atrophy of leg muscles, more extreme in the left than in the right, with consequent loss of the natural contour; the club-foot and claw-toe; and the Aran-Duchenne hand.

Upper Extremities.—Both hands show advanced atrophy of the thenar and hypothenar muscles, and also of the interossei and lumbricales. He is unable, therefore, to extend the fingers, the attempt to do so bringing them at once into the claw-like position. In the right hand the thumb can be made to oppose all the fingers, but in the left the thumb is unable to oppose the little finger. The forearms are thin, but there is no inequality between them. Patient is able to perform all the wrist movements without any difficulty. Fibrillary tremors have been observed in both hands. There is scoliosis of the spine with the convexity to the right.

Sensation.—Over the soles of both feet there is complete loss of sensation to touch and heat, but not apparently to cold, and there is delayed sensation to the pin-prick. Over the dorsal aspect of the feet, the front and back of the legs, there is a general impairment of sensation to touch and heat; a pin-prick is more readily recognized, and, on the whole, the right leg is better than the left, the thighs better than the legs, and the right thigh than the left thigh. Sensibility to touch, temperature, and pain is quite normal over front and back of trunk, face, head, and neck. Over the palmar and dorsal aspects of the hands there is impairment of sensation to both touch and temperature; a pin-prick is recognized as such, but there is delay. Over the arms and forearms no appreciable loss of sensation can be determined.

Electrical Reactions.—With the faradic current the interosseous muscles of the left hand give no reaction, and the thenar and hypothenar muscles act feebly. In the right hand there is a faint reaction in the interosse and in the thenar and hypothenar muscles. In the forearm muscles there is diminished reaction. The upper arm muscles act feebly, but only with a strong current. In the lower extremities no reaction is obtainable in the muscles of either the thighs or legs. In the intrinsic muscles of both hands the galvanic reaction gives KCC > ACC, and the reaction is not sluggish. In the leg muscles there is no reaction to galvanism, even with a strong current. An especially noteworthy feature is that, while there are electrical changes in the atrophied muscles, those muscles not obviously atrophied, such as the thigh muscles, cannot be made to act with strong currents, such as could not be borne by a normal healthy person. There is inco-ordination of muscular movements both in the upper and lower extremities; Romberg's sign is present. The pupils are small and unequal, react very sluggishly to light but briskly to accommodation.

State on Examination, November 11th, 1907.—He was then admitted into the Prince of Wales's General Hospital, N., under the care of one of us, himself to attempt to obtain sound healing of the right foot. It was a long ulcer on the outer and under surface of the right sole. There was the scar of another in a similar position on the left foot, which had just healed. (See Fig. 2.) On that date he had a fairly healthy appearance, but was somewhat pallid, was inclined to be stout, and had a rather expressionless face, although his intelligence was unquestionable. The body organs were again found to be healthy. The pupils were unequal, the left being larger than the right, which was pinpoint," and both showed the Argyll Robertson phenomenon. The optic discs were of a good pink colour, and vision was quite good. The atrophy and weakness were merely somewhat more marked than on the previous examination. Fig. 3 shows the change in bulk. There was tactile anæsthesia downwards from just above the knee on the right side and from the junction of the middle and lower third of the leg on the left side. Sensibility to pain was preserved, but there was marked delay on both sides as high as the middle of the thigh. There was anæsthesia of the hands as high as just above the wrists. There was no ulnar anæsthesia in the forearms. There was apparently no thickening of any accessible nerve trunk. A special electrical examination was made by both of us with Dr. Gerald Burke, the house-physician, on January 27th, 1908. With the hand of one of us on the patient's cheek over the exit of the facial nerve and the coils separated 1½ in., a vigorous contraction was obtained in the thenar muscles of the examiner, and a very distinct sensation, but there was no contraction in the patient's facial muscles and no sensation. A good reaction in the examiner's facial muscles was obtained with one electrode in the left hand and the other in the right hand, the back of which was applied to the side of his own face, and that with the coils separated less than 2 in. With the coils pushed nearly home, the electrodes being one in the patient's hand and the other in the palm of the examiner's hand, the back of which was placed on the patient's face, there was an extremely vigorous contraction on the part of the operator, but on the part of the patient hardly any sensation and no muscular contraction. To galvanism a good contraction was obtained in the examiner's first interosseous muscle of the hand, using the negative pole and the indifferent electrode in the other hand with 2.75 m.a. of current. With the indifferent electrode on the patient's back and the other electrode applied to the same muscle of the operator's hand, which was resting on the



Fig. 3.—Case 1. Showing double club-foot, double claw-hand, wasting of muscles, and pigmentation of the skin.



Fig. 2.—Case 1. Showing perforating ulcer of right foot and scar of another on left foot.

patient's biceps, a contraction was obtained in the examiner's muscle with 2.5 m.a. With the active electrode then applied directly over the patient's biceps no reaction was obtained with nearly 20 m.a., neither with ascending nor descending currents. A doubtful reaction was obtained in the first interosseous and a clear one in the third of the patient's hand, with about 20 m.a. and ACC = KCC. An examination made by Dr. Howard Pirie, electrician to the hospital, on February 3rd, 1908, gave the following results: A maximum faradic current causes slow and slight contraction in the thenar muscles, the first, second, and third interossei, and the hypothenar muscles of the left hand. No muscle of the left forearm would react. A tender spot was elicited with this current over the deltoid motor point, but no contraction. No reaction was obtained from any face muscles except a slight one from the right *risorius*. No contraction was obtained from any muscle of either thigh or leg. The right hand gave the same negative result, but a contraction was obtained from the right flexor carpi ulnaris and the flexor minimi digiti with some flexion of the other two inner fingers. Several tender spots were localized in the left forearm.

CASE II (*Daughter*).

A. L. S., daughter of the patient just described, is 16 years of age. She had whooping-cough when 3 years old. From this time up to the age of 10 she enjoyed perfect health, was able to run about and play with other children. Soon after she was 10 it was noticed she was becoming less active, and there was a tendency to walk on the sides of her feet. About a year later weakness was noticed in the hands.

State on Examination, February, 1904.—The patient was pale and somewhat thin, but intelligent and cheerful in disposition. The muscles of the legs below the knees were distinctly wasted, but measurement did not reveal any inequality between the two limbs. When the patient was lying down or sitting with the legs dangling the loss of power in the peroneal and extensor muscles was more manifest, both feet showing foot-drop. Slight talipes varus was present with some pes cavus (Fig. 4). She was unable to dorsiflex the right foot, and the left foot only to a slight extent, and she was not able to stand on tiptoe. The knee-jerks were absent, even with reinforcement. Cutaneous sensibility over the soles showed some impairment, but elsewhere it was quite normal. In the upper limbs there was no obvious atrophy. There was, however, commencing weakness in the hands, which had been evidenced by the fact that whereas a few months before the patient was able to open the spring of a neck fur with her hand she was now unable to do so, but pressed the spring open with her teeth. There was commencing scoliosis with convexity to the right. There was no inco-ordination of movements; the pupils were normal; there was no nystagmus.

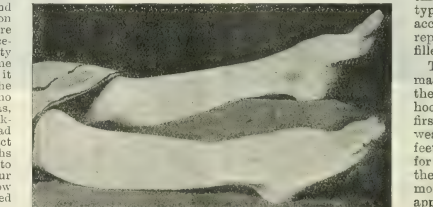


Fig. 4.—Case II. Showing the tendency to drop-foot and pes cavus (February, 1904).

Electrical Reactions.—The intrinsic muscles of the hands reacted to faradism, although somewhat feebly. In the right leg the peroneal and extensor muscles reacted fairly, the tibialis anticus faintly. In the left leg the results were substantially the same.

To Galvanism.—The right and left thenar muscles responded only fairly, but KCC > ACC. Owing to the patient's extreme nervousness the electrical examination was difficult, but the general result was that there was diminished irritability to faradism.

State on Examination, November, 1908.—Since the foregoing notes were taken the girl has increased greatly in weight and height. Her legs now drag markedly in walking, the great toes are constantly turned up (claw-toe), she wears away the soles of her boots on the inner side before the rest, and her hands have become flapper-like, so that when using them to remove her clothing she is obliged to use the whole hand, not the fingers alone.

CASE III (*Daughter*).

The third case is that of the elder daughter of the first patient. She is 21 years of age, and a big, well developed woman. It does not appear that she has suffered from any acute illness in the past. She is healthy looking and well nourished. She is apparently (November, 1908) just beginning to follow the course of her younger sister. She is somewhat clumsy in her gait, the calf muscles are well developed, but there is weakness and some wasting of the muscles on the outer side of the legs below the knees, and the knee-jerks could not be obtained even with any method of reinforcement. An electrical examination was not made because of the apparently insuperable objection of the patient to that method. The hands are not obviously affected.

CASE IV (*Brother*).

W. J. S., younger brother of the first patient, was quite healthy up to the age of 16, then clubbing of the feet began. At the age of 17 he underwent an operation for the deformity. He then wore iron supports for several years. He had considerable difficulty in getting about. Between the ages of 20 and 25 the hands became affected and claw-shaped. There was lateral curvature of the spine. Ulcers were present on both feet, and owing to extreme ulceration of the right foot it was amputated when he was 25. He died from pneumonia at the age of 32. He was unmarried. It is not known if he had any acute illness in childhood.

CASE V (*Mother*).

Mrs. S., the mother of patients I and IV, began to develop clubbed feet when about 17 years of age, and had an operation for the deformity when 18. She was married at 35, and in her family had only the two sons already referred to. That her hands were not affected is apparent from the fact that she was able to play the piano up to a short time before her death. She died at 50, from heart disease. No particulars can be obtained as to her having suffered from any illnesses in early life.

CASE VI (*Grandfather*).

Mr. A., the father of Mrs. S. and grandfather of the first patient, was known to have some deformity affecting both feet. No further information can be obtained, but it may be assumed that it was the same affection seen in the later generations.

As long ago as 1875 Leyden and others noted that there were cases of what might truly be called progressive muscular atrophy in which the wasting began, not in the intrinsic muscles of the hands, as in the Aran-Duchenne type, but in the lower limbs, and these cases, he remarked, were often hereditary. But it was not until 1886 that Howard Tooth[1] in this country, and Charcot and Marie[2] in France, identified these cases of hereditary lower-limb atrophy as a separate disease, subsequently known as the peroneal type of muscular atrophy, or by some as progressive neural muscular atrophy, after Hoffmann.[3]

The foregoing group of cases corresponds closely with this now well-recognized type, and in the following account the clinical picture represented in them is filled in with some detail.

The disease usually manifests itself between the early years of childhood and puberty, and the first sign is generally some weakness in the legs and feet, shown by a tendency for the "legs to drag" or the "feet to turn in." In most cases the affection has appeared to begin in the peroneal muscles, and it is certainly this which gives rise to the early development of the characteristic foot deformity, the most usual form being talipes varus with some degree of pes cavus, a deformity which is clearly due to gradual loss of power in the peronei, and not to secondary contractures. In some cases, however, atrophy has been noticed in the intrinsic muscles of the feet from the beginning, and it is a question whether the point of onset is not more often than has been thought in the small muscles of the feet, a position in which the effects of the atrophy would not speedily become obvious. There is usually not only club-foot, but claw-toe as well.

The next muscles to be affected are usually the tibialis anticus, the extensor longus hallucis, and the extensor longus digitorum; and following these the flexor group, comprising the gastrocnemius, soleus, and tibialis posticus.

After the leg muscles those of the lower thigh are next attacked, especially the vastus internus, giving what is known as the bottle shape (with the neck downwards) to the thighs. The upper extremities are usually involved after a short interval, affecting first the intrinsic muscles, giving the claw-hand. This interval may vary within rather wide limits—Sainton gives six weeks and fifteen years. Thus in Case II the hands showed weakness only eighteen months after the first symptoms; in Case IV the hands became affected between four and five years after, while in Case I they were apparently free for twenty-four years, which is, as far as we are aware, the longest interval on record; and in the mother of this patient (Case V) they escaped altogether, as she was able to play the piano up to nearly 50 years of age, a short time before her death. As Sir William Gowers, in his well-known textbook, has remarked, claw-hand in early life is

so rare from any other cause that it may be taken, together with club-feet, as almost pathognomonic of the condition.

The wasting may then proceed to the muscles of the forearm and upper arm; the supinator longus is spared, as in lead paralysis, and the muscles of the shoulder, neck, and back generally escape. They, however, may become affected and the wasting even general. The wasting is, moreover, as a rule more or less symmetrical, but it may begin earlier on one side, and that consequently show a greater degree of atrophy.

The electrical reactions may at this date be termed characteristic. In the Aran-Duchenne type there is a gradual diminution of irritability to the faradic current, and a degree of qualitative change in the galvanic reaction appears, the changes bearing a proportion to the degree of muscular atrophy. The fully developed "reaction of degeneration" may, however, be obtained, but when it does occur it is usually a late feature. In the "peroneal type" electrical changes take place early, before atrophy has become extreme, and the full reaction of degeneration appears early. Perhaps the most constant feature is either an early and greatly diminished irritability or complete loss of faradic excitability. In two of our cases, in which electrical examination was feasible, the diminished irritability to faradism was well marked, not only in atrophied muscles, but also in those not obviously atrophied, and there was, in the absence of analgesia, a marked diminution in what may be called faradic sensibility. Of course, it must be borne in mind that atrophy may be present in a muscle before it is apparent—in fact, the gross atrophy which is obvious can only be the outward expression of an antecedent atrophy which has been steadily progressing until sufficiently advanced to be observed.

In Case I it may be remarked where there was a diminution in electrical excitability of the apparently unwasted muscles, equivalent on a rough estimate to one-seventh of the normal—that is, a loss of six-sevenths—and including the facial muscles in this diminution, there was a distinct defect of tonicity in the muscles of the face, as manifested by an expressionless physiognomy, which might fairly be taken, we think, as evidence of a defect in the nutrition of the face muscles. In one of the cases recorded by Dubreuilh the face muscles were apparently incapable of expressing emotion.

Oppenheim,[7] it may be mentioned, refers to a case in which this loss to faradic excitability was found in almost every muscle of the body accessible to electrical stimulation, although there was obvious wasting in the lower limbs alone. The galvanometer observations in Case I show that the diminution in the reaction to galvanism could not be due to excessive skin resistance, and, by using the patient's body as part of the faradic circuit in stimulating the observer's muscles, it was demonstrated that there was no excessive skin or tissue resistance to the faradic current. Both Hoffmann and Dubreuilh[4] record cases in which the facial muscles could not be thrown into activity by either current when applied either through the nerve trunk or directly to the muscles.

Lateral curvature of the spine may appear early (as in Friedreich's ataxy) possibly in relation with the early development of club-foot. The affected limbs are often cold and livid, or pigmented. Cutaneous sensibility in some cases remains unimpaired, but, as a rule, there are patches of anaesthesia, especially in the region of the atrophied muscles and over the soles of the feet. Pains and cramps are often complained of. Fibrillary tremors are frequently present, especially in the hands.

Among the 52 cases collected by Sainton,[5] the knee-jerks were absent or much diminished in 50 per cent., increased in 10 per cent., and normal in 40 per cent. As a rule, there is no sphincter trouble.

Some cases approximate very closely to "locomotor ataxy," so much so that one writer regards the "peroneal type" as a hybrid between "progressive muscular atrophy" and "locomotor ataxy." In Case I not only were the knee-jerks absent, but there were, in addition, patchy anaesthesia, the Argyll Robertson pupil, myosis in one eye, some inco-ordination of both upper and lower extremities, perforating ulcers on both soles, and at intervals there were general shooting pains in the limbs, only comparable with the lightning pains of locomotor ataxy.

As just suggested, this case of peroneal atrophy is by no means unique in its manifestation of what may be called tabetic signs; in one point alone we had thought Cases I and IV were unique—namely, in the exhibition of perforating ulcer; but Oppenheim[7] refers to a case in which also there was perforating ulcer. Among other cases on record showing tabetic symptoms may be mentioned those by Siemerling[6] (Argyll Robertson pupils), myosis (Dubreuilh[4]), lancinating pains and optic atrophy (Vizoli[7]), disturbance of micturition (Sainton,[5] Ormerod,[8] Egger[9]). It may again be repeated that in Case I, after careful examination and consideration, the occurrence of syphilis was confidently excluded.

It is of interest, in this relation, to remember that though localized muscular atrophy in tabes is unusual it is not extremely rare. One of us,[10] in publishing in *Brain* the notes of two cases with atrophy of the deltoid, biceps and supinator longus, collected from the case records of the National Hospital, Queen Square, among 200 consecutive cases of tabes, 29 with paralysis of muscles of the limbs or of muscles other than the external muscles of the eyes and of the laryngeal muscles, and 16 cases of obvious localized atrophy of the skeletal muscles. Among many similar cases in the literature not a few are stated to have had clubbed foot (Condoleon and others)—cases presenting affinities with Friedreich's ataxia, as indeed do some of the recorded cases of peroneal atrophy.

The etiological factors must now be considered.

Sex.—Males are more liable than females, suffering, according to Sainton, five times as frequently. In the family group on which this paper is based the transmission is very clearly from the great-grandfather to his daughter, from the grandmother to her sons, and from the father to his daughter. So here, at any rate, an ordinary transmission of nervous and mental diseases of the parent of one sex to the children of the other seems to hold good.

Age.—The disease would appear to occur most commonly between the ages of 2 and 15 years: it seldom begins after 20 and does not appear to have been observed before 2 years of age. Of 52 cases, for example, collected by Sainton[5] the onset in 40 was before the age of 22, the extremes were 2 and 40.

Predisposing Causes.—Hereditary influences are very powerful. The malady is, indeed, essentially a familial and hereditary one. Isolated cases, of course, must occur, but they are either extremely rare or often unrecognized. According to Sainton there are only 10 isolated cases on record, but this is probably a too low estimate. The number of persons attacked in one family may be large—for example, Herringham[11] records 26 in one group.

Exciting Causes.—In a large number of the cases on record there has been a previous history of some acute specific infection, especially measles. In Ormerod's cases of a father, son and daughter, all had had measles in early life. In our cases there is a definite history of measles in one, and of whooping-cough in another. On the other hand, a son who suffered from both measles and scarlet fever has remained free, and one daughter who has escaped as far as can be ascertained all acute infectious diseases has been attacked. Cases are on record developing after small-pox and typhoid, and an influence of intoxication by lead, syphilis, and alcohol is said to have been apparent in some cases.

Pathology.

As long ago as 1855 Virchow[12] found anterior horn changes in what must be identified with the peroneal cases, and as a result they were classified with progressive muscular atrophy. The first systematic examination of their morbid anatomy was made as late as 1889, three years after the publication of the clinical accounts by Tooth, Charcot, and Marie. Finding an atrophic neuritis of the peripheral nerves, the condition became classed in the multiple neuritis group. In 1893 Bernhardt[13] found, in addition to the neuritic changes, sclerosis in the posterior columns of the cord. At the present time, especially since Sainton and Marinesco[14] first examined the nervous system in these cases by modern methods, the pathological evidence supports the view that the anatomical basis of the disease is on the type of a system lesion, especially of the reflex-arc system, and might be formulated as comparable with those of a hereditary locomotor ataxia (Friedreich) with muscular atrophy due

to a superadded cornual lesion. The actual findings in the recorded necropsies agree in degeneration of the nerves, the muscles, and the posterior columns of the cord; these three may be said to be constant as far as present knowledge goes. Among other lesions not constantly present or recorded are those of the posterior horns (recorded by Gombault and Mallet,[15] and Marinesco), the anterior horns (by Friedreich, Gombault, Déjerine and Marinesco, and Sainton), sclerosis of the pyramidal tracts (by Sainton and Dubreuilh), and atrophy of the cells of Clarke's column by Sainton; while Déjerine,[16] Gombault, and Marinesco have described some hypertrophy of the interstitial substance of the nerves leading to manifest thickening.

Differential Diagnosis.

The differential diagnosis offers little, if any, difficulty. Oppenheim and Cassirer[17] have recorded a case which showed all or most of the distribution characters of a myopathy; but the reaction of degeneration (a degree of which is present often in the muscles not obviously wasted), the pains and anaesthesia if present and the distribution of the wasting are sufficient to differentiate the peroneal from the myopathic type. The similarity with progressive muscular atrophy is not close enough to occasion perplexity; the absence of the knee-jerks and the sensory phenomena are sufficient to obviate that. There is much greater difficulty in eliminating the possibility of multiple neuritis. Some of its characteristic symptoms developing after a toxic fever are suggestive, but the progressive and prolonged course of the peroneal atrophy are definitely distinctive, and the occurrence of electrical changes before and in excess of the atrophy are characteristic of the peroneal type alone.

In respect of treatment there is unfortunately but little to be hoped for. In the very early stages the administration of thyroid gland substance seems worthy of trial, on the theory that it might counteract the heredited vulnerability of the central nervous system. Carefully adapted tenotomies and orthopaedic methods may certainly add many years of active existence to the patient's life, and the significance of this is especially important in view of the protracted course of the disease. For example, a case is referred to by Sainton who at 81 could still walk about although the disease began in adolescence.

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CASE OF CHRONIC INFANTILE PARALYSIS OF TEN YEARS' STANDING: TREATMENT: RESULT.

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Cases of chronic infantile palsy may be roughly divided into three classes: (1) Those of great severity, in which there is much wasting, extensive deformity, and, it may be, complete loss of the power of locomotion. Here it is obvious that surgery offers the only hope of betterment. (2) Cases in which the wasting is slight, and deformity absent; but where there is pain and aching after using the affected limb. Such are liable to be confounded with morbus coxae, but once their true nature is recognized, it is evident that no operation can be of benefit. (3) A group midway between these extremes—a lower limb, for example, is shortened, more or less wasted, and to some extent misshapen.

Cases falling into this third category are of fairly frequent occurrence in general practice. The diagnosis presents no difficulties, and the lesion is not so severe as to negative home treatment. Minor surgical measures may seem to be indicated, but in many instances the parents will not consent to anything of the kind. The question arises, what can be done?

The following case, occurring in my own practice, I venture to hope may prove not without interest:

N. H., a girl, aged 14, had infantile paralysis of ten years' standing, affecting chiefly the left lower extremity.

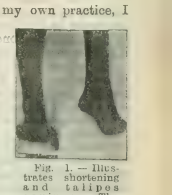


Fig. 1.—Illustrates shortening and talipes equinus. The patient was supported by a person not visible in the photograph.

History.

At the age of 4 the patient, after exposure to a hot sun, was seized with an acute attack of vomiting and diarrhoea, with febrile symptoms. This lasted two days. On the child recovering from the gastro-intestinal disturbance the left leg was found to be almost completely paralysed. The left arm and back muscles of the same side were also slightly affected. There was nocturnal incontinence of urine, with which the child had not previously been troubled. The paralysis followed the usual course in such cases. That is to say, there was gradual spontaneous recovery up to a certain point, and after a few months the patient was able to get about again. The limb, however, remained generally feeble. So far as I could gather, there was not at this time complete paralysis of any group of muscles, but the movements of dorsiflexion and eversion of the foot were relatively the most impaired.

The parents, who were reasonably well-to-do, took the child to more than one neurologist, and received in every case practically the same opinion—that the disease was infantile paralysis; that the growth of the limb would be more or less checked; and that nothing could be done except to massage the affected muscles. Electrical treatment apparently was not mentioned; at any rate, it was not impressed on the parents as a vital necessity, nor does it seem that any warning was given as to the likelihood of deformities supervening unless suitable supporting apparatus were employed.

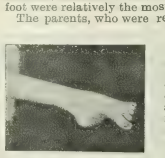


Fig. 2.—Paralysed leg, showing foot drop and equino-varus.

In accordance with medical advice the limb was rubbed systematically by the child's mother, and an attempt was made to carry out graduated exercises. Some improvement resulted from these measures, but in the course of a few months it was evident that the limit of improvement had been reached and the parents made up their minds that nothing further could be done. As the years went by, relative shortening increased, contractures of the calf muscles occurred, and from a state of paresis the peronei passed gradually into a condition of almost complete paralysis.



Fig. 3.—Showing patient standing in original boot, steadying herself by the aid of a stick.

Physical Examination.

When I saw the patient, ten years after the original lesion, the left lower limb was much shrunken and wasted; there was 3¼ in. of actual shortening, as measured from the anterior superior spine to the inner malleolus. The buttock muscles were flattened and the gluteal fold lost. The foot could not be bent to a smaller angle than about 120 degrees with the leg. There was complete absence of voluntary power in the peronei, but no contractures of their opponents; the foot assumed the varus position on an attempt being made to place a weight on it. The limb was clammy to the touch and of lower temperature than its fellow.

The boot worn had no stiffening of any sort, and but 2 in. of sole extension. Walking was possible only by the aid of a stick (Fig. 3), and the patient was liable to severe falls. As a consequence of the uncorrected shortening *plus* the paralytic varus, there existed marked downward (compensatory) tilting of the pelvis to the affected side, together with lateral spinal curvature and general faulty carriage.

Electrical Reactions.—Response to the faradic current was fair throughout the limb, except in the case of the muscles before specified. Even here, however, although all voluntary power was lost, a faint reaction indicated some remaining vitality.

Treatment.

Tenotomy of the tendo Achillis, together with shortening of the overstretched peronei was an obvious preliminary measure;

but the parents absolutely refused to permit anything in the nature of an operation. I had therefore to do the best I could under the limitations imposed. A three months' course (five days a week) of massage, interrupted current, and mechanical vibration (*zimotherapie mechanique* of French writers) produced very fair results as regards the thigh and hip, despite the long standing of the disease. The buttock muscles were increased to such an extent that the difference between the two sides, previously marked, was no longer noticeable when the clothes were on. At the same time, the thigh gained two inches in circumference.

As to that part of the limb below the knee-joint, however, a very short experience convinced me that little could be done by electricity, etc., without previous surgical correction. In this case, then, the only possibility of benefit lay in the provison of suitable apparatus. The usual cumbersome and unsightly "leg-irons" had been previously suggested; but the patient—a somewhat spoiled and self-willed child—had refused them. To anyone acquainted with these instruments her objection will appear not altogether unreasonable, especially when it is remembered that she could manage to get about after a fashion without any such aid. I therefore set myself to devise a boot which should support the ankle, correct the talipes equinus, so far as possible, and at the same time be neither unduly heavy nor recognizable as a surgical appliance.



Fig. 4.—Patient in new surgical boots, standing firmly on both feet.

The boot shown in photographs 4 and 5 was made to my design by a firm of instrument makers in Newcastle. Its construction is very simple. There is a cork extension having a thickness of 3½ in. at the heel, tapering to 2½ in. at the toe; of this rather more than a third is concealed within the upper. Two light steel side supports are fitted between the leather and the lining; these are furnished with flat joints at the ankle, and their lower ends are firmly attached to the sole. To correct the foot drop—that is, in so far as the retraction of the calf muscles will admit of it—finely tempered steel springs are fitted to the joints on both sides. As can be seen from the photographs, the whole boot is neatly finished, and, except for the thick sole, scarcely to be distinguished from an ordinary piece of foot gear.

The patient now walks considerable distances, still limping, of course, to some extent. Her figure and general carriage are greatly improved. She has learnt to ride a bicycle without special difficulty, and has so far met with no accident.

During the course of the treatment the nocturnal incontinence gradually disappeared. This result was not specially aimed at, but it often happens that in the course of treating a paralysed limb we get beneficial effects not originally expected, or even thought of. Remarkable improvement in the general health, both of body and mind, is not uncommon.

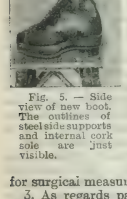


Fig. 5. — Side view of new boot. The outlines of steel side supports and internal cork sole are just visible.

The lessons to be derived from a consideration of the above case seem to me to be as follows:

1. Chronic infantile paralysis of medium severity occurring in persons not yet yet of full growth should never be regarded as incapable of improvement, even when the condition is of many years' standing.

2. Because the parents will not permit us to perform a simple and, to our minds, obviously necessary operation, we should not therefore throw up the case. It is our duty to do what we can for the patient by other means, thereby conserving the limb, and leaving the way open for surgical measures at some future date.

3. As regards paralytic deformity below the knee, leg-irons and coil-springs are not the last word in supporting apparatus. Provided expense is not a first consideration, special boots can generally be devised to suit individual cases—boots which need not be a source of constant embarrassment to the sensitive girl-patient approaching young womanhood.

4. Lastly, the fact that the patient has well-to-do and intelligent parents, desirous of giving their child every chance, is no guarantee that everything possible has been done. Each case, no matter what the history, should be considered with an open mind.

A SPECIAL clinic for the treatment of internal diseases by phototherapy has been established in the Finsen Light Institute, Copenhagen. The director of the new clinic is Dr. Rubow.

ON THE DETERMINATION OF THE TUBERCLE BACILLUS IN THE BLOOD OF PERSONS SUFFERING FROM PHTHISIS.

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It has usually been maintained, in relation to localized pulmonary tuberculosis, that tubercle bacilli do not occur in the blood stream. The access of the bacilli to the blood stream has been supposed to constitute the commencement of a generalized tuberculosis. Certain recent observations have raised doubts regarding the validity of this view. Thus, Rosenberger[1] has published the results of the examination of the blood of 50 cases of phthisis in various stages of the disease. In every case examined he reports having found tubercle bacilli with ease. In a later paper[2] he states that he has demonstrated the bacillus in 312 out of 312 cases examined. Later, Forsyth[3] reports having examined the blood in 12 cases of phthisis and having found tubercle bacilli in 10 of these cases.

These results, if correct, being evidently of much importance, it was suggested to us by Dr. Philip that we should undertake a further series of observations at the Royal Victoria Hospital for Consumption, Edinburgh.

Method.

The method adopted by Rosenberger was, shortly, as follows:

He withdrew from a vein in the arm of the patient 5 c.cm. of blood by means of a sterile syringe, previously boiled in a solution of caustic soda. This blood was at once mixed with an equal quantity of a 2 per cent. solution of sodium citrate in normal saline, well shaken to avoid clot formation, and then allowed to stand in a refrigerator for twenty-four hours. He then, with a sterile pipette, removed a small quantity of the precipitate with which he made a thick film on a clean glass slide, dried on a copper plate at moderate heat, faked in sterile distilled water, and finally stained "by the usual technique" for tubercle bacilli. From each lot of blood he made three films. He maintains that each film should be examined for thirty minutes before giving a negative verdict. Care must, of course, be taken throughout the processes to avoid contamination.

Forsyth's method is similar to that of Rosenberger, with the exception that he centrifuges the mixture of blood and sodium citrate solution "in a fast-running centrifuge for twenty minutes," instead of allowing it to precipitate in a refrigerator.

Out of 22 blood examinations done by us, 13 were performed according to Rosenberger's method and 9 by Forsyth's. As regards staining, our method was as follows:

Slides were first stained with hot carbol fuchsin for five minutes, then decolorized in 5 per cent. sulphuric acid, and finally counter-stained with a watery solution of methylene blue.

As Rosenberger indicated that tubercle bacilli could be demonstrated in the blood even before they were to be found in the sputum, we commenced by examining the blood of two patients with well-marked physical signs of consolidation at both apices, in whose sputa it had been impossible to demonstrate tubercle bacilli. Prolonged examination of four slides in each case failed to reveal tubercle bacilli.

We next examined the blood of an advanced case with double cavity formation, in whose sputum numerous tubercle bacilli were present. Again the result of blood examination was negative, notwithstanding searching examination of four slides for more than an hour each. In confirmation we again removed 5 c.cm. of this patient's blood and treated it by centrifugalization (the former sample having been allowed to stand in the refrigerator). Again the result of examination of four slides was negative.

We then resolved to extend our examination to the blood of 20 cases, varying in type from early consolidation to advanced lung condition, and in some cases accompanied

by tuberculous disease elsewhere—for example, larynx, bones, or glands. In the last 18 cases examined we had previously demonstrated tubercle bacilli in the sputum. The result of these examinations is tabulated below, along with the age, lung condition, and duration of illness of each patient. In every case four slides were prepared, and each slide was examined for at least an hour.

Name.	Age	Disease.	Duration.	Sputum.	Result.
M. J.	24	Consolidation both apices	5 years	T. B. −	Negative.
Mrs. McQ	36	Consolidation both apices	2 years	T. B. −	Negative.
E. F.	23	Cavity both apices	2 years	T. B. +++	Negative.
E. F. (Second sample)	23	Cavity both apices	2 years	T. B. +++	Negative.
J. N.	48	Cavity left apex. Consolidation right apex	14 months	T. B. +	Negative.
C. S.	36	Cavity right middle lobe. Consolidation both apices	2 years	T. B. +	Negative.
D. D.	40	Cavity right middle lobe. Consolidation both apices	5 months	T. B. ++	Negative.
R. G.	24	Consolidation both apices	3 months	T. B. +	Positive.
R. G. (Second sample)	24	Consolidation both apices	3 months	T. B. +	Negative.
F. G.	25	Consolidation both apices	1 year	T. B. ++	Negative.
A. B.	28	Consolidation both apices. Tubercle of bones of forearm, rib, and cervical glands	3½ years	T. B. +	Negative.
T. T.	22	Two cavities left lung. Consolidation right apex	16 months	T. B. +++	Negative.
A. S. B.	19	Cavity right apex. Consolidation left apex	9 months	T. B. +	Negative.
D. F.	27	Consolidation both apices	1 year	T. B. +	Negative.
A. McL.	23	Consolidation upper lobe. Consolidation right apex	18 months	T. B. ++	Negative.
B. C.	23	Consolidation both apices	2 years	T. B. +	Negative.
A. L.	25	Cavity right apex. Consolidation left apex. Tubercle of larynx	2½ years	T. B. +	Negative.
Mrs. P.	33	Consolidation both apices	18 months	T. B. +	Negative.
J. F.	55	Consolidation both apices	14 months	T. B. +	Negative.
A. M.	29	Consolidation both apices. Tubercle of larynx	18 months	T. B. ++	Negative.
A. F.	26	Cavity left lung. Consolidation right apex	15 months	T. B. +	Negative.
Mrs. C.	31	Two cavities left lung. Cavity right apex	4 years	T. B. +	Negative.

Analysis of our results shows them to be almost completely opposed to those obtained by the other observers. In one instance only, out of 22 blood examinations from 20 patients, was it possible to demonstrate tubercle bacilli. In this case two acid-fast bacilli were found, resembling morphologically the tubercle bacillus. A second examination of the blood of the same patient proved negative after prolonged search, so that we were led to believe that the presence of the two bacilli referred to may have been accidental.

Our observations seem, therefore, to indicate that at no stage of localized pulmonary tuberculosis is the tubercle bacillus demonstrable in the blood. Our findings are in agreement with the recently published observations of Bernstein and Fried,[5] who also obtained negative results on injecting the blood into healthy guinea-pigs.

Since the above was written Schroeder and Cotton,[4] at the United States Bureau of Animal Industry, have tested the blood of 42 cattle, in all stages of tuberculosis, by intra-abdominal injection into guinea pigs, with negative results in every case, from which these observers conclude "that tuberculosis is not to be classified, in any sense of the word, as a bacteriæmia."

We have pleasure in expressing our acknowledgements to Dr. R. W. Philip for his advice, interest, and assistance in our work.

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THE SCIENCE COMMITTEE

OF THE

British Medical Association.

REPORT CXVI.

THE INFLUENCE OF THE UNSATURATED FATTY ACIDS IN TUBERCULOSIS.

BY

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AMONG the many remedies advocated for tuberculous conditions none have been held in such high esteem, or stood the test of time so well, as cod-liver oil. The use of this and the free administration of fat have been recognized as no mean agents in the cure of tuberculosis. The recent additions to our knowledge of the lipoids show how important these bodies are in the animal economy, and further knowledge of the constitution, properties, and action of the compounds of various fatty acids have opened up many fields of research.

The painstaking and careful work of Leathes[1] and his colleagues has, while showing the difficulties of these problems, yielded some important results. Leathes has shown that the liver among its other actions, has the power of desaturating fats and thus supplying the blood with unsaturated fatty acid compounds. These bodies, having loose affinities in place of the hydrogen atoms which have been removed from them, are capable of exerting chemical action in a marked degree. Moore,[2] for example, has shown the striking influence they have on haemolysis. The fish and vegetable oils contain as a rule more of these unsaturated fatty acids than do animal fats. Cod-liver oil contains them in a marked degree. The consideration of these facts has led us to investigate the action of cod-liver and other oils on the tubercle bacillus, and to contrast their action with the animal fats, to see if there is any basis for the belief in the use of this drug.

The acid-fast properties of the bacillus depend upon the presence of a waxy envelope. This acid-fast property is reduced to a minimum by bodies such as lecithin. To find if it was diminished by the fatty acids themselves or their glycerides, we performed the following experiment: An emulsion of tubercle bacilli was intimately mixed with saturated and unsaturated fatty acid compounds such as olive oil, palmitin, mutton fat, beef fat, and finally cod-liver oil. The mixtures were then incubated at 37° C. for several weeks. In the case of the saturated fat compounds staining with carbol-fuchsin and treatment in the ordinary way with acid showed after an interval of two months that the bacilli were unchanged. With the olive oil a slight change was observed, the bacilli not showing the staining reaction so well, whereas with cod-liver oil a striking change was observed. After a period of about two weeks the bacilli retained the stain less markedly, and in about two months many of the organisms failed to retain it at all, but were readily decolorized by the acid. The cod-liver oil containing a high proportion of

unsaturated fatty acids had therefore altered and, to some extent, disintegrated the natural wax surrounding the bacillus. An increase, therefore, in the amount of unsaturated fatty acids in the environment of the bacillus tends to disintegrate it.

It seems probable that in phthisis the tubercle bacillus is present not only in the lungs, but in the circulatory blood, even in comparatively early cases of the disease.[1] An increase of unsaturated fatty acids and their compounds in the blood, therefore, would tend to produce a condition which is inimical to the life of the organism. The question arises whether an increase in the unsaturated fatty acids in the food leads to their corresponding increase in the blood. That the nature of the fat in the tissues depends upon the nature of the fat in the blood has been proved for animals, but to prove it for the blood in man would require more material than is obtainable from tuberculous patients, therefore the high probability of it being so must be all we can state at present. The above evidence at least is sufficient to provide some basis for the belief which has been held in cod-liver oil and bodies containing unsaturated fats as curative agents in phthisis.

With reference to the administration of fat as an article of diet, it must be noted that an increase in the saturated fat above a certain point will retard its absorption from the intestine, the saturated form being absorbed in a small percentage only (up to about 14) whereas unsaturated fats are absorbed almost entirely (98 per cent.). In mixtures unsaturated fats aid the absorption of the saturated. Therefore in a diet rich in fat the unsaturated portions must be present in sufficient proportion if full absorption is to take place. The two cases quoted below show this quite definitely, the quantity of fat being increased nearly three times, with the result that the percentage absorbed was also increased. In these cases coincident with the giving of the unsaturated fats a beneficial effect was observed on the nitrogenous metabolism. In the one case an increase in nitrogen retention occurred, in the other a diminution in nitrogen loss. The two cases in which the metabolic changes were investigated were both males.

Description of Cases.

Case I.—P. M., aged 34, an electric car driver, was admitted on May 5th, 1909. His illness dated from congestion of lungs four years before. Pulmonary tuberculosis in the second stage (Turban), with laryngeal tuberculosis, tubercle bacilli in sputum, and general health on admission poor; no pyrexia. He was discharged on June 16th, 1909, much improved and fit for light work. Weight on admission, 8 st. 10 lb.; on discharge, 9 st. 3½ lb.

Case II.—J. N., aged 37, a railway foreman, was admitted on March 30th, 1909; ill for six months before admission, pulmonary tuberculosis, first stage (Turban), lesion progressive in character; tubercle bacilli in sputum; general health fair; no pyrexia, but throughout treatment liable to digestive disturbances. Discharged on June 8th, 1909, improved and fit for work. Weight on admission, 9 st. 8 lb.; on discharge, 9 st. 12 lb. In both cases the observations were carried out in the same manner. For the first period of the experiment the ordinary diet was continued, consisting of:—*Breakfast:* 6 oz. bread, ½ oz. butter, 1 egg, 20 oz. coffee, including 10 oz. milk.

Dinner: 6 oz. meat, 6 oz. potatoes, 6 oz. vegetables, 2 oz. rice, ½ oz. sugar, 10 oz. milk.

Tea: Same as breakfast.

Supper: 2 oz. bread, 10 oz. milk.

The diets were exactly weighed for each meal. The amount of fat in the meat was approximately the same. Particular attention was paid to this because of the amount of fat present in lean meat, and, moreover, the butter given each day contained a good deal of unsaturated fat; so the patient was taking mixed fats even in the ordinary diet. The ordinary methods used by Harley[4] were adopted of measuring, collecting, and estimating the various quantities. The nitrogen was estimated by the Kjeldahl process, the fat with Werner-Schmidt tubes with controls by Soxhlet extractions.

In the subsequent periods the patient was allowed as much fat as he could eat, with the addition of 1 oz. of cod-liver oil after each meal.

Both patients occasionally objected to taking large amounts of cod-liver oil, so that for the purposes of the experiment olive oil was at times substituted. Olive oil, containing oleic acid, is full of unsaturated fatty acids, but in all probability it does not have the influence of cod-liver oil, because the latter contains bodies of a higher degree of unsaturation.

The results of the observations were as follows:

Case I.—*P. M., aged 34. Weight 8st. 10¾lb.*

First Period (8 Days).	Nitrogen.		Fat.		
	Intake.	Output.	Intake.	Output.	
				Total Fat.	Neutral Fat and Fatty Acids.
	Grams	Grams.	Grams.		
May 17 ...	22.58	7.92	93.4	8.52	5.53
,, 18 ...	18.38	12.73	77.56		
,, 19 ...	22.58	13.93	93.4	6.37	4.46
,, 20 ...	22.58	17.43	93.4		
,, 21 ...	22.58	9.11	93.4		
,, 22 ...	18.33	11.02	77.56	17.8	9.9
,, 23 ...	25.9	15.6	95.52		
,, 24 ...	23.3	12.51	93.4		
	176.28	100.55	717.64	32.69	19.89

Weight at end of First Period, 8 st. 13½ lb.; gain 2¾ lb. Gain of nitrogen, 75.63 grams; absorption of fat, 95.5 per cent.

Second Period (One Week).—During this period the amount of fat was considerably increased, butter being given in larger quantities, and at least 5 oz. of cod-liver oil daily.

	Nitrogen.		Fat.		
	Intake.	Output.	Intake.	Output.	
				Total Fat.	Neutral Fat and Fatty Acids.
	Grams.	Grams.	Grams.		
May 25 ...	20.45	5.88	260.84		
,, 26 ...	24.65	10.36	260.84	12.06	10.67
,, 27 ...	24.65	6.86	260.84		
,, 28 ...	24.65	5.85	232.84		
,, 29 ...	21.93	6.48	219.52		
,, 30 ...	24.65	7.09	260.84	9.72	8.81
,, 31 ...	24.65	5.87	260.84		
	165.63	48.39	1,740.72	21.78	19.49

Third Period (One Week).—During this period the patient resumed his *ordinary diet as in the first period.* (No estimations made.) *Weight* at end of third period, 9 st. 1½ lb.; loss, ¾ lb.

Fourth Period (Eight Days).—During this period the diet was the same as in the second period, the fat increase consisting as much as possible of unsaturated fats.

	Nitrogen.		Fat.		
	Intake.	Output.	Intake.	Output.	
				Total Fat.	Neutral Fat and Fatty Acids.
	Grams.	Grams.	Grams.		
June 7 ...	24.65	8.61	260.84		
,, 8 ...	20.45	5.7	245.0	8.49	6.61
,, 9 ...	24.65	8.52	260.84		
,, 10 ...	22.65	4.2	260.84	8.25	6.9
,, 11 ...	24.65	6.4	245.0		
,, 12 ...	20.45	5.47	207.52		
,, 13 ...	25.18	8.42	260.84	14.09	9.23
,, 14 ...	22.65	5.58	260.84		
	185.33	53.10	2,001.72	30.83	22.74

Weight at end of fourth period, 9 st. 3½ lb.; gain, 1 lb. Gain of nitrogen, 132.33 grams; fat absorbed, 98.5 per cent.

The average number of calories per diem in the food ingested was:

First period	...	...	...	3,000
Second period	...	...	...	4,666
Third period	...	...	...	3,000
Fourth period	...	...	...	4,417

CASE II.—*J. N., aged 37. Weight, 9 st. 6½ lb.*

First Period (One Week).	Nitrogen.		Fat.	
	Intake.	Output.	Intake.	Output.
	Grams.	Grams.	Grams.	Total Fat.
April 21	—	—	94.04	6.68
„ 22	22.34	26.19	94.04	
„ 23	22.82	24.27	93.08	10.91
„ 24	18.54	37.94	77.56	
„ 25	22.89	23.91	94.04	
„ 26	—	—	93.40	20.61
„ 27	18.69	24.07	78 20	
For 5 days ...	106.28	146.38	624.36	38.20

Weight at end of first period, 9 st. 7 lb.; gain 1 lb. Loss of nitrogen, 40.1 grams (over 5 days). Absorption of fat, 93.9 per cent.

Second Period (One Week).—During this period a considerable quantity of unsaturated fat was added to the diet.

	Nitrogen.		Fat.		
	Intake.	Output.	Intake.	Output.	
	Grams.	Grams.	Grams.	Total Fat.	Neutral Fat and Fatty Acids.
April 28 ...	22.44	29.30	93.08	33.07	15.01
„ 29 ...	22.74	18.79	121.40		
„ 30 ...	22.74	19.94	150.40		
May 1 ...	18.54	22.86	103.56	18.19	12.89
„ 2 ...	23.56	24.59	117.49		
„ 3 ...	22.74	24 90	121.40		
„ 4 ...	18.54	21.43	103.56		
	151.32	171.89	810.59	51.12	27.9

Weight at end of second period, 9 st. 8½ lb.; gain, 1½ lb. Loss of nitrogen, 20.51 grams. Fat absorption, 93.7 per cent.

Third Period (One Week).—During this period a still greater quantity of unsaturated fat was added to the diet.

	Nitrogen.		Fat.		
	Intake.	Output.	Intake.	Output.	
	Grams.	Grams.	Grams.	Total Fat.	Neutral Fat and Fatty Acids.
May 5 ...	22.96	24.53	255.34	45.73	36.18
„ 6 ...	23.18	21.46	255.34		
„ 7 ...	22.96	19.62	255.34		
„ 8 ...	17.63	22.22	225.54		
„ 9 ...	25.56	22.08	201.49		
„ 10 ...	22.96	25 14	255.24	26.82	21.36
„ 11 ...	18.53	20 52	239.5		
	151.58	155.61	1,665.89	72.55	57.54

Weight at the end of the third period, 9 st. 8 lb.; gain, 1½ lb. Loss of nitrogen, 4.03 grams. Fat absorption, 95.7 per cent.

The average number of calories per diem in the food ingested was:

First period	2,936
Second period	3,383
Third period	3,915

Both patients improved very considerably during the trial, and neither of them suffered more than a little passing discomfort from the large amount of fat administered. It was left to themselves to have these amounts reduced, but this was necessary only on one or two days. They both increased in weight, and their general feeling of well-being was notable. This was especially the case with regard to the patient P. M., who was by far the more advanced in disease on admission. In his case, along with the increased absorption of fats, there was a pronounced increase in nitrogenous retention.

The second patient, J. N., pale and flabby, had been more or less of a dyspeptic for years, but even in his case the oil rarely gave any trouble. His fat absorption went up during the period of maximum administration, and his weight showed steady increase throughout. In the first period of observation under normal diet conditions, he showed considerable nitrogen loss. This loss was reduced about 50 per cent. in the second period with the added fats, and reduced about 90 per cent. in the third, when the greatest amount of unsaturated fat was given.

CONCLUSIONS.

1. Bodies containing unsaturated fatty acids have the power of disintegrating the waxy envelope which surrounds the tubercle bacillus.

2. The nature of the fat in the food influences the nature of the fat in the tissues.

3. The administration of substances rich in unsaturated fatty acids may therefore be of value against the bacilli in the body. The dissolution of the waxy sheath may itself be fatal to the organism, or, this dissolution being effected, the bacillus may be rendered easier of attack by ordinary body forces.

4. The unsaturated fatty acids and their compounds aid the absorption of other kinds of fat.

5. With the administration of these bodies there is a beneficial effect on nitrogenous metabolism as well.

[Our thanks are due to Dr. C. A. Hill, Physician to the Liverpool Consumption Hospital; to Dr. John Owen, Assistant Physician; and to Dr. Henry Clarke, Physician and Superintendent of the Research Laboratory, for much kind help. We are also greatly indebted to the Matron and to Nurse Pugh for valuable assistance, without which the greater part of the work would have been impossible.

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SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

Professor JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., President.

DISCUSSION ON ANGINA PECTORIS.

OPENING PAPERS.

I.—Sir T. CLIFFORD ALLBUTT, K.C.B., M.D., F.R.S.,

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At the outset of the present discussion we must ascertain precisely what is to be discussed, and in what terms. Concerning angina pectoris some precision, both of terms and of substance, is especially needed, for no disease has been more obscured by factitious notions, or more confused by false analogies and erratic conjectures. Yet in all medicine there is no disease which presents a clearer image to the observant eye, nor one more conspicuously emergent from the clinical jungle. If its characters are confused we have confused them by our equivocations; if

The substance of this paper was first published at the meeting of the Eastern Counties Branch of the British Medical Association at Yarmouth in 1898, and has been published repeatedly since, for instance in the Lane Lectures of 1898, and before the Pitt-Press Scientific Hospital staff and their friends in 1907. At Belfast, time compelled me to omit some paragraphs of this paper, the manuscript of which was handed to the Secretaries.

its type is blurred it has been overridden by alien forms. Let angina pectoris be looked at simply, without prepossession and with discrimination, and its features will come into focus and the type will take fair definition.

Much has been made of the frequent difficulties of diagnosing the disease, of its swarm of mixed and counterfeit cases and phenomena; yet I do not hesitate to say that there are few diseases in which puzzling cases or eccentric phenomena are so infrequent. The puzzles are engendered not of the disease, which is remarkably uniform, but of the sophisticated minds of its observers.

For we are confronted by the sophist on the threshold, who says bluntly that angina pectoris is not a disease, but is a symptom or "symptom group"; it is here, indeed, that the sophistry begins. This dogma is but a play of words. "A symptom" angina pectoris certainly is not, for it is manifold; a symptom group it is no doubt, or rather a symptom process or procession. Now when is a disease not a disease but a "symptom group"? One of the abler sophists has told us; he says "a symptom group differs from a disease in its various causation and various pathological bases," which is surely to propound that similar series of events can have dissimilar causes—a somewhat amazing proposition. If a single symptom—a cough, for example, or a pain in the side—may be attributed roughly to various causes, it is unthinkable that a group, a long and fairly uniform array and procession of events, can issue from causes in the main different. Indeed, it cannot be said very decisively that even a single symptom, such as a cough or pain, may own various causes; even within this narrowest limit the acute and expert physician may often perceive that coughs and pains of several origins are not identical in character. Vomiting, by its particular mode, usually betrays the kind of causes to which it is due; and to describe a toothache carefully to a dental surgeon is usually to indicate likewise the kind of its causes. And as we turn from a symptom to a "symptom group" the correspondence of causes and consequences becomes more and more inevitable. A symptom group—that is, a procession of symptoms, both negative and positive—which recurs in man with fair uniformity, must be due to causes no less uniform; it is for this reason that we are justified in attaching to such groups labels and names, and in relegating each group to its class as a disease among diseases.

All our classifications are, of course, arbitrary. They are justified not by the absurd supposition of several "entities," nor by supposing that such compartments, required as they are by the exigencies of the human mind, exist in Nature. A disease is nothing more—we can mean no more by the term—than a fairly uniform symptomatic series, not recurring with identity—there were never of any disease two cases alike—but with such a measure of uniformity as to make it worth while to describe it separately and to label it. It is a strange thing that those disputants who talk most glibly about "morbid entities" are among the first to shuffle these labels and to mix up our classes. On the merest superficial resemblance they will shuffle cardiac dyspnœa under asthma, the convulsions of cerebral gumma or of uræmia under epilepsy, high pressure or uræmic dyspnœas or vaso-vagal squalls under angina pectoris, and so forth. This is no digression. My argument is to state that angina pectoris, both in respect of its positive and of its negative symptoms, is such a fairly uniform mode of morbid change, and that it is the name of a class of cases founded not upon superficial but upon profound resemblances.

We are apt to forget that as in describing a man we reckon the good qualities as well as the bad, so the functions which remain unperverted, or but slightly perverted, are as much symptoms of a disease as are the morbid phenomena. In angina pectoris, for instance, certain of the negative symptoms, such as the comparatively normal respiration and the comparatively normal circulation, are as important in diagnosis as the positive symptoms. That the series named angina pectoris may and often does occur with the heart, lungs and kidneys intact, is admitted, more or less reluctantly, by observant and experienced physicians; and, if this be so, then the essential, as apart from contingent, miscarriage must lie outside these members.

Of the positive symptoms, on the other hand, the chief is pain; not, as the books copying from one another recite in the "precordial region," for it very rarely occupies this region; it arises, as the earlier writers more correctly stated, at or under the sternum. In angina minor it occupies the manubrium, or the middle third, of the breast-bone, and scarcely travels from this part. Another considerable symptom is an arrest of voluntary movement—an imperious and almost automatic arrest, even of the breathing. A third is a vague sense or apprehension of evil; if in angina minor, the *petit mal* of this disease, it is not often an alarm of imminent death, yet the sufferer is usually aware of some strange and sinister touch.

Of *angina minor* there are four more features which, if not constant, are certainly characteristic—namely, that the pain is brought out by muscular effort only; that the arterial pressures are positively increased; that it is almost as common in women as in men; and that the pain, if foreboding, is not deadly. In angina major, on the other hand, the paths of the pain are far more irritable; it is often called forth by inward tides of pressure not obviously due to muscular movement; not rarely, indeed, during sleep. And in the major form, if it be true that commonly the arterial pressures range above the normal mean, such is by no means always the case; in this variety the focus of the disease is so resentful that pressures not praeternormal often suffice to exasperate it. Fourthly, angina minor is not an infrequent malady; some cases end in recovery; some, under the stresses of high arterial pressure, are fatal, but in the usual courses of cardiac defeat; some advance into angina major. Its prevalent physical signs, if more than those of high arterial pressures, pertain to atheroma, arterio-sclerosis, and dilatation of the ascending arch of the aorta.

Angina major is a more instantly perilous, a more terrible and happily a less frequent variety of the disease than angina minor, which, however, is only a little less sinister in meaning. In the major form the pain, starting in the same area as in angina minor—namely, in or under the breast-bone, especially the upper half of it—does not hang about the part, but, usually centred there, darts in well-known directions across the upper chest and into the arm, usually into the left arm and into the ulnar area of it; sometimes into both arms, very rarely into the right arm only. In some cases the pain is driven up the neck, or into still broader areas; in others it starts somewhere upon the periphery, but usually at a point constant for the particular case, or the particular stage of it. In this form of the disease, the attacks of which often arise as it were spontaneously, life is in more instant jeopardy. Generally speaking, the pain is far fiercer than the oppressive check of angina minor; too often it racks the very depths of bodily anguish. Albeit, when fatal, it is with a swift and unseen arrow, which strikes as often, more often indeed, in the feint of a slight or prelusive attack than in the heat of the battle for life.

Between these two modes of angina, minor and major, there are, of course, intermediate or transitional cases, though they are less frequent than might be supposed.

To one confronted by angina pectoris in its more appalling aspects, or even by the menace of its minor form, the appearance in these dreadful lists of the unsubstantial phantoms of mere functional malady must surely seem fantastic. Were angina and its counterfeits even superficially more alike, the association would still be a conspicuous example of the error of classification by superficial rather than by profound resemblances. Landois drew this red herring across the path, Walshe unfortunately followed him; and from that time we have had to deal not so much with lack of precision as with a certain precision of error in this matter. No one has proved more clearly than has M. Huchard that "pseudo-angina" means pseudo-diagnosis; yet whether in more friendliness for such men as Nothnagel and Eulenburg than for truth, or allured by the desire of the French temperament for symmetry and antithesis, instead of brushing these mockeries impatiently aside, he retains them for the decoration of his categories. For our own part, let us dismiss these soft options of nosology, these teacup tempests, from our charts of angina, and remit them for a more profitable contemplation, in their proper place and season, to the class of maladies well described and arranged by Sir William Gowers under the label of "Vaso-vagal Disorders."

Notwithstanding, in discussing angina pectoris we cannot pass over vasomotor oscillations without attention

If I venture to think Sir Richard Douglas Powell has attributed too much importance to them in angina, still it is true that, both as concomitants and as contingent causes, they have some part in the matter. That vaso-constriction frequently, and vaso-dilatation not rarely, ensue upon irritation of afferent nerves we are well aware. As in migraine, in ovarian irritation, in severe intercostal neuralgia and so forth, so in angina the pain may play upon this sympathetic instrument. And not only so, but as all approaches of angina, major and minor, may depend immediately upon transient increments of arterial pressure, on whatever levels, it is plain that any influence which brings about vaso-constriction, such as a chill wind or a creepy emotion, by raising the blood pressure may determine a seizure. But no such wave of constriction, not even the vasomotor convulsion of ague, will produce an attack in a person free from the local lesion proper to angina. In a word, the vasomotor phenomena congruent with angina, sometimes derivative, sometimes subsidiary, are incidents; they do not partake of the nature of the disease.

I must now endeavour briefly to appreciate and to compare the current hypotheses of angina pectoris. As it is said in therapeutics that our command of a disease is too often inversely as the number of its remedies, so I may say that our knowledge of the causation of angina pectoris is inversely as the number of our conjectures.

The hypothesis of angina as the outcry of a passive ventricle under dilating stresses—the hypothesis advanced with easy assurance a few years ago—has now few defenders, or is abandoned. Against it I think no further argument is needed, though it keeps creeping back furtively. But it is recognized that dilatation of the heart in all its forms is far too vulgar an event to be concerned in a series of phenomena so infrequent and so startling as angina; and moreover that the symptoms of dilatation are not those proper to angina.

Recently a more novel and apparently a more attractive hypothesis is an analogy founded upon the symptoms of intermittent claudication, or stumbling of the legs, first described in cases of disease of the abdominal aorta in horses. Angina has been attributed to such a claudication of the heart in cases of coronary atheroma—a pretty fancy. But it is surely sufficient to point out that in attacks of angina the rule is that the heart does not stumble, until in death it stumbles once for all. The time of this Section is not to be wasted in speculations about a faltering which in the cardiac rhythm or output is wholly or almost imperceptible.

Another notion, that angina is a cramp of the heart, is likewise discredited by the usual persistence of normal rhythm and output throughout an attack; moreover, cramp is contrary to all we know of the physiological properties of this unique organ; or, as I ought rather to put it, cramp or clonus is not the abnormal but the normal action of the cardiac muscle—an action normally not balanced by antagonists, nor delivered by parcels, after the manner of voluntary muscular mechanism. The cramp disputants, therefore, have had to whittle down their hypothesis to imaginary remnants; some are guessing at discordant cramps or twitches in portions of the myocardium, others speculate on "abnormal contractions akin to spasm"—a distinction worthy of Duns Scotus.

Some observers of the present time, among whom are physicians of the eminence of Sir Lauder Brunton and Dr. Samuel West, finding the dilatation hypothesis on the one side, or the cramp hypothesis on the other to be insecure, have endeavoured to patch up an alliance of the two; they suppose a crampy dilatation—a stretched contraction or a contracting stretch. For an analogy they offer us the pain of a hollow muscular organ, the urinary bladder for instance, when distended by a content which at the same time it is striving ineffectually to expel—an illustration which, like Mr. Pickwick's dark lantern, bewilders without enlightening us. For probably in the case of the distended bladder, the pain is not in the muscular coat, but is set up by the drag upon the parts about its neck and the prostate, for the fine nerve-twigs passing to the fibres of visceral muscle are generally regarded by physiologists as motor. So far, then, as this argument may be apt for our purpose it must be handed over to me; for I attribute angina pectoris to such a drag upon the neck of the aorta. However this may be, the bladder, in the case supposed, is striving with a content which is not expelled; the heart, on the contrary, in the attack of angina, even during the worst of the paroxysm, is continuing steadfastly to deliver its tale of blood, per beat and per minute, with a tranquillity and effect which under any hypothesis are rather surprising. This it may be doing against high pressures, it is true; but so, both in health and disease, the heart is continually called upon to do, and does in diseases of other kinds even perennially; yet in such common cases we hear little of angina major or minor; anginoid pain is no characteristic symptom of aortic stenosis, nor of chronic renal disease, even under the extremest arterial pressures. To invite us to accept two hypotheses in combination because neither of them can stand alone reminds me, Sir, of a young priest, a native, I believe, of this part of the kingdom, who, being instructed to provide himself with a housekeeper of not less than 40 years of age, wrote after some delay to his bishop saying that he had been unable to secure a housekeeper of 40 years of age, but that he had succeeded in engaging two, each of 20, a combination which he trusted would meet with his lordship's approval.

Dr. James Mackenzie has offered us partial conjectures rather than a complete hypothesis on the causation of angina pectoris; he supposes that the heart, which has its other four qualities intact, is deficient in contractility; that the stoppage, and perhaps some of the pain, are due to a summation of stimuli, but that the vice-like element of the pain is due to cramp of the muscles of the cage of the thorax. The alleged "cramp" of the heart or its parts Dr. Mackenzie admits to be unthinkable; but still he seems to me to be harking back towards the old dilatation hypothesis. In his book on heart disease, he says (pp. 40 and 42), "The phenomena of angina pectoris are not the outcome of the gross lesions found, but are evidence of exhaustion of the heart's contractility"—though without any reduction of tone. Yet he says (p. 54), although "this exhaustion is the essential cause of angina . . . it is not dangerous," "and the phenomena disappear with the restoration of the nerve force." Then what in it is dangerous—the gross cardiac lesions? But often enough there are no such lesions, or not in sufficient degree of themselves to cause death. And, as to the pain, we know of no severe pain from exhaustion of striped muscle. The arrest of the heart in a week, in a year, or in decade of years, may be due, as the attacks themselves may be due, to a "summation of stimuli"; the pains indubitably do depend upon an exalted state of the sensory paths; but the stop is not the angina, nor can it be an essential part of it, for plenty of people pass through the tribulation of angina and come safe out of it, not a few, indeed, safe and sound; others suffer for many years, and die in the end of associated or intercurrent disease. Of grave maladies, angina pectoris is one of the more curable. Thirdly, as to the dynamic explanation of the "gripping sensation of angina," which Dr. Mackenzie attributes to "spasm of the intercostal muscles" so decisively that he "would even limit the name to cases in which, besides the pain, there is a sense of contraction in the chest . . . as if the breast-bone would break."[1] As to this renaming I must insist again that our nomenclature is already too shifty and careless for us to make things worse by removing, or altering, labels which for some generations have been attached to fairly uniform morbid series, unless, of course, in the progress of knowledge some radical alterations become inevitable, and our way to them clear. If from day to day, on any wind of doctrine, we are to be shifting our labels, precise argument becomes impossible. Is, then, the part taken by intercostal spasm in the disease, if any at all, so intimate as to determine its name? Now, the vice-like pain of angina—major and minor—although of all degrees, from "stenocardia" to an unutterable agony, is in kind, in seat, and in menace, peculiar; it varies only in the number of the turns of the screw. The intercostal muscles, when in action, do not crush the breast-bone inwards; they expand the chest. Moreover, if in cramp, they would, as in all muscular cramps, give pain in proportion to their volume. The respiration in angina is arrested, it is true, but, in my opinion, by vagus inhibition. A frequent area of anginous pain is that of the left pectoral muscles, but it is not by any constraint of theirs that the patient may be deterred from grasping the arm of his chair, or from taking the

[1] J. Mackenzie, *Symptoms* 1909, p. 235.

medicine cup in his hand; he is transfixed by the writing on the wall. He could move an he dare. In muscular cramp we may howl or rage; angina pectoris is beyond all raging. By the bed of a strong man in an attack of the major angina the very chamber is silent with awe. In this agony—the uttermost torture, so we are told, in the rack of disease—the wit of the physician only is still vigilant; and can he see in this strait no more than the plucking of a few chords of fiddle-string muscles at the patient's ribs! Some variable reflex fixation of such muscles there may be, but the anguish is of far deeper, far grimmer significance. Even of attacks of trigeminal neuralgia no man ever died.

Again, that the awful and fatal visitation of angina pectoris can be but the waft of a "neurosis" would have seemed too fantastic a notion for experienced physicians to entertain, had it not been announced by persons of importance, and taken so seriously that, after searching in vain for the disease in Nothnagel's *System* under the head of cardio-arterial diseases, I ran it down at last among nervous diseases, whither a distinguished physician had relegated it—a ghastly companion for neurasthenia, hysteria, feminine nerve-squalls and mimicries. A "neuralgia," a "vascular crisis," a "hyperaesthesia," a "nerve-storm"!—need I delay you on levities which the author of *Nightmare Abbey* would have called philosophic gas? "Pseudo-angina," I repeat, is pseudo diagnosis. The pale horse and his rider are not of these phantoms.

To the observation of Lancereaux, and later of Dr. Mott, on an inflammation of the cardiac plexus in angina I need do no more than allude: this plexus is not a sensory but motor instrument, and can solve nothing of our problem. The same disqualification, I think, applies to Dr. Morison's interesting case of lesion of intracardiac ganglia. But, so far as I remember, none of these eminent observers has definitely alleged that the origin of angina pectoris lies in these parts.

Dr. Francis Hare's recent surmise that angina pectoris is due to morbid tension in the mediastinum is very interesting to me, as an approximation to the truth.

The dominant explanation of angina pectoris I have left to the last, that which may be called, briefly, the coronary hypothesis—the almost tiresome burden of "angina coronaria" of the school of Huchard, and of Romberg and others in Germany. Now, in the first place, to predicate some lesion of the coronary arteries, even as an essential constituent of its pathology, is not to explain the process. It does not display the dynamic mutations, the functional swerve, which this lesion is supposed to produce. Coronary disease will explain the angina only when it discloses the mode of the deviation from the normal tenor, "the unhallowed string which vilely jars." However, for a moment we will leave processes for pathological deposits; we will try to decipher upon the tissue of the parts the graphic inscription of their discords; but once more, if we are to succeed, we must begin our lesson, not with those records which are overwritten, interpolated, or corrupted, but as in other scientific investigations, *per viam exclusionis*, with the simplest we can find. Yet, perhaps without exception, authors have followed an opposite method. One eminent physician, for instance, by way of a ready entrance upon this inquiry, explicitly set down "coronary atheroma, myocardial degeneration, aortic disease, aneurysm, high arterial pressure," and a few more dilapidations, as parts of his problem. Involved in such complications, how are we to see our way to separate the invariable from the incidental antecedents and associations of the process? In order to advance *per viam exclusionis*, we ought, on the contrary, to collect from examples of the disease, typical in their clinical aspect, those in which the pathological conditions, precedent and associated, were not the most but the least complex; so that, if possible, a common denominator might be found.

In discussing the coronary hypothesis, however, we are a little embarrassed to find that many, indeed most, of the cases of angina which, on clinical grounds, we should pronounce to be, while fully typical, the simplest in conditions, do not find their way to the *post-mortem* table; that for the most part, indeed, the cases in young persons, and those detached from intercurrent disease, end in recovery; and are thus withdrawn from autopsy. The inference, however, is that, if the recovery were complete, the heart in these was substantially sound. As these instances are many,[3] the presumption may well be that static disease of the heart is not an essential element in our research.

If there be but one authentic case of angina pectoris in which after death the heart was found either indubitably normal or indifferently affected, then we cannot escape the dilemma that either the clinical diagnosis was wrong or cardiac disease was not an essential element in its causation. Yet such a record would be very far from unique. The cases in which by their clinical features angina pectoris was clearly delineated, yet in which after death the heart was found intact, are far too many to be laid before you to-day. Again, the cases are also a multitude in which, although cardiac disease was found, the nature or seat of it was various and inconsistent. Many such records I have published already, others I must leave for the fuller essay on this subject which I have in preparation. Briefly, they fall into two categories—namely, cases in which the coronary arteries were diseased but the myocardium, both to the naked eye and to the microscope, was intact, the notes of which, it is true, may lie under some suspicion of inaccuracy; and cases in which neither coronary arteries, myocardium, nor valves presented any departure from health. Such cases, if rare in the *post-mortem* room, are more or less reluctantly admitted to be authentic by orthodox champions—by Balfour, Broadbent, Cohnheim, Fraenkel, Romberg, Baccelli, and many others, who, notwithstanding, seek to evade the inevitable inference. Rosenberg, however, in summing up this part of the argument, confesses that no hypothesis will serve which depends on enfeeblement of the function of the heart muscle ("*Verminderung der Leistung des Herzmuskels*"). And Dr. James Mackenzie has demonstrated that in angina pectoris four, at any rate, of the five cardiac qualities, including tone, are, or may be, unaffected. The usual way of avoiding this issue is to say, on the rebuff of the necropsy, "Oh, well, then the case was not one of angina pectoris"; although during life the diagnosis had never fallen into doubt. Call no man anginous till he is dead, and not even then unless he has played the game! At a recent cricket match a batsman whose middle stump had flown at the first ball, cried out in his bewilderment, "No ball, umpire!" The reply was, "The ball was right enough, sir." "Oh, then I was not ready." Or the attitude may be compared to the alternatives of the pleader: "Taffy did not steal the shin of beef; or, in the alternative, no one saw him do it; or if some one did, then it was not Taffy, or if it was Taffy, the beef was his own," and so forth. Thus for the angina we try to set up an alibi. Is it not absurd to be told, whatever the clinical witness may have asserted—even so good a witness as Dr. West, who says of such a contested case that it had "the same characters as angina pectoris," in other words, a physician of his experience and ability could see no clinical difference—that the disease was not itself at all, but something else under the same name, a sort of poor relation?

Seriously, is this the method of natural science wherein, as Professor Bateson says, "a chief maxim should be to treasure our exceptions"?

When witnesses so trustworthy as Broadbent and Fraenkel admit that angina may occur before coronary disease has brought about any changes in the myocardium, when not even a microscopic confusion of the striae can be detected, and, yet in the same breath protest that "in angina the state of the heart walls must be the dominant factor," do not we overhear an echo of Vesalius's final submission to the dogma of desudation of the blood through the pores of the ventricular septum? And when, again, Fraenkel, in the fourth edition of Eulenburg, while clinging to the coronary hypothesis, concedes that in some cases of angina the coronary arteries are proved after death to have been sound—"*durchaus intakt*"—are we not listening again, not to the man who treasures his exceptions, but to one whose judgement is subjugated to conventional dogma? Professor Dieulafoy describes two cases of fatal angina in which he tells us "there was no coronaritis, a proof that obliteration of the coronaries is by no means the sole cause of angina pectoris," and these words he writes in italics; and yet even he cannot but strike up

[3] See, for example, Morel-Lavallée, L'angor pectoris non-coronarienne, *Rev. de méd.*, October 10th, 1899.
[3] *Pathologie Interne*, 1908.

again the old chant—coronary disease, ischaemia of the heart, angina pectoris, death!

Time will not permit me to quote such test cases by chapter and verse; they must be carried over to a more comprehensive essay. And, amid all this reliance, or assumed reliance, upon the coronary link, our attention is cleverly diverted from the facts, that on the one hand men are dying daily with coronary disease, and that, on the other hand, angina pectoris is a somewhat rare disease. Few elderly men die without as much coronary disease as would serve for the complete outfit of a coronarian disputant. And the phenomena of coronary embolism and the like, says Professor Osler, give us no help in the explanation of angina. Well might Lubarsch, in a critical summary of the argument last year, acknowledge that the secret of angina was as yet unread; that the problem still contained "noch ein unerklärliches Etwas."

But you may urge, did not Jenner trace angina pectoris to coronary disease; and in Hunter's case prove his hypothesis by foretelling this lesion? Why, to foretell coronary atheroma in the cardiac failure of an elderly man is no prodigy of prophecy; but I happen to have read Jenner's Letter, and to have noted how, with true scientific caution, he did not attribute the angina to the coronary changes; he stated simply that after death by angina coronary disease would be found. So, as a humble follower of this great man, I say likewise; but I would add, that the coronary disease was not the cause of the angina, but the reason why in Hunter's case unhappily the angina proved fatal.

Spasm of the coronaries is freely invoked by pathologists as a way out of the puzzles of their own making, and to explain cases of angina in which no coronary disease could even plausibly be alleged. One eminent man speaks of "spasm of the coronaries causing high vascular tension within the myocardium." Try to think out *that!* But of a neuro-constrictor endowment of these vessels there is no evidence, but much to the contrary. Their variations of calibre are directly as the cardiac oxydative activity. Nay, the very notion of neurotic caprices in this momentous region would indeed suggest a new and alarming possibility, even to the healthiest of us, of whiffs of angina, and of the trembling balance of life.

Hitherto, in the destructive part of this essay, I have found little difficulty. Many of the competing hypotheses were mutually destructive, others were inherently perishable. *Ipsae periere ruinae.* But now I have to address myself to construction, I have myself to give hostages to fortune. You will forgive me if in this place I do no more than formulate my hypothesis, and refer you for what I call my proofs to former and later papers.

I repeat that for proof, as for disproof, we must rely on cases selected for simplicity; cases stripped, so far as may be, of accretions. Death is not an essential but an incidental issue of the disease. If, in the many cases of relative simplicity whose nature was happily veiled by convalescence from our scrutiny, we cannot give a direct demonstration of the pathological focus, yet in life or in death the clinical series is usually unmistakable enough for the discriminating physician who will but use his eyes and forget his prepossessions. He will convince himself that a disease which not infrequently ends in recovery, especially in young persons, cannot have its primary seat in an irreparable lesion of vital parts—such, for example, as obliterative disease of the coronary arteries or myocardial decay. Its causes must be compatible with complete recovery, and yet be such as may prove swiftly fatal. Now in an inflammatory or subinflammatory lesion occupying the suprasigmoid portion of the aorta with its investment these conditions are fulfilled. Suprasigmoid syphilis is, perhaps, the most instructive process of those which may be accompanied by angina. In this state we find an infiltration of the coats of the vessel extending in ominous cases from the adventitia, or at any rate involving this investment. On the inner surface we may see a cushion-like elevation of the wall, often of more or less annular disposition; this, if untreated, will extend downwards to the coronary mouths and to the valve, producing perilous and incurable mischief. The older the patient and the more this kind of damage, especially in the coronary area, the more probable is sudden death; the less able is the heart to withstand a sudden inhibition.

Howbeit, you will exclaim, is this not to forget that in angina pectoris we are dealing with a terribly fatal disease, a disease in which death is more imminent than in any other; how can a stroke so mortal come of a mere sore spot in the wall of the aorta? Can it be of this that the patient may presently swoon and die? How can such a thing be? My answer is that the patient does not die just of his sore spot; when he dies, it is indirectly by vagus inhibition. In the few recorded instances in which the finger of the physician has been on the pulse at the moment of the patient's death—an opportunity which once fell to Professor Thayer—the records are that suddenly the pulse faltered, staggered, and stopped. I have noted, not rarely, especially in elderly persons, this impression of the vagus on the pulse during attacks which did not end in death: the pulse may be felt to slacken and lag, to tarry under the finger, and then, escaping from its too anxious nurse, to go again on its way in safety. Some augmentor reinforcement had saved it. We may note that, frequently or even generally, death intervenes not at the acme but before the seizure attains its worst, before there is time for readjustment; and these phenomena of clinical medicine may be illustrated abundantly by experiment on animals, and by kindred events in the lesions of disease.

Dr. Hugh Anderson has shown me how the stellate ganglion between the first two thoracic segments may readily be removed, whereby the heart is deprived of augmentor capacity. Now if this operation be done in a young cat the disability may be not easily demonstrable. But if it be performed on an old cat, however healthy its heart may seem, this ambiguity vanishes; for if in this condition the animal be waved in the hands, up and down, so as to bring the vagus into action, the ordinary cat pulse of 120 may be reduced to about 40. Indeed the animal is so liable to die suddenly that farther observations may thus be terminated.

Dr. Gaskell thinks a sudden sharp stimulus to the vagus has more of the depressor effect and less of the anabolic and restorative effect than more gradual interference. Still, the healthy heart of young subjects manages nearly always to escape in time; its readjustments are both elastic and ready; with the deteriorated or even with the merely old heart it is not so. As the active youth slips his foot and promptly saves himself, but the unready muscles and stiff joints of the elderly man fail to respond in time, and he falls before he can save himself, so it is with the heart, when imperceptibly altered by age, or enfeebled by coronary or other disease—it cannot save itself, it topples, regains a step perchance, loses it again, and drops.

Time will not permit me to do more than remind you of this danger, even to the healthy heart, in many not unfamiliar events in clinical medicine; how by the pang of a gall stone, or by a blow on the testicle, a healthy heart may be stopped for ever; nor can I do more than allude to the experiments upon animals. Dr. Ferrier tells us that a pin-prick in the vagal nucleus will arrest the heart. Roy showed that to stab the aorta in the part I have indicated may stop the heart suddenly; more surely in old animals. Capper and Lewis, both in animals and in man under surgical operation, have demonstrated the increasing susceptibility of the vagus mechanism, and the increasing peril of death, as a stimulus is carried inwards and upwards from the more peripheral tracts of the pleura towards the structures about the root of the lung.[4] Again, the surgeon by bitter experience has learnt that "Nature" is only too ready to make this kind of demonstration for him; for instance, during operations on the brachial plexus—the region, by the way, with which we are often concerned in angina—or on the neck; so that, now forewarned, he blocks her too officious response by a local sedative; as in angina I block it by the exhibition of atropine, or try to block it, but too often Nature is quicker than Art. Though proof by necropsy has been wanting, I have strong reason to believe that I have seen the arrest of a sound heart by angina, as I have proved a sound heart in a sound body to have been arrested by a gall stone; many such cases are on record.

[4] Since the Belfast meeting, Dr. Johnson, BRITISH MEDICAL JOURNAL, September 11th, 1909, has demonstrated fine nerve ramifications in the supraperiaortal connective tissue investment, which he regards as the paths of pneumatic pain.

The dread—the *metus deliquii*, which by no means runs parallel with the pain—I am disposed also to attribute to some echo in consciousness of the vagus crisis. We have records of certain cases of bulbar disease, of growth involving the vagus, and the like, in which the appearance of an *angina sine dolore* pointed strongly to this being the path of the symptom. Conversely, fear may strike down the vagus path with fatal results.

My own attention was especially drawn some years ago to the suprasigmoid area by certain clinical observations which seemed to indicate that the part is peculiarly susceptible to changes of blood pressures, as if by its nervous endowments it might have some regulative function in this respect. I guess that the investments of this part of the aorta are furnished with Pacinian bodies whose function it is to indicate pressure changes to their segment of the cord: and that if these bodies, and their pain columns, be submitted by disease to a morbid summation of stimuli the corresponding spinal segment, or—in case of longer or intenser irritation—spinal segments, are thrown into a state of agitation which is expressed in greater and lesser degrees as pain. Under ordinary circumstances these messages are passed from point to point in silence; but if in high aortic pressures the suprasigmoid parts are impaired, the resentment may take the form of angina minor—a state which perhaps may be something short of a coarse lesion of the fabric of the vessel; but if there be active lesion, then arterial fluctuations, on whatever planes, may throw the associated nervous centres into wider and wider circles of agonizing vibration, and functional dispersion. Under these circumstances of quivering alertness, however, the surprise of sudden death is less frequent for the vagus is sooner tired than the augmentors. It is in the startle or nip of an incipient seizure that the fully charged vagus may sever the thread of life, even before the patient is aware of his peril. Oftentimes, indeed, it is only by inference that the name of angina is extended to cover the fatal event.

Concerning the mechanism by which the pain is awakened I cannot as yet speak precisely. I have suggested that in the sheath of the ascending aorta Pacinian bodies will be discovered whose sensitiveness in other parts to pressure, and especially to dragging tensions, are well known. Hitherto I have not been able to obtain dissections made with this purpose; but in Dogiel's classical papers[5] I read that these end apparatus are found in the connective tissues of the pericardium[6] and in the investments of other parts about the collar of the heart and large vessels. The pain is of the kind which in many degrees belongs to investing tissues. That of acute pleurisy, far less vital—less intimate, as it is, yet is similar in kind. In inflamed tendons or ligaments, where Pacinian bodies are abundant, the pain is like wise agonizing—as, for example, in acute gout. In a few cases of sudden embolism of a coronary artery, or myocardial rupture, a stretching pain like angina pectoris has been recorded, and may be due to tension of investments.

To the treatment of angina pectoris time permits me to do no more than allude. The lesion or abnormal irritability of the suprasigmoid aorta commands us to reduce arterial pressures to the utmost which the conditions of the particular case allow. The rest must be to the level which is consistent with abeyance of the pain. My orders are: Never bring on the pain: every renewal of it keeps up the sum of stimuli. If for this end absolute stillness in bed be required, then bed it must be: with the corresponding reduction of food. Thus, if at first the attacks are not abolished, they will be mitigated, and will gradually taper off. The subsequent imprisonment must be determined by the sagacity of the physician, guided by the sensations of an intelligent patient. At the same time all those measures, medicinal, dietetic, and other, which are known or supposed to reduce arterial pressures will be enforced. Sir Lauder Brunton's potent means, the nitrites, are indispensable.

To guard against vagus inhibition atropine must be administered regularly. In very painful cases morphine may be needed also. I suggest that an icebag applied cautiously and intermittently to the upper thoracic spine may prove helpful. The possibility of syphilis must be thoroughly discussed and tested by pathological and clinical methods; and, if discovered, or even suspected, resolute treatment, chiefly by mercurial inunction and the iodides, must be prescribed. Empirical experience suggests that iodides in some dose should be administered in all kinds of the disease. Specific remedies for any general morbid condition, as for acute rheumatism, gout, hyperpiesis, etc., will not be forgotten.

Of new remedies two have seemed in my experience to be efficacious, more especially in angina minor—namely (*a*) the high frequency current, and (*b*) the administration of the lactic acid bacillus on the method of Metchnikoff. Baths and massage cannot be prescribed in any urgent stage of the disease. Causes of eccentric irritation must be discovered and neutralized. The patient must be warned never to swallow quickly, nor to bolt large morsels. Diuretin and aspirin have their advocates. Chloroform is very dangerous in angina. In syncopic failure of the heart artificial respiration should be tried.

II.—Sir Lauder Brunton, Bart., M.D., F.R.S., London.

Sir Lauder Brunton said that one cause of diversity of opinion regarding the causes of angina pectoris was the absence of exact experimental knowledge regarding the sensory nerves of the heart. Meetings like the present had the great advantage that conflicting opinions could be quickly compared and more advance towards truth made in half an hour than by months of writing in journals. Every one must have been charmed by the clear and eloquent exposition by Sir Clifford Allbutt of his views regarding angina pectoris, though they would not agree with all Sir Clifford's statements. His own idea that the pain of angina pectoris was akin in kind to colic in the intestine or spasm of the bladder had been swept away by Sir Clifford, who thought there was no pain in muscle but only in fibrous investments. But the bladder or intestine, with freer fibrous investments, might be enormously dilated, and no pain was felt until the involuntary muscles in these organs contracted, and Kronecker had shown that the muscular fibres of the heart were capable of cramp. One reason of the discrepant opinions in regard to angina was, as he had suggested, the want of experimental knowledge regarding the sensory nerves of the heart. Sir Clifford had said that the nerves of the cardiac plexus were all motor, but Schmiedeberg, in Ludwig's laboratory, had shown that many were sensory or, at all events, afferent. He thought Sir Clifford had done great service by bringing prominently forward the aorta as the source of pain in angina pectoris. It was probably a source and an important source. But it was also in all probability not the only one. One objection to dividing angina into major and minor lay in the implication that there was only one kind of angina, the cases being all the same in kind and differing only in degree. He thought there were probably several kinds of anginal pain not yet differentiated, but having a different pathology, just as colicky pains in the abdomen might proceed from irritating food, flatulent distension, appendicitis, perforating ulcer, or even the passage of calculi, biliary or renal. The present use of the terms "angina" and "pseudo-angina" indicated that the conditions to which they were applied were at least two in number, and differed in kind and not only in degree.

This opinion was borne out not only by their prognostic significance but by the results of treatment. Pseudo-angina occurred, as a rule, in the young, was not of serious import in regard to the patient's life, and was little or not at all relieved by nitrites. True angina occurred, as a rule, in the elderly, was of very grave import as indicating danger to the patient's life, and was usually relieved for the time by nitrites or other vaso-dilators. He thought also that the seat of pain gave indications in the thorax, just as it did in the abdomen, of the source of the pain. Sometimes, no doubt, the pain in cases of appendicitis might be felt above the navel, but as a general rule the pain indicated more or less the seat of the disease.

In cardiac pain there were two chief points of election—(1) over the sternum, and (2) over the apex. That over the sternum probably started from the aorta, and that over the apex from the ventricle.

After all, the proof of the pudding was the eating of it. In 1867 he observed that rise in tension occurred along with angina, and probably caused it. He gave nitrite of

[5] Arch. f. mikr. Anat., 1898, b. 65, and 1902.

[6] In previous papers I have drawn attention to the occasional presence of pericardial ganglia (Pawinski, Samuel West, and others). I owe much in this part of the subject to conversations with Dr. Hedley and others.

amyl; the pain disappeared, and nitrites had continued to be used with success ever since. This seemed to him to be strong evidence in favour of this theory.

The apical pain might come on apart from any sternal pain. He considered that while radiation of pain might be responsible for its extension in severe cases, yet there was another factor which should not be left out of account —namely, that high tension in the aorta itself must affect the walls of the heart itself, to which it passed through the coronary arteries.

He felt sure that angina pectoris was sometimes directly fatal, but he agreed with Sir Clifford that cases—even very severe ones—might apparently recover entirely and remain apparently well for years.

He wished to retain the term "pseudo angina," because he thought that it led to a proper distinction in treatment. Such cases, as a rule, required tonic treatment and exercise, like cases of neuralgia, while true angina required extreme care in regard to over-exertion, and needed vascular depressants, such as nitrites and iodides.

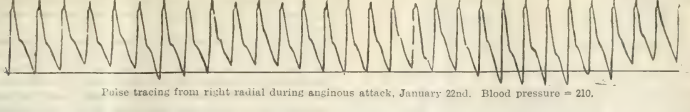
DISCUSSION.

Professor W. OSLER, F.R.S. (Oxford), said that on the question of pronunciation he confessed himself in a more fortunate position than the Chairman or Sir Clifford When in the presence of a college don or a great "stickler" for the proprieties of language, he said angina, but in the presence of the ordinary man he adopted Horace's rule, and followed the common usage and said angina. And it was a comfort to know that there were authorities for both. So far as the speaker's aortic theory of the condition, his experience grouped the cases in three categories. First, those with disease at the root of the aorta—either syphilis, which was a common cause in young men, or aneurysm, particularly the small growing sac just above the valves. He dwelt on the importance of recognizing the syphilitic form, as treatment was often followed by cure. Secondly, cases with disease of the coronary arteries alone or combined with myocarditis. In men above 40 it was rare to find coronary disease without some sclerosis of the aorta, but occasionally one met with instances in which the arteries alone were involved, and he gave details of a case in which the root of the aorta was uninvolved. And lastly, in a few fatal cases neither aorta nor coronaries were diseased. He referred to a case of this kind which he had reported. Such were rare, but there were a few on record. He felt it was impossible to bring all cases into Sir Clifford's category, and his theory had difficulties such as had been spoken of in connexion with the six so admirably criticized. Personally, he confessed to a weakness for the intermittent claudication theory, which was not new, but was formulated in clear language by that remarkable man, Alan Burns of Glasgow, whose little book on the heart, 1809, was full of interesting material. The difficulty about this theory was that in ordinary claudication from arterial disease there was no pain. In the form of angina of effort the arrest was very like that of intermittent claudication, and yet the heart's action might be normal. Possibly the peculiarities of the disease might be associated with the remarkable intracardiac system of neuromuscular fibres, the study of which had thrown so much light of late years on cardiac pathology.

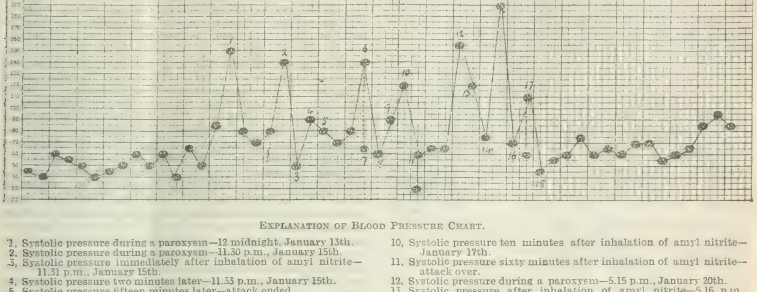
Dr. W. K. HUNTER (Glasgow) said that it was recognized that patients with disease of the aorta were specially liable to attacks of dyspnoea, sometimes there being pain, sometimes simply distress in breathing. In such cases there might be little apparent change in the circulation, and in particular there need be no increase in the blood pressure. It had been shown experimentally that by stimulating the inner coat of the aorta just above the aortic valves a reflex spasm of the bronchi and of the branches of the pulmonary artery might be produced. As a result there would be increased resistance to the entrance of air into the lungs, and the blood would get less oxygen and give off less carbonic acid gas. It was quite conceivable, therefore, that aortitis might account for a proportion of the cases of angina pectoris, especially those cases where there was no apparent cardiac lesion or little change in the blood pressure. But it was difficult to be sure that that explanation would hold for all cases of angina. The speaker narrated the following case that had been under his care, where each paroxysm of pain was associated with great increase of blood pressure, and where vaso-dilators gave immediate relief. It was difficult to be convinced that in this case vaso-constriction was not the primary factor in the production of the paroxysm. The patient was a steel worker, aged 38, and he was admitted to hospital complaining of attacks of severe cardiac pain, which would come on suddenly after any physical exertion. He had not been able to work for eight months, as the least exertion brought on the pain. There was no history of rheumatism or syphilis. The patient was strong and well developed; pulse rate 72. The heart was considerably enlarged, the percussion area extending 1½ in. to right of the mid-line and the same distance to the left of the nipple line. There was a double aortic murmur; but the lungs were clear and there was no oedema of the feet. The urine had a specific gravity of 1023, and contained a trace of albumen. Blood pressure on admission was 145 mm Hg. While in hospital the patient had many attacks of severe angina, and in some of these the blood pressure was carefully noted by the resident physician, Mr. J. Lang. As will be seen from the chart (p. 1129), the systolic pressure during a paroxysm would rise as high as 240 mm. Hg, then one minute after administration of amyl nitrite it would fall to about 150 mm. Hg, going up again to about 190 mm. Hg two minutes later. It would fall again to 150 mm. Hg when the attack had ceased. The severe pain would last a variable time, sometimes an hour, sometimes only fifteen minutes. But nitrite of amyl relieved the pain almost immediately, though the effect might soon pass off and the pressure rise again if the attack had not ceased. The patient said that with the onset of an attack he was conscious of the beats of his heart becoming stronger and stronger, and on examining the pulse one could feel each beat becoming more and more forcible. Whatever the pathogenesis of the angina in this case might be, the rise of the blood pressure, due to vaso-constriction, was regarded as the initial factor in the production of the pain, and the treatment was directed at producing vaso-dilatation. Such treatment was always at least temporarily successful, and the prolonged administration of potassium iodide, sodium nitrite, and such like drugs seemed ultimately to have a beneficial effect in the way of lessening the tendency to recurrence of the disease. The vaso-constriction, it might be contended, was secondary to the pain, but as far as could be determined in this case the vaso-constriction was the initial factor.

Dr. WM. GORDON (Exeter) said: I only venture to intervene in this discussion to refer to two observations which seem to me to have a bearing on any discussion of the origin of angina pectoris. The first relates to the curious fact that an attack of angina not uncommonly occurs during sleep—that is, in recumbency. I have repeatedly observed that a pulse which is rather full between the beats (to use the late Sir William Broadbent's excellent term) when the patient is sitting, becomes much more full between the beats when the patient lies on his back. The difference is not transient—is not a mere passing effect of the change of posture—but seems to indicate a higher blood pressure in the recumbent position. The second observation bears on the statement often made that, where actual heart disease is absent the heart is not dilated in the anginous attack. I cannot speak from actual examination of such a case since I observed the fact to which I am going to refer, but I lately saw a case, with a very able medical man, of sudden faintness in a boy who had been over-smoking. My friend had seen him for the first time and in the attack; consequently he had only been able to examine him on his back. He found no evidence of dilatation of the heart, as indicated by percussion. Neither did I in that posture. But the boy was better, and I could safely sit him up. In posture there was obvious evidence of dilatation. It seems to me that we must therefore bear this effect of posture in mind in discussing the presence or absence of dilatation in angina pectoris.

Dr. J. HADDON (Hawick) said he remembered the case in which Sir T. Lauder Brunton first gave nitrite of amyl, and there could be no doubt that in that case the pain was coincident with the high arterial tension, and was relieved by the lessening of the blood pressure which that drug



Pulse tracing from right radial during anginous attack, January 22nd. Blood pressure = 210.



Explanation of Blood Pressure Chart.

1. Systolic pressure during a paroxysm—12 midnight, January 13th.
2. Systolic pressure during a paroxysm—11.30 p.m., January 15th.
3. Systolic pressure immediately after inhalation of amyl nitrite—11.31 p.m., January 15th.
4. Systolic pressure two minutes later—11.33 p.m., January 15th.
5. Systolic pressure fifteen minutes later—attack ended.
6. Systolic pressure during a paroxysm—2.15 a.m., January 17th.
7. Diastolic pressure at same time.
8. Systolic pressure one minute after inhalation of amyl nitrite—January 17th.
9. Systolic pressure three minutes after inhalation of amyl nitrite—January 17th.
10. Systolic pressure ten minutes after inhalation of amyl nitrite—January 17th.
11. Systolic pressure sixty minutes after inhalation of amyl nitrite—attack over.
12. Systolic pressure during a paroxysm—5.15 p.m., January 20th.
13. Systolic pressure after inhalation of amyl nitrite—5.16 p.m., January 20th.
14. Systolic pressure two hours later—7.15 p.m., attack over.
15. Systolic pressure during paroxysm—3.50 p.m., January 21st.
16. Systolic pressure after inhalation of amyl nitrite—3.51 p.m., January 21st.
17. Systolic pressure 4 p.m.—January 21st.
18. Systolic pressure, 4.45 p.m.—January 21st.

caused. It might therefore be concluded that the difficulty the heart had in acting had to do with the angina. He mentioned the case of a big stout farmer who had angina, could hardly walk along the level. By diet having reduced his weight he was able to climb steep hills. Fat, then, as well as high arterial tension might be a cause of angina, and by reducing fat improvement would result. As to the aorta being the seat of trouble, one pathologist had found that every aorta in those dying after 25 years of age had calcareous degeneration. If the aorta was degenerated was it not likely that the smallest vessels would be degenerated? Angina might occur when the heart was apparently quite healthy, and seeing that it was paroxysmal it must depend upon some reflex influence from some peripheral outpost on the skin or intestinal mucous membrane. Psychologists were now saying that particular delusions could be traced to particular parts of the intestinal tract, and it might be found that angina pectoris might be classed with such delusions, affecting only a different (lower) centre, and, as it had been found in diabetes that if the patients ate only their physiological minimum of food, they could eat anything, so in angina it might be found that attention to diet would prevent or even cure it.

Reply.

In his reply, Sir Clifford Allbutt stated that time had not been permitted him to enter fully upon treatment, on which he had very definite opinions, dependent upon his views of causation. He might briefly distinguish, however, between palliative and radical treatment. Reductions of blood pressure were, as Dr. Gordon's observations proved once more, invaluable as palliation, but for radical treatment further measures were necessary. As to aneurysm, lesions of this kind were apt to cause angina when seated in the first part of the aorta. He was glad that day to welcome two more disciples to his hypothesis that an aortic lesion could produce all that morbid series of events which they named "angina pectoris": for if this were granted, the controversy was surely at an end. There was (so far as extensive search had enabled him to ascertain) no single case of angina pectoris on record in which the investments of the root of the heart and aorta had, on adequate examination, proved to be healthy, whereas the cases were many in which the heart had proved to be normal or affected only in some irrelevant way. Moreover, if it were admitted, as now it must be admitted, that angina pectoris in the strict sense might arise from aortic lesion, surely it could not be admitted that a prolonged and grave series of events, recurring with fair uniformity, could own two or more dissimilar sets of antecedents. As a defiance of the economy of causes, such a supposition was so highly improbable that nothing short of the most minute demonstration could be accepted to the contrary. As regards the seat of pain, there was a cardiac pain, a weary, depressing ache in the submammary area, which was not angina pectoris, and did not resemble it; but sometimes, as Sir Lauder Brunton observed, the two kinds of pain concurred in the same case. As to the cases again edged in under the title of Pseudo-angina, the opener was obliged to decline to recognize them as falling within the subject of the day. The opinion of Dr. Gaskell that the cardiac plexus and intracardial ganglia were motor and not sensory had been continuously fortified. Dr. Hugh Anderson's researches went to prove the part played by the investing tissues of all viscera—of the mesentery, for instance, and by analogy of the aorta—as the apparatus of painful impressions. Developmentally considered he regarded these investments as cutaneous or subcutaneous tracts dragged inwards with the more and more inward packing of the more and more elaborated viscera.

We learn from the *Boston Medical and Surgical Journal* that at a recent meeting of the Prison Congress, held at Seattle, an able paper on sterilization of habitual criminals was presented by Dr. H. C. Sharp, formerly of the Indiana Reformatory. Four hundred and twenty-one sterilizing operations have been performed with a successful outcome, and the measure is now sanctioned by the law of Indiana. Several women spoke warmly in favour of the "Indiana Idea," as did also Mr. Longfitt, of Pennsylvania, who stated that that State was at present caring for 150 feeble-minded descendants of one family. Delegates from California and Connecticut quietly stated that those States have likewise adopted the "Indiana Idea."

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

StClair Thomson, M.D., F.R.C.P., President.

PRESIDENT'S OPENING REMARKS.

Dr. StClair Thomson, after some preliminary observations, drew attention to the necessity of observing the views of the Association with regard to the length of speeches. The programme, he said, had been carefully drawn up, and he took it as a good omen that several friends devoted to the same department as himself had been candid enough to condemn its contents as being uninteresting to oto-laryngologists. He was of opinion that at the annual meetings they should not devote themselves to the discussion of remote and recondite questions on otology and laryngology, but more usefully spend their time in deliberating questions in which the profession at large had a direct interest. The work of the specialist led him to explore unknown and untraversed regions, but as soon as they had been surveyed, and some knowledge of them attained, they should be handed over to the practitioner of general medicine. Tinnitus aurium, one of the subjects to be discussed, was a symptom which any one might be asked to treat, and the meeting of the Section offered a good occasion for learning the different views held by the various otologists gathered together. The other special discussion was to be carried on in conjunction with the Section of Hygiene and Public Health, and was of equally practical interest to every one, seeing that it dealt with latent cases of diphtheria. For obvious reasons, however, it had likewise a special interest for the laryngologist. The President then called on Dr. Thomas Barr to commence the first discussion.

DISCUSSION ON THE TREATMENT OF TINNITUS AURIUM.

OPENING PAPERS.

I.—Thomas Barr, M.D.Glasg.,

Lecturer on Aural Surgery, University of Glasgow; Senior Surgeon, Glasgow Hospital for Diseases of the Ear, Nose, and Throat.

NON-OPERATIVE TREATMENT.

It has been thought desirable, in carrying on this discussion, to divide the subject into (1) the more purely medical treatment, and (2) the operative methods; and it has been arranged that I should specially deal with the medical or non-operative methods.

Subjective sounds in the ear, by virtue of their frequency and their distressing and often intractable character, are a subject full of practical interest not only to the otologist, but also to the physician, the surgeon, and the general practitioner. In the worst forms, tinnitus is frequently associated with vertigo, and, indeed, these two symptoms are so closely allied, especially in primary labyrinthine affections, that some may think the discussion should have included vertigo. Tinnitus, however, occurs so frequently, apart from vertigo, and is so often the chief symptom complained of, that it has been thought well to limit the discussion to this very common symptom of auditory disturbance.

Even by itself, the subject of the treatment of tinnitus is too large for exhaustive discussion, because, like defective hearing, with which, of course, it is generally associated, it may be connected with almost every disease of the ear, external, middle, and internal. Indeed, its detailed discussion would take us over the whole field of otology.

It is a truism to say that the effective treatment of a symptom (for we are dealing not with a disease, but a symptom) depends largely upon a correct knowledge of the condition underlying the symptom. Here, no doubt, the proximate cause of the tinnitus in all cases is some form of irritation of the terminal apparatus of the cochlear nerve, but for effective treatment we must get at the *source* of the irritation. It is obviously, therefore, our first duty, in treating a case in which tinnitus is a symptom, to make a thorough examination of the organ of hearing by all the subjective and objective methods at our command, in order, if possible, to determine the disease upon which it depends, and to treat that; here, as in all other cases of disease, the success will largely depend upon the accuracy of the diagnosis. It is no doubt difficult, and sometimes impossible, to differentiate the pathological conditions present in the ear.

We may find the underlying disease to be of the simplest character, such as the pressure of cerumenous or epidermic accumulations in the meatus, when a stream of hot water, propelled by a syringe, is sufficient to banish a tinnitus which may have been a great source of annoyance for months, or even years; or we may find it to be due to the effect of Eustachian obstruction upon the tympanic tension, when an equally simple therapeutic measure, namely, inflation by Politzer's method, may get rid of it; or it may be caused by pathological products in the tympanic cavity, such as mucus, serum or pus, when its disappearance may follow incision of the tympanic membrane followed by inflation. Or it may be caused by an acute otitis media, or by purulent middle-ear disease, or its consequences, when the treatment suitable for these conditions will in most cases bring about the disappearance of the tinnitus. When associated with and caused by these various conditions in the external and middle ear the treatment is usually very satisfactory, but the methods of treatment are so well recognized and agreed upon that they are probably not intended to come within the sphere of this discussion.

Much less satisfactory in regard to treatment is the tinnitus associated with new formation of connective tissue in the tympanic cavity, or that associated with otosclerosis, or with auditory nerve involvement, whether intralabyrinthine or intracranial. These are unfortunately the most frequent underlying conditions, and are the cases for which otologists eagerly and earnestly desire improved methods of treatment—they are therefore well fitted for investigation and discussion. A monument truly awaits the man who finds an effective remedy, surgical or medical, for the hitherto incurable forms of tinnitus. As in all more or less incurable affections of the human body the number of remedies is in inverse proportion to their value, and there is a special risk, in investigating their value, of confounding *post hoc* with *propter hoc*.

General and Medicinal Treatment.

I would, first of all, emphasize the importance of a careful review of the state of the general health and the habits of the patient, so that appropriate treatment—medicinal, hygienic, dietetic, mental—may be employed to rectify, if possible, any departure from healthy conditions. In this direction good is, no doubt, often achieved. Perhaps we do not give sufficient attention, in these cases, to the general examination of the patient; to determine the condition of the heart, the arteries, the blood, the alimentary canal, and especially the urinary secretion. Such an examination may provide a clue to the real cause of certain forms of tinnitus. I have repeatedly found the presence of albuminuria, glycosuria, or a heart lesion give a very different complexion to the significance of tinnitus and provide a valuable guide to treatment.

We shall often find that the digestive or hepatic system is at fault, inducing a gouty or rheumatic tendency, giving rise to temporary or permanent vasomotor disturbance in the labyrinth. In such a case alkalis and saline aperients or a course of alkalo-saline waters, such as Carlsbad, with an occasional mercurial, in addition to judiciously regulated diet and habits, would, of course, be the true indications. Some patients remark that, after a blue pill at night, followed by a saline aperient in the morning, they enjoy a day or two's respite from the noises—this might point to the proper direction of treatment.

We shall in many cases find a neurasthenic condition present, the result of nerve exhaustion or depression, such as in the case of the overtaxed student, or the harassed business man, or the worried housewife. How often one is consulted owing to the occurrence of a troublesome tinnitus, perhaps without any hearing defect, in a student hard pressed with an examination, or in a person who has passed through a great trial or bereavement, or a serious crisis in business! In these cases the ears may be unusually vulnerable from predisposition, or from the existence of some long-standing although unknown pathological condition. The general nervous disturbance strikes at the vulnerable place. No doubt the neurasthenic condition may be an *effect* rather than a cause of tinnitus. In either case these patients often require a prolonged

period of rest with change of air and surroundings, supplemented by such remedies as a course of the glycerophosphates, strychnine, or arsenic. They must avoid over-anxiety, worry, and all strong emotions, the object being to bring about, by whatever means, a healthy state of the nerve centres.

Anæmia is often associated with tinnitus, especially in the form due to otosclerosis in adolescents—this would, of course, be dealt with by means of iron, arsenic, nourishing food, fresh open air, etc., often with distinct advantage. In my opinion the treatment of the tinnitus of otosclerosis should be general rather than local, and our endeavours, therefore, in these cases should be largely directed to raising the patient to a higher level of health by proper hygienic and medicinal remedies. If the syphilitic cachexia be present, either manifesting itself in the labyrinth or in the interior of the cranium, it goes without saying that this must be dealt with by appropriate treatment. In like manner, if Bright's disease, arteriosclerosis, glycosuria, or diabetes be present, the co-operation of the physician would probably be enlisted in carrying out the treatment.

In the pulsating form of tinnitus, especially if due to cardiac disturbances, digitalis is indicated, and no doubt it sometimes exercises a good effect. In others it seems to have no effect even in the purely pulsating form of tinnitus. In similar cases strophanthus is advocated by some, but I have not had any experience of this medicine. I think we are all pretty well agreed that alcohol in any form tends in most cases to aggravate the tinnitus, and I am usually in the habit of forbidding or very much limiting its use.

We have been hearing a good deal lately about fibrolysin or thiosinamine, which has been termed "a solvent of pathological fibrous tissue," as a remedy just for the conditions where we are sadly in need of improved remedies, namely, fixation of the ossicles, adhesions, and indurations in the tympanic cavity as well as otosclerosis. The statements as to its mode of action in these cases have been calculated to arouse eager expectations. Hirschland and Urbantschitsch write favourably of its effects in some cases. The former says that in certain cases where the hearing was not influenced the tinnitus became less. On account of the somewhat encouraging reports of these gentlemen, many of us have tried it in the kind of cases suggested. My son has used it subcutaneously in a dozen or so of cases, but so far he has not been greatly encouraged by it. However, further trials are being made, and perhaps some of the gentlemen present may have had more extensive experience, and may favour us with their results. It is very difficult to decide as to the real worth of treatment when only a small number seem to be benefited: we know how the neurotic element enters into many cases of tinnitus, and here, therefore, the apparent good which follows a new mode of treatment may be the eager hope acting on the fond imaginings.

The prolonged use of phosphorus, as advocated by Siebenmann and others for the tinnitus attending otosclerosis, has not, so far as I know, been much tried in this country. Certainly I have myself never yet employed this form of treatment, which consists in the daily use of phosphorus for months, and even years. I have had patients who used it in accordance with prescriptions by Continental doctors, and while its long-continued use did not seem to have the toxic effects one would have feared, there seemed to be no appreciable benefit derived.

Are there forms of tinnitus in which quinine in very large doses exercises any beneficial effect? We are all familiar with the fact that this medicine has an influence upon the circulation of the internal ear, and is thereby a frequent cause of tinnitus. As a remedy for tinnitus, however, I have not been able to make up my mind that it has a useful effect, and hesitate about prescribing it, even in conjunction with large doses of hydrobromic acid, owing to the distinct possibility of its having an injurious effect. The same question may be asked regarding salicylate of sodium or aspirin. It is sometimes prescribed when a rheumatic or gouty cause is suspected, but I must say that I have been always dubious as to the wisdom of giving this medicine in cases of tinnitus. I would, however, be very much interested in hearing the opinion of others regarding the value of salicylate of sodium in tinnitus.

What is the value of sedatives or hypnotics in these cases? I think most of us are agreed that the bromine preparations are useful in certain kinds and phases of tinnitus. While in many cases their long-continued use is undesirable, a large dose given at bedtime, when the tinnitus is so severe as to prevent sleep, is often distinctly helpful. In such cases I am in the habit of prescribing it at bedtime, with other suitable treatment during the day. The bromides of sodium, ammonium, or potassium, or the combination of the whole three, seem to me more effective than hydrobromic acid. A course of bromide of ammonium, however, combined with the syrup of the glycero-phosphates, does very well in some cases. If the continued use of bromine is indicated, hydrobromic acid is probably to be preferred to a bromide, and may be conveniently combined with such medicines as strychnine or arsenic. Such a combination has sometimes seemed useful in my hands. Lugar recommends tablets of bromipin solidum saccharatum, which is a combination of bromine with sesame oil, made by Merck, as specially useful for the relief of noises. He thinks it acts even better after a course of fibrolysin. In very severe and persistent forms a more definite hypnotic may be necessary. I have had a patient who, in order to procure sleep and respite from tinnitus, had to take for over a year a full dose of paraldehyde every second night, alternating on the other nights with a drachm of bromide of potassium. These generally secured a restful night without apparently being followed by injurious effects.

Are iodine preparations often indicated? In the forms of tinnitus associated with vertigo, due especially to acute labyrinthine disease, iodide of potassium, in large doses, may be employed and probably with distinct advantage, even in cases where there is no evidence of a syphilitic cause. In cases where there is a suspicion of intracranial disease such as a tumour (syphilitic or otherwise) or the products of a meningitis we would naturally prescribe iodide of potassium. In the form of iodine vasogen applied externally, iodine is said to be more thoroughly absorbed; a few drops should be rubbed extensively behind the ear night and morning. This I have used pretty often, and, when continued for a length of time, seems occasionally to yield beneficial results. Politzer believes that iodide of potassium, in large doses, checks the ossifying process in the early stages of otosclerosis. The inunction of iothion ointment (10 per cent.) is recommended by Berliner of Breslau, in the tinnitus of otosclerosis; it may be applied behind the auricle or other parts of the body, such as the inner surfaces of the thighs or arms. A few of my patients have gone on with this for several months, but I am not yet in a position, from my limited experience, to offer an opinion as to its value. These remedies have the advantage of being conveniently applied by the patient at home.

Pilocarpine, in spite of some notable abuse in the past, must be regarded as of value in suitable cases. In acute labyrinthine cases, employed hypodermically, it is undoubtedly useful, in a certain proportion, probably by virtue of its powers of stimulating the absorbents in contact with effused products, before these have become organized. This resorbent effect has, no doubt, a connexion with its remarkable effects in exciting the cutaneous and salivary secretion. Pilocarpine seems to have an especial action upon the intracranial absorbents, and the vascular and lymphatic supply of the labyrinth is in reality from the same source as those of the interior of the cranium. There is pretty general agreement that in those cases of effusion into the labyrinth associated with vertigo in Ménière's series of symptoms, the pilocarpine treatment, when cautiously carried out and the patient's general condition admits of its use, is undoubtedly indicated.

The question of climate is an important one. In most cases a dry, bracing, inland, upland air, if not too cold, often exercises a beneficial effect. The humid air of the seaside frequently aggravates the tinnitus. An open-air life, without over-exertion, is desirable if practicable.

What about external applications to the neighbourhood of the ear? I do think they sometimes have at least a mitigating effect. Patients undoubtedly seem in some cases to be benefited, at least for a time, by vesicants over the mastoid region, such as cantharides or the liniment of iodine, repeated several times. Milder applications, such

as the liniment of mustard or spirituous embrocations, are also worthy of a trial, and are recommended by Politzer. Sedative or stimulating ointments such as camphor, oil of peppermint, and vaseline, applied with friction or as massage over the mastoid region and neighbourhood, are not infrequently favourably spoken of by patients. Whatever may be the explanation, many persons seem to think that this does them good. Local blood-letting by leeches has been tried in the pulsating forms, but I have only found it useful in pulsating tinnitus due to an acute middle-ear inflammation. No doubt mental influence may in such cases account for the apparent improvement. On the other hand, the attention thereby given by the patient to the sounding in the ear may in some cases have an injurious influence. I have not been much encouraged by the results of massage in the few cases which I have put into the hands of a professional masseur.

Many patients aggravate the tinnitus very much and worry themselves by dwelling on imaginary dangers and constantly directing their minds to the sounds. The cheerful assurance of the physician—and this can usually be given—that the tinnitus does not imply any brain affection or impending brain affection, nor does it mean danger to life, is very helpful. The patient should be enjoined, therefore, to try and withdraw his mind from the sounds, ignoring their existence as much as possible; even when cure cannot be promised, he should be encouraged to expect gradual mitigation as time goes on. No doubt the apparent mitigation is often the result of, as they say, "becoming accustomed to the sounds." As patients are often greatly excited over these sounds, when severe, a few words calculated to encourage and calm are therapeutic agents of no mean value.

Pneumatic Massage and Electricity.

Patients sometimes tell us that they find relief by pressing the tragus into the meatus with the finger, so as to cause a rapid in-and-out movement, producing alternate condensation and rarefaction of the air in the meatus, and so exposing the tympanum to rapid air vibration. The more effective employment of this to the extent of from a few hundred to 2,000 vibrations in the minute, by means of an electro-motor, is much practised in cases of middle-ear stiffenings and rigidities associated with tinnitus, and patients frequently express a distinct feeling of clearness and freedom from the tinnitus after from one to two minutes of its use. I generally adjust the piston for a stroke of $\frac{1}{4}$ in.; but, if the maximum speed is required the stroke is shortened to $\frac{1}{8}$ in. With long strokes there should be comparative slowness: with very short strokes, such as $\frac{1}{16}$ in., great rapidity is permissible. One disadvantage of the high speed of the piston, propelled by the electro-motor, is the noise produced by the machine, and a noiseless machine is a desideratum. The noise complicates matters and may sometimes prove injurious, and it is always unpleasant. There is a difference of opinion as to the duration of each séance of treatment and the frequency of repetition as well as the duration of the course. On these points I think further investigation is required. My own practice has been to continue it from one to one and a half minutes at each sitting, repeating the process twice a week, the duration of treatment being dependent on the results. Some Continental otologists, however, go the length of a thirty minutes' application, with daily repetitions. There is unfortunately a good deal of difference of opinion as to the value of this form of treatment. Some authorities have very little belief in its value. Undoubtedly we desiderate greater precision of knowledge as to the actual value of this remedy.

Lucae found that a striking influence is frequently exerted upon certain subjective sounds in the ear, mainly of a musical character, by bringing to bear upon them objective sounds coming from a tuning-fork, if these objective sounds be as far removed as possible in pitch from the subjective ones. This is the so-called *Tonbehandlung*. For example, if the sounds in the ear are high pitched, such as a hissing, a ringing, a whistling, a deep-toned tuning-fork (such as C or C_1) is employed; on the other hand, if the tinnitus be low pitched, such as a rushing, a buzzing, or a humming, then a tuning-fork of high pitch (such as C^5 or C^4) is used. The vibrating fork is applied either by placing the end of its handle into the external meatus or, in order to augment the sound, the vibrations are passed through a resonator which is fixed into the ear. The duration of the application may extend from one to five minutes, and, in order to ensure a continuous sound, the tuning-fork may be connected with a magneto-electric apparatus. I have frequently employed tuning-forks in this way, and have found in a certain number that a temporary respite from the tinnitus resulted, usually, however, only for a few minutes, but occasionally for several hours. Unfortunately, there has never been in my experience a permanent effect. *Tonbehandlung* is nevertheless an interesting experiment on lines which might conceivably, by further investigation, lead to more important effects.

The electrical treatment of tinnitus, which at one time was held in considerable estimation, is now, so far as I know, but little employed. There is not only scepticism as to its value, but fear that it may actually aggravate the symptom. Probably benefit may sometimes be derived from the action upon the muscles of the middle ear, especially by the Faradic current. We know the far-reaching influence of disturbance of the muscular apparatus of the Eustachian tube and tympanum, first upon the tension of the tympanic structures, and secondly upon the tension of the labyrinthine fluid. The more efficiently we act upon these tubal and tympanic muscles the more likely are we to secure good results, but no doubt here also the mental effect upon neurotic patients may be a factor. The apparently good effects from the high frequency currents which were reported at the Oxford meeting a few years ago do not seem to have been borne out by further experience, and this method seems to have passed into the oblivion which has been the fate of so many remedies for tinnitus.

I have not referred to the effects upon tinnitus of naso-pharyngeal treatment, as this scarcely belongs to my division of the subject. That the establishment of good nasal breathing and a healthy condition of the naso-pharyngeal spaces often leads to the disappearance or mitigation of a tinnitus is familiar to all of us. The removal of post-nasal adenoids, operations upon the intra-nasal structures, even upon the accessory sinuses of the nose, cauterization of hypertrophied tissue, medicated applications to the interior of the nose, may therefore be said to be included in the treatment of tinnitus and often very successful treatment. On the other hand, it must not be forgotten that tinnitus may be *caused* or *aggravated* as the result of injurious or unnecessary treatment of the naso-pharyngeal spaces.

Tinnitus of dental origin undoubtedly occasionally occurs, and, of course, the treatment here is very obvious.

In conclusion, I have to apologize for my rather commonplace remarks, but I do not suppose that you expected anything very fresh or new in connexion with the part of the subject allotted to me. After all, however, the somewhat formidable and difficult operations upon the labyrinth and auditory nerve, to be brought before you by Mr. Lake, will, even if proved to be successful, always be reserved for the very severe forms of tinnitus, especially those associated with vertigo. By far the largest number of persons suffering from tinnitus will have been treated, and will only permit themselves to be treated, by milder measures.

II.—RICHARD LAKE, F.R.C.S.,
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OPERATIVE TREATMENT OF TINNITUS.

THE long list of remedies which you have heard from my esteemed *confrère*, Dr. Barr, will have shown that amongst otologists themselves there is a well recognized difficulty experienced in the treatment of noises in the ear and head or tinnitus. When I have also recalled to your remembrance the long tale of operative procedures, I think you will agree that though the end may not even be in sight, yet we are in many ways much nearer a successful finishing point.

Of the operations only those which are or have been employed for the relief of tinnitus with anything approaching frequency or which merit consideration for other reasons will be considered. Among them we must include intranasal operations, lumbar puncture and ligation of the carotid. Amongst intranasal operations we have

practically two which are of use. One is removal of enlarged posterior ends of the inferior turbinates and the other of serious spurs, by which I mean spurs of the vomer which touch or are adherent to the outer nasal wall. Tinnitus reflexly due to intranasal conditions is no doubt rare, but this cause is, I think, too often overlooked in the early stages when alone these intranasal procedures can have any effect. In all cases of tinnitus where we have good hearing and an absence of symptoms suggesting a central origin for the subjective sounds an intranasal examination ought to be made and the advisability of the correction of any deformities which are present considered.

The direct continuity of the line of thought will, I think, now take us to the Eustachian tube. And here it is to be considered possible that an obstruction to or a communication of irritation to the naso-pharyngeal extremity of the tube may be a potential cause of reflex tinnitus, and such causes if found should be relieved by operation if possible, whilst the employment of Eustachian bougies if the lumen of the tube is obstructed is of undoubted value. I have had several cases recently where a marked improvement or even a total suppression of a hissing tinnitus has followed a dilatation of a constricted tube.

Before entering into a consideration of the more direct operation we will take this opportunity of considering lumbar puncture. I do not myself feel strongly tempted to adopt it as a method of treating tinnitus, although Babinski and others speak well of it. Babinski, writing in 1904, after what one may term an unusually extensive experience, sums up his results as relief more or less complete in 30 cases out of 90. Now I am inclined to the belief that Babinski himself is not an aurist, also that a large number of the cases would have yielded to other treatment, nor must we forget to allow for the apparent fact that many cases were of a type showing nerve lesions—a point to be recalled later when considering complete removal of the cochlea and division of the nerve; as also that the fullest flow of cerebro-spinal fluid is quite incapable of influencing central tinnitus.

We are, I think, justified at all events in holding, as it were, a watching brief in this matter, not being in haste to condemn, and not rushing in to submit our patients to experimental puncture. Let us rather wait and see whether there is any really good evidence that a case or cases which have failed to yield to therapeutic remedies will yield to lumbar puncture. For my own part, I shall not employ it without conclusive proof of its efficacy. Whilst at the same time that we temporarily refuse to employ the remedy we must acknowledge with respect the power of reasoning which enabled Babinski to deduce the probable effect of his experiment, although it seems difficult to assume his whole line of argument, for the endolymphatic and perilymphatic spaces of the labyrinth are not in direct communication with the subarachnoid space, as one would imagine would be necessary for Babinski's procedure to have success, and one notes that the result is not immediate, always somewhat remote. This would lead to the consideration that it is not that the removal of the cerebro-spinal fluid acts as a direct influence upon the deep roots of nuclei in the auditory tract, but rather that it is the blood pressure which is affected by the puncture. This may well be as I suggest, for the tinnitus, for example, which is the outcome of an arterio-sclerosis of the vessels of the inner ear, is often modified or removed by remedies which reduce the arterial tension. From the possibility of this explanation alone I think we should wait before too enthusiastically accepting Babinski's clever method.

Reverting to earlier times, before intranasal and intratubal treatment were dreamt of, we arrive at the renaissance of otology, when the empiricism of aural treatment became less and the first dawn of rational ideas began to find a path through the darkness of ignorance. At this time, in our islands, Sir Charles Bell, Wilde, and Toynbee, with others on the Continent of Europe, commenced trephining the tympanic membrane for tinnitus as well as for deafness, and we must in deference to their skill and temerity repress the shudder as to the too probable results which occurred in those preantiseptic days, though, curiously enough, Sir Charles Bell does not allude to suppuration as resulting in any of his cases; still, as pus was then *bonum et laudabile* when of a rich cream-like consistency, our wonder need not be great. Time and experience, however, have led to our disagreeing with this as a method of treatment. As the science of otology developed and aurists became more and more specialists, division of the tensor tympani tendon and section of the posterior fold of the membrane were introduced, the latter, I believe, by Politzer. These two operations came to stay, but even now they are falling much into disuse, comparatively speaking, on account of our being so often able to obtain a similar effect by non-operative measures. And of the two, one would, I think, give the preference to multisections of the posterior fold; it is a very simple little procedure and devoid of risk, and requiring only a moderate amount of special training, far less than the operative procedures which come next on our list, working upwards in the scale of severity. Although the Continent of Europe was more directly instrumental in the introduction and perfection of these minor though delicate operative methods, especially Austria, France, Italy, and Germany, yet our Transatlantic cousins in the United States of America, as we shall see, formed apt pupils, who for a time outstripped Europe.

We have now to review a series of minor operations, consisting of removal of the malleus, of the incus, and of both these bones, with or without the tympanic membrane. No need to dwell upon technique I think; most, if not all, books upon diseases of the ear provide good descriptions of them. Personally neither these nor those operations which we shall deal with next appealed very strongly to my surgical sense, although I am ready to admit that at times the removal of the malleus or incus seemed to have done unquestionable good; but now the position is somewhat altered, and the removal of one or both the larger ossicles may be undertaken as a preliminary operation with a view of staving off one of greater magnitude.

Its failure would do no harm, but I would not, I think, advise these smaller operations unless there was some hearing power to conserve. The idea underlying all minor intra-aural operations is that by their means any abnormal pressure on the fluids of the labyrinth is lessened or removed; this, of course, presupposes that the stapes is able to move more or less relative to its normal mobility. Now this again introduces a question of some moment—namely, Is stapedial pressure a cause of tinnitus? When testing the mobility by means of Gellé's test, or, in other words, by a temporary increase of air pressure in the meatus and thence to the labyrinth, has one ever had a patient complain of tinnitus? In my experience, No. Of vertigo? Yes. It is true that great pressure in a caisson, with an obstruction of the Eustachian tube, may provoke tinnitus, but that is, I think quite on a parallel with the pathological state of an ear with a gradual or even a sudden tinnitus, and is due to other causes besides that of stapedial pressure. And again, unless the stapes is mobile, the operation cannot do good unless in some occult, or, more correctly speaking, unseen way. So we may say all genuine bony fixations of the stapes in its niche are absolute contraindications to the proposal of any intra-meatal or intra-aural operative interference.

The lesser operative procedures found the zenith of their popularity in America from 1888 to 1898, and received there their chief impetus from the enthusiastic work of Jack, Burnet, Alderton, Chevalier Jackson, amongst others; but in America, as elsewhere, a reaction seems to have set in; at all events, they are much less often heard of. The particular operation which was and always will be associated with the name of Jack is that of removal of the stapes, hence developed or modified into mobilization of this ossicle. In the majority of cases the stapes is easily brought into view by means of a flap, with its base below, which embraces the upper and posterior segment of the drum. For the description of this operation also the textbooks and monographs by Jack and other American authorities may be consulted. These are details—important details, truly—but not of interest when time is so short. The results of stapedectomy are, however, not all that were hoped for; and, indeed, one finds a curious example amongst the successful results as to tinnitus—namely, in the case in point the footplate was firmly ankylosed. Now, if the removal or no of the footplate can in this operation be immaterial, then the operation is one of unnecessary severity and difficulty, and also possesses the additional demerit of

leaving open an easy path for intracranial infection should the operation field become infected.

Following the foregoing we may next proceed to the experimental opening of the labyrinth. One may class these as entrance through the oval window after removal of the whole of the stapes, perforation of an ankylosed footplate via the round window, and trephining the cochlea. The operation of entry via the oval window was performed by Orme Green in 1885, unfortunately without benefit. I mention this as not only was this well-known aurist nearly fifteen years before everyone else, but also, as no report of the operation could be traced, I wrote and obtained a most courteous letter from that gentleman with details as far as his memory served: briefly, it consisted, after the preliminary removal of the stapes, in the passing into the osseous vestibule of a fine curette or probe and breaking up the membranous labyrinth towards the cochlea. This brilliant pioneer work never attracted any attention, and missed the recognition it deserved at the hands of the profession.

Unfortunately, success in all these four variants of the perforation of the labyrinth is only occasional, but it is only fit that we acknowledge Botey of Barcelona as the originator of the entry via the round window, a more probable way of obtaining a flow of labyrinthine fluid from the cochlea than the other two. Unfortunately, these methods must, to be successful, presuppose a tendency to a superabundance of intralabyrinthine fluids. This we know now not always to be the case, at all events in arterio-sclerosis.

Trephining the Cochlea.—This operation is one which can be performed without a preliminary mastoid operation, and is, of course, of such a special nature that very great skill is required. It is far better to do a radical mastoid operation, however, as the extreme density of the bone really demands that a protector of some sort be employed to prevent a side-slip of the burr or trephine, for there are important structures in the immediate vicinity, each protected by only a thin plate of bone, and at times these bony plates are absent. Above lies the facial nerve and below lies the jugular bulb, neither of which is it desirable to injure. This operation has proved successful, and does not of necessity destroy the hearing, but the only time I employed it was without result, and, as with the previous operations, it presupposes an excess of intralabyrinthine fluid, and as a result a want of success must often occur.

At this time I shall, as we leave the lesser operations, those almost without risk to life, discuss the first of the three major undertakings, that of ligation of the carotid artery. This operation seems to me to be quite indefensible, the underlying idea being, I presume, to cut off the blood supply to the ear, but surely since the time of Wilks and his circle no one could expect to cut off any part or portion of the brain or its appendages by ligation of one source of supply. Temporary compression of the carotid leads to temporary anaemia of that side of the cranial contents, including the internal ear, with very uncomfortable sensations, I believe; one may, I think, dismiss this as one of those operations that would be undertaken more fittingly in an experimental laboratory, if undertaken at all.

I think our next consideration should be that of total ablation of the cochlea. Now, it happens that I am able to find very few records of cases in which this, to me, most logical operation has been done. I say logical, for it leaves nothing further to do, it attacks and removes the whole of the endorgan of the cochlear division of the eighth nerve—that is, the auditory part; and although it opens the skull, the opening is very small, and also the outrush of cerebro-spinal fluid is of itself protective.

Again, to be brief as to operation details, what is done is after a preliminary radical mastoid operation with a sufficiently wide removal of bone to allow a free view of the deep parts, especially the inner wall of the middle ear. The promontory is cut away with a chisel or curved gouge and the whole of the roof of the cochlea removed; the modiolus is then seen as a tiny projection, and is cut off with a sharp tap of the mallet, using a narrow chisel. Cerebro-spinal fluid now flows freely, but a small plug of sterilized wax will immediately plug the orifice through which it escapes. My first case was in 1904, and I thought it had failed, but much to my relief it has proved quite successful. Murison and Yearsley both succeeded with a case each. Since then I have operated without success in the case of a lady who was threatening suicide, and who had no aerial sound conduction at all on the side affected. Not only was the operation a failure but the patient carried out her threat. I have no doubt there are more instances than these, but three successes out of four operations gives, I believe, a happy augury for properly selected cases.

Now, beyond what I have said about the operation itself there is another point not devoid of interest—namely, the flow of cerebro-spinal fluid. In my second case I allowed this to continue for three days, and most profuse it was. My reason was twofold. If lumbar puncture acted on the central nuclei a good flow might do much to quiet the tinnitus; and, besides, it was possible that a beneficial influence might be exerted on the suicidal tendency. However, it did neither, and I was obliged by the cutaneous irritation to close the opening. Of course, in suppurative labyrinthine operations the cochlea is often ablated, and correctly so, but when I referred to but a few cases I alluded to those operations which were done for tinnitus alone.

We come now to the last and most controversial operation, that of division of the auditory nerve. This of necessity involves opening the cranial cavity at or near its base, with the attendant inconvenience of a profuse flow of cerebro-spinal fluid relatively early in the operation.

There is a fairly large number on record, and there are several different methods, and were the cochlea less easily accessible, or were the operation on the cochlea of equal magnitude and possessing the same danger and risk to the patient, then I think there would be less against division of the nerve within the skull.

So far I have been able to find the following cases:

Krause	...	1	...	Death.
Parry	...	1	...	Failure.
Wallace	...	1	...	Death.
Armour	...	1	...	Successful.
Milligan	...	2	...	{ Successful. 1 Death.
Lannois	...	1	...	(?).
Ballance	...	1	...	Failure; died one year later.
		8		

Deaths 3, failures 2, success 2.

These figures are not very alluring to me, that may be because I view this matter from a different standpoint from that held by those who advocate it. Be that as it may, it cannot be too strongly impressed upon the profession at large that tinnitus is not of necessity due to peripheral changes, and that if it is central, as was for instance Ballance's case, no possible operation can avail the patient. My contention is, however, still stronger; I do not believe that it *ever* ought to be done.

I have now run the gamut of operations for the relief of tinnitus, and for my own part consider that, after excluding for the moment removal of the malleus or incus, the operation which will afford the best results with the least risk to the patient is removal of the end-organ or cochlea. Now it is not only voices which represent the subjective noises of a central lesion; it is sometimes quite other sounds. But aural lesions seem to be confined to hissing, pulsatory, and less often high-pitched and long-sustained musical notes. So when we deal with such sounds we are able, failing relief from internal medication, to offer when fair hearing is present, and a careful dilatation of the Eustachian tube has also failed to do good, the removal of the malleus or incus; if this fails, or especially if the ear is of small value, we can offer an operation which even if it fail has put the patient to no serious risk.

DISCUSSION.

DR. KNOWLES RENSHAW (Manchester) said he thought all aural surgeons would agree that of the many forms of tinnitus, that arising secondarily to chronic middle-ear disease was clinically by far the most frequent, and therefore of the greatest practical importance. The cases in which tinnitus was most frequent were those of chronic non-suppurative catarrh (adhesive catarrh) and in those patients who had suffered from a past suppurative inflammation,

the consequences of which remained in a more or less disorganized condition of the middle ear, with cicatricial adhesions between the ossicles and the remnants of the tympanic membrane, or the walls of the cavity. In both classes of case the tinnitus was at first comparatively slight and intermittent, but tended to become more persistent and more severe, until in patients of a neurotic disposition it was sometimes intolerable. It was only in the later and more severe cases, as a rule, that the tinnitus took on a pulsating character. As a preliminary to any direct treatment, obviously every effort must be made to bring the ear and allied organs into as healthy a condition as possible, and with that object in view all obstructions in the nasal passages must be removed and all unhealthy conditions in the naso-pharynx dealt with and the Eustachian tube restored to health and patency if possible. When they considered the question of direct treatment it was important to ask how the tinnitus was caused. It was suggested that it was due to increased tension in the labyrinth irritating the nerve terminals, and that this increased tension was due either to the footplate of the stapes being forced inwards by contracting adhesions, or to interference with the lymph circulation by the cicatricial tissue causing in some way an obstruction to the natural drainage of the labyrinth. If either theory was correct, it was clear in those cases that the adhesions in the middle ear were indirectly the cause of the tinnitus, and that anything which would relieve them would probably act in a beneficial manner as regards the tinnitus. It would naturally be supposed, therefore, that oto-massage, which was almost always used for stretching the adhesions and relieving the deafness in those cases, would also have a beneficial effect upon the tinnitus. And it was found that for a variable time after the application of the oto-masseur relief of the tinnitus was experienced. It was, however, temporary, lasting rarely more than a few days, and in sadly too many cases only for a few minutes. The relief was generally greatest in the post-suppurative cases, but even in those the effect was comparatively short and often disappointing. He was led by these considerations, a little time since, to give a trial to the various solutions and combinations of thiosinamine, for which, when introduced subcutaneously, the power of softening cicatricial fibrous tissue had been claimed. Urbantschitsch claimed that fibrolysin (15 per cent. thiosinamine and sodium salicylate) had a decided effect upon otitic adhesions, and that in almost all such cases an improvement in the hearing was experienced. Dr. Renshaw commenced to treat cases by subcutaneous injection in the forearm of 5 per cent. aqueous solution of thiosinamine, and gradually increased the dose from 10 to 35 minims twice a week. An aqueous solution of 10 per cent. thiosinamine and 20 per cent. glycerine was then substituted, and again the dose increased gradually to 35 minims; with the latter solution there was a slight transient burning sensation. In several cases he had also used fibrolysin. So far as hearing power was concerned it would at present be premature to make any claim, as it appeared to him that it would be necessary to observe a large number of cases over a considerable period before any definite statement could be made. In every case which had suffered from tinnitus there had been a marked improvement, however, so far as the tinnitus was concerned. In all those cases the tinnitus disappeared soon after the injections were commenced, and only in one case had there been any return. That was a severe case, and there was a recurrence of mild intermittent tinnitus when the injections had been suspended for a month. He could not make any statement as yet as to the permanence of the result, but he was of opinion that that method of treatment should be given a fair trial in all cases of cicatricial adhesions in the middle ear in which the patient suffered from tinnitus. He thought arterio-sclerosis or recent suppuration contraindicated the injection of fibrolysin. He had not yet seen any recurrence of suppuration during the treatment by injection of thiosinamine, but it certainly caused some hyperæmia of the cicatricial bands in the ear, and should therefore only be used when there was no active inflammation.

Dr. StClair Thomson (President) asked Dr. Renshaw the number of cases in which he had tried his injections, and he replied that it was about twenty of chronic middle-ear disease, of which twelve were suffering from tinnitus aurium, and that they had all been relieved.

Dr. Andrew Wylie (London) said that tinnitus seemed to him nearly an incurable complaint, and it perhaps seemed a utopian idea to cure it, but they could relieve it. He had found calomel of great service if given continuously nearly every second night, say in small doses, $\frac{1}{12}$ or $\frac{1}{10}$ grain. He had also experimented for some time with the hot air treatment blown into the middle ear through the Eustachian catheter. It could be done by means of a dentist's electric drying syringe, but that did not inflate the ear properly. He had, therefore, got an instrument made, a cylinder covered with asbestos, through which air could be driven by means of a foot pump. The air was heated by an electric lamp, and purified by means of glycerine, and the temperature regulated by a thermometer. A disadvantage was the extreme heat of the catheter. He showed a diagram of his instrument.

Mr. Oliver Carlyle (Edinburgh) asked if Dr. Renshaw could tell the meeting anything about the method of action of fibrolysin in tinnitus aurium. A good many suggestions had recently been given, but none of them were very satisfactory. He also said that Dr. Barr had not mentioned the mercurial treatment of tinnitus. It was usually given in the form of the perchloride in small doses over a long period. The results so far were promising.

Dr. Wm. Hill (London) thought that Dr. Lake had fairly summed up the operative position. He himself had never opened the labyrinth for relief of tinnitus, because in two of his cases the cochlea had been exfoliated, and the tinnitus had not been relieved. Of course the tinnitus may have been constant, and then the absence of the cochlea could not cure the trouble. In such cases division of the nerve would be useless, for after all the auditory nerve and its prolongation practically extended to the auditory centre.

Mr. Ward Cousins (Southsea) said that tinnitus was a distressing symptom in many forms of aural disease, and the different kinds of noise were often regarded as valuable aids in diagnosis, provided reliance could be placed upon the intelligence and observation of the patients. The auditory nerve could be abnormally excited by many disturbances within, and also by many disorders outside the organ. Tinnitus occurred sometimes in anæmia, and in connexion with vascular changes and loss of blood. One variety of tinnitus was of special diagnostic importance, and that was styled intermittent and pulsating. In acute and chronic middle-ear disease there was often increased bone conduction of sound, an indication of vascular congestion and tension within the organ, and the sounds were also magnified in the recumbent position by resonance and reflection of the vibrations. In acute disturbance tinnitus of this description was often attended with distressing pain. Pulsating noises were sometimes associated with serious intercranial disease or even aneurysm of the great vessels of the head and neck. When pulsating tinnitus was persistent, auscultation over the neck and temporal regions might assist the diagnosis, which would be soon confirmed by the presence of cerebral symptoms and optic neuritis. In many cases of marked defective hearing it was a question whether the pulsation was produced in the middle or internal ear. Now pressure on the common carotid artery in the neck was said by some surgeons to arrest at once the throbbing if it was the result of disorder in the external or middle ear. On the other hand, when the pulsation was excited by disease within the labyrinth, pressure on the vertebral arteries applied in the hollow behind and below the mastoid processes would reduce the abnormal sensations. In his own practice he had frequently tested the value of these tests, but he felt bound to state that they had not proved of much assistance. Tinnitus aurium arising from disorders of the external meatus could at all times be relieved by ordinary treatment. Foreign bodies, especially after prolonged impaction, would cause noise and great uneasiness. On one occasion he removed a cherry stone which had been in the meatus for seventeen years. In all cases of

this kind the syringe must be used with great discretion. He had often known violent syringing cause prolonged tinnitus. In middle-ear diseases a good result could often be obtained by treatment. Noise was the result of tension and then pressure upon the stapes caused by chronic changes in the tympanum and adhesion of the ossicles. It occurred, too, in connexion with obstruction of the Eustachian tube and chronic disorders of the naso-pharynx. In these cases the hearing power was diminished and often variable, and the membrane was retracted with marked prominence of the handle of the malleus. Some aurists had described spasm of the tympanic muscles as a frequent cause of tinnitus, but it appeared to him that the tensor tympani had especially to do with the regulation of the air which entered the tympanic cavity in swallowing, and very little with the functions of the nervous apparatus. In middle-ear tinnitus alternate injection and evacuation of air was sometimes very useful, but the little operation required care. It often aided by keeping open the tubes and increasing the pliancy of the bony chain. He had found patients relieved by the injection of air containing the vapour of chloroform mixed with a solution of menthol in spirit. Sometimes daily massage behind the head and ears after the light application of a stimulating lotion was very serviceable. Patients suffering from aural trouble should avoid all excitement of the nervous system and mental strain, and take complete rest and change before the disturbance became hopelessly chronic, and give up all stimulants and smoking. Tinnitus in its most severe form was dependent upon a disordered condition of the auditory nerve associated with excessive sensibility of the whole nervous apparatus. This hidden and mysterious organ might be the seat of gouty, rheumatic, or syphilitic changes, which often required prolonged specific treatment, and careful protection against exposure and excessive vibration. Severe tinnitus was sometimes the sequel of chronic middle-ear disease, but to this there were many exceptions, and a progressive loss of hearing power attended with persistent aural vibration occurred without any marked incipient symptoms or functional disturbance. There was undoubtedly a peculiar individual sensitiveness to persistent noise. Some people worked for years in factories without any inconvenience or aural trouble, while others got slowly deaf and suicidal from distressing tinnitus; and whenever this was the case the only remedy was to give up at once working in such irritating surroundings. In cases of obstinate tinnitus the actual condition of the labyrinth was very difficult to decipher. There was often a feeling of tension in the ear, which had been theoretically associated with effusion around the special nervous structures. Patients suffered from a gradual loss of hearing power, and complained of an uneasy sensation of fullness in the external meatus; at the same time they could detect a dullness in the sense of touch around the auricle. The noise generally varied in intensity, and often caused great discomfort. Any sharp sound or movement appeared to aggravate the distress. Some patients exhibited a slight tendency to stagger, and had a feeling of giddiness in inflating the tympanum or blowing the nose. Others were unable to distinguish the direction of sound, and once a musician came to him greatly alarmed because he failed to recognize false notes when they were played. As regards treatment—absolute rest, bromides, hydrobromic acid, injections of pilocarpine, iodides and a milk diet, and the constant current might give relief; but in many chronic cases tinnitus aurium was incurable. This severe form of the disease often produced extreme mental depression, and patients had told him that they would rather permanently lose all hearing power than continue to suffer such uncontrollable confusion, and one patient committed suicide. In such cases the recent improvements in aural and inter-cranial surgery led them to anticipate the development of new methods for its relief. It was certain that considerable benefit had in some cases been obtained by the removal of adhesions and ossicles, and the complete clearing out of the diseased tympanic cavity. The radical operation of opening up the labyrinth, and the complete excision of the nervous structures could be practised without much risk. Some patients, he felt sure, would not mind some loss of power about the face, and permanent deafness, if they could be delivered from the misery of aural noise and confusion. In his experience, tinnitus was far more distracting and depressing to educated persons, who were compelled to exercise concentrated attention and intellectual effort, than it was to sufferers of a different class who followed occupations which required only ordinary labour and manual dexterity.

Mr. R. WOODS (Dublin) said that in reasoning with regard to the causes of tinnitus aurium it was important that they should make sure that the physical theories on which they based their arguments were well grounded. One assumption—and a very important one—which was very frequently made was that the foot of the stapes was capable of causing a permanent rise in labyrinthine pressure. He had the greatest difficulty in subscribing to this view. No doubt a temporary rise in labyrinthine pressure followed the inward excursion of the stapes, but that this continued for any considerable time was unbelievable. There were so many small openings through which the fluid could escape from the labyrinth both along vessels and nerves that any pressure over and above the normal must before long relieve itself.

Dr. LOGAN TURNER (Edinburgh) asked if the selective action of fibrolysin when administered by subcutaneous injection had been proved. He himself doubted it. He thought that the introduction of fibrolysin directly into the tympanum in post-suppurative cases of middle-ear disease might prove of some benefit to the ear condition. He would like the previous history of Dr. Renshaw's cases. It was possible that some chronic gastric ulcer, for example, might have been relieved by the fibrolysin. He agreed with Dr. Woods's remarks.

Dr. DELAVAN (New York) commended the wisdom of the Council in bringing up for discussion the much neglected subject of tinnitus. Of late years undue attention had been given to the major operations of otology, while tinnitus, a most common and most distressing condition, had received comparatively little attention. Our knowledge of it and of its treatment had not been greatly advanced, and, as had been shown by the readers of the excellent papers to which they had just listened, the majority of the best of the methods of relief suggested had proved of uncertain value. He expressed the hope that the papers and the valuable discussion which had followed them would excite a livelier interest in this very important subject.

The PRESIDENT said that with reference to treatment by hot air, he mentioned that he had the other day written to Dr. Bourgeois, Professor Lermoyez's assistant, asking their present opinion of hot-air treatment in nasal cases, and had received in reply their opinion that it was not thought so much of as formerly, and that any good results were considered to have been rather due to suggestion.

Dr. BARR, in reply, referred first to the operative treatment described by Mr. Lake, which he trusted would produce better results than he had obtained by medicinal treatment. He referred to a case of pulsating tinnitus in which the patient had discovered that the condition was improved by pressure over the mastoid. The posterior auricular artery was thereupon ligatured, but without effect. Then the external carotid was tied, when the tinnitus gradually became less, and finally disappeared in a few weeks. This result was certainly peculiar. Vertigo was apparently more relieved than tinnitus in labyrinth operations, possibly because it was easier to remove the semicircular canals than the nervous apparatus. He approved of Dr. Logan Turner's suggestion that fibrolysin might result in improvement in tinnitus indirectly through its action on some part of the body remote from the ear, rather than upon any selective action upon the organ of hearing itself. It was unfortunate that it was such an expensive remedy, for he did not know of any other of which it could be said that it always gave relief. Nothing had been said about *Ton-behandlung*, and upon these lines there should be further investigation.

Mr. LAKE, in replying, said that he had been interested in hearing Mr. Ward Cousins speak of his want of success in removal of the ossicles, as it bore out his own ideas.

He was most pleased to hear the strong way in which Mr. Woods spoke about the assumption of permanent increase of intralabyrinth pressure. There was a very important point with reference to the removal of the cochlea, which was that the modiolus must not be left behind. It could be removed with one tap of the chisel. In cases of otosclerosis with tinnitus Reisner's membrane fell down and the whole of the cochlear canal was empty of fluid, so that if endolymph was necessary for the production of tinnitus they ought not to get this symptom in otosclerosis. The source of the noise was, then, probably in the ganglion cells. In Mr. Hill's cases the membranous cochlea and end-organ would be left behind. The modiolus must be also removed. It was simply done and without danger to the facial nerve, which was above the area of operation.

PRELIMINARY OBSERVATIONS ON THE ASSOCIATION OF SLIGHT ABNORMALITIES OF THE AURICLE WITH CERTAIN FORMS OF DEAFNESS.

By Hugh E. Jones,

Honorary Surgeon, Liverpool Eye and Ear Infirmary; Ophthalmic and Aural Surgeon, Wigan Infirmary and St. Helens Hospital.

Observation of ear patients, both in hospital and in private, shows that a large proportion of the cases have some deviation of the auricle from the accepted normal. These deviations consist chiefly in the smallness or absence of the lobule, attachment of the lobule along its anterior border to the cheek, and other abnormalities of the lobule with or without defects in the helix or faulty position of the whole auricle.

These defects are those usually associated by authors with degeneracy, and are said to be common in persons with vicious or criminal tendencies.

The writer thinks that in ordinary members of society the attachment or absence of the lobule is associated with a refined, highly-strung and somewhat introspective temperament. Many of the subjects are intellectual persons who are subject to fits of abstraction.

Analysis of cases shows that these auricular defects are most commonly present in the non-accidental diseases of the ear—that is to say, the diseases which are not due to acute inflammations, exanthemata, etc.—but it has been found impossible so far to associate them *specially* with any particular form of chronic non-inflammatory disease.

They are frequently associated with imperfect development of the palate and naso-pharynx, and probably with slight structural defects of the Eustachian tube and tympanum.

The writer finds that such cases are very often diagnosed as "post-nasal adenoids," and operated upon for that condition, often without any beneficial result. He thinks that when all ordinary causes of deafness are excluded and possibly removed, there remains in these an unexplained residuum of deafness. This residuum of deafness does not give regularly definite reactions of chronic dry catarrh, otosclerosis, or nerve deafness. Sometimes one, sometimes another, type of reaction predominates; often one finds it impossible to say which, and one falls back upon the diagnosis of psychical or functional deafness.

It will be obvious that if these observations can be substantiated by further investigation and statistics they should have an important bearing upon the treatment, especially in respect of supposed post-nasal adenoids, and the prognosis of a large class of diseases of the ear.

To this end are required statistics of the proportion of defective auricles to normal auricles in persons who are not supposed to be deaf, and the proportion in this class of those who are more or less psychically deaf; the true proportion of defective auricles in the degenerate; of deafness in the degenerate; and finally a careful analysis of the causes of deafness in large numbers of the patients who show auricular defects.

The annexed table forms a very small contribution to the statistics. The numbers are small simply because in a crowded out-patient department it is difficult to give personal attention to consecutive cases. The cases in the table are consecutive in so far as *all* the new cases (and only new cases) on certain days were included, though the days were not consecutive days. The attached lobules are subdivided into "obtusely attached," "attached"—because no further particulars were given—"square," that is, where the lower straight border of the lobule joined the cheek at right angles, and "acute," where there was a small kink at the junction. It will be noticed that in the first group of cases there is a marked preponderance of "good" lobules, while in chronic tympanic catarrh, otosclerosis, and the nerve group, there is an enormous preponderance of "attached" lobules.

Cases Noted, 230. Attached Lobules, etc., 149 = 64.78 per cent.; Free Lobules, 81 = 35.22 per cent.

	Obtuse.	Attached.	Square.	Acute.	Total	Good.
Cerumen	2	4	5	1	12	20
Adenoids and tonsils	2	1	6	0	9	13
Nasal diseases	0	0	0	0	0	3
Eustachian obstruction	0	1	0	1	2	2
					23	38
Chronic tympanic catarrh	10	8	6	2	26	7
Otosclerosis	7	11	1	2	21	2
					47	9
Suppurative otitis media	12	9	5	4	31	22
Nerve deafness	2	7	2	2	13	3
Functional	0	4	0	0	4	0
Hysteria	2	0	0	0	2	0
Deafmutism	0	0	1	0	1	0
					20	3
Hereditary syphilis	0	3	0	0	3	3
Otalgia	1	1	0	0	2	0
Residual suppurative otitis media	4	1	1	0	6	0
Wound of meatus	1	0	0	0	1	0
Otitis externa	0	2	0	0	2	0
					14	3

DISCUSSION.

Mr. Lake and Dr. Jackson complimented the author of the paper upon his energy in the collection of statistics, and Dr. Dan McKenzie (London) pointed out the possible errors and difficulties in the way of all statistic gathering, and the necessity for control inquiries amongst healthy individuals. Mr. Jones, in replying, said that he was aware of these dangers, and that he had brought forward his cases rather as a stimulus to otologists to gather further statistics upon similar lines than to deduce anything definite from his collection.

THE ETIOLOGY OF EXOSTOSES OF THE EXTERNAL AUDITORY MEATUS.

By George Jackson, F.R.C.S.Eng.,

Honorary Surgeon, Devon and Cornwall Ear and Throat Hospital.

Exostoses of the external meatus may be classified into three groups, namely: (1) Those which entirely block the external auditory meatus; (2) those which do so partially; (3) those which scarcely affect it, but merely cause some narrowing of the meatus.

Exostoses in this region are generally sessile, but occasionally are attached by a very narrow pedicle. It was so attached in the following case, that of a patient sent to me by Dr. Abbott, of Roche, Cornwall:

The patient is about 18 years of age, and by occupation a pianoforte tuner. He noticed he was getting deaf for three or

four weeks, and then consulted Dr. Abbott, who found him almost absolutely deaf on the right side, with a bony growth occupying the meatus. There was no history of previous discharge, or any cause, such as a blow or sea-bathing.

State on Examination.—There was an oval body lying across the meatus a little anterior to the junction of the cartilaginous and the osseous portion of the canal, which it completely occluded, and was attached to the anterior wall by a pedicle. It was not possible to pass a fine probe between it and the posterior wall. The bone conduction of sound, as tested by the tuning-fork on the mastoid, was normal, but the aerial hearing power was about one-twentieth of normal.

Operation and Result.—I removed the growth with very little difficulty, using a small chisel and mallet. The specimen, which has shrunk considerably, and of which I can only show you a half, as unfortunately the other half got destroyed in the attempt to prepare it for a microscopic section, is of a cancellous nature. On removal it measured ¾ in. in length and ⅔ in. in breadth. When I was able to inspect the membrana tympani it was somewhat damaged by pressure and retracted, especially in the inferior segment which was perforated. When I saw him about a month afterwards the hearing had improved to about half of normal.

When these growths are sessile and do not interfere materially with either the passage of sound waves or of free drainage—when discharge is present—they may be considered a negligible quantity. Exostoses of the external meatus are not very common. Out of 3,000 cases of ear disease registered in the reports of the Devon and Cornwall Ear and Throat Hospital, only 11 cases have been recorded, and apparently only 2 of these required operation—one to which I have referred, in which hearing was materially interfered with, and one to facilitate treatment of and allow free drainage of discharge.

The etiology of these growths is very undetermined. The comparatively few cases which have been observed render it difficult to arrive at any definite conclusions. They have been attributed to various constitutional causes, such as rheumatism, gout, and syphilis. With regard to gout, the deposits—when they occur—are of a calcareous nature, and syphilis, so far as I have been able to ascertain, may be excluded.

Through the courtesy of Professor Keith, the Hunterian Curator of the Royal College of Surgeons, I have been enabled to examine all the skulls in the collection in which the presence of exostoses were noted. The skulls in which they have been found have come from—in the majority of cases, so far as I have been able to ascertain—places near the sea. In twelve cases the specimens came from Peru, principally from Pasamayo. In the map I have been able to consult I have not been able to find the place, nor of Pisaqua, where two specimens were found. The skulls from that place were flattened posteriorly and elongated, and the growths cancellous. As Peru has—or had—a seaboard of at least 700 miles, it is reasonable to suppose that many of the inhabitants dwelt in the immediate neighbourhood of the sea.

Four specimens came from the Chatham Islands—one from the Isle of Pines, New Caledonia; two from the Fijian group. In one of these there were three exostoses—a large one on the posterior wall, and two smaller ones on the anterior, spherical in shape, and meeting one another. I may mention here that that is the form described in some textbooks as being the ordinary form. One skull came from New South Wales, Australia. Two specimens were from North America. One of these from the West Coast—Columbia river—and another from Middle Tennessee. In this case the growth was extremely hard, resembling ivory in consistence. The skull was flattened at the occiput.

There are in the Museum 450 skulls from North and South America; 25 have exostoses. No exostoses have been noted in any of the skulls from other places. In the Museum Catalogue for 1907, 1,312 skulls are described. Some authorities state that 25 per cent. of the skulls found in the prehistoric mounds in North America contain exostoses, and this has been attributed to the flattening process the skulls have undergone during the infancy of their owners. Only 4 out of the 25 I examined had flattened skulls, and these were all from Peru and North America. None of those from the South Seas were flattened or deformed in any way.

As to the character of the growths, the majority were of cancellous structure and occupying the lumen of the meatus in its longitudinal axis, and generally on the anterior and posterior walls. Those from the Chatham Islands were all (4 in number) spherical and of ivory-like consistence, as also was the one from Middle Tennessee—North America—so that only one-fifth of the number examined were ivory-like; out of the entire number examined, in only about three or four cases were they decidedly pedunculated. In the majority of cases they were quite sessile. Except in one case, and that somewhat doubtful, there did not appear to be any evidence of any other diseased condition, certainly nothing of a syphilitic character.

Bacon, in his *Manual of Otology*, says that he has seen many cases in which white nodules were situated on the walls of the canal close to Shrapnell's membrane. I noted several papillae-like growths in one specimen from Pasamayo. Koerner has found 147 cases—114 males and 33 women—and says that those living by the sea are more affected than those living inland. They are more frequent in England than on the Continent. This statement rather lends itself to the view that the irritation caused by salt water is at any rate a more frequent cause than any other. Some authorities also state that it may be due to chronic periosteal inflammation of the bony canal due to fracture or resulting from chronic suppurative otitis media.

In one of the few cases which I have seen and operated on personally this may have been the case, as chronic otitis media had existed for many years, the difficulty of effectually treating it being the main reason for the removal of the growth. The patient himself attributed the disease to having been kicked repeatedly on the ear when a lad. It may be mentioned that he was a fisherman, and so brought a great deal into contact with salt water.

Von Trolsch, as quoted by St. John Roosa in his treatise on diseases of the ear, quotes quite a number of cases as being apparently connected with chronic otitis media, in one of which, in which the growths were not removed, death was caused by inflammation of the membranes of the brain, induced by suppuration in the cavity of the tympanum, the pus not being able to find an outlet owing to the presence of exostoses.

In the few scattered observations I have had the honour to bring under the notice of the Section I have endeavoured to show that the growths in question are generally cancellous in structure, and when their removal is necessary this may easily be done with a small chisel and mallet; that they should be removed when they form an obstacle to treatment of discharges from the ear, or when they materially interfere with sound conduction, otherwise they may be neglected. When the growth is of ivory-like consistence the removal is sometimes difficult, and probably drilling through the obstacle with a well-tempered dentist drill is the safest mode of treatment. Painting with iodine or the use of laminaria tents is to be deprecated; the former is absolutely useless and the latter is of doubtful advantage, and in addition to that is very painful and tedious. I think also the balance of evidence as to the causes of the growths is in favour of local irritation, principally of sea-water, and in some cases by the discharges of chronic otitis media.

DISCUSSION.

Mr. JONES (Liverpool) referred to a case operated upon by him which was bilateral, and in which he had not obtained any improvement in either ear. In both ears it was very difficult to get down to the position of the membrane, and in the right ear he never saw it all, but left a ring of bony tissue all round external to its position. It healed up, and a diaphragm formed external to the membrane. In the left ear he unfortunately damaged the facial nerve, and could not tell whether he was dealing with the promontory or an extension of the exostosis.

Mr. JACKSON, in reply to Mr. BARWELL, said that the majority of the cases came from people who were exposed to salt water.

A CASE OF EXTIRPATION OF THE LARYNX FITTED WITH A NEW VOCALIZING APPARATUS.

By R. H. WOODS, M.B.Dubl., F.R.C.S.I.,
Surgeon, Throat, Nose, and Ear Department, Sir Patrick Dun's Hospital, Dublin.

THE patient in the following case, a coal porter, aged 42, came to the out-patient department of Sir P. Dun's Hospital in January, 1909, complaining of cough and pain in swallowing. The pain radiated towards the right ear.

State on Examination.—The right side of the larynx was seen to be occupied by a large tumour involving the right side of the pharynx laterally, and reaching on its inner aspect somewhat beyond the middle of the interarytenoid fold. The tumour more than half filled the cavity of the larynx, but there was no dyspnœa. A piece removed for microscopic examination proved the growth to be a squamous epithelioma. The glands of the anterior triangle of the neck on the right side were palpably enlarged.

Operation and Result.—On February 2nd the glands of the right anterior triangle were removed, together with about 3 in. of the internal jugular vein, to which some of them were adherent. The patient for the next day or two had about three degrees of fever, though the wound pursued an absolutely aseptic course. The operation for the primary disease was performed seven days after that for the removal of the glands.

With a view to minimizing the septic inflammation that necessarily follows extensive operations on the larynx, the patient was given an injection of ½ c.cm. of *Staphylococcus aureus* vaccine two days before the second operation. This had the effect of raising his opsonic index for that organism from 0.8 to 1.2. On opening the larynx it was found that nothing short of total exirpation would meet the requirements of the case; this was accordingly carried out, the trachea being severed just below the cricoid and the larynx dissected out from below upwards. The trachea was next sutured to the skin at the suprasternal notch, the posterior wall being brought forward in the form of a cowl. The cut edges of the pharynx and gullet were then stitched together in the middle line, so as to cut off the food passage from the wound in front. The main wound cavity was plugged with iodoform gauze. In this way the air passage was shut off from all communication with the mouth in accordance with latter-day practice. A tube was passed into the stomach through the nose for feeding purposes, and was kept there for about a month.

The patient's recovery was uneventful. On the second day after operation his temperature rose to 100.5° F., after which it subsided to normal. As a protection against a possible attack of pneumonia he was given an injection of pneumococcus vaccine between two and three weeks after the second operation.

The difficulty of providing patients in his condition with means of articulation is very great, and the device employed by me in this case is my reason for showing the patient at this meeting. Professor Glück of Berlin carries a tube from the trachea, which, when held in front of the patient's mouth, reinforces the resonance of that cavity, especially for vowel sounds, in such a way that by listening carefully one is often able to understand what the patient is attempting to say. I have simply carried this tube a little further, put a reed into the distal end, and introduced the reed into the pharynx through the nose. In this way the patient, by blowing through the tube, actuates the reed in his pharynx. This sound takes the place of that ordinarily produced by the vocal cords, with the result that he is able to speak as well as before operation, except that he speaks, or rather intones, in a monotone.

DISCUSSION.

In the subsequent discussion the President said that there was a social stigma connected with any sort of apparatus, and that patients nearly always returned to pharyngeal speech, discarding all apparatus. Dr. Delavan thought that an apparatus was of little use, but he was pleased with the method of treatment described. Dr. Scanes Spicer said that he thought Glück had suggested an opening through the cheek into the mouth for the passage of the reed, which might be less troublesome and more comfortable than passing it through the nasal passages.

THE SURGICAL ANATOMY OF THE TONSILS.

By J. Hardie Neil, M.B.New Zeal., M.R.C.S.,
Surgeon, Throat Department, Auckland Hospital, New Zealand.

This short paper is submitted in connexion with two specimens of tonsils and some large photomicrographs of vertical and transverse sections of the tonsil showing the capsule. Since the last annual meeting I have been able to obtain, amongst others, the fauces of a girl, aged 17, who died of a rheumatic heart. Her tonsils show very markedly the so-called supratonsillar fossa. In fact, they are identical in type with those shown in the illustrations in the article by Paterson in the *Journal of Laryngology*, April, 1888. In that article he describes the supratonsillar fossa as being the unoccupied portion of the second cleft above the tonsil. Further, he claims that the supratonsillar fossa may extend downwards, so as to admit a bent probe between the outer side of the tonsil and the superior constrictor of the pharynx, even as far as the lower jaw, while it may extend upwards and backwards into the soft palate. I think that the No. 1 specimen submitted will show otherwise. It shows that the fossa is entirely within the capsule, and that the capsule is united to the plica triangularis and its upper continuation, the plica semilunaris, and to the posterior pillar. It also shows that it is utterly impossible to pass a probe from the so-called supratonsillar fossa to the space between the tonsil and the lower jaw without marked trauma being used to perforate the capsule. A photomicrograph of a vertical section of the tonsil of the opposite side shows the capsule edge continuous with the plica.

An article published in the *Lancet* of February 13th, 1909, by Mr. G. Seccombe Hett, gives an admirable account of the development as outlined by Killian and the comparative anatomy as investigated by himself. The paper clearly shows that the tonsillar fossa (that is the whole fossa in which the tonsil lies) is in its most primitive form (as in the leopard) simply an elongated tube or pharyngeal diverticulum lined with lymphoid tissue, and that as the human type is approached the fossa or diverticulum is more and more filled with tonsillar tissue. It shows that in the dog, for instance, the tonsillar tissue is confined to the lower half of the diverticulum or fossa, whilst in man the latter is almost completely filled with tonsillar tissue. In the upper part is always found an unfilled part or vestige of the diverticulum that is, in most cases, a mere slit no bigger than an average crypt (see Specimen 2); or, as in Specimen 1, it may show as a comparatively large fossa, either in youth as a result of atavism, or in older age as a result of normal atrophying.

Specimen No. 2 is a hypertrophied tonsil removed by a snare from a child of 8. It shows the capsule adherent to the rim of plica left adherent to the tonsil. The capsule is intact on the outer side of the tonsil, and up at the upper part of the gland, just below the plica semilunaris edge, is a slit that gives access to a space (the so-called supratonsillar fossa) that is entirely within the capsule or thick connective tissue covering of the diverticulum. The only way to get anywhere near the angle of the jaw with a probe would be to enter the mouth of the great crypt or sinus. That would allow the probe (within the capsule, of course) to approach that level. Dr. Paterson, in a criticism in the British Medical Journal of November 2nd, 1908, of my last year's paper, characterized my description of the capsule as a misconception, and thought that it must be the space between the tonsil and the superior constrictor. He suggested that the tonsil could be readily peeled out of that bed. Considering the thick septa given off from the capsule into the substance of the tonsil, that operation would be interesting to watch. In dissecting Specimen No. 1, after hardening the tissue in 2½ per cent. formalin for two weeks, the plica triangularis was cut through horizontally about the level of the middle of the tonsil, and access thus gained to the plane between the plica and the capsule, and then between the latter and the constrictor.

This plane was teased through, and vessels and strands cut. A small cuff of plica was left just at its edge to show its junction with the capsule. The extent to which the diverticulum or fossa penetrates upwards between the pillars varies much in individuals, but, however far it goes, it is separated by its capsule from the surrounding structures.

A probe passed into the great crypt *in vivo* or in a fresh specimen may seem to go down to the level of the angle of the jaw, or, if passed into the great crypt or into the so-called supratonsillar fossa, if the latter is large enough to be found easily, will go sometimes almost an inch beyond the edge of the plica semilunaris. But the tissues in that region are naturally very mobile, and, after hardening, dissection down on the probe will show that it is within the capsule. The prefix "super," which, as a preposition means "above, in the upper part of," would be preferable to "supra," which means "above and beyond." The term "supertonsillar fossa" would give an accurate idea of the anatomy.

THE CLINICAL VALUE OF THE LABYRINTHINE NYSTAGMUS TESTS.

By DAN M'KENZIE, M.D.Glasg., F.R.C.S.Edin.,
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[ABSTRACT.]

Method.

THE usual methods, introduced by Bárány of Vienna, for interrogating the vestibular function include the rotation, caloric, and pressure tests. There is no need to enter into a detailed description of the first and third of these as they have been fully described elsewhere, but as I have modified the method of carrying out the caloric tests, I will briefly detail it. Just as Bárány has endeavoured to test the condition of the labyrinth by measuring the duration of the nystagmus which follows a specified number of rotations in a definite period of time, so I have sought to render the caloric test approach exactitude by measuring the time necessary to evoke the phenomenon. It is obvious that a measurement of the duration of the nystagmus after the caloric test has been employed will yield irregular results, since the change in the meatal temperature, due to the application of cold or heat, must vary in duration in accordance with many factors over which we have no control. Consequently I elected to measure not the duration of the nystagmus, but the time necessary to induce it (the induction period) and to employ the data so obtained along with the character of the eye movements as factors in forming diagnoses. In order to provide uniform conditions I always use water of the same temperature (22° to 24° C.) and raise the vessel in which it is contained to the same height (2 in. above the ear) in all cases. The apparatus is extremely simple, portable, and inexpensive, and is preferable to the rubber-ball syringe usually employed.

My results are as follows: In *health* nystagmus appears in from 20 to 40 seconds (average, 28.5 seconds).

In *hyperexcitable states* of the vestibular system nystagmus appears in from 5 to 15 seconds.

When the *excitability* is *reduced* the induction period is prolonged from 50 to 120 seconds, or more, and when the labyrinth is *irresponsive* no reaction at all follows.

Nystagmus usually appears before vertigo is experienced, but occasionally the order is reversed. The severity of the vertigo usually, but not always, varies inversely with the length of the induction period. In all cases both ears should, of course, be tested separately, and the results compared before coming to any decision as to the presence or absence of unilateral abnormality. It is important to permit the nystagmus induced by testing one ear to pass off before testing the other.

[A detailed description and analysis of 42 cases tested by the author after the manner outlined above occupied the body of the paper, and the conclusions reached were briefly as follows:]

1. In otosclerosis the activity of the vestibular sense bore no relationship to the severity of the deafness.

2. In occupation deafness, concussion deafness, and deafness from meningitis the vestibular reactions were impaired.

3. In syphilis of the labyrinth the vestibular organ was not invariably affected in proportion to the cochlear.

4. In hysterical deafness the vestibular sense was impaired in proportion to the severity of the deafness.

5. In neurasthenic deafness the vestibular system was hypersensitive.

6. In perceptive deafness of indeterminate causation no conclusions were arrived at.

7. In chronic uncomplicated suppuration of the middle ear and in acute mastoiditis, the vestibular reactions were normal or slightly exaggerated.

8. In circumscribed labyrinthitis the vestibular sense was impaired; and the impairment was increased after cure by the radical mastoid.

9. Cases of labyrinthitis were found with spontaneous nystagmus to the opposite side and with normal vestibular caloric reactions.

10. In tempero-sphenoidal abscess the reactions were normal.

11. After the radical mastoid operation in uncomplicated middle-ear suppuration the reactions were increased in two cases and delayed in one.

We may say, then, that in the new tests we have a method of diagnosis which the foregoing cases prove to be at times of considerable value. Let me urge that the vestibular reaction should not be exclusively relied upon in diagnosis, but that it should be taken along with the hearing tests and other symptoms and signs.

In like manner the caloric tests should be supplemented with rotation in doubtful cases before we conclude that the vestibular sense is, or is not, normal.

DISCUSSION.

MR. BARWELL hoped that further investigations, especially upon the normal subject, would be made. He desired further information as to the technique, that is, temperature of water, quantity used, and the force employed in syringing.

DR. BARR thought that cold water was generally considered injurious when applied to the tympanic membrane.

In reply, DR. MCKENZIE re-read portions of his paper, showing that he did not syringe, but used a douche can with a fixed head of water. He said that by cold water he meant 22° to 24° C., and by hot he meant about 42° C.; that the cold was not applied for a sufficiently long time to cause any injurious effect, and that he had never observed any. He had never had sickness nor faintness.

DISCUSSION ON THE TREATMENT OF CICATRICIAL STENOSIS OF THE LARYNX.

OPENING PAPERS.

I.—H. LAMBERT LACK, F.R.C.S.,
Surgeon, Royal Ear Hospital, London.

SINCE it is my duty to give a general sketch of the subject, but yet be as brief as possible, I shall discuss merely those interesting cases of laryngeal stenosis which occasionally follow diphtheria, cases in which urgent dyspnoea has necessitated a tracheotomy, and in which there has subsequently been difficulty in dispensing with the cannula.

I believe that the diphtheria itself has no direct connexion with the subsequent stenosis of the larynx, for the following reasons: In every case of such stenosis I have seen the tracheal cannula has been inserted at an unusually high level; in fact, in most cases it has been quite obvious that the laryngeal cartilages have been divided, and that the tube has been put into the larynx instead of into the trachea. All my cases were in very young children, many under 2, and all under 5 years of age. I have never seen laryngeal stenosis follow diphtheria in which a genuine tracheotomy, as distinct from an operation in which the larynx has been opened, has been done. On the other hand, I have seen a number of cases in which laryngeal stenosis has followed an operation on the larynx in small children, such as a thyrotomy for papilloma, and for this very reason I consider the latter operation unjustifiable. Therefore I think we may consider it proved that laryngeal stenosis after diphtheria occurs only when the larynx has been operated on, and that it is not directly a result of the diphtheria. In confirmation of this view, I may add that since I have pointed out these facts, my supply of clinical material has practically ceased.

My first series of cases came from a hospital where it was the recognized practice to perform tracheotomy only when the patient was *in extremis*, and in young children with urgent suffocation the operation could hardly be done deliberately. In such circumstances it was much more easy to open the prominent larynx than to open the trachea. In the older textbooks the division of the cricoid cartilage in children was commonly recommended, and in no work, so far as I know, was there a note as to its risk.

The amount of stenosis which may ensue varies from a slight fibrous or inflammatory thickening up to an almost impermeable stricture. The latter condition is invariably associated with extensive necrosis of the laryngeal cartilages. Why this should take place is beyond

the scope of our discussion to-day, but the fact remains, and its influence on treatment is obvious. When a case is seen early the first indication for treatment is immediately to remove the tube from the larynx. As low a tracheotomy as possible should be done, the upper wound allowed to close, and the case left to Nature. If the original operation has been done but a few days, or even a few weeks, the probability is that the laryngeal condition will quickly recover without any further treatment. Soon it will be found that the patient can breathe with the tracheal cannula blocked, and this should be encouraged. The cannula should at first be blocked for a few hours during the day and subsequently all day. When this is easily tolerated the tube may be blocked day and night. There should be no hurry about removing the tube in these cases. It is better for the patient to wear it a few weeks with a plug in it so as to make certain that it can be removed safely. I have seen dangerous results from neglecting this precaution. The patient may manage to breathe day and night with the tube corked, as the passage through the larynx may just permit sufficient air to enter; but if the patient takes cold and there is any swelling in the larynx, urgent dyspnœa may commence and rapidly prove dangerous. Twice in such cases the tube has had to be reinserted in a hurry. I cannot give exact statistics or fix a time limit—my cases would be too few for this—but all the early cases which I have seen and treated in this manner have resulted successfully. It has been possible permanently to remove the tube in from one to three months. This, then, is the treatment I recommend wherever practicable.

I have tried other methods. In my earliest cases I performed a thyrotomy, excised any cicatricial tissue which I could find, and then placed a solid plug in the larynx, fitting over and lying just above the tracheotomy tube. This plug could be worn *in situ* for six months at a time. Before this I tried to use T-shaped tubes, but it was impossible to keep a T-shaped tube clean. I found them extremely difficult to remove and replace, though I had the tubes specially made in sections for this purpose, and a general anæsthetic was always necessary. When I replaced the upper part of the T-shaped tube by a solid plug, I found less difficulty in introducing it, and as it provided no receptacle for the collection of mucus or secretions, there was no need to remove it so often for cleansing. After the plug had been worn for six months it was removed, and attempts were made by plugging the tracheotomy tube to encourage the patient to breathe through the larynx. Sometimes this was successful after varying intervals of some months, or even years, and it was then possible to remove the tube. Other cases failed. It seemed to me on thinking over these cases that the treatment adopted was illogical, and that quite possibly the good result achieved was due to time and the low tracheotomy, which freed the larynx from all irritation, and not to the attempted dilatation. If, as seemed clear from my experience, the stricture was due to the insertion and presence of the tube in the larynx it was surely illogical to treat it by inserting another foreign body. In my later cases, therefore, I have contented myself with doing a low tracheotomy and leaving the patient alone, and these cases have been the most successful. Of course recovery will not take place where there has been extensive sloughing or necrosis of the cartilages, but in all the milder cases of stenosis, and in those seen early before necrosis has occurred, I am convinced it is the right method to pursue, and that in every case it should be given a trial before any other severe measures are adopted. At the worst it can do no harm.

What I have said with regard to passing a plug upwards into the larynx from the tracheotomy wound applied still more forcibly to intubation. I tried it thoroughly in two cases. I admit I have had no great experience in intubation, and presumably one with greater experience would have more successful results. I found that my little patients could not tolerate the frequent passage of the tube, and that it was impossible to retain it in position for long at a time. It was certainly much more comfortable for the patient to wear a tube or plug introduced from below than to wear one introduced from above, consequently I soon adopted the latter method. However, I must not discuss this subject further or anticipate what Dr. Bryson Delavan has to say about it.

With regard to the treatment of the more severe cases—those with almost impermeable stricture of the larynx associated with extensive necrosis of the cartilages—I shall say nothing. Hitherto I have regarded them as hopeless and condemned them to wear their tubes for ever. I trust that the operation and treatment of which Professor Delsaux is about to tell us may offer us a hopeful method of dealing with them.

Two cases recently under my care I may briefly mention. The first was a baby aged 9 months, who had a laryngotomy performed for diphtheria, and came under my care a month later, because it was impossible to remove the tube. I performed a low tracheotomy and then a thyrotomy, removed a little scar tissue, and inserted a solid plug from the tracheotomy wound upwards into the larynx. This was worn for six months without discomfort; then it was removed, but the tracheal cannula was retained. The patient could bear the cannula corked by day, but had some difficulty in breathing at night. After many months she could bear it corked day and night, but if she caught cold it was necessary to leave out the plug, as otherwise urgent dyspnœa rapidly ensued. There was at that time just sufficient room to breathe through the larynx under normal circumstances, but no margin to spare for catarrh or congestion. The child has worn the tube now for seven years; for the last two years it has been plugged almost continuously, and there is no doubt that she is now able to dispense with her cannula. There seems to me no doubt that the good result was due to the low tracheotomy—that is, to the removal of all irritation from the larynx and to the natural growth of the parts. The recovery was probably delayed rather than helped by the six months' dilatation of the larynx.

The second case was an adult of 21, who had a tracheotomy performed for diphtheria at the age of 4. On examination I found that the tube had been inserted and was still being worn through the right ala of the thyroid cartilage. There was extensive destruction of this cartilage and very marked stricture of the larynx. The left vocal cord was healthy and moved normally; the right was replaced by scar tissue. I performed first a low tracheotomy and then a thyrotomy, cutting away all the fibrous tissues down to the cartilage on the right side, and paring the edges of the wound which had become epithelialized. No attempt was made to dilate the larynx. The result was better than I expected. In two months the patient was able to dispense with his tracheotomy tube, and he returned home cured.

II.—Dr. V. Delsaux,
Brussels.

TRACHEO-LARYNGOSTOMY.

Dr. StClair Thomson, our President, having asked me to describe the new operation of tracheo-laryngostomy in the treatment of cicatricial stenoses of the upper air passages, I now proceed to do so, confining myself to describing the indications, the operative technique, and the results of the operation. Should further details be required, the subject will be found fully described in MM. Sargnon and Balatier's book and articles. It consists in making a large opening in the larynx and upper part of the trachea, and leaves it open for, in any case, a long time.

Indications.

It is an operation applicable to every case of stricture of the upper air passages, with the exception of stenosis, caused either by lupus or tuberculosis.

As an example of its application in difficult cases, I will specially mention those good results obtained by M. Sargnon in a severe case of post-typhoid stenosis caused by perichondritis of the larynx, and in stenosis the result of a horse bite, and similar beneficial results in several cases operated on by Dr. Iwanow of Moscow, which are still undergoing the dilatation part of the operation.

Pre-operative Measures.

The patient is prepared in the ordinary way for operation: the forehead and the neck are carefully disinfected, as well as the mouth and teeth. No operation should be undertaken when bronchial or tracheal catarrh is present.

Anaesthesia.

My own preference is for general anaesthesia during the operation, though I regard local anaesthesia as sufficient.

The Patient's Position.

In order to prevent blood flowing into the trachea, the patient should be placed in Rose's position, and the head held by an assistant.

Instruments.

Tracheo-laryngostomy in technique is very similar to laryngotomy. Two laryngeal cannulas should be prepared according to the patient's age; the tampon cannula is not necessary, because the haemorrhage is not usually severe if adrenalin be painted on the mucous membrane. In my experience the Lombard-Sargnon cannula is the most suitable; and two or three knives, scissors, and Moure's cutting forceps for the laryngeal cartilage, pressure forceps, two retractors, rubber tubes of different size and length, a good electric light (the frontal mirror of Clar is very suitable), and some tracheoscopic tubes (Killian's short tubes), are all that is required.

Operation.

We can divide the operation into seven different stages: (1) Incision through the soft tissues of the neck; (2) longitudinal division of the laryngeal and tracheal cartilages; (3) suturing the soft tissues to the skin on each side; (4) median division and excision of the scar tissue; (5) introduction of the cannula and rubber dilator; (6) dressing the wound; (7) subsequent dilatation.

1. The preliminary incision varies in length, according to the position of the previous tracheotomy, extending from it upwards to the upper margin of the thyroid cartilage. Bleeding is carefully arrested. Then the cellular tissue is divided as well as the fascia, on director, or with the knife handle, and the intermuscular fascia sought for. Previous to the division of the thyroid isthmus it should be ligatured.

2. When the cartilages of the larynx and trachea are exposed, the operator removes the cannula and, with scissors, divides from below the cricoid and thyroid cartilages with Moure's cutting forceps. The cannula is then replaced at the lower end of the wound, which is plugged. After a few minutes the plug is taken out and the retractors are placed on each side of the larynx, which is then carefully explored.

3. In the third stage the mucous membrane of the larynx is sutured to the skin. Three good ligatures of silk on each side are quite sufficient.

4. Excision of the scar tissue must be as complete as possible. This is very much better than incision in the middle line and dilatation, as formerly recommended by Sargnon. It must be remembered that at the lower part of the larynx the oesophagus lies quite close to the left and posterior side of the latter. In his first laryngostomies Killian used the T-shaped cannulas of soft rubber. Sargnon prefers a vertical tube adapted to his special cannula with a silk thread. The latest improvement is due to Fournier, who introduces the cannula itself through an opening in the rubber tube—the tracheotomy cannula has, of course, an opening in its upper part. By this means dilatation is secured and is most efficient. In fact, many laryngologists think it is, perhaps, too effective.

5. The question of dilating with gauze rather than with rubber tubes during the first days after the operation is not quite decided, but I prefer rubber tubes less hard than the ordinary ones, of exactly suitable size, in order to obtain the proper pressure. I do not like the wood dilators used by our Italian colleagues, because the wood is too rapidly infected and is not soft enough.

6. The dressing consists of two parts: The first keeps the dilator in place within the laryngo-tracheal tube; the second consists of an external dressing of the cannula. In order to obtain more pressure (when required) Labarre's method is to be recommended.

The purpose of the cannula apparatus I use is to reinforce by means of a second rubber tube folded on itself in the shape of the letter S the pressure on the dilating tube. The whole appliance (a cannula with the opening on its ridge and the dilating tube) resembles in many respects the chimney cannula formerly employed in cases of cicatricial stenoses of the larynx. The apparatus allows of the patient eventually breathing through the natural passages, but this result is not obtained immediately after the operation. About two weeks or more afterwards it is possible, in certain cases, to close the opening of the cannula by means of a cork and to re-educate the breathing forthwith.

Post-operative Measures.

During the first days after the operation liquid food must be given through the oesophageal sound introduced through the nose or by means of a spoon. The inner cannula must be frequently cleansed and boiled, the mouth should be cleaned many times during the day. As a rule, at the beginning of the treatment the dressing is to be removed every day, and, if necessary, twice a day. The temperature must be regularly taken, and, when removing the dressing, the surgeon will specially look for any gangrenous tissue and repeatedly apply to it peroxide of hydrogen. If reflexes and tenderness are present, painting the mucous membrane with adrenalin and cocaine will be found advantageous. A short time after the scar tissue has been eliminated the epidermis begins to grow over the granulations which appear in the new laryngo-tracheal tunnel, so that healing goes on day by day.

7. As for dilatation, the time for which it must be continued depends in every case upon the age of the patient, upon the thickness of scar tissue, and many special circumstances which cannot be described or defined in advance. It varies from three months to one year and more. The diameter of the dilating tube must always exceed that of the trachea in order to prevent a new stricture. It should be 2 mm. greater in the case of infants and 3 to 4 mm. in adults.

When all the parts of the mucous membrane are covered with epidermis, the upper part of the wound should be allowed to heal. This will make the introduction of the dilating tube somewhat difficult, but it is advisable in order that the future plastic operation may be reduced to a minimum. Three or four weeks before undertaking the plastic operation the patient is allowed to breathe without any cannula or tube for one or two hours a day, increasing the duration from day to day. At the same time adhesive plaster is placed on the aperture, so that the patient may be taught to breathe in just the same conditions as before the stricture occurred.

I attach very great importance to this practice, because it makes the patient fully confident in himself. I think the post-plastic accidents which sometimes happened were due to the fact of insufficient re-education of natural breathing.

It is quite impossible to say how long the patient must be re-educated. He must be assured that he can breathe without the least inconvenience for hours and hours *per vias naturales*, and that nothing can bring him again in danger of asphyxia. The patient having thus regained confidence, the surgeon may proceed to the performance of the plastic operation for the closure of the opening. This closure should be complete, no safety opening being left. If the laryngo-tracheal tube is sufficiently dilated, if the patient is re-educated enough and breathes largely through the nose, if he is not out of breath when he runs, there is no reason for not closing the opening. As for the method to be selected, in the case of a large opening Glück's procedure with two square flaps of skin is advisable. Another procedure consists in cutting two elliptical flaps and suturing them in the median line with the skin surface turned inwards, and covered with two lateral flaps also sutured in the median line. Should the opening be small, local analgesia is quite sufficient.

I have gathered in a synoptic list the results of 36 cases of laryngostomy, and these give an idea of the duration and results of the operations. These 36 cases show 14 cures, 14 still under treatment, 6 deaths, 1 unsuccessful, and 2 lost sight of. In other words: (1) About 39 per cent. of these cases of cicatricial chronic stenosis of the larynx and trachea are quite cured. (2) About 33 per cent. are still under treatment, the plastic operation not having yet been performed. (3) Death occurred in 16.6 per cent. of all the cases, in 4 instances from bronchopneumonia, in 2 from hypertrophy of the thymus gland. (4) There was but 1 case unsuccessful. (Dilatation was carried on for two months only.) (5) Three cases may be considered as doubtful, because it is not known what became of them.

TABLE SHOWING THE RESULTS OF 37 CASES OF LARYNGOSTOMY.

Authors.	Age of Patient	Cause of Stenosis.	Nature or Seat of Stenoses.	Previous Treatment.	Laryngostomy.	Duration of Dilatation.	Results.
1. Jaboulay (Lyons)	30	Laryngo-tracheal lues	(?)	Twice thyrotomized in 1899 without any result	June, 1899, excision of scar tissue, insufficient dilatation	Dilated during (?) Plastic (?)	Cured.
2. Collet and Jaccod (Lyons)	6	Diphtheria	Cicatricial cricoid stenoses	Intubation, tracheotomy	July, 1906	8 months. Plastic in August, 1907	Cured.
3. Descos, Viannay, and Mandy	6	Diphtheria	Cicatricial cricoid stenoses	Internal dilatation with Schroetter's catheter	May 25th, 1906, excision of scar tissue	Dilated during 8 months. Stenosed again, dilating with T-shaped tube	Under treatment. No plastic operation.
4. Viannay and Descos	5	Diphtheria	Cicatricial cricoid stenoses	Internal dilatation with Schroetter's catheter	December 20, 1907, excision of scar tissue	Dilated during 4 months	Death from broncho-pneumonia.
5. Viannay and Mandy	8	Diphtheria	Cicatricial cricoid stenoses	Tracheotomy—Schroetter's dilatation	December 18, 1907. excision of scar tissue	The child bears a T-shaped tube. Plastic impossible. Asphyxia.	Still under treatment. No plastic operation.
6. Descos and Viannay	5	Diphtheria	Cicatricial cricoid stenoses	Schroetter's dilatation during 6 months	May 30, 1908, excision of scar tissue	3 months. The child bears a T-shaped cannula	Still under treatment. No plastic operation
7. Sieur and Rouvillois	23	Larynx fracture	Incomplete cricoid stenoses	Tracheotomy, intubation	May 5, 1908	4 months. Plastic after 1 month more	Cured.
8. Sieur and Rouvillois	23	Laryngo-typhus	Tight cricoid stenoses	Tracheotomy	May 8, 1908	5 months. Asphyxia when taking out the tube T-shaped	Still under treatment. Plastic operation impossible.
9. Broca and Roland	5	Diphtheria	Total cricoid stenoses	Intubation and tracheotomy	January 28, 1907	6 months. Asphyxia when taking out the tube T-shaped	Still under treatment. Plastic operation, impossible.
10. Guisez (Paris)	13	Submucous laryngitis	Cicatricial chondro-cricoid stenoses	Internal dilatation unsuccessful	November 14, 1908	4 months. In May, 1909, relapse of cicatricial bridles	Under treatment. No plastic operation.
11. Cheval and Labarre	7	Diphtheria	Total stenosis	Unsuccessful thyrotomy in June, 1907	January 20, 1908	5 months. The child bears a T-shaped tube	Under treatment. No plastic operation.
12. Cheval Labourre (Brussels)	2	Diphtheria	Laryngo-tracheal tight stenosis	Intubating and tracheotomy	July, 1908	4 months. All going well, when child got a broncho-pneumonia	Death from obstruction of the tube.
13. Goris (Brussels)	32	Lues	Chronic cicatricial bronchitis	Tracheotomy	December 6, 1907	6 weeks. Cicatricial relapse	Unsuccessful.
14. Jauquet (Brussels)	7½	Submucous laryngitis	Cicatricial stenosis	Tracheotomy; T-shaped cannula during many years	October 26, 1907. Excision of scar tissue	4 months dilated. Bears a T-shaped tube	Under treatment. No plastic.
15. Ruggi (Bologna)	28	Laryngeal stenosis, probably caused by lues	Cicatricial stenosis	Schroetter's dilators	Laryngostomy and dilatation with gauze	2 months	Under treatment. No plastic.
16. Canepele ...	20	Suppurative perichondritis	Tight stenosis	Dilatation with catheters and Schroetter's tubes	1904. Laryngostomy and dilatation with gauze	3 months dilating. Operative plastic	Cured.
17. Canepele ...	Child	Foreign body of the larynx	Cicatricial stenosis	Tracheotomy	Laryngostomy	3 months. Operative plastic	Cured.
18. Melzi and Cagnola	58	Laryngo-typhus in the year 1905	Tight cicatricial stenosis. Oesophago-tracheal fistula	Internal dilating	November 18, 1906. Excision of scar tissue; suture of the fistula	31 months. Operative plastic in March, 1907	Cured.
19. Melzi and Cagnola	5	Diphtheria 4 years previous	Subglottic cicatricial stenosis	Tracheotomy and internal dilatation	May 1, 1907. Excision of scar tissue. Gauze	25 months. Plastic operation	Cured.
20. Melzi and Cagnola	5½	Diphtheria	Cicatricial tight diaphragm	Intubation, tracheotomy	March 3, 1908. Scar tissue removed	½ month. Special wool tampon; plastic	Cured.
21. Melzi and Cagnola	6½	Diphtheria in November, 1905	Total cicatricial stenosis	Intubation for 2 months, tracheotomy	June 15th, 1908, scar tissue removed	4 months. Special tampon. Plastic	(?)
22. Ferreri	25	Laryngeal papillomata	Cicatricial stenosis	Tracheotomy, 1906, Laryngotomy in January	January 4th, 1908, scar tissue excised	6 months. Cotton-wool tampon. Plastic operation in July, 1908	Cured.
23. Gradenigo (Turin)	Old Man	Syphilis	Laryngeal stenosis	Tracheotomy	Laryngostomy	Gauze dilating for 2 months	(?)
24. Dan McKenzie...	Child	Syphilis	Tight stenosis	Dilatation not possible	Laryngostomy	—	Death from broncho-pneumonia.
25. Van den Wilderberg (Antwerp)	8	Laryngo-tracheal papillomata	Cicatricial cricoid bridle	Thyrotomy for 3 years	Laryngostomy	3 months. Rubber tube	Under treatment.
26. H. Tilley (London)	?	Diphtheria	Cicatricial stenosis	Tracheotomy	October, 1908	2 months. Plastic operation	Cured.
27. Rabot, Sargnon, etc. (Lyons)	6	Diphtheria	Cicatricial cricoid	T-shaped cannulas	Laryngostomy	3 months. Plastic operation	Cured.
28. Vignard, Sargnon, and Barlatier	8	Submucous laryngitis	Tight cicatricial stenosis	Dilating cannula; internal rubber dilating	Laryngostomy	2½ months. Plastic operation	Cured.
29. Vignard, Sargnon, and Barlatier	4	Submucous laryngitis	Tight cicatricial stenosis	No treatment	Laryngostomy	—	Death from broncho-pneumonia the 5th day following operation.
30. Gavel, Sargnon, Barlatier	6	Submucous laryngitis	Tight cicatricial stenosis	No treatment	Laryngostomy	3 months. Plastic operation with safety opening	Cured.

TABLE SHOWING THE RESULTS OF 37 CASES OF LARYNGOSTOMY (*continued*).

Authors.	Age of Patient.	Cause of Stenosis.	Nature or Seat of Stenoses.	Previous Treatment.	Laryngostomy.	Duration of Dilatation.	Results.
31. Manfoyn, Bruce Stephen	11	Rötheln laryngitis	Tight cicatricial stenosis; cricoid cartilage ossified	Intubating; dilating, cannulas; Schroetter's tubes; thiosinamine	Laryngostomy	9 months. Relapse of cicatricial tissue; 8 months' dilatation; incomplete plastic operation	Death from thymus hypertrophied.
32. Defaux and Sargnon (Bruxelles)	20	Traumatic wound of larynx and trachea by cutting knife	Tight subglottic and cicatricial stenosis	Dilatation for 1½ years; thyrotomy	November 2, 1907	3½ months. Total plastic operation	Cured.
33. Sieur, Rouillon, Sargnon (Paris)	25	Laryngeal syphilis	Cricoid chondritis; tight stenosis	Intubating	Laryngostomy	5 months. No plastic operation	Under treatment.
34. Fournier, Sargnon	8	Diphtheria	Total cricoid stenosis	Opened cannulas after tracheotomy	Laryngostomy	3½ months. No plastic operation	Under treatment.
35. Mouprofit, Kauffmann, Sargnon	6	Diphtheria	Cricoid stenosis	No treatment at all	Laryngostomy	6 months. Relapse of scar tissue; dilatation for 1 month; no plastic operation	Under treatment.
36. Boulloche, Sargnon, Robert	2	Subacute laryngitis	Tight cricoid stenosis	No treatment at all	Laryngostomy	16 days	Death from thymus hypertrophied.
37. Boulloche, Egger, Sargnon	12	Diphtheria	Tight cricoid stenosis	Dilating by laminaria	Laryngostomy; resection of the cricoid	Still dilated	Under treatment.

In comparison with other methods of treatment, tracheolaryngostomy has proved to be the most successful operation up to date, so that I am able to conclude that, as a rule, when other measures fail, this new operation should be performed in cases of chronic cicatricial laryngotracheal stenosis.

III.—Dr. DAVID BRYSON DELAVAN,

New York.

TREATMENT BY THE METHODS OF O'DWYER AND ROGERS.

IN the successful management of stricture of the larynx three things are absolutely essential:

1. That the stricture be relieved.
2. That the relief of the stricture be permanent.
3. That the treatment of the case be conducted with the least possible injury to the parts involved.

Many operators have endeavoured to treat these cases, and by various means. Some, like Sir Morell Mackenzie, Whistler, and Schroetter, have used intralaryngeal methods. Others have resorted to operations of a more or less extensive character. Treatment by occasional and temporary dilatation has proved a failure, while operative measures have generally left the case worse off than it was before. It remained for O'Dwyer to solve the problems of the situation and to effect a method by which all of the necessary indications were completely met and the disadvantages of other methods avoided. First, he proved the hitherto unknown fact that the larynx would tolerate the presence of a foreign body for indefinite lengths of time. Then he devised the O'Dwyer tube, an instrument which, with suitable modification, fulfils in a remarkable degree the indications present in the cases under our discussion.

No great contribution to surgery has ever been more modestly presented, nor has surgery often received a gift more indicative of important future results than the article published by O'Dwyer in the *New York Medical Record* for June 5th, 1886, entitled. Chronic Stenosis of the Larynx Treated by a New Method, with Report of a Case. How thoroughly the author himself appreciated its value will appear from his own words:

> Chronic stenosis of the larynx is one of the most unsatisfactory diseases which the physician is called upon to treat. Although I have treated only a single case of it with my laryngeal tubes, I am fully convinced that they will prove infinitely superior to anything yet devised for the relief of this unfortunate class of sufferers.

Two years after the foregoing was published, Dr. O'Dwyer, in the following remarkable statement, says:

> Had intubation of the larynx proved a complete failure in the treatment of croups, I would still have amply repaid for the time and expense consumed in developing it, for I believe that it offers the most rational and practical method yet devised for the dilatation of chronic stricture of the glottis.[1]

Since the publication of O'Dwyer's prophetic article, the value of his method has been recognized and it has been applied with success by large numbers of experimenters in many parts of the world. Many who at first objected to it are now its firm advocates. Moreover, an ever-increasing amount of clinical evidence based upon the actual treatment of cases has been accumulated, all of which tends to prove that intubation, used under proper conditions, has succeeded in effectively meeting the indications present in the treatment of chronic stenosis of the larynx.

The work so ably begun by O'Dwyer has been taken up by others, notably by Dr. John Rogers, jun., of New York,[2] through whose keen appreciation of the possibilities, rare technical skill and untiring ingenuity and patience, the method of O'Dwyer has been brought to a high degree of perfection, and it has been used with success not only upon adults but upon children, and even upon very young infants.

The possibility of the successful application of intubation in the chronic laryngeal stricture of infants has been abundantly proved through the brilliant series of cases operated upon and reported by Dr. John Rogers. While a majority of these were due to hypertrophic laryngitis, some were complicated with cicatrices, and all of them demonstrated the practicability of the method.

Ten of Rogers's successful cases were under 6 years of age. There was one case each at the ages of 1, 2, 5 and 6 years respectively, and three each at 3 and 4. One case is interesting because the stenosis was due to hypertrophic laryngitis following intubation for diphtheria, and this complicated by cicatrices resulting from several laryngofissures and tracheotomies, the former done for the purpose of allowing the incision and the removal by dissection of numerous cicatricial bands. At the end of two years of treatment the patient was apparently cured.

The method may be employed without tracheotomy or with tracheotomy, either as simple intubation or associated with fixation of the tube through the fistula.

Among the other varieties of laryngeal obstruction to which it is applicable, those which come within the limits of our discussion or which represent conditions which may give rise to the formation of cicatrices are as follows:

1. Cicatrices of traumatic, operative, or inflammatory origin. When following tracheotomy the deformities may be due to: (*a*) Contraction of the posterior soft part of the trachea following separation anteriorly by the cannula of the tracheal rings; (*b*) dislocation of the cricoid forward and downward, especially when the fistula is through or close to it; (*c*) overriding of the cut anterior ends of the tracheal cartilages in too long a fistula; (*d*) inversion of the cut anterior ends of the tracheal rings,

[1] *New York Medical Journal*, March 10th, 1888.

[2] *American Journal of Medical Sciences*, November, 1905, and April, 1908.

especially if the fistula is to one side of the median line; (*e*) contraction of the trachea around the cannula, due to sloughing of the cartilages or rings: (*f*) spur formation posteriorly, especially in combination with contraction of the posterior soft portion of the trachea, or dislocation of the lower segment forward and the upper backward, or both.

2. Granulations around a cannula or intubation tube, which are much less common than is generally believed.

3. Hypertrophic subglottic laryngitis, most commonly encountered in retained tube cases.

4. Prolonged and repeated diphtheritic inflammation, which must be exceedingly rare in these days of antitoxin, although it is worth noting that there is at least one case on record in which the exudate was demonstrable on the one hundred and fifty-first day.

Before attempting to describe the O'Dwyer-Rogers method a word must be said as to the principles upon which it is based and the indications which justify its use. It is essential that these indications be very clearly understood. The interior of the larynx is practically a cavity or tube, having rigid inelastic walls and lined with various soft tissue, the latter liable to injury and therefore to the formation of cicatrices. The presence of cicatrices at the posterior aspect of the larynx is likely to interfere with the normal physiological movements of the dilators of the glottis as well as to encroach upon the glottic space. Anteriorly, a lesion situated at the apex of the vocal bands is analogous to one located in any other angle of the body —as, for instance, between the fingers or at the corner of the mouth. A solution of continuity of tissue in any such angle is sure to result in adhesions as the process of healing advances, and in many cases such adhesion, if left to itself, will only be limited by the extent of the pre-existing lesion.

The history of scar tissue is much the same wherever cicatrices may be found: for example, any attempt to divide web fingers without closing the wound at the apex of the angle in such a manner that the granulating parts cannot come together at that point will surely result in failure, and will produce a condition of adhesion worse than that which existed before. This is one of the oldest recognized surgical facts. Nor is it only in the case of V-shaped wounds that this tendency to adhesion is observed. In nasal surgery it is a matter of commonest occurrence that unless injured parts have been kept separate from each other until healing has been fully accomplished adhesion is almost certain to take place. This is particularly true of the larynx. The incision of a thin web of tissue may possibly be sometimes successfully accomplished, but incisions into dense scar tissue will almost invariably reunite, even after long-continued dilatation. The incessant activity of the movements of the larynx and the delicacy of its soft parts render it peculiarly liable to accident, and to the conditions which we are considering. None of the methods possible in other situations, such as the transplantation of epithelium, the use of mucous flaps, or any of the other ingenious plastic devices sometimes used in other situations have been made available in the larynx without resort to laryngo-fissure.

What has just been said at once suggests the fact also that the attempted removal of cicatrices from the larynx is not likely to be attended with ultimate success, since it appears that in most cases, with the lapse of a relatively short space of time, the intralaryngeal obstruction will reappear. This has been demonstrated time and again in another connexion—namely, in the attempt to relieve dyspnoea due to abductor paralysis of the larynx, or other causes by which the vocal bands have fallen together to such an extent that proper respiration has been impossible. In such cases the performance of thyrotomy and the removal of one or both vocal bands has almost invariably resulted in ultimate failure. So, also, when the attempt has been made to excise cicatrices, or to incise them and afterwards dilate, failure has been in even greater measure the rule.

It cannot be too clearly understood that operations upon the larynx, whether from within or without, tend in themselves to the production of stricture. In view of these facts it would seem necessary that, in order to obtain permanent success, the cure of this condition should be based upon principles different from those involved either in simple temporary dilatation, in incision of the scar with dilatation, or in resection of soft parts as has heretofore been practised. The principle of treatment upon which the greatest success in these cases seems to depend is that scar tissue in general when subjected to long-continued stretching will finally lose its resiliency. For this there are many illustrations; as, for example, the stretching of the cicatrix in the case of a scar following a laparotomy, or following an operation for hernia and the like. Instances are not wanting to show that the same results have been obtained in the larynx. Proof of this would seem to lie in the fact that cases of cicatricial stenosis in which the stricture has persistently returned after relatively short periods of intubation have been cured by long-continued retention of the tube.

In order to succeed in producing satisfactory pressure upon the cicatrix two things are absolutely necessary. First, that the instrument be adjusted with great accuracy to the shape as well as to the size of the stricture. The ordinary O'Dwyer tube will not answer the purpose. Each case must have its own tube, which must be modified in every instance to meet accurately and completely the special requirements of the conditions in hand. To adapt the tube properly to the case will demand on the part of the operator much skill and experience and a practical development of the sense of form and proportion. All of these qualities and attainments are possessed by Dr. Rogers in a high degree, and it is by reason of them that he has been enabled to bring the method to its present perfection.

Secondly, that the intubation instrument used be large enough to exert steady and active pressure force upon the contracted tissues, stretching them up to the limit of possibility, and for considerable periods of time.

According to Dr. John Rogers the principle which he has found successful in the treatment of hypertrophic laryngitis and in cicatrices of the upper part of the respiratory tract involves simply long-continued and constant dilatation, which stretches the contracted tissues to the utmost limit they will bear without sloughing, and up to the largest normal calibre of the passage in question, and so overcomes the obstruction by producing a permanent pressure atrophy in the affected parts.

To accomplish the continued dilatation and consequent pressure atrophy necessary to overcome the obstruction of either a hypertrophic laryngitis or a cicatrix, a properly modified O'Dwyer intubation tube is almost a perfect instrument. It can be worn without harm to the patient for months or years, and Rogers has observed such patients with the tubes in place to pass successfully through measles, pneumonia, typhoid fever, and even whooping-cough; indeed, it does not seem appreciably to increase the gravity of the prognosis of these affections. The tube, as is well known, possesses a head which rests on and in the aryteno-epiglottic folds, a neck constricted from side to side to fit between the vocal bands within the glottis, and below a retaining swell which expands to occupy the space at and below the cricoid cartilage. The tip is again constricted from side to side to pass easily through the glottis. The "normal" tubes were designed by Dr. O'Dwyer from casts and measurements to fit somewhat loosely the average larynx and to exert the least possible pressure upon acutely inflamed tissues compatible with retention of the instrument. When this stage of the disease has passed and has been succeeded by a chronic thickening or a cicatrix, the tube, to obtain the pressure necessary to produce an atrophy of the abnormal thickening, must be modified into a "special" instrument for each case. That is, with the patient under deep general anæsthesia, a number of normal tubes are passed through the larynx until one is found in which the retaining swell distends the constriction to the limit the operator believes it will bear without sloughing. If the difficulty is dependent solely upon a soft hypertrophy, the diameter of the retaining swell will be regulated largely by the diameter of the passage within the cricoid cartilage.

Inasmuch, however, as the retaining swell lies, when the tube is in place, just below this point, where the trachea is capable of considerable distension without damage, quite a little force in the test tubage is permissible. Having thus ascertained the largest possible diameter of the larynx, a "special" tube is made of the length of the normal tube suitable for the age and development of the patient, but with a retaining swell having the same diameter as that of the trial tube. The neck of this "special" tube, however, to exert pressure upon the hypertrophied intralaryngeal tissues, should be as large

as possible, but its transverse diameter must be $\frac{3}{8}$ in. smaller than the retaining swell, or it will certainly be coughed out. Also, the head must have a diameter $\frac{5}{8}$ in. greater than the retaining swell to prevent the instrument from slipping within the larynx. These measurements apply to the ordinary hard rubber tube, but when the heavier metal tube is employed the diameter of the head should exceed that of the retaining swell by $\frac{1}{2}$ in. or even $\frac{5}{8}$ in., especially for adults. For very small children these measurements can be changed from $\frac{1}{2}$ in. to $\frac{3}{4}$ in. It must be borne in mind that a difference of $\frac{3}{8}$ in. in the transverse diameters of the neck and retaining swell is the very least which experience has demonstrated is sufficient to keep the tube in place, and many patients will require a tube with the neck $\frac{7}{8}$ in. or even $\frac{1}{2}$ in. less in diameter than the retaining swell. Only a trial will show what is necessary. But the neck of the special tube must be considerably larger than that of the normal, or a failure to cure will probably result.

When auto-extubation complicates the difficulties—and it may be a very dangerous complication if assistance is not constantly and immediately available—tracheotomy is almost always necessary. Some patients with hypertrophic laryngitis will cough up any tube which can be inserted, and, unless it is quickly replaced, will strangle. Under these circumstances, it is generally essential to provide an opening in the trachea, though there can be no expectation of thus accomplishing a cure of the stenosis. Indeed, it will probably only add a cicatrix or a deformity in the shape of an obstructing "spur" in the posterior wall of the trachea if the cannula is worn long enough. The operation should be performed carefully in the median line well below the cricoid cartilage, under full anæsthesia, with the tube in place. At the same time, opportunity is thus given to obtain the necessary measurements for making what Rogers has described as a "plugged" or "clamped tube." This is a "special" intubation tube with the neck (or lower end, if there is a cicatrix low down) enlarged to exert pressure upon the contracted area. The "clamp" or "plug" portion of the tube is a removable attachment designed to fasten to the tube at right angles through the tracheal fistula after the tube is inserted, and thus prevent its displacement. The larger tube will support a "plug" or a cylindrical piece of hard rubber, which is hard enough so that when in place its outer end extends through the fistula about an inch beyond the surface of the neck, to allow easy manipulation, and at its inner end, perforated to correspond to the lumen of the intubation tube, screws into a hole in the anterior wall of the intubation tube. The "clamp" is employed for smaller instruments, and is made, like a pair of obstetrical forceps, of two little silver blades, which are passed through the fistula into grooves on the sides of the tube and held there by a "collar" screwed down around the shanks.

Of these two attachments, the plug is probably better for large or for metal tubes, and the clamp for smaller instruments and those made of rubber. The clamp is also better in that it can be made small enough not to press apart appreciably the severed anterior segments of the trachea, and thus, by preventing contraction in the soft posterior wall, there will not be so much danger of narrowing the calibre of the passage when the instrument is removed. A tube with either of these attachments cannot be coughed out, and it can be worn for an indefinite period without harm, and in all respects is infinitely better than the ordinary cannula. If, therefore, a patient with a hypertrophic or cicatricial stenosis of the upper air passages has to be tracheotomized, one of these instruments should be inserted as soon afterward as it can be obtained and continued in place as advised for the usual special tube. Neither a plugged nor a clamped tube should, however, be employed unless there is some good reason for it, as the tracheal fistula gradually, of course, becomes permanent and presents its own difficulties, although these may be offset by the ease with which, after removal of the tube, any adductor spasm can be met.

The usual intubation tube is made of vulcanized rubber, which is an ideal material, as I have never known it to clog and it is practically indestructible. It does, however, have to be removed and cleaned about once in a month or six weeks, as the head generally becomes foul, and this decomposing matter might cause sepsis or possibly obstruct the lumen. But occasionally, in cases of hypertrophic laryngitis, the special rubber instrument, even after months of continuous use, will seem to produce no improvement. Then by changing to a similarly-made metal tube the desired result will generally be obtained. We are unable to explain this, except that the metal tube is heavier and so may exert more pressure; or there may be some electrolytic effect, as it is constructed of bronze or brass heavily plated with gold, and so consists of at least two metals which are in contact with moisture. Whatever reason may be given, the metal tube will often succeed when the rubber has seemed to fail; but the latter should always be tried first, as in the average case it is sufficient and safer. The metal tube soon becomes rough with a presumably calcareous deposit, which catches the secretions, and in at least one of Roger's cases thus produced asphyxia. After wearing such an instrument, preferably of hard rubber, for months, it is very necessary to consider the adductor spasm both for diagnosis and treatment. When a cure ought to have been obtained the conditions may seem entirely unchanged, and the true state of affairs can only be ascertained by general anæsthesia. Under ether, then, about once in every three or four months the tube should be carefully removed and the respiration observed. If it is still completely or partially obstructed, the dilatation must be resumed. But if the breathing is natural and easy, then spasm may be confidently diagnosticated, especially if in the first effort at coughing, as consciousness comes back, the dyspnœa recurs. To overcome this there must be inserted for several days or weeks a tube with a head and retaining swell and length like the previously-worn dilating instrument, but with a neck as small as possible in order that motion to some extent can occur in the openers of the larynx. If the dyspnœa makes its appearance slowly during the course of hours or days, it is not due to adductor spasm, and there is no escape from the previous treatment. When enough time—some one or two months—has passed with the very small-necked tube in the larynx, and the faulty muscles may be considered to have regained their strength and the patient his power to innervate them, the small tube is removed under ether, and a little morphine is administered to allay spasm and nervousness. For the first few hours, however, the attendant and the patient will suffer much anxiety, as frequent attacks of stridulous inspiration and more or less dyspnœa will occur during the readjustment to new conditions. But with patience and the assistance of antispasmodics a day or two will suffice to overcome all such difficulties.

A fibrous stricture is managed in exactly the same way, with the exception of the primary dilatation in case the stenosis is too tight to admit a tube. Under these conditions there is already a tracheal fistula, or one is urgently needed, and through this, under general anæsthesia, urethral sounds are passed up and down until considerable resistance is encountered. Then measurements are taken upon an ordinary tube, and a "special" one is constructed, having its specially enlarged part placed to correspond with the location of the stricture and with regard to the normal diameter of the air passage, which is capable of much stretching without damage, except within the cricoid ring. When the latter has been cut in a hasty previous operation there seems to be little danger of sloughing under almost any reasonable pressure, but if it is intact such an accident is conceivable, and actually occurred in a case cited by Dr O'Dwyer. Sometimes in very dense strictures a small tube can be inserted for a week or two, and afterwards a larger size. But no stricture should be considered hopeless, provided any trace of mucous membrane remains, as I have had experience in at least one such case in which the passage through the larynx had to be opened by a careful dissection very much like that required for an impermeable stricture of the urethra. A small tube was then inserted and the wound partially closed, and later larger instruments were employed, and eventually an almost perfect result was obtained.

As regards the prognosis and duration of treatment in patients with hypertrophic laryngitis or cicatricial stenosis, the statistics of the 23 cases previously reported by Rogers furnish much information. One of his cases of hyper-

trophic laryngitis (Case I), the only one in the series which seemed to have occurred spontaneously, and without a previous diphtheria, recovered permanently at the end of about four weeks of dilating tubage. Another of cicatricial stenosis, previously reported as a failure, required forty-nine months, or a little over four years, of continuous intubation, and during the latter two of these four years the tube was not once removed from the larynx. It has now been out for over six months and there is no sign of recontraction and the voice is returning. Three other cases, the most discouraging of the series of instances of hypertrophic laryngitis, complicated by cicatrices due to tracheotomies and explorations through the thyroid cartilage, required respectively about six, three and five years of dilating tubage to effect a cure, which now may be considered permanent, as they have remained for nearly two years without any sign of difficulty, and all have good voices. Two other cases would have recovered sooner with less impatience and more experience, for as soon as they seemed well their tubes were removed, with the result that the cicatrices recontracted. A fibrous stricture apparently requires at least two years of continuous dilatation to the utmost limit of the normal lumen of the respiratory tract before it can be considered as permanently overcome. Even then it may gradually reappear, and, if it does, another six months or a year of continuous tubage must be endured, but there is a reasonable certainty, as proved by experience, of thus gaining an ultimate cure. Cases of hypertrophic laryngitis are slow and troublesome enough, but once well do not recur as does a cicatrix. One case of hypertrophy had to wear a dilating tube from February, 1904, until March 1905, and then, owing to adductor spasm, a small tube until the following June, and thus required a little over two years of treatment, which seems to be about the average.

As to the merits, absolute or relative, of the procedures under discussion with us, time is an all-important factor in making possible a decision. No method now in use has been under observation long enough to prove that a condition of stenosis of the larynx apparently cured by it may not at some time return. Such is the history of other strictures; and such the result of experience in cases observed of this class.

Some interesting questions arise as to whether attempts at treatment made according to the methods now in use may not in themselves lead to future troubles. In other words, will cases which have been thus treated for stenosis show at subsequent periods of the patient's life a tendency towards any special form of accident? Most especially, will they or not be likely to suffer in undue proportion from degenerative changes in such tissues as may remain to them in the interior of the larynx?

The lapse of at least a number of years will be necessary to demonstrate the attainment of permanent cure and the relative immunity from undesirable remote effects. Even then the only approach to certainty will be gained from the study of considerable numbers of cases up to the very end of life.

The management of these cases by any of our present methods is trying and more or less dangerous, difficult enough for both patient and surgeon to cause every one of us to heartily welcome any new suggestion giving promise of better things.

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DISCUSSION.

Dr. EMIL MAYER (New York) said: I shall premise my remarks by stating that intubation in the adult is performed with the aid of the mirror in most cases, and is for the laryngologist by no means a difficult procedure. My own experience consists of three unusual cases of stenosis of the larynx, in all of which tracheotomy had been performed, and all would have been doomed to a life of breathing in this way, had it not been for the success of constant divulsion and pressure exerted by the presence of an intubation tube. Each one of my patients fully recovered. I am glad to say, but as they were among the first to be so treated, there were many days of careful watching lest recurrence set in, and in one the ordinary methods of intubation failed, and I was compelled to originate a method of slow intubation in order that during the introduction of the tube my patient should not become asphyxiated. In this case (the first one) the stenosis was so great that it required nearly ten minutes' time to successfully introduce the tube, a time far too long for the patient whose air supply was completely shut off. To meet this contingency, I devised a hollow introducer (which I here exhibit), consisting of a hollow handle, with a spring externally along the shaft. The lower end has a pin fitting into the head of the tube. During the introduction the patient breathes constantly through tube and handle, and when the intubation tube is firmly in the larynx, one push of the spring separates the tube from the handle. It has worked very well in my hands, and is applicable to any sized adult tube. It was made for me by George Ermold, of New York City. Some of the patients on whom tracheotomy has been done expel the tube promptly, or within a few hours. This may be due to the pressure from the stenosis, to an unusually large larynx, or to the violent retching which follows intubation at times. To prevent the expulsion of the tube John Rogers, jun., of New York, has devised a screw attachment which enters the tracheotomy opening and is screwed into an opening made in the tube directly opposite the tracheal opening, as described by my colleague, Dr. Delavan. To have this opening exact the patient is intubated with a tube of proper size, the tracheal opening is cocainized, and a heated wire is inserted touching the tube. This is done several times, the patient extubated, and the number of small indentations show the exact place for making the proper opening in the intubation tube. With the tube in readiness, the patient is again intubated, the screw piece attached, and now no possible chance of extubation exists until we so decide. I have found these tubes well borne; patients soon learnt to take food with little discomfort, and the tube was not removed within a fortnight. It was then cleansed and reintroduced. The three cases so treated wore the tube six months, three months, and one month respectively.

The first case was that of a young soldier of the United States Army, who was shot in the right temple while lying on his shield at the battle of El Caney on July 2nd, 1898. The wound was declared to be a glancing wound, but he was conveyed to New York City, where his dyspnœa became urgent and tracheotomy was done. Six months after being shot he was placed in my care. I found a narrow slit only within his larynx, and using a large opening on his right soft palate, I concluded that his laryngeal obstruction was due to an injury to his thyroid cartilages.

The bullet entered the right temple, ploughed through the superior maxilla, cut out a portion of his soft palate, comminuted his thyroid cartilage, entered the œsophagus, where, being spent, it dropped into his stomach, and was passed from his bowels six weeks later. After frequent application of Schroetter's tubes I began the slow intubation previously described, and he wore his tube for six months. He was then extubated, and remained well for a fortnight. In an attempt to remove some tissue from his larynx he became very dyspnœic, and I was compelled to do a tracheotomy instantaneously.

This patient never permitted me to again introduce an intubation tube, though I considered him quite well, and I fear that the larger pension he might receive while wearing a tracheotomy tube was a determining factor in this case.

The second case was that of a young woman who had a post-typhoid perichondritis, on whom I had to perform a tracheotomy in January, 1903. She was subsequently intubated, wore her tube (without the Rogers attachment) for three months, during which time she made a transatlantic voyage, and on her return was extubated, and has been well since.

The third case was that of a young man who had been operated on for granuloma of the larynx in December, 1907. There was a return of granulation tissue, and the patient was placed in my hands in January, 1908. He promptly forced out the tube until the Rogers attachment was applied. He then wore the tube continuously for a month, when he was extubated, and he has remained well since then (March, 1908).

I feel that I can confidently claim that as a result of this method of treating these cases laryngology has reached a higher plane, and we become, as we should be, skilled adjuncts to our colleagues the surgeons in bringing dubious cases to a happy ending. Before concluding I wish to thank you, Mr. President, for your courteous invitation to be present and partake in your deliberations and discussions—one which is the more readily accepted that I might express in this beautiful city of Ireland a sense of our deep obligation to the great aid to suffering humanity occasioned by the genius of an Irish-American, a man whom it was also my pleasure to know, whose modesty, gentility, and high character made for him hosts of friends, and whose memory will be ever venerated.

DR. LOGAN TURNER (Edinburgh) desired to express his thanks to his foreign colleagues from the United States and Belgium for their valuable contributions to the discussion. He could not fail to be struck with the fact that of the two lines of treatment which had been discussed, the intralaryngeal or intubation method of dilatation had been dealt with by the American speakers, while the external cutting operations had been lauded by the Europeans. It was only natural that the influence of O'Dwyer should continue to make itself felt in the land of his birth. Dr. Turner felt that an objection to the dilatation method of laryngeal stenosis by O'Dwyer's tubes was the prolonged period over which the tubes had sometimes to be worn, extending even over five years. He would like to know if Dr. Delsaux had had any experience with the complication of oesophageal fistula in his cases of laryngo-tracheoscopy. Dr. Turner had had that complication to deal with, and the maintenance of the lumen of the trachea had been to some extent interfered with in consequence. In cases of post-operative cicatricial stenosis following laryngo-fissure, he thought that fibrolysin might be employed locally.

MR. HAROLD BARWELL (London) said he had some diffidence in attempting to speak with authority on that subject, as his experience in the treatment of those cases was limited to two, one of which was being treated by laryngostomy, but it was too recent to relate. He wished to refer to what he preferred to call the "intermittent" treatment by means of Schrœtter's bougies, by which he treated his first case. She was a lady aged 25, in whom the cords were completely adherent as far back as the vocal processes. Her original condition could not be exactly judged, as a thyrotomy had been previously unsuccessfully performed for removal of the scar. He divided the scar with a specially made knife; it was composed of dense fibrous tissue, cutting like cartilage. He then passed Schrœtter's bougies daily for three months, and later at lengthening intervals. The tracheotomy opening was closed at the end of six months. It was now two years since the dilatation was commenced, and, though he saw her at intervals of six to eight weeks, there was no tendency to recurrence. The length of time was, of course, insufficient to pronounce a complete and permanent cure. One reason why he, and perhaps others, had been somewhat shy of the intubation method was that he had been under the impression that the tubes must be removed, cleaned, and reinserted at frequent intervals, for example, every four days; but now they heard that the tubes might be left in place for six weeks or more, the method would be doubtless rendered more generally applicable.

DR. SCANES-SPICER (London) said that cases of chronic laryngeal stenosis could be grouped into those that were very easy and yielded at once to simple treatment and those which were almost impossible to cure. He had succeeded by incision with Mackenzie's knife, with Whistler's cutting dilator, and with laryngeal punch forceps. On the other hand, he had had cases requiring repeated operations and introductions of tracheotomy tube, sometimes lasting over years, and finally having to be abandoned wearing the tube, because the patient felt safer and happier that way. He was one of the first in England to buy a set of O'Dwyer's tubes and give them a trial in cases of acute laryngeal trouble which would otherwise have required tracheotomy. He had given them up for these cases, because the tubes got coughed up, and tracheotomy had to be done after all. He had also used them in an obstinate case, 18 years of age, of laryngeal stenosis due to laryngitis chronica hypoglottica after typhoid fever, and for which tracheotomy had been done. No bougie or metal or vulcanite O'Dwyer tube could be insinuated through the obstruction, and after attempts with different instruments laryngo-fissure was done, and a dense cartilaginous mass of fibrous tissue found reaching from the laryngeal ventricles to the tracheotomy wound, and involving the vocal cords, which, being embedded in the thickened mass, could not be distinctly made out, even when the larynx was opened. Having dissected out the growth, he had inserted the largest vulcanite O'Dwyer tube he had, 3 in. long. Its lower end, however, protruded through the large wound in the neck, and was not long enough to pass below the tracheotomy wound. He therefore attempted to keep the new lumen open by bolting in a Schrœtter's tin bougie with the old tracheotomy tube. After this had been in some days he again tried intubation, but the tube was coughed up. A special new long tube adapted to the curve of the trachea had been ordered, and was to have been inserted next day, but dyspnœa supervening at night, the nurse hurriedly inserted the old tracheotomy tube. Further attempts were made later with such success that the patient was able to leave the hospital with the tracheotomy wound healed and breathing easily through his larynx. This lasted weeks or months. But later he returned, and an emergency tracheotomy was done by the officer on duty, and the same sequence repeated; he had forgotten how many times that had happened, but it was more than three. That case had made a powerful impression on his mind, for after many months' work the case had to be finally abandoned wearing a tracheotomy tube. Rogers's tubes shown that day by Dr. Bryson Delavan clearly had many advantages over the old O'Dwyer, and the results described were very encouraging. He should bear them in mind if a suitable case occurred. Another very interesting case was that of a bowler at Lord's, who got his sternum fractured by a cricket-ball and driven into his trachea. Minor recurrent troubles went on for years, and finally there was urgent tracheal stenosis with severe pulmonary complications. Tracheotomy was done, but the stricture was too low for any instruments then at his disposal to divide or remove it, and the grave condition of the patient prevented long attempts or deep anæsthesia. It would have been quite an easy case if Brüning's bronchoscope and other instruments had been available. He was very interested in the remarkable successes which had attended Professor Delsaux's methods, and was very glad to hear him speak so strongly as to the importance of the re-education of respiration. He himself had been insisting for some years on the share taken by vicious breathing habits and undue negative pressure on the persistence of chronic congestions in the air tract, and the recurrence and obstinacy of inflammatory states. He thought it not improbable the reason Dr. Emil Mayer's case declined reintubation was the same as his own; such cases are more comfortable with the tracheotomy tube, and the fear of asphyxia makes them neurotic.

THE PRESIDENT (Dr. St Clair Thomson) said that the debate had not been extensive because of the want of use in this country of the various tubes shown. However, there were some lessons that they could carry away with them —for example, the sufficiency in certain cases of a simple low tracheotomy, which was not always possible; also, the length of time the tubes could be left in the larynx. In this country they were mostly used in fever hospitals. He would like to know the cause of the fetor of the breath which occurred in the case of some children, even within a few days. He thought that marked cases of stenosis resulting from tertiary syphilis were hopeless. He considered that O'Dwyer's tubes did all and more than Schrœtter's could do, and that the latter method would fall into disuse. He also considered that laryngotracheostomy held out great promise. He gave an account of a little girl whose larynx and trachea and its upper part were now atrophied, who could only speak with a laryngeal voice, and who could neither read nor write. The rescue of such cases he considered of great social importance. He instanced a case which showed the importance of waiting before doing any cutting operation, as the trachea would itself expand as a child grew older if the larynx be freed. He would like to know whether the larynx was ultimately buried by a smooth secreting surface, and whether the after-treatment was not very long and trying.

DR. DELAVAN, in reply, showed a knife hidden in a dilator, which he used for stricture of the anterior commissure. Intubation, like any other high art, could not be taken up and mastered in a day, so that few of them could become proficient in its use; and in New York a few took it up and the others referred such cases to them. He considered that all cutting methods should be avoided if possible, although the new methods advocated that morning offered advantages which did not exist with the older cutting methods; but the ultimate results could not

be tested for a considerable time, and they did know the ultimate value of intubation used with skill and patient persistence.

Dr. V. Delsaux, replying to the President, said the post-operative treatment included dressing wounds during a few weeks, and a stage of dilatation for three months or more. This latter stage had been much diminished since the excision of scar tissue had been substituted for mere incision in the median line. All the cases reported had undergone the operation a year or more previously. Many of them were healed, and in the others the plastic operation still had to be performed. As for secondary stenosis of the trachea after closing the tracheal fistula (as reported by Dr. Logan Turner), one might perform resection of the superior part of the trachea or insert a portion of cartilage under the skin of the neck previous to performing the plastic operation. He did not feel confidence in fibrolysin, which had failed every time he had used it. He made the same objection to the use of *x* rays in cicatricial stenoses. He thought they had a peculiar efficacy upon young cells, that is to say in the stage in which stricture was going to be produced, and at that time patients did not come to laryngologists.

CANCERS OF THE THROAT:

SOME REMARKS ON THEIR SITES OF ORIGIN, PATHOGENY, EARLY DIAGNOSIS, AND RADICAL CURE.

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Necessary limits of time and space for a sectional paper compels selection of a few principal points only for mention. For the purposes of the present paper "cancer" means non-congenital primary carcinoma. The term "throat" is not used in an exact anatomical sense, but as one of practical and clinical convenience to include those areas which come under the constant purview of experts perpetually examining the upper air and food passages. Hence not only the larynx, but also the mouth, tongue, palate, fauces, tonsil, oro-pharynx, naso-pharynx, hypo-pharynx, œsophagus, trachea, thyroid, and neck may have to be considered.

In the past the interest of the clinician has been perhaps too keenly fixed on cancers of the larynx. This has been necessary to bring some order out of chaos and to demarcate a distinct group of cases characterized (*a*) clinically by early persistent hoarseness in middle-aged persons; (*b*) anatomically by the limitation of cancerous degeneration to the vocal cord area, and (*c*) surgically, by the probability of radical cure by laryngo fissure or partial laryngectomy. This task has been the *magnum opus* of Semon and Butlin in chief. Among the problems that immediately face us as specialists are two very important ones. First—a scientific one—to see what, if any, light can be thrown on the broad question of the nature and origin of cancer from its study in the throat areas; and, secondly—a practical one—to secure precision in early diagnosis, and perfect a technique for radical cure in cases other than the so-called intrinsic laryngeal variety—that is, more especially those cases in which there are derangements of swallowing, pain, haemorrhage, ulceration, or recurrence of vague throat troubles of a chronic and persistent nature.

Important as has been the recognition of the limitation of cancer to vocal cord area (intrinsic laryngeal cancer) as the chief criterion for successful operation up to recently, there can be little doubt that the search for "intrinsicness" has diverted attention from other considerations of great importance, such as, for example, the exact anatomical relations of the sites of origin of non-intrinsic throat cancer in the soft tissues with reference to adjacent and opposed hard structures; and also to a large extent in this country, until recently, practical technique of radical cure if the disease were not of the so-called intrinsic localization.

As a contribution to the solution of the above problems, the following propositions are now advanced:

1. The anatomical relations of sites of origin of throat cancers, based on clinical observations, pathological museum specimens, and published records and diagrams of other observers, suggest strongly that these sites of origin (when the case is seen early enough for recognition of such, or the sites at which the maximum or most advanced cancerous degeneration is evident) are in those soft tissues immediately overlying, or anatomically opposed to, or compressed by hard and prominent borders, ridges, spiny processes, bumps, surfaces, or points of bone or cartilage—the latter often ossified in senescence. In criticizing this generalization, the parts affected must be thought of in their natural position and working in the living subject, and not as seen in the cadaver, or in anatomical diagrams, or even in the positions in which the parts are familiar to the laryngo-tracheo-broncho-œsophagoscopist, for such are not the natural ones, and the real natural position can only be ascertained by the mental eye. Radioscopy has not materially assisted me up to the present, one way or the other, in testing of my conclusions, but I am continuing my investigations on these lines.

2. The soft tissues of these areas, though constantly exposed to certain limited variations of incidental mechanical force in the normal working of the human machine, under abnormal augmentation of such force are exposed to such abnormal increase of stress, strain, friction, compression, and torsion that an excessive mechanical stimulus to cell growth ensues, and causes, without the aid of any extrinsic or specific irritant, that *proliferation and penetration* of epithelial cells which is the local histological evidence of cancerous degeneration.

3. In searching for the origin of such augmented mechanical force on general biological principles, such search is likely to succeed if directed to a study and comparison of those forces which in action are *intermittent*, in accordance with Sir James Paget's law that intermission of impressed force causes cell overgrowth. A long-standing action of such abnormal force would also appear to be necessary, or the *vis medicatrix Naturæ* would assert itself. In degree such abnormal force also—though in considerable excess of the normal physiological variations with which the soft tissues are adapted to deal—must not be too massive, or it would damage or destroy the vitality of the tissues.

4. A detailed consideration of all the chief sources of mechanical force acting on the body has led to the conclusion that the following are the most important:

(*a*) The force of gravitation.

(*b*) The mechanism by which the body maintains its various postures in opposition to the force of gravitation.

(*c*) The muscular mechanism of respiration.

(*d*) The varying state of distension of the abdominal viscera, by food, flatus, etc., and the elastic recoil of their tissues and other organs stretched by them.

(*e*) The varying energy with which the general nervous and muscular actions of the body are executed.

Each of these factors—and many others—acting either alone or collectively, may produce great variations in the resultant mechanical force, to which the different organs and tissues—and cells in many cases—of the body are exposed for many hours at a time, every day, over many years. This will be seen especially if the action of gravitation and the equilibrium mechanism are thought of: and I would especially insist on the variations due to the different modes of action of the respiratory mechanism. These do not admit of detailed consideration in the present paper, but have been dealt with somewhat more fully in a paper communicated to the Section of Anatomy and Physiology at the British Medical Association meeting at Belfast in July, 1909, and entitled Some Points in the Mechanics of Respiration, etc. The conclusions are, however, that the incident mechanical forces and the resultant stresses, strains, frictions, etc., are much greater when abdominal respiration or *belly breathing* is used, than with costal or thoracic respiration, which I have named *back breathing* (for reasons mentioned in the above paper). The essential points in *back breathing* are that on inspiration the spinal column is as stretched out and as straight as possible. The thorax is raised and expanded, and there is no descent of the diaphragm. Instead, this muscle, acting from a fulcrum formed by the abdominal viscera (which are retained in the vault of the diaphragm by the anterior abdominal wall, passively tightened by the extended spine and raised thorax), further raises and enlarges the thoracic cage at its lowest part. On expiration, the spine being retained in a stretched-out position, the elastic recoil of the lungs and displaced structures is guided and

controlled by an *active muscular contraction* of the muscles of the anterior abdominal wall. In abdominal respiration—belly breathing—however, the spinal column is flexed forward and convexly rounded behind; the thorax is flat and collapsed, the diaphragm descends carrying with it all the thoracic and abdominal viscera and dragging down the trachea and larynx towards the thorax. A protrusion or *heave* of the anterior abdominal wall or, at all events, a felt *push* or *thrust* in the epigastrium takes place on each in-breath. Expiration is a mere elastic recoil not affected, or only trifingly so, by the abdominal muscles which have almost completely lost their power, and sooner or later undergo passive distension with the rest of the structures of the anterior abdominal wall. There is thus in belly breathing, as compared with back breathing, increased compression and irritation of the soft tissues squeezed between the heel of the bezel of the cricoid cartilage and the vertebral column.*

5. On further extending investigations from throat areas to areas of predilection for origin of cancer elsewhere in the body, it will be found that (if not exposed to special extrinsic, though probably non-specific, irritation) they are such sites as have to bear the brunt of the effect of the same excessive intrinsic mechanical forces referred to above. I will merely mention areas of attachment, pressure, flexure, and friction (cardia of stomach, splenic and hepatic flexures, caecum, and sigmoid). At such places the mechanical effects of stretch and pull, due to the resultant action of flatulence, peristalsis, and belly breathing, are likely to be especially intense, and in such places cancer is most common. Likewise areas of irritation, cervix uteri and rectum, which move freely in all belly breathing against faecal accumulations and tip of coccyx respectively. Further detail is not possible on the present occasion.

6. It is universally recognized that extrinsic irritants, such as soot, clay pipe, tar, paraffin, chronic microbial colonies of any kind, *x* rays, inflammatory changes after a blow, or in an old scar, may be local irritants. I have mentioned as intrinsically arising sources of mechanical force abnormal action of the equilibrium and respiratory mechanisms, flatulent distension, elastic recoil of tissues, peristalsis, energy of muscular movements. I should like to add those due to osmosis of fluids, blood pressure, and even the play of expression in emotions. In quadrupeds, perhaps, mechanical forces other than the equilibrium mechanism and gravitation are more potent, but the effect of the respiratory mechanism is probably always considerable. Thus, domesticated animals like pet dogs and cats, which get fat and become belly breathers, appear to become more liable to cancer than similar animals living in a wild state or kept in good training. It is still unsettled whether extrinsic local irritants alone can produce cancer directly without a preceding "primary constitutional cachexia." The local factor may be great and the constitutional small, or vice versa,[1] but can a local irritation of extrinsic origin initiate cancer in a back breather?

7. In order for a local cell overgrowth to become cancerous—that is, invade or penetrate—there is necessary, not only the local irritation, but also (as has been so convincingly argued by Sir James Paget) this primary cancerous cachexia. This view has been confirmed by most clinical observers, especially by those who have known intimately cancerous subjects from early youth to death from cancer in middle age. It is true that this cachexia may be obscure, variable in degree, and indefinite in character; but if one looks back on one's early recollections of those who have died twenty-five years later of cancer, one cannot help acknowledging that there was in most of them, even at that remote period, a tint of skin, a breathlessness, or a posture, which, in the light of later experience, suggest a cachectic state or constitution. It is necessary to examine how the above association may arise. My interpretation is as follows: Backbone breathing demands that the body shall be placed and held in the best possible position in the years of youth and growth to secure the most perfect adult form—that is, the efficient machine. It has been proved by physiological measurements on a large number of trained vocalists, that the quantity of tidal air is 10 per cent. more in thoracic or costal breathing, on the average, than in abdominal respiration.[2] Hence the respiratory process is more adequate; oxygenation and elimination are alike promoted, and all the vital fires burn bright. Moreover, the circulation of the blood is favoured both by stronger thoracic aspiration of blood from the inferior vena cava (on inspiration), as well as by active muscular compression of the abdominal viscera (on expiration), forcing on the blood in the splanchnic area. The chyle and lymph are similarly sucked and squeezed into the thoracic duct, and thence into the blood stream, to enrich its quality and compensate for used-up supplies. The vigorous circulation of highly oxygenated, purified, and enriched blood through the organs of the splanchnic area can only promote to the highest degree the perfection of the digestive processes and the elaboration of those subtle complex and higher products of anabolism which are required all over the body for the perfect performance of the vital processes of the constituent cells. I mean the ferments, internal secretions, alexins, opsonins, etc. There is no intestinal fermentation, flatulence, or toxaemia. Hence the nerve and muscle elements, being bathed in a stream containing all the essential elements for perfect nutrition and action, as well as the other cells and tissues of the body, a high standard of general nutrition and health exists.

On the other hand, in belly breathing, while the respiratory capacity is smaller, the aspirating power of the collapsed and sluggish thorax is less, and the muscular contraction of the abdominal wall nil. The blood hence tends to accumulate and stagnate in the splanchnic area. The abdominal viscera being now supplied with sub-oxygenated, imperfectly purified, and stagnant blood, cannot perform their digestive functions, metabolic changes, and elaboration of ferments to full efficiency. Hence a state of chronic intestinal decomposition, flatulence, and toxaemia, which soon produces impaired nutrition and vitality, manifested by bad tint of skin, shortness of breath, slackness of figure, and lack of tone, in spite of obesity. There is indeed a real constitutional cachexia, and when long standing, extreme, or advanced such a state is hardly differentiable, if at all, from "primary cancerous cachexia." It is notorious how difficult or impossible it is to decide clinically whether marked states, such as this, in a given patient are to be regarded as aggravated dyspepsia or as early cancer, when no tumour is yet to be distinguished. It is also most highly suggestive that the latest chemical researches on the blood and tissues in cancer show just such derangements as might be expected from such chronic stagnation in the splanchnic area as must occur in bad forms of belly breathing. I will mention a few examples:

(*a*) Absence or diminution of hydrochloric acid in gastric juice (Mlootz).

(*b*) Absence or diminution of liver ferments in cancerous animals, as compared with healthy animals (von Leyden, Bergell, Stricker, and Lewin†).

(*c*) Excessive alkalinity is one of the chief features of the body fluids in cancer (Moore). In aggravated dyspepsia mineral acids often give the greatest relief. Are the body fluids of such advanced dyspeptics too alkaline? The determination of this might help us.

(*d*) The blood of cancer patients contains irritating alkaloidal substances of such act as excitants to leucocytes (Macalister and Ross). In chronic dyspepsia irritating toxins are not uncommonly absorbed from the alimentary canal, causing effusion of leucocytes and lymph into the skin, suggesting irritative poisoning of either leucocytes or vessel walls.

(*e*) Imperfect elimination of nitrogenous matter (gontiness) and of fats (obesity) are common when there is stagnation in the portal area, from overeating and insufficient exercise. In my experience—and I believe it is a general one—both gontiness and obesity are common forerunners and companions of cancer, as would be expected if my theory is correct. It is further supported by the laboratory fact that the chief chemical peculiarity of cancer cells is the storage of glycogen—suggesting that suboxygenation and imperfect elimination of carbohydrates exists. My authority *re* glycogen in cancer cells is Brault, quoted by Powell White.

(*f*) While in charge of the Throat Department at St. Mary's Hospital, several cases of cancer of the throat were studied by Sir Almroth Wright and myself. He determined the opsonic index of the blood with reference to *Bacillus neformans*, and treated with injections of a vaccine made therefrom as a therapeutic agent. This was tried in consequence of this organism having been held to be the specific cause of cancer, to which the

* In another paper by the author, published at page 673 of our issue for September 11th, 1909, will be found engravings illustrating his conceptions of the mechanism of respiration and the views here stated.

† They concluded that the normal organism contained a specific hydrolytic ferment, deficiency of which permitted the growth to increase.

blood resistance was deficient by reason of absence of certain obscure protective substances. One case received great benefit; at least two others appeared to receive temporary benefit, and five or six others (either hospital or private patients) no benefit at all. All were cases which were quite inoperable, or for whom surgery had done its utmost. No case was cured. The conclusion we came to was that the vaccine only relieved some of the secondary infective processes of the cancerous growth, but had no influence on the latter itself. I am justified in concluding at all events from these observations that the blood of cancerous patients is at all events deficient in certain substances which should protect the organism from bacterial invasion. I should, however, mention that all these were advanced cases of cancer in which a secondary cachexia might have been produced by the growth, and therefore not a feature necessarily of primary cachexia.

(g) *Toxicity of Cancerous Extracts.*—At a recent meeting of the Society of Biology of Paris, Madame Girard Mangin showed that toxic substances were present in cancerous extracts obtained from tumours which had not undergone suppuration, and were treated aseptically. Animals which did not yield at once to their action became ill, and died in a state of profound anæmia without appreciable lesions.

8. The balance of evidence appears decisive, to those best qualified to judge, against cancer being due to any specific extrinsic parasite or microbe. I have myself studied the appearances of forms stated to be the parasites of cancer. They are certainly remarkable, but experts tell me they are capable of other and more probable interpretations. I am myself adverse to any hypothesis of a parasitic origin for cancer, in that the natural history of the disease is so widely divergent from all other parasitic diseases. To my mind cancer is a biological syndrome or symptom complex which may be caused without any extrinsic specific parasite or irritant, by intrinsically arising mechanical forces, which are excessive in degree when the muscular mechanisms of the body, and especially those of equilibrium and respiration, are chronically used other than to maximum or, at least, very high efficiency. In such cases the increased friction, stress, strain, compression, etc., lead to mechanical irritation and undue stimulation of cell growth, the power expended unproductively being transformed into the energy of cell-growth and multiplication. This is the local irritation factor. This alone is not cancer. Now the very same low efficiency use of the muscular mechanisms (especially those of equilibrium and respiration) which have caused local irritation (much power lost and wasted in doing internal work), also result in impaired oxygenation and purification of the blood, defective aspiration and compression of the blood out of the portal area, and a general state of splanchnic stagnation, intestinal toxaemia, and non-elaboration of essential internal secretions, alexins, opsonins, and ferments. Perfect cell tissue and blood vitality is impossible. Thus arises a *cachexia*, which may precede or follow the local epithelial proliferation. Until both epithelial proliferation and cachexia are at work there is no cancer; the biological syndrome is not yet complete. When *both* are at work each process reacts on and intensifies the other. Each manufactures its own poisons in ever-increasing bulk, and so the biological syndrome advances to the fatal end. Such is the view of the nature and origin of cancer that I have been led to form. I believe it is new. It is not impossible that some one may have wildly hazarded as a shrewd guess, or a pious opinion, that breathing, or bad postures, may be connected with the production of cancer. So has every other thing under heaven. But I do not think that such a statement has ever been seriously examined, much less supported by a chain of arguments, in agreement with the experimental and clinical facts of the disease, and forming a logical and consistent interpretation of the natural history of the disease, such as I have now attempted to outline in the briefest and most imperfect way.

The next point in my paper is that of early diagnosis of the disease in the throat areas. With reference to early diagnosis, the *Lancet* in a leading article (p. 1617, June 5th, 1909) has stated: "It would be far better that even a large number . . should seek medical assistance unnecessarily in the fear that they may have cancer, than that, as happens at the present time, a still larger number should delude themselves with the hope that the symptoms they are suffering from are of no importance." This opinion every experienced practitioner—and no one more than the throat specialist—will cordially endorse. Having for many years examined all chronic throat cases in adults from the point of view of the possibility of cancer, and having brought forward several doubtful cases and seen those of others at the Laryngological Society ever since its foundation, I am well aware of the difficulties and anxieties that so often beset suspicious lesions in the throat areas, although diagnosis and right course of action are as clear as daylight in other cases. The question of early diagnosis is brought forward in the present paper for two reasons: (1) The time appears to be now ripe for an extension of special vigilance in throat areas to other symptoms than that persistent hoarseness that is so conspicuous in cancer of the vocal cord area. Equal attention should be paid to other persistent chronic irritations in other commonly hidden regions of the throat. Pain, haemorrhage, soreness, burning, smarting, difficulty of swallowing, food sticking and going the wrong way, regurgitation, choking, and even our old friend "globus hystericus," for it is indeed quite possible for even an hysterical patient to have cancer or some structural throat trouble—if chronic in duration—should be relentlessly tracked to their source. (2) The recent development of endoscopy, especially in Brüning's oesophagoscope and bronchoscope, and of hypopharyngoscopy and also improved radioscopy, render it practicable for a modern expert to make a much more efficient and complete examination of the throat and gullet than was possible by merely looking down on the larynx with a laryngoscope and blindly using a bougie. By hypopharyngoscopy two-thirds of the back of the cricoid—formerly inaccessible to direct vision—can now be studied at one's leisure, and cancer there—or its absence—definitively proved. Again, with the oesophagoscope every bit of the oesophagus, in many cases down to the stomach—at all events, down to a stricture—can be explored with the eye, and the nature of such a stricture ascertained, so well as treatment, efficiently carried out by dilatation, radium, or other measures which may seem advisable to the expert. Similarly, the *subglottic* and *internal* aspect of intralaryngeal tumours can be peeped at, and if the appearances favour malignancy, such tumour can be completely excised at a much earlier stage than one would previously have been justified in urging a radical operation, such being easier and safer in proportion to the smallness of the growth. Personal experience has taught me, however, that the examination of malignant ulceration and stricture of the hypopharynx and upper end of the gullet is a very different matter to the examination of normal subjects, and sometimes in attempting to make a complete examination of malignant oesophageal cases referred to me by some of my surgical colleagues at St. Mary's Hospital, when I used only Killian's long tubes, I found it was not always possible even under general anaesthesia to do so without using force which I should consider dangerous. Brüning's shorter and extension tubes have enormously facilitated matters, and the increasing experience that is being acquired on all sides will greatly extend the value of oesophagoscopy. I still think that an irritable or stenosed or cancerous hypopharynx, or oesophageal mouth, at the lower level of the cricoid, demands great skill, and should be treated with a sense of great responsibility. Indeed, in those cases in which completeness of examination is most essential, the examination partakes rather of the nature of an exploratory operation under anaesthesia and should be approached as such by all parties concerned. This opinion may be punctuated by the fact that I am aware, on indubitable authority, of grave results having immediately followed oesophagoscopy in more than one case. These examinations, then, should not be undertaken in the light and airy way in which they have been written about, as mere easy trifles.

The fourth and last point with which I have to deal in this paper is the question of radical cure. In this country the technique of laryngo-fissure for intrinsic (vocal cord area) cancer has been perfected by Sir Felix Semon and Mr. H. T. Butlin, and recent results are equal to the best in the whole surgery of cancer. For success, however, the disease must be intrinsic, that, is still confined within the cavity of the larynx—the vocal cord area. My own personal experience of intrinsic laryngeal cancer is comparatively small, whereas my experience of cancers of the throat is unusually large. This paradox is explained by the fact that scores of cases of throat cancer are seen by hospital throat surgeons, to units in which

the disease is confined to the larynx. I have found it not at all unusual on first inspection of a hospital patient, to find the tongue, the throat, epiglottis, larynx, and gullet all deeply involved in cancerous degeneration. These more extensive and spreading cancers of the throat have on rare occasions appeared to justify an attempt to totally excise the invaded larynx and other affected parts. In combination with one or other of my surgical colleagues at St. Mary's Hospital such extensive operations have occasionally been performed at request of the patient as a last chance. The results were not successful, and for some years this class of case has been regarded as better left alone. During the last five years, however, under a new lead from Professor Glück of Berlin (with whom his throat colleagues cordially collaborated), complete extirpation of the larynx and affected adjacent parts of oesophagus, pharynx, tongue and secondary glands has been revived with remarkable success—a success due chiefly, it appears, to the trachea being brought out of the neck wound, and sutured to the skin after the method originated and carried out by Solis Cohen of New York. This procedure shuts off the air tract from the septic pharyngeal cavity, and the pneumonia which used to carry off the patient no longer occurs. Some of Glück's complete extirpation cases have lived for years, able to do their work. Two or three he has shown at the Laryngological Society of London, and five at the International Congress of Laryngology in Vienna in 1908. While laryngo-fissure and partial laryngectomies are, in my opinion, likely to be better performed by the laryngologist, these more extensive operations will usually require the collaboration of the general surgeon and laryngologist. This is the course that I commend and shall adopt in the future as in the past, since these massive operations require a technique of a different nature to that which the laryngologist is perpetually using. On the other hand, diagnostic refinements and therapeutic aids not familiar to the general surgeon are at the laryngologist's finger ends. These different "skills" can but seldom, if ever, be combined in one man, and the patient's interest and scientific advance indicate collaboration. By earliest possible diagnosis and earliest complete eradication of the local manifestation of cancer, to which I believe should be added the treatment of the constitutional cachexia and intrinsic mechanical sources of irritation in the light of the views enunciated by me, on the nature of cancer in the earlier part of this paper, I think we are within sight of a much higher proportion of successes than has existed up to the present time, in radical cure, that we have a new indication for the avoidance of "recurrences," and that prevention is not beyond the bounds of possibility.

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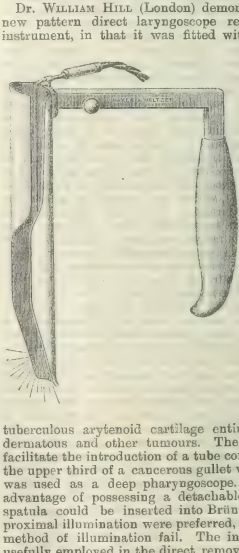
DEMONSTRATIONS.

I.—RADICAL FRONTAL SINUS OPERATION.

DR. WATSON WILLIAMS (Bristol) demonstrated on the cadaver the method of performing the radical operation on the frontal sinus and ethmoid cells which he had devised. He showed the different stages of the operation, and demonstrated the steps as he proceeded, pointing out the dangers of entering the cranium through the olfactory plate, and the means of avoiding them which his operation gave by giving a full view of the whole field and by keeping external to the upper attachment of the vertical plate of the middle turbinated body. The operation consisted in the formation of an osteoplastic flap, which was turned outwards to enable the interior of the nasal passage to be seen and treated accordingly. The ethmoidal cells could be removed, and no pockets were left without inspection, as in the case of Killian's method, and there was practically no deformity as a result. The first step was to take a radiograph of the frontal sinuses to see their extent, as they were entered from the anterior wall. The first incision was made through or immediately beneath the eyebrow, the corner end curving slightly downwards to the centre of the root of the nose. It should not go through the periosteum. This cut was subsequently prolonged vertically downwards in the middle line to the lower end of the nasal bone. The soft tissues were retracted and the periosteum incised and reflected as much as necessary to enable an entrance to be made into the frontal sinus at its inner and anterior aspect. As much as required of the anterior wall and floor of the sinus was then removed. The subsequent prolongation downwards of the incision at its corner end was then made, the knife being carried right through the periosteum to the bone, and at its lower end was pushed through into the affected side of the nose just external to the septum, and made to cut upwards as far as it would go, the remainder of the nasal bone being severed with a specially bent saw right on to the frontal sinus above. A slightly curved incision of about half an inch in length was then made through the tissues down to the bone, just beneath the inner end of the lower orbital margin of the same side, its inner end commencing just in front of the anterior lacrymal crest; the lacrymal sac was turned outwards, and an opening here made into the nose. By means of a bent probe-pointed saw or a Gigli this opening was connected subcutaneously above with the opened frontal sinus, and below, also subcutaneously, through the same opening the nasal process of the superior maxilla was divided. This freed the osteoplastic flap, consisting of the nasal bone, the nasal process of the superior maxilla, together with that small piece of the frontal bone which articulates with the nasal process of the superior maxilla. The facial artery which nourished the soft tissues of this flap was intact. The flap was then turned outwards, and the interior of the nose and the anterior ethmoidal cells were brought into view. These latter could be removed, also the posterior cells, and the sphenoidal sinus entered freely if necessary. The important point in these further proceedings was to keep external to the middle turbinal, a small portion of which should be left as a guide. The flap was then replaced, the bone fixed if necessary, and the operation concluded. A good forehead illumination was essential.

II.—A DIRECT VISION OPERATING LARYNGOSCOPE.

DR. WILLIAM HILL (London) demonstrated on a boy a new pattern direct laryngoscope resembling Jackson's instrument, in that it was fitted with a small lamp for distal illumination, as originally devised by Einhern. Its special feature was the largeness of the lumen, the cross-sectional area being nearly three times that in either Jackson's, Killian's, or Brünings's instruments. The increased calibre of the tube (really a slit tube) enabled large-sized forceps and other instruments to be employed within the larynx without obscuring the field of vision. It had been found possible, Dr. Hill said, to remove a tuberculous arytenoid cartilage entire, and large pachydermatous and other tumours. The lateral slit was to facilitate the introduction of a tube containing radium into the upper third of a cancerous gullet when the instrument was used as a deep pharyngoscope. It had the further advantage of possessing a detachable handle, so that the spatula could be inserted into Brünings's hand lamp if proximal illumination were preferred, or should the distal method of illumination fail. The instrument was most usefully employed in the direct removal of large growths under general anaesthesia, but, in spite of its bulk, the spatula could often be used under cocaine anaesthesia—a point sufficiently proved by the fact that its practicability was demonstrated on a youth of 17 only slightly cocainized. The illustration is half-scale.



III.—Hay's Pharyngoscope.

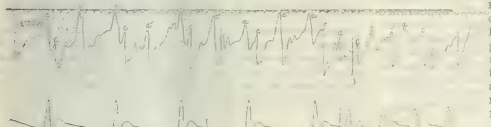
Dr. Bryson Delavan (New York) demonstrated Hay's pharyngoscope for examination of the posterior nares and larynx. The instrument was based upon the principle of a cystoscope, and consisted of a vertical shaft, which served as a handle, and a horizontal portion, which served as a tongue depressor, the distal portion of which contained a small lens and electric lamp, the light being conducted along this to a suitably arranged eyepiece in the manner of the cystoscope. The small lens could be rotated, so that any portion of the naso-pharynx or larynx could be examined. It was most useful for cases where the mouth could not be opened, or where the patient was lying in bed. Of course, it was of no service for operating purposes. It was made by the Wappler Electric Controller Company, New York.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE ORIGIN OF THE PRESYSTOLIC MURMUR.

In reference to the nature of the origin of the presystolic murmur the following observation has been made: A patient who has for a considerable time been under observation and treatment for mitral stenosis showed constantly in his venous curve a long *a-c* interval. During his last failure in compensation he was brought into hospital, where tr. digitalis was administered to him. After a period of about two weeks, analysis of his venous pulse curve together with his radial demonstrated that incomplete 2 in 1 heart-block had been produced. Auscultation at the apex revealed the fact that when the heart was beating regularly a presystolic murmur was always heard. During the periods when the ventricles



were silent the murmur corresponding to the presystolic murmur persisted, and was synchronous with the wave a^1 in the venous curve. It was clear that this auscultatory phenomenon occurred in a cardiac cycle in which there was a silent period of the ventricle, seen in the pulse curves. It seems justified to conclude that the auricle, which alone was beating, was responsible for the production of this presystolic murmur. Not only were the heart sounds wanting, but the systolic and diastolic murmurs which are features in the auscultatory signs in the case were absent in the cycles noted.

In the figure simultaneous tracings of the jugular and radial pulses are given. The uppermost line records intervals of one-fifth of a second. The waves *a* and a^1 represent contractions of the right auricle. The waves a^1 are not followed by waves *c*, nor are the waves *a* represented by a following radial pulse.

New York. Alfred E. Cohn.

ACUTE MYELITIS FOLLOWING MEASLES.

The patient, S. E. G., a boy aged 9 years, had been suffering from a febrile illness, with coryza and cough, followed by a blotchy eruption of face and body. There had been many cases of measles near his home. On the fifth or sixth day medical advice was sought on account of pain and weakness in the legs; he was unable to stand when helped out of bed, and, though he had been held up, had been unable for more than twenty-four hours to pass water.

When first seen he was lying on his back, with the legs partly drawn up, and the knees toward the right side. He was restless and irritable, with hurried respiration and frequent cough but no expectoration. The [illegible] rash, typical of measles, on his face and in his mouth, less on the trunk; Koplik's spots were not seen. The tongue was furred, the temperature was 101°.

The lower ribs did not move and the lower intercostal spaces were drawn in during inspiration. There were no signs of diaphragmatic paralysis. A few rhonchi and moist sounds were heard, more at the back and towards the bases. The heart was normal. The bladder was tense, reaching considerably above the umbilicus, and urine was slowly dribbling away. About two pints were removed by catheter, and the patient felt much easier, but still complained when any movement involving the left hip was attempted. The bowels were opened involuntarily; he usually knew when he wanted to pass a motion, but had scarcely any power to retain it. There was no girdle sensation, but almost complete anaesthesia over the greater part of the abdomen; the point of a pin could just be felt when used forcibly; knee-jerks and plantar reflex were absent, and ankle clonus was not obtained. There was complete paralysis of the lower limbs, except that he was able to move some of his toes very slightly. There was no sign of disease of the cranial nerves, and the upper limbs were not affected. Some redness was observed over the left sacro-iliac joint when first seen (he was often soiled by discharges), and in about thirty-six hours a bed-sore, 1 in. by ½ in., developed. The boy lived in a small cottage, and the nursing was at first very inadequate, but when carefully nursed later, on a water bed, the sore gradually healed.

He was catheterized for sixteen days, after which time he began to micturate normally. Improvement in movements of the toes was noticed twelve days after he was first seen, followed quickly by improvement in the intercostal paralysis, which gradually cleared up before the boy could move his legs. A month from the onset of paralysis he could walk a few steps when held up, and subsequently improved rapidly, until, a month later, he could walk and run, though his movements were rather clumsy. At the onset of paralysis the boy's lower limbs were flabby and slowly wasted, but improved gradually with the recovery of movements, until they ultimately reached their normal firmness. The boy made a complete recovery; there remained no tremor or incoordination, no cranial nerve trouble, or mental change.

Beyond the treatment already mentioned, the boy had electrical treatment for the bladder, abdomen, and lower limbs, and, as regards drugs, was at first given a mixture containing potassium iodide and compound tincture of cinchona in moderate doses, later nux vomica, and finally Easton's syrup.

The boy's family history was good, and there was no history of syphilis in either parent.

J. H. Bustead, L.R.C.P., L.R.C.S., L.S.A Lond., W. M. Sadler, M.D., B.S., M.R.C.S., L.R.C.P.

A CASE OF MYATONIA.

A girl aged 7 years was admitted recently into the Manchester Children's Hospital with flaccid paresis of all the limbs and trunk. The child lay helpless in bed and had not power enough even to sit up. All the muscles were very much wasted and very flabby, but she could just move each limb though with very little power.

According to the mother the child had been in this condition all her life, and had never been able to sit or stand up. The knee-jerks were absent, but the quadriceps muscle was so weak that this was not surprising; all the other reflexes were normal. The urine and faeces were held and passed normally. There was no spasm or ataxia, and the muscles reacted normally but weakly to electricity. Sensation was normal, including that to heat and cold. The sight was fairly good, and the discs, pupils and external eye muscles were normal. Mentally she was a fairly sharp child, but the head measured only 19 in. in circumference.

There was no history of any specific disease; she was the fourth child, and no relation had ever had any trouble like this. There was no spinal caries and she has never had any fits.

allied to Thomsen's disease, but presenting no rigidity of the muscles. I have to thank Dr. Hutton, physician to the hospital, for permission to publish the case.

HUGH T. ASHBY, B.A., M.B. Camb., M.R.C.P.Lond., Late Resident Medical Officer, Manchester Children's Hospital.

A CASE OF VERONAL POISONING.

A LADY aged 40 was found lying on her bed unconscious at 6.30 p.m. Her pulse was 104 and very feeble, the temperature normal, the pupils somewhat dilated; she was quite comatose, and died about 11 p.m. A *post-mortem* examination showed a white powder in the stomach, and, judging from the quantity and the number of tabloids that had disappeared from a small bottle found, she had evidently taken twelve to fourteen tabloids, each containing 7½ grains.

Brighton. H. HAVELOCK DAVIES, M.B.

MEAT BONE IN LUNG: RECOVERY.

ON March 19th, 1908, while eating lunch with me, a gentleman, who is accustomed to bolt his food, suddenly began to cough violently. The tears streamed down his face, but he was able to say, "I have swallowed a bone the wrong way." We were eating Irish stew in which were some pieces of bone. The patient left the room and lay down upstairs for a few minutes. He was able to go out afterwards, but did not eat anything at tea and very little at dinner. From this date a violent spasmodic cough, which was put down to bronchitis and emphysema, commenced. The cough continued, in spite of treatment, for eleven months.

Two or three consultations were held, but there were never any signs pointing to the presence of a foreign body in the lungs until the patient, who is 67 years old, caught a chill (?). His temperature became elevated on March 31st, 1909, and he developed symptoms of pleurisy and localized pneumonia on the right lower base. Expectoration was fetid, he lost flesh rapidly, had a hectic appearance and temperature, and, later, rusty sputum. However, when things looked serious, he suddenly coughed up the piece of bone, ½ in. long by ¼ in. wide, having sharp edges. After this the temperature at once fell, the pneumonia and pleurisy rapidly cleared up, and he is now enjoying his usual health except for a slight cough at times.

H. G. MALLAM, M.R.C.S.Eng., L.R.C.P.Lond.

Brighton.

DYSTOCIA DUE TO VENTRIFIXATION OF THE UTERUS.

I HAVE read Professor Cameron's paper on this subject in the JOURNAL of October 9th (p. 1036) with the greatest interest. He gives two cases of dystocia. Professor Jacob mentioned three fatal cases. I am in the unhappy position of being able to supply a fatal case of dystocia due to ventrifixation which occurred in my own practice. The following notes were made on my return from the Royal Victoria Infirmary:—Mrs. C., aged 34. Fifth pregnancy. Patient had had the operation of ventrifixation done at the Royal Infirmary, Newcastle, about five years ago. Pains began on September 13th, 1906, but did no good. She was kept comfortable with suitable doses of opium and chloral. The os was high up, but did not dilate till September 20th, when it was the size of a shilling and the membranes were protruding in a sausage-shaped bag. At 11 a.m. on September 21st the os was a little larger and the membranes were ruptured. At 11 p.m. the os was dilating, and cocaine was given, and at midnight I tried to use Milne-Murray's forceps, but could not get the second blade on. I telephoned for a colleague (being by this time pretty well exhausted), and I administered chloroform whilst he tried turning. Finding that to be quite impossible he tried to use forceps, and as this also was impossible he tried to perforate, and again failed. I then suggested Cæsarean section at the Royal Victoria Infirmary, Newcastle. She was taken there and the operation done by the surgeon who five years before had done the ventrifixation. The tubes were tied and cut at my suggestion. The uterine wall was œdematous and the cavity stained with meconium. The fœtus was macerated. The patient was September 22nd, 1906. She died of shock on September 23rd, 1906, forty-one hours after the operation.

Evidently, therefore, my case occurred over two years before those of Professor Cameron, and it made such an impression on me that I made a decision never to consent to a patient who might still have children having ventrifixation done without the Fallopian tubes being tied and cut at the same time. The condemnation of the operation by Professor Jacob is not at all too strong, and if it leads surgeons to discard ventrifixation in child-bearing it will have done good.

Gateshead-on-Tyne. W. SMITH, M.B., B.S.Durb.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

CASE OF SEVERE CANCRUM ORIS: RECOVERY WITH SLIGHT DISFIGURATION.

[Reported by CHARLES MCNEIL, M.A., M.D.Edin., House-Physician.]

History.

L. H., aged 4 years, was admitted on March 15th, under the care of Dr. J. A. Coutts. Never a robust child, she developed whooping-cough six weeks ago, and was much weakened by it. A week before admission she complained of sore mouth, and a number of small, white, shallow ulcers were found on the inner surface of the lower lip, and on the adjoining gum of the lower jaw. The breath was then offensive. Three days later the lower jaw was swollen on the right side, and here the outer surface of the gum was now black, and the teeth were so loose that two were picked out by the child herself. Two days before admission a small black spot was observed on the outside of the right cheek close to the corner of the mouth, and this slowly increased in size.

State on Admission.

A well-grown child, but much emaciated in body and limbs, and in a state of great prostration and cachexia. On the right cheek, just external to the angle of the mouth, was a black spot the size of a shilling, covered with a loose blister of clear brown fluid. This was surrounded by a broad ring of induration, and a wide flush of redness. On the inner surface of the cheek was a corresponding spot, black and gangrenous. A large part of the outer surface of the right lower jaw was bare, and the two molar and the canine teeth on that side were gone. The pulse, 140, was small and feeble, respirations 32, temperature 97.6° F. At intervals there were severe paroxysms of whooping-cough. Crepitations accompanied the breath sounds at both bases, but there was no pneumonia.

Treatment and Progress.

An hour after admission the sloughing gangrenous tissue was scraped freely away by Dr. J. S. Pearson, R.M.O., leaving a clean-cut circular hole in the cheek 1 in. in diameter. Cultures from the gangrenous material gave a pure growth of *Staphylococcus aureus*. To the raw surfaces of the cheek and lower jaw pure carbolic acid was applied. The mouth was frequently washed out with hydrogen peroxide 10 vols. and chinosol solution 1 in 1,000. The child was freely stimulated with alcohol, and tinct. opii mij was given every three hours.

There was no further application of corrosive acid to the raw surfaces. But opium was continued in the above doses for four days. It was then discontinued because of vomiting and irregularity of pulse. During this time and subsequently the raw surfaces in the cheek and mouth remained clean and smooth, without further ulceration or necrosis. On the day after admission a large area of bare necrosed bone on the outer side of the left lower jaw was

found, and the two molar teeth here were absent. To this no application of pure carbolic acid had been made.

The child remained in a precarious condition for several days. She then slowly improved, and in a week was sitting up and taking solid nourishment. In a fortnight the hole in the cheek began to contract, becoming elliptical and dragging down the lower lip on the right side. Five



Fig. 1.—Skiagram of lower jaw, showing loss of bone.

weeks after admission the necrosed portions of the lower jaw had separated on both sides, and were easily removed. Both involved the whole thickness of the bone; that from the right side was 1 in. long by ½ in. deep; that from the left was 1 in. by ½ in.

On her discharge a week later the aperture in the cheek had shrunk to a small fistula only admitting a probe. After three weeks she returned to hospital for operation to relieve the slight eversion of the lower lip. The aperture in the cheek was then entirely closed, and only a small puckered linear scar remained. With the exception of this and the slight distortion of the lower lip, there was a welcome absence of disfigurement.



Fig. 2.—Photograph after recovery, showing cicatrix.

Remarks.

The case seems worthy of record. Recovery from cancrum oris, where there is total perforation of the cheek and extensive involvement of bone, is not frequent. Recovery in such cases without dreadful disfigurement is rare. The happy result in this case may be attributed to the vigorous local treatment by sharp spoon and corrosive acid, and to the powerful influence of opium in checking and healing severe ulcerations in the mouth. I am indebted to Dr. Coutts for permission to report the case.

The National Medical Academy of Mexico has offered prizes to the amount of £1,500 for work on typhus fever. Of this sum £1,000 will be awarded to the discoverer of the actual cause of typhus, or of a curative serum; and £500 to investigators whose work is judged most useful in helping towards such discovery. The competition is open to the whole world. Essays, which must be in Spanish, will be received up to February 28th, 1911.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, October 11th, 1909.

Samuel West, M.D., F.R.C.P., President, in the Chair.

Presidential Address.

The President, in his address, dealt with the relation of medicine to the ancillary sciences. He first detailed the work entailed by the medical curriculum of the present day, and then asked, How could all that work be compressed within the five short years of student life? Only, it was clear, by so arranging and mapping out the time that the student might not waste a moment, for he had not one to spare. His whole time was spent in rushing from one subject to another, from one place to another, as he was directed by his teachers, with hardly time to think, and certainly without leisure to digest and properly assimilate what he had been taught. Even then five years was all too short and many students required longer even for the pass examination. With such a hurry-scurry, with so much to do and so little time to do it in, the medical teaching of the present day was, and must be, an organized system of cramming. Cramming was not education. To cram was not to learn. Stuffing might make Strassburg geese; *pâté de foie gras* had a commercial value, but a fatty liver was a disease even in a goose. To be always fed with predigested pap injured the vigour of the animal. The medical student of to-day was largely spoon-fed. If he remembered all he had been stuffed with he would be a monstrosity fit only for a museum. If it were not for his natural robustness of body and mind, his general common sense, his hard work, and the splendid powers of forgetting which he shared with other men, the curriculum would ruin his mental constitution. After all, the end and aim of all this work was to make the student a practical doctor, an object which too often seemed to be lost sight of in the controversies of rival educationalists. So much time was spent in preparing the student to be a doctor, that there was little or none left to make him one. What, then, was the remedy? Obviously to cut down the curriculum until the work required was not more than could be accomplished by the average man in the time allotted to each. Each preliminary subject must be pruned, and all that was not essential ruthlessly cut out. The object was to make a man a doctor, and the doctors themselves were the best judges of what was necessary for that purpose. At present the teachers in each preliminary subject had been allowed to prescribe what they considered necessary for an elementary knowledge of the subject; each had added a little to the mass until the total burden was too great for any but the strongest shoulders to carry. The burden must be lightened. Pathology might be studied in the laboratory by the pathologist, so-called, or in the wards by the physician or clinician. Their objects were the same. They each investigated the problems of disease; their difference was not one of subject or of method, but only of place of study. The pathologist had the advantage that he could determine beforehand the investigation he wished to make, could invent his own experiments, which he could perform at his own time and in his own way—chiefly, of course, upon animals and in his laboratory. The clinician studied morbid man and not animals, could not select his own experiments, but must take them as they came and when they came, and the clinician's workshop was the ward. Clinical investigation in the wards was as much a science as pathological investigation in the laboratory. The same faculties were required in both pathologist and clinician, the same care and skill in observation, the same scientific use of the reason and imagination to create his theories, and the same judgement in putting his theories to the test. Each was the necessary complement of the other. The theories of the clinician must be taken to the pathological laboratory and worked out there, while the theories of the pathologist, so far as based upon the observations upon animals, could not be accepted as applying to man till they had been tested and checked in the wards. Medical science was not confined within the walls of the laboratory

To call treatment based on laboratory experiment rational and scientific, and that based on bedside experience empirical, implied a difference which did not exist, and would seem to suggest that clinical observation was neither rational nor scientific. Yet the same care and skill in observation were required in either case, and the difficulties to be surmounted were much greater in the wards than they were in the laboratory. The treatment of symptoms was often disparaged as essentially unscientific, yet surely if you could not cure the disease but could relieve its symptoms it would be irrational not to do so, though the reason of the relief given were not known. Symptoms were disorders of function produced by disease. The terms "rational" and "empirical" should be dropped as suggesting undue assumption and unworthy disparagement. Recently the bacteriologist had entered the domain of therapeutics with antitoxic serums and vaccines. Prepared, as those remedies must be, in special laboratories, it was only in the wards that their true value could be determined. The results were sometimes striking, but often the promises of the laboratory failed to be realized in the wards. He knew that it was stated that those remedies did no harm and might be used indefinitely with advantage. It would be strange if remedies so powerful for good were incapable of doing harm. It would be unwise to let the enthusiastic physiologist, bacteriologist, or pharmacologist run loose in the wards without the advice and controlling influence of the clinician, and it would, he thought, be risky both to science and to the patient. The proper position of each of the ancillary sciences was side by side with medicine. They must all work loyally together in a common search after truth. But if one must be pre-eminent it was surely medicine, which had the right to pre-eminence as the parent of them all.

The meeting concluded with the reading of a paper by Mr. Hugh Lett on two cases of perforation of the small intestine.

ROYAL SOCIETY OF MEDICINE.

Clinical Section.

Friday, October 8th, 1909.

A. Pearce Gould, F.R.C.S., in the Chair.

Radium Treatment.

Dr. N. S. Finzi and Dr. Ernest H. Shaw communicated a report on the case of *Carcinoma of the breast* shown to the society on May 14th, 1909. The patient was a woman, aged 78, who had her breast removed by operation in 1906. The disease recurred beneath the scar, and the axillary glands became enlarged. It was then treated with *x* rays with temporary improvement. On March 10th and March 12th, 1909, she was given two long exposures to the rays of 50 mg. of radium bromide filtered through a thin silver tube. This was followed by another exposure on April 29th, 1909, a screen of lead 1 mm. in thickness being used in addition to the silver. The first two exposures were excessive, and caused small but troublesome burns. The tumour and enlarged gland, however, disappeared, and at the time of her death were not palpable. She was admitted to the German Hospital with a strangulated umbilical hernia, and died on July 15th, 1909. At the *post-mortem* examination the whole of the mammary and axillary subcutaneous tissues was removed, together with the portion of skin affected by the burns. The sites of the breast tumour and axillary swellings were seen to be occupied by two thin irregular sheets of fibrous tissue; no definite nodule of growth could be distinguished in the fibrous masses, but at the edge of the larger mass two small ovoid bodies about 1 cm. in length were found, which felt like pieces of hardened fat. There was no sign of any growth in the mediastinum, but there were several nodules about 1.5 cm. diameter in the liver. There were two whitish raised patches, about 1 cm. diameter in the mucous membrane of the stomach. The kidneys, spleen, and other organs appeared to be normal. The authors of the report considered that the microscopical sections admitted of two interpretations—one that most of the cells of the growth had disappeared as a result of the radium treatment, but a few remained and afterwards began to multiply, some of them passing on to the lymphatic glands and liver; the other that the growth was still being absorbed locally at the time of the patient's death. In favour of the first suggestion were the facts that the carcinoma cells, thickly packed in the fibrous tissue, were well stained and were "creeping" along, as it were, the fibrous septa into the surrounding fat; here they were not surrounded by fibrous tissue. Also the growth in the lymphatic gland was apparently recent, and there was no thick fibrous tissue. The liver nodule also had very little fibrous tissue between the cells. The authors believed that if further treatment had been given it might have completed the process of absorption of the growth. The condition of the skin due to the burns, however, rendered further treatment inadvisable.

Pigmentation in Pernicious Anaemia.

Dr. H. D. Rolleston showed a case of pigmentation of the mouth in pernicious anaemia. The patient, a male aged 25, was admitted July 19th, 1909, for diarrhoea, anaemia, and enlargement of the liver and spleen. There was marked freckling of the lower half of the face, especially around the mouth. The lower lip presented inky pigmentation along the line of contact towards the angles of the mouth. On the oral surface of the right cheek there were one large and four small pigmented patches, and on the mucosa of the left cheek two similar pigmented patches. The patient had not taken arsenic. Sir Dyce Duckworth considered there might be some connexion between the freckling and the pigmentation in the mucous membrane. In reply to Dr. Parkes Weber, Dr. Rolleston admitted that it was impossible to deny that there was a resemblance between the freckling in the case exhibited and an incomplete form of xeroderma pigmentosum.

Removal of both Maxillae.

Mr. Albert Carless showed a man, aged 49, from whom he had removed both maxillae for so-called fibro-cystic disease. The patient had continued well after the operative treatment for twelve months, and was free from any signs of recurrence. He had been fitted with a plate carrying teeth, secured to the tissues in the roof of the nose by three rubber suckers. He could masticate soft food and smoked a pipe, and complained of but little inconvenience.

Calculi in Meckel's Diverticulum.

Mr. James Sherren described a case of Meckel's diverticulum containing calculi, and producing symptoms of abdominal colic. The patient, a man aged 38, was admitted to the London Hospital on May 10th, 1908, with the following history: In November, 1907, he had a severe attack of abdominal pain which his medical man considered to be due to gall stones. He was said to have passed gall stones in his motions a few days later. In March, 1908, there was history of a sudden onset of pain in the right iliac fossa described as "grinding" in character, and accompanied by vomiting. Pulse and temperature were normal on admission, and deep tenderness existed at McBurney's point. He was sent to a convalescent home and returned with another attack. On April 29th he had a sudden attack of pain which doubled him up. On May 16th the exhibitor opened the abdomen in the right iliac region, and at once felt a bladder full of stones. On bringing it outside the abdomen its nature was at once evident. It sprang from the antimesenteric border of the ileum, at its commencement being the same size as the ileum from which it sprang, dilating at its free extremity. The termination of the superior mesenteric artery ran in a fold of peritoneum along its anterior surface. It was quite free from adhesions. The specimen measured in the fresh state 4 in. in length, and was partially closed an inch from its attached end by a valvular fold of mucous membrane. Below this point it was filled with irregular brownish calculi, which were very brittle. Analysis showed them to be composed of cholesterin, bile pigments, and calcium oxalate. The patient made an uneventful recovery.

Rheumatoid Arthritis.

Dr. E. I. Spriggs showed a case of rheumatoid arthritis with enlargement of glands and spleen in a farm labourer aged 16. The trouble began at the age of 10. On admission to hospital four weeks previously the interphalangeal joints, both distal and proximal, of fingers and thumbs were red and enlarged, but the redness had since disappeared. The elbows, wrists, knees,

and ankles were uniformly enlarged. The lymphatic glands were enlarged. The spleen extended about 1 in. below the left costal margin. The urine contained a small quantity of albumen on admission. The author looked on the case as one of infective rheumatoid arthritis. Dr. A. E. Garrod observed that in regard to the cases described as examples of Still's disease he considered that similar cases do occur more rarely in adult life. The differences in the clinical picture exemplified the influence of age on a type of disease. Dr. Rolleston gave details of a case in an adult he had seen before Dr. Still brought forward his cases. Sir Dyce Duckworth thought the cases of Dr. Still were possibly a blend of struma with the so-called arthritic or rheumatic habit of body.

Papers.

Sir Dyce Duckworth read notes (1) of a case of gout with large tophaceous deposits, in a Mohammedan; (2) of a case of gout with uratic tophi, in a boy aged 14, for which he was indebted to Dr. Alder Smith, Medical Officer of Christ's Hospital. Dr. W. P. Herringham read a paper on two cases of pneumonia with considerable displacement of the heart simulating pleural effusion.

Reviews.

SEMMELWEIS'S PLACE IN THE HISTORY OF MEDICINE.[1]

The reduction of the female population of Vienna by means of puerperal fever was not one of the objects of the Congress of Vienna in 1815, and yet it was one of the things which it accomplished. Metternich, as is known, made it his business at that Congress, so far as he could, to re-establish in their old places all the petty courts, courtiers, princes, grand dukes, and aristocracies which had been toppled over by the mighty hand of Napoleon. The results of Metternich's policy may be judged by the famous speech of the late W. E. Gladstone, in which (not being then in office) he defied anyone to put his finger on a single spot in the map of Europe, and say, "There Austria did good." It may seem a far cry from the Congress of Vienna to puerperal fever, but there was a direct connexion. Metternich's policy delivered the Vienna hospitals over to the rule of obscurantist reactionaries; and the teaching appointments, instead of being filled by able men, were handed as gifts to the sycophants of courtiers and priests. In 1815 the Chair of Midwifery in Vienna was filled by Boer, one of the greatest obstetricians of his time. But, in 1822, court and clerical intrigues succeeded in ejecting him, and putting in his place Klein, a dull, stupid, and jealous man. This was why, although in 1848 Semmelweis discovered and demonstrated how puerperal fever could be prevented, yet his methods were not accepted, and the population continued to be thinned by puerperal fever, until the radiant splendour of Lord Lister's discoveries made it impossible for the authorities to shut their eyes and avoid the light any longer. In 1848 there were revolutionary outbreaks all over Europe. Semmelweis was associated with these attempts in Hungary. It is said that he entered the lying-in room to attend Frau Hebra in childbirth dressed in the uniform of the revolutionary legion. The result of the movement was to ruin the Semmelweis family and confirm the reactionary Klein in his position. Among the visitors to Vienna while Semmelweis was putting his principles into practice was the late Dr. C. H. F. Routh of London, who drew attention to Semmelweis's doctrine and its practical results in a paper published in vol. xxxii of the Royal Medical and Chirurgical Society's *Transactions*, 1849. Michaelis of Kiel followed out Semmelweis's instructions, with the result of almost annihilating puerperal morbidity. Among his own countrymen Semmelweis had the support of Hebra (who compared his discovery with that of Jenner), of Haller, and of Skoda. But Klein opposed him, procured his removal from his post as assistant in the clinic, and prevented him from being allowed to teach as a *Privat docent*. Stupidity slew free research.

Sir W. Sinclair's book, *Semmelweis, His Life and His Doctrine*, is a history of the tardy reception of the opinions of the reformer in the different regions of the civilized world. This slow adoption of his doctrines was due largely to Semmelweis himself. He could not be induced to attend a German medical society and expound his views. Sir W. Sinclair does not speculate as to why. We have no facts to go on; but we may be pardoned for a guess that Semmelweis, a Hungarian, who habitually wore the Hungarian dress, probably thought, and in his family circle spoke, in the Magyar tongue. His disinclination to address a German audience may have been due to want of fluency in the German language. Then his controversial method was not that of persuasion; on the contrary, he was given to violent abuse of those who differed from him. They may have deserved it; but it was not the way to alter their opinions. His great work on the etiology, the nature, and the prevention of puerperal fever, in the German language, was not published till 1860.

It is interesting to examine the causes why Semmelweis's discoveries were not accepted. First we may mention that Semmelweis only arrived gradually at his conclusion. His first discovery was that puerperal fever was caused by infection from a dead body. Afterwards he extended this conception and came to see that puerperal fever might be caused by any kind of decomposing organic matter. But his opponents, whether from ignorance or (as Semmelweis thought) from malice, persisted in representing that he taught that puerperal fever was due to cadaveric infection; and that his views were completely refuted if they could point to cases of puerperal fever arising where there was no possibility of infection from a dead body. Another cause was the loose way in which the word "erysipelas" was, and is, applied to two different conditions—erysipelas of the skin, often spoken of as erysipelas of the head and face, a comparatively trifling disease which usually ends in recovery, and erysipelas of the cellular tissue, which is often fatal. Bacteriologists, we believe, are not yet agreed whether the erysipelas coccus of Fehleisen, which produces erysipelas of the skin, is or is not the same organism as the streptococcus which produces erysipelas of the cellular tissue. Virchow saw the identity of some cases of puerperal fever with erysipelas of the cellular tissue, and therefore spoke of such cases as "*erysipelas malignum internum*." Many medical men were not aware that erysipelas of the skin was clinically different from erysipelas of the cellular tissue, and that it might affect lying-in women and newly-born children, and be in them the same slight illness that it is in other people, and end in perfect and complete recovery. The effect of this confusion was that if a case of erysipelas of the skin could be heard of as having occurred near a lying-in woman, that was taken to be sufficient explanation of puerperal fever. Another condition which made judgement difficult was the frequency of erythematous rashes and of emotional temperatures in lying-in women. This led some people, when they saw a lying-in woman with an emotional temperature and an erythematous rash, to think that they had to do with scarlet fever, modified in some mysterious way by the fact that the patient was a puerpera. If the next woman that the doctor saw died of puerperal fever, that also was scarlet fever, made malignant by the puerperium. This fog has been for ever we hope blown away by the accurate observations of Boxall, who has shown that the symptoms and course of scarlet fever are exactly the same in a lying-in woman as in any one else. Another cause which retarded the general acceptance of Semmelweis's views was the progress of sanitation and the importance attached to proper drainage. When a doctor neglected or was ignorant of antiseptics, and so let his patient be infected, it was a great comfort to call in an expert who would assure the friends that neither the doctor nor the nurse was in the least to be blamed; it was the drains. The late Dr. Cullingworth, in the opinion of Sir W. Sinclair, overrated the work of Oliver Wendell Holmes. Had Semmelweis possessed the literary genius of Holmes, his discovery, Sir William thinks, would have been universally accepted within twelve months. Space forbids us to comment further. The book is a great chapter of history graphically told. We thank Sir William Sinclair for it.

[1] *Semmelweis, His Life and His Doctrine: a Chapter in the History of Medicine.* By Sir William J. Sinclair, M.A., M.D., Professor of Obstetrics and Gynæcology in the University of Manchester. Manchester: At the University Press. 1909. (Roy. 8vo, pp. 379. 7s. 6d.)

INTERPRETATION OF SYMPTOMS.

THE tendency of modern clinical medicine to look to the laboratory for diagnostic aid, has to some extent diverted attention from the lessons to be learnt from the close examination of the patient. Dr. JAMES MACKENZIE in his recent work on *Symptoms and their Interpretation*,[2] has put forward a record of careful observation and thought, which deserves the attention of practitioners of medicine of every degree.

The working of the living body is, and must always remain, to some extent a mystery, and absolute proof of all its mechanism is unattainable. A working hypothesis is needed, and, as the author himself points out, such a hypothesis may be faulty in itself and yet prove of value as a stepping stone to further discovery and knowledge.

The thesis which occupies the work before us deals with the process by which the recognized symptoms of certain forms of visceral disease may be produced. The nomenclature inherited from teachers of a bygone period still permits of such clinical description as a "tender liver" or a "painful gastric ulcer," in spite of the abundant evidence afforded by modern surgery that these organs are insensitive. That the hepatic region may be tender on deep pressure and that superficial hyperalgesia may be found in association with gastric ulcer is obvious to all, but the exact means by which these symptoms are brought about is not quite so easily determined.

Dr. Mackenzie devotes the earlier chapters of his book to a close examination of the evidence upon which he rests his view that impulses may be conveyed from disordered viscera by way of the afferent visceral (sympathetic) nerve fibres to centres in the cord. The centres thus excited send corresponding motor and sensory impulses to the muscles and to the skin in relation with the diseased organ, and these he terms viscero-motor and viscero-sensory reflexes. Thus there may be produced contraction, and even painful contraction, of muscle associated with hypersensitiveness of the skin. He also suggests that the excitation of one centre in the cord may be communicated to other centres adjacent to it, and that muscular contractions and tenderness may be set up in regions supplied by efferent nerves emanating from such irritated centres.

While giving due weight to the writings and observations of other workers in the same field of study, the author relies mainly upon his own clinical experience to supply the illustrations of his theory. In many respects his results are in accord with those of Dr. Head, but, like many other clinical observers, he has not been able to define the areas of superficial tenderness described by Dr. Head with any approach to the certainty originally claimed for them.

In successive chapters Dr. Mackenzie examines the symptoms produced in various disorders of the abdominal and thoracic viscera, and points out the way by which his theory of viscero-motor and viscero-sensory reflexes may be utilized in the diagnosis of obscure cases. Without making undue claims for his theory, and fully recognizing the limitations of its application, he presents a case which compels attention. In dealing with the pains of pleurisy, he admits the difficulty of determining the nerve supply of the membrane, and can only draw an inference from the analogy of the peritoneum, but he attributes much of the deep thoracic pain, such, for instance, as that associated with angina pectoris, to the viscero-motor reflex giving rise to painful spasm of intercostal muscles.

Dr. James Mackenzie writes with a long experience behind him, and his work bears the stamp of the bedside as well us that of the study. Its teaching is in full accord with that of some of the French schools, where a reaction in favour of accurate clinical observation has succeeded to the wave of chemical and microscopic methods which has of late years somewhat overwhelmed the older system of diagnosis. We can cordially commend the book to the notice of the younger physicians and teachers of to-day, in respect not only of the thesis which it endeavours to prove, but also of the close and careful study of the actual phenomena of disease which have been made to yield information too often missed by the over-confident observer.

[2] *Symptoms and their Interpretation.* By James Mackenzie, M.D., M.R.C.P., Physician to the West-End Hospital for Nervous Diseases, London. London: Shaw and Sons. 1909. (Demy 8vo, pp. 317.)

COMPENSATION FOR INJURY.

THE work by Mr. E. T. H. LAWES on the *Law of Compensation for Industrial Diseases*[3] is one of a type which is likely to appear with increasing frequency. There can be no doubt of the utility of such a book, particularly to lawyers. Many of the problems evolved under the Workmen's Compensation Act which have called for solution are dealt with in a clear and lucid style. While the work will appeal mostly to members of the legal profession, there is in it matter of great importance to the medical profession, especially those who may be called upon to deal with industrial diseases. The certifying surgeon who, after reading the documents sent him by the Factory Department, turns to this book will find assistance in some of the difficulties which may perplex him, and he will probably feel that if he can surmount these he will have earned his fee. The medical referee under the Act will also find information of value to him on the occasions in which he is called upon to exercise his function. The second part of the book contains descriptions of the scheduled diseases; these appear, on the whole, to be drawn up with care, but we would doubt if "chronic puckering of the skin" is a sufficient description of the condition known as Dupuytren's contraction. This part of the work will no doubt be appreciated by lawyers, while medical men will seek for such information elsewhere. The special rules and regulations of the Factory Department with regard to certain industries are explicitly set out, and form a useful addition to the more purely legal matter. The volume is a handy one, excellently printed on good paper.

Dr. R. DAHMER has done a useful piece of work in bringing together a series of 168 medical reports, selected from those he has had to prepare for the use of various judges and magistrates in reference to such matters as public life insurance, workmen's insurance, trades unions, and accidents.[4] They illustrate very strikingly the class of circumstances in which the specialist in diseases of the throat, nose and ear, may be called upon to give opinions of the utmost importance, and a perusal of the cases which the author here narrates cannot fail to be both interesting and instructive to his colleagues. Among them we naturally find cases in which the patient professes to have lost his hearing as the result of some slight injury. It need hardly be said that the methods of circumventing simulation and exaggeration and of detecting genuine injury take a very prominent place in this branch of the author's work. We trust that this is a local peculiarity, but we can scarcely hope to be free from these evidences of degeneracy in this country also, and the practitioner who has studied the cases here described will be all the more able to meet the difficulties when they arise. This work is an interesting companion to that of Barnett on "Accidental Injuries to Workmen," reviewed in our issue of October 9th.

The Workmen's Compensation Act of 1907 has greatly enlarged the field of the malingerer in England, and in no sphere of medicine does he find greater scope for the exercise of his cunning than in the domain of ophthalmology. Any method which will make detection more rapid and certain will be welcomed by all ophthalmic surgeons. The methods in vogue, the spectroscope, the diplioscope, various coloured letters viewed through tinted glasses are all open to objection. Either they entail apparatus not possessed by the ophthalmic surgeon, still less by the general practitioner, or the method is one easily evaded by the clever malingerer. Again, it may be almost impossible to explain the principles of the apparatus used to the county court judge who is trying the case. In Germany malingering is as rife as it is elsewhere where Compensation Acts are in force, and in addition it is resorted to to evade conscription, though in rare instances only, because the penalties are very severe and detection almost certain. Snellen in his vision types has a red A and a green V printed on a black background which are to be viewed through

[3] *The Law of Compensation for Industrial Diseases: Being an Annotation of Section 8 of the Workmen's Compensation Act, 1906, etc.* By Edward Thornton Hill Lawes, M.A., B.C.L. London: Stevens and Sons. 1909. (Medium 8vo, pp. 320. 7s. 6d.)

[4] *Aerztliche Obergutachten aus der Praxis eines Ohren-, Nasen- und Halsarztes.* By Dr. R. Dahmer, Posen. Berlin: S. Karger. 1908. (Sup. roy. 8vo, pp. 52. M. 1.60.)

a red and green glass. Dr. Haselberg of Hamburg, a staff-surgeon in the German army, has elaborated this idea, and in his plates[5] gives a method of exposing the malingerer which is apparently ready and practical. The principle depends upon the fact that red when seen upon a white background through a suitable green glass appears black, and when viewed through the right shade of green disappears entirely. The letters on his plates are printed partly in vermilion, partly in black upon a white card. The colour is so arranged that if the red part disappears another letter is seen; for example, N becomes I, E becomes L, P becomes B. The Gothic alphabet is used as well as the Latin, and is especially suitable for the method. The supposed malingerer is furnished with a green glass before his supposed defective eye, a red before the better eye. In a moderate light the plate of letters is rapidly placed before him, and he is asked to read. If he can really use both eyes he is at once unmasked, for he sees the whole of the letter black. If the eye really is blind or very defective, he only sees the black part of the letters. It must be at once said that the green glass supplied with the ordinary test card is not dark enough; the red is too dark. The correct glasses can be obtained from the publishers at a very reasonable price. The test is cheap, and is perfectly simple and yet effective. The plates fold up, and are kept clean in a neat case, 6 in. by 8½ in. We can confidently recommend the method to any medical man who may have to deal with malingerers. The examination can easily be demonstrated to the judge in court, and the most expert simulator will find it impossible to remain masked.

PUBLIC HEALTH.

Although primarily written for the use of army medical officers, the *Handbook of Practical Hygiene*, by Majors Wanhill and Beveridge,[6] will be of undoubted assistance to all medical men who are engaged in the public health service. Without in any way sacrificing detail to brevity, the authors have succeeded in condensing within the space of 150 pages a very clear and concise account of the best methods of examination of water, sewage, air, and of the principal foods and beverages. A chapter is devoted to the consideration of food values, and the method of constructing a diet upon scientific lines is admirably stated. Included in this chapter is an example of a mess-sheet for one day for ninety-eight men, together with Atwater and Bryant's table of the composition of the food materials likely to be used in a soldier's diet. In the chapter dealing with the chemical examination of water the authors very properly point out that the amount of chlorine present must be taken in conjunction with the known chlorine figure of the district. In actual practice it is not at all easy to ascertain what is the "chlorine standard" of a particular locality, and, failing the ability to do so, it is often of advantage to take two or three samples of a suspected water at intervals of one or two weeks, and if the amount of chlorine in each is the same or varies only slightly it may be assumed that that amount is the standard. For the examination of air and the estimation of CO_2, Pettenkofer's method is described very fully, and Dr. J. S. Haldane's apparatus is recommended to be employed when it is required to keep the air of occupied buildings under constant supervision. It seems an omission not to have referred also to the simple methods designed by Dr. Harold Scurfield and Dr. W. Robertson. The chapter on bacteriology is admirably written, and the short account in the appendix of the method of performing Widal's reaction macroscopically should prove of assistance to those who are only called upon to carry out the process at infrequent intervals. For the general arrangement of the handbook and its readiness of reference we have nothing but words of commendation, and the interleaving of blank pages for notes or references adds very materially to the utility of the volume.

Members of sanitary authorities who may be called upon to consider schemes of sewage disposal will find a great deal of useful information in the little handbook of Messrs. W. H. Trentham and James Saunders.[7] One chapter is devoted to sewerage systems and the laying of sewers, and the opinions expressed are quite in accordance with recognized views on the subject, although on the vexed question of the disconnecting trap the authors are suspiciously, or possibly discreetly, silent. After discussing several other methods the authors state very definitely that as a preliminary form of treatment no method of disposal can compare with the Dibdin slate bed, in which the sewage is treated in the beds aërobically, a layer of air being retained on the under-surface of the slates each time the bed is filled, thus supplying sufficient oxygen to foster the aërobic bacteria necessary to dealing with organic matters deposited on the surface of the slates. The volume is well illustrated with photographic reproductions of sewage disposal works either while in course of construction or completed, and there is a fairly exhaustive chapter upon the powers and duties imposed by Parliament on local authorities with respect to the sewerage of towns and villages.

There is great need for a reliable manual for the use of managers of sewage works, and Mr. Easdale's handbook[8] is an attempt to supply this need. It will be found, however, rather disappointing. The complexity of the processes adopted for sewage treatment, and the diversity of the difficulties arising from them are so great that it is impossible within the limits of a modest volume like this to give much information. The book contains, however, many useful hints. The various processes are dealt with in turn, and quite properly the motto of "little and often" is advocated in regard to cleansing screens, detritus pits, tanks, and filters. In discussing the management of tanks, no sufficient distinction is made between those used as septic tanks and those for sedimentation. Nothing is said about pressing sludge, and the whole subject of land irrigation is discussed in a couple of dozen lines. The chief fault of the pamphlet—for it is hardly more—is that it deals with the various processes in far too general terms to be of much use to a manager who finds himself confronted with any difficulty.

The medical officer of health of to-day requires to possess a thorough knowledge of the details of food inspection. Evidence of the increasing importance of this part of his duties is to be found in the fact that the fifth edition of Dr. Francis Vacher's well-known *Food Inspector's Handbook* is larger by more than 100 pages than the first edition, which was published in 1892, while the number of illustrations has been increased from 20 to 74.[9] In the earliest edition most of the drawings were, we believe, from the pencil of the author, but in the present volume he has entrusted them to Mr. R. E. Holding, who has succeeded in depicting pathological and other conditions in a manner which cannot fail to prove helpful not only to the student but also to health officers in actual practice.

The atlas and textbook of hygiene which has been added to Lehmann's series is edited by Dr. Prausnitz,[10] and aims at bringing together the technical details and the hygienic considerations connected with housing and town-planning. In addition to its value for public health authorities, the book is intended to be helpful to the architect and builder, who sometimes complain that they could better meet the interests of hygiene if the requisite details of construction were explained to them more fully from their own point of

[5] *Tafeln zur Entlarvung der Simulation Einseitiger Blindheit und Schwachsichtigkeit. Nach Snellen entworfen.* Von Stabsarzt Dr. von Haselberg in Hamburg. Wiesbaden: J. F. Bergmann; and Glasgow: P. Bauermeister. 1908. (Med. 8vo, pp. 22, and tafeln. 2s.)

[6] *The Sanitary Officer's Handbook of Practical Hygiene.* By C. F. Wanhill, Major, R.A.M.C., and W. W. O. Beveridge, D.S.O., Major, R.A.M.C. London: Edward Arnold. 1909. (Crown 8vo, pp. 160, interleaved with blank pages for notes. 5s.)

[7] *Modern Methods of Sewage Disposal, a Practical Handbook for the Use of Members of Local Authorities and their Officials.* By W. H. Trentham and James Saunders. London: The Sanitary Publishing Co., Limited. 1909. (Post 8vo, pp. 66; 14 illustrations. 2s. 6d.)

[8] *The Practical Management of Sewage Disposal Works.* By W. C. Easdale. London: The Sanitary Publishing Co., Limited. 1909. (Fcap. 8vo, pp. 56. 2s.)

[9] *The Food Inspector's Handbook: a Practical Guide for Medical Officers of Health, Meat Inspectors, Analytical Chemists, Students, and Others.* By F. Vacher. Fifth edition. London: The Sanitary Publishing Company, Limited. 1909. (Post 8vo, pp. 268, 74 illustrations. 3s. 6d.)

[10] Lehmann's Medicinische Atlanten. Bd. viii. *Atlas und Lehrbuch der Hygiene, mit besonderer Berücksichtigung der Städte-Hygiene.* Herausgegeben von Professor Dr. W. Prausnitz. München: J. F. Lehmann. 1909. (Post 4to, pp. 700, 818 illustrations, including 4 coloured plates. M. 28.)

view. The editor has therefore enlisted the services of architects and engineers, as well as various authorities on sanitary and medical matters, in furnishing the contents of the present volume. The book, which is copiously illustrated, commences with the construction of streets and other public places, the planning and building of various types of houses suitable to the conditions of the locality and the needs of the occupants, the water supply, and the disposal of refuse. Special chapters are then devoted to schools, hospitals, barracks, slaughter-houses, and other public buildings. The book is well planned, and although medical officers in this country will find in it a profusion of elementary detail about which they do not require instruction, they will probably pick up useful hints here and there from a perusal of its pages and a study of the drawings.

Under the title *La Medicina Sociale*,[11] Dr. ALLEVI discusses such subjects as tuberculosis, malaria, typhoid, small-pox, syphilis and prostitution, ankylostomiasis, pellagra, and alcoholism—diseases which certainly play a large part in the problems of social medicine. One would imagine that most of these conditions got more or less adequate treatment in the various treatises on hygiene, yet there are some advantages in treating these purely medical aspects of public health work, and omitting all that part which is concerned with sanitation and physics. Such a book appeals more to the clinical side of a medical man's work, and, although in the limits at his disposal it is impossible for the author to deal very fully with the subjects he has selected, there is little that is essential left out. Over and over again he laments the backwardness of public opinion on all these questions in Italy, and as an earnest and reasoned plea for a better state of things such a book as this may be of use even to the non-medical public. Whilst recognizing the ideal, he is sufficiently practical not to recommend measures which at present are too far ahead of public opinion to be accepted, and is therefore content with something less for the time being. One would have thought whisky was sufficiently well known to be credited with the aspirate and not spelled "wisky." The author is a little apt to wander off into digressions—for example, on protection—but throughout the book his moral earnestness as a doughty fighter in the battle against disease and ignorance in society is most marked.

Household Pests and Household Remedies[12] is a small book evidently intended to instruct the laity. Its author, Mr. W. R. BOELTER, has already written similar works on rats. It is, perhaps, too much to expect scientific accuracy in such compilations, but at least common facts should be correctly interpreted. Yet in Chapter XI, on the mosquito, we read the astounding statement: "Though we read now and then in the newspapers, especially during hot summers, that the mosquito has appeared in Great Britain, there is no proof of any kind yet that this terrible pest has invaded this country. Our common gnat is easily mistaken by inaccurate observers for the mosquito," etc. Such ignorance is hardly excusable in the newspaper reporter now, and anyone who presumes to write as an authority on the subject ought to know that there are indigenous English mosquitos. Still the book, if only it makes the laity think a little about these subjects, will do good; and certainly the problem of rat destruction is one that will have to be faced in the future.

NOTES ON BOOKS.

DRS. HERMANN SCHALL and AUGUST HEISLER[13] have prepared some very convenient tables for use in the medical wards at Marburg, giving the percentage of albumen, fat, carbohydrates, common salt, purin bodies, and water, and the caloric value, of the ordinary articles of diet, including the various kinds of butcher's meat, poultry, game, and fish, sausages, smoked and salted meats and fish, eggs, milk preparations, butter, fats and cheese, flours, infants' food, bread, biscuits, various vegetables and fruit, meat extracts, confectionery, and the alcohol and sugar percentage of beers, wines, and spirits. The principal mineral waters are tabulated so as to show their chief components—common salt, sodium, calcium, and magnesium bicarbonate, sodium and magnesium sulphates, iron carbonate, and carbonic acid gas, in parts per litre, and their temperature is given in another column. Another table gives the percentage of cellulose and mineral salts in the ordinary vegetables and fruits. There are also tables of digestibility, of the body-weight of a nursing child at various ages, and tables of the caloric requirements of children and adults, allowing for age and occupation. The authors formulate the following law for the normal weight of adults: An adult normally weighs as many kilograms as his height in centimetres exceeds a meter. For example, if his height is 172 cm., his naked normal weight should be 72 kilog.

The appearance of a fourth edition of LYON'S *Medical Jurisprudence for India*,[14] originally published in 1888, attests the popularity and usefulness of the work. This, like the third edition, is edited by lieutenant-Colonel L. A. Waddell, C.B., C.I.E., I.M.S. (ret.), who has carefully revised the book, recast many parts of it, and made many additions which contribute materially to its value. Among these we note a series of questions such as would probably be asked of a medical witness under various circumstances: a considerable expansion of the section on insanity in which the editor was aided by Major C. R. Milne, I.M.S., of the New Imperial Asylum Department; detailed information regarding the laws relating to lunacy in India and the steps necessary to obtain admission into Indian lunatic asylums; the duties which a medical man may be required to perform with reference to life insurance and compensation claims for accidental injuries; and a chapter on medical obligations, including medical responsibility, patients' secrets, and malpraxis. These are the most conspicuous additions, but throughout the book evidences exist of thorough and conscientious overhauling and of a desire to bring it up to date—an object which has been very successfully accomplished. Medical jurisprudence being an exposition more or less systematized of the relation of the science of life in all its aspects and branches to the administration of law, it is necessary, in a work dealing with the subject, to give clear and detailed information regarding the laws which have been enacted and the arrangements and procedure which have been established for the effective administration of these, especially as they concern vital conditions and rights. This constituted a conspicuous feature of Lyon's book as originally issued, and has been held prominently in view in the preparation of the present edition. The legal matter has undergone revision by Mr. H. M. Morrison, barrister and advocate of the High Court of Calcutta. Several good illustrations has been added, including prints of finger marks, various forms of unruptured hymen, and many poisonous plants. Altogether this edition is well fitted to enhance the reputation and utility of Brigade Surgeon Lyon's manual.

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[11] *La Medicina Sociale*. By Prof. G. Allevi. Manuale Hoepli. Milan: U. Hoepli. 1909. (Post 8vo, pp. 504. L. 2.50.)

[12] *Household Pests and Household Remedies*. By W. R. Boelter. London: John Bale, Sons, and Danielsson, Limited. (Foolscap 4to, pp. 175; 88 illustrations. 2s. 6d.

[13] *Nahrungsmittel-Tabelle*. Von Dr. Hermann Schall und Dr. August Heisler. Wurzburg: Curt Kabitzsch. 1909. (Sup. roy. 8vo, pp. 42. M.1.50.)

[14] *Medical Jurisprudence for India, with Illustrative Cases*. By J. D. Lyon, C.I.E., M.D., F.R.C.S., and L.-A. Waddell, C.B., C.I.E., LL.D., M.B., F.R.S. Calcutta: Thacker, Spink and Company, 1909. (Demy 8vo, pp. 762, with 6 plates and 61 engravings. Rs. 12.)

MEDICINAL AND DIETETIC ARTICLES.

Diamalt with Cod-liver Oil.

We have received from the British Diamalt Co. (11 and 15, Southwark Street, London, S.E.) samples of two combinations of malt extract with cod-liver oil which they have recently put upon the market. These are stated to consist of cod-liver oil and malt extract only, with neither flavouring ingredients nor preservatives, and to contain respectively 15 and 33½ per cent. by weight of the oil, or, approximately, 20 and 42 per cent. by measure. Our analyses of the two samples gave the following results:

	No. 1.	No. 2.
Cod-liver oil	15.3 ...	33.6 per cent.
Maltose	29.6 ...	57.9 ,,
Diastatic power of the extract, in terms of the B.P.C. test ...	671 ...	455

Notwithstanding the large proportion of oil present, its taste was most effectually disguised by the malt extract, and both preparations were very palatable; the absence of aromatic essential oils, such as are sometimes used to mask the flavour of the oil, must also be regarded as an advantage. Both samples were of quite thin consistence, and should be acceptable even to those who find viscosity and stickiness as repellent as the undisguised taste of cod-liver oil. Either of them readily forms a milky emulsion when shaken up with water.

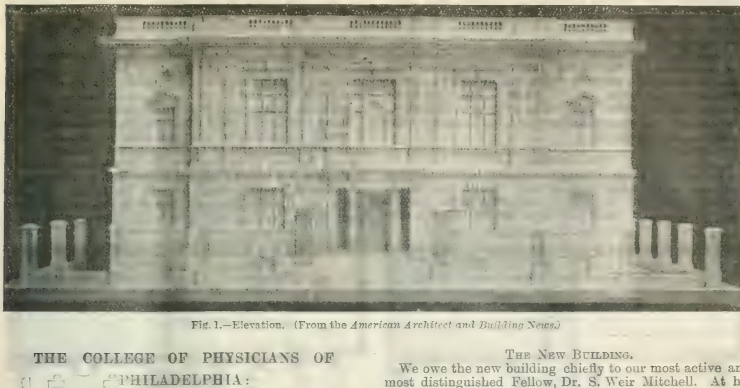


Fig. 1.—Elevation. (From the *American Architect and Building News.*)

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA:

ITS LIBRARY AND ITS NEW BUILDING.

By W. W. Keen, M.D., Hon. F.R.C.S.Eng. and Edin.,
Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia.

The oldest medical organization (not a State society) in the United States is the College of Physicians of Philadelphia, which was founded in 1787 by that valiant fighter, Benjamin Rush, and twenty-three others of the half a hundred practitioners then resident in the city. It was and is a "Collegium" similar to the British "Royal Colleges"—a scientific and not a teaching body. Its charter states that its objects are "to advance the Science of Medicine and thereby lessen human misery." Its Fellows include those practising any department of medicine. For fifty-three years (1791–1845) it met in the Hall of the American Philosophical Society, which had been founded by Franklin in 1743, the oldest and the most distinguished scientific society in the United States. In 1863 it moved into its own building at Thirteenth and Locust Streets. This has long been insufficient, especially for the rapidly growing library, and on November 10th, 1909, the college will open its new building on Twenty-second Street above Chestnut. It will then occupy what, I think, is the finest building owned by any medical society in Europe or America. Including the ground, the building and its furniture and fixtures, the cost will be about four hundred thousand dollars ($400,000), or eighty thousand pounds (£80 000).

The early Fellows were largely Edinburgh men, though not a few had been educated at Leyden, London, and elsewhere. They were friends or pupils of Cullen, the Hunters, Hewson, Pott, Fothergill, Albinus, Morgagni, and others. Of the more recent Fellows, there are few who have not availed themselves of the splendid opportunities which London, Edinburgh, and the chief Continental medical centres afford.

So, too, as a large proportion of the Founders had been associated with Washington in the Revolutionary War, their successors were most active during the Civil War and in time of pestilence (yellow fever, typhus, and cholera), and a memorial tablet records the names of nine Fellows who thus lost their lives.

Until very recently the number of Fellows has been very small. It has never aimed to include the rank and file of the profession, but has had a selected Fellowship which even now numbers but 439 Fellows, 40 Associate Fellows, of whom 11 are from Great Britain, and 4 Corresponding Members. It is a striking testimony to the energy and literary activity of the local Fellowship that for many years past 10 per cent. annually have published new books or new editions of former books.

The New Building.

We owe the new building chiefly to our most active and most distinguished Fellow, Dr. S. Weir Mitchell. At his instance (he is one of Mr. Carnegie's personally selected original trustees of the Carnegie Institution) Mr. Carnegie led the list of our contributions with one hundred thousand dollars ($100,000), and Dr. Mitchell has given and obtained from friends and patients more than an equal amount. The rest of us have done what we could, but none have approached him.

The lot is 130 ft. by 184 ft., and is surrounded by streets on three sides. The building is 108 ft. by 150 ft. Thus we have light as well as protection from fire on all four sides.

Besides the large reading room accommodating 50 readers, there is the journal room opposite with space for 50 more readers. For the 850 medical journals which are on file, the shelving in this room—devised by the librarian, Mr. Fisher—is novel and most useful. Six shelves without partitions run around the entire room. Three of them are horizontal. Above each horizontal shelf there is another inclined at about 45 degrees. On the inclined shelf the latest number of each journal is placed, while immediately below it, on the horizontal shelf, are all the loose preceding numbers of the same journal awaiting binding as soon as the volume is completed.

The largest room for the meetings of the College, seating over 500, will be adorned with the portraits of former presidents, and of Rush, Shippen, Physick, and other distinguished Fellows. The walls of this and other rooms and the halls will be hung with copies of Rembrandt's Lessons in Anatomy, oil portraits of Hippocrates, John Hunter, Harvey, Sydenham, Cuvier, and Gay-Lussac, and a dozen busts. Besides these and other oil paintings, we have 3,082 photographs and engraved portraits, already card-catalogued, and many more are not yet entered. We would esteem it a great favour if our European and American friends would enrich this very large collection by sending their own signed photographs. We have also a replica of the celebrated tablet of Mundinius (A.D. 1315), on the façade of the Church of San Vitale in Bologna.

There are also three smaller meeting rooms. All these rooms except one are named after deceased Fellows, Samuel D. Gross and others, and have been furnished by their descendants and friends as memorial rooms. The one exception is the large meeting room, which is appropriately named after Dr. Mitchell, and has been furnished by his many friends as a testimony to his services to the college, and in admiration of his undiminished mental vigour and alertness at fourscore.

An office is provided for the Directory for Nurses and the living apartment of its secretary. Through the Directory nurses for all sorts of cases can be secured by telephone at any hour of the day or night. Its profits all go to the library, to which it has been an important adjunct.

Externally the building is of brick, trimmed with limestone. It is of steel construction and absolutely fireproof. The entrance hall and stairway are finished in ornamental marble. All the modern improvements have been introduced in the arrangements for heating, lighting (electrical), and ventilation; in the internal intercommunicating telephone from room to room, as well as the ordinary external telephone; pneumatic tubes; electric lifts; and for vacuum cleaning, either by blowing or suction, as desired. There are, of course, ample offices and work rooms for the librarian, cataloguers, etc.

The Library.

The housing of the library in the new building is very complete in character and extent. While the library numbers (excluding duplicates) somewhat under 100,000 volumes, the book stack has room for 300,000 volumes, with ample provision for large future extension whenever necessary. Its windows are provided with wire glass in metal frames, and there is further protection from fire by rolling steel fire shutters, which drop automatically at a certain temperature. It is also cut off from the remainder of the building by fire doors.



Fig. 2.—Plan of First (Ground) Floor.

1. Museum.
2. Gallery.
3. Stack Room.
4. Museum.
5, 6. Lecture Rooms.
7. Reception Hall.
8. Coat Room.
9. The Gross Library.
10. Secretary.
11. Vestibule.
12. Office.
13. Office.
14. Lavatory.
15. Cataloguers.

Special provision is made for the readers who are engaged in prolonged serious research by a dozen small private rooms, in which the Fellows can study and dictate to their stenographers, and on leaving the room simply turn the key. This is both a saving of time and trouble to the student and the library officials, and also saves much wear and tear on the books, which otherwise would have to be replaced and taken down again each time the reader returned. The advantage of freedom from all interruption is self-evident. All such facilities promote and encourage literary research. The new card catalogue is all typewritten, and is nearly complete for the books, after which the theses and pamphlets will be catalogued.

But while the housing and the conveniences of the library are of importance, its contents are its glory. It is significant that in 1788, when the college was only a year old, the foundation of the library was laid. Though it grew very slowly at first, for the last few years it has increased at the rate of over 2,000 new volumes a year, besides nearly as many more in duplicates.

For new books, journals and binding (the college pays all the administrative expenses) we have about seventy thousand dollars, including a general library endowment fund ($14,400), and a number of special funds (largely memorials) aggregating fifty-five thousand dollars.

Many gifts are received from living donors (among whom it would be ungrateful not to mention our generous local book publishers), and it has become so common a custom for our Fellows to bequeath their libraries to the college that there is a current belief that any Fellow who neglects to follow this salutary rule imperils his future. We also add to our already large collection of theses and dissertations by exchanging with twenty-six European universities. Among these theses we are so fortunate as to have a complete file of the *Theses de Paris* from 1882, and a partially complete file from 1793, when the series began, down to 1882. There are usually forty to fifty volumes of these theses issued annually.

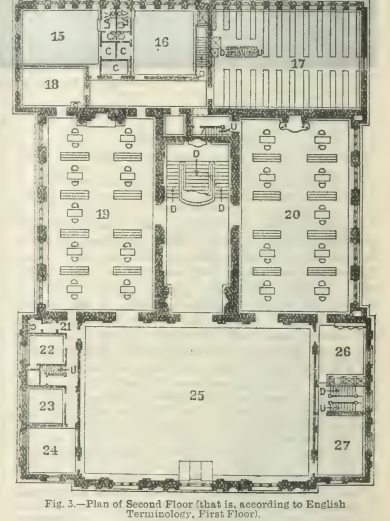


Fig. 3.—Plan of Second Floor (that is, according to English Terminology, First Floor).

16. Work Room.
17. Stack Room.
18. Librarian.
19. Reading Room.
20. Periodical Room.
21. Lavatory.
22, 23, 24. Private Study Rooms.
25. S. Weir Mitchel Hall.
26, 27. Serving Rooms.

Besides all the ordinary books in most modern languages, the library is rich in the older classics of medicine, and especially in incunabula. Of these, printed between 1470 and 1500, we have nearly 150, many of them among the rarer of incunabula, and some probably unique or almost unique. Our collection of incunabula, I believe, is one of the largest and most important in existence.

We are so fortunate, also, as to possess one of the six copies of the first edition of Harvey's *De Motu Cordis et Sanguinis* to be found in the United States; it has also the still rarer final leaf containing the Errata. We have also the splendid photographic facsimile of the Vienna Dioscorides Codex, in two large folios, published at Leyden. Among the many curios I may mention a lock of Jenner's hair, Laennec's stethoscope, a set of Perkins's "tractors," and the knocker from the door of Ephraim McDowell.

The Mütter Museum.

In 1856 the late Thomas D. Mütter, Professor of Surgery in the Jefferson Medical College, presented to us his Museum together with an endowment of thirty thousand dollars to provide for its care and increase, and for the annual "Mütter Lecture." The college has provided four rooms covering about 3,500 sq. ft. of floor space with ample galleries for the Museum. Among its valuable collections are the unique Hyrtl cases showing the comparative anatomy of the internal ear, his placental injections, corrosion preparations, and his collection of typical skulls, the Politzer ear collection, etc.

Nowhere can the medical visitor to Philadelphia spend a more peaceable or more instructive hour than in our new building amidst its books and specimens. The library is open to all the non-medical public who may wish to investigate any subject in which they may have some special interest, as well as to the entire medical public of whatever school, and even to the medical guerillas of modern growth.

The working rooms of the library staff and most of the private study rooms are on the mezzanine floor not shown in the plan.

THE INTERNATIONAL CONGRESS ON LEPROSY.

Resolutions.

At the Second International Congress on Leprosy, held at Bergen from August 16th to 19th, the following resolutions were adopted:

A.—1. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference of Berlin, 1897. Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country, in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself. 2. In view of the success obtained in Germany, Iceland, Norway and Sweden, it is desirable that other countries should isolate lepers. 3. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation. 4. An examination should be made from time to time of those having lived with lepers by a doctor having special knowledge. It is desirable that lepers should not engage in certain trades or occupations. All leper vagabonds and beggars should be strictly isolated.

B.—5. All theories on etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and biology of the bacillus of leprosy. 6. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal.

Resolutions of the Berlin Conference.

It may be recalled that the First International Leprosy Conference, held in Berlin in 1897, arrived at the following conclusions: Every leper is a danger to those around him, the danger varying according to the nature and extent of his relations to others, and also to the sanitary conditions under which he lives. Among those living in an insanitary manner, every leper is especially dangerous to his family and fellow-workers. The theory of the heredity of leprosy is becoming less probable, and the contagiousness of the disease is generally accepted. The following resolutions were formally adopted:

1. In countries in which leprosy forms foci or has a great extension, isolation is the best means of preventing the spread of the disease. 2. The system of obligatory notification and of observation and isolation, as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of physicians. 3. It should be left to the legal authorities, after consultation with the medical authorities, to take such measures as are applicable to the special social conditions of the districts.

Distribution of the Disease.

From the reports of the official delegates and from data furnished by the Norwegian Government, the following figures show approximately the present distribution of cases of leprosy throughout the world; France, 246; Iceland, 200; Germany, 28; Roumania, 208; Servia, 3; Bulgaria, 9; European Turkey, 550; Greece, 9; Crete, 600; Russia, 1,372; Italy, 123; Spain, 240; Palestine, 800; India, 97,340; Ceylon, 589; Indo-China, 10,500; Java, 15,000; Borneo, 68; Sumatra, 896; Japan, 40,000; Canada, 20; Cuba, 1,297; Jamaica, 115; United States of Colombia, 4,152; Argentine Republic, 12,000; Algeria (in 26 years), 109; United States of America: mainland of America, 146; Hawaiian Islands, 764; Porto Rico, 17; Guam, 19; Philippine Islands, 2,330; Canal zone, 7.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 1077.*)

Section of Surgery.

The surgeons succeeded in working their way almost completely through a very long programme, and the number of absentees compared favourably with that in the other sections. The discussion on appendicitis took up a considerable time, and there is no doubt that this discussion attracted more interest than any of the others. A brief account of it has already been given.[1]

Asepsis in Operations.

Manninger (Budapest) dealt with the present doctrines and methods of applying asepsis in operations. As far as the instruments were concerned, he had little to say. The disinfection of the skin and area of the wound claimed his attention. Hands were washed for five minutes in alcohol, alcohol and ether, acetone-alcohol, or iodized benzin. These substances tanned the skin, and in this way prevented the infective organisms from being given off. The disadvantage of this method lay in the fact that the tanning only lasted for a short time, and he therefore turned his attention to the second modification of recent times—namely, of first washing the hands in hot water and soap, then rinsing with sublimate and alcohol, lysoform, or bacillol and alcohol. The results obtained in this way were fairly satisfactory. But since an absolute sterilization of the hands could not be obtained chemically, he considered it an advance that rubber gloves had been introduced. The gloves should be applied to the dried—that is, tanned—hands, and with practice and care tearing could be avoided. The same remark applied to rubber protection of the skin around the wound—for example, desma-gummit. He regarded hand varnishes as poor substitutes for gloves. In order to avoid infection of the wound by droplet infection through the air, face masks and curtains separating the head of the patient from the area of operation had served a good purpose. The prevention of infection through ligatures, etc., had been furthered by the introduction of the treatment of silk in weak antiseptics. Secondary infection could be avoided by keeping the ligatures in Lanz's ligature pots. Claudius's method of sterilizing catgut was in his opinion the best, but necessitated a special autoclave. This method depended on applying alcohol vapour to the catgut threads.

After-treatment of Laparotomy.

Kummell (Hamburg) recorded his results obtained by allowing his laparotomy patients to get up early. The reason for wishing to get them up within the first few days was primarily to prevent pulmonary embolí. Formerly, when his patients got up late, he lost 10 per cent. of his laparotomy cases from embolus, while since he had used this method the mortality had sunk to 1.9 per cent. In order to carry it out, it was necessary to ensure a perfect anaesthesia, rapid operating, with as little loss of blood as possible, and absolute asepsis. Apart from a feeling of tension in the wound, the patient did not experience any unpleasant sensations on getting up early. The action of the intestines usually was satisfactory, and in this way a most disturbing symptom was avoided; there was no need to use a catheter, and the respiration was free, so that bronchitis and pneumonia were avoided. The patients were induced to perform any sort of movement from the first, while those patients who were capable of doing it, and were willing, were allowed to sit up in a chair on the first day. At times the patients attempted to walk on the first day. All his patients got up on the first or second day, or at latest on the third day. They walked about quite early, and he mentioned that some herniotomy

[1] British Medical Journal, September 18th, p. 798.

patients were seen walking about the garden on the third day, just like normal persons. After a laparotomy he allowed his patients to go into the garden on the fifth day. Only a few patients were too feeble or too nervous to carry this treatment out.

Surgery of the Cerebellum.

HILDEBRAND (Berlin) spoke of the surgery of the cerebellum. The diagnosis had, he said, become much more certain during recent years. The symptoms pointing to disturbance in the posterior cranial cavity were double papillitis, headache (both occipital and frontal), vomiting, disturbances of pulse and respiration, and flaccid paralysis or paresis. In addition to these, he mentioned giddiness, ataxy, asynergia, nystagmus, asthenia, etc. Extracerebellar disease was characterized by prominent nerve symptoms, while intra cerebellar tumours often failed to present such symptoms. It was possible in many cases not only to determine the side affected, but to localize the lesion, and even to diagnose its nature. He discussed the method of operating, and on the whole expressed himself in favour of an operation in two stages, with removal of the bone of the cranium, rather than the replacing of the bone-skin flap. In cysts he had lost only 1 patient out of 20 cases; in tuberculous affections, 11 patients out of 20 operated on died, while 2 were completely cured. He had operated on 39 patients for gliomata; 22 had died from the operation and 17 had recovered, but it was uncertain how many had remained well. Out of 30 tumours of the neighbourhood of the pons, 7 had died. He also spoke in favour of a trial incision.

Surgical Treatment of Epilepsy.

KRAUSE (Berlin) spoke of the surgical treatment of epilepsy. He first referred to complete cures effected by the removal of the Gasserian ganglion in cases of reflex epilepsy of traumatic origin. Next he dealt with Jacksonian epilepsy. In some cases of infantile paralysis, in which the degenerative changes led to complete idiocy, operative interference by Horsley's method yielded good results. He dealt in some detail with the value of applying faradic currents for the purpose of determining the area affected in Jacksonian cases. He also illustrated the value of operative interference by details of various cases. Krause concluded with a review of his results in three categories—of cures, improvements, and failures. Certain cases were certainly completely cured.

Surgery of the Brain and Spinal Cord.

MACEWEN (Glasgow) discussed the surgery of the brain and spinal cord. He laid stress on the fact that, while syphilis might be amenable to mercury and iodide of potassium, syphilitic tumours of the brain, when the neoplasm had an avascular structure, could never be cured by drugs, but must be attacked surgically. The same remark applied to tuberculous tumours. He next described a method of removing solid tumours and encysted abscesses by making a free opening and allowing the intracranial pressure slowly and automatically to deliver the tumour intact through the opening. Next he dealt with sarcoma of the brain, some cases of which were available for surgical removal. In regard to prognosis, much depended on the nature of the surrounding capsule. In the last place, he spoke of infective lepto meningitis, and related some apparently hopeless cases which got well after operation. This communication was spoken in English deliberately and slowly, and was much applauded.

Surgical Treatment of Pulmonary Phthisis.

SKEVOS ZERBOS (Athens) described his method of treating pulmonary phthisis surgically. He incised the thorax, broke down the pleural adhesions, washed out the pleura with a large quantity of a solution of perchloride of mercury (1 in 5,000), and then sewed up the chest wall. The solution was heated to 45° C. Two patients in whom he had carried out this procedure had recovered completely. He also recorded some animal experiments which tended to show that such a procedure was well tolerated, as was also the removal of one lung.

Chronic Pancreatitis.

MAYO ROBSON (London) dealt with the chronic form of pancreatitis. Inflammatory enlargements occurred apart from the presence of gall-stone trouble. He described the symptoms, the differential diagnosis, and stated that the operative treatment yielded excellent results. Gall stones, if present, should be removed before they had produced complications, and duodenal ulceration should be treated by gastro-enterostomy. If, after a fair trial of general treatment, the symptoms of pancreatic disturbance persisted and increased, surgical treatment should be considered.

SUBBOTITCH (Belgrade) regarded chronic pancreatitis as a much more common disease than was usually supposed. It was usually caused by an infection of the efferent ducts, and was often associated with cholelithiasis. The interstitial connective tissue was increased, hypertrophied, and sclerosed, while the glandular substance disappeared. The head of the pancreas was most frequently attacked. The symptoms were pain, wasting, and at times palpable tumour at the head of the pancreas. Steatorrhœa, glycosuria, and Cammidge's reaction might also be of diagnostic value. The surgical treatment yielded excellent results.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Puerperal Fever.

The discussion on the treatment of puerperal fever lost in interest by the absence of Bumm (Berlin) and v. Herff (Basle) from the Section on Monday morning. Pinard (Paris) was the only remaining lecturer on the programme. He described the preventive treatment as being that sketched out by Semmelweis, Tarnier, and Pasteur, while the curative treatment which he had found valuable included intrauterine injections, curetting and antistreptococcic serum.

Myomata.

MARTIN (Berlin), who introduced a debate on this subject, expressed the opinion that the occurrence of pregnancy in myomatous uteri was so common that it disproved the older doctrine that myomata excluded an intrauterine pregnancy. The modern ideas as to the causes of serility further disproved this doctrine. When women with myomata married late, they frequently became pregnant soon, and in these cases the menopause set in late. He regarded the cases in which no conception occurred until a myoma was removed as rare, and stated that these cases might be explained in other ways. SCHAUTA (Vienna) spoke of the incidence of myomata associated with pregnancy, the effect which the growth had on the course of pregnancy and labour, and the best means of treatment. He did not consider that myomata gave rise to complications in labour in the vast majority of cases, and therefore any active treatment during pregnancy was generally unnecessary. ENGSTRÖM (Helsingfors) considered that a reduction of the size of subserous and intramural myomata during the puerperium was not always evident, and, indeed, that myomata showed a varied behaviour in this respect. At times the reduction in size was extraordinary, a tumour of the size of a man's head shrinking to that of a hen's egg. It was, however, possible that the myoma, thus reduced, might take on fresh growth after involution was complete. He had not observed a complete disappearance of a myoma during pregnancy and post puerperal period, but he thought such an occurrence might be possible. The shrinking was due to fatty degeneration with central necrosis. After dealing with the process of infection of myomata, he considered the effect of the multiple subserous myomata in causing atony of the uterus and in leading to fatal haemorrhage. Polypoid myomata not infrequently caused severe haemorrhage, but this was not the rule. POZZI (Paris), dealing with fibromata of the uterus in their relation to pregnancy, said he found that some of these tumours increased in size during pregnancy, but rarely to such an extent as to endanger life. He described modifications in the structure, either of the nature of a simple œdema or of an actual increase of the elements of the tumour. Cystic changes were the most frequent. Suppuration and gangrene of fibromata had been observed. Lastly, he described changes in the situation of the tumour, which at times occupied the abdominal cavity, while at others it might lie entirely inside the pelvis. The effect of the tumour on pregnancy was very variable. Retroversion and incarceration of the uterus might supervene, but abortion took place only in between 5 and 6 per cent. of

his cases, while premature labour was only slightly more frequent. In regard to treatment, he was of opinion that in the majority of cases no special intervention was needed. The life of the mother should not be exposed to unnecessary danger. In serious cases the practitioner should wait till full time and deliver by Cæsarean section. He did not approve of artificial induction of labour at an early stage.

Anæsthesia in Obstetrics.

In the course of a discussion on anæsthesia Tuffier (Paris) spoke in favour of lumbar anæsthesia; Krönig (Freiburg) dwelt on the advantages of lumbar anæsthesia with a solution of stovaine of the same specific gravity as that of the spinal fluid. He recognized the work done in this respect by A. E. Barker. He also advocated morphine-scopolamine partial narcosis, and declared himself in favour of a mixture of ether and chloroform rather than either of these anæsthetics alone for minor gynæcological operations. Among the other papers read at this section the more interesting included one on the induction of premature labour by laminaria bougies, by Sir William Sinclair (Manchester); one on disturbances of development in their relation to obstetrics and gynæcology, by K. Hegar (Freiburg); and one on extrauterine pregnancy, by Tóth (Budapest).

Section of Ophthalmology.

Trachoma.

Greeff (Berlin) opened a discussion on trachoma. His address was in the main a more detailed description of the small parasitic bodies which he had found in trachoma cases, and to which he ascribed a causal relation to the disease, than was given in his article in the *Deut. med. Woch.*[1] He adhered to his belief that the parasites were the cause of trachoma, and confirmed his previous observations, that they were to be found both in the secretion and in the tissues of the affected eyes. Herzog (Berlin) related his researches on trachoma, undertaken in the ophthalmic clinic in Budapest. He also had observed Greeff's parasites in connexion with the disease, but was inclined to assume a somewhat reserved attitude as to their significance. In any case he did not consider these bodies as bacteria, though he was unable to determine at present what form of parasite they represented. Gallenga (Parma) also discussed these round bodies, which he associated with trachoma. Heymann (Breslau) stated that he had observed these bodies, but that they were to be found in healthy as well as trachomatous eyes. He preferred to refer to them as Halberstädter and Prowazek's bodies, as these observers had described them independently and before Greeff had done so. He was of the opinion that these bodies were not the cause of trachoma. This statement caused some sensation. Goldzieher (Budapest) limited his remarks to some points in connexion with the pathology of trachoma. He also recorded some of his experiences in the treatment of severe cases with gonococcal vaccines. Sulzer (Paris) complimented the Hungarian Government on the excellent organization of the State control of trachoma cases, and stated that the regulations enforced in Hungary might well serve as a pattern or other countries. MacCallan (Cairo) described the distribution of trachoma and other ophthalmic diseases in Egypt, and also the measures which had recently been adopted for the better treatment and control of trachoma cases.

Theory of Vision.

Edridge-Green (London) read an important paper on the theory of vision. He stated that a ray of light impinging on the retina liberated the visual purple from the rods, and a photograph was formed. The rods were concerned only with the formation and distribution of the visual purple, not with the conveyance of light impulses to the brain. The decomposition of the visual purple by light chemically stimulated the ends of the cones (very probably through the electricity which was produced), and a visual impulse was set up, which was conveyed through the optic nerve fibres to the brain. If it were possible, in a case in which the spectrum appeared of similar length and brightness to both, for a normal-sighted person and a colour-blind person to exchange eyes, the normal-sighted would still see colours properly, and the colour-blind would still be colour-blind. There were cases in which the visual purple was differently constituted, and was not sensitive to certain rays at one or both ends of the spectrum. The character of the impulse set up differed according to the wave-length of the light causing it. Therefore, in the impulse itself, there was the physiological basis of the sensation of light, and in the quality of the impulse the physiological basis of the sensation of colour. The impulse being conveyed along the optic nerve to the brain, stimulated the visual centre, causing a sensation of light, and then passing on to the colour-perceiving centre, caused a sensation of colour. But though the impulses varied in character according to the wave-length of the light causing them, the colour-perceiving centre was not able to discriminate between the character of adjacent impulses, the nerve cells not being sufficiently developed for the purpose. At most, seven distinct colours were seen, whilst others saw in proportion to the development of their colour-perceiving centres, only six, five, four, three, two, or one. This caused colour-blindness, the person seeing only two or three colours instead of the normal six, putting together as alike colours which were seen by the normal-sighted to be different. In the degree of colour-blindness just preceding total, only the colours at the extremes of the spectrum were recognized as different, the remainder of the spectrum appearing grey. In the discussion, von Tschermak (Vienna) stated that there was not a single fact of deduction in the paper which he could not support from his own observation. Together with Hering and Hess, he had demonstrated that foveal and extra foveal vision only differed in degree. Hering, his old master, had always only associated his theory of vision with central processes and not with photo-processes of the retina. Hering realized that there were many cases of colour-blindness which could not be explained by his theory.

Eye Symptoms in Hypophysis Tumours.

Uthoff (Breslau) discussed the eye symptoms in hypophysis tumours and in acromegaly. Temporal hemianopia was the most common symptom. Typical papillitis (choked disc) was met with in about 5 per cent. of all cases and ill-defined optic neuritis was about as frequent. Paralysis of the intrinsic muscles occurred in about 10 per cent, atrophic discoloration of the papilla in about 20 per cent, central scotoma in a few cases and nystagmus in about 6 per cent. He attempted to determine the frequency of these eye symptoms in all cases of acromegaly and tumours of the hypophysis, and concluded by speaking of the trophic symptoms and the disturbances of growth associated with these diseases.

Section of Diseases of Children.

Scrofula.

Escherich (Vienna) described scrofula as that form of tuberculosis which, attacking children during the first three years of life, produced catarrhal lesions of the skin and mucous membranes and was associated with a lymphatic constitution. The signs of this constitution were over-development of the body as a whole, pasty skin and flabby adiposity, tendency to eczema and catarrh of the mucous membranes, indolent enlargement of lymphatic glands and, at times, of the spleen and thymus. The tuberculosis which developed on this basis was characterized by a marked hypersensibility (allergy) of the skin to tuberculin toxin. The treatment of the condition should include, besides the exhibition of iodides and cod-liver oil, attempts to immunize with old tuberculin and other forms of tuberculin preparations.

Preservation of Mother's Milk.

Escherich also discussed Mayerhoffer and Pribain's method of preserving mother's milk. The milk preserved according to this method is stated to keep good for an indefinite period, and the speaker considered that it might prove extremely useful in the treatment of intestinal disturbances in artificially fed infants. The practitioner could write a prescription for mother's milk which the chemist could make up.

Sleep in Children.

Deutsch (Budapest) read an interesting paper on the conditions of sleep of a large number of children in his town. He showed that a large percentage of these children

[1] See British Medical Journal, 1909, p. 918.

lived under conditions which must be regarded as bad from every point of view. He mentioned the fact that 3·8 per cent. of the children were given alcohol before going to sleep. From his figures he drew the deduction that the majority of both normal and abnormal children slept on the side. Young children who were normally developed usually awoke in a position different from that in which they had gone to sleep, while older normal children usually awoke in the same position. That was not the case in abnormal children such as blind, deaf mutes, etc., while no difference was seen in the percentages of the normal and abnormal children who slept through the night without waking. This worked out at 33 to 34 per cent. Of the normal children, 30 per cent. spoke, 16 per cent. micturated, 30 per cent. ground their teeth, and 25 per cent. snored during sleep; while among the abnormal children only 3 per cent. micturated and 6 per cent. ground their teeth. Of the normal 68 per cent., and of the abnormal children 86 per cent., dreamt. Further details were given, especially in reference to the anomalies of sleep and dreaming in children of varying degrees of intelligence. The blind and deaf-mutes from birth frequently dreamt of seeing and hearing.

SECTION OF NEURO PATHOLOGY.

Spinal Tumours.

OPPENHEIMER (Berlin) dealt with the advances made during the past few years in the diagnosis and treatment of spinal tumours. No distinct progress had been made with regard to the differential diagnosis between meningeal processes and tumours of the cord. He had more to say on the diagnosis of intramedullary and extramedullary tumours. At the outset, he admitted that no reliable sign was known which could distinguish between these two classes. The most valuable sign was the constancy of the "upper pole" symptom. He pointed out, however, that the collection of the liquor above the tumour and the circumscript serous meningitis, which often accompanied this, might cause an ascent and a fluctuation of the upper niveau, and therefore of the symptoms fixing this point. He cited a case in which it was impossible to determine whether the tumour arose from the cord or from the meninges at the operation, and a second case in which the tumour was regarded as being an extradural one when the cord was exposed at the autopsy, but which on more minute examination proved to be an intradural tumour. In differentiating between tumours and serous spinal meningitis, he laid stress on the causes of the disease, the nature of the same, and its peculiar characteristics, and stated that he regarded Horsley's differential criteria as unreliable. He denied the occurrence of "pseudo-tumours," and then turned to the question of segment diagnosis. He concluded that, in spite of the difficulties which still obtained in respect to diagnosis, the advances in surgical results were undeniable. His own cases included 25 operations with 13 recoveries. He also dealt with the indications for operation.

Alcohol Injections for Neuralgia.

SICARD (Paris) spoke of the treatment of facial neuralgia by injections of alcohol. He used alcohol containing 2 per cent. of menthol and 1 per cent. of novocain. The injections were carried out either into the nerve trunk in the facial portion or into the medial or deep portions of the nerve. This was done either from outside or through the buccal surface. Apart from some resulting œdema no gross changes were effected by the injections. The cure lasted from one to two years, and could be regained by renewed injections. The method depended on actual injection into the nerve trunk, and the only control that this had effected was the occurrence of persistent anæsthesia of the skin and mucous membrane supplied by the nerve.

Nucleinate of Sodium in General Paralysis.

DONATH (Budapest) spoke of the treatment of general paralysis of the insane by means of injections of nucleinate of sodium. He had previously observed that beneficial results were obtained in this disease by infusions of physiological saline solution. In order to attempt to oxidize the toxic products giving rise to the symptom complex he chose nuclein preparations. He used 2 per cent. each of nucleinate of sodium and chloride of sodium in sterile water, care being taken that no dissociation had taken place. The result of the injection was a raising of the temperature to 38.5° C., or even 40.5° C., and an increase in the number of leucocytes. As a rule, eight injections sufficed. The occurrence of an aseptic abscess was not undesirable. This treatment, he considered, could be undertaken when the patient had been suitably treated with mercury previously, or even if no specific treatment had been carried out. In all he had treated 21 cases in this way; 10 of these had been so far improved that they were again able to follow their occupation, in some cases for two years. In 5 further cases a marked improvement, both subjectively and objectively, had been achieved. The remaining 6 cases had not been influenced by the treatment. In the discussion, HALBAN (Lemberg) spoke of permanent cures of general paralysis of the insane having been achieved by intercurrent suppuration attended by high fever. He supported the idea of Donath that his injections might produce a similar effect on the process.

NINTH INTERNATIONAL VETERINARY CONGRESS.

[FROM OUR SPECIAL CORRESPONDENT.]

THE principal veterinary surgeons of the world met recently at The Hague, and after lengthy discussion they passed a number of resolutions which, when they become law, will prove of great benefit to the community at large. H.R.H. Prince Henry of the Netherlands, Duke of Mecklenburg, took a great interest in the proceedings and was present on several occasions. W. C. Shimmel, Professor of the State Veterinary School, occupied the President's chair. The British representatives, as regards numbers, compared very unfavourably with those of other countries; there were fifty of them present, amongst whom were Sir John McFadyean, Professor J. R. W. Dewar (Edinburgh), Professor A. E. Mattam (Dublin), Professor W. O. Williams (Liverpool), Professor Wooldridge, Professor Bradley, and Professor Hobday.

Cancer.

Dr. E. F. BASHFORD, Director of Imperial Cancer Research, read a paper on the etiology and pathogeny of malignant new growths, especially of cancer. His demonstration by the aid of lantern slides was greatly appreciated.

Sanitary Control of Milk and Meat Supplies.

The sanitary control of milk and obligatory systematic inspection of meat provided a subject of general interest, and some good papers were read.

Mr. A. D. MELVIN, D.V.S., chief of the Bureau of Animal Industry at Washington, presented a report on the meat inspection service of the United States Government. The position taken by the United States Government authorities is very well illustrated in the following principles:

(*a*) The fundamental thought is that meat should not be used for food if it contains tubercle bacilli, if there is a reasonable possibility that it may contain tubercle bacilli, or if it is impregnated with toxic substances of tuberculosis or associated septic infections.

(*b*) On the other hand, if the lesions are localized and not numerous; if there is no evidence of distribution of tubercle bacilli through the blood, or by other means, to the muscles, or to parts that may be eaten with the muscles; and if the animal is well nourished and in good condition, there is no proof, or even reason to suspect, that the flesh is unwholesome.

(*c*) Evidences of generalized tuberculosis are to be sought in such distribution and number of tuberculous lesions as can be explained only upon the supposition of the entrance of tubercle bacilli in considerable numbers into the systemic circulation. Significant of such generalization are the presence of numerous uniformly distributed tubercles throughout both lungs; also tubercles in the spleen, kidneys, bones, joints, and sexual glands, and in the lymphatic glands connected with these organs and parts, or in the splenic, renal, prescapular, popliteal, and inguinal glands, when several of these organs and parts are coincidentally affected.

(*d*) By localized tuberculosis is understood tuberculosis limited to a single or several parts or organs of the body without evidence of recent invasion of numerous bacilli into the systematic circulation.

These principles having been adopted, the following rules have been promulgated for the guidance of inspectors in disposing of tuberculous carcasses:

Rule A requires that the entire carcass shall be condemned under the following conditions:

When it was observed before death that the animal was suffering with fever.

When there is a tuberculous or other cachexia, as by anaemia and emaciation.

When the lesions of tuberculosis are generalized.

When the lesions are found in the muscles or intermuscular tissue, bones, or joints.

When the lesions are general in one or both body cavities.

Rule B.—An organ or a part of a carcass shall be condemned when it contains lesions of tuberculosis.

When the lesion is immediately adjacent to the flesh, as in the case of tuberculosis of the parietal pleura or peritoneum, not only must the membrane or affected part be condemned, but also the adjacent thoracic or abdominal wall.

When it has been contaminated by contact with tuberculous material.

An organ shall be condemned when the corresponding lymphatic gland is tuberculous.

Rule C provides in substance that carcasses showing only limited or isolated lesions of tuberculosis without evidence of progressive origin may be passed for food after the parts containing the localized lesions have been removed and destroyed.

Rule D.—Carcasses which fall in between the two extremes noted in the above Rules A and B are allowed to be rendered into lard or tallow, if the distribution of the lesions is such that all parts containing tuberculous lesions can be removed before rendering. After the tuberculous areas are removed from such carcasses, they must be cooked at a temperature not lower than 220 F. for not less than two hours.

In the concluding paragraph of this address it is easy to trace the well-developed commercial instinct of the U.S.A. Government, which is making strong endeavours to re-establish the confidence of foreign nations in their export meat trade, and it seems to suggest that the recent disclosures in connexion with the meat-packing industry are not likely to be repeated, as is seen in the following extract:

"The law of June 30th, 1906, absolutely prohibits the use of all preservatives or colouring matters which are unwholesome. The Secretary of Agriculture in carrying out this law has declared that the only preservatives which may be used on meats or meat food products for inter State trade are common salt, sugar, wood smoke, pure spices, and saltpetre. With regard to shipments to foreign countries, the regulations provide that upon written direction of the foreign purchaser preservatives may be used which do not conflict with the laws of the country to which the particular meat food products are to be shipped. If, for example, a foreign country permits the use of borax in meat food products, it could hardly be expected that the United States Government would attempt to prevent the use of this preservative in foods which were to be shipped to such a country. If that country, however, had a law prohibiting the use of borax, a strict inspection would be made to see that this law was not violated?" "I think," said Mr. Melvin, "this will make it very plain to all of you that the United States Government is not only endeavouring to protect its own citizens by every legitimate means, but that we are also doing everything in our power to uphold the laws of the countries to which our meat food products are shipped."

Mr. A. M. Trotter, Glasgow abattoir, strongly advocated State control of milk and meat supplies. He said:

> In the control of our milk supply the medical officer of health claims to be the sole directing official on whom should devolve the responsibility of supervising the milk supply in all its complex ramifications, thus relegating the veterinary inspector to a position purely auxiliary—indeed, of little better status than a layman. This, of course, must be checkmated, and every effort exerted to ensure that the supervision of the health of the animals will be entrusted to veterinarians.

He also expressed regret, in the interest of public health, that the work of meat inspection was not entirely in the hands of veterinarians; in many instances it was confided to inspectors of nuisances and sanitary inspectors—men, no doubt, inspired with the desire to carry out the work faithfully and well, but unfortunately not equipped with the requisite training.

Tropical Diseases of Domestic Animals.

The prophylaxis of tropical and sub-tropical diseases of domesticated stock was ably dealt with by Dr. A. Theiler, C.M.G., Veterinary Bacteriologist to the Transvaal Government, who used the term "tropical disease" to designate the maladies occurring in domesticated animals of Africa. For the purpose of his deliberations he selected the following grouping to serve as his base:

A. Diseases transmitted by winged insects (flies and mosquitos):
   1. Trypanosomiases. 2. Ultravisible vira.
B. Diseases transmitted by ticks:
   1. Piroplasmoses. 2. Spirochaetoses. 3. Ultravisible vira.

Dr. Theiler from practical experiments expressed the conviction that a fly and an animal were required for the completion of the life cycle of a trypanosome—namely, the host and the intermediary host. Animal and fly formed a chain of two links necessary for the maintenance and propagation of the disease. It was evident that when this chain was broken or unlinked the diseases must disappear. To summarize, the objects of the prophylaxis of diseases carried by flies and mosquitos are:

1. To save the greatest number of exposed susceptible animals by rendering them immune, and also by fly-proof seclusion.
2. The eradication of the disease by destroying the reservoir or the host.

The prophylaxis of diseases carried by ticks can be summarized as follows:

A. Diseases in which the immune animal does not act as a reservoir—East Coast fever, heartwater.
   (*a*) To save the greatest number of animals exposed to infection by moving them out of infected areas in such a way as to leave the infected ticks behind.
   (*b*) Eradication of the disease by starving.
B. Diseases in which the immune animal acts as the reservoir—*P. pigeminum*, *P. equi*.
   (*a*) To save the greatest number of exposed susceptible animals under present conditions recourse can be had to moving out of infected areas, and to inoculation within infected areas.
   (*b*) Eradication of these diseases impracticable just now under South African conditions. Theoretically possible by starving the ticks.

Importation of cattle out of tick disease infected countries into clean but tick infected countries, or into clean countries in which the ticks can thrive should be prohibited.

Dr. Theiler corrected the impression that piroplasmosis of sheep existed in South Africa; its previous record was based on an error in the diagnosis.

State Control of Serums.

The Governmental control of serums and bacterial products, and their preparation by Government, was keenly discussed.

Mons. E. Leclainche (Toulouse) stated that at the present moment the preparation of microbic products was in France almost exclusively confided to the inventors of the methods and their pupils. This restriction evidently offered great advantages, for endless modifications must be made in the original processes in order to make them constantly more adapted to practical use. The question of direct preparation by Government has been examined, and solved in the negative. The French Government was of opinion that it could not accept the risks inseparable from the utilization of the different methods.

Dr. H. E. Reesser (Rotterdam) was of opinion that the preparation of serums by the State was preferable to that by private manufacturers. Legal provisions for the preparation, distribution, and preservation of serums and bacterial products were unnecessary when they were prepared by the State, except in so far as the provisions applied to the institute itself. After a heated discussion, the Congress came to the conclusion that the control of serums and bacterial products should be in the hands of the Government, and sold by them only to members of the medical and veterinary professions.

Other Subjects.

The following subjects were also discussed:

The diagnosis of infectious diseases by means of the recently discovered reactions of immunity.

Etiology and pathogeny of malignant tumours, especially of cancer.

Vaccination against tuberculosis.

Anatomo-pathological and histo-pathological diagnosis of rabies.

Pathology and therapeutics of streptococci infections in the domestic animals.
Teaching of zootechny.
Hygiene in the maritime transport of cattle.
Teaching and laboratories for research.

Next Meeting of the Congress.

The next International Veterinary Congress will be held in London in 1913. It is earnestly hoped that the British Government will grant an adequate sum of money for the purpose of receiving foreign guests in a suitable manner. There is no doubt that the British members of the Congress have received great benefit from the discussions, but it should certainly be mentioned that the committee had not appointed efficient interpreters for their benefit, and that it was exceedingly difficult to obtain any information.

VACCINATION AND EXEMPTION IN 1908.

IN order to note the effects of the operation of the Vaccination Act of 1907, which provided increased facilities for obtaining exemption, we have—in continuation of the table published in the JOURNAL of July 4th, 1908, p. 38, showing the number of exemptions from vaccination in the places mentioned during the first quarter of 1907 and 1908 respectively—tabulated a series of supplementary returns from a number of unions and districts in various parts of the country. Relating to the second half of 1908 (July 1st to December 31st), the figures in the accompanying table show the births, vaccinations, and exemptions. Some months ago it was stated in Parliament that the total exemptions for the whole year 1908 amounted to 17.2 per cent. of the births. The actual figures were:

	Births.		Exemptions.		Percentage.
1908...	942,611	...	162,800	...	17.2

In view of the enormous efforts of the antivaccinators to entice parents into making declarations of exemption, it is almost surprising that the number of exemptions is not larger, especially when the way of escape is now made so extremely easy. In the absence of small-pox, the numbers of objectors will probably increase unless something more is done to combat the energetic propaganda against vaccination on a larger scale than has hitherto been attempted.

A glance at the table shows the same peculiar feature which was illustrated in the table published in July, 1908, giving figures for the first quarter of that year. The point to which we refer is the curiously uneven distribution of "conscience" in this matter in different parts of the country. Taking the West Derby Union (Liverpool), which is the largest union in the country, it will be noted that only 167 exemptions were taken out, though there were no less than 9 065 births in the half-year. Thus the exemptions were only 1.8 per cent. of the births. Keighley provides a great contrast and maintains its reputation as an antivaccination centre. Here, out of 560 births there were no less than 451 exemptions, or 80.5 per cent. Taken generally, the table shows that the larger towns and centres of population are less disposed to give up vaccination than the rural and more scattered areas. The metropolitan areas included in the table—Hampstead, St. George's, Bermondsey, and Marylebone—and such unions as Hull, Plymouth, West Derby, Manchester, and Leeds, all show a comparatively small amount of dissent. Even in the same union different but adjacent districts vary considerably in their attitude towards vaccination.

Until completed returns are issued it will not be possible to estimate the precise effects of the new Act. Many of the cases now returned as exempted would have been returned as defaulters before 1907, as in a number of places there was much laxity in the administration, and exemptions were not always obtained where vaccination was neglected. It is obvious, however, that a much larger number of children are left unprotected, and this must sooner or later be a matter of grave anxiety to the health authorities in this country. A considerable number of parents are merely indifferent and careless, and an effort should be made at least to bring before the notice of such as these the serious importance of the subject.

Return of Vaccinations and Exemptions and the Number of Births in Certain Unions. July 1st to December 31st, 1908.

Union.	Births.	Vaccinated.	Exempted.
Hampstead	526	468	65
St. George's	986	802	48
Bermondsey	2,037	1,455	86
Marylebone	1,972	1,553	69
West Derby (Liverpool) ...	9,065	6,772	167
Leeds	3,286	2,293	202
Hull	1,103	745	56
Plymouth	1,315	1,009	71
Manchester	2,018	1,223	57
Rochdale	1,426	681	653
Bradford	2,314	1,455	544
Stoke-on-Trent	2,748	1,626	359
Bingham	242	109	55
Basford	2,631	1,208	876
Worksop—			
Worksop District	307	108	167
Norton	348	112	79
Charlton	228	103	53
Chester-le-Street—			
No. 1 District	766	337	227
No. 2 ,, ...	598	345	64
Brighton—			
Hove District	294	124	48
Preston ,, ...	282	145	91
Shoreham ,, ...	93	106	126
Steyning ,, ...	56	36	9
Gainsborough—			
Gainsborough District ...	276	85	167
Marton ,, ...	52	14	7
Misterton ,, ...	111	47	48
Scotter ,, ...	44	17	20
Colchester	420	305	92
Ashby	766	284	367
Chedworth	42	31	8
Bibury	52	45	2
Droxford	136	110	18
Ripon	154	119	14
Lewes—			
Lewes District	126	37	75
Chailey ,, ...	98	37	37
Ibstock (Leicestershire) ...	202	28	139
Chatteris	102	57	36
Market Bosworth	68	38	22
Yeovil	311	161	113
Gosport	246	201	22
Bideford	240	105	64
Keighley	560	50	451
Bingley	195	20	117
Haworth	80	11	67
Newark	398	156	183
Bromley	1 092	804	131
Gloucester	731	227	333
Bristol	4,099	2,036	518
	45,411	28,129	7,202

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

In our issue of last week an account, beginning on p. 1077, was given of such events as marked the commencement of a new medical year at the majority of the medical schools. References to some further occurrences of the same order elsewhere follow. In Edinburgh classes in the Faculty of Medicine of the university and in the Extra Academic School commenced on October 1st without formal ceremony of any kind, and a similar course appears to have been adopted at varying dates throughout Scotland, as also at the universities of Durham, Sheffield, Wales, and the various medical centres in Ireland, so that medical study is now in full progress once more throughout the British Isles.

UNIVERSITY OF MANCHESTER.

Term commenced in the Medical Faculty of Victoria University on October 1st, being inaugurated by a ceremony at which Dr. G. R. MURRAY, Professor of Systematic Medicine in the University, delivered an address. In its course Dr. Murray pointed out that no curriculum for medical students could be drawn up for all time. The principles of true education remained the same, but their practical application to medical training must be readapted from time to time as fresh developments in medical science and practice took place. A curriculum which fulfilled the requirements of to day would not do so five or ten years hence. Too frequent changes were not desirable, but it was evident that from time to time methods of instruction and examination should be reviewed so as to bring them into line with recent advances in knowledge. For this purpose it would be a great advantage to have a conference occasionally at which those engaged in teaching various subjects might meet to discuss the best methods of education and the true relationship of the different parts of a medical student's education to each other. There was a tendency to cling to old empirical methods of teaching long after the original reason for their adoption had passed away. One object always to be kept in view was that of training men how to observe, so that they might continue to go on learning all their days. Lectures accompanied by the exhibition of specimens and lantern demonstrations had an added value, in that they helped to bring out a capacity for mental visualization of things heard and read. It was evident that either the present five years' curriculum was too short or that too much was crowded into it. Taking the former view, the new University of Bristol had wisely fixed from the outset five and a half years as the minimum period: while the University of Wales had gone further and imposed a curriculum of six years. In any case, in dealing with the teaching of the preliminary sciences it should be borne in mind that the ultimate object was the training of medical men. In a five years' curriculum they could not be taught these subjects as if they were on their way to a degree in them. The orator also pointed out that those who went into general practice were apt to consider that they had no opportunities for making observations and thus adding to the general stock of knowledge. This was not the case, for many important phases of disease could be better observed in general practice than in hospital wards. As examples of what could be done, he instanced the splendid work done by Dr. James Mackenzie in the investigation of cardiac disease, and the accurate and continued observation of cases of Graves's disease carried out by Mr. A. Maude of Westerham. A hopeful sign of the times was the tendency to organize definite campaigns against certain diseases such as malaria, yellow fever, sleeping sickness, tuberculosis, and cancer. Similar organized attacks might well be made on other groups of diseases such as pneumonia. There was a great need for research scholarships in medicine, and in the early future it seemed likely that, after finishing their ordinary training, many more students would devote some time to special work such as was done by those who intended entering the sanitary service. There was a good attendance, and Professor Murray received a most cordial reception.

UNIVERSITY OF LIVERPOOL.

The inauguration of the session of the Medical Faculty of the University took place on October 5th, when Mr. C. A. BALLANCE, Surgeon to St. Thomas's Hospital, delivered an address. After a full and appreciative reference to Liverpool as a city and port famous not only for its commerce and shipping, but also by reason of the literary and intellectual eminence attained by many of its citizens, he said that the university had its origin in the wisdom, foresight, and enterprise of the citizens, and its work already gave assurance of future greatness. The fact that universities did not consist merely of bricks or stones and mortar had been forcibly brought home to him in a conversation with Mr. Roosevelt, when he remarked on the beauty of the marble buildings of Harvard University, which cost millions of pounds. "Yes," replied Mr. Roosevelt, "the buildings are very fine, yet in the case of universities in general, how much better it would be to spend money not first on buildings, but to endeavour to induce the wisest and greatest men in the world in the various branches of knowledge to come to fill the professional chair!" Proceeding to sketch the remarkable evolution and advance of medical and surgical science which he had himself witnessed, the lecturer said that much of what was now current surgical practice was, when he was a student, either altogether unknown or too hazardous to attempt. Equally striking had been the advance in pathology and medicine, notably the knowledge of infectious diseases and of natural and acquired immunity. Time would only permit of a mere mention of the fascinating story of the fight against tropical diseases in which the Liverpool school had played so splendid a part. The pageant of medicine and surgery of the past thirty years had been the most glorious of all time, and his object in his review was to stimulate the ambition of the students, to fire their energies, and to clench their resolves to take a manly and noble part in the conflict and victories of the future. Their profession demanded not a minimum of general knowledge but the maximum which could be obtained, for to succeed as a doctor one must be not only scientific but human also. What was largely wanted in the public schools and in ordinary life was some middle course between the German method of no play and the English one of all play. Games and amusements occupied too prominent a place in English life, and it seemed to him that there was nothing but the obligation and privilege of personal service for national defence, which would wean the English people, high and low, from their present condition of indiscipline, lazy indolence, and amusement and the vice of betting on every occasion, to the noble virtues of self-respect, unselfishness, and self-sacrifice. His autocar had been stopped a short time ago by a crowd round the doors of a building in a London suburb, and he was informed that the crowd consisted of the unemployed, who were waiting to enter a music hall. The same class could always find money to travel in its thousands, not to a rifle range but to a football match.

A cordial vote of thanks was proposed by Mr. RUSHTON PARKER, who said the address was the best inaugural address he had ever listened to, and was seconded by Professor SHERRINGTON. Mr. Ballance was afterwards entertained at dinner in the University Club by members of the Faculty of Medicine.

UNIVERSITY OF LEEDS.

The winter session of the Faculty of Medicine of the University of Leeds was opened on Friday the 1st of October, when the annual address was given by Mr. Justice FLETCHER MOULTON. Taking as his subject some considerations on health and disease, his lordship dealt at length and in a very fascinating manner with many of the abstruse problems in connexion with infection and with the question of immunity, natural and acquired. In the evening the annual dinner of the profession of Leeds and district was held in the library of the medical school. This was well attended. The toast of the chief guest, Mr. Justice Fletcher Moulton, was most happily proposed by Professor Hellier, who was in the chair. After referring to the debt of gratitude under which the school of medicine was to his lordship for the admirable address he had

delivered in the afternoon Dr. Hellier referred to his evidence on vivisection before the Royal Commission. "Very few medical men," said he, "ever practise vivisection—not one in a hundred. But we view with the greatest sympathy the work of those who do. They are the pioneers of our art, and we regard with jealous impatience any one who would hinder them. We know what they have done for us already. If I may take a single illustration, we should find it hard to express the feelings with which we regard the gift of antidiphtheritic serum. Diphtheria used to be a really dreadful disease to treat. You approached it with anxiety and uncertainty as to the course it might take and the sequelae which might follow, and with a sense of the impotence of the remedies at your disposal. Now we have a splendid remedy. The disease is shorn not of all its dangers, but of its worst terrors. This is a tremendous gain. We know that we owe this to the methods of experimental medicine. These methods and those who use them have been attacked, as it seems to us, unreasonably and fanatically. But we are not always good at fighting our own battles. I have an idea that some excellent practitioners are not at their best in the witness-box. I will not venture to take his lordship's opinion on that point. It was with pleasure, not unmixed at first with some surprise, that we found that a doughty champion had arisen to fight our cause—one who was not retained on our behalf to make the best he could of our cases, but one who had made a careful and independent study of the subject in the interests of truth and humanity. As we read the evidence given by Sir John Fletcher Moulton before the Vivisection Commission we were filled with admiration of that lucid and forceful deliverance. We felt that the opportunity of seeing him and giving some slight expression to the gratitude we feel is most welcome to us. I may express your feelings inadequately, gentlemen, but I think you yourselves will not leave Sir John Fletcher Moulton in doubt to-night of their depth and sincerity." The toast of "The Faculty of Medicine of the University of Leeds" was proposed by the Lord Mayor of Leeds (Alderman F. J. Kitson), and was responded to by Mr. B. G. A. Moynihan in the following terms: I beg to thank you for the enthusiasm with which you have acclaimed the toast of "The Faculty of the University of Leeds." The faculty, under its new name, would appear to be in the first flush of youth, but it is, in fact, as all of you are aware, an ancient and an honourable body. The members of the faculty of to-day are the descendants and successors of the men who have served the infirmary faithfully for a century and a half, and who were the founders of the old Leeds School of Medicine. It can certainly be said, with unimpeachable accuracy, that no other hospital in Britain produced during the nineteenth century (which began with Wm. Hey, the dresser to John Hunter, and the friend of Astley Cooper, and ended with Mayo Robson), an equal number, or so unchecked a series, of surgeons of the first rank, as the General Infirmary at Leeds. They were great even in their mistakes. I have often heard Mr. Jessop tell how, when he was house-surgeon, he would begin the day's work by making the *post-mortem* examinations. He would then visit the wards to arrange that two beds should be placed together so that three patients might lie in them, for help in the operation theatre. The inevitable result followed, and erysipelas and hospital gangrene were never absent for long. But Tom Nunnerley was equal to the occasion, and he produced what has been described as the "best book ever written" on erysipelas. There was greatness even in the errors of these men. They were, indeed, notable men in their own day. The record of our past is one we cannot contemplate without a thrill of pride. But what of the future? The achievements of the past are worth little if they are not an incentive to better work in the future. And we cannot forget that the circumstances of our work have altogether changed, and if we are to match the work of our forerunners our methods must change also. During the last thirty years or thereabouts both medicine and surgery have ceased to be merely observational sciences; the symptoms and the processes of any disease do not chiefly depend for their elucidation upon clinical investigation, however refined or accurate. The experimental method has established itself as essential, thanks largely to the work of Lister. If we are to measure a man's work by the magnitude of the service he renders to mankind, then Lister has a strong claim to be considered the greatest of men, for it is platitudinous to say that he has been the means of saving more lives than all the wars of all ages have thrown away. Our work in the future lies therefore not only at the bedside, in the theatre, or *post-mortem* room, but in the laboratory also. The reputation of a university faculty in the future will depend, I imagine, not on the energy with which, in the operations of an ancient, harsh, and cruel law, the forced feeding of its youth in unending lectures is conducted, nor upon the success with which its members deal with the more pressing therapeutic problems of the moment, but rather upon its output of original scientific work. It is permitted to us all to dream dreams. It is by no means idle or futile to give play to our fancy, for the greatest men of action are always the greatest dreamers. In my own dreams I have seen the departments of the faculty very different from what they now are in any British university. What are the conditions at present? In one university the chief duty of the Professor of Systematic Surgery is to deliver a course of 100 lectures. It is difficult, I should imagine, for even the most fascinating of lecturers to hold the attention of the student through such a course as this. The giving of the lectures seems to occupy almost the whole time a man can devote to the work of his chair. In my dreams I see something quite different. I see the Professor of Medicine or of Surgery, the head of a department of young, fresh, intellectually active men, engaged, each of them, in the giving of some small number of lectures, but chiefly occupied in research. The presence of the professor, first among equals, should be to them an intellectual provocation. The whole staff should be busy with the problems which most urgently call for solution, or for which they have special opportunities of inquiry. Research should be correlated with clinical work. The man engaged in it should be conversant with the methods and informed with the spirit of the foremost clinics of Europe and America. They should be travelled men. And when they are called upon to do, say, a thyroid enucleation, they would instinctively emulate the methods and perchance achieve something of the success of Kocher; when they resect a stomach they would bear in mind the marvellous dexterity of the Mayos; they would endeavour to do a hysterectomy as well as Faure; to remove a mammary carcinoma as well as Rodman; a brain tumour as well as Horsley; to do anything as well as a Murphy or a Hartmann. It is true that they would occasionally visit a clinic where the languor would seem to indicate that it is always Sunday afternoon. It takes all sorts to make a world, and we have all to learn not only what to adopt, but what to avoid. These, gentlemen, are the dreams in which I see our faculty maintaining, even perhaps enhancing, the great reputation it has enjoyed without interruption for so long a period. Happily, we can look with reverence upon the great men who have served the faculty in the past, and with wonder and admiration upon their accomplishments. I believe we can look with robust confidence and unfaltering hope to the future.

UNIVERSITY OF BIRMINGHAM.

Work for the winter session in the Medical Faculty commenced on October 4th; it was not inaugurated by any formal ceremony, but the date was nevertheless made notable among winter session commencements in the Birmingham Medical School owing to the many changes which it witnessed in the structural and other arrangements of the university. The departments of physics and chemistry have been removed to the new buildings at Bournbrook, where each has a separate block of its own. Part of the library has also been removed, though a large portion still remains in the old library in Mason's College. As the result of the removal of the physics and chemistry departments, there is in progress in the old buildings a considerable extension of the departments of botany, zoology, and physiology. Furthermore, at the commencement of this session there have been added nine new members to the professorial staff of the university; and another departure is to occur on October 20th, when honorary degrees will be conferred on a number

of distinguished persons. The social welfare of the undergraduates has been considerably increased, for the advantages of the University Club have been thrown open to all the men, and the women's hostel, which is close to the new buildings of the university, is now in full working order. On account of the changes which are being made in the various departments, there will be some little inconvenience at first before everything can be in proper order, but there is not likely to be more than a very short delay in the completion of the alterations, except, perhaps, in the department of chemistry. The work at the hospitals is in full swing, and the lectures and classes have all been arranged and are well attended. Post-graduate demonstrations are being given weekly at the General and the Queen's Hospitals.

UNIVERSITY OF BRISTOL.

The opening of the winter session at Bristol took place on September 30th, and must be regarded as a red letter day, since it was the beginning of the first winter session of the new university, and as such was marked by the delivery of an address by Sir Isambard Owen, the newly-appointed Vice-Chancellor. He was introduced to the large gathering of laymen and professional men of all orders by Mr. P. J. Worsley, the chairman, who was preceded to the platform in the large hall of the university by a procession consisting of the Senate and the officers of the various faculties, all wearing academic robes. Before calling on Sir Isambard Owen to deliver his address, Mr. Worsley described briefly the importance of the occasion in the history of the city, and mentioned the names of some of those whom the city had to thank for the achievement of its ambition. In his address Sir Isambard Owen, after congratulating Bristol on its attainment to the rank of a university, as well as a cathedral city, gave a history of the rise of universities in general. Universities, he indicated, only dated back to the twelfth century, the first to be created being the University of Paris. In the following centuries they came into existence all over Europe, and after a period of great success, good work, and noble ambitions, gradually degenerated, reaching their lowest pitch about one hundred years ago. Since then matters had greatly improved, and recent years had been marked by the great strength of the university movement. There had been a good deal of discussion as to the meaning of the term "university," but historical research had recently shown that in its mediaeval sense the word "universitas" meant merely a corporation, and was a phrase applicable and applied to guilds of all characters. In those days skilled workers of every class esteemed it their right to supervise and control all similar work done in their neighbourhood, and the bodies nowadays known as universities were originally guilds of teachers of various branches of higher knowledge who banded together and constituted a corporation, reserving the right of admitting others to the privilege of membership. The designation of membership varied between "doctor," "master," and "professor"; though each of these terms now had its specific meaning, they were originally interchangeable titles, all implying that the holder was capable of teaching his art. In early days a bachelor of a faculty was not a full member of the university, but a kind of pupil teacher. Nor was the object of a university primarily the object of learning, but the protection of teachers. As for the universities of to-day, it should not be supposed that the sole end and aim of their existence lay in granting degrees; the secret of university vitality lay less in the insistence on examinations than in fitting men for their future life-work; in Germany only a minority of students ever proceeded to degrees. The work of higher teaching could not in practice be separated from the work of research; the two must go together. Of course a great investigator was not always a good teacher; nor would it be true to say that no one could be a good teacher who had not made some important contribution to knowledge; but it was no exaggeration to say that it was only safe in a progressive subject to commit the highest teaching to men who had had sufficient interest in it to induce them to labour for its advancement. Nor, indeed, could a man be regarded as fully capable of teaching the methods of science unless he was actually engaged in the practical use of those methods. In mediaeval times the final controlling power of a university lay in the hands of its chancellor, who was an ecclesiastical authority it thus came about that class distinctions were non-existent, for the Church sought for the best brains and sought them in all classes. Mediaeval universities, in short, were essentially democratic institutions, and at the University of Bristol he hoped to see the sons and daughters of all classes of society sitting side by side; towards the achievement of this end the wise decision of the corporation to set aside part of its gifts to the funds of the university for the foundation of scholarships would greatly contribute. A vote of thanks to the orator was moved by Professor Jordan Lloyd, who in the course of his remarks expressed a hope that in the University of Bristol their motto would be "Equal opportunities for all."

WESTMINSTER HOSPITAL.

The medical school of Westminster Hospital was among the many which this year waived all ceremony in connexion with the opening of another winter session beyond the holding of a dinner of old and present students. This took place on Tuesday, October 5th, at the Imperial Restaurant, under the chairmanship of Dr. R. G. Hebb, at one time lecturer on forensic medicine, but now physician and physician pathologist to the hospital and lecturer on medicine and pathology to the school. He himself took charge of the toast of the evening, that to "The School and Hospital," and in the course of his remarks drew attention to the rapid losses by death which the school and hospital had experienced during the last year or two, and more especially to the latest blow of all, that caused by the death of Dr. Rivers Pollock, obstetric physician to the hospital, news of which had but just been received. The toast was acknowledged on behalf of the hospital by Sir George Bartley, who deplored the increasing difficulty in raising funds for the voluntary support of hospitals. If it continued it seemed almost inevitable that municipalization of hospitals should be brought into force. The substitution of rate-supported for voluntarily supported institutions would, he thought, be disastrous in its effects, and every effort should be made by the public to avoid it. Those who derived most benefit from the hospitals were those who gave them the least support, even relative to their means. Unfortunately, the present tendency was to encourage the working classes to expect all assistance to come from without. It was a mistaken policy, which should give way to encouragement of habits of providence and self-help. The reply on behalf of the school came from its dean, Mr. E. Rock Carling, who was able to report that the school was making good progress; this was the more satisfactory as in London medical schools as a whole universal depression reigned. The arrangements whereby teaching of the preliminary subjects was carried on at a common centre at King's College had worked very happily and would in consequence be adopted permanently. The other toasts included one to "Past and Present Students," proposed by Sir Robert Hudson and answered by Dr. Shepley Part, and a toast to "The Chairman," proposed by Mr. Charles Stonham, C.M.G., senior surgeon to the hospital and lecturer on surgery in the school.

ENTRANCE SCHOLARSHIPS AT THE MEDICAL SCHOOLS.

St. Bartholomew's Hospital.—The competitive examination for entrance scholarships, which commenced on September 23rd, resulted as follows: Of the two *Senior Scholarships in Science* (each of the value of £75) the first was awarded to Mr. A. G. Evans, of Trinity College, Cambridge, and the other divided between Mr. A. C. Roxburgh, of Trinity College, Cambridge, and Mr. G. Sparrow, of Caius College, Cambridge; for the *Junior Scholarship in Science* (value £50) Messrs. P. O. Ellison and D. H. D. Wooderson were declared equal; the *Scholarship in Arts* (value £100) went to Mr. C. Cook, Magdalen College School, Oxford, and the *Jeaffreson Exhibition in Arts* (value £50) to Mr. G. C. Linder, Brighton Grammar School.

Charing Cross Hospital.—The competitions for entrance scholarships at this medical school have resulted in the following awards: The *Livingstone Scholarship*, value 75 guineas, Mr. F. J. Hallinan; the *Huxley Scholarship*, value 50 guineas, Mr. A. B. S. Jones; a *University Scholarship*, value 50 guineas, Mr. J. Milton Davies, and a *Universities Exhibition*, value £21, Mr. Abel Evans. A further entrance scholarship of 30 guineas has also been awarded to Mr. H. W. Williamson. The *Epsom College Scholar* is Mr. D. W. Pailthorpe.

St. George's Hospital.—The *Entrance Scholarships in Anatomy and Physiology for University Students*, of the value of 70 guineas and £50 respectively, have been added together and divided equally between Mr. E. W. F. Grellier, of Downing College, Cambridge, and Mr. W. E. Waller, of University College, Oxford.

Guy's Hospital.—Of the two *Entrance Scholarships in Science* for junior students, one of the value of £150 has been awarded to Mr. C. H. Gould, the other, value £60, to Mr. J. Y. Moore. Both are members of the Preliminary Science Class at the school. The winner of the *Scholarship in Science for University Students* is Mr. T. B. Heaton, B.A., of Christ's College, Oxford. Its value is £60. Of the two *Entrance Scholarships in Arts* awarded the first, of £100, has been equally divided between Messrs. H. F. T. Hogben, of Bedford Grammar School, and W. M. Lansdale, of St. Olave's and St. Saviour's Grammar School, and the other, value £50, awarded to Mr. J. Kyle, of the University Tutorial College.

King's College Hospital.—The *Entrance Scholarship in Anatomy and Physiology* for university students has been awarded to Mr. P. L. Gibson, of Trinity College, Oxford; its value is £50.

London Hospital.—The following entrance scholarships have been awarded: The *Price Scholarship in Science*, value £120, Mr. J. Bostock; the two *Science Scholarships*, one of the value of £60, the other of £35, Messrs. A. G. Winter and R. J. M. Love respectively; the *Price Scholarship in Anatomy and Physiology*, for university students, value £50, Mr. J. R. Marrack, of St. John's College, Cambridge. The *Epsom College Scholar* is Mr. H. G. Winter.

St. Mary's Hospital.—The entrance scholarships awarded this year are as follows: Two *University Scholarships*, each of the value of 50 guineas, to Mr. H. Thomas and Mr. T. H. Phillips, both of University College, Cardiff; Three *Open Scholarships in Natural Science*, one of £145 to Mr. R. W. Davies, King Edward's School, Birmingham, one of £50 to Mr. F. W. MacAlevey, Mount St. Mary's College, Chesterfield, and one of £25 to Mr. J. E. Cheesman, of the South Western Polytechnic. The *Epsom College Scholar* is Mr. D. R. Alexander.

Middlesex Hospital.—The competition for entrance scholarships resulted as follows: The *First Entrance Scholarship* of £100 was awarded to Mr. H. M. Wheeler, the *Second Entrance Scholarship* of £50 to Mr. T. C. Kidner, the *Third Entrance Scholarship* of £25 to Mr. A. O. Gray; for the *University Scholarship* of £50, Messrs. P. L. Hardy and H. J. Shields, both of Cambridge, were declared equal. To the newly created *New Zealand Scholarship* was appointed Mr. C. E. Procter, on the nomination of the University of Otago, and to the *Epsom (Lucas Freer) Scholarship*, Mr. C. E. Procter.

St. Thomas's Hospital.—The entrance scholarships awarded this year are as follows: The *Entrance Scholarship in Anatomy and Physiology* for university students (value £50), Mr. W. M. Oakden, of Cambridge University; the two *Entrance Scholarships in Science* (combined value £210), Messrs. A. R. C. Doorly and N. P. Lamb; the two *Scholarships in Art*, Messrs. D. C. Thomas and P. G. S. Davis; the *City of London Scholarship*, Mr. G. R. Bird; the *Merchant Taylors Scholarship*, Mr. T. G. Gimlette. The Epsom scholar of the year is Mr. O. D. Brownfield.

University College Hospital.—Of the two *Entrance Scholarships in Anatomy and Physiology*, each of the value of 80 guineas, one has been awarded to Mr. G. C. Clubb, D.Sc., and the other to Mr. Julian Taylor. They are both old students of University College, London.

Westminster Hospital.—Of the two *Scholarships in Arts*, the first, value £60, has been awarded to Mr. M. C. Breese, and the second, value £40, to Mr. A. M. Hughes. The corresponding *Scholarship in Natural Sciences* has gone to Mr. H. J. Hoyte; and the *Scholarship in Anatomy and Physiology*, value £70, for university students, to Mr. S. B. White. The Epsom scholar is Mr. J. S. Ranson.

LITERARY NOTES.

By a decree dated September 15th the Italian Minister of the Interior approved the official *Pharmacopœia* of Italy, which is to take the place of that which received the approval of the Government on March 1st, 1902.

The first number of the *Local Government Review* will appear on November 1st. It is described in the prospectus as "a new monthly review devoted to the impartial, authoritative, and adequate treatment of all local government questions." Among these are mentioned public health, education, housing, the relief of distress, the care of the sick, the aged, and the insane, unemployment, rural depopulation, allotments, and small holdings, municipal finance, highway administration, and the protection of public rights. The circle of men and women (it is said) who take a keen and intelligent interest in local government questions is rapidly growing wider. They look for something better than scrappy, attenuated paragraphs; something more than mere items of local news, yet at the same time something less than the dry-as-dust technical contributions which appear in professional and class publications. Precisely the same want is felt by members and officials of local authorities. What is required, in short, is a medium in which local government questions shall be dealt with on the broad lines followed by the existing great reviews in their treatment of political, national, and imperial questions—a medium which shall be a worthy exponent and representative of local self-government in all its aspects and bearings. The *Local Government Review* is intended to meet these needs. In the first list of contributors we note the name of Dr. H. R. Kenwood, medical officer of health, Borough of Stoke Newington; Dr. G. F. McCleary, medical officer of health, Borough of Hampstead; Dr. David Nabarro, Sir Thomas Oliver, Mr. J. E. Purvis, M.A., Dr. George Reid, medical officer of health, Staffordshire County Council; and Dr. H. Meredith Richards, medical officer of health, Croydon.

The Editor of the *Medical Officer* will publish early in the New Year a directory of the whole public health service in England, Scotland, and Wales. The directory will include full particulars of the whole staff of sanitary authorities and school inspection officials. If any medical officer has not received a form for filling up, he is requested to communicate with the Editor at 36, Whitefriars Street, E.C.

In the Section of Anthropology of the British Association Mr. John Maclean read a paper on the Blackfoot Medical Priesthood. He defined the priests as *shamans* [let any frivolous person who may see an opportunity in this word remember Johnson's dictum that he that would make a pun would pick a pocket!], conjurors, doctors, prophets, and priests, assigning each of these classes different grades in the priesthood. Before initiation the candidate has to undergo a period of voluntary seclusion, during which he fasts and sees visions. Speaking of diseases, Mr. Maclean said the Blackfeet were especially liable to small-pox and consumption. In discussing the causation of diseases, special stress was laid on the influence which the belief in evil spirits had upon the minds and bodies of the natives. Mr. Maclean then treated of the medicine man in connexion with religion, such subjects as animism, sacred stones, sacrifice, spiritualism, hypnotism, prophecy, and incantation being discussed, as well as medicine songs, charms, and amulets. Lastly, he considered native medicines and remedies, and discussed the value of the work of the medicine men among the natives, and the influence exercised by them on the native religion.

The doctor figures largely in the fiction of the day, either in a sensational way as a scientific "superman," or as a mixture, in varying proportions, of quack and fool. Even medical writers of fiction make mistakes which show that the knowledge of their original profession with which they may have started in life has left but a faint impression on their memory. Yet, as we have more than once said, doctors alike from their experience and their training, should know more of human nature in its naked-

mess than men of any other class. What reminiscences might not be written by men who have seen so much and at such close quarters! Of course the secrecy to which every practitioner is bound stands in the way of such records. But one cannot help regretting that an amount of material which would furnish plots for innumerable plays or stories taken direct from life lies locked up, like the learning unvivified by sack which Falstaff calls a mere hoard of gold kept by a devil—and all because there is not the genius to set in act and use. Villemessant used to say that every man had in him an article which could be got out of him by an editor who knew his trade. It may with greater truth be said that every doctor has in him at least one story worth telling, could any one be found to play the midwife to his brain. The Editor of the *Strand Magazine* evidently knows this, and wishes to encourage doctors to deliver themselves of any story they may have stored in their memory or lying as an undeveloped germ in the place where fancy is bred. As may be seen in our advertising columns, the proprietors of the *Strand Magazine* offer £50 for the best "medical story," which may be either fact or fiction. It must not exceed 6,000 words in length, and must be written by a qualified medical man. We may remark that the word "man" seems to us rather unfair to our sisters of the household, unless it be taken in the strictly *proper* grammatical sense in which "man" is considered to embrace woman. Stories must be sent before December 1st, 1909, to the Editor of the *Strand Magazine*, 8–11, Southampton Street, Strand.

MOTOR CARS FOR MEDICAL MEN.

Insurance.

Many medical owners have experienced a difficulty in arranging a satisfactory policy of insurance on their motor cars. The Medical Insurance Committee, established with the approval of the *Lancet* and British Medical Association in March, 1907, has for some time had this matter under consideration, and, as announced elsewhere in this issue, is now able to recommend insurance at Lloyd's. A good many different policies, all more or less of the same type, and all based on the principle that the amount of compensation shall be the replacement value, are available, including special policies for all the chief makes of car which entitle the holder to begin repairs at once with any of the repairers recognized by the makers; but, on the whole, the special "doctors' policy" seems best adapted to meet the requirements of medical men. Full details can be obtained on application to the Secretary and Agent of the Medical Insurance Committee, 429, Strand, London, W.C.

International Exhibition.

An international exhibition of motor cars will be held at Olympia, London, from November 12th to November 20th. There will be no other international exhibition in Europe this year, and among the 300 firms which will take part in the exhibition at Olympia are the principal manufacturers of Great Britain, France, Germany, Belgium, Italy, and America. The exhibition is organized by the Society of Motor Manufacturers and Traders with the co-operation of the Royal Automobile Club.

Self-Cleaning Plug.

A self-cleaning plug, invented by M. Pognon some years ago, has now been placed on the English market under the name of the Hobson-Pognon plug by H. M. Hobson, Limited, 29, Vauxhall Bridge Road, London, S.W. We are informed that the insulation is maintained under all conditions of varying temperature and compression, and that the plug has been found still usable after service in a car which had run 35,000 miles.

New Models.

The De Dion Bouton (1907), Limited, is about to issue a catalogue for 1910, containing a list of a variety of new models, the power varying from 8 to 35-h.p. nominal and the number of cylinders from 1 to 8. The principal departures from De Dion practice are the fitting of ball bearings to the road wheels in two of the smaller models only, a live type of back axle, and the standardizing of a V type 8-cylinder motor.

Excise Duties.

L. P.—The excise duties on motor cars to be imposed by the Finance Bill will take effect from January, 1910, only. The duty on motor spirit, on the other hand, took effect from April 30th, 1909. The duty on a 6-horse power car will be £2 2s., but under the provisions of the bill as amended in committee, a rebate of one-half will be allowed on proof to the Commissioners or Council granting the licence that the car is kept for professional purposes.

The Cambridge Scientific Instrument Company has issued a list (No. 57) of microtomes, embedding baths, and other appliances used by histologists.

Medical News.

At a meeting of University College Medical Society on Wednesday next, Mr. Arbuthnot Lane, F.R.C.S., will give an address on civilization. The chair will be taken by Mr. Arthur E. Barker, F.R.C.S., at 8.30 p.m.

The winter session of the West London Medico-Chirurgical Society was opened on October 8th by the delivery of the presidential address by Dr. Neville Wood, who dealt with the selection of patients for spa treatment.

The Royal Institute of Public Health has arranged a course of lectures for candidates desirous of qualifying for the position of health visitors, school nurses, etc. The lectures will begin on October 19th. Further particulars can be obtained on application to the Honorary Secretary, 37, Russell Square, London, W.C.

The Gresham Professor of Physic, Dr. F. M. Sandwith, will give four lectures on some medical aspects of the Poor Law Commission on Tuesday, Wednesday, Thursday, and Friday, October 26th to 29th. The lectures will be given in the City of London School, Victoria Embankment, near Blackfriars Station, at 6 p.m. on each day.

The autumn dinner of the Glasgow University Club, London, will be held at the Gaiety Restaurant on Friday, November 5th, at 7.30 p.m., when the Right Hon. Lord Rosebery, Chancellor of the University, will preside. Members intending to be present or to introduce guests are requested to send notice at once to the Honorary Secretaries, 4, Bryanston Street, Portman Square, W.

The Princess of Wales visited the National Hospital for the Paralysed and Epileptic, Queen Square, on October 9th, to receive jubilee purses. They contained in no case less than £10, and the total accruing to the funds of the hospital was over £8,000. The actual date of the jubilee of the hospital is November 2nd, on which day further purses will be received at the hospital by the Duchess of Albany; two days later certain new buildings are to be declared open by His Majesty the King. The total sum required for various much-needed alterations and improvements and to strengthen the financial position of the institution is £50,000.

In addition to the ordinary free winter course of clinical lectures and demonstrations given at the National Hospital for the Paralysed and Epileptic, which began on Tuesday last, two special courses will be given during the winter session. Dr. Gordon Holmes began a course of eight lectures and demonstrations on the clinical anatomy of the nervous system on Thursday last; the fee for this course is two guineas. Sir Victor Horsley will begin a course of four lectures on the surgical diagnosis and treatment of diseases of the nervous system on Monday, November 15th: the fee for this course is one guinea. Further particulars can be obtained on application to the Dean of the Medical School at the Hospital, Queen Square, Bloomsbury, W.C.

Mrs. Allinson, formerly dean of a well-known women's college in the United States, contributes to a recent number of the American *Nation* an article on "The Present and Future of Collegiate Education." From an abstract which appears in the July number of the *Brown Alumni Monthly* (a magazine representing the Brown University, Providence, Rhode Island) Mrs. Allinson notes a tendency to reopen the question of co-education, which ten years ago was in many parts of the States regarded as settled in the affirmative. She calls attention to co-education as the most economical method of educating the two sexes, and remarks that whether or not the boys are gainers by it, the girls certainly are. But she adds that under co-education student life is less rich for the girls than in separate colleges, and to some extent for the boys. The association of the two sexes, on the part of average students, tends to triviality, and to a certain hardening of the manners. It now appears, says Mrs. Allinson, that in co-educational colleges a repulsion between the sexes is springing up. Each sex avoids these colleges, or, in the same college, the classes preferred by the other. The State universities, which ten years ago treated the sexes exactly alike, now have more or less of segregation. Under these conditions the affiliated colleges would seem to have the advantage. But most of them have disabilities arising from financial limitations, and they suffer the disfavour of the champions of each extreme. Mrs. Allinson expresses the hope that some rich State university will take the lead in establishing separate undergraduate departments for men and women.

British Medical Journal.

SATURDAY, OCTOBER 16TH, 1909.

"SECRET REMEDIES."

THE volume, *Secret Remedies*, published by the British Medical Association at the end of July, has already commanded so large a sale that it is evident that it has appealed to a large section of the intelligent public. The first two impressions were absorbed in less than a month, and since then no less than three further impressions have been called for, the vast majority being sold through ordinary trade channels. The book has had a ready sale on railway bookstalls, and the demand shows signs of steadily growing. This large sale must be attributed to the intrinsic interest of the subject, for the book has not been at all largely advertised. Advertisements have appeared in the *Daily Telegraph*, *Manchester Guardian*, *Glasgow Herald*, *Spectator*, *Punch*, *John Bull*, *Pharmaceutical Journal*, and *Chemist and Druggist*. An advertisement tendered to the *Daily Mail* was at first declined, but afterwards accepted. The *Daily Express*, *Daily Chronicle*, *Star*, *Graphic*, and *News of the World* refused to insert the advertisement, and the veto in the case of these newspapers has been maintained. This fact casts a light at once curious and instructive on the attitude of part of the British newspaper press towards the quack medicine trade. It is, of course, common knowledge that the nostrum mongers advertise very largely, and the revenue derived by many newspapers from this source must be very considerable, but probably few members of the public realize that some newspapers reap so large a harvest from the nostrum advertisers that they are unwilling to accept a modest little advertisement of a book which explains what these much-vaunted remedies contain, and how much they cost to make. It is true that the contrast between these claims and these ingredients is striking; the former are as exuberant as the latter are commonplace. The romance of the advertisement, indeed, finds no support in the prose of the analyst. But all these our contemporaries profess a mission to educate the public, and might therefore have been expected to review the book at length, so that their readers might be enlightened as to the composition of the remedies which are said to cure consumption, and kidney disease, and gout, and epilepsy, and diabetes, and even cancer. Instead of so doing they take the extreme course of refusing an advertisement of the work. Wise in their own generation, they assign no reason for the refusal, and the suggestion that it is the fear of offending the quack drug sellers is permissible. It is not an incident of which the British press can feel proud, but it is one of which the medical profession must take note.

The amount spent annually by the public on secret remedies must be very considerable. A chemist in a northern town of some 12,000 inhabitants has spontaneously informed us that in his business, which he describes as modest, the "patent sales" verge on £600 a year. Judging by the receipts recorded in the annual returns of the Inland Revenue Department from stamps on "patent medicines" during the last ten years, the bulk of the trade is steadily increasing. The revenue from this source rose from £266,000 in 1899 to £334,000 in 1908. An attempt has been made in *Secret Remedies* to estimate the amount the public paid during 1908 for nostrums bearing the Inland Revenue stamp. The data are insufficient for a positive conclusion, but it seems probable that it was not far short of three millions, perhaps even rather more. It is safe to estimate that of this amount one-tenth or less was the profit of the retailer and that not less than nine-tenths went into the pockets of the nostrum makers themselves. If we allow another tenth for the cost of the ingredients of the remedies and the bottles or boxes in which they are packed, a rather liberal allowance, we have left a sum of about two millions and a half to provide the profit of the maker, and the cost of advertisement.

There is abundant evidence that the trade inflicts cruel hardship on the classes least well able to afford to waste money. Probably every medical man could give instances within his own knowledge of poor mothers pinching themselves to buy some expensive nostrum which its vendor asserts will restore her child or her husband or herself to health. A correspondent recently told us of a case in which a deserving widow, struggling for a livelihood, spent £5 on a nostrum proved on analysis to consist of a solutionof citric acid in coloured water. But many worse cases could be quoted. In this connexion it is worth while to note that of the 41 million bottles or packages stamped by the Inland Revenue in 1908, no fewer than 33 million were priced at a shilling or less.

Advertisement bold, and free, and mendacious is the motive power in the nostrum business, and the refusal of certain newspapers even to insert an advertisement of a book telling the public the truth about the best known of them, is disquieting evidence of the kind of reception which any proposals for legislation to control a trade, which is really nothing short of fraudulent, is likely to meet from a large section of the press. Possibly, if the Select Committee half promised by the Home Secretary is appointed next year, the evidence it will hear may bring about a change of attitude.

FULGURATION AND ELECTRIC SPARKING.

ELECTRIC sparking as a means of treatment of disease was first employed in 1890 by d'Arsonval, who found that currents alternating 100,000 or even a million times a second could be employed with safety provided that the voltage was high. The effect of sparking on the skin may be described as that of local burning, with the formation of a scab, and vacuolization of the intima of the arteries. Studies on the physiological effects of sparking on the organs and tissues in animals have demonstrated that defective skin is rapidly dried, and equally rapidly epidermized. The heart responds by arrhythmia and increase in the blood pressure, while the brain tolerates the sparking without appreciable changes. Bacteria are attacked and destroyed.

In discussing the value of this form of treatment, Dr. F. Davidsohn[1] finds that the curative factors are (1) mechanical action, (2) thermic action, (3) bactericidal action, and (4) electric effect on the cell and on the metabolism of the cell. Analysing these factors, he comes to the conclusion that arsonvalism has scarcely more than a suggestive effect on disease processes. He believes that it is otherwise with fulguration. Apart from the treatment of cancer,

[1] *Berl. Klin. Woch.*, July 12th, 1909.

fulguration is said to cure lupus (Strebel and Görl), warts (Linn), angiomata (Bergonié and Kabane), haemorrhoids (Doumer), alopecia areata (Brieger, Morton), psoriasis (Oudin), acne, acne rosacea, eczema, and itching (Laquer, Nagelschmidt), and ozaena (Bordier and Collet). The author himself only speaks of his own personal experience with regard to lupus, and even in regard to that disease he expresses himself somewhat ambiguously.

In connexion with cancer, the method of Keating-Hart is naturally dealt with. This method is described is glowing terms by Desplats, who treated 100 cases, among which 11 were severe ones, which had been regarded previously as inoperable. Five of these cases were "cured" in from twelve to sixteen months. Duret also met with 12 "cures" out of 52 inoperable cases, and "several of these remained free "from recurrence for nine months." Juge spoke of 11 "cures," while Pozzi and Laquerrière are reported as having observed several "cures." The point at issue turns on what is understood by the term "cure."

Keating-Hart expresses himself more guardedly. He says: "Je ne prétends pas avoir trouvé la "guérison définitive du cancer, mais mes résultats "semblent me donner le droit de réclamer que ma "méthode soit expérimentée largement." He claims to have obtained "cures," probably meaning temporary relief from symptoms, which just possibly may prove permanent, in 95 per cent. of cutaneous cancers, in 40 per cent. of glandular cancers, and in 20 per cent. of mucous cancers.

The majority of the German surgeons who have employed this method of treatment have failed to obtain equally good results. According to Dr. Davidsohn, this is due to faulty technique, false improvements in the apparatus, and wrong application. Of his own experience he states that he has treated five cases by fulguration without operation. This means that he was not able or not willing to follow out Keating-Hart's directions. What has become of these patients he does not state, save that in one case after fulguration without general or local anaesthesia, the tumour—a recurrent cancer of the breast—dried up, the pains ceased, and soon the tumour proper—that is, the portion which protruded beyond the level of the surrounding skin—disappeared. In three weeks a scar covered the site of the tumour, and after four weeks the patient was "apparently cured." He points out that even if this "apparent cure" does not last, the fulguration can be repeated without fear of local damage, which certainly is not the case with Roentgen rays. This may be so, but in the absence of further details, especially as to what is taking place in the deeper parts, we do not consider that the use of the word "cure" is justifiable, even in the qualified sense in which it is employed. We are still waiting for a single case in which the cure has been definite, and has persisted for a period of, say, three years. It is well known that many local manipulations are capable of temporarily arresting the progress of a malignant growth, but, sooner or later, the growth has always resumed its course, and the patient has died, save when the surgeon's knife has succeeded in removing the last trace of the disease. We do not speak of cutaneous growths of small size; many of these disappear almost spontaneously. But the cases for which another method of curing than the knife is sought are those in regard to which clinical experience has taught that the patient is doomed to death, which, in the present state of knowledge, is inevitable, though it may be more or less delayed.

FASTING PRISONERS AND COMPULSORY FEEDING.

Elsewhere we publish several letters on this subject. We have received a number of others for which we regret to be unable to find room. We need only state in general terms that all of them—with one exception, which deals almost entirely with the political side of the question—are in substantial agreement with the view that has been expressed in the Journal. We give a few extracts from these letters:

"M.D., F.R.C.S." says: "The letters which have "recently appeared, signed by some members of our "profession, on the subject of compulsory feeding of "recalcitrant prisoners, do not betoken a vast amount "of good sense on the part of the writers. To assert "that the passage of a soft rubber tube may 'tear the "'oesophagus' or cause 'pigmentary colitis' [we may "here remark that one paper, by a happy misprint, "exactly expressed the value of this opinion by "changing the adjective to *figmentary*] or in "some other way endanger life is arrant non-"sense. . . . If prisoners are kept in prison, it "is clearly the duty of the authorities to prevent "them committing other felonies, and it must not "be forgotten that suicide is a felony. The outcry "that would be raised against a prison medical officer "who allowed a prisoner to starve himself to death "can be imagined, and the outcry in that case would "be justifiable." Dr. C. V. H. Nesbit of Randalstown writes: "If an otherwise healthy individual refuses "food to the injury of her health and danger to her "life, she is without doubt to my mind tempo-"rarily insane, just as much as a person taking "a dose of poison in similar circumstances. Let "the idea be what it may—political or otherwise—"the mind is unhinged, and the individual must "be guarded against herself." Dr. Nesbit says he has never heard of any accident from the use of the soft rubber tube; he has had no difficulty himself when he has been called upon to practise this method of feeding, "even the relations being only too "willing to assist in holding the patient." He concludes: "This hunger-strike is without doubt a very "cheap way of escaping the penalty of the law—"not to say of advertising. But we would not "tolerate such a state of affairs in Ireland!" Dr. F. W. Collingwood says he feels that the only function of a medical officer as such is to prevent loss of life: and even were it proved that the use of the long tube was attended with some slight degree of danger in some cases, it should undoubtedly be used to prevent the greater evil of certain loss of life by starvation. Another correspondent writes: "A woman in gaol for forging or "stealing or for infanticide might possibly refuse food "for the express purpose of impaling her gaolers on "the horns of a dilemma, but the prison doctor would "of course stop her little game by forcibly feeding "her. A man under sentence of death might "conceivably adopt similar tactics; but again the "doctor would intervene, and so prevent him "disappointing the hangman. When we come, how-"ever, to persons 'fighting for a political idea,' the "case is entirely changed. A suffragette is put in "gaol for cutting open a policeman's head. She very "properly refuses food when she is not allowed to "choose her suite of apartments, and justifies herself "in these words: 'You silly, silly prison warder, it "was not a drunken woman who hit the policeman; "it was myself, a suffragette. It was a political idea.

"'Give me better rooms at once, or I shall starve "'myself to death, and you, sir, will have killed me.' "The mule of a warder will not move a step, so what "can the lady do but fast? The doctor is called in— "a vulgar brute of a fellow—and he forces food "down her throat, whereat the lady becomes irate "indeed, to say nothing of being disappointed." This is, as Artemus Ward would have said, "rote "sarcustical." Another correspondent, who does not speak from the medical standpoint, but has himself been in prison, writes: "If hunger-strikes amongst "prisoners were allowed to continue, or if these "ladies were classified as first-class misdemeanants, "one of two things would speedily happen. In "the first event, all our gaols would be emptied of "the whole of their present occupants, and in the "latter event it would find work for all the unem- "ployed in this country erecting more prisons. The "contention that the suffragettes are political pri- "soners is nonsense! Their motive may be to get "certain laws passed, but they grossly offend against "the common law, and no discrimination would be "tolerated, or else where could the distinguishing line "be drawn? Prior to the Act of 1898 antivaccinators "were treated as ordinary criminals, and I do not "remember any general protest, and yet they had not "resorted to stone-throwing or assaults upon officers "who were simply carrying out their duty. The "inference of cruelty in the administration of food I "take to be an unwarrantable aspersion upon the "medical officer and his staff at Winson Green Gaol "but the fact cannot be overlooked that the prisoners "have brought on themselves whatever happens."

As for ourselves, we have nothing to add to what we have already said on the general subject, nor have we anything to retract. The only point that seems to call for comment is that raised by Dr. McNaughton as to the responsibility of the Home Secretary. With all deference, we submit that the medical officer of one of His Majesty's prisons is not the supreme and final authority in the sphere of treatment that he is represented to be by Dr. McNaughton. We happen to know that in at least one instance objections were raised by the Home Office to the proposed administration of food in the way that has now been used in the case of some women imprisoned for "political" offences, and they were liberated the next day. If the Home Secretary's sanction is required for this method of dealing with "hunger-strikers," clearly the responsibility rests on him. In the case of the suffragists sentenced to imprisonment at Birmingham, we have a statement made by one of them, Mrs. Mary Leigh, to her solicitor and published in several papers. We quote from the *Standard* of October 12th. She was taken to Winson Green Gaol on a Wednesday afternoon. She proceeds: "About "noon on Saturday I was told the matron wished to "speak to me, and was taken to the doctor's room, "where I saw the matron, eight wardresses, and "two doctors. There was a sheet on the floor and "an armchair on it. The doctor said I was to sit "down, and I did. He then said: 'You must listen "'carefully to what I have to say. I have orders "'from my superior officers' (he had a blue official "paper in his hand, to which he referred) 'that you "'are not to be released, even on medical grounds. "'If you still refrain from food, I must take "'other measures to compel you to take it.' I then "said: 'I refuse; and if you force food on me, I "'want to know how you are going to do it.' He said: "'That is a matter for me to decide.' I said he must "prove I was insane, and the Lunacy Commissioners "would have to be summoned to prove I was insane, "and he could not perform an operation without the "patient's consent. The feeding by the mouth "I described as an operation and the feeding by the "tube as an outrage. I also said: 'I shall hold you "'responsible, and shall take any measure in order to "'see whether you are justified in doing so.' He "merely bowed and said: 'These are my orders.'" From this it appears that the prison medical officer expressly informed the prisoner that he was acting under orders. This is confirmed by the affidavit of Miss Laura Ainsworth, which is published at page 1197. Dr. McNaughton confuses two distinct things: The administrative responsibility of the Home Office and the professional action of the medical officer. The doctor is ordered to prevent a prisoner from starving herself, but with him rests the choice of the method of carrying the order into effect. In this he must use his own judgement. It is, perhaps, needless to add that as excision of the tongue is not a recognized mode of dealing with "volubility" in this country, the Home Secretary has no power to order such a procedure. The whole question must, however, now be threshed out, as the High Court of Justice has granted a rule *nisi* for a *mandamus* to the stipendiary magistrate of Birmingham to issue summonses against the medical officer and the governor of the Winson Green Prison for assault on behalf of Miss Laura Ainsworth. A report of the proceedings will be found elsewhere.

INSURANCE, MOTOR AND OTHER.

AT a meeting of the Medical Insurance Committee at the offices of the British Medical Association, 429, Strand, a resolution of condolence with Mrs. Radcliffe Crocker was adopted, expressing the Committee's sense of the loss it had sustained by the death of her husband, who had acted as Chairman of the Committee since its formation, and had by his keen interest and business aptitude very greatly contributed to enabling it to work up so large a business. Dr. G. E. Haslip was elected chairman in the place of Dr. Radcliffe Crocker, and Dr. D. J. Mackintosh, M.V.O., Medical Superintendent of the Western Infirmary, Glasgow, and Dr. Hugh Ker, one of the Representatives of the Metropolitan Counties Branch on the Central Council of the British Medical Association, were invited to join the Committee in the room of Mr. George Eastes, deceased, and Dr. Chaplin, resigned. It was resolved that at the next meeting the question of enlarging the Committee should be considered, and the editor of the *Lancet* undertook to suggest an additional member to represent that paper. The Agent and Secretary was able to report that there had been a considerable increase in the volume of business and in the premium income during the year, and that this was particularly marked in the life and personal accidents departments—a result which was regarded as particularly satisfactory, since it seemed to indicate that the efforts of the Committee to bring home to those engaged in the practice of medicine the wisdom and prudence of insuring against personal accident were beginning to have effect. The Committee has had under consideration for some time the question of motor-car insurance, and is now in a position to recommend insurance at Lloyd's under a policy which is better calculated to meet the practical needs of motor-car owners than any other which has been inspected. It

is well known that the sale value of a car purchased new deteriorates very rapidly. A medical man may, for instance, purchase a new car for £700 and insure it for that amount, paying a premium on that sum annually; if, however, his car become a total loss three or four years later, he would, in ordinary circumstances receive not the replacement value, £700, but the sum at which the car is valued at the time it came to grief. A car bought new for £700 would probably in its third year not be valued at one-half that amount although its usefulness to the owner would not have greatly diminished. The policy which the Medical Insurance Committee recommends meets this objection, since the payments paid are upon the present full value of the car and accessories, and the insurer can alter the valuation at the expiration of the year to meet the decreased market value of his car. The premium rates are governed by the present value of the car and accessories and by its horse-power; for instance, on a 10-h.p. car and accessories valued at £300 the annual premium is £11 10s., and for a 14-h.p. valued at £400 the premium is £14, and so on. The rates quoted are those of the "Red-Cross" doctors' policy, and the premiums cover (1) all damage to car the direct result of accidental collision, excluding wilful damage, wear and tear, and mechanical breakdown; (2) all claims for which the assured may be liable for injury to persons excluding passengers and animals, or damage to vehicles or property caused by the car; law costs being incurred by consent; (3) all damage by fire, lightning, explosion, or self-ignition; (4) loss of car by theft, including accessories, fittings, or parts, if stolen with the car, and damage to car through any attempt at theft; (5) damage to car while being towed or conveyed by road, rail, or inland waterway, anywhere in the United Kingdom; (6) damage to lamps and accessories due to accidental collision, and damage to tyres from the same cause when the car also is damaged. Further, the compensation of £1 a day is paid during the time the car is being repaired owing to an accident, to cover the cost of hiring a conveyance; this compensation is payable from the second day after the receipt, from the repairers of the assured, of an estimate for the repairs, until the repairs are actually completed. The amount in any case may not exceed 75 per cent. of the agreed cost of repairs. There is no restriction as to driver, all damage to the car being covered while any licensed person is driving, whether with or without the knowledge of the assured. Under this policy the insured value is agreed as the replacement value; thus, in the event of total destruction or loss the full amount insured is paid in cash. If no claim is made in a year an amount equal to 25 per cent. of the full premium paid will be returned in cash. If the owner only drives there is a reduction of 5 per cent., and if the same owner owns two cars, only one of which is used at a time, there is a reduction of 20 per cent.; if both cars are liable to be in use at one time the reduction is 10 per cent. The owner's liability with regard to his paid driver, accidents to the owner or passengers in the car, and theft of accessories can also be provided against under these policies. The Medical Insurance Committee is able to allow 10 per cent. off the total premium paid by the insurer. Special policies are also issued to owners of certain makes of cars, authorizing them to have repairs up to any amount commenced immediately without consent at the authorized agents of the particular company, but for a medical man the "doctors' policy" would seem to be the best. Red-Cross policies are also issued without the provision above mentioned for compensation while the car is being repaired, and can be made to cover mechanical breakdowns under certain conditions, the premiums being adjusted accordingly. A full prospectus of all these policies may be had on application to the Secretary and Agent of the Medical Insurance Committee, at 429, Strand, London, W.C.

HOW MANY PATIENTS SHOULD BE SEEN IN A DAY?

A CONTRIBUTOR to the August issue of the *Stethoscope*, a journal published by the University College Union, writing over the initials "C. E. S. F.," raises a question which is not the less interesting because probably it cannot be solved: How many patients should a doctor see in a day? The only possible answer is that it all depends upon circumstances. In the case of surgery, success depends so greatly upon adequate preparation of mind, body, and appliances, that most surgeons realize that they can only see a certain number of patients on any given day. Similar limitations are commonly, though less habitually, placed on themselves by physicians in active practice. In an out-patient department a physician has so much assistance that he can quite well deal with a very large number of cases at one sitting; but it is otherwise in his own consulting room. There he has no assistance, and though he can send urine and other secretions to a clinical laboratory for report, he must himself conduct all the examinations—ophthalmoscopic, laryngoscopic, gastroscopic, and the like—which in the light of modern science may be deemed necessary to the proper appreciation of any given case. In this way, dealing with a single patient may well occupy as much time as an ordinary operation. The public little realizes this fact, and, once a physician becomes popular, the extent to which he is tempted to step outside proper limits daily increases. That it is a temptation in the true or scriptural sense of the term there is no doubt, for, while managing to see a very great number of patients in a day may be part of the art and science of practice, it is not practising the art and science of medicine. Apparently, "C. E. S. F." yearns for a time when every medical man, whatever his particular line of work, will be able to take as much time over his cases as he pleases and still expect to gain a living. Every professional man, whether he be surgeon, physician, barrister, engineer, or journalist, probably experiences the same desire, and, though it is never likely to be gratified in full, something in the same direction would have been achieved if the public could be induced to give effect to the principle that good work should receive good pay. In reference to medicine, it is only by a slow process of education that this view can be made to prevail, and it is for this reason, perhaps, that "C. E. S. F." ends his article with a reference to the British Medical Association. After pointing out the futility of mere grumbling and the value of union, he says that a society only needing for its complete efficiency the support of all medical men is already organized for their mutual help and defence, and ready at their doors—the British Medical Association. Many who are not members say, What will it do for me? It will do, says "C. E. S. F.," more than has yet been asked of it, if only it has the chance. We commend his words to the attention both of those who are within the fold and those who still prefer to remain outside: "The Association is medical men, but "if medical men will not be the Association, what "help can they expect in their struggle? It "wants every one to join: the scientist who 'has not "time or inclination to bother with these things,' for "he will leaven the Philistine with his spirit. He "will find that he is an integral part of a great society "of would-be scientists, and this society will help to "get for him a better appreciation of his scientific

"work, and so better opportunities to practise as a "scientist. It wants the man who has succeeded, "because he knows something of the way to success. "It wants the man who is struggling, because he "knows something of the obstacles that lie in the way "to success. It wants you, and if you want to practise "as an artist and a scientist, or only as a money-maker, "you want the Association."

ULTIMATE RESULTS OF SURGICAL TREATMENT FOR GASTRIC ULCER.

THE technical perfection and the immediate success of surgical operations on the stomach as now performed by a large number of surgeons are no longer open to question. It is possible, however, for the sceptic to express doubts whether the patient who leaves the care of the surgeon with a neatly-healed abdominal incision is permanently benefited by what has been done, especially when it is remembered that cases of gastric ulcer undoubtedly derive marked benefit from rest in bed and careful diet under simple medical treatment, that they are discharged apparently cured, and that they remain free from symptoms for varying periods of time. It is therefore desirable to obtain reports on the condition of patients who have been operated on after some years have elapsed; and although there is considerable difficulty in obtaining this information respecting hospital patients, it can be surmounted by care and diligence. Such a report was published on Professor Terrier's cases three years ago,[1] and now Dr. Max Busch gives the results of cases operated on by Professor Koerte.[2] He has divided these into two series: the first, previous to 1900, comprised 38 operations, and the second, to the end of 1908, 124 patients, upon whom 129 operations were performed. These included 87 of gastric ulcer or its consequences, 7 of duodenal ulcer, 16 of pyloric stenosis apart from ulcer, 7 of stenosis due to perichelocystic adhesions, 4 to stricture caused by corrosive poisons, 1 to generalized gastric corrosion, and 2 to acute dilatation of the stomach. In 94 there was a history of gastric ulcer, and to these is attached the main interest of the paper. Of the first series of 38, Dr. Busch has been able to find only 17, and of the second series 10 were set aside as having been operated on within a year, and of the remainder only 59 could be discovered; this makes 76, of which 64 were gastro-enterostomies and 12 resections; of these 76 cases 10 died during the early years, 8 from intercurrent diseases without reference to the stomach, and 2 from gastric cancer; but, of the whole number, 65 were free from any symptom of stomach trouble up to their deaths or to the date of examination. Of the remainder, 8 were able to work, but suffered from slight stomach disturbance, and 3 had been attacked by secondary cancer supervening upon the old ulceration. Dr. Busch concludes that the operation had been definitely curative in 85.5 per cent. of the whole series, and it should not be forgotten that all had been subjects of long-standing ulcers which had proved refractory to medical treatment. Of the 12 cases treated by gastrectomy, all, when examined, were in good health; of the 64 gastro-enterostomies, 56 were absolutely cured; in 5 the cure was incomplete, and in 3 secondary cancer had developed. He draws attention to the small proportion of cases which had become cancerous as indicating that this transformation is less common than has been asserted in some quarters. Dr. Busch recommends resection whenever there is any suspicion of a new growth, and also in large callous ulcers, especially when these have invaded the neighbouring organs, the liver and the pancreas, but he admits there is room for difference of opinion, and the choice must rest with the individual surgeon whether in a given case he will perform resection or gastro-enterostomy.

[1] BRITISH MEDICAL JOURNAL, 1906, vol. i, p. 19.
[2] *Arch. f. klin. Chir.*, 1909, xc. 1.

SIMULATION OF FOREIGN BODIES.

THE dread of leaving a sponge or a surgical instrument in the peritoneal cavity is a constant source of annoyance to the operator, as the accident is not rare, in spite of all precautions. Experience has shown that a foreign body in some cases makes its way through the abdominal wound. A forceps or a sponge has been known to deliver itself in this manner. Professor Lecène reports a case in his own operative practice where a puzzling complication simulated the intrusion of a foreign body into the cicatrix of an abdominal incision.[1] In February, 1907, he performed posterior gastro-enterostomy on a man aged 40, subject to stenosis of the pylorus, etc. A median incision was made, reaching down to the umbilicus. Six months later the patient consulted Professor Lecène on account of dyspeptic troubles. He detected a hardening in the upper part of the cicatrix, an unfavourable symptom under the circumstances, but suggestive of a worse complication than a derelict foreign body. The patient was kept under observation, and in March last, two years and a month after the operation, Professor Lecène found that a big incisional hernia had developed, wide enough to admit two fingers between the recti. The upper limits of the incision were covered in by a hemispherical resistant body of bony hardness, almost immovable, being imbedded in cicatricial tissue. It felt very unlike an organic structure, such as a malignant growth, and Lecène began to suspect that some instrument must have been left behind at the first operation after all. He had used catgut exclusively for ligatures. In April last he operated once more. The cicatrix adhered to the left lobe of the liver, and the anterior surface of the stomach. It was excised, and the hard body proved to be an area of true bone, with Haversian canals and marrow developed in very dense cicatricial tissue. The dyspeptic symptoms disappeared after the second operation.

[1] Ossification dans une cicatrice de laparotomie. *Bull. et mém. de Soc. Anat. de Paris*, May, 1909, p. 279.

PRE-ALBUMINURIC RETINITIS.

THE symptom complex often called Bright's disease was at one time regarded as primarily a disease of the kidneys, but it was soon realized that this organ only shared in degenerative changes which were common to the whole organism. The exciting cause was supposed to be a toxaemia, due either to intestinal intoxication or to deficient elimination of the products of tissue metabolism. Recent experiments have confirmed this view, and have shown that the poison is formed in the blood as an antibody to certain substances contained in the kidney; it is, in fact, a nephrotoxin. If a dog be injected with crushed rabbit's kidney several times, his serum contains a large amount of rabbit nephrotoxin. The dog's serum is now highly toxic to rabbits, inducing a rapidly fatal nephritis. Zur Nedden went further and showed that if the serum be injected directly into the carotid of the rabbit the animal developed the typical picture of albuminuric retinitis. Such being the case, it would not surprise us to find examples of albuminuric retinitis with healthy kidneys. Martin (*Ophthalmology*, April, 1909) discusses the general question of the pathogenesis of Bright's disease, and concludes that nephritis is only

an incident in a general toxaemic state. He then describes a form of haemorrhagic retinitis which exists before albumen is present in the urine, but which is often a precursor of typical albuminuric retinitis. The disease is characterized by delicate flame-shaped haemorrhages lying in the course of the arteries. They are transient, often disappearing in a marvellously short time, leaving no trace behind. There are no visible changes in the retinal vessels, nor is there any white exudate or oedema of the retina. In one case there was slight swelling of the nerve head. There is no diminution of vision, the condition being invariably discovered by chance. Martin regards chronic indigestion as a factor in all the cases he cites.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

The large treble part of this famous Dictionary[1] which has just appeared brings to a close the seventh volume of the work, and maintains the increased rate of publication which has been evident during the past two years. It is nearly thirty years since the first part was published, and there are to be ten volumes in all: even with the more rapid progress now attained, some years must yet elapse before the full complement of sections is in the hands of the subscribers to this truly national undertaking. The two hundred pages which make up the present part constitute a book in themselves, and contain a wonderful mass of interesting matter. The rubrics run from *Prophesy* to *Pyxis*, and they are so rich in medical terms that we can find space for reference only to a selected few. On turning the first page we immediately come upon *prophylactic*, a purely medical word with the root-meaning of something keeping guard before. *Prophylactical* is obsolete, and *prophylaxis* is not naturalized; but *prophylaxy* is admitted by the Editor. Sir James A. H. Murray may be technically correct in so adjudicating the claims of the three last-named words: but in medical works, if our memory serves us, *prophylaxis* is much more often seen than *prophylaxy*. The illustrative quotations are, as usual, wonderfully well chosen. From a book dated 1605 comes the sentence: "Yoo haue not very carefull "beene, T'obserue the prophilactick regiment Of your "owne body." From Watts's *Logic* (1725) is taken the following definition: "Medicine is justly dis- "tributed into prophylactick, or the art of pre- "serving health: and therapeutick, or the art of "restoring health." A more recent work (*Lux Mundi*) contains the significant phrase: "With men, as "with animals, suffering is largely prophylactic." Folklore and scientific prophylaxis are well-illustrated in the following quotations: "A serpent's skin is still "looked upon in Egypt as a prophylactic against com- "plaints of the head" (*Blackwood's Magazine*, 1828), and "Vaccination, which has now stood the test of "practice for a century, remains to-day one of the "greatest medical prophylactics the world has ever "known" (*Allbutt's System of Medicine*, 1897). *Proptosis*, meaning the protrusion or prolapse of some part of the body and especially of the eye, has a modern ring in it, but Sir James Murray brings forward an illustrative quotation from a book published in 1676, "when the uvea sticks out above the "cornea: 'tis called proptosis" (Cooke, *Marrow of Chirurg.*). *Prosector*, however, is comparatively modern, the earliest illustration of its use being dated 1857: it is defined as "one whose business is "to dissect dead bodies in preparation for anatomical "research or demonstration, as assistant to a lecturer "on anatomy, a surgeon, or a zoological society." Indeed, the Dictionary defines the most modern of terms—for example, *propons* (part of the medulla), *prosencephalon*, *prosenchyma*, *prosopalgia* (face-ache), *proteolysis*, and *proteose*. As an instance of the extreme care which is taken to ensure accuracy, we may refer to *proteolysis*, to which the following explanatory note is added: "Although parallel in form "to electrolysis and hydrolysis . . . proteolysis is "not parallel in sense"; in other words, it does not mean splitting up of something by proteins, but splitting up of proteins by ferments or the separation of proteins from a protein-containing mixture. The word *protoplasm* has an interesting history attached to it: it seems to have been first employed by Von Mohl in 1846, and it made its appearance for the first time in an English book two years later (1848). *Protoplast*, on the other hand, is an old word, going back to 1532, but for more than three hundred years it was used in a theological or philosophical sense; thus Ignatius was termed "the protoplast Jesuit," and Andrew Melville "the protoplast Presbyterian in Scotland." An old English medical term is proud-flesh; the word *proud* appears here in the sense of overgrown, exuberant, or too luxurious, and the meaning of the expression is the "overgrown flesh arising from "excessive granulation upon, or around the edges "of, a healing wound"; it is first found in English in Lanfranc's work on surgery written about 1400. For once we are inclined to question the accuracy of the definition of a medical term, namely, *pubiotomy*; it is defined as "the operation of section through the "*symphysis pubis*, especially in obstetric practice," but it is used at the present day in connexion with sawing through the pubic bone rather than the symphysis. Another interesting medical term, dealt with at some length, is *pulse*; and in the notes under this rubric we find that *pulse-pad* was once a humorous appellation for a medical men. "These Pulse-pads, these "Bedside Banditti" is the illustrative quotation in which this nonce-word appears. But we might go on for hours skimming the surface of this Dictionary and gathering up etymological and lexicographical details of importance and value: and we shall close by simply naming some of the other terms contained in the present section of the work, namely, *prurigo*, *pruritus*, *prussic acid*, *psammoma*, *pseudarthrosis*, and many words beginning with *pseudo-*, *psilosis*, *psoas*, *psora*, *psoriasis*, *psychology*, and many other *psycho's*, *pterion*, *pterygo-*, *ptomaine*, *ptosis*, *ptyalism*, *puberty*, *pubes*, *pudendum*, *puericulture*, *puerperal*, *pullulate*, *pulmo-*, *pupil*, *purgation*, *purine*, *purpura*, *pus*, and *pyuria*.

[1] *A New English Dictionary on Historical Principles*. Edited by Sir James A. H. Murray. Prophesy—Pyxis (Vol. VII). Oxford: at the Clarendon Press. etc. Henry Frowde. Treble Section. 7s. 6d. October 1st, 1909.

THE SUPPRESSION OF THE MOSQUITO.

Major P. G. Elgood, director of the police school, Cairo, has given in the *Cairo Scientific Journal* for July an interesting account of how an officer without medical training may, by diligently following the recommendations of his sanitary advisers, succeed in suppressing mosquitos, even under unfavourable conditions. The police school formerly occupied an extremely insanitary old palace in the heart of Cairo: the buildings, covering about three acres of ground, consisted of a few fine apartments and some two hundred comparatively small rooms, almost every one of which had a private cesspit. There were also three ponds of stagnant water, and the palace was bounded on the east and south by dilapidated buildings, inhabited for the most part by Egyptians of the lower class. In these circumstances it is not surprising that mosquitos were numerous, and eventually they became so fierce and voracious

that Major Elgood could not sit in his rooms after sunset, and the cadets were unable to obtain sleep. The Public Health Department was invited to take the matter in hand, and within a few weeks the palace became freer of mosquitos than most buildings in Cairo. In the summer of 1908 the quarters for the school at Abbassia were nearly complete, but there was considerable delay in making the buildings ready for habitation, and for four months Major Elgood lived alone within the precincts of the school, which extend to 22 acres. In a very short time the mosquitos became a serious nuisance, and so long as the workpeople were about it was found imposible to prevent the use of the yet unfinished latrines. Within a fortnight after the departure of the contractors and their men the school was freed from insects. The system followed is to pour a third of a teacupful of crude petroleum oil once a week down each of the 182 latrines, sinks, and other possible mosquito-breeding places in the school; twice a week each receptacle for water is emptied and refilled. Cadets are detailed indiscriminately for the duty, one of the objects in view being to impress upon all that mosquitos can be destroyed by the expenditure of little trouble and less money. Major Elgood calculates that the cost of the work at the school is about 50 piastres (10s.) a month. The success of the means adopted has surprised him, and one of his difficulties has been to convince his staff that such simple means could be effective.

FLIES AS CARRIERS OF INFECTION.

A FURTHER preliminary report on the investigation authorized by the President of the Local Government Board on flies as carriers of infection has been issued.[1] It contains a memorandum by Dr. Copeman discussing the best lines of investigation to pursue. The general plan he recommends is that a centre should be selected where large quantities of house refuse and other fermentable material, or stable manure, are deposited or allowed to accumulate, and that, at varying distances from fifty to a hundred and fifty yards, fly stations, at least half a dozen, should be established round this centre where flies can be captured. It is stated that, in the event of flies being trapped locally the species of which is unknown, specimens may be packed, preferably in tissue paper, enclosed in a match-box, and dispatched at once to Mr. E. E. Austen, British Museum (Natural History), South Kensington, London, S.W., with a brief note as to the date, locality, and other circumstances of their capture. The report contains a note by Mr. Jepson stating that flies may be marked by dusting them with coloured blackboard chalk, the best for the purpose being brick-red. Dr. G. S. Graham-Smith, University Lecturer in Hygiene, has made some preliminary experiments on the presence of colon bacilli either on the surface or in the intestine of flies. The species examined have been house-flies, mainly *Musca domestica;* small flies, mainly *Homalomyia canicularis;* and three species of blue-bottles, including *Calliphora erythrocephala* and *vomitoria*, and *Stomoxys calcitrans*. Of 28 flies obtained from the neighbourhood of decaying animal matter at Cambridge, 15, or 54.5 per cent., were found to be infected. Of 26 flies from a house near glue works in Bermondsey, 4, or 15 per cent., were infected. Of 18 flies from the kitchen of a London County Council school, 4, or 22.2 per cent., were infected; and of 40 flies taken near a jam factory in Bermondsey, 4, or 10 per cent., were infected. The various sorts of flies were infected in approximately equal numbers, and surface infection was two and a half times more common than intestinal; the numbers are, of course, too small to allow any positive conclusion to be drawn. The concluding part of the report is a note by Professor Nuttall and Mr. F. P. Jepson, B.A., Student in Medical Entomology, Cambridge, on the part played by *Musca domestica* and allied non-biting flies in the spread of infective diseases; it consists of a summary of published information, with a bibliography filling 11 pages.

[1] London: Wyman and Sons, Ltd.; Edinburgh: Oliver and Boyd; and Dublin: E. Ponsonby, 1909. (5d.) The first report was noticed in our columns on June 26th, 1909, p. 1565.

BLINDNESS IN EGYPT.

ELOUI PACHA, late Chief Inspector of the Government Schools in Egypt, contributes to the *Revue générale d'ophtalmologie* for June, 1909, an article on the prevention of blindness, and the amelioration of the lot of the blind in Egypt. When the author took up his work in 1883, he found that 85 per cent. of all the scholars had granular lids, and 75 per cent. had, in addition, other diseases of the eye. This enormous proportion was due largely to the dirty habits and the ignorance of the natives, aided by the swarms of flies which carry infection from eye to eye. At this time, too, there were practically no ophthalmic surgeons to combat the ravages of the prevalent diseases. Eloui Pacha was, during his first three years of office, much impressed by the terrible ravages of acute ophthalmia, so acute that it rarely failed to damage the eye. He determined to start the campaign against trachoma and ophthalmia in the schools. Scholars affected with contagious eye disease were segregated from the healthy; hygienic regulations were introduced; and lessons in elementary hygiene were given by Eloui Pacha himself. Frequent washing in clean water was insisted upon; the school furniture was modified and adjusted to the height of the scholar; illumination was improved; errors of refraction corrected; and, finally, septennial revaccination was enforced. The effects of these efforts soon became evident. The schools which had hitherto been foci from which ophthalmia spread, became, in a few years, centres which disseminated a knowledge of ocular hygiene. Swarms of flies were no longer attracted to the clean scholars, and so lost their importance as spreaders of contagion. In 1886 the first polyclinic was founded where eye diseases were treated gratuitously, and now over 6,000 patients attend every year. In 1882 many oculists settled in Egypt, chiefly in Cairo and Alexandria, and in consequence a steady diminution in the frequency and intensity of ophthalmia is evident. The Egyptian Congress of Medicine held in 1902 recommended that eye hospitals should be founded in the chief centres of population, and a munificent gift by Sir Ernest Cassel enabled a start to be made, and the travelling hospitals were instituted. Now the Government have decided to build three ophthalmic hospitals in the provinces—at Assiout, at Tanta, and at Mansourah. Four dispensaries have been opened in Cairo, and are in full activity. At present little has been done to ameliorate the lot of the blind. There is, in fact, but one institution at Zeitoune, a suburb of Cairo. This was founded in 1901 by Miss Armitage, of London, and is managed by an international committee, presided over by the British Consul. It is recognized and subsidized by the Government. Blind children of all nationalities and religion are admitted. There are forty-two inmates and ten day scholars. Reading and writing, arithmetic, history, and geography are taught in Arabic, and a little English is begun. Mohammedans are instructed in the Koran, and Copts in the principles of their religion. Suitable trades are taught, such as basket making, brush making, and massage. Undoubtedly the Government will ultimately take the

matter up, and in the meantime Eloui would like to see the re-establishment at the mosque of El-Azbar of the section created in the time of Malelouk for the instruction of the blind.

THE PROCEEDINGS OF THE ANNUAL MEETING, 1909.

With this issue the publication of the proceedings of the Annual Meeting of the British Medical Association at Belfast is concluded. The meeting, so far as its scientific proceedings are concerned, commenced less than twelve weeks ago, and fifteen Sections met for discussion. Complete accounts of other scientific congresses rarely appear in less than a year or more, so that the rapidity with which members of the Association unable to be present at Belfast have had a full account of what passed laid before them is a matter for congratulation. It may be pointed out that the ordinary work of the JOURNAL has not suffered, the contents of the JOURNAL throughout the past three months having been on all-fours with those that appear at other times. In other words, the plan adopted some years ago in deference to the wishes of those who disliked the substitution of sectional matter for ordinary papers has been continued. The statistically curious may possibly be interested to hear that the reports of the proceedings have absorbed altogether approximately 600 columns.

Medical Notes in Parliament.

[From Our Lobby Correspondent.]

The Housing and Town Planning Bill came on for its final stages in the House of Lords on Monday. At first there was a small attendance, and Lord Cawdor brought up an amendment to insert a new subsection to Clause 56, enabling the Commissioners to be appointed by the Development Bill to confirm an Order of the Local Government Board, and so save the expense and loss of time involved in obtaining a Provisional Order. The proposal was supported by Lord Salisbury and Lord Onslow; but Lord Crewe could not accept the amendment, although he recognized in it an admission that the Provisional Order system which had been inserted in Committee was cumbersome and expensive. Lord Cawdor then withdrew the amendment and brought it up later, when, after some debate, it was finally withdrawn, on the advice of Lord Lansdowne. In Clause 15 the Duke of Northumberland added words defining a landlord as a person who lets a house to a tenant for his own occupation. On Clause 17 an amendment was made by Lord Beauchamp, whereby in case of failure by the local authority the Local Government Board could make regulations. An amendment was also made in Clause 57, and then on Clause 61 Lord Malmesbury moved the addition of words providing for extra compensation for the landowner at the discretion of the arbitrator. Lord Crewe opposed the amendment as a very serious matter, but it was carried by 80 votes to 14. A discussion was then raised on the inclusion of Crown lands by Lord Salisbury moving a new clause. After several speeches, however, the proposal was withdrawn after Lord Crewe had pointed out the difficulty of accepting it and stating that he was somewhat sceptical as to the bill as amended ever passing into law. On the question that the bill pass, Lord Camperdown strongly condemned the bill as imposing a heavy burden on the ratepayers. The third reading was then passed without a division, and will be returned to the Commons in its altered form.

Feeding Suffragettes in Prison.—Mr. Keir Hardie followed up his former questions by asking Mr. Gladstone last week whether he could state the number of cases, distinguishing between males and females, for each year during the years 1900-9, in which forcible feeding had been resorted to in prisons under his charge on prisoners who were not certified to be insane. Mr. Gladstone said he was collecting information, and would communicate it when received. It would take some days to collect, and could not in any case be complete. He might mention three cases which had come under his notice. One was a Russian convict at Dartmoor, who refused food, saying that he had learnt the hunger strike in Russia. Another was a surety prisoner detained for a fortnight in Preston prison, who threatened to starve himself, but gave way on being told he would be artificially fed. A third was a convict in Parkhurst, who refused food, and was artificially fed for about a year. No harm whatever was done him by the process, and at the end of that time he resumed feeding in the ordinary way. Mr. Keir Hardie then asked if a separate tube was used in each case at Winson Green, and Mr. Gladstone said that the medical officer followed the same course as was usual in hospitals and private practice. A new tube was not used in each case, but after use the tube was thoroughly cleansed by passing through it a continuous stream of water, and it was then kept in a solution of boracic acid and again thoroughly washed out before use. Mr. Gladstone, in reply to a further question as to the need to have a separate tube for each person, said he was advised that there was really no distinction between a tube used on more than one person and a new tube. A new tube would have to be cleansed in exactly the same way. Next asked as to what report he had received about the treatment of Miss Laura Ainsworth, Mr. Gladstone said that the medical officer reported that an instrument which was constantly used by dentists and anæsthetists, and which was made of steel, protected from the teeth by indiarubber, was used to open the mouth. Very little force was required. An ordinary wooden mouth-prop was used to keep the mouth open. As regards the last part of the question as to keeping her in irons, immediately after her reception on September 22nd Miss Laura Ainsworth broke her cell windows, and was placed in handcuffs to prevent her from doing further damage. The handcuffs were removed the following day, when her conduct became more orderly. Compulsory feeding did not begin in her case until two days after the handcuffs had been removed, and, as he had already stated, no handcuffs or irons were used at any time during the process of administering food.

Colour-Blind Tests (Foreign Nations).—Mr. Henniker Heaton asked the President of the Board of Trade whether he was now in a position to give the results of his inquiries as to the tests for colour-blindness used by foreign nations. Mr. Tennant said that the Board of Trade was already in possession of a considerable amount of information with regard to the colour vision tests adopted by the principal maritime countries for their merchant services. With a view, however, to making the return moved for and ordered on July 14th as complete as possible, they had requested the Foreign Office to obtain further detailed information in the case of certain important countries. On receipt of that information the return in question would be presented.

Tuberculosis among Soldiers.—Last week, in answer to Mr. Summerbell, Mr. Haldane stated that the number of men discharged from the army for tubercle of the lung during the last ten years was as follows: 1889, 224; 1900, 328; 1901, 350; 1902, 334; 1903, 301; 1904, 440; 1905, 333; 1906, 400; 1907, 304; 1908, 272. While in hospital patients suffering from tubercle of the lung were kept apart from other patients, and treated generally as cases of infectious disease. On discharge a notification was sent to the medical officer of health in the town or district where the man proposed to reside. Asked if he thought it fair to place such responsibility

on the municipalities, Mr. Haldane said that applied not only to the army but to every other department of the State. It might be a very proper subject for consideration. Asked also what provision was made for these men, Mr. Haldane said that every effort was made to get provision made for these men, to get them taken into homes, but the War Office had no funds for the purpose of providing for their after-treatment, and if it was done it must be done at an increase of the Army Estimates. Great care was taken of them as far as the medical officers were concerned, and every effort was made to get them places.

Tuberculosis in the Navy.—In answer to Mr. Summerbell, Mr. McKenna stated last week that the number of officers and men finally invalided from the service (including Marines) for tuberculosis for the years 1899 to 1908 was 2,675, made up as follows: 1899, 207; 1900, 165; 1901, 232; 1902, 288; 1903, 334; 1904, 353; 1905, 331; 1906, 214; 1907, 266; 1908, 283. No special provision was made for their treatment on their discharge in a home or hospital. They were paid gratuities or pensions, according to their service, under the ordinary regulations. All the men, before being accepted for service, were medically examined.

Tuberculosis among Postal Employees.—Mr. Summerbell inquired on this subject, and Captain Norton, who answered for the Postmaster-General, said that the number of established Post Office servants superannuated on account of tuberculosis during the past ten years was as follows:

	Men.	Women.
1899	72 ...	... 11
1900	82 ...	... 11
1901	95 ...	... 21
1902	76 ...	... 6
1903	104 ...	... 15
1904	109 ...	... 19
1905	96 ...	... 18
1906	101 ...	... 15
1907	81 ...	... 15
1908	90 ...	... 20

The established force to which these figures referred numbered in 1908 (in round figures) 90,000. There was no official arrangement for affording treatment to Post Office servants suffering from tuberculosis. Every established officer retiring on account of ill health was entitled either to a pension or a gratuity under the terms of the Superannuation Acts.

Lead Poisoning in the Swansea District.—Questioned on the increase of lead poisoning in the Swansea district by Mr. Duncan, the Home Secretary stated that the number of cases in 1908 was 38, as compared with 9 in 1907; but in the first eight months of this year there were 24 cases, as compared with 28 in the corresponding period of 1908. A special inquiry had been made by one of the medical inspectors of factories in regard to lead smelting and certain allied industries, and his report, which included recommendations for further precautions, had just been received, and was under consideration.

Chinese Pork.—In answer to Mr. Fell, the President of the Local Government Board said that he was informed that 1,182 carcasses out of the whole consignment of Chinese pork had been thawed out and examined; 107 carcasses had been condemned, and the remaining 1,075 carcasses had been passed as fit for consumption. He understood that a report to the Corporation by the medical officer of health, in which he referred to the results of the examination of the carcasses, so far as it had at present been carried out, would be issued. He could not undertake to prohibit the importation of Chinese pork. In answer to a question by Mr. Kilbride, Mr. Burns said that inquiries were made by the Local Government Board some months ago, before this consignment arrived, as to the character of the pork and as to the method of feeding the pigs, and the Board was satisfied that it was satisfactory. He had himself gone with his officers into refrigerating stores in the wholesale market and into the retail shops, and he also had the pleasure of going down to the New Cut, Lambeth, on Saturday night, to see whether the opinion of those better qualified than himself could be affirmed by a layman. He had himself tasted the pork. Condemned carcasses, whether they come from America, Ireland, Scotland, Wales, or any part of England, were not allowed to be used for human consumption. The Port Sanitary Authority and the riverside local authorities when they condemned animals as being unfit for human consumption either had them chemically destroyed or sent them to the dust-destructor to be burned.

Deaths from Hydrophobia.—Asked on Monday by Sir George Kekewich, Mr. Burns stated that the number of deaths from hydrophobia and the death-rates per million of population in Great Britain in each of the years from 1878 to 1907 were shown in the appended table. Similar information as regards France was, he was informed, not available:

Year.	Number of Deaths in Great Britain.	Death-rates per Million Persons Living.
1878	51	1.78
1879	39	1.34
1880	40	1.36
1881	37	1.24
1882	30	1.00
1883	34	1.12
1884	29	0.94
1885	60	1.93
1886	26	0.83
1887	29	0.91
1888	14	0.44
1889	30	0.93
1890	8	0.24
1891	7	0.21
1892	6	0.18
1893	7	0.21
1894	13	0.38
1895	20	0.58
1896	8	0.23
1897	6	0.17
1898	2	0.06
1899	—	—
1900	—	—
1901	1	0.03
1902	3	0.08
1903	—	—
1904	1	0.03
1905	—	—
1906	—	—
1907	—	—

The Health Resorts and Watering Places (Ireland) Bill was read a third time and passed, with amendments, on Thursday in last week. It was backed by all parties in Ireland and empowers local authorities to advertise health resorts.

Asylum Officers' Superannuation Bill.—When the second reading of this bill was moved in the House of Lords by Lord Monk Bretton on Wednesday it was opposed by Lord Belper, mainly on the ground that it involved a compulsory charge on the rates without an imperial contribution, as in the case of the police, and that it applied to persons other than attendants in direct contact with lunatics. The bill was strongly supported by the Archbishop of Canterbury, the Lord Chancellor, and the Earl of Halsbury, and was read a second time without a division.

The German System of Meat Inspection. — On Monday Mr. John Burns stated, in reply to Mr. Watt, that he was aware of the system adopted in Germany for securing uniformity of meat inspection. He did not think it would be practicable to enforce a similar system in this country at the present time; but, both by circulars which it had issued and by the inquiries made by its inspectors, the Local Government Board had pressed upon local authorities and their officers the importance of uniform and efficient meat inspection. He was happy to say that in the country generally there had been a distinct improvement during the last few years in the qualifications of meat inspectors and the practice of meat inspection.

Scotland.

[From Our Special Correspondents.]

Extension of Edinburgh University Medical Buildings.

Last week reference was made to the extension of the Royal College of Surgeons' buildings; the university authorities also find it necessary to provide increased accommodation for the prosecution of the work of teaching and study. Especially in the Physiological Department the policy of expansion has been forced upon the school, so that during the vacation the authorities undertook certain alterations and additions; these additions were pushed on rapidly, and it is expected that the buildings will be available in the course of the present month.

For many years the laboratory for physiological chemistry has been overcrowded, and for teaching purposes the classes have had to be taken in detachments. It was principally to meet this difficulty that the work of extension has been undertaken. Twelve tables have now been fitted up, each accommodating 10 students, a total in all of 120. A gallery has been erected to enable the laboratory assistants to prepare material. The tables, which are supplied with gas and water, are covered with a white enamelled lava, impervious to acid and practically indestructible. Fourteen fume chambers have been fitted up, and every appliance is of the most modern description. The old chemistry room has been refitted as a laboratory for special research in chemical physiology, a department which is now receiving much more attention than formerly, and gas, water, steam, and electrical arrangements are of the most approved character; there is also a balance room, and a dark room.

A most important part of the work is the erection of a new lecture-room on a piece of vacant ground at the south-west corner of the university new buildings. It is a building of one story, the outer walls being of cream-coloured sandstone. The architectural design is in keeping with the original buildings. Accommodation has been provided for about 350 students. Light is obtained from glass cupolas in the roof; the artificial light is electricity. Pendants hang from the roof, and there are groups of Tantalum lights, all under the control of the lecturer. The seating accommodation is provided by bentwood chairs of a novel design; each chair has a continuation of the right arm, which may be used as a book-board when writing.

New Lecturer in Anatomy at Queen Margaret College, Glasgow.

As was recently pointed out, the policy of the University Court has been to transfer from Queen Margaret to Gilmorehill the medical classes which require laboratory instruction. In this way the women students not only are obtaining professorial instruction, but also have the advantage of the excellent laboratory accommodation of Gilmorehill. In the case of anatomy, however, Gilmorehill is no better off than Queen Margaret College, where there is a thoroughly equipped department specially designed for the teaching of anatomy. It was, therefore, obvious that the women students would continue to remain at Queen Margaret College, but some curiosity was felt regarding the teaching arrangements that the Court would make, as it was thought not unlikely that the Queen Margaret Anatomical Department would be placed directly under the charge of the Professor of Anatomy. Instead of this, the Court decided to maintain the old arrangement of a separate lecturer for Queen Margaret College, and appointed Dr. W. K. Hutton, who has for several years acted as senior assistant to Professor Cleland. In Dr. Hutton Queen Margaret has obtained an excellent teacher, who brings to her service ripe teaching experience and great power of organization. We are sure that under Dr. Hutton the anatomy department will maintain the high reputation which it has gained under Dr. Bryce.

Registration of Nurses.

The Association for the Promotion of the Registration of Nurses in Scotland has just issued a pamphlet in which are set forth the reasons why registration is desirable, and how this desired end may be attained. The pamphlet points out that registration, to be of any value, must have the sanction of the State, and that if this registration is sanctioned the State would have to determine the body by whom registration should be carried out. This, unfortunately, is just where the different parties desirous of effecting registration cannot agree. There are three bills before Parliament, and this pamphlet is published and circulated amongst the nurses in Scotland to help them in coming to a decision as to which scheme they prefer. Naturally, emanating as it does from Scotland, the Association considers the Scottish bill the best; the chief differences seem to be that in the Scottish Bill the Registration Council represents the nurses, the training schools, the medical profession, the universities, and the Government departments, while in Lord Ampthill's bill the Registration Council only represents the nurses. The Scottish bill accepts for registration purposes the certificates of recognized training schools and admits fever nurses and mental nurses to a special register; this Lord Ampthill's bill does not do. The registration fee in the Scottish bill is 2 guineas, while in the English it is 5 guineas. It will be unfortunate if some understanding is not come to by the promoters of the several bills.

Death of Sir Arthur Mitchell.

Sir Arthur Mitchell, M.D., K.C.B., who was a member of the Lunacy Commission in Scotland from 1857 until 1895, died at his residence in Edinburgh on October 12th at the age of 83. He was a member of the Universities (Scotland) Commission which sat from 1890 to 1897. He took great interest in archaeological and antiquarian research, was Rhind Lecturer in Archaeology from 1876 to 1878, and was appointed Professor of Ancient History to the Royal Scottish Academy in 1878.

Bequests by Dr. Robert Pollok.

Although Dr. Robert Pollok, of Laurieston House, Shields Road, Glasgow, who died recently, did not leave any bequests to institutions in his will, he suggested to the residuary legatees, in a separate writing, that, on their demise, £10,000 should be given to the Victoria Infirmary, Glasgow, for the endowment of a ward, to be called "The Dr. Robert Pollok Ward," and that £10,000 should be given to the University of Glasgow for the endowment of a lectureship for original research in Materia Medica. The residuary legatees are Dr. Pollok's sisters—Mrs. Gilchrist and Miss Pollock—and we understand that it is their intention to carry out this desire expressed by their brother. In the meantime, of course, they have the life-rent of the money.

Ireland.

[From Our Special Correspondents.]

Women's National Health Association.

The autumn executive meeting of the Women's National Health Association of Ireland, held on October 7th in Dublin, under the chairmanship of the Countess of Aberdeen, was attended by nearly 100 members. It was stated that the Association now possesses 180 branches. From the report of the executive committee it appears that 32 extra district nurses, 25 of whom belong to the Queen Victoria Jubilee Institute, have been appointed in Ireland during the last eighteen months through the means of the Association, and that two health workers and five nurses have been appointed independently by branches. A number of patients have been sent to sanatoriums, homes, and hospitals at the cost, or partial cost, either of the central association or one of its branches, and in some cases rent has been paid for extra rooms for families. Shelters for patients under

medical and nursing supervision have been provided, with good results, and at the request of one of the Mid-Antrim branches, the Ballymena Board of Guardians has provided nine such shelters, one for each dispensary district. The Admiralty has authorized the use of certain disused coastguard stations for the purposes of the association, and the first of these, opened as a health home on August 4th, has already received thirty-four inmates belonging to families where they have been exposed to infection from tuberculosis, though certified free from the disease themselves before admission. In addition to the tuberculosis exhibition, which has visited several districts in Ireland, a caravan designed to meet the need of outlying places has travelled round Donegal, has visited the counties of Armagh, Tyrone, and Fermanagh, and is now working in the West of Ireland. A course of five health lectures in addition to those supplied by local branches, and by the kindness of the medical profession, has been given in many parts of the country. Schemes for providing and distributing pure milk from healthy cows have been carried out in Belfast, Armagh, Carlow, Killarney and Cork. A pasteurized milk depôt for infants has been established in Dublin, and a refreshment van selling pasteurized milk and other wholesome foods and drinks has been established by the association in Phœnix Park, especially for the benefit of the football players, who have given it a very hearty welcome. Schools for mothers have been established at Belfast, Dublin, Cork, and Londonderry, and in Belfast 1,000 babies have been entered on the books of the four babies' clubs established in the city. In connexion with these clubs classes in home nursing and sick aid for elder girls have been given, and have been well attended. In Dublin 180 lectures and cookery demonstrations for mothers were given by the society's lecturers during the summer. The Registrar-General, Sir Robert Matheson, in discussing the statistics of tuberculosis in Ireland, said that returned emigrants suffering from the disease were often the means of infecting their families. Much of the criticism of the work of the Women's National Health Association was, he thought, founded on misconception. The statistics contained in the Registrar-General's report represented hard facts and could not be explained away. The decrease in the death-rate during recent years should encourage all workers to persevere. The following resolutions were unanimously adopted:

The Executive of the Women's National Health Association of Ireland have learnt with great gratification that the School Managers in connexion with the Roman Catholic, the Church of Ireland, the Presbyterian Church in Ireland, and the Methodist Church have expressed their readiness to make themselves responsible for one half of the cost for the heating and cleaning of National Schools, in accordance with a scheme to be worked out in consultation with the Chief Secretary, and in response to his suggestion made to the Deputation of the Women's National Health Association of Ireland on May 24th.

The Executive of the Women's National Health Association of Ireland understand that it would be impossible for the Chief Secretary to obtain the promise of any grant from the Treasury for the Commissioners until the commencement of another financial year next spring. They therefore hope that the school managers throughout Ireland will make the effort to show their earnestness in the matter by themselves inaugurating the proposed scheme this winter by spending their proportion of the proposed funds during the winter months, and keep an account of the same, which can be hereafter presented to the Irish Government as an additional argument for obtaining from the Treasury the hoped-for grant of the half of the total amount.

The Women's National Health Association of Ireland pledge themselves, through their branches, to co-operate with any local efforts that may be made to raise the required sum.

AN ECHO OF 1903.

It was in 1903 that the famous Enniskillen meeting of the Irish Medical Association was held under the presidency of Dr. Leonard Kidd, now the representative of the Irish profession in the General Medical Council, and though not a member of the Poor Law service always one of its best friends. Led by him at that meeting it was resolved that no medical practitioner should take a dispensary appointment at less than £200 a year.

One of the first dispensaries to become vacant was that of Collon in the Ardee Union. No doctor could be found to take the post. The guardians would not give more than £100 a year, and after many months, during which they had to pay a locumtenent 4 guineas a week, the Local Government Board held an inquiry, and decided to divide Collon between the two medical officers of the adjoining districts, giving each an addition of £50 to his salary. The guardians objected, and so did the Irish Medical Association, which took the matter to the Superior Courts, with the result that an unfavourable decision was given. But the people of Collon have never ceased to grumble, finding it expensive to send eight or ten miles for a doctor. Memorial after memorial asking that the district should be re-established has been sent to the Local Government Board and the board of guardians, and at last the guardians asked the Local Government Board to receive a deputation on the subject. The Local Government Board has declined to receive the deputation. It states that the population of the district has fallen from 9,192 in 1881 to 6,914 in 1901; that the facilities afforded to the sick poor in Collon district are adequate, and compare favourably with those of other dispensary districts in Ireland and that if every district of the same population were to get a dispensary doctor of its own the staff in Ireland would have to be increased from 310 to 1,969 doctors, and that it is the settled policy of the Board to decrease the number of Poor Law medical officers. We do not quite understand the latter statement, as we reported a few months ago the decision of the Board to increase the staff of the Castlereagh Union from four doctors to five. However, the whole system of dispensary districts in Ireland is so anomalous that a rearrangement is urgently needed. We reported not long since that the dispensary doctor of Ballina had to look after a population of 10,000 people, scattered over a huge district, while in the Ardee Union two doctors have only a population of 7,000 between them, and there are many districts where the anomalies in respect of area population and salary are still more glaring.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

PROPOSED RECEIVING HOUSE FOR INCIPIENT MENTAL DISORDER.

THE London County Council on October 12th considered the report presented before the summer recess by the Asylums Committee in favour of the establishment of receiving houses for the reception of cases of incipient insanity.[1] The Committee recommended that legislation with this object be promoted in the session of 1910.

On behalf of the Finance Committee an amendment was moved by Sir George Goldie (in the absence through illness of Mr. Hayes Fisher) that powers be only obtained for the establishment of one receiving house.

Mr. A. F. Buxton, who seconded, suggested that it might be easier to get the bill through if only one receiving house was asked for.

Mr. Evan Spicer and Sir John MacDougall, however, pointed out that by getting full powers the Council would not be tied in any way as to the number of receiving houses ultimately established. Sir John MacDougall thought one receiving house would be practically useless, as it would not serve areas outside its immediate locality. The object of the reform was to close the lunacy wards of workhouses, but this would not be done with one receiving house, so that the existing expenditure would go on side by side with the new. There should be at least four houses.

Mr. Ernest Grey inquired, If the experiment is a failure, will any Council extend it? and added, If the

[1] BRITISH MEDICAL JOURNAL, July 24th, 1909, p. 234.

experiment is a success the amendment becomes a nuisance, simply delaying the accomplishment of a reform which everybody desired.

Mr. E. White, Vice-Chairman of the Council, said that receiving houses on the Continent did not always work satisfactorily, for it was found that patients were sometimes kept in them for years. The medical men would not sanction the removal of cases which presented features of interest. If the Council wished for further powers in the future, there would be no difficulty in inserting a clause in the Annual General Powers Bill.

Mr. Sidney Webb replied to this that further powers could not be obtained without a special Act of Parliament, as an amendment of the lunacy laws would be necessary. To go to Parliament twice when once would do would be unnecessary expenditure.

Mr. Whitaker Thompson suggested that the Council should not go too deeply into this experiment, as other ways of dealing with insanity were suggested in the report of the Royal Commission on the Control and Care of the Feeble-minded.

On a show of hands, 34 voted against the amendment and 29 for it, but a division resulted in a majority for the amendment of one, the voting being 45 for and 44 against.

A proposal to adjourn the debate for further consideration was voted down, and the Committee's recommendation as amended was then approved.

MANCHESTER AND DISTRICT.

Medical Inspection of School Children.

One of the most striking points in the recently issued annual report of the Manchester Education Committee for 1908 is the way in which the committee is taking up work formerly considered to belong to the board of guardians.

The old definition of destitution is no longer strictly observed, but the committee, like many other education authorities, sets up for itself a new and higher standard, and if parents cannot afford to bring up their children to this standard, they are assisted out of the rates. The cost to the rates for this additional work amounts to many thousands of pounds a year, only a small fraction of which is recovered from the parents. The excuse for this is, of course, that it is a good investment for the State, as present attention to the physical welfare of the children prevents them in after-years recruiting the ranks of paupers and criminals. There are not wanting signs, however, that the hard-pressed ratepayers will soon demand practical proofs, not theories, that the results of the experiments are worth the cost, and the question will arise, when there is a reform of the Poor Laws, whether some of the duties now being assumed by the Education Committee might not better be assigned to some more specialized authority.

At the end of December, 1908, Manchester had accommodation for 128,133 elementary scholars to meet the needs of 112,517 children. This accommodation, however, is not all available, as owing to the removal of the population from the city to the suburbs there is not enough accommodation in some of the outlying districts. The number of scholars on the books divided by the number of assistant teachers of all grades shows an average of 42 to each teacher. The scheme approved by the council for medical inspection provided that there should be 1 school medical officer, 1 woman and 3 men assistant medical officers, each devoting full time and having an allotted district, and 1 man assistant medical officer devoting part time, and specially engaged for infectious diseases. There are also 5 nurses, one to each medical officer. To meet the requirements of the Board of Education it was estimated that 18,000 children would be examined in the year—11,000 of 5 years of age and 7,000 of 13 years. This will have to be extended during the coming year. In the course of visits to the schools in connexion with infectious diseases, a number of children actually affected were detected by the medical officers, and altogether 189 children were excluded from school, 26 for diseases of the eye or ear, 47 for skin diseases, 103 for infectious disease, and 13 for various causes.

Skin Diseases.—In the case of skin diseases exclusion from school was followed up, where the children had no medical attendant by giving information to the parents as to how these ailments could be treated. Eleven cases of prosecution for neglect are recorded. During the year no fewer than 1,846 cases of ringworm were notified by the teachers.

Eyesight.—The eyesight of 32,593 children has been tested, and notices sent to the parents of 2,064 where medical advice was needed. No less than 1,085 of these are recorded as not having received any attention after two months. In a few cases threats of exclusion from school have procured attention, and as the result of visits of the attendance officers 150 had spectacles provided, and 212 were reported as under medical care. The committee provided 336 pairs of spectacles, parents paying part of the cost where they could afford it.

Hearing.—During the year 1,593 were reported as suffering from defective hearing, and 512 of these needed medical attention. Parents were notified, but 278 names were returned after two months as not having been attended to. As the result of special visits of the attendance officers 68 received attention, and in 105 cases the parents promised to obtain medical advice. It is said that the actual number of cases of defective hearing must be much greater than the number reported.

Special Examinations.—The head teacher reported a large number of children as needing special examination, and a record is given of 229 thus examined, of which 55 were in connexion with an outbreak of diphtheria, 47 were mentally defective, 12 were stammerers, 55 were cases of eye disease, and 5 of ear disease, 2 of tuberculosis, and 12 of skin disease, in addition to various other ailments.

Meals.—The provision of meals is now under the personal supervision of the medical officer, who has examined 2,828 children, of whom 955 were well nourished, 640 showed signs of deterioration, and 1,233 were badly nourished. Meals were refused for 194 children, and the parents of 322 were asked to pay for the dinners, while 25 cases were reported to the Society for Prevention of Cruelty to Children.

Lectures to Teachers.—A course of twelve lectures on hygiene was given by the medical officer to 160 pupil teachers, but the medical officer thinks that at least twenty lectures ought to be given and provision made for adequate knowledge of hygiene and physiology, and we are told:

> It is quite certain that if the medical inspection of school children is to be used in order to obtain the greatest benefit for the children examined the teachers must be active helpers in the work and must be given an opportunity of educating themselves in order to take their proper place in the scheme. Without active co-operation and adequate knowledge on the part of the teachers, much of the benefit which should accrue from the medical inspection of the children will be lost.

Teeth.—Special investigations have been made as to the condition of the teeth, but the medical officer is unable to say that the condition is necessarily reflected in the physical condition. The smallest number of teeth in a child was 11, the majority of the children having 20 or more. During the investigation a number of other defects were found, but none of them had any direct connexion with the teeth. At the same time, the medical officer thinks that if the investigation could have included those aged 17 a definite deterioration due to defective teeth might have been shown. The percentage of those having defective teeth was very high, many children having a large number of teeth in an advanced state of decay. Parents were notified where dental interference was needed.

Home Conditions.—A large proportion of the children were subnormal both in height and weight, and a child which must be considered normal in certain schools falls decidedly below the Anthropometric Committee's standard. The facts found all point to home conditions of a highly unsatisfactory and often a most miserable character, and many of the

children, though not in a criminally neglected and verminous state, are ill cared for, badly fed and clothed, many of them dirty, and many suffering from rickets or anaemia. The good effects of a fortnight's stay during the summer at the country school at Mobberley are noted.

Afflicted Children.—Education authorities *must* provide instruction for blind and deaf children and *may* provide for feeble-minded, crippled, and epileptic. With regard to the blind and deaf, it has been the plan to send Manchester children to residential institutions, and Manchester has 24 blind and 63 deaf children in such institutions, while there is also a day school at which about 30 blind or partially blind are attending. For the feeble-minded there are four special schools where about 250 children attend, while 47 are inmates of the Sandlebridge school near Alderley Edge. On attaining their sixteenth year the children do not leave the colony but are permanently taken care of by the voluntary society to whom the colony belongs, the boys being put to work on the farm and the girls trained in the laundry and in housework, their work being, to a certain extent, remunerative. The late Dr. Ashby repeatedly pointed out the necessity in the special schools of practical teaching in handicraft trades, but he was convinced that it was useless to fill the special schools with a very low grade of children who could never be expected to earn their own living and needed close supervision. He thought residential institutions were needed for many, as without close custody they would sooner or later drift to the workhouse or recruit the criminal or inebriate classes. Crippled children are provided for at the Swinton residential school, where there are about 60 cases. The surgical treatment at the school is conservative, and excellent results have been obtained by good food, fresh air, and simple appliances. Spinal and hip-joint disease furnishes the bulk of the cases, and 14 had to be removed to hospital during the year for treatment which could not be carried out at the school. Only those cases are admitted in which there is a reasonable prospect of improvement, the most suitable being early tuberculous disease of the spine or joints and cases of rickets with progressive deformity. Epileptic children are sent to the David Lewis Epileptic School, near Alderley Edge, where the Committee has 48 children. But the Committee is now erecting a school of its own with accommodation for 100 children. In no other district in the kingdom is there anything like the same complete provision for afflicted children as that provided by the Manchester Education Authority.

Opticians and State Recognition.

At the annual general meeting of the Manchester and North of England Optical Society held last week, the President, Mr. J. C. Kidd, of Manchester, said that the desire for legislation to recognize the position of opticians as a profession could only be achieved by the combined efforts of the Worshipful Company of Spectacle Makers and the British Optical Association. The diplomas at present granted could only become of real value when the bodies which granted them received State recognition. In the discussion which followed, the importance of federation between existing optical organizations was insisted upon, and it was stated that in most of the States of America the optician had legal recognition. In bringing the discussion to a conclusion, the President said that he did not see why opticians should not follow the example of dentists, and be acknowledged by the medical profession. The matter is to be further discussed at the next meeting of the society.

BRISTOL.

Medical Inspection of School Children.

The report of the medical inspectors for the Education Committee contains much interesting matter, and reflects great credit on Dr. Green, who is responsible for collecting his reports, with those of his colleagues, into a compact form.

The city was divided into five districts, and to each of them a part-time officer was appointed, who devoted two and a half hours three times a week to the work. Beginning in September, 1908, they for a month took a general survey of possible cases of underfeeding in some of the poorest districts as a preliminary to a scheme to be adopted by the Education Committee for providing meals. Dr. Green expresses his belief that the regular inspection which began in September has not only afforded valuable statistics for future use, but has proved of material benefit to the children. The inspectors began with the new admissions, examining next the senior scholars, but taking urgent cases at any time. In preparation for the visit of the inspector the head teacher obtained from the parent as much information as could be got as to whether the child had had any of the acute specific fevers, and also recorded its weight and height. The examination as a rule was made in the school, and the head teacher was present, as well as the parents, if they desired. When defects were recorded requiring attention, the parents were notified on a special card stating the inspector's advice; if no notice was taken, after a definite time a further notification was sent, or the superintendent attendance officer informed. The health visitor was appointed for his whole time, and visited the homes to impress upon parents the necessity of keeping their children's heads clean or having ear discharges attended to. In all, 3,061 children were examined, of whom 172 were referred for further examination, and 1,213 were found to have one or more defect. In all, 68 were found to be unfit, for some reason or another, to attend school, the various ailments being stated in the report. The number of children who appeared to be neglected, wilfully or otherwise, was 59.

Commenting on the facts disclosed by the inspection, Dr. Green states that in 75 per cent. of the cases the parents were present, and he remarks that this was helpful to the inspectors in more ways than one. Under the head of previous diseases it is noted that 66.3 per cent. had had measles, 7.9 scarlet fever, 44 whooping-cough, 30.3 chicken-pox, and 3.2 diphtheria. Sixty-four children were found to be insufficiently clad, but of these only 3 were over 9 years; "on the whole the tendency is to overclothe rather than the reverse." The condition of the head was found to be "dirty" in 119, requiring soap and water: 281 were verminous. Of these only 18 were boys; for girls the percentage was 16.3 of all examined, and Dr. Green expresses his regret that short hair is not the fashion for girls as well as boys. One of the inspectors—Dr. Carter—points out that the percentage in some schools is nearly 70, and that in other cases, as the parents have been notified, the index is too low. The number of defectively nurtured was 355, of whom 21 were classed "bad," no doubt owing to bad hygienic conditions at home and deficient, unsuitable food. This particularly applies to the central portions of the city, for in the outlying portions the houses are better constructed, and open spaces and parks are available. Malnutrition varies very greatly in different districts. Dr. Carter finds 36 per cent., Dr. Williams 4 per cent. On the whole, rickets does not appear to be a serious disease in Bristol. The report comments on the small amount of tuberculosis seen in glandular and osseous form, but the more serious pulmonary cases soon become too ill to attend school. In fact, only 0.08 per cent. were found, and these have been excluded from school. The mental condition was on the whole satisfactory; 146 were reported to be dull, and many of these suffered from defective vision and other conditions. A voluntary agency exists in Bristol to supply glasses, and has been to some extent patronized by parents. The condition of the mouth and teeth was bad, and Dr. Carter found as big a proportion as 60 per cent. among those examined by him, but 12 per cent. suffered from hypertrophied tonsils and adenoids, and while in a few cases no bad symptoms were observed, many suffered from the usual trouble coincident with this condition. In 3 per cent., or 103 cases, a purulent discharge from the ears was found. Thirty-three cases of congenital heart disease and

49 of acquired were noticed. Dr. Williams has included some figures on the measurements and weights of boys in various schools, comparing them with some recently published in the *Bristol Medico-Chirurgical Journal* by Dr. Rogers. The most striking thing in these was the fine standard of boys coming from a district where the fathers are in constant employment, for they come up to the standard of boys at Marlborough College, the highest in the tables.

The report gives the details of the treatment of defects found in the children, and expresses the appreciation of the inspectors of the help they have had in their work from the office staff and teachers.

LIVERPOOL.

The Medical Institution.

The formal opening of the session of the Medical Institution took place on October 7th, when the President, Mr. T. H. Bickerton, delivered the customary inaugural address, his subject being a sketch of the life and work of Dr. John Rutter, the founder of the institution. At the outset he pointed out that since the reconstruction and decoration of the building, completed in 1906, there had been an increase in the membership of 145, the total now being 421. After referring to the loss the institution had sustained during the past year through the death of Mr. George E. Walker, Dr. Tawse Nisbet, and Dr. H. W. King, of Chester, Mr. Bickerton drew attention to the munificent gift of £200 recently made to the library by Mrs. Bickersteth, widow of the late Mr. E. R. Bickersteth, a former president. The institution possesses a fine portrait in oils of Dr. Rutter by an unknown artist, probably painted more than eighty years ago. Until Mr. Bickerton undertook the researches which provided the material for the present address, researches on which he has been engaged for two years, practically nothing was known of his life and work except that he had taken an active part in the foundation of the institution, had been the largest subscriber to the building fund, had delivered an address at the opening of the building, and at his death had devised to the institution the most valuable collection of minerals in existence.

Practically no information with regard to Dr. Rutter was to be obtained from the records of the institution, and most of the facts of his life, so far as they have been ascertained, were brought to light by consulting the records kept by the Society of Friends, of which Dr. Rutter was a member. The family has thus been traced back to the year 1661, when there was born Thomas Rutter, who in 1691 married Rachel, daughter of Richard and Elizabeth Ashbrook, of Frodsham. He was by occupation a blacksmith. The family, being strongly Royalist, is believed to have suffered greatly during the civil war. From Thomas Rutter was descended John Rutter, who was born in Liverpool in 1762. His father's sister was married to William Rathbone, the ancestor of the present family of Rathbones, and one of the earliest opponents of the slave trade. John Rutter was apparently on very intimate terms with his uncle by marriage.

In his sixteenth year his stepfather presented him with *The Anatomy of the Human Body*, by James Keill, M.D.—satisfactory evidence that his intention to enter the medical profession was already fixed. At the age of 17 he was present at the meeting when the Liverpool Library was publicly inaugurated. About the year 1785 he went to Edinburgh, and was there three years. When 24 years of age he obtained the M.D. degree, and published his "thesis" (in Latin), on *Phthisis Pulmonalis arising from Tubercle*. He subsequently settled in Liverpool, and when about 27 years of age was elected President of the Liverpool Library, in succession to William Roscoe. He afterwards became one of the physicians to the dispensaries. He was one of the principal founders of the Liverpool Athenæum, but his great claim to the gratitude of the medical profession is the part he took in the formation of the Medical Institution, at which he delivered the first inaugural address. He died in 1838. Though of a retiring disposition, his worth was universally recognized, and that his practice was not inconsiderable seemed to be proved by the fact that he left a fortune of nearly £30,000. He bequeathed his valuable collection of books to the Medical Institution.

A cordial vote of thanks to Mr. Bickerton, proposed by Sir James Barr, and seconded by Mr. Thelwall Thomas, was carried by acclamation. After the address the members were entertained at supper by the President.

Dublin Graduates' Annual Dinner.

The annual dinner of the graduates of the University of Dublin (Trinity College) resident in the North of England will be held this year in Liverpool, at the Adelphi Hotel, on Monday, October 18th. Sir Robert Ball, F.R.S., will preside, and the principal guest will be the Rev. J. P. Mahaffy, D.D., D.C.L. Dr. T. R. Bradshaw is the chairman of the local committee, and Dr. F. Strong Heaney and the Rev. H. D. Morgan, LL.B., are the local secretaries. Every endeavour has been made to communicate with the graduates in the neighbourhood, but it is possible that this may meet the eye of some medical graduates who have not received the intimation. Dr. Heaney's address is 35, Russell Street, Liverpool.

St. Luke's Day Service.

The annual service for medical practitioners will take place at St. Luke's Church on Sunday, October 24th. The preacher will be the Rev. Dr. Diggle, Bishop of Carlisle. Dr. Diggle is well known in Liverpool, and it is hoped that there will be a large attendance of members of the profession.

WALES.

Medical Inspection of School Children.

Dr. J. Howard Jones, M.O.H., Newport, in his first annual report on the medical inspection of school children in the borough, points out that accommodation is provided for 17,705 scholars in the schools, and during the year there was an average attendance of 13,238 (89.2 per cent.). There are 20 separate schools, with 48 departments—11 for girls, 10 for boys, 8 mixed departments, and 19 for infants. Out of 2,498 children examined, 610 had bad teeth, and 10 out of 100 children examined required special attention. Dealing with the height and weight of Newport children, the report gives a series of figures showing that all children examined in the Newport schools were below the standard for all England. Taking boys of 13, the Newport height is 4 ft. 7½ in., and all England height 4 ft. 9 in.; Newport weight 78 lb., all England weight 82½ lb. Newport girls—height 4 ft. 7¾ in., that for England being 4 ft. 9¼ in.; weight, Newport girls, 80 lb., while all England girls' weight is 87 lb. Invitations to be present during the inspection were sent to the parents, but in comparatively few cases was advantage taken of these. Of 2,498 children inspected, it was found necessary to notify some defect in 901 cases (32 per cent.)—381 for bad teeth, 285 for disorders of nose and throat, 165 for defective vision, 37 for defects of the hearing apparatus, and 115 for other defects or disorders. A large number of these had secured attention at the hospital, from doctors and dentists, and from parents. Difficulty had been found in obtaining proper rooms for the examination, the fire and lighting of some of the teachers' rooms being inadequate. In some cases it was noticed that the desks were facing the light, the worst possible arrangement. In several cases the windows were so distinctly dirty that they diminished what light there was. The walls of the schools and the objects on them had, in some instances, collected a thick layer of dirt. There seemed to be too many objects about the room, all acting as dust collectors. The necessity for the training of all school teachers in the principles of school hygiene was brought home to him forcibly when visiting a class-room during a

singing lesson. After pointing out that the children were seated with arms folded, leaning on the desks whilst practising the scales, and that the desks were such that the children's feet dangled in mid-air, he remarks that a better distribution of the desks amongst the various classes would do away with such anomalies. It is further pointed out that the majority of parents cannot afford to pay the fees for special treatment of their children, and consequently many of those who are unable to procure attention at hospitals were not attended to. Dealing with ringworm, Dr. Howard Jones says that 205 cases were discovered among the children. This disease was a very chronic one, and consequently was responsible for serious interference with the educational progress of those affected with it. The loss in grant at Newport from ringworm alone during the year amounted approximately to £50. Referring to the assistance given him by the teachers, Dr. Jones says that, whilst the majority of the teachers realized the importance of the work and afforded every assistance, there is an impression among a certain minority that the work is entirely outside their sphere. On the question of the ventilation in schools, he says the atmosphere of Newport schools is not satisfactory, although in some schools it is worse than in others. A series of instructions are given on this point. The report also deals with the work of cleansing the schools. School prizes, it is suggested, should be awarded for good conduct and efficiency, and not for attendance. In the latter case the parents are so anxious that the coveted first-class prize (never absent, never late) should be obtained, that they sent children to school who, even on casual inspection, were seen to be ill enough to be in bed. It would be well for the committee to give consideration to the question of open-air schools. With regard to the provision of meals, the report says that there is a marked improvement in those children who have been provided with meals by the committee. Instruction in personal hygiene was, however, necessary.

The Barry Hospital.

The Barry Accident Hospital was established in 1895 for the benefit of the workmen of the docks, who otherwise must have been conveyed to Cardiff, eight miles distant, or treated in their own homes. In 1900 it was taken over by the Barry Urban District Council, and has been enlarged to a general surgical hospital providing 22 beds. The district contains a population of about 33,000, almost entirely composed of the workmen of the Barry docks, their families, and the tradesmen, etc., necessary to supply their wants. The docks alone employ between 8,000 and 10,000 men. Originally it would appear that all the medical men resident in Barry were members of the staff of the hospital, and were entitled to treat patients there. With the extension of the hospital, questions have arisen with regard to the constitution of the staff. It would appear that it is not the desire of the general body of local practitioners that cases requiring serious operation should be treated in the hospital if the condition of the patient will permit of removal to Cardiff before operation, and further that serious operations of expediency should either be sent to Cardiff, or, if retained in Barry, should be operated upon by a surgeon in consulting practice in Cardiff, unless one of the local practitioners desires to specialize in surgery, in which case it was said to be desired that a special appointment should be created for the purpose. The matter was referred by the Cardiff Division to the Hospitals Committee, who instructed the Medical Secretary to visit Barry with the view of obtaining full information; the result of his inquiries is briefly stated above. The Hospitals Committee recommended that it should be open to each medical practitioner in the district who desired it, and who had been in practice there for six months, to go on the staff of the hospital in rotation, four acting at one time for a period of three months consecutively, each being on duty every fourth week during the period. It was further recommended that each member of the staff should be paid a fixed honorarium for each three months' term, £20 being suggested as a reasonable amount.

At a special meeting of the Barry Hospitals Committee early this month, the scheme founded upon the above recommendations which had been submitted by the local profession was considered, and it was stated on behalf of the doctors that while they would be willing to give their services free in the case of a voluntary hospital, they did not consider that they could do so in the case of a hospital entirely supported by the rates, as was the Barry Hospital. The Committee appear to have taken the view that if the doctors laid down the principle of payment it was the duty of the Council to appoint a medical staff; and it was finally decided to recommend the District Council to take this course, and to appoint a committee to consider whether the appointments could not be made in conjunction with the medical staff already in the employment of the Council. The Cardiff Division will, we have no doubt, take steps to ensure that the matter is adequately discussed when it comes before a full meeting of the District Council.

Inspection of Meat at Cardiff.

At the Cardiff Health Committee held on October 5th, Dr. E. Walford, M.O.H., presented a report upon the work of the officers of the Port Sanitary Authority appointed to assist him in the execution of the unsound food and foreign meat regulations. Up to June over 80,000 lb. of food, consisting of frozen rabbits, onions, tomatoes, rice, sugar, oranges, and grain, had been destroyed. From January 1st to May 31st the amount of foreign meat examined was 26,223 quarters of beef, 53,801 carcasses of mutton, 33,168 carcasses of lamb, and 13,105 cases and bags of offal, consisting of ox and sheep hearts, ox tails, etc., imported from River Plate and Melbourne. A member inquired if the staff was large enough to cope with the work, and Dr. Walford said the regulations had only been in force a little time, and if the work increased he would have to submit a further report to the Committee at a later stage.

Merthyr Housing Schemes.

At a meeting of the Merthyr Health Committee on October 6th, Dr. Duncan, M.O.H., in his monthly report, stated that in the districts of Georgetown and Brecon Road there were between 90 and 100 houses unfit for human habitation, and in the large majority nothing short of entire rebuilding would render them satisfactory. It was resolved that the deputy surveyor inquire for suitable sites for the building of workmen's dwellings in various localities. A member stated that the only remedy was for the Council to build more houses, but it was pointed out that private enterprise had done more to provide houses during the last ten years than it had done during the previous fifty years. The Chairman remarked that there were 200 houses in course of erection in the northern portion of the borough, and he thought that the committee might show a little leniency until those houses were erected. The Inspector of Midwives reported that she found many cases of poverty during her visits to infants' homes, and in one case the suffering was exceptional. She was of opinion that a number of mothers lost their children through sheer want of nourishment, which undoubtedly added materially to the high death-rate now prevailing. Ten cases of typhoid fever had been admitted to the Mardy Isolation Hospital, 4 cases being admitted from one house; the origin of the disease was obscure; 43 cases of scarlet fever were admitted, the large majority being from Merthyr Vale. With regard to meat inspection, it was stated that warnings had to be given in regard to humane slaughtering, it being stated that pigs were struck in pens in the sight of other animals, and in another a large number of sheep were found tied on the floor of the slaughter-house, and were killed in the presence of other sheep and pigs inside.

India.

The Proposed Malaria Conference in Simla.

A Government of India communication has recently been published regarding the conference which was opened in Simla by the Governor-General on October 12th in connexion with a proposal now before the Government that "a permanent organization should be formed to inquire systematically into problems, both practical and scientific, connected with malaria in India." The number of deaths ascribed to "fevers" throughout India approximates to 4½ millions annually, and, although most of these are due to other causes than malaria, yet from the indications afforded by certain recent inquiries it has been estimated that a little over one million of these are probably due to malaria, which means a very much larger number of cases of sickness due to this disease. Although these authoritative figures fall far short of Professor Ross's statements, they are still terrible enough, and the Government recognizes that they call for their best efforts to diminish them. The letter goes on to point out that the conditions vary so widely in different parts of India that measures which may be most suitable in one would be quite impracticable or only a waste of money in another. For this reason it has been decided to hold a conference to frame a scheme for an organized attempt to deal with the malarial problem as a whole in consultation with administrative officers intimately acquainted with the local conditions in the various provinces. The Government of India has nominated the P.M.O. of His Majesty's Forces in India, the Director General of the I.M.S., the Sanitary Commission with the Government of India, the Director and Assistant-Director of the Kasauli Institute, and the Statistical Officer to attend, while the local Governments have each been invited to depute an administrative and a medical officer, together with an Indian gentleman. The problems to be discussed are ranged under three groups: (1) The distribution of malaria in India and in each province in relation to the sickness and mortality it produces. (2) Measures of prevention which have been adopted in different provinces, such as drainage, mosquito destruction, and quinine distribution, and their success or otherwise. (3) Improvement in the schemes of prevention, including the best method of widely distributing quinine. Scientific papers dealing with some of these problems will be read.

It is sincerely to be hoped that something really practical will result from this long-delayed endeavour, as by this time there should be sufficient data accumulated by the different local administrations to allow of efficient measures being taken to lessen the death-rate from malaria in India. If the Government is sufficiently in earnest to provide liberal grants to put the necessary measures into force, it may rely on the medical department making the best use of the money provided. Hitherto medical officers have too often been expected to make bricks without straw.

Indian Sanitation.

The India Office presents to Parliament annually a Blue Book entitled "Report on Sanitary Measures in India." The latest, the forty-first of the series, is for the year 1907, and consists mainly of information condensed from Indian Sanitary Reports, especially the report of the Sanitary Commissioner with the Government of India, of which a full abstract is given. The sanitary events of 1907 have been already summarized in the British Medical Journal, 1909, vol. i, p. 1192, but this report contains, in addition, some information regarding hospitals and dispensaries, lunatic asylums, and medical colleges and schools. The number of Civil hospitals and dispensaries (State, public, local fund, and private-aided) in operation during the year was 2,542, in which 413,821 in-patients and 24,573,571 out-patients were treated, and 992,317 operations performed. All these figures are in advance of those of the preceding year. This does not represent the whole of charitable medical relief given in India. There are numerous missionary, Lady Dufferin, native, State, and private institutions in addition, which minister to the sufferings of the indigent. There are 23 lunatic asylums, in which were confined 5,630 male and 1,526 female patients. Criminal lunatics constituted nearly 37 per cent. of the asylum population. The discharges amounted to 10.2 per cent. and the deaths to 10.4 per cent. of the daily average strength.

The existing medical colleges of India are four in number (Bengal, Madras, Bombay, and Lahore), and a fifth is under construction at Lucknow. There are fifteen medical schools in which the standard of education is lower, and the examinations for licences less elaborate and exacting. There are in addition some private medical schools in the presidency towns in which useful if not very exalted instruction is given. Short notes are given regarding these institutions which indicate activity and progress. They supply the public and public services with qualified medical men. There is at Dehra Dun an *x*-ray institute in which instruction is given to civil and military medical officers and subordinates. The number of skiagraphic examinations made was 1,188. The transactions of research and Pasteur institutes are also summarized.

Infant Mortality in Bombay.

Dr. J. A. Turner, the Health Officer of Bombay, has, as his annual reports testify, paid special attention to the great mortality of infants and its prevention. He has recently published his facts and recommendations in pamphlet forms. He gives reasons for concluding that the registered births do not represent the whole of the children born of Bombay parents, and, after applying necessary corrections, estimates that the infant mortality amounts to 286 per 1,000 of the births, against 228 for the whole of India, and 145 for large English towns. "Debility" accounts for about one-third of the deaths, chest diseases come next, and convulsions, bowel complaints, small-pox, measles, fever, and prematurity follow in descending order. The number of stillbirths is very considerable. Dr. Turner considers that ignorance, neglect, exposure, and defective feeding are responsible for the large infant mortality, and urges that "the remedy appears to be more skilled attendance in confinement, more sanitary surroundings and facilities for obtaining medical aid and food for mother and child." His specific recommendations are: (1) The provision of lying-in hospitals, (2) the training and registration of native midwives, (3) the suppression of untaught and unskilled midwives, and (4) the establishment of municipal milk depôts. It is satisfactory to note that practical measures have already been initiated. There are three lying-in hospitals in which 2,220 women were delivered in 1908, and nurses are trained; there are 10 district nurses attached to municipal dispensaries who attend poor women, 171 native "dhais," and 77 native midwives or sick nurses; but much additional effort is required in the same direction.

The Government of Bulgaria has decided to organize a systematic campaign against malaria, on the lines followed in Italy. It has already made large purchases of quinine for the purpose.

The third International Congress of Physiotherapy will be held in Paris at Eastertide, 1910 (March 30th and 31st and April 1st and 2nd). The Congress is under the patronage of M. Fallières, President of the French Republic, and the Minister of Foreign Affairs has expressed his willingness to be honorary vice-president. The members of the honorary committee are Professor Bouchard, the President of the Academy of Medicine; the Prefect of the Seine, the President of the Municipal Council, the Prefect of Police, the Dean of the Paris Faculty of Science, Professor Lépine of Lyons, and Dr. Oudin, President of the French Society of Electrotherapy. Among the members of the organizing committee are Professor Landouzy, Professor Gariel, Professor Robin, Professor Bergonié, Dr. Huchard, and Dr. Béclère. The work of the Congress will be distributed among seven sections,

Special Correspondence.

PARIS.

The French Surgical Congress: The President's Inaugural Address: The Care of Patients Before and After Abdominal Operations.—International Aviation Exhibition.

THE twenty-second annual French Congress of Surgery was opened on October 4th in the large amphitheatre of the Faculty of Medicine. M. Richelot, the President, chose Simple Surgery as the theme of his inaugural address. Simple surgery, he said, must be a surgery which was mature and highly cultivated. He had always looked with sadness on the multiplicity of instruments, of infinite variety of form, which professed to meet every possible want of the operator; for the most successful operator was the man who made the best use of his fingers and his good sense. The luxury of certain operating theatres was also to be condemned, for Lister had said and proved that asepsis was obtained by attention to the region affected, the instruments, and the hands of the surgeon. In the same way chloroform was better given on a simple handkerchief when the anaesthetist knew what he was about, than by one who placed his confidence in the taps of an apparatus. The motto of the surgeon should be "to act simply and go straight to the point." Surgery was encumbered with too many useless little things, and these useless complications all arose from an excessive desire for personal methods.

Among the reports presented to the congress was one by Professor Tuffier, of Paris, and de Rouville, of Montpellier, on the care of patients before and after abdominal operations. The main thought of the surgeon and all his efforts should, it was urged, be concentrated on the one object of bringing the patient back as nearly as possible to the physiological normal. A chapter of the report was devoted to the general measures for the prevention of infection. If the cause of death in a long series of operations was looked into, septicaemia would be found always to be present; and this had led to a large amount of research tending to diminish or suppress all risk of infection during the operation. To banish septicaemia it was necessary to render the subject refractory, to render the patient immune against surgical infection, as a rabbit was rendered immune to tetanus. It was first necessary to know all the microbes which caused septicaemia in man, then the corresponding serums or polyvalents could be injected as a preventive method. For the last twelve months Dr. Tuffier, with his collaborator, M. Mauté, had carried on research in this direction. The two problems were (1) to render the patient immune from any operative infection, and (2) to increase his resistance to such a degree as to render him almost refractory. For the first purpose, it was necessary first to have the serums which render immune from at least the commonest microbes (staphylococci, streptococci, and *coli* bacilli) which caused septicaemia. Vaccination against operative infection might be active, immunity being conferred by the injection of serum from an infected animal. Its action was immediate and reached its maximum in twenty-four hours; or passive, the immunity being consecutive to the injection of a small or attenuated dose of the infective agent itself. Its immunizing action was slower and the reactions more intense according to Wright's method. Dr. Tuffier had tried to render the subject immune to each variety of infection, but no polyvalent serum against all of them had been efficacious. Clinically the injection of antistaphylococcus vaccines prepared by Wright's method gave good results in pure staphylococcic infection, but not as a preventive injection before operation. There was no fact at present which proved that it was possible by a preventive injection to render an operation case immune. If the patient could not be rendered refractory to infection, could he at least be put into a state of greater resistance before the operation, so that infection might be prevented in an absolute or relative manner? Was it possible in man, before the operation, to provoke a leucocytosis sufficient to stop any infection? Attempts had been made to bring about (*a*) general leucoprophylaxis by subcutaneous or intravenous injections of leucogenic substances (nucleinic acid, thallianine, serum of the horse heated to 55° C.), or (*b*) local leucoprophylaxis, either before the operation, provoking in the peritoneal cavity a local leucocytosis which put it into a maximum state of defence at the time of the operation, or by leaving a solution in the peritoneal cavity at the time of the operation to obtain a similar result. Dr. Tuffier had treated these patients thus: leaving 10 c.cm. of sodium nucleinate in the peritoneal cavity, there were no evil results, and the three patients, after large gastric or intestinal resections for cancer, got well: these cases, however, were not numerous enough to warrant any conclusion. In summing up this chapter of his report, Dr. Tuffier said that it seemed evident that preventive revaccination against operative infection was the method of the future, but a future still distant and obscure. Its action was precise for a simple infection or a symbiosis of two elements, and with the perfected method of Wright should give good results; unfortunately, infection by a single species of microbe did not occur in abdominal surgery. In certain metastatic abscesses with pure staphylococci, or suppurations with pure culture of *Bacillus coli*, it would seem that after eliminating possibility of anaërobic microbes, preparatory vaccination were indicated, but such cases were very exceptional. Local leucoprophylaxis nine to twenty-four hours before the operation was in abdominal surgery very difficult to produce. Puncture was dangerous, and a double operation at a few hours' interval was a very great complication, the more so because, owing to the benign operation effects yielded by asepsis, this method could only be applied to particularly grave operations. General leucoprophylaxis as a preventive measure, by the use of sodium nucleinate or thallianine, had as yet not been fully tested. Its greatest advantage was that it was harmless; but from his experience Dr. Tuffier found that in grave conditions it missed its object, and that in mild infections it was not known whether the leucocytosis thus caused was of the same value as that determined by the infectious agent itself. Success depended not on the number but on the fighting strength of the polynuclear cells. Leucoprophylaxis provoked by the local introduction, immediately after the operation, of sodium nucleinate, of serum or collargol as an antiseptic, had not as yet been proved useful. The best guarantees for the recovery of the patient were to operate quickly, well, and aseptically, striving by all mechanical means to ensure preoperative and operative asepsis.

The First International Aviation Exhibition, which is now being held in the Grand Palais, besides every form of biplane and monoplane, contains much of interest to the medical man. There is a special physiological section where are exhibited a number of insects, birds, and flying animals, bats, etc., and a series of stuffed pigeons demonstrating the researches of Marey on the physiology of the flight of birds; tables showing the researches of Hallion and Tissot on the gases in the blood and the respiratory exchanges; the researches of Pierre Bonnier on the effects of altitude on hearing; the instruments used for research on the physiology of altitudes, and especially apparatus for measuring arterial tension. The Aero Club organizes monthly ascents for meteorological and physiological research; a large table shows the most remarkable of these ascents and the heights reached. On Sunday morning medical men were invited to an interesting visit to the exhibition under the guidance of an aviator and a physiologist, and a large number took advantage of the opportunity.

THE Paris Academy of Medicine has awarded a prize of £160 to M. W. Haffkine for his work on inoculation against cholera.

AT the meeting of the Metropolitan Asylums Board on Saturday, the Hospitals Committee reported that it had considered the question of whether there should be a time limit of service for assistant medical officers in the infectious hospitals of the board. The medical superintendents had been consulted on the subject. The committee had finally decided (1) that there should be a time limit of service for four years for junior assistant medical officers, and (2) that in the case of junior medical officers promoted to be senior assistant medical officers the limit of the total period of service should be ten years. The decision of the committee was confirmed by the board.

Correspondence.

FASTING PRISONERS AND COMPULSORY FEEDING.

Sir,—The position assumed by your correspondents on the feeding of the recalcitrant suffragettes, in their letters published in the last issue of the Journal, seems extraordinary. In substance it amounts to this:

1. That the duties of medical officers of prisons are, or should be, confined entirely to the treatment of sick prisoners.

2. That prisoners who wish to injure their health by refusing food are to be permitted to do so.

3. That the suffragettes are political prisoners, and therefore should be allowed to do much as they please.

As regards (1), the duties of medical officers of prisons are onerous and responsible and are conveyed to them in detail on appointment, and are by no means confined to the treatment of disease and injury. They have to inspect each prisoner on admission and discharge and frequently during their incarceration, arrange their diet, ascertain their peculiarities of mind and body, note their capabilities, and sanction any punishment ordered for breach of prison rules, etc. They have to make frequent sanitary inspections, and perform many other duties impossible to tabulate, and incidental to the care of a number of human beings deprived of their liberty.

2. If the suffragettes were permitted to injure their health and defy both the prison rules and the terms of their punishment as inflicted after conviction, and, it is presumed, a fair trial by the responsible officers of the law, why should other prisoners be denied similar liberty? If a prisoner was ordered a life sentence or any other imprisonment, he might defeat the ends of justice and starve himself, or he might take poison surreptitiously conveyed to him. Would the compulsory use of the stomach tube or some antidote not be fully justified under such circumstances? Again, a prisoner might sever an artery or a vein, or break his arm or leg, or inflict upon himself numerous injuries. Would the medical officer be justified in leaving him unattended to because he wished to destroy himself? Take another case—it often happens. Prisoners are admitted to gaol or the lock-up almost poisoned with alcohol. Is the stomach tube not to be used because they resist? In private practice do we not often meet with cases who refuse food and have to be fed? And if this is so, why should not the same method of treatment be carried out with female suffragettes who act foolishly in order to defy the authorities and escape the punishment the law considers their offence has deserved? In lunatic asylums it is well known numbers of patients have to be fed constantly against their wish. Why should these unhappy people have a method of treatment forced upon them which they object to? Why are Christian Scientists punished if injury or death is produced by their failure to call in proper medical or surgical assistance? Are persons who attempt to commit suicide sane or insane? Is not refusal to take food an effort to commit suicide? And if it is lawful to compulsorily feed lunatics and prevent suicide, how can it be contended logically that the suffragettes in prison should not be compulsorily fed? And, finally, if these premisses are conceded, who can carry out the necessary treatment except doctors or skilled nurses under their supervision?

3. If the medical officers of His Majesty's prisons considered it part of their duty to discriminate between prisoners, or permitted their sympathies to interfere with the impartial performance of their responsibilities, what a strange place a gaol would soon become. Does it require further argument to prove the hopeless position assumed by correspondents who boldly assert that one of their chief objections to forcible feeding of the suffragettes is largely based on sympathy with prisoners they consider not criminals. Is a woman, because she has a grievance and wants a vote, to be permitted to throw bombs, assault the police, create disturbance, endanger the public peace, chain herself to railings, etc., and does she not bring herself within the term criminal? In the case of a man who conducted himself in a similar fashion there would not be much room to doubt the verdict of the public. Why should there in the case of a woman?

In conclusion, I wish to say I do not agree with your strictures of the Home Secretary, who seems to me to have carried out his responsible duties with firmness and discretion. I am quite certain Mr. Gladstone has no desire in any way to shelter himself from public criticism, or to throw upon the medical officers of prisons duties which doubtless are extremely disagreeable, but none the less incidental to the position they occupy in the service of the State.—I am, etc.,

Edward Thompson, F.R.C.S.I.,
Surgeon, Tyrone County Hospital; ex-Medical Officer, Tyrone County Gaol.

Omagh, Oct. 11th.

Sir,—As an old prison medical officer, perhaps you will be good enough to allow me a few words on the above subject.

In the first place it must be understood that, from the admission of a prisoner until his discharge, the medical officer of the prison is responsible for his bodily and mental health. Neither the administrative staff of the prison, nor even the Home Secretary, can relieve him from this responsibility, which is statutory and personal to himself; consequently, those authorities cannot interfere with any treatment he may consider necessary. If a prisoner starve himself, then he alone is responsible for taking steps at the proper time to supply nourishment either by force or otherwise. If he fail to do so, and the prisoner die or become permanently injured in health, he rightly will have all the blame.

Forcible feeding is a purely medical question, for which the Home Secretary can have no personal responsibility. Were he foolish enough to assume responsibility, as you suggest in your article in this week's Journal, and issue orders as to the administration of the stomach tube, the position of the medical officer would be intolerable. He would then indeed be reduced to the tool of the Home Secretary, and might fitly be described as analogous to the "Whipping Warder, or common Executioner." Such a supposition is grotesque. The Home Secretary might as well order the medical officer to excise the tongues of the more voluble suffragettes, in order to keep them quiet, as instruct him to feed them with the stomach tube to enable him to punish them for their misdeeds.

The Home Secretary may, or may not, liberate, just as he sees fit, but, so long as a prisoner continues in prison, the responsibility for his health remains with the medical officer, and cannot be shifted on to other shoulders.

Of course, a medical officer could always recommend a prisoner's release on medical grounds, but it is questionable whether voluntary starvation would be considered a sufficient plea for such clemency.

I am in entire accord with your leader of October 2nd, but, in my opinion, you misunderstand the position of medical officers of prisons when you suggest that they should act, in their medical capacity, under orders from the Home Office.—I am, etc.,

John McNaughton, M.D., L.S.O.

Glasgow, Oct. 11th.

Sir,—"If the whole responsibility is to be thrown on him, he will find himself face to face with a divided duty—that which he owes to the patient, and that which he owes to his official superiors. The Home Office has no right to place him in this cruel dilemma." This sentence, which concludes your remarks in to-day's Journal on the "contemptible pusillanimity" of the Home Secretary in reference to his treatment of the officers of the prison service strikes one as the most potent argument yet advanced in favour of the women confined in Winson Green being allowed the benefit of an independent medical opinion. It is alleged that compulsory feeding is a mild form of "hospital treatment" undertaken solely for the benefit of the patient.

If this be true, where is the "divided duty"? If untrue, what words can describe the conduct of a Liberal Government that calls on the medical men in its employment to carry out this treatment as a method of coercing political opponents?

I do not speak of expediency; the position of the unfortunate medical officer is obvious, but I emphatically protest against the expression "divided duty" in reference to the professional relations of patient and medical

attendant. The latter is appointed to attend to the sick and suffering, and for that only.

With reference to the suggestion that the women demand different treatment to men prisoners on the score of sex, let me point out what has been repeated time and time again, that it is precisely this difference of treatment that is objected to.

Jameson raiders and Irish cattle-drivers are put in the first division. The acts of violence they commit are excused so far by reason of the political motive underlying them. Why not these women? Do even those most averse to their methods venture to allege that they would break windows or throw slates at the police except as part of a definite political protest?

They have every whit as much right to treatment as political prisoners as the men whose cases are cited, yet the services of the profession are requisitioned to compel them to acknowledge themselves as common criminals.—I am, etc.,

London, S.E., Oct. 9th. H. GORDON CLARK, M.D.

SIR,—I see that in the current issue of the BRITISH MEDICAL JOURNAL there are several letters in which the authors take exception to your remarks of the previous week on this subject. May I (and I think in so doing I am at one with the vast majority of level-headed medical men—certainly with every one to whom I have spoken on the point) thoroughly endorse every word of your article?

For your correspondents to attempt to describe the imprisoned suffragists, convicted of dangerous acts of violence, as political prisoners is only another instance of how judgement can be warped by bias. What next? Stones and slates are weapons not far removed, after all, from knives and pistols.

Even one in so eminent a position as Mr. Mansell Moullin appears to think that the compulsory feeding was a special act of vindictiveness on the part of the Government, and that the suffragists are being treated "in a way that men never are." Surely he must know that self-starvation is an old prison trick, and that it would be far more common were not its futility in view of compulsory feeding pretty widely known amongst prisoners. It must be obvious that to forbid the nasal tube would simply be to empty our prisons, at any rate of those with long sentences. I imagine that Mr. Mansell Moullin does not view that with equanimity. But possibly he considers that the suffragist, whatever she may do, is to receive special treatment accorded to no other. If this be so, I must confess that he has done something to weaken an argument which I have always held to be one of the chief against women's suffrage—namely, that in the average woman the sense of judgement is subordinate to the emotions (for example, intense desire on the part of a woman to attain some object for herself, or, more commonly, for others, often completely overbalances her sense of justice). But Mr. Mansell Moullin is a man!—I am, etc.,

Reading, Oct. 10th. W. BERNARD SECRETAN.

SIR,—We must hasten to revise our ideas as to our professional duty. It seems that, if, in a particular case, the ideal method of treatment is impracticable, the next best method should not be tried, and to employ it, if it is unpleasant, painful, or attended with the slightest danger to life, is utterly unjustifiable, even though the life or subsequent health of our patient is in imminent danger. Such, at any rate, is the only conclusion we and the general public can draw from the expression of expert opinion promulgated in the House of Commons by a very eminent surgeon and 116 other medical men, and in various lay papers, and even in your own correspondence columns by other members of the profession.

A prison medical officer is called upon to deal with certain patients suffering from acute starvation. The ideal method of treatment, in this particular case, is obviously liberation or transference to another division. He finds that owing to circumstances over which he has no control this is impracticable; he may order their release, but he knows that his orders will not be carried out. In this dilemma, holding rather antiquated notions as to his professional duty, he decides to do the next best thing, and feeds them. Thereupon his action is publicly condemned, not merely by an irresponsible public, but responsible members of his own profession, and his treatment is pronounced unjustifiable on the ground that it was unpleasant, or even painful, and that it was not entirely devoid of danger to life and health. On the very same grounds these gentlemen, if they are consistent, would condemn the man who attempted to reduce a strangulated hernia by taxis when attendant circumstances rendered the ideal method, operation and radical cure, impracticable; for in some cases a radical operation, if practicable, is certainly the ideal treatment, and taxis, besides being sometimes difficult and painful, is not free from dangers of its own. The rest of the profession and the general public would hardly endorse their view in the hernia case, and if they do so in the starvation cases, it will not be from professional or ethical considerations. From a professional point of view the two cases are parallel; both are in imminent danger of death or seriously impaired health if treatment is delayed; in both ideal treatment is impracticable, and in both the next best method of treatment will almost certainly tide them over the danger, and in both the second best method is attended by certain drawbacks and dangers. One, however, is an ordinary patient, and to his case ordinary professional and ethical principles are applicable, but the others are "political" prisoners, and new principles must be discovered for their case. Why? Do political prisoners bear charmed lives? Can they certainly bear starvation without detriment until the political wind changes, or can their medical attendant tell exactly how soon the wind will change, and base his treatment on his meteorological expertness? Or is the political prisoner to be regarded by the medical profession as outside the pale of humanity?

It is all very puzzling. One has often been told that our profession ought to play its part in social and political progress, and I have taken some little interest in political questions in the past, but am afraid I must now cease to do so, lest my professional judgement become warped, or, what would be even worse, lest I some day find that I have, consciously or unconsciously, exploited my professional knowledge for the furtherance of some political animus.—I am, etc.,

Swinton, Oct. 10th. J. PRICE WILLIAMS.

SIR,—It appears to me a most lamentable thing that people of such standing as Mr. Mansell Moullin, Dr. Edkins and Dr. Louisa Garrett Anderson, should associate themselves with the hysterical outcry about "horrible outrages" on the Birmingham suffragettes. When the prisoners at Holloway began to escape what appeared to be the legal punishment by starving themselves, the first question that occurred to most medical men was, "Why not feed them with the tube?" It seemed reasonable to suppose that prisoners would not be allowed to render their trial and sentence a mere farce by "hunger-striking" tricks. I was astounded, therefore, when I read in the *Times* a violent letter by Mr. Mansell Moullin on the revolting nature of what is usually considered a simple every-day procedure. I thought of the hospital days, when we washed out people who had partaken of too much alcohol; of the people with dilated stomachs who are taught to wash themselves out; of the test meals and examinations of stomach contents. It took my breath away to learn that such proceedings are "revolting" and "horrible outrages," or that they differ so much from washing out the bladder and exploring ureters. And now you publish three letters dragging all sorts of red herrings across the trail. These red herrings are so numerous and obvious that it is hardly necessary to mention them. But surely Dr. Edkins has a very limited notion of the duties of the prison medical officer, who has to be present even at the administration of the "cat" to healthy prisoners; while Dr. Garrett Anderson's paragraph about the stomach tube not being employed to save life but as a means of coercion is a pure assumption, and full of bias at that.

Surely, there are only two questions of any importance: First, what is the right way to deal with a prisoner who is wilfully damaging her health by starvation; and secondly, Is there anything unusal in the curative method adopted with these patients? It seems incomprehensible that any medical man—or woman—

can answer these questions, except in one way. In none of the letters in your issue of last week is any alternative treatment indicated. Dr. Garrett Anderson, it is true, suggests that if the prisoners were treated as first-class misdemeanants, they would not starve themselves. But surely this is only another of the red herrings. These women have no more right to expect "hunger-striking" to be allowed because they disapprove of their position in prison than the passive resister has to expect that his goods will not be sold when he refuses to pay his rates.—I am, etc.,

London, W., Oct. 11th. CHAS. BUTTAR.

SIR,—Assuming that the suffragettes are as legally in prison as was the Indian who, "*fighting for a political idea*," atrociously murdered a distinguished Indian official, what should be the proper line of treatment for a prisoner who refuses food? Is the prisoner to be set at liberty? in which case all our prisons may be at once pulled down, as it will be open to each and every prisoner by refusing food to escape all penalties of the law; or shall they be allowed to commit suicide? in which case the responsible prison officials will be guilty of a criminal act. The third alternative is compulsory feeding, and even if there were risk in that operation, it would be as justifiable under the circumstances as it would be to use some violence and a boathook to pull a would-be suicide out of the Thames.—I am, etc.,

Lee-on-Solent, Oct. 10th. DONALD SMALLPEICE.

CLUB PRACTICE AND THE POOR LAW REPORTS.

SIR,—The leading article in the JOURNAL of October 9th contains one sentence to which I wish, with your permission, to draw the attention of the members of the medical profession. It is: "Whatever may be said by some of the friendly societies, club practice must be regarded as a form of medical charity."

The idea embodied in the above sentence contains, to my mind, the root of the evil from which we now suffer, not only in regard to club practice but also in regard to the Poor Law medical service. It may please medical men to think that they are dispensing a form of charity when attending club patients; but every club patient—aye, all without exception, one may venture to say—regard the service rendered by the doctor as properly and suitably paid for. The working men co-operate to secure the services of a doctor at a reasonable price, and they would disdain the notion that they receive charitable aid because they cannot afford to pay. Individually they may not be in a position to pay, but collectively they are, and, indeed, would wish to pay the doctor a proper salary.

Whatever our opinion may be, the workmen hold the position in their own hands, and rightly so, for they, by means of co-operation, can and will pay. Wherever the doctor is not adequately paid, proper representation should be made to the workmen, and that in a businesslike spirit, so that the difficulties in any situation may be faced, and a statement obtained as to what is the actual amount the doctor can and will do the work for. The question of charity should be left severely alone, knowing full well, as we all do, that many opportunities to dispense charity will arise in the course of practice.

Can we not settle once and for all that work done, and remuneration for it, shall be placed on a business footing, capable of adjustment as time goes on and as circumstances and conditions change?

If we could obtain such an understanding among the members of the profession we should gain, it seems to me, the first and most important step towards settling the club question. Moreover, we should obtain an understanding which will be invaluable to the doctors as well as to the public when the matter of outdoor medical relief in connexion with the Poor Law shall be reconsidered by the State.

I hope that the above will suffice to make medical men think upon the situation the profession finds itself in to-day, and realize there is a danger lest we be treated by the public in much the same way as by Parliament.—I am, etc.,

Cambridge, Oct. 9th. JOSEPH GRIFFITHS.

SUPERANNUATION OF POOR-LAW OFFICERS.

SIR,—In his address to the Relieving Officers' Association, Dr. Major Greenwood (SUPPLEMENT, October 9th, p. 253) is reported to have stated that the only compensation for superannuation that could be claimed after ten years' service and in the case of forced retirement would be ten-sixtieths, and so on, of his salary as a permanent pension. Under Sec. 8 of the 1896 Poor-Law Officers Superannuation Act, it states that an officer who has not become entitled to superannuation allowance, and who loses his office by reason of a reduction of staff, etc., *shall* be entitled to receive a sum equal to the amount of all his contribution to any such fund under this Act, and the guardians *may* also, *if they see fit*, and with the sanction of the Local Government Board, grant a gratuity not exceeding twice the amount of his salary and emolument during the previous year. It would therefore appear that all he could *claim* would be the return of his contributions, and under no circumstances get more than twice his last year's salary and emoluments. This would be decidedly worse than what Dr. Greenwood stated would be the case, and what he appeared to think a poor return for the loss of appointments; and, in view of future, and possibly near, alterations in the Poor-Law Service, it is desirable we should know exactly how we are likely to stand. Section 8, as it stands, appears to me decidedly unjust, more especially to those amongst us who have spent many years in the service of the Local Government Board. Perhaps Dr. Greenwood will explain?—I am, etc.,

Fulbourn, Oct. 9th. F. L. NICHOLLS.

CLINICAL TEACHING.

SIR,—The reference in "Progressive's" letter (September 18th) to the clinical study of the out-patient is very important. Like most of the men of my time, I attended a clinical lecture once a week more interesting than the systematic lecture, inasmuch as it referred to one case or a group of cases considered only as to diagnosis and treatment. We went round the wards with the physician almost daily, and studied some cases more closely as clinical clerk in charge of two or three beds. But all these were serious cases; many appeared subsequently in the *post-mortem* theatre. The training was most important and valuable, but it was too ponderous. The earliest patients one sees in practice are not bedridden at all, nor deadly, nor even obscure. Yet the very thoroughness impressed upon us as all-essential tended to confuse when we met with a trifling illness—trifling medically, not so to the sufferer. A complete and careful diagnosis is not appreciated by the common or everyday patient, who likes a doctor to tell him the matter before he has told him his complaint. I was locumtenent to a provincial doctor who was said sometimes to settle what was the patient's illness while on the way to the house, and at least on one occasion made his diagnosis to fit in to his preconceived opinion—quite erroneously. Something between these extremes should be taught. Show to the student how with a brief inspection he can distinguish between a patient complaining of illness in whose case elaborate or detailed examination of the different systems, family history, is required, and so forth, and the case of a patient who may be summarily dismissed with a simple prescription such as mag. sulph. or inf. quass. As a question of bread and butter this is really of importance, and is perhaps the chief virtue of the old apprenticeship. The methods of Harley Street are all right in their place; but we do not all live there, or near there in club practice. If I mistake not, the out-patient clinic, where it exists, is limited to a percentage of the numbers that actually attend—that is, it is an extension of ward teaching.

Is it not worth while to consider those crowds of trivial ailments? Is a bottle of medicine everything? A former junior resident told me that he usually saw from 100 to 120 out-patients every day, and that after a week or two's experience he got this work over in about three hours. One who a year or two ago had been assistant to a doctor who had many clubs, told me that he frequently saw 150 patients a day, including, of course, his visiting list. Both of these are capable men, and I think I may believe their statements. Is this sort of thing necessary in the interest of the young medical man? Nay, is it not injurious, as

tending to induce a superficial and careless habit of treatment? The strain to a too conscientious mind must be ultimately injurious. Then what opportunity has the resident—in London at all events—for study for higher professional honours?

As to examinations. In the final the clinical should be counted separately from the written part. That is, a man who passes well in the written, and is not quite successful in the other, should *not* have the worry of another written examination, but should come up again after two or three months' study of concrete illness only. The examinee should not be needlessly harassed. I have been told that a certain body of examiners hold their clinical examinations in the evening between 6 and 10 o'clock, and that the candidates are delayed in town many days awaiting their alphabetical order. This, if true, would be rather brutal, for the student and examiner alike are more or less fagged at the close of the day. The former has already a weight of anxiety hindering him that the other has not, therefore give him an open field and a fair chance of showing his best in the race.—Yours faithfully,

September 28th. NOT A CONSULTANT.

SIR,—I should like to narrate three incidents that occurred in the wards of my clinical teachers when I was a student—not so very long ago.

The first teacher—a man well known, who taught clinical medicine for a long period of years—used to show the methods of "going about" a case by means of demonstrations twice weekly on three cases each day which lay in the beds of his wards. Each case was wheeled in bed into the circle of students, who sat around on benches.

On one occasion the teacher in question began: "This, gentlemen, is a very interesting case which came into the ward two days ago. The man is a smith, 45 years of age, and in his early days he had a sore on his penis—a hard chancre." Then, turning to the patient, and momentarily consulting his notes, "You had a sore on your penis when you were 22 years old, my man?" "No, sir," from the patient, who looked surprised. "Oh, yes, you had; you told us so when you came in here. He is evidently a little upset by the presence of all you gentlemen, and does not like to admit the fact. Now, a year after that you suffered from sore throat, a rash appeared on your skin, and some of your hair fell out?" "No, sir," from the patient, with greater emphasis, and with a look of bewilderment. "Oh, yes, you did suffer from these things" (again consulting his notes), "you must tell the truth here my man. You may take it from me, gentlemen, that this patient suffered from these secondaries, and now I wish to bring before your notice a condition of which he complains most severely; that is, headache, which is always worse at night, and ——" Just then the ward sister came forward and whispered audibly, "You have the wrong bed, sir; this should have been the *second* case!" Physician collapsed into a chair speechless, looking first fiery red and then ghastly pale.

On the second occasion the patient was a girl. "This girl, gentlemen, is 18 years of age, and, as you see, she looks pale and emaciated. She suffers from all the classical symptoms of gastric ulcer. She has pain immediately after the ingestion of food; vomiting, sometimes after the lapse of an interval; haematemesis, or vomiting of blood; anaemia very marked, etc., etc. But there is one other symptom or sign I should like to bring prominently before your notice to-day, and that is tenderness at the level of the tenth dorsal vertebra. Sit up, my girl." He then pressed gently on the spot mentioned. "Does that hurt you, my girl?" "No, sir." Applies greater pressure. "That hurt you?" "No, sir." Now gives her a hefty punch on the back; patient cries out, evidently suffering acute pain; teacher looks highly pleased, and, turning round with an air of great satisfaction, remarks, "You see, gentlemen, it is as I said; there is tenderness at the level of the tenth dorsal vertebra!" Why did the students grin?

The third incident occurred in another teacher's wards. The patient, a man, lay in bed, the students stood around. One fellow was buttonholed by the teacher, who suddenly pulled back the bedclothes and just as suddenly replaced them; then, turning to the student, said, "What is the matter with this man?" "I don't know, sir," was the reply. He was quietly pushed out of the way, and No. 2 student was buttonholed, and the performance repeated. A similar reply was obtained to the query. And so it went on until eight or nine men answered alike negatively. Then did our worthy teacher give us, one and all, a "dressing down" for "not being able to use the faculties and senses that we possessed, nor to reason in a proper fashion. The veriest tiro should have at once perceived on the withdrawal of the bedclothes that there arose a smell of stale urine. The man was, therefore, passing his urine involuntarily in bed, and in private practice we should have been able to diagnose at the front door that the patient we were about to see suffered from paraplegia!"

These are examples, Sir, of "clinical" medicine as she is sometimes taught! Comment is unnecessary; but let coming generations get better stuff than that.—I am, etc.,

October 9th. ANTI-ROT.

LONDON AND PROVINCIAL UNIVERSITIES.

SIR,—In the JOURNAL of October 9th I note, in an address by Mr. F. C. Wallis and also in an editorial on the subject of "The University and the Medical Schools of London," two statements: (1) "At any other teaching school outside this metropolis a student could obtain a doctor's degree for the same amount of time and money that it took a London student to get the double qualification, which, although an excellent one, did not carry the all-important one of 'Doctor'"; and (2) "The whole trouble lay with the Matriculation Examination."

These statements cannot both be correct, and I think it is easy to prove that neither is.

When entering for an entrance examination five years ago, I asked the advice of an experienced teacher which of two examinations to take—the London Matriculation or that of the Conjoint Boards of Liverpool, Manchester, Sheffield, and Leeds, and his reply was that there was nothing in it, and the toss of a coin decided me for the Conjoint Matriculation.

That his advice was sound is shown by the fact that the London University now accepts this matriculation instead of their own for entrance to all their degrees, showing that they also consider them equal.

If equal, therefore, the second statement falls to the ground, for it is well known that the number of students entering for the degrees of these four colleges is steadily increasing, and that they are attracting a better class of student; if unequal, then there is a back door through the "antiquated barbed-wire fence," which the provincial schools are trying to copy.

It follows, then, that if statement (2) is correct, statement (1) cannot be, for the entrance examinations for the provincial and London schools are equal in stiffness, and "they are the cause of the trouble," but it is perfectly well known to any one in contact with the students reading for the double qualification (diploma) of London that they may be roughly divided into two classes: (*a*) Those reading for a degree of their university—Oxford, Cambridge, London, or provincial—who wish to get on the *Register* within the shortest space of time and take their own degree later; and (*b*) those students who neglect to try for and fail to take either the Matriculation Examination of a university or one of the professional examinations, and to whom the colleges hold extended arms, giving them credit for any examination or portions of examinations passed in their university. To insinuate that there is no difference between the standards of the professional examinations is as ridiculous as it would be to say "that all the entrance examinations were equal."

As one who was deterred from entering the metropolitan medical schools, I think I can point the reason why they are not flourishing. They are: That the provincial schools are offering superior attractions in the way of more individual teaching and interest being taken in the student, and the greater practical experience he is allowed.

In the hospital wards he has more beds and has more opportunity of using his hands than in the larger schools, and he has an equal opportunity with his London brother in the standard of the class teaching he receives.—I am, etc.,

October 9th. A PROVINCIAL STUDENT.

THE GASTROSCOPE AND ITS USES.

Sir,—Dr. Hill in the British Medical Journal of October 9th points out what he calls the pioneer gastroscopic inventions of Mikulicz in 1881 and those of Rosenheim in 1895, but I should like to know if Drs. Thompson and Souttar have taken notice of the work accomplished by David Campbell, surgeon, in this connexion. He practised his profession in Glasgow, and died in March, 1848. He was a man of great originality, and one of the founders of the Southern Medical Society in this city. I venture to quote the following interesting and amusing extract from the history of the Southern Medical Society, which was written by the late Dr. John Dougall in the year 1888:

Dr. Campbell had an obvious mechanical turn of mind, as besides having shown the brethren Dr. Warden's prismatic speculum (presumably uterine) and which was then considered (1844) "likely to prove a very useful instrument," he some time after invented a gastroscope, but no one of the brethren would allow his stomach to be examined by it.

It happened, however, that "the shows" were then at the foot of Saltmarket, it being Glasgow Fair, and amongst the various wonderful feats there performed was the swallowing of a sword without injury by one of the performers.

Dr. Campbell, hearing of this, naturally concluded that when the man could swallow a sharp, rigid, flat sword, he would have no difficulty in getting him to swallow his smooth, flexible, round gastroscope. Accordingly he called at the sword-swallower's booth and, producing his gastroscope, tackled him by explaining its intended use, and requesting liberty to experiment on him with it. The showman looked askance at the gastroscope and shook his head in a mild negative way. Dr. Campbell urged that from the construction of his instrument the experiment was perfectly devoid of doing the least injury, and said further that if one could swallow a sword without danger, he could surely swallow Dr. Campbell's comparatively harmless instrument. But the showman was inflexible, and put a damper on Dr. Campbell's ardent hopes about the future of his gastroscope by abruptly exclaiming, "I know I can swallow a sword, but I'll be —— if I can swallow a trumpet."

Any comment on this quotation is quite unnecessary—it speaks for itself.

"Honour to whom honour is due."—I am, etc.,

Glasgow, Oct. 12th. Thomas Richmond.

Sir,—As Dr. William Hill mentions my name in his letter in the Journal of October 9th, will you allow me to say that in writing he has done a service to the profession in Great Britain and particularly to Dr. Souttar and Dr. Theodore Thompson, for his letter has been replied to by Dr. Souttar in a note which will make it clear to our foreign colleagues that previous work in the same field has been fully studied and appreciated.

As the examination of the stomach is rather outside my province, I do not propose to discuss the relative merits of the direct and the indirect methods of gastroscopy. The special value of the direct method as practised with the Killian and the Jackson type of instrument are undoubted, for the surgeon is enabled both to secure his diagnosis and apply local remedies by means of forceps and swabs respectively. Dr. Souttar and Dr. Thompson in face of great difficulties have produced an instrument which gives in a short space of time a complete view of the entire organ in a distended condition, and on this achievement they are to be highly congratulated.

The next step is to ensure the confidence of the profession in the safety of the manipulations. There is fortunately a widespread and growing distrust with respect to the blind passage of instruments down the oesophagus. Fatal cases have come into the experience of almost every surgeon with whom I have discussed the question, and those who in any extensive measure have made a practice of oesophagoscopy will be prepared to assert that many times they have examined cases in which the safety or peril of blind bougieing, even in the most delicate hands, must have been determined by pure chance. I refer to cases in which new growth has assumed a cauliflower form with a central lumen, cases of deep syphilitic ulceration, and cases of sharp impacted foreign body. It is true that a few fatal accidents have occurred in oesophagoscopy, but they have been such accidents as must occur in all surgical procedures, and have taken place in spite of precaution and careful consideration, and in no sense from the lack of them.

The conditions will be entirely other, should a fatal accident occur with the new gastroscope, without the preliminary inspection of the gullet. Such an accident will in all probability occur in hands other than those of the inventors of the instrument; but the moral onus will rest with them, and a valuable method may easily fall into permanent discredit through the lack of a small preliminary manœuvre which would occupy only thirty seconds. Under a general anaesthesia, oesophagoscopy with the ordinary straight instruments is an exceedingly simple matter, the details of which can be acquired from any recent textbook. I can recall but one single instance, that of a very old gentleman with a stiff, bent backbone, in which any serious difficulty has occurred in inspecting either the lower end of the oesophagus or else some diseased condition at a higher level; nor have I met with any but a momentary check in passing the instrument into the stomach where the oesophagus has been healthy. The chief difficulty and danger has always concerned the upper molar teeth, and these cannot be classed as serious. My object in writing is to urge Dr. Souttar and Dr. Thompson to prefix to their description of gastroscopy the instruction that the oesophagus should first be submitted to direct inspection. This will relieve them of a heavy moral onus, and at the same time secure for their instrument a fair trial at the hands of the profession.

I have a hope also that this practice will lead their admirable faculties of invention and determination to construct a straight instrument which will serve for direct examination and manipulation, as well as for indirect inspection of the distended organ.—I am, etc.,

London, W., Oct. 10th. E. B. Waggett.

THE ROYAL SOCIETY AND THE TESTS FOR COLOUR BLINDNESS.

Sir,—The Board of Trade has recently issued its report for last year on the sight tests used in the mercantile marine. There are two points in this report to which I desire to draw attention. The first is that of the 13 men who failed with the wool test and were re-examined on appeal, 7 passed and 6 were rejected—that is to say, over 53 per cent. passed. The Committee of the Royal Society on Colour Vision said in its Report, page 17, with reference to the old Board of Trade tests: "Cases have been brought before the Committee's notice where a candidate who has failed at first has passed in a subsequent examination. If the test for colour blindness were fair to the candidate, and perfectly efficient, such a re-examination would be unnecessary, and passing upon re-examination would be impossible." The old Board of Trade tests did not reject this enormous percentage of normal sighted persons.

The second point is that two additional test skeins, a yellow and a purple, have been added. This will not increase the efficiency of the test, especially as the examiners are not medical men, and have no real knowledge of the subject. The only result of these additions will be that more normal sighted men will be rejected, as well as many more of those who have slight and unimportant defects of colour perception. The special varieties of colour blindness which passed this test in its previous state will be able to pass it now, and these include many of the most dangerous varieties of colour blindness.

All that I asked in the past was an opportunity of demonstrating my facts; all that I ask now is that there should be a fair inquiry into the subject, and that men who have been specially trained for a certain profession, namely, that of the Mercantile Marine, should not lose their employment unjustly, and when they are in every way fitted to carry it on.—I am, etc.,

Hendon, Oct. 9th. F. W. Edridge-Green.

THE QUACK MEDICINE TRAFFIC.

Sir,—I noticed in the excellent article on The Quack Medicine Traffic, by Mr. J. C. McWalter, which appeared in the Journal, September 18th, 1909, p. 793, two slight errors. In speaking of the attitude of the Government toward proprietary remedies, Mr. McWalter says: "... in the United States, although there exists a tax upon proprietary articles, it is enacted that the composition of all must be set forth upon the label." The facts are that there is no tax upon proprietary or "patent" medicines in this country except in the case of those so-called tonics that contain so small an amount of drugs compared with

their alcoholic content, as to make them subject to the internal revenue tax on alcoholic liquids.

Neither is it true that the composition of all proprietary remedies must be set forth on the label. Under the Food and Drugs Act that was passed in June, 1906, and came into effect January 1st, 1907, medicines are considered misbranded

if the package fails to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha eucain, beta eucain, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation or any such substances contained therein.

It will be seen by this that there are still a number of potent drugs that can be put into patent medicines, and their presence not be indicated.—I am, etc.,

Chicago, Oct. 2nd. ARTHUR J. CRAMP.

BLACK SPOTS ON CHILLED BEEF.

SIR,—In the JOURNAL of September 25th appears a short notice regarding Professor Klein's report on the Nature of Black Spots on Chilled Beef, in which he claims to have established the etiology of these spots. In the *Journal of Comparative Pathology and Therapeutics* issued in December, 1906, appear the results of my investigation into the nature of Dark Spots on Frozen Carcasses.

It is true that Professor Klein was working on *chilled* beef, but of his illustrations, Figs. 2, 3, and 4, showing sections of the black spots, give exactly the appearances of sections of spots which I got from *frozen* carcasses—namely, closely segmented mycelial threads, the segments being in length from once to twice the breadth. These segmented threads were invariably pigmented, but the pigment appeared to me to be brown, not green.

Professor Klein states (p. 12 of his report) that the fungus causing the black spots does not belong to the Mucorini, and on this point I differ from him. From my own observations, I claim that the mycelium shown in the above-mentioned figures in his report has been reproduced experimentally by pure cultures of the Mucorinus termed *Thamnidium chaetocladioides*.—I am, etc.,

Edinburgh, Sept. 29th. JAMES HENDERSON, M.R.C.V.S.

COURT-MARTIAL ON A FLEET SURGEON.

SIR,—As "An Average Fleet Surgeon" has mentioned my name, may I be allowed to reply?

I have the greatest respect for the naval medical officer *individually*, but for the Naval Medical Service, *as an organization*, none. This is not the fault of naval medical officers themselves. Their present position is an anachronism. To merely state that my remarks are "untrue" is easy; it would be more difficult to prove them so. There must be considerable indignation among the ranks of naval medical officers over this most unjust court-martial, and it is a significant fact, which carries its own commentary, that the only two letters from among them have been written in support of the naval authorities. No one dare do otherwise.

This is not the time to waste your valuable space in airing my views on the whole question, and I will conclude by asking "An Average Fleet Surgeon" to be more than a full apology for any imagined discourtesy towards himself and his colleagues. I hope I shall live to see the conditions under which he and they work made easier and more self-respecting. Meanwhile, intending candidates would be well advised to leave the Naval Medical Service severely alone.—I am, etc.,

Sevenoaks, Oct. 9th. GERALD SICHEL.

THE North London Medical and Chirurgical Society initiated its nineteenth session on October 9th by holding a *conversazione* in the board room of the Great Northern Central Hospital. The guests were received by the president of the society, Dr. James Crabb, and an excellent programme of music had been arranged by Mr. L. H. Glenton Kerr, the secretary of the hospital, to whom the society is greatly indebted for his valuable help in many directions. The present honorary secretaries of the society are Drs. T. J. T. McHattie and E. H. Shaw.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Appointments.

THE following appointments have been made:—

Demonstrator of Comparative Anatomy: F. A. Potts, M.A., Trin. Hall.

Demonstrator of Animal Morphology: L. A. Borradaile, M.A., Selwyn Hostel.

Senior Demonstrator of Botany: F. T. Brooks, M.A., Emm. Coll.

Junior Demonstrator of Botany: D. Thoday, M.A., Trin. Coll.

Demonstrator of Chemistry: F. W. Dootson, M.A., Trin. Hall.

Vacancies.

The Professorship of Zoology and Comparative Anatomy is vacant by the resignation of Professor Sedgwick. The election will be on Friday, October 29th. Names should be sent to the Vice-Chancellor before October 22nd. The Quick Professorship of Biology is vacant, the three years for which Professor Newstead was appointed having expired. The election will take place on Friday, October 29th. Applications should be made to the Vice-Chancellor before October 22nd.

Examinations.

The following candidates for the diploma in Tropical Medicine and Hygiene have been approved:

P. H. Bahr, Trin., C. S. Bowle-Evans, Emm., J. C. Kennedy, J. L. Lunham, H. Macfarlane.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examination indicated:

FIRST M.B., CH.B. (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—R. Armstrong (B., P.), G. F. Barr (B., P.), A. D. Blakely (P.), A. Blashky (B.), W. E. Boyd (B., P.), R. W. Brander (B., P.), W. A. Brechin (B., P.), D. P. Brown (B., P.), W. H. Brown (B., P.), A. G. Buchanan (Z.), W. E. A. Buchanan (B., P.), J. W. Burton (C.), J. Campbell (B., P.), W. L. Cassells (Z.), B. Cohen (B., P.), W. M. Conley, M.A. (B., P.), G. G. Cooper (B., Z., P.), T. M. Crawford (B., P.), N. Crichlow (B., P.), L. Crombie (B., Z., P.), G. D. de Kock (Z., C.), W. Donald (P.), T. L. Dun (P.), T. Ferguson (B., P.), J. B. Fotheringham (Z.), J. Fraser (P.), I. Grant (B., P.), R. M. Greig (B., P.), T. Henry (B., P.), G. Hislop (B., P.), W. Hornsby (B., P.), T. C. Houston (Z.), J. F. Hutton, M.A. (B., Z., C.), D. Johnston (B., P.), F. Laing, M.A. (B.), A. Lindsay (B., P.), C. J. Livingston (Z., P.), R. Lyon (Z.), D. M'Alpine (Z., P.), D. S. M'Bean (B., P.), J. L. M'Bean (B., P.), J. F. M'Creath (P.), H. D. M'Crossan (C.), J. W. M'Donald (B., Z., P.), M. Donald (B., P.), J. M'Glade (C.), J. Macfinnes (B., P.), C. R. M'Intosh (B., P.), R. H. M'Killop (C.), D. Mackinnon (B., Z., P., C.), J. R. C. Mackintosh (B., P.), K. N. MacLean (B., Z., P.), R. M'Lean (B., P.), N. Macleod (P.), F. W. M'Millan (B., P.), R. M'Minn (Z., P.), A. P. Martin (P., C.), W. Martin (B.), W. J. May (B., P.), W. Meikle (B., P.), A. U. Millar, M.A. (B., P.), A. D. Moffatt (B., P.), W. M. H. Muir (P.), T. M. Newton (B., P.), T. A. O'Brien (B., P.), W. O'Brien (B.), W. L. Peacock (B., P.), J. S. Prentice (B., P.), A. M. Ramsay (C.), A. Rankine (Z., C.), D. R. E. Roberts (B., P.), A. L. Robertson (B., P.), D. B. Robertson (B., P.), R. C. Robertson (B., P.), S. Robertson (B., P.), S. Robertson (B., P.), S. D. Robertson (B., C.), G. W. Ronaldson (Z.), D. A. Ross (B.), A. W. Russell (B., Z., C.), A. Scott (B., Z., C.), J. Sinars (Z., C.), J. R. Sinclair (B., P.), T. R. Sinclair (C.), J. K. Smith (B., P.), R. Stewart (B., P.), G. Taylor (Z.), R. Tennent (B., P.), C. R. T. Thompson (B., P.), M. Thomson (B.), J. Walker (B.), R. N. Wallace (Z., C.), W. S. Wallace (P.), H. C. Watson (B.), J. A. White (C.), J. Whiteside (Z., C.), C. A. Whittingham (B., P.), J. B. Williamson (B., P.), R. H. Williamson (B., P.), A. S. Wilson (B., C.), T. W. Wylie (B., P.), J. M. Young (Z., C.).

WOMEN STUDENTS.—N. M. A. Allan (B., P.), C. S. T. Anderson (B., P.), G. G. Anderson (B., P.), M. J. Brown (B., P.), E. Crawford (C.), M. F. Hislop (C.), M. A. Kirk (P., C.), E. M'Kail (B., P.), M. H. M'Killop (C.), M. Thompson (B., P.), S. A. Watson (B., P.), M. Wilson (B., P.), J. A. Woods (B., Z.).

SECOND M.B., CH.B. (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—D. Aitken (A., M.), J. B. Alexander (A.), J. C. H. Allan (A., P., M.), J. W. Anderson (A.), A. J. Archibald (A.), C. Averill (M.), A. M. Blackwood (M.), S. H. Bloom (A., M.), J. Bowman (A., M.), A. Brough (A., M.), J. T. Brown (M.), R. A. Brown (M.), W. M. Buchanan (A.), G. Cochrane, M.A. (A.), R. C. Corbett (A.), A. M. Dunlop (A.), W. E. Elliot (P.), P. Fairbairn (A.), J. Findlay (A., M.), J. Findlay (P., C.), J. Forrest (A.), A. Fraser (A.), L. L. Fyfe, (A.), A. R. H. Geyer (P.), J. Gibson (M.), C. W. F. Greenhill (M.), A. S. Hannay (A.), A. G. Henderson (A., P., M.), A. Hendry (M.), J. Hendry (P., M.), W. H. Howat (A.), F. A. Kerr (A., P.), T. J. Kirk (A.), A. Kirkhope (M.), N. V. Lothian (A., P.), N. M. Farlane (A.), J. D. Mackinnon (A.), A. M'Leod (A., P.), R. MacLeod (A., P.), W. W. MacNaught (M.), S. A. MacPhee (A.), G. H. M'Robert (A., P., M.), O. H. Mayor (P., M.), S. S. Meighan (M.), A. Muir (P.), A. Murison (P.), A. Neilson (M.), H. Paterson (A.), H. C. Rankin (A., M.), H. Y. Riddell (A.), G. M. Robertson (M.), J. L. Scott (P.), W. L. Scott (A.), W. Sneddon (A.), R. A. Steven (A.), A. Stewart (P.), L. T. Stewart (A.), E. N. Thomson (A.), Wadhope (A.), R. J. Waddell (A., P., M.), A. S. Wallace (M.), M. F. Watson, L.R.C.P. (A.), E. C. White (A.), T. Whitelaw (A., P.), A. Wilson (P.), D. Wilson (M.).

WOMEN STUDENTS.—I. Inglis (A., M.), K. S. Macphail (M.), L. M. Ross (A., P.), C. H. Shearer, (A., M.), I. J. Stark (P.).

THIRD M.B., CH.B. (P., Pathology; M., Medical Jurisprudence and Public Health):—T. Anderson, M.A., M.R.C.S. (P., M.), J. Aitken (P., M.), R. R. Archibald, M.A., B.Sc., (P., M.), J. B. Baird, B.Sc. (M.), C. S. Black, (P., M.), J. E. Black, (P., M.), A. H. Brown, (P.), J. A. S. Burgess (M.), D. Burnett (P.), F. Cumming (M.), W. D. Dunlop (P.), T. S. Fleming (P., M.), J. Graham (P.), J. R. Haldane (M.), W. Hamilton (M.), A. Macaulay (P., M.), J. G. Mackenzie (M.),

T. J. Mackie (M.), M. Mackinnon (M.), A. T. M'Whirter (M.), F. W. Martin (M.), R. S. Miller (M.), C. Nicholson, M.A. (P., M.), A. S. Richmond (P., M.), J. I. Russell (M.), A. H. Sinclair (M.), J. D. S. Sinclair (M.), J. T. W. Stewart (P.), J. N. M. Sutherland (P., M.), W. O. Taylor (M.), J. L. Ure (M.), W. S. Waterhouse (P., M.), J. Williamson (Holytown) (M.), G. J. Wilson (M.), J. Young (P., M.).

Women Students: M. Alexander, M.A. (P., M.), M. A. A. Beard (P.), L. E. Dodge (P.), M. A. Pillet (M.), J. Wallace (M.), M. A. Wylie, M.A. (M.).

UNIVERSITY OF ST. ANDREWS.

The newly elected Professor of Chemistry in St. Andrews University, Dr. Irvine, delivered his introductory lecture on October 8th. He reviewed the developments of the past hundred years, and compared the present position in chemistry with that of the early days of the nineteenth century. Chemistry, he stated, no longer occupied a lowly position, attached more or less by courtesy to other subjects. It was infinitely larger, more useful, more mature, more dignified. Its connexion with the kindred sciences reminded us of its old-time associations, but the relationship was vastly changed. It clung to natural philosophy, but it was in the form of physical chemistry; the old attachment to medicine still survived, but the physiologist, the therapeutist, and even the pathologist had learnt to look to chemistry as one of the most potent factors in the future development of their own subjects. In a different sphere, in technical work of all descriptions, chemistry had found innumerable applications. Old industries had been improved and new industries devised by the chemist. Looking from the past to the future, it was difficult to predict the line of further progress. All that one could say with confidence was that progress would undoubtedly be made. Professor Irvine concluded his lecture by pointing out that a magnificent opportunity had been placed at the disposal of St. Andrews students by Professor Turdie, who had built and equipped the Research Institute.

ROYAL UNIVERSITY OF IRELAND.

The following candidates have been approved at the examinations indicated:

First M.B., Ch.B.—H. Alcock, C. Bannigan, W. W. Blair, Maud S. Budd, *P. Cagney, E. P. Carey, †D. M. Clements, W. Deeley, *J. J. Dowdall, *F. W. Doyle, B.A., †J. Dwyer, E. A. M. Hagenis, J. C. Freeman, W. F. Hare, H. M. Jackson, *T. Kennedy, *M. B. King, Marie R. Lynch, W. McElroy, H. McGlaughlin, Mary C. McKenna, B.A., *E. C. MacWilliam, *E. A. M. Magennis, J. Moonan, W. A. Murphy, *G. P. O'Donnell, H. T. O'Neill, *S. E. Picken, J. E. Power, *R. L. Rea, *A. K. Roche, D. A. Sellars, E. Tempany, †Catherine J. Timony.

Second M.B., Ch.B.—†J. S. Beverland, †G. H. Mahony, †T. Marron, G. R. Naylor, †P. J. Walsh, S. Acheson, J. P. Aiken, T. Black, D. I. Cannon, F. L. Cleland, T. F. Colfer, C. Costello, D. J. Enright, E. H. Fennessy, L. D. I. Graham, J. E. Harford, R. Hennessy, J. R. Henry, J. V. Holmes, W. J. Hunter, B.A., F. Jefferson, J. T. Kyle, C. Lafferty, J. McFadden, E. McSorley, W. M. Morris, H. V. O'Shea, J. F. Rahilly, W. N. Rishworth, J. M. Sheridan, T. Smyth, B.A., S. P. Stoker, H. V. Walsh, S. E. Watson.

Third M.B., Ch.B.—†F. Crooks, †J. O. Hodnett, †J. C. Johnson, B.A., †R. J. McConnell, †H. I. V. Mullane, †O. J. O. O'Hanlon, M. I. Cosgrave, R. C. Dunbar, G. Fitzgerald, D. J. Foley, H. H. C. Lynch, J. Lyons, T. J. R. Maguire, W. M. Millar, A. J. Moren, Mary A. Murphy, W. O'Brien, J. A. O'Flynn, Eileen M. O'Keeffe, J. C. Osburne, J. Patrick, J. Prendiville, W. N. Rishworth, T. G. Rothwell, W. J. Smyth, F. J. D. Twigg, P. W. White, W. Wilson.

* Qualified to sit for honours in one or more subjects.
† Upper pass and qualified to sit for honours.

UNIVERSITY OF WALES.

University College of South Wales and Monmouthshire.

A meeting of the Council was held on October 6th for the first time at the new college in Cathays Park.

It was resolved to perpetuate the memory of the late Mr. Ivor James, the first registrar of the college, but the form of the memorial was not decided upon.

A letter was read from the Cardiff Infirmary stating that the Board of Management had unanimously resolved that the Council of the University College be asked to accept the use of the rooms in the pathological department of the infirmary for its professor of pathology whenever he may be appointed. The Council resolved to place on record its most grateful appreciation of this generous offer by the Cardiff Infirmary.

A letter was read from the Clerk of the Drapers' Company to the effect that the company had resolved to renew for another period of five years its annual gift of £350 towards the department of engineering.

The Council approved of the historical sketch of the college submitted by the Registrar.

The resignation of Dr. E. J. Evatt as Lecturer of Applied Anatomy and Demonstrator and Assistant Lecturer in Anatomy was accepted with regret.

The Welsh inscription to be placed on the new building was approved, as follows: "Gosodwyd sylfaen yr adeilad hwn ar y 28fed o Fehefin, 1905, gan ei Chelder Brenhinol, Sior, Tywysog Cymru, Canghellor Prifysgol Cymru. Agorwyd adran y Celfau ar y 14ydd o Hydref, 1909."

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Dr. A. Campbell Geddes, Assistant Professor of Anatomy, Royal College of Surgeons in Ireland, has been elected Professor of Anatomy in room of the late Professor Fraser. Professor Geddes was formerly assistant to the late Professor D. J. Cunningham in the University of Edinburgh.

CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved for the requisite examinations of the Diploma in Public Health:

A. B. Darling, R. L. Bolton, C. C. Murison, J. Jean Marr, F. W. Greaves, J. B. Miller, D. P. Blair, R. B. Davidson, and J. Allan.

APOTHECARIES' HALL OF IRELAND.

Appointments.

The following have been appointed Examiners for the ensuing year:—*In Surgery:* Professor Conway Dwyer and Sir Thomas Myles. *In Medicine:* Drs. J. M. Day and J. O'Donnell. *In Midwifery:* Dr. R. H. Fleming and Mr. R. J. White. *In Ophthalmology:* Drs. E. Magennis and R. J. Montgomery. *In Pathology:* Mr. J. L. Keegan and Dr. R. J. Rowlette. *In Medical Jurisprudence:* Dr. J. C. M'Walter and Mr. W. Fottrell. *In Hygiene:* Sir Charles Cameron and Mr. H. F. Powell. *In Materia Medica:* Messrs. J. D. Crinion and Seymour Stritch. *In Pharmacy:* Drs. F. G. Adye-Curran and E. F. Hanrahan. *In Physiology and Biology:* Professor D. J. Coffey and Drs. W. O. Kelly and J. Knott. *In Anatomy:* Professor E. P. M'Loughlin and Mr. P. J. Fagan. *In Chemistry:* Professor H. Ryan and Mr. J. J. O'Sullivan. *In Physics:* Professor H. Ryan and Mr. Bourke Kennedy.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Anatomy.—J. M. Coplans, M. J. McEnery, O. W. D. Steel, W. G. Tickell, W. H. Vincent, C. G. Waddington.
Physiology.—P. Dvorkovitz, J. P. Jones, M. J. McEnery, O. W. D. Steel, C. G. Waddington.

Medico-Legal.

COMPULSORY FEEDING OF PRISONERS.

In view of the question of the responsibility of medical officers to prisoners who refuse to take food, we think it well to publish the following report (taken from the *Times* of October 13th) of proceedings taken in the High Court of Justice before the Lord Chief Justice of England, Mr. Justice Darling, and Mr. Justice Bucknill on October 12th, when Mr. George Elliott, K.C., applied for a rule *nisi* for a *mandamus* to the stipendiary magistrate of Birmingham to issue summonses for assault on behalf of Miss Laura Ainsworth against Mr. Herbert Gladstone, M.P. (Home Secretary), Captain Percy Green, (Governor of H.M. Prison, Winson Green, Birmingham), and Dr. Ernest H. Helby (medical officer of the prison). Counsel stated that on September 17th, when the Prime Minister addressed a public meeting at Birmingham, the applicant was guilty of obstruction. She was charged before the stipendiary on September 18th and remanded till the 22nd, and on the final hearing on that day was convicted and fined 10s. and costs or in the alternative fourteen days' imprisonment. In default of payment she was committed to gaol at Winson Green within the jurisdiction of the Birmingham stipendiary. Her affidavit was as follows:

'On Saturday, September 25th, while a prisoner in H.M. Prison, Winson Green, Birmingham, I was assaulted by Ernest Haslar Helby the medical officer attached to that prison, acting personally and by order of his superiors in authority. About 12 noon of that day I was taken into the doctor's room there. There was a sheet on the floor and a chair on it. There were present the matron, a number of wardresses, and Dr. Helby and another doctor. Dr. Helby asked me to sit down in the chair, which I did. He had a blue paper in his hand and said, 'I have orders that you are not to be released—I have to do everything in my power to force you to take food.' He said, 'I am going to commit a technical assault on you,' and he took hold of my shoulder and said, 'I am going to take entire responsibility for my actions.' I was then seized by the wardresses and my legs and arms held. My head was forced back, my mouth forced open by Dr. Helby, and the point of a feeding-cup forced between my teeth. I was in this position about a quarter of an hour. About 6 on the same day in the afternoon Dr. Helby and the other doctor and the wardresses came into my cell. The former tried to feed me in the same way. He then got a tube of rubber. I was in bed and being propped up and held by the wardresses. Dr. Helby tried to force the tube up each nostril in turn but failed, as my nose had been previously injured. Dr. Helby said, "Its no use." My mouth was forced open at the sides and a tube inserted and pushed down my throat a foot

or more. I was gagged by a cork with a hole, through which the tube went. Liquid was poured down through a funnel at the outer end, the tongue was pressed down and the tube forced down the gullet. The sensation caused a horrible choking and a stunned feeling. When the gag was taken out and the tube withdrawn, it seemed as if my inside was being pulled out. I spat up a lot of phlegm mucus and phlegm came up with it. I kept up a lot of phlegm afterwards. There was a terrible ache in my throat and chest. On Sunday, September 26th, the same operation took place twice, in the morning and evening. In the morning my mouth was prised open with a steel instrument and the tube inserted and forced down my throat as before. On Monday, 27th, and Tuesday, September 28th, food was forced on me by Dr. Helby by forcing open my mouth at the side and pouring some liquid food or meat extract into my mouth by means of a spoon. On Tuesday morning, September 28th, I was very sick in consequence of the forced feeding, and the previous manner of it. On this day I was removed into the infirmary, where my condition was very weak. On Monday, October 4th, while still in the infirmary, Dr. Helby forced some meat juice down my throat by the gag in my teeth, holding my nose and throat by force to make me swallow; it was very painful, and made my throat ache; this was done three times on this day. On Tuesday morning, early, October 5th, I was released on the expiration of my sentence. On the previous evening the other doctor asked me if I had a sore throat. I said, Yes, caused by the india-rubber tube. This is about 18 inches long and about half an inch in diameter. In consequence of the treatment in the tube being forced down my throat I am suffering from congestion and inflammation in the throat and am feeling very weak and ill. I have lost over 15 lb. in weight. I am now being taken care of in a nursing home."

There was also an affidavit by Ernest Dormer Kirby, M.D.Edin., M.R.C.S., and it was as follows:

"I have examined Miss Laura Ainsworth this day, the 5th October, 1909, at 75, Harborne Road, Edgbaston. She is suffering from pharyngitis and inflamed throat. She is also weak and pale and suffering from nervous prostration. There is an apparent marked alteration in her voice, which is weak and husky. She complains of being very tired, and too tired to talk much. Her vitality is distinctly low, and she complains of having lost weight. The operation of forcing a tube down the throat for the purpose of introducing liquid food is one which is attended with grave risk, especially if the patient resists. If the food is diverted down the wrong channel there is a liability of septic pneumonia supervening. The congested state of the throat is the result. I should say, of the forced passage of the tube down the throat."

The learned stipendiary magistrate expressed his determination as follows:

"I cannot see my way to grant these summonses because it seems to me that the acts which have been done were done in the process of law and do not amount to an unlawful assault. If I am wrong you will have an opportunity of reviewing my decision; I think that is the most satisfactory course to take."

The Lord Chief Justice: Whatever may be said about the doctor, I do not see what ground there is for issuing a summons against the Home Secretary.

Mr. Elliott: I rely on Section 5 of the Prisons Act, 1877, which vests the entire control of the prisons in the Home Secretary.

The Lord Chief Justice: What is there to show, assuming there has been an assault, that the Home Secretary is in any way responsible?

Mr. Elliott: It is a case of *respondeat superior*.

The Lord Chief Justice: This is a criminal act according to your case.

Mr. Elliott said that the applicant was unable to know what were the instructions on which the medical officer acted. The medical officer could only act under the governor. Counsel did not suggest that there was any evidence that the Home Secretary directed this treatment or was personally cognizant of what was going to be done. No act of disobedience would entail the punishment inflicted. He drew a distinction between the adoption of a particular course of treatment with the Home Secretary's authority and stepping out what might be a lawful order in an excessive way. Counsel then read from the prison regulations dated April 21st, 1899, and said that under the words "in any other way offends against good order and discipline" it might be suggested that if the lady was ordered by the governor to take food and failed to do so, she might bring herself under the authority of the governor so as to give him a right to inflict some kind of treatment.

Mr. Justice Darling: I have not gathered that she was ordered to take her dinner by way of punishment.

Mr. Elliott then referred to the prison regulation that a medical officer was not to perform a serious operation on his own responsibility alone except in a case of emergency.

Mr. Justice Darling: You do not contend that this was a serious operation.

Mr. Elliott said that the principle was that it was the duty of the medical officer when he found that the imprisonment itself was a source of danger to the prisoner, to take the steps prescribed by the rules.

Mr. Justice Darling referred to the rule that the medical officer is to have the general care of the health of the prisoners.

Mr. Elliott said that that referred to a case where the mere carrying out of the punishment was having an effect never intended by the sentence. The offence of the applicant did not involve any treatment of the kind prescribed. It was not open to the medical officer to inflict upon a prisoner so painful an operation without her consent.

The Lord Chief Justice: Are they to let her die?

Mr. Elliott: What I say is that there is a remedy by letting her go. (Laughter.)

The Lord Chief Justice: That is monstrous. Take the case of a dangerous criminal who thinks he can get his release by declining to eat.

Mr. Elliott: These are questions of degree.

Mr. Justice Darling: If she says that she is going to starve herself to death, is there any law which obliges them to keep her alive?

Mr. Elliott said that he should say not.

Mr. Justice Bucknill: That is too funny. (Laughter.) An assault is laying hands on another in such circumstances as make it unlawful. Suppose this lady had tried to hang herself and the gaoler had saved her life against her will.

Mr. Elliott said that there was a distinction between an active attempt at suicide and the passive condition of this lady. In this case more force was used than was necessary.

Mr. Justice Bucknill: If you can say that more force was used than was necessary, you are right.

Mr. Elliott said that that was his whole contention before the stipendiary. The lady did not complain of a spoonful of food being put in her mouth, but of the forcing of the tube into it by violence, and of putting a gag into her mouth.

The Lord Chief Justice, in giving judgement, said that as regards the Home Secretary there was not the slightest ground for the application. Mr. Elliott only based that part of the case on the ground that the prisons were vested in the Home Secretary. But to suggest that a summons might be issued against the Home Secretary because a medical officer had exceeded his jurisdiction, if he had exceeded it, was going too far. As regards the medical officer, the position was somewhat different. It was very important in the interests of those who could not always speak for themselves that prison treatment should be properly safeguarded, and he had no doubt that it was. It would probably be established to the court that they had not got the whole story. It was important that the court should have the whole story, and therefore they thought that there should be a rule *nisi* as to the summons against the medical officer. They granted it in order that the whole of the facts might be before the court. With regard to the governor, they thought that in all probability he was in the same position as the Home Secretary; but as particular discipline might involve his action, and as the medical officer was under the authority of the governor, they thought it better that the rule *nisi* should include the case of the governor. They did not express the slightest opinion on the merits. They only granted the rule *nisi* because they thought it important that there should be a full inquiry by the court.

DEATH UNDER ANAESTHESIA.

A CORONER'S inquest was held in Westminster on October 9th on the body of an officer in the Indian Army, aged 40, who died under anaesthesia at King Edward VII's Hospital, Grosvenor Gardens. The anaesthetic used was chloroform, and it was administered by a specialist. Respiration ceased three minutes after the commencement of the administration of the anaesthetic and when only 30 minims of chloroform had been given, and death took place in spite of artificial respiration and the administration of strychnine. On *post-mortem* examination the heart was found to be in a condition of fatty degeneration. The operation in view was one for the rectification of a displaced septum nasi. The deceased was carefully examined before operation and nothing abnormal found. He had informed the house-surgeon that, being engaged on very arduous duties, he was habitually overhauled medically every six months, and had always been passed as sound. A verdict of accidental death was returned.

THE HYGIENIC INSTITUTE.

AT Consett County Court, on October 6th, a man who stated that he was in the employ of the Hygienic Institute, was defendant in an action for damages in respect of alleged negligence in the administration of an anaesthetic and in the extraction of certain teeth. According to a report in the *Newcastle Chronicle* the evidence for the plaintiff was to the effect that the defendant, who had stated to him that he was qualified, undertook to extract nineteen or eight teeth; he extracted seven and broke all the rest. During the extraction he injected a local anaesthetic. The operation lasted an hour; the net result being that the plaintiff became ill, and on his recovery had to get the stumps extracted elsewhere. It was admitted by the defence that the defendant was an unregistered practitioner, but it was urged that the anaesthetic employed was one constantly used by qualified dentists, and that as the plaintiff was going about his ordinary duties three weeks after the operation it must have been skilfully performed. The judge, in summing up, commented strongly on the fact that the defendant, who was a comparatively uneducated person, set himself up as a dentist, though he had but little knowledge of the business, and was ignorant of the anaesthetics he used. The damages claimed £51 8s., were far too small; if the action had been tried in a higher court, the plaintiff would have been awarded damages running into three figures instead of two. He then entered judgement for the plaintiff for the full amount claimed and costs.

Accounts of three other successful actions (at Coatbridge, Grimsby, and Bishop Auckland respectively) against the Hygienic Institute which have come under our notice within the past year will be found in our issues for April 3rd, page 876, and for April 10th, page 932. According to *Truth's* Cautionary List, this undertaking is one of the businesses of a Jew of Roumanian origin named Oscar Farkasch, and has offices at Glasgow, Newcastle, and Hull.

MEDICAL MEN AND PUBLIC COMPANIES.

F. W. T.—There may be difference of opinion on the question of professional ethics, but on the principle that Cæsar's wife should not be suspected, we advise our correspondent not to accept the invitation to become a director of a company carrying on the business of wholesale druggists.

PAYMENT OF LOCUMTENENT.

Disgusted.—The locumtenent was entitled to leave his employer's house at the expiration of the time for which he was engaged, but he was not entitled to pay himself out of cash received. The charge that he has failed to account for other money is a very serious one, and if our correspondent desires to take further steps he should consult his solicitor.

PROFESSIONAL INFORMATION TO CORONERS.

Dr. Herbert P. Taylor (Bradford-on-Avon) writes: In November, 1902, I had a similar experience to your correspondent "W. F. L. D.," being named in a telegraphic order from the coroner to inspect the body of a 5-months fetus, which had been exhumed from a garden by the local police. On my report that it was not the body of a viable child, the coroner wrote and thanked me for my report, and regretted that he had no fund to pay me a fee, as no inquest was held. I therefore sent a demand for £1 1s. to the police, who had summoned me to do the work. The Clerk of the Peace (who is also Clerk to the County Council) wrote repudiating liability. I privately laid the matter before the Chairman of the County Council, and wrote an official letter to the clerk, pointing out that I had been officially ordered by the coroner to undertake a disagreeable duty, that by my report I had saved the county the cost of an inquest, and that I had only charged the fee I was entitled to for making a *post-mortem* examination. I further pointed out that I was not compelled to make any report to the coroner until I had received a subpœna, and if I were not paid my fee I should know how in future to protect myself from being exploited. The matter was referred to the Finance Committee of the County Council, and after a time I received a letter from the coroner saying that he had been authorised to pay my fee, and enclosing a cheque for the amount. I would suggest that your correspondent, "W. F. L. D.," should adopt a similar course.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

OBLIGATIONS OF A SUBSTITUTE.

Enquirers write: A. and B. practise in the same city. C. and his family are regular patients of A. C. comes to B. and says that his son has been taken ill, and as he knows that A. is going away the next day and leaving a locumtenent in charge he wishes B. to attend the case from the beginning, which B. agrees to do "for A." C. tells A. that he has asked B. to attend his son, and A. writes and thanks B. for attending the case "for him." Before A. returns the attendance is terminated. What is the correct position in regard to the account for the attendance? In whose debt is C?

*** If C. pays B., B. must hand over half the fees to A. It does not much matter whether C. pays A. or B., but an equal division of the fees should be made.

Public Health

AND

POOR LAW MEDICAL SERVICES.

MEDICAL FEES.

At the meeting of the Aberystwyth Board of Guardians on October 11th, Mr. Edwin Morris, vice-chairman, who presided, said he took exception to a bill for £1 2s. 6d. sent in by Dr. Bonsall for examination of nine imbeciles. He found one woman included in the list whom the guardians had tried to get into the house, and they had sent Dr. Rees to examine her. Dr. Rees had reported that he could not satisfy himself that this woman was either a lunatic or an imbecile. He thought the board ought to look into the question, and, if possible, save the fee of 10s. paid yearly for the quarterly examination.

Mr. B. E. Morgan pointed out that there was a great difference between a lunatic and an imbecile.

The Clerk said there was.

Mr. Morgan: My contention is that Dr. Bonsall has not been asked to certify her as a lunatic.

Dr. Bonsall: I have not.

The Clerk read the letter of Dr. Rees, who said he had failed to detect any palpable symptoms of lunacy. She was eccentric, and subject to fits of violent temper. There were neither delusions nor hallucinations. In his opinion she was of weak intellect, and he would describe her as on the borderland of insanity.

The Vice-Chairman said the House Committee had been doubtful for a considerable time of several names upon the list, and this was one of them.

Subsequently the guardians passed the account for payment.

The Clerk produced a bill for £1 1s. sent to Dr. Bonsall by Dr. Bassett Jones on account of assistance rendered in administering chloroform to a patient in the house. It appears that some time ago the board passed a resolution only to pay 10s. 6d. for such assistance, and the House Committee recommended the payment of 10s. 6d.

Dr. Bonsall asked what would be his position in the event of not being able to get a medical man to assist. He alone would not take the responsibility of administering chloroform, and he did not know any medical man who would come in for less than a guinea.

Mr. W. Thomas said that the Local Government Board had been consulted some time ago, and they said the medical officer was responsible for all cases, and he would be responsible for any assistance called in.

Dr. Bonsall: I say it is unreasonable to pay me 15s. for house maternity cases, and expect me to pay a guinea out of my own pocket.

The Vice-Chairman: You signed the contract.

Dr. Bonsall: It was my fault that I did not get inserted that extra pay should be made for extra assistance.

The guardians declined to pay more than 10s. 6d.

OXIDE OF IRON IN WATER.

Dr. W. Herbert Cooper (Pendeen, Cornwall) writes in reply to "H. R.": No doubt the water in "H. R.'s" well contains carbonic acid and humous acids, which are produced by the decomposition of vegetation. These acids will dissolve out iron from the walls of the cistern, and this iron in solution will at once become oxidized and precipitated as a red oxide.

CONTRIBUTIONS TOWARDS SUPERANNUATION.

C. M. writes that he held an appointment for seven years as a non-resident district medical officer, and that during the whole of that time there was a quarterly deduction from his salary towards superannuation. He was discharged from office without reason assigned, and had no voice in the matter. He asks whether he can recover the total amount deducted from his salary while he held office.

*** We are ready to assume that our correspondent has not quite correctly stated his own case, and that he has not been *discharged* as he states. It is more probable that he ceased to hold office in consequence of his being a non-resident, and, therefore, subject to periodical re-election when his previous term of office expired. If this was the case, and he was not re-elected to the office then vacant, we can only come to the conclusion that he is entitled by the first part of Sec. 8 of the Superannuation Act to claim a return of all his contributions paid by deductions from salary towards superannuation.

The annual dinner of the Continental Anglo-American Medical Society was held on October 9th in Paris, Sir Malcolm Morris, K.C.V.O., being in the chair. Among the guests were Professors Robin, Segond, and Chauffard. The chairman, in his toast to "The Society," laid stress on the fact that the presence of English and American doctors in a health resort brought to it an undeniable increase of prosperity. Moreover, they protected their countrymen from falling into undesirable hands, directing them to "the shrines of scientific truth, among which none in the world are more famous than those in the great city of Paris." Hence the utility of the society in bringing to the notice of physicians in the United Kingdom and in America responsible men to whom they could with confidence entrust their patients. Professor Robin, in an eloquent speech, referred to the practical value of Anglo-Saxon contributions to medical science: Vaccination with Jenner, anæsthetics with Simpson, antiseptics with Lister, were cited as examples. In the course of the evening Dr. Robinson, the former honorary secretary, was presented with a handsome silver loving cup as a token of esteem and gratitude for his services to the society, which now entered into its twenty-first year of existence.

Obituary.

GEORGE JOSEPH COOPER, M.R.C.S., L.S.A.,

M.P. FOR BERMONDSEY.

DR. COOPER, whose sudden death is attributed to the severe strain which the prolonged discussion on the Budget has imposed on members of Parliament, studied medicine at Leeds, Manchester, and University College, London. He was admitted a Member of the Royal College of Surgeons of England in 1867, and became a Licentiate of the Society of Apothecaries in 1871. He held the offices of Resident Medical Officer to the Poplar Hospital for Accidents, and to the Bristol General Hospital. He afterwards practised his profession in Bermondsey, and was Medical Officer to the Post Office at Rotherhithe. For many years past he had given a large part of his time to public work. He served on the London County Council from 1889 to 1906, resigning his seat on his election to the House of Commons, in which he represented the Bermondsey Division of Southwark. He died of hemiplegia on October 7th; the day before had been a peculiarly trying one for him, but he refused to leave his post till the House rose at 2 o'clock in the morning. Soon after his return home he was taken ill and died about midnight. He was 65 years of age.

Of Dr. Cooper's work on the London County Council, one who was intimately associated with him writes:

"He was a perfectly honest, straightforward man, fearless and hard hitting, but not unkind or wanting in geniality, even to his opponents, if they approached him properly. He was an original member of the London County Council, strongly supported the Pathological Laboratory, the *Archives of Neurology*, and the Pathologist; he also advocated the removal of the laboratory to London and the establishment of an hospital for acute mental diseases. He was mainly instrumental in the initiation and foundation of the Epileptic Colony at Ewell. Although never Chairman of the Asylums Committee, he was one of its most active and useful members. He gave evidence before the Royal Commission on the Feebleminded, and attacked the Lunacy Commissioners and their doings. Possibly his evidence did not carry the weight it would if he had said what were facts only, but he put some embroidery, which lessened the value of undoubtedly valuable evidence. It was mainly due to Dr. Cooper that the dysentery inquiry was brought about, with the very best results. Such an investigation to be established and carried on required a man as chairman who was fearless and outspoken, besides having special knowledge. These qualities he possessed, for, besides being a medical man of long experience, good judgement, and great natural abilities, he was for a long time an active member of the Public Health Committee. For many years he was its chairman. I have heard that he served in the Franco-German war as a young man."

Dr. Cooper took a leading part in bringing about an improvement in the condition of common lodging-houses. He stated that he had personally visited every common lodging-house in Bermondsey. Another scheme which he was active in promoting was the provision of an adequate supply of ambulances for London.

In Parliament Dr. Cooper did some useful work. He introduced the Anaesthetics Bill; he also introduced the deputation which waited upon the Chancellor of the Exchequer with the view of obtaining a rebatement of the petrol tax in the case of medical practitioners, and to his efforts it is mainly due that this concession was made.

He was always most courteous and helpful to the representatives of the British Medical Association. He was an ardent politician, but he never forgot that he was a doctor, and he continued to practise his profession to the end. He used to relate with much glee his encounter with an undertaker, who remonstrated with him on his endeavours to improve the public health. "A good 18 per 1,000 is what *we* want," said the philanthropic tradesman. How, in the midst of his multifarious public work, Dr. Cooper contrived to attend to his patients is one of those mysteries the solution of which is doubtless to be found in Wellington's saying that it is the busiest men who make time to do things for which less strenuous workers cannot find a moment.

Dr. Cooper was a J.P. for the County of London.

At a meeting of the executive of the Bermondsey Liberal and Radical Association held on October 8th the following resolution was passed:

> That the Bermondsey Liberal and Radical Association expresses its deep and heartfelt regret at the death of its esteemed member, and the loss sustained by all whose cause he so ably championed for so many years. It desires to express its deepest sympathy with his wife and family, who have been so suddenly bereaved. It would also place on record its appreciation of his untiring energies in the cause of liberty and progress.

At the meeting of the London County Council on October 12th, the Chairman (Sir Melvill Beachcroft) said that great regret would be felt by members at the sad event. Dr. Cooper was a member of the Council from 1889 to 1906, serving for sixteen years on the Asylums Committee and thirteen on the Public Health Committee, of which he was chairman for five years. He was a member also of fourteen other committees. Dr. Cooper gave up work with them three years ago in order to take up parliamentary duties, and there was reason to fear that his assiduous attention to them led in no small measure to his death. Dr. Cooper was an indefatigable worker.

The funeral of Dr. Cooper took place on October 12th at Charlton from his residence in Southwark Park Road. Sir John Benn, M.P., Dr. Salter, the Independent Labour Party candidate for the coming by-election, and Mr. A. A. Allen, M.P., followed, and among the many wreaths were floral tributes from the local Gladstone Club, the Constitutional Club, and the Independent Labour Party, the Progressive Party on the London County Council, the Bermondsey Borough Council employees, the Bermondsey and Rotherhithe Trades and Labour Council, the London Carmen's Trade Union, and Mr. H. J. Glanville, who represents Rotherhithe on the London County Council. The workers of the Deptford Cattle Market sent a wreath, in the form of a broken harp, in token of their appreciation of the work done by Dr. Cooper for them in connexion with the agitation for the removal of the restrictions on imported cattle from Argentina. Amongst those who attended at the graveside was Mr. John Burns. Dr. Cox represented the British Medical Association.

EDWARD CLAPTON, M.D., F.R.C.P., F.R.C.S.,

LATE PHYSICIAN, ST THOMAS'S HOSPITAL.

EDWARD CLAPTON, who died on Tuesday, September 28th, was born on April 28th, 1830, at Stamford. His father, Jeremiah Clapton, held at different times important public appointments, such as mayor and alderman of the ancient borough, and steward of one of the manors of the late Marquis of Exeter. For about forty years he was Conservative agent for Stamford, and the members during that time included the late Sir Stafford Northcote, and the late Marquis of Salisbury, first as Lord Robert Cecil and then as Lord Cranbourne. Dr. Clapton inherited the strong Conservative traditions of his father, but, what was of much greater importance, the strong religious and Evangelical principles of both his parents. Being a member of a large family, Edward Clapton, who was the second son, started life without great prospects, and with his own career to make. He was educated at the Stamford Grammar School, where he was a contemporary of the late Bishop Ellicott of Gloucester, and the late Bishop Atlay of Hereford. At the age of 16 he was apprenticed to Mr. William Burdett, M.R.C.S., who found him a promising pupil; and though he had been delicate as a child, and not exceptionally clever as a boy, his thoroughness and retentive memory stood him in good stead.

He entered St. Thomas's Hospital (then situated at London Bridge) in 1850, and after a successful career as a student, in which he carried off many scholarships and prizes, he in due course was admitted a Member of the Royal College of Surgeons.

In 1857 he graduated as M.D.Lond., and in the same year he obtained the Fellowship of the Royal College of Surgeons. He became a Member of the Royal College of Physicians in 1858, and was elected to the Fellowship in 1870.

In 1857 he was appointed an Assistant Physician at St. Thomas's Hospital and Lecturer in Botany, and later on

in Materia Medica, and in this capacity he designed a map indicating the geographical distribution of plants possessing a therapeutic value.

He resided in the Eltham Road, but his consulting-rooms were in St. Thomas's Street, S.E., where he acquired a most successful consulting practice. As Physician to the South-Eastern Railway and to the London, Brighton, and South Coast Railway his services were often called into requisition, and he was a highly valued consultant, especially in the City and South of London. Much of his success in practice was due to his businesslike habits, which not only enabled him to carry on his professional work but to devote time to the many other interests which came into his life.

He was never a very strong man, and at a comparatively early age he was obliged to resign his position as Physician to St. Thomas's Hospital owing to the condition of his health.

Dr. Clapton was a man of deep religious convictions and consistent life; he was an earnest supporter of missionary and Church work, especially such as was of a distinctly Evangelical character. He was, however, most tolerant in his views, and had numerous friends among men highly placed in the Church of England, even though they belonged to another school of thought. His great hobby, which was a never ceasing interest to him up to the day of his death, was in the study of certain Biblical subjects. The principal of these was embodied in a volume published in the year 1878, under the title of *The Precious Stones of the Bible, by a Physician*. In order to secure material for this study, he obtained specimens of precious stones of all kinds from Bible lands, many of these being obtained for him after the most laborious search by grateful patients. He then made a minute investigation of the passages in the Scriptures containing symbolical references to these precious stones, connecting the stones in the breast-plate of the High Priest with the description of the foundations of the New Jerusalem. These must be read to be understood. A second edition of this work, with the author's name appended, was published in 1899.

As an instance of the remarkable character of these researches may be quoted his remarks concerning the ruby, which is distinguished by its blood-red colour; but the similarity of the ruby to blood is more close than mere resemblance, for the colour in each case may be attributed to the presence of oxide of iron. Again, the word for ruby in Hebrew is *Odem*, and means "blood red," and is composed of the same Hebrew letters as *Adam*, which means "taken out of red earth," which, the author says, is "an exact description of the ruby, which consists of pure alumina." From this he deduced most important lessons illustrating the Scriptural doctrine of the Atonement. But although his researches were undertaken from the Biblical standpoint, he was always on the look-out for other lessons which might be drawn from them, and in recent years he gave much thought to problems connected with the chemical constituents of the human body, and particularly the existence of certain derivatives of alumina in varying quantities in the body. This led him to formulate certain theories as to the origin of cancer, and his essay on this subject was submitted to the Cancer Research authorities.

In his search for Biblical curiosities he also obtained others of special medical interest. One of these he recently presented to the museum of the Royal College of Surgeons, consisting of two branches and a bundle of twigs from the plane tree in the island of Cos, under the shade of which Hippocrates lectured on medicine from a marble seat close to the tree, which is still in existence. Moreover, the late Dean Farrar believed that it was not improbable that St. Luke, "the beloved physician," rested under the shade of the tree hallowed by its connexion with the Father of Medicine. Dr. Clapton was also the author of a *Life of St. Luke*, published by J. and A. Churchill, dealing especially with the medical aspects of that evangelist's life and work.

A casket composed of the different woods mentioned in the Bible, with a representation of a branch of each tree carved on each panel, was made for him by a celebrated firm of ecclesiastical art workers, in order to contain his collection of precious stones, and this was exhibited for the first and only time in public at the Ecclesiastical Art Exhibition of the Church Congress in London in 1899, where he gave demonstrations on the casket each day. He shrank, however, from any public display and rarely spoke in public, and the treasures of his Biblical museum were only seen by those who visited him in his home at Lee. Here, however, he delighted to receive small audiences of friends who would be glad to listen to his interesting explanations of subjects to which most people have given little thought. In his way he may be regarded as having been a Biblical critic from the scientific point of view, and the result of his researches was to give him unbounded faith in the inspiration of the Scriptures. He wrote in the preface to the first edition of his book, *Precious Stones of the Bible*:

> One thing is certain, that the more any part of the Bible is minutely and critically examined, and studiously compared with other parts, the more one is struck with the intimate and harmonious connexion existing between the whole of the Scriptures from the beginning to the end, and convinced that by no possibility could such a book have resulted from the invention and ingenuity of any number of uninspired men, be they the wisest and most subtle of mankind.

These studies brought Dr. Clapton into close contact with the leaders of the Palestine Exploration Fund, with the Victoria Institute, and with the London Society for Promoting Christianity Among the Jews, of which he was Honorary Physician. He was one of the earliest members of the Medical Prayer Union; the Chairman of Marshall's Trustees, which gives grants for church building and endowments, and was connected with many other similar institutions. He was a member of the Athenæum Club, where he enjoyed the friendship of many distinguished men; he was also a Fellow of the Royal Geographical Society, of the Linnæan Society, and the Zoological Society as well as various medical societies.

He was Consulting Physician to the Miller Hospital and other hospitals in the neighbourhood of Blackheath. His wife, who predeceased him, was Mary, eldest daughter of the late Mr. John S. M. Churchill, the well-known medical publisher.

His son, the Rev. E. Louis C. Clapton, is the rector of Lee, and his elder daughter married the Rev. E. T. Clark, son of his old friend and colleague, the late Mr. Le Gros Clark, F.R.C.S.

Dr. Clapton was a devoted husband, an affectionate father, and a faithful friend to all who had the privilege of coming into close touch with him. Modest and retiring by nature, he exercised a remarkable influence, and has left behind him a fragrant memory which belongs only to those who have faithfully served both God and man throughout a long and useful life. He was buried at Stamford, in the family vault, on Saturday, October 2nd.

WILLIAM RIVERS POLLOCK, M.D. Cantab., F.R.C.P.,

OBSTETRIC PHYSICIAN TO THE WESTMINSTER HOSPITAL.

William Rivers Pollock, whose death occurred after a very short illness, on October 5th, was the fourth son of Mr. G. F. Pollock, formerly Senior Master of the Supreme Court and King's Remembrancer. He was educated at Haileybury and Trinity. Whilst at Cambridge he distinguished himself in athletics, representing the university in the hurdles in the inter-university sports, and establishing a record (16 secs.) which was not lowered for many years. It was at this time he suffered the first of many attacks of thrombosis which resulted eventually in the obliteration of the inferior vena cava and necessitated his living for years an extremely careful life. Indeed, it was only during the last two or three years that he had been able to indulge in any but the mildest forms of outdoor exercise, and only latterly was he able to stand the strain of a long afternoon's operating.

From Cambridge he went to St. George's Hospital, and took the M.R.C.S. in 1881. He held house appointments at St. George's and at Addenbrooke's, where he came under the influence of Humphry, whose teaching he always held in the highest esteem. He graduated in 1888, spent the year 1889 at the Rotunda in Dublin, and, returning to London, became a Member of the College of Physicians and began practice as an obstetrician and gynæcologist. He was chosen a Fellow of the Royal College of Physicians in 1901, and took the M.D. Camb. in 1903.

Besides other appointments at an earlier period of his career, he was, at the time of his too-early death, Obstetric Physician and Lecturer on Diseases of Women to the Westminster Hospital; Senior Physician to Queen Charlotte's Lying-in Hospital; Professor of Midwifery to the Army Medical College, Millbank; Examiner in Midwifery and Diseases of Women to the Universities of Cambridge and London and to the Conjoint Board of the Royal Colleges.

Handicapped to some extent by the physical defect in his circulation, Dr. Pollock had been obliged to develop the obstetric side of his practice rather than that of operative gynaecology, although latterly he was able to undertake a full share of operations both in hospital and in private practice. His skill and experience as an obstetrician secured high appreciation from the staff and students both at Westminster and at Queen Charlotte's. Appreciated by his students, respected and esteemed by his colleagues, beloved by his intimate friends, Dr. Pollock endeared himself to all who knew him well. He was possessed of an exceptionally acute sense of humour, of a dry but very ready wit, and of powers of mimicry which were remarkable in themselves, but still more remarkable for the unfailing kindliness of their employment. His gentleness with children, his invariable kindness and consideration for his younger colleagues, afforded good sidelights upon his character. His sound judgement and shrewd tact were always at the service of his friends, and will be sorely missed in the various committees upon which he sat. In his capacity as Treasurer of the Westminster Hospital Medical School he had rendered great services to successive Deans.

Dr. Pollock succumbed to a severe septicaemia, the origin of which was quite obscure, and the only overt evidence of which was a tonsillar abscess. He leaves a widow, one son who is now at Cambridge, and a daughter.

The first part of the funeral service was held in the chapel of the Westminster Hospital. It was conducted by the Rev. Bertram Pollock, D.D., M.V.O., Head Master of Wellington College—a brother of Dr. Pollock—assisted by the Rev. Ewart Barter, incumbent of Grosvenor Chapel, where Dr. Pollock had been a regular attendant and officebearer, and by the chaplain, Mr. Fase. The service was attended not only by a large number of relatives and personal friends, but also by many well-known members of the staffs of London hospitals.

Colonel George McBride Davis, C.B., D.S.O., Indian Medical Service (retired), died at Wimbledon on October 4th, aged 63. He was a son of the late Dr. W. A. Davis, of Newry, Ireland, and was educated at Queen's College, Belfast. He joined the Bengal Medical Department as an Assistant Surgeon, April 1st, 1869, and became Brigade Surgeon-Lieutenant-Colonel, January 17th, 1895. He retired from the service in 1902. His war record included—the Mahsood Wuzeerse expedition in 1881; the first Miranzai expedition in 1891; the Hazara expedition in 1891 (medal with clasp); the Waziristan expedition in 1894-5 as Principal Medical Officer with the Delimitation Escort (mentioned in dispatches, clasp, and granted the D.S.O.); he was Principal Medical Officer of the 2nd Division in the Tirah expedition in 1897-8, being present in the action of Dargai, at the capture of the Sampagha and Arhanga Passes, and in the operations in the Bara Valley (mentioned in dispatches, medal with two clasps, and appointed C.B.); was Principal Medical Officer with the China Expeditionary Force in 1900 (mentioned in dispatches, medal with two clasps); and again as Principal Medical Officer of the force sent to Waziristan, on the North-West Frontier of India, in 1901-2 (mentioned in dispatches, clasp). In July, 1900, he was granted the reward for distinguished service.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are: Professor Anton Dohrn, founder and director of the Zoological Station at Naples, aged 69; Dr. Heartzeux, formerly Professor of Clinical Surgery in the Medical School of Nantes; Professor Ludwig Katz, the well-known otologist of Berlin, aged 61; Dr. Kornel Chyzer, head of the Sanitary Department of the Hungarian Ministry of the Interior; Dr. Henry C. Chapman, Emeritus Professor of Physiology and Biology in the Jefferson Medical College, Philadelphia, aged 64; Dr. Gyula von Thonobanya Elischer, Professor of Gynaecology in the University of Budapest; Dr. Leon Hendrix, founder of the Paediatric Policlinic of Brussels, and a leading authority on orthopaedic surgery in Belgium, to the literature of which he contributed largely, aged 56; and Dr. W. Thayer Smith, sometime Professor of Physiology, then Dean of its Medical School, Emeritus Professor of Physiology and Clinical Surgery, and author of several elementary textbooks, aged 71.

The Services.

ROYAL NAVY MEDICAL SERVICE.

The course of instruction of the newly-entered surgeons at Haslar was brought to a close on October 6th by the distribution of prizes by Inspector-General Thomas D. Gimlette, C.B., R.N. The Gold Medal was gained by Surgeon A. A. Sanders, M.B., of Birmingham University. The Silver Medal was awarded to Surgeon K. H. Hole, of Guy's Hospital. The two above-mentioned officers took the first and second places respectively in the combined London and Haslar examinations. Three Navy Regulation Pocket Cases—prizes for subjects in which instruction is given at Haslar—were awarded to Surgeon A. A. Sanders, Surgeon M. P. Fitzgerald, and Surgeon G. F. Syms.

The following list shows the places gained by the combined marks of the London and Haslar examinations:

	Marks.		Marks.
1. Surg. A. A. Sanders, M.B.	5,178	8. Surg. J. Barrett, M.B.	4,699
2. Surg. K. H. Hole, M.B.	5,152	9. Surg. G. A. Jackson, M.B., B.A.	4,695
3. Surg. G. F. Syms	5,051	10. Surg. W. Miller, M.B.	4,197
4. Surg. H. F. Briggs, M.B.	4,944	11. Surg. R. F. M. Roberts	3,897
5. Surg. M. P. Fitzgerald, M.B.	4,873	12. Surg. A. G. Malcolm, M.B.	3,806
6. Surg. J. Hadwen, M.B.	4,479	13. Surg. H. C. Dowse	3,760
7. Surg. J. S. Orwin, M.B.	4,423	14. Surg. H. W. Nicholls	3,642

INDIAN MEDICAL SERVICE.

PAY OF OFFICERS.

P.M.O. writes: The *suppressio veri* never did, and never will, benefit any one. The junior I.M.S. officer who communicates a tabular comparative statement, in your issue of August 28th, of the pay of R.A.M.C. and I.M.S. is either ignorant of the facts or suppresses them. I have neither time, nor you space, to confute his allegations seriatim. I merely mention one or two points. The pay of I.M.S. of all executive ranks is better than R.A.M.C.; of administrative ranks it is the same. The pension in all ranks is much better. There is no station hospital system in the native army, and no senior I.M.S. officer has charge of more than one hospital, let alone "as many as five." Your correspondent ignores the fact that every I.M.S. officer in charge of a regimental hospital receives a charge pay of Rs. 100 a month for 50 beds; if exigencies of service place him in charge of two, for a time, he get Rs. 200, and so on: therefore, his hypothetical senior officer in charge of five, aggregatum 250 beds, would get Rs. 500, against the R.A.M.C. grade pay with Rs. 180. The P.M.O. is not "the worst paid officer of his rank in the regiment," but the best. Finally, I would recommend this young officer to study his facts before rushing into print and committing himself to assertions which, in plain language, are sheer nonsense.

Another officer writes: In the native army the system of "station hospitals" practically exists only on paper; the majority of I.M.S. officers on the military side are serving in stations where there are no other I.M.S. officers, and so are their own senior medical officers. Even in big stations the I.M.S. senior medical officer does little or nothing in any hospital but his own, beyond keeping a central store of drugs.

Again, one must not compare the R.A.M.C. grade pay with that of the I.M.S. The junior R.A.M.C. man only gets his grade pay, while the I.M.S. man practically never draws grade pay alone. If he has less than seven years' service and no permanent appointment, he draws "unemployed pay." Should he be in officiating charge of a regiment, provided he has passed his language examination, he draws grade pay + half the staff salary of the post, or Rs. 100, whichever is most, or unemployed pay if his Hindustani examination is still in front of him. To illustrate this, let us take the average course of the newly-joined man. On landing in India he draws Rs. 420 (unemployed pay) until he has passed his Hindustani examination. After attending his sanitary course he will soon be placed in officiating medical charge of a regiment. As soon as he has passed in the language he will draw Rs. 450 (350 grade + 100 staff). On promotion to captain this will become Rs. 500 and 550 after five years' service. He will eventually be given the permanent charge of a regiment, probably after some two to seven years' service, and will then draw grade pay—150 plus 350 for a lieutenant-colonel). Supposing he has five years service, this will give him Rs. 800 against his Rs. 475 of the R.A.M.C. man. The least a lieutenant-colonel

on the military side can draw is 1,250 a month (900 grade + 350 staff). This leaves out "exchange compensation allowance" (one anna in every rupee), horse allowance, and specialist allowances; also cantonment hospital allowances, which latter appointments are equally divided between the R.A.M.C. and the I.M.S.

It is on the civil side that the pay is now inadequate. On the average a man will have about five years' service before he will get on to the civil side, and then he will only be in temporary civil employ for his first three or four years, so that he will have eight or nine years' service before he becomes permanent. His pay while on the temporary list will be grade pay + 100 month acting allowance; once permanent, he gets consolidated pay. In addition to his pay, he will almost certainly have an extra allowance for the executive charge of the gaol. This will vary from Rs. 50 to Rs. 150 a month. The following will give an idea of the pay compared with the military side:

	Temporary Civil Employ.	Officiating Medical Officer to a Regiment.	In Permanent Charge of a Regiment.
Captain of five years' service.	450 (grade)	450 (grade)	450 (grade)
	100 (acting)	100 (staff pay)	350 (staff pay)
	50 (gaol)	—	—
	600 Rs.	550 Rs.	800 Rs.
	Permanent Civil Employ.		
Major of twelve years' service	750 (pay)	Not likely to be officiating	750 (pay)
	50 (gaol)		150 (staff)
	800 Rs.		900 R.

The larger stations—that is, those with the best chances for private practice, with the biggest district gaols, and possibly other extra appointments—go, naturally, to the senior men. The senior three or four men in each province are called first-class civil surgeons, and receive Rs. 100 a month extra pay, so that the best a first-class civil surgeon of the rank of lieutenant-colonel can draw is Rs. 1,500. In addition, in some stations, a civil surgeon may make an extra Rs. 100 to Rs. 200 a month by the inspection of factories, but this is to be taken away from them in accordance with the recommendation of the Factory Commission. About two-thirds of the I.M.S. are in civil employ, and it is the future of those on the civil side which looks so gloomy. Probably nine out of ten men enter the I.M.S. with the idea of becoming a civil surgeon. The regimental medical officer has barely an hour's work a day, but if he really does his work the civil surgeon is a very busy man; and yet his pay is no more than he would receive had he remained in military employ. Compared with the pay of other services the inadequacy of that of a civil surgeon is at once apparent. The following are examples taken at random:

	Total Personal Allowances.
Civil surgeon, nine years' service	Rs. 650
I.C.S., sixth and a half years' service	1,200
Indian police, six years' service	700
Public Works Department, seven years' service ...	700

The civil surgeon's pay has apparently been based on the idea that he can supplement it with private practice. But every year sees new executive duties thrust upon him, and it is impossible to build up a private practice when a man is constantly being moved. There are civil surgeons—the top man of his batch—who completed fifteen years' service without having been one year in any one station. A man who remains on the military side for the whole of his service is apt to grow very rusty in his professional knowledge; but a civil surgeon cannot help but keep more or less abreast of the times, especially as operative surgery, so that it is essential that the conditions of civil employ be such as to attract men. The civil surgeons form the reserve for the military branch—a very valuable reserve, consisting, as it does, of men accustomed to operating, often in conditions closely resembling those found on service.

* It is necessary to explain that I.C.S. men at eight and a half years' service are rarely more than joint magistrates on Rs. 700 per annum, though they may repeatedly act as magistrates on the higher pay noted for short periods.

DR. ALLAN KINGHORN, of the Liverpool School of Tropical Medicine, who recently returned from an expedition in North-East Rhodesia and Central Africa, where he investigated sleeping sickness, has now, on the instructions of the Secretary of State for the Colonies, proceeded to West Africa to continue his work, with the view of recommending measures for the prevention of the spread of the disease.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL ASSOCIATION is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2620, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

M.B., M.R.C.S. desires details as to the vaccine treatment of acne vulgaris.

H. H. asks for information as to evil effects following the prolonged use of magnesium and sodium sulphate.

T. H. M. C. asks for information on the treatment of arteriosclerosis by high-frequency electric currents.

CH. asks for advice in the treatment of a case of chronic constipation in a neurotic woman, aged 26, in whom the usual remedies, including massage and diet, have been tried without much effect.

THURSTON desires to hear of an institution where a lady who has reached her 40th year could be trained as a nurse and obtain a certificate; her age is a bar at the institutions to which she has already applied.

BIMECONATE OF MORPHINE.

DR. WILLIAM PROWSE (Clifton) writes: Will you kindly permit me, through the medium of your columns, to inquire why it is that the most benign in its action, and the most generally useful of all the preparations of opium, namely, the solution of the bimeconate of morphine, is so rarely prescribed by medical men? The recipe for this particular preparation was given in the *British Pharmacopœia* 1885 edition, and was wholly expunged from the later edition of 1898. Why was this? Dr. Farquharson, in his *Guide to Therapeutics*, writes: "That it is an excellent preparation, can well be borne by patients who cannot take morphia in other forms." From a long experience I can confirm this statement, and should advise all who have not prescribed it to give it a thorough trial. In my opinion it is the ideal anodyne and hypnotic, without any of the usual drawbacks.

ANSWERS.

E. S.—The manufacture of casein is described and illustrated in *Casein: Its Preparation and Technical Utilisation*, by Robert Scherer, published by Scott Greenwood and Son, 19, Ludgate Hill, London, E.C., price 7*s.* 6*d.*

RED CROSS does not say what is the subject of the lectures he proposes to give. If first aid, *First Aid to the Injured and Sick*, by Warwick and Tunstall, fifth edition (Bristol: Wright and Sons, 1*s.*), can be recommended. The fee to be asked must depend on circumstances; one guinea a lecture would be reasonable.

CONTINUOUS NEURALGIA.

DR. E. FRASER (Great Bedwyn) writes: "Seventy-two" will probably find that the high-frequency current will do much good in his case.

DR. J. SIMPSON (Belfast) writes, in reply to the query of "Seventy-two," to recommend a fair trial of pyramidon in 5-grain doses every six hours.

TREATMENT OF SYCOSIS.

SYCOSIS asks for advice in the treatment of a patient who has suffered from sycosis for five years. During the past nine months, while under our correspondent's care, various lines of treatment have been tried, including repeated injections of antistaphylococcus serum, without beneficial effect. He asks whether radium would be of value.

COLEY'S FLUID.

EWELL.—Dr. Coley recorded the treatment of some cases of malignant disease by the fluid which bears his name in the *Boston Medical and Surgical Journal* of February 6th, 1908, p. 175. An article on the subject appeared in the JOURNAL of May 2nd, 1908, p. 1065. A brief report of a case reported by Major G. C. Spencer to the Clinical Section of the Royal Society of Medicine on March 12th, 1909, was published in the JOURNAL of March 20th, p. 721.

INFECTIOUS DISEASE IN DOCTOR'S HOUSE.

M. D. O. H.—(1) We believe it is customary for a medical practitioner in England, in whose household there is a case of scarlet fever, to make no alteration in the carrying on of his practice beyond taking the usual precautions against spreading the disease which he would take if he were attending an infected patient in another house. (2) A consulting room or surgery would be considered in this country as part of the house.

RUSSIAN FOOD.

S.—A qualitative analysis of the sample of "Russian Food" sent by our correspondent has been made; it consists principally of the flour of a cereal which appears to be rye, although it cannot be quite positively stated that some other variety of flour is not present. Mixed with this flour is a moderate proportion of potato starch. The protein present amounts to 7·45 per cent. (rye flour containing about 8 to 12 per cent.); fat and mineral matter are present only in traces, and there is no evidence of any other ingredient.

THE TREATMENT OF BRONCHIAL ASTHMA BY SERUMS.

A SUFFERER FROM ASTHMA.—We have recently published four communications on the subject of the treatment of asthma by serums. On July 31st, page 300, "M. K. A." reported recurrence of a previously disappearing asthma habit after a dose of diphtheria antitoxin (2,000 units), the well-recognized horse serum reaction being very marked. On August 7th, page 356, Dr. H. A. Clowes drew attention to a death ascribed to an acute attack of asthma precipitated by a prophylactic dose of diphtheria antitoxin (quantity not stated). On August 28th, page 580, Colonel Joshua Duke, I.M.S., reported that the apparent cure of asthmatic patients who had undergone inoculation, not with diphtheria antitoxin, but with Haffkine's antiplague serum, had made a strong impression on his mind. On October 2nd, page 1016, Dr. J. Aikman reported several cases of asthma which appeared permanently cured by diphtheria antitoxin. The dose he found valuable was 1,000 units, repeated at intervals. Larger doses, he found, increased expectoration to an uncomfortable degree. He advised the use of antidiphtheria serum in a case in which the condition of the heart was such that a mild bronchitis, should it occur, would not be likely to give material trouble.

BEE STINGS AND RHEUMATISM.

MR. LEWIS MACKENZIE (Tiverton).—The paper on the treatment of rheumatism to which our correspondent refers was published in the BRITISH MEDICAL JOURNAL of October 10th, 1908, p. 1056; and some further communications on the subject appeared in the issue of October 31st, pp. 1369 and 1409, and November 4th, p. 1531. With regard to the method of applying the treatment, we understand that there is a special apparatus which was exhibited at the Surrey Bee Keepers' Show held recently at the Crystal Palace. Dr. E. T. Burton of Birmingham has invented a forceps for holding the bees; the makers are Messrs. Philip Harris and Co., 144, Edmund Street, Birmingham.

Among the exhibits at the Dairy Show at the Agricultural Hall is an apparatus called a "Bee Vaccinator," made by Messrs. J. Lee and Son, Martineau Road, Highbury, London, N.

Another method is to let the bees out of a box or bottle one by one on to the window pane, where they can be seized by the wings and so applied with safety to the operator. With regard to the number of stings, Terc and others began with two or three stings repeated every two or three days, or perhaps one as the case goes on, and increased by one or two stings as tolerance is developed. As to site, the best is near or over the affected part if convenient; otherwise any part may be chosen less likely to be inconvenient or exposed to irritation; the loin would probably be a suitable place.

Mr. J. J. Adamson, of Ilkeston, Birmingham, writes in the *Daily Mirror* of October 2nd: "My instruments consist solely of two pairs of wooden forceps and a wooden box to hold two dozen bees. The box is so constructed that I can take out one bee at a time without the least fear of it escaping. Then, by using one pair of forceps, I get one bee out, and with the other pair I get hold of it in exactly the right position for stinging. On applying the bee I see that it stings straight, and so gives the full benefit of the venom. Six to twelve bees are used at a time, and the treatment makes the patient all aglow. The venom is soon all over the system, and then the patient begins to feel as if he or she were being stung again." This, though uninviting when regarded as a mere sensation, "is a good sign, and may keep on for two hours." "Next day a slight irritation will set in, and last, perhaps, a couple of days or so." Then comes the second "dose" in about a week, and this is three-bee stronger. "On my third visit I inquire how the patient feels, and if he says he feels sickly on the day following the stinging, I apply the same amount; but, I not, then I apply a few more than the previous time."

LETTERS. NOTES, ETC.

THE TREATMENT OF ENDOMETRITIS.

DR. ALEXANDER DUKE (London, W.) writes: Having been present during part of the debate on the above subject at Belfast, but not having taken part in the discussion, preferring to place my thoughts on paper, I trust this note on the subject may be accepted. Acute puerperal endometritis should be quite unknown if the uterus were washed out by the attendant himself directly after the third stage is concluded, where any complication has been met with during the labour, and as a routine treatment, with hot saline solution, water previous boiled. "Prevention better than cure." The ordinary form of chronic endometritis, in my humble opinion, is curable by dilatation, blunt curette, swabbing of the cavity with carbolized iodine (Churchill's tincture), and subsequent drainage, not with gauze, which I consider useless, but with a spiral wire drainage tube designed by me fifteen years ago, and, I am pleased to see, copied (as stated by Professor Fehling) and used by Von Heff, etc. In chronic endometritis, I stated in a paper years ago on the subject, "the endometrium changes to a pyogenic membrane, and the uterus into a chronic abscess." Treat it then as such; remove the membrane, and drain with flexible metal tubes. Rest in bed is no doubt advisable in some cases of extreme debility, as recommended by Dr. McCann; but, as a rule, the patient is better up and about, assisting in the drainage by her movements and position, and less liable to consider herself an invalid. The poverty of some patients would quite taboo the rest cure, the suggestion of Dr. Tweedy. In cases of endometritis accompanied by flexions, the spiral wire drainage tube stem, by keeping the cervical canal straight and more open, will as a rule cure both lesions. I regret I cannot agree with Dr. Tweedy (as reported in the JOURNAL) that "to drain the cavity of the uterus *nothing is better* than a wick of iodoform gauze soaked in a 2 per cent. solution of carbolic acid" (italics mine). Dr. Tweedy's statement that "it must be confessed the treatment of endocervicitis by astringents applied on a Playfair's probe yields anything but satisfactory results" I quite agree with, and the explanation is obvious, as the medicament applied was never long enough in contact with the cervical canal to be of any use. I leave the small plug with the dressing I prefer in the cervical canal till expelled (as it is sure to be) by uterine action, and thus obtain far better results. The suggestion of Dr. Tweedy to "partially amputate the cervix, from *great improvement always follows*" (italics mine), is about as sensible as removing part of the penis as a cure for chronic gleet. The consensus of opinion is, I think, in favour of dilatation, curetting with a blunt curette, and draining, but I wish to lay emphasis on the importance of the form of drainage tube which will on trial be found effective, and give better, quicker, and more lasting results, if not perfect cures, than any other form of uterine drainage with which I am acquainted.

A DISCLAIMER.

DR. G. NORMAN MEACHEN (London) writes: The altogether unwarrantable and offensive use of my name in connexion with a recent advertisement of Page Woodcock's Pills is yet another instance of the unscrupulous manner in which the names of medical men are exploited against their will, and which the profession seems utterly powerless to prevent until legislation steps in to its aid. I need hardly say that the firm in question has received instructions for the immediate withdrawal of the advertisement.

*** The advertisement, which is headed "Music and Meals," and is printed in the same type as a news paragraph, is, it must be admitted, rather ingenious. It begins by saying that Dr. G. N. Meachan had somewhere written that music stimulated digestion. It goes on to point out that everybody cannot afford to have an orchestra discourse sweet strains during meal-time, and then suggests that the pills would be a cheap and effective substitute.

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NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

The Harveian Oration

ON

EXPERIMENTAL PSYCHOLOGY AND HYPNOTISM.

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Mr. President, Fellows, and Gentlemen,—When asked to deliver the Harveian Oration, I felt very keenly that the duty was an onerous yet a very honourable one. Often as I have been present at Harveian Orations I can truly say that I never dreamt that the honour of giving one would fall upon me. I know my difficulties better than anyone here, but I will do my best to forge one more link in the chain which connects us with Harvey and his works. It seems to be taken for granted that we all of us know all about Harvey, and yet I found myself profoundly ignorant of the man and his real life's work when I began to formulate my ideas for this address, and I suppose I may take it for granted that the majority here is much in the same position. That Harvey lived during the disturbed times of Charles I, Cromwell, and Charles II, and that he first recognized the truth about the circulation of the blood one knew, but how little more! I shall, therefore, though I have nothing really new to add to the story of Harvey, consider the man and his times before proceeding to other matters which may be taken to represent his injunction that one must seek for truth by honest and unbiassed research. Each of us, in relationship to great men, has his own special standpoint; and perhaps I may be allowed to compare such relationship to the beams of light which may be seen passing over the sea on a moonlight night. Each one seems to have a special line of light coming directly to him. So it is with men like Harvey; each of us who has a life's work of a scientific kind sees emanating from him lines of light which are perhaps not conspicuous to others. I shall not in my oration attempt to trace, as has so often been done by my predecessors, the natural evolution of Harvey's discovery. The time was ripe for the discovery, and there were many who had very nearly reached the goal. But none had really established the facts, and no one had been able to bring the power of examination to the justification of his belief. I shall rather compare Harvey with a few of his contemporaries who had not any of his special gifts. Thus one will be able to see how different Harvey was from his surroundings: that he appeared, as it were, almost as a comet: unexpected and brilliant, and unlike other stars in the firmament.

The life of Harvey, extending as it did from the sixteenth well into the second half of the seventeenth century, covered a period in which many of the brilliant men of the time of Elizabeth were still living, and there were many others of distinction in almost every walk of life.

A time of unrest—social, moral, and political—seems after all to be likely to beget individual power of all kinds.

First let us consider Harvey's own professional work. We know the intimate relationship which from the earliest times existed between the religious and the medical professions. In Egypt, Greece, and Rome the temples were the hospitals and the schools of medicine. Similar relationships existed during the Middle Ages, and in Harvey's time the medical profession was only just acquiring independence. A medical book was written by Andrew Boorde, who has been described by Osler as the only priest-physician who wrote books on medicine. His books are full of medical interest, and give details of his travels in foreign parts, including Italy. His materia medica shows that the use of old and filthy animal matter was common. Much good advice is given, to which I shall refer later when speaking about the treatment of insanity, but this doctor-priest gave good advice which he did not follow, and he died an outcast from both professions.

The connexion between the professions led naturally to a spiritual interpretation of many of the human ailments.

The belief in witchcraft was strong, and both Sir Thomas Browne and Harvey were concerned in trials of witches, Harvey taking the more lenient view of the matter. Robert Burton, writing at this time, says: "It is a common practice of some men to go first to the witch and then to the physician." Paracelsus says of the patient: "It matters not whether it be God or the devil, angels or unclean spirits cure him, so that he be cured." Burton, who is so eminently judicial in most of his writings that one fails to know his own opinion, writes: "That which they can do is as much almost as the devil himself."

The herbalists of the time, represented by Gerard, were the teachers of botany and materia medica, and nothing is more interesting than the quaint advice given in their writings. They followed closely on the old classical teachers. Though the natural sciences were very backward, astronomy and mathematics were advanced and were represented by Newton and Halley, who predicted the coming in Harvey's time of the comet whose return is due very shortly. As might be expected, mathematics attracted Harvey, and even to the time of his death he is said to have continued this study.

General literature, which does not seem to have attracted Harvey, is very fully represented. In those days a change was passing over the stage, and plays of the historical type were taking the place of the morality plays similar to *Everyman*, though these continued to be played in the provinces. Shakespeare, Jonson, and Massinger represented the dramatists, while among the diarists are the sylviculturist Evelyn and Pepys, whose unique diary will remain for all time an example of self-analysis. Bacon was a patient of Harvey's, who did not appreciate the philosophy of the great Chancellor; but I must not keep adding to the list which represents the afterglow of the Elizabethan times.

Though human anatomy to a considerable extent was known and taught, the credulity of those writing on natural history is well seen in the large volume published in Switzerland by Gesner, who describes the most wonderful animals which are half human and half fish, and whales of such a gigantic size that sailors landed on them mistaking them for islands. It is of interest to note that Caius contributed to this book the articles on English dogs.

Separated from the Church, the rivalry between the different branches of the profession continued, so that in Harvey's time the Barber-Surgeons endeavoured to gain more liberty than was allowed them by the physicians, who at least in those days were looked upon as more important.

The Apothecaries' Society was founded, and had legal difficulty in gaining their freedom from control by the Grocers' Company. The Barber-Surgeons, like the Physicians, had the right of having the bodies of some criminals for dissection, and both had to give a certain number of public demonstrations and dissections, and Pepys describes how he was present at one given by the Barber-Surgeons, there being a morning demonstration, a substantial dinner, and an afternoon dissection. In Harvey's time lived Sir Kenelm Digby, whose sympathetic powder had such a wonderful reputation.

From Harvey's contemporaries I pass to Harvey himself, and I have nothing new to add in any way to what has been already so often said by others. He was the eldest of seven sons born to a worthy burgher of Folkestone; probably his mother, who was very highly esteemed by all her sons, was the source of their power. The sons seem all to have been successful men—five were merchants, and one attached to the Court. Harvey, born April 1st, 1578, was educated partly at Canterbury, whence he proceeded to Caius College, where he had his first introduction to human anatomy, as that college had the reversion of some criminals' bodies for dissection. After taking his B.A. degree he went to Padua, which was the leading European school of anatomy. He there worked hard at what was to be his life's study, and was evidently a social success, as he belonged to the more exclusive of the "universities" there. We have his diploma, and, though something has been made of the eulogistic terms in which the degree is given, one cannot forget that still in some Northern universities every doctor is styled "ornatissimus vir."

He was admitted to our college after having taken his M.D. at Cambridge, and he married in 1604. Of his wife little is known. He had no children; probably her life was, like that of most women of that time belonging to the professional classes, devoted chiefly to household management. I have looked into several books of the period, and may refer to one called *The Queen-like Closet or Rich Cabinet*. This gives what might be called the whole duty of the housewife as consisting in making preserves, cordials, and simple medicines, and ends with what may be called a complete letter writer, taking it for granted that the ladies needed help in such matters. The only special reference to her seems to be in regard to a favourite parrot, which from its loquacity was supposed to be male, but a *post-mortem* examination revealed an impacted egg, showing its sex.

We may well deal with Harvey's professional life in two aspects: In the one he was the busy practitioner riding about with his footman seeing his many patients. He was surgeon, physician, obstetrician, and lecturer on anatomy. His life must have been a very full one. He served among the elect of the College of Physicians, and as we all know declined the presidentship on the plea of his age. He discovered the circulation of the blood many years before he published the results of his work, and it is said that the publication destroyed his practice. Beside his private duties, he was attached to the staff of St. Bartholomew's, and there he did much useful work in reorganizing the staff.

Another side of his life is that connected with the Court; he was Physician Extraordinary to James I, and one thinks it was just as well that he had little to do with that monarch, for their views must have been opposed in most things. He was appointed physician to Charles I, and there was a very strong feeling of affection between the two. The King took personal interest in Harvey's work, and assisted him in many ways. Harvey followed the King to Scotland, and later was with him at Oxford, where he replaced for a time the Roundhead Master of Merton, and during the tedious siege he occupied himself with work on incubation carried out in Fellows' Room. With the fall and death of the King Harvey's real active practical life almost ended. He had kindly brothers always ready to receive him, and he had his work in connexion with generation to carry on.

The greatest sorrow of his life was the dispersal and probable destruction of his work on generation and on the development of insects, by the mob who invaded Whitehall on Charles I leaving London; and no one can tell what a set-back this has been to the study of embryology.

He was a great sufferer from gout, and the description of his treatment of himself for this is certainly alarming: he is said to have put his gouty feet into a pail of cold water till he could stand the cold no more, and then to have gone to the stove, and so to have got rid of the attack. He spent his later years more or less in quiet seclusion, and recently I went under the conduct of Dr. R. Jones to a house near Woodford in Essex, which, though altered since his time, in part remains as he left it. In this house there are the portraits of his father and his brothers, and the family likeness is very striking.

As to his general character one can only be struck with his power of earnest and continuous work under trying conditions, for not only was he a busy man, but the men of his own times looked upon him as a crack-brain, or almost as a breaker of sacred idols. With all this he was very tolerant, even of those who abused him. For example, when Riolanus wrote against him, he, in reply, writing to one of his old friends, says: "I cannot find it in my heart to say anything severe of Riolanus. I care not, however, to make any question here of the etymology of words, for I am not of the opinion that it is the province of philosophy to infer aught as to the works of Nature from the signification of words, or to cite anatomical disquisitions before the grammatical tribunal. You indeed counsel well when you say only make sure of the thing, call it whatever you will." The guiding principle of Harvey through all his life is well shown by some of his own expressions. Thus, quoting from Dr. Ent: "Nature, however, is the best and most faithful interpreter of her own secrets. Our Harvey rather seems as though discovery were natural to him, a thing of ease, and of course a matter of ordinary business." Again, "Nature," he says, "lies so open and is so very easy of consultation; discovery being made by those following the traces of Nature with their own eyes pursued her through devious but most assured ways, till they reached her in the citadel of truth. Nature is to be herself addressed; the paths she shows are to be boldly trodden, for thus, whilst we consult our proper senses, advancing from inferior to superior levels we shall penetrate at length into the heart of her mystery." He was guided by such principles as that "one ought neither to praise or dispraise other anatomists, and that disputation was waste of time." He was full of quaint wit and imagination, and he draws comparisons between the brain and a commander, the leader of an orchestra, and an architect. He could on occasion, however, use strong language, but this was generally rather against principles than against men.

He lived the later part of his life with his brothers, sometimes in the country, sometimes in London. It was said that he would be shut up in darkness for hours or even days together in contemplation, and at other times would spend much time in the open air, sometimes on the roof of the house. At all events, with advancing years and with recurring attacks of the gout, he was disinclined to move much. The end, as described by Aubrey, may probably be taken as the truth. It is as follows: "The manner of his dying was really and bona fide thus—namely, the morning of his death, about 10 o'clock, he went to speak, and found that he had the dead palsy in his tongue. Then he saw what was to become of him, and he knew there was no hope of recovery, so presently sends for his young nephews to come to him, to whom he gives one his watch—it was a minute watch with which he made his experiments; to another another remembrance, etc.; made sign to his apothecary to let him blood in the tongue, which did little or no good, and so ended his days."

It is, I know, presumption for any one in my position to eulogize a man like Harvey; one who, though the past had been preparing for his advent, was so far ahead of his time that he was not appreciated for a considerable period, though, unlike most prophets, recognized before his death. With his fiery nature, and his persistent love of truth, it is surprising that he was as tolerant as he was. Surrounded by political and religious unrest, he followed his pursuit of the light, having the true feeling of scientific inquisitiveness, but with little of the self satisfaction so often met with in the purely scientific mind.

From this brief consideration of Harvey and his times I pass to what must be considered as the special part of my address. Each of my predecessors has taken some subject to which he has paid great attention or to which his life's work has been devoted; naturally, therefore, I turn to the consideration of insanity, its past and present treatment, and the prospect for the future.

Harvey, though recognizing the position of the brain in human physiology, does not seem to have been attracted by philosophy or mental diseases. He preferred to devote his energies to the more material side of anatomy. He recognized that little beyond words had resulted from the older methods of study, and he was intolerant of mere verbiage. Things, not words, were his object.

Old Bedlam.

Yet I cannot help thinking that he must have been brought into contact with the insane, and probably with old Bedlam, which, being in the city near Moorfields, was not far from his house and his work at St. Bartholomew's; and as the mastership of Bedlam was a royal preferment till it was handed over to the Corporation of London, it seems probable that he must have been brought into contact with it and its inmates.

I will briefly refer to the treatment of the insane before and during Harvey's day. Dr. Hack Tuke, in his *History of the Insane in England*, has traced the steady progress in the treatment of insanity. I have already pointed out that medicine and religion were connected, and, in considering insanity and its treatment, I am still more impressed by this connexion, which persisted much longer in the case of insanity than in other diseases. The mental and moral appearing closely allied, one is not surprised that mental disorder was treated by moral as well as physical means; and as moral treatment often involved punish-

ment, so the deranged were subjected to various forms of discipline. The influence of saints was considered of much value, and in Harvey's time St. Anthony had a great reputation in Padua; insane pilgrims in great numbers resorted to his shrine in that city, and must have attracted the notice of Harvey. In those days the visiting of shrines was a common prescription in cases of insanity, and one of the oldest in Europe still exists in Gheel, the City of the Simple, which is built round the tomb of St. Dymphna. In Perthshire St. Fillans, and in Ireland Glen-na-Galt were popular, and in Cornwall Dr. Hack Tuke found a similar holy place. In our own day we have Lourdes, to which lunatics as well as other sufferers are taken. The methods of cure differed, for whereas in some cases submersion almost to drowning point was tried, in others recourse was had to whippings, immersion and binding for a night to a pillar near the church well.

Rosalind, in *As You Like It*, speaks of a madman as deserving "a dark house and a whip"; and in *Twelfth Night*, Sir Toby Belch says: "Come, we'll have him in a dark room and bound." Andrew Boorde, who lived just before Harvey's time, had strong views as to the necessity of controlling the insane. He says, "I do advertise every man which is mad or lunatic, fanatic or demoniac, to be kept in safe guard in some close house or chamber where there is little light and that he have a keeper which the madman do fear." It is advised that all dangerous things, even a garter, should be removed, and that no pictures or the like should be there, lest they suggest delusions; that the patient, if a man, should be shaved once a month and have no wine or strong beer. He graphically describes how he saw a German lady treated by the priests, who adjured the devils to come out of her, and he says this was done, but the language of the devils was so bad that he dared not tarry lest they should enter into him.

The most interesting writer on insanity in Harvey's time was Robert Burton, the author of the *Anatomy of Melancholy*, and I must refer rather more in detail to him and to his works.

He was a contemporary of Harvey, being born in 1576, and dying in 1650. His education was very like that of Harvey. After the preparatory school he went to Brasenose, Oxford, where his likeness adorns the hall. His education, like that of Harvey, was classical, but he never got beyond this. Like a Chinese scholar, he seems almost incapable of thinking except in quotation from classical authors. His references were to books, and not to Nature. He was like the spider in Swift's *Battle of the Books*, evolving his web from his inside, and not like the bee gathering in sweetness and light. He recognized the importance of observation, for he writes: "What can be more ignominious than for a man not to know the structure and composition of his own body?" Yet he either did not know of, or did not recognize, Harvey's work, but describes the blood, arteries, and heart after the older fashion of his day. He describes the blood as a hot temperate red humour prepared in the mesaraic veins and made of the most temperate parts of the chylus in the liver, whose office it is to nourish the whole body, to give it strength and colour, being dispersed by the veins through every part of the body, and from it spirits are first begotten in the heart, which afterwards by the arteries are communicated to other parts. He recognized, however, the relationship existing between mental work and general circulation.

Though only on the level of his time and a victim of authorities, yet when considering insanity his views on the whole are advanced and sound. He refers chiefly to melancholia, but incidentally touches on various forms of mental disorder. He traces their origin, causes, and symptoms, and the treatment is humane. I find no reference to whippings or dark cells.

He gives a table which is eminently satisfactory. First, he considers methods of treatment which are legitimate and others which are not. Among the latter he disallows charms, incantations, images and spells. He doubts the efficacy of these means, and considers that even if useful they ought not to be used. He objects to the use of relics; he, being a strong Protestant, is in general opposition to anything which is connected with the Romish Church. He asks himself whether it is lawful in such cases to appeal to the saints or their relics, and he satisfies himself that it is not justifiable.

Among the lawful means he places first and as most important the physician, but it must be a physician whose relations believe in his knowledge and honesty. This has a doubtful sound. He quaintly recommends the patient to be obedient and willing, and that he should not practise on himself. He goes fully into general treatment, advising air and exercise, and his recommendation as to diet, though differing from ours, yet seems sensible. He, after his manner, quotes without comment a recommendation to get drunk occasionally. When he comes to the treatment by drugs, not unnaturally he follows the ancients, and would have doubtless suggested visits to the Island of Hellebore. This drug and borage are commended specially, but there are many others referred to for special reasons. He says of borage and hellebore that they are sovereign plants to purge the veins of melancholy and clear the heart of those black fumes which make it smart. Probably the classical hellebore was not the drug so called now, and there is no drug bearing that name which has any reputation now, though when Master of Bedlam I used the black hellebore for special cases, but with no real good result.

He advises patients, however, not to trust entirely in drugs and not to trust in their physicians till they have proved them. He advised what nowadays would be looked upon as psycho-therapeutics. He says every disease of the soul has a peculiar medicine in Scripture: "As mastication is with bread, meditation is with what we read." He warns man against quacks and their allies, and suggests that the Devil himself is at times an expert physician.

In Harvey's time the word "Bethlem" had already been corrupted into "Bedlam." Originally founded by an alderman of the City of London in 1247 for the Order of St. Mary of Bethlem on the Wednesday after the Feast of St. Luke, it was seized by the Crown in 1375 as a foreign priory; the Master was appointed by the Crown till the time of Henry VIII. Stow in his *Survey of London*, 1598, refers to the fact of lunatics being sent to Bethlem, and this is the first notice of the fact, though he refers to it as having been done some time before.

Sir John Gresham, of New River fame, when Lord Mayor, obtained from the King the patronage of St. Bartholomew's and Bethlem, and in 1578 left money for "the poor diseased in their minds in Bethlem." In Harvey's time, in 1632, there was an enlargement and improvement, but still it was a miserable place, with manacles, whippings and dark cells.

About this time two statues were erected in front of Bethlem, one representing Furious Mania, the other Melancholia. The latter was said to be taken from the porter of Cromwell who was a patient. These statues were by Gibber, the father of the English dramatist. When I was Master of Bethlem these were unearthed, and are now in the City Museum.

It was one of the sights of London, and Evelyn in his *Diary* writes: "After dining with Lord Halton, I stepped into Bedlam, where I saw several poor miserable creatures in chains, one of them mad with making verses." Pepys does not seem to have visited it himself, but refers to the young people going to Bedlam. Members of Parliament had free entry to the place, others paid one or two pence. Little change in the treatment of the insane took place till the last century, and I have in my possession chains used less than a hundred years ago. Up till the removal of Bethlem from the City to its present site in 1815, the public were still admitted to see the patients for a fee of 2d., and George Cruikshank told me that he had there studied insanity and made sketches. The present Chaplain of Bethlem has most kindly given me many interesting facts as to the treatment of the insane during the sixteenth century.

That so little progress was made in medical treatment of the insane till recently is hardly surprising. We have not reached the physiology of the brain though our knowledge of its anatomy is now very far advanced. Yet, as has been wisely said, we are like the drivers, who know the names of the streets and their local relations, yet know nothing of the life within the houses. So we know much of the nervous system and little of what goes on within.

I have long since pointed out that there is no entity Insanity—that it is at most a negation, and a state which may depend on many causes. The brain, like other organs, has a limited power of expressing itself, and whether the brain itself is diseased, or is suffering from the bad service of one of its servants, the same symptoms will arise. And, further, there are many so-called cases of insanity depending on social misfits, for which no brain pathology will account. Splendid work is being done by our Fellows, such as Mott and Head, and I have little doubt that their work will, in good time, result in arresting or preventing many cases of insanity. I cannot quit the subject without a reference to the splendid offer of our Fellow Dr. H. Maudsley for the foundation of a mental hospital.

I now approach the nucleus of my address. I have, after very mature consideration, determined to deal with two subjects—one cursorily, because time will not permit me to do more; the other more fully, because I feel at the present time it is all important that it should be fairly handled.

Experimental Psychology.

The first subject that I shall refer to is experimental psychology. The general feeling, certainly among the seniors in our profession, is that experimental psychology is hardly likely to reward the men who are devoting their lives to it, and I have heard some good and thoughtful physicians express regret that men of promise were, as they thought, wasting their energies on what will be of little service, either to psychology or to medicine. They look upon the two as incompatible, and consider that physics and the imponderable are not to be brought together. Yet I feel that we have no right to stop investigation because we cannot see any immediate prospect of material result, or because we cannot see the lines on which advance is to be made. Psychology, as considered from the purely introspective side, has held the field long enough, and has made comparatively little progress. Experimental neurology is advancing, and the tendency in physical and chemical sciences seems to be towards unity and simplicity. So that the belief is growing that forces such as electricity, and matters such as are called elements are really fundamentally alike. And so I believe it will be found that the senses are fundamentally alike and comparable. Experimental psychology will have a very great deal to say in proving this unity. The fact that already mathematical formulae are being applied to experiments upon the senses is an indication of the movement which is taking place. To the psychologist, consciousness or sensitiveness seems to be the basis upon which all nerve and mental reactions depend. It seems to me that it is rather like the ether to the physicist. Just as ether is the storehouse of forces and seems ever to present fresh qualities to the investigators yet itself seems to remain incomprehensible, so the source of all mental action and reaction lies in sensitiveness and consciousness; and, equally, consciousness is now, and probably will ever be, beyond the human understanding.

We may study forces in Nature and the feeling within ourselves, but we are far from being able to connect them. The work of the experimental psychologist, which was begun on the Continent, had at first rather the aspect of social games. The various tests of memory and of verbal associations seem trivial, yet in mind-growth and mind-decay such observations have proved of importance. Later a much more important series of observations on physical and mental reactions has taken place. The second stage almost might be said to be the stage of observing reactions. And by these means the rate of thought was gauged to a certain extent. At present one of our Fellows, Professor Rivers of Cambridge, and Professor Myers, who has recently published a most valuable book on experimental psychology, have been working out the evidences of physical and mental fatigue and exhaustion. And the work that has been done by another of our Fellows, Dr. Head, is all important, and seems to point to the sense of touch being a much more complicated organ than was at first supposed. And, what to my mind is more interesting, it shows that our preconceived ideas were altogether wrong. For long enough one considered heat and cold as relative terms, whereas now we know that there are definite heat spots, and that there are definite cold spots. And beyond that, Dr. Head, after his autovivisection, disclosed other shades of feeling that had hitherto not been appreciated. Looking at his observations and the remarks by Professor Myers, one could not help seeing a parallelism between the tones of music, the spectrum of colour, and the shades of feeling: that, in fact, beyond the ordinary range of feeling there were impressions, or possibilities of impression, which we hardly recognize. It seems hardly likely that we shall develop any more senses than we have at present; but just as by scientific experiment it has been shown that there are vibrations, both of sound and of light, that are not recognizable by ordinary senses, so there are possibilities of other senses that we at present are ignorant of. Experimental psychology has done, at all events, two important things: it has shown us how to measure definitely the reactions of the senses to their surroundings, and at the same time it has shown us how readily some of the senses may be deceived, leaving us, I trust, with an open mind for things at present undefined.

The work done by Professor Rivers, and partly epresented in his Croonian Lectures, is evidence of the most thorough self-sacrificing work, which, to my thinking, leads the way to a better understanding of drugs and their action, so that we shall not be pouring drugs of which we know little into bodies of which we know less.

Professor Myers, whom I quoted in introducing the subject, says that experiment in some degree in psychology is as old as Aristotle, that experimental psychology is but one mode of studying psychological problems. Experimental psychology studies the responses of individuals to definite prescribed conditions. The experiment is modified by altering the mental attitude of the subject or the outer influences to which he is exposed. The reaction of the subject is personal, subjective—that is, feeling or expressional—generally both. It is really essential to have a second observer for the second part of the experiment. In experiments, expectancy greatly affects the results of feelings, and desire, fear, or like emotions may alter or invalidate the result. Introspection should never be omitted in a psychological experiment. It is only the possibility of giving physical expression to mental states which confers on general and experimental psychology the rank of science. This physical expression is obtained by observation of the subject and of his outward behaviour, and by the description of the subject's inner experience. No one can observe the mental states of another; they are the subject's private property. It is the object of experimental psychology to describe the complex in the terms of the simple. From one aspect, a certain mixture of hydrogen and oxygen is identical with an equal mass of water. Although the hydrogen and oxygen remain undestroyed during the transformation into water, we cannot overlook the fact that important alterations have taken place in their relationship to one another; they are fused, and are no longer a mere mixture. So, too, in psychological examples several tonal sensations fuse to create a new expression of temper. But both chemistry and psychology must recognize the inexplicable nature of the fusion. But this is more suggestive than exact, as the personality of the subject has to be added and considered. In the study of sensation experimental psychology proceeds hand-in-hand with the physiological; but, in regard to memory, comparison and mental work, we are indistinctly connected with a physiological basis. It is only in comparatively simple conditions that the physiological can accurately predict what reaction will recur with a given stimulus. The living body is characterized by unknown vital activities, as well as by known mechanical activities. The variability, not only among individuals but in the same individual, is supposed to be against the existence of any science of experimental psychology; but the object is to study Nature, and the variations and properties of mind are affected by different conditions. It is the aim of all science, and the aim of experimental psychology, to analyse, as far as possible, the conditions which may be at work, and to determine the result which must follow provided that these conditions exist. It is beyond my power fully to go into experimental psychology, but I think it right to call definite attention to the work that is being done.

Hypnotism.

And now for what may be considered the dangerous part of my subject. I feel strongly that the time has now come when we must face the fact that in all directions there is a tendency towards credulity. We have witnessed

the recrudescence of pilgrimages, the influence of theosophy, Christian Science, and mysticism in general. It is time that some attempt should be made to sift the wheat from the chaff, and in a calm consideration of the facts connected with hypnotism and experimental science I believe that a real advance can be made.

I may preface my remarks in reference to hypnotism by saying that I began with doubt, passed into a stage of indifference, and now have reached the stage of hope. Hypnotism has existed and been practised under other names from the very earliest times. It seems pretty certain that the old Æsculapian temples and similar places witnessed hypnotic and suggestive influence. It is interesting, too, in relation to Harvey, to remember that the so-called hypnotic influence exercised by placing a fowl with its beak on the ground and drawing a chalk line from it, was practised in his time by a Jesuit father. But later comparatively little progress was made. The real history of hypnotism, as understood at the present day, begins at the end of the eighteenth century, when Mesmer, in Paris, gave demonstrations of what was afterwards called mesmerism and animal magnetism. Unfortunately, he and some others who have taken up the subject of mesmerism and hypnotism have been led astray, or have added a certain amount of charlatanism to their scientific pursuits. It is quite certain that Mesmer was able to produce hypnotic results; but, not content with that, he became really a humbug, and finally the whole thing fell into disrepute. But it is, as I say, quite certain that, although his theories were wrong, his practice was, to a certain extent, right. He believed that there was the definite transmission of a vital fluid of some kind from the mesmeriser to the subject. Some one, commenting upon his work, said that it was either fluid or fraud, and he was inclined to believe more in the last.

The next important step in the development of hypnotism was that made by Dr. Esdaile, the East India Company's doctor, who, hearing of the experiments of Mesmer, made use of mesmerism in surgical operations, and succeeded in doing a very large number of operations under mesmeric influence. So successful was he, that a hospital was founded for the treatment of his patients. But for the discovery of ether and chloroform and their effects, it is quite possible that hypnotic suggestion would have made very much greater progress than it did.

I would here recall the fact that once before in a Harveian Oration the subject of mesmerism and hypnotism was considered. Dr. Elliotson, who was born in 1791 and who died in 1868, was a Fellow of this college. He was an M.D. of Cambridge, and assistant physician to Guy's Hospital, which he left to assist in the establishment of University College Hospital. He was a wilful, headstrong, and rather eccentric man. He had a large and fashionable practice, but he took up hypnotism and phrenology rather prematurely and without judgement. He delivered the Harveian Oration in Latin in 1846, and in it referred to mesmerism, and he was perfectly honest in his handling of the subject. It is said that, like Harvey, the propounding of the new thing led to the ruin of his practice.

Before passing to the definite consideration of hypnotism, I would like to remind you that our former Fellow, Hack Tuke, has referred to it pretty fully in his book, *The Influence of the Mind upon the Body*; and in the *Psychological Dictionary* there are two long articles by Drs. Charcot and Gilles de la Tourette. Besides that, he was instrumental in having the subject considered by the Medico-Psychological Association. Little, however, came of that investigation; and I may say, in passing, that nowadays we know to a great extent the cause of the failure. It is quite certain that hypnotism can only have a limited use, and that its use is not among the actively insane. Personally, as I said before, I have been interested in the subject when, as physician to Bethlem, I had the offer of the services of an expert hypnotist. I accepted the offer, and for some time tried the effect of hypnotic suggestion upon various forms of mental disorder. I was so dissatisfied that I gave up the experiment. Since then my successors, Dr. Percy Smith and Dr. Hyslop, have both, I believe, tried the experiment, with similar result.

Hypnotism has been looked upon with grave suspicion, both by the medical profession and by the laity; but there is no doubt that thoughtful men all over the world are recognizing that it is a force to be considered. Professor James, the American writer on psychology, writes as follows:

> There is a very distinct hypnotic state, which is a kind of border between waking and sleeping, in which the patient is kept by the gentle stimulus of talking. No true suggestibility of the hypnotic type can be attained till the trance stage is advanced. Suggestibility of this kind differs entirely from the suggestibility of normal life. It is a fact that in certain conditions of the subject, suggestions operate as they do at no other time; that through them functions are affected which ordinarily elude the action of the waking will, and that usually all that happens is a condition of which no memory remains.

There is an essential difference, then, recognized by all observers, between ordinary sleep and dreaming and the hypnotic state. Other countries are investigating the matter very thoroughly; in France, Germany, Norway, Sweden, Italy and Switzerland works have been written and observations made establishing facts which ought not to be ignored by us. There is, with all developing science, a hinterland, and most certainly, as far as philosophy and psychology are concerned, there is a very wide hinterland; and, as occurs in the material world, so in the scientific, such land is occupied in many cases under dangerous and untrustworthy conditions. And yet it is absolutely necessary that science should explore and develop such hinterland. There, of course, are plenty of examples of what has been called psycho-therapeutic treatment. It is recognized that every successful doctor, practically every successful man, has a personal influence which cannot be weighed and measured. Professor Osler has said that faith has a great deal to do with the influence of the doctor, and his followers look upon him and his treatment as an example of the conditions of faith and nux vomica. There is a very strong conservative opposition in the medical profession, but this is no new thing, and opposition should be the very strength of life. Many results such as those obtained by hypnotism may be attained without it; but I think those who have had the opportunity of observing will say that many such results are better obtained with hypnotism than without it. Moebius opposed it in writing, but made use of it in practice. Ewald objects to its being considered as medical treatment because quacks are hypnotists. But surely that is no real argument. Benedikt objected because of its mystery. But is not all treatment mysterious? A temporary loss of will has been looked upon as a serious danger. Surely, in the administration of anæsthetics such loss of will is more complete than under hypnosis. If there is any danger it is only like any other useful remedy: no risk, no good. Any danger that may occur is small and may be corrected. Among possible dangers it is said that a nervousness may be induced. It is quite possible that this is true in some cases, especially when approached incautiously. Hysteria and hystero-epileptic attacks are said not infrequently to have followed the use of hypnotism. Those who have practised it say that such results are very rare. From my point of view I think there is a certain amount of danger, especially in highly neurotic people, lest it should tend to the development of hallucinations of the senses. It is quite certain that a fair number of people develop delusions of persecution as the result of the study of spiritualism or occultism. It is, therefore, just as well to avoid the use of hypnotism in highly neurotic people. It is also possible that certain people may get to like hypnotism, and to be parallels to the dram-drinkers; they like the sensation of passivity which follows hypnotic influence, and would make use of it unreasonably. It is said dullness, lassitude, and heaviness may follow, but the subjects whom I have questioned deny this. Another objection which has been raised is that the effect is so temporary that little good can be expected. This is rather an opinion of inexperience, for with experience one sees very permanent results. Dr. Sainsbury eloquently puts it thus: "What need have we to go to hypnotism *in camera* when in the open forum, in broad daylight, amid the commonplaces of every life, it declares itself." For the most part we fail to realize how suggestion works in detail as well as in gross throughout the business of life. And this brings us to the point of those considerations, namely, that in every healthy art, no less than elsewhere, the ideational is a living force. Now, power is for use and abuse, and suggestion is for use and abuse—the orator to

use and the demagogue to abuse. In like manner, it is for the physician to honour and the charlatan to dishonour suggestion.

And now as to some of the established facts in relation to hypnotism. We are all familiar with the public performances of so-called hypnotism, in which persons are made rigid and their muscles are kept tense for long periods. Such long-continued strain of muscle may be maintained under hypnotic conditions without any sense of fatigue and without any subsequent pain. Again, as far as common sensation is concerned, it is usual for the public performer to induce insensibility, so that pins may be thrust into the skin without causing pain. Taste and smell may be perverted or suppressed. Sensibility, on the other hand, may be greatly increased, and it has been shown that every one of the senses, under certain conditions, may be rendered very much more acute than is normal. The pulse may be increased, but as a rule neither pulse nor respiration are increased by simple hypnotism. When hypnotic suggestions are made that the individual is to exert himself or is to run a race, then it is said that increase both in pulse-rate and respiration may take place. It is also quite certain that hallucinations of the senses may be produced, another of the stage performances being one in which a person is made to believe himself surrounded by bees or stinging insects. Hypnosis also may produce peristalsis of the bowels, and, according to some observers, one of the most certain effects of hypnotic treatment is the regulation of the bowels. It is a common observation among them to suggest that at a fixed time the bowels shall be relieved; and, according to their reports, such action of the bowels almost invariably occurs. Besides the muscular power, the common sensibility, the special sensibility, the action on heart, on lungs, and on bowels, there are the psychical symptoms to be considered. Memory is said to be markedly improved, that is increased, and that many forgotten details of earlier years are recalled. On the other hand, by suggestion complete forgetfulness may take place. It is noteworthy that in the various stages of hypnotism there are different degrees or states of memory. In the slight or suggestive stage, the memory for recent events—for passing events, in fact—may persist, whereas in the second and third stages the memory may be absent completely. It is also said that there may be a kind of double consciousness, so that in a person whose waking memory exists and persists the memory of one period of hypnotism is linked on to that of the past. But the whole condition of memory in connexion with hypnosis is a difficult one to follow.

One of the most important methods of hypnotic treatment, and the one chiefly in vogue now, is what has been called post-hypnotic suggestion. The patient is partly hypnotized, and then impressions are made upon him which reappear; but for complete success of post-hypnotic suggestion more profound hypnosis is required, so that, for instance, he is told that a certain thing will happen at a certain time, or he will be told to do a certain thing under certain conditions. He may be recalled to consciousness without being informed as to what he is to do later, and then he will proceed to do what has been suggested to him in his hypnotic state without having any memory or recollection of the instruction given. Some of the examples that are given—and given on good authority—are so extraordinary that one is obliged to say that, given their truth, they are beyond our human comprehension. The sense of time, for instance, is one that appears to be fairly well understood, but beyond the ordinary normal it is the experience of very many, including myself, that a determination to wake at a certain time will be followed by awaking at that time. Or if by chance I am called at an unusual or unexpected hour, say at 3 or 4 o'clock in the morning for some days, I and those like myself will awake exactly at the same hour on succeeding days. The exactness with which that awakening takes place has astonished me very much. In post hypnotic suggestion it has been pointed out that with some people you have only to suggest, while they are in the hypnotic stage, that in so many thousand minutes, or in so many hours and minutes, they are to do a certain thing, and that act will be performed within quite a reasonable time of that appointed. Some cases are so astonishing that one hesitates almost to give them. This is one of Bramwell's: A woman is told that in so many thousand minutes she is to write her name, the hour of the day, and the date. She is not very well educated, and would have considerable difficulty in working out the number of hours and minutes; and yet at the time appointed she writes down her name and puts the date, and is surprised to find what she has done. I have only reports of such experience, I have never had the opportunity of seeing it for myself.

These, then, are some of the very definite physiological symptoms produced by hypnotism.

The next and most important part of this subject is the relationship between hypnotism and medical and surgical treatment. It has been looked upon by some as itself a morbid mental condition; and it was supposed that only those who were suffering from hysteria and allied neuroses would be affected by it. It was thought, moreover, that such people were the very ones who ought not to be subjected to its influence. However, it has now been found, by long experience, that there are certain forms of disorder that are better treated by hypnotism than by anything else. It is quite certain that hypnotism alone may not be all that is required, and there, I think, a mistake is frequently made. It is thought that it must be hypnotism and nothing else. But one's experience is that surroundings, general conditions, are as important for the treatment as the hypnotism itself. As I have already said, there are many nervous cases which might be cured without hypnotism, but such cases, in many instances, would be cured more quickly and more satisfactorily by the use of hypnotism. It is certainly contraindicated in the very highly neurotic. I think those coming of very insane stock should rarely be subjected to its influence. Those who are actually insane are rarely, if ever, influenced by it. Epileptics, as a rule, do not benefit in one way or another. To put it shortly, nervous disorders that do not depend upon organic brain disease, those mental disorders that are purely functional, and such as do not cross the insane border-line, may be benefited. It has been said against hypnotism that it treats symptoms and does not treat the disease. But it seems to me pretty certain that in many cases if you can alleviate the symptoms you go a long way to cure the disease. In fact, in many cases the symptom is the most serious question. If, for instance, pain is disturbing digestion, rest, and general mental capacity, the relief of pain places the patient on an altogether different footing to that on which he was before. In the same way with sleeplessness. If you can relieve sleeplessness, in many cases the fundamental cause of that sleeplessness may be better treated. But as long as the sleeplessness goes on you are unable to attack the real cause. I would enumerate, therefore, some of the more marked conditions that may be relieved. Ramon y Cajal, who may be taken as a calm observer and a learned pathologist, describes delivery as occurring under hypnotic suggestion without pain or trouble. Several other writers have described labour carried through perfectly satisfactorily during hypnosis. Voisin refers to cases in which prolonged sleep in cases of acute mental disorder of a maniacal type has been followed by recovery; and I do feel very keenly that an enormous gain would follow in a large number of acute disorders, both nervous and physical, if by hypnosis one could induce prolonged sleep. Surely in some of the fevers convalescence would be much more satisfactory if a period of prolonged sleep could be induced without the aid of drugs. Functional disorders, such as stammering, the so-called muscular and nervous tics, have been very frequently relieved and cured. Enuresis has been treated frequently with great success, and chronic constipation, as I say, has also frequently been relieved. The best cases that have come under my own observation have been those associated with alcoholism or drug-taking. The result has in many cases been astonishing. Many will say, doubtless, that the Salvation Army and other emotional agencies have saved many drunkards. But the thorough inebriate is rarely, if ever, saved by the ordinary means. Probably all of us have experience of the result of retreats; temporary relief occurs, and occasionally permanent cure, but in a very large majority of cases there are relapses. It is somewhat difficult to speak clearly on this matter, for though I have had the opportunity of seeing drinkers and drug-takers who have been

well for considerable periods, yet there is always the possibility of a relapse. But the quickness with which the drink or the drug habit is overcome is very surprising. One has known patients who have for years been intemperate, and who, after the first hypnotic treatment, have lost the desire for drink. In treating these cases there are two or three different methods. One is the kind of moral influence, getting the patient into the suggestible stage, and then pointing out the disadvantages of drink. Another is post-hypnotic suggestion that drink is disagreeable. I have seen patients who have been cured by both methods. Next to these cases, those of moral perversion are among the most interesting, and are certainly frequently benefited. Personally, I am not able to speak so fully of them, but the general experience is that, besides the drinkers, the morally depraved, if they are not absolutely weak-minded, may be greatly benefited by hypnotic treatment. Suggestion in these cases may be called moral massage, and, just as muscular power may be restored by passive stimulation, so mental power may be recovered by repeated gentle stimulation. The most marked successes have been with some of these cases, but I fear many failures have also to be recorded; but this only means that hypnotism has failed in cases where every other form of treatment has also failed.

The production of sleep and the removal of pain are, of course, important, but still more important and most obscure is the increased susceptibility to normal moral influences produced by hypnotism. It must be recognized that when the subject does not accept freely the treatment, no therapeutic result will follow. As I have said, hypnotism is useful often in very different morbid states, relieving symptoms, whether due to simple or to organic causes. The most suitable maladies for hypnotic treatment, then, are the neuroses—nervous complaints in which no anatomical cause is demonstrable. This list, of course, is very long, including what I have already referred to—many aches and pains, skin irritability, spasms, tremors, and the like. Hysterical spasms and palsies are frequently relieved. It is, of course, to be remembered that in treating a patient suffering from moral disorder a physician should never do or say anything in a hypnosis which the patient would not assent to while in waking moments: that is, on no consideration must advantage be taken of the semi-conscious condition. It may be well, however, here to mention the experience of all who have been working along these lines—that it is impossible to influence a person to do what is absolutely alien to his training and inheritance. Take such an example as this: It was suggested that a lady should put out her tongue and make a rude remark to the physician. She fully inclined to do something of the sort, but did not. And experiments were tried such as inducing people in hypnotic conditions to go through what might be called a criminal act, such as stealing or assaulting some supposed enemy. Such things can be done as play-acting, but it certainly has never been shown that any criminal act has been done under hypnotic suggestion. Even in organic diseases, such as tabes and apoplectic paralysis, improvement seems to result, and in some forms of obstinate vomiting, especially that associated with nervous anorexia, hypnotism is very beneficial.

From the medical let me pass for a moment to the surgical side. As early as 1821 Recamier performed operations in mesmeric sleep, and, as I have already said, in 1840 Esdaile did many operations in Calcutta; while the present professors of hypnotism report many cases in which slight operations, such as the removal of teeth and the like, have been done. I suppose that it is necessary to give a few examples of treatment by hypnotic suggestion, but I shall only very briefly here refer to them.

In one case, a very strong, healthy, middle-aged man, who had suffered from a very severe shock of a moral character, passed into a state of hypochondriasis, so that he felt he ought to be shut up in an asylum; he felt that he might be a serious danger to somebody, that he was certainly going out of his mind. He was treated in the orthodox fashion. He was given rest, he had a sea voyage, he was sent to live in the country to amuse himself, to play golf, and to try to ignore his past troubles. Week after week, month after month, such treatment was followed, only to fail. At last I suggested, when consulted, that he should try the effect of hypnotic treatment. He was placed in a home and seen by Dr. Bramwell. After the very first treatment he said he felt at last that something was being done for him, and after several weeks of treatment he became perfectly well, and very grateful, wondering, however, that no one had thought of hypnotic treatment earlier.

In another case, a lady belonging to a clever but neurotic family suffered from all the forms of hysteria, having paralytic seizures, being subject to spasms, and having general loss of nutrition. She was treated on the Continent, and she was treated in England by men of great experience; she was in one of the best of the London hospitals under the best possible conditions. From bad to worse she went, till it was looked upon as quite certain that nothing would relieve her, and that she would pass into a condition of emaciation, and ultimately die. Hypnotic treatment began to affect her almost from the first, and although she took some considerable time before she was quite well, yet the end was quite satisfactory, and she is living a perfectly healthy and active life.

In another case, in which there was nervous vomiting, which threatened to produce complete exhaustion, hypnotic suggestion began to act at once, the result being that the patient is now a healthy, active-minded and active-bodied man. These, I say, are merely samples of many cases which are constantly brought before one.

That people should be relieved from mental obsessions is to me still more interesting, and still more difficult to explain, and I speak about them with the more diffidence as I have had so far little experience of them. But the reports are so clear and so matter-of-fact that I have personally no doubt that many patients recover completely who have suffered from these dreads, from doubt, from fear of poisons, from fear of contact, from what have been called the phobias of all kinds. Some of them lose them very rapidly, almost instantaneously, but in other cases they seem to be slowly relieved.

So far, then, I have done my best to point out that the investigation of hypnotism is a thing that should not be ignored in England. When the other nations are carefully investigating the physiology and the therapeutic value of this potent influence, it is certainly rather a pity that England should be in the background.

Wishing to follow our great master in not accepting anything without personal investigation, I took advantage of the opportunity offered by Dr. Wright to test some of the points of most importance to which I have referred. A gentleman, an engineer, who had been relieved by treatment by Dr. Wright, was willing to allow him to demonstrate the various stages of hypnotism and their effects. The gentleman is young, very strong, healthy, and free from neuroses. He is in very marked *rapport* with Dr. Wright, but with no other hypnotist.

He was asked to sit down and talk quietly about his relationship to hypnotism, then he was told to go to sleep; a few passes being made over his head, he slowly closed his eyes, and in less than a minute he was sleeping placidly. By the gentle stroking of his left arm this was rendered inflexible; the pulse was in no way affected; pupils were equal, but rather larger than before he slept, and were sluggish. He was slowly aroused (it being well always to recall the subject slowly). After a talk on general matters he stated that he had no sense of fatigue in the arm or any recollection of anything said and done during the period of hypnosis. He was again in a similar way sent to sleep. It was then suggested that at the end of seven minutes he should lose all power and sensibility in his right side. He was roused, given a cigarette, which he smoked while he talked, having no knowledge of the suggestion which had been made. About five minutes after he had been roused his right arm felt useless by his side, he passing at the same time into a partial stage of hypnosis. This is common when a post-hypnotic suggestion is being carried out. The whole of the right side, including the face, was insensitive; the pupils were smaller and inactive. He was again slowly aroused, and resumed smoking, having no feeling of oppression or recollection of anything which had been said or done. He was later again hypnotized, and in that condition he was asked what had been done formerly. After some hesitation he in part recalled the facts.

It is interesting to note that though constantly the acts performed during hypnosis are not recalled when awake, they are fully remembered on a second hypnosis. We tested his emotional side by getting him to recall scenes in a comic opera, at which he heartily laughed but had no knowledge of on waking. While unconscious it was suggested that when he woke he should remark upon a strong odour of violets. He was awakened and offered a cigarette;

but, looking about the room, he asked whence the strong smell of violets came.

I inquired as to the revival of long-past impressions, and it seems that occurrences which took place before his present memory existed, had been revived and verified, but still more interesting was his experience in reference to a mathematical formula which he had forgotten. Being hypnotized he dictated it, and though when once more awake he did not remember it, when shown what he had just dictated he recognized it as the lost formula. This, of course, is in a way parallel to the solution of difficult problems during sleep.

I feel that in passing to the subjects of experimental psychology, and more particularly to hypnotism, I am on what might be called dangerous ground. Many of my colleagues, I know, shake their heads and doubt the utility of hypnotism, and the fitness for the subject being seriously considered. But one of the great pieces of advice which Harvey gave was that we were to follow truth without fear as to whither it may lead. I am doing my best to direct the line of advance by means of observation, and it seems more than likely that the two opposing forces as they appear at present—experimental psychology and hypnotism—may, after all, unite in the scientific advance.

And now, gentlemen, it is time for me to bring this my Harveian Oration to a conclusion. No one can be more conscious of its shortcomings than myself, but I have done my best to present to you a brief survey of the great Harvey and his environment, and I have naturally dealt with the subject from the point of view of my own special line of work. Let me take leave of him with a few final words of reverence and appreciation.

Amongst the most prominent characteristics of Harvey was the singleness of purpose of his life. He had formed definite aims, or, rather, he determined to look for himself into things without fear or prejudice. And his power for steady scientific work did not prevent him from entering into practical professional duties of all kinds. He was socially acceptable alike in England and in Italy; but, with all this, he seems to have disregarded the great men of his time. Shakespeare was living, and writing, and acting; Milton was in full evidence by his politics and his poetry; Chancellor Bacon was known, but was not appreciated; and so with many others of the very distinguished men of his time. Science was his mistress; literature, as such, did not appeal to him. Though the exact sciences, like mathematics, formed an interest up to the end of his life, he still followed the anatomical and the physiological rather than the mathematical sciences. Religion did not seem to take a prominent hold of his character, and, though living in the most stormy political period, he seemed to be little moved by the tragic events through which he passed. He was a man of kindly family affection, yet his one object—the pursuit of truth—so dominated him that little else appeared upon the horizon.

Let me conclude with his own words: "I therefore whisper in your ear, friendly hearer, and recommend you to weigh carefully in the balance the exact expression of all that I have delivered in this my exercise."

AT the annual meeting of the Society of Medical Officers of Health on October 8th, Dr. H. C. Pattin of Norwich was installed in office as president, and delivered an address, entitled, State Standardization of the National Life. The fifty-third annual dinner of the society took place the same evening, and was attended by the Dean of Norwich, who described himself as the commercial traveller of the section of the Poor Law Commissioners which had signed the Minority Report; by Mr. Sidney Webb of the London County Council; by Dr. Newsholme, Principal Medical Officer to the Local Government Board; by Sir R. L. Morant, Secretary of the Board of Education; and by Surgeon-General Evatt, and Sir James Crichton-Browne, Presidents of the Poor Law Officers' Association and the Sanitary Inspectors' Association respectively. In response to the toast of the evening, the president spoke of medical officers of health as analogues of Wesley, in that as preachers of the gospel of hygiene, they took the whole people for their parish. He hoped that before long they would find incorporated with them all officers engaged in public medical aid work. Their general aim should be to standardize the healthiness of the nation, and to aid in the development of a communal conscience to whose bar all social activities could be brought for judgement.

A Report
ON
CANCER RESEARCH.

AN INVESTIGATION BY "IN VITRO" METHODS.

BY

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FOR more than twelve months we have conjointly been endeavouring to throw some light on the subject of cancer,* by studying the disease from what appears to be a new standpoint.

In August, 1908,† we found that the blood of cancer patients appeared to contain a substance which, like the artificial excitant of methylene blue and atropine, already described,‡ excites amœboid movements in leucocytes, and shortly afterwards we described how lymphocytes in the presence of both these excitants extruded what at that time we believed to be flagella.§ These observations led one of us (C. J. Macalister) to suggest the advisability of instituting a combined clinical and pathological research upon the lines which will be referred to in this paper, especially since the study of cancerous tissues by *in vitro* methods had thrown some light upon the behaviour, and possibly also upon the character, of the cancer cell.

In order to carry on this research efficiently it was manifestly preferable that the whole time of one of us should be devoted to this and kindred subjects; and this became possible owing to the great generosity of Sir William Hartley, who, together with Mrs. George Holt, Mr. and the Misses Allan Paton and a number of their friends, furnished the necessary funds. A committee for administering the fund was formed under the chairmanship of Professor Sherrington, and one of us (H. C. Ross) was invited to become director of the research, which is being carried on in the Hartley Laboratories at the University of Liverpool. The committee and medical staff of the Royal Southern Hospital in Liverpool also associated themselves with the work, and have provided laboratory accommodation for carrying out those portions of it which are more immediately concerned with the clinical study of the disease.

The points which we shall set forth in the course of this report, which is the first to be submitted, are based partly on previously published investigations and upon the suggestions of others, some of which have been very important, but largely upon certain well-known facts concerning cancer with which it has been necessary to reconcile each step of the work.

Among other points we shall refer to the existence of what may be described as an excitor of reproduction for human lymphocytes, and so far as we are aware a chemical agent which, when absorbed by an individual resting human cell, will cause that cell to endeavour to reproduce itself forthwith, has not been previously described.†

Apart altogether, however, from the possibility of a similar substance being associated with cancer (and the facts rather point to such a conclusion), we submit that the finding of a chemical agent by the employment of which one is enabled at will to cause human lymphocytes to reproduce themselves on a microscopic slide is in itself a point of considerable scientific interest, especially as the mitoses induced are not of the somatic but of the reproductive type. We shall explain how these mitoses have thrown light upon the morphological differ-

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* The word cancer in this paper refers to carcinoma.

† Loeb has caused artificial development up to a certain point in the ova of starfish by the action of certain solutions. (*Die chemische Entwicklungserregung des tierischen Eies*, Berlin, J. Springer, 1909, and former publications.)

ences between lymphocytes and polymorphonuclear leucocytes;* and, lastly, we shall show that when a cell has responded to the exciting agent, it appears to convert it into a poison which, under the experimental conditions, seems to be a virulent one, since the cell invariably dies, and that the production of this poison may have some bearing upon the phenomena seen in cancer. Other facts have presented themselves in the course of our investigations which we believe to be important to cancer research; and we propose, after endeavouring to interpret or trace the significance of the known cardinal features of the disease, which, although somewhat meagre, are fairly definite and must form an important basis for research, to enumerate our experiments in the order in which they were made, together with the principles upon which they were founded. We wish especially to be assured that our opinions as to the possible explanation of the significance of our fundamental facts are within the realms of reasonable supposition, and, since the principles underlying cancer research are mainly clinical ones, we have thought it appropriate to read this report before a medical society and to publish it in a medical journal.†

Methods.

Before proceeding further it is necessary that we should give some account of the methods of research which have been employed. We deal only with living human cells, and our problems are therefore associated, not with the phenomena seen in dead structures but with those of vitality and stimulation. In this report, therefore, the word "cell" refers to a living cell unless otherwise specified, and we submit that the staining of living cells is an advance on the older fixation methods, which give pictures of dead structures. Perhaps one does not obtain quite such useful observations of the arrangements of the cells by this method, but it enables us well to observe some of the phenomena concerned in life and death—and now, we may add, in reproduction.

The appearance of the living cell thus examined is not merely that of a flattened diagram, for by careful focussing the arrangement of the cellular elements can be seen from above downwards, as well as from side to side. In the case of leucocytes, active movements may be excited while the cells are staining. The rapidity of the staining may be observed, and one can stain cells slowly or rapidly as may be desired, the highest possible immersion objectives being employed in the usual manner.

There is, however, one drawback to *in vitro* staining. The specimens cannot be kept. When a cell dies, or if it is killed by the staining of the nuclear chromatin, its cytoplasm liquefies, and then it becomes achromatic.[2] If the cell has been stained its stain fades. If it is dead and has not been stained it may now refuse to stain. After death there is no alternative but to discard the specimen, owing to this onset of achromasia which cannot be prevented. All attempts to fix the dead cells have failed owing to technical difficulties. Hence, one has no cabinets of slides to refer to, and therefore it has been necessary to repeat each experiment over and over again to assure ourselves that the result which was first obtained could be repeatedly demonstrated.

This method is simple, and it has already been described in detail in former papers[1 3 4]. Briefly, it consists in the mixing of some stain‡ with agar jelly containing a little sodium citrate and sodium chloride. The jelly is melted and the whole mixture is boiled, a drop of it then being run on to a slide where it is allowed to set. The cells to be examined are suspended in citrate solution, and a small quantity of the suspension is placed on to a coverglass which is then inverted and allowed to fall flat on to the film of jelly. The cells spread out between the coverglass and the jelly, and if the latter has been allowed to set thoroughly on the slide, the arrangement of the cells will always be found to be suitable for examination, and consequently one never finds "bad specimens" by this method. Soon after the cells come to rest on the jelly the stain will, under suitable conditions, diffuse into them. Of course if the jelly contains other substances as well as stain, these substances will also diffuse into them. The cells continue to live, and we can thus observe the effects of the stain and other substances upon them.

Two things must be remembered in *in vitro* staining. First, that so soon as the nuclear chromatin of a cell stains, death occurs.[1] Any attempt to stain the nucleus causes death; and when death has occurred, the nuclear chromatin stains bright scarlet. After death achromasia ensues and the stain gradually fades as the cell becomes disorganized.

The second point is that the diffusion of substances, including stain, into living cells appears to depend almost entirely upon certain physical laws, and unless these laws are adapted to the conditions required in each specimen, successful results will not be obtained.

The main principles involved in the diffusion of substance into living cells concerned in researches of this nature are as follows: Some classes of cells absorb substances more rapidly than others. Hence we say that different classes of cells have different "coefficients of diffusion," but it must be borne in mind that the rapidity of diffusion also depends upon the concentration of the substance in the liquid surrounding the cell. It will readily be understood from this that the greater the concentration of the substance in the medium in which the cell rests, or the lower the coefficient of diffusion (*cf*) of the cell itself, the more rapidly will the substance be absorbed. There are other factors concerned in this diffusion of substance into cells—for instance, heat and alkalis both accelerate it, and it must be obvious that time is an important factor, because the longer the time which is given for the diffusion to take place, the greater will that diffusion be.

A simple experiment will explain these points: The jelly which has been referred to, and which for convenience we call "coefficient jelly,"* consists of a standardized preparation of agar jelly which is faintly acid and contains certain quantities of sodium citrate and sodium chloride. It is made up in tubes, each of which contains 5 c.cm. To one tube of this jelly we can add a given amount of liquid stain, and to another similar tube we can add a greater quantity of the stain, distilled water is then added to each tube until it contains a total of 10 c.cm. The tubes are then steeped in boiling water until the jelly melts, so that complete mixing is effected. It will be apparent that the first tube will contain a low concentration of stain and the second tube a higher concentration, while both contain equal concentrations of agar and salts. If the cells which are going to be examined are placed upon films made from these tubes and kept at equal low temperatures, say that of the room, the diffusion of the stain into the cells will gradually take place, but more rapidly in the case of the film containing the greater amount of stain. If the slides are incubated at 37° C., for instance, the diffusions will take place more rapidly, and the longer the slide remains in the incubator the more deeply will the cells be stained, always bearing in mind that the jelly which contains the larger concentration will stain the cells before and more deeply than the other. Hence, by playing off these factors—that is, the concentration of the stain, the heat, and the time—against each other we can cause the staining, or prevent the staining, of the cell to any degree we please.

To a tube of coefficient jelly a variety of substances can be added; and since one invariably makes it up or completes it with water to 10 c.cm., by a simple calculation we are able to tell how much of any given ingredient a given tube of jelly contains. We have already indicated that alkalis accelerate diffusion and that acids and neutral salts delay it, and by means of these we can still further modify the rapidity and degree of staining. The cytoplasmic granules of cells stain first and then their nuclei.

We have already mentioned the fact that the absorption of substances into cells depends not only upon the degree of their concentration and the several factors which accelerate it, but also upon the coefficient of diffusion of the particular cell which is being observed. This coefficient may be determined by a procedure for the full details of which we must refer the reader to a paper by one of us, "On the determination of a coefficient by which the rate of the diffusion of stain and other substances into

* In future in this report the word "leucocyte" means the polymorphonuclear leucocyte.

† An epitome of this report was read at the Liverpool Medical Institution, October 14th, 1909.

‡ The word "stain" in this report refers to Unna's polychrome methylene blue (Grubler) which has been found to be the most useful dye to employ.

living cells can be measured," published in vol. 81, B, No. 546, of the *Proceedings of the Royal Society*.

As this is a recent publication, it may, perhaps, be well briefly to reiterate the principles with which it deals. It consists in the measurement of the several factors already alluded to—namely, heat, time, alkali, concentration of stain and salts in certain units. A series of tubes of coefficient jelly are made up to 10 c.cm., as before, but each tube contains a certain known number of units of stain, alkali, and salts. Since salts delay the diffusion, the total number of units of them is subtracted from the total number of units of stain and alkali, and the number which remains is called the "index of diffusion" (fx) of the jelly. To find the coefficient of a given cell it is placed on to, first, a jelly with a low index of diffusion, and then on to higher jellies, until one is found which will just cause the nucleus to stain. Time and temperature are also divided up into suitable units, and the total number of units of these two factors added to the index of diffusion of the jelly gives a grand total number, which is the coefficient of diffusion of the cell under examination. The units have been measured by experiment, and are so arranged that they are all of equal value—that is, the unit of one factor is equal in its effect, as regards the acceleration or delay of diffusion, to a unit of any other factor. The units are, in point of fact, interchangeable; consequently, if a jelly is found which will just stain the nucleus of a cell, its index of diffusion may be plotted thus:

$$fx = (s + a) - (c + n),$$

s being the unit of stain, a the unit of alkali, c the unit of sodium citrate, and n that of sodium chloride.

But the coefficient of diffusion of the cell consists of the index of diffusion of the jelly which will stain the nucleus *plus* the total number of units of time and temperature. Thus:

$$cf = (fx + h + t),$$

where h = the unit of temperature, and t = the unit of time.

Therefore it may also be said that —

$$cf = (s + a + h + t) - (c + n).$$

The lymphocyte being the important cell in the present research it may be well to use it as an example and indicate its cf by means of an equation. Thus: A drop of fresh blood was placed on a film of jelly which was made from a tube of coefficient jelly to which had been added 0.5 c.cm. of stain, 5 units of alkali, and was completed with 4 c.cm. of water up to 10 c.cm. The coefficient jelly contained its usual content of three units of sodium citrate and one unit of sodium chloride. The slide was kept at 37 for ten minutes (one unit of time) when it was found that the nuclei of the lymphocytes had just stained. What was the coefficient of diffusion of these cells?

$$cf = (5s + 5a + 7h + t) - (3c + n) = 14.$$

This is the principle which has been employed throughout these researches in investigating some of the properties of cells. In practice it is quite easy, although it is difficult to describe shortly. We always employ the standardized coefficient jelly, but it is important to remember that when stain and other substances are added to it it must always be completed up to 10 c.cm., and that it should contain the correct amount of alkali (that is, it should have the correct fx) to cause the stain, or whatever it contains to diffuse into the cell with due regard to the latter's cf. The equation is the guide. Since all the units of the several factors are equal, they are interchangeable with the cf, and thus if any one of them is an unknown quantity, it may be ascertained by bringing the known coefficient to the other side of the equation, and substituting for it the unknown quantity required. It was through acting on these principles that the reproductive excitant to which reference has been made was noticed, and they must, in making experiments of this nature, be rigidly adhered to, for, if the index of diffusion of the jelly is not correct for the coefficient of diffusion of the cell, it may contain a great concentration, say, of the reproductive excitant, but the cell will refuse to respond to it, no matter how much of that substance be present.

The coefficient of diffusion of healthy human cells appears to be constant, but can be lowered by certain agents. Although the coefficient of diffusion varies in different classes of cells, it appears to remain constant in each class, provided the cells have not lost vitality. This appears to be the case with blood cells and those tissue cells which we have tried. On the other hand, approaching death of a cell lowers its coefficient of diffusion, and certain poisons also have this effect.[6] The cells of persons suffering from chronic illnesses also show a low coefficient of diffusion, and this we have found to be marked in cases of cancer. As we shall show later, some substances have the property of lowering the coefficient of diffusion without being very poisonous, and it is possible that the low coefficient of diffusion found in cancer may be promoted by some such substance.

We have stated that our research has been based upon certain well-known facts with which it has been necessary to reconcile each step of the work; and we shall now say a few words about each of these facts or axioms, and the theories which have suggested themselves concerning them, before proceeding to explain the experiments arising from their consideration.

Age-Incidence.

The age-incidence of cancer is strikingly important. It is a disease which occurs mainly in persons over 40 years of age, and its prevalence appears to diminish in old age. Bashford and Murray state that "Any explanation of the etiology of cancer must accord with the circumstance that, when considered statistically, cancer is a function of age, and when considered biologically, it is a function of senescence."[12] Among its characteristics we must recognize that during youth the disease is rare, and that when the age of its incidence has been reached its tendency is to attack the robust rather than the infirm. It occurs in persons who appear to have perfect vitality, and in this respect contrasts remarkably with the incidence of infective diseases. On the other hand, a loss of vitality in a person's cells seems to be unfavourable to the onset of cancer, and we find that it does not occur to any great extent among very old people.

We are thus brought face to face with the problem. What is it that occurs in the tissues after the age of 40 which renders them liable to the onset of cancer? The data upon which we have to find an answer to this question are so indefinite that suggestions can only be made vaguely. We must be prepared, however, to appreciate that the onset may be induced by the oversetting of a normal balance. The body is mainly composed of living cells, all of which have been derived from a pair of cells, and they constitute an elaborate combination of living factors. We know that in certain tissues these cells are continually dying and being replaced, so that it is evident that birth and death must be going on incessantly in the body. What happens to the dead cells? They of course liquefy and become disorganized, and their constituents are presumably excreted or converted into other compounds. While this is happening it seems probable that some of the products of the remains of dead cells may be absorbed by their neighbours, for it must be remembered that the diffusion of substance into living cells appears to be a physical process over which they exercise no control. There are doubtless some cells which remain alive for long periods: for instance, it has been estimated (and we are informed that it is practically certain) that some cells of the central nervous system live throughout the life of a man. Many cells, however, only live a very short time, the length of their lives perhaps varying in different parts of the body, so that the remains of dead cells are probably always present in the body fluids. In this connexion, however, we have to keep in mind the physiological curve expressive of the relationship between anabolism and katabolism. There are only three stages of life if it is viewed from this point of view, the first terminating at about the 30th year, when a man reaches his prime, and up to which period cellular birth must preponderate over its death-rate. For some years it may be suggested that anabolism and katabolism remain balanced, and that after the age of 40 quite physiologically, so that nothing occurs to make a man aware of it physically, these conditions

[6] The actual amount of each factor contained in one unit will be found in the paper referred to, but we may repeat here that the unit of stain is 0.1 c.cm. of Gaul-Ion's solution and that of alkali is 0.4 c.cm. of 2.5 per cent. solution of Na_2CO_3. A unit of time is ten minutes, the unit of temperature is equal to 5° of temperature from 10° C. upwards.

begin to be reversed and more of the products of katabolism—that is, the remains of dead cells—tend to exist in the body fluids than was the case before middle age.

Here we have a fact incidental to the cancer period which suggests the possibility that these products of katabolism may in some way predispose to the onset of malignancy. It cannot possibly be suggested that they are the cause of the disease, for if such were the case everybody over the age of 40 would die of cancer: but assuming that some product of katabolism may possibly favour the onset of the disease, we may enlarge upon the speculation and say that it is a certain morphological (or chemical) element in a dead cell which may be the agent. For the sake of argument it may be derived from either the cytoplasm, the cell wall, the nuclear wall or the linin or it may be the chromatin itself.

Vitality.

We have mentioned incidentally that cancer is a disease of those who appear to be in robust health, and the question of the vitality of the individual or of the cell is germane to our argument. It is obvious that the response of a given cell to a given excitant depends upon two conditions—namely, the rate of absorption of the excitant (a subject which has been discussed) and the vitality of the cell itself. The lower the vitality of a cell the greater will be the amount (or potency) of the excitant required to bring about a certain response, and such a point of lowered vitality may be reached that the cell will not respond, however much excitant may have diffused into it. In old people, when the incidence of cancer appears to be on the wane, it is possible that the cells concerned are of comparatively low vitality, or that the proportion of young cells which are liable to be attacked is smaller than it was in middle life, and that this may in some way account for the fact that cancer is not so common in old age as during senescence. It is possible that many factors are responsible for the onset of malignancy, and that unless they are present in correct combination and hit upon a cell which has sufficient vitality to respond they will be ineffectual.

Irritation.

The next factor which plays an important, if not an essential, part in the development of the disease is irritation. Chronic irritation is always associated with an attempt at repair, and healing means the presence of leucocytes and lymphocytes. These two elements are also usually present in large numbers in cancerous growths. Where there is chronic irritation there must also be cell destruction going on with its attendant products of katabolism, so that irritation will produce locally the product which may predispose to the disease, and, supposing that this substance is also present in the body fluids owing to senescence, it will occur in great excess at the seat of irritation.

Bashford lays much emphasis on the point that cancer is a disease which originates in a circumscribed area. We consider it possible that it may begin in a single cell. Apart from the predisposing influences of mechanical and long-continued pathological irritation, it must be remembered that certain chemical irritants undoubtedly favour the onset of the disease more than others, especially some coal-tar products.

Excitation of Reproduction.

We know very little about the influences which control cell reproduction in the body. It is difficult to imagine that it is automatic in each individual cell, and we do not know how much nervous influences have to do with it, but we shall show presently that the reproduction of human cells can be caused by chemical agency, and it is possible that the normal balance may be maintained by something of this nature. If our suggestion is at all correct, that some product of katabolism favours the onset of cancer, it may do so by in some way accelerating the reproduction of cells. This cannot be due to mere mechanical irritation, which, we all know, does not necessarily lead to cancer, or even to tumour.

Death.

There are two more axioms which are worthy of serious consideration in relation to our search for the cause of cancer, and the first of these is that it causes death. Benign tumours do not lead to death, as a rule, but if the progress of a malignant one is not successfully interrupted by surgery, it almost invariably leads to a fatal termination.

Why should death occur in the one instance and not in the other? It will occur in cancer irrespective of the presence of metastases, or even of the relation of the growth to vital structures, and we speak of death resulting from those vague conditions styled exhaustion and cachexia.

Bashford,[10] in his address before the Medical Congress at Budapest, indicated his belief, so we understand, that in cancer "there is no evidence of toxic products injurious to the hosts," and that "death is not due to poisons." He points out that in experimentation with mice, when the tumours have exceeded certain sizes, the growths live at the expense of their hosts. But surely this is not applicable to men, who, unlike mice, do not develop pendulous cancers of large size. It has been shown in former papers[8 11] that there appears to be no poison in the peripheral blood of cancer patients which shortens the lives of polymorphonuclear leucocytes which are susceptible to infective toxins, but this does not show that no poison is causing the death of cancer patients. General cell death must be extensive in the later stage of the disease, as evidenced by the wasting and cachexia, and at present it is difficult to avoid the suggestion that some poison promotes dissolution. One may feed a cancer patient *ad libitum*, yet he will die. The problem of the cause of death is a difficult one, on which artificially induced reproduction may throw some light.

Cancer is a Disease which Aggravates Itself.

Our last fact is that cancer is a disease which aggravates itself. We have evidence of this in the circumstance that the disease begins in a circumscribed area, possibly in a single cell in that area, and that if the area is removed the patient may recover.

It is usually supposed that cancer having started, say, in a single cell which divides, the two daughter cells are also cancerous, and that the growth of the cancer takes place in this way. Again, the metastases of cancer are generally supposed to result from embolisms derived in the first place from the circumscribed area in which the growth begins, but if these secondary deposits so-called were always due to embolism, one would expect them to occur at the onset, as well as during the advanced stages of the disease, and we might also ask the question, Why does embolism practically only occur in *malignant* growths?

There is yet another possible way in which the disease may progress, a speculation based on the remarkable fact that a growth appears to confer protection against other growths experimentally planted. This fact has been shown by the Imperial Cancer Research. The protection is presumably due to the formation of antibodies in the body fluids, and these antibodies must be formed against *something* produced by the living growth, for a dead growth, or an extract of a growth, will not confer protection. Hence, it is reasonable to suppose that the living cancer cell may be secreting or otherwise producing a substance which either aggravates the cause of cancer or assists the normal cells to respond to it more readily. This speculation was borne out by the fact that we found that the excitant for leucocytes which is present in the blood of these patients is found also to a greater extent in the juices of the growth.[8] Presumably, if a substance is secreted by a cancer cell, it will first be absorbed by its neighbours, and will pass also into the lymph spaces, and so on to the lymphatic channels and glands which have so remarkable a tendency to become infected. The larger the growth becomes the more secretion will be produced, each secondary growth contributing to the ingravescence of the trouble. On this suggestion one may explain why cancer so frequently spreads eccentrically, in contradistinction to any of those growths which spread concentrically, or only by reproduction of the original cells. Lastly, the aggravating substance may assist to cause the death of the patient.

The question may now be asked, "Why is it that when a growth is completely removed it sometimes does not recur, although the cause of the original growth is still

[8] It should be remembered that the transplantation of a dead growth, or an extract of a growth, will not cause cancer.

present?" Why does not a recurrence invariably take place immediately in the healing and irritated scar? This is also probably a question of antibodies. Presumably, if the growth produces something which favours the aggravation of cancer, antibodies are also produced against that something, and when a growth has been removed these antibodies will remain in excess of the original cause of the disease, and the amount of the antibody in the blood may account for the longer or shorter period which elapses before recurrences take place.

These, then, are our axioms and theories. We are aware that it is dangerous to theorize, but it is impossible to undertake a cancer research without having hypotheses on which to work. Our endeavour has been to keep to theories which are as reasonable as possible and in accord with known facts.

Former Researches.

It has been shown by Galleoti and Hertwig, and Farmer, Moore, and Walker, and others who have been in the field of research, that irregular mitoses frequently occur in cancer cells, and Farmer, Moore, and Walker,[13] studying the irregular number of chromosomes in cancerous and other cells, described how the former resemble the reproductive rather than the somatic type, frequently showing the maiotic divisions with 16 chromosomes instead of the somatic number of 32. They also pointed out how the longitudinal splitting of the chromosomes is a characteristic of the first (heterotype) maiotic phase, and that cells undergoing these mitoses may show "sinaptic contractions." These observers also suggest that leucocytes may be ingested by cancer cells, and that a combination of the chromatin of the two cells may play a part in the onset of the disease. The intracellular Plimmer's bodies are said (by them) to be identical with the archoplasmic vesicles, which together with archoplasm are said to be characteristic of reproductive cells, and appear in the first maiotic division. Walker[14] also suggests that all leucocytes are of the reproductive type, and have a reduced number of chromosomes. He describes archoplasm in them. Unfortunately he does not distinguish between the different varieties of leucocytes, and as far as we can gather he examined leucocytes from the internal organs for the most part.

Benjamin Moore[15] has shown that the alkalinity of the inorganic constituents of the blood plasma in cancer is increased. He also states that "irritation and inflammation are accompanied by increased alkalinity of the lymph which is a factor in stimulating cell growth." It should be remembered in this connexion that alkalis accelerate the diffusion of substances into cells.[1]

H. Becton, in a paper read before the Pathological Section of the British Medical Association at Belfast on July 28th, 1909, remarked upon the absence of Altmann's granules in the cells of malignant tumours, although in innocent growths and usually in normal cells they can be found. This is an important point which we can confirm, and we can also testify that it is true, in spite of the fears entertained, so we understand, by Professor Lorrain Smith, that the appearance or absence of the granules may depend on the fixative used, because we employ no fixatives.

An Artificial Excitant by which Leucocytes can be Stimulated to Extrude Pseudopodia.

In a former paper[4] one of us recorded a remarkable excitation of amoeboid movement which occurs in leucocytes, even at low temperatures, when they are placed on a jelly film containing polychrome, methylene blue, and atropine. The stain is the important part of this excitant, as it can be made to be effectual if no atropine is present, but atropine and some other alkaloids accelerate its action. The action of this exciting jelly is very constant provided its index of diffusion is correct for the leucocytes, in which case the *cytoplasmic* granules of the polymorphonuclear and eosinophile cells will stain while the cells are actually extruding and retracting pseudopodia. In this respect they differ from lymphocytes, which while under the influence of the excitant are the most amoeboid of all the cells, but they will not continue to show movements after all their *nuclear* granules have stained.

[1] Since this paper describing this excitant was published, it has been ascertained that Professor Osler many years ago noted that certain alkaloids and curare increased amoeboid movement.

An Excitant for the Leucocytes of Healthy Persons found in the Plasma of Cancer Patients.

In a paper in the *Proceedings of the Royal Society of Medicine*[5] we pointed out how normal leucocytes, when mixed with the citrated plasmata of a series of cancer patients, appeared to show, under suitable conditions, the same remarkable exaggeration of amoeboid movement as they do when the stain and atropine jelly is used. Control experiments did not demonstrate the same marked movements. Hence we conclude that there is in the blood in cancer some substance which, in effect, resembles the methylene blue and atropine excitant. To distinguish these excitants we call the combination of stain and atropine the *artificial* excitant, and that found in cancer plasma the *pathological* excitant.

The Flagellation of Lymphocytes in the Presence of Both Excitants.

In a subsequent paper[7] we showed that flagellation of lymphocytes takes place when blood is mixed either with the artificial or with the pathological excitant found in cancer plasma. The flagella, which can be watched during the whole process of extrusion, are filamentous and usually have a dot of chromatin at their ends. They break off in time, and in our description of them we speculated that they might be spermatozoa. They certainly resemble the flagella of malarial parasites, but we have now reason to believe that our speculation was erroneous.

EXPERIMENTS.

Pathological Excitant Concentrated in Juices of Malignant Growths.

We have previously referred to the fact that the pathological excitant seems to exist in a more concentrated form in the juices of malignant growths than in the peripheral circulation.

We have investigated this by expressing the juice, citrating it, and mixing it with a small quantity of fresh blood. In most cases the leucocytes responded readily and extruded long pseudopodia. Furthermore, we have found that if some blood is squeezed from a growth immediately after it has been removed, and spread upon a jelly film containing stain and alkali but no atropine, the leucocytes sometimes show exaggerated movements which normal leucocytes will not do on such a jelly.

These experiments suggest that the excitant is actually being produced in some way by the growth itself. It must be remembered, however, that we have found it in the peripheral plasma of persons who only have had very small growths. In addition to demonstrating the presence of an excitant in the plasma, these experiments have also elicited the fact that cancer juice lowers the coefficient of diffusion of normal leucocytes considerably.

An Investigation of the Nature of the Artificial Excitant.

Since this excitation of amoeboid movement appears to be associated with malignant disease, and since in effect it resembles the action of the artificial excitant, the following experiments were made to ascertain whether this excitation increased phagocytosis. The artificial excitant being so constant in its action was the most suitable one to investigate. A suspension first of typhoid bacilli and then of staphylococci was made in citrate solution. To one portion of each of these the correct proportions of atropine and methylene blue were added, thus producing a liquid form of the artificial excitant.[2] Some fresh blood was mixed with both portions, and they were kept at 37° C. for fifteen minutes. The number of bacteria ingested by the leucocytes was counted by the usual methods and by *in vitro* staining, many samples being observed, and the averages showed that the excitant certainly did not increase phagocytosis, and in many instances it seemed to delay it.

Secondly, we placed a mixture of leucocytes and bacteria on jelly which excited the leucocytes. It was noticed that the pseudopodia were extruded without regard for the bacteria, and if a pseudopodium happened to impinge against a bacterium, the latter was usually pushed out of its way. This experiment has often been repeated, and in the presence of the excitant we have never seen the time-honoured engulfing of bacteria by a leucocyte.

Mr. Simpson, who at that time was one of the Residents at the Royal Southern Hospital, suggested an ingenious experiment to test whether the extrusion of pseudopodia was due to a chemotactic action. Two jellies, one containing the excitant and the other only sodium citrate and sodium chloride, were boiled and allowed to run together on a slide, and a drop of blood under a cover-glass was placed over the junction of the two jellies. If the excitant was a chemotactic one, it was presumed that the cells would throw out their pseudopodia in the direction of the excitant. But they did not do so, for their excitation depended on the amount of excitant they absorbed, and not upon any chemotactic action, for as often as not they thrust out their pseudopodia in a direction remote from the jelly which contained the stain and atropine. Hence these experiments did not explain the nature of the excitant, but showed that it did not increase phagocytosis.

The Cytology of the Lymphocyte.

The cytology of the lymphocyte concerns us very immediately in connexion with this research. These cells differ from other forms of leucocytes in the facts that their nuclei are single, and that they do not contain Altmann's granules in their cytoplasm. But lymphocytes do contain granules arranged on the walls of their nuclei, and these granules give the chromatin reaction with stain. When a polymorphonuclear leucocyte dies, its cytoplasmic (Altmann's) granules show Brownian movement owing to liquefaction of the cytoplasm. The nuclear granules of the lymphocyte under the same conditions remain immobile. When fixed and stained by the older methods the granules of the latter cell merge into the nucleus, which appears as a homogeneous chromatin-staining mass, or the chromatin is arranged as a spireme. By *in vitro* methods the nucleus consists of a transparent membrane studded with chromatin granules. Within the nucleus there is always one, and sometimes more than one, "ring." These rings also stain, as if they were composed of chromatin, and have been described as nucleoli. In a former paper† we have stated that we have on a few occasions seen these rings lying outside the nuclear wall, and we therefore suggested that they might be centrosomes. Seen normally, however, they are within the nucleus.

The Examination of the Cells of Growths by In Vitro Staining.

The examination of the cells of growths by *in vitro* staining has furnished us with some interesting facts. Small portions of the growths were scraped or teased out in a drop of citrated solution on a cover-glass, which was then inverted on to the film of jelly. The tissues were always examined as soon as possible after removal, and those parts of the growth from the extending edge were examined as well as others from the centre of the mass. Jellies with different indices of diffusion were employed, and at first it was difficult to say which of the cells could be styled cancer cells, but it was soon discovered that in every growth there were a large number of cells which had a coefficient of diffusion of about 14, which is the same as that of a lymphocyte, whereas the same jelly would not usually stain ordinary epithelial cells.* No matter what part of the body the growth was taken from (breast, uterus, stomach, rectum, floor of mouth, and tongue),† these cells were invariably present, and showed many characteristics in common. They might have different shapes, but they were very large in size and nearly all contained a large round nucleus, and within the nucleus were rings similar to those seen in lymphocytes. Each one, however, usually had more than one ring, and sometimes had as many as six. They contained no cytoplasmic granules, ‡ but only nuclear granules like lymphocytes. In point of fact they resemble huge lymphocytes. In some growths these cells formed the majority, and we noticed that it was practically in them alone that archoplasmic vesicles and archoplasm were to be seen.

* Some further experimentation is required with reference to the coefficient of the other cells.

† Only specimens proved to be carcinoma by the older methods were employed.

‡ When these experiments were made we were not aware that Beeton had already arrived at the conclusion that Altmann's granules are absent in cancer cells.

Archoplasmic Vesicles (Plimmer's Bodies) and Archoplasm, and Their Relations to the Casting out of Chromatin by the Cells.

Plimmer's bodies are said to be identical with archoplasmic vesicles. They consist of rounded, deeply staining bodies lying in the cytoplasm. They stain as if they were composed of chromatin, and often appear to contain short rods or dots of chromatin. We have also seen what appear to be chromosomes lying in pairs free in the cytoplasm. As a specimen is watched, the vesicles become more homogeneous, and then appear like diffusion vacuoles (red spots). Archoplasm is a patch of cytoplasm, which also stains scarlet. We believe that the vesicles are the chromosomes cast out from the nucleus, and which have collected together in the cytoplasm to form an archoplasmic vesicle. The vesicle then appears to liquefy, and the chromatin diffusing through the neighbouring cytoplasm gives the picture of archoplasm. The suggestion that the "cancer bodies" were derived from chromosomes originally came from Borel in 1895, but was disputed by Benda on the ground that chromosomes coexist with the vesicles. We do not think that this is sufficient to disprove that the vesicles and archoplasm arise in the manner above stated, and we wish to uphold Borel's hypothesis. The striking resemblance of the vesicles and archoplasm to chromosomes and diffusing chromatin is well shown by the *in vitro* method. Ultimately it is possible that the chromatin is shed and diffuses out of the cell. If this is the case the cells may be extruding chromatin, and a growth may produce a considerable quantity of it.

A Suggestion by Professor Harvey Gibson.

Professor Harvey Gibson made the important suggestion that it might be useful to experiment with nuclein in cancer, and he founded this idea on the well-known fact that in the sexual generation of the normal alternations of generations of plants the nuclei have only half the number of chromosomes which are present in the nuclei of the asexual generation, and that what is normal in the plant appears to resemble what is pathological in the human being's cancer cells. It is thus suggestive that a cancerous growth might be looked upon as consisting of abnormally induced "gametophytic" or sexual tissue. Professor Gibson, with this in his mind, suggested that it might be possible by some means to induce the nuclei deficient in nuclein to absorb more, and so get back to the normal somatic condition. Farmer and others have shown that it is possible to induce such changes in the tissue of ferns, and for many months one of us (C. J. M.), acting on this knowledge, treated some cancer patients with nuclein, which was made by Professor Reynolds Green, but without proof that it conferred benefit. We, however, determined to experiment with it on individual cells. As a matter of fact, H. Gibson considered that the experiments, which will presently be referred to, rather lead to the belief that there is some irritant at work which causes the cells to throw out their chromosomes in the way that we shall presently explain, and that this would correspond very closely to what takes place abnormally in ferns when the asexual generation with the $2x$ number of chromosomes gives rise to a prothallus, or gametophyte, directly with the x number of chromosomes.

The Effect of Nuclein on Leucocytes.

Dr. Reynolds Green very kindly supplied the nuclein. It is a brown powder, which is only sparingly soluble in water. A saturated solution of it was made in citrate solution, and a volume of it was added to an equal volume of blood. It was found that it lowered the coefficient of diffusion of the leucocytes considerably in a few hours, but did not markedly shorten their lives. The solution was then mixed with stained jelly, and leucocytes were examined on it. After twenty minutes' incubation of the slide at 37° C., some curious deeply staining bodies sometimes appeared in the cytoplasm of the cells, but their appearance was not constant.

The Effect on Leucocytes of a Solution Supposed to Contain Chromatin.

The effect of nuclein in lowering the coefficient of diffusion of leucocytes was striking when it is remembered that the juice from a growth also has this effect;

and, again, that the blood cells of cancer patients usually show a lowered coefficient of diffusion. But nuclein was too insoluble to enable us to experiment with it in any variety of concentration. We have already indicated that cancer cells appear to secrete chromatin, and since, as has been suggested, the aggravation of the disease may be due to some secretion from the growth itself, with a view to investigating the effect of this substance on leucocytes, we laked some blood with water and tried the filtrate, assuming that it contained the chromatin of the ruptured leucocytes. It was citrated and mixed with fresh living leucocytes as before. Again the lowering of the coefficient of diffusion was apparent.

Chromatin of Lymphocytes.

Our next step was to experiment with an extract supposed to contain the chromatin of lymphocytes. We were led to this partly because lymphocytes exist in such large numbers in cancerous growths as well as in irritated tissues, but also owing to the fact that we had observed that the chromatin of cancer cells seems to be arranged in a manner similar to that of lymphocytes, and because it is through the lymphatic channels and glands that secondary infections frequently take place.

The small prevertebral (haemal) glands of lambs supplied the lymphocytes. These glands are composed almost entirely of lymphocytes floating in a viscous fluid. To obtain the chromatin we adopted a principle based on the phenomenon of achromasia. In a former paper[3] it was suggested that achromasia may be due to the chromatin passing out of the dead cells as they become disorganized. It is accelerated by heat and the presence of salts. We therefore mixed up a large number of broken up haemal glands—which were removed from the lambs immediately they were slaughtered—with a solution containing 3 per cent. sodium citrate and 1 per cent. sodium chloride. The mixture was kept at 60° C. for twenty-four hours. This, of course, killed the cells, and they soon became achromatic. The mixture was then filtered, and the filtrate, a yellowish-brown liquid, was again kept at 60° C. for twelve hours to sterilize it. Some blood was mixed in a capillary tube with an equal volume of this extract and incubated at 37° C. for three hours. A drop of the mixture was then examined on jelly which excites amœboid movement in leucocytes.[4] It was found that the coefficient of diffusion of the leucocytes had fallen greatly—a greater fall than we had ever seen before except that produced by the action of morphine.[5] The nuclei actually stained on this jelly which will never stain the nuclei of normal leucocytes. But it was also noticed that the cells contained round or oval vesicles within their cytoplasmata. These vesicles could be seen before the cells stained; but as the stain diffused in, the vesicles became bright scarlet, and appeared to contain rods and dots like "Plimmer's bodies." Every leucocyte contained one or two of these bodies. As the specimens were watched, the vesicles appeared to liquefy, when they resembled large vacuoles (red spots). At first they were quite discrete, but on keeping the mixture of blood and extract in the incubator for a little time longer the leucocytes developed what appeared to be patches of archoplasm, diffuse scarlet-staining patches, resembling those seen in cancer cells. This experiment has been repeated many times, and the appearance of the vesicles is remarkably constant.

Unfortunately we cannot say that these vesicles are the same phenomena as those seen in cancer and reproductive cells. Farmer, Moore, and Walker give a warning that great care must be exercised in forming an opinion as to these bodies, and we can endorse this view. Leucocytes are supposed to be "reproductive" cells, and to undergo mitotic divisions, and archoplasm has been described as being present in normal leucocytes when examined by the older fixed film methods. We wish to state, however, that we have never seen anything in *normal living* leucocytes which we could possibly call archoplasm, and we certainly had never before seen anything like the vesicles or scarlet staining patches in the cytoplasm of leucocytes until they had been suspended in the extract. It was possible, however, that what looked like vesicles might really be ingested substances or bacteria. To eliminate this possible fallacy we therefore took every aseptic precaution, and filtered the extract most carefully before we repeated the experiment. Still, the vesicles and supposed archoplasm appeared. Again, the vesicles might have been diffusion vacuoles (red spots), although we had never seen these structures appear in the same way. The extract, therefore, was rendered neutral, and afterwards actually acid, and retried. Still the vesicles appeared, but no red spots appeared in control experiments which contained no extract. These experiments, however, did not prove that the extract produces archoplasmic vesicles, and we could think of no means of deciding the point. Still it was sufficiently promising to warrant our following the matter up, especially as it was coupled with the great lowering of the coefficient of diffusion of the cells.*

Supposed Chromosomes Lying in the Cytoplasmata of Lymphocytes under the Influence of the Extract.

We mixed up a small quantity of the extract with jelly which contained a little stain (4 units). This jelly had the correct index of diffusion to stain the nuclei of lymphocytes in ten minutes at the room temperature. On one or two occasions what appeared to be chromosomes were seen in the cytoplasm of a lymphocyte as the cell stained. They appeared as short rods, staining scarlet, and were independent of the nucleus, which was, of course, studded with granules. We could not be certain whether these rods were chromosomes.

The Excitation of Reproduction.

This last experiment was now repeated, but with a concentrated extract made of 50 grams of haemal gland chopped up in 50 c.cm. of the citrate solution and prepared as described above. A tube of jelly was made thus: To a tube containing 5 c.cm. of "coefficient jelly" 0.5 c.cm. of stain (5 units) and 0.8 c.cm. of alkali (8 units) were added, together with 3 c.cm. of the extract and 0.7 c.cm. of water. The jelly was boiled and a film prepared on a slide. A drop of fresh citrated blood from the finger was placed on a cover-glass, which was inverted on to the film. The endeavour was to stain the nuclei of the lymphocytes very deeply in ten minutes at 37° C. The jelly therefore contained an extra unit of alkali for the coefficient of diffusion of the cells, which is 14. This is the equation (where x is the 3 c.cm. of chromatin extract, which is alkaline and which contains 3 per cent. sodium citrate and 1 per cent. sodium chloride):

$$cf=(5s+8a+1.5x+7h+t)-(6c+1.5n)=15.$$

We may say now, although we found out the point later, that it is better to keep the slide at the temperature of the room for two minutes to allow the cells to come to rest on the jelly, and then to insert it in the incubator for about eight minutes.

The object of making this experiment was to see whether the lymphocytes, at their normal temperatures, would more readily show chromosomes in their cytoplasm. But the result was very different and surprising, for the majority of the lymphocytes in the specimen were found to be undergoing mitosis. Many of the figures were typical of the maiotic phase, the number of chromosomes never exceeded sixteen, and although the figures presented different aspects to the observer, the several phases of the phenomenon could usually be recognized quite easily. This experiment has been repeated many times, and if the jelly is correctly prepared, mitoses can practically always be seen in the lymphocytes. Thus we may say that the jelly contains a true cell reproducing excitant, for it must be remembered that, so far as we can ascertain, mitoses have never hitherto been seen in normal lymphocytes from the peripheral circulation, no matter by what methods they have been examined. There is another reason, however, for believing that the jelly contains a reproductive excitant, which is, that unless it is correctly prepared with an index of diffusion suitable for a cell with a coefficient of diffusion of 14 or 15, no mitosis will appear in lymphocytes however much of the excitant may be present, and the cells remain in their resting stage. Hence we may say that the jelly contains a substance which has an "auxetic" effect on lymphocytes, and the substance may be called an auxetic (*ἀυξ*, multiplication or increase, and *ἑτικος*, an

* As a further control experiment we tried lymph which was obtained for us by Professor Sherrington, who kindly operated on a dog and tapped the thoracic duct. No vesicles or archoplasm were induced in the leucocytes by its action, nor did it lower their coefficient of diffusion to any great extent.

excitor).* Now these mitotic figures immediately directed our attention to some important points. Looking at a cell which presented its side to the observer, it was seen that it had become oval or hour-glass shaped. The first question asked was, What had become of the granule-studded nucleus and its nucleoli? It became apparent that the phantom nucleus had formed the spindle, the granules had collected together round the equator of this spindle and had divided into sixteen portions, which now appeared as chromosomes. At the poles of the spindle the nucleoli were seen, and these "rings" now appeared as the centrosomes. Cells in all the earlier stages of mitosis have been seen, and this is what occurs: The cell first becomes elongated. Then the granules at the poles open out, leaving a clear space through which the nucleoli emerge. The extrusion of the centrosomes pulls the phantom nucleus into the shape of a spindle. The granules curl outwards and towards the equator, where they collect as a solid belt of chromatin surrounding the waist of the spindle. In a cell which presents one of its poles towards the observer, it will be seen that the solid belt of chromatin divides usually into sixteen portions, each of which becomes semilunar shaped, with its points inwards and in contact with the points of its neighbour. Thus the cell presents the typical rosette. We are not quite certain about the next stage. On one occasion, certainly, the chromosomes appeared to be seen dividing longitudinally, but we should not like to state whether this is the rule.† Having divided into two, one portion of a chromosome travels up towards one pole, and the other portion to the other pole. The spindle becomes constricted in the centre, and the cell becomes hour-glass shaped. If the cell only contained one ring (nucleolus centrosome), a dot of chromatin took the place of the other.

We cannot describe what occurs after the separation of the chromosomes, because death overtakes the cell before the division is complete. This is the rule, although we have seen one exception, in which a cell had just divided, and even then the two daughter cells were dead. We cannot succeed in preventing this death, and it was because of it that we have been able to follow the stages of the mitosis, for, when it occurred, the chromosomes stained, and thus the figures were demonstrated. In every case, with the one exception, the cells have died in the act of reproduction, and they remain in the stage which we have described until they become disorganized and achromatic.

The Parts Played Respectively by the Stain and Chromatin Extract in Exciting Reproduction.

The appearance of the nucleoli at the poles of the spindles led to the discovery of a fallacy in the last experiment. We remembered that we had already seen on two or three occasions the "rings" lying outside the nuclear wall in the cytoplasm. This fact was mentioned in a former paper[1] published nearly a year ago, and at that time we certainly had never used the chromatin extract. The suspicion was therefore aroused that we had already seen the early phases of mitoses although we had been unaware of the fact. In the early days we had been using a jelly which only contained stain and atropine; and, since this mixture is an excitant, we made a fresh jelly which contained concentrated artificial excitant and no chromatin extract. To our surprise we found that at 37° C. this artificial excitant containing stain and atropine is itself an auxetic. We next found that the atropine could be dispensed with if 10 units of stain were employed. We then repeated the experiment by which we first recognized the mitoses, employing only the 5 units of stain but omitting the chromatin extract, when it became evident that this low concentration of stain did not cause reproduction. Hence it is clear that 10 units of stain *per se* is a reproductive excitant; that 7 units of stain *plus* atropine has a similar effect; that 5 units of stain *per se* is not sufficient to cause it, but that 5 units of stain *plus* chromatin extract promotes the mitotic figures in a marked degree.

Our next step was to try a jelly which contained extract but no stain, and, as far as could be seen, no effort at reproduction occurred, for the cells did not become oval or rosette shaped.

Thus stain contains an auxetic but chromatin accelerates its action markedly, for the combination will cause reproduction even if a very small quantity of stain is employed, which could not of itself cause the mitotic changes.

SUMMARY.

We have here placed on record some facts regarding a chemical substance which causes a remarkable train of events when it is absorbed by human lymphocytes in that it promotes, first, excitation of amœboid movement, then reproduction, and, lastly, death. These events are closely related to each other, and follow in quick succession under the experimental conditions. More than a year ago the fact was noted that there appears actually to exist in the body fluids of persons suffering from carcinomata a substance which causes the first of these events in the chain—namely, the excitation of amœboid movements. When it is remembered that the excitation of reproduction and death constitute two of the cardinal facts known about cancer—for the cause of cancer, whatever it may be, must be an excitant of cell reproduction, which ultimately leads to the death of the individual—the inference may be drawn that this first event in cancer may be followed by the succeeding ones, reproduction and death, which are produced by the artificial substance under the microscope. Although this chain of events occurs on the slide in the space of a few minutes, it must be borne in mind that the conditions are experimental in the extreme, and must be most harmful to the vitality of the cells. In the body, however, similar events, supposing such to exist, would probably be spread over several generations of cell-life in their occurrence, and a much smaller quantity of the exciting agents would be required to bring about the same delayed results.

By way of recapitulation of the points which we have set forth in this report, may we once more direct attention to the main facts? A mixture of methylene blue and atropine excites amœboid movements in leucocytes. So does the blood of a cancer patient. The same mixture will cause lymphocytes to extrude flagella with a particle of chromatin at their ends; so will the plasma of a cancer patient. We have shown that an extrusion of chromatin also appears to be a phenomenon which occurs in cancer cells, and that cancer cells appear to produce "something" which aggravates the disease. It is possible that this "something" is chromatin, and in support of this theory is the fact that an extract which probably contains chromatin or a derivate of it accelerates the action of the artificial auxetic. The deduction is that this chromatin thrown out by the cancer cells may be the element which, by affecting some other unknown substance, may promote a repetition of the changes which cause the three events in the chain to which we have referred. The promoter of the first of these events (excitor of amœboid movement) has already been described as existing in the blood of cancer patients, and to a greater extent in the juice of a growth. If chromatin, or a derivative of it, is the "something" which aggravates the disease, in order to produce a chain of events similar to that which has been observed in lymphocytes, it will have to aggravate the action of a substance resembling in effect that contained in the aniline dye which causes first reproduction, and then death. It may also be noted that chromatin is a product of katabolism which, as has been suggested, may predispose to the disease in persons over the age of 40.

Such are the hypotheses on which we are working. Experimentally one can induce mitoses in lymphocytes, and, as we have shown, these cells present characteristics resembling in many ways those appertaining to cancer cells. Cancer cells frequently show the first (heterotype) maiotic phase; but whether the mitoses induced in lymphocytes are of the first gametic variety remains to be proved. We are not certain yet whether the lymphocyte is normally of the somatic or of the reproductive type. Still, the chain of events is striking, and worthy, we think, of further investigation, which must now be directed to solve the reason for the premature death of the cell, for it would appear that some virulent poison must be at work within the cell to cause it to die in the height of its reproductive activity. This problem now becomes a cytological one,

* This term was suggested by Professor Harvey Gibson, and is more correct than the word "aphrodizinc," which had been thought of.

† An important point. Longitudinal division is said to be characteristic of the first (heterotype) maiotic phase.

which should be elucidated as a preliminary to further experimentation.

The research which we have conducted has shown that the actual phenomena of mitosis in human lymphocytes can now be demonstrated. The remarkable differences between these cells and the other leucocytes are now apparent. Lymphocytes respond to the auxetic and endeavour to reproduce themselves, whereas leucocytes do not. The cytoplasmic (Altmann's) granules of leucocytes can be stained without harm to the lives of the cells. The nuclear granules of the lymphocytes, on the other hand, are composed of chromatin, and somatic death occurs when they stain. The fact that the nucleoli of lymphocytes form the centrosomes is also interesting, but not unique, from a cytological point of view.

In concluding the present report, we may mention that extracts from organs other than haemal glands are effective in assisting to promote mitotic changes—for instance, suprarenal gland and the udder of a ewe—but thyroid gland and udders of lambs do not appear to contain the necessary accelerator of reproduction, and, furthermore, they do not prevent it. The mitoses seen when chromatin extract is used sometimes show a remarkable "lop-sided" appearance, but we have been unable to satisfy ourselves that this was connected with sinapsis, although suggestive of it. In performing the experiments to produce the mitoses which we have described care and accuracy in carrying out details are essential, for unless the alkalinity of the jelly is correct and the temperature accurate no mitoses will be seen, and the cells will remain at rest. The mitoses occur only at a temperature of 37° C., and in the few moments which immediately precede death and the staining of the chromosomes.

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THE DIAGNOSIS OF MALIGNANT DISEASE BY MEANS OF THE ANTITRYPTIC INDEX.

BY

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By the antitryptic index is meant the power of inhibiting tryptic digestion possessed by any given serum, compared with such inhibitory power possessed by a normal standard serum; or, in other words, the ratio of the powers possessed by different serums for neutralizing tryptic ferments.

Dr. F. L. Golla,[1] in a paper on the clinical value of the antitryptic index in tuberculosis, pointed out that the variations in the antitryptic powers of serums were not only interesting laboratory phenomena but could be applied for clinical and diagnostic purposes. He employed the electrical conductivity method introduced by Victor Henri for the study of ferment action, and it is this method that I have used throughout, employing the technique described by Dr. Golla in his paper.

Mr. E. C. Hort in the same month published a paper[2] on a chemical method for estimating the antitryptic index, especially in relation to diagnosis of malignant disease. In July, 1909, Mr. Hort read a paper before the British Medical Association at Belfast on the diagnosis of cancer by examination of the blood. Here also he used the chemical method, and found that the antitryptic index was raised in 94 per cent. of cases of malignant disease.

Dr. Golla, Mr. Hort, and myself, working independently, have observed that most processes involving cell destruction, whether bacterial, mechanical, or cytolytic, produce a raising of the antitryptic index. The phenomenon can, therefore, be in no way regarded as specific, but this lack of specificity, though it narrows the scope of the reaction, still leaves an ample margin where its utility as an aid to diagnosis in malignant disease is clearly shown.

Thus, in the absence of bacterial infection symptoms of obstruction or pressure accompanied by a raised antitryptic index would indicate the presence of a malignant rather than a benign growth or aneurysm, and a normal index would contraindicate the presence of malignant disease.

It has been observed that the serum of cases of gastric ulcer give a nearly normal reaction, and a diagnosis between this condition and carcinoma of the stomach can therefore be facilitated by the antitryptic test.

Perhaps it may be useful to give a few more details as to quantities than were mentioned in Dr. Golla's paper. I have used 5 c.cm. of the formalized casein solution, 0.5 c.cm. of serum, and 2.5 c.cm. of a fresh and filtered, roughly 10 per cent. solution of pure active pancreatin. The observations were made after the mixture had been in the thermostat ten minutes and four and a half hours, which I found to give the maximum of variation. All results were corrected for the different electrical capacities of the bottles, and the majority of the estimations were determined in duplicate. Instead of expressing the index as Dr. Golla has by + and − signs, I have used the same notation as that employed for the opsonic index and taken 1 to express normal, so that an index expressed by Dr. Golla's + 0.6 is in my notation 1.6 and one of − 0.6 is 0.4.

My results confirm those obtained by Mr. Hort with the chemical method, but as the chemical method depends on the matching of shades of colour, I think that the electrical method, which registers quite clearly and unmistakably very minute differences in the amount of digestion, will be found to be both the more reliable and easier for those without very much practical chemical experience.

Dr. Golla has lately introduced a new method by which he estimates the antitryptic index by means of the viscosity of the serum; but as the estimation of rate of flow requires accurate measurement of quantity, space, and time, there is ample opportunity for errors in observation in unskilled hands. With the electrical method, however, providing that the bottles are standardized sufficiently often, there seems to be but little opportunity for experimental error.

	Site of Cancer.	Antitryptic Index.
1.	Carcinoma of cervix	1.58
2.	,, ,,	1.4
3.	,, ,,	1.17
4.	,, ,,	1.63
5.	,, ,,	1.63
6.	,, ,,	1.33
7.	,, ,,	1.6
8.	Carcinoma of the uterus	1.22
9.	,, ,, ,,	1.6
10.	Carcinoma of the breast	1.25
11.	,, ,, ,,	1.48
12.	,, ,, ,,	1.45
13.	,, ,, ,,	1.05
14.	,, ,, ,,	1.21
15.	,, ,, ,,	1.72
16.	Carcinoma of the rectum	1.42
17.	,, ,, ,,	1.37
18.	,, ,,	1.63
19.	Carcinoma of the lip	1.06
20.	,, ,,	1.4
21.	Carcinoma of the penis	1.31
22.	Carcinoma of the antrum	0.67
23.	Carcinoma of the larynx	1.57
24.	Carcinoma of the intestine	1.4
25.	Carcinoma of the sigmoid	1.4
26.	Carcinoma of the stomach	1.69
27.	Carcinoma of the tongue	1.09
28.	Carcinoma of the bladder	1.37
29.	Carcinoma of the nose	1.68
30.	Carcinoma of the soft palate	1.6

Of the 30 cases of cancer that I have given above, 26 (86 per cent.) show a markedly raised index. Of the remaining 4 cases, 3 (13, 19, 27), = 10 per cent., show practically normal indices, and one (22) shows a subnormal index. This case was a very advanced one, and died before I had the opportunity of obtaining another specimen. The section showed the tumour to be an epithelioma. Of the 3 cases showing normal indices, No. 13 was an early case ten days after operation; No. 19 was an early case before operation; and No. 27 was awaiting removal of the tongue.

If bacterial infection is present, this method at the moment cannot claim any great diagnostic value, but in the absence of such infection its great help in affording a diagnosis between malignant disease and gastric or intestinal ulcers, non-malignant strictures, aneurysms, non-malignant conditions of the bladder (such as stone), or non-malignant pelvic conditions in the female, is apparent. The negative evidence afforded by a normal antitryptic index is also of very great value in excluding malignant disease.

My thanks are due to Dr. Lunn and Dr. Roper, of the St. Marylebone Infirmary; Dr. Potter, of the Kensington Infirmary; and Dr. Coulson, of the St. George's (Hanover Square) Infirmary, for their kindness in giving me access to their cases.

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AN INVESTIGATION OF SERRATUS MAGNUS INFECTION IN CANCER OF THE BREAST.

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It has been my misfortune during a period of more than two and a half years to record the notes of 75 cases of recurrent mammary cancers. The unhappy victims have come from well-known hospitals in London and the provinces, and many of them have been operated upon by surgeons of the very highest reputation, yet recurrence has taken place quickly or slowly in a diffuse "cuirasse" or discrete nodular form. Granted that a certain number of these cases were, at the time of operation, not very advanced, it becomes evident that in some way or other the "radical" operation was not radical enough.

The observance of a number of cases which presented nodular recurrences about the lower half of the scar led me to believe that in certain instances such recurrences might be due to the almost invariable practice of leaving intact the serratus magnus muscle, perhaps already infected by outlying extensions of growth.

Whilst removal of the pectoralis major is now an accepted routine, and removal of the pectoralis minor is a debatable point, scant attention has been paid to the serratus magnus, a muscle which from its anatomical relation to the breast demands the closest investigation. Both Sir Henry Morris[1] and Handley[2] advocate occasional removal of portions of this muscle, not, however, with quite that emphasis which on anatomical grounds would appear imperative. So far as I am aware, no microscopical evidence has been adduced as to the infection or non-infection of this muscle in certain cases of mammary cancer, and it was to gain evidence on this point that this research was carried out.

It is an anatomical fact that normally one-third of the female breast lies on the fascia over the serratus magnus. This corresponds, in the main, to the lower and outer third of the breast, and to the digitations of the muscle arising from the fifth and sixth ribs.

It is uncommon for the lower limit of the breast to reach below the level of the sixth costal arch. The four lowest digitations of the muscle at their origin are covered only by fascia and skin, and in the female the fifth and sixth digitations are covered also directly by the normally developed breast. Above this level the breast lies almost entirely upon the pectoralis major. It is not unusual for the breast to have more extensive margins than is apparent, and to have outlying isolated portions; but it is probable that, in the very large majority of cases, no portion of the organ lies directly upon the upper serrations of the muscle. The field of inquiry was thus limited to the lower serrations, especially those directly underlying the breast—namely, those arising from the fifth and sixth ribs. The muscle is naturally divisible into three portions:

1. A muscular bundle from the first and second costal arches, which is inserted into the ventral aspect of the upper angle of the scapula.

2. A bundle from the second, third, and fourth ribs, which is inserted into the whole of the ventral aspect of the vertebral border of the scapula between the upper and lower angles.

3. A bundle from the fifth, sixth, seventh, and eighth ribs is inserted into the ventral aspect of the inferior angle.

The innervation of the muscle follows also this muscular and anatomical division, the three bundles being supplied, subject to occasional variation, by the fifth, sixth, and seventh cervical nerves respectively. I have proved to my own entire satisfaction that removal of the lowest bundle (from the fifth, sixth, seventh, and eighth ribs) does not impair the functional activity of the arm, nor the nervous supply of the upper two segments of the muscle, and it would appear that these two segments, with their extensive origin and insertion, are fully capable of carrying out the necessary scapular movements. Such removal is only a step further than the recognized routine of removal of the serratus fascia; it adds nothing to the difficulties of the operation, and takes but a minute or two to perform. The serrations can be detached from their origin, stripped back and divided close to their insertion. The lowest fasciculus of the pectoralis minor is a guide to the fifth rib.

In view of the proved fact that the pectoralis major is frequently infected by the "lymphatic permeation" of Handley long before any clinical observations of the attachment of the growth to the muscle beneath it can be demonstrated, it appeared reasonable to conclude that a similar infection might be shown to be present in another directly underlying muscle, and that, moreover, such an investigation might give some clue to the problem of recurrence. Though the results have been negative, it has seemed right to record the investigation as far as it goes, in the hope that the subject may be more fully pursued by others who also see a large number of mammary cancers.

The cases selected were all carefully picked from amongst some 150 mammary tumours successively admitted to the Cancer Hospital. These picked cases are only 8 in number, but in these 8 cases either the growth was lying directly over the serratus magnus, or the whole breast was involved, including that portion lying over this muscle. All the cases were submitted to operation, and in all the tumour was proved microscopically to be carcinoma. No inoperable case was investigated, as it was desired to exclude as far as possible any case in which the muscle might have become directly infiltrated by coarse invasion in contradistinction to lymphatic permeation; my object being to determine the condition of the muscle as regards infection while the growth was still operable.

At first cases were selected which showed no clinical evidence that the growth was tacked on to the fascia beneath it, but later, as no muscular infection could be demonstrated in these cases, others were investigated in which the growth had only a limited mobility over the serratus fascia.

My colleagues in their own cases were most kind in removing such portions of muscle as I required in the manner I wished. The method adopted was, as far as possible, to peel off the pectoralis major, serratus fascia, and lowest segment of serratus muscle in a continuous sheet. The relative position of the tumour, fascia, and muscle was then reconstructed, a selected portion hardened in the natural position of the parts, and a number of sections in series cut and examined. At this stage Dr. Alex. Paine and Dr. Kettle, of the Cancer Research Department of the hospital, afforded me most valuable help, for which I wish to express my gratitude and indebtedness to them.

In not one of the cases could any trace of cancer cells be found in a numerous series of muscle sections, although processes of cells were visible extending in the fascia right up to the muscle margin; nor was there any evidence of the irritative round-celled infiltration surrounding a cancerous lymphatic, nor any sign of a degenerated cancer plug, obliterated by a perilymphatic fibrosis.

These results are surprising, but, I believe, are destined to be reversed in the future. If there are lymphatics in the pectoralis major which communicate at an angle with those in the pectoral fascia, the same arrangement is more than likely to hold good in the case of the serratus magnus, and it will be found in the future to be a routine necessity to remove the "exposed" portion of this muscle in the

surgical treatment of those mammary cancers which overlie it. A more perfect technique will produce microscopical proof. Below is a short clinical report of the investigated cases:

CASE I.

At the extreme outer side of the left breast there is a very marked dimpling of the skin. Beneath and below this is a very hard, solid tumour with indefinite margins shading off into normal tissue, roughly the size of a plum. The nipple is not retracted, and the growth is not attached to the underlying fascia; one definitely enlarged hard axillary gland.

CASE II.

In March, 1907, a large, hard mass, the size of a Tangerine orange, had been excised from the lower and outer extremity of the left breast. In October, 1908, recurrence took place at the site of the scar in the shape of a mass, the size of a walnut, not attached to the skin or deep fascia. It lay external to the outer border of the pectoralis major. A chain of three very distinct hard enlarged axillary glands can be felt.

CASE III.

The left breast is the seat of a large, hard, prominent tumour, distorting and enlarging the organ, and *occupying its whole area*. The nipple is slightly depressed, and its summit is commencing to ulcerate, and there is very marked dimpling of the skin. The mass does not appear to be at all fixed to the deep fascia. Enlarged glands are present in the axilla.

CASE IV.

Beneath the left nipple and areola is a large, hard tumour of rounded outline and with well-defined margins, at least 2 in. in diameter, lying mainly towards the outer part of the breast. The nipple and areola are thickened, hard, and infiltrated by growth. The tumour is tacked on to the pectoral fascia and to the serratus fascia. One infected axillary gland is felt.

CASE V.

The right breast is much distorted by an indefinite hard subareolar growth, about 2 in. in diameter, which has caused deep and irregular dimpling of the skin and retraction of the nipple. The main part of the skin infection extends towards the outer edge of the breast beyond the edge of the pectoralis major. Below and external to the nipple is a small patch of cutaneous ulceration, secreting some thin serous fluid. There is very definite attachment of the tumour to the deep fascia, and one infected axillary gland can be felt.

CASE VI.

The left breast has been totally destroyed in its whole area by a large, offensive, fungating growth, 4 in. in diameter, definitely attached to the deep fascia. There is a mass of hard, enlarged axillary glands.

CASE VII.

The left breast is very large, prominent, and projected forwards by a large, very hard tumour the size and shape of a "halfpenny bun." The nipple is indrawn, and the skin of the areola is reddened, infiltrated, and fixed to the growth beneath. The tumour has a very definite edge and occupies practically the whole breast area, fully one-third of the mass lying on the serratus magnus. The growth is definitely tacked to the pectoral fascia, but this cannot be clearly demonstrated as regards the serratus fascia. Several hard, enlarged discrete glands are present in the axilla.

In this case, on examination of the specimen removed, an enlarged gland was found lying on the lower segment of the serratus magnus. I believe this gland is known to anatomists, but I have not previously identified it in the examination of a large number of breasts removed for cancer. Microscopically it was not infected by cancer cells, and no such infection could be demonstrated in the muscle underlying it.

CASE VIII.

At the outer extremity of the right breast is a hard mass the size of a goose-egg, adherent to the skin over it and causing retraction of the nipple. There is definite attachment of the tumour to the deep fascia beneath, and a mass of enlarged axillary glands.

This patient died a month after operation from pulmonary complications. At the *post-mortem* examination a piece of chest wall underlying the site of the tumour was excised for further examination. No cancer infection could be found in a large number of microscopic sections.

REFERENCES.

[1] Mitchell Prize Lecture, 1908. "*Cancer of the Breast.*

CANCER IN NEW ZEALAND.

BY

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ALTHOUGH New Zealand has the lowest death-rate for the world, there is a persistent increase in the percentage of deaths from cancer.

In the year 1898 the deaths from cancer per 10,000 of living persons was 6.40, the percentage of total number of deaths due to cancer being 6.50. In 1907 the deaths from cancer per 10,000 of living persons was 7.33, the percentage of total number of deaths due to cancer was 6.70.

In the latter year, out of 10,066 deaths 674 cases were due to cancer, of which 361 were males and 313 females.

To show the increase in tabular form the following tables are taken from the report of the Public Health Department.

TABLE I.—*Showing for each of the Ten Years 1898 to 1907 the Number of Persons Registered as having Died from Cancer, the Proportion of Deaths from Cancer per 10,000 Living, and the Percentage of all Deaths attributed to Cancer.*

Year.	Estimated Mean Population.	Deaths from Cancer.	Total Deaths, all Causes.	Deaths from Cancer per 10,000 of Living Persons.	Percentage of Total Deaths due to Cancer.
1898	736,260	471	7,244	6.40	6.50
1899	749,984	468	7,680	6.24	6.09
1900	763,594	430	7,200	5.63	5.97
1901	777,968	515	7,634	6.62	6.75
1902	797,793	536	8,005	6.72	6.40
1903	820,217	582	8,528	7.10	6.82
1904	845,022	571	8,087	6.76	7.06
1905	870,000	566	8,061	6.51	7.02
1906	895,594	623	8,339	6.96	7.47
1907	919,105	674	10,066	7.33	6.70

The deaths from cancer in New Zealand and England are compared in Table II. The increase in the numbers for the sexes together for England and New Zealand is represented in the proportions below:

TABLE II.—*Deaths from Cancer in every 10,000 Persons Living.*

Year.	New Zealand.	England.	Year.	New Zealand.	England.
1881	2.09	5.20	1900	5.63	8.28
1885	3.68	5.90	1905	6.51	8.85
1891	4.68	6.92	1906	6.96	9.17
1896	5.50	7.64			

The relative percentage of deaths among males and females is shown by Table III.

TABLE III.—*Deaths from Cancer in every 10,000 Persons of Each Sex Living in New Zealand.*

Year.	Males.	Females.	Year.	Males.	Females.
1886	3.05	3.67	1903	7.51	6.83
1890	4.12	4.79	1904	7.23	6.23
1894	6.05	5.27	1905	6.79	6.18
1898	5.77	5.96	1906	7.10	6.79
1901	6.82	6.77	1907	7.41	7.25

To quote from the Departmental report:

The mortality was higher among the males than among the females (with the exception of 1890 and 1901), which is the reverse of English experience, where the rate was 7.94 per 10,000

of males and 10.32 of females for the year 1906. In the United Kingdom, however, the rate of increase is so much higher among males than with females that the Registrar-General calculates equilibrium will be reached in about the year 1952, and thereafter the rate among males would exceed the rate among females.

Table IV is drawn up to show the locality of the affected part.

TABLE IV.—*Deaths from Cancer, 1904 to 1907, New Zealand. Showing the Number of Deaths of Males and Females from Cancer during the Years 1905 to 1907, classified according to the Part of the Body Affected.*

Part Affected.	1905.		1904.		1905.		1906.		1907.	
	Number of Deaths Specified.	Proportion of Specified.	Number of Deaths Specified.	Proportion of Specified.	Number of Deaths Specified.	Proportion of Specified.	Number of Deaths Specified.	Proportion of Specified.	Number of Deaths Specified.	Proportion of Specified.
Males.		Per Cent.		Per Cent.		Per Cent.		Per Cent.		Per Cent.
Mouth, lip, tongue, throat, neck, etc.	99	33.56	99	32.46	79	26.69	94	31.02	92	28.05
Stomach	96	32.54	107	35.08	107	36.15	104	34.33	98	29.88
Intestines, rectum	35	11.87	34	11.15	29	9.80	35	11.55	49	14.94
Liver...	35	11.87	42	13.77	49	16.55	44	14.52	58	17.68
Kidneys, bladder, urethra, etc. ...	17	5.76	13	4.26	25	8.45	18	5.94	17	5.18
Leg, foot, etc. ...	4	1.35	7	2.30	4	1.35	5	1.65	11	3.35
Lung...	9	3.05	3	0.98	3	1.01	3	0.99	3	0.92
	295	100.00	305	100.00	296	100.00	303	100.00	328	100.00
Not specified ...	30	—	18	—	17	—	34	—	33	—
Totals	325	—	323	—	313	—	337	—	361	—
Females.										
Mouth, tongue, throat, etc.	21	9.05	12	5.17	19	8.09	21	8.37	16	5.50
Breast	33	14.23	25	10.78	38	16.17	38	15.14	48	16.50
Stomach	51	21.98	55	23.71	51	21.70	42	16.73	47	16.15
Intestines, rectum	28	12.07	32	13.79	34	14.47	32	12.75	53	18.21
Kidneys, bladder	5	2.16	4	1.72	7	2.98	3	1.20	4	1.37
Ovary, uterus, vagina	48	20.69	58	25.00	49	20.85	68	27.09	73	25.09
Liver	38	16.38	35	15.09	27	11.49	42	16.73	39	13.40
Gall bladder, spleen, pancreas	4	1.72	1	0.43	4	1.70	5	1.99	6	2.06
Lung, spine, thigh, shoulder	4	1.72	10	4.31	6	2.55	—	—	5	1.72
	232	100.00	232	100.00	235	100.00	251	100.00	291	100.00
Not specified ...	25	—	16	—	18	—	35	—	22	—
Totals	257	—	248	—	253	—	286	—	313	—

By the last table it will be seen that the seat of cancer was:

In males:

Stomach and intestinal canal	...	44.82 per cent.
Mouth, lips, throat, neck	...	23.05 ,,
Liver	...	17.68 ,,
		99.55 ,,

In females:

Intestinal canal and stomach	...	34.56 per cent.
Gall bladder, spleen, pancreas	...	2.06 ,,
Mouth, tongue, throat ...	...	5.50 ,,
Liver	...	13.40 ,,
		55.52 ,,

Dr. Hislop has collected 31 cases of cancer which have occurred in one district in which he practises, and notes the fact that a large proportion of the patients were living in the neighbourhood of a certain water supply.

TABLE V.—*List of Cases of Cancer. Dr. Hislop.*

No. and Sex.	Age.	Seat of Disease.	No. and Sex.	Age.	Seat of Disease.
1. M.	65	Cancer of bowel.	16. M.	70	Rectum.
2. M.	65	Cancer of bowel.	17. F.	65	Breasts.
3. M.	56	Cancer of bowel.	18. M.	57	Bowel.
4. F.	55	Cancer of bowel.	19. M.	70	Stomach.
5. M.	65	Cancer of liver.	20. F.	57	Breasts.
6. M.	65	Mouth and throat.	21. F.	51	Breasts.
7. M.	45	Stomach.	22. F.	46	Liver.
8. M.	86	Stomach.	23. F.	62	Uterus.
9. F.	–	Bowel.	24. M.	72	Bowel.
10. M.	–	Bowel.	25. M.	56	Bowel.
11. F.	35	Breast.	26. M.	57	Liver.
12. F.	51	Caecum.	27. F.	59	Liver.
13. M.	48	Lip; epithelioma removed before cancer developed properly.*	28. F.	70	Liver.
			29. F.	53	Pancreas.
14. M.	70	Lip; later bladder and rectum.	30. M.	45	Rectum.
15. F.	46	Breasts first; liver later.	31. F.	70	Breast.

* Government pathologist's report.

From this list it will be seen that the alimentary tract was the seat of the invasion in the great majority of the cases.

In the male sex no fewer than 16 of the cases were in this locality; 11 occurred in the bowel, the exact situation in many cases being the caecum, splenic flexure, and descending colon, 3 were gastric, and 2 were rectal in origin. In the females, out of 14 cases, 6 were disease in the breast, 1 in the uterus, 3 in the bowel, 3 in the liver, and 1 in the pancreas.

The number of cases in which the alimentary canal was affected seemed to point to some exciting cause common to all the patients. To classify these as much as possible with reference to the district and houses in which they lived the accompanying map has been prepared.

It will be noticed that many of the cases occurred within a particular area. Dr. Hislop describes the nature of this area as follows:

Between a large snow-fed river and a smaller stream lies a flat tract of country extending in length for about ten miles to the foot of a hill, 5,600 ft. in height, the base of which was formerly, and is still to some extent, covered with dense native bush.

The breadth of the area varies, being about six miles across on the average. The lie of the land sinks slightly towards the middle, and then gradually rises towards the base of the hill, in which there are many gullies still showing native bush.

Originally this land was covered with tussock—the native grass—and in the more swampy parts with native flax and "nigger heads." Here in many places it was difficult or impossible to cross. The soil varies in many places from a light shingly nature to a stiff clay which holds the moisture and bakes in hot weather.

The nature of this country has now entirely changed, the land being now subdivided into farms, and ploughed; cereals and turnips being chiefly grown. Many belts of *Pinus insignis* and blue gums have been planted round the homesteads, and along the creeks willow trees have been planted.

The reason for referring to this district in its earlier state is because many of the cases lived in this country during its transition period, and several of them worked and assisted to bring the land under cultivation.

Creek.

Arising in the heart of the bush is a creek which winds through the country at a sluggish pace. In many places it is confined within well-defined banks, in others it spreads widely over the land, and irrigates the surrounding district in times of flood. After flowing for some five miles it is joined by another creek of much the same nature, which rises in the wooded gullies in the hills. Four miles lower down a third creek joins the main stream. This last creek rises from some springs which are situated in some land that was a swamp in the precultivation days. It is in this district, and especially along the line of the creek, that most of the cases have occurred.

Rainfall.

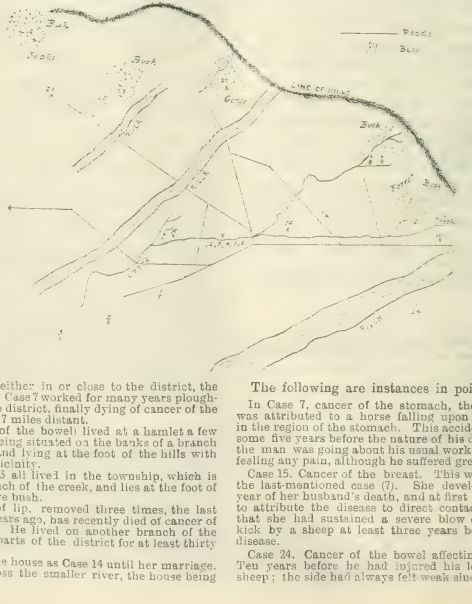
The average rainfall for the year in this area is over 45in. The altitude of the land is 600 ft. above sea level. The temperature ranges are never very severe, although frosts are keenly felt owing to the flat nature of the ground holding the subsoil water. Any snow that falls tends to lie for some considerable time. In summer the maximum temperature rarely exceeds 90°, and this occurs only in hot, dry seasons. At a station four miles away, across the river and at a higher altitude, the rainfall is as follows:

TABLE VI.—*Rainfall at the Gorge, New Zealand. Altitude of 600 feet above sea level.*

—	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Jan. ...	4.18	3.50	6.20	3.78	4.79	4.26	6.68	4.81	3.05	2.18
Feb. ...	5.43	2.62	5.13	6.35	4.21	6.97	5.76	5.61	7.03	1.35
March ...	8.62	3.17	4.70	14.77	2.51	8.69	1.76	3.47	5.94	7.67
April ...	5.66	5.41	2.25	5.97	1.26	2.56	2.19	4.33	2.56	3.55
May ...	3.83	2.29	1.94	2.52	3.21	3.44	3.05	2.19	2.39	3.38
June ...	0.76	1.00	2.16	4.70	1.54	3.52	5.13	3.96	1.39	
July ...	4.91	2.98	2.32	0.88	0.83	1.11	1.33	3.66	1.51	
Aug. ...	1.25	2.48	1.88	0.89	2.23	1.95	2.35	2.00	5.84	
Sept. ...	3.13	5.52	2.17	2.89	3.39	1.25	2.25	2.01	5.48	
Oct. ...	0.98	13.12	2.08	3.05	2.12	8.87	5.81	0.66	2.89	
Nov. ...	4.12	3.92	4.35	3.81	4.81	2.27	1.71	4.17	3.67	
Dec. ...	4.30	3.17	9.33	7.52	2.79	5.37	4.81	1.59	1.47	
Totals ...	47.25	49.13	46.62	57.14	38.00	56.11	54.54	38.94	43.15	

On the accompanying map the position of the creek has been shown. The numbers refer to the places where the patients lived.

Many of the patients inhabited the same house for a longer or shorter period, and although none died in this house, and several lived for some years after leaving the house, still they were all working in some part of the district or close to it up to the time of their death.



Cases 1, 2, 3, 4, 5, and 6 all lived in the same house, and although some kept in good health some years after leaving it, they all connected in their minds the district as the cause of their illness. The cottage in which these patients lived was simply a wooden structure built after the usual style of New Zealand houses, and was used as a shepherd's home for the sheep station on which it was situated. Of these six cases, five died either in or close to the district, the sixth dying at a distance. Case 7 worked for many years ploughing and contracting in the district, finally dying of cancer of the stomach at his own farm 7 miles distant.

Cases 8 and 9 (cancer of the bowel) lived at a hamlet a few miles distant, the house being situated on the banks of a branch of the notorious creek, and lying at the foot of the hills with some native bush in the vicinity.

Cases 10, 11, 12, and 13 all lived in the township, which is situated on the main branch of the creek, and lies at the foot of the high hills in the native bush.

Case 14, epithelioma of lip, removed three times, the last operation being twenty years ago, has recently died of cancer of the bladder and rectum. He lived on another branch of the creek, but worked in all parts of the district for at least thirty years.

Case 15 lived in the same house as Case 14 until her marriage.

Case 16 lived just across the smaller river, the house being situated in a hollow with thick native bush growing round it, and having a small stream running past the dwelling.

Case 17 lived for some years in the vicinity, her house being placed at the foot of the hills and surrounded by bush, a small stream passing the house.

Case 18 lived within a few miles; the house was under the hill, and a bush creek ran close to it.

Case 19 lived in the same house as Case 17 for many years.

Cases 20, 21, 22, 23, all lived at a small township three miles from the base of the hills, and formerly surrounded by bush.

Case 24 lived on the same side of the larger river, but some miles distant. His house was placed in a hollow, and the water supply was derived from a creek which rose in a swamp behind the house.

Cases 25 to 30 died in a township ten miles from the foot of the hills. Originally there was a good deal of native bush above the town, and also swampy ground covered with native flax. It was drained by several creeks.

The home of Case 31 was on the banks of one of these creeks. This area has now quite changed, the flax being cut down and the land better drained.

Occupations of the Patients.

All the patients apparently led what one would consider to be essentially healthy lives. The only one who lived an indoor life was Case 30, but even he spent much of his time in the open air.

Cases 1, 2, 3, 5, 6 were shepherds, agricultural labourers, or farmers.

Cases 7 and 15 were agricultural contractors.

Case 10 was a blacksmith.

Cases 11 and 12 were housewives.

Cases 15, 17, 20, 21, 22, 23, 29, 4, 9, and 28 (females) were engaged in ordinary household duties, and spent a good proportion of their time out of doors.

Cases 16, 19, 24 were run-holders.

Case 30 was a draper.

Relationships of the Patients.

In order to eliminate as far as possible any hereditary tendency to the disease, it is only right to consider any relationship existing among the patients.

Case 14 was the father of Case 15.

Case 7 was the husband of Case 15.

Case 6 was the son of Case 8.

Case 28 was the mother-in-law of Case 29.

Case 31 was the aunt of Case 15.

Thus the Cases 6, 8, 15, and 31 were the only ones where a strain of heredity could be detected.

History of Definite Injury.

In many of these cases a definite history of injury or of some long-standing irritation was obtained, these causes being always present in the patients' mind as the cause of their disease.

The following are instances in point:

In Case 7, cancer of the stomach, the onset of the disease was attributed to a horse falling upon him and injuring him in the region of the stomach. This accident, however, occurred some five years before the nature of his disease was diagnosed: the man was going about his usual work, and only occasionally feeling any pain, although he suffered greatly from dyspepsia.

Case 15. Cancer of the breast. This woman was the wife of the last-mentioned case (7). She developed cancer within a year of her husband's death, and at first sight one was inclined to attribute the disease to direct contact, but inquiry proved that she had sustained a severe blow on her breast from a kick by a sheep at least three years before the onset of the disease.

Case 24. Cancer of the bowel affecting the splenic flexure. Ten years before he had injured his left side while moving sheep; the side had always felt weak since.

Case 14. Epitheliomа of lip. The usual history of constant smoking, the pipe being held on one side of the mouth. The growth was removed three times with many years between the operations, the lip finally remaining clear for twenty years, when he was attacked with bladder symptoms and a walnut-sized tumour was removed by one of us. Several months later the rectum became involved.

Case 15. Epithelioma (doubtful). The trouble originated from the habit of continuously holding nails between the lips while at work, these acting as a chronic irritant.

Case 30. Cancer of the rectum. This patient suffered for long with piles, which were irritated by bicycling and riding.

Case 8. Cancer of bowel. A history of injury to the side while wrestling was given: the side had felt weak all his life.

Case 16. Cancer of rectum. A long history of piles was given.

Habits of the Patients.

All the cases affected led healthy lives, much of the time being spent in the open air. With regard to their diet, they were all hearty, some of them very large eaters of meat. They all drank tea with all their meals, and frequently between meals. The tea is taken very strong, and often drunk out of tin pannikins in which it has stood for a considerable time. As a general rule, tea was taken with meat at least three times a day.

Case 1. Drank tea to excess; also a good quantity of alcohol; and later drank "pain-killer."
Case 2. Excessive tea-drinker and smoker.
Case 6. Heavy smoker and drinker.
Case 8. Excessive tea-drinker.
Case 10. Excessive tea-drinker; also took alcohol.
Case 11. Much tea and alcohol.
Case 16. Excessive tea-drinker.
Cases 5, 24, 29, 30. Took tea in excess.

Many of the other cases indulged very freely in tea, but the 11 cases quoted above may be said to have been immoderate in their indulgence in tea.

It may be noted that out of 11 female cases only 2 were stated to be excessive tea-drinkers, proving that in this country over-indulgence in tea is commoner in males than in females. This bears out the experience of many practitioners who live in country districts.

No actual malaria is endemic in this particular district, but many of these patients suffered from subacute and chronic rheumatism, especially those who worked on the ground before it was drained. It is difficult to obtain exact statistics of the prevalence of cancer in New Zealand with reference to the respective districts in which the disease first was diagnosed. The four large centres, Dunedin, Christchurch, Wellington, and Auckland, naturally show the greatest number of cases. To these centres patients come for treatment from the country districts. On the West Coast of New Zealand, where the rainfall is very large, we have been only able to gather statistics from one or two practitioners.

Dr. Brittin, who practised at Ross, on the west coast, kindly searched all his notebooks and death certificates for cancer cases. He writes to us that during three years' practice on the coast he had 35 deaths; 20 of these were under 9 years of age. Of the remaining 15 which occurred between the ages of 10 and 78 years, 5 were due to cancer—4 males, aged 53, 53, 59, and 63 respectively, and 1 female, aged 62; 4 of these were cancer of liver or stomach, and 1 a cancer of the orbit. He says: "In three years' practice on the coast I had 5 deaths from cancer out of 15 adult deaths. In 10 years' practice in Papanui (east coast) I had 1 death from cancer out of 70 from other causes. On the west coast in the mining townships and camps the diet was 'frying-pan meat and billy tea.' The tea leaves were emptied out of the 'billy' once a week, and the billies always showed signs of corrosion. The water contained iron and tannin from the decomposing vegetable matter in all the bush streams. The whole district was bush, and my patients lived in small huts. Chronic rheumatism was universal."

Alfred Haviland, in his article on medical geography, points out the highest mortality of cancer is found around the lower courses of fully-formed rivers that seasonally flood their riparial districts; the lowest cancer mortality is found on the most elevated tracts of country, and corresponds to the area of older rocks, the highest mortality groups being coincident with the more recent geological formations, especially the clays and the still more recent alluvial soils. This theory is certainly borne out by the collection of cases recorded by Dr. Brittin and Dr. Hislop.

Cancer Houses.

D'Arcy Power gives a number of instances where several persons living in the same house have developed cancer. Thus, in a brick house on land formerly pasture land, three cases following each other died of cancer. Several other instances are recorded. In some, however, the patients were related.

Cases 1 to 6 all lived at some time in the same house, and under the same conditions, although none of them happened to die in this house.

The neighbourhood of the native bush and bush streams seem to have some distinct connexion in the origin of the disease. Malaria may not be an antagonist to cancer, but it is significant that where malaria is common cancer appears to be rare. It may not be improbable that there is some malarial poison antagonistic to the growth of cancer cells.

So many of the cases were rheumatic, and rheumatism is so prevalent in subacute or chronic forms in bush districts, that we can hardly ascribe the coincidence of rheumatism and cancer to an accident. It is not impossible to imagine that the circulation of the blood in rheumatic cases may act as a direct irritant to the tissues.

So many cases of cancer appear to follow a definite injury that one is obliged to believe in a direct connexion between traumatism and cancerous invasion—epithelioma of the lip, so rare in non-smoking females: cancer following gall stones; the Kaigu burn disease, so frequently seen in Kashmir; cancer of the scrotum in sweeps, now rarely seen since the modern chimney has altered the conditions of chimney cleaning—all point to irritation as localizing agent for cancerous invasion.

Out of 201 cases of cancer of the penis, Captain Whitlock, R.A.M.C., observed that they all occurred in Hindus who were uncircumcised, and none in Mohammedans who were circumcised. Sarcomata affecting the lower extremity is more common in Hindus, who go barefooted, than in Mohammedans, who wear shoes.

Against the irritation theory, it has been said that cancer of the penis occurs not in stallions, as one might expect from the irritation of coition, but in geldings; this, we believe, is due to the irritation of the dirt within the sheath, for a well-known horse dealer has informed us that by daily cleansing the inside of the sheath he can improve the health of a gelding immensely, and add to its market value considerably.

The cases of cancer admitted to the hospitals, being drawn from all over the district, do not give any information of interest, but in the last fifteen years we have been struck by the fact that carcinoma is appearing at an earlier age than formerly. It is very little comfort to console ourselves that it is due to a more careful or more accurate diagnosis that cases are detected earlier. The fact is, they do seek advice at an earlier age.

RODENT ULCER TREATED BY POTASSIUM BICHROMATE.

By WM. GEMMILL, M.A., M.B., Ch.B.Edin.,
Senior Assistant Physician, Ayr District Asylum.

The case under consideration was a woman of 82 years of age. When she came under my care at Ayr District Asylum she had a history of having had a "sore of the nose" for two years. On examination the condition was found to be typical of rodent ulcer. Vertically the ulcer extended from the nasion above to the inferior border of the nasal bones below. Laterally it approached to within ⅛ in. of the inner canthus of the left eye, and to within ⅛ in. of the inner canthus of the right eye, and covered most of the bony skeleton of the nose. It presented a well-defined "rolled" irregular border, with an ulcerated centre showing no granulations. The patient felt no pain, but complained of great itching, and in consequence she was continually picking at the ulcer.

On account of the extent and position of the ulcer, it was thought impracticable to employ surgical means for its removal. The use of potassium bichromate was suggested by the paper of Dr. James Fenwick.[1] A 10 per cent. aqueous solution of the bichromate was painted on the surface of the ulcer night and morning for a few days.

until a marked inflammatory reaction in the surrounding tissues occurred, the ulcer being protected between times by a piece of lint retained in position by strips of sticking-plaster. The bichromate was then stopped, and a dressing of boracic ointment applied until the surrounding inflammation was allayed. The ulcer then appeared to be in a healthier condition, the floor having been partly destroyed and granulations becoming evident.

The process was repeated twice, bichromate being painted on the ulcer night and morning as before, with a similar result, and being followed by the application of boracic ointment. The effect of the potassium bichromate was the production of a sloughing of the unhealthy tissue over the whole floor, which extended also under the rolled edge of the ulcer. Healthy granulation was promoted, and, after the completion of the third series of applications of the bichromate, the epithelium spread rapidly over the ulcer, which healed completely, leaving a somewhat irregularly-pitted scar.

From the beginning of the treatment till the ulcer was apparently cured occupied a period of three months. Two weeks later, however, a small part of the margin of the cicatrix began to break down. Two further repetitions of the process were sufficient to cure this, and so far no further recurrence of the condition has taken place.

Reference.

[1] British Medical Journal, March 6th, 1909.

TWO CASES OF ASCITES DUE TO LIVER CIRRHOSIS TREATED BY OPERATION.

By G. Grey Turner, F.R.C.S.Eng.,
Honorary Assistant Surgeon, Royal Victoria Infirmary, Newcastle-upon-Tyne.

The whole subject of the surgical treatment of ascites secondary to cirrhosis of the liver was so fully dealt with by Mr. Sinclair White in the paper with which he opened the discussion at the British Medical Association meeting at Toronto in 1906,[1] that it requires me to say that the object of this communication is merely to add two unpublished cases to the literature of the subject.

The operation of omentopexy as devised by Drummond and Morison is a valuable addition to surgery, and if it does not as yet occupy the place it deserves it is because sufficient care has not been taken in the selection of cases. It is only proper that such a means for the cure of ascites should be tried in cases widely dissimilar, for only in this way can its usefulness be extended; but, as I pointed out in a short paper read in Toronto,[2] it is not fair that the cases should be lumped together for statistical purposes. When the operation is reserved for uncomplicated cases of ascites due to alcoholic cirrhosis that have withstood one or two tappings, the results are very much better than is generally supposed, and I am glad to be able to contrast a case in which the indications were such as to lead one to expect a successful result with one in which the operation was undertaken rather as a forlorn hope than with the expectation of recovery.

Case 1.—*Cure of Ascites due to Alcoholic Cirrhosis: Double Radical Cure of Hernia Subsequently: Patient Alive and Well Two Years and Nine Months Later.*

J. T., aged 46, a gas works labourer, was admitted to the Newcastle-upon-Tyne Royal Infirmary under the care of Dr. George Murray on September 22nd, 1906, complaining of swelling of the abdomen and ankles. The patient came of a healthy family, and had usually enjoyed excellent health in spite of the fact that he had always been a heavy beer drinker. His present illness began twelve weeks previously with swelling of the abdomen, which became so distressing that he had to be tapped four times in the eight weeks preceding admission. He suffered very much from shortness of breath, which was relieved after the tapping. The secretion of urine was very scanty, but there was no trouble with micturition. Recently he had lost flesh considerably. When 20 years of age the patient contracted gonorrhœa, but there were never any symptoms of syphilis. Twelve years previously he was operated upon for double hydrocele. Four years ago a right inguinal hernia presented itself as the result of heavy lifting, and seven months ago it gave him so much trouble that he began to wear a double truss.

On his admission the patient was found to be a big man, weighing 13 st., but looking anæmic and ill, and with a dirty tongue, though he had a good appetite. The temperature was 97.8°, and the cardio-vascular system normal, with a pulse of 80. There were some crepitations at both bases; urine was very scanty and of specific gravity 1030, but there was no albumen or sugar. The abdomen was full of fluid, which distended the sacs of a double inguinal hernia. While in the medical wards the patient was tapped four times—namely:

September 23rd	...	...	...	447 oz.
October 6th	...	...	...	398 oz.
October 20th	...	...	...	432 oz.
November 3rd	...	...	...	394 oz.

As the condition was not improving, Dr. Murray asked me to see the case with a view to surgical interference, and I looked upon it as a very favourable one for omentopexy.

Operation.

The patient was prepared in the ordinary way, and on November 6th, 1906, I carried out the following operation:

The abdomen was opened by a median incision, 4 in. long, above the umbilicus. The subperitoneal veins were very large and numerous. An enormous quantity of fluid escaped as soon as the peritoneum was opened, and a separate small incision was at once made above the pubes for the introduction of a Keith's tube through which the fluid escaped during the remainder of the operation. The liver was found to be very small, markedly hobnail, and much fissured. The spleen was twice its normal size. The omentum was shrivelled up, so that it lay like a fringe along the transverse colon. There were numerous vascular adhesions about the liver, but none elsewhere. After emptying the abdomen of fluid with sponges the surface of the spleen and the corresponding parietal peritoneum were thoroughly scrubbed with a sponge, but no attempt was made to treat the liver in this way, for fear of disturbing the existing adhesions. The omentum was then fixed to the parietes by silkworm sutures tied over gauze dozzles. The incision was closed in layers with catgut, the Keith's tube being left in the pelvis and the abdomen carefully strapped from above downwards. Special nurses were employed to keep the tube clear of fluid, and this necessitated its being drawn every fifteen to thirty minutes for the first few days. During the seventeen days the Keith's tube was allowed to remain the daily amounts of fluid averaged 12 oz., and during the three days immediately preceding its removal the amounts were 31 oz., 29 oz., and 5 drachms respectively. As the glass tube was replaced by a rubber one, and as the fluid gradually lessened this was removed a week later.

After-History.

A month after the operation the man was able to leave the hospital much improved in general condition, but still with some free fluid in the abdomen. To help absorption he was given a little potassium iodide and mercury, and this he took continuously for the next two months. A fortnight after leaving the hospital the abdomen was tapped for the last time, 6 pints and 7 oz. being removed. In the middle of January, 1907, the patient was very well. He slept and ate well; the bowels were regular; there was very little fluid in the abdomen and much less swelling of the feet. A month later the man reported himself as still very well, his principal trouble being due to the distension of his hernial sacs with what fluid remained in the belly. The use of a suspender gave him some relief, but it was eventually decided to rid him of this inconvenience by operation.

Operation on Herniæ.

On May 6th, 1907, both herniæ were operated upon by the method of Bassini. The superficial veins over either hernial region were unusually prominent, but there was nothing else worthy of note about the operation. For two or three days after this interference the man was decidedly lethargic; there was slight jaundice and an erythematous eruption, but, to my great relief, these symptoms quietly disappeared, convalescence thereafter being uninterrupted.

After-History.

By the middle of June he was much better than he had been before the hernia operation, and in August he went back to work. In July, 1908, the patient reported himself in excellent health; he had worked continuously since starting, and had no complaint to make beyond the inconvenience caused by a cyst of the epididymis on the right side, which he wished had been cured at the same time as the hernia. When the man next reported himself, in August, 1909, he looked the picture of health and expressed himself as in better health than ever before, weighing 14 st. He was working regularly, earning £1 a week as a labourer in the gas-yard, and eating and sleeping well. Since the operation he has not taken alcohol in any form.

This, then, was a case which fulfilled the indications which an increasing experience has shown may justify us in predicting a successful outcome for the operation.

(*a*) It was clearly a case of alcoholic cirrhosis.

(*b*) There were no cardiac, renal, or pulmonary complications.

(*c*) The patient had withstood several tappings.

There were one or two points about the operation worthy of comment. The subcutaneous veins and the subperitoneal plexus were tremendously enlarged, and there were many vascular adhesions about the liver, but not between the omentum and the parietes. The deductions to be drawn were not quite clear. Did it mean that

Nature had put forth her best and required but a little help from the surgeon? on which hypothesis one would augur a rapid recovery with the additional aid the operation was able to give. Or did it mean that if so good a collateral circulation was not enough, the comparatively small addition given by the operation would not be likely to help? As it turned out, recovery was slow, and it evidently took Nature all her time to do what was just necessary to set about cure.

The omentum was all shrivelled up and closely tucked to the transverse colon, so that there was very little of it to attach to the parietes, but in another similar case it would be very easy to stitch the transverse colon, carrying with it the remains of the omentum, to the belly wall.

Drainage was employed and the abdomen strapped, as originally suggested by Mr. Morison. There is a tendency to dispense with drainage and to be content to tap later, simply, it appears, because of the inconvenience of the tube and the risk of septic peritonitis. I have never seen a case die from sepsis, and, to my mind, the drainage is important, for some cases have been cured by this measure alone, fluid being allowed to escape either externally or into the tissues.[5] I think the case under review illustrates the importance of drainage, for the collateral circulation already established would seem to have been enough, were it a mere mechanical problem; and this is further suggested by the unusual time the fluid ran, by the fact that the man required tapping after the operation, and that fluid reaccumulated to a slight degree. It may be that only some cases require both aids to cure, but I submit that it requires further experience to show us in which cases drainage may be wisely dispensed with, or, possibly, in which it alone may succeed.[6]

As the general condition improved the patient began to be more and more troubled by his hernia, and I was confronted with the responsibility of advising him in regard to it. Those who recall Mr. Morison's earlier papers[7] will remember that his first successful case died jaundiced and comatose after an operation for the radical cure of a ventral hernia performed two years after the omentopexy. The special danger attached to any operation after omentopexy appears to be the onset of toxaemia, which may overtake patients suffering from cirrhosis quite apart from any operative interference; but in interfering with an inguinal hernia there is the additional danger of upsetting the venous circulation by division of the superficial epigastric and other veins, which often take so large a part in establishing the collateral circulation.[8] My patient, however, was very anxious to be rid of his additional burden, as it interfered with his wage-earning capacity, and I advised him to run the risk. The lethargy and slight jaundice which followed the operation made me very anxious, but the symptoms soon passed off, and recovery was then as smooth as in any ordinary case. About two months later the wisdom of the step I had taken was confirmed by the death of another of Mr. Morison's patients from strangulated hernia. This was M. J., No. 9 in my previous list.[7] The patient, a butcher, aged 60, was operated on for ascites in July, 1905. In July, 1906, he was in excellent health, but had developed a right inguinal hernia, for which he wore a truss. A few months later he reported himself as having gained 5 st., making him 14 st. in weight. In July, 1907, his hernia became strangulated, but he was not seen by a surgeon until four days afterwards, when the operation, so long delayed, was followed in a few hours by death.

My patient has become a total abstainer, and it is partly to this that I attribute his very excellent health, for, so far as I know, there is no evidence that the operation can do anything to compensate for the loss of liver substance, and the patient must husband what remains lest the disease progress in spite of the new collateral circulation.

One of my patients was an old woman of 66, an inveterate whisky drinker, who would not give up her alcoholic habits, and had always a bottle of whisky in bed beside her. In spite of this she was comfortable after the operation, and, on her death three months later, I found only a small amount of free fluid, whereas, in the six months preceding the operation, she had been relieved of 6 gallons of fluid on three separate occasions. The omentum and small intestine were very well adherent to the parietes.

Sinclair White[5] mentions two cases in which he had successfully operated for the cure of ascites, but in which the fluid and the train of symptoms associated with it returned after a few months of unchecked debauch.

The next case illustrates some very important points in connexion with this operation.

Case II.—*Syphilitic Cirrhosis: Omentopexy: Death.*

J. J., aged 44, was admitted to the Newcastle Royal Infirmary, under Dr. W. E. Hume, on August 6th, 1908, complaining of abdominal pain and swelling of about two weeks' duration. There was a history of syphilis ten years previously, and he had also suffered from malaria and enteric, and was often troubled with diarrhoea. He admitted having been a regular beer drinker, now and then to excess. Just before admission the patient was tapped, but the fluid rapidly reaccumulated. On admission he looked fairly well, and weighed 9 st. 12 lb.; the heart, lungs, and kidneys were normal, though the excretion of urine was very much diminished. Over the front of the abdominal wall there were many enlarged veins, and especially so around the umbilicus. The abdomen contained a large quantity of free fluid, and neither the liver or spleen could be felt. A diagnosis of syphilitic cirrhosis was made, and the patient given a thorough course of mercury and iodide. The abdomen was tapped four times, on each occasion about 300 oz. being removed. In spite of treatment the patient went steadily downhill, losing weight and strength, and only ten days elapsed between the two last tappings, while he became very lethargic, and in this state was transferred to the surgical wards.

Operation.

I operated on October 23rd, 1908, carrying out precisely the same operation as in the first case. There was a large amount of free fluid; the omentum was not rolled up but its veins were very large; the liver was small, and the spleen not much enlarged. With the exception of a few adhesions over the posterior surface of the liver there were no signs of an attempt to establish a collateral circulation, and one got the impression that everything was left to be done. The operation was completed as in the first case, and the patient stood it very well, though he never showed any signs of improvement afterwards. He became more lethargic than before, refused his food, and paid no attention to his friends. There was never more than 20 oz. of fluid from the Keith's tube, and this very much diminished as the patient got weaker. There was no pyrexia, nor did jaundice develop. Death occurred on the fifth day. At the necropsy the peritoneum was found perfectly clean; there were no new adhesions whatever; the liver was very small, and contained numbers of large scars as of old gummata, and the spleen was exceptionally fibrous.

In this case the diagnosis was interesting. When I saw the man in the medical wards, I recognized him as one of my old out-patients who had attended on account of a syphiloma of the testicle and gummatous ulceration on the outer side of the thigh, and it was acting on this knowledge that the patient was given a thorough course of iodide and mercury, but without any benefit whatever.

My experience has led me to beware of the cases in which the cirrrhosis is probably due to syphilis, for none have done well, and it was this which led me to hesitate before undertaking the operation and to give a bad prognosis.

In addition to the syphilitic origin of the cirrhosis, this patient did not improve even temporarily after tapping, and when he came to the surgical wards he was in much worse condition than when I first saw him, for he had lost weight and strength, and was obviously going downhill. To interfere at this stage certainly gave the man the last chance, but as he survived nearly a week after the operation, it was probably but an incident in his fatal illness.

The question is often raised as to the stage at which this operation should be performed, and I think, in the absence of other visceral disease, that if the fluid rapidly reaccumulates the operation should not be delayed, for I was much impressed by the case of a gentleman of 66, who was relieved of an average of about 22 pints of fluid nine times in eight months, but who became cholaemic and died suddenly when everything seemed to augur that tapping alone would bring about cure.

References.

[1]Sinclair White: The Surgical Treatment of Ascites Secondary to Vascular Cirrhosis of the Liver, British Medical Journal, November 10th, 1906. [2]G. Grey Turner: The Cure of Ascites by Operation. British Medical Journal, November 10th, 1906. [3]Sir Hector Cameron in the Discussion on the Surgical Treatment of Vascular Cirrhosis of the Liver, British Medical Journal, November 10th, 1906, p. 1298 (Sinclair White). [4]W. Essex Wynter: The Treatment of Ascites by Continuous Drainage into the Tissues, *Archives of Middlesex Hospital*, Clinical Series, No. 11, p. 15. [5]Cure of Ascites due to Liver Cirrhosis by Operation, *Lancet*, May 27th, 1899. [6]Rutherford Morison: A Case of Ascites due to Liver Cirrhosis treated by Operation, *Annals of Surgery*, September, 1905; T. N. Brahmachari: Compensatory Collateral Circulation with Capsulo-Medusa in Cirrhosis of the Liver without Ascites, *Lancet*, December 16th, 1905. [7]Same as [6]. [8]Same as [1].

TWO CASES OF PRIMARY CARCINOMA OF THE APPENDIX.

By DAVID M. GREIG, C.M., F.R.C.S.EDIN,
SURGEON, DUNDEE ROYAL INFIRMARY; LECTURER ON CLINICAL SURGERY AND SURGICAL DISEASES OF CHILDREN, ST. ANDREWS UNIVERSITY; SURGEON, ROYAL VICTORIA HOSPITAL, ETC.

PRIMARY carcinoma of the appendix is necessarily an uncommon occurrence in any individual surgical practice, hence no justification is required for the publication of isolated cases. Such cases have been collected from time to time by various writers, but as yet have not been numerous enough to justify conclusions as regards symptoms, prognosis, and other valuable clinical data. In both the following cases the patients were operated on in December, 1905, and both are at the present time in perfect health, and show no sign of recurrence.

CASE I.

A labourer aged 35 was referred to me by Dr. Lawrence. He was the youngest of twelve, the others being in good health. His father died of cancer of the stomach, but his mother was alive and well. Though married he had no family. He had a comfortable home, and was temperate and a moderate smoker. Twenty years previously he seems to have passed through a mild attack of complete syphilis, and four years later he had an attack of bronchitis. These constituted his only previous illnesses.

History of Illness.

Two months previous to my seeing him he supposed he had strained himself at work, for he was seized somewhat suddenly with a pain in the lower part of the abdomen which shot down into the right testicle. He continued at his employment, however, for about a month, the pain gradually getting worse. The taking of food aggravated it: the bowels were very constipated, and he had pain during defaecation. He then consulted Dr. Lawrence, who recognized it as an atypical case of appendicitis, and under whose directions he restricted his diet to fluids, with the use of enemata every other day to relieve the constipation. Dr. Lawrence was struck with the fact that the pain continued more severe and more constant than the mildness of the other symptoms would have led one to expect, and it was more irrespective of the ingestion of food. His temperature was lower than in typical appendicitis. During three weeks of treatment he improved somewhat, approaching his usual condition of health and becoming almost free from pain. A slight relaxation of diet was allowed, and on the following day the pain returned as violent as ever. There was not with this, however, the usual general symptoms of inflammatory disturbance.

Condition on Admission.

On admission to the Dundee Royal Infirmary he looked a strong man, and appeared to be healthy with the exception of slight pulmonary emphysema. He had slight pain at the end of micturition. Locally a little fullness was visible in the right iliac region, with some discoloration and desquamation caused by hot applications. There was some muscular resistance to palpation and tenderness over the appendix area. An elongated hard swelling was felt a little above and running parallel to Poupart's ligament.

Operation.

On December 15th, 1905, under chloroform anaesthesia, the caecal region was exposed by the usual incision. The appendix was found to be imbedded in an inflammatory mass attached along the line of Poupart's ligament, and, dipping down into the pelvis, was attached to the bladder. To facilitate manipulation it was necessary to make a median incision to supplement the original one, and the mass was dissected out, the stem of the appendix being treated in the usual way. The operation, which was an unusually difficult one on account of the density of the adhesions, occupied an hour and fifty minutes, and the raw surface from which the inflammatory mass had been removed was such that I thought it advisable to introduce on to it a drainage tube from either wound.

After-History.

The wounds were dressed on the following day and daily thereafter until the removal of the tubes, the suprapubic one being removed on the fifth and the iliac on the eighth day after the operation. The wounds healed without any further difficulty, and the patient went home on January 20th. After his discharge from hospital I saw him occasionally until he went to America in the spring of 1907. While there he retained good health, becoming stouter and heavier, until he weighed 12 st. 10 lb., a weight he had never previously attained. His appetite was good, and he had no trouble with the bowels. He occasionally had pain about the region of the right kidney, but nothing abnormal could be made out in connexion with that organ. He returned from America in June, 1909, and was then, as he still is, in excellent health and condition. The cicatrices were strong and showed no yielding, though he wore no belt. An occasional pain about the right loin is complained of, but examination is entirely negative.

Description of Parts Removed.

Professor Sutherland, who examined the growth for me, reported that the lesion was quite definitely cancerous, with marked inflammatory new formation in the parts around. It had originated in the epithelium of the tubules, assumed in places a glandular disposition, but, losing this again, comported itself more after the manner of a scirrhus. There was no doubt whatever that it was not an ordinary cylinder-celled epithelial carcinoma of the intestine.

CASE II.

For permission to publish the second case I am indebted to Dr. R. C. Buist.

The patient was a married woman, aged 36, who had been sent into his ward on account of uterine fibroids, for which he did a hysterectomy. During the inspection of the parts after the completion of the hysterectomy it was noticed that the free end of the appendix was the seat of what appeared to be a plum-sized cyst without any adhesions or any inflammatory adjuncts whatever. The appendix was removed in the usual way. Professor Sutherland examined the tumour removed with the appendix and found that it was cancerous, the microscopic examination showing a cylinder-celled carcinoma. The patient made an uninterrupted recovery, and is known to be well at the time of publication.

These two cases fall into very different categories, and for clinical purposes hardly deserve to be classed together. The former proves the danger, the latter merely demonstrates the possibility of the existence, of primary carcinoma of the appendix. In the former the appendicitis, with its pain and its surrounding inflammation, was the dominant symptom; in the latter no symptoms had arisen. Both the patients were about the same age, rather on the young side for malignant disease of the bowels. The variety of carcinoma found in primary affection of the appendix appears to be most commonly of the cylinder-celled variety, and such was present in the latter case. It is much rarer, indeed, to find the appendix the seat of an alveolar carcinoma, and this the pathological examination showed the tumour to be in the former case.

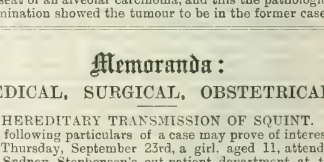
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HEREDITARY TRANSMISSION OF SQUINT.

THE following particulars of a case may prove of interest: On Thursday, September 23rd, a girl, aged 11, attended Mr. Sydney Stephenson's out-patient department at the Queen's Hospital for Children with a convergent squint of the right eye which measured 35 degrees on the perimeter, the lateral movements of the eye being unimpaired. Right vision $\frac{6}{9}$, partially, left vision $\frac{6}{6}$. It was noticed that the mother also had a convergent squint of the right eye measuring 25 degrees on the perimeter, and there was defective outward movement of the right eye.

On inquiring into the case it was found that on the mother's side the following members of the family had a



convergent squint: Six out of her seven children—that is, all her children except the youngest, aged 2 months—the mother and her two brothers, her father and two of his brothers, and her grandfather.

The chart, which was kindly got out for me by the sister in charge of the out-patients, gives the tree of this interesting case of hereditary transmission of squint.

ERNEST E. B. LANDON, M.R.C.S., L.R.C.P.
Acton Vale, W.

Reports of Societies.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, October 1st, 1909.

Professor R. Muir, President, in the Chair.

Presidential Address.

Professor R. Muir, M.D., in a presidential address, pointed out that confusion and inaccuracy prevailed both in pathological and clinical work owing to the lack of a generally accepted definition of the term "inflammation." The chief reason for the difficulty in obtaining agreement amongst authorities was the fact that inflammation was a collection of processes all differing in nature. After analysing these and showing that they were (*a*) retrogressive processes, necrosis degenerations, the direct result of damage, (*b*) reactive or progressive processes, defensive and reparative, including increased functional activity—for example, phagocytosis—and increased formative activity—for example, proliferation of cells—he showed that the reactive processes might be, in a sense, regarded as the most important phenomenon; but that, if so, it was one which had no relation to any of the cardinal symptoms of inflammation. When subacute and chronic inflammation were considered, the difficulty increased. The presence of certain parasites produced, in addition to other effects, proliferation of connective tissue cells and the formation of new blood vessels, or, in other words, led to the formation of granulation tissue, similar to that seen in the healing of wounds. Was this process to be considered the same in nature in the two cases or of two kinds? It was unjustifiable to extend the term "inflammatory" to the healing process, which essentially depended upon breach of continuity of the tissues—that is, to a variety of regeneration. "Inflammatory proliferation" might be the result of damage—that is, reparative in kind, and not the effect of direct stimulation—but this was not proved. It was better to speak of it simply as being the result of irritation; whether this acted directly or indirectly must be left an open question. In any case the use of the term "inflammatory" served no useful purpose. The same held with regard to the fibroses. Some were due to continual mild irritation, some were simple replacements, and some were of functional significance; but whether they were inflammatory or not depended entirely on the definition of the term. The necessity for analysis was equally great in connexion with the "treatment of inflammation." Here, again, inflammation was not to be regarded as a process, nor treatment to be directed towards it as a whole. Each therapeutic measure should be applied to some part of the complex, and so applied according as to whether the process in question was to be checked or encouraged. The general conclusion reached was that it was impossible to define inflammation, and at the same time maintain its relations to the recognized cardinal signs. The term should only be used as a convenient though somewhat indefinite clinical phrase, and its use in matters of discussion should be avoided.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Liverpool, Friday, October 15th, 1909.

Dr. J. W. Martin, President, in the chair.

Miss Ivens (Liverpool) read notes of five cases of *Tuberculous salpingo ovaritis*. In four the disease was apparently primary in the tubes; in the fifth there was an associated bone lesion. The ages varied from 20 to 36. Dysmenorrhoea was the only symptom common to all. Dysuria occurred in four cases and menorrhagia in three. In no case was the uterus removed, though both tubes were extirpated in each case. A portion of ovary was left in all but one case. In all there had been an immediate and maintained good result, with gain in weight and freedom from pain. In one tuberculous peritonitis developed, but subsided after tuberculin treatment. Dr. Arnold Lea (Manchester) read a short paper on *Gastric ulcer as a cause of pelvic peritonitis*, with notes of three cases. Chronic adhesive pelvic peritonitis, with more or less disorganization of the uterine appendages, was found on abdominal section in each case. No evidence of the usual causes of pelvic peritonitis could be obtained. On the other hand, there was in each instance a history of severe chronic gastric dyspepsia, with an illness suggestive of a leaking gastric ulcer, from which the patient had recovered without an operation. Dr. Leith Murray (Liverpool) read a paper on the anti-autolytic action of blood serum and its relation to *Hyaline degeneration of uterine fibroids*. Small pieces of a fibroid incubated in serum soon developed, he said, distinct hyaline change limited to the connective tissue. Muscle fibres took a purely passive part in the process. The hyaline appearance produced resembled hyaline degeneration occurring naturally, both on general microscopical examination and in staining peculiarities. The clear fluid cavities in oedematous fibroids did not, he considered, result from thinning out of surrounding hyaline material, as Kelly and Cullen had asserted, but the fluid in them was directly responsible for that change, and could be produced *in vitro*. Among the exhibits were the following:—Dr. A. J. Wallace (Liverpool): A uterus and vagina removed for *Carcinoma of the cervix*, extending superficially over the entire anterior vaginal wall. There was no infiltration of the parametric tissues. The vagina was first separated from below, and its lower end invaginated and closed by a double layer of sutures. The operation was completed by the abdomen, an ordinary pelvic dissection being performed. The pelvic glands on the left were enlarged, and were freely cleared out. Those on the right side were much enlarged, and too intimately adherent to the iliac vessels to justify removal. Dr. J. E. Gemmell (Liverpool): A good example of a rare fetal monster—*Symelus*.

ROYAL SOCIETY OF MEDICINE.

Section of Surgery.

Tuesday, October 12th, 1909.

Mr. R. J. Godlee, President, in the Chair.

Inflammatory Diseases of the Lungs and Pleura.

The President read a paper on the prognosis in some inflammatory diseases of the lungs and pleura commonly treated surgically; it was a subject, he said, in which he had always taken great interest, and the materials for his remarks were taken from his private notebooks. Prognosis in the conditions under consideration was generally hopeful, and encouraging for the continuance of existing methods of treatment. Serous effusion with acute pleurisy, left in itself "no stain upon the character." This dictum had been endorsed by Dr. Theodore Williams, who said that such cases were accepted at ordinary rates for life insurance if physical signs of disease were absent, and if sufficient time had elapsed. All insidious cases of chronic serous effusion were not tuberculous, and all tuberculous cases were not insidious in onset. Cases of carcinoma of the lung, aneurysm, and subdiaphragmatic mischief might be mistaken for simple pleurisy, and thus both diagnosis and prognosis might be very difficult. He advocated repeated tapping in serous effusion, and detailed a case in which, after sixteen tappings and seven months' treatment, recovery ensued, and no tubercle bacilli were discovered. As to acute empyema of children, he had little new to say, but laid stress on the importance of well-established principles of treatment such as free opening, good drainage in the recumbent and sitting-up positions. The prognosis varied; some got well in ten days, others in a month, others not for six weeks. Pneumococcal cases did best. In another class—those in which a fistula existed—whilst the prognosis as to life was good, the chances of closing the fistula were most problematical; he had made several unsuccessful attempts to do so. He mentioned some most interesting cases of bronchiectasis and recurrent empyemata, and referred to the dangers of very extensive thoracoplasty and operations for removal of portions of the lung. Bilateral bronchiectasis was not amenable to surgery, but cases due to foreign bodies inhaled could be so treated, and might live many years in good health. Bronchiectasis was likely to be followed by cerebral abscess, which was the end of all prognosis, but the author was unable to give any reliable guide as to the possible supervention of this complication.

PATHOLOGICAL SECTION.

Tuesday, October 19th, 1909.

Dr. F. W. MOTT, M.D., F.R.S., President, in the Chair.

Presidential Address.

THE presidential address upon the present position of the neurone doctrine in relation to neuro-pathology will be published in a subsequent issue.

Rhabdomyoma of the Bladder.

Mr. S. G. SHATTOCK exhibited the bladder of a male child, aged 2 years, from the mucous membrane of which many polypi projected. Histologically they consisted almost solely of striated muscle fibre in all the normal stages of development from large multinucleated sarcoblasts. In discussing this unusual site of striped muscle, the author adopted the view that heteroplasia in the case of tumours meant heterotopia, or the displacement of embryonic elements from a normal to an abnormal position. Certain of the striated fibres of the external sphincter vesicae (Henle) lay deeply in the substance of the anterior or upper portion of the prostate, Henle's description on this point having been recently fully confirmed by Mr. C. S. Wallace. It was from vagrant sarcoblasts that the striated fibres in the mucous and submucous coats probably developed. In favour of this view was the circumstance that the tumours were confined to the neck of the bladder, and that they were almost certainly congenital.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Tuesday, October 5th, 1909.

Professor A. R. CUSHNY, President, in the Chair.

The Teaching of Therapeutics.

SIR CLIFFORD ALLBUTT, in opening a discussion on the teaching of therapeutics in the hospital ward, said that medical men must be pioneers; they could not afford always to wait for the pharmacologists, but there must be a mutual watchfulness of each other. Much that we knew to-day to be good came from empirical knowledge; such knowledge was still being acquired, but the empiricism must be of the best kind, the knowledge of experience. He selected three examples of methods of treatment which had stood the test of modern research, but which came originally from folk medicine—namely, digitalis; vaccination, which to-day had wonderfully expanded in other directions; and poultices, which, after suffering a period of abuse, were, through the work of Bier, seen to be fundamentally reasonable. The student must be assured that, apart from pharmacological proof, there was a large tradition of empirical knowledge of great provisional service. He should be told that such and such were the means found useful in clinical experience, whether they could be scientifically explained or not. They were to go to the bedside as artists to do what they could for the patient with such lights as they had. Finally, the student must be told he had to deal with living realities. He must be (1) assured he must be no sceptic, or he would endanger his own resourcefulness; (2) given a clear idea of the *vis medicatrix Naturae*; (3) warned against the danger of the overuse of drugs, and shown how closely therapeutics depended upon prognosis. Professor OSLER, F.R.S., gave an account of the methods adopted at the Johns Hopkins University, laying stress on the practical advantage thereof. Dr. HARRINGTON SAINSBURY thought there should be more careful teaching of the history of therapeutics. Dr. CALVERT said that there was a lamentable ignorance regarding incompatibility of drugs and of simple and practical therapeutic methods, which should all be systematically taught in the wards. Dr. ROBERT HUTCHISON relied more on teaching the student to be a sound diagnostician than a pharmacologist, and suggested that the time was ripe for some uniform agreement on the main lines of treatment to be adopted in certain well-known diseases, such as gastric ulcer. Professor DIXON insisted on the advantage to the student of a sound pharmacological knowledge, and pointed out the rational value of administering alkaloids when strength and action were accurately known. Dr. BEDDARD thought it was impossible to really teach therapeutics in the wards. Sir DYCE DUCKWORTH emphasized the necessity of imparting practical instruction to the student, such as the giving of enemata, hypodermic injections. He deplored the multitude of new so-called remedies. Dr. HACKNEY said the student should be taught how to manage a practice, keep books, and be given a general idea of ordinary routine work. The PRESIDENT closed the discussion with a few remarks.

HUNTERIAN SOCIETY.

Wednesday, October 13th, 1909.

Mr. T. H. OPENSHAW, C.M.G., President, in the Chair.

The Hunterian Lecture.

DR. SIDNEY MARTIN, in delivering the first Hunterian Lecture of the present session, dealt with certain infective processes in the intestine, their effects and treatment. He classified bacteria having their habitat in the intestine into three groups: *Endogenous—Bacillus coli communis* and *Streptococcus faecalis; exogenous*, such as enteric; and *putrefactive*. These last when they developed led to serious pathological results. The rôle of the *B. coli* was to counteract putrefactive bacteria; the *B. coli* and *B. acidi lactici* prevented putrefaction of boiled milk; when introduced into the tissues it became pathogenic, its chemical product being an endotoxin which caused lowered body temperature, and wasting. The septicaemia which sometimes followed enteric and cholera was due to *B. coli*. The *B. coli* tended to produce illness, irregular in type and tending to get well and relapse. It acted by side infection, producing disease of the gall bladder, pancreas, or appendix; by direct effect on mucous membrane, producing such conditions as mucous or ulcerative colitis; or by passing into the blood stream, causing pyelitis, cystitis, thrombosis, meningitis, and infective endocarditis. In his remarks on treatment the lecturer pointed out that vaccination by the *B. coli* did not always cure, but produced remarkable results in certain cases. He instanced two cases of thrombosis in which the effect had been markedly good. He considered big doses dangerous, and recommended from 1 to 4 million of the dead bacilli per dose. A toxic dose produced definite local reaction and swelling.

Rebiews.

THE POSITION OF THE MEDICAL PROFESSION: A GERMAN VIEW.

IN the preface to his book entitled *Der Arzt*,[1] Dr. FUERST complains that the public is in a state of extreme ignorance concerning the modern aims of medical practitioners. He holds the profession of medicine to be not the least important factor in modern civilization, as its work every decade grows greater, while it absorbs more duties as society appreciates in a wider degree the community of interest of all classes and their mutual dependence.

He begins with the familiar complaint of the overcrowding of the profession. The total number of qualified doctors in Germany is 31,640, which gives one doctor to 1,900 of population; but in towns the proportion is as high as 1 to 1,000, or in Berlin 1 to 700, which is the same as in London. Complaint is made of the difficulty of earning a living in country practice, and of the inadequate pay of district medical officers, while young men find few openings for practice. Nevertheless, he thinks the profession offers a fair prospect to suitable men. He asks: Who is suitable? and his answer is that the principal qualifications are a sound mind in a sound body, and the capacity for taking an optimistic view of life!

In Germany the State recognizes the principle "once a doctor always a doctor," so that the permission to practise is only withdrawn (1) if obtained by fraud, or (2) on conviction for a crime involving deprivation of civil rights. In the latter case the permission is only suspended, as civil rights are only withdrawn for a definite period. According to German law, the medical practitioner cannot divest himself of his privileges or his duties, and doctors who have ceased to practise still pay medical taxes, and are subjected to the control and discipline of the medical

[1] *Der Arzt, seine Stellung und seine Aufgaben im Kulturleben der Gegenwart.* Von Dr. Med. Moritz Fuerst in Hamburg. Leipzig: B. G. Teubner. (1909.)

courts. There is some controversy as to the status of the medical profession, but in many parts of Germany it is, we are told, regarded as a trade, practitioners having to take out a trade licence and pay trade taxes. In Prussia, however, it is admitted to be a scientific calling, the only exception being in the case of a doctor who carries on an institution for profit—such as a private lunatic asylum. The legal privileges of the doctor in Germany are that he alone may use medical titles or receive recognition by the State and public authorities, and that he alone is eligible to hold State and municipal appointments. His horse, carriage, and forage are exempt from military requisition; he is not liable to serve on juries or in various honorary municipal offices, and he may plead "professional secrecy" in a court of law; he must, however, serve on sanitary boards; he has a prior claim in bankruptcy over other creditors to the extent of one year's fees, and his instruments, including his watch and necessary clothes and the furniture of his consulting room, are exempt from distraint.

In Germany the highest ambition of the budding doctor is to become a specialist. Some of the medical courts and medical societies have laid down the rule that specialism must not be combined with general practice. In Prussia specialism is allowed only in certain subjects, and the specialist must qualify himself by studies carried on for at least three years beyond the ordinary curriculum either in a university department or some special institution, or in the wards of a large hospital, or by acting as assistant to a recognized specialist.

The medical profession in Germany is regulated by (1) the State and (2) voluntary societies. There are legally-qualified courts of medical honour which are elected by the medical men in each district, and are of two grades, a lower court composed solely of medical men, and a higher court of appeal where a legal assessor sits with the medical representatives. These courts try medical practitioners accused of various professional offences, and have the power to impose penalties, including censure, fines, and suspension from the medical franchise. As condemnation may involve the loss of public appointments, the decisions of these courts exercise considerable influence.

The voluntary societies are not scientific bodies, but are of the type of the Leipzig Union of German Medical Practitioners for the promotion of their business interests, founded by Dr. Hartmann. A principal object appears to be to watch over the relations of medical men to the State dispensary system, and to agitate for improved conditions of service. It would seem that these societies are practically trades unions: their methods are the same, and they contemplate organizing strikes if necessary to enforce their objects. Dr. Fuerst considers that the medical profession is not treated fairly by the State in Germany, and that the Social Democratic party desires to enslave it. He refers to schemes for converting the medical profession into a State service, a project which is not without supporters in this country. He thinks the plan is not in the interests of the profession or of the public or of science, and that the position of medical men would be unendurable if the public could demand their services at will. Doctors if made State officials would fall off in diligence and efficiency from the absence of competition. He approves a State service of doctors to perform such duties as attendance on the poor and on schools in connexion with State insurance, vaccination, and so forth.

Quackery, he says, is a great evil, though he does not believe that any law can stop it, as it is founded on inherent human weaknesses: he complains, however, of the state of the law in Germany, which sanctions medical treatment by unqualified persons and the traffic in secret remedies. He reproaches qualified men with being willing to take service with quacks. The most rampant form of quackery in Germany is the "*Naturheilkunde*," but this "Natural" treatment is a false pretence; scientific medicine includes the use of all "natural" means, drugs being as natural as water, sunlight, or fresh air: the title therefore misleads the public. Further, he states that it is within his knowledge that the claim to use no drugs is false, as in the course of his work as school doctor he has seen prescriptions drawn up by these so-called "natural treatment" doctors for morphine and other drugs.

Dr. Fuerst urges the doctor to be an active citizen, taking his share in public life, in which he is fitted by his education to play a prominent and leading part.

The book is a compendium of information upon the state of the medical profession in Germany, but in spite of some advantages, chiefly on the educational side, there is reason to doubt if its condition compares on the whole favourably with the corresponding condition in this country, either in official legal status, social recognition, or pecuniary reward.

NOTES ON BOOKS.

The reissue of the *Dictionary of National Biography*, edited by Mr. Sidney Lee,[2] is now approaching completion. Volume xvii. to the publication of which we have not previously referred, contains a biography of Shakespeare, by the editor, the longest, we believe, in the book, since it occupies nearly fifty pages, and the biographies of the Scotts, a family which has achieved distinction in many directions, no less than some ninety individuals appearing here. Volume xviii has a long and sympathetic account of Smollett and a short biography of William Smellie. The next volume contains the biographies of Sydenham, Benjamin Travers, Dr. Hack Tuke, Samuel Tuke (the founder in 1792 of the retreat for the insane at York), and of Dr. Todd (the first Professor of Physiology at King's College, London). The twentieth volume, comprising the names in the fifty-eighth, fifty-ninth, and sixtieth volumes of the original edition, takes us as far as Whewell, the famous Master of Trinity College, Cambridge. Among the biographies in this volume are those of the Wellesleys, including the first Duke of Wellington, the Vanes, the Vaughans, and the Walpoles. Among the medical names are those of Dr. Waller and Dr. Charles West, while there is an interesting account of the checkered career of David Urquhart, diplomatist and publicist, to whose advocacy the naturalization of the Turkish bath in the British Isles is mainly due. The reissue will be completed by the publication of two more volumes.

The three volumes recording the occurrences at the Australasian Medical Congress (formerly called the Intercolonial Medical Congress of Australasia), held at Melbourne just a year ago, have now appeared, under the title of *Transactions of the Eighth Session of the Australasian Medical Congress*,[3] the editor-in-chief being Dr. Alexander Lewers. The proceedings are reported very fully, the remarks of some of the speakers at some of the debates being transcribed, it would seem, verbatim. The first volume covers general meetings and the work of the sections of medicine and surgery; the second the sections of obstetrics and gynaecology, public health, anatomy and physiology, and pathology and bacteriology; the third the work of the sections devoted to diseases of children, dermatology, neurology, ophthalmology, laryngology and otology, and military and naval hygiene. There are three indexes, the most useful being that in the first volume, which gives a classified list of all papers read. Among the most interesting discussions are those which took place in full session on the subjects of the relations of hospitals to the medical profession and the administrative treatment of syphilis. Several papers read in the section of military and naval hygiene contain references to the South African war, and show, amongst other things, that it was not alone from England that many physically unfit men started for the front.

Dr. Meyer has undertaken a difficult task, nevertheless his *Lexicon Medicum* is a satisfactory publication, complete and yet portable.[4] His method of including the necessary amount of lexicographical matter within a small compass is ingenious. The paper is very thin, yet the print is quite clear. The English reader who, for instance, wishes to know the Italian for "cough" will find "*Cough* (e) = Husten (ol." By o it is understood that under the word before it all translations are to be found. The reader, then, turning to the word in question in this case,

[2] *Dictionary of National Biography*. Edited by Sidney Lee. Vols. xvii. and xviii. London: Smith, Elder, and Co. 1909. (Roy. 8vo, pp. 1418, 1345, and 1394 respectively. 15s. per vol.)

[3] *Australasian Medical Congress. Transactions of the Eighth Session*. Melbourne: J. Kemp. 1909. (Roy. 8vo, pp. 1261. 3 vols.)

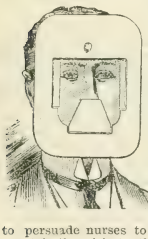
[4] *Lexicon Medicum; Pocket Medical Dictionary in Eight Languages*. Edited by Dr. J. Meyer, Berlin, in collaboration with Dr. O'C Finigan, M.R.C.S.E. Lond., Assistant Physician, German Hospital, London; W. Lockwood and Co.; and Berlin and Vienna: Urban und Schwarzenberg. 1909. (Fcap. 8vo, pp. 816. 20s.)

will find *Husten*. *e* cough. *f* toux. *i* tosse, *j* gaisó; seki, *r* kaschelj, *s* tos, *u* köhöges." Thus, he will learn without much difficulty that "tosse" is the Italian for cough. The Hungarian doctor who desires to know the English for "cough" will find "*Köhöges (u)*=Husten (o)," and then, turning to that German heading, will learn what he sought; and so will the Frenchman, Italian, Japanese, Russian, or Spaniard when he looks up the word in his own language, as the reference will be to the German heading which includes "omnia" or "o." Those who read German works or wish to converse with German-speaking doctors or patients will find reference very convenient when they hear the German word and seek for its English equivalent direct, as it includes English among the rest. The compiler states in his preface that this lexicon is designed for the use of medical men who go to foreign countries as visitors to congresses, ship surgeons, medical officers in the services, students and inspectors of foreign sanitary methods, and for consultation and practice abroad, or with foreigners in the doctor's own country. The lexicon appears to be fairly complete, especially as to the medical names of disorder. A few English words in general use, such as "chicken-pox" and "stye," are omitted; in respect to the last word, we must add that not only do we fail to find "compère loriot," but "Gerstenkorn" and "Hordeolum" are likewise absent. The lexicon is, however, a very satisfactory compilation. It is significant to find that Spanish is becoming more and more studied, and not only in commercial circles; but it is not surprising, for from the frontier of Texas to Cape Horn the language of Cervantes and the cognate tongue of Camoens prevail. Many Englishmen go to Spanish America, and there is a good school of medicine at Buenos Ayres.

MEDICAL AND SURGICAL APPLIANCES.

Garrould's Zymotic Face Protector.

MESSRS. E. AND R. GARROULD (150, Edgware Road, London, W.) have introduced a zymotic face protector for the use of medical men and nurses. The invention consists of a shield of thin aluminium with a transparent outlook, and is designed for the purpose of protecting the face from infectious matter or involuntary expectoration in diphtheria, fever, or other cases. The only objection we can see to this apparatus is that the breath of the wearer condenses on the glass screen; and we fear that in cold weather, even in a ward, the condensation would interfere seriously with the sight when the protector was being worn for longer than a minute or so. Otherwise the protector would be useful; though it is very difficult to persuade nurses to wear screens of this sort. Fortunately the risk to the eyes, which this instrument is designed to avoid, is very slight. The price of the appliance is 10s. 6d.



Rectifier for Converting Alternating Currents.

The need for some simple and compact apparatus by means of which alternating current from the mains may be converted into continuous for the smaller powers has long been felt by users of electricity for medical and other purposes. The systems already in use, such as the electrolytic rectifier, the mercury lamp, and perhaps in a less degree the motor generating set, have their own disadvantages, either in the shape of unsatisfactory working, costly upkeep, or loss of efficiency in transformation. We have had the opportunity of witnessing a demonstration of a new apparatus, which possesses an efficiency of about 90 per cent., and may be said closely to approach the standard of the ideal rectifier. It has been placed on the market by the Premier Ampero Electric Company (Premier House, Dover Street, W.), whose name it bears. Its simplicity and portability are its first claims to favour, for there are no brushes to look after, no chemicals to employ, and no mercury lamps to replace; moreover, it can be safely left in the hands of one who is non-expert in electrical technique. The principle of the instrument depends upon the fact that if two secondaries of a transformer are alternately put into circuit at each half period, the induced current feeding the secondary circuit will be unidirectional. One of the secondaries of this transformer feeds two electro-magnets, which are wound so as to give the same polarity simultaneously. Then an armature, pivoted at the centre, is magnetized by two small coils, which are wound so as to give opposite polarity, and are excited by direct current taken from one of the cells on charge, or from a special cell if the rectifier is not being used for battery charging. The rapid change of the magnets in polarity when excited by alternating current causes the armature to be attracted and repelled synchronously, and, by means of a contact piece, its oscillations alternately make and break the contacts, each of which is connected to an end of the secondary winding. This is the rough outline of the plan by which the current is made continuous. An important feature of the device, which was effectively demonstrated, is its action as an automatic cut-out. If the current from the mains stops flowing, the rectifier itself will stop and automatically cut off the accumulator connexions. Add to this its freedom from noise and the prevention by means of small condensers of sparking at the contacts, and it will be evident that we have here no inconsiderable boon to the medical electrician and the hospital department.

MEDICINAL AND DIETETIC ARTICLES.

Bulgarian Sour Milk with Various Medicaments.

MR. W. MARTINDALE (10, New Cavendish Street, London, W.) is now preparing Bulgarian sour milk—to his preparation of which he gives the name Trilactine milk—with the addition of various medicaments. He has submitted for our examination specimens of a number of such combinations, including Trilactine milk with carbolic acid, potassium iodide, iron, and salicylates of bismuth and sodium; other kinds are also prepared. It is suggested that the Bulgarian sour milk may prove a useful medium for the administration of various drugs, especially where prolonged treatment is required. Examination of the samples submitted showed that the presence of the medicament had not prevented the formation of a very satisfactory curd. Microscopic slides of some of these preparations were also sent, and these showed abundance of the rod-like bacilli.

Biscuits with Protein.

We have received from Messrs. Huntley and Palmers, Limited (Reading) samples of three new biscuits which they have recently placed on the market, under the names "Apax," "Spartan," and "Akoll" biscuits, and which possess considerable dietetic value. They are particularly characterized by the large amounts of protein of vegetable origin which they contain. Our analysis showed the Spartan biscuits to contain 18.4 per cent. of protein, or about the same proportion as exists in beef or mutton of average fatness, and three times as much as is contained in bread. The Apax biscuits showed 23 per cent. of protein; both these biscuits are of the palatable and attractive character usually found in the products of this firm. Akoll biscuits are intended for diabetic patients or others to whom carbohydrates are forbidden; our analysis showed them to contain 54 per cent. of protein, and not more than negligible traces of sugar or starch. They are quite palatable, and could doubtless form a large item in a diet for a long time without producing any distaste for them.

THE CIVIL SERVICE SUPERANNUATION ACT.

THE Act to amend the Civil Service Superannuation Acts of 1834 to 1892 received the Royal assent on September 20th, and as many medical men may shortly find themselves requested by their patients to make an examination, and to fill up the prescribed form of medical certificate which it is necessary that every male civil servant over 55 years of age should supply if he desires to be brought under the provisions of the Act, the following summary explanatory of the main provisions of the Bill may prove useful:

Clause 3, Section 1.—The acceptance of the proposed scheme of superannuation to be optional to all members at present in the service under the age of 60 years.

Clause 3, Section 1.—The granting to the legal personal representatives of any officer with service of five years or upwards who dies in harness a gratuity equal to the annual salary and emoluments of his office.

Clause 4, Section 1.—The superannuation allowance to be calculated at one-eightieth of the annual salary and emoluments, multiplied by the number of completed years of service.

Clause 1, Section 2.—*In addition to the superannuation allowance, the granting of a lump sum equal to one-thirtieth of the annual salary and emoluments, multiplied by the number of completed years of service, and*

Clause 3, Section 1.—To the present members of the Service an addition to this sum of ½ per cent., in respect of each completed year of service at the time of passing this Act.

Clause 2, Section 3.—In the event of death of a pensioned officer who has received in superannuation allowance and additional allowances a sum of less than the amount of his annual salary and emoluments a gratuity will be granted equal to the deficiency.

The following illustration will show the method of calculation under the new scheme:

	£ s. d.
Annual salary at 65s. per week, 52 weeks and one day	169 10 10
Technical allowance of 3s. per week, 52 weeks and one day	7 16 6
Sunday duty averages for the last 5 years of service	6 12 8
	£184 0 0

Taking the case of an officer retiring at thirty years' service, a gratuity equal to this sum would be granted, *plus* ½ per cent., for each completed year of service at the passing of this Act. Taking that service to be twenty-five years, 12½ per cent. should be added, thus:

Annual salary, £184; *plus* 12½ per cent., £23; total, £207.

The superannuation allowance would then be calculated at one-eightieth of £184—that is, £2 6s.—multiplied by the number of years' service (30), giving a total of £69 per annum.

The regulations made by the Treasury under Section 3 of the Act prescribes that any civil servant to whom the section applies, and who desires to take advantage of the provision of the Act, must make application before December 31st, 1909, and the application in the case of persons above 55 years of age at the date of the passing of the Act must be accompanied by a certificate in a prescribed form, signed by the medical officer of his department, or, where this is not practicable, by his medical attendant, the Treasury reserving the right to call for further medical evidence as to the condition of the applicant's health in any case in which they consider it desirable. The medical man who signs this certificate will be required to state whether the applicant is in good health and free from any disease or disorder tending to shorten life; whether he believe that he is, and has been, sober and temperate, and whether he is a person who could be recommended to an assurance society for life assurance at the ordinary rate of premium. If the medical man cannot answer this last question in the affirmative, he is required to state whether he considers him to be insurable at an addition to his actual age, or uninsurable.

We understand that where civil servants are in receipt of salaries of less than £150 a year, and are entitled to free medical attendance, arrangements have been made by the Government for the certificates to be supplied by the official medical officer, but, in the case of officers not entitled to free medical attendance, the certificate of any fully qualified medical man will be accepted, and a sum of 5s. towards the expense of obtaining it will be allowed from the public funds. This Bill provides virtually a new insurance to such members of the civil service varying in value from £170 to many hundred pounds, and it is clear that a fee of 5s. for the required medical examination is inadequate. The Association of British Postal Medical Officers has, we believe, already made representations to this effect, and it is to be hoped that medical men will not allow themselves to be misled into accepting fees that do not accord with the standard of payment for such valuable insurance work at the present time. Fees ranging from 10s. 6d. to 21s. cannot be said to be excessive for making these medical examinations and for granting the certificates.

A RECENT issue of the *Hong Kong Telegraph* contains an account of a ceremony at which Dr. G. M. Harston, of the ophthalmic department of the Tung Wa Hospital, was presented, on the eve of his departure from the colony on a holiday, with a number of pieces of embroidered silk. The presentation was made on behalf of the Chinese merchants of the colony in acknowledgement of Dr. Harston's services to their compatriots, and one of the pieces of silk bore an inscription to this effect in Chinese.

THE Association of Head Mistresses, which represents girls' public secondary schools of every type all over the country, recently passed a resolution expressing the opinion "that governing bodies should provide and, subject to parental consent, require medical inspection by a duly qualified doctor in the case of all children entering a public secondary school, and that provision should be made for reinspection from time to time."

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(*Continued from page 1166.*)

SECTION OF PSYCHIATRY.

Imbecility.

WEYGANDT (Hamburg) opened a discussion on the clinical and forensic aspects of imbecility. He pointed out that while psychical differentiation, together with any somatic peculiarities which might be present, the clinical course of the disease and the confirmation at the autopsy of the diagnosis made during life formed an ideal basis for classification in psychiatry, this had rarely been definitely carried out. In regard to imbecility in children, considerable advances have been made in this direction. Certain groups of cases had been more or less sharply differentiated, including amaurotic idiocy, affecting several members of one family, feeblemindedness associated with disturbances of the thyroid gland, imbecility associated with a Mongolian type, encephalic imbecility, hydrocephalic imbecility, meningitic imbecility, epileptic imbecility, infantile dementia, dementia praecox, and imbecility associated with inhibition of the brain development. But besides these types there were others which could not be clearly differentiated on account of the mild nature of the symptoms. From the forensic point of view, as also from that of providing for the care of such imbeciles, it was necessary to divide the cases into groups according to the peculiarity of the symptoms, for instance, the degree in which the patient could be influenced by favourable surroundings, the antipathy which the patient showed toward social intercourse, etc., as well as the severity of the disturbance. He cited as an example that while epilepsy was an important affection from the criminological standpoint, those severely afflicted being averse to social intercourse, were comparatively easily managed. From the forensic point of view, the least characterized cases formed the most important group. In determining whether a patient was criminally responsible, the best criterion could be formed by comparing the child with another, normal child of the same age, allowance being made for any anomalies independent of the intelligence.

SOMMER (Giessen) dealt with cases of idiocy, with children in schools for the mentally defective, and with children's reformatories, and stated that the cases met with in these three categories often presented common factors from the medical and psychological point of view. Sommer, speaking of the investigation of juvenile criminality, pointed out that the usual methods often failed, especially in children whose intellectual characters appeared to be normal, and in those showing moral defects, hysterical and epileptoid tendencies. He regarded it as probable that his methods of analysis of the exogenous and endogenous factors influencing the child could demonstrate that juvenile criminality was largely a pathological condition.

FISCHER (Budapest), who limited his remarks to moral insanity, discussed the symptoms. These included: Absolute confusion of ideas and incapability of being influenced, marked criminal impulsion, instability and restlessness, want of general activity and sociability, overestimation of self, exaggerated imagination, vanity, egotism, cynicism, absolute want of ethical conceptions, and of the consciousness of right and wrong and decency, as well as a number of signs of bodily degeneration. With special reference to the ethical defects, he stated that there was no tendency to progression, and then turned his attention to the best methods of taking care of such patients.

ROUBINOVITCH (Paris) dealt with the paedogogic psychiatry of *enfants difficiles*. He described five classes: Hyposthenics with a not backward mental condition, hyposthenics with backward mental development, hyposthenics with normal intelligence, and hypersthenics with defective intelligence, and lastly a mixed type. The conditions stood in some relationship to neuropathies or infantile psychopathies, while of the predisposing causes he emphasized sex, heredity, faulty education, bad hygienic and moral surroundings, etc. The diagnosis depended on the recognition of the character of the mental defects and the realization of the associated somatic defects.

Section of Dermatology and Venereal Diseases.

Light Treatment.

Veiel (Cannstadt) dealt with the physical methods of treating skin affections. After dealing briefly with the results obtained with sunlight, Finsen light, blue light, red right, etc., he came to the conclusion that Finsen light yielded better results than the mercury lamp. He then spoke in favour of liquid air and carbonic acid in a number of chronic affections. Roentgen rays were dangerous, but yielded excellent results in many cases. He regarded these rays as indispensable for herpes tonsurans, favus, purulent folliculitis of the head, dermatitis papillaris of the neck, while in sycosis he only used them in cases which had resisted all other forms of treatment. He spoke of the good cosmetic results in lupus, but believed that complete cure by Roentgen rays was rare. Since lupus had been treated by *x* rays, the number of secondary carcinomata had increased. The rays were suitable for circumscribed infiltrating eczema and for circumscribed dense psoriasis patches. They should not be used for acute or weeping eczema. Superficial epitheliomata could be cured by *x* rays, but deep-seated disease, and cases in which the regional glands were affected, were not benefited by this treatment. He dealt briefly with radium treatment, and concluded by referring to the excellent results obtained by Bier's passive congestion in cases of furuncle, carbuncle, and suppurating lymphatic glands.

Radium.

Wickham and Degrais (Paris) summarized the results which they had obtained with radium in the biological laboratory and radium institute of Paris. After considerable experimentation they had adopted the use of a filter made of a plate of lead covered with rubber having a thickness of 1.27 mm. After describing the apparatus which they now employed, they passed on to the consideration of the method of employment and results obtained. They had dealt with about 1,000 patients, of whom the greater part were suffering from malignant tumours. The oldest case had already lasted four and a half years. By introducing the radium in tubes into the tumours, by filtering and other methods, they had succeeded in "curing or improving" a number of cases of cutaneous and subcutaneous tumours, cancer, sarcoma, mycosis fungoides, lymphosarcoma, etc., affecting the skin, uterus, and other parts, without producing any superadded inflammatory reaction. They also reported that they had obtained "interesting results" in cancers affecting the mucous surfaces. In angiomata and cheloids excellent results had been obtained. Further, they spoke of "happy" results in superficial inflammatory and pruriginous lesions of the skin. Radium appeared to them to act specifically, but not necessarily destructively. Much interest was evinced in the lantern illustrations and casts which demonstrated the results obtained by radium in the different diseases mentioned.

Immunity to Syphilis.

Ehrmann (Vienna) reported the results of experimental investigations on the question of superinfection and immunity towards syphilis. A positive inoculation was possible before and even immediately after a primary sore developed, but the typical character became less marked the longer the period between the appearance of the primary sore and the inoculation. Later, the inoculation resulted only in a slight papule or no effect at all was produced. Temporary lesions might be obtained during the secondary stage, if large quantities of infective material were used or if the inoculations were repeated. After describing the absolute and relative immunity of the skin toward introduced spirochaetes, he dealt with those uncommon conditions in which the previously existing immunity had disappeared and the body reacted as if no change had taken place at all.

Halipeau (Paris) described the recent additions to knowledge as to the evolution of syphilis. The parasites might take various routes on leaving the chancres. They might pass through the lymphatic channels, with or without causing an implication of the regional glands. They might pass directly into the capillaries. They might further penetrate the neighbouring tissues directly and infiltrate these gradually. The lymphatic glands exercised a marked attenuating effect on the parasites, and for this reason the infiltrating lesions were usually very virulent. When the parasites passed out of the lymphatic system the infection was extended to the blood circulation and a roseolous eruption resulted. The generalization of the infection only took place at this stage. Hallopeau followed the parasites through the body and spoke of the affinity which they possessed for special tissues in different individuals.

Schereschewsky (Breslau) reported the details of his method of culturing spirochaetes, including the *pallida* and *dentium*. He stated that the *recurrens* lived on his nutrient medium for ten days, and could then be successfully inoculated on to mice.

Section of Urinary Diseases.

Anuria.

Kümmel (Hamburg) recognized two large groups of anuria—the occlusion anuria, in which the passage of urine was prevented by a calculus in the pelvis of the kidney; and true renal anuria. Out of 8 cases of calculous anuria on which he had operated, 7 showed signs of hydronephrosis, and only in 1 was the pelvis free from urine. The diagnosis could be made by the enlargement of the kidney, the pain on pressure over the affected kidney, the result of radioscopy, of cryoscopy, and the functional testing of the renal sufficiency. In cases of true renal anuria the process might be caused by inflammatory affections, by infective affections, by eclampsia, by toxic influences, including carbolic acid, and by other causes of nephritic changes. Reflex anuria undoubtedly existed, but the author had never seen a case. He was of opinion that these cases would prove to be more and more uncommon the further the diagnostic capabilities in urology advance.

Nephritis.

Casper (Berlin) discussed the nature of the various forms of nephritis. After touching on the more usual forms, all of which were necessarily affections of both kidneys, he spoke of what he termed *nephritis haematurica*, in which the urine in the intervals between the haemorrhages was apparently free from albumen. If tested with a delicate reagent, such as 20 per cent. of sulpho-salicylic acid, albumen would be found. *Nephritis circumscripta* was a form which corresponded to the French *néphrite parcellaire*. In this case the haemorrhages were produced by the action of bacteria in the kidneys. He further spoke of a form as "colic nephritis," in which the symptoms were identical with those of renal colic. The prognosis of nephritis was good, save in severe parenchymatous forms and in rapidly progressive cases of contracted kidney.

Extirpation of the Bladder.

Rihmer (Budapest) gave his experience of total extirpation of the bladder. After recording his general results, he turned to the difficult question of the implantation of the ureters. The best results were obtained by implanting them in the skin surface of the body, while implantation into the rectum must be given up. In none of his cases had recovery taken place. Ascending infection of the kidneys could be avoided by good technique. He also spoke of the modern idea of making an artificial bladder out of the rectum and short-circuiting the intestine by means of an artificial anus. Verhoogen and de Graeuwe (Brussels), who spoke on the same subject, said they had obtained the best results by leaving the ureters open in the wound or by suturing them to the skin. The results of implantation into the bowel had been very bad, but they devised a means by which better results could be obtained. After performing nephrostomy, they suggested making a cystectomy with ureterostomy into the caecum, which would be isolated for this purpose.

Section of Stomatology.

A number of papers dealing with the diseases and hygiene of the mouth were read. Among the more interesting of these were the influence of heredity on the pathology of the jaw and of the teeth, by Gallippe (Paris); the basis of the development of abnormalities of the arcus dentium, by Zsigmondy (Vienna); and also the present state of the scientific basis of dental caries prophylaxis, by Goadby (London).

(To be continued.)

MOTOR CARS FOR MEDICAL MEN.

SELECTION AND REPAIR OF TYRES.

Messrs. Harvey, Frost and Co., who are probably best known to medical motorists as the proprietors of a very simple and ingenious vulcanizer, recently issued the third edition of a pamphlet entitled *Economy in Motor Tyres: their Choice, Care, and Repair*, and have formed at their offices at 27, Charing Cross Road, a collection of tyres where all or most of the principal makes may be seen. The pamphlet contains some judicious observations by Mr. H. J. Garland on the choice of tyres, their care and repair, together with a summary of the risks to be guarded against in fitting a tyre and in using it. The bulk of the pamphlet consists of specially prepared statements by the several manufacturers of the merits of the tyres they make. A copy will, we understand, be forwarded on application.

The vulcanizer made by this firm has already been mentioned in these columns, but it appears likely to be so useful that attention may again be called to it. It can be used for repairing both covers and inner tubes; it consists of a tubular boiler of the form indicated in the drawing. The heat is furnished by the spirit-lamp (6), the heat of which can be regulated by the cover (7); a temperature sufficiently high for vulcanizing is obtained by steam under pressure, (2) being the safety valve and (5) the pressure gauge. On one side the boiler presents a flat surface, against which the inner tube can be held for vulcanizing, by turning the screw wheel (8). The other side is curved to fit the tyre, being held in position by the chain and band (5 and 9), which is tightened by the thumb screw (12). The principal feature of the invention is that the result is not a patch, but new vulcanized material introduced into, and so to say welded with, the original rubber and there vulcanized. The edges of the tear are first freely excised on the slant, so as to produce a V-shaped cavity. The sides are then rasped to get a rough surface and treated with naphtha solution. Prepared rubber material, containing the necessary proportion of sulphur and supplied in sheets is softened by heating and is then easily worked into the tear; after it has cooled it is sliced level with a sharp knife and worked smooth with a roller. The object of vulcanization is to bring about the change in the physical properties of india-rubber which is due to the combination of the rubber with sulphur. This chemical combination only takes place at a high temperature; and the next step in the process is to bring the soft rubber preparation which has been worked with the tear into close apposition with the boiler, which during these preparations has probably reached the required temperature. The actual vulcanizing takes about a quarter of an hour or twenty minutes, and after the removal from the vulcanizer the part should be allowed to cool thoroughly before being used. The cost of tyres is so serious a part of the upkeep of a car that this method of vulcanizing, which has already commended itself to many medical motorists, will probably become still more generally used in the future. It appeared to us, when demonstrated recently to be at once simple and practical, and there can be no doubt that the result is to give a very satisfactory join, which appears to stand rough usage as well as the original tyre or tube. The price of the portable vulcanizer is 5 guineas, with 2s. 6d. extra for necessary tools and extra materials; a discount of 5 per cent. is allowed for cash. A larger size, for fixing in the garage, can be obtained for 12 guineas, with 2 guineas extra for tools and materials.

INSURANCE.

The notes published with regard to motor-car insurance in the JOURNAL of last week, pages 1173 and 1176, have brought a number of inquiries, and we may say that the owner of a car has considerable choice, and, as was pointed out last week, can practically adapt the benefit insured to his own particular needs. The rates are governed by the present full value taken in conjunction with the horse power. In estimating the horse power the lower of the two named by the maker is taken. As we have said the "doctor's policy" appears to be that most likely to meet the needs of medical men. Full particulars can be obtained on application to the Secretary and Agent of the Medical Insurance Committee, 429, Strand, London, W.C.

"ACCORDING to the New York *Medical Record*, it is reported from Colorado Springs that valuable deposits of uranium, "the mother substance of radium," have been discovered at Woodland Park, a few miles west of Mainton, Colorado.

LITERARY NOTES.

Miss Rotha Mary Clay has written a book, entitled *The Mediaeval Hospitals of England*, which will be published as one of the volumes of Messrs. Methuen's series of "Antiquary's Books."

In the *Medical Record* of October 2nd, Dr. James J. Walsh, who some time ago recalled the fact (see BRITISH MEDICAL JOURNAL, December 26th, 1908, p. 1876) that the first American medical school was that of the University of Mexico, in which a chair of medicine was founded—according to one chronicler in 1578, according to another in 1580—deals with the beginnings of clinical teaching in America. He says the first hospital in America was also founded in the city of Mexico nearly four centuries ago, and is still in existence. It was used for the purposes of clinical teaching over three centuries and a half ago. He quotes Professor Bourne of Yale as saying in the third volume of the American Nation Series:

> It is not too much to say that the institutions of learning founded in Mexico in the sixteenth century, in number, range of studies, and standard of attainments by the officers, surpassed anything existing in English-America until the nineteenth century. Mexican scholars made distinguished achievements in some branches of science, particularly medicine and surgery, but pre-eminently linguistics, history, and anthropology.

The first universities in America were founded by a decree of the King of Spain in 1551. Both the University of Lima and that of Mexico had medical schools before the end of the sixteenth century. During the seventeenth century both these universities were fully organized with faculties of theology, law, and medicine, which were open only to men who had gone through at least three years of undergraduate work. The first hospital on the European model was built by Hernando Cortés, the Conqueror of Mexico, before 1524. Cortés, possibly as a salve to his conscience for his treatment of the natives, obtained a grant of land from the Emperor Charles V. and erected on it a hospital which he endowed out of the revenues obtained from the property conferred upon him by the Spanish Crown. The hospital was originally called by his desire the Immaculate Conception. In the church adjoining the hospital, however, there was a shrine with a famous image of Christ, called Jesus Nazareno. On account of the fame of this, says Dr. Walsh, both church and hospital came to be called by this title, so that this first Mexican hospital is now known as the Hospital of Jesus. Cortés declared in his will that he had established and endowed the hospital "in recognition of the graces and mercies that God had bestowed upon him in his discovery and conquest of New Spain, and as an expiation or satisfaction for his sins, and especially for any of his faults that he might have forgotten, but might still be a burden on his conscience, though, owing to his forgetfulness, he could not make a special atonement for them." Cortés so arranged the endowment that it has continued to be paid down to the present day. It was never given over to the State, but is a special corporation under a superintendent, and so it has survived the changes of government and the revolutions in Mexico. Cortes's principal descendants are the Italian Dukes of Terranova e Montalsone, who still have the right to name an agent to supervise the hospital. This they do regularly, so that the institution has been kept to its original intention and usefulness. But as we know from Prescott, who quotes Spanish authorities for the statement, there were hospitals in Mexico long before the Conquest. Dr. Walsh cites a passage from Hubert Howe Bancroft's *Native Races of the Pacific States of North America* to the effect that among the Mexicans for severe cases the expense of treatment which could not be borne except by the wealthy classes, hospitals were established by the Government in all the larger cities of the native states of Mexico before the coming of the Spaniards, and experienced doctors, surgeons, and nurses well versed in all the native healing arts were provided for them. According to Dr. Walsh there was even clinical teaching in these hospitals; and as it was the custom for the profession of healing to descend from father to son, the opportunities for a good training in medicine and surgery will be appreciated. Women occupied positions in these hospitals, not alone as nurses but also as physicians, and women's diseases and obstetrics were entirely in their hands.

In the *American Journal of Clinical Medicine* for October, Dr. George H. Tichenor, of New Orleans, gives an account of the career of William Walker, who, like Thomas Dover, of opium and ipecacuanha powder fame, was a filibuster as well as a doctor. But Walker was a good deal else besides. He was born at Nashville, Tennessee, in 1824. He studied law at the University of Tennessee and afterwards medicine at Edinburgh. After practising as a doctor for a time he took up law as a profession in New Orleans. Whether Themis refused to smile upon him, or whether he wearied of her, he next tried journalism. At that time the gold fever was raging in California, and Walker became associate editor of the *San Francisco Herald*. But his true vocation seems to have been to "extend the area of freedom." He had Napoleonic ambitions, but without the ability—or the luck—to realize them. In 1853, when both the United States and Mexico had troubles enough on their hands to occupy their attention, Walker made a dash into Lower California with fifty-two men, proclaimed a republic, and elected himself president. He gathered some adherents about him, but the Mexicans drove him across the border, where he surrendered to American troops. He was tried, but acquitted of violating American neutrality. In 1854 the last remains of the expedition reached San Francisco, where the ex-president subsided into the editorial chair of a daily paper owned by one Byron Cole, who had some interest in Nicaragua. That same year a revolution broke out in Nicaragua, and Cole obtained a colonization grant, under the terms of which 300 Americans were to be brought in and granted the privilege of bearing arms. This grant was forwarded to Walker, who collected a small force and invaded Nicaragua, where somehow he became commander-in-chief of the army, and a year later President of Nicaragua. Adventurers flocked to his standard from all parts, among them Joaquim Miller, the poet. It was not long, however, before Walker's ambition soared so high as to make it evident to the Central American Republics that if they did not take strenuous action he would soon become emperor of the whole region. They combined against him, and war was declared upon Nicaragua. At that time Walker had 10,000 men, while the allied army numbered 21,000. He might have been victorious but for the hostility of Vanderbilt "the First," who withdrew his ships from Nicaraguan ports, thus cutting off his supplies. He had to leave Nicaragua and return to the United States, where he was received as a hero. But his career as a filibuster was not yet at an end. In a few months he took part in a revolution in Honduras. He was compelled to surrender to the British, who handed him over to the Honduras authorities, and he was executed on May 1st, 1857—a sad end for one whose career was more full of interest than that of the hero of Kipling's story, "The Man Who Would Be King." Walker wrote a part of his own history in a book entitled *The War in Nicaragua*. In it he mentions the stamping out of epidemics of dysentery and cholera among his soldiers, a fact which shows that he had not forgotten his first profession.

The American Western Association for the Preservation of Medical Records was organized in May, 1909, for the purpose of collecting the historical and biographical records of the profession of the West and South of the United States. Its aim is to preserve anything and everything pertaining to Western medicine. Arrangements have been made with the Lloyd Library, Cincinnati, Ohio, for the proper housing of the material collected. This material will be systematically arranged, catalogued, and properly preserved, so that it can be made available for research work. The Association is particularly anxious to obtain (1) medical journals published in the West and South prior to 1880; (2) medical books or pamphlets written or published in the West; (3) manuscripts and autographs of early Western physicians; (4) old diplomas and other documents of a medical character; (5) proceedings of medical societies; (6) reports of hospitals and other medical institutions; (7) catalogues and announcements of Western medical colleges of all "schools"; (8) biographies and portraits of Western physicians; (9) information and material of any kind pertaining to medicine and medical men and affairs in the West; (10) curios of a medico-historical character. An appeal to all persons who may have such documents or objects of the kind described has been issued by Drs. C. A. L. Reed, Chairman, and Otto Juettner, Secretary of the Association. The Librarian is Dr. A. G. Drury, of Chicago. We mention this appeal because it is one among many other evidences of the interest in things connected with medical history that has of late years been aroused, and, as the pages of the JOURNAL show, is steadily becoming keener.

Medical News.

DR. JAMIESON B. HURRY, well known as the historian of Reading Abbey, has been placed on the Commission of the Peace for the Borough of Reading.

THE new hall of the College of Physicians of Philadelphia, described by Dr. Keen in the JOURNAL of last week, page 1161, will be dedicated on November 10th.

THE committee in charge of the testimonial to Professor Ogston desires to intimate that members of the medical profession wishing to contribute should send their subscriptions to the Honorary Secretary, Dr. Mackenzie Booth, 1, Carden Place, Aberdeen, at an early date, as the subscription list must soon be closed.

THE Asylums Committee of the London County Council has granted Dr. T. S. Logan, Assistant Medical Officer of the Epileptic Colony, twelve months' leave of absence without pay in order that he may assist, at the request of the Secretary of Public Health and Charities of the Republic of Cuba, in the remodelling and reorganization of the State Asylum for the Insane in Mazorra, Cuba.

THE members of the Balneological and Climatological Section of the Royal Society of Medicine will dine together at the Imperial Restaurant, Regent Street, on October 29th, Dr. Leonard Williams in the chair. The principal event of the evening will be the presentation to Dr. S. F. Sunderland of a testimonial in acknowledgement of his services as secretary to the late Balneological Society during thirteen years.

THE tenth annual dinner for medical men residing in West Somerset will be held at the London Hotel, Taunton, on Tuesday, November 2nd, at 7 p.m. The chairman will be Mr. Chas. Farrant. The price of the dinner will be 6s. a head, exclusive of wine, etc., and guests, medical or other, will be welcome. Those who wish to be present are requested to intimate their intention by Saturday, October 30th, to the Honorary Secretary, Dr. W. B. Winckworth, Sussex Lodge, Taunton.

THE honorary secretaries of King Edward's Hospital Fund for London have received from the Foreign Office a cheque for £4,775, this being half the net profits of the late Franco-British Exhibition. Under one of the clauses of the charter by which that undertaking was incorporated it was provided that the net profits should be divided equally between France and England and placed in the hands of the respective Foreign Secretaries of these countries for devotion to such public object as they might select. The other moiety has been accordingly sent to France.

A QUARTERLY court of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on October 15th, Dr. Blandford, President, in the chair. Nineteen members of the court were present. A vote of condolence with the family of the late Sir Thomas Smith, Bart., was passed from the Chair. Sir Thomas Smith was elected a member in 1870, had held the offices of Director and Vice-President, had always taken the keenest interest in the welfare of the society, and was a regular attendant at the quarterly courts. The death was announced of one of the annuitants of the charity, a widow, who came on the funds in 1907, and received in grants the sum of £145. The sum of £518 was voted to be distributed among the annuitants as a gift at Christmas, each widow to receive £10, each orphan £5, or the orphans in receipt of grants from the Copeland Fund £5 each. Membership is open to any registered medical practitioner who at the time of his election is resident within a twenty-mile radius of Charing Cross. The subscription is 2 guineas per annum, or a member may become a life member by paying one sum, the amount of which is fixed by the by-laws of the society. Relief is only granted to the widows or orphans of deceased members, and since the last court six letters had been received from widows of medical men asking for relief, but this had to be refused as their husbands had not been members of the society. Application forms for membership and full particulars may be obtained from the Secretary at 11, Chandos Street, Cavendish Square. The next election will be on January 12th, 1910. The invested funds of the society now amount to £100,500.

British Medical Journal.

SATURDAY, OCTOBER 23RD, 1909.

FIVE YEARS AND A BITTOCK.

WE are going through a period when the system of medical education which has grown up during the last two or three generations is being subjected to criticism from many quarters, and it is, of course, very far from desirable that the system and the mode of its administration should be stereotyped. A living organization must be continuously adapting itself to changes in the environment, and it must be admitted that medical teaching has not lacked during the last decade this stimulus to alter its methods and their application. The growth, both in complexity and number of the subjects with which a student ought to be acquainted, has tended to lengthen the curriculum, while the more practical way in which such subjects as chemistry, physiology, pharmacology, and pathology are now taught has combined, with the great improvement in textbooks in all subjects, to render a reconsideration of the distribution of the student's time imperative.

The question, as it affects Edinburgh, has, during the past year, been under the consideration of the Pathological Club, a body primarily designed for the discussion of the latest original work, but consisting of persons all more or less actively engaged in teaching. After two meetings, at which the subject was discussed in its general bearings, a committee representative of teachers of the chief subjects in the medical curriculum was appointed, held numerous meetings, and presented a draft report. This draft having been fully considered by the club at three long meetings, has now been published in the *Edinburgh Medical Journal*.[1] Though it is in its details designed to meet the special case of Edinburgh, it discusses many principles of general application, and the conclusions and recommendations at which it arrives will be found well worthy of study by those interested in the success of other medical scoools.

The first and, as it appears to us, the most important principle which emerges is that which was enunciated by Professor Starling in the important discussion held during the Sheffield Meeting of the British Medical Association in 1908, when he said that from the very commencement of his medical curriculum the work of the student should be "directed," by which he meant that every scientific subject that he studied, whether chemistry, physics, or physiology, should be considered only in its bearings on his future work as a medical man. This principle has been recognized in the new regulations of the University of London. In the syllabus for inorganic chemistry and physics it is stated that the subjects are to be treated in an elementary manner, and with special reference to their application to the subsequent work of the student. In general biology it is said that "the whole course is intended as a general "introduction to the science of life, with special "reference to the later work of the student of "medicine." In organic and applied chemistry, a subject for the second examination, it is said that it is "to be treated in an elementary manner, and with "special regard to its applications in physiology, "pharmacology, and pathology"; and it is directed that in the practical course of chemical and experimental physiology special stress shall "be laid "on such methods as are applicable to man or "have bearing on the subsequent work of the "student."

Sir William Whitla told the Association at Belfast that the same principle has been embodied by the new University in that city in its regulations for medical degrees, and we now find teachers in Edinburgh endorsing it, though perhaps in not quite such distinct terms. It is pointed out in their report that in all medical schools there is at present a dangerous tendency to treat each subject as if it were in a water-tight compartment by itself, and that one of the unsatisfactory features in medical education everywhere at present is the growing tendency towards a divorce between the scientific and practical subjects. As one remedy for this it is suggested that, in the case of physiology, pathology, and materia medica, it would be well if amongst the assistants were found those who ultimately looked forward to the practice of medicine, and also, in the case of the first two departments, to the practice of surgery, a reason given being that the fact that men intending to apply scientific knowledge and training to the practical side of the profession were working in a scientific department would inevitably keep practical questions to the forefront in the department. Again, in the recommendations with regard to chemistry, it is said that instruction given in inorganic chemistry should have relation especially to physiology, materia medica, and clinical medicine. With regard to this last aspect of the subject, it is said that the teaching, both theoretical and practical, should be extended, and that the arrangement of the details constitutes and calls for co-operation between the departments of physiology and materia medica.

Professor Starling in his address, to which we have already referred, expresses his belief that physiology, even more than the other sciences mentioned, should be taught practically in its relation to medicine, the whole aim of the course being to give, by reference from man to animal and from animal to man, as real a knowledge as possible of the processes which in the wards the student has to infer by the ordinary methods of diagnosis. The Edinburgh club, to quote the words of the report, "fully homologate these views," and especially agree with the distinction Professor Starling drew between physiology as a branch of pure science and as a subject of medical education. Again, the report points out that were such practical co-operation between the teachers of chemistry, physiology, and materia medica in the arrangement of the practical work assured, the necessity for a practical course in pharmacology would not arise. With regard to medicine, surgery, and midwifery, the Edinburgh report, while holding that systematic lectures are necessary at the appropriate period in his curriculum in order to guide the student to a general view of the subject, yet expresses the opinion that when this introduction has been given "the usefulness of the systematic "lecture is largely at an end, and the future training "of the student should be by clinical instruction

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"supplemented by work with a textbook." Further, in a paragraph dealing specifically with medicine, it is said "the general danger inherent in syste-"matic lecture courses in medicine we take to be "their being turned into a substitute for textbook "study." Such a statement, we believe, indicates a considerable change of view from that formerly held in Edinburgh, but it will seem to many to do no more than recognize accomplished facts.

The report further expresses the opinion that many of the difficulties in arranging for the later subjects of the curriculum would disappear if the student were required to follow a fixed curriculum, and gives in great detail a scheme for such curriculum. The scheme is, of course, specially adapted to the needs of Edinburgh, but it may be noted that it involves an extension of the curriculum to five years and one summer session, the sixth summer session to begin in April so as to allow about two months for operative surgery and clinical work before the final examination. The action of the University of London in extending the curriculum to a minimum of five years and a half after matriculation was a good deal criticized, but the Edinburgh teachers have recommended a long step in the same direction. Moreover, recognition of the desirability of the change is growing, and the new universities of Bristol and Wales have, it appears, boldly faced the position from the beginning, and fixed the minimum length of the curriculum at five and a half and six years respectively.

THE CURE OF DISEASE BY INCUBATION.*

The practice of incubation seems to be one of those customs which are common to humanity, irrespective of time, or race, or creed. From the very earliest ages there has been a firm belief inherent in mankind in the efficacy of passing the night in a particular temple, church, or shrine, as a means of curing disease; pagan and Christian alike hoped for the same blessing, a vision during sleep of the god or saint invoked, who would give instructions as to the way of regaining health, if he did not effect an immediate cure. In ancient Greece as in modern Italy, votive tablets recording cures, with models of the part supposed to have been the seat of disease, were hung on the walls or about the altar. Fees, too, had to be paid, and were strictly exacted, the penalty for remissness in this part of the ritual being recurrence of the disease. The revenues of these temples must have been very considerable. Pausanias tells of a patient, Phalysios of Naupaktos, who, as a token of gratitude for the restoration of his sight, gave two thousand gold staters (equivalent to £1,900) to the Temple of Asklepios.

Miss Mary Hamilton, in her *Incubation*, has given an interesting and comprehensive account of the origin and growth of this custom, from its beginning far back in the mists of forgotten ages down to our own time. The chief patrons of incubation were chthonian deities, that is, "heroes who had gone down into "the earth and were invested with her powers." Of these Asklepios was the most important. The first mention of the rite in literature is the description of it as carried out in one of the temples of Asklepios given in the *Ploutos* of Aristophanes. The son of Apollo, endowed by his father with the gift of healing, Asklepios was worshipped far and wide during many centuries as the restorer of health. His cult originated in Thessaly, the home of his mother, Koronis, and thence spread rapidly all over Greece, numerous temples being erected in his honour. Though the sick were healed at nearly all these shrines, three were held in special renown for cures—Trikka, the oldest of all; Kos, and Epidauros. The last named was the most famous of all; it had the reputation of being the favourite sanctuary of the god, and was in consequence the most popular resort of invalids from all parts of the ancient world. Readers of *Marius the Epicurean* will remember the charming account of the temple and its priests, and the régime undergone by all who came seeking health; those who wish for a living picture of what Epidauros must have been at the height of its fame cannot do better than read the account of it given by Pater. The fame of Asklepios was not confined to Greece, but spread to Rome, where there are traces of a temple dedicated to him on the Tiber Island. The site is now occupied by the church of San Bartolomeo. Under the altar of this church, which was built on the ruins of the temple about the ninth century, is an ancient well. This well is believed to have played a part in the rites of incubation, which inscriptions found among the ruins show to have been practised there.

But the son of Apollo was not the only health giving deity worshipped by the Greeks. Amphiaraos ranks among the chthonian deities of prehistoric times. Incubation was practised in his temples, the chief of which was near Oropos, in those of Trophonios at Lebadeia in Boeotia, and in those of Pluto in Asia Minor. The custom was introduced into Egypt by Greek explorers, the temples of Serapis and Isis becoming famous throughout the world for their cures.

During the first centuries of Christianity the practice of incubation increased throughout the Roman Empire to an extraordinary extent, and formed a great obstacle to the advance of the new faith. The temples of the patrons of health were the last strongholds of the old gods, for their worshippers refused to give up deities who had it in their power to grant health and strength in answer to prayer. The Church triumphed finally by replacing the pagan temples by Christian churches, where miraculous cures were wrought through one of the saints. The ancient rites and ceremonies were retained, only slightly altered in accordance with Christian ideas. As Miss Hamilton says: "It is no far-fetched conclusion to suppose that "the similarity in ideas and practices of such "churches and temples arose from a Christianizing "of the pagan shrines and the retention of the "former methods in order to suit the customs of "the clientèle."

The practice of incubation in Christian churches rapidly became general throughout Europe, Asia Minor, and Egypt. Different districts possessed different saints gifted with the power of healing. Thus, Ss. Cosmas and Damian had their head quarters at Byzantium; Asia Minor was under the special patronage of the Archangel Michael, and St. Theckla wrought miracles at Seleucia in Isauria. Gaul was particularly rich in incubation centres: St. Martin cured in his church at Tours, St. Julian at Arvernus, St. Fides at Conques in Rouergue, and St. Maximinus at Treves. In Britain there is a record of the same custom in the church of St. Peter and Paul at Cambridge.

Incubation still exists. Far from succumbing to the

* *Incubation; or, The Cure of Disease in Pagan Temples and Christian Churches.* By Mary Hamilton, M.A., Carnegie Research Scholar. Published by W. C. Henderson and Son, St. Andrews; and Simpkin, Marshall, Hamilton, Kent, and Co., London. 1906. (Pp. 223.)

gradual decay that has overtaken most old customs, it still flourishes in Greece and in parts of Italy and Austria. To this day the ritual remains almost unchanged, and the tourist in Calabria, in the neighbourhood of Naples, or in the Grecian Isles may see incubation practised as it was in the days when Zeus still reigned in Olympus.

HOME RULE FOR LONDON.

In his speech at the opening of the new laboratories last week at the London Hospital, Professor Osler gave expression to the dissatisfaction of the medical students of London with the present government of its university. In his impeachment of the university, Dr. Osler, so far as we can gather, could rely on the support, not only of the London Hospital, but of all the medical schools of the metropolis. In all there seems to be a sense of irritation against the university, and the same feeling that, although labelled schools of the university and bound to conform to its cast-iron regulations, they have no voice or influence in its affairs, nor in the determination of the curriculum or examinations which their students have to undergo. Throughout London there is the same feeling of despondency as to the condition of the university. The Boards of Studies report—nothing happens. The Faculty of Medicine appoints committees and sends up their recommendations to the Senate—nothing happens. Some months ago we gave particulars of a scheme which was passed unanimously by the Faculty of Medicine; it was devised to impart some common life to the medical side of the university, by ensuring that the views of the medical schools and of those actively engaged in the training of medical students in London should be seriously considered by the Senate. Under this scheme there was some expectation that the members of the Medical Faculty might be masters in their own house, and might really determine the medical affairs of the university. A Faculty of some 400 members odd is not fitted to act as an executive body, or to thresh out the details of any policy. The Faculty of Medicine therefore agreed to delegate the advisory powers which it possesses by statute to a Faculty Board, consisting of about thirty members, representative of all branches of medicine and of all medical schools of London. The Senate of the university was, at the same time, asked to engage itself to consult this board on all matters concerning the medical curriculum and examinations, the recognition of teachers, the admission of schools, and generally on all other subjects coming within the purview of the Faculty of Medicine. We gather that this proposal was welcomed by the Academic Council, which recommended it for adoption by the Senate. The External Council, however, which it might have been thought would not have felt called on to interfere in a matter which concerned internal students and the teachers and schools in London exclusively, succeeded, at the meeting of the Senate last Wednesday, in whittling away the scheme to such an extent that the emasculated Faculty Board, as approved by the Senate, can be of little value to the Faculty or to the medical schools of London. It would hardly be profitable to inquire into the motives which inspired the External Council in this wrecking policy, but we imagine that this rebuff to the Medical Faculty will strengthen the hands of those who believe that a real university school of medicine will never be established until the Medical Faculty is freed from the incubus of the external student, and from the politics of those who are elected to guard his supposed interests on the Senate. At the present time the external student forms only one-fifth of the whole number entering for the second medical examination, and a still smaller minority of the candidates for the M.B., B.S. examination. Apparently, however, the opinions of his representatives on the Senate carry greater weight than those of the whole Medical Faculty of London. We would commend a study of Wednesday's division list on the question of a Medical Faculty Board, when it is published, to the attention of Mr. Wallis and the other Deans of the London Medical Schools, who are concerned for the welfare of their students and their schools. Under the scheme proposed for the Faculty Board the Faculty of Medicine, the Academic Council, the External Council, and the Senate would not have abrogated any of their own powers; the Board would have been purely advisory. The Senate could have accepted or rejected the advice of such a board, but the board would have been able to speak with sufficient authority for its advice to have been of the utmost value to the Senate. Had the experiment been made, its success or failure would have served as a guide in determining the future constitution and working of the university, and would therefore have been of assistance to the Royal Commission. We hope that by the combined efforts of the deans of the schools and the Faculty of Medicine the position may be brought fully to the notice of that Commission.

THE ASYLUM OFFICERS' SUPERANNUATION BILL.

When this Bill was before the House of Lords for its second reading last week, Lord Belper hinted at a curious difficulty which had arisen in connexion with the scales of superannuation and contribution laid down in the bill in reference to asylum workers. The scale selected and embodied in this measure was one open to objection as being too liberal as compared with the treatment of other similar servants, and would therefore require amendment. At the stage at which the bill has arrived, having passed through the Lower House, this amendment can only now be made in the Lords: and, as this would mean an alteration of the financial proposals of the bill, it would necessarily raise the question of privilege between the two Houses. In the present relations of the Government and the Upper House, it would be especially awkward for the Government themselves to move amendments in the Lords for the purpose of altering financial proposals sent up from the Commons, and it would be somewhat difficult for the Government even to assent to amendments of a purely financial kind if moved in the Lords from an independent quarter. The friends of the bill by no means desire that any attempt should be made to harmonize the scale of superannuation with that granted to other public servants. They hold that the exceptional and dangerous duties performed by asylum officers justify more liberal treatment. The position is a delicate and difficult one, but it is to be hoped that the financial question will not be raised, and that the Home Office will assist the bill to pass with such general amendments as may be really necessary to add a useful measure to the Statute Book. The Committee stage will come on in the Lords early next week.

MILCH COWS AND SCARLET FEVER.

It may be remembered that in June, 1909, an outbreak of scarlet fever occurred in London and Surrey which affected a great many persons, and was traced to milk distributed by a company having widespread operations in the metropolitan district. There was some doubt as to how the milk became infected, and a

further report on this point has now been issued by the Public Health Committee of the London County Council. Having regard to the extent of the outbreak —upwards of 400 persons were affected—a joint inquiry was undertaken by Dr. W. H. Hamer and Dr. T. Henry Jones (acting for Dr. Seaton, M.O.H. for Surrey), with the assistance of Dr. Mervyn Gordon as bacteriologist. Assistance was also rendered by the medical officers of the affected districts, and by the officers of the milk company. Sir Shirley Murphy states that from a perusal of the joint report no reasonable doubt can be entertained that the milk of a particular farm was responsible for the occurrences of the scarlet fever in the two counties. In the past, two hypotheses of milk infection have been discussed, the one that the milk acquires its infective property from a human source, that it is in fact infected by the milker or by some other person suffering from scarlet fever; the other, that milk is infected by some condition of a cow or cows. It has been observed on former occasions that inquiry has failed to demonstrate that human agency has been responsible for the infective condition of the milk; such inquiry has often shown that even when one or more persons engaged on the farm have suffered from scarlet fever the dates of their infection have been subsequent to the dates of infection of the consumers of the milk—in fact that the milkers suffered, as other persons, from consumption of the milk. In the outbreak investigated by Dr. Hamer and Dr. Jones it was found that scarlet fever did occur in the family of a milker, but that the evidence in connexion with this occurrence could not be regarded as affording explanation of the infection of the milk by human agency, while it distinctly suggested that the milk was infective before leaving the farm. Careful inquiry in the neighbourhood of the farm failed to yield any evidence of the existence of a human source of infection of the milk. Sir Shirley Murphy points out that in similar circumstances Sir William Power, when investigating in 1882 an outbreak of scarlet fever in certain London districts, made the suggestion that inasmuch as "there is one sort of relation between "scarlatina and accidents of the puerperal state, "another sort of relation becomes comparatively easy "of belief," in fact, that "if scarlatina in man have "other animal source than human source, it may be "that one such source is the cow that has recently "calved, a cow either not at all ill (except for her "parturition) or not so obviously ill as to prevent her "milk being used for human consumption." The suggestion thus tentatively made, in 1882, assumed greater importance when Sir William Power in 1885 advanced evidence of the bovine origin of scarlet fever occurring in persons consuming milk from a Hendon farm, the cows at which were affected with an eruption of the teats and udder. A similar development of scarlet fever in man, associated with the consumption of the milk of similarly affected newly-calved cows, or cows infected from such newly-calved cows, has been observed in a number of instances since that date. In London in 1892 and again in 1894 and 1902, considerable prevalence of scarlet fever, due to infected milk, was strongly suspected to have been originally of bovine origin. In the present instance a like possibility was naturally entertained, and it has been found possible, by study of the farm operations in minute detail, to show that just at the time when the milk first began to show infectious property, there was added to it the milk of three cows which had recently calved, and that the calf of one of them had died after being suckled by the cow for four or five days. These circumstances, together with the fact that the three cows mentioned and other cows at the farm showed at the time of the inquiry appearances upon teats and udders suggestive of "Hendon disease," render it probable that a morbid condition of the cow was responsible for the subsequent human illness. In conclusion, Sir Shirley Murphy says that from the administrative side it deserves to be noted that, with the cordial assistance of the manager and secretary of the company, whose action deserves recognition, early localization of the source of the mischief was possible. This was due to the particular system of distribution of milk maintained by the company—a system which had proved in this case to be of value alike to the public and the company.

PUBLIC MASTERS AND MEDICAL SERVANTS.

STATE departments and local authorities have recently given several indications of the scale of remuneration which they consider adequate for medical services, and it cannot, we fear, be said that they justify any sanguine hope that public authorities will be any more generous paymasters in the future than they have been in the past. It may be said that in Salford (p. 1250) and in Wales (p. 1199) the paymasters are boards of guardians and that boards of guardians are beyond hope. But we now have a metropolitan municipality like Wandsworth offering absurdly inadequate terms to protect itself against imposition by malingerers (p. 1256); a district council like Barry (p. 1188) rejecting a scheme for officering the local municipal hospital proposed by the British Medical Association, solely on the ground that the scheme laid it down that medical men should be paid for services rendered to a rate-supported institution; and, finally, a great public department like the Post Office, the only State department which makes money for the public exchequer, seeking to impose on its medical officers fresh duties either without added remuneration, or in return for fees so inadequate as to be a reflection on the intelligence of one party or the other (pp. 1233 and 1251). It is worth noting that in two of the cases the medical services are required not in the interests of suffering individuals but purely as a matter of actuarial business to guard the State or the local authority from malingering or fraud. The most temperate protests are met by State departments and municipalities alike by what practically amounts to the answer, "Take it or leave it; if you don't take it we "shall very soon find other doctors who will." It is disagreeable and somewhat unfortunate that difficulties which arise between the medical profession and the State or local authorities should so often turn on questions of money. We are told that we are a noble and generous profession, existing for the good of mankind, and that we endanger our reputation for nobility of character and generosity of action by insisting on higher fees and salaries than are offered. But this is not common sense. The members of the medical profession have to earn their living like other folks, and while they never fail to respond to the call of charity, they are not only justified in rejecting, but as good citizens bound to repel, proposals which are contrary to sound economic principles. It would seem sometimes as though public authorities acted on the assumption that medicine was already endowed by the State, and its practitioners in receipt of retaining salaries to which it was only necessary to add some trifling honorarium when new duties were imposed. The truth, of course, is that, save in the cause of charity, medical men are entitled to claim the full value of the services they render. Business men may consider it good business to set as low a pecuniary value on these services as they think will be accepted, trusting

to competition to keep the price down and the quality up. But there is a limit to legitimate competition; either the quality will decline or the worker will not receive a living wage. The limit has been reached and is frequently overpassed in the dealings of public authorities with the medical profession. The only effectual remedy for this state of things is combination and union within the profession, and this can be attained only through the British Medical Association, which has the will and possesses the necessary machinery.

CHRISTIAN SCIENCE AND SPIRITUAL HEALING.

At the recent Church Congress an important address on Christian Science was delivered by Mr. Stephen Paget. He said that if the testimonials of those who had been healed by Christian Science of smoking, drinking, and the drug habit, were studied, the word "hypnotism" would be found stamped on every page of the evidence. Mr. Paget went on to quote Mrs. Eddy as saying that she has well-authenticated records "of "the cure of dislocated joints and spinal vertebrae. "Shortened limbs have been elongated, cicatrized "joints have been made supple, and carious bones "have been restored to healthy conditions. I have "restored what is called the lost substance of lungs. "I healed malignant tubercular diphtheria (*sic*). "I healed a cancer that had so eaten the flesh "of the neck as to expose the jugular vein, so "that it stood out like a cord." It is on such false miracles, he said, that Christian Science has founded and built her church. Christian Science does not publish her failures. Mr. Paget insisted that in London the Society of Emmanuel was under the shadow of Christian Science. It has published the case of a man who was healed, instantaneously, "in "the last stage, apparently, of consumption in the "lower part of the body"—a disease as mythical as Mrs. Eddy's malignant tubercular diphtheria; and the case of a man who was healed, by laying on of hands and anointing, "after one lung had sloughed "away, and the other had half gone," and he is now "in perfect health, with two good sound lungs." One or two of these reported miracles have been investigated, with the result which might be expected. Nothing, Mr. Paget added, had happened yet in spiritual healing which had not its counterpart in mesmerism, treatment by suggestion, or commonplace medical attendance. It will be seen that Mr. Paget, like Gregory (in *Romeo and Juliet*) has a swashing blow. Naturally, the official defenders of Christian Science are up in arms. But that is a proof that they are hard hit. Dr. Johnson thought one of his pamphlets had been a failure because he had not been sufficiently attacked about it. Judged by this test, Mr. Paget has every reason to congratulate himself on the success of his plain speaking.

NEW LABORATORIES AT THE LONDON HOSPITAL.

On Friday, October 15th, three new laboratories for physics, chemistry, and physiology, at the London Hospital Medical College, were formally opened by Professor Osler. The laboratories afford accommodation for about 120 students, and are well arranged, well lighted, and well equipped. Professor Osler said he had much pleasure in opening these laboratories, as it was in the laboratory that the foundation stone of medical knowledge must be laid. It was said by some that too much time was given by medical students to laboratory work. Professor Osler for his part thought more time should be spent in that way. It was in the laboratory that the student got the training in scientific methods of investigation which he should afterwards carry to the wards. He thought each student should do some piece of original research, and should work without the fear of examinations before him. This led him to speak of the hard case of the medical students of London, only a small percentage of whom could get a university degree. It was a scandalous injustice that a good honest examination, such as that of the Conjoint Board, did not entitle them to a good honest M.D. The fact that only some 5 or 6 per cent. of London students got the M.D. degree showed that there was something rotten in the state of Denmark. The London University, the hospitals, and the Conjoint Board had all failed in this point, and the students themselves should now take the matter in hand. They were a very powerful body, and should combine to get what they wanted and what they deserved. If they did combine for this purpose, they could get it within a year or two. The Vice-Chancellor of the University of London, who also spoke, said he had had occasion to look up the archives of the university. There was a room full of documents of various kinds, all labelled "Medical Grievances"; in it was written, "All hope abandon ye who enter here." He pointed out that there were 400 teachers of medicine belonging to the Faculty of London, while one-fourth of the Senate was composed of members of the medical profession. Considering that it was now nine years since the university had been reconstituted, and that during that time no definite proposals had been put before the Senate by the Medical Faculty, he thought they had got somewhere near the quarter where the blame for the state of things complained of by Professor Osler really lay. He agreed with the Professor's advice to the students to organize. Mr. Sydney Holland proposed a vote of thanks to Professor Osler, who afterwards delivered the Schorstein Lecture on Syphilis and Aneurysm before a crowded audience in the library. The full text of that lecture will be published in the British Medical Journal.

INSANITY AND CRIME.

At a meeting of the Prussian Association for Political Instruction last January, Professor Siemerling of Kiel read a paper on insanity and crime with particular reference to the clauses in the German penal code relating to irresponsibility in accused persons. This paper, which has since been published separately,[1] deals especially with doubtful or "borderland" cases. It may be recalled here that Art. 81 of the German *Strafprozessordnung*, or rules of criminal procedure, permits of the remand to an asylum for mental observation of any accused person whose mental state is doubtful. Professor Siemerling has had a wide experience of such cases, and in his paper he was mainly concerned with these cases and detailed the evidences of mental defect or disorder warranting expert decision as to the responsibility or irresponsibility of the person accused. To avoid misunderstanding it should be mentioned that in Germany, contrary to British practice, this is a question for the mental expert. In the great majority of the 132 cases referred to the clinic at Kiel for this purpose during the last seven years, the form of mental disease, Professor Siemerling says, was congenital or acquired mental weakness. In discussing the effect of imprisonment on such cases, whilst stating that a form of mental disease peculiar to imprisonment does not exist, Professor Siemerling affirms that imprisonment, in weak-minded persons who have at the same time a tendency to simulation, gives a definite stamp to

[1] *Geistesschwäche und Verbrechen*. By Geh. Med.-Rat. Professor Siemerling. Berlin: August Hirschwald. 1909. (Pp. 28, 80 Pf.)

the form and course of the symptoms. The type is so common that the term "imprisonment psychoses" has come into use. The first signs of the disorder, he says, often conceal themselves behind an attack of violent and destructive excitement, and the question arises whether this attack is merely a reaction against the hardships of imprisonment or the earliest signal of mental disorder. For the settlement of this question Professor Siemerling proceeds to outline the different groups of symptoms most commonly met with in prison psychoses and to refer them to their proper categories, whether pertaining to masked epilepsy, hysteria, chronic alcoholism, paranoia, or simulation. The question of simulation in these cases is, of course, of the utmost importance, and its solution often attended by the greatest difficulty. As Professor Siemerling points out, imprisonment tends to make people tricky. He has seen every form of insanity simulated, sometimes after careful study of the behaviour of insane people by the simulators, and he therefore does not share the growing opinion that the simulation of insanity is in itself significant of mental defect or disorder. It is astonishing, he says, how quickly the symptoms of imbecility or dementia disappear when the subject has been freed from punishment and committed to an asylum. Doubtless this is so, but it is also a fact—though Professor Siemerling does not mention it—that the prison records of every country can show numbers of cases in which prisoners have been sent from prisons to asylums as insane; have made surprisingly quick recoveries in the asylums, where they have been considered, mainly on this account, to be probably pure malingerers; and have yet fallen into pronounced and incurable insanity, though only, it may be, many years afterwards. The whole question bristles with difficulties, but the evidence seems to show that the great majority of simulators of insanity in prisons have subsequently to be certified as insane. Of an excellence which one would expect from an authority of such eminence is Professor Siemerling's discussion from the forensic point of view of paranoia quaerulans. He considers the subjects of this disorder—apart from weak-minded querulants—to be insane in the legal sense only when they manifest progressive changes of the whole personality, continually heightened emotional excitability, one-sided views of their personal legal relations, and absolute incorrigibility as to their ideas of personal importance or fancied wrongs and persecutions. Lastly, Professor Siemerling doubts whether the legal recognition of "diminished responsibility," which is at present being pressed for, would tend to remove present difficulties, and maintains firmly that "responsibility" and "irresponsibility" are sufficient to cover all cases.

THE WEST AFRICAN MEDICAL STAFF.

In accordance with the recommendations of the recent Departmental Committee on the West African Medical Staff, the Secretary of State for the Colonies has appointed the following gentlemen to be an Advisory Committee on medical and sanitary questions connected with the British Colonies and Protectorates in Tropical Africa: Mr. H. J. Read, C.M.G., of the Colonial Office (Chairman); Sir Patrick Manson, K.C.M.G., F.R.S.; Sir Rubert Boyce, F.R.S.; Mr. C. Strachey, of the Colonial Office; Dr. W. T. Prout, C.M.G., late Principal Medical Officer, Sierre Leone; Dr. Theodore Thomson; Professor W. J. Simpson, C.M.G., of King's College, London; and Dr. J. K. Fowler, Senior Physician to Middlesex Hospital, and a member of the late Departmental Committee. The Secretary of the Committee is Mr. A. Fiddian, of the Colonial Office. The Committee thus consists of eight members, of whom only two are directly connected with the Colonial Office, one indirectly connected, one an officer of another Government department, and four entirely independent representatives of the medical profession; men, moreover, whose personality will in itself go far towards securing the confidence of the West African Medical Staff in the Committee. The constitution of this body may therefore be regarded as not less satisfactory than the decision to create it. It may be added that in the latest edition of the pamphlet issued by the Colonial Office for the information of candidates for the West African Medical Staff there is a paragraph stating that the Secretary of State has definitely accepted the recommendation of the Departmental Committee that officers in the initial grade who have served five years and who have undergone a special course of training shall be put on a new scale of pay should it be impossible to promote them forthwith to the grade of senior medical officers. The new scale rises from £500 to £600 by annual increments of £25. It is also stated that certain sanitary appointments will be created with salaries of £600, rising to £700 or more. The Colonial Office has, therefore, now acted on two important recommendations of the Departmental Committee, and if it falls in with the views of that Committee on the points on which it has reserved its decision until after the receipt of an expression of views from governors on the coast, the outlook for the West African Medical Staff and its efficiency may be regarded as entirely promising.

DENTISTS AND ANAESTHETICS.

Sir Victor Horsley distributed the prizes to the successful students of the London School of Dental Surgery at the *conversazione* of the Royal Dental Hospital held at the Prince's Hall, Piccadilly, on October 20th. In the course of an address to the students, after referring to the national work rendered by the Royal Dental Hospital in regard to the care of the teeth of children, Sir Victor Horsley described how the British Medical Association, working with the British Dental Association, was now putting forward a bill for the amendment of the Medical and Dental Acts which was intended to meet the wishes of both professions. The one-portal system was an important reform, but the opposition of those archaic bodies which existed by charging fees to those who sought to qualify themselves within their walls would have to be faced. Turning then to the subject of anaesthesia, Sir Victor Horsley said that one of the licensing bodies had made instruction in giving the administration of anaesthetics an essential part of the dental curriculum. To meet that demand the Royal Dental Hospital had provided a complete system of education in anaesthetics. The subject really was much wider than the mere demand of one licensing body. It was known to many that a Home Office Committee at the present moment was considering this question of the administration of anaesthetics, and seemed almost inclined to believe that it was capable of saying who might and who might not administer anaesthetics. That Committee was considering the matter, because a bill had been introduced into the House of Commons which would limit the administration of anaesthetics to the medical profession—that is to say, the members of the dental profession were to be excluded from the work. That was a matter of vital importance to all concerned. Sir Victor Horsley then described how when he was examined before the Home Office Committee on anaesthesia he was asked

if he considered a Licentiate in Dental Surgery a qualified man. His reply to that was, "Yes." The next question he was asked was, What was the Licentiate qualified for? To this Sir Victor replied dentistry; inasmuch as dentistry could not be carried on without anaesthesia, then it followed that a dentist must be qualified as an anaesthetist. Years ago, Sir Victor said, he had moved in the General Medical Council that instruction in anaesthetics should form a part of the necessary education of every man registered under the Medical or Dental Acts. His efforts were then absolutely fruitless, but the question was now being brought to the front again. A further question had to be settled, namely, the kind of anaesthetic employed; in a dental hospital it was not possible to make provision for the after-treatment of patients recovering from general anaesthesia, but the dental schools could secure at neighbouring hospitals instruction in general anaesthetics, such as ether and chloroform, in the same manner as instruction would be provided in the giving of nitrous oxide. It followed, in Sir Victor Horsley's opinion, that a dentist holding a registrable qualification was a man who was qualified to give an anaesthetic. Perhaps more might be said of the dangers and difficulties that might arise in the course of the administration of an anaesthetic, but he belonged to a school in which it had been demonstrated again and again that the dangers of certain general anaesthetics arose from methods of administration almost entirely. As soon as chloroform was given by dose and not by haphazard open methods then practical safety would be attained, and that was all that Government could demand. Sir Victor said that he regarded the future licentiate of dental surgery as a qualified man practising dentistry, and, when, necessary, giving anaesthetics. Mr. W. H. Dolamore, the Dean of the School, said that in order to fulfil the requirements of the Royal College of Surgeons for the teaching of anaesthetics the managing and medical committees had asked Dr. Dudley Buxton to fill the post of Lecturer, and he had agreed to do so. Each student, after attending these lectures, would receive individual instruction from one or other of the anaesthetists to the school in the administration of nitrous oxide. Although the committee was confident that good would come from this more systematic method of instruction, still it was claimed that instruction had been given well and properly in the past. The Dean then reminded those present that the Royal Dental Hospital was the home of nitrous oxide anaesthesia in this country; the gas was first used by a dentist for anaesthetic purposes and was introduced into the Royal Dental Hospital so long ago as 1868. In that year a dentist named Evans of Paris gave £100 to the hospital to test the value of this gas as an anaesthetic agent to enable the poor of London to have the benefit of its use. Dr. Dudley Buxton, in moving the vote of thanks to Sir Victor Horsley for his address, spoke of the responsible work carried on by the dental profession. After the prizes had been distributed, the numerous company present inspected the pictures of the Royal Institute Galleries, and attended a lecture on "Caricature In and Out of Parliament," by Mr. E. T. Reed.

COMMERCIAL PHILANTHROPY.

THE foundation stone of a factory at which radium is to be produced was publicly laid in Limehouse on Saturday, October 16th, the ceremony being performed by Lady Ramsay. In the course of various speeches it was indicated that the factory will be ready for work within a year, that the radium will be produced from the heaps of pitchblend accumulated near old copper mines in Cornwall, and that the separation of the radium from the ore will only occupy—thanks to a new and secret process which has been elaborated by Sir William Ramsay—some seven or eight weeks instead of eighteen months as at present. Throughout the process Sir William Ramsay's supervision will be necessary, and it is for that reason that the factory is to be established in London instead of in Cornwall. The new undertaking is the joint enterprise of the St. Ives Consolidated Mines and the British Radium Corporation, Limited, and for the information of the shareholders, no doubt—a good deal was said as to the demand for radium and the gigantic prices which can be obtained for it. When first produced radium chlorides cost 8s. a milligram, but the price now is £13 a milligram, or over £500,000 an ounce. It might have been added that merely hiring out, not selling radium, represents an even more stupendous profit; or, in other words, that those who, in hope of being able to alleviate suffering, borrow radium salts have to pay sums which represent a very high percentage on the purchase price. It was possibly considered, however, that this statement might prove disturbing even to a strictly commercially-minded audience. The ceremony included a vote of thanks to Sir William Ramsay, who in response said that what had prompted him to attempt to produce radium on a wider scale than hitherto was its scientific and medical interest. Another fact stated during the meeting was that the directors of the undertaking intended to be patriotic, and to supply this country and the colonies—the whole British Empire—before they supplied foreign countries. In a case of this sort it was only just to be selfish. The Austrian and German Governments did not allow radium to be exported, and England should look after itself too. It was something like protection, but, after all, "we have got the radium, we want it, and why should "we not cure our own sick before sending it to "other countries." These words, which brought the meeting to a close, were loudly cheered, the audience being apparently either stirred by the nobility of the sentiment expressed or stimulated by the champagne luncheon which formed part of the ceremony. In either case, it is satisfactory to feel certain that the shareholders will not have their pockets lightened by the policy in question, for the British Empire is large, and the number of persons whom radium is presumed to be able to benefit is enormous. On the other hand, it would have been more satisfactory to have heard that the policy of the company included an intention to bring down the price and the hiring cost of radium to a reasonable sum.

APPENDICITIS AND HELMINTHIASIS.

THREE years ago we had occasion to remark that existing evidence was "not enough to justify any "sweeping generalizations to the effect that parasitic "worms are either the most important or the most "common cause of" appendicitis.[1] Since then numerous observations of the presence of worms in diseased appendices have been published in the BRITISH MEDICAL JOURNAL and elsewhere. Guiart's monograph on "Les vers intestinaux"[2] in the *Nouveau traité de médecine*, in which some forty-five different worms known to inhabit the intestinal canal of man are described, has come to reinforce the opinion of Blanchard that lesions of the intestinal mucosa due to worms are responsible directly, if not exclusively, for inflammatory disorders of the appendix, and that a dose of santonin is a satisfactory

[1] BRITISH MEDICAL JOURNAL, December 1st, 1906, p. 1505.
[2] Maladies de l'intestin, Fasciculus xvii. of *Nouveau traité de médecine*, Gilbert et Thoinot, p. 325-439.

substitute for a surgeon. Weinberg,[3] who described cases of appendicitis in anthropoids, noted the presence of threadworms in the diseased organ, and he had previously[4] demonstrated the importance of the little ulcers surrounding the spots at which the heads of tapeworms are imbedded, as portals of entry for the typhoid bacillus. More recently Shipley[5] has subscribed to the view that worms play a serious rôle in the induction of appendicitis and other intestinal lesions in man. He was led thereto primarily by an investigation of grouse disease, in the course of which methods were devised for the detection of worms invisible to the unaided eye resulting in the discovery of at least one cestode and one nematode hitherto unknown in the grouse. After referring to Weinberg's demonstration of pathogenic micro-organisms in the contents of the alimentary canal of a nematode constantly associated with wasting disease in the horse, Shipley goes on to review the evidence for causal connexion between intestinal parasites and mural lesions in man. He is satisfied that *Oxyurides* can traverse the wall of the alimentary canal, and that they invade the mucosa with ease. The same is true of *Ascaris lumbricoides*, and so far as the mucosal lesion is concerned, of *Tricocephalus trichiurus* or *dispar*. He appears to be uncertain whether a definite ulceration of the mucosa is necessary to admit the entrance of micro organisms, or whether mere penetration of the lining membrane by the hooklets of the worm is sufficient; but he does not lose sight, as do some French authors, of the purely preliminary rôle of the worms. He might, indeed, have strengthened his case by a reference to the work of Lorrain Smith and Tennant on the enormous increase of the bacterial content of the intestine in the immediate vicinity of a worm. On the whole, we think there is no reason to recede from the position indicated in the opening paragraph, but we agree with Mr. Shipley that whilst the practice of hygiene has materially lessened the incidence of cestodal infection, "as regards other entozoa, whose "entrance into the body is less easily controlled," we do not "keep the inside of our digestive system as "clean as our ancestors kept theirs," and that we might with advantage emulate our Continental *confrères* in the attention they pay to a branch of study somewhat crowded out of late by the demands of bacterial parasites.

THE MULTIPLICATION OF SPIROCHAETES.

IN a paper communicated recently to the Royal Society by Professor Nuttall, Dr. H. B. Fantham and Miss Annie Porter point out that the observation of the modes of division of *Spirochaeta recurrentis* and *S. duttoni* in the living organisms is difficult, and express the opinion that too much reliance has been placed on the examination of fixed and stained preparations, to the exclusion of evidence which might have been obtained from the living organisms in fresh blood. From observations on living spirochaetes they find that both longitudinal and transverse divisions occur in *S. recurrentis*, *S. duttoni*, *S. anodontac*, and *S. balbianii*. Longitudinal division of *S. recurrentis* and *S. duttoni* is best seen when the spirochaetes in the blood are few. This is the case at the onset of infection and at its close. In longitudinal division, rapid waves pass down the body of the spirochaete. A split then occurs at one end and gradually widens; waves travel down each of the diverging daughter forms, which ultimately lie at an angle of 180 degrees with one another. The daughter spirochaetes then separate. Organisms about to divide longitudinally are slightly stouter than the others. Transverse division, which also occurs, is initiated by the appearance of waves passing from both ends towards the centre of the organism, which acts as a node: these waves meet and die out, and return waves pass rapidly from the centre towards each end. These processes are repeated many times, the frequency of the waves increasing and the nodal region becoming thinner. Finally, after a succession of very rapid waves, division occurs at the node, and two complete daughter organisms result. There is a periodicity in the direction of the division of *S. recurrentis* and *S. duttoni*. At the onset of the infection longitudinal division occurs. This is followed by transverse division of the spirochaetes when the infection is at its height, while, with the diminution in numbers of the parasite as the infection draws to an end, there is a reappearance of longitudinal division; but both forms of division may occur at the same time. The observations were made on the peripheral blood of the host.

[3] BRITISH MEDICAL JOURNAL, December 19th, 1908, p. 1831.
[4] *Comptes rend. soc. biol.*, Paris, 1906, p. 648.
[5] *Parasitology*, vol. i, No. 4, December, 1908.

THE POWER OF LITTLE THINGS.

THE Association of Women Pharmacists held its fifth annual public meeting on October 9th, the special feature of the evening being the delivery of an address by Dr. May Thorne, who sought illustrations of the power of little things largely from circumstances in pathology and in the history of medicine. Among other points mentioned by her was the difference created in the treatment of phthisis by the recognition of such a seemingly small factor as fresh air and a dust-free atmosphere. Speaking of the spread of plague by ratborne fleas, she suggested that it was perhaps because cats were found to keep away plague that they came to be worshipped in Egypt in ancient times. The history of small-pox was quoted as affording another example. *Evelyn's Diary* for the year 1684-5, and the advertisements in newspapers of the seventeenth and eighteenth centuries, showed how exceedingly prevalent small-pox was in those days, and the great change which had since taken place owed its origin to a trifling remark made to Jenner, when a medical student, by a dairymaid, "I shall not have the small-pox because I have had the cow-pox." Miss Thorne derived other examples from chemistry, showing that by the addition of a molecule the whole character of a substance might be changed. She concluded her address by urging students never to despise the day of small things, quoting the lines—

> Say not that this is great, and that is small;
> Each task may hold your fate—fulfil them all.

DIPLOPIA AND COLOUR VISION.

REMY (*Recueil d'ophtalm.*, July, 1909) made a communication on this subject at the Naples Congress. Attention was drawn to the subject owing to a servant inverting the order of the numbers in making up her household accounts—for example, 47 was written as 74, and so on. This peculiar anomaly is easily explained as the result of a diplopia. It does not matter whether the diplopia is homonymous or crossed; provided the figures are duplicated without overlapping, and that the outer ones are suppressed, the effect of inversion is produced, but it is not detected by the diploscope, as each letter is seen by one eye only. Thus the word KOLA may be read as KLOA, because one eye sees K O L A and the other K O L A, which combine to form KLOA. It is obvious that coloured lights placed side by side may be similarly thought to be in the opposite order to that which they in reality occupy if there is diplopia of sufficient degree for complete separation of the two images. Thus it is easy to mistake signals in a case of this

sort, and while this may account for accidents, the writer does not refer to any cases where it has actually occurred. Where two coloured signals are placed side by side a lateral diplopia might only just suffice to produce three images, two being superimposed—a green and red, for example. One cannot predict what the diplopic individual would see: the middle compound image might give rise to a single green or red impression, whichever was the dominant colour, or a dirty white might be produced from fusion of complementary colours. If the diplopia is more exaggerated, four colours will be produced, with suppression of the two outer ones and apparent inversion. By placing one vertically above the other liability to confusion would be reduced to a minimum, as it could then only occur with a double diplopia—namely, in the vertical and horizontal meridians, a most rare combination.

The Liston Victoria Jubilee prize of the value of £100, which is awarded every fourth year by the Council of the Royal College of Surgeons of Edinburgh to the Fellow or Licentiate of the college who has done the greatest benefit to practical surgery during the period since the last award, has been adjudged to Mr. Robert Jones of Liverpool. The presentation was made on October 19th at the first meeting of the college in its new hall.

Medical Notes in Parliament.

London University (Medical Degrees).—Sir William Collins asked the Prime Minister whether he had received any communications from or on behalf of the medical schools of London in regard to the standard of the medical examinations for degrees of London University; and whether he would state the nature of such communications, and what action, if any, he proposed to take in regard to them. The Prime Minister said that he had received communications from the delegates of the London medical schools and other bodies of the character referred to, and he had forwarded them to the President of the Royal Commission on the London University.

Feeding Suffragettes in Prison.—On Wednesday Mr. Percy Alden asked the Home Secretary a question, of which he had given private notice, with regard to the treatment of suffragettes in Newcastle Prison, and especially as to Miss Robinson. He wished to know whether they were being fed by force. Mr. Gladstone stated that only three of the seven suffragette prisoners in Newcastle were being fed by the tube. The others were taking their food from the officers without active resistance. Miss Robinson was released on Tuesday morning on a medical certificate. Answering a further question by Mr. Boulton, Mr. Gladstone said four suffragettes were released solely on medical grounds. They were either suffering from heart disease or were in a feeble state of health.

Post Office (Tuberculosis).—Mr. G. N. Barnes asked the Prime Minister if he was aware that during the past ten years 3,286 men had been discharged from the army, 2,673 from the navy, and 1,057 men and women from the Post Office, in all 7,016 persons, suffering from tuberculosis; that no provision had been made by the Government for the care of such invalids or the prevention of the spread of the disease; and whether, in view of the efforts made by the Government, in the shape of legislation and other measures to check the ravages of this disease, he was prepared to take action with a view of making provision for the proper treatment of all such cases in the future. Mr. Hobhouse said that he understood that the figures stated in the first part of the question were correct. In answer to the remainder of the question, he had nothing to add to the answer given by the Prime Minister on November 11th, 1908.

Vaccination (Cost).—Sir Maurice Levy asked the President of the Local Government Board whether the Vaccination Order of 1907, which came into force in October, 1907, had had the effect of reducing the total cost of vaccination, comparing the cost per vaccination before and after the Order came into force; and, if so, what the reduction had been. Mr. Burns replied that there could be no doubt that the effect of the Order had been to reduce the cost of vaccination, but it would not be practicable to give the precise particulars desired.

The Health Resorts and Watering Places (Ireland) Bill, which was substituted for the Health Resorts Bill, passed all its stages easily in the House of Commons and has now gone to the Lords for consideration. It allows local authorities to advertise health resorts at an expenditure of not more than the proceeds of a penny rate. Some opposition threatened in the Upper Chamber was deprecated on account of the unanimous support the bill received in the Commons. The second reading was obtained on Tuesday last on the motion of Lord Marchamley. Lord Onslow opposed, but eventually withdrew his opposition.

Feeding School Children (Christmas Vacation).—Mr. W. Thorne asked the President of the Board of Education if had seen the report of the Gorton Education Committee under the Provision of Meals Act, which stated that, out of 181 children examined before and after the Midsummer vacation, 106 lost 275 lb. in weight, or an average of 2.594 lb.; and whether he was prepared to recommend to the various school care committees under the Provision of Meals Act that necessitous children be fed during the Christmas vacation. Mr. Trevelyan said that the answer to the first part of the question was in the negative. So far as the second part of the question was concerned, it would appear from answers recently given by the President of the Local Government Board to questions that some doubt existed as to the legality of the expenditure of money by a local education authority under Section 3 of the Education (Provision of Meals) Act, 1906, in feeding school children during the holidays. Apart from the legal aspect of the case, the Board would not consider it desirable to make recommendations as to the action to be taken under the Act by local education authorities or their committees, as it appeared to them that the question was essentially one to be determined locally.

Medical College, Madras (Military Assistant Surgeons).—Mr. Hazleton asked the Under-Secretary of State for India, on Monday, whether the senior assistant professor at the Medical College, Madras, and the senior assistant surgeon at the General Hospital, Madras, were Eurasian military assistant surgeons lent to the civil medical department; whether he could state their medical qualifications and salaries, with the salaries of the civil assistant surgeons under them; and whether it was proposed to open these posts to well-qualified Indians. The Master of Elibank answered that it appeared from the Madras Civil List that the two officers mentioned were military assistant surgeons; the Secretary of State had no information as to whether they were Eurasians or as to their medical qualifications; their total emoluments were respectively Rs. 575 and Rs. 255 a month; the civil assistant surgeons in the medical college, who held appointments of equal rank, drew either Rs. 250 or Rs. 200 a month. As was stated in reply to a question on March 2nd, the Secretary of State had no reason to suppose that duly qualified Indian assistant surgeons would not be held eligible for these posts in the event of vacancies occurring.

The Housing and Town Planning Bill.—The Prime Minister stated on Wednesday that if the report stage of the Finance Bill was finished by Thursday in next week, the following Friday would be given to the consideration of the Lords' amendments of the Housing and Town Planning Bill.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE EDINBURGH MEDICAL SCHOOL.

THE Edinburgh Pathological Club, which consists, it is stated, of persons all more or less actively engaged in teaching, has recently issued through the *Edinburgh Medical Journal* a report on the Edinburgh Medical School, its curriculum, and its efficiency. The report states that, in consequence of the co-ordination existing between the university and the extra-mural school, it was found necessary to consider the situation only from the standpoint of the university.

The report points out that whereas the regulations of the General Medical Council impose five years of study, the last three months of the Edinburgh curriculum are so occupied by examinations as to be unavailable for useful work, and therefore recommends that all students should enter in the summer session, and that the curriculum should be extended to five years and one summer session. It is further recommended that this sixth summer term should commence in the middle of April and the examinations begin about the end of June.

The report examines in detail the arrangements now existing for teaching and examination in each of the subjects of the medical curriculum, and recommends certain alterations. With regard to examinations, it is pointed out that during recent years there has been a tendency in Edinburgh, as elsewhere, to introduce the principle of allowing a student to pass a subject of professional examination whenever by attendance at the prescribed course he is qualified to do so. Upon this the following comments are made:

> This movement is animated by the best intentions, and has for its aim the lightening of the student's work. The working of the plan has, in our opinion, not been attended with success, and has even had an effect opposite to what was desired. Instead of spreading the student's work more equally over the period of his curriculum, it places on him a constant incubus in the form of an imminent examination, on success in which his career at the university depends; and further, the educative value of periods of immunity from academic pressure is lost. It is manifestly impossible by any arrangement of a curriculum to ensure that one subject shall be finished before another is begun; hence the constant effect is that the student, being only human, concentrates the whole of his efforts on often unnecessary amount of preparation for the next subject of examination, meanwhile practically wholly neglecting the other subjects which he should be studying at the same time. We have convincing evidence from both teachers and students that this is what is actually happening in consequence of the splitting up of the final examination under the recent ordinance.

The report, while raising no objection to this system in its application to the subjects of the first professional examination, expresses the opinion that when the heavier subjects of the curriculum are approached the grouping for examination purposes disturbs synchronous work for other subjects less, and makes for the educative efficiency of the whole curriculum. It suggests that anatomy and physiology should be passed at the same time at the end of the third summer; that a third professional examination should be set up in pharmacology and elementary pathology, to be passed at the end of the third winter; a fourth professional examination dealing with medical jurisprudence and public health, to be passed at the end of the fifth summer; and a fifth final professional examination in medicine, surgery, midwifery and gynaecology, and advanced pathology and therapeutics, to be passed in the sixth summer. It is recommended that if a candidate fail at a professional examination he should have an opportunity of making a second attempt three months after his rejection, but that if he fails a second time he should pay the penalty by his curriculum being lengthened, two rejections indicating a want of aptitude, studiousness, or ability, demanding a more prolonged period of study than is necessary in the case of the average student. The report further expresses the opinion that many of the difficulties which arise in arranging for the later subjects of the curriculum would disappear if the student were required to follow a fixed curriculum, and accordingly puts forward the following skeleton time-table embodying the suggested alterations:

FIRST YEAR.

Summer Term.—First Summer.

Biology (50 lectures, 50 hours' practical work.
Physics (50 lectures, 50 hours' practical work.
Examination in Biology and Physics at end of Summer.

Winter.—First Term.

Examination in Biology and Physics for those who have failed in Summer.
Chemistry—Principles—50 lectures.
Practical Chemistry—50 hours.
Junior Anatomy—50 lectures.
Practical Anatomy.

Winter.—Second Term.

Chemistry (Inorganic and Organic)—50 lectures.
Practical Chemistry—50 hours. (Including Inorganic Pharmacognosy.)
Demonstrations in *Regional Anatomy.*
Practical Anatomy.
Examination in Chemistry at end of Winter.

SECOND YEAR.

Summer Term.—Second Summer.

Organic Chemistry (including Organic Materia Medica).
Demonstrations and Practical Work, 75 hours.
Histology—Lecture-Demonstrations and Practical Work, 100 hours.
Practical Anatomy.
Practical Examination in Organic Chemistry at end of Summer.
Examination in Chemistry for those who have failed in April.

Winter.—First Term.

Examination in Organic Chemistry for those who have failed in July.
Physiology—50 lectures.
Experimental Physiology—2 hours twice weekly.
Practical Anatomy.

Second Term.

Physiology—30 lectures.
Physiological Chemistry—2 hours weekly.
Senior Anatomy—50 lectures.
Practical Anatomy.

THIRD YEAR.

Summer Term.—Third Summer.

Anatomy—Practical Demonstrations.
Physiology—Practical Demonstrations.
Examination in Anatomy and Physiology.

It was deemed necessary, in attempting to arrange for the correlation of work in the later subjects of the curriculum, to allocate definite hours to each subject.

Winter.—First Term.

Examination in Anatomy and Physiology for those who have failed in Summer.

9-10—*Junior Surgery.*—Lectures three days a week; Tutorials other three days.
*10-12—Tutorial Work in Surgical Wards; Clinique by Assistant Surgeon.
12-1—Ward Clinique by Surgeons, or Operations.
1-2—
2-3—*Pathology*—Lectures three days a week.
2-3—*Practical Pathology* } Class to meet in sections, each
3-4—*Practical Pathology* } thrice weekly.
4-5—*Pharmacology.*

Second Term.

9-10—*Surgery* as in First Term.
*10-12
12-1 } Surgical Ward Work as in First Term.
1-2—
2-3—*Pathology*—Lectures three days a week.
3-4 }
4-5 } *Practical Pathology*—Sections.
Examination in Elementary Pathology and Pharmacology.

FOURTH YEAR.

Summer Term.—Fourth Summer.

9-10—*Applied Anatomy.*
*10-12
12-1 Surgical Ward Work as in two previous terms.
1-2—*Post-mortems.*
Practical Work in Pathological Department of Infirmary (in sections).
Examination in Elementary Pathology and Pharmacology for those who had failed in April.

* These hours during all three terms would be available for the students of each year attending out-patients. The total number of men in a year would be divided into sixths, and each sixth would take out-patients for half a term.

Winter.—First Term.

9-10—*Medicine*—Lectures three days a week.
Midwifery and Gynæcology—Lectures three days a week.
10-12—Tutorial Work in Medical Wards, case-taking, etc.
12-1—Clinique by Physician or Assistant Physician.
12-2.30—*Post mortems.*

Winter.—Second Term.

9-10 { *Medicine*—Lectures, } as in previous
Midwifery and Gynæcology—Lectures, } term.
10-12—Tutorial Work in Medical Wards as before.
12-1—Clinique by Physician or Assistant Physician.
12-2.30—*Post mortems.*
4-5—*Therapeutics*—Lectures.

FIFTH YEAR.

Summer Term.—Fifth Summer.

8-9—*Public Health.*
9-10 { *Medicine*—Lectures, } as in previous terms.
Midwifery and Gynæcology—Lectures, }
10-12—*Special Subjects.*—Diseases of Children, Diseases of the Skin, Diseases of the Eye, Diseases of the Ear and Throat, Clinical Gynæcology. (Each to meet either on Mondays, Wednesdays, Fridays, or Tuesdays, Thursdays, Saturdays.)
Medical Out-patients in Sections.
10-12—Tutorial Work in Medical Wards.
12-1—Clinique by Physician or Assistant Physician.
12-2—*Post mortems.*
2-3—*Medical Jurisprudence.*
3-4—
4-5—*Advanced Pathology.*
Examination in Medical Jurisprudence and Public Health.

Winter.—First Term.

9-10—Lectures on *Regional Surgery* (three days a week).
9-10—*Medicine* (Special Courses if desired).
10-12—*Special Subjects* as in previous term; Medical Out-patients.
12-1—Senior Surgical Cliniques—three days a week. (Including Venereal Diseases.)
12-1—Senior Medical Cliniques—three days a week. (Including Out-patients.)
1-2—
2-5—*Dispensary*—Sections in *Fevers, Vaccination, Dispensing.*

Winter.—Second Term.

9-10—Lectures on *Regional Surgery* (three days a week).
9-10—*Medicine*, Special Courses if desired, as in previous term.
10-12—*Special Subjects* as in previous term; Medical Out-patients.
12-1—Senior Surgical and Medical Cliniques, as in previous term.
1-2—
2-3—*Mental Diseases.*
3-5—*Dispensary* (Sections in Fevers, etc., as in previous term).

Sixth Summer.

9-10—*Operative Surgery.*
10-2—Clinical Work.
Final Examination in Medicine, Surgery, Midwifery and Gynæcology, Clinical Medicine, Clinical Surgery, Clinical Gynæcology, Advanced Pathology, and Therapeutics.

Notification of Phthisis.

The Corporation of Glasgow took the important step last week of including phthisis pulmonalis among the diseases coming under the Infectious Disease (Notification) Act for the next three years. In taking this step it was guided by a very full and able memorandum presented by the Medical Officer of Health (Dr. A. K. Chalmers). After indicating the limited character of the infectivity of phthisis the memorandum went on to point out that the sanitary objective—the prevention of the spread of the disease to others—required the control primarily and always of the sputum, which included special care of feeding utensils which came into contact with the lips, destruction of the sputum, and the avoidance of the risk arising from uncontrolled coughing by which infectious particles may be projected into the atmosphere. The difficulty of meeting the last requirement, especially at night in the houses of the poor, was indicated. The opinion was expressed that the endeavour to remove or reduce the risk to the families of consumptives came within the functions of the local authority. It was pointed out that the value of the sanatorium as a factor in the repression of consumption would be misapprehended if it led to apathy in dealing with the sanitary conditions under which the disease so frequently occurred. The consumptive was not of necessity dangerous to his fellows, he became so only when intercourse with them was permitted under conditions calculated to produce susceptibility to infection. So far as such conditions were external and structural they were in the main insanitary, such as defective light, ventilation, and cleanliness, so that in any complete scheme for the prevention of consumption some visitation was necessary. The memorandum touched also upon the value of the sanatorium, and on the importance of tuberculous dispensaries and home supervision. In addition to adopting the recommendation that phthisis should be included among the notifiable diseases the Corporation resolved to open tuberculosis dispensaries in the eastern, western, and southern districts of the city, in addition to that at present conducted in the sanitary chambers. A nurse is to be attached to each dispensary for systematic visitation of the homes and families of the patients attending the dispensary, and a special medical officer is to be appointed to supervise this work. It is estimated that for the first year the notification fees will amount to £570, and in the two following years to about £200. The total cost of notification and dispensary scheme is estimated at £1,750 for the first year and £1,380 in the following years. Glasgow has thus given the lead to other Scottish towns. The question was before a recent meeting of the Dundee Town Council, when the recommendations of a subcommittee of the Public Health Committee—which included besides compulsory notification, isolation of advanced cases and negotiation with the sanatorium authorities for the acquisition of twenty beds in that institution—were rejected.

Chair of Surgery, Aberdeen.

On October 16th the new professor of surgery, Dr. Marnoch, delivered his introductory lecture at the opening of the surgery class. There was a large attendance of members of the Senatus and University Court, and Professor Stephenson, who presided, introduced the new professor. After paying a graceful tribute to his predecessor, Professor Ogston, Professor Marnoch proceeded to discuss recent scientific work in connexion with cancer of the breast, particularly that of Handley. The permeation theory had a very real and practical bearing on the treatment of the disease, placing, as it did, the operation of cancer of the breast on a much more rational foundation. Since the introduction of the more extensive operation, a marked improvement had taken place in the results as regards ultimate cure. He thought still further improvement might confidently be expected, and did not believe that it would be limited to cases of breast cancer, for the permeation theory, although worked out on the mamma, was applicable to cancer generally. It was a great incentive, if such could be said to be needed, to early operation, for surgeons would now operate with much more confidence of completely eradicating the disease. The improvement in operative results in recent years was all the more remarkable in that cases came for treatment none too early. The main responsibility for delay, he believed, generally rested on the patients themselves. It was a matter of profound regret that, in the lay mind, cancer was regarded as synonymous with pain. Many a woman deluded herself into the belief that a growth on her breast was of little consequence, simply because it was not painful. He had often thought it a pity that the early phases of breast cancer were so devoid of pain. Were it otherwise, medical men would be consulted earlier. Much was done nowadays in instructing the general public in matters of public health, but surely something might also be done to dispel the ignorance of a disease which, year after year, claimed so many victims. It was from this direction that further improvement in operative results must be looked for. The sooner the public mind was disabused of the idea that cancer was at all stages a painful malady, and women could be induced to seek advice the moment their attention was drawn to a tumour or other abnormality in the breast, the more successful would

be the efforts of surgeons. It could not be too strongly insisted upon that cancer at its onset was a local disease, and was curable by complete excision.

Water Filtration in Edinburgh.

New mechanical filters for the Edinburgh water supply have been set up, the system adopted being that of Messrs. Bell Brothers, Ravensthorpe, Yorkshire. They are constructed of shells, 8 in. in diameter, made of mild steel, the bottom of the shells being fitted with strainers and piping set in concrete for collecting the water while filtering through the sand with which the shells are about three parts filled. Inside the filter are placed vertical hollow shafts, fitted with horizontal perforated arms so as to allow of jets of water being forced into the sand-beds when being washed. The beds are composed of silver sand, which is automatically graded when being washed. There are twelve filters, and each deals with from 6,000 to 10,000 gallons an hour. In the cleansing of the filter beds paddles are used to break up the bed and loosen the dirt, the paddles revolving at the rate of 80 ft. a minute. Capacious chambers for the storage of the filtered water, capable of storing about three-quarters of a million gallons of water, have been formed in the rear of the building containing the filters. The filters cost £5,000.

Western District Hospital, Haddington.

On October 4th a new pavilion and administration block for the treatment of infectious diseases was formally opened by the Marchioness of Tweeddale. Originally this hospital provided accommodation for 16 beds, and this has now been extended to 40. The cost per bed has been about £184. Dr. Leslie Mackenzie, medical member of the Local Government Board, stated that he had been familiar with the hospital for sixteen years, and considered it one of the most satisfactory institutions of its kind in Scotland. It was the second wooden hospital erected in Scotland, and he congratulated the County Council, the Western District Committee, and the local authorities associated with them on having spontaneously from time to time met the needs of the district. So far as East Lothian was concerned, the Local Government Board had no need to apply coercion.

Seaforth Sanatorium.

A year ago the sanatorium was described in these columns. The whole burden of building, equipping, and managing was borne by Mr. Stewart-Mackenzie of Seaforth. The first annual report has just been issued by Dr. MacLean, the superintendent. The purpose of the founder was to provide for the county of Ross the curative treatment of phthisis in its earlier stages, and admission to the sanatorium is by nomination, while treatment is free to all not in receipt of Poor Law relief. In the first year, despite the conditions as to the admission of cases in the incipient stages only, several patients were sent who were suffering from phthisis in an advanced form. With regard to these cases, Dr. MacLean says the founders are "reluctant to do that part of the work for the diseased which properly belongs to the body politic of the county, not to private munificence, but to public funds." The total number admitted during the first year was 31. There were 4 deaths.

Ancient Order of Foresters' Convalescent Home.

The Scottish Foresters' Convalescent Home Benevolent Society formally opened its new home at Kinbuck, near Dunblane, on October 16th. This is a praiseworthy effort to provide a home where invalid members can find rest for a period. There is accommodation for fifteen patients, and there is plenty of space available for additions at a future date, if such be found necessary. The ground floor contains a dining-room, a recreation-room, board-room, conservatory, kitchen, etc., while upstairs there is, as stated, accommodation for fifteen patients. The home stands in its own grounds, which are well laid out.

Northern Infirmary, Inverness.

New phthisis wards have been opened in connexion with the Northern Infirmary, intended for the treatment of incipient cases. These wards are separate from the main building, and have a verandah, where patients can have the advantage of open-air treatment.

Ireland.

[From Our Special Correspondents.]

The Royal College of Surgeons in Ireland.

At the prize distribution at the School of the Royal College of Surgeons in Ireland on October 15th, Mr. John Lentaigne, President of the College, before handing the awards to the successful students, delivered an address, in the course of which he remarked that the school was now entering a period of grave difficulty and danger. If those difficulties were merely the outcome of fair competition on the part of its rivals—that is to say, of greater industry and more successful work—the school, he said, would not complain, but would meet them, as in the past, by increasing its own efforts. Unhappily, the troubles were due to a very different cause. An Act of Parliament had completed the State endowment of every other medical school in Ireland, while their own was excluded absolutely from all Government favours. Medical education had become a business so difficult and financially unprofitable that it was right and proper that it should be assisted by the State when necessary, and the Royal College of Surgeons had never found fault with the endowment of other schools; but what it did protest against was the unfairness of absolutely ignoring the claims of a school which had done at least as good work as the others, and against which no fault had, or could have, been found in the past. The rival schools would now be free from all possibility of pecuniary embarrassment; they would be provided with abundant funds for the endowment of laboratories and classrooms; the salaries of their professors and lecturers would be paid for them; rich prizes would be offered to students, and, worst of all, they would be able to outbid and undersell the school of the Royal College of Surgeons by lowering the fees for lectures, degrees, and diplomas to such a point as must speedily starve and destroy the school of the College. The injustice and unfairness of the scheme were so patent that at first the Council of the College had no doubt that if it approached the Government it would only have to state its case in order to have its grievance remedied; it consequently asked for an endowment sufficient to enable it to continue its work in the face of the new and increased competition, the sum applied for being absolutely insignificant as compared with huge grants which were being voted for educational purposes in the new universities. The Prime Minister, however, though he paid a glowing tribute to the work which had been done by the College and the school, contented himself with an expression of belief that the school would not suffer from the new competition; if damage were proved to occur the Government might possibly reconsider the question, though he made no promise on the point. Nothing, therefore, had been achieved in the way of redressing the balance, and the outlook seemed most unpromising. Nevertheless, the College was determined to spare no effort to maintain the highest possible standard of efficiency in the school. During the past two months it had spent large sums out of its scanty funded capital in improving the school, and it would do everything in its power to maintain the unequal struggle as long as possible. It would also agitate to the best of its limited ability, and spread the story of the wrong which was being done far and wide, and on every possible occasion, in the hope that if not for the sake of justice, then for shame's sake, the Government might be induced to take action to save the school before it was utterly destroyed; or that that hope failing, the next Government might be persuaded to remedy the evil done by its predecessors

and render justice to an old, honourable and most useful institution. Mr. Lentaigne then distributed the prizes, the principal winners being: Mr. H. R. Tighe, who won the *Barker Anatomical Prize* (£26 5s.); Mr. J. S. Pegham, who won the special prize (£21) in the same subject; Mr. J. T. Duncan, to whom the *Carmichael Scholarship* (£15) was awarded; Mr. J. T. Duncan, winner of the Stoney Memorial gold medal in anatomy; and the gold and silver medallists in operative surgery, Miss I. R. Clarke and Mr. F. N. Harvey respectively.

Conjoint Cecilians.

At a meeting of the past and present students (conjoint) of the Catholic University Medical School held in the Gresham Hotel, Dublin, on October 9th, Dr. Adye-Curran presided, and the following resolution was proposed and passed unanimously;

> We, the past and present students of the Catholic University Medical School with non-university "qualifications," respectfully approach the governing body of the National University, and request that they will be good enough to take into consideration the position occupied by us at present, and kindly say what concessions they would feel disposed to grant in the event of our seeking a medical or dental degree.

All those interested in the question are cordially invited to communicate with the Secretary, "Conjoint Cecilians," Apothecaries' Hall, Dublin.

The Royal Victoria Hospital, Belfast.

On October 14th, the opening day of the winter session at the Royal Victoria Hospital, an address was delivered by Mr. Hanna, assistant surgeon to the eye, ear, and throat department. Dr. J. Walton Browne, senior surgeon and chairman of the medical council of the hospital, presided, and there was a large attendance of students. In the course of his remarks Mr. Hanna said that those who found pleasure in analytical records of human progress could find no more fascinating study than that of the historical side of medicine and hospital development. He was glad to see that in the curriculum laid down by the new university much had been abolished which was formerly considered a necessary part of a student's education, while on the other hand the study of children's diseases had been made compulsory. Medicine was essentially practical in its aims, and in its study there should be a spirit of inquiry and an endeavour to make observations which would stand experimental tests. Pathological teaching in Ireland was impeded by the difficulty experienced in obtaining permission to conduct necropsies, and the medical profession should unite to take some concerted action to minimize this drawback. He advocated the opening of one of the two vacant wards in the hospital as a children's ward, and had no doubt that the financial aid required would be forthcoming were the advantages of such a ward duly set forth.

Health of Belfast in 1908.

Dr. Bailie, Medical Superintendent Officer of Health, has issued his report for 1908 on the health of Belfast. It forms a very presentable volume of 200 pages, with a complete index of nearly six pages and a large number of charts, diagrams, and maps. Several subjects chosen at random were found with ease and rapidity from the index; pneumonia, however, does not appear. The report on the whole makes satisfactory reading, and engenders the feeling that a real attempt is being made to grapple with the enormously difficult problem of the health of the city.

The population is estimated at 380,344; there were 11,490 births, equal to a rate of 29.7 per 1,000, and 7,523 deaths, or a rate of 19.5. The infantile mortality was 147 per 1,000 births; the zymotic death-rate 1.8, and phthisis death-rate 2.3. This death-rate from all causes is the lowest ever recorded, and if the population were estimated on the English method, the figure would be 17.7. If we accept the latter rate as correct, we find that Belfast has rapidly risen in the Registrar-General's table of large cities. In a list of 82 it would be now some 18 from the bottom, and would be tabulated equal with Glasgow and Sunderland.

There is a very satisfactory improvement in respect of zymotic diseases. The total number of cases notified was 1,388, the lowest since the Notification Act came into force; it is 434 less than that of 1907, nearly half that of 1906 and 1903, and nearly a fourth of 1901, the year of the typhoid epidemic. The greatest fall is in typhoid fever and simple continued fever, but scarlet fever, diphtheria, and erysipelas are all low. It is scarcely to be hoped that such figures will be found in succeeding reports. An epidemic of scarlatina, such as occured in 1906, would disturb the level. Nearly all large towns in the United Kingdom showed similar exceptional good health during 1908; perhaps one may be forgiven for hoping that the large sums expended of late years on preventive medicine have had at last this desired result. In Table No. V, p. 14, the old anomaly of including relapsing fever in the list of notifiable diseases is still found, although no case has occurred in historic times, that recorded in 1905 being in all probability a mistake. Cerebro-spinal meningitis does not appear in this table, but it was notified 118 times, and 66 deaths occurred.

There are several points to which attention may be called. Pneumonia is one of the commonest terminal affections; it is then a mere mode of dying, and it is greatly to be feared that where death is due to some disagreeable disease, and pneumonia supervenes during the last few days, it appears as the cause of death; pneumonia is thus overrated, and measles, whooping-cough, alcoholism, phthisis, cancer, and other affections underrated. Again, the number of deaths due to measles, whooping-cough, and diarrhoea totalled 583; while the number from typhus, scarlet fever, and diphtheria was 47. It cannot be too strongly insisted on that the loss to city and to family from a death is equal, no matter what the cause. Can nothing be done in the matter of notification or other preventive measure to stop this sacrifice of young life? Dr. Bailie calls attention to this point under the heading of erysipelas; it has been noticed in these columns for many years.

There was one threatened epidemic of typhoid fever from milk supply; but with the experience of the past few years, energetic steps were at once taken, and the epidemic stayed. Dr. Bailie again makes complaint of the difficulty of getting the poorer class of patient to seek hospital treatment. Although a first-class fever hospital has been provided, many persist in nursing the invalid at home where accommodation is inadequate. The same experience holds in other cities. Some years ago the difficulty was to persuade patients in Liverpool to go to hospital; now they claim admission as a right, and 6,213 fever patients were treated within hospital walls. It has been suggested, and the suggestion is one which Dr. Bailie may well consider, that during the summer, when the Infectious Hospital is practically empty, the public should be invited to visit the place and see for themselves the buildings and arrangements.

Dr. Bailie makes official recognition of the valuable services of the municipal lady health visitors and of the Infantile Mortality Section of the Women's National Health Association.

To tuberculosis fifteen pages of the report are devoted; the annual mortality stood for some years at about 3.2; during the last three it has been 2.7, 2.5, and 2.3. This is very gratifying. Three bodies are engaged in dealing directly with the pulmonary form —the municipal authorities, the Tuberculosis Section of the Women's Health Association, and the Forster Green Hospital. Overlapping is threatened, and it would be somewhat more satisfactory if the measures to avoid triplication were more clearly enunciated. It is ill, however, to find fault with too much zeal in such a cause. Two nurses and one medical man are specially retained. The homes of consumptives are visited and disinfected when the patient goes to hospital or dies, and when a patient returns from hospital he is not lost sight of. Much literature is distributed. Dr. Bailie says that the death-rate in the city is raised by the country tuberculous who come into the town and die. This is contrary to the general opinion, and a study of the map of the Registrar-General, where the depth of

the shading shows the consumption mortality, rather supports the view that the towns are centres and infect the neighbouring districts; he does not substantiate his statement, except by advancing the record of 36 people from outside districts who entered the union as destitute and of other problematical cases.

The milk supply is carefully looked after: but considerable doubt arises when the statement is read that no tuberculous animals were found in the cowsheds, nor any tubercle bacilli found in the samples submitted to Professor Symmers. In Liverpool 204 cows showed suspicious signs of tubercle of the udder out of a total of 1,874 within the city, and 98 out of 3,766 in the country sending milk to Liverpool: out of 1,770 samples from the town 22 were tuberculous, and of 2,613 samples from the country 168 were tuberculous. These figures are for ten years. The Glasgow returns are 18 tuberculous out of 417 samples, or 4.3 per cent. The samples forwarded to Professor Symmers were much too few.

In the annual report of 1906 Dr. Bailie had an important and interesting note on alcoholism, but in 1907 he stated that he could get no data, and in the report for 1908 the subject is omitted altogether. Alcoholism, using the term in a broad sense, is a very notable factor in public and private hygiene, and Dr. Bailie must be given powers to obtain figures. The national schools have again received attention, and a list of valuable sanitary improvements are detailed. Dr. Bailie gives some account of the finances of the Public Health Department, which should be a valuable corrective to the wholesale reforms that some are inclined to advocate. A full examination of all details, with comparisons drawn from other cities, would require a volume. The accounts of the Purdysburn Fever Hospital are simple: their perusal suggests extravagance. There are 168 beds, and 583 cases were treated during the year: the total expenditure was £11,772 9s. 5d.; the salaries and wages amount to the large sum of £3,480 6s. 7d.—that is to say, each patient cost £6 in salaries and wages alone: the food for both patients and staff cost £1,652: if we deduct the sum of £3,848 17s. 10d., which comes under the heading Loans Fund, from the total, we have left £7,923 11s. 7d., so that nearly half of the real expenditure consists of salaries and wages. In the London Fever Hospital, dealing with 802 patients, the salaries and wages come to £3,847 out of a total ordinary expenditure of £12,715 in 1907: and in the Cork Street Fever Hospital, Dublin, dealing with 2,032 patients, we have salaries and wages amounting to £2,074, out of a total expenditure of £6,748. Of course it is not correct to compare infectious diseases hospitals with general hospitals, but the total salaries and wages of the Royal Victoria Hospital, Belfast, amount to £3,895 7s. 8d., out of a total expenditure of £14,068 8s. 7d. This institution during 1908 dealt with a total of 3,567 intern patients, 1,427 surgical operations, 198 deaths, and a large extern of 30,041. The grounds are not as large as at Purdysburn, but the Plenum system of ventilation requires skilled engineering attention; this system seems to be economical, as the cost of heating, lighting, ventilation, including cooking and laundry, was £1,753 0s. 5d., as against coal, coke, and firewood of the Purdysburn Hospital of £1,408 9s. 2d.; lighting does not seem to be charged for. The dietary charge is also high: in the Royal Victoria Hospital the dietary for patients, nurses, and staff (including a daily table of thirteen medical men) is £4,629; in the Purdysburn Hospital it is £1,652 18s. 5d. It is to be recommended that the hospital accounts should be made out on the uniform system of hospital accounts. Dr. Bailie has given us much for which thanks are due, but still more is demanded. Who is responsible for the expenditure of Purdysburn? It is not Dr. Bailie, nor Dr. Robb, the Visiting Medical Superintendent. No economy can be expected till some one individual is made responsible. It would be interesting to compare the statistics of the Belfast Poor Law Union Fever Hospital with excellent accommodation and under the same medical care.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

COST OF HOSPITAL TREATMENT IN MANCHESTER.

THERE has recently been much criticism in Manchester of the cost to the rates of the Monsall Fever Hospital, and it was stated by a member of the City Council that the hospital cost the ratepayers £23,000 a year, and that each of the patients costs 33s. a week. On January 1st, 1908, the patients in the hospital numbered 323, and on December 31st, 372. The number of new cases admitted during the year was 2,598, and the average stay in hospital was 42.7 days. Until 1896 the hospital was a branch of the Manchester Royal Infirmary, but in that year it was transferred to the Corporation, and Mr. W. O'Hanlon, who was a member of the Hospital Committee previous to its transfer, is responsible for the following figures, which he gives in a letter to the *Manchester Guardian*. In 1881 an arrangement was made with the Royal Infirmary by which the Corporation and surrounding health authorities should pay to the infirmary a fixed sum of £1,300 a year and 21s. a week for each patient sent, with the understanding that any profit made should be expended in the extension of the hospital. The amount thus paid by the Corporation to the infirmary rose in a fairly regular way from £3,317 in 1882 to £19,793 in 1896. The actual cost to the infirmary of the patients sent rose from £2,809 in 1882 to £11,579 in 1896, though there were considerable variations in different years. The profit made by the infirmary of course varied in a similar irregular way. Altogether, during the fifteen years from 1882 to 1896, the Corporation paid the infirmary a total of £175,778; the patients cost the infirmary £131,255, so that the infirmary made a total profit of £44,523. Down to 1896, when the transfer took place, nearly £50,000 had been spent in new buildings and extensions. Mr. O'Hanlon thinks that these figures prove that with a fixed payment of £1,300 a year and a charge of 21s. a week for each patient a very handsome profit can be made, and that Monsall Hospital is not being conducted with due regard to economy by the Corporation.

Of course it would not be fair to compare the expenditure at Monsall with that at the Manchester Royal Infirmary, as Monsall has no out-patients, no accident cases, and no home patients, and it is not stated whether the sum of £23,000 includes any charges for redemption or interest on cost of land and buildings. But the following figures may be interesting as showing the cost of up-keep of the Royal Infirmary. The figures are for 1907, which was before the changes incident to removal to the new premises could have had any effect. In that year the in-patients numbered 5,293, the average number of beds occupied being 276 out of a total of 292, and the average stay in the hospital was nineteen days. In addition, there were 25,249 out-patients, 18,390 accident cases, and 1,691 home patients. The total ordinary expenditure for maintenance and administration was £19,848, which covers all the above patients. It is estimated that in the new infirmary, if 500 beds only are occupied, the minimum ordinary expenditure will be £30,000. In the case of all London hospitals the accounts are kept in such a way as to allow of fairly exact comparisons, expenditure on in-patient and out-patient work being separated; and until the same plan—which means adoption of the uniform system of hospital accounts—is followed in all Manchester hospitals, it will not be possible for them to meet and disprove charges of extravagance.

THE HOPE HOSPITAL DISPUTE.

The Salford Board of Guardians have shown no sign of an inclination to grant any of the requests of the Salford Division of the British Medical Association, nor even to negotiate with it. Accordingly the "Warning Notice" is still retained in the BRITISH MEDICAL

Journal, and the guardians have been unable to obtain any medical officer for Hope Hospital. There are now two vacancies, as the second resident medical officer, as well as the senior, has left, and the work of the hospital is being carried on by locumtenents under the visiting medical superintendent, the Division having made no attempt to prevent the guardians obtaining temporary assistance. The deadlock has now lasted since the end of July, and is entirely owing to the refusal of the guardians even to attempt conciliation. The long duration of the dispute is extremely unfortunate for the guardians, as the matter has now become so notorious all over the country that, even if the guardians offer satisfactory terms and when the warning notice is withdrawn, candidates may be shy of taking any post on any terms under the board. It is, therefore, satisfactory to learn that the Local Government Board has decided to intervene. On the instruction of the Board, Dr. Fuller, medical inspector for Poor Law purposes, and Mr. Lowry, the inspector for the district, will meet a small committee, consisting of four members of the board of guardians, to confer with them in the hope of finding a solution of the difficulty.

Two points on which the Salford Division has laid stress refer to previous recommendations of the Local Government Board inspectors which the Division thinks ought to be properly carried out. The first, made three years ago by Dr. Fuller and Mr. Jenner Fust, was a recommendation that the status of the senior resident medical officer should be raised. This was actually carried out soon after it was made, but recently the guardians have decided to lower it again to its original level. To do so would probably damage the administration of the hospital, though on that the guardians may perhaps claim to be the judges. but the Salford Division objects that to lower the status would place the senior resident in the old position of inferiority which was so prejudicial to his influence. The Division, therefore, hopes that the recommendations of the inspectors of three years ago will be upheld. The second point is that of understaffing, and here again the Division is in full agreement with the recommendation of the Local Government Board inspector made some weeks ago, and urges that it should be carried out at once. On the question of the personal treatment of the medical officers by individual guardians, of course nothing more can be done. The forcible protest of the Division must have some weight, if it only shows that the medical officers are not standing alone, but may look for the support of the British Medical Association whenever they are in the right. The question as to what is a fair salary to accept is one for the profession alone to decide. But the Division thinks that the salary offered is an example of the "miserably inadequate" salaries spoken of by Dr. Fuller himself in his evidence before the Royal Commission on the Poor Laws when he said: "It is undeniable that the majority of medical officers, indoor or outdoor, are paid salaries miserably inadequate." Thus on all points the Division has a good case, while the guardians have afforded no slight argument to warrant the conclusions and recommendations of both the Majority and the Minority reports of the Royal Commission.

The Postal Medical Officers.

The action of the Post Office Department in connexion with the Superannuation Act, which became law on September 20th, has aroused considerable indignation in Manchester medical circles, as it is felt that it affects not only the postal medical officers, but the profession generally, since the action of the Post Office must tend to lower the fees generally obtained for examinations analogous to insurance examinations. The provisions of the Act are stated elsewhere, and it will be seen that for the examination of postal officers who are entitled to free medical attendance a fee of 5s. 6d. is offered to the postal medical officers, and the Post Office seems to claim that this is a generous offer, as it might be held that the examination was covered by the capitation fee, and that the medical officers had really no claim for any fee at all for such cases. The injustice of adding such work, which was never contemplated when the capitation fee was fixed, is altogether overlooked by the department, and quite naturally the Association of Postal Medical Officers has demurred to this, and thinks that 5s. is not too much even for the men on the free list. Apparently, however, medical officers have no choice but to submit to the imposition of extra work for a miserable fee, while the department takes credit to itself for its generosity in giving any fee at all. But for postal officers not entitled to free medical attendance, another arrangement had to be made, and the department announced that, in the case of postal officers in receipt of salaries of £150 or more, the postal medical officers would be expected to do the medical examination and furnish a certificate for a fee of 5s. payable by the candidate himself. It was to make no difference how high the salary might be: it might even be £1,000 a year, and yet the fee was still to be only 5s., though the monetary benefit to the candidate would in that case be analogous to an insurance policy of £1,000. Here the medical officers were in a stronger position, as they were under no compulsion. They accordingly asked for an all-round fee of 10s. 6d.—a most moderate request, and actually lower than that usually obtained from ordinary insurance societies for amounts over £200, as many of the cases would be. The reply of the department was characteristic, and to the effect that if the postal medical officers would not do the work for 5s., it would have to be given to other doctors; and in the official instructions to heads of departments, surveyors, postmasters, etc., it is said, "in the case of officers not entitled to free medical attendance a certificate of any fully qualified medical man will be accepted." This is nothing more nor less than an attempt by a Government department to punish the postal medical officers if they will not allow themselves to be exploited. Such, at any rate, was the view taken by the Joint Committee of the Manchester and Salford Divisions of the British Medical Association which considered the matter last week. But the committee regarded it as even more than that, for the effect is not confined to the postal medical officers, and the committee felt, first, that it amounts to a suggestion that 5s. is quite enough for an insurance examination even for large amounts, and, secondly, that it was an invitation to general practitioners to "undersell" the postal medical officers if they demand 10s. 6d. The Joint Committee agreed that in ordinary circumstances this and similar work might well be thrown open to all practitioners, just as is suggested for the medical treatment of school children. But when work is thrown open, as it is in this case, with the distinct object of cutting down fees, it is quite a different matter, and it was felt that the postal medical officers deserved the support of the whole profession in resisting the attempt. Accordingly a resolution was passed expressing the hope that no practitioner would consent to do the examinations in question for a lower fee than that demanded by the Association of Postal Medical Officers, or than that usually paid by ordinary insurance societies in similar cases.

WEST YORKSHIRE.

Bradford Hospitals.

On August 19th the Lord Mayor of Bradford issued an appeal for funds for a new infirmary to be built to replace the present Royal Infirmary, which, when quite full, accommodates 210 patients. During last year the daily average of in-patients was 193, a very small margin to work on. It is urged that Bradford requires at least 300 medical and surgical beds for its daily needs. The present building, apart from its insufficient size, is out of date. The work is only performed under great difficulties, and effective administration is almost impossible on account of the lack of the necessary accommodation for an adequate staff. The Infirmary Board would like to see the various Bradford hospitals fused into one general infirmary, but feel that such a suggestion would be premature. The

Lord Mayor, in issuing his appeal, suggested that a fund of at least £100,000 should be assured before any building operations were undertaken. Over £40,000 has already been promised although no individual canvass has yet taken place, and it is hoped to raise the whole amount required in the course of the next twelve months. The Royal Eye and Ear Hospital is also asking for money for an extension which it is estimated will cost £10,000. The accommodation is not sufficient for the hospital needs, and it is proposed to raise the number of beds from 46 to upwards of 100. There would also be better provision made for the needs of the out-patients, increased accommodation for the nursing and domestic staff, an additional operating theatre and rooms for a resident house-surgeon. The hospital has a high reputation in the West Riding of Yorkshire, and although the appeal for the Royal Infirmary must necessarily militate against rapidly raising the necessary funds, there is no doubt that they will be obtained in due course.

POOR LAW ADMINISTRATION IN THE WEST RIDING.

The annual report of Mr. Philip H. Bagenall, Poor Law Inspector under the Local Government Board, on the West Riding for the year 1908, shows that the provision for the sick poor appears to be now much more adequate than in the past. In Bradford the present workhouse will in the course of time only be used for the sick, and healthy paupers will be sent into buildings three miles from the centre of the town. Dewsbury Union has recently put up a new pavilion for the sick, and the guardians have also acquired land on which a separate establishment for the able-bodied can be placed, leaving the present site for hospital purposes only. Halifax is well equipped with a separate hospital and a separate workhouse establishment. Keighley is served by a separate hospital some distance from the workhouse proper. Wakefield was amongst the first towns to complete a modern hospital, but some further accommodation is now required. Skipton has just put up an addition to the hospital and also small phthisis wards. Knaresborough and North Bierley Unions have always made good provision for the sick. Taken generally, it may be stated that all over the West Riding the most humane and thoughtful provision has of late years been made for sick paupers. In some of the workhouse infirmaries there is better accommodation for the pauper sick than there is in the general infirmaries. The report of the Poor Law Commission has now, it would seem, produced a feeling of uncertainty, and it is probable that matters will not advance much farther until the Government decide on what changes in Poor Law administration are necessary.

SKIPTON AND PHTHISIS.

A good deal of indignation has recently been aroused in Skipton in connexion with a lecture recently given in the town, in which it was stated that the death-rate from phthisis and other tuberculous diseases was extraordinarily high. At a meeting of the Skipton Urban Council, held on September 16th, the chairman contradicted the statement in very emphatic terms. Quoting Dr. F. E. Atkinson, medical officer for the district, he showed that instead of the rate of mortality from consumption of the lungs in 1907 being 3.04 per 1,000, as alleged, it was only 0.9, and the average for Skipton, instead of being 2.98, was 1.7.

ST. LUKE'S DAY SERVICE IN BRADFORD.

For the first time in the medical history of Bradford a service to which all medical practitioners were invited was held at the Bradford Parish Church on Sunday, October 17th. The service was well attended, the preacher being the Vicar of Bradford, the Rev. H. Gresford Jones. The lessons were read by Dr. H. J. Campbell, Senior Physician to the Bradford Royal Infirmary, and Dr. J. Metcalfe, Chairman of the Bradford Division of the British Medical Association.

BIRMINGHAM.

HOSPITAL SATURDAY FUND.

THE sum realized by the Hospital Saturday Fund this year is £19,306, but there are contributions still outstanding. The amount is up to the present £1,068 less than last year, but the committee is convinced that this is only a temporary decrease, and is entirely due to the bad trade prevailing during the past year. The work of the convalescent homes has been most successful, and the efforts to obtain open-air treatment for consumptive cases have been much appreciated. The committee feels strongly that the time has now come for a definite start to be made towards the establishment of the Home for Consumptives. About £4,000 has been promised, and £8,000 more is required. The distribution of the Fund to the Birmingham hospitals and nursing societies has been made much on the same lines as last year. The claims of the various institutions have been carefully considered, and £10,000 has been distributed as follows: General Hospital, £3,150; Queen's Hospital, £2,100; General Dispensary, £1,040; Children's Hospital, £800; Women's Hospital, £500; Jaffray Hospital, £400; Eye Hospital, £350; Orthopaedic Hospital, £300; Homoeopathic Hospital, Lying-in Charity, Skin and Urinary Hospital, and Moseley Hall Convalescent Home for Children, £200 each; District Nursing Society, £150; Birmingham and Midland Counties Sanatorium, £120; Ear and Throat Hospital, £100; Dental Hospital, £50; and the remaining £140 has been divided between eleven smaller institutions.

LONDON.

MILK AND TUBERCULOSIS.

FROM July 1st to October 9th, 1909, 645 samples of milk dispatched to London termini from the home and western counties have been examined by the London County Council under the special clauses of the General Powers Act, 1907. The examination of 578 of the samples has been completed, with the result that 33, or 5.7 per cent., were proved to be tuberculous. Since July, 1908, when the Act came into operation, 1,721 samples have been taken, and 1,254 examined, 114, or 9 per cent., being found tuberculous. Under the same Act, 53 farms were visited last quarter, and 2,067 cows inspected. Twenty-seven suffered from tuberculosis of the udder. In the whole period, 12,170 cows have been examined, and 289 (or 2.4 per cent.) found to have tuberculous udders. The administration of this Act, which is of such importance in protecting the milk supply of London, is costing a little more than £1,000 a year.

WALES.

MEDICAL INSPECTION OF SCHOOLS.

THE first annual report of Dr. W. Williams, County Medical Officer and School Medical Officer for Glamorgan, upon the medical inspection of the schools in the county is at present being considered by the Education Committee. A summary is given of the Education (Administrative Provisions) Act, 1907, and it is pointed out that the immediate object of medical inspection is to ascertain the fitness or otherwise of children for school life; it is not intended as an elaborate medical examination made for the purpose of treatment, but to discover whether treatment is required. A reference is also made to the fact that the effectiveness of the medical inspection will in future be one of the elements to be determined in the efficiency of each school as a grant-aided school. The Act was not put into operation in Glamorgan till April, 1908, and the report therefore deals with a period of only eight months. After giving a general review of the hygienic conditions in the schools in the Glamorgan area, Dr. Williams urges that expert advice and guidance in planning new schools, and especially in

adapting old ones to suit present requirements, is needed. It is not enough to know whether the plans infringe any local by-laws; other important matters should be taken into consideration. for school buildings should not only be unobjectionable, but serve as a model of sanitary excellence, since the unconscious lessons which children learn from their surroundings are many and lasting. Apart from the initial defects in construction, many schools are rendered unhealthy by overcrowding, overheating or underheating, inefficient ventilation, insufficient and unsuitable cleansing, unsatisfactory furniture, and imperfect lighting. Windows are often found unopened during the night and in the intervals during school hours, so that there is a failure to make proper use of the means provided for ventilation. Overcrowding in special departments is far too common. The cubic space is often found less than that prescribed, which is small enough. The class-rooms should be clean, well ventilated, of the proper temperature, and made as bright as possible. Middens and cesspits should be abolished, and, where possible, replaced by waterclosets. In rural districts without a system of drainage or water supply a great difficulty is experienced, and here earth closets should be adopted and systematically emptied. Cupboards should be provided for food, and means for heating cloak rooms, which should be particularly well ventilated, so as to get rid of foul conditions of the air arising from wet clothes, etc. At the end of 1908 there were 228 schools, with 366 departments, within the area. Three medical inspectors have been appointed under the supervision of Dr. Williams. The committee invited the co-operation and assistance of the teachers, and the report states that a ready response, displaying not only willingness but anxiety to help the medical inspectors, has been the result. Four school nurses have also been appointed to assist. The number of children inspected was 9,796, and the following physical defects have been discovered: Defective vision 543, or 6.16 per cent. of the total number of children inspected; marked post-nasal growths and tonsils requiring removal 466, or 5.28 per cent.; deformities, spinal disease, etc., 448, or 5.08 per cent.; bronchitis 371, or 4.21 per cent.; defective hearing 277, or 3.14 per cent.; pulmonary tuberculosis 28, or 0.31 per cent.; tuberculosis, glandular 30, or 0.34 per cent., osseous 17, or 0.19 per cent.

Clothing and Footgear.

	Boys.		Girls.	
	No.	Per Cent.	No.	Per Cent.
Good	1,451	32.5	1,642	37.7
Average	2,682	60.1	2,506	57.6
Bad	328	7.3	202	4.6

Nutrition.

	Boys.		Girls.	
	No.	Per Cent.	No.	Per Cent.
Good	878	19.7	1,119	25.7
Normal	2,774	62.1	2,548	58.5
Below normal	809	18.1	685	15.7

Cleanliness and Condition of the Body.

	Boys.		Girls.	
	No.	Per Cent.	No.	Per Cent.
Clean	3,193	71.5	3,320	73.3
Slightly dirty	987	22.1	792	18.2
Dirty	129	2.9	69	1.6
Verminous	152	3.4	169	3.9

Teeth.

	Boys.		Girls.	
	No.	Per Cent.	No.	Per Cent.
Good	1,839	41.2	1,787	41.0
Medium	1,902	42.6	1,889	43.4
Bad	720	16.1	674	15.5

The inspection has revealed, adds the report, a condition in many children which must seriously affect their general health, for the presence of decayed teeth often leads to indigestion, and is frequently accompanied by adenoids. The figures are practically the same for the boys and girls. In this connexion it may be stated that the Education Committee has lost no opportunity of impressing upon the teachers the great desirability of teaching the children the value and the importance of good teeth, and in each of the courses of lectures upon the laws of health lately delivered to them at the University College, Cardiff, a lecture was included on the care of the teeth.

At a meeting of the Cardiff School Management Committee on October 12th Dr. Walford, School Medical Officer, submitted a report for the term ended August 6th as to the results of the medical inspections carried out by his assistants, Dr. E. Elder and Dr. E. F. Thomas. Altogether 4,172 children were examined—4,031 at the school, and 141 at the City Hall. Of the 4,031, 20 per cent., were found to require medical treatment or supervision, and parents were notified. The principal defects found among the girls were as follow: 6.2 per cent. suffered from defective vision; 0.9 per cent. from diseases of the ear; 0.7, infectious skin diseases; 0.9, tuberculosis; and 14.8 per cent. enlarged tonsils and adenoids. Among the boys examined, 3.5 suffered from defective vision; 1.8 from diseases of the ear; 3.1, infectious skin diseases; 6.6, tuberculosis; and 9.4, enlarged tonsils and adenoids. Among the infants 4.2 suffered from diseases of the ear, 2.6 from infectious skin diseases, 6.6 from tuberculosis, and 9.4 from enlarged tonsils and adenoids. These figures do not include 88.9 per cent. of the children of both sexes found with defective teeth.

India.

The Cholera Outbreak at the Calcutta European Hospital.

The Government report on the outbreak of cholera among the nurses and in the children's ward of the Calcutta European Hospital has just been issued, together with the results of Mr. Haffkine's important bacteriological investigation. All the cases occurred within thirty hours of the first attack, and the type was so virulent that most of the deaths occurred within twenty-four hours of the onset.

A close examination of the dietary led to the conclusion that all the infection was carried in some article of food served at dinner on July 28th, since every nurse affected and also the native sweeper partook of that meal. The filtered and unfiltered water supplies and the milk are excluded, as they were common to a much larger number of persons than were attacked. The most likely article of food was a custard sauce, while some custard was traced on the same evening to the children's ward, where the only cases in the hospital itself occurred. In order to ascertain the source of infection Mr. Haffkine took 127 samples of food, water, etc., the morning after the commencement of the outbreak for bacteriological examination. He found pure cultures of the comma bacilli in the stools of five of the patients, thus eliminating ptomaine poisoning. In the samples examined he found "comma bacilli" in 14, distributed as follows:

In the Kitchen or Pantry.—(1) The water in the ice-chest in the nurses' dining hall; (2) in a large earthenware vessel in which is stored the filtered water for use while the town supply

is cut off; (3) water in a zinc bucket used to fill the earthenware vessel; (6) water in a small vessel containing peeled potatoes for the day's cooking.

In the Nurses' Quarters.—Comma bacilli were found (5) in the remains of milk in a tumbler; (6) in the wash-up water in a bucket; (7) in the remains of milk in a cup.

Seven further samples were suspicious without yielding anything definite.

The uniformity of this infection led Mr. Haffkine to suspect the kitchen servants as a source of infection, especially the masalchis, who do the washing up in the kitchen, etc. He therefore washed the hands of twelve servants working in the kitchen with sterile water, and examined for comma bacilli. The two masalchis, including one who is stated to have looked abnormally clean, yielded positive results. These two men were therefore isolated and their stools examined from August 10th to 13th—that is ten to thirteen days after the outbreak began—beyond which they refused to stay. In each of the stools passed by these men Mr. Haffkine states that he found under the microscope "comma bacilli" mixed with an enormous number of other microbes. On August 17th Mr. Haffkine reported that he had succeeded the day before in isolating them in cultures, and they gave "a pure growth of very typical-looking comma vibrios." They were obtained from faeces passed by one of the men on August 12th. In his report dated August 17th Mr. Haffkine writes:

> The bacilli isolated from the masalchis' bowels correspond, under the microscope and in culture, to the ordinary cholera microbes. Whether they possess the identical pathogenic properties of these I do not know yet.

Coming so soon after the description of "cholera carriers" in a gaol in the Philippine Islands by American workers, the above result will be of the utmost importance, should Mr. Haffkine's further tests prove the organisms isolated from the samples of food and from the native servant to be true cholera organisms. As the Government report was issued to the press on September 23rd, it is much to be regretted that no information is included as to the results of Mr. Haffkine's further tests. The very wide distribution of the comma bacilli in so many samples of water and milk, although but one single meal was infected, recalls the fact that the water of every tank, and almost all unfiltered water in Calcutta, contains comma-shaped bacilli which can only be distinguished from those of cholera by the serum test in high dilutions. Indeed, it was Mr. Haffkine and Dr. Simpson who confirmed the wide distribution of such organisms in Calcutta waters at the First Indian Medical Congress in 1894, J. D. Cunningham having previously laid stress on this fact. We must therefore await a full scientific report before accepting the terrible conclusion that those in India are all living in momentary risk of being infected by cholera through an apparently quite healthy native servant. The comparative rarity of cholera in Calcutta in Europeans since the introduction of filtered water supplies makes it certain that water was the usual source of infection, and this risk, fortunately, can easily be guarded against.

The Malaria Conference in Simla.

The conference, which, as announced last week, was opened by the Governor-General of India at Simla on October 12th, concluded its labours on October 19th, and a Reuter's telegram announces that it has embodied its recommendations under the following six main heads:

1. The appointment by the Government of India of a scientific investigation committee to be linked with special organizations for dealing with malaria in each province, the investigations to be specially directed to (*a*) the distribution of malaria in India, (*b*) the epidemiology and endemiology of the disease, and (*c*) the actions of quinine and other remedies for malaria.

2. The checking by professional agency of the existing vital statistics to determine the exact causes of death.

3. Practical measures, including (*a*) the extirpation of *Anopheles*, regarding which further investigation is recommended to discover how this can be done at a reasonable cost; (*b*) minor drainage operations, which are recommended when they are certain to be effective; (*c*) the restriction of wet cultivation near towns when the lands cultivated are known to be a source of *Anopheles*; (*d*) the introduction of fish into tanks and other collections of water; and (*e*) the oiling of small collections of water which cannot be filled up.

4. Detailed recommendations regarding the use of quinine, with reference to which the conference advises that the drug be sold in quantities sufficient for the treatment of a case, as well as in pice packets, by all possible agencies, special efforts being made to induce private vendors to engage in its distribution, a liberal commission being allowed.

5. Education.—(*a*) On the suggestion of the president of the conference, Sir Herbert Risley, it is recommended that committees of officials and non-officials, directed by the elected members of the new councils, be formed to spread among the people knowledge regarding malaria, and the measures which it is possible to take against it; (*b*) it is also recommended that the subject be taught in the schools.

6. Local Governments should be invited to make an annual assignment of funds for malaria investigation and prevention.

Canada.

Bovine Tuberculosis Commission.

An international commission of twelve, seven representing the United States, and five Canada, has been named for the purpose of devising means of eradicating bovine tuberculosis. The Chairman is Dr. J. G. Rutherford, Veterinary Director-General for Canada. The other members are Dr. M. R. Molar, Chief Pathologist of the Bureau of Animal Industry, Washington; Dr. Fred Torrence, of Winnipeg, Professor in the Manitoba Agricultural College; Dr. Schroeder, Washington; Dr. Veranus Moore, Dean of the Faculty of Comparative Pathology, Cornell; Senator W. C. Edwards, Ottawa; ex-Governor Huard, Wisconsin; Dr. Charles Hodgetts, Toronto, Chief of the Ontario Board of Health, and Dr. N. H. Reynolds, Professor of Veterinary Science in the University of Minnesota, with two packers, Mr. L. Swift of Chicago, and Mr. J. W. Flavelle of Toronto.

Australasia.

Victoria.

Cigarette Smoking.

The Premier of Victoria, Mr. Murray, has, we learn from the *Australasian Medical Gazette*, directed his attention to the very prevalent habit of cigarette smoking by boys and youths, and, as a preliminary to introducing further legislation on the subject, he called for reports on the subject from three medical men, Drs. J. Jamieson, Joske, and Springthorpe, of Melbourne. These gentlemen in their report, after detailing the legislation on the subject in other countries, declare that "the smoking of cigarettes by certain individuals is quite compatible with excellent health. The tendency is, however, for boys and youths who are not physically strong to indulge in the habit. It is a habit which grows upon them. It undoubtedly interferes with the bodily functions, impairs growth and the digestion, interferes with the circulatory system, impairs memory, and diminishes will power; and if indulged in before maturity it is harmful in a very large degree, making individuals listless, will-less, and morose. In our opinion, cigarette smoking is very bad for boys and growing youths. We suggest that it would be wise to educate the youths of the country through lectures and pamphlets, given both to the State schools and the secondary and other private schools, not to smoke cigarettes, and to explain the dangers to them; and to insist, if it is possible, that boys under 16 years of age shall not be allowed to purchase cigarettes."

Messrs. H. F. Angus and Co., 83, Wigmore Street, London, W., have issued a new catalogue of microscopes and microscopical accessories, including apparatus for collecting, preparing, mounting, and storing specimens microtomes, stains, haematological apparatus, and medical analytical apparatus. It contains also a list of mounted specimens and of models illustrating human anatomy.

Correspondence.

THE POOR LAW REPORT AND THE SANITARY MEDICAL SERVICE.

Sir,—My letter in your issue of September 25th appears to have aroused an extremely interesting discussion. Unfortunately those gentlemen who criticize me seem to have regarded my letter as an *article* written in support of the Minority Report rather than as a mere reply to your leader upon the subject. It would be easily possible to make a most convincing article upon the report in question, but it should be remembered that in my letter I restricted myself entirely to the points that were raised in the above leader, and endeavoured to prove that the statements made therein were evidently based upon a very cursory examination of the scheme that was being subjected to criticism. It is a curious fact that none of the letters attempt to show that the Majority Report offers anything more favourable than the Minority Report.

Dr. Greenwood, in his courteous reply, makes a rather misleading use of the word "gratuitous." I would suggest that the term "gratuitous work" should be restricted to that work for which a doctor gets no pay. If this is done, I agree altogether with Dr. Greenwood that "the great evil in our profession is the amount of gratuitous work given to the public." Adhering to this definition, it is obvious that the Minority Commissioners do not propose to increase this gratuitous work, but rather to abolish it altogether, and to pay properly for all work done for poor people. Under such an arrangement medical practitioners would probably lose work for which they were in the habit of receiving no pay at all. The remunerative work, in all probability, would be left them in its entirety, and it is difficult to understand that there would be any "competition on the part of the State." Patients who could pay for treatment would not be attended or treated without fee, and so there would be no necessity for the independent practitioner to reduce his fees. Also, unless human nature alters very rapidly, the "sixpenny doctor" would for many years continue to flourish, because poor people would probably continue to look askance more or less upon treatment that they could obtain without fee. I must repeat "that it is obvious that the total remuneration from the public to the medical profession would be enormously increased," because work that is at present being done either gratuitously or for insufficient pay would, under the Minority scheme, be adequately paid for. I also contend that the Poor Law medical officer would be better off, and would do his work under vastly improved conditions under the Minority Scheme, and he would have just as much chance 'to get all the plums" as any one else. Probably Dr. Greenwood will tell us what plums are within his reach under present conditions, or would be available under the Majority Report. Very many Poor Law medical officers have personally assured me that their work is miserably paid for, and is done under most unsatisfactory conditions. The Majority Report offers a continuance of these conditions, and an extension on the lines of "club practice." Is this an attractive prospect to the Poor Law medical officer? On the other hand, the Minority scheme offers completely reformed conditions, including better pay and the possibility of doing good work.

Dr. Gough appears to find the present condition of Public Health work in small districts to be pleasant but underpaid, and suggests that the members of the profession have themselves to blame for this. I think if he were to confer with a number of part-time medical officers of health of rural and small urban districts, he would find that the conditions are much as I described. They would tell him that if they were to do the amount of work that they consider to be necessary in the interests of public health, their services would be not so well paid for as those of club doctors. The disheartening work that Dr. Gough refers to in club practice and practice among the poor would be largely eliminated under the Minority scheme. The average part-time medical officer of health finds it impossible to do "honest and conscientious sanitary work." If he did, he would have little time left for practice, and would not only lose income, but his post as well. Conditions under which one is unable to do one's duty are, I repeat, degrading. By this statement I do not mean to make the slightest reflection upon the holders of such posts. In fact, I have a great admiration for the ability of many of them, and am sure that, given proper conditions, they would do splendid work in the public service.

Dr. Gough's estimate of the salaries of such a staff as would be necessary for the working of the Minority scheme is obviously based upon some present figures. I have already pointed out that the demand for qualified men would be so great that the profession could dictate its own terms. I should imagine that there would be no difficulty in securing a minimum salary of £500 a year.

It is rather difficult to follow the letter from the "M.O.H. of a Combined District." It would have been more convincing if he had disclosed his identity, and it would then probably have been unnecessary for him to have referred to his "experience of administration on a large scale," and his acquaintance with the work "in some large towns." When he says that Dr. Downes's scheme would only take away from the medical officer of health his education work, I must merely ask him to read the scheme again. The present whole-time medical officers would in all probability find very slight alterations in their conditions of work, and any alterations would be in the way of improved conditions. Those among them who have shown powers of organization and administration would have a strong claim for the senior posts under the Minority scheme. I was obviously unfortunate in my use of the term "local assistants," but it is difficult to find better. The conditions of the appointments are not likely to be *infra dig.* for any of the present holders. Possibly the only differences that a whole-time medical officer of health to a combined district would find are that he would report to the County Council instead of to several small district councils, would have a secure appointment, would in many instances be better paid, and would stand better chances of promotion. His recommendations would, moreover, be much more likely to be carried out. If "M.O.H. of a Combined District" had had some experience in county work and administration, he would realize that the suggested additional work could be undertaken quite easily without unduly pressing upon the members of county councils.

Dr. Bristowe appears to imagine that merely to state that the Minority Report is "pure socialism" is sufficient to condemn it. "Arguments" of this kind are not convincing to many, and it will go badly with the profession if it allows political bigotry to influence its attitude towards a scheme that contains the possibility of the dawn of a new era of prosperity for the profession.

It is not my wish, at this time, to discuss the Majority scheme, especially as you have in your issue of October 9th pointed out some of the insidious suggestions that are made in it. To many it appears as an elaborate attempt to exploit the medical profession, and to continue and extend all that is so disheartening and unfair in the present Poor Law work and in club practice.—I am, etc.,

Winchester, Oct. 11th. Robert A. Lyster.

SUPERANNUATION OF POOR-LAW OFFICERS.

Sir,—Your correspondent, Mr. Nicholls, may be quite right in his contention that I have overstated the claim of a Poor Law officer to compensation under the Superannuation Act on the abolition of his office. According to one interpretation of the Act, he would only be entitled to a return of his contributions, but it seems to me the Act might be construed differently. Section 8 defines a number of cases where a return of all moneys paid towards the superannuation fund shall be made, *provided the officer shall not have become entitled to a pension.* Section 2 makes "permanent infirmity of mind or body" a good title to superannuation, provided the condition laid down in Section 3 is fulfilled, namely, that the officer has completed ten years' service.

It, therefore, seems not unreasonable to assume that the words "entitled to superannuation" might mean, if an officer have served more than ten years. As "bodily injury," necessarily including permanent sickness or disease, is specifically mentioned in Section 8, and it is well recognized that officers who have become permanently disabled by "bodily injury" after ten years' service are entitled to, and in many instances have received, a *pro rata* pension, unless the reading I suggest is true, it is not

clear why "bodily injury" is mentioned in the section, except to indicate that loss of office for any of the causes laid down in this section was to be treated in the same way as if the said loss arose from "bodily injury." Surely, it is not unnatural to imagine that the legislature might intend that where a Poor Law officer was deprived of his office for no fault of his own, but for public reasons, he should receive the same treatment as if he lost the same office on account of bodily injury or disease.

I do not know of any legal decision on this point, and if my view is erroneous the position of the Poor Law officer is worse than I stated it to be in my address to the Metropolitan Relieving Officers' Association.—I am, etc.,

London, N.E., Oct. 16th. MAJOR GREENWOOD.

THE REPRESENTATIVE MEETING.

SIR,—At the risk of troubling your readers with some ancient history, I must ask to be allowed space in your columns to comment on a certain resolution of the last Representative Meeting, in connexion with which I find that my action has received, for various reasons, much adverse criticism.

As a part of the Report of the Hospitals Committee, Dr. Pope moved the following resolution:

> That in the opinion of the Representative Meeting no fresh public medical institution should be opened without previous consultation with the local medical profession through some organized body such as the local Division of the British Medical Association.

Upon which I moved an amendment to omit the words "some organized body such as." As time was pressing I did not make any remarks as to the desirability of the amendment or its meaning, a course I now much regret, as its real object was not grasped by the Representatives; but Dr. Pope's suggestion, in opposing it, that the meaning was to prevent other bodies being consulted was, to judge from the discussion, accepted by the meeting. The resolution as I would have had it amended reads thus:

> That in the opinion of the Representative Meeting no fresh public medical institution should be opened without previous consultation with the local medical profession through the local Division of the British Medical Association,

and would seem to be quite unobjectionable and explicit. Neither Dr. Pope nor any other speaker attempted to show how this would prevent any action of any other organized body; indeed, it could not, as, of course, the Association has no control over them, nor over any person or persons who might wish to consult them. Nevertheless, Dr. Pope's suggestion that this prevention was the object of the amendment has been followed here as the correct explanation, and I have been criticized adversely for moving the amendment. The object was to secure that the Divisions should have the opportunity of discussing the desirability of any new public medical institution. I hope other organized bodies will also discuss the question, but would remind my critics that, so far as I know, no other organized body has the machinery to make its opinion of a proposed institution, if unfavourable, of any force in a similar manner to those Divisions which possess the "Bradford rules." Moreover, in many parts of the country there is no semblance of local medical organization apart from Divisions of the Association.

There has recently been started in Birmingham a provident dispensary scheme, which may or may not be a good thing, but about which no organized body was consulted, not even the local General Practitioners' Union, a body which has, for a local one, a very strong organization. It is well known that a considerable number of practitioners objected to the scheme, perhaps a majority, but they were not consulted at all, and therefore had no opportunity of rejecting or improving it. It was with this instance in my mind that I moved the amendment, with the idea of strengthening the hands of the general practitioner, and not with the intention of injuring the Union (of which I am an old official and one of its first members) or any other organized body of the profession.

There is one other point upon which my action has been criticized which is, perhaps, of more general interest, and which is sure to recur in the future in the history of the Representative Meeting. My instructions from the Division were to support the Report of the Hospitals Committee, and it is contended that the moving of this amendment was an infraction of the instructions. In the letter I quite admit that this was so, but, seeing that the amendment was only intended to increase the power of the Association, which was the trend of the whole report, I believed that in the spirit I did not go farther than my Division was willing that I should.

At any rate, it must be obvious to any Representative who has been instructed by his Division that he must from time to time depart from the letter of his instructions. In which case I trust he will receive from his electorate a generous construction of his transgression.—I am, etc.,

E. D. KIRBY,
Representative of the Central (Birmingham) Division,
Edgbaston, Oct. 19th. British Medical Association.

MUNICIPAL ESTIMATE OF THE VALUE OF MEDICAL SERVICES.

SIR,—At a meeting of the South-West London Medical Society held to-day at Bolingbroke Hospital the enclosed correspondence was brought before the members, and they, feeling that it was a matter which should be brought before the profession at large, asked me to forward it you for early publication.—I am, etc.,

LEONARD S. MCMANUS,
October 13th. President, South-West London Medical Society.

Metropolitan Borough of Wandsworth,
Council House, Wandsworth, S.W.,
October 4th, 1909.

Dear Sir,—A Committee of this Council have under consideration the desirability of retaining the services of a medical practitioner in each of the five districts into which the borough is divided to examine the Council's employees who claim sick allowances in cases of accident or illness, and to certify whether or not they are capable of discharging their duties.

Before making a recommendation on the subject to the Council the Committee are desirous of ascertaining the approximate cost of the proposed scheme, and from inquiries which have been made the following appear to be suitable fees for the work:

(*a*) If the employee attends at the medical practitioner's surgery, 1s. per case for each examination and report.

(*b*) If the employee is unable to attend at the surgery and the medical practitioner visits him at his home, 2s. 6d. per case for each examination and report.

Wherever possible, the men would be required to attend at the medical practitioner's surgery for the examination, but in some cases it would be necessary for it to take place at the men's homes or elsewhere.

With the view of assisting the Committee in coming to a decision on the subject, I shall be obliged if you will inform me whether you would be willing to undertake the work referred to in the district No. 1, shown on the enclosed map, on the terms above mentioned. Kindly return the map when you reply.

I am, dear Sir, yours faithfully,
HEN. GEO. HILLS,
Dr. B. Duke. Town Clerk.

REPLY.

Windmill House, Clapham Common,
October 11th, 1909.

Dear Sir,—While thanking you for so kindly submitting to me the list of fees offered by the Council for examining and certifying their employees, I must respectfully decline such a tempting offer. I can only regret the Council have such a contemptible opinion of the value of a medical man's time.

I am, dear Sir, yours faithfully.
B. DUKE.

Henry Geo. Hills, Esq.

THE UNIVERSITY AND THE MEDICAL SCHOOLS OF LONDON.

SIR,—Mr. Wallis, when opening the session at Charing Cross Hospital, utilized his opportunity to set forth his views concerning London University in a very drastic manner; but many who read his speech, and also your article on the same subject, must absolutely disagree with the views there expressed, and it behoves the graduates and undergraduates of the university who have attained their relative positions with considerable extra study and self-sacrifice, to resist with all their energy any lowering of the standard of what is recognized as one of the "higher qualifications."

The view is absolutely wrong that accuses the matriculation examination of being the cause of the relatively increasing popularity of provincial universities. I speak with the authority of one who was educated at a provincial university as an external student for the London degree.

London men do not go to provincial universities; the latter fulfil their intended function by providing a medical education for men who thirty years ago had to go to Edinburgh and London to get it. Their popularity is due, not to the granting of a degree as opposed to a diploma, but because students can live cheaply at their own homes, and under the parental eye. If Mr. Wallis thinks that by lowering the standard to compete with the provinces he will attract more pupils to the London schools he is vastly mistaken: for, as Dr. Campbell Stark aptly says, "Why should a provincial candidate come to London to work for a degree which will be no better than any other?"[1]

Turning to the competition between the Conjoint Board and the university, many men from the beginning choose the former because, as I pointed out in a letter to the Journal on August 29th, 1908, the Conjoint Board opens the portals of the hospitals to those desirous of holding appointments on the staff, whereas the university does not do so. To repeat my previous contention, Why should a man take his M.D. only to be told by the regulations of his own hospital he must be either a M.R.C.P. or F.R.C.P.? And, again, what advantageth it a student to enter and work for the M.S. if, at the end of a comprehensive course of education, he is told that "candidates must hold the diploma of F.R.C.S.Eng."?

From our earliest student days we are told, "If you wish to be a surgeon, you must have the Fellowship"; hence, as most men have, especially in their earlier career, an attraction towards the glamour of the operating theatre and hear anecdotes of phenomenal fees, they turn to the Conjoint Board as their *gradus ad Parnassum*.

I have just carefully perused the regulations for the matriculation as given in your Educational Number, and still hold the opinion expressed in my letter of August 29th, 1908, that the examination, with its broad choice of optional subjects, is not of any unusual difficulty, but is a good all-round test of general knowledge for intelligent youths, and of such only should London University be built up.

Therefore I say: "Keep up the standard of all the examinations, make those for the final examinations for the M.D. and M.S. degrees still more stringent if necessary, and give the holders the same practical advantages as those holding the higher diplomas of the colleges," and then the London degrees will hold the position, as they should, of the most-sought after qualifications in the kingdom.—I am, etc.,

London, N.W., Oct. 19th. Horace Wilson, M.B., B.S Lond.

[1] British Medical Journal, March 27th, 1909.

ALCOHOL IN RELATION TO MULTIPLE NEURITIS.

Sir,—It might perhaps, at first sight, appear from the article on the above subject by my friend and colleague, Dr. Judson S. Bury, in the British Medical Journal of October 9th, p. 1025, that he and I differ considerably on the point in question. As a matter of fact, we agree almost entirely. The idea that I deny the existence of a pure alcoholic neuritis I thought I had sufficiently disposed of in a short paper I wrote in the *Review of Neurology and Psychiatry* for April, 1905, in answer to Dr. Buchan, but apparently I must once more explain myself.

Dr. Bury has given certain figures to show that the percentage of cases of peripheral neuritis occurring at the Manchester Royal Infirmary for seven years after the arsenic epidemic is about the same as for the seven years before the epidemic, and finally deduces from this that alcohol *per se* was the cause of the neuritis cases before the epidemic just as much as since the epidemic. But I have examined the annual medical reports from which he obtained his figures, and I am not convinced that his deduction is correct. First, he has inadvertently included the year 1901 as one since the epidemic, but, as a matter of fact, the epidemic had not then ceased, and 21 cases of "arsenical" neuritis, and only 7 of other forms are entered in that year. Secondly, the classification of the various forms of neuritis in the reports is, I regret to say, of so meagre a kind (in some years not classified at all) that the mere numbers are of little use. But, taking the numbers as they stand, I work out the percentage of all forms of neuritis in the Manchester Royal Infirmary wards as 1·20 for the years 1893–99, and as 0·96 for the years 1902–08, a not inconsiderable reduction. Thirdly—and this, to my mind, is the most important objection—these figures give one no idea of the relative frequency of the *severe* cases of neuritis which we now see as compared with what we used to see, and I am sure Dr. Bury will agree with me that, although we do occasionally see, both in hospital and private practice, *severe* cases of neuritis in patients who have taken alcohol in excess, yet the number of these *severe* cases is very much fewer than formerly.

I again repeat that, although I believe neuritis will occur in patients who take alcohol (free from arsenic), yet, as a rule, neuritis is not *severe* in degree, and, as I wrote in the British Medical Journal, July 25th, 1903, considering the large amounts of alcohol consumed in this country, neuritis is a very rare complication.

Taking all forms of peripheral neuritis, the disease probably occurs most frequently (as regards actual numbers) amongst those who take alcohol in excess, but this is because the poison is so much more frequently an antecedent than any other poison which may cause neuritis. But, apart from actual numbers, in my opinion peripheral neuritis is more prone to occur and is of a more severe character after arsenic, beri-beri, diphtheria, and lead.—I am, etc.,

Manchester, Oct. 18th. Ernest S. Reynolds.

Sir,—The old proverb that an ounce of practice is worth a pound of theory is a very true one, and may, I think, be well considered in regard to the action of alcohol in the human system.

Having paid especial attention to the subject during half a century of professional life under varied climates and conditions, having noted the opinions of scientists and the profession both home and foreign, and endeavoured by both voice and pen to influence public opinion and to arrive at the truth, I am much interested in the note on alcohol in relation to multiple neuritis by Dr. Judson Bury (British Medical Journal, October 9th, p. 1025). That we have abundant scientific evidence as to the injurious action of alcohol on both animal and vegetable cell life and protoplasm there can be no doubt, and that the poison of decomposing alcohol and its compounds should occasion a peripheral neuritis is a very natural assumption. Nevertheless, owing to the bacterial and chemico-physiological changes in operation in the system, it may be difficult or impossible to prove it. My own experience is in accord with the opinion of other observers that neuritis is due especially to spirit drinking. I recall many cases in patients who were at one time large spirit drinkers suffering from peripheral neuritis but who completely recovered from it when they ceased to take alcohol in any form. Surely this must be the experience of many practitioners, and confirms the opinion of Dr. Parkes Weber, quoted in the last paragraph of Dr. Bury's paper, being also in agreement with the proverb quoted above.—I am, etc.,

Arthur E. T. Longhurst, M.D.

Chandlersford, Hants, Oct. 13th.

REGISTRATION OF NURSES.

Sir,—I observe in the last issue of the Journal a paragraph from a Scottish correspondent containing statements contrary to facts concerning Lord Ampthill's Nurses' Registration Bill—namely the bill promoted by the Society for the State Registration of Trained Nurses.

In contrasting the bill with that promoted in Scotland, the writer of the paragraph says, "The chief difference seems to be that in the Scottish bill the Registration Council represents the nurses, the training schools, the medical profession, the universities, and the Government departments, while in Lord Ampthill's bill the Registration Council only represents the nurses."

In the bill of this society the clause constituting a "General Council for the Registration of Nurses in the United Kingdom" provides for a council of sixteen persons—namely, (*a*) three persons to be appointed by the Privy Council, (*b*) one registered medical practitioner to be appointed by the Local Government Board, (*c*) one registered medical practitioner to be appointed by the General Medical Council, (*d*) three registered medical

practitioners to be appointed by the British Medical Association, (e) one registered medical practitioner to be appointed by the Medico-Psychological Association, and (f) seven registered nurses, to be elected as the direct representatives of the registered nurses. A council so constituted cannot accurately be described as only representing the nurses, and the writer of the paragraph must either have criticized a bill which he has not read, or must have purposely designed it to misinform your readers.

In the clause relating to the constitution of the General Council in the Scottish bill, the only medical practitioners specifically mentioned are two medical superintendents appointed by the Secretary for Scotland, although presumably the "persons" to be nominated by some of the bodies named in the bill will be medical practitioners. The British Medical Association is entirely excluded from representation under this bill, nomination being placed in the hands of academic bodies, some of which have no expert knowledge whatever of nursing education.

Again, the writer of the paragraph states, "The Scottish Bill . . . admits . . . mental nurses to a special register; this Lord Ampthill's bill does not do."

Lord Ampthill's bill provides for the registration of mental nurses in the following clause: "There shall be a nurses' register comprising . . . (2) A supplementary register of asylum trained nurses to be called the 'Mental Nurses' Register,'" etc.

This clause disproves the statement made by your Scottish correspondent that Lord Ampthill's bill does not admit mental nurses to a special register.

Another misleading statement in the paragraph above referred to is that "the registration fee in the Scottish bill is 2 guineas, while in the English bill it is 5 guineas." This is incorrect. The registration fee provided for in each bill is 2 guineas, but Lord Ampthill's bill makes provision for a further fee "not to exceed the sum of 3 guineas for examination."

Lord Ampthill's bill provides for one portal of admission to the nursing profession, that is, after training in the wards of hospitals approved by the Council and passing "such examination as the Council may prescribe."

The Scottish bill requires evidence of training "in the wards of a hospital or of hospitals, or of an institution approved of by the Council." No independent test of efficiency is imposed.

But though the Scottish bill provides for no uniform, central, independent examination, and proposes to register nurses upon their hospital certificates, and for this purpose recognizes nurses trained in fever hospitals only, it demands reciprocity of registration in the United Kingdom —reciprocity of professional and economic advantages.

Lastly, your correspondent says: "it will be unfortunate if some understanding is not come to by the promoters of the several bills." I may say, therefore, that a very substantial understanding in favour of one bill has been arrived at in conference between the delegates of this Society, the Royal British Nurses' Association, the Irish Nurses' Association, and Sir William Macewen, representing the views of the newly-formed Scottish Nurses' Association, of which he is President, the object of which is to support a State registration of nurses by a single portal system for the United Kingdom after having passed a State examination conducted under the auspices of a central board. The only society promoting a Nurses' Registration Bill which is in opposition to this fundamental principle of registration is thus the Association for the Promotion of the Registration of Nurses in Scotland, of which Lord Invercivde is President, and Dr. Mackintosh, Medical Superintendent of the Western Infirmary, Glasgow, Honorary Secretary.—I am, etc.,

ETHEL GORDON FENWICK,
Honorary Secretary, Society for the State Registration of Trained Nurses.
London, W., Oct. 19th.

THE WORLD OF MEDICAL BOOKS.

SIR,—Is it not true that we appear to be living in the age of the "literary surgeon and the picture-book doctor"? Any one who has any knowledge of the times cannot fail to think so. Even the modern works on clinical medicine, in very many instances unlike the works of Graves, tend to be largely collections of laboratory methods, very valuable, no doubt, but not filling the place of the older clinical works. The clinical phenomena associated with many morbid processes are not discussed at all in many books, and little help can be gained from their study in the elucidation of many disease problems. Even in treatment, how often do we see the words "suitable diet" written, when the actual diet required is not stated. There also seems less attention paid by many writers to the study and actual relief by treatment, of the discomforts of the dying patient, such as were dwelt upon by the late Hilton Fagge. We are all also well aware of the enormous amount of vain repetition which occur in medical works in these days.

Let us hope that the future medical world will be productive of fewer novelistic writers and artists and many more clinical writers of the old stamp.—I am, etc.,

October 5th. "OMEGA."

MEDICAL TEACHING.

SIR,—The teaching of medicine is an annual topic of discussion, and, notwithstanding all the able addresses on the subject and the correspondence in the JOURNAL, little improvement is apparent, but rather, I should say, the reverse. I have carefully watched for years the number of entries for medical examinations and compared them with the passes—the only way of arriving at an opinion of the quality of the teaching for examinations—and this does not speak well for teaching. The most recent that I have examined is that for the first part of the Cambridge D.P.H. examinations, and here, if we compare the passes with the failures, we may safely say that teaching for that examination has collapsed, one-third only of the candidates presented having scraped through. Now, this is a serious condition—so serious that some system must be adopted whereby aspirants to degrees may be informed of the schools where they may have education likely to fit them for an examination.

We may take for granted in the Cambridge examination that all who presented themselves were men of average ability, seeing they had already obtained a qualification of some kind; but, leaving their first school, they had been unfortunate in choosing a public health school where the teachers had been unable to direct their studies so as to qualify them for such an examination. To many of them the failure is serious, as they, being young, can ill afford the money and the time to prepare for another examination. If Cambridge hopes to continue as an examining body they must of necessity adopt some means of advising the aspirants for their D.P.H. where they may find a suitable school, and they must after each examination, in publishing the results, name the schools at which their successful candidates were educated. This might be adopted by other schools, and naturally teachers would be spurred to improve their system of teaching.—I am, etc.,

October 16th. PRO BONO PUBLICO.

P.S.—I am assuming, of course, that the examination taken here as an example was not outrageous in its requirements.

EXHUMATION AFTER FIVE CENTURIES.

SIR,—On the 7th of this month I had to examine some human remains recently disinterred in this town after being undisturbed for some five hundred years.

The body was wrapped in several layers of cerecloth, the whole being enclosed in a lead coffin, moulded to the shape of the body, and absolutely airtight. When first found the lead covering was opened and the body removed, the cerecloth was also partially opened, and the remains reburied in a rough wooden case. In this manner air and moisture had been admitted to the corpse some three weeks before, acting on an order from the Home Office, I had a chance of examining it. At the inspection, which was needed to determine the sex—rumours being current that the body was that of the "Fair Maid of Kent"—the following appearances struck me as being of some interest in view of the length of time since burial, and as showing how marvellously preserved a body may be when hermetically sealed even after the lapse of several centuries.

On removing the wrappings, which were apparently of linen heavily charged with beeswax, the body was seen quite naked, the arms straight down the sides, the right foot crossed over the left, both feet pointing to the left.

The integument was unbroken and all the muscles were well defined, the subject being a sparely-built man, about 5 ft. 9 in. in height, and, as far as one could judge, about 70 to 75 years old at the time of death. The skeletal muscles to the touch had the same consistency as those of a corpse a few days old, and all the joints were perfectly mobile. The head—dolichocephalic—was well shaped, with a ring of reddish hair, partly grey and scanty in quantity; the nose was flattened in but easily moulded into shape; the eyeballs had perished; the cutting and grinding surfaces of the teeth were much worn down, but were in good condition with the exception of two decayed molars; the tongue and gums had perished; the chin had a straggling beard of red hair about 2 in. long. The face was covered with a fine linen cloth.

The hands were remarkably small, slender, and with well-kept nails. Pubic hair was present, but sparse. The penis was represented by the integument and a lengthy prepuce; the scrotum, of a remarkable size, was empty, giving the impression that a hernia or hydrocele had once been present, but both external rings could be easily felt, and certainly negatived a rupture. The abdomen was retracted. No examination of the internal organs was made, the question of sex being the only point at issue, but it seemed obvious that all the tissues, with the exception of bone muscle and skin, had, in the course of ages, perished. The whole of the surface of the body was of a deep chocolate colour. The remains proved to be those of a certain John Stanneford, of the Order of Blackfriars, buried about 1400.—I am, etc.,

GEORGE BOYD,
Medical Officer of Health, Borough of Stamford.

October 12th.

KENNELS AND DOGS IN TOWNS.

SIR,—There are many tenements in London, and in other big towns, which would more appropriately be designated kennels. The number of dogs kept in flats and houses is, in certain quarters, quite extraordinary. They are a constant menace to health, and at frequent intervals during the day and night become objects of disgust. To me it is astonishing that the guardians of public health take no notice. Pigs are not allowed to be kept in London, but what difference can there be between the useless defaecating, urinating dog and the pig (which, moreover, possesses the advantage of being ultimately converted into meat) as far as health is concerned?

Now certain localities in London are, and have been for some time, converted into a dog's latrine. Morning and evening, with extreme regularity, mistresses and maids may be seen tethered to dogs of various breeds; the quadrupeds drag the bipeds along, stopping at intervals to void their ordure, while the human female looks on encouraging and admiring their favourites' tortuous efforts at defaecation and urination.

It is a common custom of these animals to nose the ordure they come across, and I have often seen pet dogs lap up recently voided canine urine. The next thing that happens is that the human female embraces the animal, so overjoyed she seems to be at the successful result, and then allows it to lick her with the tongue just fresh from excrement. This appears to be a pleasant occupation, and about the delights thereof I have nothing to say; but I would call your attention to the fact that the accumulation of ordure on the pathways is in itself not only revolting, and more especially when you have to pick your way through mounds of excrement, or unexpectedly trample on it in the dark, but is a serious source of contamination and infection to human beings.

Some two years ago the London County Council passed a by-law against spitting in public places. This was very good in itself, but why did not this powerful body consider the whole question of animal excreta? If human beings are allowed to spit, etc., only in private places, it would have been logical to make the owners of dogs responsible for the acts of their animals, and to have exacted a fine on conviction for allowing their animals to pollute public places. Persons who desire to keep dogs in towns should not be allowed to keep them within dwellings, and should be compelled to provide proper latrines for them.—I am, etc.,

October 16th. M.D.

THE CRESCENDO MURMUR.

SIR,—My paper on the crescendo murmur was not written as much with the intention of starting a discussion on its rhythm as to have placed before those interested the arguments for and against the theory that the murmur is caused by auricular systole, for so many of the deductions of modern cardiology depend partly or wholly on this view of the rhythm of the murmur. I provided arguments which seem to me to disprove this theory, and invited Dr. Mackenzie to state those which he considers prove it indisputably. I, therefore, am sorry that my invitation—which was offered with that respect which everyone must acknowledge is due to one who has brought such a vast amount of clinical experience and original observation to the consideration of the subject and has written so much on it—has not been accepted, and only one side of the case has been presented. I greatly appreciate the interest which Sir John Broadbent and Dr. Taylor have shown in my paper, and whilst it is difficult to reply satisfactorily to criticism, especially on points of detail, in a communication like this, I will do my best to meet their objections to the views I have defended.

As Dr. Taylor states, I concede a great part of what Dr. Barclay and other supporters of the ventricular-systole rhythm of the murmur denied; and that the murmur I am concerned with may stand alone or be continuous with an admittedly diastolic murmur. He also rightly interprets my attitude as to the rising-pitch characteristic of the murmur; it is chiefly on my explanation of this taking place at a narrowing orifice that my argument added new material to the old discussion; and I may point out that the modern school, represented by Sir John Broadbent, accepts this rising pitch as being a characteristic of the murmur. I certainly look upon rising pitch as indicating a closing orifice; if this view is wrong my theory collapses. Will Sir John explain how it is produced under the auricular-systole rhythm theory?

I agree with Dr. Taylor when he says that the crescendo murmur occurs in a relatively early stage of the disease and disappears later. This is because it can only be caused before the valve assumes that rigidity which is generally found, as Sir John Broadbent says, at death in cases of mitral stenosis. In the early stages the valve is capable of being closed by intraventricular blood pressure, though it requires more pressure, which is developed at a later period of ventricular systole, than that for the normal valve's requirements. When the systolic murmur is heard, and no crescendo murmur, it means either that the valve is too rigid to be closed at all, or that the ventricle is incapable of developing sufficient pressure to close it. For the latter reason, too, a crescendo murmur may reappear after a heart, which has been rested or treated with drugs, has regained sufficient power to close the valve. In quick-acting hearts the murmur may be too short to be recognizable, but it becomes audible again when the heart beat is slowed by treatment.

Both my critics object to my interpretation of Dr. Galabin's cardiographic tracings. If Dr. Taylor's contention is right that in Fig. 13 there is a murmur two-fifths of a second long after the rise denoting auricular systole, how is this murmur caused? We are taught now that auricular systole occupies only 0.08 second in duration, and "is practically constant." Auricular systole can therefore not be responsible for all the 0.4 second. Why cannot the early and ineffectual ventricular systole which, I believe, causes the crescendo murmur, be responsible for that part of the long murmur waves left over after the auricle has done its 0.1 second of work?

Dr. Roberts has commented on Weiss and Joachim's work, but his interpretation of tracing Fig. 5 is different to their own. They look upon the murmur as diastolic, continued by a "presystolic reinforcement" and they point out that there is no sudden alteration of the curve of the murmur at the point of time when auricular systole begins, as they expected to find if the crescendo murmur be of auricular-systole rhythm. The school Sir John Broadbent represents, accepts the fact that a brief crescendo murmur can be caused by slight regurgitation through the mitral orifice at the beginning of ventricular systole; this is a great acknowledgement of the validity of the theory I have defended, and I cannot see how such a peculiar murmur can be caused in two different ways.

There is one most important point in Weiss and Joachim's work, the value of which, with all respect, I think Dr. Taylor has not fully appreciated—namely, that in mitral regurgitation the presphygmic *plus* carotid wave interval is increased, almost to double its normal extent—that is to say, that between the onset of ventricular systole and the carotid pulse in mitral regurgitation there is a period of 0.12 to 0.15 second compared with the normal 0.08 second; and what is a crescendo murmur, in my view, but mitral regurgitation? The tracing of an uncomplicated crescendo murmur (Fig. 4) wants a deal of explaining away by the auricular-systole rhythm theory. Fig. 5 is more debatable, but I put it in purposely so that I might not be thought to be hiding difficulties, giving the observer's own comments on the absence of any indication of auricular systole where they expected to find it as meeting criticism of its value from my point of view. Another tracing (their Fig. No. 21) is better evidence for my theory, though not so good as No. 20 (my Fig. 4).

Dr. Taylor does not understand me rightly when he says that, under my theory, the stronger the ventricle is the less able is it to lift the aortic valves without a preliminary mitral regurgitant flow, and vice versa. What I maintain is that, the weaker the ventricle, the less able is it to close competently a mitral valve made more difficult of closure than a normal valve is. Dr. Taylor agrees that in ordinary mitral regurgitation, although it cannot close the stiffened valve, the ventricle can generate sufficient force to open the aortic valve, blood all the time regurgitating through the patent mitral valve, and producing an ordinary systolic murmur of regurgitation. Weiss and Joachim show that in these cases the presphygmic interval is abnormally prolonged, owing to the escape of blood into the auricle delaying the development of sufficient intraventricular pressure to open the aortic valve. A crescendo murmur simply means that the mitral valve is closed during the production of a mitral regurgitant murmur, and that the valve is incompetent for only a portion and not for the whole of ventricular systole, as is the case in an ordinary systolic murmur. It is practically a *presphygmic* murmur in rhythm.

The fact that the crescendo murmur is only heard in the back with extreme rarity presents no difficulties, in my opinion, because it is generally caused by a small regurgitation of blood and under moderate pressure. It arises at the onset of ventricular systole and at a closing valve orifice, as compared with an ordinary prolonged systolic murmur produced at a uniformly patent defective valve by the full force of ventricular systole. It is merely a question of penetrating power of the murmur, for many mitral regurgitant murmurs are not heard at the back.

The difficulty about the reversal of engines is never raised in the practically analogous condition of the see-saw murmur of aortic disease. When a rising-pitch murmur is actually or apparently continuous with an undoubted mitral diastolic murmur, the latter is of a decrescendo or uniform character. We never hear a murmur which begins at the second sound and runs on to be terminated by an abrupt first sound, which is continuously and progressively of rising pitch and crescendo force character. Dr. Taylor will see that rising pitch, meaning a closing valve, is a very important point in my argument.

Sir John Broadbent's answer to my question about the absence of a crescendo murmur in aortic stenosis does not meet the point. In both conditions you have blood passing from one chamber to another chamber or vessel in which it is lower in pressure than in the propelling chamber. True, the pressure in the aorta during ventricular systole is much higher than in the ventricle—which is nearly full and not empty, as he says—during auricular systole, but then the muscular power of the ventricle is proportionately greater than that of the auricle. It would be very hard to prove that the first sound of a heart with diseased auriculo ventricular valves is mainly muscular in origin, as he contends, whatever may be its cause in the normal condition of affairs.

I should like to have added some further reasons to those in my paper for venturing to doubt some of the deductions from jugular pulse tracings, but the space at my disposal here will not permit of this. I must defer further criticism for the present.—I am, etc.,

Manchester, Oct. 11th. E. M. BROCKBANK.

THE CAUSE OF DYSMENORRHOEA.

SIR,—The attention of many members of the profession would be arrested by the report of Dr. McCombie's case in the JOURNAL of October 9th, p. 1072. Personally, I was much interested in the observations therein recorded, supporting as they do the views which I ventured to express in the JOURNAL of May 15th, and to which he refers at the end of his communication.

It seems to me that the interest of this case lies not so much in the condition of the cervix described—for spasm of the internal os is common under such circumstances—but rather in the fact that the cervical spasm, actually demonstrated on palpation as a "constricting band," produced pain of so familiar a type that the patient was led to believe that she was experiencing a recurrence of her painful menstrual periods.

With a past history of dysmenorrhoea, this admission by the patient is significant, since it is but natural to conclude that her former sufferings—similar in all respects to her present sensations—were due to a similar cause, cervical spasm. Moreover, the diminution in the rate of flow of discharge during the acme of pain, and its reinforcement on dispersion of the latter, afford striking testimony to the presence of that relative obstruction in the cervix for the recognition of which I pleaded in my previous letter.

It is mere anticipation to remark that at least one gynaecologist of eminence would interpret the painful sensations of this Bengali patient as manifestations of neurasthenia. Nationality is no deterrent in the eyes of the devotees of this wonderful term—I cannot write disease—for the omniscience of its supporters has bestowed the name upon many diseases in many peoples. Therefore it is but natural that the term "neurasthenia" should haunt every attempt to unravel the perplexing problems of that elusive disease, spasmodic dysmenorrhoea.—I am, etc.,

Dukinfield, Oct 18th. GERALD RALPHS.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The R. C. Brown Scholarship.

DR. R. C. BROWN of Preston has most generously promised to continue for a further period of two years the Pathological Scholarship of £150 per annum which he founded in connexion with the Committee for the Study of Special Diseases.

ROYAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., B.CH., B.A.O.—*J. A. Brown, *‡J. B. Butler, M.A., *‡J. J. Gilmore, *‡J. A. Hanrahan, *E. G. Kennedy, *‡E. W. Kirwan, *‡J. M. McCloy, *‡T. Scanlan, C. Alexander, J. Anderson, J. A. Black, P. M. I. Brett, *B. Byrne, *S. E. Campbell, F. S. Carson, D. S. Clarke, B.A., A. V. Craig, *W. Dickey, W. A. Frost, F. Hayes, J. Holland, D. Horsan, J. C. Houston, D. J. Jackson, B.A., T. Kennedy, H. H. MacWilliam, B.A., W. Magner, T. P. Macmier, T. J. S. Moffett, A. Paton, B.A., S. P. Rea, J. Reid, D. A. Rice, A. M. Thomson.

M.D.—J. Finnegan, S. J. Killen, C. B. Pearson, S. B. Walsh, B.A., D.P.H., T. Walsh, B.A., D.P.H., S. H. Whyte, J. E. Wilson.

‡ Upper pass. * Qualified to sit for honours in one or more subjects.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on October 14th, Mr. H. T. Butlin, President, in the chair.

The late Sir Thomas Smith, Bart., K.C.V.O.

The Council recorded its deep regret at the death of Sir Thomas Smith, whose valuable services to the College were highly esteemed, and whose personal character made him an object of affection to all his colleagues. The Council also expressed its sincere sympathy at the loss which his family has sustained by his death.

Examinership in Midwifery.

The vacancy occasioned by the death of Dr. William Rivers Pollock will be filled up at the meeting of the Council in December.

Report to the Fellows and Members at the Annual Meeting.

A draft report, submitted by Mr. Edmund Owen on behalf of the Committee on the Annual Report of the Council, was approved and adopted. This will be presented to the Fellows and Members at the annual meeting on Thursday, November 18th.

University of Sheffield.

Mr. Clement Lucas was appointed representative of the College on the Court of Governors of the above university in place of Mr. A. W. Mayo Robson, whose period of office had expired.

Royal Commission on University Education.

The consideration of a letter from the secretaries of the above stating that the Commission will be prepared to receive information regarding the views of the college upon questions connected with medical education in London was referred to a committee.

Jubilee of the Grant of the Charter enabling the College to confer Diplomas in Dental Surgery.

It was determined to celebrate the above by a dinner given by the college to the leading members of the dental profession. The dinner will be held in the library of the college on Thursday, December 2nd, 1909.

CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examinations indicated:

First Examination.—A. I. Clarke, J. J. Dykes, G. W. Fleming, D. B. Cama, R. B. Lilly, C. R. C. Moon, J. Warden, A. T. Kurtzman, P. E. Donoghue, G. B. Hanna, F. W. C. Himings, J. J. Reynolds, O. Brunlees.

Second Examination.—G. A. Macvea, M. F. A. L'Hoste, G. I. Seeluna, S. Brennan, J. N. Clark, T. Hardie, S. D. Bridge.

Third Examination.—E. Thorp, Emma C. R. Fisher, J. McManus, E. C. Hamilton, C. S. Owen, J. D. Wright, J. M. Dalzell, J. A. Hutchinson.

Final Examination.—F. B. Carvalho, R. A. Barve, R. D. Neagle, H. H. Field-Martell, M. Reuerz, A. F. Henriques, R. T. Nath, R. A. Hosegood, W. R. Mackenzie, S. Sharples, Beatrice Coxon, G. B. Moon, R. V. Dias, D. B. Gazdar, Maud T. Fére, H. V. A. Gatchell, F. C. Eberhardt.

CONJOINT BOARD IN IRELAND.

The following candidates have been approved at the examinations indicated:

First Professional.—J. P. Brennan, B. J. Cusack, J. J. L. Cox, H. A. S. Deane, E. C. Foley, A. B. Foott, R. F. J. Griffith, E. Green, J. F. Lyons, D. McEntire, R. J. May, C. J. O'Carroll, H. V. O'Donoghue, F. Rowan, T. F. Ryan, G. N. Smyth, R. Tivy.

Second Professional.—N. J. Albert, A. J. Best, C. M. G. Campbell, T. J. Kelly, D. Murphy, G. Sheehan, G. A. Shiel, W. Waugh.

Medico-Legal.

WORKMEN'S COMPENSATION.

BAKER'S ECZEMA.

A. M. writes: Is there any case on record *re* compensation to a baker for eczema caused by his employment? It commenced about six months ago, and under treatment seemed to be cured, but it returned again a day or two after he had started to work. This is the third or fourth time he has returned to work after the skin seemed to have recovered its normal condition, but on each occasion the eczema has returned after a day or two at work. Is there any case bearing on his legal position for compensation?

CERTIFICATES IN LUNACY.

J. M.—(1) So far as we are aware, the only cases in which a justice specially appointed under the Lunacy Act, 1890, has to appoint two medical practitioners to certify to alleged lunacy are those which he has to consider under Section 15, Subsection 2, of that Act. (2) In the above described class of cases, even if one of the medical practitioners certifying is not the medical attendant of the patient, it is not clear that there is any legal ground for complaint. (3) We cannot say what is the usual practice for initiating legal proceedings, as it varies in different districts, but we are ready to assume that the provisions of the Lunacy Act are always strictly complied with. (4) Any patient admitted to a public asylum as a pauper, or classified as such on or after admission, can only become classified as a private patient after arrangements have been made for all expenses incurred to be repaid, either from his own resources or by some other means.

GIFTS TO LOCUMTENENTS.

A correspondent states that while acting as locumtenent he was presented with £5 by the father of a patient to whom he had given special attention. Later, when the account was sent in by his principal, the father complained of the charges, and mentioned the present to the locumtenent. The principal has since written asking for the £5. Is he legally entitled to it?

** Although it is a well-recognized rule in the profession that an assistant or locumtenent must not receive a money present from his principal's patients, in the case of a *bona fide* present he might be legally entitled to retain it. In this instance the patient's father appears to have thought the £5 in a sense a set-off against the principal's charges. In these circumstances it would seem that the money ought to be paid to the principal.

MEDICAL WITNESSES.

Inquirer wishes to know whether, if summoned to attend as a witness the police court or assize court to give evidence as to "facts," and he is there asked for an "opinion" on the matter in question, he can claim an expert's fee before giving the said opinion.

*** A medical witness can only raise a question as to his fees before being sworn. After being sworn he must answer all questions put to him which in the opinion of the judge are relevant to the cause being tried.

THE MIDWIVES ACT.

Independent.—(1) Under Section 2 of the Midwives Act, 1902, any woman had the right on application within two years from the date of the Act coming into operation to be certified on producing evidence satisfactory to the Central Midwives Board that, at the passing of the Act, she had been for at least one year in *bona fide* practice as a midwife, and that she bore a good character. The Act came into operation on April 1st, 1903. If a midwife did not obtain certification under the provisions of Section 2, she would by Section 1, paragraph (2), be debarred from practising as a midwife. (2) With regard to our correspondent's other question, we would refer him to a reply published in the Journal of October 9th, p. 1107.

Obituary.

SIR ARTHUR MITCHELL, K.C.B., M.D.,

FORMERLY COMMISSIONER IN LUNACY FOR SCOTLAND.

In Sir Arthur Mitchell, K.C.B., M.D., who died, as announced last week, in Edinburgh on October 12th, aged 83, has passed away a public official who played a distinguished part in the development of lunacy administration. A Graduate in Medicine of Aberdeen University, he was appointed Deputy Commissioner in Lunacy on the establishment in 1857 of the General Board of Lunacy for Scotland. He was thus present at the very inception of a new order of things which followed upon the Scottish Royal Lunacy Commission's report of 1855. That remarkable document contains the germs of most, if not of all, that has since been done to ameliorate the lot of the insane in Scotland, and Sir James Coxe and the other distinguished men who drew it up found in Dr. Mitchell an enthusiastic supporter of all views tending to rescue the insane from neglect, and to free them from needless restrictions on their happiness and liberty which had grown round them during ages of ignorance and superstition, and had been followed by acquiescence in evils supposed to be irremediable.

In the great reformation of lunacy administration and the influx of new ideas which followed the passing of the Lunacy Act of 1857, the part with which Dr. Mitchell was specially identified was to ascertain the condition of the insane under private care and to guide the Board in taking measures necessary for its improvement. After an experience of six years he embodied the results of his efforts in this direction in a book entitled *The Insane in Private Dwellings* (1864), which yet remains the standard book on the subject. It disclosed a painful story of neglect and misery among the insane under private care when he entered on his duties, but it also put on record the steps taken to remedy the evils disclosed; and at the end of a few years after the passing of the Act it showed the system of caring for the insane in private dwellings established upon the satisfactory footing on which it has since rested.

In 1870 he became a Commissioner, and from that time down to his retirement in 1895 he ever showed himself anxious to support and encourage medical superintendents of asylums and others, on whom rested the burden and heat of the day, in all endeavours which held out a promise of promoting the recovery or adding to the happiness of the insane.

Sir Arthur Mitchell was in 1880 a member of the Commission on Criminal Lunacy in England, and greatly influenced the character of the report of that Commission and of the legislation which followed. In 1889 he became Chairman of a Commission to inquire into Lunacy Administration in Ireland, and in that capacity urged measures which have done much towards improving the condition of the insane in that country.

Sir Arthur Mitchell's intellectual interests extended over a wide range, and were exercised in many and varied fields, apart altogether from his life's work. To show how wide these interests were, it is enough to mention his position in some of the societies with which he was concerned; in all of them he played a distinguished part. He was Honorary Secretary to the Society of Antiquaries of Scotland, of which he became a Vice-President in 1882; Honorary Secretary and afterwards Vice-President of the Scottish Meteorological Society; President of the Early Scottish Text Society; Member of Council of the Scottish History Society, and Professor of Ancient History to the Royal Scottish Academy.

On account of the distinguished public services, already referred to, he was the recipient from Queen Victoria of the Order of Companion of the Bath in 1886, and was made a Knight Commander in 1887, while he held numerous academic and other honours; among them may be mentioned the degree of LL.D., received in 1875, from the University of Aberdeen. He was a member of the Universities (Scotland) Commission, 1890-97.

So far as his mind was free to follow its own bent, there is no doubt that his absorbing interest lay in the direction of fruitful antiquarian research, directed mainly to inquiries into the condition of prehistoric man and to the lessons which may be drawn from such studies, for he was essentially a teacher, using that word in its widest sense. These inquiries were embodied in the Rhind Lectures delivered by him in 1876, and afterwards printed as a book, entitled *The Past in the Present: What is Civilization?* This is a work of which no one who seeks to form general conclusions with regard to primitive man can afford to be ignorant. Among the many conclusions drawn from the facts set forth, supported by numerous illustrations observed by the writer, are that the individual man of the present day and his individual prehistoric ancestor stand so close together that any essential difference between them is imperceptible, that the individual man of to-day has no inborn superiority, mental or moral, over his immediate prehistoric ancestor; that the achievements of civilization are due to knowledge accumulated gradually among men in organized groups; and that the degree of civilization attained must in the long run be measured by the extent to which it succeeds in mitigating or annulling the miseries arising from the uncontrolled processes of natural selection.

Among his other works were *A List of Travels in Scotland, 1296–1900*, and *Dreaming, Laughing, and Blushing*, 1905; quite recently he undertook for the History Society, and carried to a successful issue, an edition in three volumes of *Macfarlane's Geographical Collections*.

Sir Arthur Mitchell's views on public matters were expressed and maintained with firmness, but with much tact and courtesy. He possessed a profound knowledge of men, and never failed to carry local authorities with him by reasoned appeals which could not be resisted. On his retirement in 1895 he severed himself from all interference with lunacy administration, but his wise advice and counsel were, nevertheless, sought by many throughout the United Kingdom in relation to most of the notable movements of the day likely to affect the insane. In public life he was a man of singular urbanity and charm of manner, and his learning and sound judgement were ever at the disposal of any one who sought his help. It cannot be doubted that in Sir Arthur Mitchell not only the speciality but Scottish letters and science have lost one of their brightest ornaments.

Sir Arthur Mitchell was followed to his last resting place in Rosebank Cemetery by a large and representative body of his fellow citizens, among friends who sent wreaths being the Earl of Rosebery, Mrs. Irvine, Mrs. Ramsay of Kildalton, Lady Constance Emmott, Mrs. Findlay of Aberlour, Lady Frances Balfour, Mrs. Rose-Innes of Netherdale, and the Right Hon. Sir Robert and Lady Finlay. The pall bearers were Mr. Sydney Mitchell, son; Dr. George Ogilvie, Mr. G. A. Mitchell, Mr. A. Moncrieff Mitchell, Captain A. M. Houston, Mr. Edward Hewetson, nephews; Mr. J. R. Findlay of Aberlour, Sir R. W. A. Holmes, K.C.B.; Dr. Fraser, Commissioner in Lunacy; Mr. Spence, Secretary to the Board of Lunacy; Mr. David Paulin, Manager, Scottish Life Assurance Company; and Dr. Joseph Bell.

CESARE LOMBROSO,

PROFESSOR OF PSYCHIATRY, TURIN.

WE regret to announce the death of Professor Cesare Lombroso, who died suddenly at Turin on October 19th. He was born at Verona in 1835, studied medicine at Padua, and afterwards at Vienna, where he came especially under the influence of Skoda. He graduated at Padua in 1856. He served as a surgeon in the Austro-Italian war, which broke out in 1859. Some years later he was appointed Professor of Psychiatry in the University of Pavia. One of his earliest works was a volume of researches on cretinism, which was published in 1858. He made original observations on pellagra, the results of which were embodied in a monograph published in 1872. He followed this up with a memoir on the poisons of maize.

Later he was appointed to the chair of psychiatry in the University of Turin. From the beginning of his teaching career he had been interested in the relations of nervous disease and crime, and he pursued his researches and observations at Turin. These were published in his well-known work, *L' Uomo Delinquente*, which appeared in 1889. Afterwards he applied himself to the study of genius, which he held to be a form of nervous disease. He became celebrated as the founder of a school of criminal anthropology, the doctrines of which were pushed by some of his disciples to extreme consequences that brought his teaching into undeserved derision. He was a shrewd observer, and a most industrious collector of facts from all sources; but his notions of evidence were very loose, and he lacked the power of presenting his views in logical order. But to him belongs the credit of being a pioneer in a new region of scientific thought, and though much of his work was fantastic and inaccurate, he gave a stimulus to other investigators, which will probably lead to fruitful results. Of him it might, we think, be said, as it was said of the old Spanish exploder of popular superstitions—Feyjoo, that a statue should be raised to him, at the foot of which his own writings should be burnt

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WE regret to have to record the death on October 13th, at Bolton Mansions, Earl's Court, of Dr. WILLIAM CLIBBORN, formerly of Bridport, Gloucestershire. Dr. Clibborn, who was in his 55th year, retired from active practice some five years ago, finding the fatigue and exertion inseparable from a large and widely scattered country practice too great a strain. He had since travelled abroad for the good of his health, and his death, which was very sudden, was due to cardiac syncope. He was the son of Mr. John Clibborn, of Dublin, and received his early education at Stackpoole's College, Kingstown; he took the degree of B.A. at Trinity College, Dublin, and graduated M.B. in 1875 and M.D. in 1878; he also took the Licence of the Royal College of Surgeons in Ireland. After holding the appointment of Resident Surgeon to the Birmingham General Dispensary and Resident Assistant Surgeon to the Northern Dispensary, Liverpool, he settled at Bridport, where he practised for many years, and took a prominent part in local affairs. He was Medical Officer of Health for the Bridport Urban District and Medical Superintendent at the Isolation Hospital and Admiralty Surgeon. In 1883 he suggested in this JOURNAL a scheme for a medical benefit society, and was one of the pioneers in the foundation of the Medical Sickness and Assurance Society. In Bridport he not only gained a large practice but won many friends, his genial manner, good nature, and thoughtfulness for others endearing him to all who knew him. He leaves a widow to mourn his loss, and many friends, by whom he will ever be remembered.

THE many friends of Dr. THOS. SPENCE MEIGHAN of Glasgow will hear with regret the news of his death, which occurred suddenly on October 17th. Dr. Meighan was Senior Surgeon to the Glasgow Eye Infirmary. He had been at the infirmary in the afternoon, and shortly after leaving the institution was found in a street near by in a semi-unconscious condition, having been suddenly overcome by illness. He was conveyed to a nursing home, where he died the same evening. Dr. Meighan was an M.D. of Glasgow University, and besides being connected with the Eye Infirmary was Lecturer on Ophthalmic Surgery at Anderson's College.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

The offices of the British Medical Association and of the British Medical Journal are at 429, Strand, London.

Communications respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the Journal, etc., should be addressed to the Office, 429, Strand, London, W.C.

Telegraphic Address.—The telegraphic address of the Editor of the British Medical Journal is *Aitiology, London*. The telegraphic address of the British Medical Journal is *Articulate, London*.

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* British Medical Journal *alone unless the contrary be stated.*

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look at the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any Circumstances be Returned.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

Ear asks for information as to the use of peroxide of hydrogen in the treatment of discharging ears, the strength used, and the results obtained.

Electrolytic asks for advice in the treatment by radical cure, if possible, of dilated capillaries gradually forming on the nose of a man who is not intemperate; as yet there is no hypertrophy. The ordinary internal remedies, including iodothyrol, and external treatment by ointments, have failed. Our correspondent asks how treatment can be carried out by multiple scarification, or by puncture with an electrolytic needle.

Adrenalin in Asthma.

Pulmona asks for information on the use of adrenalin in asthma, what dose should be given orally and hypodermically, and at what period of the attack it is most efficacious; and whether there are any untoward results to be guarded against.

ANSWERS.

A. H. C.—An authorized translation of *Klemperer's Elements of Clinical Diagnosis*, by Drs. Nathan E. Brill and Samuel M. Brickner, was published by the Macmillan Co., New York, in 1898. The German edition, issued during the course of this year and recently reviewed in the Journal, was the fifteenth.

Coley's Fluid.

Irwell.—In an answer published in the British Medical Journal of October 9th, 1909, the most important reference, because the most recent, was accidentally omitted. It should have been stated that Dr. W. B. Coley read a paper on the treatment of sarcoma by bacterial toxins before the Section of Surgery of the Royal Society of Medicine on July 15th, 1909. A full abstract was published in the British Medical Journal of July 17th, p. 144.

Treatment of Sycosis.

Dr. J. McNamara (London), writes: "Sycosis" should first ascertain whether the condition is due to the ringworm fungus or to the *Staphylococcus albus* or *Staphylococcus aureus*. If due to a staphylococcus he should have a vaccine made from the patient's own cocci, and then inject about 250,000,000 of these once a week. I would add that if your correspondent would join the London Polyclinic, and would attend the afternoon consultations, he would know not only how to treat sycosis, but would learn the diagnosis and treatment of any rare or interesting disease likely to turn up in this country.

Dr. H. J. Thorp (Ipswich) writes: Remove crusts, then epilate, and finally apply oleate of mercury 1 to 2 per cent.

Ophthalmoplegia.

Paralysis would probably find most of what he wants in any good textbook on neurology, such as that by Sir William Gowers or that by Professor Oppenheim (translated by Mayer). Other works he might consult are those on the relation of ophthalmology to neurology, by Max Knies, and by Dr. Campbell Posey and Dr. W. G. Spiller, of Philadelphia.

Ocular Paralysis.

A. L. R.—It is extremely difficult to discuss the actions of the eye muscles and their effects upon images on the retina without actually seeing and investigating the case. As we understand the case stated, paralysis of the superior oblique would not produce a slope of the vertical part of a cross without producing a similar effect upon the horizontal part. This effect can readily be produced, however, by a rather high degree of oblique astigmatism.

Walnut Stain.

In reply to several correspondents who have recently inquired with regard to the method of staining hair with walnut juice, we are informed that the best mode of procedure is as follows: Macerate the crushed and broken-up green skins of walnuts in alcohol (of 60°), 1 in 9, for ten days, shaking at intervals; then filter. The stain, which should be applied with a brush, does not at once produce a marked effect; it must be frequently applied. It is, however, a fairly fast stain.

LETTERS, NOTES, ETC.

A Correction.

In the review of Dr. Dahmer's essay on diseases of the throat, nose, and ear, in relation to compensation for injuries (p. 1158 it should have been stated that the cases were drawn from 168 medical reports but did not comprise the whole of this number.

Fleas and Cancer.

Mr. F. Nolans, F.R.C.S.I. (Mayfield, Gorey, co. Wexford), writes: A few years ago I was called to see a very old woman whom I found suffering from hepatic carcinoma with considerable jaundice. On explaining her condition she remarked, "Well, whatever it is, it must be some divil of a thing for the days (fleas) have given up biting me."

Exercise in Pulmonary Tuberculosis.

Dr. Edward E. Prest (Ayrshire Sanatorium, Glenafton, New Cumnock), writes: I notice in a paper on autoinoculation in pulmonary tuberculosis, by Dr. Patterson, published in the Journal of October 9th, that he states, "It is obviously useless to insist upon absolute rest unless the coughing can be controlled, because the patient who coughs violently and shakes the whole bed is, as regards foot-pounds of work, taking fairly vigorous exercise." In an article on graduated rest in the treatment of pulmonary tuberculosis, published in the *Lancet* for April 3rd, 1909, whilst insisting on the danger of coughing in phthisis, I endeavoured to explain the harm as being due to the actual movement of the diseased lung, and also pointed out that it was not the work which did the harm, but the movement of an organ which cannot be rested without absolute rest of the whole body, and obviously cough must be controlled. There seems good reason for supposing that exercise does good in phthisis owing to the hypertrophy of the heart which it brings about. Probably explains why in most cases of initial haemoptysis bleed at all, and also why the majority of these cases do well without any very serious treatment. It is also probably the explanation of the benefit accruing from the exhibition of raw meat, and also is a reason for feeding patients with milk and food and urea. The difficulty in treating consumption is largely, in my opinion, owing to the impossibility of taking any exercise when the disease is active at all. This is the great difference between treating tuberculous joints and tuberculous lungs: in the former case, owing to splints, exercise can be taken. I have found massage a useful adjunct in treating the acute cases of pulmonary tuberculosis.

The London Polyclinic.

Post-Graduate writes: It may prove of use to those medical men who are desirous of attaining to a greater knowledge of both the science and art of their profession to have their attention drawn to the opportunities which are offered to them by the Polyclinic. Certain of the practical classes held here are very excellent. Most of them are good. But I am sure that any one who wishes to study such subjects as diseases of the nose, throat and ear, and gynaecology, will find that the classes in these departments are of the greatest use to him. To make the best use of his time the student should so arrange that the clinical work at the hospital and the practical classes at the Polyclinic begin on or about the same date. He will find then that the work of the one supplements the other. He will be taught at the Polyclinic just the very things—namely, the methods of examination, the use of the instruments, the surgical anatomy, and such essentials—which he is left to acquire as best he may at the special hospitals, and without the knowledge of which his work is more or less a ploughing of the sands. I speak from experience. May it benefit others!

SALINE INFUSION.

DR. LENNOX WAINWRIGHT (Folkestone) writes: The administration of salines is always attended with considerable difficulty, owing to the trouble involved in keeping the fluid at an even temperature, but the following simple method has been most useful in my own practice. The saline solution is placed in a thermos bottle (carefully sterilized) at a temperature of 100° F. Into the thermos bottle is dropped a siphon of Southey tubing, and the orifice of the thermos bottle is blocked with cotton-wool. This effectually prevents heat escaping and germs entering. An ordinary Southey's trocar is placed at the end of the tubing after siphonage has been started, and the trocar is put into the fleshy portion of the axilla or wherever a transfusion is required, and by this means the fluid can be delivered at the rate of 3 drachms a minute. If it is thought well a little ball may be interposed between two pieces of Southey tubing so as to start siphonage, but this is a mere matter of detail. The advantage of the thermos bottle is that the saline solution can be taken in the bottle to the patient's house and the siphonage through the Southey can be started as once by pumping through with a small hypodermic. No more than a foot fall is required to ensure adequate transfusion. The same method may be used for rectal or any form of irrigation where a uniform temperature is required.

SECRET REMEDIES AND PROPRIETARY PREPARATIONS.

DR. F. ZERNIK has recently published his twenty-first article on the composition of certain new preparations. According to the law in Germany, chemical combinations of antipyrin may be sold to the public, but simple mixtures of antipyrin and other known substances may not be sold, save on a medical practitioner's prescription. *Salipyrin* is one of these mixtures which was offered for sale as a sulphanilate of antipyrin. Another is *Meligrin*, which is described as a condensation of dimethyloxychinicin and methylacetamide. These terms are technical but rarely used names for antipyrin and exalgin. The analysis revealed that the preparation was a mixture of 86 parts of the former and 14 parts of the latter. Exalgin has been practically withdrawn from the market in favour of the more active and better acetanilide.

A chemist named Taubert produces a "pleasant tasting headache powder (ammon. spirac. purius.)," which is supposed to act rapidly in migraine, influenza, neuralgia, rheumatism, colds, etc. It appears that ammonium salicylate has an obscure synonym, "ammonium spiricum." Since the ammonium salt is scarcely ever used in medicine, the law does not mention it as well as the sodium salt among those medicaments which may not be sold without medical prescription. The chemist therefore sells it without fear. The weight of the single powders varied between 0.39 and 0.6 gram!

In dealing with false description, Zernik mentions *Mergandol*, which is recommended by its producers as an antisyphilitic remedy for intramuscular injection and for external application. It is described as a solution of sodium mercury glycerate in glycerine; 1 c.cm. of the solution is said to contain 0.0035 gram of mercury. Sodium glycerate is recognized as an unstable compound, but neither a mercury glycerate nor a sodium mercury glycerate is known. The analysis showed that mergandol is a mixture of perchloride of mercury and sodium chloride (0.5 of the former and 0.1 of the latter) dissolved in 100 parts of diluted glycerine. Each cubic centimetre would therefore contain 0.0044 gram of Hg. The bottle, containing 50 c.cm., costs 2s. 2½d., which is at least twice as much as any chemist is allowed to charge for making up a similar prescription.

Eudatin is a white, almost odourless, mildly acid-tasting powder. It is supposed to be an amido-bromine-benzoate of dimethyl-phenyl-pyrazolon. Dr. Friedmann has described this preparation as a useful remedy for whooping-cough when given in doses of 0.1 to 0.5 gram every three or four hours. Dimethyl-phenyl-pyrazolon or antipyrin was found to be present, but the analysis failed to reveal a trace of amido-bromine benzoic acid, a compound which has definite chemical characteristics. The rest of the substance was found to consist of parabromine benzoic acid and orthoamido-benzoic acid; two parts of the former with antipyrin in molecular proportions were present to each one part of the latter, also with antipyrin in molecular proportions. The mixture thus differs very materially from the supposititious chemical compound described by the manufacturers. Dr. Zernik considers that Dr. Friedmann should have been more careful in expressing himself with regard to the composition. The value of antipyrin in pertussis is well recognized.

Barkowski's *Irrigal* tablets are advertised as containing all the active components of wood vinegar in dry form, delicately perfumed and being easily soluble in water. One or two tablets are supposed to be dissolved in a glass or cup of hot water, and added to warm water in an irrigator. A glass containing 40 1-gram tablets costs 3s. The solid form of wood vinegar possesses an alkaline reaction! On analysis it was found to consist mainly of dehydrated sodium acetate with traces of tar and creosote. This is very different from wood vinegar, which contains tarry substances, free acetic acid, and some empyreumatic substances.

Vilja cream is now described correctly. Its constituents are diluted aqueous extracts of indifferent vegetable substances, wool fat, ceresin and vaselin, and some ethereal oils, which smell like the oil of rosemary.

SHIP SURGEONS.

AN EX-SHIP SURGEON desires to warn medical men against some shipping companies that advertise for surgeons without salary. To me (he writes) this system is radically wrong, because it lowers the surgeon to the level of the tramp or the stowaway that is working his passage. The surgeon finds himself at the end of the voyage to have lost in the bargain time, money, and very often temper. By biring his services for nothing the surgeon gets no material, no moral advantage for himself, and keeps someone else from earning a decent and honest living. Some time ago there was a boarding-house in a northern town, nick-named the "Dogs' Home" by shipping firms, where a surgeon, and perhaps several of them, could be found any time, day or night, ready to sail for any port. The "Dogs' Home" has been pulled down, but unemployment in our profession is probably worse than ever. There is no necessity for any good shipping company to advertise for surgeons; they have on their books more than they want.

CALOMEL IN ASTHMA.

DR. A. W. GILCHRIST (Nice) writes: Dr. Tivy has been much impressed by the beneficial effects of a dose of calomel as a curative for the attacks of this distressing malady (BRITISH MEDICAL JOURNAL, September 25th, 1909, p. 882). Asthma, he had previously remarked, is rather prevalent in Brixham, the small fishing town in which he lives. Dr. Tivy does not seem to have asked himself why asthma is so prevalent in the locality he mentions nor the reason for the efficacy of his remedy. It is, perhaps, instructive to speculate on both these facts. People who live at the seaside are proverbially "bilious," and, like so many of this temperament, habitually eat too much. They have often so-called torpid livers and inadequate kidneys. They stimulate their appetites by the inordinate, and we now know injurious, use of their favourite condiment—table or cooking salt. These facts, we may here say, are apparently ancestral. Who has not read the account Erasmus gave Cardinal Wolsey's physician of the manner of living in England—"I often grieve and wonder how it happens that Britain is (so) afflicted . . . and chiefly with the sweating sickness, which is a malady that seems almost peculiar to the country. . . . England is not only surrounded by the sea, but it is also, in many places, intersected by salt streams, to say nothing at present of the salt food of which the common people are amazingly fond." The passage continues: "It would contribute to this object (to render the island more healthy) if more sparing diet could be more generally recommended and a more moderate use of salt provisions." Dr. Tivy should make a rule of examining the urine (preferably by the comparative method—Gautrelet's) of his patients. He would probably find that in the cases which are benefited by a mercurial there is chloride and often nitrogenous retention (calomel is an indirect diuretic), and an excess of urobilin, pigments, and chromogens, pointing to hepatic hyperaemia and congestion. He would perceive, in fact that his interesting clients have inherited the tendency to the same category of complaints as Erasmus deplores above. Sedentary lives and gestation—both conducive to functional disturbances of the liver and kidney, with their reflex concomitants—would account for "the patients having been mostly women." A partially dechlorinated diet—less bacon, for instance—seems clearly indicated, and would presumably render the exhibition of calomel of less frequent necessity.

COLOUR-BLIND ENGINE DRIVERS IN FRANCE.

FLEET SURGEON W. E. HOME, R.N., writes: With reference to the shortsightedness in colour vision which has recently been discussed, I beg to mention that when taking passage in H.M.S. *Tamar*, in February, 1886, I was told by Surgeon Gordon of that ship, an old fellow student of mine in Edinburgh, that he had noted this condition. He had observed that some men on look-out could recognize more quickly than others the colour of a light they had seen ahead; the others could not appreciate the colour of the light till it came closer; they had a lesser sensibility for colour. This condition had also been noticed by officers of watches. Dr. Gordon had reported this observation in his official journal, and had had from the Medical Director-General a request for further investigation and report. Unluckily Dr. Gordon died not long afterwards, and I cannot say that he had made further inquiry later.

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A Lecture
ON
HERNIA OF THE UTERUS IN MEN AND WOMEN.*

By JOHN BLAND-SUTTON, F.R.C.S.Eng.,
SURGEON TO THE MIDDLESEX HOSPITAL, AND SENIOR SURGEON TO THE CHELSEA HOSPITAL FOR WOMEN.

An eccentric old man, whose aches and pains were ascribed to hysteria by his doctor, made a curious will: he left his riches to his dear wife, and his womb to the doctor, *if he could find it*. Although the probabilities were against the doctor, his search might have been successful, as I will endeavour to prove. Observations in the wards and operating-rooms of the hospital have by this time taught you that almost any abdominal viscus may stray into the sac of an inguinal, or a femoral hernia. The common thing to occupy a hernial sac is a piece of omentum, or a loop of bowel: among uncommon things we may mention the vermiform appendix, the caecum, or a persistent vitello-intestinal duct; rarely, a pouch of the bladder, a loop of ureter, or the fundus of the gall-bladder may be found in it. It is the practice among surgical writers to denote by special terms the viscus which occupies the hernial sac. Thus, we have such names as "enterocele," "epiplocele," "cystocele," and the like. When some of the internal reproductive organs of girls or women are lodged in the sac of an inguinal or a femoral hernia, for example, the ovary, Fallopian tube, or the uterus, we employ the terms "oophorocele," "salpingocele," and "hysterocele," or any combination of these names as the occasion demands. The great safety of modern operative surgery, especially in its application to the treatment of inguinal and femoral herniae, has led to a significant increase in the accuracy of our knowledge in regard to the contents of hernial sacs. Twenty years ago it was exceptional to perform operations on such herniae in children and infants; to-day it is the rule. We know that the sac of an inguinal hernia in female infants often contains some of the internal genitalia; usually it is the ovary, occasionally the tube and ovary. In exceptional cases the tube, the ovary, and the greater part of the uterus occupy the sac, sometimes accompanied by a loop of bowel or a piece of omentum. These displaced elements of the reproductive organs may become strangulated, or undergo axial rotation, and lead to acute symptoms demanding urgent surgical treatment. Many of the glandular bodies found in the sacs of inguinal herniae of infants, apparently girls, prove to be testes when they are examined microscopically.

In adult women it is exceptional to find representatives of the internal genitalia in hernial sacs, but they occur with sufficient frequency to lie outside the category of surgical curiosities. Hysteroceles occur at all ages—in infants, adults, and old women, in spinsters as well as mothers. In nearly all the published cases (and records of more than fifty are available) an operation was undertaken for the relief of an irreducible or a strangulated hernia, when, to the surprise of the surgeon, a uterus with one or both sets of its appendages have been found inside the sac; in many of these instances the uterus has been of normal size, but in some cases it was smaller than usual and occasionally malformed. A uterus occupying the sac of an inguinal hernia has become gravid, and when the pregnancy ripened the fetus was extracted by Caesarean section. Even in such ill-starred circumstances the fetus has survived although the patient lost her life.

The best known cases are those reported by Ledesma (1840) and Fischer (1842). Among recent cases may be mentioned one observed by Nores in Buenos Aires (1901); in this instance the greater part of the gravid uterus remained in the abdomen, but the legs of the fetus and the placenta were in that portion of the uterus which occupied the hernial sac. Delivery occurred spontaneously; the child was dead. There was difficulty in extracting the placenta, so Nores opened the hernial sac; it contained septic fluid. The woman survived the operation only two hours.

The rarity of hernia of the uterus has led several writers to play the part of case collectors. Among the various papers on this subject the monograph by Cranwell, of Buenos Aires, is the most complete.

During the last ten years some interesting cases of inguinal hysterocele have been published by Birnbaum, Andrews, Cranwell, Kellock, Jopson, and Rushton Parker. In all the reported cases of inguinal hysterectomy the operation has been performed under the impression that the women were suffering from an irreducible or a strangulated hernia, and in the course of the operation the surgeon has found the uterus in the hernial sac, sometimes alone, but occasionally accompanied by intestine. In a few cases, especially those reported in recent years, the herniated uterus has been removed with success (inguinal hysterectomy). Although the astonishment of the surgeon may be great on finding a uterus in the sac of an inguinal hernia in a woman, it would certainly be greater at finding a uterus in the sac of an inguinal hernia in a man. Bewildering it may be, but such things happen, as I will endeavour to show.

Men are sharply distinguished from women by what are known as the primary sexual characters. These are directly associated with the function of reproduction, and comprise in women the ovaries, the Fallopian tubes, and the uterus. The recognition of a boy or a girl depends entirely on a visual examination of the external genitalia. The presence of a penis and scrotum is accepted as a sufficient indication that the child is a boy, their absence leaves no doubt in the mind of the mother that her offspring is a girl, and on these signs the child is named accordingly. At the time of our nativity there is no other method available for determining sex. Later in life we have to consider what are known as secondary sexual characters; these are features which enable us to distinguish man and woman from each other irrespective of the organs of reproduction. Man possesses a beard and greater muscular development than a woman, greater physical strength, a more powerful voice, and often an abundant growth of coarse hair on the skin. The hair on his pubes passes upwards to the umbilicus, whereas in woman it is as a rule sharply restricted to the mons veneris. In adult men there is often a growth of long hair on the tragus.

Secondary sexual characters normally become manifest at puberty—by which term we signify reproductive maturity. In girls puberty is strikingly declared by the institution of menstruation and the development of the breasts (mammae). In boys it is indicated by a marked alteration in the voice due to enlargement of the thyroid cartilage and a corresponding increase in the length of the vocal cords, and the appearance of coarse hair on the lips and chin. Next to the possession of a penis, the most striking feature in the external genitalia of a male is the presence of testicles, one in each half of the scrotum, but these are not always present, and if a male child has a diminutive penis and an empty scrotum, the relatives, midwife, or doctor on occasions have their wits sorely taxed to decide with certainty its sex. This brings me to what I may call the core of my subject. The only true test of sex is the gonad or genital gland. The possession of ovaries indicates the female, and the presence of testes the male sex. The testes differ from the ovaries in an important particular, for under normal conditions the ovaries occupy a position in the pelvis, one on each side of the uterus, but each testis during fetal life descends from the renal region, passes down the inguinal canal, and takes up a position in the scrotum. The cause of this extraordinary migration of an abdominal organ, and even the actual forces which produce it, remain a mystery, although the matter has been made the subject of much investigation and still more inconclusive speculation. In some instances one or both testes fail to traverse the inguinal canal, they may even fail to enter it; but when this happens it is a certain indication that the gland is imperfect. In the early days of medicine, before the exact function of the ovaries was discovered, there could be no certain test for the determination of sex, and it came about that when an individual appeared with a diminutive penis and an empty scrotum, especially if the scrotum was incompletely closed in the middle line (hypospadic male with a perineo-scrotal fissure), and a

*Delivered at the Middlesex Hospital, October 5th, 1909.

rounded movable body occupied each inguinal canal, there would be much excitement and speculation as to the sex of the child. Such unfortunate individuals have been called from the earliest time hermaphrodites (Hermes and Aphrodite), and when they attained the pubic condition and assumed the secondary sexual characters, some of which belong to men and others to women, the difficulties of determining their sex were increased. It may seem strange when I tell you that no sure method of determining sex in doubtful cases was available until von Baer (1829) discovered the human ovum (egg), and thus established the nature of the ovary (ovarium). The change which this observation has wrought on theory and practice is enormous. It is now recognized that the testis is the distinguishing feature of a man, and the possession of an ovary the mark of a woman; and although it is true that among the *invertebrata* there are many animals in which it is normal for one to possess male and female reproductive organs in a functional condition (true hermaphrodism), there is no instance on record in which a human being has survived its birth possessing a conjoined functional ovary and testis (an ova-testis), or a perfect ovary on one side and a perfect testis on the other.

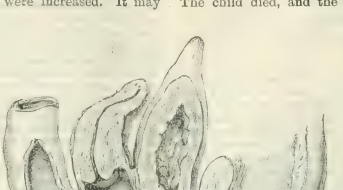


Fig. 1.—Internal genital organs of a male child, showing a uterus with a narrow vagina opening into the sinus pocularis.

To-day it is recognized that the term "hermaphroditism" (or, in its shortened and more euphonious form, "hermaphrodism") as employed by biologists, is inapplicable to mammalia with imperfect genitalia, internal or external. It is customary now to term such "pseudohermaphrodites," and more than 95 per cent of these unfortunate individuals are undeveloped males.

It is important to bear in mind that the secondary sexual characters are often useful aids in sex-determination. Berthold (Koenigsberg) was once examining the larynx of a patient, 22 years of age, dressed and educated as a woman. This organ so resembled that of a man as to make him suspicious of the sex. He cautiously made inquiries, and elicited that the genitalia were not normal. Subsequently it was ascertained that the genital glands furnished spermatozoa, and thus satisfactorily proved that the patient was a man.

It is not my intention to discuss at length the fascinating subject of hermaphrodism, although it is of absorbing interest to biologists. My self-imposed task is to show you that a man may possess a well-formed uterus. My interest in this matter began twenty years ago, for while dissecting a male fetus, born at the eighth month, I found a uterus (corresponding in shape and size to that of a female fetus of the same proportions and corresponding period of intrauterine life) behind the bladder, communicating by means of a small vagina with the urethra in the situation of the sinus pocularis. Each Fallopian tube passed from the uterus as a mere thread, and then expanded into a fringed ampulla as it entered the inguinal canal and joined an oval body, which proved on microscopical examination to be a testis, Fig. 1. The penis was small and hypospadic.

Stonham described a similar case in 1888, which occurred in a boy aged 9 months. This boy had a congenital inguinal hernia, and an attempt was made to cure this defect. When the sac was opened a uterus with Fallopian tubes and bodies, supposed to be ovaries, were found. The child died, and the parts were carefully dissected. The relations of the uterus and the glandular bodies are presented in Fig. 2. The genital glands were examined microscopically and found to be testes. In this specimen the vasa efferentia gradually lose themselves on the walls of the vagina. This appears to be the usual condition in such malformations.

For many years I have followed up this subject, and collected many instances in which men with incompletely developed external genital organs have been brought up as women, and late in life suffered from a strangulated hernia. In the course of an operation performed for its relief a genital gland of the shape and size of an ovary has been detected in the canal, sometimes associated with a Fallopian tube. When the supposed ovary has been removed and submitted to microscopical examination, the investigators have been astonished to find that it was a testis. It sometimes happens that herniotomy is performed on a child with normal female external genitalia, the surgeon removes a rounded glandular body from the inguinal canal which he believes to be an ovary, but on microscopical examination it proves to be a testis.

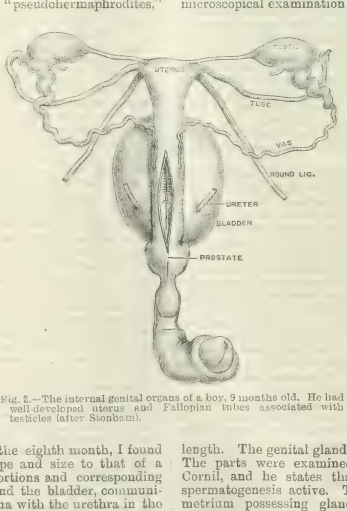


Fig. 2.—The internal genital organs of a boy, 9 months old. He had well-developed uterus and Fallopian tubes associated with testicles (after Stonham).

A large number of such observations have accumulated since the operation known as radical cure of inguinal hernia has been so freely practised. F. L. von Neugebauer has collected with great industry scores of reported cases, and analysed them in a monumental work.

The most remarkable cases are those in which the surgeon performs an operation on a man with well-formed external genital organs for the purpose of removing a tumour from the scrotum, but the suspected tumour proves to be a uterus.

Among the recorded cases of inguinal hysterectomy performed on men the subjoined are worth mention:

Monsieur Brossard (Cairo) operated on a man, aged 26, in order to remove a tumour from the scrotum. This tumour proved to be a uterus situated in a sac within the tunica vaginalis testis; this uterus measured 9·5 cm. in length. The genital glands associated with it were testes. The parts were examined microscopically by Professor Cornil, and he states that the testes were normal and spermatogenesis active. The uterus possessed an endometrium possessing glands furnished with cylindrical epithelium.

Arnolds has observed and reported the description in detail of a man, aged 59, whose external genitals were well developed, though he was a cryptorchid at birth. At

the age of 15 a testicle appeared in the left inguinal canal: he was married at the age of 40 to a widow who had children by her first husband, but remained barren to this man, although there is reason to believe that he was potent. He came under Arnolds's care on account of a troublesome swelling in the left inguinal region about the size of a fist, which after careful consideration was thought to be a malignant tumour. This induced Arnolds to dissect it out in its sac entire. In the course of the operation a pedicle was found leading into the abdomen; this pedicle had a lumen. When the tumour was subsequently dissected it contained a well-developed bicornate uterus (uterus bicornis unicollis), with Fallopian tubes and genital glands occupying the position of ovaries, but on microscopical examination they were proved to be testes. The pedicle with the lumen prove to be the cervical canal.

Keiffer has described and figured a uterus removed from a hernial sac of a man who was the father of eight children. He argues that it looked like a uterus, but on microscopical examination it proved to be musculo-fibrous hypertrophy of the *utriculus prostaticus* with testicles and thickened spermatic cords. He states that so-called uteri in the male are of this nature. I cannot agree with him, for the *uterus masculinus* is developed from the same embryological structures, has the same shape and histological structure, even to the glands in the endometrium, as the female uterus. Moreover, I have satisfied myself from a critical examination of uteri removed from boys with normal testes, that such uteri are indistinguishable from those of girls of a corresponding age. The specimen represented in Fig. 3 is useful, for it serves to show that it is difficult, indeed impossible in some cases, to determine the nature of the sexual glands from a mere naked eye inspection. In this instance the external genital organs are those of a boy with undescended testes. The penis is normal in shape and size and the scrotum is apparently natural, but empty. Standing above the prostate is a uterus of the same size and shape as that of a girl of corresponding age and size. The genital glands occupy their proper relations to the Fallopian tubes, but they present the smooth ovoid contour of a testis rather than the elongated shape of an infant ovary. On microscopic examination the glands were found to be testes.



Fig. 3.—The internal and external genital organs of a boy, aged one month. He possessed a well-developed *uterus masculinus* associated with testes. The right kidney had two ureters.

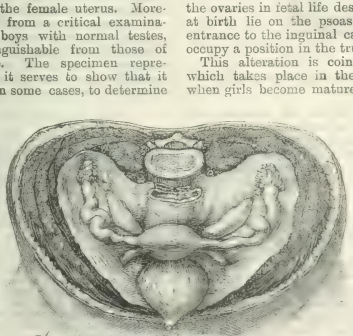


Fig. 4.—The pelvic organs of a female fœtus at term, to show the relation of the ovaries and Fallopian tubes to the inguinal canals.

Embryology teaches us that the mammalian embryo is potentially hermaphrodite. The differentiation of the primary germ mass into an ovary or a testis is followed by a corresponding development of the correlated sexual organs. Thus, when the ovary dominates, the Müllerian ducts develop into Fallopian tubes, uterus and vagina, and the external genitalia assume the female type. When the testis is the dominating organ, the Wolffian ducts become vasa deferentia, and the external genitalia develop into the elaborate organs characteristic of the male. Recent observations indicate that the full structural and functional development of either set of sexual organs, primary and secondary, require the full development of the dominant sexual organ (ovary or testis), and, if this be imperfect, the formation of the internal and external genitalia is imperfect also. This fact is in favour of the view that ovaries and testes furnish an internal secretion of great value during the development and growth of the body. What the force is which determines testicular or ovarian domination surpasses the wit of man to discover.

It may be, as some thoughtful biologists assume, that the sex is really determined in the egg even before fertilization, which means that the egg itself is either male or female. This may be so, but in the present state of knowledge it is presumptuous to affirm or to deny, but this may be stated with certainty: *The full development of the genital organs for either sex demands a fully-developed and functional gonad* (sexual gland).

Having placed before you the facts which I contend prove in the most positive manner that the uterus is not exclusively the property of women, I will now endeavour to explain to you how a uterus may occupy the scrotum.

It is common knowledge that the testicles leave the abdominal cavity usually in the course of fetal life and descend into the scrotum. We must also remember that the ovaries in fetal life descend from the renal region and at birth lie on the psoas and iliacus muscles, near the entrance to the inguinal canal (Fig. 4). Later in life they occupy a position in the true pelvis near its brim.

This alteration is coincident with the great change which takes place in the bony structures of the pelvis when girls become mature (or pubic). The experience of surgeons connected with hospitals, especially those hospitals concerned with diseases of children, teaches that it is quite common to meet with rounded bodies in the inguinal canals of female infants, and it may also be mentioned that in many instances in which it is deemed necessary, on account of strangulation or axial rotation of these bodies, to remove them, when the glandular body suspected to be an ovary is examined microscopically it is occasionally proved to be a testis. In all the cases of *uterus masculinus* which I have had opportunities of examining the testes were tethered to the uterine cornua by short cords; it is easily conceivable that when the spermatic glands attempt to obey the impulse which causes them to traverse the inguinal canals to reach their normal positions in the scrotum they drag the uterus with them. In connexion with this I think it is quite possible that in many instances in which the uterus is found occupying the sac of an inguinal hernia in women, and especially in female infants, a critical examination or the minute structure of the genital glands associated with

it would, in many instances, show that they are really testes, though their shape might lead the surgeon to regard them as ovaries, and this in spite of the fact that the external genitalia were characteristically female in type.

It has long been known that horses, sheep, oxen, goats, and pigs, as well as cats and dogs, may be pseudo-hermaphrodites. All students of John Hunter's works know well the peculiar conditions of the reproductive organs which he described, and the specimens he set up (now preserved in the museum of the Royal College of Surgeons) under the farmer's title of "free-martins." Stock breeders are aware that "a cow calf twin-born with a bull calf is usually sterile"; it is known as a free-martin. This is a pseudohermaphrodite and possesses a uterus, but the genital glands (or gonads) are invariably testes.

Experience taught stock breeders long ago that animals with malformations of the external genitals are useless for breeding purposes, and they are, as a rule, fattened and utilized for food.

Although the subject of pseudo-hermaphrodism is profoundly interesting to the practical surgeon, it has never been properly considered from the standpoint of the alienist and jurist. To us to-day human ova and

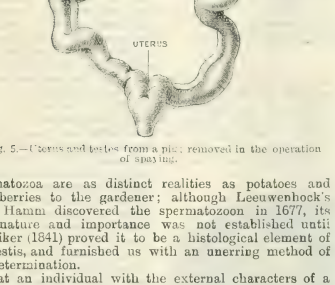


Fig. 8.—Uterus and testes from a pig removed in the operation of spaying.

spermatozoa are as distinct realities as potatoes and gooseberries to the gardener; although Leeuwenhoek's pupil Hamm discovered the spermatozoon in 1677, its real nature and importance was not established until Koelliker (1841) proved it to be a histological element of the testis, and furnished us with an unerring method of sex-determination.

That an individual with the external characters of a woman should possess testes is as startling as the fact that one with the fullest attributes of manhood should have a uterus in his pelvis or in the scrotum.

Pseudo hermaphrodites sometimes contract marriages, rarely as men, usually as women. In some reported instances such unions have been attended with happiness.

Realizing that the external genitalia afford no positive indications of the nature of the internal genital organs, and especially the gonad (sexual gland), it is a fair assumption that some examples of sexual frigidity and sex perversion may be explained by the possibility that the individuals concerned may possess sexual glands opposite in character to those indicated by the external configuration of their bodies.

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ON THE INCREASE OF THE HAEMOLYTIC POWER OF SERUMS

RESULTING FROM THE EXPERIMENTAL INTRODUCTION OF ORGAN EXTRACTS DERIVED FROM OTHER ANIMALS OF THE SAME SPECIES.

BY

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THE development of an increase of the normal haemolytic power of the serum of one animal by the introduction of extracts of the organs of another animal of a different species is well known. The object of the following experiments was to endeavour to demonstrate the development of a change in the serums of rabbits which had been injected with the organs of other rabbits, and, as the experiments will show, the plan adopted for the demonstration of this change was one in which use was made of a modification of the procedure introduced by Bordet and Gengou of fixation of the complement.

DETAILS OF THE PREPARATION OF THE AGENTS, ETC., USED.

1. *Emulsion of Red Corpuscles.*—Fresh sheep's blood was obtained, and the red corpuscles prepared in the usual way by whipping, centrifuging, and washing repeatedly in normal saline solution. A 5 per cent. emulsion was made up with a similar solution and stored in an ice box.

2. *Complement.*—The complement made use of was any small quantity which happened to be present in the rabbits' serums and the much more abundant supply to be obtained from the serum of guinea-pigs. The latter animal was anaesthetized and exsanguinated from the carotid artery, and, after whipping and centrifuging the blood, the serum was pipetted off and used in dilutions of 1 in 10 to 1 in 15.

3. *The Experimental Serums.*—Normal full-grown rabbits were exsanguinated under anaesthesia; the thoracic aorta was exposed and the abdominal viscera washed out with salt solution until the fluid returning through the inferior vena cava was free from blood; the liver and kidneys were then exposed, and if the latter, as frequently happened, were not completely washed free from blood, they were manipulated until this was secured. The organs were then removed, cut up finely, and ground into a pulp with pestle and mortar. The pulp was then dried over sulphuric acid in desiccators from which all air had been removed by an air-pump. Finally the dried tissue was ground up very finely and stored in an air-tight chamber over sulphuric acid. The time which elapsed between the death of the animal and the desiccation of the organs rarely exceeded four to five hours and often was much less.

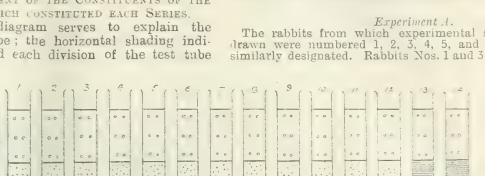
Normal adult rabbits were then injected repeatedly at intervals of a week or two with one-third to one gram of the dried organs made up with 10 c.cm. of normal salt solution, the same animal receiving on each occasion a dose of the same type of organ, either liver or kidney. The dose of organ emulsion was injected into the peritoneal cavity. Serums were obtained in the usual way from blood derived from the auricular vein; without inactivating them they were diluted—one part of serum to three or four of salt solution.

4. *Organ Extracts.*—The organs removed after thorough transfusion from the guinea-pigs which had been bled to supply the complement were used to make emulsions, 1 part of the desiccated organ to 30 up to 500 of salt solution. The emulsions were shaken for ten to fifteen minutes and then centrifuged to remove all coarse particles; the resulting emulsions were faintly opalescent. The variation from the Bordet-Gengou procedure already mentioned consisted in the use of extracts of guinea-pigs' organs instead of rabbits' organs, which were the antigens used in the production of the experimental serums.

All the above operations were carried out with aseptic precautions. The test tubes used in the subsequent stages of experiments were boiled in distilled water and heated to dryness. They were then numbered in groups of fourteen.

Plan of the Arrangement of the Constituents of the Fourteen Tubes which constituted each Series.

The accompanying diagram serves to explain the constituents of each tube; the horizontal shading indicates salt solution and each division of the test tube represents 1c.cm. The decreasing quantity of organ emulsion used, from 1 c.cm. to $\frac{1}{6}$ c.cm., is indicated in tubes 1 to 10 by oblique shading.



Scheme of Tubes. (The horizontal markings indicate normal saline which has been added to complete the unit of volume, each unit amounting to 1 c.cm.)

The Experiments.

The general plan of the experiments is first given, and any further variations are already indicated subsequently under each experiment.

First Stage.

Into Tubes 1 to 10 were poured diminishing quantities of organ emulsion as already indicated, each of the tubes being made up to 1 c.cm. with salt solution.

Into Tube 11 was poured 1 c.cm. of salt solution, into Tube 12 2 c.cm. of salt solution, into Tube 13 3 c.cm., and into Tube 14 2 c.cm. of salt solution.

Tubes 1 to 11 then received 1 c.cm. of the diluted suspect serum under consideration, and Tube 14 1 c.cm. of the same serum.

Finally Tubes 1 to 12 received 1 c.cm. of diluted guinea-pig serum.

The ingredients were well mixed by inversion and reinversion, and then were kept in an incubator for one hour at 37° C.

Second Stage.

To each of the fourteen tubes was added 1 c.cm. of emulsion of sheep's red corpuscles. The contents were again thoroughly mixed, and the tubes were again placed in the incubator at 37° C., this time for about two hours. They were then allowed to stand for twelve, twenty-four, to thirty-six hours at the room temperature, and readings were taken.

The quantities of the various ingredients were measured from graduated burettes.

The Estimation and Record of the Haemolytic Power of the Experimental Serums.

Complete haemolysis was indicated by the figure 10, lesser degrees by the figures 8, 6, 4, 2, 1, 0.8, 0.6, 0.4, 0.2, etc. Absence of haemolytic power was shown by a minus sign. In each case the degree of haemolysis was ascertained by the degree of coloration and checked by observing the amount of red cells which had escaped haemolysis and settled at the bottom of the tubes.

The observations were made independently by each of us, and any discrepancies were subjected to revision and adjustment by both together.

In the appended analyses of results, the observation will be noted "not done," either because it was not necessary to repeat an observation already made, or because the stock of one or other ingredient failed.

Explanation of the Objectives in View in the Individual Tubes.

Tube 11 serves to show the amount of haemolysis which can be effected by each serum upon which observation was made, whether experimental or normal, in the presence of the amount of complement operative in the rabbit and guinea-pig serums used. Tubes 1 to 10 show the effect upon the haemolyzing power of each serum in the presence of emulsions of various organs in varying strengths. Tube 12 is designed to show the degree of the haemolytic power of guinea-pig's serum alone, if any. Tube 13 is also a control, whereby it may be shown that normal salt solution alone does not lake the red cells. Tube 14 shows the degree of haemolysis which can be effected by the rabbits' serums alone by virtue of the haemolytic power which they possess independently of the help afforded by the guinea-pig's serum.

Experiment A.

The rabbits from which experimental serums were withdrawn were numbered 1, 2, 3, 4, 5, and their serums were similarly designated. Rabbits Nos. 1 and 3 were injected with rabbits' liver, and Rabbits Nos. 2, 4, and 5 with rabbits' kidney. Each animal had been injected with the same organ on a previous occasion, receiving the last injection two months previously. As the animals had remained in excellent condition it was thought they might be used again for similar injections.

In Experiment A the serums of Animals 3, 4, and 5 were used, and as a control the serum of a normal rabbit, No. 9. An injection of organ emulsion had been given to Rabbits 3, 4, and 5 six days previously. The organ emulsion used was one of kidney of the strength of 1 part of dried guinea-pig kidney to 150 of salt solution. This strength, which previous experiments had shown to be the most convenient, was used in all the remaining experiments. The strength of complement was 1 in 10.

No. of Tube.	Serum No. 3 (L.*)	Serum No. 4 (K.)	Serum No. 5 K.)	Serum No. 9 (Normal).
1	0.2	—	2.2	—
2	0.2	—	2.2	—
3	0.2	—	2.2	—
4	2.2	—	4.0	—
5	2.2	2.0	4.0	—
6	2.2	2.0	4.0	—
7	6.0	2.0	4.0	0.2
8	8.0	4.0	6.0	0.2
9	8.0	6.2	8.0	0.4
10	8.0	8.0	8.0	2.1
11	8.0	8.0	8.0	2.0
12	0.6	(not done)	(not done)	(not done)
13	..	..	..	..
14	2.2	2.0	2.2	—

* This letter in brackets indicates the nature of the organ which had been injected into the animals: Liver (L.), or kidney (K.).

Tube 11 show that each of the experimental serums has a greater haemolytic power than the normal serum. Tube 12 shows that the guinea-pig's serum may be accountable alone for but a very slight part of the effect. Tube 13 shows that salt solution alone does not lake the red corpuscles. Tubes 14 corroborate the results of Tubes 11, in that they show that the experimental serums without the help of the guinea-pig's serum can effect haemolysis, the normal serum under identical

circumstances having no power at all. Further, Tubes 1 to 10 show that the haemolytic powers of all the serums, experimental and normal, are reduced by the presence of organ emulsion.

Experiment B.

Serums were now drawn from two different experimental rabbits, Nos. 1 and 2, two days after a second injection of rabbit's organs, liver in Rabbit No. 1, and kidney in Rabbit No. 2. Control serums were drawn from two normal rabbits, Nos. 9 and 10. The strength of guinea-pig's serum was 1 in 11, but the guinea-pig organ emulsion (kidney) remained the same, 1 in 150.

No. of Tube.	Serum No. 1 (L.).	Serum No. 2 (K.).	Serum No. 9 (Normal).	Serum No. 10 (Normal).
1	(not done)	—	—	—
2	,,	—	—	—
3	,,	0.2	—	—
4	—	0.2	—	—
5	0.2	0.6	—	—
6	0.6	0.8	—	—
7	0.8	0.8	—	—
8	(not done)	4.0	—	—
9	,,	4.0	—	—
10	,,	6.0	0.2	0.2
11	8.0	8.0	0.4	0.2
12	—	(not done)	(not done)	(not done)
13	—	,,	,,	,,
14	2.0	4.0	—	—

Observations.

Tubes 11 again show that the serums of the experimental animals possess greater haemolytic power than either of the normal serums, and Tubes 14 corroborate the observation. Tube 12 indicates that no allowance need be made for the haemolytic power of the guinea-pig's serum used on this occasion, for it was *nil*. The checking effect of organ extract is again shown in Tubes 1 to 10 better in the case of Serum No. 2, because the series was more completely worked out.

Experiment C.

In this experiment further confirmation of the results of Experiments A and B was sought, and in addition an endeavour was made to estimate the relative capacity of different organs to check the haemolytic power of the experimental serums. With this object in view, organ emulsions of a strength of one part of desiccated tissue to 150 of salt solution were made not only of guinea-pig's kidney, but also of liver, heart, and spleen. The strength of the guinea-pig's serum was 1 in 15 and the experimental serums used were those of Rabbits Nos. 1 and 2 drawn a fortnight after the last injection of rabbit's organs.

No. of Tube.	Serum No. 1 (L.).				Serum No. 2 (K.).				Serum No. 9 (Normal).			
	Liver.	Kidney.	Heart.	Spleen.	Liver.	Kidney.	Heart.	Spleen.	Liver.	Kidney.	Heart.	Spleen.
1	0.2	—	—	—	?	—	—	—	—	—	—	—
2	0.4	—	—	—	0.2	—	—	—	—	—	—	—
3	0.6	—	—	—	0.4	—	—	—	—	—	—	—
4	0.8	—	—	—	0.6	—	—	—	0.2	—	—	—
5	1.0	—	—	—	0.8	—	—	—	0.4	—	—	—
6	2.0	—	—	—	2.0	—	—	—	0.6	—	—	—
7	2.2	—	—	—	2.2	—	—	—	0.6	—	—	—
8	4.0	—	—	—	2.4	—	—	—	0.8	—	—	—
9	6.0	—	—	—	4.2	—	—	—	1.0	—	—	—
10	8.0	—	0.6	0.4	6.0	—	0.2	0.4	1.0	—	—	—
11	8.0	(not done)	(not done)	(not done)	4.0	(not done)	(not done)	(not done)	2.0	(not done)	(not done)	(not done)
12	—	,,	,,	,,	—	,,	,,	,,	—	,,	,,	,,
13	—	,,	,,	,,	—	,,	,,	,,	—	,,	,,	,,
14	4.0	,,	,,	,,	0.2	,,	,,	,,	0.4	,,	,,	,,

Tubes 11 again show that the experimental serums possess a greater haemolytic power than the normal serum. No allowance is necessary for any disturbing power on the part of the guinea-pig serum (see Tubes 12). Apparently the haemolytic power of Serum No. 2 acting without guinea-pig's serum is not so great as the normal serum (Tubes 14).

It will also be observed that the checking powers of the organ emulsions differ somewhat; kidney emulsion appears under the circumstances of the experiment to be able to check haemolysis much more thoroughly than the others; then come heart and spleen in an intermediate position, and liver appears to have less power than the others. Even the normal haemolytic power of rabbit's serum can be negatived by kidney, heart, and spleen, using very low dilutions of the emulsions.

Experiment D.

This experiment was devised in order to test the last results upon a different pair of the experimental serums—Nos. 3 and 4—five days after the third injection of rabbit's organs. The strength of guinea-pig's serum used was 1 in 15. It was further felt advisable to make observations on the experimental serum of a rabbit which had received recently several injections of the washed red corpuscles of another rabbit, for

Experiment D.

No. of Tube.	Serum No. 3 (L.).				Serum No. 4 (K.).				Serum No. 9 (Normal.				Serum of Rabbit Injected with another Rabbit's Red Cells.			
	Liver.	Kidney.	Heart.	Spleen.	Liver.	Kidney.	Heart.	Spleen.	Liver.	Kidney.	Heart.	Spleen.	Liver.	Kidney.	Heart.	Spleen.
1	10.0	0.6	1.0	1.0	0.8	—	0.6	0.6	—	—	—	—	(not done)	(not done)	(not done)	(not done)
2	10.0	0.6	1.0	1.0	1.0	—	0.8	0.8	—	—	—	—	,,	,,	,,	,,
3	10.0	0.8	2.0	2.0	2.0	—	1.0	1.0	—	—	—	—	,,	,,	,,	,,
4	10.0	0.8	2.0	2.0	2.0	—	1.0	2.4	—	—	—	—	,,	,,	,,	,,
5	10.0	0.8	2.0	2.0	2.2	—	2.0	2.8	—	—	—	—	,,	,,	,,	,,
6	10.0	1.0	4.0	4.0	2.4	—	2.4	3.0	—	—	—	—	,,	,,	,,	,,
7	10.0	1.0	6.0	6.0	2.6	0.2	4.2	4.0	—	—	—	—	,,	,,	,,	,,
8	10.0	1.0	8.0	8.0	2.8	0.4	4.6	4.2	0.2 (?)	—	—	—	,,	,,	,,	,,
9	10.0	2.0	10.0	8.0	4.0	0.8	6.0	4.4	0.4	—	0.2 (?)	—	0.8	,,	,,	,,
10	10.0	2.2	10.0	10.0	6.0	2.6	6.0	4.6	0.6	—	0.2	0.2 (?)	0.8	,,	,,	,,
11	10.0	(not done)	(not done)	(not done)	8.0	(not done)	(not done)	(not done)	0.8	(not done)	(not done)	(not done)	1.0	,,	,,	,,
12	—	,,	,,	,,	—	,,	,,	,,	—	,,	,,	,,	(not done)	,,	,,	,,
13	—	,,	,,	,,	—	,,	,,	,,	—	,,	,,	,,	,,	,,	,,	,,
14	6.0	,,	,,	,,	6.0	,,	,,	,,	0.5	,,	,,	,,	0.4	,,	,,	,,

Experiment E.

No. of Tubes	Serum No. 3 (L.).					Serum No. 4 (K.).					Serum No. 7 (Animal Inoculated with its own Red Cells).				
	G.P. Liver.	G.P. Kidney.	G.P. Heart.	G.P. Spleen.	Rabbit Liver.	G.P. Liver.	G.P. Kidney.	G.P. Heart.	G.P. Spleen.	Rabbit Liver.	G.P. Liver.	G.P. Kidney.	G.P. Heart.	G.P. Spleen.	Rabbit Liver.
1	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	8.2	6.0	6.0	6.0	6.4	8.2	6.0	6.0	6.4	6.1	1.0	0.6	0.4	0.4	0.6
5	8.2	6.2	6.2	6.4	6.6	8.2	6.1	6.1	6.4	6.2	2.0	(?)	0.8	0.8	0.6
6	8.2	6.4	6.2	6.6	6.6	8.2	6.2	6.2	6.6	6.4	2.6	(?)	1.0	1.0	0.8
7	8.2	6.6	6.4	6.6	6.8	8.2	6.4	6.4	6.6	6.6	2.6	(?)	1.2	2.2	2.6
8	8.2	6.8	6.6	6.8	6.8	8.2	6.6	6.6	6.8	6.6	4.0	4.4	1.4	2.4	2.8
9	8.2	6.8	6.8	8.0	8.0	8.2	6.8	6.8	8.0	6.8	8.0	4.8	1.6	2.6	2.8
10	8.2	8.0	8.0	8.2	8.4	8.2	8.0	8.0	8.2	8.0	8.4	(?)	1.6	2.6	2.8
11	10.0	10.0	10.0	10.0	10.0	8.2	8.8	8.8	8.8	8.8	8.8	6.4	5.4	6.4	6.4
12	8.0	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)	(not done)
13	—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	6.2	..	..	..	..	6.6	..	..	..	..	6.0	..	..	..	..

the question arises that possibly by injecting emulsions of rabbit's organs a certain amount of rabbit's red corpuscles had also been injected owing to the difficulty of completely washing out the organs.

The results noted in Experiment C are confirmed. It is also shown that, despite the large amount of rabbit's red cells injected into another rabbit, far greater than that entrapped in the organs injected, there is only a doubtful increase of the haemolytic power of this serum (Tubes 9, 10, 11) over that of a normal serum.

Experiment E.

The serums of the same animals from which the serums in the last experiment were removed were again tested, this time two days after a fourth injection of rabbit's organs was carried out. These serums were used in the strength of 1 in 4. The strength of the emulsions of guinea-pig's organs was again 1 in 150; observations are included in which an emulsion of rabbits' liver of the same strength was used. The strength of the guinea-pig serum used was 1 in 10. The control serum was that obtained from a rabbit which had been injected with its own red cells.

Again, as Tubes 11 show, it is evident that the animals injected with rabbit's organs have a greater haemolytic power than the control serum—the serum of a rabbit injected with its own red cells. As Tube 12 shows, the guinea-pig's serum possessed a high degree of haemolytic power; it was a mixture of the serum obtained from two animals. This is, however, not offered as an explanation of the result; more probably one or other animal was naturally endowed with a high haemolytic power, and thus is explained the comparatively high degree of haemolysis observed in *all* tubes which contained the guinea-pig's serum. This experiment also shows that rabbit's liver is even a more powerful means of checking haemolysis than the liver of the guinea-pig.

Finally, the question must be raised whether or not the change produced in the experimental serums was due merely to the presence in such serums of unaltered organ substance, and that the cells of the body of the animal into which the injection had been made took no part in the production of an increased haemolytic power of the experimental serums: in other words, that the experimental animals merely acted as test tubes. This question is readily answered, because any change effected in the serum of a normal animal by the addition to it of organ emulsion is that the serum no longer haemolyzes *as much* as when no emulsion is present, given that sufficient amount of complement is available (see Tubes 1 to 10 compared with Tube 11 in all the experiments).

The inference is, therefore, a correct one that animals injected with the organs of other animals of the same species react with the production of increased haemolytic power, and probably this is due to the development of an increase of amboceptors, which is no novelty, for Ehrlich and Morgenroth[1] were able to show that goats injected with the laked red cells of another goat developed amboceptors which were capable of haemolyzing the red cells of a different goat.

It is worthy of note to call attention to the fact that none of the rabbits which had undergone injection with the emulsions of other rabbits' organs appeared to suffer any departure from health, even though the injections were numerous and carried out through several months. They took food well throughout, and gained weight. One exception to this rule was the case of an animal which succumbed to an injection which was carried out faultily, the emulsion reaching the cellular tissues instead of the peritoneum; diffuse cellulitis occurred, and the animal was destroyed, a staphylococcus being recovered from the pus. It must be stated that in certain cases, immediately after the injection, the animals showed tachypnoea, and were even profoundly collapsed, though never for more than half an hour. Such effects were possibly due to anaphylaxis, or, in the case of injection with kidney substance, to its known pressor effects.

General Conclusions.

1. It appears possible, as a result of the experiments above described, to develop in the serums of animals into which injections have been made of the organs of another animal of the *same* species, a change which consists in part at least in the increase of the haemolytic power of the serum, an observation which so far as we are aware has not hitherto been made.* Other changes which may occur as a result of the experimental introduction of organic extracts are being studied by us by the method of "absorption" introduced by Ehrlich and Morgenroth.

2. Further, as shown by the above experiments, the emulsions of different organs appear to have different powers of checking the haemolytic property of such experimental serums, the kidney possessing the greatest and the liver the least power, whilst the spleen and heart occupy an intermediate position, and are equally or nearly equally potent; it would appear from Experiment "E" that the organs so effective are not limited to those of the guinea-pig. The nature of this body or bodies is also being investigated by us.

3. The form of the above experiments may prove of use in determining the strength of the haemolytic power of an experimental serum. Instead of estimating the titre by reference to red corpuscles, this may be done by estimating the titre in terms of extracts of organ.

References.

[1] *Zeitsch. klin. Med.*, 1903, No. 21, S. 502.

* These experimental results should not be confused with those of Ehrlich (q.v.), who proved that haemolytic amboceptors can be developed in the serums of animals which had been injected with the *red corpuscles* of other animals of the *same* species.

SEVEN CASES OF APPENDICOSTOMY FOR VARIOUS FORMS OF COLITIS.

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As the surgery of colitis is still in its infancy, it may be of some practical use to supplement my paper published in this JOURNAL of January 2nd, 1909, on the surgery of colitis, with the following 7 cases of appendicostomy, which are typical of the class of case in which the operation is of most benefit. Two were cases of haemorrhagic colitis, three of ulcerative colitis, and two of membranous colitis.

Perhaps the most marked result was in the first case of haemorrhagic colitis; the second case ended fatally after some weeks, and I do not think that the operation in any way alleviated the symptom. The reason for this was that the patient had marked ulceration of the small bowel as well as of the large. A fact that will generally be borne out by *post mortem* examination is that the continuance of fluid motions largely composed of blood after the operation of appendicostomy, and after the large bowel has been irrigated, always means that there is some ulceration of the small bowel as well. These patients become increasingly emaciated, and their food passes in an undigested state.

In the first case, on the other hand, in which the pathological condition was limited to the large bowel, the relief was extraordinary, and there is no doubt that the boy's life was saved by the operation.

All three cases of ulcerative colitis were greatly benefited. The first case got well right away. The second was entirely cured in a few weeks; and the third, which was one of some years' standing, eventually got practically well, but has to be careful as to her method of life, otherwise there is some return of the former trouble.

Of the two cases in which the operation was done for muco-membranous colitis one is, according to her own statement, and according also to other observers, much relieved by the operation, and the other case has certainly received the greatest relief, and will, I have no doubt, get quite well with ordinary and reasonable care. The last account I had concerning this lady was that she was in Italy and able to go about as well as any one, but had to be careful not to "overdo" it.

Ulcerative Colitis.

Case I.

R. D., aged 33, a gas stoker, was admitted to Charing Cross Hospital with a history of passing blood and mucus and of the bowels acting three or four times a day. He complained of flatulence and abdominal pain. He was put to bed and dieted; he was given an intestinal antiseptic and milk fermented with lacto-bacilline. With this treatment he improved so much that he was discharged, but was readmitted four months later with a return of the old symptoms.

Operation.—On April 4th, 1908, the sigmoidoscope was passed up the bowel for 24 cm., and the result of this examination being somewhat negative, it was obvious that whatever ulceration there was was beyond this limit (a somewhat unusual occurrence in ulcerative colitis). Appendicostomy was then performed in the usual way and the colon was irrigated with saline solution both at the time of the operation and daily afterwards, several pints being washed through at each lavage. The man made a rapid recovery, and has remained well ever since. The appendicostomy was allowed to close.

Case II.

T., aged 45, was brought to me by Dr. Gregory of Redcliffe Gardens in July, 1908. The history was that she had been passing blood and mucus since Christmas. There was slight abdominal pain. She was losing flesh and had become anaemic. On examining the mouth, there was a marked condition of pyorrhoea alveolaris.

A sigmoidoscopic examination was made under an anaesthetic on July 2nd, 1908, and it was found that the upper rectum and the sigmoid as far as the sigmoidoscope would go were ulcerated in patches and generally congested. The *Streptococcus longus* was cultivated from a swabbing taken from the discharge in the sigmoidoscope. This strongly suggested that the pyorrhoea alveolaris was the cause of the colitis. The condition of the gums was immediately treated, and the patient was dieted and put on lacto-bacilline.

Operation.—Appendicostomy was performed on July 10th. The colon was washed through with several pints of sodium bicarbonate, 5j to Oj, on the operation table, and for the succeeding seven days 4 pints of this solution were washed through twice a day; during the next seven days this was only done once a day. For the last five days there was no blood or mucus in the wash-out.

The patient went into the country shortly afterwards, and the appendicostomy opening was allowed to close up. She has remained perfectly well ever since.

Case III.

L., aged 30, was sent to me by Dr. St. John Randall, of Aliwal North, Cape Colony. There was a history of ulcerative colitis extending over some years, for which all the usual well-known forms of expectant treatment had been tried, and copious enemata had been given by the rectum. This patient was put into a nursing home, and a sigmoidoscopic examination confirmed the diagnosis of ulcerative colitis. A swabbing taken from the pus in the sigmoid grew a large number of streptococci. For two months this patient was kept in bed and dieted and treated with lacto-bacilline and lavage of the colon.

Operation.—As there was no obvious improvement, appendicostomy was performed on April 24th, 1908. The appendix was found to be kinked and bound down, and before it could be brought up to the skin wound it was necessary to divide the whole of the meso-appendix. The colon was washed out on the operation table with 5 to 6 pints of warm water and sodium bicarbonate of the strength of a drachm to the pint. This lavage was continued for some weeks, and then was gradually diminished as the patient's stools became less and less. Sigmoidoscopic examinations were made from time to time; in November, 1908, there was some persistent ulceration in the upper part of the rectum, but cataphoresis once or twice produced a marked improvement.

In December the appendicostomy wound was allowed to close, and the patient gradually led the life and took the food that any one else in health would take; she remained perfectly well for some months until she caught a chill, when there was some slight return of the symptoms, which, however, soon disappeared with proper care.

Having regard to the number of years that this ulcerative condition had been in existence, the result is, on the whole, very satisfactory, and although one hardly expects that the mucous membrane will ever become quite normal again, still, with ordinary mild precautions, this patient can live with enjoyment and without any of her former distressing symptoms.

Haemorrhagic Colitis.

Case IV.

G. B., a youth, aged 18, was admitted into Charing Cross Hospital on April 1st, 1908, suffering from severe haemorrhagic colitis.

The history was that he had begun to pass blood about fourteen days before he was admitted into hospital, and that his bowels were opened some five or six times a day, the amount of blood passed at each time varying from a few drachms to about 5 oz. Previous to this attack he had been constipated for several months.

When seen by me a few days after he had been in hospital it was evident that he was extremely ill. He was quite blanched, and both lips and conjunctivae were bloodless; his pulse was weak and "slapping." The abdomen was somewhat tender to handle, but it was not distended. When examined by the sigmoidoscope the rectum was first washed out with saline solution, and after the instrument had been passed any haemorrhage was kept in check by passing in cotton-wool soaked with hazeline solution. By this means a good view was obtained of the bowel for 24 cm. The upper part of the rectum and the sigmoid were seen to be ulcerated, and the whole of the mucous membrane was highly congested.

On April 3rd the abdomen was opened in the mid-line and the colon was found to be thickened from the sigmoid to the caecum and there were many enlarged glands in the meso-colon. Appendicostomy was then performed and the mid-line wound sewn up. The appendix was amputated and a catheter passed into the caecum and the large bowel washed through with 5 to 6 pints of saline and finally washed through with some hazeline solution (a drachm to the pint).

This patient made a most rapid and complete recovery, and it was quite interesting to see how quickly he regained colour and strength and how effective the daily washing through was in stopping the haemorrhage. On two occasions he vomited, but this, I was informed, was because he persisted in eating too much when he had the chance. This chance, however, was taken away from him and there was no further trouble.

The opening was allowed to close after a few weeks, and the boy went to a convalescent home. He has been well ever since.

Case V.

E. F., a young married man, aged 28, seen at Horley with Dr. Williamson. The history was that for some months he had had frequent actions of the bowels always associated with the passage of blood. The bowels would sometimes act twelve and fourteen times in the twenty-four hours. The abdomen was somewhat tender and rather retracted. The temperature was persistently high, 100° to 101°. The man was emaciated, and a large amount of the food he took passed undigested.

Operation.—Appendicostomy was performed on January 26th and the same treatment adopted as in the last case. The patient was temporarily improved; for a time the bowels did not act so often, and the blood passed was less; but there was not any real improvement and the man gradually became weaker and died six weeks after the operation.

There was no *post-mortem* examination, but having regard to his symptoms and comparing his general condition with others

of a similar nature in which I have been able to get a necropsy. I have no doubt that there was in this case considerable ulceration of the small intestine as well, and that it was this condition which killed him.

MUCO-MEMBRANOUS COLITIS.

CASE VI.

E. C., aged about 30, was seen by me in consultation with Dr. Sydney Beauchamp in June, 1908. The patient was a single lady and had been the subject of chronic membranous colitis for many years. Everything and all things had been tried, but there was no response or only very little and fleeting. The amount of membranous mucus passed was enormous. There was a certain amount of abdominal pain, occasional rises of temperature, and needless to say the patient was completely obsessed by her complaint and thought of little else.

Operation.—Appendicostomy was performed on June 23rd, 1908, and the same routine was carried out as in the other cases, with the result that in a very short time nearly the whole of the membrane disappeared and the patient began to look and feel much better.

Unfortunately she was allowed to go away to a convalescent home, where they seemed to have done everything they ought not to have done, both with regard to diet and exercise, with the result that she relapsed, and when she went home was not much better than when she went away from it. A letter written to me seven months after the operation, after giving details of various things volunteers this statement: "There is no doubt I am distinctly better, the *worst* days now are better than the best days used to be, before the operation. I am in much better health . . ."

This can only be looked on as a qualified success, and I cannot help thinking that if Dr. Beauchamp and I had been allowed to have a free hand in the after-treatment a much better result would have been obtained.

CASE VII.

Mrs. A., aged about 35, was seen by me in consultation with Dr. Harry Huxley on April 22nd. The patient had for years been the subject of membranous colitis which was associated with abdominal pain and constipation. She had a bad colour and was unhealthy-looking. The amount of membrane passed was considerable. A sigmoidoscopic examination did not reveal any ulceration of the rectum or sigmoid.

Operation.—Appendicostomy was performed on May 6th, when the appendix was found to be about 5 in. long, and generally hypertrophied. The lumen was filled with muco-pus, and it was thought highly probable that this condition was the cause of the colitis. The same routine was carried out here as in the other cases, and a speedy relief of the symptoms was arrived at.

The patient left for Italy a few weeks later, and has sent excellent reports of her progress since, but it is too early to say whether this is a permanent cure or not.

FULMINATING APPENDICITIS.

By H. BRANSON BUTLER, F.R.C.S.EDIN.,

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MANY surgeons have urged the necessity of early diagnosis and early operation in appendicitis, and there are now few people who disagree with their opinion. Nevertheless, it is common to hear hospital surgeons grumble about appendix cases, which have been too long treated outside, and come to hospital with the appendix already in a gangrenous condition and with general or generalizing peritonitis.

If, then, all are agreed as to the advisability of early operation, the difficulty must lie in the way of early diagnosis. Unfortunately the very cases in which the appendix becomes gangrenous in the course of a few hours are those in which the difficulty in diagnosis is greatest. The purely consulting surgeon rarely sees these cases during the first twenty-four hours of illness, and therefore rarely has the opportunity of seeing the actual condition of the parts within the first six or seven hours from the onset. I therefore make bold, in my dual capacity of hospital surgeon and general practitioner, having seen from the start and operated upon a certain number of this particular type of case, to state what I believe to be the explanation of the condition and the way in which it may be recognized in good time.

In the class of case to which I allude, pain is always present from the start, and for that reason the medical attendant is nearly always summoned early, though there is no time to waste, and he has to make up his mind at once. What, then, are the data on which he has to work, if he is to make up his mind to operate or call in a surgeon to do so? As a rule the patient has been in his usual health until he was attacked with a sudden pain—or more frequently with a vague uneasiness—in his abdomen. In the latter case he will probably have continued with his ordinary avocations for an hour or two; then, finding that the pain increases, he will stop and, not unusually, take a dose of aperient medicine on his own account. An hour or two later, when the aperient is beginning to disturb his intestines, he will either vomit or the pain will greatly increase, or both; and at this stage the doctor is generally called in.

On arrival the doctor finds his patient apparently not very seriously ill, but complaining of general pain all over the abdomen, which he says makes him feel weak. If asked to point out any particular spot where the pain is worst, he will generally point to the epigastrium or umbilicus. His temperature is normal, and his pulse is normal in time and quality. The abdomen is quite soft, and moves with respiration fairly well. It is this combination of negative conditions which leads to fatal delay; the conclusion often come to is that the case is one of colic exaggerated by an aperient which has failed to act, and sometimes the mistake of giving another dose of aperient medicine is made. On examining the abdomen it will be found that there is tenderness in the right iliac fossa on deep palpation, and tenderness in this part is sometimes felt when the abdominal contents are displaced by pressure in the left iliac fossa. But while admitting this localized pain, the patient will often make light of it, while insisting on the general pain, and so make the diagnosis more difficult. If the skin is gently pinched up with the finger and thumb, the patient will own to increased cutaneous sensitiveness on the right side over the appendix area, and sometimes says that there is an answering pain inside the abdomen, though no pressure has been used. With the finger in the rectum no lump is felt at this early stage—only a general tenderness, which may be slightly more marked on the right side.

Normally it requires four to four and a half hours for food to reach the ileo-cæcal valve, so that on auscultation over the cæcum, the cæcal sounds are normally absent from about seven hours after the last meal of the day until four hours after breakfast (Hertz). At all other times during the twenty-four hours, and at all times when the patient has been taking fluid nourishment at frequent intervals (as he generally has been, when his rest has been disturbed by pain) the absence of these cæcal sounds is significant, and points to the probability that the ileo-cæcal sphincter is held in a state of tonic contraction owing to powerful irritation in its immediate neighbourhood.

A large soap and water enema should now be given, and the patient should be instructed to notice particularly if he passes any flatus with the return of the enema. If the rectum contains faeces they will be passed with the enema, but there will be very little or no flatus passed and none with a second enema. This is an important sign, and with the other points mentioned, even though they may not be as strongly marked as one would expect in such a serious condition, must be considered sufficient ground for opening the abdomen without delay, for there will be no other signs until the case has entered upon a very much more dangerous stage.

On opening the abdomen the appendix is found very swollen, greatly congested and plum-coloured, quite free from adhesions, except at its junction with the cæcum, where it is constricted. It lies transversely under the cæcum, in such a manner that the meso-appendix is twisted on itself, and has to be manipulated with great care to avoid rupture while the cæcum is being brought into the wound to allow of removal of the appendix.

These fulminating cases I believe are due to the formation of a volvulus of the appendix, which is thereby strangulated, and the toxaemia and localized peritonitis, which mark ordinary cases of appendicitis, are not present. Gangrene supervenes very rapidly, and there is no time for adhesions to form to shut off an abscess. General septic peritonitis therefore ensues if an operation is not performed in the first few hours after the onset of the pain. I believe that a volvulus of the appendix may develop in any case in which the appendix lies free in the abdomen, but not when it lies in the retro-cæcal fossa. In two of my cases the patients had been indulging in violent exercises, to which they were unaccustomed, and this may have been the exciting cause of the volvulus.

Once the appendix has gained the position described, the veins in the meso-appendix are kinked, but it is probable that the artery with its firmer walls is not. This quickly produces a condition of congestion in the appendix, which the small veins passing directly from the appendix to the caecum, although they are not obstructed, are inadequate to relieve. When this condition once occurs all chance of spontaneous recovery is passed. What appears at the operation to be a tight constriction at the base of the appendix is really only the line of demarcation between the strangulated appendix and the caecum.

These notes are founded on four cases in which the signs and symptoms were identical. They occurred in a total series of fifty-two appendicectomies performed during a period of rather more than three years. The first two cases were operated upon after signs of peritonitis had supervened, in both cases just under forty-eight hours from the first symptom. Both these cases died. They had absolutely general peritonitis by the time operation was performed, and in the first case the appendix was found broken off from its attachment to the caecum. The last two cases were operated upon as soon as the necessary arrangements could be made after first seeing the patients—about six hours after the first symptom. In these the operations were simple enough, and the patients made uninterrupted recoveries, but in each case the appendix was obviously in a condition only just short of gangrene. The majority of my cases have, of course, been in hospital practice; in the four under consideration, however, three were private patients of the better class.

Volvulus is not the only cause of gangrene of the appendix, of course, but I believe it is the cause of gangrene in all cases when it happens in so short a time in the subject of a first attack.

PNEUMOCOCCUS INVASION OF THE THROAT,

FOLLOWED BY PLEUROPNEUMONIA AND APPENDICITIS: OPERATION AND RECOVERY.

By WM. ERNEST PEACOCK, M.D.,

WITH A NOTE BY

PROFESSOR OSLER, M.D., F.R.S.

ON August 4th, 1908, I was called to see a boy, aged 11, with a sore throat and temperature of 101 F. The pharynx was swollen and congested, and the tonsils were enlarged, here and there displaying dirty follicular concretions. The patient looked ill, and I found he had recently complained of slight pains and stiffness in the limbs. Whilst staying with relatives a few days previously, he became feverish and saw a doctor, who found his temperature one evening to be 103° F.

There was slight irregularity of the heart's action and a faint bruit was heard at the apex. A salicylate mixture was given and rest ordered. In a short time the patient was well. At his school some boys had suffered from indefinite feverish attacks, which were thought at the time to be mild cases of influenza. There was no albumen in the urine. On August 10th a brother of this patient was suddenly taken ill with a sore throat, and the sequence of events in his case was so interesting that I report them at some length:

The temperature was 102° F. The tonsils were enlarged and the whole pharynx was congested. The glands of the neck were markedly enlarged on both sides, especially at the angles of the jaws. Suspecting an exanthem, a swab was taken from the throat and sent for examination to a pathological laboratory: a large number of pneumococci was found. There was no albumen in the urine. The patient was kept in bed and a salicylate mixture given with an antiseptic gargle. He improved for a week. On August 17th he became worse and vomited three times. His temperature registered 101.5°, and next day reached 103° F. Pain was complained of in the lower part of the right chest, both back and front, but especially over the last three right intercostal cartilages. These pains radiated to the abdominal wall as far the pubes. On auscultation there were a few crepitations, and marked pleuritic friction was heard behind and in front of the right lung, corresponding to the painful area. No friction was heard over the abdominal cavity. On palpation of the abdomen he did not complain of tenderness, there was no swelling, dullness on percussion, or distension. Nothing abnormal could be felt per rectum. There were, however, shooting pains felt over the pubes with frequency of micturition and pain on passing water. Special attention was given to the region of the appendix, but nothing abnormal was observed. The patient became worse and was acutely ill. Professor Osler, of Oxford, was called in consultation and confirmed the presence of pleurisy with crepitations at the base of the right lung. This condition was thought to explain the radiating pains extending to the pubes.

After reade the abdominal pain became more marked, and tenderness was noted in the right flank, with a sense of resistance and slight dullness on percussion. The patient became worse, and the question of operation arose. Dr. Osler again saw the boy, and confirmed the diagnosis of appendicular abscess. He advised postponement of the operation for a day or two, as the patient was not in a fit condition for surgical treatment. On August 30th there was marked extension of the dullness, which now reached mid-line, and extended to the left flank. A fluctuating swelling was felt per rectum in Douglas's pouch. Mr. Parker of Oxford opened the abdominal cavity in the right flank, and made a counter incision in the left flank. A large quantity of foul-smelling pus escaped from both wounds. Large drainage tubes were inserted, the ends meeting well down in Douglas's pouch. The temperature fell, and the patient went on favourably, gaining weight and strength. He was kept out all day in the open air.

On September 17th he became worse, though drainage had been kept up all the time, the tubes being changed and shortened from time to time, and free irrigation carried out by passing lotion from one side to the other twice daily. It became apparent from the condition of the patient that pus was collecting somewhere. On one or two occasions a well-marked scarlatiniform rash appeared all over the body. Mr. Parker carefully examined the patient under an anaesthetic. The old wounds were opened up, and the affected regions explored by the fingers in all directions. No pus was discovered. The examination was repeated on another occasion without result. Large tubes were again inserted, meeting as before in Douglas's pouch.

His condition improved for a while, but he again became acutely ill. Mr. Parker examined the boy once more under an anaesthetic. Per rectum there was suspicion of a fluctuating tumour high up in Douglas's pouch. An operation was arranged for the following day, but during the night a large abscess burst into the bowel. The patient made an uninterrupted recovery. He was confined to his bed for about twenty weeks in all.

The sequence of events is a point of interest in the case, the usual order of infection from below upwards being reversed. During the drainage a "pip"-like concretion passed through the tube into the dressings, and a slough which also passed was thought by pathologists to be part of the vermiform appendix. The patient never had a cough, so that a specimen of sputum could not be obtained for examination. The temperature only once reached 104.5° F., and was lower generally than one might have expected in such a desperate illness, marked by the presence of such large quantities of foul faecal pus. The pulse, on the other hand, was very feeble and quick, rarely below 130 at night. On one occasion fatal collapse threatened, but passed off after a hypodermic injection of strychnine.

I believe the open-air treatment was a very important factor in the treatment of the case. The patient often presented a very curious appearance, one side of his face being quite pale, whilst the other half was scarlet. Occasionally a similar effect was noticed on the trunk.

NOTE BY DR. OSLER.

This case illustrates in an interesting way the relations of appendicitis and pleuropneumonia. At my first visit I regarded the abdominal pain as due to the involvement of the diaphragmatic pleura. This is by no means uncommon, and I have seen a number of cases of pneumonia in which the diagnosis of appendicitis was made. So completely may the abdominal symptoms overshadow the case that laparotomy has been performed.

Then, in a second group, the appendix is involved simultaneously with pleura and lung. It may be hard to say which part is first affected; as a rule the abdominal features predominate.

Thirdly, during the convalescence from pleuropneumonia a patient may have an attack of appendicitis. In one instance of this sort the return of the fever and of the pain were thought to be due to pleurisy, but on the third day there was a well marked tumour in the right iliac fossa, and an appendicular abscess was opened.

I had an acute regret in this case—the common regret of the physician—that the surgeon was not called in earlier.

WHITEHEAD'S OPERATION FOR HAEMORRHOIDS.

By E. STANMORE BISHOP, F.R.C.S.Eng.,
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After twenty years' experience of various operations for the cure of haemorrhoids, I have no hesitation in recommending Whitehead's operation as at once the most effective, the least painful, and the safest method, but it is necessary for success that certain precautions should be taken beforehand, and that the technique should be very carefully carried out.

The condition being one which is fairly frequent, abundant opportunities have occurred during the time mentioned both for the trial of the many other methods recommended in surgical works and journals, and for an estimation of final results.

In the early days of my surgical practice I used the clamp and cautery method, later the method of ligature, occasionally other plans, such as injection with carbolic acid, ignipuncture, etc., but for many years now these have all been abandoned in favour of the method introduced by Mr. Whitehead, which has given me by far the most satisfactory results.

The division of haemorrhoids into external, internal, and mixed has nothing to justify it from a surgical point of view; the only division of any practical importance being that between arterial and venous piles. These two have well-marked and radical differences, but from the surgical standpoint even these are not necessarily such as to require different treatment, at least if Whitehead's operation is adopted, as both are amenable to it.

The essential idea of the operation is based upon the anatomical facts that all venous piles are the dilated loops formed in the submucous tissue by the inferior haemorrhoidal veins around the anus and lower end of the rectum; that these pass through the firm fascial sheath around the rectum just above the sphincter, lying below immediately beneath the mucous membrane; that they have no valves, and therefore that if any obstacle exists which can hinder the ready return of the blood through them, they, lying as they do amongst loose connective tissue which yields but a poor support, will dilate and become more or less tortuous and sacculated. Once dilated, the firm fascia above through which they pass will still more tend to prevent their being freely emptied. The flow in them becomes more and more sluggish; clots tend to form within them. Should any firm hard mass pass over them, as during the defaecation of constipated and retained faeces, they may easily become injured. Their weakened and damaged walls will then permit of the passage of micro-organisms from the rectum and skin, and consequent inflammatory changes; but apart from these latter, the constantly enlarging loops will project against the thin skin immediately around the anus, which becomes stretched over them. It is worthy of note that the affected loops lie immediately beneath the mucous membrane, and are more adherent to it than to the parts outside.

In any given case, these loops are in all stages of development; three or four will be fully developed, large, unmistakable bulging masses, bluish in colour, owing to the venous blood or clots which they contain; probably easily separable from one another, and capable of being separately dealt with, but around and between these will be a number of smaller loops in which dilatation has only begun or has not progressed far, but which are capable later of equal enlargement. Any operation, therefore, which merely deals with the fully-developed masses is almost certain to be followed during succeeding years by a return of the disability, since it leaves behind these smaller veins, and puts no obstacle in the way of their future distension; indeed it increases that possibility since the weight of the blood is transferred to them.

The operation by clamp and cautery as well as that by ligature can only deal with the larger loops; it is impossible by either of these methods to affect all the veins. Any attempt at this with the cautery would infallibly be followed by so much contraction of the anal orifice as to lead to very unpleasant final results, whilst it would be almost impossible to find—much less to tie—all the venules which could at a later time replace those which are then amenable to ligature. The effect upon any patient is extremely depressing when he discovers, after submitting to what he believes to be a radical operation, that in a few years things are as bad as before. He is apt to conclude that the disease is incurable.

The amount of pain caused—not at the operation, for during that he is anaesthetized, but afterwards, during the process of healing—is far greater with the alternative operations than with the properly performed Whitehead. Indeed, I have often been surprised at the small amount of discomfort experienced by the patients who have undergone the latter operation; their period of convalescence and the time during which they need to be confined to bed are also very much less.

Before determining upon any operation it is imperative that the surgeon should be certain that no concealed disease, such as cancer of the rectum or a tuberculous stricture, exists, of which the piles may be the only external evidence. A careful preliminary examination should therefore in all cases be made with the finger, and, if necessary, with the proctoscope, before any decision is arrived at. This, of course, applies to all operations about the anus.

Having decided that an operation is necessary and that Whitehead's shall be done, there are several comparatively small details which must receive due attention if a successful result is to be attained.

The intestinal tract should be previously cleared as much as possible. It is not only annoying, it is distinctly detrimental to the work, if large masses should make their appearance in the rectum during the ensuing week. Probably the best method of ensuring their absence is the administration on the day but one before of an ounce of castor oil, the taste of which may be disguised by an admixture with it of 2 drachms of tincture of cardamoms. On the day before operation the action of this should be supplemented by a copious enema of soap and water, so that the rectum may be clean. At the operation itself another free douche of weak permanganate of potash solution should also be used during the process of dilatation.

Free dilatation of the sphincter should be done before any cutting is commenced. It should be gradual, plenty of time being taken over it, so that no tearing of the muscle is possible. The best instrument for this purpose is, I think, my modification of Allingham's dilator. In this instrument the original rounded, short handles are replaced by two 4 in. long flat levers, approximation of which by the hand opens the dilating blades. By manual compression of these levers unduly rapid expansion of the sphincter, and possible damage therefrom, is prevented, since the—ordinary—hand is incapable of overcoming the sphincteric resistance too suddenly. A ratchet and screw connecting the two blades permits of maintaining the amount of dilatation so gained whilst the hand is resting. Dilatation should never be done by the screw itself, as it is impossible then to gauge the amount of force employed, and the sphincteric muscle may thereby be unduly stretched or even torn, a result most carefully to be avoided. But complete and effective dilatation before any further manipulation is extremely important to success; by this manœuvre, whilst the sphincter remains intact, it is rendered sufficiently paretic to ensure complete rest to the part during the first few hours, gas is allowed free exit, and spasm prevented.

During the operation any actively spurting vessel should be tied, but venous bleeding may be ignored; this bleeding is sometimes free, but will cease as soon as the operation is completed.

When finished, the edges of the anus frequently appear very irregular, tags of lately distended and stretched skin projecting from the orifice; it is wise to ignore these. This skin, having been stretched over dilated veins which are now removed, will, if left alone, gradually contract again. Were these projections removed, although a neater immediate result would be obtained, the final condition due to their retraction would be an orifice which was unduly dragged to one or other side, or so tight as to render the act of defaecation a painful process.

After the suturing is finished, a suppository containing ½ grain of morphine may be inserted in the rectum with advantage. This tides over the first few hours during

which some pain and smarting may be felt, and does not appreciably affect the action of the intestine later. For the bowels must not be "locked up." At first it was thought that, by preventing the passage of a stool for some days, rest and freedom from infection of the line of union would be obtained, so facilitating the process of healing, but it was soon found that any advantage so gained was at the expense of the future, when hard masses which had accumulated in the upper rectum and sigmoid during this period began to descend and to be forced through the half-healed ring, tearing and splitting the tissues, and thus producing not only pain, but being followed by an inflamed condition of the connective tissue around. It was far more conducive to a smooth recovery if the stools were from the first rendered soft, and easily and frequently expelled by the use of such laxatives as confection of senna, liquorice powder, cascara, etc.

By this operation not only the more prominently enlarged veins are removed, but any at that time "embryonic" haemorrhoids are taken away, and the prospects of a permanent cure are thereby immensely increased.

In certain cases, perhaps 1 per cent. or less, during the first six months after operation, a tendency to contraction at the line of union between skin and mucous membrane has been observed. The mucosa retracts slightly, so that this line in the course of a month or two will no longer be found at the edge of the anus, but from $\frac{1}{2}$ in. to 1 in. higher up. In these cases the finger introduced into the rectum will encounter a slight contraction which gives the sensation of a thread encircling the gut at this level. This is, however, most easily dilated. If bougies of gradually increasing size are passed for a few days, the sense of constriction will rapidly disappear, and, so far as my experience goes, will not return. And this constriction is never so great or anything like so intractable as that occasionally encountered after the use of the cautery.

If an arterial pile exists below the level to be removed in this way, it will be cured by the same means, the supplying artery being drawn down and tied during the process of removal; but should it exist higher up, when the anus is fully dilated, and whilst the dilator is still *in situ*, it can be easily dealt with in full sight by the ordinary method of transfixing beneath and tying in quadrants. But arterial piles are rare, the immense majority of haemorrhoids being simply venous.

This operation has met with scant justice or appreciation amongst writers on the subject, who still in most textbooks recommend the alternative measures. It has been described as causing great loss of blood, as needlessly severe, and is said by Keen and others to be now reserved for very bad cases of prolapse with many piles; but if the principle is correct, as I have tried to show, it is applicable to all, and will be found in all to give the best ultimate results. The amount of blood lost, if the technique be carefully followed, is by no means excessive, whilst in many of such patients a little bleeding is salutary.

For fifteen years I have never practised any other method, having had the advantage of seeing Mr. Whitehead perform some of his earliest operations. I have modified the method I then saw him use, as I believe he has since done himself, by separating the entire cylinder of mucous membrane with its attached veins up to and within the sphincter before attempting any transverse cut, but the essential principle is the same, and it has always been followed by a satisfactory result. In only one case has any return been noted, and that was in an early instance in which probably sufficient care was not taken to free the cylinder completely and for the necessary height.

Some hundreds of cases have been so treated without any mortality, and in all with a speedy convalescence. In a few—possibly 2 per cent.—spasmodic urinary retention for a few hours has occurred, and, in still fewer, pain at the anus has been complained of, but both have speedily yielded to hot boric fomentations to the part. Catheterism has never been required, and, although haemorrhagic discoloration has been seen around in a few instances, suppuration or abscess has never followed. Recovery has in the great majority been singularly uneventful, and in all complete.

The following are some few of the cases which could be found and examined years after the performance of this operation. They are taken haphazard:

Male, aged 23. Operation November 6th, 1903. Three years' pain, and appearance of piles, which do not bleed. After operation, pain immediately after return to consciousness, relieved by hot compresses and morphine. Later considerable haemorrhagic discoloration around. This disappeared by the end of the third week. Examined September, 1909: anus and rectum normal.

Male, aged 42. Operation November, 1894. Five years' intermittent pain and haemorrhage. Piles at the time of operation the size of small plums. Examined September, 1909: anus and rectum normal.

Female, aged 39. Operation May, 1900. Fourteen months' intermittent haemorrhage, sometimes at, sometimes between, times of defaecation. Pain, at first intermittent, then becoming constant; always much worse if the bowels were constipated. After operation for twenty-four hours required hot fomentations for pain; this rapidly passed off, and further recovery was smooth. Examined August, 1909: anus and rectum normal.

Female, aged 40. Operation April, 1905. Followed in two months by constriction as of a thread half an inch up the rectum. Bougies passed daily for one week; constriction disappeared. Examined September, 1909: anus and rectum normal; no sign of recurrence of constriction.

Male, aged 49. Operation July, 1907. Piles for seven years. Operated upon elsewhere by injection of carbolic acid, followed by inflammation around, evidenced by the necessity for opening an abscess; this occurred in 1905. Very little improvement even at the time; size has steadily increased since then, and more quickly during the last six months. Great pain, especially during defaecation and at night. Examined September, 1909: anus and rectum normal: no pain or bleeding since operation.

Male, aged 59. Operation August, 1896. Five years' discomfort; twelve months' intermittent haemorrhage. Four months' gradually increasing pain. At the time of operation there was some prolapse of the rectum, with a protruding ring of haemorrhoids, four or five of which were specially large; the patient was much exhausted by pain and loss of blood, and had to be lifted on to the operating table. Examined September, 1909, thirteen years later: in good health, although 72 years old. No trace of piles: bowel functionating well and easily.

Many of the hospital patients, as usual, cannot be traced, but the fact that in no case has any one operated upon in this way ever returned with a relapse is, when taken in conjunction with what is known of those who could be found, at least presumptive evidence that the result has been, in them equally satisfactory.

THE AFTER-RESULTS OF THE OPERATIVE TREATMENT OF HAEMORRHOIDS:

A STUDY OF THREE HUNDRED CASES.

By H. GRAEME ANDERSON, M.B.,
HOUSE SURGEON, ST. MARK'S HOSPITAL.

So many conflicting statements are made about the after-results of the operative treatment of haemorrhoids, that when I took up duties as House-Surgeon in St. Mark's Hospital I thought it might be interesting to keep a record of the after-results of all the cases of haemorrhoids treated by operation

Three Hundred Cases of Haemorrhoids Treated by Operation at St. Mark's Hospital during Eighteen Months.

150 by means of the ligature, or Salmon's operation.
100 by excision of the "pile-bearing area," or Whitehead's operation.
50 by the clamp and cautery.

Pain.

This is an extremely difficult symptom to classify, as the personal element has so much to be taken into account. The amount of pain experienced has been classified under three headings:

(*a*) Severe pain, which necessitated the giving of more than $\frac{1}{4}$ grain of morphine.
(*b*) Moderate pain, which necessitated $\frac{1}{4}$ grain of morphine.
(*c*) Little or no pain, which did not necessitate the use of morphine.

	Severe.	Moderate.	Little.
	Per Cent.	Per Cent.	Per Cent.
Clamp and cautery	0	30	70
Ligature	10	57	33
Whitehead	10	56	28

The pain was borne better by the female patients than by the males, and Jewish patients complained much more than others. The pain lasted from twelve to twenty hours after the operation, and then there was comparative comfort till the fourth day, when the bowels were moved.

Factors influencing the amount of pain were:

(*a*) The extent to which the sphincters were stretched seemed to bear little relation to the amount of pain experienced.

(*b*) Position of the patient after operation had little effect in minimizing pain, although most were more comfortable lying on the right side.

(*c*) In the clamp and cautery operation pain was more severe if anal skin was included in the clamp and cauterized, or in the ligature operation when some fibres of the sphincter were included in the ligature, or when the submucous tissues were unduly adherent to the sphincters.

The pain is best controlled by means of ¼ grain of morphine given hypodermically an hour after the operation. On the fourth day, when the bowels are moved, a little pain may be complained of, usually more severe at the second call to stool, but this pain can be obviated by the injection of 4 to 6 oz. of sterilized olive oil into the rectum at the same time as the purgative (1 oz. of castor oil) is given. This softens the motion, lubricates the passage, and ensures easy defaecation. This is well illustrated by the case of a private patient who was operated on by the Whitehead method after having been previously operated on by the ligature method some years before in another London hospital. He was a well-educated man, and stood the pain well, but when the fourth day was approaching he begged to be given something to relieve the anticipated pain of defaecation, which had been very severe after his previous operation. Olive oil was injected into the rectum, and he did not suffer in the least. This little precaution had not been carried out after his former operation.

Use of the Catheter after Operation.

Of the cases under consideration, the catheter was used as follows:

Ligature	... ...	10 per cent. required the catheter.
Whitehead	... ...	6 per cent. required the catheter.
Clamp and cautery	...	0 per cent. required the catheter.

The catheter was used equally in both sexes; it is required more often in those of a nervous temperament, and in cases in which much packing is required in the anal canal. From these figures it is obvious that the catheter is more often required after the ligature operation than in the case of the other two. Tuttle states that strangury and dysuria are almost inseparable from the ligature operation, and does not remember a single case where this method was used in which it was not necessary to catheterize the patient for some days or even weeks afterwards. This has certainly not been our experience at St. Mark's Hospital. To induce the patient to pass urine, hot fomentations are applied to the hypogastrium, and, if this is not sufficient, the patient is allowed to stand up at the side of the bed. In those cases in which the catheter was passed it was, as a rule, required once only, but in other cases it was required until the bowels were moved on the fourth day. About nine months ago I ordered Imperial drink—acid tartrate of potassium gr. 60, saccharin gr. 1, ol. limonis m 111, aq. dest. 1 pint—to be given freely to the patients after operation, and since that time I have only twice had to use a catheter after an operation for haemorrhoids. This acts as a diuretic and a sedative to the urinary passages, and it is heartily to be recommended.

The Return of Sphincteric Control.

There is always a certain amount of loss of control after the stretching of the sphincters, and this is also accounted for by the loss, more or less, of the sensitive lining of the anal canal. In the majority of cases the sphincters regain much of their tone as soon as the patient comes round from the anaesthetic, as can be seen and felt by anyone at the completion of the operation, but it is well that the surgeon should ascertain before operation the state of the sphincters, and not stretch all alike as a matter of routine. There are many cases of prolapsing haemorrhoids, especially in old people, in which the sphincters have been stretched daily for years from above downwards by the prolapsing piles themselves. If during operation these cases be treated very gently and the sphincters stretched as little as possible, few cases of "loss of control" follow the operation. In the 300 cases under consideration, the return of control and of the so-called "rectal sense" were ascertained in the three following ways:

(*a*) By the ability of the patient to retain a one-pint enema.

(*b*) By the patient getting the proper warning before defaecation.

(*c*) By the ability of the patient to distinguish between the passing of flatus and motion.

In the clamp and cautery cases control returned on an average on the sixth day after the operation. In the ligature cases control returned on the tenth day; in one case control returned on the fourteenth day, which was the maximum. After the Whitehead operation, control returned about the twelfth day; the longest period before control returned after this operation was the twenty fourth day. The age of the patient did not seem to influence much the return of control, except in a few cases between the ages of 50 and 70 submitted to the Whitehead operation, in which control was somewhat longer in returning.

Contraction of the Anal Canal.

In the series of clamp and cautery cases not one showed the least tendency to contract.

Of the ligature cases, 55 per cent. showed no tendency to contract. In 40 per cent. there was slight contraction, which was easily remedied by digital dilatation during the third and fourth weeks after the operation. In 5 per cent. there was more marked contraction, which required instrumental dilatation up to six weeks after the operation. Two cases required a general anaesthetic. They all subsequently did well and showed no further tendency to contract. These were the cases in which the piles were all ligated at the one level, or in patients who had to leave the hospital early and did not carry out efficient digital dilatation.

After the Whitehead operation, 35 per cent. showed no tendency to contract, and these were cases in which there was very little retraction of the mucous membrane. In 56 per cent. there was slight contraction, which was easily overcome by digital dilatation during the third and fourth week and showed no tendency to recur; in these cases there was retraction of the mucous membrane to the extent of ½ in. In 8 per cent. there was decided contraction; 4 of these were due to sepsis and ulceration following the operation, these were cases of sloughing and gangrenous prolapsed piles and the mucous membrane retracted to the extent of an inch. Of these 4, 2 had secondary haemorrhage. The other 4 cases showed retraction from ½ to ¾ in.; they either left the hospital too soon, or neglected to come back early to have further dilatation carried out. All of these 8 cases had instrumental dilatation twice a week for periods from two to three months. The stenosis in all these cases has been overcome, and though there is felt a fine fibrous ring or ridge encircling the anal canal, the finger passes in easily, and certainly none of these patients complain of any difficulty in defaecation. No case of Whitehead's operation healed by first intention, and the amount of contraction depends on the amount of retraction of the mucous membrane from the anal margin.

Development of Tags.

Tags which are of the nature of external haemorrhoids are swellings of varying size consisting of skin and connective tissue which develop around the anal margin. They are due to interference with the return of blood from the anal margin, and to the trauma and localized inflammation caused by the operation. The larger ones contain thrombi. They may arise either in the situation of already present external haemorrhoids, or in anal skin where there was little or no evidence of external haemorrhoids before operation.

In 50 per cent. of the clamp and cautery cases, in 40 per cent. of the ligature, and in 70 per cent. of the Whitehead

cases, there was practically no formation of tags after the operation, or at most a very slight swelling at the anus which subsided within ten days. In 44 per cent. clamp and cautery cases, in 45 per cent. of the ligature, and in 25 per cent. of the Whitehead cases, there was decided tag formation, which subsided in from four to twelve weeks after the operation, leaving almost a smooth anus, or at most two or three elevations around it.

In 6 per cent. of the clamp and cautery cases, in 15 per cent. of the ligature cases, and in 5 per cent. of the Whitehead cases, there developed rather large tags, which required removal under a local anaesthetic during the third week after operation. One clamp and cautery case and one ligature case required a general anaesthetic for the removal of a ring of large tags. Most tags subside if left alone, or if some astringent like strong lead lotion is applied daily; but if the tags are large, and especially if thrombi are present in them, they are better removed. The removal of two or three tags leaves the anal margin very tender for a few days, causes some pain during defaecation, and renders digital examination more trying. Thus removal of tags rather encourages contraction owing to the difficulty in carrying out digital dilatation. Tags may give rise to no symptoms, or they may cause pruritus, or become fissured and eczematous if large; they may cause difficulty in cleansing the anus after defaecation. In hypersensitive patients the occurrence of tags may lead them to suppose that the piles have not been efficiently dealt with.

Haemorrhage.

Eight cases of post-operative haemorrhage occurred in the series of 300 cases under consideration.

(*a*) In the clamp and cautery cases there was one case of accidental haemorrhage due to the carelessness of a nurse. This patient required an anaesthetic, and some vessels were ligated. No case of recurrent or secondary haemorrhage followed the clamp and cautery operation.

(*b*) After the Whitehead operation there was no case of recurrent haemorrhage, but two cases of secondary haemorrhage occurred—one on the sixth day and one on the eighth day following operation. These were two cases of gangrenous prolapsed piles in which sepsis occurred. One was treated by packing, the other required an anaesthetic and the use of the cautery. The septic condition was soon overcome, and no more haemorrhage occurred, but these were two of the cases which had marked contraction, requiring instrumental dilatation for about two months.

(*c*) After the ligature operation there was one case of accidental haemorrhage, caused by the patient interfering with his dressing. There were two cases of recurrent haemorrhage, both controlled by packing without an anaesthetic, and two cases of secondary haemorrhage occurred, one on the ninth day and one on the tenth day following operation. Both were given a general anaesthetic, and in neither of the cases was there any sepsis or ulceration. In one case an artery required ligation, and in the other there was venous oozing, which was arrested by packing. It is difficult to account for the haemorrhage in these cases. Though these patients lost blood to the extent of from 1 to 2 pints, it did not seem to hinder their progress towards recovery. Calcium chloride was given internally for a few days and the patients put upon a tonic containing iron, whilst the diet included iron-containing foods—for example, spinach, eggs, apples, etc.

Abscess, Fistula, and Ulceration.

None of these complications ensued after any of the clamp and cautery operations.

After one ligature case, in which six piles were ligated, there developed a perianal abscess, which was opened; this left a small fistula, which was treated by operation. Two cases treated by ligature developed a form of chronic infective ulceration. This was treated by the application of nitric acid, and for many weeks by antiseptic rectal injections. Six months from the onset zinc cataphoresis was commenced and carried out every fortnight for many months. The ulcerative process was arrested after about a year, but in healing a fibrous stenosis of the rectum followed, which is treated by instrumental dilatation every month or so.

After one Whitehead operation a small fistula developed which was easily cured by operation. Four of the Whitehead cases were complicated by sepsis, and three of these occurred in cases of gangrenous prolapsed piles. Retraction occurred to the extent of 1 in.; there was some submucous infiltration and thickening under the retracted edge, whilst the ulcerated area was covered with a thin greyish slough, and bled easily. In these three cases the sepsis was arrested within ten to fourteen days, as evidenced by the temperature subsiding, discharge becoming less, pain and tenderness ceasing, the slough disappearing, and the retracted area becoming covered with healthy granulations. There was marked contraction during cicatrization later on, which was subsequently remedied. Of these three, two had secondary haemorrhage. The fourth case was a female patient who had slightly more contraction than usual, and must have infected herself in carrying out digital dilatation at home, as she was quite well when she left the hospital a month after the operation. The cicatrizing area had broken down, and there was ulceration extending the whole length of the anal canal. Glands in both groins were removed, but she developed pyaemia and in spite of all treatment seemed to be dying, when suddenly a reaction set in, and she is now doing well.

The clamp and cautery operation seems to be that least likely to be followed by sepsis. The clamp draws the edges of the mucous membrane together, and as the wound is in the long axis of the bowel, there is no tension and little retraction. The cautery effectively seals the mouths of the blood vessels and lymphatics, thus preventing absorption. The absence of all ligatures and sutures is also in favour of the operation being cleaner. In the ligation operation more or less of the ligated pile is left to slough, and this necrosed material becomes a source of sepsis, whilst the ligatures themselves become foul, and usually do not separate for nine days or so. Indeed, it is surprising to find how few cases after this operation are followed by sepsis.

After the Whitehead operation those cases that are complicated by sepsis have been in rather a septic condition before operation, due to the piles becoming prolapsed and gangrenous. In such cases more active antisepsis should be employed before, during, and after the operation. No case of tetanus followed any of these operations.

Recurrence.

All the cases have been examined up to six weeks after the operation—many have been seen months afterwards, and some a year to eighteen months after the operation, and in no case has there been any recurrence; in fact, recurrence after operation seems to be rare. During eighteen months in the out-patient department (apart from the cases under consideration) only 2 cases of recurrence were noted—one in a patient who had been operated on two years previously by local excision with suture (Earle's method), the other had been operated on by ligature eighteen years previously.

Duration of Treatment in Hospital.

The clamp and cautery cases remained in hospital on an average ten days; the ligature cases for twenty-one days; the Whitehead cases for about twenty-six days.

Healing of the Wound.

During the first week after the clamp and cautery operation three soft linear ridges can be felt in the rectum. During the second week the clamped edges of mucous membrane separate a little, and the wound becomes covered by healthy granulations which feel soft and granular; these wounds gradually close, and four to six weeks after the operation three soft linear scars are felt, and, if no tags complicate the case, it would be difficult to say that an operation had been performed. The great objection to the clamp and cautery operation is the possibility of the formation of large tags, the inner surface of which may become granular and inflamed, and cause tenderness during and after defaecation. The fact that no contraction ever occurred is greatly in favour of this operation.

During the first week after the ligature operation, three triangular wounds, with the base downwards, are felt, with the knots of the ligatures above, and more or less slough from the ligated piles lying in the anal canal. The ligatures separate from the seventh to the twelfth day, and then the triangular wounds gradually close in, though the surfaces still feel granular. During the third and

fourth weeks the wounds become smoother and more linear, and there may then be noticed more or less contraction of the anal canal, the stenosis being most marked where the ligatures have been applied—that is, at the upper part of the wound. In six to eight weeks the anal canal feels fairly smooth, but a few subsiding tags may be present at the anal margin.

The day following the Whitehead operation there may be noted more or less ecchymosis into the perianal tissues and a little oedema at the anal margin. The fact that no vessels are ligated in this operation, and that the suturing of the mucous membrane to the skin edge controls the haemorrhage, accounts for the ecchymosis and oedema. By making the patient strain down one can see that the line of the suture is intact, or by gently inserting the finger the mucous membrane can be felt in close apposition with the skin. This condition goes on until the fourth day, when in 50 per cent. of the cases the sutures give and the mucous membrane retracts before the bowels are moved: in the other 50 per cent. retraction occurs when the bowels act or on the day following. Not one of the cases healed by first intention, and, though this may seem a startling statement, nevertheless I firmly believe that primary union never occurs after the Whitehead operation.

The giving of the sutures and the retraction is due to the tension on the wound, to the action of the sphincters, and perhaps to a little sloughing at the wound edge. It makes little difference what suture material is used. In the majority of these cases continuous and interrupted iodized catgut sutures were used, whilst in some silk and in others silkworm gut were tried. That the retraction is due to tension is supported by the fact that in the perineal and ano-sacral excision of the rectum the upper cut end of the rectum or of the pelvic colon may be implanted at the anal margin, and the sutures hold quite well. This occurs when the bowel has been made sufficiently free to be brought to the anal margin under no tension. It is well that the wound after the Whitehead operation does not heal by first intention, as otherwise exstrophy of the mucous membrane might occur, giving rise to excoriation, slight haemorrhage, pruritus, and troublesome discharge of mucus. Exstrophy did not occur in any of the cases under consideration. During the second week after the operation the circular ring of granulation tissue left by the retraction of the mucous membrane is felt to be distinctly granular. During the third week this area becomes smoother and smaller, and any tendency to contraction becomes evident. During the fourth and fifth weeks the mucous and skin edges come gradually into apposition, and the annular cicatrix feels quite soft if digital dilatation has been properly carried out. This cicatricial ring, if properly stretched when the fibrous tissue is still young, shows no further tendency to contract after the sixth to eighth week. Some of these cases have been seen a year afterwards, and the seat of operation feels quite smooth, or at most a fine fibrous ring is felt at the junction of skin and mucous membrane, but in none of the cases is there any stenosis which would cause difficulty in defaecation.

Choice of Operation.

It is better not to decide on any particular method of operation until the sphincters have been stretched, and then to use the method most suitable for the pathological condition presented.

The clamp and cautery operation should be chosen when there are not more than three piles, especially if they are of the internal variety and there are no external haemorrhoids or redundant skin. As it is likely to give less pain than the other operations, it should be chosen for patients of a very nervous temperament. As it is a bloodless method it is suitable for cases of anaemia. If time is an important question, either for the patient who may want to get back to important business, or in hospital where there is usually a large waiting list, the clamp and cautery method should be chosen, as the period of convalescence is considerably shortened. As stenosis never follows this operation it should be used in cases in which the surgeon may be unable to see the patient again after the operation.

The ligature operation is a good and safe method, and is applicable to the majority of cases of haemorrhoids. It is suited for those cases of three, four, or five piles, especially of the mixed variety, when both external and internal haemorrhoids can be removed at the one cut. Though the conditions be less aseptic after this operation than after the others, it is a well-known clinical fact that sepsis rarely follows this operation.

The Whitehead operation is indicated in the following conditions:

(*a*) When there is a general haemorrhoidal condition involving the whole circumference of the anal canal, and especially if there is a good deal of prolapse, and also in cases in which there is extensive thrombosis.

(*b*) In cases where, though the piles may not be large, there is a pathological condition which may be described as a prefissure or a prefistula state. In this condition the anal valves are enlarged, and curious little blind submucous pockets may be found running for a varying length upwards. In other cases these pockets run downwards towards the anal margin. These, first described by Mr. F. C. Wallis, and lately believed to be due to developmental defects, are undoubtedly in many cases the starting point of fistula; whilst, if Ball's theory be accepted, enlarged anal valves lend themselves to the formation of fissure.

The Whitehead method should not be employed in all cases of haemorrhoids, but is well suited for the conditions mentioned above. If the after-treatment is properly carried out, stenosis should not occur.

I have to thank Mr. F. S. Edwards and Mr. F. C. Wallis for their kindness in allowing me to publish this record of cases.

ACUTE NECROSIS OF THE PANCREAS: SUDDEN DEATH.

By B. HENRY SHAW, M.B., CH.B.,
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INSTANCES of sudden death due to pancreatic haemorrhage are of such rare occurrence that the following case is worthy of record:

Mrs. J. D., a widow aged 61, was admitted to this asylum in February, 1908, suffering from melancholia of one month's duration. As far as I could ascertain, she had an excellent family history, both physically and mentally, her mother reaching the age of 80. At the birth of her first child she had an attack of melancholia, and my informant tells me that she also suffered from "milk fever" on that occasion; in 1895, at the birth of her last child, an exactly similar state of affairs occurred. Nine years ago she was suddenly taken ill during the night, complaining about her heart as though it would stop beating. Her extremities, her son says, were very cold, but as far as he can recollect there was no sickness. She has had since then three attacks of melancholia. Previous to the penultimate attack she contracted influenza.

Condition on Admission.

She was in very indifferent health, though there were no signs of any organic disease. She was put on tonics and extra diet for a time, and steadily improved in condition and health. Mentally her progress was not so rapid, but at the time of her death she was quite bright and cheerful, and it had been intended to discharge her very shortly. On August 12th, 1909, while in bed, she was suddenly taken ill at 1.30 a.m. with violent pains in the abdomen and sickness, and died within a quarter of an hour.

Necropsy.

The *post-mortem* examination, made the next morning, showed as follows:

External Appearances.—Cadaver in good condition; no bruises or other marks of injury present.

Head.—Calvarium normal; membranes normal; no macroscopic abnormality of the cerebral tissue; cerebro-spinal fluid scanty; arteries at base of brain very atheromatous and of small calibre, that of basilar at pons medulla junction being 3 mm. Right interior carotid, 2½ mm.; left, 2 mm. Middle cerebrals each 1½ mm. Distribution regular.

Thorax.—Ribs normal; no pulmonary congestion; some emphysema present. Heart not contracted, cavities containing more or less blood; slight fatty degeneration present. Aorta very atheromatous; valves competent.

Abdomen.—Here considerable effusion of blood into the tissue around the pancreas was at once apparent, but the peritoneal covering was not broken. Kidneys, liver, and spleen were congested. The stomach showed some catarrh, and the intestines were normal. Dimensions of cardiac orifices were: Mitral, 3¼ in.; tricuspid, 4; aortic, 2½; pulmonary, 2¼.

Weights of Organs.—Brain, 42 oz.; heart, 11; lungs—right 15½, left 21; spleen, 5; kidneys—right 5, left 4; liver, 52; pancreas, 4.

Pancreas.—There was a gangrenous area in the head of the organ, about the size of a filbert, from which it was evident the haemorrhage had come; the whole gland was infiltrated with blood and the seat of marked rapid tissue changes; on the surface were numerous sandy grains consisting of calcium phosphate. There was no evidence of fat necrosis, nor of obstruction in the ducts.

This case is of great interest, both from a medico-legal and scientific point of view.

1. There was a more or less obscure history of a somewhat similar seizure occurring nine years ago.

2. The death was evidently syncopal; whether brought about reflexly by interference with visceral ganglia or the solar plexus, or due to the escape of pancreatic ferment in large quantities into the blood it is impossible to say.

3. The majority of these cases occur in males; out of Korte's series of 41 instances, only 4 were females.

4. The etiology is extremely obscure. In this case there were two facts which may have a bearing on it: (*a*) Marked atheroma, and (*b*) the peculiar deposit of calcium phosphate on the surface of the pancreas. Whether this is an instance of *post hoc* or *propter hoc* it is extremely difficult to say; its formation is well known to be associated with rapid nuclear disintegration, and its presence may be accounted for in that way. Personally, I am inclined to the *propter hoc* theory, as there were several very large granules near the broken-down portion of the organ, too large to be formed in this rapid manner, and also on account of the fact that the distribution of these grains of phosphates was not throughout the organ, but only superficially.

A CASE OF "CONGENITAL PYLORIC STENOSIS" SUCCESSFULLY TREATED WITHOUT OPERATION.

BY

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THE opportunities afforded of observing a case of so-called "congenital pyloric stenosis" from the very onset are surely uncommon. The subject of this paper is my own child, a little girl.

She was born on September 1st, 1908. Labour was natural. The child weighed at birth 7 lb., and was in every way normal. She was fed on the breast alone for three weeks, at the end of which time she began to be sick almost immediately after taking her feeds. Thinking modified cow's milk might suit her better, she was on September 23rd put on milk and barley water with sodium citrate (gr. j ad ʒj of milk), as recommended by Poynton. For forty-eight hours there was no sickness to speak of, but then it returned, and every feed was vomited as soon as it was taken. Her weight at the end of one month was the same as at birth. Imagining the food to be still the cause of the trouble, we replaced the milk and barley water with Allenbury No. 1, and again for about forty-eight hours the vomiting was much relieved. On October 4th a further change in the diet was made, "bread jelly," as recommended by Cheadle, replacing the Allenbury No. 1. On October 5th no nourishment was retained at all, each feed being vomited practically immediately. On October 6th we attempted small feeds (ʒj) of peptonized milk and lime water, a certain number of which were retained. The bowels were constipated, and means had to be taken to get them to act. The nursing of the child was being carried out by the mother, a hospital nurse of great experience; this, of course, excluded any possibility of error in measuring out feeds or irregularity of time in giving them, or any doubt as to the absolute cleanliness of all vessels used in connexion with the food. The vomiting was not accompanied by retching; the food was immediately, so to speak, pumped up and shot out, sometimes quite forcibly. The chronic vomiting, unassociated with any evidence of gastric disturbance and not relieved by careful nursing and changes of food, now suggested that pyloric stenosis might be the cause of the mischief. On October 6th a feed was given to the child when it was undressed, and we were able to see well-marked peristaltic movements in the epigastrium culminating in a vomit. This observation was confirmed on several subsequent occasions by my partner, Mr. R. Hingston, to whom I am deeply indebted for much help and encouragement during the trying conduct of this case. The child was now naturally losing weight and was very fretful night and day, constantly screaming out with colicky pain, which invariably followed if a feed were retained. The weight had fallen from 7 lb. to 6¼ lb. My attention was now directed to an article by Dr. R. Hutchison[1] dealing with the subject of congenital pyloric stenosis, and this showed me that without doubt we had a case of this condition to deal with, the baby having all the classical signs and symptoms—namely:

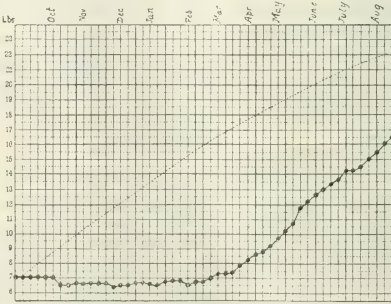
1. Vomiting of a projectile nature coming on almost immediately a feed was taken down, with absence of any sign of gastric disturbance.
2. Loss of weight.
3. Constipation.
4. Visible peristaltic movements in the epigastrium, culminating in a vomit.
5. Relief of the symptoms for a period of a day or so by changing the food.

I sent Dr. Hutchison full details of the case, and he most kindly wrote advising me as to treatment; and I must here express my most grateful thanks to him for his generous advice and help, both then and on many subsequent occasions, whilst the case was under treatment, the successful result obtained being entirely due to the means which he suggested.

On October 23rd, the child being now 7 weeks old, and slowly but steadily losing ground, we began the treatment suggested by Dr. Hutchison, consisting of: (*a*) Daily washing out of the stomach; (*b*) small feeds (ʒjss at a time) of *peptogenized* milk and water, half and half; (*c*) Purgen (half a tablet of "Infant Purgen") at night to relieve the constipation. She was also given a small amount of Kepler malt extract and cod-liver oil daily.

The effect of washing out the stomach was little short of marvellous; the fretfulness disappeared at once, and only on one occasion during the time gastric lavage was carried out once daily (and this lasted from October 23rd, 1908, to March 24th, 1909, a period of five months) did the little patient show any signs of abdominal discomfort, and then she was immediately washed out, with the result that the discomfort was at once removed. The operation of washing out the stomach was most easily performed. A glass funnel and a soft rubber No. 12 catheter were used; the end of the catheter was dipped in glycerine and placed on the infant's tongue, when she began to swallow the tube, and so rendered the passing of it a very simple matter. The operation never made the child cry nor appear inconvenienced in any way.

The child's weight remained about 6¼ lb. until the middle of January, 1909, when she was 4½ months old. She was a mere skeleton, and the points of bone at the back of the iliac crests and the spines of the sacral vertebrae looked as if they might perforate the skin at any moment, and were only prevented from doing so by carefully changing her position from time to time, not allowing her to lie on the back or one side for too long; she moved her limbs very little, there being extremely little muscle to perform any movements with. In spite of her emaciation, which was extreme, she never looked cachectic, and always seemed happy and comfortable, thanks to the gastric lavage.



Dotted line shows average weight at different ages.

From November 26th, 1908, to January 20th, 1909, the abdomen was massaged twice daily with cod-liver oil, but this was not continued longer, as there was no evidence of benefit from its use. At the beginning of February, 1909, on the advice of Dr. Hutchison, we began giving raw meat juice to counteract any ill effects of the prolonged diet of peptogenized milk, and "Glaxo" was given for alternate feeds; also one feed of weak Benger's food was each day substituted for one of the peptogenized milk feeds. By the end of February, the child being now

6 months old, she had begun to gain in weight a little, and scaled 7 lb.—the weight she was when born. Virol was now given in place of the Benger's malt extract, and in the middle of March one feed a day of Savory and Moore's food was begun in the place of Benger's. By the end of March the child was gaining fairly steadily, as will be seen by the weight chart. The peptogenized milk was stopped, as was also the raw meat juice, and we ceased to wash out the stomach, the indications for the latter being that the wash-out no longer showed retained curds in the stomach. She was now put on a mixture of raw milk and barley water, with the necessary amount of sodium citrate.

The child was vaccinated on May 17th, being now 8½ months old; she was not upset at all by this, in fact the week following she showed her biggest gain, namely, 1 lb. She cut the two lower central incisors during the second week in June.

The volume of the feeds and the amount of the milk were gradually increased as the child's capacity for taking in got greater, and in due course one feed a day of Mellin's food and one of Chapman's wheat flour were added to the dietary. I should have stated that the Savory and Moore's food was stopped as soon as the child was able to take the milk and barley water mixture. At the commencement of July, being 10 months old, the patient weighed 14 lb.; she was small for her age, but fat and a capital colour; an extremely bright and intelligent child, and wonderfully happy and contented. The bowels were acting without any trouble, she was never sick, and there was nothing to suggest that the stomach was at all dilated. There is nothing further of special note to chronicle. The child now, in the middle of October, is 13½ months old, weighs 20 lb., has cut six teeth, and can stand when holding on to any object. Although she is, of course, behindhand for her age, she is apparently in robust health, and shows no signs of rickets or dilated stomach. The diet has naturally been suitably altered and augmented to bring it up to the requirements of her growth, though she cannot yet quite manage the food of the ordinary healthy infant of corresponding age.

This case presents one or two points of exceptional interest.

1. So far as I know, most, if not all, of the recorded instances of congenital pyloric stenosis have been in male children.

2. The case was under medical supervision from birth.

3. Improvement did not begin till the child was 6 months old, whereas the spasm usually passes off at an earlier date.

4. There were never any convulsions due to the absorption of toxic material from the stagnated contents of the stomach; this was directly due to the daily washing out of the stomach, which, begun early in the treatment of the case, prevented gastric dilatation taking place.

It is interesting to note in this connexion that in the case recorded by Dr. Harper in the *Lancet* of August 19th, 1905, where no washing out of the stomach was done, convulsions were a very frequent and most distressing complication.

5. Ever since the child was a week or two old she has been accustomed to spend as many hours a day as possible out in the open air in her perambulator, this even when the ground was deep in snow in the winter; she was always the better for being out, and was never kept in except for rain. She never suffered from cold, even when she was extremely emaciated.

6. Throughout her illness from the moment the gastric lavage was commenced the child slept on an average from eighteen to twenty hours a day, and doubtless this had much to do with maintaining her vitality, and so enabling her to weather the storm.

REFERENCE.
1 *Clinical Journal*, September 28th, 1908.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RECURRING APPENDICITIS: RIGHT OÖPHORITIS IN ASSOCIATION WITH MODIFIED GRAVES'S DISEASE.

During the last three months in the course of my practice I have come across three cases which, taken singly, might each be accounted for by coincidental existence of two diseases in one person, but taken collectively it is somewhat improbable that they can be explained in this way. I am unaware of any literature dealing with the point I am about to mention, and I should be glad to know if any other medical man has had a similar experience, or has entertained the idea of any causal relationship between the two. The two diseases mainly concerned are chronic or recurring appendicitis with involvement of the right ovary, associated with a modified form of Graves's disease. The following is a brief account of the cases:

T. D., aged 23, member of the dramatic profession, single. In April of this year I first saw her on account of colicky pains of an "excruciating" character in the right iliac region associated with nausea, and a slight temperature with foul tongue and constipation. There was a history of two similar previous attacks. On examination, there was definite tenderness over the appendix, and the right rectus was resistant. With rest in bed and suitable treatment the attack subsided, and the patient refused or postponed operation. In June a similar attack occurred, and again in August. The right ovary is tender and somewhat large, and there is profuse leucorrhœa. I saw this patient again on September 1st, and then found a palpable thyroid gland, a definite fine tremor of the hands, and a pulse of 110—in other words, a modified form of Graves's disease. This patient is habitually constipated and has a foul tongue, unless freely treated with aperients.

M. J., lady governess and nurse, aged 25, single, first came to me in June, complaining of pain of a colicky nature referred to the umbilicus; had had attacks of pain at intervals for a year, profuse leucorrhœal discharge, menorrhagia, and dysmenorrhœa for several months, constipation, and foul tongue. This patient also complained of acute depression and "tedium vitæ." At this time there was nothing definite to go upon, but a month later she came to me feeling better as regards the depression, but complaining of the pain from a still present attack, and a constant dull ache in the right ovarian region. I examined her, and found a definite lump in the appendix region, slight rigidity of the right rectus, and bimanually the right ovary seemed larger than the left, but of this I could not be certain. As the patient was leaving for home I wrote to her mother, and advised that the local doctor should be called in. This more especially as the patient then told me, what she had not before mentioned, that she had had a temperature for some weeks on and off, associated with the pain. This girl had, in addition, fine tremor of the hands, pulse 110 to 120, for one month, during which I kept her under observation, and her thyroid was distinctly enlarged, she herself volunteering the statement that sometimes her neck seemed larger than at others.

R. S., hospital nurse, aged 23, single, first came to me twelve months ago with very marked tremor, pulse 120 to 130, enlarged thyroid gland, complained of feeling excessively tired during and after her hospital work. She was then doing special work, massage, etc., and was just going to commence full training at another London hospital. I advised her not to attempt it for twelve months, but to rest. For various reasons she could not rest completely, and obtained a post as a nursing home. Her symptoms did not respond to treatment of various kinds, but this I attributed to the well-known uncertainty of drug treatment in this condition, and the absence of sufficient rest. Six weeks ago she was travelling on the Continent with a patient, and was forced to come home owing to her abdominal pain (generalized), with diarrhœa and passage of mucus and blood. She tells me that for months she had a temperature now and then of 99.6°, and had also had previous attacks of pain. I was called to her, and found her to be tender all along the whole course of the colon, but with no localized pain. The next day, however, her right rectus became rigid, and I decided to operate. On opening the abdomen, clear straw-coloured fluid presented in the wound. The appendix, which measured 3¼ in., was found to be closely bound down to the colic wall along its whole length, with the exception of the last ½ in., but it was not in an acute inflammatory condition. I dissected it off and amputated it, and then looked for the more recent cause of the pain. The right ovary was enlarged and had a cyst on its outer end, which had burst and was obviously the source of the fluid found on incising the peritoneum. The left ovary being apparently healthy, I removed the right one, and, after swabbing up all the fluid within reach, closed the abdominal wound. The patient has made an uninterrupted recovery from the operation, and, what is to my mind by no means the least important point as bearing on this communication, her pulse has never since the operation been above 84—it is now 76—the tremor has almost disappeared, and the thyroid is less prominent, though still slightly enlarged.

These three cases, as I remarked above, seem to me collectively to point to a definite connexion between the two coexistent conditions. Whether they have a common causal factor, or whether one is causative of the other, I leave it to the future and the experience of others to decide, but that there is something more than coincidence in the coexistence of the two sets of symptoms in these three cases, I am convinced.

Of the first two cases, I very much regret that in one operation has been up to now refused, and in the other I have not yet any definite information, and therefore operative proof is not so far, obtainable, but personally I am convinced that appendicitis was present. My own view is that the appendix trouble, either primarily or secondarily through the ovary, causes a sympathetic disturbance, which produces this modified Graves's disease.

I do not think that any one will quarrel with me if I say that the pathology of Graves's disease is still an open

question. I mean as to whether the primary causal factor is sympathetic or thyroid; and, if the latter, as to whether it is due to hypersecretion or perversion of secretion. But in either case it seems to me that the appendix, being in a morbid condition, may quite possibly start a morbid condition either of the thyroid gland or the sympathetic nervous system, and in support of my view I state the three cases above.

I trust that this communication may result in the relation of similar experiences by other practitioners, or that it may call the attention of the profession to what I believe to be a hitherto unrecorded connexion of two diseases.

ERNEST STRATFORD, M.R.C.S., etc.

Wellington College Station, Berks.

MENINGOCELE PRESENTATION.

I WAS called to a primipara, aged 28, in whom labour had commenced a fortnight earlier than had been expected.

Examination of the abdomen gave very little help as there appeared to be a large amount of liquor amnii present. On vaginal examination an indefinite mass was felt through the os, which was about the size of a half-crown. On returning to the case later, the os was about the size of a crown piece, and the mass was more prominent. It had the feeling that the placenta gives, yet this was hard to understand, for there had been no haemorrhage. Anteriorly to the mass and behind the symphysis pubis a slight depression could be felt not unlike the posterior fontanelle. Posteriorly another depression could be felt like the anterior fontanelle. Pains became frequent and strong, and the mass showed at the vulva during the pains, returning again as they subsided.

Being unable to make a definite diagnosis without anaesthesia, I asked Dr. Reichwald, of Ashtead, to assist me. Meanwhile the liquor amnii had escaped. Examination of the abdomen under an anaesthetic showed the head to be in the left top corner of the uterus. Beyond this nothing definite could be made out. The whole hand was introduced and the mass was found to be attached to the fetus. Posteriorly another smaller mass could be detected. Both legs were extended. Bringing down first one leg and then the other, the fetus was partially withdrawn and the mass proved to be a meningocele, somewhat larger than a cricket ball, attached to the lower lumbar region. The smaller mass posteriorly was the cedematous scrotum. The depression felt was the gap in the spinal column where the meningocele arose. Both arms were extended above the head, and, after getting them down, a stillborn fetus was delivered.

Oxshott, Surrey. THOS. C. BLACKWELL, M.D.Edin.

BELLADONNA POISONING BY THE APPLICATION OF A PLASTER.

M. M. G., aged 74, fell downstairs in August, striking her back about the level of the scapulae. On examining her on August 18th I found she had only sustained contusions, but as she complained of pain I applied two strips of belladonna plaster over the painful part. At my second visit she stated that she was greatly relieved, and I ceased attending.

On the afternoon of September 26th I was again sent for and informed that she had fallen while in the garden, and it was thought she had "a seizure." I found her in bed, very delirious, with the pupils moderately dilated, but no paralysis. Over the lumbar region she had a "porous" belladonna plaster, and outside this was adhering a portion of the plaster which I had previously applied higher up. The whole of the surface underneath the plaster was raw, and absorption of the belladonna had taken place through the raw surface. I removed the plasters, and on the following day she had quite recovered. The history she then gave was that, having found relief from the plasters I applied, and having a pain in the lumbar region, she had sent her husband to the chemist for a similar plaster, which she applied on September 21st. This soon produced intense itching, causing her to be constantly rubbing her back. On September 24th her sight began to be affected; on the following day the throat became very dry; and from the morning of the 26th to that of the 27th she has no recollection of what occurred.

Gunnislake, Cornwall. ALBERT BOWHAY, M.D.

A CASE OF POTATO POISONING.

ON the evening of June 17th, 1909, I was called to see a man, aged 33, a platelayer, who had been taken suddenly ill that afternoon while at work, with vomiting and diarrhoea, having felt perfectly well beforehand.

I saw him at 6.30 p.m., when he told me that at 3 p.m. he was seized with a sudden desire to vomit, with great pains in the lower part of the abdomen; this was followed by persistent vomiting and diarrhoea. At 6 p.m. cramp commenced to come on, starting in the lower part of the abdomen and affecting the muscles of the thighs, arms, and hands chiefly; the cramp was so bad in the thighs that it was some time before I could get him to lie down on a bed to be examined; his voice also seemed to be affected. He was given calomel, followed by mist. alb., and at 8.30 p.m. the pain ceased, but the cramp continued in the back of the thighs till 2 a.m., when he fell asleep. On awakening he felt quite well, and was able to come and see me.

His diet on June 17th consisted of bread and butter and tea for breakfast, and meat and new Jersey potatoes for dinner at 12.30 p.m., of which his wife and children also partook; he ate about a dozen potatoes, but noticed that fully one-third of them were quite green. I understand that solanin is present in these green potatoes, which are those that grow exposed on the top of the ground, and also in those sprouted ones that are stored exposed to light.

This case may be of interest to those who practise in country districts, where potatoes form the chief article of diet in the cottages of the labouring men.

C. A. EAMONSON RING, F.R.C.S.E.

Brinklow, near Coventry.

A CASE EXHIBITING THE TOXIC EFFECTS OF ETHER.

PROFESSOR DIXON, in his address on "Facts and Fancies in Pharmacology,"[1] mentions that the effect of ether is to depress nerve tissue, and in large doses muscle tissue too. As an illustration of those statements I will give the history of a case recently under my observation. A man aged 46 states that he first began to inhale ether as a means of obtaining relief from pains in his chest and body, which were the result of indulgence in alcohol, but he only occasionally made use of this means. However, for the last two months he has been more or less constantly inhaling ether, 6 drachms at a time, and getting through a 1 lb. bottle of ether a day, consequently he has been bedridden for weeks, and had lost flesh rapidly and to such an extent that he was unable to stand without help; moreover, the circulation was so feeble that he had hot-water bottles to keep his feet warm. For the last week he had been fed per rectum, partly because he refused to take anything by the mouth, and also because of troublesome hiccough and sickness which followed food given by the mouth. Gradually he became quite apathetic, taking no interest in his surroundings until he reached a stage in which he was quite irresponsible for his words and actions, so that he had to be placed under some restraint and carefully nursed away from his home; I hear he is now progressing satisfactorily, though still very weak mentally and physically. As there was no wasting before he took to bed, and considering the large quantities of ether which were inhaled—no other drug or alcohol being taken—it is reasonable to assume that his present condition is due entirely to the large and continual doses of ether.

During the time he was under my care I never saw any signs of paralysis, nor had he any shooting pains in the legs or other signs of neuritis elsewhere. The patellar reflex was just obtainable, but, as he resented interference, I could not make any detailed examination.

Althorpe, via Doncaster. J. F. ROBERTSON.

[1] BRITISH MEDICAL JOURNAL, August 28th.

THE late Mr. Alexander Fleming bequeathed £10,000 to the Western Infirmary, Glasgow.

THE United Services Medical Society opened its winter session on October 15th at the Royal Army Medical College, Millbank, S.W. In the course of a short address, the President, Surgeon-General A. M. Branfoot, C.I.E., suggested that special attention should be paid to neurasthenia as a disease responsible for a great deal of inefficiency in the Services.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, October 25th, 1909.

Samuel West, M.D., F.R.C.P., President, in the Chair.

Legislation in Regard to Anæsthetics.

Dr. Frederic W. Hewitt, in a paper on the need for legislation in regard to anæsthetics and the line it should follow, said that many accidents during anæsthesia recorded of late were undoubtedly attributable to the faulty and inadequate provisions for anæsthetization which often prevailed, and to restore public confidence and remove the present check to surgical progress certain reforms were urgently needed. The present state of the law as regards anæsthetics was unsatisfactory. Any person whatsoever might administer a general or inject a local anæsthetic for a surgical operation. The question was part of the greater question of the suppression of unqualified practice in general, and the legislation proposed would form a fitting instalment towards a more comprehensive measure. The chief difficulty lay in deciding where the line should be drawn—in other words, in defining who should and who should not administer anæsthetics. It was contended that no general anæsthetic should be administered except by a registered medical practitioner. It was also contended that that would in no way interfere with the interests of registered dentists. The new system would tend rather to raise their professional status and to free them from the present unsatisfactory and dangerous practice of single-handed anæsthetizing and operating. It would, moreover, strike a decisive blow at quack dental practice and so greatly benefit the dental profession. Inquiries instituted by him in forty-eight provincial towns with an aggregate population of 2,138,130 showed a ratio of only one registered dentist (excluding qualified assistants) to every 4,435 persons. The great majority of provincial dentists had neither partners nor registered assistants, so that unless they called in medical men to administer their anæsthetics they must either themselves administer them and then operate, or obtain the assistance of persons who were quite unfit to take upon themselves such responsibilities. The alternative to these undesirable practices was the administration of general anæsthetics by medical men. To bring that about was the object of the bill now before the Departmental Committee at the Home Office, which made the administration of either general or local (injected) anæsthetics by other than registered medical men or persons under their immediate supervision, or by a registered dentist in the course of dental surgery, or by a bona fide student acting under his supervision, a punishable offence. Reforms such as those he indicated naturally required time for their consideration, but he looked forward with confidence to the day when all members of the profession would see the necessity of some such scheme. Some extraordinary remarks on the subject had been recently made by Sir Victor Horsley before an audience largely composed of dentists and their friends. Under the erroneous impression that he was doing a service to the dental profession, he suggested that dental students should be instructed, at general hospitals, in the administration of ether and chloroform, and that chloroform, if administered by certain methods, was a safe anæsthetic. The speaker entered an emphatic protest against this mischievous doctrine, and could not believe that the medical boards of the general hospitals would sanction the instruction of dental students in chloroform administration for dental operations, particularly when the conditions of dental practice mentioned by him were borne in mind. Although he might appear to depreciate the work now being done by the dental profession, he had no such intention. He simply condemned certain antiquated and dangerous systems under which dentists were compelled to do their work—systems that shortsighted persons, under the impression that they were furthering the interests of existing dentists, would like to see perpetuated. After the evidence he had put before them, it was, he submitted, clear that the advocates of dentists administering general anæsthetics must, in present circumstances, also be the advocates of single-handed anæsthetizing and operating; if in the twentieth century they were to encourage dentists to administer chloroform and then operate, he failed to see that their profession was doing its duty to the public in attempting to reduce the present mortality from anæsthesia.

Mr. L. Matheson said that the practice of one and the same man giving an anæsthetic and performing a dental operation would gradually disappear, as there was a strong movement against it on the part of dentists. He advocated the better training of both medical men and dentists in giving anæsthetics, the more careful record of fatalities when they occurred; and, lastly, the avoidance of piecemeal legislation.

Dr. A. L. Flemming pointed out there was nothing in the training of a dentist to ensure his being qualified to deal with emergencies that might arise in the course of anæsthesia.

Dr. Dudley W. Buxton said that the main aim was to secure that the man who gave an anæsthetic was one who knew his job, and was capable of giving anæsthetics in a satisfactory manner. The man competent to give an anæsthetic in dental operations and to act with decision when the hypothetical accident occurred was the duly qualified man, and such a qualified man was the licentiate of dental surgery.

Mr. J. G. Turner thought the dangers incidental to the giving of anæsthetics were not such as they could expect the licentiate of dental surgery to cope with. In two years' hospital work it was impossible to imagine a man learning enough clinical medicine to deal with such cases. He was certain that the dangers were too great to allow the unrestricted administration of gas by the licentiate in dental surgery.

Mr. Mayo Robson urged that medical men should be taught the giving of anæsthetics in a better manner than had hitherto been done. If the bill supported by Dr. Hewitt were passed great difficulties must arise. Dentists had for many years given gas, and the number amounted to millions of cases. They gave it extremely well and with few fatalities.

Dr. J. Vincent Bell observed that in Rochester it was the custom for dentists to ask their patients who their doctor was, so that in case of a dental operation being required the medical man was asked to be present.

Mr. H. Bellamy Gardner urged that in this matter public confidence should be maintained by means of individual effort and also by collective work to avoid discredit being brought upon medicine and dentistry.

Dr. Silk said that an important point to remember was the limiting as far as possible of unqualified practice. He did not believe that the legislation proposed in a partial narrow-minded direction would have any effect in securing general protection against unqualified practice. If the dental and the medical professions were to approach unqualified practice with a well-prepared measure, he thought it would be difficult for any legislature to refuse the request.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, October 21st, 1909.

Dr. G. A. Berry, President, in the Chair.

Presidential Address.

Dr. Berry, in his presidential address, said that it was not only educating but inspiring to realize the steps which had led to great advances, and to get some idea of the manner of thinking and the intellectual environment of their authors. Many advances were something more than rediscoveries; they were new discoveries—logical deductions from carefully collected observations and experiments, not merely irresponsible speculations. The practical man was an empiric, but now the science of medicine had not only overtaken but greatly outstripped the art; indeed, there were many reasons why treatment should lag behind. Practical therapeutics was one of the most imperfect of the arts. Surgery was perhaps the least subject to individuality, and it was in surgery that the greatest advances in treatment had been made of recent years. But the advances resulting from antiseptic surgery had led to over-confidence in, and too frequent resort to,

operative interference, and that was no doubt favoured by the public. It was merely, however, a swing of the pendulum, and would right itself in time. In medical treatment the influence of suggestion also counted for something, and the practitioner often received most gratitude and congratulation from those for whom he was conscious of having done least. Beyond increased safety in operations, the advances in ophthalmic surgery had never been commensurate with those in general surgery. Speaking of cataract, he said that in the Middle Ages the monks paid scrupulous attention to cleanliness of instruments, and they had an anaesthetic, with which patients were treated, sometimes to the extent of losing consciousness, when painful operations were performed. Since 1866 no radical change had been made in the methods of cataract extraction which found general acceptance. Something better in the treatment of cataract was at least conceivable; there might be cure without operation, or prevention altogether might be possible. Useful as was iridectomy in the treatment of glaucoma, further advances in that direction might be made in the future. He did not think irido-dialysis would ever be revived. Nearly all the surgical interferences now in use for trachoma had their prototypes in ancient times. The treatment which gave the best results in the more severe chronic cases was now often employed in cases where it came to be an unnecessary mutilation. The tendency for people to go to the optician for optical defect was a matter for regret, because the optician could not detect and treat the pathological condition which often underlay the visual defect. The President then entered into a historical survey of treatment of eye conditions, paying special attention to the Hippocratic school. Polypharmacy was largely practised by the ancients, because they did not know the values or chemical reactions of drugs. He believed the use of mydriatics had been overdone. The advantages of inducing hyperaemia had long been known empirically, but Bier had now put the matter on a scientific basis. The efficacy of ionization was very real, and though the practice was yet in its infancy, there were many possible developments in the future: and the same was true of x rays and radium. In trachoma it was doubtful how far those remedies would take the place of surgery. In conclusion, the speaker declared himself a firm believer in a great future for medicine, both preventive and remedial, in which treatment by serums and antibodies which counteracted and stimulated the activities of the organism, would play a great part.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, October 20th, 1909.

DR. ADAM FULTON, President, in the Chair.

DR. JOHN CAMPBELL, of Belfast, in an inaugural address on *Sepsis in midwifery practice*, said that since every year more than 2,000 women died in England and Wales from puerperal sepsis, and thus accounted for three-fourths of the total mortality from puerperal conditions, the subject must incontestably appeal to every general practitioner. The mortality from sepsis in lying-in hospitals was now as low as 0·1 per cent., or even 0·048 per cent. (Rotunda Hospital, 1908), which contrasted with a general mortality for the whole country of at least 0·22 per cent. to 0·23 per cent., if not higher. Probably the true mortality was more nearly that of Manchester, which worked out at 0·56 per cent., or in its worst district as high as 1·4 per cent. The more stringent test of morbidity rather than mortality was now applied to lying-in hospitals, and the same system had been adopted successfully in their own work by some private practitioners. In 77 per cent. of a series of 465 cases reported at the Belfast Annual Meeting of the British Medical Association by Dr. John Austin the temperature never exceeded 99° F. Bacteriological investigations had shown that in a normal puerperal woman before labour the genital tract might be divided into a septic zone below and external to the position of the hymen, an aseptic but not sterile zone corresponding to the vagina, and a sterile region within the uterus itself. Digital examination and the changes of labour itself might, and frequently did, completely alter these distinctions. The author also dealt with unsuspected sources of infection about nurses, such as gumboil or varicose ulcers, and laid much stress on the value of a sharp large loop flushing curette with long handle, to be used in every case where the hand had been introduced within the uterine cavity, or where there was any possibility of placental débris remaining behind.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Thursday, October 14th, 1909.

DR. R. S. PEART in the Chair.

THE following were among the cases demonstrated: DR. THOMAS BEATTIE: (1) A man, aged 54, with *Paralysis agitans*, whose case had been under observation for five years, and in whom there was the typical general posture with retropulsion, exalted knee-jerks, tremors of neck and facial muscles and of legs, but none of the usual rotatory movements of the forearms and fingers. (2) Two cases of *Specific aortitis* with fusiform dilatation of the aorta, aortic regurgitation, and anginal attacks. As alternative explanations of the latter several suggestions were put forward by him: (*a*) That they were due to the dilatation of the aorta, similar to the pain of aneurysm, and reflex through the sympathetic: (*b*) they were due to the lack of proper distension of the coronary arteries, and consequent ischaemia of the heart muscle resulting from the aortic regurgitation, and imperfect filling of the sinuses of Valsalva; (*c*) they were due to actual narrowing of the coronary arteries from specific endocarditis similar to the specific condition of the aorta. MR. A. M. MARTIN: (1) Case of *Femoral aneurysm* in a male aged about 40, cured by extraperitoneal ligature of the external iliac artery with chromicized catgut. The cause was unknown, and it produced typical symptoms and signs, also pain radiating from the hip to the knee-joint. The sac was still present, but pulsation was absent. (2) A case of "*Joint mouse*," the foreign body being a detached piece from the internal femoral condyle. The patient, a male aged 25, came complaining of symptoms typical of a loose semilunar cartilage. Five months before the operation the toe of his right foot caught against a steel plate in a shipyard. He fell down with his leg doubled up under him, the knee was locked for some time, and complete extension was never afterwards possible. At operation a large piece of bone measuring $1\frac{3}{4} \times 1 \times \frac{1}{2}$ in. was found; it was coated with cartilage on its convex aspect, and this exfoliated shell comprised the greater part of the lower aspect of the internal condyle of the femur. The author had once before seen a similar case. MR. H. BRUNTON ANGUS: (1) A male, aged about 45, in whom he had reduced a sciatic dislocation of the hip-joint. About three months afterwards the patient returned with a huge mass of new bone growing from the antero-lateral aspect of the upper end of the right femur. This painless tumour extended upwards into the right iliac fossa, and did not implicate the hip-joint. The overlying tissues were very oedematous, and the superficial veins dilated so that the condition simulated a bone sarcoma. He presented unmistakable signs of *Tabes dorsalis*, and the view was therefore taken that the new formation of bone was a parasyphilitic manifestation. (2) A male, aged 35, in whom fifteen months previously the exhibitor had reduced a dislocation of the shoulder. Recently he was sent to him a second time with a diagnosis of sarcoma of the upper end of the humerus, based on great swelling and oedema in that region, together with dilatation of the superficial veins and a marked degree of thickening of the upper end of the humerus. No other joints were implicated, but there was no doubt that it was a *Monarticular osteo-arthritis*, and time had confirmed this view. The patient was now developing symptoms and signs of general paralysis of the insane. DR. HORSLEY DRUMMOND: A middle-aged man with two separate *Saccular aneurysms* of the thoracic aorta, whose only symptom was pain referred along the left eleventh dorsal segment. There were no physical signs. The diagnosis entirely depended upon the x-ray evidence. MR. S. S. WHILLIS: A child operated on three weeks previously for a *Mastoid abscess* with lateral sinus thrombosis by a modification of Ballance's method, a rectangular flap of the whole posterior wall of the cartilaginous meatus being detached and turned

inwards. Dr. A. Parkin: Case of *Raynaud's disease* in a young adult female. There was a patch of gangrene on the heel, and both feet and legs were cyanosed. The radial pulse had a very small volume, and Dr. Parkin remarked that he considered this feature more than accidental. Dr. R. A. Bolam: A case of *Naevus unius lateris* in a boy, who soon after birth was noticed to have roughened areas of skin on one half of the body. There was now a definite verrucose condition of skin in patches and lines. The distribution was definitely unilateral—half of the scrotum and half of the penis, for example, being involved. Other areas extensively affected were the posterior scapular and the elbow.

Reviews.

THE LIFE OF SIR WILLIAM BROADBENT.

The life-history of one who has climbed to the top of the professional tree by sheer force of character and determination to succeed, cannot fail to afford encouragement to those who are struggling upward, or to interest all who can appreciate well-deserved success.

Like many others who have reached the highest professional level of their day, Sir William Broadbent started on his medical career without the aid of wealth or influence, and his early struggles against lack of means and against a certain amount of professional antagonism are well described in the *Life of Sir William Broadbent*,[1] recently published by his daughter, Miss M. E. Broadbent.

Originally intended for private circulation only, the history is told to a great extent by the letters of Sir William to various members of his family and to intimate friends, supplemented by explanatory and connecting notes. From these it appears that after five years' apprenticeship in Manchester he became qualified in 1857, and, failing to obtain any resident hospital appointment, he proceeded to Paris, and there studied under the distinguished teachers of that day, being particularly attracted by the clinical methods of Trousseau. The knowledge of the language and the sympathy with the French character which he thus acquired stood him in good stead throughout his career, and doubtless contributed to his enjoyment of Continental holidays in his later years.

Obtaining the medical degree of the London University with high honours in 1858, he began his lifelong association with St. Mary's Hospital, London, as obstetric officer, a post then involving ceaseless work and heavy responsibility. His letters describing the leading men on the staff, pictured in his provincial imagination as gods, but realized in fact as "only men," illustrate the keen insight into personal characteristics which throughout his life enabled the physician to gain the confidence of the patient on other than medical grounds.

Ten years spent in hard work, hampered by a constant battle with financial difficulties, placed him on the staff of St. Mary's and on the high road to the ultimate success to which he had throughout all his struggles firmly believed that he should attain. From 1865 onwards he published many contributions to medical science, at first on obstetric subjects, and on various neurological problems. His paper on the exemption of muscles acting in pairs, from paralysis in hemiplegia, attracted general attention and "Broadbent's hypothesis" has been an important factor in neurological study up to the present day. About this time he believed that he had discovered a means of checking the progress of cancer by injections of acetic acid, but he soon recognized its limitation, and, dreading the repute of a "cancer specialist," quietly dropped it. Whilst thus advancing toward professional eminence he was not unmindful of his less successful brethren, and he became actively associated with the work of the British Medical Benevolent Fund as its honorary secretary. In later years he held the posts of treasurer and president, and to the end of his life was a warm supporter of its claims as a "first charge" upon professional charity. His example might well be followed by the very large contingent of successful men in London and the provinces who now contribute nothing to its funds.

The Franco-German war of 1870–71 attracted many of the younger men of that day, Broadbent among them; he decided not to interrupt his London career, but a visit to the principal battlefields in 1872 is graphically described in his letters. At that time, having been qualified for fourteen years, he records the fact that his income had reached £1,000 a year, and thence onwards his professional success was assured from the financial point of view. His literary and scientific work was unceasing. He edited a new edition of *Tanner's Medicine*, which was the textbook of forty years ago, and wrote many original papers on typhoid and other fevers, and on diseases of the heart. His subsequent work in the latter domain of medicine is known to all.

Much of the memoir is devoted to the record of private life and opinion as told in correspondence with intimate friends and relatives. These letters reveal a mind keenly interested in passing events, shrewdly critical of public personages, and full of human sympathy. To all who enjoyed his friendship or acquaintance they will recall a personality of singular attraction.

From 1880 to 1907 Sir William Broadbent's position as one of the leading physicians of his day brought him into contact with the leaders, from Royalty downwards, in almost every other walk of life, and he was constantly called upon to assist in furthering the advance of philanthropic schemes. Notable amongst these was the campaign against tuberculosis, in which he was keenly interested from the first, presiding over the Organizing Committee of the National Association, and leading the far-reaching crusade to the position which it at present holds.

Fearless in defence of what he believed to be right, courteous and considerate in controversy, warmly attached to a wide circle of friends, Sir William Broadbent's character is pregnant with example, and the story of his career may be studied with advantage by all who may be striving to follow in the footsteps of a great physician, and will be read with pleasure by all who knew the man.

HOSPITAL CONSTRUCTION AND EQUIPMENT.

It usually falls to the lot of one or two members of the staff of a hospital which is to be rebuilt, reconstructed, or enlarged, to be called upon to assist in prescribing the conditions which must be fulfilled by the architect, and in watching over the manner in which the conditions stated are fulfilled. Heretofore there has not been any convenient work upon the subject, most of those in existence dealing mainly with hospital construction, and being of large bulk and corresponding price. We therefore confidently predict for the book entitled *Construction, Equipment, and Management of a General Hospital*, which has been written by Dr. D. J. Mackintosh, M.V.O., Medical Superintendent of the Western Infirmary, Glasgow,[2] a large measure of success. It will save much weary searching through the files of magazines and periodicals for details by supplying the desired information in a succinct and readable form. It is yearly becoming more evident that, with regard to our modern hospitals and similar institutions, "there are details of construction of which the need, and the conditions under which the need can be met, are known only as a result of experience in administration. Hence, the architect and the practical administrator must be associated in their labour," so that the one interprets and puts into form the requirements of the other. To supply this want so long experienced will be the effect of this book. The author is careful to disclaim any suggestion of finality in design or equipment, but he offers the result of his experiences as one of the milestones on the road of progress.

The first notable feature about the volume is the thoroughness and care for detail exhibited in dealing with the various departments. There are only twelve chapters, but the method of condensing and tabulating all the necessary information, fitting it with precision into its own place, is eminently characteristic of the author. He states in no uncertain manner what he thinks desirable in construction and equipment, always with good reason

[1] *Life of Sir William Broadbent, Bart., K.C.V.O.* By M. E. Broadbent. London: J. Murray. 1909. (Demy 8vo, pp. 318. 10s. 6d.)

[2] *Construction, Equipment, and Management of a General Hospital.* By D. J. Mackintosh, M.B., M.V.O., Medical Superintendent, Western Infirmary, Glasgow. Edinburgh and Glasgow: Wm. Hodge and Co. 1909. (Roy. 8vo, pp. 165; 17 inset sheets of plans; 61 illustrations. 10s. 6d.)

for the faith that is in him, even to the minutiæ of the advantage of glazed tiles for walls, the superiority of one class of wood for floors, and how there can be a great saving of taps in the arrangement of steam pans. No detail escapes notice, even to the kind of screws for pipes. The book is throughout most practical. There are over sixty excellent plates, all from photographs, of the most up-to-date fittings, furnishings, and equipment, while at the end of the book are seventeen plans illustrative of all the departments of a modern hospital. There are copies of the various forms and reports used in all departments, and the appendices give inventories of outfits, with the probable cost, for operating theatres and wards, and of the linen, crockery, cutlery, and furniture required. This must prove of great practical value to both architects and administrators.

The chapters deal in turn with the gatehouse or admission block and the importance of thorough supervision there in every detail; the medical and surgical ward units and units for special wards, such as the septic, aural, ophthalmic, gynæcological, skin, and burn wards; the nursing and domestic staff and nurses' home; the medical officers of units; the out-patient department, kitchen, laundry, and adjuncts. There is a special chapter on heating arrangements, with a description and illustration of the Reck Patent Circulator system, which the author considers the best type of heating apparatus for hospitals.

One point the author incidentally refers to, regarding which he is not in agreement with many hospital managers in the South—namely, the question of a medical superintendent. Dr. Mackintosh takes the principle of a medical administrator having full control as a *sine qua non* throughout the volume. The book itself affords abundant testimony that a medical training and a capacity for organization and management can be combined in one individual: and the same question has been thoroughly discussed by Sir Henry Burdett in the 1905 volume of *Hospitals and Charities*—to whom, by the way, the volume under review has been dedicated in token of the excellence of his work on behalf of hospitals. The volume, which is printed on paper adapted to bring out the details in the illustrations, will be a standard work on the subject, and should be in the hands of every hospital architect, manager, administrator, and member of staff. As a work of reference for the detail of hospital construction and work it is quite unique.

A FRENCH LIBRARY OF EXPERIMENTAL PSYCHOLOGY.

UNDER the editorship of Dr. RAYMOND MEUNIER a series of monographs[a] dealing with psychology and psychological medicine has been begun. The collection of volumes already issued or planned, falls into three groups. One will be historical, that is, will deal with special branches of study which have existed for a long time but which are genetically related to and have still certain ties with contemporaneous psychological medicine. The second group will deal with psychological problems of a general order discussed in the light of modern scientific methodology; whilst in the third special problems in normal, pathological, and ethnological psychology will be treated. Of this long series several volumes have been published. The first, on telepathic hallucination (*Les hallucinations télépathiques*), by Dr. N. Vaschide, and the second, on spiritism in relation to insanity (*Le spiritisme dans ses rapports avec la folie*), by Marcel Viollet, have not been received by us, and the third, on morbid audition (*L'Audition morbide*) by Dr. A. Marie, physician-in chief to the Villejuif Asylum at Paris, may be dismissed in a few words. The book is composed of two chapters, the first dealing with insufficient audition or hypoacousie, and the second with its apparent opposite, hyperacousie. The first chapter is confined in the main to audition in the mentally defective, and the second to the curious phenomenon of "coloured hearing." Both chapters are principally composed of excerpts from and analyses of the writings of others, more or less ably strung together. At the end there is an imposing bibliography which may be of use to some.

In the fourth volume, *Les préjugés sur la folie*, Princess Lubomirska, a former pupil of Dr. Marie, endeavours in five chapters to dispel the prejudices and misconceptions which still cloud the public view of insanity and insane people. One of the public herself, Princess Lubomirska writes in light and popular fashion. The five chapters deal with the supposed supernatural origin of madness; the exterior aspect of the insane; the contagiousness of insanity; its incurability; and the dangerousness of insane people. The authoress appears to have been well instructed. She has written an agreeable essay for popular consumption, and has visited at least one asylum. This, instead of the inferno which she expected, she found to be a palace set in beautiful gardens, in which, from her account, wandered the most refined, gentle, and courteous of people. But, if we may quote from one of her own frequent exclamations, "Et la réalité! Ah! la réalité!"

Passing by the next two volumes, *La pathologie de l'attention* and *Les synesthésies*, by Drs. Vaschide and Meunier and Dr. Laures respectively—the first of which is obviously of the written-to-order kind, and the second mainly a disquisition on coloured hearing—we come to volume seven, *Le hachisch*, by Dr. Meunier. This is a really excellent monograph replete with information. The author opens with an exceedingly interesting historical account of the different methods of hashish intoxication, and closes with a valuable and extensive bibliography. In the six intervening chapters he gives good accounts of hashish intoxication; of the results of modern experimental investigation into its composition and physiological effects; of hashish insanity so far as has been described, and of the drug's therapeutic properties. The preparations of cannabis indica—the term "hashish" being derived simply from an Arabic word meaning dry herb—are numerous, and under many differing names in different Eastern countries, some part of the plant is smoked in pipes, burnt as a pastille, chewed as an electuary, or imbibed as an intoxicating liquor. Over sixty years ago Moreau of Tours wrote his work, for long the most complete on this subject, on *Haschisch et de l'aliénation mentale*. In this curious but profoundly suggestive book Moreau showed that the primordial effect of hashish intoxication was "excitation with dissociation of the ideas through enfeeblement of the attention." This primordial effect, he maintained, was also to be found in all physiological conditions—toxic or autotoxic—favouring the development of hallucinations. Further, the most complete expression of this condition was to be found in dream states, where the subject pursues a detached interior life in which imagination, freed from superior control, reigns supreme, and *la folle du logis* becomes the mistress. For Moreau, therefore, insanity was only a pathological form of dreaming, improperly encroaching upon the waking life. The present interest of this view is that it was through an exposition of the facts of hashish intoxication, by which an ephemeral insanity could be artificially induced and objectively studied, that Moreau endeavoured to establish his thesis. In the present work Dr. Meunier pays tribute to the value of Moreau's work, but closely criticizes his theory of the identity of dream states and insanity, finding it inadequate and misleading. This discussion, and the succeeding account of the therapeutic possibilities of cannabis indica, we may commend to the reader, only extracting here one interesting matter relating to the effect of hashish upon the mentally disordered. Dr. Meunier has found that in hysterics hashish intoxication gives rise to a crisis of excitement, and in certain cases to a period of acute delirium, the emotional colour of the delirium being determined by, or rather an accentuation of, the latent or subconscious affective tone of the subject. He therefore suggests that in the examination of an insane person hashish is likely to prove a valuable auxiliary by revealing the subconscious emotivity of the subject. As a hypnotic Dr. Marie and Dr. Meunier have found cannabis indica to be unsatisfactory. On the other hand, like Dubois of Berne, they have found that it greatly

[a] *Bibliothèque de psychologie expérimentale et de métapsychie.* Directeur: R. Meunier. Paris: Bloud et Cie. 1908-9. (Cr. 8vo. Fr. 5 each.
No. 3. *L'Audition morbide.* By Dr. A. Marie. (Pp. 152.)
No. 4. *Les préjugés sur la folie.* By Princess Lubomirska. (P. 106.)
No. 5. *La pathologie de l'attention.* By Drs. N. Vaschide and R. Meunier. (P. 118.)
No. 6. *Les synesthésies.* By Dr. Henry Laures. (Pp. 100.)
Nos. 7 and 8. *Le hachisch.* By Dr. Raymond Meunier. (Pp. 219; pl. 3.)
No. 9. *L'Evolution psychique de l'enfant.* By Dr. H. Bouquet. (Pp. 165.)
No. 10. *Travail et folie.* By Drs. A. Marie and R. Martial. (Pp. 110.)

heightens suggestibility, so that they have been able with its aid to treat patients by suggestion who were absolutely rebellious to both hypnosis and suggestion in a waking state.

The ninth volume of the series deals with the mental evolution of the infant, and the author, Dr. H. Bouquet expressly confines his exposition to the first three or four years of child life. The study of the child, Dr. Bouquet says, falls into two great divisions: one exogenous—that introduced into the mind of the child by education and instruction, and the other endogenous—personal to the child himself. The author in this treatise considers only the latter. He describes the reflex and instinctive reactions of the child immediately after birth; the development of the five principal senses: the first essays at walking and talking: and, under the head of infantile psychology, habit, memory, pleasure and pain, fear, imitation, imagination, infantile fetishism, and moral evolution. Few subjects could be more instructive or exert a greater fascination. It is evident, however, that the difficulty is in direct proportion to the interest. During the greater part of these years, from the moment when the child emerges from his mother's womb, blind, deaf, and pathetically feeble, the most impotent new-born thing on earth, to the time when he develops speech, power, and purpose, and thus ceases to be an infant, the study of his evolution must be objective, with no possibility of that introspection on which adult psychology was originally based. Hence, to be of any value, a book on this subject should be founded on careful systematic observations, accurately tabulated, and compared with the work of others; and, further, constant caution should be exercised in drawing psychological inferences from objective facts. On all of these counts Dr. Bouquet's book fails. Since Darwin, who was apparently the first to make a scientific study of child-life, wrote on this matter a considerable literature has accumulated, and this the author appears to have skimmed; but of observed facts few appear in the book, and these are but vaguely expressed, though deductions from them are stated with considerable boldness. Otherwise the book, even though it contains nothing new, is interesting enough and is pleasantly written.

The *Travail et folie* of Drs. A. Marie and R. Martial is the tenth volume of this series. The authors try to determine, first, what part an insane person's occupation has played in the *ensemble* of etiological factors; and, secondly, the relative insanity rates of the separate trades or professions represented in the Villejuif Asylum as compared with the numerical strengths of these trades or professions in the general population. For these purposes they have used the registers of the Villejuif Asylum since 1884 in respect of the male patients, altogether 9,503 in number. These they have compared with the official returns for Paris in the census of 1891. Obviously, therefore, the authors' deductions from these statistics have no value as showing the actual insanity rates of the separate groups of workers. On the other hand, their analysis is valuable as indicating the relative incidence of insanity in the separate groups as compared with each other. The results obtained are compressed into the last thirty pages of the book, the bulk of the work being taken up with a historical critique, sociological considerations, and a general survey of the causes of insanity so far as these are favoured by particular employments. For want of complete information in the official returns, and because of the inherent difficulties concerned with the classification according to their work of the patients themselves, the authors do not claim for their work any general value, but only set it forth as a tentative effort and as the only comparative study dealing from this point of view with large numbers of patients in France. In their statistical tables they classify the patients into fourteen groups: Workers on the land; quarrymen; workers in stone, lime, and sand; metal workers; workers in wood; workers in cloth; workers with animals (butchers, tanners, etc.); with vegetables and grain; with chemical products; lead-workers of all kinds; workers concerned with transport (sailors, coachmen, post-office and railway employees, etc.); caterers of various kinds; those in sedentary and commercial employments; and, lastly, the members of the liberal professions. In the tables the proportions of these classes to the same classes in the general population of the Seine Department are given, both as regards the total incidence of insanity and also according to whether the mental condition was one of congenital defect; hereditarily predisposed mental disease: mental enfeeblement (dementia): a functional psychosis; tabo-paralysis, or of alcoholic origin. The results are too numerous to quote here, but to those interested this little book will prove of considerable documentary value.

ANATOMY.

The eighth edition of Gegenbaur's textbook of human anatomy[1] is the first edition which has appeared since his death in 1903. It is edited by Professor M. Fürbringer, who is now Professor of Anatomy in Heidelberg, and it is entirely of the character Gegenbaur himself would have admired, for it displays broad and precise knowledge expressed in lucid and impressive words. In conformity with its title the book deals with the anatomy of man. Yet the editor has not limited himself within the boundaries of anthropotomy, but has boldly overstepped them whenever it has been necessary for the explanation of conditions and phenomena met with in the human subject, and he frequently presses into his service general zoological and embryological knowledge. The book is to be enlarged considerably beyond its previous dimensions, and is to appear in three parts, of which the first, that now under consideration, is the full size of an ordinary textbook, nevertheless it is practically only an introduction to anatomy. Its contents include a history of the subject, a general glance at the anatomy and physiology of cells, general development, an outline sketch of the tissues, ending with a consideration of the body as a whole and the relative proportions of its organs and systems. It contains an excellent summary of present-day knowledge regarding the subjects touched upon; it is well printed; sufficiently, though not elaborately, illustrated; but, like so many Continental textbooks, it is not well bound.

Professor Bourne's *Introduction to the Study of the Comparative Anatomy of Animals*[2] is intended to meet the requirements of the elementary examinations at the leading universities of Great Britain. Nine years have passed since the volume first appeared, and the great advances made in the interval have necessitated the production of a second, revised and partly rewritten, edition. The excellent plan adopted in the first edition is retained, the student being introduced to the general plan of animal organization as it is displayed in the frog in such a way that he must gain, in a simple but complete manner, a very definite knowledge of the organization and structure of the vertebrate animal. Afterwards the ordinary phenomena of cell division, the maturation of the germ cells, and fertilization, as they are understood to-day, are clearly and concisely explained. The remainder of the book deals with the anatomy and life-history of protozoa and coelenterata, and it includes a valuable chapter on malaria and the life-history of the malarial parasite. The volume should be in the hands of every student of medicine, for both in plan and execution it is admirable, and it is equally interesting and instructive.

NOTES ON BOOKS.

The pathological collection in the museum of the ancient City hospital, St. Bartholomew's, is of such an extent as to be practically complete. A long series is apt to confuse the student, and Dr. Herbert Williamson and Dr. R. Jamison have therefore done well to prepare a *Guide*.[3] They followed the good example of Mr. Walsham, who compiled a pathological manual for the use of students in the same museum, excluding, however, gynaecological specimens. The authors understand the uses and limitations of the museum as an agent in instruction. The shelves should not be consecrated mainly to "rare and interesting" specimens, only of value to the student when, after

[1] *Gegenbaur's Lehrbuch der Anatomie des Menschen.* Achte Auflage Von M. Fürbringer. Erste Band. Leipzig: Wilhelm Engelmann. 1909. (Sup. roy. 8vo, pp. 710, figs. 276. Mk 18.)

[2] *An Introduction to the Study of the Comparative Anatomy of Animals.* By G. C. Bourne, M.A., D.Sc., etc. Vol. i. Second edition. London: George Bell and Sons. 1909. (Cr. 8vo, pp. 315, 99 figs. 5s.)

[3] *A Guide to the Study of the Specimens in the Sections of Obstetrics and Gynaecology in the Museum of St. Bartholomew's Hospital.* By Herbert Williamson, M.A., M.B., M.R.C.P., Assistant Physician Accoucheur, and Reginald Jamison, M.A., M.B., F.R.C.S., Junior Demonstrator of Pathology. London: Adlard and Son. 1909. (Cr. 8vo, pp. 298. 5s.)

qualification and experience, he is competent to judge their significance; nor should they be crowded with duplicate and triplicate samples of the same condition. The specimens for the benefit of students in a medical school should show as clearly as possible what they are intended to demonstrate, and the catalogue should make clear all points that the learner may fail to appreciate when with untutored eyes he inspects a preparation. The specimens should be chosen so as to illustrate the more definite types of morbid conditions to which each organ and tissue is subject. The choice, in the instance in point, has been judicious, and the *Guide* will certainly be of high service to the student. Abstract clinical histories and references to reports, where the specimens have been exhibited before societies, names of donors, and other details with which the student has no immediate concern are judiciously omitted, so that the *Guide* is as portable as it is lucid. In conclusion, the post-graduate may study it, in the museum, *bien entendu*, with great profit, for it is only by keeping in mind the true meaning of a collection as an instructive agent that he can aid in making it likewise an instrument for scientific progress by setting forth the true value of a rarity and indicating paths towards the unknown.

Dr. BOYSEN's pamphlet on the structure and pathogenesis of gall stones is a translation into German of a work he published in Danish no less than nine years ago.[1] It says a great deal for the quality of the contents that Professor Rovsing, of Copenhagen, can write a preface to this edition in practically the same terms he would have employed at the earlier date. There is, however, this difference, that whereas he would have described Naunyn's theory of the bacterial origin of gall stones as improbable, he now regards it as untenable. Boysen's researches certainly go to show that bacteria are not responsible for the actual inception of biliary calculi, and that the inflammatory changes they initiate in the gall bladder are only one, and perhaps not the most frequent, of the many causes that determine the deposition and infiltration of cholesterine. A study of the structure and "growth" of gall stones has led the author to the opinion that in the first place pigment concrements are swept into the bladder by the bile stream, and that pigmentary masses are for the most part the nuclei of cholesterine stones. That a "desquamative catarrh" may occur apart from the influence of micro-organisms is a tenable opinion, and that conditions may obtain in which the cholesterine content of the bile is abnormal, or in which cholesterine may be precipitated or "extracted" from normal solution in bile, is probably provable; moreover, it is well known that pigment stones are formed in the liver, but the present thesis cannot be regarded as more than contributory evidence in favour of Rovsing's view that bacteria play an unimportant part in gall-stone formation.

[1] *Ueber die Struktur und die Pathogenese der Gallensteine.* Von Dr. med. J. Boysen. Berlin: S. Karger. 1909. (Roy. 8vo, pp. 135. Taf. II. M.4.)

MEDICINAL AND DIETETIC ARTICLES.

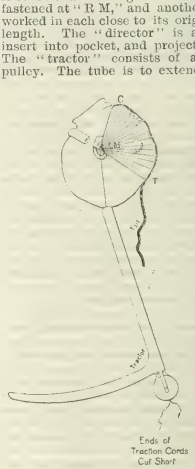
Guipsine, the Active Substance of Mistletoe.

IT has sometimes happened that substances which were in use as drugs in ancient times and have dropped out of use have proved, when subjected to investigation, to have merited part, at least, of their former reputation. This appears to be the case with mistletoe, to which great medicinal virtues were ascribed by the ancients. It gradually ceased to be employed, however, and this is now said to have been due to the dried plant having come into use instead of the fresh. Recent researches, chiefly by Leprince and Chevalier, have shown that fresh mistletoe contains a volatile alkaloid, two saponins, and emetic and cathartic resin. M. Leprince is now manufacturing a substance to which he has given the name of "guipsine," which is said to contain the alkaloid and the glucosidic saponins, without the resin or inert matter. The principal pharmacological effect of this drug is a lowering of arterial tension, and this is said to be due to a central vasomotor action, and to be without any depressing action on the heart itself. The preparation is supplied in the form of pills, each containing 5 cg. (London agent, Mr. A. Boisselier, 13 and 14, Trinity Square, London, E.C.), a sample of which has been submitted for our examination. Guipsine is recommended for use in arterio-sclerosis, and other conditions where hypertension has to be combated. The pills are small and coated, and disintegrate easily; it is a little against their use in this country that each has the word "guipsine" printed on the coating.

MEDICAL AND SURGICAL APPLIANCES.

An Obstetric Tackle.

LIEUTENANT-COLONEL HUGH L. DONOVAN, M.D., A.M.S. (R.P.), writes: I have invented a tackle for applying traction to the child's head to assist delivery. It is easily made. A "mask" is shaped out of a piece of silk on a model of a fetal head to cover the face and to lap over the lower jaw, but not compress the neck and to extend over the forehead. It is gathered in at the front of the mastoid process at each side. The accompanying illustration will serve to make the description clearer. "C" is a point on the margin of the "mask" nearest the centre of the chin, "R M" is a point on the margin at the right mastoid process, "L M" is a point on the margin at the left mastoid, "T" is opposite "C" and midway between "R M" and "L M." A "pocket" is made between "C" and "T" by sewing on a piece of tape about an inch wide closed at "C" and open at "T," and from "T" the tape is continued in a long free "tail." A "traction cord" is fastened at "R M," and another at "L M," and a hole is worked in each close to its origin, the cords are of equal length. The "director" is a long strip of celluloid to insert into pocket, and project a long distance out of it. The "tractor" consists of a metal tube, handle, and pulley. The tube is to extend from the child's head to outside the vagina, the handle and pulley are attached to the outside end of the tube. The handle is a segment of a circle whose radius is the tube. The "pulley" is a small wheel grooved round its circumference to carry the traction cords. A line down the centre of the bore of the tube if continued would pass through diameter of the pulley. Both mouths of the tube are smoothly bevelled. The "traction cords" pass through the tube and round the wheel in which they are fastened. The "loop" is composed of a long narrow rubber tube enclosing thin narrow steel bands, it is for slipping as a loop over the occiput, and in the concavity of the bend a short tube is stitched on; these stitches can be pulled out and the tubes released from each other by pulling two cords which hang out of the ends of the long tube. The long tube is perforated opposite each end of the short tube, so that when lubricant is pumped into the long tube it escapes through these holes and lubricates the traction cords, etc. The "traction cords" run through the short tube from opposite directions, then each passes through the hole in its fellow. To apply the "tackle" the "loop" carrying the short tube and "traction cords" is passed over the occiput, its ends hang out of the vagina, the "traction cords" are adjusted at each side of the head. The "director" is run into the "pocket," the "mask" is pushed in and on towards the chin, "C" leading. As the "mask" moves on a gentle pull is kept on the "traction cords," and their ends are kept exactly together. The inner end of the "tractor" is kept over the sagittal suture, but not so close as to interfere with the "director." Then "C" goes over the chin and "R M" and "L M" to their mastoid processes. When "C" has gone over the chin, on drawing back "director" a little and pulling "tail," the "mask" will be found to be held. Then remove the "director," tighten up and fasten the "traction cords," remove the "loop," and pull on the handle. Keep up a gentle traction on the "tail" to prevent the "mask" from rucking up.



Obstetric tackle applied. "Loop" and "director" having been removed.

IT is announced that the Liverpool School of Tropical Medicine is about to establish at Grand Canary a station for the treatment of sick persons from the West African Coast.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BUDAPEST, AUGUST 29TH TO SEPTEMBER 4TH.

(Concluded from page 1284.)

Section of Rhinology and Laryngology.

Cancer of the Larynx.

The chief attraction in this Section was the discussion on laryngeal cancer, which was opened by Sir Felix Semon. He said the early diagnosis was usually not difficult, but he cited a number of cases which illustrated some of the difficulties which may arise. The cases included malignant disease of the larynx, which manifested itself at first in the form of a tumefaction of the vocal cord, and remained stationary for nearly two years before the true nature of the disease could be determined; epithelioma of the left ventricle of Morgagni simulating a papilloma; epithelioma manifesting itself as an angioma; epithelioma appearing as a white, sharply-pointed elevation of the cord; chronic inflammatory disease, laryngeal tuberculosis, leucoma, papilloma, granuloma, etc., all simulating malignant disease. Chiari (Vienna) discussed the treatment of laryngeal carcinoma. Intralaryngeal removal was seldom possible, and even when successful recurrence was frequent. Thyrectomy was applicable for small growths of the cords and fold, and usually yielded 50 per cent. of cures. The results were satisfactory as regards function. Subhyoid pharyngotomy was rarely used, but had become less dangerous than formerly. Gluck's method of performing total laryngectomy was in his opinion the best. He also dealt with the results of x-ray, radium, cautery, and fulguration treatment. In conclusion he uttered a note of warning against placing too much trust on statistics in favour of any special form of treatment. Gluck (Berlin) dealt chiefly with the results of laryngectomy. Massei (Naples) dealt with some cases of syphilis of the larynx and fauces, which became undoubtedly malignant at a later stage.

Experimental Phonesis.

Zwaardemaker (Utrecht) and Boumann (Amsterdam) spoke of experimental phonesis from the medical point of view. They based their communication on the assumption that speech was a phonetic mimicry, and then proceeded to analyse speech according to the carrying power of the voice, the quality of the speaking voice, articulation phonesis, the movements of the jaw and lips, and, lastly, acoustic phonesis. These considerations led to the construction of a registering apparatus, by means of which the movements of jaw, mouth, and lips could be determined in the various disturbances of speech. The authors pleaded for a universal phonetic alphabet, and also for the universal application of objective records of voice changes. The demonstration of the apparatus was much appreciated.

Section of Otology.

This Section, as has previously been stated, served at the same time as the Eighth Congress of Otology. It is proposed to give a short account of the proceedings of this Congress in a later issue.

Section of Hygiene and Immunity.

Milk Supplies.

In the discussion on foodstuffs, Wiley (Washington) repeated much of what he said at the International Congress of Applied Chemistry in London in the summer. Balló (Budapest) pointed out the difficulties obtaining in the control of milk supplies in large towns owing to the variations in the valuable constituents of undiluted milk. The only way of preventing the adulteration of milk with water would be to have a constant control of the milk supply issuing from the dairies and milkshops—a procedure which would cost an enormous amount of money. He therefore suggested that a minimum of cream and other content of milk should be fixed on the basis of the average of a large number of examinations, and all milks showing less than this minimum should be refused as pure milk.

Ozone Purification of Water.

Fowler (Manchester) read a paper on the sanitary uses of ozone. In regard to water, he said purification was needed to rid water of organic matter in solution and suspension, of colour, smell, and taste; of organisms, and of metallic impurities. He recommended ozone treatment of water where adequate sand filters were too costly to erect or too difficult to supervise; where the amount of organic matter in the water was limited; where the pollution was mainly bacterial and of an intermittent character; and where electrical power could be obtained at a small cost.

Grassberger (Vienna), who dealt with the hygienic aspects of the water supply, distinguished between water for house use, including drinking water and water for domestic purposes, water for general purposes, and finally water for commercial purposes. The first should be guaranteed as pure as far as substances which could damage health were concerned—for example, bacteria. While water for general purposes should be free from dangerous constituents, special precautions were required with regard to water used in baths, etc. The author considered that a control by experts should be exercised not only with regard to the first, but also with regard to the second category, and that this control should be constant in large towns.

The Alcohol Question.

Laitenen (Helsingfors) considered it doubtful whether alcohol could any longer be regarded as a food. He pointed out that it could be shown by recent researches that alcohol diminished resistance, favoured degeneration, and exercised a baneful influence on the next generation. He was of opinion that the relation between the consumption of alcoholic drinks and criminality deserved to be considered by the Legislature in a most careful manner. It was, he stated, the duty of medical practitioners to give this question much more consideration than they had given it in the past, and to convince themselves by minute study of the question whether alcohol (alcoholic drinks) was not a serious poison for the organism, and whether it was not the most frequent cause of degeneration of the human race. If they agreed that this was so, they must realize that it must either be banned from medical practice and from hospitals altogether, or at all events used with the same care as other poisonous substances were used.

Malaria in Austria.

Celebrini (Triest) spoke of the measures adopted on the Austrian coast to stamp out malaria. The wholesale destruction of *Anopheles* proved difficult and expensive, as did the protection against these mosquitos. The only method remaining was, therefore, to protect the population against the pathological effects of the plasmodium. This was carried out by means of the prophylactic administration of quinine. Adults received 0·4 gram of quinine daily for five months, which effectually prevented an infection or an attack of malaria in an already infected person. But the cure was only apparent, and it was found necessary to repeat the course after a time in those who had already had ague. For children, he found that the tannate of quinine or aristochin made up in chocolate bonbons were suitable. During a period of six years 21,270 persons had been systematically treated in this way, and the result had been most satisfactory. In many districts the disease had been completely exterminated.

Section of Medical Jurisprudence.

There was little of general interest in the proceedings of this Section. Mention should be made of a paper by Goadby on the pathology of lead poisoning. The chief points elicited have already been dealt with in the British Medical Journal, in the report of the proceedings of the International Congress of Applied Chemistry, 1909.

Section of Military and Naval Sanitary Services.

Recognition of the Wounded in the Field.

Macpherson (London) pleaded for uniformity of the colours of the tallies which indicated the extent of the wound of a soldier left on the field. The fact that the same colour was used by one country to indicate a slight wound as was used by another to indicate a severe one

presented obvious dangers. At present only Portugal and the United States of America employed exactly similar tallies. He wished that the official delegates would come to some agreement regarding the adoption of a uniform diagnosis tally.

Thöle (Hanover) reported on the frequency of abdominal wounds in the Prussian army, and their treatment during the past ten years. He considered that it would be necessary to perform laparotomy before definite signs of damage to the intestines had been made out, if the mortality was to be reduced. When the shock following a wound did not cease within three hours, and if local pain, vomiting, and contraction of the abdominal muscles persisted for this period, he advised an exploratory operation.

Waldmann (Munich) spoke of food poisoning in the army, and pointed out that, although the occurrence of mass poisoning was less frequent in the army than among the civil population, the frequency was such as called urgently for a better control of all foodstuffs. He discussed the causes of the poisoning and the nature of the occurrences in some detail.

Section of Maritime and Tropical Medicine.

Dysentery.

Galli-Valerio (Lausanne) read a paper on the etiology of bacillary dysentery. He expressed the opinion that bacterial dysentery was by no means limited to infection by Shiga's bacillus, but often depended on varieties of that bacterium and also of the colon bacillus. He objected to the term "para- and pseudo-dysentery" for forms caused by organisms other than the Shiga bacillus, as these other forms were quite as serious as the true dysentery, and the terms would imply that the same prophylactic measures need not be employed. He considered it essential that dysentery should be added to the list of notifiable diseases in every country, including European countries. He added some accounts of the prophylactic measures and of the importance of good hygienic conditions in the extermination of the disease. Laveran supported the suggestion that dysentery should be included among notifiable diseases, and a resolution to that effect was passed by the Section.

A. Ruffer and Willmore (Alexandria) dealt with the epidemics which occurred annually during the Mussulman pilgrimages. After describing the extent of these dysentery epidemics, they stated that their nature was mixed, inasmuch as they were both amœbic and bacillary. In regard to the bacteriology of the latter, they were of opinion that the majority of the cases were caused by micro-organisms other than the Shiga bacillus. They dealt with the infections due to the Flexner type of bacillus and to the so-called pseudo-dysentery bacillus of Kruse (two forms), and with the Tor bacillus. They considered that the serum treatment in the pure Shiga cases had yielded excellent results, but the results were uniformly negative in the Tor and pseudo cases.

Yellow Fever in Cuba.

Agramonte (Havana) discussed the prophylactic measures adopted in the island of Cuba with respect to yellow fever. He related how yellow fever had practically disappeared in 1901, and said that the establishment of the Republic in 1902 and the increase of immigration had made way for an importation of an epidemic from New Orleans in 1905. The means adopted to check this disease included the isolation of the patients stricken with the disease, the exclusion of the mosquito, the special sanitary control over the entire population, the removal of breeding places of the *Stegomyia*, the pouring of petroleum into pools, the provision of metal gauze to protect water tanks and barrels, the employment of live fish to destroy the larvae of the mosquitos, and fumigation to kill off developed mosquitos. The result had been entirely satisfactory, and yellow fever had been stamped out.

Treatment of Trypanosomiasis.

Kopke (Lisbon) read a communication on the treatment of human trypanosomiasis. He had continued his studies of the effect of atoxyl on the disease, and had found that in cases where the trypanosomes had not yet entered into the subarachnoid space, the drug was capable of curing. In those cases in which the cerebro-spinal fluid had become infected, death supervened, in spite of treatment, in a period varying up to one year. He regarded this distinction of the class of case of importance for therapeutic purposes.

Congress Literature.

The Hungarian Minister of Education presented to each member of the Congress a well got-up volume containing over 300 pages of letterpress and a very large number of excellent illustrations descriptive of the Faculty of Medicine in the Royal Universities of Budapest and Kolozsvár, and the buildings connected with these universities. The book is written in French, and the task of compiling the work was placed in the capable hands of Professor Dr. Emile von Gross. The Ministry of the Interior presented the members with two small volumes dealing with matters of the public assistance, including hospital life, in Hungary, and public hygiene respectively. The former was compiled by Dr. von Kerekes, the latter by Dr. von Fáy. Both little volumes are full of interesting matter. The City of Budapest gave the members a beautifully got-up book of Budapest views; while the Congress Committee presented a small medical guide to Budapest, excellently edited and compiled by Dr. T. von György. In dealing with matters of a socio-hygienic nature, the author or authors showed great good judgement, and scarcely painted the conditions better than they are. This book was issued in French, German, and also in English.

The daily journals, which were edited by Professor von Tordéy, were voluminous documents, with one or more supplements. The letterpress was produced in Hungarian, German, French, and English. The journals gave sufficient information to enable members to participate in everything which might interest them.

Congress Badge.

Each member was presented with a badge surmounted with a ribbon, the colour of which served to distinguish ordinary members from Government and official delegates and members of the various committees. The badge itself was a bronze heavy medal bearing the figure of Æsculapius on the front face, and a view of Budapest on the reverse.

Congress Album.

A highly amusing set of circulars was addressed to each member, inviting him or her to send a photograph and biography to be reproduced in the "Congress Album." This circular was signed by the "Redaktion to the Album of the XVI International Medical Congress." Some notion of the English of these circulars may be gathered from the following extracts:

> We take the liberty to apply again, considering that the luxurious Album of the XVI International Medical Congress which we are publishing with the high autorization of the Executiv Committee is near to be ended.
>
> As until now we are not yet in possession of your photography and biography, we take the liberty tu sollicit again your kind reliance in begging you to send us the soonest possible your photography, biography and eventually an abstract of the paper which you intend presenting to the Congress.

Apart from the literary style of these productions, notice must be taken of the fact that quite a large number of members either fell into the trap of sending their photographs, etc., under the impression that this was the proper thing to do, or else seized the opportunity of advertising themselves and their faces by deliberately appearing before the public as "the most celebrated representants of the medical science." Even some British names are on the list.

Ladies' Committee.

The report of this Congress would not be complete were no reference made to the Ladies' Committee. Inasmuch as there were some 900 members of the fair sex who were not interested in the purely scientific proceedings of the Congress, special arrangements had to be made to entertain them during the afternoons and at times also during the mornings. At the head of this committee, Frau von Bokay, the wife of a professor of diseases of children, was indefatigable and always charming. Various excursions to places of interest in and around Budapest were arranged

and carried out to the entire satisfaction of every one taking part. The working of this committee was essentially smooth, and great credit must be accorded to all its members.

Excursions.

Apart from the longer excursions to Pystien, Constantinople, and other places, invitations to view a number of scientific institutions and commercial buildings were issued. The visits to the waterworks, to the slaughter-house, to some champagne works, to the Apenta water springs *inter alia*, were full of interest to a large number. All the university clinics, medical institutes, and hospitals threw their doors open to any member of the Congress who might wish to inspect these places. The new university clinics attracted large numbers of congressists and were greatly admired.

Our Hungarian brethren deserve the warmest thanks of their guests for their kindly hospitality and for the excellent manner in which they performed the difficult duty of catering and catering successfully, for the tastes of over 5,000 members. Budapest has left a very favourable impression on the minds of those who visited the beautiful town on the occasion of the Sixteenth International Medical Congress.

LONDON SCHOOL OF TROPICAL MEDICINE.

The London School of Tropical Medicine has lately been enlarged. The accommodation in the general laboratory has been increased by the plan, ingenious in its very simplicity, of adding to it a verandah covered with glass. It can now seat fifty-six students. Another valuable and interesting feature is a small museum, with workrooms attached, for the study of the venomous snakes and biting flies peculiar to each tropical dependency. The work of the school has developed so largely that the necessity for a considerable extension has become urgent. For this purpose it is hoped to secure a piece of land from the Port of London Authority on which to build new laboratories. Lord Sheffield has recently provided an endowment of £1,200, which is to be used this year in the investigation of diphtheria in the island of Fiji. Dr. Bahr is about to proceed there for the purpose.

Opening of the Session.

Tuesday, October 26th, was a field day at the school. The winter sesion was formally opened with an address by Professor Osler. His Excellency, Mr. Whitelaw Reid, the American Ambassador, was in the chair, and among those present were Lord Sheffield, Sir Patrick Manson, Professor Ronald Ross, Mr. E. W. Blessig, Professor W. J. Simpson, Professor R. T. Hewlett, the Director-General of the Royal Navy Medical Service, Professor Minchin, Sir Francis Lovell, C.M.G., and many others.

The Nation and the Colonies.

Taking the Nation and the Colonies for his subject, Professor Osler said three outstanding events had loosened, as a spring, the pent-up energies of the modern world—Greek civilization, the geographical renaissance of the sixteenth century, and the scientific awakening of the nineteenth century. With regard to the latter, it had given men such a control of Nature that at a stroke it removed the chief obstacle to the world-wide settlement of the white man. It was no light burden to the white men to administer this vast trust, much of which fell upon the English nation, but the responsibility of the Empire had been the making of the race. There were two problems of the first rank in dealing with subject nations—order and health. The former might be said to be a speciality of the Anglo-Saxon. Scarlet sins might be laid at his door, but the little word "order" which had everywhere followed the flag compensated for those sins. Perhaps the one feature above all others which would attract the attention of the historian of the nineteenth century would be the introduction of modern sanitation. The movement arose from the recognition of the true nature of infectious diseases. This country had carried into effect sanitary laws which had steadily diminished the mortality from these diseases. The cholera epidemic in the Fifties did a great deal to arouse public opinion and to put practical sanitation on a scientific basis. It was realized that the battle had to be fought against a living contagion, and the germs of a large number of epidemic diseases had been discovered. A sanitary organization was being perfected which gave confidence to the public and prevented commercial panics. The home defences were in a fairly satisfactory condition, but there remained to be won complete mastery over typhoid fever, the progressive decline in the mortality from tuberculosis, the reduction of still very fatal diseases of childhood, and the fact that they had not even yet arranged a truce with their very progressive foe, cancer. But when they took a glance at the Empire at large, there was a totally different state of affairs. Out of the total population, some 60 millions, perhaps, lived under good and constantly improving sanitary conditions, but of the vast dependencies with their teeming millions there was a very different story to be told. Men had learnt to recognize the importance of good health and the possibility of mitigating the conditions which led to the prevalence of epidemics. Of tropical diseases of the first importance might be mentioned malaria, plague, cholera, yellow fever, dysentery, beri-beri, and relapsing fever, with certain parasitic disorders, such as ankylostomiasis. They varied in their prevalence in different localities, but together formed the great enemies met with in the tropics. Of all but one they knew the germs, the conditions of their growth, and, in nearly all, the mode of propagation. This work had been quietly but surely accomplished by a group of patient investigators, many of whom had sacrificed health and life in their endeavours. Yellow fever illustrated the importance of effective organization. A singularly happy combination of circumstances had demonstrated on a large scale the efficiency of modern sanitary measures in one of the world's great death traps. In a general way the story of the Panama Canal was well known. For twenty-three weary years the French company struggled against financial difficulties at home and insuperable sanitary obstacles on the isthmus itself. Little did the nineteen Frenchmen who reached Panama in January, 1881, think the secret of success lay 6,000 miles away, with an army surgeon who was investigating malaria in a military hospital in Algiers, called Laveran. From 1890 yellow fever practically disappeared, with the exception of a small epidemic in 1897. In 1904 the United States undertook to complete the canal, and its success or failure was largely a matter of sanitary control. The whole profession in the United States felt certain that if Dr. Gorgas could be given full control of the sanitary affairs of the Panama zone the health problem, which meant the canal problem, would be solved. Yellow fever occurred on the isthmus in 1904 and the early part of 1905. There had been a great many brilliant illustrations of the practical application of science in preserving the health of a community and in saving life, but the past history, and the extraordinary difficulties to be overcome, showed the work accomplished by the Isthmian Canal Commission to be unique. Having given statistics as to the decrease of mortality from different diseases, Professor Osler said a remarkable result had been that in 1908 the combined tropical diseases, malaria, dysentery, and beri-beri, killed fewer than the two great killing diseases of the temperate zone, pneumonia and tuberculosis. The whole story was expressed in two words "effective organization," and the special value of this experiment in sanitation was that it had been successfully carried out in one of the great plague spots of the world. In Italy, in India, in many parts of Africa and in the United States the anti-malarial campaign was being pushed on with the same vigour and success. After referring to the brilliant success of Bruce and his colleagues in clearing Malta of Malta fever, he said a vigorous campaign had been instituted against the group of diseases caused by the trypanosomes, the dreaded sleeping sickness, which now extended over a million square miles, but showed a steady diminution in Uganda, where no whites had been attacked since 1906. Two things were necessary to a successful plan of campaign. First, organized centres from which the work might proceed. A model of this sort was the Sleeping Sickness Bureau, under the auspices of the Royal Society. Similarly organized central bodies had already dealt with plague and malaria, but these organizations should be placed on a permanent basis and unified in some way under a central tropical institute, the different departments of which would be in touch with its workers all over the

world. This was no vain dream. By far the most useful work in British medicine during the past twenty years had been the result of carefully planned expeditions sent out, partly by the liberality of the citizens of Liverpool, particularly Sir Alfred Jones, and partly by the Government and the Royal Society. Societies for the study of tropical diseases had been organized in different countries and international societies had been formed, and at large seaports hospital wards devoted entirely to tropical diseases had been opened. This country might feel a just pride in the schools which had been started in its two great seaports. In the hands of Ronald Ross and Rubert Boyce, the Liverpool School, founded ten years ago by Sir Alfred Jones, had had a career of extraordinary vigour, and had dispatched twenty-one research expeditions to the tropics. The entire plant of the school and the cost of the expeditions had been less than £75,000, a very modest sum considering the results. The London School was started ten years ago by the wisdom of Mr. Joseph Chamberlain, and it had had the great advantage of the guidance and the prestige of the name of Sir Patrick Manson, the Dean of all students of tropical medicine. To him, more than to any one man, they owed the strong position occupied by the subject to-day in Great Britain. In the heart of the Empire, in its richest and largest city, they naturally expected a foundation commensurate with its advantages and its responsibilities. The school had trained nearly 1,000 men for work in the colonies and dependencies. It had fostered original research in tropical diseases, and had been an important centre for the diffusion of scientific knowledge. The possibilities existed for the greatest of all schools of tropical medicine if London would but rise to the occasion. He was astonished that so much good work had been done on a total capital of less than £40,000, a sum not more than sufficient to maintain one department. Millions were contributed annually for church missions; it was not too much to ask for rich endowments for the missions of science. The great question of tropical sanitation in which they had only made a start, was bound to loom larger and larger in importance. England had the first start; the United States, Germany, France, Holland, Japan were in the field. Now was the time for new enterprises, and for a more complete organization. If he were "Minister for Tropical Dependencies" he would establish a number of professorships, two of tropical medicine (with a hospital of 200 beds), and professorships of pathology, protozoology, helminthology, and entomology, with laboratories, museums, and libraries. He would further establish subsidiary schools in the tropics, which would serve as centres for the mission work in those countries. That was not a visionary scheme, but one well within the possibility of achievement, and it would not demand an endowment of more than two millions. No nation in history ever had such a load of responsibility, and it behoved them to see that they were well equipped for the task of the future, to give to the teeming millions of our dependencies the greatest of all blessings in life—good health.

The American Ambassador said the lecturer had impressed him with the madness of nations which had great tropical dependencies and did not cultivate tropical medicine. It seemed to him that the nation which neglected its duty in that way was blind to its own interests, and, if there was much communication between the dependency and the governing country, that the latter was blind also to its own safety. Moreover, they should remember that they sent out to the tropics the flower of their manhood. It was their duty to protect and help them as much as possible by research in the directions indicated by Professor Osler. The work already accomplished should be an incentive to further effort.

Professor Simpson, C.M.G., proposed and Major Ross, C.B., seconded a vote of thanks to Professor Osler.

Mr. Perceval A. Nairne proposed and Sir Patrick Manson seconded a vote of thanks to the Chairman, and the proceedings terminated.

The Annual Dinner.

The annual dinner of the school was held in the evening at the Hotel Savoy. Dr. A. G. Bagshawe, Director of the Sleeping Sickness Bureau, presided, and among those present were Lord Sheffield, Sir Patrick Manson, Sir Francis Lovell, Sir William Treacher, Mr. H. J. Read, C.M.G., of the Colonial Office, Dr. H. A. Miers, Major Ronald Ross, and many others. After the usual loyal toasts the Chairman proposed "The School." He said that during the ten years of its existence nearly 1,000 students had gone through its courses. A few days ago he visited the institution after the lapse of nine years, and he found great changes. What struck him most was the ingenuity displayed in making the most of the available space. The committee were badly in need of more land and of further resources for building laboratories on it. Tropical medicine had made great strides during the last few years, but the progress of research, and, in some respects, of preventive measures, lagged behind. He was afraid that the administrators in tropical countries had not always had a proper appreciation of the value of hygienic measures recommended by medical officers. He mentioned that steps had been taken to form a West African special sanitary service, and it appeared that the Indian Government were awakening to a sense of their responsibility and taking more active measures than hitherto with regard to malaria.

Sir Patrick Manson proposed the health of Professor Osler, who was prevented by indisposition from being present. After paying a glowing tribute to the Professor's great qualities as a physician and a man of much various learning, he went on to emphasize the importance of teaching the public to demand that tropical medicine should be recognized by the authorities. The London School depended on public subscriptions more or less, and they were not so fortunate as their friends in Liverpool. The merchants and wealthy residents of Liverpool—a little village with a population of some 700,000—had contributed £75,000 towards the cause of tropical medicine, whereas London, with a population of 7,000,000, had given the London School only half that sum. Want of money seriously crippled the school in the work of research, and this was a reproach to the inhabitants of the metropolis of the Empire which should be removed.

Dr. Miers, replying to the toast on behalf of the absent orator, said that one of the best things which had come out of Canada to England was Professor Osler.

The toast of "The Guests" was proposed by Sir W. H. Treacher, and replied to by

Lord Sheffield, who dwelt on the economic value of the work of the School of Tropical Medicine. He said that in these days when money was allocated for all sorts of purposes, and when a matter of two millions was thrown across the table in an amendment without exciting surprise, it was to be regretted that the Colonial Office did not demand money for the sanitation of our dependencies and for the advance of science having for its object the saving of the lives of our countrymen and the promotion of the physical welfare of the native races to whom we brought the blessings of civilization. A couple of millions, which would bring an income of £60,000, would suffice for the present.

Major Ronald Ross also replied.

Mr. Cantlie proposed the health of "The Chairman." He asked those present to imagine that instead of a carpet they had beneath their feet the arid sand of the African desert, and that the plants decorating the tables were transformed to the scrub, the bush, and the cactus on the shores of the Victoria Nyanza. He went on to say that the late autumn flies which maintained their lethargic existence—a state resembling one of sleeping sickness—became the deadly tsetse fly; the tobacco smoke finding its way ceilingwards had its resemblance to the smoke from the wood fires of the kraals and villages; and the globe of electric light above them they might for the time being regard as the fierce sun of Central Africa. Their Chairman, now in the trim evening dress of civilization, they might have seen in the surroundings indicated, equipped in pith helmet, green goggles, khaki kit, putties, and with the inevitable mosquito net veiling. Thus attired he pursued his scientific investigations, now seeking a crocodile's lair to ascertain whether he played a part in the life history of the trypanosome, now searching for the breeding places of the tsetse or investigating sleeping sickness in the persons of the infected natives. Now Dr. Bagshawe's mode of activity had changed. From his office in London he directed the work of the Sleeping

Sickness Bureau. He was the brain of the movement for investigating sleeping sickness, the general staff on whose efforts depended the achievement of success; as Moltke conquered his country's enemies from his office in the German war department, so Dr. Bagshawe was achieving success from the quiet of his office in London. Not only was he the director of the bureau, but he was the recording angel of all that was being done in sleeping sickness by men of different nations, and he supplied them from time to time with translations from languages which were closed books to most of them. Dr. Bagshawe was a quiet man. The silence of a Government official was upon him, a silence, however, which did not mean apathy or want of enthusiasm or of energy. They of the London School of Tropical Medicine knew well the silent work of the men at the Colonial Office. Without their far-seeing enterprise, their regard for the health of the people, both natives and European, under their régime, the school would never have existed. He knew Dr. Bagshawe's desire would carry him to the front of the present campaign against sleeping sickness. He would prefer to be with Ross in one of his meteoric descents on various pestilential spots of the earth, or with Simpson in his peregrinations in many countries—now in China, now in South Africa or in the West African Colonies; and he was sure there was nothing he would desire more than to be with Bruce and his gallant band in the highlands of Uganda. Were he to paraphrase an old song he would say:

His *heart's* in the *Highlands*, his hopes they are high,
His heart's in *Uganda*, achasing the fly.
There *sleep* as a *sickness* he dares to defy,
And the trypanosome trembles when Bagshawe is nigh.

WORKMEN'S COMPENSATION STATISTICS FOR 1908.

The Blue Book issued by the Home Office[*] on Statistics of Compensation and of proceedings under the Workmen's Compensation Act (1906) and the Employers' Liability Act (1880), for the year 1908 is of much interest.

It is pointed out in it that the Workmen's Compensation Act of 1906 extended the field of compensation by (*a*) including all occupations, whether the employment is by way of manual labour, clerical work, or otherwise; certain exceptions being persons employed otherwise than by manual labour whose remuneration exceeds £250 a year; those whose employment is of a casual nature, and who are employed otherwise than for the purposes of the employer's trade or business; members of the police forces; persons in the service of the Crown, naval or military; outworkers; members of the employer's family dwelling in his house; (*b*) reducing the period of disablement which entitles to compensation from a fortnight to one week; (*c*) extending compensation to injuries caused by certain industrial diseases.

In the shipping industry the returns show 371 fatal cases, and the compensation paid averaged £165 a case. This includes both those cases in which the deceased left persons wholly dependent and those in which the deceased left persons partially dependent; of cases of disablement there were 5,877, and the average compensation was £8 15s.

In the returns in respect of industries carried on in factories to which the Factory and Workshop Act (1901) applies, there are recorded 951 fatal accidents, with an average compensation award of £137; in the 136,357 cases of disablement, the average award was £4 17s. In respect of industrial disease, compensation was paid in 24 fatal cases with an average of £151; there were 542 cases of disablement under this head, and the average compensation was £14.

In docks the number of fatal cases returned was 156, and the compensation averaged £136 per case; the cases of disablement numbered 10,591, and the compensation worked out at an average of £6 3s.; the compensation paid for industrial disease amounted to £254.

In mines the number of fatal cases in which compensation was paid was 1,301, averaging £174 a case; in respect of the 137,622 non-fatal cases, the compensation averaged £4 8s. The total amount paid in respect of industrial diseases was £13,382. It is interesting to note that during the year 261½ million tons of coal were raised and about 4 million tons of other materials. Estimating the compensation payable for injuries at other mines at about twenty-seven or twenty-eight thousand pounds, the charge placed by the Act on coal-producing mines calculated on the ton of mineral raised worked out at 0.7d. The number of persons employed in coal-producing mines, above and below ground, was 972,232, and the compensation paid during the year amounts to an average of nearly 17s. a head.

In quarries there were 88 fatal cases, and the average compensation was £131 a case; in respect of the 5,284 cases of disablement the average was £4 7s.

In construction works the number of fatal cases was 119, and the average compensation paid was £114. The cases of disablement numbered 6,805, and in these the compensation averaged £5 12s. Only £108 was paid in respect of industrial disease.

In railways, in respect of the clerical staff, there were 3 fatal cases and 39 cases of disablement. Among other railway workers, there were 458 fatal cases, in which the compensation averaged £147, and in the 20,649 cases of disablement the average compensation paid was £4. Compensation for industrial disease only amounted to £72. The amount paid in compensation during the year for railway servants, excluding the clerical staff, works out at 7s. 7d. per head.

The returns for industrial diseases show 26 cases of death and 2,260 cases of disablement. In the mining industry there were 386 cases of nystagmus, 6 of ankylostomiasis, 459 of beat hand, 537 of beat knee, 67 of beat elbow, and 87 of inflammation of the synovial lining of the wrist-joint and tendon sheaths. There were 421 cases of lead poisoning, 23 of anthrax, 15 of arsenic poisoning, 20 of chrome poisoning, and 10 of compressed air illness. It is interesting to note that in the seven groups of industries dealt with in the report no cases of poisoning by carbon bisulphide, nitrous fumes, nickel carbonyl, or African boxwood occurred, and there was no case of glanders.

The Employers' Liability Act of 1880 appears to be falling into disuse, as only 260 cases under it were taken into English county courts during the year; 148 of these were withdrawn or settled out of court, and of those going to trial the plaintiff was successful only in 67. It is remarkable that only one case arose under this Act in the whole of the mining industry, 1 from the quarries, and 7 from railways.

As to the services rendered by medical referees under Schedule II. the total number of references (England, Scotland, Ireland) was 272: of these 135 were from the judge, 43 from an agreed arbitrator, and 93 from committees. Under Schedule I (18), which provides for a certificate to be given in cases referred on the joint request of employer and workman, there were 142 references: 58 of these had regard to the condition of the workmen; 4 to the cause of the incapacity, and 80 included both these matters. Under the Schedule which deals with a workman who, being in receipt of a weekly payment ceases to reside in the United kingdom, there were only two references. Medical referees sat as assessors in 145 cases only. There were 36 appeals against the decision of the certifying surgeon: 1 case was settled out of court, in 20 the decision was confirmed, and in 15 it was upset. The total number of cases taken into court under the Act of 1906 was 5,358; the proportion of appeals was under 2 per cent. of the cases coming before County Courts. There were three appeals to the House of Lords (two by employers and one by a workman); all three failed. The report contains many very interesting details and is of great value to those who are interested in the working of the Acts.

[*] Printed for His Majesty's Stationery Office by Darling and Son, Limited, London. May be purchased, either directly or through any bookseller, from Wyman and Sons, Limited, Fetter Lane, E.C.; Oliver and Boyd, Tweeddale Court, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. Price 7d.

It was mentioned last week that the large sum of £10,000 had again been divided among the hospitals and nursing institutions of Birmingham by the Hospital Saturday Fund. It is stated that since the establishment of the fund the General Hospital and its convalescent hospital, the Jaffray Hospital, have received no less than £100,503; the Queen's Hospital, £55,680; the General Dispensary, £30,061; the Children's Hospital, £23,152; the Eye Hospital, £17,391; and the Women's Hospital, £11,642.

LITERARY NOTES.

At this time it may not be inappropriate to mention that the address delivered to the students of the medical school of the Middlesex Hospital at the opening of the winter session last year by Mr. Rudyard Kipling has been reprinted by Macmillan and Co., and is sold for the benefit of the hospital. It contains a preface by Mr. Reginald Lucas, member of the Board of Management, who gives a short history of the hospital, and especially of the Cancer Charity connected therewith, with its research laboratory. Some of the many remedies that have at various times been suggested for cancer are mentioned. Among these is Guy's caustic, which is said to have killed Lord Bolingbroke, who, as is known, was afflicted with what was probably a rodent ulcer of the face. We hear further of Lord Arundel's cancer cure, described as a compound invented by the illiterate wife of a blacksmith. An unkind commentator observes that this cancer curer "no doubt . . . killed a number of poor women." An American practitioner, Dr. Fell, was permitted to make a series of experiments in 1857, but nothing seems to have come of them. Arnott's freezing system, which was tried about the same time, though it seemed to offer some hope of good results, soon followed Fell's method into oblivion. The substance of Mr. Kipling's address was published in the JOURNAL last year, and therefore we need say nothing more about it than that it displays the well-known qualities of his style in their raciest form. We may, however, be allowed to recall some of his *obiter dicta*, as they may rank among what Carlyle would have called "eternal verities." All experienced practitioners will doubtless agree with the doctor who told him that all patients are phenomenal liars where their own symptoms are concerned. Mr. Kipling asked his audience if they were aware of any change in public opinion which would allow them not to attend a patient even when they knew that the man never meant to pay them. The answer to this is still in the negative, and coroners and journalists can always play to the gallery on this point with the certainty of bringing down the house, especially that considered part of it "that gets in with paper." The part of "vicious philanthropist" will doubtless continue to be thrust on the unfortunate doctor by men who would reject with just scorn any proposition that they should sell their own work or wares for nothing. Touching on the question of hospital abuse, Mr. Kipling asked his hearers if they had heard any outcry against those people who are perfectly able to pay for medical attention and surgical appliances, and yet cadge round the hospitals for free advice, a cork leg, or a glass eye. Here, again, the answer must still be No, and will, it may be prophesied with confidence, continue to be so for a long time to come. Mr. Kipling's remarks on the attacks made by fanatics on experimental research are worth quoting in full:

> You have been exposed—you always will be exposed—to the attacks of those persons who consider their own undisciplined emotions more important than the world's most bitter agonies—the people who would limit and cripple and hamper research because they fear that research may be accompanied by a little pain and suffering. But you have heard this afternoon a little of the history of your profession. You will find that such people have been with you—or, rather, against you—from the very beginning; ever since, I should say, the earliest Egyptians erected images in honour of cats and dogs on the banks of the Nile. Yet your work goes on, and will go on.

One of these people is Mr. Stephen Coleridge, who has for some time dropped the title of "Honorary" Secretary of the National Antivivisection Society, on which he was wont to insist, and is now described as "Director and Treasurer." Does this mean that he has been content to exchange the empty title of "Honorary" for a solid honorarium? We do not know if this be so, and in any case the matter concerns only himself and his society. Like Verges, he will be talking, but the general public knows by this time how to estimate at its true value the tediousness which—by way, we suppose, of justifying his existence—he bestows upon it so copiously. He is fond of quoting condemnations of vivisection by men who knew, if that be possible, less of the subject at first hand than himself. He has lately unearthed from the *Idler* an utterance of Samuel Johnson in which he treats experimenters as he did the "Whig dogs" in his reports of the Parliament of Lilliput, where he took care to let them have the worst of it. The paper quoted was written in 1758. The following later deliverance of the great moralist may perhaps interest Mr. Coleridge. It occurs in Boswell's *Life*, under the date 1784, the year of Johnson's death:

> I told him (says Miss Seward) in one of my latest visits to him, of a wonderful learned pig, which I had seen at Nottingham; and which did all that we have observed exhibited by dogs and horses. The subject amused him. "Then" (said he), "the pigs are a race unjustly calumniated. *Pig* has, it seems, not been wanting to *man*, but *man* to *pig*. We do not allow *time* for his education: we kill him at a year old." Mr. Henry White, who was present, observed that if this instance had happened in or before Pope's time he would not have been justified in instancing the swine as the lowest degree of grovelling instinct.
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> Dr. Johnson seemed pleased with the observation, while the person who made it proceeded to remark that great torture must have been employed ere the indocility of the animal could have been subdued. "Certainly," said the doctor; "but," turning to me, "how old is your pig?" I told him three years old. "Then," said he, "the pig has no cause to complain; he would have been killed the first year if he had not been *educated*, and protracted existence is a good recompense for a very considerable degree of torture."

"Torture," it may be noted, is the word Mr. Coleridge is so fond of applying to painless experiments which are often the means of giving a number of animals a "protracted existence." It may safely be assumed that a man of Johnson's strong sense would not have written such a passage as that quoted from the *Idler* were he alive now. It is as disingenuous to quote his words as bearing on vivisection at the present day as it would be to quote the details of an execution in the days of Henry VIII as applicable to our own time.

In the Section of Anthropology of the British Association this year Miss A. C. Breton said that the different race types in the ancient sculptures and paintings found in Mexico and Central America formed an important anthropological study. An enormous mass of material, evidently of many periods, had been collected. It included sculpture, archaic stone statuettes, the portrait statues and reliefs at Chichen Itza, the Palenque reliefs and the series of magnificent stelae and lintels at Piedras Negras, Yaxchilan, Naranjo, Copan, Quirigua, etc. In terra-cotta or clay there were the hundreds of thousands of small portrait heads and figurines found at Teotihuacan, Otumba, the neighbourhood of Toluca, and other ancient sites. Larger clay figures had been found in quantities in tombs, as in the States of Jalisco and Oaxaca; these were made as offerings, instead of the sacrifice at a chief's burial of his wives and servants. Small jadeite heads and figures, also found in tombs, showed strongly marked types. There were few specimens in gold, because throughout the country the Spaniards ransacked the tombs for gold. In painting there were the picture manuscripts, the frescoes at Chichen Itza, Chacmultun, and Teotihuacan, and a number of vases with figures from Guatemala and British Honduras. Among distinctive types were: The chiefs in the reliefs at Xochicalco, who sat cross-legged; the little shaven clay heads at Teotihuacan; the tall, well-built priests, with protruding lower lip, of the Palenque reliefs; the fifteen caryatid statues in feather mantles of the Upper Temple of the Tigers, at Chichen Itza; and the sixteen stern warriors carved at its doors, these last similar in type to some of the modern Indians of the villages near Tlaxcala. There were portraits of the Mexican kings on the border of a picture map which represented the western quarter of Tenochtitlan, and of the householders in that part of the city. Of female types there were the painted clay figures of Jaliscs with compressed heads. Some of them had short, broad figures, others were slender. Both types still survived. The queenly woman in Codex Nuttall-Zouche, and the women-chiefs of the Guatemalan stelae belonged to a different caste from the obviously inferior women on those stelae, fattened in preparation for sacrifice. Herr T. Maler's most recent explorations on the borders of Guatemala had given magnificent results in the finding of thirty-seven stelae at Piedras Negras, and at Yaxchilan twenty stelae and forty-six sculptured lintels. The superb figures of warriors and priests indicated a race of men of tall, slender stature and oval face, with large aquiline nose, whilst the captives appeared to be of a different race.

BRITISH MEDICAL BENEVOLENT FUND.

At the October meeting of the Committee 27 cases were considered, and grants amounting to £246 made to 22 of the applicants. Appended is an abstract of the cases assisted:

1. Widow, aged 40, of M.R.C.S., L.R.C.P. Quite unprovided for at husband's death, and at present, owing to a nervous breakdown, is incapable of supporting herself. No children. Voted £10.

2. Widow, aged 61, of M.R.C.S., L.S.A. Practically unprovided for at husband's death a few years ago, and has failed to maintain herself by taking boarders. Children only able to give very slight help. Voted £12.

3. Widow, aged 42, of L.R.C.S., who was for many years a teacher at a London medical school. Since husband's death has supported herself by letting lodgings or acting as housekeeper, but was compelled to give up her last post on account of ill-health. Now proposes to start a small tea-shop. Three children, all in institutions. Voted £15.

4. Widow, aged 41, of L.R.C.S., L.R.C.P.I., who practised in West Africa. Quite unprovided for, and endeavouring to obtain boarders or lodgers. Four children, of whom two are still at school. Voted £10.

5. M.R.C.S., L.S.A., aged 34, who practised in London. No income: children only just self-supporting; receives a little help from relations. Voted £12.

6. Widow, aged 69, of M.R.C.S. Only income £10 a year, and has been assisted by her daughter, whose earnings have so much decreased that the help has to be withdrawn. Relieved four times. £50. Voted £12.

7. Widow, aged 55, of L.S.A. No income and dependent on a son earning 35s. a week. Relieved eight times. £90. Voted £12.

8. Daughter, aged 41, of late F.R.C.S. Quite unable to earn a living, owing to continued ill-health, and dependent on her mother, whose income is £30 a year. Relieved nine times, £84. Voted £12.

9. Widow, aged 42, of L.R.C.P.Edin., M.R.C.S. Quite unprovided for at husband's death from new growth a year ago, and endeavours to support herself by letting lodgings. Slight help from a stepson in the merchant service. Relieved once, £12. Voted £12.

10. Widow, aged 52, of M.B., C.M.Aberd. Income £19 a year, and makes a few shillings a week by taking boarders. Three children still at school. Relieved twice, £15. Voted £5.

11. Widow, aged 62, of L.R.C.P.Edin., M.R.C.S.Eng. Is helped by her daughter, a governess, and earns a little by teaching. Relieved eleven times, £87. Voted £5.

12. Daughters, aged 45 and 37, of late L.S.A. Both unable to earn a living on account of persistent ill health. Relieved five times, £60. Voted £12.

13. Widow, aged 60, of M.R.C.S. No income: a few shillings a week allowed by children. Health too feeble to permit of occupation. Relieved eleven times. £123. Voted £12.

14. Daughter, aged 50, of late M.R.C.S. Lost her father when 3 years old, and has supported herself since the age of 17. After being a governess for many years took a house and received boarders, but has recently found herself unable to meet expenses. Relieved twice. £19 Voted £5.

15. Daughter, aged 37, of late L.R.C.P., L.S.A. Being very deaf and incapable of earning a living is dependent on a sister, a mental nurse, who is unable to earn as much as formerly. Relieved four times. £14. Voted £12.

16. Widow, aged 53, of M.R.C.S., L.S.A. No income; no children; health very feeble. Relieved six times. £56. Voted £12.

17. Daughter, aged 38, of late F.R.C.S. No income, and owing to tuberculous disease of a large joint is only able to do light work occasionally. Receives a small weekly allowance from another charity. Relieved three times. £36. Voted £12.

18. L.R.C.P., L.R.C.S.Edin., aged 76. Has been unable to practise for some years past owing to deafness and ill-health, and is now practically dependent on friends. Relieved three times. £29. Voted £12.

19. M.D.Aberd., aged 57. Is quite incapacitated by lateral sclerosis. Only income two small pensions from charities. Two children both still at school. Relieved once. £10. Voted £18.

20. Widow, aged 64, of M.R.C.S. Owns a small property in Ireland, but the income has now diminished to a few shillings a week. Children just self-supporting. Relieved ten times, £82. Voted £10.

21. Daughter, aged 60, of late M.R.C.S. No income: slight help from friends; earns a few pounds yearly by knitting. Relieved five times, £54. Voted £12.

22. Widow, aged 69, of M.D.St.Andrews. Being unprovided for at husband's death established a home for invalids, but was unable to meet expenses; is now dependent on occasional help from friends. Relieved twice, £30. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, W.

THE South-West London Medical Society opened its winter session at the Bolingbroke Hospital on October 12th, the new president, Dr. Leonard McManus, being in the chair.

Medical News.

THE Edinburgh University Club in London will hold its next dinner on Friday, November 12th, when the chair will be taken by Mr. J. D. Malcolm, F.R.C.S.

ON October 19th, Mr. T. Johnston, M.R.C.S., was presented, on the occasion of his leaving Rugby, with a handsome marble clock by the members of the Ancient Order of Druids, of which he is a Past Arch.

MR. CHARLES BALLANCE, M.V.O., M.S., F.R.C.S., will deliver an address on The Lesson to be learnt in London from the History of the Mastoid Operation, at the Central London Throat and Ear Hospital, Gray's Inn Road, on Monday, November 8th, at 4.30 p.m.

THE Association of Medical Men Receiving Resident Patients has appointed Mr. G. F. Darker, of the Middle Temple, who is a barrister with medical qualifications and experience, to be its salaried secretary. The address of the association in future will be 57 and 58, Chancery Lane.

CHESTER Infirmary has received a gift of £500 out of the fees paid by visitors for viewing the Duke of Westminster's place at Eaton during the past season. The total sum collected and locally distributed among charities was £980.

THE annual dinner of the staff and past and present students of the Royal Dental Hospital of London will be held on Saturday, November 20th, at the Hôtel Métropôle (Whitehall Rooms) under the presidency of Mr. C. F. Rilot. Gentlemen either now or formerly connected with the hospital or medical school who may through inadvertence not have received special notice and who desire to be present, are requested to communicate with the Dean at the Royal Dental Hospital, 32, Leicester Square, London.

THE second Italian Congress against Tuberculosis was held at Florence on October 10th and following days. The Minister of Agriculture, the Prefect, and other provincial and communal authorities were represented. Professor Lustig delivered an inaugural address, after which he was elected president. It was decided that the next congress should be held in Turin in 1912. Professor Alfonso di Vestea, of the University of Pisa, read a report on tuberculosis in Italy, and on the means, legislative and other, adopted to combat the disease. Professor Pacchioni discussed the public assistance of poor children by means of marine hospitals and summer colonies.

THE managers of the *Presse Médicale Italienne*, which, as stated in the JOURNAL on October 2nd, p. 992, was founded for the purpose of making known Italian medical work abroad, intimate that they are prepared to give members of the medical profession visiting Italy all the information which they may require. They issue a *Guide du Voyageur en Italie*, illustrated with numerous vignettes, a copy of which, in German, English, or French, according to the requirements of the visitor, will be sent gratuitously on application. The address is Via S. Marco 12, Milan.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on October 15th. Dr. de Havilland-Hall in the chair. The accounts presented showed the working of the society up to the end of September last, and enabled a comparison to be made between the experience of the society during the summer of this year and during the corresponding period of previous years. As usual, the sickness claims were much more numerous in the months of January to April than in the months following, and this feature of the business will probably remain unaltered so long as the members of the society are, as at present, mostly medical men in general practice. These are, of course, peculiarly liable to throat and chest affections caused by exposure to bad weather, and claims of this kind have always swelled the sickness lists of the society in the early months of the year, while, as the weather gets warmer, these claims become few. The variation between the amount of winter and summer sickness experienced by the society is, however, slowly but surely lessening, owing to the steady growth of what is called the "chronic list." This consists of the claims of members who are never likely to be able to perform any more professional work and who draw sick pay continuously. In these cases, of course, the summer and winter experience is the same, and as they are getting more and more numerous—there are at present at least forty of such cases—they tend to make the whole sickness experience of the society more level. Prospectuses and all information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

British Medical Journal.

SATURDAY, OCTOBER 30TH, 1909.

THE HOUSING AND TOWN PLANNING BILL.

ALTHOUGH the amendments to the Housing Bill which have been made by the House of Lords are many and various, an impartial consideration does not seem to justify the opinion expressed more than once by Lord Crewe that the bill had been rendered unworkable. So far as can be foreseen at present the bill has been improved in some respects while in others purely negative results will follow the alterations. Clause 2 makes provision for the compulsory purchase of land by a local authority for the purposes of Part III of the Housing of the Working Classes Act (1890) by means of an order approved by the Local Government Board. In the event of the owner objecting to sell his land the bill, as it left the House of Commons, required that an inquiry into the circumstances should be made by the Local Government Board. The Lords were evidently averse to this inquiry being conducted by an official and insisted that it should be made by an impartial person not in the employment of any Government department, a proposal which does not affect the principle, and may seem to many an actual improvement. One of the most important clauses of the bill is that which empowers the Local Government Board to require sanitary authorities to carry out the duties already imposed upon them by existing Acts. One amendment to this clause excludes the London County Council and the councils of the county boroughs from its provisions, an exclusion for which there is this justification—that few of these bodies neglect their responsibilities in this respect. This clause was further amended by requiring the Local Government Board, before making an order as to the provision of houses by the sanitary authority, to take into consideration the probability that further accommodation for the housing of the working classes in the district would be otherwise provided—an amendment of doubtful utility.

Houses let at a rental under £40 per annum in London, and in towns having a population over 50,000 persons under £26, and elsewhere under £16, are required under the bill to be let under an implied condition that during the tenancy they are kept by the landlord in all respects reasonably fit for human habitation. If this condition is not complied with, the sanitary authority may call upon the landlord to make certain specified alterations, and, failing his compliance with the requirements of the authority, it may carry out the necessary works at the cost of the landlord. By the clause as it left the House of Commons appeal against the action of the authority was to the Local Government Board, but as amended by the House of Lords would give the option of appeal to the county court of the district. This alteration may be, from the point of view of legal theory, an improvement, and might, under conditions easily imagined, save some time and money; but in practice it is open to objection. The county court judge could only decide on evidence given before him, and it is pretty certain that this would usually be conflicting, whereas the Local Government Board could decide after impartial expert examination. A further amendment would enable the landlord to himself close the house in question for human habitation. Two important definitions have been inserted in the bill: A landlord is defined as a person who lets a house to a tenant for his own habitation; and the working classes are defined as including mechanics, artisans, labourers, and others working for wages; hawkers, costermongers, persons not working for wages but working at some trade or handicraft without employing others except members of their own family; and persons whose income does not exceed an average of 30s. a week.

It can hardly be contended that the amendments to which we have referred have very materially weakened the Bill, but its usefulness has undoubtedly been lessened by the omission of certain provisions which were in the measure when it left the House of Commons. To substantiate this statement we need only mention the deletion of the sub-clause which enabled the Local Government Board to prescribe the duties of medical officers of health appointed by county councils, and that which secured these officials from dismissal without the consent of the Board. The representatives of the county councils in the House of Lords who objected to these sub-clauses did not appear to realize that although county councils have now been in existence more than twenty years, only a small number of them admit that they have any public health responsibilities at all. One of the most frequently expressed reasons for not even appointing a county medical officer of health has been the absence of any stated duties for him to perform, and although the bill requires every county council to appoint a medical officer, it is extremely probable that the indifferent councils will try to limit his activity in every possible way, and if he places before them unpalatable advice he will speedily be got rid of under some specious pretext or other.

While the responsibility for the removal of these important sub-clauses from the bill lies with the Opposition, yet the Government strenuously opposed a sub-clause which was proposed by Lord Harrowby and supported by Lord Lytton, having for its object the abolition of the custom of electing whole-time medical officers of health for short periods. This action of the Government is difficult to reconcile with the views expressed by Lord Beauchamp when he moved the second reading of the bill on September 14th. Almost his first words on that occasion directed attention to the clause in the bill which strengthened the position of medical officers of health in dealing with property which belonged to members of the body which appointed them. It was absolutely unfair, he said, to expect such officers to report very adversely on such property when such criticism might result in their dismissal. But when he had the opportunity of curing the evil which he deplored he prevented the application of the remedy. If the bill is passed as it stands, and if it is wisely and judiciously administered, it can do a large amount of good in large centres of population, although it is to be feared that in the small towns and rural districts where its machinery has to be set in motion by an official who holds office on such precarious terms as the medical officer of health, little benefit will result. The door has been opened to great reforms, but care has been taken to effectually block it against their admission.

LATENT NEURASTHENIA.

Among the many forms of neurosis with which the practitioner has to deal, there are few more difficult to tackle effectively than those in which the nerve disturbance is only one among the influences at work in the production of the morbid condition. There is a large group of persons who cannot possibly be described as neurotics, and who yet, under certain conditions, present symptoms which are mainly due to nervous causes, although for a long time it may appear that the nervous system has little part in their causation. Such patients are often to be found among highly intelligent men and women actively engaged in pursuits which require an acute and well-balanced brain, and having little time or inclination to allow their minds to dwell on their own maladies. They are in fact the very opposite of the self-centred hypochondriacs in whom neurotic manifestations are mostly to be looked for.

Among the former, while all goes well, there is often no sign of nerve disturbance; they are not, as a rule, subjects of what may be described as primary neurasthenia. It is when the organic functions are disturbed by some cause that the oversensitive nervous system shows itself by an exaggeration of the normal symptoms in a manner most distressing to the patient and very baffling to the physician. Thus in an individual of the group referred to, when the subject of a mild bronchitis apparently pursuing a perfectly normal course, a cough may develop which is out of proportion to the physical signs, and which is not relieved by any of the usual remedies. In spite of great distress by day and sleepless nights, pulse and temperature remain unaffected, and after a variable time the cough disappears with absolute suddenness. The condition is not at all uncommon in children, and when the nervous disturbance is great it bears a suggestive resemblance to whooping-cough.

A much more serious development is when a slight gastric catarrh leads to vomiting so persistent that no food can be taken, and the patient is brought into a dangerous condition from weakness, although the actual abdominal disorder is quite trifling. A similar exaggeration of symptoms is sometimes seen in elderly men suffering from enlarged prostate, when, although the enlargement is not at all exceptional and the amount of residual urine which can be drawn off by the catheter does not exceed 2 to 3 oz., still the call to micturate is so constant as to make life a misery.

In all cases of the kind referred to the treatment presents considerable difficulty, inasmuch as the ordinary remedies appear to have little or no effect on the symptoms. Complete rest seems to do most good, and rest in the intervals between the attacks is of great value, but this last is with great difficulty secured, as the patients at such times feel quite well, and are unwilling to submit to medical treatment. Much benefit can be derived from residence for one or two months at a high altitude of from 5,000 to 6,000 ft. This will occasionally produce so much improvement that no fresh attack will occur before the following summer, when the same cure can again be tried, but, unfortunately, the effect is rarely so decided.

Even more important than the treatment to be adopted is the necessity for those in charge of these cases to avoid the pitfalls into which they may readily fall, unless the true explanation of the acute symptoms is quickly grasped. Not only may an unduly unfavourable prognosis be given, but the patient may easily be exposed to the risks of an unnecessary operation. It has happened that a quite moderately enlarged prostate has been removed without much benefit, and even with a fatal result, and an abdominal section has been performed only to find all the abdominal organs apparently quite healthy.

All brain workers appear to be especially liable to this latent form of neurasthenia, and it is very commonly seen in members of the Jewish race, and in artists of all descriptions. Acute symptoms in these are to be looked upon with suspicion, unless matched by the physical signs, and in forming an opinion of the case it is necessary never to lose sight of the possibility that much of the distress may be due to an excessive nervous response to slight or moderate stimuli.

THE INTERNATIONAL OFFICE OF PUBLIC HEALTH.

The International Office of Public Health, to the establishment of which all the Governments that took part in the sanitary conference at Rome in 1907 agreed, has been at work for about a year, and has issued monthly since January last a *Bulletin* containing information with regard to infectious diseases and sanitary laws and regulations in the participating countries. The idea of establishing such an office was first mooted at the International Sanitary Conference in Vienna in 1874, but nothing came of the scheme then put forward. At the conference at Washington in 1881 proposals for the dissemination of information as to cholera, plague, and yellow fever were considered, and at the conference at Rome in 1885 a proposal was discussed favouring the establishment in each country of a central office which should collect information and warnings with regard to sanitary matters, and exchange such information with the offices of other countries. At the conference in Paris in 1903 it was definitely proposed to centralize all information with regard to epidemic diseases and the means of preventing them, with the object of furnishing information with regularity to all the participating States. The duty of taking the initiative in organizing the international office of public health was left to France, and in 1907 a scheme was discussed at a meeting of representatives of thirteen Governments held at Rome. The countries concerned—Great Britain, Belgium, Brazil, Spain, the United States, France, Italy, Holland, Portugal, Roumania, Russia, Switzerland, and Egypt—agreed to contribute proportionally to the expense of establishing and maintaining the office. A Permanent International Committee was formed of representatives of the Governments concerned, the delegate for this country being Dr. Theodore Thomson, Medical Inspector to the Local Government Board. At the first meeting Dr. Santoliquido, the Italian delegate, was elected chairman, M. J. de Cazotte, a member of the French diplomatic service, who is stated to possess special experience in international sanitary police, was appointed director, and Dr. Pottevin, formerly director of the sanitary office at Havre, secretary-general.

The true object of the office is, to quote the words of the statutes of constitution, "to collect and bring to "the knowledge of the participating States the facts "and documents of a general character which relate "to public health, and especially as regards infectious "diseases—notably cholera, plague, and yellow fever, "as well as the measures taken to combat these "diseases." Some difficulty appears to have been

experienced in drafting this Article, as it was felt to be essential not to assign to the office duties which might be interpreted as entitling it to interfere with the sovereign rights of any State. M. Barrère, who, as French Ambassador, presided at the conference at Rome, said that it was essential to recognize that there was no idea of creating a body having any executive power whatever, or any power to intrude into the internal affairs of the different countries. It would have no right of control: its influence would be exclusively moral, and its prestige and authority would, in fact, depend upon this very quality. The second Article lays it down specifically that "the office may not interfere in "any way in the administration of the different "States," and Article 5 provides that "Governments "shall inform the office of the steps taken by them "to insure the application of international sanitary "conventions." The primary duty of the office, therefore, is to collect general information from different sources. But though the powers and duties of the office are thus limited, there can be no doubt that it may render very great services to international hygiene by collecting, arranging, and co-ordinating the information which it receives, and by studying subjects of international importance. It has, for instance, already considered the new conditions brought about by the construction of the Hedjaz railway, a matter to which attention was called in these columns some time ago. The Permanent International Committee, at its first meeting, placed on record the fact that the construction of the railways connecting Medina with Beyrout and Caiffa opened a way for the dissemination of epidemic diseases against which existing sanitary conventions, drawn up with a view of preventing the extension, during the pilgrimage, of cholera and plague by the sea route, did not provide. The committee accordingly adopted resolutions declaring that it is necessary in the interests of public health to add to the existing international sanitary regulations; these alterations can only be brought about by an international conference or by diplomatic procedure. In making the suggestion that the matter might be considered by an international conference, the committee was acting in accordance with Article 5 of the constitution, which empowers the office to suggest modifications which might with advantage be introduced into the provisions of existing international sanitary conventions. The principle could, of course, be extended to many other circumstances which influence the spread of epidemic diseases, such as emigration. The committee would also be within its rights in studying the general prophylactic measures which can be taken against all forms of communicable diseases. Finally, it should be said that the articles provide that the committee and the office shall correspond directly with the higher health authorities of the different countries, and with the sanitary councils of Alexandria, Constantinople, Tangiers, and Teheran.

The monthly *Bulletin* which is being issued will no doubt obviate a great deal of direct correspondence. It contains five sections: (1) Laws and general or local regulations promulgated in the various countries respecting transmissible diseases. (2) Information respecting the spread of infectious diseases. (3) Information respecting the works executed or the measures taken for improving the healthiness of localities. (4) Statistics dealing with public health. (5) Bibliographical notes.

As an illustration of the kind of information given in the *Bulletin*, we may say that the issue for September contains a copy of the agreement between the French and Belgian Governments of May, 1895, as to the notification of communicable diseases occurring on the frontier; a decree of the French Government with reference to the special measures to be taken against the importation and propagation of cholera in France; a copy of a circular on the same subject issued to prefects; a new French decree as to inspection of vessels coming from ports infected by cholera; a similar decree issued by Belgium: and the text of the German law as to the notification of certain diseases and as to the notification of ships in German ports.

Under the second section of the *Bulletin* we find lists of cases of deaths from cholera, plague, and yellow fever, received down to September 15th, and a note on the action taken by Turkey, Russia, Germany, Italy, Holland, Anglo-India, and Belgium, with reference to recent occurrences of cholera. The third section contains articles, for which apparently the director is responsible, on the filtration of drinking water by non-submerged sand filters, and the conclusion of an article on the purification of waste waters from manufactories. Under the fourth heading we find an abstract of the sanitary statistics for 1908 of the twenty principal towns of Egypt. The fifth section consists of short abstracts of papers and reports published in various periodicals. The committee is to meet annually in October, and will hold a second meeting if necessary in April.*

ANNUAL MEETING IN LONDON, 1910.

At the meeting of the Central Council of the British Medical Association on Wednesday last an invitation was received from the Metropolitan Counties Branch to hold the Annual Meeting next year in London, and was unanimously and cordially accepted. The Branch nominated Mr. H. T. Butlin, D.C.L., President of the Royal College of Surgeons of England, and a Vice-President of the British Medical Association, as President-elect, and he was thereupon unanimously elected. The Association has held its Annual Meeting in London on three occasions. The first was in 1862, when Dr. George Burrows was President; the second in 1873, when Sir William Ferguson was President; the third in 1895, when Sir J. Russell Reynolds was President. Mr. Butlin, who has already served the Association in many capacities, in particular as Treasurer for six years, will be a worthy successor of these distinguished men; and it can be said without hesitation that the members of the Metropolitan Counties Branch will not fail to put forth their best efforts to make the meeting as successful or more successful than those which have gone before. We may recall that an announcement has already been made that it is anticipated that invitations will be given to the Association to hold the Annual Meeting in Birmingham in 1911 and in Liverpool in 1912.

WHAT IS A PROPRIETARY REMEDY?

In the medico-legal columns this week will be found a judgement of the Court of Appeal touching a matter of some specific and much general interest. It was a case in which the Inland Revenue Department brought an action under the Medicine Stamp Act for the

* The address of the International Office of Public Health is at present 195, Boulevard St. Germain, Paris, and the subscription for the *Bulletin* is 10 francs a year post free; the price of a single number is 1 franc.

recovery of stamp duties against the English agent of Antineurasthin. For the defence it was urged that the composition of the preparation showed that it was not a medicine, but a food; a view further supported by the allegation that it was so regarded by the revenue authorities in Germany. To a medical mind the term "antineurasthin" would alone seem to indicate therapeutic rather than nutritive purposes, but the magistrate concluded that on the facts laid before him he could not hold it to be a medicine, and dismissed the case. On appeal the judgements quoted were given and the case remitted to the magistrate with an order to convict. The general interest of the matter lies in the fact that the question of what preparations come within the meaning of the Acts under which stamp duty is imposed on medicine and medicaments seems hitherto never to have been considered in detail by the Court of Appeal. On this occasion each of the judges in turn delivered his opinion, and these deliverances, though differing materially in their terms, are all to the same effect. Taking them as a whole, they seem to make it fairly clear that in relation to stamp duty, as in so many other connexions, it is the intention rather than the act which is of chief importance, and they inevitably call to mind the old conundrum, "When is a door not a door?" The analogous questions inferentially asked by the judges were two: When is a food not a food? and When is a drug not a drug, but a proprietary article liable to stamp duty? The answer to the first question would seem to be, "When it is "given not for ordinary purposes of nutrition, but for "the prevention, cure, or relief of disorders or com- "plaints affecting the human body, in which case "food is a drug." The second answer is somewhat more complicated. The question of when a drug ceases to be a drug in the ordinary sense of the term and becomes a patent medicine liable to duty is regulated by the circumstances preceding or accompanying the offering of it to the public, and in no wise by its composition. The "drug" might be a preparation consisting solely of plain bread or simple water, but nevertheless, if marketed in such fashion as to come within the provisions and definitions of the Acts regulating the imposition of a stamp on medicines and medicaments, then the drug would cease to be a drug and become a patent medicine or proprietary article liable to duty. The statements of the judges would seem to imply that, subject to one or other of two provisos, anything and everything vended for internal use or external application must be regarded as liable to stamp duty unless put forward as food for ordinary use, and not as curative or preventive of morbid conditions. The first proviso is that the preparation must be claimed to be made either by a method known only to the manufacturers or by one to the use of which they have an exclusive right or which is protected by patent. The alternative proviso is that the preparation is one which either before or at the time it is sold or offered for sale is claimed—either by public notice or by one accompanying the bottle or package—to be a nostrum or proprietary article, or to have a specific or other beneficial action in the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in any wise affecting the human body.

HOME RULE FOR LONDON.

THERE will be found in another column (p. 1312) a letter from one of the medical representatives of convocation on the Senate of the University of London which displays with really refreshing ingenuousness the artless attitude of those who are opposed to the introduction of the reforms so obviously necessary in the constitution of that Cinderella of universities. If it were not that they are always characteristic of the high Tory way of thinking—a most respectable turn of mind let it be freely admitted—it would be a little difficult to understand our correspondent's evident annoyance and desire for secrecy. It does not appear that he disputes the accuracy of the information given last week, and he seems to forget that the scheme proposed by Professor Starling and Dr. Hill, together with the memorandum by the first-named, was published in the JOURNAL last March (vol. i, p. 636). Why the appointment of a subcommittee called a faculty board by a body so large as the Faculty of Medicine should be followed by the dire consequences suggested is one of those mysteries which arise only in connexion with the administration of the University of London. We would most humbly submit that it is time to be done with mystery and to let in the free breath of public opinion. Our correspondent reproaches us with not having published the arguments on the other side. If we have not done so, it is because there are none: the opposition to this very simple and businesslike proposal is part and parcel of the long-drawn-out opposition to every proposal to make the university an efficient and effective university for London. That opposition had some twenty or thirty years within which to develop its arguments in Convocation. It produced only prejudices and talk about vested interests. That it failed during all this long period, in spite of the remarkable forensic ability of some of its then spokesmen, to produce arguments is proof sufficient for reasonable men that there were none to produce. That the administration of the Senate as at present constituted has been an egregious failure is sufficiently proved by the one fact that the Government has considered it necessary to appoint another Royal Commission to rescue the university from the muddle, and we may add, on the authority of our correspondent, the risk of bankruptcy into which it has been brought. Many other proofs might be given, but though 'tis not so deep as a well nor so wide as a church door, 'tis enough, 'twill serve: the Senate is peppered we warrant, for this world; it is a grave man and its funeral will follow as surely, if not as quickly, as Mercutio's.

THE ULTRA-MICROSCOPE.

ONE of the methods whereby it has been attempted to demonstrate objects which are too small to be visible under the ordinary microscope is based on the principle of dark-ground illumination. If a narrow beam of light is allowed to pass into a dark room, an observer with his line of vision at right angles to this beam can see the minute particles of dust which are illuminated, because his eye receives some of the rays of light which are diffracted from these luminous points, and is not confused by the diffusion of light from other sources. Similarly, if minute objects under the microscope are illuminated obliquely by a strong light which is not allowed to pass directly into the microscope, the objects in the microscopic field will appear luminous upon a black ground. Dr. Comandon, in a recent essay on the clinical use of the ultra-microscope,[1] endeavours to show that this method of examination may be applied with advantage to ordinary clinical material, as well as for the purpose of detecting extremely minute objects. Dispensing with the artificial effects produced by the fixing and staining of specimens, it provides a means for the direct observation of cells and micro-organisms in the living state. The author has used it

[1] *De l'usage en clinique de l'ultra-microscope: en particulier pour la recherche et l'étude des spirochètes.* Par le Dr. J. Comandon. Paris: G. Steinheil. 1909. (Roy. 8vo, pp. 174, with illustrations.)

in particular for the study of the syphilitic spirochaete, and declares that it imparts valuable information as to the exact morphology, movements, and biological characteristics of this organism. He thinks the method is suitable for general application in the study and identification of bacteria and other parasites, and also for investigations on the structure of cells *in vivo*. We admire the author's enthusiasm and appreciate his patient mastery of the difficult technique which is evidently to be grappled with before one can obtain satisfactory results with the "ultra-microscope." It would be most unwise to disparage any attempts to open out a new line of research, but at present the author's opinion about the value of his results appears to be unduly sanguine. Given a sufficiently powerful light, the "ultra-microscope" may be able to reveal objects which are too minute to be visible with ordinary methods, but it is difficult to understand how it can give accurate definition; and it therefore remains to be proved that in dealing with spirochaetes and other structures, which, though small, are not "ultra-visible," the dark-ground illumination of unstained material will add to our knowledge of structural detail.

THE ACTION OF SUN BATHS.

The idea that it is unnatural to protect the body from the full effect of the sun's rays by clothes has led certain persons, more especially in Germany, to advocate sun baths as a therapeutic measure. Grawitz, while recognizing that exercise in the open air is useful and healthy, has recently given some account of the injurious effect of outdoor sports and "nature healing," which involve excessive exposure of the unclothed body to the sun.[1] No scientific proof that sunlight has a specific beneficial action on the organism has, he maintains, been brought forward, while polar expeditions have demonstrated that adults can remain absolutely healthy for months even if sunlight is totally excluded. Direct exposure to sunlight, as is the case with other sources of heat, causes increased perspiration, and at times increased metabolism. But it has been shown that harmful effects are produced if the exposure is continued for more than an hour at a time, and if the head is uncovered. Grawitz states that he has seen a number of persons who have suffered from the damaging effects of prolonged exposure to sunlight, associated with the taking of the various forms of so-called "open-air" baths. In these cases the persons bathe first, then lie for a time on the sandy banks of the river or lake, then go into the water again, and so on for many hours. The chief symptoms produced by this sun bath are irregularity and acceleration of the heart-beat, systolic murmurs, increase of the cardiac dullness towards the right, high tension pulse, accentuated second sounds, and occasionally collapse. In a few cases the temperature was raised. In addition to those symptoms affecting the circulatory system, he mentions others indicative of increased irritability of the nervous system, often affecting strong and otherwise healthy persons. In some cases the symptoms were so severe that the relatives were alarmed. Grawitz stated that children frequently exhibit similar nervous symptoms when exposed to the effect of the sun on the beach at the seaside. Although they look sunburnt and otherwise well, they often present nervous symptoms which show that the change has done more harm than good. He suggests that children should not be allowed to be in the sun between midday and 4 p.m., but should play in woods or sheltered places during these hours. With regard to the treatment, he advises cold applications to the head and to the cardiac region, cold drinks, and in severe cases analeptics.

[1] *Deut. med. Woch.*, August 18th, 1909.

THE HEALTH OF ARMIES.

The eighteenth annual meeting of the Association of Military Surgeons of the United States was, we learn from the *Boston Medical and Surgical Journal*, held recently in Washington. Representatives from eleven foreign countries were present. In his annual address, Surgeon-General Rixey recommended that an increase of authority should be granted to medical officers of the army and navy, and dwelt on the necessity of more efficient organization and co-ordination of State and national medical departments. During the meeting attention was called to a recent article in the *British Annual*, presenting a statistical comparison of the health of various national armies, based on the relative percentage of admissions to military hospitals. In the United States the annual number of admissions is 1,250 per 1,000; in France, Germany, and Austria, over 600; in England, only 324. The high American rate is partly explained by the fact that the figure includes all soldiers excused from any part of their duty for medical reasons, whether they are admitted to hospital or not. Tabulation of the relative prevalence of various diseases shows that the incidence of venereal disease is 178.72 per 1,000 in the United States army, 81.8 in the British, and only 19.8 in the German. The reason for this is alleged to be the greater personal freedom and the higher pay given to American and English soldiers. The following is the order of frequency of tuberculosis in the armies: France, the United States, England, Russia, Germany, Austria. Cardiac disease is commonest in the British Army. The total peace death-rate in the United States Army is 6.14 per 1,000, that of Great Britain and France about half as much.

MOUTH-WASHES.

R. Bassenge has tested the antiseptic power of the mouth-washes most widely advertised.[1] He points out that the claims made for these washes must be regarded with suspicion, in face of the fact that solutions of mercury perchloride in concentrations of from 0.5 to 1 per 1,000 fail to produce even temporary sterilization of the oral cavity. For the purposes of his experiments he chose those easily killed bacteria which are at times found in water and which form the chief dangers to the human race—that is, cholera, typhoid, paratyphoid, dysentery, and diphtheria—and selected ten widely advertized mouth-washes. A glass of tap water (that is, 200 c.cm.) which had been previously sterilized was infected with a broth culture of the various bacteria. First a control subculture on ordinary sterile peptone broth was made. Then the measured quantity of the mouth-wash to be tested was added, and subcultures were made after the lapse of varying periods, partly on agar plates and partly in broth. He does not state whether any attempt was made to neutralize the disinfectant before making the subculture, and in the absence of any such statement it must be presumed that this was not done. The mouth-washes were allowed to act on the bacteria at the room temperature (59° F.), and at that of warm water (95° F.). No indication is given of the antiseptic supposed to be contained in the washes, save in the one case of perhydrol, which, as is well known, is a 30 per cent. solution of H_2O_2. This solution was employed in a concentration of 33 per cent., so that we may assume that the glass of water contained 10 per cent. of pure

[1] *Deutsche medizinische Wochenschrift*, August 19th, 1909.

hydrogen peroxide. The dilution of this in inoculating broth subcultures would be such as would exclude any inhibitory action of the oxidizing agent. But in the other cases this may not have been so. An inhibitory action is possible when a mere trace of some of the antiseptics, such as mercuric chloride, is present. The following mouth-washes failed to kill typhoid bacilli at 95° F. within five minutes in the concentrations prescribed by the manufacturers: *Desnos, Kothe's tooth water, Odol, Ozonodont, Eau de Botot, Eau de Pierre*, and *Listerine*. *Kosmodont* killed the typhoid bacilli in three minutes, but failed to destroy cholera bacilli in the same time. *Stomatol*, it is stated, killed the typhoid bacilli in two minutes at 95° F. At room temperature the action was still less effective. Only perhydrol acted antiseptically within four minutes, this agent killing all germs within a few seconds in the concentration mentioned above. From this it will be seen that, with the exception of the hydrogen peroxide preparation, which is not a true mouth-wash in the sense of the manufacturers, but is a well-characterized chemical substance, the action of which is known, the mixture of the advertised mouth-washes in a glass of water in the concentrations advertized must fail to kill dangerous pathogenic bacteria within four minutes, a space of time which would be longer than a person usually allows the water to be used for brushing his teeth to stand. If the bacteria are introduced into the mouth together with the mouth-wash, a further dilution will certainly take place, and even if the increased temperature favours the action of the mouth-wash, the bacteria would have a good chance of remaining alive. The water is rarely, if ever, kept in the mouth for five minutes, so that the results of Bassenge's investigations, so far as they go, would appear to justify the conclusion that mouth-washes can be of little use as disinfectants.

MALARIA IN ITALY.

The recently founded Italian national league against malaria held its first meeting on October 6th at Milan under the presidency of Professor Baccelli. Senator Golgi, as chairman of the local organizing committee, delivered the opening address, in which he referred to the vast improvement due to the law of compulsory supply of quinine to labourers; in a few years the mortality from the disease had diminished by three-fourths. As regards agricultural and water-supply betterments, he recognized that so far the results had not been very encouraging: he hoped, however, that the laws made on the subject would not continue to remain a dead letter. In regard to human beings, the improvement was beyond all question. Where the measures were carried out rigorously, it had been shown by Negri that the disease disappeared so completely that not a single case was to be found in the following year. Golgi did not, however, think that the general adoption of prophylaxis by the systematic administration of quinine to healthy people was justified. On the other hand, mechanical prophylaxis by the use of mosquito netting on the doors and windows of dwellings gave satisfactory results. The efforts of the league should, he urged, be directed to the application and perfecting of the methods already known, and to the study of new means of combating the disease. Professor Baccelli, who next spoke, suggested that a national, or even an international, congress against malaria should be held in Rome in 1911. Then the league would have the opportunity of demonstrating publicly the work it had done up to that time. He announced that the Government would hand over for the purposes of the league the profits made on the sale of quinine by the State. The Central Committee was then constituted as follows: Professor Baccelli, President; Professor Golgi, Professor Lustig, Professor Gosio, Dr. Picchi, Professor Gobbi, Professor Di Mattei, Professor Canalis, Senator Ponti, and Signori Badaloni, Villaresi, and Cabrini.

INTERNATIONAL HYGIENE EXHIBITION.

An International Hygiene Exhibition is to be held at Dresden in 1911. Dresden was chosen on account of its exceptional experience in holding exhibitions, its central position in Europe, and the adequate accommodation for such an undertaking which it possesses. The exhibition grounds and palace have been placed at the disposal of the organizers of the congress, but when it was found that even the extensive grounds of the former would not suffice for the purpose, the King graciously consented to throw in a portion of the royal garden. The Government promised a considerable sum of money, the town followed suit, and a subscription list in the neighbourhood soon produced about one million marks. The exhibition will be under the patronage of the King of Saxony. Among the honorary presidents are His Excellency von Bethmann-Hollweg, Count von Buelow, and the Burgomaster, Dr. Beutler; the honorary committee contains the names of a large number of well-known ministers, diplomatists, and scientists. A general board of management has been constituted and a small working committee appointed from it. The scientific management has been entrusted to Dr. Weber, of the Kaiserlichen Gesundheitsamt, while the sectional committee is composed of Drs. Ingelfinger, Luerssen, Mallwitz, Neustätter, Roesle, and Xylander. The aims of the exhibition are to place before the expert hygienist, including medical men, officials attached to town and county councils, Government officials, school teachers, engineers, and political economists, all the latest achievements of hygiene, and to enlighten the public and indirectly to awaken an active interest in the public mind for all matters connected with the protection of health. The exhibition will be divided into twelve groups and five special groups, as well as a department for exhibits dealing with the historical development of hygiene. The groups are as follows: (1) Light, air, soil, and water; (2) housing, dwellings, and settlements; (3) nutrition and foodstuffs; (4) clothing and care of the body; (5) occupation; (6) infectious diseases; (7) sick nursing and ambulance work; (8) the care of infants, of school children, and of young persons; (9) traffic; (10) military and naval; (11) tropical hygiene; (12) statistical. Special groups will deal with (*a*) tuberculosis, (*b*) alcoholism, (*c*) venereal diseases, (*d*) cancer, and (*e*) diseases of the teeth. The presidents of the individual groups will be Germans of reputation, while scientists of all other nations will be invited to act as vice-presidents and as members of the group committees. Each country will be invited to be represented by national committees, the choice of the members of such committees being made centrally in Dresden. We are informed that an invitation to a number of leaders in the various branches of hygiene in England to form a British committee will shortly be issued.

A meeting of friends and former pupils of the late Professor D. J. Cunningham will be held (by permission of the Provost) in the Medical School, Trinity College, Dublin, on Wednesday next, at 4.30 p.m., to take steps to establish in the school a memorial of his connexion with Dublin University.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Reports of Royal Commission on Vivisection.—On Tuesday the Home Secretary stated, in answer to a question by Sir Walter Foster, that he understood that a draft of the report was in an advanced state of preparation, but he was unable as yet to say when it would be presented.

Asylum Officers Superannuation Bill.—The Lords considered this Bill in Committee on Monday, when Lord Donoughmore moved two amendments to provide that established officers and servants should be divided into two classes for the purposes of superannuation. He moved in the interests of the London County Council officers connected with their asylums, many of whom he thought would not come within the scope of the bill. Lord Monk Bretton and Lord Clifford opposed, and Lord Beauchamp said he thought a large number of the persons referred to were really included in the bill, and it was plain that any servant who was in contact with lunatics would come within the scheme. The amendments were then withdrawn. An amendment of Lord Monk Bretton was accepted to provide that the division of established officers and servants into classes should be made by the Visiting Committee of each asylum with the consent of the local authority. On Clause 2 Lord Belper moved to substitute 20 years for 15 as the qualifying period of service, and 55 instead of 50 years as the retiring age. The Archbishop of Canterbury and Lord Ashbourne opposed, and the Duke of Northumberland spoke strongly on the charge on the rates not having been properly stated. Lord Monk Bretton agreed to accept the amendments, and hoped the Government would not on that account condemn the bill. The amendments were then made. An amendment providing for allowances to first-class officers during incapacity was accepted. A proposal to make the scheme as regards second-class officers adoptive was rejected, and then a new subsection was inserted providing for grants or allowances to persons injured in the discharge of their duty. A small amendment was made in Clause 6 by substituting three years for five, and an amendment was made by Lord Belper to Clause 14. A new clause enabling service in a Poor Law asylum to count for pension was then carried, and after some other small changes had been made the bill was reported to the House.

Poor Law Midwifery Orders.—Last week Mr. Henry Walker asked the President of the Local Government Board whether he had sanctioned the rules of some boards of guardians restricting midwifery orders to mothers who had already not less than a specified number of children: and, if not, whether he would express his official disapproval to the boards which had embodied this restrictive provision in their rules. Mr. Burns said the reply to the first part of the question was in the negative. He was aware that in the Minority Report of the Royal Commission on the Poor Laws and Relief of Distress attention was drawn to the rules of certain boards of guardians restricting the grant of midwifery orders to mothers with a prescribed number of children. He had made inquiry on the subject, and he found that in some of the cases cited the rule was seldom or never acted upon, whilst in others it did not apply if the relief was given by way of loan. He was still giving attention to the matter.

The Naval Medical Service.—Dr. Rutherford asked the First Lord of the Admiralty last week whether his attention had been called to the acquittal of Fleet Surgeon Charles Matthew by court-martial on a charge of behaving with contempt towards Commander Richard Walters, and also to the fact that Fleet Surgeon Matthew was placed on the retired list at his own request on account of the charge: whether Commander Walters had retired; and what steps he was taking, in the interests of efficiency in the navy, to remove the alleged grievances of the naval medical service. Mr. McKenna replied that Fleet Surgeon Matthew had been placed on the retired list at his own request; Commander Walters had not retired. He should be glad if his hon. friend would direct his attention to the alleged grievances referred to in the last part of his question. Dr. Rutherford then asked whether a Commission was appointed to inquire into these alleged grievances, and if so, had it reported. Mr. McKenna answered that a Committee was appointed to inquire into certain circumstances affecting the medical service in the navy, but he would not describe them as grievances.

Feeding Suffragettes in Prison.—In answer to Mr. Snowden, Mr. Gladstone said some of the Suffragettes were received at Newcastle Gaol on October 9th and others on the following Monday. Lady Constance Lytton and Mrs. Brailsford were received on Monday and were discharged on Wednesday, and on that day it became necessary to feed some of the others. All the prisoners (eleven in number) were medically examined with the utmost care. Four of them were found to be suffering from heart disease. The four were released on the recommendation of the medical officer. "I need hardly say," he said, "there is not the slightest ground for the insinuation that Lady Constance Lytton was released because she was a peer's sister. She was released solely on medical grounds." The medical examination was made before they were forcibly fed. In answer to Mr. Keir Hardie, Mr. Gladstone said that he understood that Mrs. Leigh was still being forcibly fed in Birmingham prison.

The Oaths Bill.—This bill was in Committee in the Upper House on Monday last, and on Clause 2, dealing with the administration of the oath, an amendment was agreed to, on the motion of Earl Beauchamp, describing the following form for administering an oath: "The person taking the oath shall hold the New Testament in his uplifted hand and shall say, or repeat after the officer administering the oath, the words, 'I swear by Almighty God' . . . followed by the words of the oath prescribed by law." A proviso was also inserted that in the case of a person who is not a Christian the oath shall be administered as nearly as may be in the same form, "but with such modification of the words or ceremony as may make the same conformable to the religious faith, or binding on the conscience of such person." Clause 4 was amended so as to provide that the bill shall come into operation on January 1st, 1910, instead of this year. The bill was afterwards reported with amendments to the House. On the report stage on Tuesday Lord Alverstone amended the bill so as to provide that an oath shall be administered to a non-Christian witness "in any manner which is now lawful."

Care of Feeble-Minded (Royal Commission).—Mr. Henry Walker asked whether any legislation was being prepared to give effect to the recommendations of the Royal Commission on the Care and Control of the Feeble-minded, with particular reference to the removal of mentally-defective persons from the workhouses. Mr. Burns replied that the initiation of legislation affecting the methods of dealing with mentally-defective persons in public institutions would not be a matter primarily for his department; but the recommendations of the Royal Commission on the particular matter referred to in the question would not be lost sight of when any such legislation was proposed.

Carbon Monoxide Poisoning.—Mr. George Roberts asked the Secretary of State for the Home Department if his attention had been directed to a disease affecting certain workers in the printing trade known as carbon monoxide poisoning, arising from the fumes of a gas now being largely used in heating the metal pots attached to linotype composing machines; and whether he would cause an inquiry to be made with a view to the disease being scheduled as an industrial

disease under the Workmen's Compensation Act' Mr. Gladstone replied that he had made inquiry into the case, and the reports would appear to show that it was a case of gradual poisoning by carbon monoxide. Such cases were extremely rare, and no other case of the kind in connexion with linotype work was known to the Department. Poisoning by carbon monoxide was, of course, not uncommon, but it was almost invariably more or less sudden, and of the nature of an accident, so as to come clearly under the main provisions of the Workmen's Compensation Act. The question of scheduling carbon monoxide poisoning as a disease was considered by the Industrial Diseases Committee, but they were unable to regard the evidence as sufficient to justify their recommending its inclusion. In view, however, of the present case, he would give instructions for the matter to be carefully watched by the officers of the Department. Mr. Lupton, in a supplementary question, pointed out that gas companies had of late years introduced carbonic monoxide into their gas in much larger proportions, and that a leakage might cause the poisoning.

Vaccination Act (1907) Declarations.—Mr. Lupton asked the President of the Local Government Board if he would state for what proportion of the births occurring from January 1st to June 30th, 1909, were declarations made under the Vaccination Act, 1907; and how many declarations were actually made during that period. Mr. Burns answered that the number of births in England and Wales registered in the first two quarters of 1909 was 466,216. It could not at present be stated in respect of how many of these children statutory declarations of conscientious objection to vaccination had been made. The number of declarations received by the vaccination officers during the first six months of the present year might be stated approximately as 88,500.

Hospital Accommodation for Rosyth.—Major Anstruther-Gray asked the First Lord of the Admiralty what hospital accommodation had been installed at Rosyth, and how far would victims of an accident at the new dockyard works have to be carried before receiving treatment in hospital, and what provisions had been made for transport thereto. Mr. McKenna said that no hospital accommodation had yet been installed at Rosyth. Injured men requiring hospital treatment were conveyed about three miles and a half to Dunfermline Hospital. The contractors had arranged for the use of the St. Andrews Association's ambulance wagon, which was kept in Dunfermline. This could be summoned by telephone and arrive on the site in twenty-five or thirty minutes. Less serious cases could be transported by the contractors' motor car in fifteen minutes. In answer to supplementary questions, Mr. McKenna said the matter was one for the contractors who employed the labour. There were 575 men now employed at Rosyth, and in March next there would probably be 2,000. [We understand that the contractors intend to erect a works hospital at or near Rosyth.]

Poisonous and Inflammable Hair-washes.—Sir William Collins asked the Secretary of State for the Home Department whether he proposed to take any action with a view to restrict or prevent the use of substances for shampooing the hair which by reason of their poisonous or inflammable qualities were liable to cause serious injury or fatal results. Dr. Rutherford also asked whether, in view of the recent further deaths which had taken place in the metropolis from the use of inflammable hair-washes, he could hold out any hope of the introduction of legislation next session for the purpose of prohibiting the use of such preparations. Mr. Gladstone said that the matter was receiving serious attention, and the question whether legislation ought to be undertaken would be fully considered. In the meantime, he might point out that, as intimated by counsel in the recent proceedings at Westminster Police-court, the Director of Public Prosecutions would certainly prosecute for manslaughter if tetrachloride should again be used and a fatal result ensue. The inquest in the recent case of two deaths arising from the use of petrol was not yet concluded: but when the inquest was completed the question of prosecution would be considered by the Director of Public Prosecutions.

Meat Supply and Examination of Carcasses.—On Monday last Mr. Keir Hardie asked the Board of Agriculture whether, with a view to the more effectual protection of the public health, he would consider the desirability of making it compulsory upon all owners of live stock commonly used or sold for the food of man to notify the local authority within twenty-four hours of any ailing, injured, or apparently diseased animal, in order to prevent such animal being offered upon his premises, or removed therefrom, for the purpose of sale until the carcass of such animal had been duly examined by a qualified veterinary surgeon, and that the penalty for contravention of any such amended Act should be made sufficiently heavy to prevent the foisting of anything unfit or unsound upon those who were responsible for the distribution of the meat supply of the United Kingdom. Mr. Burns, who replied, said that he would take note of the suggestion, but he could not promise to introduce legislation for the purpose of giving effect to it. There would, he thought, be a good deal of difficulty in the matter.

Civil Medical Departments (India).—Mr. Rees asked whether Eurasian military assistant surgeons lent to civil and medical departments in India were not generally statutory natives of India, and in that case equally qualified with natives of India proper for all and sundry appointments reserved for natives of India; and whether natives of India, Europeans, and Eurasians were as such in any way disqualified from employment in the Civil Medical Department. The Master of Elibank said that the reply to the first question was in the affirmative. Indians were equally eligible with Europeans for admission to the Indian Medical Service, which service contained many Indian members. As to the Civil Medical Department, he begged to refer to the papers recently presented to Parliament.

Medical Appointments (India).—Mr. Hazleton asked the Under Secretary of State for India whether the India Office had received a resolution unanimously adopted at a meeting of the members of the medical profession, held under the auspices of the Bombay Medical Union, submitting that the present system of reserving all high and important posts in the medical service of India for military officers of the Indian Medical Service had led to the systematic exclusion of Indian doctors from them, no matter how highly qualified or deserving those Indian doctors might be; whether he was aware that the system in question had given rise to discontent and imposed unnecessary expense of over £100,000 on the Indian revenue; and what steps it was proposed to take in the matter. The Master of Elibank replied that the Secretary of State had not received the resolution referred to; on the general subject, he would refer to the correspondence recently presented to Parliament as to the steps that were being taken to promote the growth of an independent medical profession in India by throwing open to the profession in general some of the various civil appointments now held by officers of the Indian Medical Service, and other similar appointments that might be created in future.

The Housing Bill.—The consideration of the Lords' amendments by the Commons has been postponed till Monday next.

Holidays for Lords and Commons.—The House of Lords, at the conclusion of its sitting on Tuesday, adjourned till Monday, November 8th, and on Wednesday the Prime Minister announced that on November 5th the House of Commons would adjourn till November 23rd. The Development Bill, he stated, would be considered after November 23rd.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

SHEFFIELD.

APPOINTMENTS.

SEVERAL changes have taken place recently in the *personnel* of the staffs of the Royal Infirmary, the Royal Hospital, and the Medical Faculty of the University. The lectureship on ophthalmology and the post of honorary ophthalmic surgeon to the Royal Infirmary, rendered vacant by the death of Dr. Simeon Snell, have been bestowed on Mr. George Henry Pooley, late of St. George's Hospital. At the Royal Hospital Mr. George Wilkinson has been elected to the newly created office of honorary aural surgeon, vacating his post on the general surgical staff, which in future will comprise two surgeons and two assistant surgeons. The rearranged staff has been completed by the election of Mr. F. A. Hadley as an assistant surgeon. Dr. Archibald Young has resigned the office of assistant physician, and is succeeded by Dr. H. G. M. Henry. Mr. A. M. Connell has relinquished the lectureship on operative surgery for that on practical surgery.

NEW SURGICAL BLOCK, ROYAL INFIRMARY.

The ever-increasing demand for additional accommodation has compelled the boards of the infirmary and the hospital to add to their existing buildings. At the Royal Infirmary a new surgical block, comprising 180 beds with operation theatres, is in course of erection, and will be ready for occupation next summer. The building has been designed by Messrs. Gibbs and Flocton of Sheffield. It consists of three stories, each of which comprises two large wards of 28 beds and four small isolation wards, with the usual complement of ward kitchens, store rooms, clinical room, etc. The principal wards measure 112 ft. in length by 26 ft. in width. The operation theatres are situated over the central portion of the building, and on either side flat roofs will provide abundant space for patients who require outdoor life. It is an ill wind that blows nobody any good, and the unusual depression in the building trade has enabled the infirmary board to secure low-priced tenders, and it is confidently hoped that the entire cost of the block will amount to less than £200 a bed.

ADDITIONS TO THE ROYAL HOSPITAL.

The rebuilding of the Royal Hospital, which was commenced nearly twenty years ago, is still incomplete. The Board is at present engaged in the erection of ophthalmic wards and a suite of operation theatres. Additional wards and an extension of the nurses' house are urgently needed, and will be taken in hand as soon as the necessary capital is forthcoming.

The organization of the Third Northern General Territorial Hospital is almost completed, and at an early date the nurses will be presented by the Lady Mayoress with their badges.

SCHOLARSHIPS.

The joint clinical committee has very generously offered two entrance scholarships in medicine of the value of 150 and 50 guineas respectively, and an anonymous donor has offered one of 100 guineas to women students of medicine.

WEST YORKSHIRE.

AFTER-CARE OF SANATORIUM PATIENTS.

For the last two years the phthisical cases coming to the knowledge of the Bradford Board of Guardians have been notified to the City Guild of Help for friendly visitation and after-care. The report of the work during the two years ended October 1st, 1909, has recently been presented. Of 169 cases discharged after treatment at the sanatoriums 71 have been classed as satisfactory and 31 are still being visited. Of the remainder 11 have died, 11 have entered the union hospital, and others were not taken up for other reasons, such as being outside of the union area. The report observes that in a great many cases the value of after-care is manifest at once. Patients have been advised to sleep in separate beds, and, if possible, in separate bedrooms with the windows wide open, to be in the fresh air as much as possible, whilst in some cases outside employment has been found for them, such as insurance canvassing and hawking. The report observes: "The after-care of consumptives is extremely difficult and disheartening work for untrained voluntary workers, and in view of this the results obtained are extraordinarily satisfactory." The Guild of Help also visited 60 cases which had been notified as being unsuitable for sanatorium treatment, and regarding them the report states: "The work here is preventative, and much has to be done to help the families of the patients to avoid risk of infection."

MANCHESTER AND DISTRICT.

STATE INSURANCE AND THE FRIENDLY SOCIETIES.

AT the annual meeting of the Lancashire and Cheshire Union of the National Independent Order of Oddfellows held at Bury, Lancashire, last week, the President made some remarks on the Government scheme of State insurance which are of interest in relation to the provident dispensary scheme of the Royal Commission on the Poor Laws. He expressed the opinion that the officials of the Friendly Societies' Conference had been well advised in meeting the Chancellor of the Exchequer to discuss the question of State insurance, and he understood that they had a virtual assurance that the Government would not proceed with legislation on the subject until a full scheme had been laid before the various friendly societies. It was much easier to gain reasonable concessions by friendly negotiations before a bill was drafted than when it was before the House of Commons. As an example of this, he said that if the leading friendly societies had not absolutely refused to discuss the grant of old age pensions except on their own terms, the Act would have been more favourable to the friendly societies than it was. He thought that compulsory insurance would be not only necessary but beneficial in some cases, both to the individual and to the community, and the friendly societies ought to support any reasonable scheme which would compel people to make provision against the inevitable time of sickness and adversity. The large number of lapses that occurred in the societies every year would become a thing of the past under a system of compulsory insurance. An announcement had been made which, if it had any meaning at all, undoubtedly meant that the projected State insurance was to be worked through and in co-operation with the registered friendly societies. This recognition of the sound friendly societies would practically drive people into their societies.

There can be little doubt that the President is correct in his anticipation that State insurance worked through friendly societies would drive people into the societies, and the opinion has been expressed in Manchester that the direct result of that would be to cause a great extension of a sort of medical club practice that is by no means satisfactory to the profession. There would also be some damage done to the provident dispensaries organized by Divisions of the British Medical Association, so much so, in fact, that they would have little or no chance unless there were a refusal of medical practitioners to work for the friendly societies. Such a refusal is not at all impossible in certain places unless some better terms and conditions are granted by the friendly societies to their medical officers, and for their own sakes the societies would be well advised to come to an agreement on some outstanding grievances without further delay. To get a scheme of State insurance passed by the legislature and then to find that the medical part

of it was unworkable from a refusal of self-respecting medical men to act as medical officers would largely counterbalance any advantage the scheme might bring to the societies. The assistance of medical men is absolutely necessary to make any scheme efficient, and it is felt in Manchester that there is every reason why the Government should consult the medical profession as well as the friendly societies—at any rate, on some details which so seriously affect the profession.

The far-reaching effects of insurance against sickness and accident were well brought out by Sir Lees Knowles at the annual meeting of the governors and subscribers to the Salford Royal Hospital. He had been alluding to the fact that the hospital was still in need of about £28 000 towards the building fund, and that the expenditure for the year had exceeded the income by £564, which would have to be taken from investments, and he mentioned that in Germany there were several forms of insurance. Insurances against sickness were paid two-thirds by the workman and one-third by the employer, and insurances against accident were paid by the employer. In several State hospitals which he visited he found that those patients who were privately insured were able to obtain private rooms in the hospital, for which they paid, during the winter, first class 4s. 5d., second class 2s. 4d., and third class 1s. 8d. a day, and slightly less in the summer. Private individuals not so insured were charged for private rooms first class 7s., second class 4s. 6d., and third class 4s. per day. The cost of each patient in the large wards was about 3s. per day, and payment for ordinary patients was made by employer and employed by means of insurance, and when there was a deficit it was wholly or partly made up by the State. Sir Lees Knowles thought that possibly in the future if the hospital could not raise funds such a scheme would come to their assistance. The question may be asked why, if direct payment for services rendered by hospitals can be thus arranged by insurance, the method might not be extended to private medical attendance. The result could hardly be worse than much of the club practice of to-day.

The Break-up of the Poor Law.

A meeting was held last week at the Onward Buildings, Manchester, to inaugurate a local branch of the National Committee to Promote the Break up of the Poor Law. The meeting had been advertised in the *Manchester Guardian* and the *Evening News*, and in the latter advertisement it was stated that the meeting was a public meeting and for discussion. Attracted by this, a solitary medical man went who had an idea that there are good points in both reports. About sixty persons were present, half being ladies. The Chairman began by finding fault with the title of the society, on the ground that "break-up of the Poor Law" did not suggest any constructive policy such as was in the minds of its founders. He approved of the object of the National Committee, but thought that some provision should be made to retain the services of the present members of Poor Law bodies. Mr. Colegate, the Organizing Secretary of the National Committee, in a long address, explained the main features of the Minority Report, and contrasted it with what he called the "antidemocratic" Majority Report. Apparently the solitary medical man had not been convinced that the Minority scheme was the panacea that it had been represented, and he essayed to address the meeting. No sooner had he appealed to the meeting to take the best points of both reports and not to be led away by the speech of the Organizing Secretary, which showed a woful ignorance of the Majority Report, than an attempt was made to stop him speaking. It then turned out that most, if not all, of the rest of the audience had been summoned by circular, a copy of which was shown, and that no discussion of the report was intended. It was strongly denied by the convener of the meeting that there had been any advertisement announcing a discussion, or, if there had, he asserted that it was without authority, and the medical man, not having a paper with him, could not prove it at the time. The Chairman, however, allowed him to conclude his remarks, which, of course, in such a meeting were ineffectual. A local committee was then elected to commence propagandism in favour of the Minority Report. The meeting was held at the Onward Buildings, Deansgate, on Wednesday, the 20th, and on that day the *Evening News* had in its first column the following advertisement:

> League of Progressive Thought and Social Service, Onward Buildings, 207, Deansgate, To-night. Subject: "Break-up of the Poor Laws." Public Meeting. Discussion.

LEEDS.

Medical Leeds Fifty Years Ago.

On October 19th Sir Clifford Allbutt opened a new nurses' home and new operating rooms in the infirmary at Dewsbury, the town of his birth. In a speech delivered on the occasion Sir Clifford Allbutt said the operating theatre he had just seen had not, of course, cost a tithe of the nurses' home, but he thought its significance was equally great. When he looked back upon the colleagues who were in practice in Yorkshire in the old days, and even when he looked on the men who were practising in Yorkshire now, he could not but feel that shrewd common sense, resourcefulness, kindness of heart, and sympathy were the qualities which really made the practitioner in those times, and he trusted that no practitioner of the present time was without them. But a radical change has passed over the medical profession. Now personal shrewdness, common sense, and kindliness were only a portion of the necessary equipment of the scientific professor of medicine. Such an operating theatre fifty years ago would have been received with shouts of laughter and would have been regarded as absurd by theoretical persons. And yet it had now become vital in practice. It had been learnt that upon minute detail might depend the issue of human life, and upon the very smallest precaution. In the time he was speaking of infectious disease came and swept the people off. When he was at the Leeds Fever Hospital the house was always full, and possibly the corridors as well, with malignant forms of disease which were never seen now. Scarlet fever was quite a plague, whereas it was now so lightly regarded that very often it scarcely needed medical advice at all. The malignancy of such diseases had been enormously reduced by the general improvement of the sanitary conditions of the country by a deliberate preventive system of medicine. The operating room was a symbol of the profound change which had come about. In the days he referred to at the fever hospital he remembered there were two nurses for over eighty patients—one for the male and the other for the female sick. "They were," said Sir Clifford Allbutt, "great, powerful, red-faced women, who ate a great deal of beef and drank a great deal of beer, and they lifted the patients as you would lift puppy dogs. These two women ran the two wards. I should be the last person in the world to speak ill of them; they were certainly not overpaid, and they were overworked. At night there was a third person who had the whole hospital to look after—patients who were profoundly ill, suffering from typhus, typhoid fever, scarlet fever, and small-pox." But, as might be imagined, there was little real nursing. What a revolution had occurred! Nursing had become a profession. And how had it become one? Because there were now new principles of nursing, and it was plain that the life of a patient now often depended more upon the work of the nurse than upon the physician or the surgeon. Therefore, they felt that nursing had now become co-ordinated with their own profession. Sometimes in critical moments much would depend upon the doctor, but at other times the continual service of the case would depend upon the profession of nursing.

LONDON.

LUNACY IN 1908.

THE recently issued annual report[1] of the Asylums Committee of the London County Council for the year ended March 31st, 1909, containing the lunacy statistics for the year 1908, shows that on January 1st, 1908, the total number of insane persons chargeable to London rates, including criminal lunatics and private patients in the London County Asylums, was 26,170, and on January 1st, 1909, 26,848. The increase for the year of 678 may be compared with that of 403 for the year 1907 or with the average increase for the last nineteen years of 552. It should be mentioned that the term "private patients" refers to those who pay the bare pauper maintenance rate, or in the case of Manor Asylum 16s. 11d. a week, and who, if they were not thus classified, would have to be provided for as pauper patients.

Of the total number on January 1st, 1909, 19,716 were lunatics under reception orders, for whose accommodation the county was responsible; 6,763 were in Metropolitan Asylums Board Asylums, and 369 were in workhouses or with relatives or friends. During the year 1908 the lunatics under reception orders increased by 476, those under the Metropolitan Asylums Board by 230, and those in workhouses or with friends decreased by 28.

Considering only pauper lunatics chargeable to unions and parishes in the County of London or to the county rates, these numbered on January 1st, 1909, 26,293; on January 1st, 1908, 25,685; and on January 1st, 1907, 25,341. Regarding this increase the Asylums Committee still retain the opinion expressed in former reports, that much is due to a lessened death-rate and the accumulation of chronic cases and to a more comprehensive registration, and not to a greater prevalence of lunacy among the population.

A table furnished by the committee shows that the ratio of pauper lunatics in the county on January 1st, 1909, to estimated population was 5.62 per 1,000, as compared with 5.51 per 1,000 on January 1st, 1908, and 5.46 per 1,000 on January 1st, 1907. As regards the ratios to population of the several unions and parishes, we see that the Strand is, as usual, the highest, with 13.5 per 1,000; and Hampstead the lowest, with 2.6 per 1,000.

The increase in the total number of lunatics, the committee says, cannot be ignored, and it is pointed out that when the accommodation provided by the Metropolitan Asylums Board is full, or otherwise not available, patients who are suitable for the Asylums Board's care are sent to London County Asylums. Every London pauper lunatic certified for detention in a lunatic asylum adds to the number for which the county is responsible, the inability of the Asylums Board to admit patients directly to its asylums causing an increase in the county cases. This inability, it is stated, does not exist now, but the fact remains that in twenty years the chronic lunatics and imbeciles with the Metropolitan Asylums Board have increased only from 5,566 to 6,763, whereas the patients for whom the county is primarily responsible have increased from 10,104 to 19,716.

Accommodation.

The total accommodation in the London County Asylums on January 1st, 1909, was for 19,659; or, excluding that at Claybury Hall, for 19,595. At the date of this report all the contracts with out-county asylums for the reception of London patients had terminated, with the exception of one for 100 males at Ruberry Hill and one for 40 males at Hellingly. All the patients boarded out under other contracts have now been brought back to London asylums.

Admissions.

On January 1st, 1908, there were 18,832 patients on the registers of the London asylums, including the epileptic colony at Ewell, and on the last day of the year there were 19,440. The total cases under care during the year numbered 22,911, and the average daily numbers on the registers 19,254. During the year 4,079—1,920 males and 2,159 females—were admitted, being 1,219 less than the admissions of 1907 and 184 more than those of 1906. The average age was for the males 41.92 years, for the females 43.12, or for both together 42.55, as compared with 43.06 for 1907 or 41.47 for 1906. Last year 813 were of 60 years or over: this year there were only 586. As to civil state, 1,820 were single, 1,718 married, and the rest widowed.

Of the total admissions 3,613 were direct admissions and 466 transfers and statutory readmissions. The numbers of the direct admissions are said to have been fairly constant during the past seven years, but their value as a guide to the incidence of insanity has to be discounted by the fact that they depend partly on the amount of available accommodation. Now, however, that practically the whole of London's insane are housed in the county asylums, future statistics should afford an index to the fluctuations in London's occurring insanity. Last year the direct admissions numbered 3,558, so that there was an increase in this class of 55, whereas in the previous year there was a decrease of 23.

As to the duration of the disorder on admission and considering only the direct admissions, the attacks were first attacks within three months in 1,446 and in 476 more within twelve months of admission; not-first attacks within twelve months in 752; in 105 in whom it was unknown whether the attack was first attack or not the attacks also were within twelve months; in 64 the duration was unknown; 2 were not insane, and in the remaining 768, including 161 congenital cases, the attacks were of more than twelve months' duration on admission. Thus, of the total direct admissions, 2,440, or 67.6 per cent., were "first-attack" cases. It is pointed out in the report also that while 1,473 of the 3,450 direct admissions (excluding congenital cases) were removed to an asylum within one month of the onset of the insanity, no less than 508 had been mentally disordered for more than twelve months before admission to the asylum. It is further pointed out that as these 508 cases obviously did not belong to the occurring insanity of 1908, they to that extent vitiate the value of the statistics as evidence on this point. It would be interesting to know whether the proportion of such cases to the total direct admissions is or is not fairly constant, as in the former case the value of the evidence would not be seriously affected.

Turning to the forms of mental disorder, the direct admissions were classified as follows: Mania, recent 523, chronic 67, and recurrent 205; melancholia, recent 828, chronic 75, and recurrent 179; senile and secondary dementia 189, delusional insanity 433, general paralysis of the insane 334, insanity with epilepsy 195, confusional insanity 176, insanity with grosser brain lesions 80, primary dementia 59, stupor 25, alternating insanity 18, volitional insanity 27, moral insanity 8, acute delirium 6, not insane 2, and congenital or infantile defect, with epilepsy 62, without epilepsy 104, and moral imbecility 8. It will be noted that the general paralytics formed 9.2 per cent. of the total direct admissions, thus giving a proportion for London County almost half as great again as that for England and Wales.

Etiology.

With regard to the assigned etiological factors and associated conditions in the total direct admissions, alcohol was returned as principal cause in 402 and as contributory in 339 more, giving a total alcoholic causation in 741, or 20.5 per cent. Excluding, however, 481 cases in which no cause was assigned and the 2 not insane, alcohol figures as cause in 23.6 per cent. Acquired syphilis was assigned in 381, or 12.1 per cent., giving a combined proportion from these two causes of alcohol and syphilis, calculated on the direct admissions, after deducting those in which no cause was assigned, of 35.8 per cent. Among other toxic causes were: Influenza in 90, tuberculosis in 37, and specific fevers in 18.

[1] The Twentieth Annual Report of the Asylums Committee as to the London County Asylums, for the year ended March 31st, 1909. P. S. King and Son, Westminster, S.W. Price, 2s.

Critical periods were assigned in 677 child-bearing in 117, diseases of the nervous system (including epilepsy in 212) in 375, other bodily affections (including cardio-vascular degeneration in 312) in 555, bodily trauma in 160, and mental stress in 999. An insane heredity was ascertained in 795, or 22.0 per cent., an alcoholic heredity in 275, an epileptic heredity in 118 and of neuroses and marked eccentricity in 54, giving a total neuropathic heredity in 1,242, or 34.3 per cent. of the total direct admissions. The special table with reference to the general paralytics admitted shows that the commencement of the illness fell in the largest number in the age period 35 to 44; the next largest number between 45 and 54, and the next largest between 25 and 34. Positive evidences of previous syphilitic infection were found in 192 out of 353 general paralytics, or in 57.6 per cent. The proportions at the several asylums vary extremely, ranging from 90 per cent. in one asylum to 38 per cent. in another. An interesting fact is that of the 192 paralytics offering definite signs of syphilis 142 were married and 10 widowed.

Readmissions.

The committee furnish the usual returns of the number of patients readmitted to the London County Asylums. These show that during the fourteen years ended December 31st, 1908, 16,572 patients had been discharged as recovered, of whom, up to March 31st, 1908, 4,678, or 28.22 per cent., had been readmitted. Further, they show that 1,999 of these, or 12.06 per cent., had to be readmitted within twelve months of their discharge. Under existing conditions this is unavoidable, and the committee says that it is awaiting anxiously the action to be taken on the recommendation of the Royal Commission on the Feeble-minded with regard to dealing with the present difficulties in this matter.

Discharges. Deaths, etc.

During the year 1,181 were discharged as recovered, giving a recovery-rate on the direct admissions of 32.68 per cent., or of recoveries in the direct admissions on the direct admissions of 31.16 per cent. The recovery-rate of 32.68 per cent. is the lowest recorded since 1893, when it was 31.78 per cent., and may be compared with the average for the last nineteen years of 37.52 per cent. Also 496 were discharged as relieved and 254 as not improved. During the year 1,540 died, giving a death-rate on the average numbers resident of 8.00 per cent. This is also the lowest death-rate for any year since 1890, since when the death-rates have been steadily declining. The deaths were due in 504 to diseases of the nervous system, including 323 deaths from general paralysis and 64 from epilepsy; in 257 to heart diseases; in 86 to diseases of blood vessels; in 92 to diseases of respiratory organs; in 31 to diseases of the digestive system; in 59 to diseases of the urinary system; in 5 to diseases of the ductless glands; in single cases to suppurative otitis, uterine fibroid, arthritis, mollities ossium, pemphigus, and debility; in 139 to senile decay, and in 5 to accident or violence. In the remaining 436 the deaths were due to general diseases, including 59 from lobar pneumonia, 51 from bronchopneumonia, 41 from carcinoma, 35 from dysentery, and 196, or 12.7 per cent. of the total deaths, from tuberculous diseases.

Cost.

The net weekly cost per head for patients maintained in London County Asylums (combined average) for the year ending March 31st, 1909, was 10s. 1.79d., as compared with 10s. 5.44d. for the preceding year.

The Pathologist's Report.

The report of Dr. Mott, Director of the Pathological Laboratory and Pathologist of the London County Asylums, contains an outline of the work carried out during the year. The routine work comprised systematic examinations made upon pathological material supplied from the several London asylums, also on blood, sputum for tuberculosis, swabs for diphtheria blood and cerebral spinal fluid for lymphocyte and Wassermann reaction, and samples of urine for abnormal chemical and microscopical constituents. In addition a large amount of scientific investigation has been carried out by Dr. Mott and others working in the laboratory, the results having been published in the *Archives of Neurology and Psychiatry* and other publications.

As mentioned last year, Dr. Mott is engaged in an inquiry into the patients in the London asylums who are related to each other, with a view to discovering their chief clinical types of insanity, and, in the case of death, the convolution patterns of the brains. Dr. Mott has now obtained particulars of a large number of cases, but at the present stage he considers it would be unwise to give statistics. In time Dr. Mott hopes to collect a fairly complete list of what he terms the "insane families" under the care of the London County Council. The most common types of insanity among these cases are, he says, imbecility, dementia praecox, and manic-depressive insanity. There are also, however, cases of paranoia and epilepsy. Dr. Mott gives also the usual information as to tuberculosis and dysentery in the London asylums. Dr. Mott shows that, of the 19,424 patients resident in the asylums on March 31st, 1909 394, or 2.03 per cent., were reported as tuberculous. Also during the year, 1,490 necropsies were made, and out of 225 of those reported as tuberculous, the diagnosis was confirmed in 168, or 84 per cent., the remaining cases showing either obsolescent disease only or no signs of phthisis. In addition, in 58 cases the presence of active pulmonary tuberculosis was ascertained for the first time at the autopsy. Of the total number of necropsies made, tuberculous lesions were found in 15.16 per cent.

With regard to dysentery, there were altogether 268 cases amongst the patients during the year ending February 28th, 1909, as compared with 242 during the previous twelve months. Although the total number of cases shows an increase on the previous year, the conditions of the asylums generally has continued to improve, the increase being due to the heavy returns from Long Grove Asylum (81 cases).

NORFOLK.

The Norfolk and Norwich Hospital.

On Monday last the King paid a visit to the Norfolk and Norwich Hospital at Norwich, and laid the foundation-stone of a new isolation and septic block, which is the first of the series of extensions the governors of this hospital now have under contemplation. His Majesty was received at the hospital by the President, the Earl of Leicester, G.C.V.O., C.M.G., and by the Bishop of Thetford, in the absence through illness of the Vice-President, the Lord Bishop of Norwich. A few presentations were made to His Majesty, including Sir Peter Eade, the consulting physician; Dr. Michael Beverley and Mr. Haynes Robinson, the consulting surgeons; Dr. S. J. Barton, the senior physician; Mr. S. H. Burton, the senior surgeon; and Miss F. A. Cann, the matron.

An address was read to His Majesty by Lord Leicester, to which the King replied as follows:

I thank you for your loyal address of welcome which your lordship has presented to me from the governing body and friends of the Norfolk and Norwich Hospital. I well remember my visits to you in 1879 and 1884. The hospital is, and always will be, associated in my mind with the personality of the late Lord Leicester, a man whom, as you know, I held in the highest esteem and regard during the many years of my residence in your county. (Applause.) It was of great interest to me to hear the account of the good work performed by the hospital since its opening. I am glad to say that a want, long felt by the hospital authorities, and one which has in many cases hampered their efforts, has now been supplied, and it is a source of gratification to me to open to-day the extension of the hospital designed as an isolation block for the reception of such cases as cannot without risk of infection be allowed to associate with other patients. No greater blessings exist for the poor classes of the country than the institutions which provide for their relief and care in illness, and any movement to establish new buildings for the purpose of extending those already in existence, or to render them more efficient, will always have my warmest support. (Applause.) I am sure that those charitable men and women who have liberally contributed to your hospital in the past will themselves continue their support, and will by their

efforts stimulate others to assist this noble work of charity. The encouragement you give to your nurses to join the nursing service of the Territorial Forces meets with my utmost cordial approval. In matters of life and death the services of the trained nurse are no less essential than those of the physician or surgeon. I pray that the blessing of God may rest upon your labours.

A souvenir of the occasion was presented to those attending the ceremony by the Building Committee. In addition to portraits of the King and Queen, and the order of proceedings, it contained a short history of the hospital illustrated by a portrait of Mr. William Fellowes of Shottesham, to whose munificence the hospital mainly owed its origin, and by whom the foundation of the earliest building was laid in 1771; of Mr. Benjamin Gooch, the first consulting surgeon; of the Earl of Leicester, who started a special endowment fund, and altogether contributed nearly £58,000 for the purposes of the hospital; and of Mr. William Cadge, together with pictures of the building as it appeared in 1778, and as it now is.

Over £17,000 has already been subscribed towards the £50,000 required for the new buildings.

WALES.

EXTENSION OF CARDIFF INFIRMARY.

ON October 21st Mrs. John Nixon laid the foundation stone of the new wing of the Cardiff Infirmary. The chairman, Major-General Lee, invited donors to place gifts on the stone. Within half an hour some £9,127 10s. 2d. —the odd 2d. being given by a little boy—was subscribed. The list of subscribers to the fund which is being raised for the extension is long, but the principal one is Mrs. John Nixon, who gave the handsome sum of 10,000 guineas. Principal E. H. Griffiths, in moving a vote of thanks, referred to the problem of fighting disease, and stated that it was essential that science and medicine, surgical and hospital treatment should go hand in hand. The future of the Cardiff Infirmary was full of bright promise, and owing to the gift of the Treasury they were now in a position to look upon a closer union between the Infirmary and the University College and a larger extension of the medical school. A medical school could not be founded on £15,000 a year. The public must help. The resolution was seconded by the Rev. D. Davies. Professor Hepburn (Dean of the Medical Faculty), in supporting, said that the medical school brought before the public the first-fruits of all departments of science, and the whole community gained infinitely more than the mere cost of providing the opportunity. The University of Wales had established medical degrees which were the finest yet set going, and if they were to live up to those degrees they must provide a medical school, which would be thoroughly modern. The resolution was carried by acclamation.

THE HOUSING DIFFICULTY.

Dr. D. T. Rocyn Jones, J.P., County Medical Officer of Health for Monmouthshire, has just presented a report to the County Sanitary Committee on the condition of Abersychan. The estimated population of the area is 19,545, and the birth-rate last year was 41, death-rate 15.1, phthisis death-rate 0.5, zymotic death-rate 3.8, infantile mortality-rate, 113.4. The last named compares favourably with that of other industrial centres similarly situated. In the matter of subsidiary sewerage, provision for the isolation of the infected sick, health visiting for the reduction of infant mortality, and the future disposal of domestic refuse, the council, he says, is certainly a progressive body, and is ahead of the majority of the urban councils in the county. But in regard to the housing question, he regrets to record that the council's attitude is decidedly unsatisfactory. The disposal of domestic refuse is by means of tipping; many of these tips abut on the main road, and in one instance the tip is within a very short distance of a public elementary school, and is thus a menace to the health of the children attending this school. With regard to sewerage and drainage, great improvements have been effected during the past ten years; but he found that of the sewer outfalls a few directly and others indirectly poured their contents into the Avon Lwyd, increasing the nuisance started in the Blaenavon area. Dealing with the isolation hospital wards, Dr. Jones states that they are beautifully clean, well-ventilated, and the provision of a sufficient number of trained nurses might with advantage be emulated by some other councils. The lady health visitor is doing very useful work in the district, and her efforts, under the guidance of Dr. Mulligan, the district medical officer of health, will undoubtedly produce very beneficial results in the matter of cleanliness, decent living, and the saving of infant life. A public recreation ground and an open-air swimming bath have been provided, and the surveyor has been instructed to report upon the available sites at Pontnewynydd and in the South Ward, where similar open-air baths could be made. Summarizing his recommendations, Dr. Rocyn Jones submits to the urban council (1) the adoption of the Housing of the Working Classes Act, 1890; (2) the closure of the cellar dwellings and the houses named in the report, and the conversion of all cellar dwellings, with the dwellings immediately above them, into one through-house in each case; (3) the conversion of two adjoining back-to-back houses into one house, with through ventilation; (4) the conversion of back-to-earth houses into damp-proof houses by the excavation back of the adjoining soil at the rear curtilages to a sufficient depth to ensure an adequate dry area at the rear; (5) enforcement of the by-laws with regard to domestic refuse scavenging; (6) a public abattoir; (7) a refuse destructor; this is now under consideration by the council.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE CHAIR OF ANATOMY, GLASGOW UNIVERSITY.

PROFESSOR T. H. BRYCE, who was appointed to succeed Professor Cleland in the Chair of Anatomy at Glasgow University, was introduced to the students by Principal Sir Donald MacAlister on October 18th. The Principal said that the new professor was no stranger to Glasgow and to the medical school. He had been sixteen years teacher at Queen Margaret College.

Professor Bryce acknowledged the welcome and delivered an inaugural address on "The Teaching of Anatomy in Glasgow." The chair, he said, was founded in 1718, and for one hundred years included the Professorship of Botany, but, notwithstanding some specialization, the chair had always remained one of Comparative Anatomy, and the ideal of 1720—that university teaching of anatomy involved the profession of everything that elucidated the structures of the human body—remained the ideal of 1909. In speaking of former occupants of the chair, Professor Bryce paid a high tribute to Professor Cleland, who, he said, held a foremost place amongst the anatomists of the day in respect to the breadth of his scientific horizon. He had been generally acknowledged as the most philosophic anatomist of his time. By his gift to the university, and to his successors in the Chair of Anatomy, of his admirable and interesting collection, Professor Cleland had left a rich inheritance, for which they could not be too grateful. Professor Bryce then outlined the courses in the different branches of the subject which he proposed to continue or to institute, and explained that his aim would be to combine in his instruction the scientific with the practical ideals of anatomical teaching.

EDINBURGH ROYAL INFIRMARY AND THE RETIREMENT OF PROFESSOR CHIENE.

The managers of the Royal Infirmary of Edinburgh have minuted the following appreciation of the services rendered to that institution by Professor Chiene:

Owing to his resignation of the Chair of Surgery, which he has so long adorned, the managers have had regretfully to part with the services of Professor John Chiene, and Professor Chiene's connexion with the Royal Infirmary has been a long

and brilliant one. He received the appointment of Assistant Surgeon in 1871, and was promoted to the post of Acting Surgeon in 1878. Four years later he became Professor of Surgery in the University of Edinburgh, and was entrusted by the managers with charge of the wards attached to that Chair. His services, given wholeheartedly and enthusiastically, have thus extended continuously over the long period of thirty-eight years. The managers desire, in now taking leave of Professor Chiene, in his capacity of one of the surgical staff of the Royal Infirmary, to record the very high esteem in which they hold him as a man, a surgeon, and a teacher, and their grateful recognition of the unfailing kindness which has throughout characterized his relations with his colleagues, and the skill and interest he has shown in his care of the many patients who have passed through his hands. His skilful and judicious treatment of patients from far and near, and his good influence over them, and all with whom he has worked in the infirmary, will be long and gratefully remembered. The managers regret that Professor Chiene's retirement should have been caused by ill health. They trust that relief from the strain of teaching and hospital practice may effectually restore him. In token of their high appreciation of his great reputation as a surgeon and professor, as well as of his past services to the institution, the managers beg to offer him the post of consulting surgeon.

Royal (Dick) Veterinary College, Edinburgh.

To illustrate the fact that veterinary science is now being sufficiently recognized by the educational authorities it may be mentioned that in connexion with the movement for rebuilding the Royal (Dick) Veterinary College, Edinburgh, on a new site at the east end of the Meadows, the Scottish Education Department has formally decided to recognize the College as a central institution under the Education Act of 1908, and to provide up to £25,000, a sum equal to the amount raised locally, towards the cost of the new building. The college, which is the oldest of its kind in Scotland, is said to be more largely endowed in respect of its Chairs than any veterinary institution in the kingdom. The proposed new position fronting the Meadows has the great advantage of being near the medical schools of Edinburgh, with whose work veterinary science must gradually become more closely associated. The cost of the site is estimated at £8,750, and that of the new buildings £41,250; so that, allowing for the proportion to be granted from Government funds, the amount to be raised by subscription is £25,000. The plans show the site divided into two portions. The front part is to be occupied by the main buildings, which form the teaching section, and on the back portion the clinical section will be raised. The buildings of the teaching section are to be arranged so as to enclose a large grass court. Most of the buildings in the clinical section, situated behind the main group, are to be one story high, and will consist of two operating rooms, a *post-mortem* room, stable and byre accommodation, dog and cat wards, consulting rooms, apartments for the professors, and pharmacy rooms. In the court a "lunging" ring and a trotting track will be provided. The college was founded in 1823 by Professor Dick, the son of an Edinburgh farrier. Professor Dick commenced his teaching venture with one student, but the number of pupils rapidly increased. When he died in 1866 he left the college in trust to the Lord Provost and Magistrates of the City.

Lunacy in Glasgow.

In the twelfth annual report of the Glasgow District Asylum, Gartloch, Dr. Parker, the medical superintendent, refers to an important innovation which has been introduced by him. With a view of endeavouring to re-educate the faculties of the younger lethargic dements he has introduced musical drill. The experiment has been tried first on female patients and consists in training them to perform simple drill exercises, including musical drill and singing exercises, such as might be employed in schools for young children or for young persons of congenitally weak mind. Singing classes are also conducted in the various female wards. A special drill mistress has been appointed. Though the experiment has only been in force for a comparatively short time, Dr. Parker states that the classes promise to be useful and to assist a wider circle than that originally thought of. Open-air bed treatment continues to give satisfaction, and is used in all new and recurrent cases. After ten years' experience of it, he has no hesitation in stating that its routine use in new and excited cases secures more restfulness, better sleep, and better assimilation of food than when patients are treated either out of bed or in bed indoors. Cases of excitement do better in bed as a rule and best in the open air, and as much alone as can be arranged. In prolonged cases of bed treatment, massage, hot or cold sprays, prolonged baths or the static brush applications are used to secure peripheral stimulation, and improve the circulation and assimilation. Dr. Parker again finds alcohol, alone or in combination, the most prolific cause of the insanity in the cases admitted. The recovery-rate at Gartloch (37.58 per cent.) is very satisfactory, as the less troublesome and more easily recoverable cases do not go there, but continue to be treated in the observation ward at Duke Street without certification. During the year there were 96 deaths. As usual, general paralysis heads the list of the causes of death, and is responsible for fully 29 per cent. of the total. The maintenance rate has again been reduced this year from £28 16s. 5½d. to £27 1s. 1½d.

It is interesting to compare Dr. Parker's report with that of Dr. Carswell, certifying physician in lunacy to the Glasgow Parish Council. He points out that there has been a gradual increase in the proportion of pauper lunatics chargeable to Glasgow from 314.7 per 100,000 of population in 1901 to 371.8 in 1909. He thinks that this increase is due partly to the accumulation and partly to the increasing disposition to send to the asylums persons suffering from senile forms of mental weakness. The increased numbers in asylums do not necessarily mean an increase in the number of persons becoming insane. The real test is the number becoming insane for the first time: this has remained fairly steady since 1901. Further, the rate is remarkably steady for those so admitted between the ages of 15 and 45—that is, the active period of life. The increase has been almost entirely in the occurrence-rate among people over 45. The following table brings this clearly out:

Year.	Total No. of Cases.	Proportion per 10,000 of Population living at those Ages.	No. of Cases.	Proportion per 10,000 of Population living at those Ages.
	(15-45.)	(15-45.)	(Over 45.)	(Over 45.)
1901	231	8.0	120	12.7
1902	255	8.8	127	13.3
1903	210	7.1	156	16.0
1904	246	8.2	109	11.0
1905	244	7.9	163	16.2
1906	222	7.1	134	13.1
1907	245	7.7	167	16.2
1908	218	6.8	193	18.4
1909	243	7.4	175	16.3

It is argued that there is here no evidence of race deterioration, as this would also affect the admission-rate during the active period of life. The fluctuating but increasing admission-rate of those over 45 is largely accounted for by trade depression and other social causes. Dr. Carswell states that the most potent causes of insanity between 25 and 50 years of age are syphilis and alcohol, and it appears that the former is causing more insanity than the latter.

Fife Miners.

The Kelty doctor question dispute, which the profession in Scotland have been watching with much interest, has been amicably settled. The heads of the agreement, which will probably apply to the whole of Fife, were adjusted in the following terms:

1. Each man employed at the Fife Coal Company's collieries in the Kelty district to nominate on the back of his pay ticket on a day to be afterwards named, the doctor whose services he desires for the next quarter, a list of the names of the men to be sent to the doctor who has been nominated by them.

2. Quarterly each man shall thereafter nominate on the back of his pay ticket the doctor whose services he desires for the ensuing quarter.

3. Each doctor to receive the contributions of the men who nominate him.

4. In accident cases requiring immediate attention the first doctor called must attend until the man's own doctor is available, when the case shall be handed over to him.

5. Either party may reopen this arrangement at the end of six months from this date.

6. The question of the supply of medicines to be further discussed after consultation with the men and the Fife Medical Association.

7. Pending final arrangements, the 6d. per fortnight deducted for medicines and medical attendance from the date of expiry of the notices already lodged shall be retained by the company, and divided between the doctors, according to the nominations of the men.

THE EDINBURGH AND LEITH MEDICAL PRACTITIONERS' ASSOCIATION.

The annual general meeting of this Association was held on October 15th, when it was reported that discussions had been held on public health matters, the medical aspects of the new Scottish Education Act, and on club practice. The committee had taken action in several cases affecting the relations between doctors and various public bodies. The social side of the association was held to be very important, and there had been a dinner, a smoker, and two golfing outings, all of which were well attended. The membership was 276. There had been three deaths during the year—Drs. W. W. Ireland, Charles Kennedy, and Donald Murray. Dr. Elder was accorded a hearty vote of thanks for his good offices as first president, and Dr. James Ritchie was elected to succeed him.

The second annual dinner was held on October 21st, when about ninety were present. The guests were: The President of the Royal College of Surgeons of Edinburgh, Professors Alexis Thomson, Arthur Robinson, and F. M. Caird, Sir John Batty Tuke, and Dr. Clouston. Professor Alexis Thomson, who proposed the toast of the association, said that it was now a settled corporate body, and there was no need for him to offer advice, but rather to offer congratulations on its satisfactory progress and on the good work it had done and was doing. He praised the social side of the association, and thought it a most excellent way of bringing professional brethren into contact. Dr. James Ritchie briefly replied, and thereafter Drs. Darling, Gulland, Orr, Barnetson, Elder, Fordyce, and James helped by song and story to pass a very pleasant evening.

EDINBURGH POST-GRADUATE VACATION COURSE IN MEDICINE.

No fewer than 87 members of the profession attended the autumn course this year. There were 7 ladies. There came from the United States as many as 13 members, 7 from Australia, 6 from India, 5 from Canada, and others from British Guiana, the Federated Malay States, China, British Columbia, New Zealand, Tasmania, Central Africa, New South Wales, Jamaica, and Palestine.

INVERNESS-SHIRE SANATORIUM FOR PHTHISIS.

The first annual report of this sanatorium has just been issued. The same difficulty in connexion with the admission of patients in a sufficiently early stage of the disease which was the experience of the Ross-shire sanatorium exists here, although the report states that it is diminishing. The free beds to which fourteen patients are admitted were always full, and twenty-eight paid as much as their means allowed. The finances as yet only allow of a small number of free beds. In all 42 patients were admitted. The disease was arrested in 28.5 per cent., and 47.2 per cent. were improved. One patient died after admission, and three after being sent out.

SCARLET FEVER IN EDINBURGH.

Scarlet fever continues to be the outstanding infectious disease in Edinburgh. In the week ending October 23rd, 44 fresh cases were notified, and on that day there were 269 cases under treatment in the City Hospital at Colinton Mains. There is a singular absence of enteric fever.

ROSS MEMORIAL HOSPITAL, DINGWALL.

Last week the new fever wards of this hospital were formally opened. The extension has long been required, and is the most important effected since the inception of the institution thirty-six years ago. The present extension consists of an up-to-date suite of wards for the isolation and segregation of infectious diseases. The fever wards have been removed from the main building, which is now entirely devoted to medical and surgical cases.

Sydney.

REGISTRATION OF PRIVATE HOSPITALS.

THE regulations under the Private Hospitals Act have been gazetted, and steps will at once be taken to bring the Act into force. As soon as possible the Act and regulations thereunder will be printed and circulated, but this does not relieve proprietors of such hospitals from the responsibility of lodging their applications. All private hospitals must in future be carried on under the authority of a licence. The administration falls upon the Chief Secretary and the Board of Health. The regulations require that every person who on October 1st is carrying on any private hospital or who proposes thereafter to open any private hospital shall apply to the Secretary of the Board of Health for a licence. The applicant must also forward testimonials of good character and fitness to conduct a private hospital from reputed and known persons. Applications for the renewal of licences must be made annually not later than November 15th in the current year, and will, if granted, take effect from January 1st next ensuing. No alterations, additions, or subtractions may be made in any licensed building, nor any alteration in the use of the licensed rooms except by permission first obtained from the Board of Health. Applications for the exemption of hospitals from the operation of the Act must give a full statement of the reasons why exemption should be granted. In addition to providing rules for the registration and inspection of private hospitals, this Act requires the Board of Health to keep a register of hospital nurses and of midwifery nurses, and to give every person so registered a certificate of registration. The names of nurses may be removed from the register after inquiry. If cause for such inquiry appears to the Board, the nurse is to be informed of any charges against her, and she is to have the opportunity of answering them and showing that her name ought not to be removed. There are other regulations bearing on the reporting of births and deaths occurring in private hospitals, and also on the reporting of cases of infectious diseases occurring therein. The main objects of this Act, which was introduced into Parliament by the Hon. Dr. C. K. Mackellar, is, of course, to get at the lying-in hospitals and other houses which are used as abortion houses, and it should be effective in suppressing these institutions.

DEATH OF DR. MUSKETT.

Dr. Muskett, a well-known practitioner in Sydney, died rather suddenly at his residence last month. He was a native of Victoria, and was 52 years of age at the time of his death. He was a student in Melbourne, and then proceeded to Edinburgh, where he obtained the diplomas of the Colleges of Physicians and Surgeons. He returned to Melbourne, and was a resident medical officer at the Melbourne Hospital. He was afterwards Resident Medical Officer at the Sydney Hospital. He held other offices, including that of Medical Superintendent of the Quarantine Station many years ago. He was best known to the public of New South Wales by his popular medical writings on diet, infant feeding, etc. His funeral took place at Waverley Cemetery. He was unmarried. Application is being made for probate of his will to be sworn at £150,000. The income of this amount is to be paid to his sister for her life. At her death his trustees are

to distribute annually £1,000 among the following charities, the first seven to receive £100, and the remaining six £50 each: Sydney Hospital, Sydney Fresh Air League, Melbourne Hospital, and the following hospitals for sick children: Melbourne, Brisbane, Adelaide, Western Australia, Hobart, Launceston, Auckland, Wellington (N.Z.), Christchurch, and Dunedin. The trustees are also instructed to establish "The Philip Muskett Biennial Bequest." The bequest is to be competed for in the form of an essay every second year; such competition is to be open to any person of Australasian birth, or who has resided in Australia half his or her life. The object of the bequest, which will be worth at the outset about £700, and later £1,000, is to popularize and promote the principles which the testator always advocated in his published works—namely, the education of mothers to prevent the deaths of so many Australian infants, the improvement of Australian national food habits, and the extension of teaching technical education in the State schools. The bequest is to be administered by the committee for the time being of the Sydney School of Arts. It is laid down that the essays must reach the secretary on or before March 31st in each year in which the bequest is open for competition, the award of the committee is to be made before June 30th next following, and the winner of the prize will be required to read the essay in the hall of the institution on September 30th. Provision is also made for advertising the bequest by £1,000 being set aside as a notification fund. The income to be derived from the investment of the notification fund is to be increased until it reaches £100 per annum, and the advertisements are to be inserted in the newspapers in the Commonwealth and New Zealand.

Special Correspondence.

PARIS.

Unveiling of Statue of late Professor Tillaux.—The Second International Pure Food Congress.

A monument to the late Professor Tillaux was recently unveiled in the gardens of Clamart, close to the amphitheatre where he for so many years taught anatomy, being director from 1864 to 1890, as well as professor of clinical surgery. He died in 1904 at the age of 70. The statue, representing the professor wearing his dissecting apron, and demonstrating with his finger on the body of a youth on the table beside him, is by the celebrated sculptor Jules Chaplain. In addition to M. Lepine, the Préfet de Police, M. Mesureur, director of the Assistance Publique; M. Bayet, director of higher education, there were present the Dean of the Faculty of Medicine, the President of the Surgical Congress, and a great number of Professor Tillaux's former colleagues and pupils in the profession.

The Second International Congress for the suppression of food frauds, which is due to the initiative of the White Cross Society of Geneva, has been holding its meetings during the past week in Paris. The congress was very largely attended, no less than twenty-eight governments being represented. Professor Bordas presided, and in his inaugural address summarized the programme of the congress as (1) the examination of the operations necessary to the preparation of food commercially pure, and (2) the drawing up of definitions of the primary substances of drugs and chemical products. With regard to pure foods, the following were some of the more important decisions: At Geneva last year it was decided that 16 per cent. of water in butter was permissible; it has now been decided that the amount of water must not exceed 18 per cent. It was recognized that the employment of a preservative in butter was indispensable. Natural ice should be derived from water whose purity was guaranteed by a declaration of the sanitary authority, the ice being collected, stored, and transported under conditions preventing all external contamination. Wines for export could be fortified with alcohol derived from malt. Jams coloured with cochineal could be considered as "pure sweets." Coffee mixed with chicory was an adulterated food, and must not be sold as pure coffee; when chicory was mixed with ground coffee the fact must be stated on the labels. Artificial colouring of butter was not to be reckoned an adulteration.

VIENNA.

Threatened Strike of Hospital Residents.—The Winter Term.—The Dispute between Dental Surgeons and Dentists.

In the Vienna hospitals, especially those under State control, the medical staff complains of a number of grievances of old standing. The position of the juniors is not clearly defined, and their duties and rights are often interfered with by administrative necessities. The pay is generally low, hardly ever exceeding £65 per annum in case of residents, and £80 in that of assistants, with lodging and only partial board. Recently the demand for hospital residents was so great that these appointments were offered to men fresh from the university, whereas formerly a man had to serve for some years without remuneration before being eligible for such a post. At present, however, the prospects in country practice is better; therefore many young doctors prefer to spend their time in the hospitals of smaller towns, where they can also have private practice at the same time. A memorandum enumerating the grievances of the hospital doctors (not including the chiefs of clinics and other wards) was drawn up in February, and forwarded to the proper authorities. No satisfactory answer having been returned, a partial strike in the smaller hospitals was contemplated. This caused a number of promises of reforms to be made to the doctors. None of these, however, have been put in force up till now. The doctors have finally informed the officials that unless their wishes are fulfilled they will send in notice of resignation of their posts on November 1st. It is hoped that this threat will be sufficient to bring about a speedy redress of the grievances. Public sympathy is with the doctors, and the bureaucratic method in which the matter has been dealt with by the authorities is unanimously condemned in the papers.

The present winter term, which lasts until the end of March, promises to be a most fruitful one for the students. No fewer than 457 separate classes and courses are announced in the *Lectionskatalog* or official programme, being 12 more than last year. The number of lecturing professors is 96; of these, 29 are ordinary, 67 extraordinary; 167 privat docents will help them to bring up the required total of classes. There will be 97 classes in medicine, 49 in surgery, 43 in gynaecology and obstetrics, 39 dealing with pathological anatomy, 38 in dermatology, 32 in ophthalmology, 27 in otology, 23 in psychiatry, and many others dealing with anatomy, pediatrics, chemistry, forensic medicine, materia medica, and laryngology. The fees are rather low, especially for students, whilst doctors —foreign as well as Italian—have to pay the full fee of at least £2 2s. for a course of twenty hours. Some are dearer, but as a rule they do not exceed a maximum of £4 4s. Special classes in English language will also be held, but these are not enumerated in the programme, being privately arranged with foreign visitors.

The dispute between dental surgeons and dentists—which is, in fact, nothing else but the endeavour of non-qualified men to obtain the right of qualified practitioners —has caused much uneasiness in the profession. The following are the chief points of the dispute: On the one hand, the dental surgeons, who must have the M.D. diploma of a recognized university in this country, wish to keep all manipulations for the repair of damaged teeth and the artificial replacement of lost teeth in their own hands. On the other hand, the dentists—formerly mere technical assistants of the surgeons—have organized themselves and demand that the surgeons should be restricted to purely surgical interference within the mouth, while the remainder of dentistry, including the extraction of carious teeth and the filling of cavities, is to be their lawful preserve. Such a concession would not only mean the ruin of many hundreds of medical men in this country, but also a breach of the present law, which

says that nobody may practise medicine or surgery on human beings for profit unless he holds a university diploma entitling him to do so. The whole profession is supporting the dental surgeons, whilst many influential men in public life are favouring the dentists. The question will shortly be brought before Parliament, as a bill is being prepared by the Government, and both parties are trying their best to enlist public opinion on their side.

Correspondence.

HOME RULE FOR LONDON.

SIR,—In answering the letters which have appeared in your JOURNAL during the last two weeks I may say that I do not propose to be drawn off into various side issues which make for nothing.

As to the matriculation examination and the questions raised concerning it, if the writer will refer to the *Times* of October 27th he will see a complete answer in a letter written by myself.

My statement that there was little difference between the strictly medical examinations of the Conjoint Examination Board and the London University was made from information supplied by those most likely to know—namely, examiners in both the London and the Conjoint examinations.

It is not to be expected that anyone from the provinces who has or hopes to have a hospital appointment will do otherwise than decry any attempt to improve the position of London as a great medical centre, and also it is well known that a certain class of graduate of the University of London will do almost anything to keep the present suicidal arrangements in force. My appeal was in no sense addressed to them—it would be useless to do so. It was addressed to people with a large enough mind to look beyond the mere trivialities of an examination more or less hard to pass because of some peculiarities which are of no practical value, and who would be able to see the great possibilities of medical London in the future if the various examining bodies would only wheel into line.

Nothing could be truer than what Professor Osler said at the London Hospital a few days ago—namely, "Examinations and degrees are merely means to an end."

The misfortune is that it seems to be only those whose interests are limited to examinations and degrees that take any active part in the various discussions on this question.

The immense future of a properly organized medical London is something too large for those who have only limited interests in the matter to grasp, and the question must be taken up by practical men outside the profession as well as by those desirous of progress who are in it, and I have every hope that practical men will come forward and give evidence before the present Royal Commission which will ensure medical London obtaining that which it urgently requires as soon as possible.—I am, etc.,

London, W., Oct. 26th. FRED. C. WALLIS.

SIR,—Being a member of the Senate of the University of London, I have read with some surprise your annotation under the heading "Home Rule for London" in last week's issue of your JOURNAL. I must congratulate you on the journalistic enterprise by which you have been enabled to comment on the intimate proceedings of the Senate meeting of Wednesday in your paper published two days later. Since, however, your Senatorial informant has apparently only supplied you with what reads like a *resumé* of Professor Starling's speech at that meeting, and ignores all other views, I feel that—much as I regret that the tradition has thus been violated which rules that these matters should not be made public until the minutes of the meeting have been formally confirmed—it is essential that your readers should be more fully informed on what took place.

The proposal for "Home Rule in the Faculty of Medicine" (the phrase is that used by Professor Starling) originated in a memorandum presented to the Faculty of Medicine by Professor Starling, in which he has the following clause:

"The change, therefore, can only be carried out by consent of the Senate and its Councils, and, if the recommendations of the Faculty are to have sufficient weight with the Senate to persuade this body of their advisability, it is essential that they should be carried by a large majority at a full meeting of the Faculty, and not, as usually happens, by a chance majority at a meeting which only just exceeds the necessary quorum."

To achieve this "full meeting" urgent whips were sent to every one of the 400 or more members of the Faculty; yet, in spite of every appeal, so little enthusiasm for these proposals was felt that the meeting at which they were finally carried only "exceeded the necessary quorum" by four. It is true that these recommendations were subsequently endorsed by the Academic Council; but, as Professor Starling himself pointed out in debate, medical opinion on that body was represented only by himself and one other physiologist, who did not support him at the Senate.

Your annotation attempts to fix on the External Council the responsibility for wrecking Professor Starling's scheme, and yet has the temerity to recommend a scrutiny of the division list. While it is true that the External Council, deprecating large constitutional changes on the very threshold of a Royal Commission, reported against this scheme, it was rejected at the Senate by the weight of medical opinion against it, and in no sense by a "political" division, such as your informant implies. As seconder of the motion which was carried and of the motion for a division, I took particular note of the voting, and so can supply the list to which your informant refers your readers. It was as follows:

Minority, Nine Members.

The Provost of University College.	The Rev. Principal of King's College.
Professor Cormack.	The Rev. Professor Bennett.
Professor Starling.	Mr. C. V. Berrington.
Professor Gardner.	Mr. Graham Wallas.
The Rev. Professor Caldecott.	

Majority, Twenty-five Members.

Sir Thomas Barlow.	Dr. Graham Little.
Sir Edward Busk.	Professor S. L. Loney.
Sir William Collins.	Dr. Lambert Mears.
Right Hon. the Master of the Rolls.	Right Hon. Lord Justice Moulton.
Sir Thomas Crosby.	Sir Francis Mowatt.
Dr. Crossley.	Professor Thomson.
Rev. J. A. Douglas.	Dr. Frederick Taylor.
Mr. Clifford Edgar.	Dr. Wade.
Miss Edgell.	Dr. Waller.
Mr. Pearce Gould.	Dr. Walmsley.
Mr. Hatton.	Dr. Russell Wells.
Mr. Cyril Jackson.	Sir John Wolfe-Barry.
Dr. Kimmins.	

Analysis of this list completely disposes of the contention that a repugnant course was forced on the Faculty of Medicine by the representatives of Convocation. It may, indeed, be suggested by some that, since of the minority of nine no fewer than seven members hold appointments at University and King's Colleges, the scheme presented was really a "political" effort of these two colleges. I do not wish, however this may be, to make the suggestion; but I do beg your readers especially to note that Professor Starling was the only medical member of the Senate who voted for his own motion, while the majority comprised such eminent and impartial clinical teachers as Sir Thomas Barlow, Dr. Frederick Taylor, and Mr. Pearce Gould, and it contained eight medical members, and three teachers of science subjects to medical students, besides such acute, instructed, and sympathetic laymen as the Master of the Rolls, Lord Justice Moulton, Sir Francis Mowatt, Sir John Wolfe-Barry, and Sir Edward Busk.

I cannot in the brief space of a letter enumerate the many weighty reasons which influenced the Senate in its vote, but I may point out that the board which the successful motion has constituted in the Faculty of Medicine, so far from being "emasculated," is to follow scrupulously the precedent which has been found to work so admirably in the faculties of Arts and of Science.

Professor Starling's scheme, if passed as it was presented, might have constituted a serious bar to the adoption of any co-operation with the Royal Colleges of Physicians and Surgeons, between whom and the university negotiations are now pending. I cannot but think it would be

exceedingly unfortunate for the success of those negotiations if it should go forth that any important section of medical opinion supports the proposition with which your informant appears to identify himself, that "a real university school of medicine will never be established until the Medical Faculty is freed from the incubus of the external student." It must be remembered that in other faculties than medicine external students are in a majority; that the University of London built up its great reputation on the external student; that it rests financially upon its external side, and if annually a large sum were not paid over from the profits of that side to the university chest, the internal side, which does not even pay its way, would. I am assured on the best authority, be at present in a state of bankruptcy.—I am, etc.,

London, W., Oct. 26th. E. Graham Little.

Sir,—Your valued article on the "University and the Medical Schools of London," and Dr. F. C. Wallis's support of the required change of the matriculation substitutions or exemptions of the University of London, if the London medical schools are to retain their old foremost positions, are certainly not upset by Dr. Horace Wilson's selfish view of the market value of the M.D.London. I call that, in my book, *Medical Reform Measures*, the "Degree Shop" side, and, of old, the only side of the University of London. But it refers to the saturating spirit of acquisition and greed that underlies the low, sufficient grasp of business. Examinations are pure business, and examinations and business are nothing compared to the freedom of teaching which alone constitutes Science. This ought to be the convincing case in London. The retention of those other false standards and not determining upon the total recasting of the sinecure and perpetual lectureships and chairs and posts at the hospitals, together with more regular and real university teaching and opportunities *for all*, and the necessary junction with the Royal Colleges of Surgeons and Physicians, is ruining London and the empire in the Medical Faculty. On the retention side, and not the reform side, it is, of course, most deleterious, too, to retain and tolerate any longer that almost defunct system of apothecaries, and the useless body of the Society of Apothecaries. In this way the superior training obtainable abroad and the real university training available in the provincial universities is the true, as the examining favour is the untrue, cause of what, in my book, I have proved to be the rise of the provincial university attractions.—I am, etc.,

Bognor, Nov. 25th. H. Elliot-Blake.

CLUB PRACTICE AND THE POOR LAW REPORTS.

Sir,—In the Journal of October 16th, p. 1193, Dr. J. Griffiths writes that "the clubs would wish to pay the doctor a proper salary." I think he must be unaware of, or have forgotten, the following facts:

At a conference held in February last, the Friendly Society delegates flatly refused to even consider the suggestion for fixing a wage limit. Ten years ago a similar conference proved equally abortive for the same reason. At a conference of the Friendly Societies' Medical Alliance, held at Darlington some months ago, a resolution was passed to the effect that "the conference could not, at any time, recognize any decision accepting a wage limit for the attendance of a friendly society's doctor."

Dr. Griffiths can hardly consider 3s., or even 4s., a "proper salary" for attending well-to-do tradespeople, farmers, etc.

This question of a wage limit is the great point at issue. No one, I take it, objects to attending, at club rates, the genuine working man who has joined a club principally for the sake of the sick pay, but one does very strongly object to providing those who are well able to pay our ordinary fees, with medical and surgical attendance for 4s. a year. These latter members have, I think, been induced to join a club, not for the sake of the sick pay (many of them would be ashamed to accept it), but simply that they may obtain the cheap "doctoring" the club offers them. It follows, therefore, that the club doctor acts as a very excellent and a very cheap advertisement for his club, an advertisement which brings in members who otherwise would not join and who are the very members that the doctor objects to attending at club rates.

The General Medical Council has decided that any medical man who advertises shall be deemed guilty of infamous conduct in a professional aspect. Might not it be argued that if it is infamous to advertise *oneself*, with, I presume, the object of *increasing* one's income, it is also infamous conduct to act as an advertisement for a friendly society, thereby enabling the society to entice away our private patients and so to *diminish* our incomes?—I am, etc.,

South Brent, Oct. 18th. F. W. Style.

INTERMITTENT CLOSING OF CEREBRAL ARTERIES.

Sir,—In his most interesting lecture in the British Medical Journal of October 16th, Dr. W. Russell has drawn attention to the effect of intermittent closure of the cerebral arteries in regard to paralysis. Since the researches of Kussmaul and Tenner in 1857 spasmodic closure of the cerebral arteries has been regarded as one of the possible causes of epileptic fits. In consequence of this I used nitrite of amyl in epilepsy with the idea of relaxing such a spasm and thus cutting short a fit (*Lancet*, July 27th, 1867). I had very little success from this treatment when the fit was fully established, but others who have used it since have sometimes been able to cut the fit short when the medicine was applied just at its beginning. Some years ago when suffering from severe headaches I found that the ascending branch of my anterior temporal artery became contracted like a bit of piano wire, and pulseless, during the headache, and reasoning from this condition, which occurred in one of the branches of the carotid outside the head, I thought that a similar condition might take place inside the cranium. As these observations were published in a paper on "Hallucinations" in the *Journal of Medical Science* for April, 1902, they may not be familiar to many people who do not concern themselves with neurological subjects and I may perhaps be permitted to quote them here.

The pain of migraine is frequently accompanied by other phenomena, which are readily explicable on the hypothesis that those branches of the carotid artery which pass to the interior of the skull are affected in the same way as those which pass to its outside. If the terminal branches of the temporo-sphenoidal artery become contracted like a bit of piano wire, as the one which runs up my forehead does during a headache, the nutrition of the centre for sight in the brain must necessarily be impaired; and if the spasm should extend farther down the artery, the centres for hearing, taste, and smell, will also suffer. I think it is probable that such impairment is the cause of the indistinct vision; of the hemiopia, that is, blindness to all objects on one side of the body, either to right or left; even of complete blindness, and of the zigzags which occur either before or during an attack of migraine. The senses of taste and smell are less frequently affected, but I have one case in which the patient has neither taste nor smell during the attack of headache, and after it is over both taste and smell return quite suddenly. In this patient there is no disturbance of vision, nor is there any aphasia during the attack. In other cases one finds aphasia to a greater or less extent present during the attack, and passing off when it is over.

—I am, etc., Lauder Brunton.

London, W., Oct. 20th.

Sir,—I have read with great interest Dr. W. Russell's paper on the intermittent action of cerebral arteries, as it exactly expresses what I have for some time felt must be the true explanation of cases such as he quotes and some others. My attention was first drawn to the subject some years ago by a case almost on all-fours with the one he mentions; but the chief feature was aphasia, which recurred frequently, with a varying amount of affection of the face, arm, and leg, which always cleared up after a day or two. The patient was a man with thickened arteries and high tension; but it was before the days of Riva Rocci, and I can give no figures. Though I failed at that time to hit off the true explanation of the symptoms, and lost sight of the man after two or three years, I never forgot the case. Since then I have seen some similar cases, though not so marked, and others of a somewhat different character with, I believe, the same explanation.

Any one who has looked carefully at senile and diseased cerebral vessels in the *post-mortem* room is aware of the irregular and patchy character of the changes present. There are small nodules of thickening or patches of atheromatous and calcareous change, which, I believe, act

as the starting point of waves of tonic spasm, just as a polyp in the intestine or a small nodule of new growth will give rise to irregular peristaltic waves. Anxious to get at the physiological view of this theory, I wrote to Professor Sherrington in February, who kindly replied:

As to local tonic spasm of short lengths of small arteries, one sees them often enough in experiment. Warmth, cold, slight mechanical injuries, as when a student touches a vessel in blood-pressure observation, all quickly produce such spasm, and they can amount to almost obliteration of the lumen.

As to diseased vessels, he says:

The unequal yield of an artery at points of commencing change, with relative loss of elasticity there, might set up unequal stresses that irritated mechanically the contractile coat in the neighbourhood. Unstriped muscle is peculiarly easily excitable by mechanical strains; Bayliss has recently shown that the sudden stretch of an artery by a forced rise of blood pressure brings of itself an after-spasm in the muscular coat.

The existence of a condition of spasm is thus proved by physiological experiment as well as by the pathological evidence from other parts quoted by Dr. Russell. I venture to think that the cause I suggest is the probable one.

The spasm theory explains many cases which are otherwise difficult or impossible of explanation. Besides the cases similar to those already quoted, I feel quite certain that there are not a few cases of temporary but recurrent mental derangement in the aged which are explicable on the same theory. The old people whose wills are the harvest of the lawyer and the despair of the Probate judge, because of the conflicting evidence as to their sanity, are, I believe, often the victims of recurrent arterial spasm. The spastic phase grows longer and longer, until at last perhaps thrombosis ensues, and with it softening. I have seen several cases of an old man or woman who suddenly developed a delusion or *idée fixe*, or refused to speak or eat for twenty-four hours, and then suddenly got well again, but only to repeat the same process two or three times. I have seen more than one of such cases get well more rapidly than I had hoped under the use of vasodilators. It was partly this fact which led me to the theory, which is of course incapable of direct proof, but is at least worth trying as a basis for therapeutic measures in cases which otherwise are not amenable to treatment.

I should like, in conclusion, to say one word on this point. The general measures which Dr. Russell outlines are of course of the first importance, but the special question is the choice of a vasodilator. I have no hesitation in agreeing with him that erythrol tetranitrate is the best for the purpose, mainly because its action is slower. Though I have never seen any harm accrue from their use, I think the rapidly-acting drugs such as trinitrin are not so suitable for the dilatation of these old thickened arteries which react so slowly. I found with the Riva-Rocci instrument that after trinitrin gr. $\frac{1}{100}$ the blood pressure rose for a few seconds from 5 to 7 or more mm. before falling, the explanation being, I suppose, that cardiac stimulation preceded vascular dilatation in old vessels. This cannot be wholly without risk where on my hypothesis there is localized disease of the vessel wall as well as general thickening, though, as I have said, I have never seen or heard of any accident. I have used erythrol ever since its introduction, and found it a most satisfactory drug is suitable cases.—I am, etc.,

Brighton, Oct. 18th. EDMUND HOBHOUSE, M.D., F.R.C.P.

THE TREATMENT OF CONSUMPTION AT DAVOS PLATZ.

SIR,—A recent visit to Davos Platz brought me into contact with several who were undergoing the cure for consumption, and, on the whole, I must say that the results seem to be very encouraging.

Of course there are strict regulations as to spitting, as to disinfecting of rooms used by invalids, and the sterilizing of knives, forks, etc., used by invalids.

Plenty of fresh air was always the rule, and windows were left wide open at night, and the cure was carried out on balconies attached to the bedrooms of invalids. The ruling authorities also studied what was best for all; the streets were often watered, and such a thing as a cloud of dust was never seen; dust could not be found even in the hotel where I resided. The milk supply was closely looked after and repeatedly examined.

The sanatorium at Schatzalp is a palatial institute with a marble floor, and every scientific apparatus of the latest date. The sanatorium at Clavadel is a bright and most pleasant abode, so situated as to receive a maximum amount of sunshine, even during the winter days. Some of the invalids residing here were enjoying life, of good colour, and appeared quite robust in appearance.

In the winter months, the sports of the place engage the attention of invalids and healthy visitors. I was told that invalids are allowed to skate but are not allowed to join in the other sports of tobogganing and bob sleighing. In the summer, unfortunately, there is nothing to do. There are no sports—no cricket nor golf, perhaps some croquet in private grounds. In this I noticed a great drawback. There were young men in my hotel under medical treatment but without any sort of supervision. They did what was called the cure, and walked for an hour, but the rest of the day was spent in idleness, or brooding, or something worse. This is a matter for serious consideration by consultants and others who send cases away from home without some system of supervision. It seems, also, a great mistake that an invalid sent there for the cure should have his wife with him.

I had a look at the Queen Alexandra Sanatorium, which was nearing completion. Its situation is very imposing, but there were some residents who expressed doubt as to the security of the site; a short distance away there was evidence of old mountain slides. I heard a good deal about the treatment of consumption by passing nitrogen gas into the pleural cavity of the chest of one side for the purpose of compressing the lung of that side, the intention being to close up cavities in the lung by the compression in advanced cases of the disease. In some cases the results have been very satisfactory. A complete account of the treatment will shortly appear in a treatise to be published by those who have been carrying it out.—I am, etc.,

Durham, Oct. 20th. EDWARD JEPSON.

FORMALIN IODINE CATGUT.

SIR,—On my return a few days ago from an unusually long holiday, my attention was directed to a note on "Formalin Iodine Catgut," by Mr. F. J. Steward, F.R.C.S., which appeared in the JOURNAL of October 2nd.

As I have been using catgut prepared with iodine and formalin for about three years, and as my method for preparing it differs in some important respects from that described by Mr. Steward, I hope to write an article for publication in the BRITISH MEDICAL JOURNAL at an early date, describing its uses and methods of preparation, which up to the present time have not been published, though I have given full information on the subject to many of my surgical friends.—I am, etc.,

Cork, Oct. 18th. C. YELVERTON PEARSON.

CERVICAL RIB.

SIR,—Some years ago I had a case of double cervical rib in almost all respects similar to that recorded in the JOURNAL of October 2nd by Mr. R. Donaldson, even to the swelling and other signs, which suggested aneurysm of the subclavian. This was before the Roentgen rays were known, but it was not difficult to make a correct diagnosis, confirmed after death which occurred shortly afterwards from some other condition.

My chief object in writing this, however, is to draw attention to a different class of cases of cervical rib in which I have found mistakes made in diagnosis.

I refer to the shorter rib, the tip of which causes a small swelling in the anterior triangle of the neck, which I have seen mistaken for an enlarged (tuberculous) gland. I have come across a sufficient number of examples of this misleading condition to suggest to me that it may be worth while to draw attention to it.—I am, etc.,

London, W., Oct. 6th. J. EDWARD SQUIRE.

LEPROSY IN THE NYASALAND PROTECTORATE, BRITISH CENTRAL AFRICA.

SIR,—Having recently had occasion to institute an inquiry into the incidence of leprosy in Nyasaland, advantage was taken of the opportunity which thus

presented itself to collect such additional data as might be of interest. The various points regarding which information has been available may be summarized as follows:

1. *Approximate Numbers of Cases.*—The number of lepers actually observed was 769. The existence of some of these had become known by their applying in person to the Revenue officials to claim exception from the hut tax which is levied on all able-bodied adult males; others had been casually encountered; whilst a still larger proportion were returned by native chiefs and head men. From those districts in which no record of lepers was kept, but in which the estimates were based on the relative numbers observed by medical men, the returns yielded 839 cases. These two sets of figures make a total of 1,608, and as the population of the Protectorate is about 997,000, the ratio per 10,000 of the population would be about 16.13, which indicates for the disease a comparatively high degree of prevalence.

2. *Whether Leprosy is on the Increase or Decrease.*—The general opinion among observers was that the disease appeared to be on the increase; in only two districts was the number of lepers reported to be more or less stationary. The increase in some of the districts is attributed to ignorance on the part of the natives of the contagious nature of the malady and to the consequent complete freedom with which lepers are permitted to mingle with the healthy; in others, to the movements of natives from one part of the Protectorate to another owing to the settled conditions now prevailing and to the facilities and inducements afforded for travelling.

3. *Distribution of Cases.*—The disease is found to be decidedly more prevalent among natives inhabiting the shores of Lakes Nyasa and Chilwa, and the banks of the Shire river. Inland, and on the plateaus and highlands, it is said to be comparatively rare. There would appear to be a fairly noticeable tendency to the grouping of cases in particular localities. Thus on Lake Nyasa lepers are more in evidence at the extreme north end of the lake and on the coastal border of the West Nyasa district than elsewhere; on Chisi island on Lake Chilwa; and on the banks of the Shire river in the Ruo and Lower Shire districts.

4. *Tribes Affected.*—The disease is most prevalent among the Ankonde (North Nyasa district), Atonga (West Nyasa district), Chipeta and Achewa (Marimba district), Anyanja (Zomba and Chikala districts), Anguru (Mlanje district), and Chikunda (Ruo and Lower Shire districts). The tribes which were found to be the least affected were the Angoni, the Yao, and the Awemba.

5. *Question of Diet.*—Fish, either fresh or cured by drying in the sun (and without the employment of salt), is a staple article of food. A very large trade in dried fish, imperfectly cured, is carried on throughout the country; and it is of interest to observe in this connexion that the Angoni, the only tribe in the Protectorate who abstain from a fish diet, are the least affected with leprosy.

6. *Social Habits and General Surroundings.*—It has been noted that the tribes amongst which the disease is most commonly seen are of dirty habits—personal uncleanliness and a general filthy condition of their huts and villages being a noticeable feature. Hot, humid localities appear to furnish a large proportion of cases, many lepers being observed among the dwellers in swamps. Among certain tribes it is customary to destroy leprous children, and on the approach of a European lepers are often sent away or concealed. It is the practice among the cleanlier tribes to put away their lepers in the forest, and leave them there till they die, taking them food but not burying them when dead. Natives in the Marimba district, many of whom profess Mohammedanism, are also said to segregate their lepers in the forest, where they are but scantily provided for. While, therefore, it would appear to be the general custom to segregate, it is not uncommon among certain tribes to find a leprous man living with a healthy woman, and vice versa, the belief being that if the husband or wife, as the case might be, separated on account of the disease, he or she would fall a victim to the complaint. Some tribes evidently regard a local cause as at work, yet they do not appear to fear an ordinary contagious influence. In the Upper Shire district natives take no precaution to avoid contagion, nor is leprosy considered a bar to marriage.

7. *Their Ideas as to the Cause of Leprosy.*—In no instance did natives, when questioned, attach any suspicion to the causal connexion between leprosy and a diet composed largely of fish, nor did they incriminate food in any way. The Yaos, however, believed that the meat of elephant, hippopotamus, or rhinoceros (from which they abstain) may cause leprosy, and averred that the Awesa, who drink elephant's blood, suffer much from the disease. The Angoni, who abstain from fish, and amongst whom, as already stated, leprosy is least often seen, thought that rhinoceros flesh may be a cause. In the Marimba district natives attached suspicion to drinking water, and believed that in localities where water is scarce the sources of supply are sometimes polluted by lepers who creep surreptitiously to them at nightfall, and, either unwittingly or maliciously, infect the water by occasionally performing their ablutions in it. Some natives regarded leprosy as a hereditary complaint, and described it as "family disease." They believed that while children may contract the disease from their parents, the infection does not travel from husband to wife nor from wife to husband.

8. *Treatment.*—It would appear that natives have no remedy for leprosy, nor do they seem to have made any efforts in the direction of palliative treatment.—I am, etc.,

H. Hearsey,
July 9th. P.M.O. Nyasaland.

REGISTRATION OF NURSES.

Sir,—As one who has for years taken an active part in the training and examination of nurses, will you allow me space to reply, in a few words, to a letter in your last issue from Mrs. Fenwick, who signs herself as the "Honorary Secretary of the Society for the State Registration of Trained Nurses."

Some time ago I received a booklet issued by the Association for the Promotion of the Registration of Nurses in Scotland, and on referring to its pages it seems to me that Mrs. Fenwick is in error in stating that the Journal of October 10th contained a paragraph on this subject "contrary to facts." I would ask any one interested in this controversy to procure this booklet and study its contents. It can be obtained from the Acting Secretary, Mr. A. S. Murray, 169, West George Street, Glasgow.

In it will be found, in addition to a statement of the objects of this Association, the names of the office-bearers and Executive Committee. I observe on page 21 that the Scottish bill admits fever and mental nurses to a *special* register, and on page 25 I read the following paragraph: "The delegates from Scotland were willing to concede the matter of a one-portal examination, provided that the several parts of the United Kingdom were adequately represented, and that the principle of administrative decentralization were not excluded." These two points may suffice to prove that Mrs. Fenwick's statements are inaccurate and misleading, if not indeed "contrary to facts."—I am, etc.,

October 27th. Late Lecturer to Nurses.

Sir,—The objection raised by your Scottish correspondent to which Mrs. Bedford Fenwick alludes—"that Lord Aupthill's bill provides for a council which only represents nurses"—is, indeed, a marvellous one. If your correspondent will look at the bill, he would realize the really wonderfully constitution of the proposed council, which, if it had not been proposed by serious people, would be considered to be an elaborate joke.

Let me state the composition of that council, which is not accurately stated by Mrs. Bedford Fenwick. It is to be composed of sixteen persons:

Three nominees of the Privy Council, of whom one is to be a woman (not necessarily a nurse).

Six medical practitioners elected by various societies.

Six registered nurses elected by ballot. (Imagine a ballot of nurses scattered all over England! This will result in the choice of these six ladies being in the hands of a very few.)

One past or present matron of a public hospital for the insane.

Mrs. Bedford Fenwick is quite right—she and I do not often agree—in stating that such a council cannot accurately be described as "only representing the nurses"!

Do your readers realize, as has already been pointed out by the Central Hospitals Council, that there is no provision on this proposed council for ensuring the representation of even one of the great training schools for nurses nor of any matron other than the matron of a lunatic asylum?

It is possible, of course, that the absurdity of such a council has been realized by Mrs. Bedford Fenwick's society, and that they have proposed another. But your correspondent was dealing with the bill which Lord Ampthill introduced on behalf of that society, and which was carried through the House of Lords, but not yet carried through the House of Commons, nor, D.V., will it ever be.—I am, etc.,

London Hospital, E., Oct. 25th. SYDNEY HOLLAND.

THE POOR LAW REPORT AND THE SANITARY MEDICAL SERVICE.

SIR,—Dr. Lyster makes some statements in his letter which are—to say the least of it—not polite, and as they are not statements of fact, but only of opinion, I think he ought to refrain from making such sweeping assertions which he cannot substantiate, the more especially as they are charges of "dishonesty of principle" against those whom he appears to condemn wholesale from an unfortunate acquaintance with a small minority of their class. He seems to have taken to heart that good old maxim in debate—When you have a bad case, abuse the other side.

In referring to gratuitous work he defines it as work for which a doctor gets no pay, and apparently considers half-paid work is not gratuitous; neither is it, but, surely, half of it is! Will an extension of "contract" and "departmental club" work improve this?

Dr. Lyster seems surprised that I should find public health work in small districts pleasant, but I can assure him that I do. Unpleasantnesses arise certainly, but the work is far more pleasant than "club work," and I have had practical experience of both. He says that the average part-time medical officer of health finds it impossible to do honest and conscientious sanitary work. Why? Dr. Lyster's reason is that he would find little time for private work, lose income, and his post.

First, as to his sweeping and unjust charge. I know many part-time men whose honesty, integrity, position, and dignity are certainly equal to those of any whole-time officer.

Secondly, it is not clear how doing the work of a small district properly should take up the whole of a man's time and leave none for private work. If a whole-timer can look after 21,000 persons, why cannot a part-timer do justice to 3,000 in part of his time?

Thirdly, he will lose his income and post! But what about the whole-timer? He stands to lose his bread and cheese; his whole living is at stake, whereas the part-timer *has* another string to his bow. Assuming that the human nature of the two officials is equal, surely the whole-timer is less independent, and has greater need to "trim his conscience"! I have appealed to human nature, which usually means the low side of it, as Dr. Lyster does not credit a part-timer with a conscience, and evidently cannot imagine him being inspired with an honourable desire to do his duty. Although personally I believe there are some such—in fact, I believe the average part-timer is quite as enthusiastic, though I admit he may have more common sense than the whole-timer.

Dr. Lyster's sneer that part-timers might under different conditions do good work is beneath contempt.

Dr. Lyster, again, says that the estimate of salaries is based upon present figures, and imagines that a minimum of £500 per annum would be easy of acquirement. It seems hopeless to try to convince such optimism, but what does Dr. Lyster imagine is the present value, or, rather, the present price, of medical work? And does he imagine that any body, individual or corporate, will go into the labour market and offer three times the price at which work is run after and canvassed for, often before the posts are vacant? If ten or fifteen officers could be dismissed (without compensation, of course), and their posts combined to effect a saving, no doubt £300 or even £500 would be offered for one man to do all their work. This, too, would be not only a proper spirit of municipal expenditure, but a splendid example of true medical brotherhood!

Even this seems utopian in the light of "medical prices" which the correspondence between Dr. Duke and the Wandsworth Council, published in this week's JOURNAL, exposes.

As Dr. Lyster proceeds with his letter he "lets himself go," and in his replies to "M.O.H." leads one to suppose that he is in sympathy with a whole-timer who, having secured a good post himself, promptly impresses a body of "local assistants" to do his work—these, not the local assistants, but the whole-timer, doubtless being the "strong organizers and administrators" who could claim the senior posts. "Unco' canny they are, too."

Why should a whole-time officer to a combined district have a more secure appointment, have better pay, and a better chance of promotion than a part-timer? Could not security of tenure be given to a part-timer just as easily; could not a "scale of remuneration" be applied to public health appointments, whether the officer is whole or part time; and would not promotion be more likely to come the less the number of whole-time local assistants?

As for the recommendations of a whole-timer being more likely to be carried out, I should think that depends more on the "recommendations" than the fact of whether the medical officer was whole or part time. I know of two cases in which whole-time medical officers of health for very large districts—and good men they were, too—produced leaflets for distribution on the "feeding of infants," which made every practical general practitioner who read them smile; which means that if every medical officer of health had a few years' work as a general practitioner, *real* medical practice, he would be the better medical officer of health because he was not the worse general practitioner.

I should like to endorse my opinion of Dr. Bristowe's "argument" *re* Socialism, which is, in my humble opinion, quite as logical as the arguments of Dr. Lyster.

Dr. Lyster's last paragraph attributing to the Majority Report an attempt to exploit the medical profession seems to me to exactly describe it; only I go further, and think the Minority Report has just the same fault, only it is more diffuse, destructive, and impracticable. But I should not mind the reports so much; it is the dissensions in our own camp which are our weakness, and which let us be exploited; and when we find our own brethren advocating the deprivation of hundreds of appointments—to be given to somebody else—it makes me sad. But when these persons try to explain that we shall benefit pecuniarily, one wonders whether to weep at their "honesty" or smile at their "credulity."—I am, etc.,

Northwich, Cheshire, Oct. 24th. HENRY EDWARD GOUGH.

SIR,—Although Dr. Lyster has contributed a somewhat lengthy letter in your last issue, he does not seem to have carried the subject much further. He says my use of the word "gratuitous" is misleading. I cannot help feeling this a rather gratuitous assumption, as he is evidently not misled, and there is no evidence that any one else is. On the other hand, I am justified in challenging his use of the word "obvious" as decidedly misleading. Whether he adheres to his definition of my offending word or not, it is far from "obvious," in the usually accepted meaning, that what the Minority Commissioners propose will result in the carrying out of even their expressed intentions. Again, although he repeats it twenty times, it is not "obvious" that the total remuneration from the public to the medical profession would be enormously increased. This I stated in my last letter. I would further remind him that the onus of proof is usually thrown on the one that asserts, not the one that denies, and it is no proof to state an opinion based on personal belief in the views of the Minority, even if the said opinion be preceded by the word "because." Every one is justified in having a belief, but not in saying that belief is obvious, unless he can logically prove it. I believe the Majority recommendations, except their medical scheme, are far superior to those of the Minority. At least, they recognize the necessity of a destitution authority, and have the support of the great majority of the Commissioners appointed by the Crown, including Dr. A. Downes, the only medical member of that body.

Poor Law medical officers are nearly all in agreement with Dr. Downes, who could hardly be claimed as a supporter of the medical proposals of the Minority. I hope

Dr. Lyster will study your article this week, Public Masters and Medical Servants. If he does he will scarcely even venture to think that it is "obvious" that the "minimum" salaries of Dr. Gough's staff would be £500 per annum. Personally, I am of opinion that Dr. Gough has overestimated them.

Dr. Lyster finds fault with Dr. Bristowe's statement that the Minority Report is "pure socialism." I admit that some definition should be given as to what is meant by "pure socialism." But if to grant medical, and, it is to be presumed, other relief to every poor applicant, with no "test," no "deterrent," in fact, no restraint on abuse of any kind, except the "consistent code" to enable the State to recover the cost of such relief from those "proved" able to pay, is not "pure socialism" in the ordinarily accepted meaning, it is a tolerably long step in that direction. It might even be described, in the words of a well-known Socialist M.P., speaking of another hotly-contested measure, as a "good chunk" of the socialist programme of the future.

Dr. Lyster asks about the "plums" now possessed by Poor Law medical officers. At least, a fair proportion have private practice sufficient to prevent them from being altogether dependent on their Poor Law appointments; and they would be foolish, indeed, to run the risk of losing this and their independence as well, misled by visionary notions of becoming whole-time State officers at the munificent salary of £500 per annum.—I am, etc.,

London, E.C., Oct. 23rd. MAJOR GREENWOOD.

THE CRESCENDO MURMUR.

SIR,—I fail to see that Dr. Brockbank has in any way strengthened his position by his letter in the JOURNAL of October 23rd. I may say, to begin with, that I do not consider his contention that he is able to make a peculiar noise by blowing through a piece of rubber tubing is sufficient foundation for his theory as applied to the murmur of mitral stenosis; but let that pass.

He admits that, if his view that the rising pitch of the crescendo murmur does not indicate a closing orifice, his theory collapses. He further asks me to explain how the murmur is produced under the "auricular systole" rhythm theory. I will endeavour to deal with these two points as briefly as possible, but I do not accept the term "auricular systole" theory for reasons which will be given later.

I maintain that I have ample pathological evidence that rigid and even calcified stenosed mitral orifices are found at death which could not possibly have been closed during life, and in which, previous to failure of compensation, a presystolic murmur was audible a few months or even weeks before death. That a presystolic murmur is not usually present in the final stages of mitral stenosis when compensation has utterly broken down I should be the first to admit, and that is only what I should expect.

In mitral stenosis, as a result of Nature's commonsense methods to counteract its disturbing effects on the circulation, the right ventricle comes to the rescue, and by its hypertrophy and more powerful action puts up the pressure in the pulmonary circulation, and consequently in the left auricle, which acts as an elastic reservoir like the bellows in a scent or throat spray. The blood is thus driven through the narrowed mitral orifice, as through a nozzle, with increased velocity, to make up for the diminished size of the stream. Moreover, the flow begins as soon as, or very shortly after, the ventricle relaxes in diastole, and is not dependent on the auricular systole, which in the later stages of the disease is of minor importance, or, it may be, practically non-existent. The flow of blood from the auricle to the ventricle through the narrowed orifice generates the presystolic murmur, but the high pressure in the auricle is not the only factor to be taken into consideration, nor could it account for the "crescendo" character of the murmur. The murmur is soft at first, as the velocity of the flow is not very great, but as the ventricle expands it exercises a powerful "crescendo" suction action. This induces a "crescendo" velocity of flow from auricle to ventricle through the narrowed orifice, and consequently, a "crescendo" murmur, to which the auricular systole puts the final accent before it terminates in the loud first sound.

The pressure in the left auricle is so great when reinforced during the systole of the right ventricle, that it may even resist reflux through a small but patent mitral orifice during systole of the left ventricle, so that we get no systolic murmur in many instances.

When, as happens in the final stages, the right ventricle breaks down, the pressure in the left auricle falls, and the presystolic murmur disappears entirely, as the rate of flow of blood through the narrowed orifice is insufficient to generate a murmur, the suction action of the now feebly-acting left ventricle being quite inadequate by itself to sufficiently accelerate the flow. Under these circumstances we commonly have a very irregular rhythm and a kind of delirium cordis, in which a systolic murmur or a first sound only occurs according as the ventricle completes its contraction or not. I have at the present time a case under my care in which, when the patient was admitted, there was complete failure of compensation with cyanosis, orthopnœa, enlarged liver, and slight dropsy. No presystolic murmur was audible at the apex, but only a jumble of first sounds and systolic murmurs and a very irregular rhythm. As a result of rest and treatment all the serious symptoms have subsided and she is quite comfortable. At the apex a presystolic murmur leading up to a loud first sound is now audible, but no systolic murmur, the physical signs as well as the symptoms thus indicating that the right ventricle has regained control of the situation. This is only one of many similar cases which I have had the opportunity of observing, and which afford, I think, important support to the views I have stated. I trust I have made these clear to Dr. Brockbank, even if I have not convinced him of the error of his ways.—I am, etc,

London, W., Oct. 25th. JOHN F. H. BROADBENT.

THE CURE OF DISEASE BY INCUBATION.

SIR,—In the leading article on this subject mention is made of only one church in Britain where the custom existed. It may be of interest to know that the practice prevailed at Christ Church (a ninth century church), Monmouthshire (overlooking ancient Carleon), up to early in the nineteenth century.

Donovan, writing about 1804, graphically describes the procedure, which he unexpectedly witnessed on a visit to the church on the eve of Trinity Thursday. On "Colmer's Stone," a large, beautifully inscribed and figured tombstone, in the floor of the chancel, to his inexpressible astonishment, he beheld a young man with his nightcap on, lying on it, shivering with cold, his hands uplifted and muttering a prayer for the cure of his affliction—presumed to be "fits." "During this religious farce his friends formed a spacious circle round him, some standing, some sitting, and others kneeling, all intent on watching the countenance of the patient, to observe the progressive advancement of the miracle."

It appears that in the course of the evening a two-year old rickety child had also been placed on the stone.

The charm worked only during the night before the revel or wake held in the churchyard on Trinity Thursday, the patients being placed on the stone about sunset to remain until sunrise. As many as forty people are said to have lain on and around the stone at a time, a leg or an arm lying in contact with it being thought sufficient to work the cure.

A local squire attempted to suppress the silly custom about the middle of the eighteenth century, but "at the hour of midnight the bells began ringing of themselves and continued to alarm the country till dawn, which convinced the squire that he had acted against the will of Heaven, and expressed his contrition for the offence."

The stone is still in a state of excellent preservation.—I am, etc,

Cardiff, Oct. 24th. HOWELL REES.

DENTISTS AND ANAESTHETICS.

SIR,—Anent the article entitled "Dentists and Anaesthetics" which appeared in your issue of October 23rd, 1909, it may be of interest to learn that complete instruction has been given in anaesthetics to students of the Newcastle-upon-Tyne Dental Hospital and School during the past eight years.

The teaching comprises (1) systematic lectures by Dr. W. E. Alderson, Lecturer on Dental Anaesthetics; (2) chair-side demonstrations by the honorary anaesthetists; and (3) administration of anaesthetics by the students under the supervision of the anaesthetists.

During the year 1908, 601 general anaesthetics were administered, of which nitrous oxide comprised 228, and the remainder included ether alone and in sequence, and ethyl chloride. The majority of this work was carried out by students. Ample accommodation being provided, the "recovery stage" can be observed throughout. Instruction in anaesthetics is compulsory before proceeding to the diploma of L.D.S.Durham, the full dental curriculum for which is carried out at the Newcastle Dental Hospital and School.—I am, etc.,

J. T. Jameson,
Dean, Newcastle Dental Hospital and School.

Newcastle-on-Tyne, Oct. 25th.

KENNELS AND DOGS IN TOWN.

Sir,—Your correspondent "M.D." has undoubtedly ventilated by his letter a matter of serious importance. But I would suggest he hardly carries it far enough.

The most excellent scavengers provided by the authorities in most towns do away with much of the danger to the public health due to the excreta of horses and cattle in our streets, but, as your correspondent points out, dogs have been overlooked. I would ask, in passing, Are not cats an equal danger?

But the grave danger to the health of the nation arising from the unrestricted and ubiquitous emanations of our birds has surely been overlooked by them, as well as by "M.D."

Could not means be found to train these intelligent little dwellers among us in the habits of modern civilization, or else destroy them in the public interest?

Thanking you, Sir, for opening your columns to this most burning question.—I am, etc.,

October 10th. Medical J.P.

MUNICIPAL ESTIMATE OF THE VALUE OF MEDICAL SERVICES.

Sir,—It is refreshing to find that there are a few medical men who have the temerity to let municipal authorities know what they think of the contemptible offers made to them for medical services.

As a city councillor I have frequently expressed my disapproval at the manner in which they grind down medical fees, but so long as medical men can be found to do work at their price, so long will the degradation of our profession continue. The remedy lies in unionism assisted by the British Medical Association.—I am, etc.,

October 22nd. H. D.

THE REPRESENTATIVE MEETING.

Sir,—With regard to Dr. Kirby's letter in your last issue of October 23rd, p. 1256, we feel bound to state that the Central Division, the only body to which Dr. Kirby is directly responsible, has not met since the Representative Meeting, and has, therefore, had no opportunity of receiving Dr. Kirby's report, or criticizing in any way his action as representative.

We would, therefore, as officers of the Division, deprecate the premature discussion of a hypothetical position, and must regret that Dr. Kirby, with no communication with his official colleagues of the Division, should have thought it necessary to justify his action in your pages before being required to justify it to his constituents.—We are, etc.,

Walter R. Jordan (Chairman).
G. J. Branson (Vice-Chairman).
A. W. Nuthall, W. T. Lydall, Honorary Secretaries.

Birmingham, Oct. 25th.

At an inquest in Southwark on October 19th on a woman who died of tetanus at Guy's Hospital, the patient was shown to have had a wound on one of her toes caused by a nail in her boot, but in the opinion of the house-physician and of the coroner the onset of tetanus was ascribable not to this cause but to the state of her gums and teeth. The house-physician pointed out that the first symptom of tetanus occurred within three days of the wound of the foot, while the minimum incubation was usually considered to be four days. A verdict of death from misadventure was returned.

Medico-Legal.

WORKMEN'S COMPENSATION.

The Home Secretary on Medical Examinations.

At a recent meeting of the Halifax Trades and Labour Council, reference was made to a claim under the Workmen's Compensation Act made by a brass finisher. It appeared that this man had been submitted to the medical referee of this district, who gave a report against him. A complaint appears to have been made to the Home Office on the ground that the medical officer of the insurance company was allowed to be present at the examination. The following letter in reply, which was sent by the Home Office, is of interest as showing the rights of medical practitioners to attend at these examinations:

With reference to your letter relating to a case in which a workman claiming compensation under the Compensation Act was examined by a medical referee in the presence of the insurance company's doctor and solicitor, I am directed by the Secretary of State to say as regards the presence of the solicitor that as the employer in this case made application for reference of this matter to a medical referee, it was his duty to be present either in person or by proxy, as required by No. 14 of the regulations for medical referees of June 21st, 1907. The presence of an insurance company's solicitor as the authorized representative of the employer would be in order.

As regards the attendance of the insurance company's doctor, there is nothing in the regulations above mentioned to prevent either party bringing with them a medical man. Regulation 15, however, only requires that the medical referee shall, before deciding the matter, consider any statements submitted by either party, and these statements may be submitted either orally or in writing. Where a doctor is present with either party the medical referee is not obliged to hear him, but he is at liberty to question him if he thinks fit. It is not unusual, the Secretary of State understands, for both parties to attend with their medical men. The point was very carefully considered when the regulations were being drafted; and while, in the opinion of the Secretary of State, any general practice of doctors attending before the referee is undesirable, on the ground that these inquiries ought to be made as simple and inexpensive as possible, he does not think a prohibition of the attendance of medical men would be feasible.

Eye Injury.

In a case heard at Dunfermline, October 1st, a miner lost the sight of one eye in an accident on August 22nd, 1906. He returned to work without compensation, but the other eye becoming affected in January, 1909, he was awarded compensation.

"Arising out of the Employment."

In a case heard at Wigan on October 5th it appeared that an engine driver who had received his wages was handing over part of the sum received to another man on the engine, to whom it was payable. While doing this his foot slipped and he went under the engine. It was held that the accident did not arise out of the employment, as he should have handed the money back to the paymaster.

ANTINEURASTHIN.

In October, 1908, the Board of Inland Revenue summoned Mr. William Migge, of 10, Eastcheap, for an infringement of the Medicine Stamp Act in having vended and exposed to sale a box containing a certain preparation and composition to be used and applied as a medicine and medicament for the prevention, cure, and relief of disorders and complaints incident to and affecting the human body, and liable to the stamp duty, to wit, "antineurasthin," without a paper cover, wrapper, and label showing that duty had been paid. It was stated on behalf of the prosecutors, that the defendant was the agent in this country of a widely advertised German preparation called "Antineurasthin," or "Dr. Hartmann's brain and nerve food." He had been informed by the Inland Revenue that a stamped wrapper would have to be supplied with each box. For the defence it was contended that the substance was not a medicine, but a natural nutrient composed only of organic substances not manufactured by any secret process, and in Germany classified as a pure natural food and exempted from duty. It was submitted that not only was there no evidence that antineurasthin was a medicine, but that on the analysis and descriptions of the German doctors there was strong evidence that it was a food. The magistrate dismissed the summons and subsequently, on the application of the prosecution, stated a case for the consideration of the King's Bench Division. The defendants submitted an analysis, made by P. Jeserich and Co., as follows:

"The sample submitted to me yields the following results in analysis:

"Water	...	...	...	3 35 per cent.
"Milk sugar	...	...	...	56.47 ,,
"Albumen	...	...	...	20.86 ,,
"Lecithin	...	...	...	5. 1 ,,
"Mineral matter	...	...	...	4.26 ,,
"Binding matter	...	...	...	9.96 ,,

"By reason of the above analysis the preparation in question must be considered in the profoundest sense of the word as a food, and in this respect is on a par with egg substance—

that is to say, with preparations also containing albumen and lecithin."

The appeal came before the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice A. T. Lawrence in the King's Bench Division on July 27th. The Solicitor-General and Mr. W. Finlay appeared for the Board of Inland Revenue, and Mr. Horace Avory, K.C., and Mr. H. J. Simmons for the respondents. After argument judgement was entered for the appellants.

The Lord Chief Justice: This case is on the very border line. One does not want to allow oneself to be influenced by the feeling that if one had been deciding the question as a magistrate one would have certainly held it to be distinctly a medicine, or to be something sold as a medicine, which is, in my judgement, the test for the purpose of taxation—that is to say, taking the words of the statute, whether it be a pill, powder, or lozenge "to be used or applied externally or internally as medicines or medicaments . . . made, prepared, uttered, vended, or exposed to sale by any person or persons whatsoever, wherein the person making, preparing, uttering, vending, or exposing to sale the same hath or claims to have any especial secret or art for the making or preparing the same, or hath or claims to have any exclusive right or title to the making or preparing the same, or which have at any time heretofore been, now are, or shall hereafter be prepared, uttered, vended, or exposed to sale under the authority of any letters patent or the great seal, or which have at any time heretofore been, now are, or shall hereafter be, by any public notice or advertisement, or by any written or printed papers or handbills, or by any label or words written or printed, affixed to or delivered with any packet, box, bottle, phial, or other inclosure of the same, held out or recommended to the public by the makers, venders, or proprietors thereof as nostrums or proprietary medicines, or as specifics, or as beneficial to the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in any wise affecting the human body." I think it is quite impossible to read the statements in the pamphlets that were sent out, or, I think, the description in the words upon the box itself, without coming to the conclusion that it was sold as being a preparation to be used internally, in order to cure the ailments or certain ailments of the human body. But it is said against that view by Mr. Avory that the magistrate has dealt with this as a matter of fact, and that it is to be regarded as a question of fact in each case, and, for the purpose of enforcing that argument, he cited a case which is reported in 60, *Justices' Law Reports*, where a decision with which I agree was held by Chief Justice Russell and Mr. Justice Wright that the article in that case had been found by the magistrate not to be a medicine. It is a very meagre report of that case, and I cannot think that there was in that respect the same kind of material as is before us. But I don't think that what the magistrate there meant to hold it as a question of fact in the ordinary sense of the word. I think he has stated it in a way which shows that he meant to say that on the facts proved before him there was not evidence that it was a medicine, or a chemical, or official preparation to be used as a medicine. He says, "I am of opinion, on the facts proved before me, that antineurasthin was not a medicine or medicament." I rather agree with the learned Solicitor-General that that means, "On the facts proved before me it was not as a matter of law to be treated as a medicine within the meaning of the statute." In these circumstances, it seems to me that we must deal with the matter upon the facts stated by the magistrate, and must express our opinion, as we are entitled to do unless we are precluded by the finding of fact of the magistrate, upon the facts which were before him. That is the practice of this court in all cases in which we are entitled to draw the inference that the magistrate ought to have drawn. I have already said that we cannot read the literature, and we cannot read the description of this article without coming to the conclusion that it was put forward as a medicinal preparation against diseases. It is true that many times in the literature of the pamphlets and the notices they indicate that it takes the place of a medicine because it is in the nature of a food; but I cannot think that, simply because it is suggested that it is in the same way as a medicine, it takes it out of the operation of the kind indicated or contemplated as being liable to taxation by the statute. Then, Mr. Avory says, they tell you what it is: it consists of water, milk, sugar, albumen, and lecithin—which, we are told, is the yolk of an egg—of binding matter, and of some mineral matter, which may or may not be salt; it is not stated it is salt—it might be iron or something like that. It seems to me a lozenge of that kind might very likely be a tonic, and a tonic intended to be taken, it may be in the place of food or in food or with food, and might and ought properly to be regarded as liable to taxation although it has the properties, effect the beneficial results spoken of. I am also impressed by the fact, which was practically admitted by Mr. Avory, that it cannot be suggested that you can live upon this, although you may take more of it, because it has the properties of food. Therefore it seems to me, upon the whole, as the magistrate has not found as a fact, but has only said upon the facts proved he thought it was not a medicine, we ought not to take that view of the law, but ought to hold that on the facts proved the article came within the taxing clause, construing it quite strictly, and that this appeal should therefore be allowed.

Mr. Justice Darling: I am of the same opinion. This preparation—Antineurasthin—is called, "Dr. Hartmann's Brain and Nerve Food," but, in my opinion, a thing which really is food is quite capable of requiring to be treated as liable to duty within the sections of these Acts of Parliament of 42 George III, chapter 56, 44 George III, chapter 98, and 52 George III, chapter 150, which are the statutes governing the matter. It seems to me that you have not to decide whether a thing is a food or is a medicine. Food may be a medicine, and a medicine may be a food; it all depends upon how they are administered. What the statute says is, "if any person or persons shall utter, vend, or expose for sale or offer or keep ready to sale any box" so and so, "containing herbs, pills," and so on, as nominated in the schedule, then he shall require to pay a duty "and also," says the schedule, after naming a lot of things, "all other pills, powders," etc., "to be used or applied externally or internally as medicines or medicaments." I think that if you did apply simple plain water or bread as a medicine or medicament and offer it for sale as such, you would come within the meaning of this statute. It then must be applied as "medicines or medicaments for the prevention, cure, or relief of any disorder or complaint incident to or in any wise affecting the human body." The question goes on and it is not clear, because it speaks of an occult process, and then there are a lot of "or" this, "or" that, "or" the other thing, and I think each of those words must be read as being disjunctive. If you do that you come to this passage: "or which that is which drugs or things "have at any time heretofore been, now are, or shall hereafter be by any public notice or advertisement, or by any written or printed papers or handbills"—I skip words—"held out or recommended to the public by the makers, vendors, or proprietors thereof as nostrum or proprietary medicines, or as specifics, or as beneficial to the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in any wise affecting the human body." I think that these various parts must be read disjunctively, because I see these words—"for the prevention, cure, or relief of any disorder or complaint incident to or in any wise affecting the human body" are twice repeated in the course of this schedule. Therefore, I think one branch of it comes to an end where they are used the first time, and that the rest of it comes to an end when they are used the second time, and that in the second half there are a number of cases provided for which brings the thing within the Act of Parliament, and among other things provided for is where it is held out or recommended by papers, handbills, or advertisements as having these curative effects. I think, therefore, the magistrate was wrong in the opinion to which he came. It was nothing but an opinion. It does not profess to be a finding of fact. It is simply stated in so many words that it is an opinion, and therefore I think that we have to look at what the statute means, and as I read it there was ample evidence before him which should have brought him to the conclusion that this was not advertised, and held out and offered for sale as a food, but was advertised and offered for sale as a medicine, and therefore the appeal should be allowed.

Mr. Justice A. T. Lawrence: I have had some doubt in this case, but I have come to the conclusion that I must agree with the other Judges of the Court that the magistrate, in so far as he has found a fact, has found it contrary to the evidence. The tablets in question are, it is true, called in one part of the advertisement a food, but that is only a brain and nerve food. It does not suggest that they are a food in the ordinary sense of the word. Then when you look at the analysis, though the analysis shows that a great many of the things contained in the tablets are the component parts of ordinary food there is one thing of which that is not true, namely, "mineral matter, 4.26 per cent." The analysis states the thing quite open to this being a medicine in the strict sense of the word. The box itself uses the words: "Usual dose from three to four tablets," and "To be taken between meals." Therefore, it is not a food in the ordinary sense, but it is something to be taken for the brain and nerves and as a cure for neurasthenia. A nutriment, as it is called, and the box contains the words on two sides of it: "Prescribed by eminent physicians." Now I think the fair interpretation of that description is that it is a medicine, and is meant to be taken as a medicine between meals, and not that it is a food in any of the ordinary senses. Then when you look at the Act of Parliament dealing with this tax, it certainly contains the widest words and language amply sufficient to include this preparation within its limits, and I think the appeal should be allowed.

Mr. W. Finlay: The appeal will be allowed with costs, and sent back to the magistrate with a direction to convict.

The Lord Chief Justice: Yes.

An analysis of the substance was made for the BRITISH MEDICAL JOURNAL, and published in the issue of February 27th, 1909, p. 556. On the results of the analysis the conclusion was drawn that antineurasthin was composed as follows:

Dry yolk of egg	3.8	per cent.
Dry white of egg	5.4	,,
Dry separated milk	57.8	,,
Gum	2.0	,,
Potato starch	22.7	,,
Moisture	8.3	,,
Aromatic substances ...	Traces.	

A further reference to this matter will be found at page 1293 of this issue.

SUICIDE BY VERONAL.

In a case of poisoning by veronal investigated in the Coroner's Court in Paddington on October 23rd, the jury returned a verdict of suicide while insane, adding a rider to the effect that veronal when sold in tablet form should be scheduled under the Sale of Poisons Act. The medical witness gave evidence to the effect that when summoned to the deceased, a woman aged 45, he found her suffering from an overdose of veronal. He gave her antidotes but she only lived to the following day, death being due to heart and respiratory failure. The bottle from which the veronal was taken had contained twenty-five tablets of 5 gr. each. The direction for use printed on the bottle stated that three tablets could be taken, a recommendation which the witness himself would be chary of giving. These tablets, he said, were prepared in seductive form, and were on sale without restriction by chemists. The public seemed to think that they could take any number of them with safety. Accidents with veronal seemed to be on the increase.

SOLICITORS AND THE PAYMENT OF FEES.

BRIGHTON writes (1) that he was requested to attend court to give evidence in a case by a firm of solicitors. On his agreeing to do so for a fee of 10 guineas a day, his condition was accepted in writing by the firm in the name of their client. He attended by request on two days, but had only been able to get his fee for the first day. Ought he to sue the solicitors, or their client? (2) He also has an account against the executor of a patient. The former is a solicitor, and has taken no notice of his account, and he thinks his patient may have died insolvent. Has he any means of compelling the executor to give him any information?

*** (1) The client alone is responsible for his fee. (2) He can sue the executor, who would then be compelled to give an account, but it must not be forgotten that the law allows an executor twelve months to carry out his duties. A search at Somerset House would inform our correspondent what assets his patient died possessed of.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

A.—The business of a Division must be conducted in accordance with the by-laws and regulations. If our correspondent alleges that they have been violated, the investigation of the allegation would, we apprehend, fall within the province of the central Organization Committee.

FEES FOR ATTENDANCE ON THE FAMILIES OF MEDICAL PRACTITIONERS.

PUZZLED writes: A country practitioner, A., breaks down in health, and after a long and serious illness goes to the seaside to convalesce. While there his wife is taken ill, and he asks one of the local practitioners, B., to attend her. This attendance lasts about a week. B. subsequently sends to A. an account charging for visits at the usual rate. Is it customary for one practitioner to charge for attendance on another practitioner's wife?

*** It is not customary for one practitioner to charge for attendance on another practitioner's wife, especially in the case of a neighbour, but there is no absolute rule which exempts a member of the medical profession from his liability to pay fees for professional services rendered to him or his family by a brother practitioner

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE number of students who have entered this winter with a view to obtaining medical degrees is 110, or a little less than 11 per cent. of the total number of freshmen. The average during the past five years has been 112.5.

UNIVERSITY OF LONDON.

KING'S COLLEGE.

Special Lectures in Physiology

THE course of lectures on the pineal and pituitary bodies to be delivered in the Physiological Laboratory, King's College, commences on Monday next. Professor Halliburton, F.R.S., will lecture on the pituitary body on Mondays, November 1st, 8th, and 15th, at 4.30 p.m., and Professor A. Dendy, F.R.S., will lecture on the pineal body and Reissner's fibre on Mondays, November 29th, December 6th and 13th, at 4.30 p.m. The course is free to all members of King's College, to all students of medical schools in London, to all internal students of the University of London, and to medical practitioners on presentation of their cards.

UNIVERSITY OF BIRMINGHAM.

Honorary Degrees.

MANY distinguished persons were presented with honorary degrees at the Degree Congregation on October 20th. Among them were the following medical men, each of whom was introduced to the Vice-Chancellor by Sir Oliver Lodge, who prefaced each presentation with a short address setting forth the distinctions of the candidates.

Mr. H. T. Butlin was introduced as follows: "The President of the Royal College of Surgeons of England, Consulting Surgeon to St. Bartholomew's Hospital, and Member of the Senate of the University of London, is a special authority on malignant diseases and on the operative surgery connected therewith. In clinical pathology he may be regarded as continuing the work of Sir James Paget. As a most distinguished surgeon, who has attained to his present high position with the acclamation of the whole medical profession, I present to you Henry Trentham Butlin."

Dr. J. S. Haldane received the following eulogy: "To the distinguished scientific investigator, Reader in Physiology to the University of Oxford, subterranean workers throughout the world, and among others the Mining Department of this university, owe much for his researches into the effect of poisonous gases on the human system. These investigations, some of them conducted at great personal danger, have helped to elucidate problems of ventilation generally, have ameliorated the life of mine divers and workers in caissons, and have contributed to the success of efforts in mine rescue work. Men are alive to-day who owe their health and safety to the researches of John Scott Haldane."

Sir Richard Douglas Powell was introduced as follows: "The President of the Royal College of Physicians, Knight of Grace of the Order of St. John of Jerusalem, Physician-in-Ordinary to the King, is well known for his researches and publications, especially on consumption and diseases of the lungs and pleura. Eminent as a practitioner, and greatly esteemed by the profession for the high character, amenity, and courtesy, his name is indeed well known in the British Isles—Sir Richard Douglas Powell."

Mr. C. S. Tomes was presented with the following address: "Nominations by the Faculty of Medicine would not be complete without a representative of that profession for which we in Birmingham take a pride in specially preparing, and in which we give special degrees—namely, the profession of dentistry. Accordingly, I have to present to you one of the most distinguished of the dental surgeons of England, renowned for his researches in dental comparative anatomy and development, Fellow of the Royal Society, and Past-President of the Odontological Society of Great Britain,—Charles Sissmore Tomes."

Dr. Windle was introduced with the following address: "The President of University College, Cork, well known to us here as first Dean of our Medical Faculty and Professor of Anatomy, is a skilled antiquarian and topographer, specially learned in the antiquities of the Midland district of England. As one who laboured hard and efficiently for the good of the medical school in this city—one who superintended the incorporation with Mason College, and ultimately with the university; as a strong man of affairs, a great organizer, whose influence still lives with us in various forms—a man highly esteemed and respected by his colleagues, I present to you Bertram Coghill Alan Windle."

The following were also presented with honorary degrees: Mr. W. N. Atkinson, the Right Hon. A. J. Balfour, the Bishop of Birmingham, Professor Bosanquet, Mr. Andrew Carnegie, Sir William Crookes, Mr. Maurice Fitzmaurice, Sir Archibald Geikie, the Right Hon. R. B. Haldane, Dr. Kendel Harris, Sir Charles Holcroft, Mr. G. J. Johnson, Sir Alexander Kennedy, Sir Joseph Larmor, the Right Hon. Walter Long, Professor Gilbert Murray, Sir William Ramsay, Lord Rayleigh, Professor Rutherford, Dr. Arthur Shadwell, Mrs. Sidgwick, Lord Strathcona, Professor Sivanus Thompson, Professor W. A. Tilden, Sir Joseph J. Thomson, Dr. T. H. Warren, Viscount Wolverhampton, and the Chancellor of the University (the Right Hon. Joseph Chamberlain), *in absentia*.

In the evening a conversazione was held in the new buildings of the university, and the gathering numbered over 1,200 persons. The guests included the distinguished recipients of the honorary degrees.

UNIVERSITY OF EDINBURGH.

UNIVERSITY COURT.

Inductions.

AT a meeting of Edinburgh University Court on Monday, October 18th, the Senatus reported that Mr. John Hepburn Millar, M.A., Professor Arthur Robinson, M.D., and Mr. Henry Alexis Thomson, M.D., B.Sc., F.R.C.S.E., had presented their commissions as Professors of Constitutional Law and Constitutional History, Anatomy, and Surgery respectively, and had been duly inducted as members of the Senatus Academicus.

Appointment.

The Court, after consultation with the Senatus, appointed Professor Alexis Thomson a University Lecturer and an Examiner in Clinical Surgery for the current academical year.

Recognition of Teachers.

The following applications for recognition for purposes of graduation in medicine under Ordinance No. 16 were granted: (1) Miss V. L. Gibbons, B.A., M.C., Huguenot College, Wellington, South Africa (chemistry — intermediate lectures and

laboratory work and B.A. lectures and laboratory work); (2) John W. Struthers, M.B., Ch.B., F.R.C.S.E., Edinburgh (Surgery).

Anatomical Department.

Professor Robinson was appointed Curator of the Anatomical Museum. It was reported that the late Professor D. J. Cunningham had by his trust disposition and settlement directed his trustees to make over all his medical and scientific books to the University of Edinburgh to form the nucleus of a library for the anatomical department.

The Chair of Surgery.

Intimation was made that the managers of the Royal Infirmary had resolved to allocate two wards and an operating theatre for the use of Professor Alexis Thomson.

Conferment of Degrees.

At a special graduation ceremony on October 23rd, the degree of M.D. was conferred on D. J. Guthrie, and that of D.Sc. in Public Health on E. D. W. Greig, Captain I.M.S.

UNIVERSITY COLLEGES IN IRELAND.

THE commissioners under the Irish Universities Act, 1908, have recently made a number of appointments to the University Colleges in Dublin and Cork.

DUBLIN.

Among the professors appointed are the following: Dr. F. P. M'Loughlin, anatomy; Mr. J. S. M'Ardle, surgery; Dr. B. J. Collingwood, physiology and histology; Dr. E. J. M'Weeney, pathology and bacteriology; Dr. J. M. Genan, hygiene and medical jurisprudence; Dr. Martin Dempsey, materia medica and therapeutics; Sir Christopher Nixon, M.D., medicine; and Dr. Alfred Smith, midwifery and gynaecology.

Among the lecturers appointed are: Dr. L. Werner, ophthalmology; Mr. J. L. Potter, L.D.S., dental mechanics; and Mr. E. Sheridan, F.R.C.S., L.D.S., dental surgery.

CORK.

At University College, Cork, there are not many changes in the medical school; the Chair of Anatomy has fallen to Dr. D. F. FitzGerald owing to the resignation of Dr. Windle; the lecturer in pathology, Dr. A. E. Moore, has been promoted to be a professor of the same subject, while the Chair of Zoology and Botany has been divided, and Major H. Cummins, M.D., R.A.M.C.(ret.), has been appointed the first professor in botany.

UNIVERSITY OF DUBLIN.

THE following candidates have been approved at the examinations indicated:

PRELIMINARY SCIENTIFIC (*Physics and Chemistry*).—T. Allen, R. A. Flood, R. H. Jones, W. Foot, J. Harvey, J. W. C. Stubbs, J. A. MacMahon, R. C. Lowe, H. C. D. Miller, H. W. Browne, Kathleen D. Wallace, Eleanor Bayley. (*Botany and Zoology*).—A. G. Varian, J. T. M'Cullagh, G. S. M'Conkey, J. Harvey, E. Bantry White, Hilda M. B. Marsh, F. R. Sayers, M. J. Ryan, B. Sheridan, F. A. Sparling.

INTERMEDIATE (*Part I.*).—W. O. W. Ball, W. P. Croker, W. Crane, Jane F. Colquhoun, M. Horan, Marjory Chapman, C. F. Judd, J. N. G. Nolan, F. V. Agnew.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.

THE annual meeting of the Court of Governors of the University College of South Wales was held in the Drapers' Library of the new college on October 21st. Dr. W. T. Edwards, who presided, called attention to the fact that this was the first meeting in that noble building. It had been hoped the President would have been present at the first meeting, but he had telegraphed to express his regret that he was unable to attend. Votes of condolence were passed with the family of the late Mr. Lewis Williams (Vice-President) and with the relatives of the late Alderman R. W. Jones, M.D., J.P., Penrhiwceiber.

Finance.

In the absence of the Treasurer, the Registrar read his annual report, in which it was stated that it would be extremely difficult to make a forecast of what the financial position was likely to be in the forthcoming year. The balance sheet showed that there was a deficit in the general income account for the past year of £1,450, £150 in excess of the deficit in the previous year; and in addition to this there was a deficit on the cookery school of £66, as compared with £495 in the previous year. The new college buildings would entail a very much larger expenditure for up-keep than hitherto; the registrar estimated it at £1,000. The deficit was not due to any falling off in activity. There had been a very satisfactory increase in the fees received from students, and the Board of Education grants had been increased by £500, but the taking away of the local instruction had entailed a considerable loss; bank interest had increased by £115. Through the great generosity of Viscount Tredegar and others, a sum amounting to about £11,000 had been promised during the last twelve months towards the building and furnishing fund; but this, together with the earmarking of the sustentation fund of £15,000, would be insufficient to cover their actual building debt, and make provision for sustentation by about £9,000. There was a deficit of £8,800 on the general account. This, with over expenditure going on at the rate of £2,000 a year, and a probable increase of £1,600, looked black enough. The leakage at the cookery school must be stopped, and unless some public bodies were prepared to take over the responsibility, or some other scheme devised, the school, successful as it was, must be closed to relieve the deficit to that extent. A certain amount of the new college fund promised five years ago had not yet been actually received —about £5,000 was still outstanding—and he earnestly appealed to donors who had not yet made good their benevolent intentions to consider the financial position. Dr. W. T. Edwards, Vice-President, moved that the report of the Treasurer be adopted, and Principal E. H. Griffiths, in seconding, said that, although the report represented matters in a gloomy light, he thought that more assistance was likely to be received in the future than in the past. The college had about £20,000 invested funds which it did not possess a few years ago, and though that would not help it in its present difficulties, it would materially assist to diminish the deficit, for the funds were invested in such a way that they would bear fruit a hundredfold in the future. The report was adopted, and the Treasurer was unanimously re-elected.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Election of Fellows.

AT a meeting of the College on October 19th the following gentlemen were elected Fellows: A. Allan, Glenalmond; R. B. Anderson, Winnipeg; W. E. Barrett, Colwyn Bay; O. Carlyle, Edinburgh; A. E. Chisholm, Edinburgh; R. L. Daly, Johannesburg; E. N. Drier, Vancouver; C. G. Edmonston, Portobello; M. S. Fraser, Edinburgh; J. D. Harmer, Exeter; R. H. Jamieson, Edinburgh; J. Kirkwood, Captain, I.M.S.; J. McCulloch, Ontario; A. C. B. McMurtrie, Edinburgh; H. M. Moran, Sydney; J. Murdoch, Shettleston; F. P. Patterson, Quebec; F. E. Price, Ipswich; V. H. Roberts, Captain, I.M.S.; W. Tarr, Captain, I.M.S.; R. Telford, Vancouver; J. A. Thwaits, Johannesburg; F. H. Wallace, London, N.E.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

Appointment of Officers.

AT the annual meeting of the college on October 18th, Dr. A. J. Horne was elected President for the ensuing year; Dr. MacDowel Cosgrave, Vice-President; Sir W. J. Thompson and Drs. Tweedy, Coleman, and Cosgrave, Censors; Dr. H. T. Bewley, Treasurer; Dr. James Craig, Registrar; and Sir John Moore, Representative of the College on the General Medical Council. As King's Professors of Midwifery, and of Materia Medica and Pharmacy in the School of Physic, were appointed Dr. Henry Jellett and Dr. W. G. Smith respectively. The annual dinner of the college took place the same evening.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*N. B. Benjafield, †H. S. Brown, ‡M. Graves, †A. W. Hansell, ‡J. A. Jones, †E. Newbouse, E. K. Poole, S. H. Scott, †G. Tate.

MEDICINE.—*†H. E. Battle, †H. S. Brown, *B. Robertshaw, *S. H. Scott, †H. Stanger, J. W. Williams.

FORENSIC MEDICINE.—H. E. Battle, E. G. Brisco-Owen, H. S. Brown, F. F. L. How, B. Robertshaw, H. Stanger.

MIDWIFERY.—C. S. Foster, A. W. Hansell, D. M. Hunt, A. H. Rich.
† Section I. Section II. ‡ Sections I and II.

The diploma of the society has been granted to Messrs. N. B. Benjafield, H. S. Brown, B. Robertshaw, S. H. Scott, and G. Tate.

The Services.

INDIAN MEDICAL SERVICE.

Station Hospital System.

A SENIOR MEDICAL OFFICER, I.M.S., writes:

1. The whole question of efficiency and economy rests in the introduction of the station hospital system for native troops. The present regimental system is absurd more especially for senior I.M.S. officers, who in many cases have to serve under commanding officers considerably junior to them. The commanding officers like the regimental system because they like to have their medical officers entirely under their control, receive large subscriptions, band, mess, entertainment, rifle, and sports funds, which are all paid on percentage of pay and allowances, and also have their "doctors" to run their mess as secretary. I acknowledge that the majority of junior officers like it; but as three-quarters go eventually into civil employ, and the remaining quarter who elect to remain in military service have not sufficient foresight to see the anomalous position they occupy as a regimental medical officer. The regimental system would have been abolished many years ago if the commanding officers had not stuck out and General Sir B. Duff, Chief of the Staff, championed them at Simla. I therefore hold—and *all* senior medical officers of the I.M.S. agree with me—that the only efficient system for Indian troops is the station hospital system.

2. The pay of the senior I.M.S. compares very unfavourably with the corresponding ranks of the R.A.M.C., who, in addition to getting better grade pay (Lieutenant-Colonel R.A.M.C. Rs.1,150, Lieutenant-Colonel I.M.S. Rs.950), get a charge allowance

according to number of beds (see BRITISH MEDICAL JOURNAL, August 28th, 1909, page 578).

3. Senior medical officers I.M.S. according to recent ruling, Army Department Letter, No. 8653, dated March 9th, 1909, have all the administrative work of the station, detailing medical officers and hospital assistants for various duties, looking after the sanitary condition of the station, is responsible for the general health of troops, sick in hospital, etc. He has to do all this without a penny extra pay, but the Government of India will not sanction even a clerk for the senior medical officer's office. A hospital assistant is generally detailed who helps in addition to his medical duties, and needless to say the hospital assistant does not draw any extra pay for doing the clerical work in the senior medical officer's office.

4. A very great grievance amongst those who have elected to remain on in military service is the supersession (by officers who have done most of their service in civil employ) when a military principal medical officership falls vacant. One cannot expect them to know the rules and regulations, which they have left for eighteen to twenty years.

5. I feel sure the Government of India would retain the services of the senior I.M.S. men on the military side for a longer period if it was not for the regimental system. At present they go as soon as they can. Given the station hospital system proper staff, it would give the I.M.S. in command a good position and moreover interesting administrative work, perhaps command allowance, and no subscriptions to pay towards regiments.

ROYAL ARMY MEDICAL CORPS.

LIMITED TENURE LEAVE.

THE Government of India have decided that officers of the Royal Army Medical Corps holding executive staff appointments in India of limited tenure are eligible for leave under the provisions of Paragraph 226 of the Army Regulations in India, vol. ii.

Public Health AND POOR LAW MEDICAL SERVICES.

MEDICAL INSPECTION AND THE POOR LAW.

L. B. writes that a school medical officer has ordered a pauper child to have its enlarged tonsils removed, and that the child has gone to him, as Poor Law medical officer for the district, for the operation. He asks us whether he can obtain a fee from the guardians.

*** If the school medical officer has ordered the tonsils to be removed he has gone beyond his powers, but in all probability he has contented himself with recommending the parents to have the operation performed. However this may be, he has no power to order the Poor Law medical officer to operate; the decision as to the advisability of operating or not rests with the Poor Law medical officer in the ordinary course. Unless the child was under our correspondent's medical care at the time, he would only be bound to give medical attendance if on receipt of a proper medical order from the relieving officer. Our correspondent may, however, have entered into a contract to attend all paupers on application; if so he cannot refuse to attend the child. In any case if he considers an operation desirable he must not delay it on the ground that he may not receive a fee. We consider that he ought to be able to obtain a fee for this special duty.

Obituary.

JOHN HERBERT WELLS, M.B., B.S.LOND.,

ASSISTANT, INOCULATION DEPARTMENT, ST. MARY'S HOSPITAL, LONDON.

THE death of Dr. John Herbert Wells occurred on October 14th, and we record the event with much regret. It brings to a close a life of great promise. Dr. Wells, who had still to complete his 30th year, was born in Leicester, and, early making up his mind to join the medical profession, passed the matriculation and preliminary scientific examinations of the London University while still at school. He then competed for the Huxley Scholarship at Charing Cross Hospital and for a Natural Science Scholarship at St. Mary's Hospital, and, gaining both, elected to join the latter institution, where some of his old school-fellows were already at work. In due course he became in 1903 M.R.C.S., L.R.C.P., and in the following year M.B., B.S.Lond., his student career being one of distinction. For physiology in particular he showed such aptitude that while still a student Dr. A. D. Waller associated him with himself in some studies which he was then carrying on, and which formed the ground work of a report made to the Chloroform Committee of the British Medical Association. His co-operation, indeed, was formally recognized, and was continued in connexion with subsequent work by Dr. Waller on the quantitative administration of chloroform. Meantime John Wells, besides serving a term of office as House-Physician at St. Mary's, holding certain minor appointments in the school, and gaining the prize for clinical medicine, had been adjudged *proxime accessit* for the Cheadle gold medal at the same institution, and had taken honours in medicine and pathology at the final M.B.

After a short period of private practice in Ealing, he joined the department of therapeutic inoculation at his old hospital in 1906, and speedily became one of its director's most trusted assistants. It was while thus working that he contracted his fatal illness. It was obvious from the beginning that it was due to an infective organism, but for some time it was not clear with what organism he had inoculated himself. Later on the disease was identified as internal glanders, an external case of which in a lady had recently been treated by him, and treated successfully. When a local symptom at length appeared it was a swelling in the calf, which was followed by evidence of a corresponding focus in the spleen. Vaccine treatment was adopted, and little by little the symptoms so far cleared up that in the autumn of last year he was able to go into the country for a time. On his return things went fairly well until about Christmas, when after a walk of unaccustomed length the swelling in the leg returned. It was opened in February, the *B. mallei* being found in pure culture. This abscess healed rapidly enough, but severe constitutional disturbance, including neuralgia in the groin, shoulder, and renewed splenic pain followed, and were not materially improved by a repetition of the vaccine treatment. He was then again moved to the country at his own desire. From the middle of the summer onwards it was obvious that he was a dying man, and about a fortnight before his death the infection became generalized, foci appearing in the face, limbs, and other parts. In the circumstances his death should be regarded, perhaps, in the light of a happy release, but it cannot but be a matter for general regret. He had already done more than is achieved by most young men of his age, and by general acceptance was likely to contribute materially to the progress of pathology, while those who knew him personally must inevitably feel the loss of a friend possessed of such attractive qualities as those of Dr. Wells. Though singularly fortunate in his domestic surroundings and the father of two young children, he faced things from the beginning with admirable courage; no one could have endured pain and suffering more patiently, exhibited more cheerful humour whenever free from actual pain, been ready to acknowledge his friends' attentions with more charming courtesy and to forget his own condition in his interest in their doings and welfare.

His funeral took place at Ditchling, near Brighton, on October 19th, in the presence of many friends, and his coffin was covered by wreaths from members of St. Mary's Hospital staff and other of his colleagues and acquaintances. Dr. Wells, whose marriage took place a little over three years ago, is survived by his wife and two children, with whom the deepest sympathy is felt.

BRIGADE-SURGEON WILLIAM PEARSON WARD, late of the Army Medical Department, died at Hove on September 29th, at the age of 84. He was appointed Assistant Surgeon, June 14th, 1847; Surgeon, June 26th, 1855; and Surgeon-Major, June 14th, 1867, retiring from the service February 27th, 1880. He served throughout the campaign in the Crimea in 1854–5, and was present at the affair at McKenzie's Farm, at the battles of Alma, Balaklava, and Inkerman, at the siege and fall of Sebastopol, at the repulse of the sortie on October 26th, 1854, and the assault on the Redan on September 8th; he was also present at the bombardment and surrender of Kinbourn. He had received a medal with four clasps, and the Turkish medal, and was made a Knight of the Legion of Honour.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

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Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look at the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any Circumstances be Returned.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

W. S. asks for information as to the Reform system of babies' clothing.

Tendon asks for information as to the treatment of recurring strained tendo Achillis. The femur was fractured 15 years ago, causing a shortening of a quarter of an inch. There is a slight thickening of the tendon.

Greatheart writes: A. attends a large establishment and receives £110 (net) per annum. B. acts as locumtenent for A., but does not look after A.'s general practice. What should B.'s remuneration be (*a*) per day, and (*b*) per week?

W. A. C. asks advice in treatment of a girl aged 17 who has very fine hair which is always sticky and clings together, looking greasy and unsightly, except just after washing. She has good health, but is of nervous temperament. The usual hair lotions, tonics, and change of air do not improve matters.

W. asks: (1) What form of instrument is usually employed for injecting sterilized iodoform emulsion into a tuberculous knee-joint, bordering on the second stage, where only the upper epiphyses are involved? (2) how often should the emulsion be injected? (3) what dressings are advisable? (4) would there be any constitutional disturbance or risk? (5) how long would it be safe to continue the injections before resorting to operation, and is there any special diagnostic sign to show the injections are doing no good?

Epilepsy Following Miner's Nystagmus.

F. W. writes: A coal miner recovering from nystagmus of 18 months' duration, and for which he received compensation, has within the last few months developed epilepsy. The indemnity company has stopped his allowance, alleging that they cannot pay for the latter disease. B. W. asks for information as to the association of the two diseases, and whether there is any precedent.

A Case for Diagnosis.

C. A. Said, M.R.C.S., L.R.C.P., L.M., late House-Surgeon and House-Physician, Kasr-El-Aini Hospital, Cairo, writes: An Egyptian of 62 years, now in very good health, told me the following story, that happened personally to him, and that seems to me rather peculiar:

Forty-one years ago, when the patient was a student in El Azlar University in Cairo, he had a mild fever. He did not think much of it, but on the next day he felt so ill that he completely lost consciousness. He does not remember anything whatever happening on that day. On the following day (the third of the beginning of the illness) he regained consciousness, and the condition was exactly the same as on the first day, namely, feeling of warmth, slight headache, general malaise, and inability to do his usual work. Soon after, directly he became a little better and began to eat, he noticed that everything tasted very sweet. He compares the sweetness to that of the small yellow and black dates commonly called in Egypt "Balah Imhat," which is a very sweet substance almost like sugar. The patient says that the sweetness was so strong that he purposely ate salt and pepper with bread to cover the taste, but this was of no use. This also tasted quite as sweet. This taste lasted for a week, till the patient was quite troubled with it. Curiously enough he did not consult any doctor for his condition, nor even for his fever, and as far as he can remember he took no medicine whatever; possibly he was given something on his second day of illness, when he was unconscious; otherwise he had nothing at all. Tasting everything as sweet as dates, the patient determined to eat these black dates themselves, the season of dates being then in Egypt. He used that for a week, during which his food consisted only of bread and dates. At the end of this week (that is, a fortnight from his recovery from the fever), the sweet taste in the mouth gradually diminished till it completely disappeared after a few days. Since then the patient never had the same thing again, and his senses are perfectly good at the present moment.

What could this fever and that peculiar strong sweet taste be? and has the fever any relation to the taste? and what disease or condition could cause such symptoms? and in what medical book or treatise could I find account of such illness or complaint?

*** We do not think that our correspondent will find an account of such an illness in any medical textbook. Influenza with perversion of taste might account for it, or it might have been relapsing fever or typhus, both of which diseases were common, and still are so, we believe, in Cairo. It is quite possible that disturbances of taste might follow these.

ANSWERS.

Treatment of Discharging Ears.

Dr. Lindley Sewell (Manchester Ear Hospital) writes: In answer to "Ear," after syringing the ear with weak boric lotion, the meatus should be filled with liq. hydrogenii peroxidi (*B.P.*), aq. destil. aā. These drops should be allowed to remain in fifteen minutes, when the ear should again be syringed, and then carefully dried with sterile wool on a small wool-carrier. If the *B.P.* liquor is used without dilution, it will, in many cases, cause severe smarting, both at the time of its application and afterwards. Hydrogen peroxide is very useful in clearing up the neglected aural discharge so frequently seen in children of the hospital class; it is essential for its successful use that there be adequate drainage from the middle ear, and this must be obtained by enlarging an existing perforation if necessary, or removing exuberant granulation tissue with snare and spoon. When the disease is limited to the mucous membrane of the middle ear, and the perforation is large and so situate as to afford good drainage, the chances of arresting the discharge are great. In the later stages of treatment, after the instillation of the hydrogen peroxide, R Ac. boric. gr. xv, sp. vin. rect., glycerin., aā 3ij, aq. destil. ad 3j, may be instilled for a further ten minutes with advantage. When the suppurative process has extended to the mastoid, however, there is no prospect of cure from the conservative routine outlined above, and radical surgical treatment is indicated. Hydrogen peroxide will be found extremely useful at the first dressing after a radical mastoid operation; if poured freely over the gauze, it renders it loose, and there is much less pain in its removal.

Mr. Garey Simpson (London) writes: "Ear" will find peroxide of hydrogen of great use in the treatment of chronic middle-ear suppuration, and especially as a means of loosening tough masses of discharge. I use an ear-bath of liq. hydrogenii peroxidi, 5 to 10 vols., extending over a period of five minutes. The meatus should be filled with the solution, which should be first warmed in a teaspoon over a spirit lamp, the patient lying with the ear under treatment uppermost. If there is pus the meatus is filled with a whitish froth in which can be seen bubbles of gas. This treatment is followed by syringing with a warm saturated solution of boric acid, and drying the meatus by means of a cotton-wool tip. The patient should then get rid of any additional discharge by performing Valsalva's method, by the introduction of air into the middle ear during forcible expiration with the mouth and nostrils closed, and any additional discharge must be removed by means of a cotton tip. The success of the treatment will depend a good deal upon the situation of the perforation of the drum membrane. It should be carried out by the surgeon himself whenever possible, at any rate for the first few dressings, knowing the great risks that patients run from neglecting a chronic suppurative otitis, the surgeon should endeavour to keep in touch with these cases until a cure is effected, either by local treatment or operation.

Adrenalin in Asthma.

Dr. Craufurd Matthews (Colwyn Bay) writes, in answer to "Pulmona" (British Medical Journal, October 23rd), as follows: During the past two years I have used adrenalin in every case of acute asthma I have come across, with satisfactory results in all. My method of using it is to order a dilution of adrenalin solution and water equal parts to be sprayed into the nose with an ordinary nasal spray at the commencement of the attack. In each case in which I have used it, now 10 or 11 in number, complete relief has been

obtained within ten minutes of applying, and has continued for several hours. No case has shown signs of any untoward result, though in one case applications were necessary three or four times during the twenty-four hours for two days on several occasions.

X-RAY INSTALLATION.

X RAY asks for information as to the best up-to-date x-ray outfit to use in a children's hospital. The present apparatus, consisting of a 10-in. spark coil and a mercury break, necessitates exposures of five to fifteen minutes in order to obtain a moderate shadowgram. A 250-volt constant current is available.

, It is advisable in the first place to have a coil that will drive at least 20 milliampères through a fairly-soft tube. An electrolytic interrupter is necessary, but, of course, this must only be used for radiography and not for screen examinations. The Bauer air-cooled tube and the Müller heavy anticathode each has its partisans among the workers in short exposures. At the present time, however, some children's hospitals are giving up the use of the big, heavy tubes, preferring to use quite small and cheap ones, and installing such an x-ray generator as the "Snook" (BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 96), which does away with both coil and interrupter. This, of course, necessitates a somewhat heavy outlay, but there is a distinct saving in tubes. The "Ilford" plate has a very good reputation for short exposure work.

LETTERS, NOTES, ETC.

THE LONDON POLYCLINIC.

H. D. writes: As a constant attendant at the Polyclinic, and also being engaged in general practice, I cannot too strongly remind members residing in London of the great advantage they have in such a useful institute; not a single day passes that I do not learn something new there. I look upon my attendance as a means of recreation. Consultants learn much from me outside their speciality, and have ceased to write prescriptions for my patients, being forestalled by what I have learnt from them at the Polyclinic.

A CURE FOR WENS.

DR. QUINTIN RICHARD DARLING (Eardsley, Herefordshire) has sent us the following old prescription for "a wen on the neck" which he got from a patient, and which he thinks may be of interest to collectors of curiosities: "Two drachms of millipedes, 2 drachms of nitre powder, 4 drachms of burnt sponge, 2 drachms of best eating oil. The ingredients to be made up, and take a little ball about the size of a nut and let it dissolve under the tongus every night at the decrease of the moon."

A PIN PROTECTOR.

WE have received from the patentees, Messrs. Patterson and Company, of Frederick Street, Birmingham, a specimen of a new device for robbing pins and bonnet pins of their facultative terrors. It consists of a small metal sphere with an orifice at one side, and filled with material which grips the pin point and holds it firmly. It has been sent to us as being a desirable addition to the uniform of nurses in ordinary wards, and as a means of obviating any risk of their scratching their patients with their pins when lifting or otherwise attending to them, but is also intended for use with ordinary hatpins. It would be equally effective in either case, and is much the best of the many devices which we have seen for this purpose, since it is applicable to any and every pin. Its trade name is the "Cromwell" Pin Protector, and it can be obtained, we understand, from any draper.

INVALID BABIES' HOME.

DR. C. V. CORNISH (Kew) writes: I believe I am correct when I say that there is not a convalescent home for babies under 2 years of age existing in England. That being so, I would, through the medium of the BRITISH MEDICAL JOURNAL, to make more generally and widely known a small home for babies which has recently been started by a community of Dominican nursing Sisters at Bury St. Edmunds. I can testify to the excellence of their work, for whilst they were in London I visited the home. At that time the Sisters had charge of four small children ranging from 18 months to 2 years old. One child had been taken from the Queen's Hospital, Hackney Road, a deplorable-looking little object with infantile hemiplegia, and two other little miseries from the slums of Hoxton (one was living in a cellar). They were all promptly put in the garden from sunrise to sunset, and made rapid progress, and were to me a striking example of what fresh air, sunlight, and plain, simple food will do for such cases. The children became fat and rosy—pictures of health. I am glad to have this opportunity of testifying to the careful and constant personal devotion to the little ones on the part of the Sisters, who are hoping to extend their work, at present very limited as to numbers from the want of funds. They will be glad to receive infants from 1 to 3 years of age suffering from rickets, paralysis (infantile and other forms), "wasters" and convalescents from acute diseases. A minimum charge of 5s. a week is made. I hope my *confrères* will make this work known, for I feel sure that such a home is very necessary, and would probably be well supported were it known to exist. The address is: The Superioress, Home for Invalid Babies, 76, Guildhall Street, Bury St. Edmunds.

FLEAS AND CANCER.

DR. A. B. CLARKE (Highampton, Devon) writes: In an interesting article in the *Charing Cross Hospital Gazette* for May, 1902, Mr. Jas. Cantlie mentions the old superstition of the "death-swarm"—that is, when a person is about to die his decease is foreshadowed by the departure of his resident vermin. Probably this is what Mr. Nolan's patient meant. Mr. Cantlie tells a story confirmatory of the belief.

THE REPETITION OF PRESCRIPTIONS.

DR. F. W. WRIGHT (Kensington, W.) writes: A patient of mine has just related to me the following story. A near relative twenty years ago consulted a physician in Chicago for neuralgia; the latter prescribed, among other ingredients, codeine, presumably, of course, in appropriate doses for the case as it then presented itself to him. A month ago, the patient being in her usual health, somewhat suddenly died, greatly to the surprise of her friends. Inquiry brought to light the unexpected fact that for a period of twenty years she had been taking the medicine prescribed by her American physician at that time. For fifteen years the prescription has been dispensed by an English chemist in this country, the top dose being 22 grains. A not unnatural question arose in the minds of the patient's friends whether it is not an abuse of a prescription that it may be dispensed for twenty years without the occasional supervision of a properly qualified medical practitioner, and whether it may not be, in the eyes of the law, illegal practice.

"CHRISTIAN SCIENCE AND SPIRITUAL HEALING."

MR. FREDERICK DIXON (District Manager of the Christian Science Committees on Publication for Great Britain and Ireland) writes: Will you permit me as one of the "official defenders" of Christian Science to ask why the attempt to answer Mr. Paget in the press is a proof that Christian Scientists are hard hit? It seems to me that the extreme anxiety of Mr. Paget's supporters to prevent any answers getting into the press tells another tale. Every day books and pamphlets are being issued, and sermons and addresses delivered, with the avowed object of crushing Christian Science. The uninitiated person might be forgiven for imagining that all these drums and alarums proclaim anything but a certainty on the part of the opponents of Christian Science that they were winning the day. One of the opponents of Christian Science is Sir Robert Anderson, and Sir Robert Anderson, who knows human nature fairly well, has just declared that Mr. Paget's attack will inevitably add a hundred recruits to the Christian Science army for every one deserter. In one way Sir Robert's estimate is in fault. The recruits are coming in, and I do not think his figures are exaggerated, but the deserters have not yet deserted. Not one of them that I know of, nor are they likely to until Mr. Paget's "swashing" blows succeed in wounding something besides his own reputation for an ability to reason with calmness. The mantle of the defender of the faith is manifestly several sizes too large for the champion whose battle-cry is "Prayer cannot reach the cells of the liver."

, We must leave Mr. Dixon to find such comfort as he can in the opinion of Sir Robert Anderson, whose judgement in other less-elusive matters scarcely entitles him to be regarded as an authority of any particular weight in regard to Mr. Paget's way of dealing with Christian Science. We may remind Mr. Dixon once more that a few facts authenticated as the results of surgical operations performed in public hospitals would do more towards the discomfiture of Mr. Paget and the conversion of unbelievers than any number of opinions and assertions. We should be quite content to rest the issue on Mr. Wilding's cases, provided full opportunity were given of testing his statements.

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The Bradshaw Lecture

ON

DARWINISM AND MEDICINE.

Delivered at the Royal College of Physicians, London, on November 2nd, 1909.

BY

JAMES ALEXANDER LINDSAY, M.A., M.D., F.R.C.P.,

PROFESSOR OF MEDICINE IN THE QUEEN'S UNIVERSITY OF BELFAST; PHYSICIAN TO THE ROYAL VICTORIA HOSPITAL, BELFAST.

Mr. President,—I trust I may with some propriety in this year of the Darwin centenary ask you to consider with me the significance of Darwin's great discovery for medical thought and practice. The subject is large and can on this occasion be dealt with only in outline. The field which I shall ask you to traverse is a well-trodden one, but I believe its fruitfulness is not yet exhausted. Darwin's work on *The Origin of Species* contained, as Helmholtz said, "an essentially new creative thought," a thought, I venture to add, which is still fertile, still seminal, still full of suggestion and guidance for all whose labours lie in the field of biology.

The relation of the science and art of medicine to the higher thought of the day must always be a matter of interest and importance. Medicine is coloured by that thought; its postulates, prepossessions, and theories are modified by it; in its degree it contributes to that thought. When we get from the facts of science to the truths of science, to emphasize a pregnant distinction, our thinking is modified, stimulated, or deflected to an important extent by the intellectual atmosphere in which we live. A notable instance in point is afforded by the Father of Medicine—Hippocrates. In the Homeric poems everything is miraculous. The storm, the sunshine, shipwreck, plague, blight, sickness, victory, defeat—everything is due to the direct interposition of supernatural powers. "Every event," as the late James Adam said, "is a theophany." The conception of natural law has not yet arisen. How different is the atmosphere of the works of Hippocrates! Here, amidst much that is crude and empirical, there is a genuine recognition that in the field of disease events follow a natural sequence, that effects are proportionate to causes, that order reigns, and that our business is to investigate that order. Between Homer and Hippocrates had intervened the great school of the Ionian physicists from Thales to Democritus; physical science had seen its dim and feeble dawn; the lineal succession was opened which was one day to include the names of Galileo and Copernicus, of Leibnitz and Newton, of Darwin and Wallace. The comparative failure of the successors of Galen to advance the art of medicine, and the barrenness of our art during the many hundred years during which their influence reigned supreme, were due in large measure to the false philosophy which lay at the root of the Galenic system, to the predominance of metaphysical theory over observation and experiment. The rapid advance of medical science in modern times has coincided with the progress of physical and biological science in general, in part because science furnishes medicine with instruments of precision and methods of research, but perhaps even more because it creates the atmosphere in which medicine can flourish and develop. The reaction of one branch of science upon another branch at the present day is both potent and prompt.

I need not inform you that the conception of evolution existed long before Darwin, and goes back to the very dawn of science. It is said to occur in the sacred books of the Vedas. It was the central thought of the philosophy of Heraclitus. It is found in the works of Aristotle, and we can trace it through a long succession of thinkers, including Bacon, Descartes, Leibnitz, Hume, Kant, Goethe, Buffon, Geoffrey St. Hilaire, Erasmus Darwin, and Lamarck. It is interesting to note that one of the most notable precursors of Darwin was a member of our own profession, Dr. James Cowles Prichard of Bristol. Writing in the year 1826, Prichard clearly recognized the existence of organic evolution. He fully apprehended that domesticated races of animals and plants have been produced by selection by man, and not by the influence of environment; he recognized the operation of natural selection, though he misinterpreted its range and importance; and, most curious of all, he recognized the difference between acquired and congenital characters, and argued for the transmissibility of the latter and the non-transmissibility of the former—a view reached independently half a century later by Weismann, and now usually associated with his name. Darwin did not discover Evolution. He discovered its leading law, and by a long series of observations, experiments, and reflections, unparalleled in the history of science, converted the brilliant guesses of earlier inquirers into an assured truth and an established principle.

We claim for Darwin (Alfred Russel Wallace says) that he is the Newton of natural history, and that, just as surely as that the discovery and demonstration by Newton of the law of gravitation established order in place of chaos and laid a sure foundation for all future study of the starry heavens, so surely has Darwin, by his discovery of the law of Natural Selection and his demonstration of the great principle of the preservation of useful variations in the struggle for life, not only thrown a flood of light on the process of development of the whole organic world, but also established a firm foundation for all future study of Nature.

The conception that the organic world is the scene of an incessant struggle, of a keen vital competition, in which the fittest survive—that is, the fittest for their environment in the capacity to obtain food, resist their enemies, and propagate their kind—while the unfit perish, has been recognized as the fundamental law of life, and the demonstration of this principle we owe to Darwin and to Wallace. As Weismann says, this principle "has become the basis of the science of life"; it "has conquered the world," and has become so inwrought in the texture of our thought that it is now practically impossible to think of any biological problem except in terms of evolution. That any of the fundamental features of the Darwinian doctrine have been subverted by fifty years of inquiry and controversy is not, to my mind, a tenable proposition. It is true that some of the subordinate features of that doctrine remain open questions: how far, for example, use and disuse have operated in producing organic changes; what weight is to be assigned to the influence of the environment—a point upon which careful readers of the works of Darwin will see that his mind wavered from time to time—what is the precise significance and area of operation of sexual selection; whether acquired characters are inherited or not; how far the Mutationism of De Vries and others operates instead of slow and almost imperceptible change. On these points finality has not yet been attained, but their solution—whatever it may be—will not invalidate the Darwinian doctrine. The general tendency of inquiry since Darwin's time has been, upon the whole, to strengthen the claim of Natural Selection to be regarded as the great law of organic life, to show how wide its range, how subtle its operations, and to minimize the importance of other factors. To take an example—at first sight nothing can be more obvious than to attribute to the effect of disuse the loss of sight by fish, crabs, and rats inhabiting the dark caves of Kentucky and Carniola. But another view is at least tenable. When, owing to the absence of light, the faculty of sight ceased to be of utility to these creatures, natural selection, of which the function is to keep every organ which is of use to any creature up to the mark, ceased to operate, and it is a fundamental law that any organ withdrawn from the conservative action of natural selection tends to degenerate. The controversy especially associated with the name of Weismann, whether acquired characters are inherited or not, is one of vast and far-reaching importance for practitioners of medicine. Weismann, as you are aware, holds that in all organisms there are two kinds of plasm, the somatic and the germinal; that the permanent germ plasm passes unchanged through a series of generations and is not affected, or but little affected, by environmental influences, which affect the somatic plasm; that modifications produced upon the somatic plasm by the environment and by use or disuse are practically limited to the individual and not transmitted to the offspring, and that hence no characters except those predetermined in the germ are available for evolution. This question is too

large to be discussed at any length on this occasion. Medical opinion has been to a large extent opposed to the views of Weismann, but it must be admitted that he has succeeded in throwing great doubt on the transmissibility of acquired characters, a doctrine which Darwin assumed as too obvious to require demonstration. Most of the supposed cases of such transmission are apparent rather than real. Syphilis seems a crucial case in point, hereditary syphilis being one of the most familiar of phenomena. But it is now practically certain that this is not a case of inheritance at all, in the strict sense of the term, the true explanation of the facts being an antenatal infection of the ovum, usually from the maternal side. Whether tuberculosis is ever directly conveyed from parent to child is still doubtful, but if such transmission were proved, the most probable explanation would be the direct inoculation of the embryo and not inheritance. To disprove Weismann's doctrine, we should require to show that mutilations, or the results of training, exercise, or education, or acquired diseases, reappeared in the offspring as the result of heredity. This has not been hitherto conclusively shown. The problem is one which has great interest for us, and medical observers might contribute to its solution. May I suggest a case in point, where evidence from the side of medicine might be available? In a certain proportion of cases neurasthenia is brought on by overstudy, anxiety, overwork, want of sleep, or excess of some kind, in persons where no congenital tendency to nervous disease can be suspected. Is such neurasthenia transmitted either as neurasthenia or some allied condition? The question is worthy of attention, and an answer ought to be possible.

Darwin as a scientific worker presents us with a model for all time, and worthy of admiration and imitation. "My success as a man of science, whatever this may have amounted to," he tells us, "has been determined by complex and diversified mental qualities and conditions. Of these the most important have been a love of science, unbounded patience in long reflecting over any subject, industry in observing and collecting facts, and a fair share of invention and common sense." In another place he says, "Whatever I have done on science has solely been by long pondering, patience, and industry." This is altogether too modest an estimate. Darwin, in point of fact, possessed in a supreme degree two faculties rarely present in perfection in the same individual—namely, immense industry and accuracy in the accumulation of facts, and a daring originality of speculation, coupled with much caution in drawing any final conclusions. He had the power of keeping any subject more or less before him for a great many years. He was an indomitable theorizer, and held that "without speculation there is no good and original observation." Again, he says, "I cannot resist forming a hypothesis upon every subject." The essential fairness and integrity of his mind is shown by the following passage:

> I had also during many years followed a golden rule, namely, that whenever a published fact, a new observation or thought came across me which was opposed to my general results, to make a memorandum of it without fail and at once, for I have found by experience that such facts and thoughts were far more apt to escape from the memory than favourable ones.

May I suggest that in much of the above there is a wholesome lesson for ourselves? That we should be diligent, patient, and thorough in the collection of facts goes without saying. That we should keep those facts for long periods, even for years, before our minds before drawing, still less publishing, our conclusions will seem a hard saying to the contributors to periodical medical literature. Perhaps, indeed, such a rule is a counsel of perfection, hardly possible to the average man. But I would ask you to note the high place assigned by Darwin to theorizing and speculation in scientific work. This may seem a dangerous doctrine, but I am convinced that it is a sound one. Medical science is to-day overweighted by the accumulation of a vast array of more or less crude and isolated facts. What we need is the illuminating generalization, the daring hypothesis, to co-ordinate facts hitherto out of relation with each other, to give perchance to science a new *organon*, to light the way to fresh fields of inquiry and discovery. It is the presence of this element of underlying theory or law which lends so much attractiveness to the work of Pasteur and Lister, of Koch and Metchnikoff, of Ehrlich and Wright. The bold hypothesis lights up the dark ways of Nature, illumines the road already traversed, sheds light on the pathway which lies ahead.

Before proceeding, after the foregoing more or less preliminary observations, to apply the principles of Darwinism to man in health and in disease, I may be permitted to remind you of the fundamental laws of growth, which must guide us in our inquiries. These laws might be stated as follows:

(*a*) The Law of the Perpetuation of Species or of the Unity of Type.
(*b*) The Law of Variation.
(*c*) The Law of Reversion.
(*d*) The Law of Atavism.
(*e*) The Law of Correlation, whereby when one organ varies other organs tend to vary also.
(*f*) The Law of Compensation or Economy, whereby increase of growth of one organ is accompanied by diminution in growth of another organ.
(*g*) The Law of Sexual Selection.

We might summarize the foregoing laws as follows: The general tendency in all living organisms is that the child shall resemble the parent in specific characters—that is, that the unity of type shall be preserved. But variation from type is always present to a greater or less degree. Darwin thought that variation was largely due to changed conditions of life. Weismann believes that sexual reproduction is the chief cause of variation in the higher animals, including man, and Wallace shares this view. Variation is accompanied by a tendency to revert to type. Hence, notable departures from type tend to die out, but to this law there are many curious exceptions—for example, the Ancon sheep and the numerous "sports" amongst plants which have given rise to permanent new varieties. Atavism is the law whereby the child sometimes resembles the grandparent or the great-grandparent more than the parent. It may be regarded as a special case of reversion. By the law of correlation we mean that principle whereby when one organ varies another organ varies, the two organs not always being related in function. Thus, white cats with blue eyes are always deaf. In certain breeds of cattle colour and susceptibility to the attacks of flies are correlated. By the law of compensation or economy we mean that principle whereby nutriment required by the overgrowth of one organ is withdrawn from another organ. It is probably in consequence of this law that the highly-specialized reactions of the nervous system developed in an advanced stage of civilization are accompanied by a decline in the birth-rate. Finally, sexual selection is undoubtedly a factor, although much uncertainty exists as to its extent of range and importance. The comparative absence of hair from the human body, especially in the female sex, has been attributed with much probability to sexual selection.

Darwinism and Normal Human Structure and Function.

Man is a member of the animal series, and it is reasonable to expect that the ordinary laws of evolution would be exemplified in his structure and in his functions. This we find to be the case. The body of man is built upon the same lines—bone for bone, muscle for muscle, artery for artery—as that of the higher apes. The comparatively few distinguishing features of the human organism have relation to three points—namely, the assumption by man of the erect posture, his acquisition of special manual dexterities, and his higher cerebration. The foot, the hand, and the fore-brain are almost the only points with regard to which the human body differs essentially from that of the quadrumana. Evolution accounts easily and adequately for these differences. Let us look at a few points less obvious than these. Why out of every score of human beings are about nineteen right handed and one left-handed? On any creationist hypothesis this question admits of no plausible answer, but evolution suggests a highly probable explanation of the mystery. We may fairly assume that as man developed, and his functions became more specialized, it was necessary that certain parts of his structure should acquire special dexterities, and that it was by the law of economy that these dexterities were concentrated upon one limb instead of being shared by both. Hence were developed the special manipulations of the right hand. But the law of variation

above mentioned would suggest that in a matter of this kind evolution would not act with undeviating uniformity, but would admit of certain departures from type. And so we find, as we might have anticipated, that about one person in twenty is left-handed. That the special dexterities of the right hand are not innate and predetermined but the result of development is shown by the fact that the left hand contains potentially the same aptitudes as the right, and these aptitudes can be successfully developed when the right hand is lost as the result of accident or disease.

Why are the speech centres in right-handed people located on the left side of the cerebrum? The most probable explanation—first suggested, I believe, by Moxon—is that by the same law of economy it was in the interest of the developing organism that the centres presiding over the mechanisms of speech—the precise significance and mode of operation of these centres is not here in question—should be located in one, rather than in both, hemispheres. It is entirely in accord with this theory that the right side of the cerebrum should contain potential speech centres, and that these should be capable of successful and adequate development when the centres on the left side are destroyed by disease. It is also quite in line with evolutionary doctrine that the same side of the cerebrum should preside over the fine manipulations of the right hand and the complicated motor mechanisms of speech.

Why are the teeth so often crowded together in the human jaws that the removal of some of them is often a necessity in early life? Evolution affords the probable clue. There are good grounds for concluding that the human jaws are undergoing a progressive diminution in size. This diminution should be accompanied by a corresponding diminution either in the size or number of the teeth, but it is quite in accord with experience in other departments that the two processes should not proceed *pari passu*. Apparently the diminution in the size of the jaws has outrun the diminution in the size or number of the teeth, and hence the overcrowded state of the jaws which we know to be common. This explanation is adequate and probable, although it might be argued that the teeth are of less utility to man now than in earlier ages, and are hence partially removed from the operation of natural selection.

Many of those whom I address must sometimes have reflected over the curious and apparently clumsy arrangement whereby our food and drink, before entering the gullet, have to pass over the entrance to the air passages, involving a slight but appreciable risk of foreign matters finding their way into the lungs—a risk slight in health but sometimes serious in disease. The explanation suggested by evolutionary law is that the lungs have been developed from the swim-bladder of an unknown progenitor, and that an organ originally adapted for flotation has been developed as an organ of respiration. The relation of the swim-bladder to the gullet would not have involved the same risks as the relation of the gullet to the air passages. If we accept the alternative view of the origin of the lungs—namely, that they have been developed from a pair of gill clefts—the same explanation will apply.

Why is the septum between the auricles of the heart so imperfect that the passage of blood from one chamber to the other is only just obviated in the normal individual, while patency of the *foramen ovale* is one of the commonest of malformations? May it not be that we have here an example of imperfect and not yet completed development. May we not expect that the present valvular arrangement for preventing the flow of blood from one auricle to another will in the course of time, under the influence of natural selection, be converted into a permanent and complete septum?

Darwinism and Rudimentary Organs.

Perhaps on no subject has evolution thrown a more welcome or a more satisfying light than upon the significance of rudimentary organs. At first sight, nothing can be more puzzling than that there should be in the human body certain organs which are functionally useless to the individual. Of such organs we have the following:

(*a*) *The panniculus carnosus*, corresponding to the muscles which move the skin in the lower animals. There are some persons who possess the power of moving at will the skin of the scalp and other parts, and I believe the music halls once possessed an artist who earned an honest livelihood by exhibitions of his power to throw plates and other articles from his head by contractions of the scalp muscles.

(*b*) *The ear muscles*, functionally inactive in most individuals but in exceptional cases capable of causing movements of the Pinna, suggestive of the great importance of the movements of that organ to the lower animals.

(*c*) *The animal ear-point*, a projection upon the outer fold of the ear, present in some persons and corresponding in position to the pointed ear of many animals.

(*d*) *The rudimentary nictitating membrane or plica semilunaris.*

(*e*) *The vermiform appendix*, functionless in man, but of great importance in some of the vegetable feeders amongst the lower animals.

(*f*) *The foramen supracondyloideum.*

In addition to the above there are certain organs which seem in process of becoming rudimentary and functionless. Cutaneous hairiness is no longer of service to man, and will probably disappear under the operation of natural selection, perhaps assisted by sexual selection. The third molar or so-called wisdom teeth, are probably becoming functionless. They pierce the gums late, or in some cases not at all, and they are prone to early decay. It seems probable that the sense of smell, no longer of much practical importance to civilized man, and hence removed from the action of natural selection, is becoming rudimentary. The human toes, with the exception of the great toe, which is of service in maintaining the upright posture, being no longer organs of prehension and almost functionless, are undergoing elimination.

Rudimentary organs present no difficulty to the evolutionist. They are simply belated survivals of organs once functionally important to the race, but now on their way to extinction and disappearance. No longer under the conserving influence of natural selection, they are very prone to vary and to become the seat of disease. We see this law well exemplified in the case of the vermiform appendix, which is both highly variable in structure, and very subject to disease.

It has been suggested that the many feet of the human intestine are simply survivals from a herbivorous progenitor and of no service to a mixed feeder like man. It has even been proposed that the aid of surgery should be invoked to curtail some of its superfluous folds, which, it is argued, are not only useless, but actually a source of danger. On such a delicate subject I prefer to express no opinion. Modern surgery does not need to be stimulated to fresh fields of enterprise, least of all by a physician.

The bearing of evolution upon physiological processes opens up a wide field for reflection and speculation. We are so apt to regard these processes as fixed and final, while in reality we should regard them as fluid, variable, undergoing a process of adaptation rather than as completely adapted, imperfect, but under the influence of natural selection tending towards perfection, or in some cases, perhaps, exhibiting traces of reversion. The phenomena of digestion, for example, will appeal to our intellect and imagination very differently according as we regard them as ultimate and final facts, or as part of an evolutionary process. Man has gone through many phases in the matter of his food, and it is likely that he has still in this department a journey to go. Perhaps it might savour of irony to suggest that vegetarianism is a case of reversion to the habits of remote herbivorous ancestors, but the idea is one worth thinking over. When we are urged to lessen our consumption of butcher's meat and rely more upon nuts and salads, the question arises how far carnivorous habits are for man in the natural line of development, how far he should regard himself as essentially a mixed feeder, how far reversion to the dietetic habits of earlier ages would be a gain or a retrogression. The really illuminating thought amongst these somewhat difficult problems is that the habits of man are not predetermined and final but the result of countless generations of evolution, that they are neither wholly good nor wholly bad; that, on the one hand, they are worthy of respect as having stood the test of an immense experience, while, on the other hand, they are almost certainly destined to important modifications in the future. In this case however, as always, natural selection and adaptation to the environment will be the guiding principles to which man in his arduous march through time will be compelled to conform.

DARWINISM AND DISEASE.

What light can evolution throw upon disease, upon its origin and course, upon the response of the organism to its assault, upon immunity and proclivity, upon the principles and results of treatment? On all these heads something might be said, but the issues thus raised are too far-reaching to be adequately dealt with on the present occasion.

An inquiry into the origin of disease in the biological sense may well seem futile. How the first bacillus of tubercle or the first *plasmodium* of malaria came into being may be plausibly regarded as a problem as mysterious and as futile as the origin of matter or the origin of life, questions which Darwin always refused to discuss. "It is mere rubbish," he says in one of his letters, "thinking at present of the origin of life; one might as well think of the origin of matter." Yet the origin of life has provoked many speculations, inconclusive, but not absolutely vain and sterile. The origin of a morbific micro-organism can be only dimly surmised, but evolution may help us to understand how such organisms have acquired their potency for mischief. In some cases—for example, tuberculosis—there is reason to believe that civilization and the habits of civilized man have had much to do in conferring toxicity upon an organism comparatively innocuous under more primitive conditions of existence. Many facts of bacteriology suggest to us that organisms such as the pathogenic bacteria owe a large part of their virulence not so much, as it were, to their inherent properties, as to certain conditions of growth which are only very partially known to us. If this view be sound, it will follow as an obvious corollary that tuberculosis is to be suppressed, not by destruction of the bacillus, but simply by depriving it of the conditions necessary for its growth and development.

Evolution may throw some light upon the different effects which the same etiological factors are known to cause in different individuals. Over-indulgence in eating and drinking produces in one individual gout, in another cirrhosis of the liver, in a third renal disease, in a fourth arterio-sclerosis, and so on. How are we to account for the different responses to the same stimulus? We have to assume some congenital peculiarity in the individual, the result of factors which may stretch back to a remote past, and which have been developed in accord with evolutionary laws. A similar train of reflection is suggested by the facts of immunity, a subject upon which so much brilliant work has been done in recent years. The precise mechanism of immunity, the action of phagocytes, alexins, or other protective agencies, need not be here dwelt upon. The effects of food, temperature, fatigue, of previous diseases, of protective inoculation whereby the specific protective substances have to be formed in the body itself, and of immunization by transference of protective substances previously formed in antitoxic serum, are well known to you. What seems clear is that when full account has been taken of all secondary causes of immunity, we are thrown back upon a factor which we may vaguely describe as "constitutional," or "congenital," or as a personal peculiarity or idiosyncrasy. Why does one individual fall a ready prey to scarlatina or diphtheria while another resists repeated exposure to contagion? It is of great interest to learn that certain protective agencies are at work, which can be, to a certain extent, recognized. But it is clear that the recognition of such agencies only pushes the problem farther back, and does not finally solve it. That the predisposition to contract infective disease, or to resist infection, runs strongly in families is a matter of daily observation. Some people, as the saying is, "catch everything that is going," others escape though equally exposed to infection, and these peculiarities are found to characterize certain stocks and strains. Again, some persons on being infected quickly develop all the usual consequences of infection, while others develop them slowly, or imperfectly, or even not at all. We are familiar with the fact that the bacillus of diphtheria may be present in the fauces of healthy individuals who have been in close contact with sufferers from the disease, and no further development occur. It is probable that most of us at some time or other have received the bacillus of typhoid fever into our systems, in most cases without injurious result. I may even suggest to you that some persons have tubercle bacilli in their sputum, and seem very little, if at all, the worse for their presence. These facts might be multiplied indefinitely, and they all point in one direction, namely, that when all the secondary agencies of immunity have been unveiled—and the inquiry into them is one of extraordinary interest and importance—we shall still be left with some unexplained factor, some congenital or hereditary element which has arisen in accord with evolutionary law. We have facts which suggest to us that civilized nations are undergoing a process of gradual immunization to infective disease. When measles was first introduced into the Faroe Islands and the Fiji Islands there was an enormous mortality, amounting in some cases to one quarter of the entire population, while subsequent epidemics have shown a much lessened virulence. In accounting for such facts there seem to be two possible theories: (1) That certain inhabitants of these islands possessed a special susceptibility to the toxin of measles; or (2) that the population as a whole in some way developed an acquired immunity, of course to an incomplete extent, against the disease. The extraordinary virulence of Asiatic cholera, when it first penetrated from its original home in Bengal to Europe and America is a phenomenon of the same category, while its declining severity in subsequent invasions, which is so often attributed solely to improved hygiene and greater caution regarding food and water, may really be due in part to the operation of an evolutionary law. Why are negroes so resistant to yellow fever, so susceptible to tuberculosis and small-pox? May it not be that the explanation is evolutionary, that the negro has been longer in contact with the first-mentioned disease than with the remaining two, and has hence acquired a certain degree of immunity against it? Why are Anglo-Saxons in India so much more susceptible to typhoid fever than the native inhabitants? Is it because the latter, inhabiting a country where hygienic laws are so little recognized, have developed a considerable degree of immunity? Or is it, as some affirm, that a large proportion of the native inhabitants suffer from mild attacks of typhoid fever in youth, and hence are protected during the rest of their lives? Tuberculosis is rapidly declining amongst nearly all civilized nations. Is this exclusively the result of improved hygiene, a higher range of comfort, better houses, better food, or is it in part the effect of a gradually developing immunity? Further, it may be asked. Are the two views really incompatible one with the other? How far is an acquired immunity due to improved methods of living? Again, we may ask, Is the growing sobriety of civilized nations the result of a gradually developing immunity against the injurious effects of alcohol? Are the drunkard and the intemperate undergoing a process of slow but sure elimination?

My object is not to affirm any dogmatic opinion on these important issues, but to suggest to you that in our thinking on these matters we must take a wide and philosophic view: we must recognize that in disease great secular processes, as well as more concrete causal factors, come into view. The present generation of medical workers and observers is somewhat impatient of those conceptions of "diathesis" and "temperament" which meant so much to our predecessors. We are disposed to think that these ideas lack definiteness and concreteness, that they are too vague to be of any real utility. Yet a study of evolution in its bearing upon disease may suggest to us that these terms, vague though they are, adumbrate a great truth—namely, that in proclivity to infection and response to disease nothing is so potent as what we vaguely call "constitution," "temperament," "hereditary tendency," and the like. We have been intent upon the "search for the microbe," a search which has already yielded brilliant results, and, it is needless to say, must be continued. But the response of the organism is an element at least as important as the presence of the germ. In the future it may turn out that we shall be compelled to devote less attention to the seed, more attention to the soil.

Evolution is capable of throwing a flood of light upon many of the most familiar phenomena of disease. We are apt to accept these phenomena as ultimate facts, as the effects of a toxaemia or of some other obvious causal factor. But it is possible to push the analysis a little deeper, to trace the true inwardness of morbid phenomena a little farther back. Let us ask the question,

How does it happen that in an ordinary case of hemiplegia the arm suffers more than the leg or the face; and in the arm, why is it the finer movements of the fingers and hands which suffer more than the coarser movements of the elbow and shoulder? It is easy to answer that the reason is anatomical and relates to the seat of injury and the distribution of fibres in the internal capsule, but this explanation needs itself to be explained. Here, again, we may, without extravagance, invoke evolutionary law to help us. The fine manipulations of the hand and fingers are in all probability the last to be acquired by the developing organism; they are the least stable acquisitions of nervous tissue; they are the first to suffer under the shock of disease. The nervous system, as it were, most easily forgets the lesson most recently learnt, just as the old man forgets the events of yesterday while he remembers those of fifty years ago. Aptitudes recently acquired in the genetic series are less ingrained, as it were, in the nervous system than those which go back to an earlier stage of development. Dr. Hughlings Jackson long ago pointed out the order of the dissolution of function in the brain when under the influence of alcohol. The first to go are the highest faculties—judgement, memory, taste. In the next stage speech becomes affected; it becomes thick and indistinct. Next the emotions are involved; the individual becomes hilarious, maudlin, or quarrelsome. Last of all the centres of organic life—respiration, circulation, deglutition—are affected, and death may ensue. Now, this order of events is not fortuitous. The nervous functions, under the influence of a narcotic poison, undergo dissolution in a definite order, the order of development, which corresponds to the order of complexity and specialization. It is probable that this law will be found to have a somewhat wide application in the field of disease. General Paralysis of the Insane is a good case in point, the elements of character and judgement usually suffering before those of voluntary movement.

That the laws of evolution and the influence of heredity throw light on the response of the organism to disease will, I think, be generally admitted. We are not wrong in attaching weight in prognosis to any known family tendency in connexion with any given case of disease. It helps us in forming some estimate of that subtle and intangible, but most potent, element, what we vaguely call "the resisting power of the individual." In many cases of disease we give the first place in prognosis to what is termed "the observed tendency of the individual case." This is not a truism, though it may sound like one. Let me take an illustration. A patient presents himself with the signs and symptoms of slight incipient tuberculous infiltration of one apex, and the question of prognosis arises. We know that the disease may either undergo early and complete arrest, or develop to a certain extent and then undergo regressive fibrotic change, or progress to softening and excavation, or become rapidly disseminated throughout the pulmonary area. It is quite out of our power to predict with certainty which of these events will happen, but, in attempting any forecast, nothing is more helpful than attention to family history on the one hand, and, on the other hand, to "the observed tendency of the individual case," which time alone can reveal. We are dealing with the power of resistance which the individual can offer to the action of the tuberculous toxins, and that power is part and parcel of the individual's heredity and "constitution"—it is developmental and evolutionary.

It has been debated whether there is any such force as a *Vis Medicatrix Naturæ*. Many have regarded the existence of this force as obviously written on the face of Nature, while others have denied even its existence. Can evolution throw any light upon this question? Nothing can be more certain than that Nature tends to revert to the normal. In another connexion Francis Galton calls this "the law of regression towards mediocrity": in other words, the tendency is for the abnormal to disappear, and for the unity of type to be preserved. Darwin thought that this law had a wide application, and was even inclined to believe that tall men often married short women, and that clever men often married silly women—Nature's unconscious protest against the abnormal and unconscious striving to preserve the unity of type. If such a law exists, we might argue without paradox that disease is the abnormal, and that, on the broad grounds of evolutionary law, we might expect the tendency to be to eliminate the abnormal and to return to the normal. That tendency may, of course, be too weak successfully to resist the forces in opposition to it.

Darwinism and Race Problems.

Let us now turn to a field where by general consent the influence of evolution has been potent. The "survival of the fittest"—a term first suggested by Herbert Spencer—and its correlative, the "elimination of the unfit," have been generally accepted as expressions which succinctly sum up the effects of the operation of natural selection. It is important to remember that "fittest" does not mean best, either physically or ethically. It simply means fittest for the conditions of existence in any given case, most fully adapted to the environment, best able to succeed in the struggle for existence. Evolution does not necessarily involve progress, though the general law is progression from the lower to the higher, from the less to the more specialized. "Everything depends upon adaptation," says Weismann, and Höffding reminds us that "adaptation and progress are not the same." Degeneration is as truly evolutionary as progress, the upward and the downward movement being both the result of adaptation. Further, evolution does not postulate that organs and organisms are perfectly adapted to their present needs and conditions. They may be in process of becoming perfectly adapted. Natural selection, Darwin reminds us, tends only to make each organic being as perfect as, or slightly more perfect than, the other inhabitants of the same area with which it comes into competition. When competition ceases, natural selection ceases. "Natural selection," says Hugo de Vries, "acts as a sieve; it does not single out the best variations, but it simply destroys the larger number of those which are, from some cause or other, unfit for their present environment. In this way it keeps the strains up to the required standard, and in special circumstances may even improve them." The conditions of racial efficiency as defined by the laws of evolution would seem to be the following:

(*a*) The race must become progressively adapted to its environment, and by environment we mean climate, food supply, and competition in the struggle for existence.

(*b*) There must be competition and struggle, leading to elimination of the unfit, otherwise degeneration will take place.

(*c*) There must not be too much inbreeding, and each strain must be from time to time crossed by another and allied strain.

To this last law there are, however, some curious exceptions. When we compare man with the lower animals in these regards we are at once struck with some obvious points of contrast. Man is not subject to the unrestrained operation of natural selection. He wears clothes and builds houses to protect himself from the storm and cold. He brings food from farthest East or remotest West to make up for the deficiencies of the home supply, and he lays up stores against the day of famine. He protects the reproductive function by law and custom. He restrains the warlike instinct and keeps it within bounds. He prevents or cures disease, makes life possible for the feeble, the ailing, and the malformed, and even gives them the opportunity of propagating their kind. He cherishes the aged, and enables them to prolong their days. By some of his laws—for example, the law of primogeniture—he sets the principle of natural selection at defiance. In these and other ways the ordinary usages of civilized society run counter to the operation of natural law, and it becomes an anxious question whether civilization in so doing does or does not contain the seeds of its own dissolution. Rousseau and his school believed that civilization involved degeneration. Evolution was not within the purview of their thought, but we cannot evade the issue—Does evolution strengthen the contention which these thinkers reached by a process of intuition, whether true or false? We hear much to-day of the degeneracy of the nation, and the existence of such degeneracy is assumed by many writers. The question is, however, one of extreme complexity. It is almost impossible to obtain the data for a just comparison as regards physical fitness between the present and preceding ages. On the one hand, the ratio of defectives—including deaf and dumb, lunatics, epileptics, paralytics, infirm, etc.—is said

to have increased from 5.4 per 100 over fifteen years in 1874 to 11.6 in 1896. On the other hand, there are some encouraging facts. The average duration of life is increasing. Some of the worst scourges of the human race—tuberculosis, typhoid fever, malaria—are abating their severity; the sick-rate of our benefit societies is declining. But these facts are not irreconcilable with the possibility of physical degeneracy. In the absence of conclusive data on this crucial question, we may ask whether any light is obtainable from the study of evolutionary law. Are there any analogies from plant or animal which may contain suggestion for us? Domestication amongst plants and animals is the analogue of civilization amongst men. The effects of domestication are, however, exceedingly complex. In some animals—for example, the bear family and carnivorous birds—domestication leads to sterility; in others—for example, sheep, pigs, and barn-door fowl—domestication seems to increase fertility. Many flowers become double under cultivation and continue fertile, while other double flowers lose their power of producing seed. Some highly-bred animals develop a marked delicacy of constitution and become very liable to disease. In some plants an artificial increase in the richness of the soil tends to the production of wood fibre rather than of flower and seed. On the whole, the above facts do not help us. The main question remains, Does civilization, by preserving the unfit and preventing their ruthless elimination which takes place in a state of Nature, imperil the physical integrity of the race? Our marriage customs—for example, the not uncommon conjunction of youth and beauty with age and wealth, the transmission of enfeebled constitutions and sometimes of actual disease from parent to child—can such things be tolerated without grave risk to the physical welfare of humanity? Is the medical profession free from serious responsibility when it preserves those whom Nature has plainly marked out for elimination, and even enables them to transmit their unfitness to their descendants? These are not extravagant or sentimental questions. They are, on the contrary, highly practical questions, and if we so often keep them out of sight, I suspect it is from an uneasy subconsciousness that they involve painful and paralysing issues.

That civilization runs counter to natural selection is, I think, evident. It interposes artificial barriers to the free play of those forces which in a state of Nature give the victory, both as regards personal existence and opportunity for perpetuating the species, to the strong, the brave, the fit. But it is not to be assumed without argument that civilization is dependent upon natural selection. According to Lloyd Morgan, "Natural selection has long ceased to be the dominant factor in human progress." The same view is propounded by J. B. Bury in the following passage: "It may be said that, so far as concerns the actions and movements of men who are the subject of recorded history, physical environment has ceased to act mechanically, and in order to affect their actions must affect their wills first, and that this psychical character of the casual relations substantially alters the problem. . . . Most thinkers now agree that the chief clues to the growth of civilization must be sought in the psychological sphere. Imitation, for instance, is a principle which is probably more significant for the explanation of human development than natural selection." That is the view of a historian, and it must be admitted that it contains a great deal of truth, though not the whole truth. Mankind is more dependent for its progress upon the brain of a Pasteur or a Lister, a Kelvin or a Marconi, than upon the muscles of many cricketers, footballers, or oarsmen. The puny, sickly, or deformed child, which, in a state of nature, would be promptly eliminated, may possess the brain of a great discoverer, poet, or statesman. Yet physical soundness can never be ignored or deemed of small significance. If physical degeneration is going on in our midst—and who can deny the fact, however much we may differ as to the extent of the fact?—we may feel sure that it is due to some species of non-adaptation to the environment. We are inclined to attribute such degeneration as exists mainly to unwholesome surroundings, bad housing, bad air, bad food, insufficient exercise, unsuitable clothing. These factors have weight—perhaps much weight—but a study of the phenomena of evolution may well make us doubt whether they are really the heart of the problem; whether, after all, the main thing is not that we are to a more or less extent breeding from the wrong stock. Few men have had less reason than Darwin to retract any opinion once definitely formulated, few have been from first to last more consistent in their views, but it is clear that Darwin wavered much and wavered often as regards the weight to be assigned to external conditions—climate, food, occupation—as factors of evolution. He was at one time inclined to attribute very little weight to such conditions in comparison with natural selection, later in life he was disposed to assign greater importance to them. Some of his followers have regarded these factors as insignificant. The point is one on which I shall not attempt to pronounce, but I shall content myself with the contention that race degeneracy, where it exists, is not to be satisfactorily explained by the operation of temporary and transitory causes, but must be sought in the most profound laws of growth and survival. Let us look at another racial problem in the light of evolutionary law—namely, infant mortality—which we are all agreed is excessive. Is infant mortality due simply to bad hygiene, unsuitable food, careless mothering, or is it in any sense the analogue of the terrific waste which we know to go on in Nature? Stand under one of our forest trees and watch the clouds of pollen which fall around. How many of these granules ever reach an ovule? In a well-known passage Tennyson tells us of the sad misgivings which the spectacle of the portentous waste in Nature excited in his breast:

> Are God and Nature then at strife,
> That Nature lends such evil dreams?
> So careful of the type she seems,
> So careless of the single life;
>
> That I, considering everywhere
> Her secret meaning in her deeds,
> And finding that of fifty seeds
> She often brings but one to bear,
>
> I falter where I firmly trod . . .

Tennyson understates the case. Nature exhibits an amazing, a sinister prodigality of increase and of destruction. A single flesh fly, Wallace informs us, produces 20,000 larvæ, which reach their full size in five days, so that each parent fly may be increased ten-thousand-fold in a fortnight. A pair of our common birds—thrush, blackbird, sparrow, titmouse—if allowed to live and breed unmolested, would have in ten years no less than twenty millions of descendants. The machinery of destruction is, however, in a state of nature, not less efficient than the machinery of growth and increase. It is a somewhat melancholy reflection that a similar law is at work amongst mankind. We may recognize this law without proposing to acquiesce in it. In this instance, as in others, we shall find that civilization and natural selection run counter to each other. As civilization advances the birth-rate falls. This is, apparently, a universal law, complicated though it may be by local conditions or national habits. The birth-rate is steadily falling amongst our own nation and even more decidedly in France and America. In the former the fall has been sufficient practically to arrest the natural increase of population. A phenomenon of this kind, apparently world-wide in its operation and one that could not have been anticipated, must depend upon evolutionary law. Herbert Spencer is inclined to think that intellectual development and the reproductive faculty have to a certain extent an invert ratio to each other, and that the rapid increase of the population of the world—"even slow-breeding man," Darwin tells us, "has doubled in twenty-five years"—will be arrested as civilization develops. I cannot detain you with any of the ethical problems which such a view suggests. I must content myself with pointing out how evolution seems to be operating, how profound is its influence, and how mistaken we shall probably be if we attribute such large facts as a falling birth-rate solely to temporary and wholly preventable causes.

The relation of the medical profession to the question of the propagation and preservation of the unfit raises many difficult questions, which cannot be adequately considered on this occasion. The question of our responsibility to those who shall come after us, though not a new ethical problem—it is found in Plato—has become a practical question only in modern times. It is a principle with which we have henceforth to reckon. The art of medicine was for thousands of years concerned solely with the cure

or relief of disease. At the present day the prevention of disease bulks hardly less largely in our thought, and this point of view indicates a distinct advance. In the future, one may predict with confidence that the preservation of the purity of the race will be regarded as one of the essential tasks of the art of medicine. The whole question, it is almost needless to say, is involved in the greatest difficulty, but it will certainly force itself increasingly upon our attention. It will do so with the greater insistence if we realize that the future physical well-being of the race will be determined more by natural selection than by attention to environment, important though this latter factor may be. That the medical profession will ever in this country be invested with disciplinary powers for the regulation of marriage seems doubtful. Such control would probably be foreign to the habits of mind of the British race, but we see that attempts have been made in this direction in some of the States of the American Union, and to a lesser extent in Germany, with what degree of success I am unable to say. It seems probable that in this country we shall have to rely upon the operation of an enlightened public opinion—enlightened as it must be, to a large extent, by the influence of the medical profession.

Is the human form destined to undergo important changes in the future under the operation of evolutionary law? Are we to look for the coming of the Super-Man, a conception with which the thought of Nietzsche has rendered us familiar? "What with man is the ape?" says Zarathustra, "a joke or a sore shame. Man shall be the same for Beyond-man, a joke or a sore shame." This is by no means certain. Weismann thinks it doubtful whether man may not have achieved the summit of his development both as regards physique and intellect, and is inclined to look for progress solely in the ethical sphere. Yet some of the facts adduced in this address seem to point decisively to the conclusion that the human body is destined in the course of many generations to undergo at least minor changes. The teeth, the hairy covering of portions of the body, the toes, the special senses, are almost certain to undergo modification. Nor can we limit the probability of change to such parts as these. All we can say in this connexion is that the changes which will come will be the outcome of evolutionary law. Useless organs will be eliminated. Useful organs will undergo progressive adaptation to altered conditions, such as diet, climate, habit, occupation. The possibility of Reversion and of Degeneration will always need to be reckoned with.

A general survey of the relation of Darwinism to the science and art of medicine is likely, I think, in many ways to be salutary. It will certainly tend to breadth of view, to a philosophic appraisement of the factors with which we have to deal, to a recognition of the great underlying laws and secular processes which are related to our art. It may, perhaps, act as a damper upon enthusiasm when we realize that evolutionary change is slow and only partially under our control; but, if this be the truth, it is better for us to know and recognize it. Medicine will gain in stability and in influence, as well as in dignity, by being in close relation with the higher thought of the day. It may in some not unimportant particulars react upon that thought. Disease becomes something more than a disagreeable and embarassing fact when we realize how closely it is related to evolutionary processes, how vivid is the light it is capable of throwing upon evolutionary law. It even takes its place—a temporary place we may hope—in the eternal order. "Harmonious order," says Huxley, "governing eternally continuous progress; the web and woof of matter and force interweaving by slow degrees, without a broken thread, the veil which lies between us and the infinite—that universe which alone we know or can know—such is the picture which science draws of the world."

The third International Congress of Physiotherapy will be held in Paris, March 29th to April 2nd, 1910, under the presidency of Professor Landouzy, Dean of the Paris Medical Faculty. The congress is under the patronage of M. Fallières, President of the French Republic. The work of the congress will be distributed among seven sections: Kinesitherapy, hydrotherapy and thermotherapy, climatotherapy, electrotherapy, treatment by x rays, radium, and light, watering-place treatment, and dietetics. An exhibition will be held in connexion with the congress.

THE IDENTITY OF BRITISH ULCERATIVE COLITIS AND TROPICAL BACILLARY DYSENTERY.

By HERBERT P. HAWKINS, M.D., F.R.C.P.,
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In a paper read before the Bristol Medico-Chirurgical Society,[1] on the Natural History of British Ulcerative Colitis, I gave it as my belief that this disease, both the epidemic disease in asylums and the sporadic disease in the open, is a relic of the dysentery which in the seventeenth and eighteenth centuries covered the whole of Europe. I endeavoured also to ascertain how far we are justified in considering that the British disease is bacteriologically related to tropical bacillary dysentery of the Shiga-Kruse or Flexner type. The evidence as regards the ulcerative colitis of asylums is almost conclusive of the identity of the British and the tropical disease. But as regards the sporadic disease, the evidence would not bear a conclusion. Only in one certain case (Lieutenant Marshall, R.A.M.C.) has Flexner's bacillus been found. My own cases only furnished two instances in which the serum agglutinated Shiga's bacillus, and in no case was the specific dysenteric organism found.

I should like, therefore, to add a note of a sporadic case which, bacteriologically and clinically, was identical with the tropical disease as it occurs in the Philippines and West Indies. This case also illustrates a point which the series of cases from St. Thomas's Hospital makes clear, namely, that the grave condition, which is most familiar to us as ulcerative colitis, in which the ulceration of the colon is so deep and extensive that repair is unlikely or impossible, is often preceded by one or more minor attacks, which have considerable natural tendency to subside. I believe that these minor preliminary attacks are not commonly recognized, but are lumped together with other forms of acute diarrhœa. It is in these minor attacks, before other bacteria come into force, that the use of the serum prepared by the Lister Institute is most likely to be of use. It is probable that these attacks are true tropical dysentery of a mild type. In cases of long standing ulceration, such as are commonly seen in hospitals, the specific bacillus may never be found, and it is not unlikely that its place has been taken by *Bacillus pyocyaneus* or by organisms of the *coli*-paratyphoid, or pyogenic groups.

History.

A man, aged 48, a metal worker, had in 1905 a severe attack of diarrhœa with griping pain, but he could not remember any other details. In 1907 he had a second attack, lasting two or three weeks, in which he passed blood and mucus, and in 1908 a similar attack of shorter duration. All three attacks occurred in July or August, the season of flies. He had not been out of England.

On July 12th, 1909, he was again seized with diarrhœa, and severe griping pain, chiefly in the left flank and groin (lower segment infection). He described the stools, of which there were four or five a day, as being "slimy" at first, but on the second day he passed red blood. There was no tenesmus. For a week the condition remained unchanged. On July 20th he was admitted into St. Thomas's Hospital, presenting diarrhœa such as he had described, the stools being liquid, dark, offensive, with mucus and a little red blood, slight pyrexia, and tenderness over the colon on the left side. At first he experienced considerable griping pain and true tenesmus was present. The rectum was hyperæmic and showed patches of blood-stained mucus; it bled on the least touch. He was given 20 c.cm. of serum, with calomel and opium. Improvement was rapid and he left hospital apparently well after a stay of seven weeks.

Bacteriological Report.

Dr. Dudgeon kindly examined a high rectal scraping, with the following result:

"Plate cultivations were made by the direct method on MacConkey's bile salt neutral red lactose agar. A bacillus was obtained which, when tested in various media, gave the cultural characters of the bacillus of Flexner, with the exception that the organism did not form indol. The patient's serum gave a well-marked agglutination reaction with this bacillus with a dilution of 1 in 20, a good reaction with a dilution of 1 in 50, and a slight reaction with a dilution of 1 in 100, within half an hour at room temperature with the microscopical method. It also agglutinated with an antidysenteric serum (Shiga) with dilutions of 1 in 20, 1 in 50, and 1 in 100. A rabbit was immunized with the bacillus isolated from the patient. The rabbit's serum, when mixed in suitable dilutions with the

bacillus of Morgan and the bacillus of Shiga, gave no agglutination reaction with a dilution of 1 in 20. But an extremely well-marked reaction was obtained with a dilution of 1 in 20, 1 in 50, and 1 in 100, and a slight reaction in a dilution of 1 in 1,000 with this bacillus and the bacillus of Flexner. The rabbit's serum was saturated with the bacillus of Flexner and the bacillus used for the immunization of the rabbit, with the result that this bacillus was found to be specifically identical with the bacillus of Flexner."

References.

[British Medical Journal, March 27th, 1909.

THE ALLEGED HETEROGENESIS IN ANKYLOSTOMA DUODENALE.

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In the reports of the Belfast meeting of the British Medical Association Dr. A. T. Ozzard, of British Guiana, publishes a paper on the "Life-history of *Ankylostoma duodenale*,"[1] reaffirming his previously published conclusions that under certain suitable conditions the ankylostome embryo can develop outside the body into sexually mature forms. As the President of the Section before which the paper was read pointed out in his remarks, the question raised is one of great importance, "because prophylactic measures that would be of value if no heterogenesis occurred would be useless if it took place." It is of equal importance also to the zoologist and systematist. Dr. Ozzard's statements deserve, therefore, careful consideration and scrutiny.

1. Dr. Ozzard quotes the recent writings of Manson and Brookes to show that "there is considerable diversity of opinion on the subject," but in both these instances the authors are merely quoting Giles's work, and are far from adopting his views. No one who has read Giles's papers on the life-cycles of parasitic nematodes is likely to give credence to his conclusions. He entirely fails to recognize the existence of free-living nematodes, and passes with astonishing rapidity from the ovum and newly-hatched embryo as it appears in the faeces of the host to sexually mature "rhabdites" on the rank vegetation around.

2. In Dr. Ozzard's description of his experiments several important desiderata are lacking.

A small quantity of dejecta, known to contain only the ova of *Ankylostoma duodenale*, is mixed with about three or four times its bulk of water and poured on the surface of some sterilized river sand in a suitable vessel.

The embryos developed into free sexually mature worms in from eight to ten days.

No mention is made of the manner in which the sterilization of the river sand or of the water was ensured, nor of the keeping of controls. It is open to doubt whether the sterilization was efficiently carried out, for the author later remarks that, "To endeavour to cultivate them in sterilized vessels and on sterilized sand, is practically asking them to survive and reproduce their species on almost nothing at all." It is noteworthy that Giles, in his "Observations on the Life-history of *Sclerostomum tetracanthum*,"[2] was unable to develop the embryos of this allied form on "moist sand," although he claimed to have found advanced forms later "on the cotyledonary leaves of some chance seedlings" near by. When we remember that free-living nematodes abound in all soil and vegetation, that their eggs and larvae are able to withstand a considerable degree of drying, and that they multiply exceedingly in the course of a few days, we should be very loth to accept results of experiments that do not rigorously exclude the possibility of their presence.

Two recent experiences of my own may be related in this connexion. Whilst pursuing certain investigations into the life-history of the *Trichostrongylus pergracilis* for the committee of the Grouse Disease Inquiry, a specimen tube was forwarded to me from the experimental station containing the dropping that had been collected from a clean board floor under one of the infected birds. On examining this a few days later, I found it to contain rhabditiform worms of small size but sexually mature. These worms continued to reproduce with amazing rapidity. The suggestion was afforded that these might be "heterogenetic" forms of the *Tr. pergracilis*, but on carefully examining the whole content of the tube, I found a small stick of heather which had undoubtedly contaminated the faeces with a rapidly multiplying free-living nematode. If dry heather be soaked in water for twenty-four hours, numerous species of free-living worms will be found wriggling in the bottom of the vessel.

The other illustration is still more striking, but is less easily explained. It is the rule for the faeces of patients in the Seamen's Hospital, Albert Dock, to be placed in flat, covered, glass receptacles when sent to the London School of Tropical Medicine for examination. These dishes are used for no other purpose, and are invariably sterilized after use. In such a vessel the stool of a foreign sailor was received, and was found to contain *Strongyloides intestinalis* in considerable numbers. It was then transferred by one of the junior laboratory attendants to a large glass bottle that had lain in the school store for several years, and had originally contained pathological specimens in spirit. Some weeks later this stool was examined again, and was then found to contain very many sexually mature forms closely *resembling* the free adults of *Strongyloides intestinalis*. For a time they were so considered by myself. The preparation was examined daily for several weeks, and it soon became evident that many generations were succeeding one another although the embryos of the free-living *Strongyloides intestinalis* do not again develop into adult forms until they gain access to the human body. Thinking that I was dealing possibly with some unobserved phenomena in the life-cycle of this parasite I then engaged upon a detailed study of the structure of the free-living adults and closely compared them with those of undoubted *S. intestinalis* that I had obtained whilst in Egypt with Professor Looss, with the result that I was forced to the conclusion that the two forms differed in several constant features. Apparently the stool had become infected in some unknown manner with an ovum or larva of a free-living nematode. Most likely the bottle itself had become infected during its prolonged sojourn in the store, or with much less probability the origin of the infection had passed through the alimentary canal of the patient.

3. Turning now to the description of the free-living forms in Dr. Ozzard's cultures we unhappily find practically nothing to enable us to ascertain their structural similarity to other forms of free-living or parasitic nature. The possibility that they are *Strongyloides intestinalis* he himself emphatically rejects. Great stress is placed, so far as I can see with no reason whatsoever, on the similarity of the ova in the mature females in the cultures to those of ankylostome eggs in faeces, but the characters of the ankylostome egg, whilst distinctive enough for diagnostic purposes when seen in human faeces, present no such pathognomonic peculiarities as should distinguish it from the ova of all other nematodes.

4. Lastly, Dr. Ozzard makes the important statement that he kept his culture for months and "could at any time (after their first free-stage generation) obtain specimens at all stages of their growth from the eggs to the adult forms." This clearly shows that the supposed "heterogenesis" of *Ankylostoma duodenale* differs in an essential feature from that occurring in other forms, yet it is exactly what one would expect to find if so rich a food medium had become infected with a free-living nematode.

References.

1 Ozzard: Life-history of *Ankylostoma duodenale*, British Medical Journal, 1909, vol. ii., p. 779. 2 Giles: *Scientific Memoirs by Medical Officers of the Army of India*, Part VII.

The first meeting of the Italian National Committee for the Suppression of Endemic Cretinism was held at Milan on October 5th. Among those present were Professors Tamburini, Devoto, and Mangiagalli, the latter of whom occupied the presidential chair. The Minister of the Interior, the Minister of Public Instruction, and the Minister of Agriculture, together with a number of provincial and communal authorities connected with the infected zone, as well as a number of men of science, intimated their approval of the objects of the congress. Professor Tamburini read a report on the present state of knowledge in regard to endemic cretinism, and Dr. Cerletti read the proposed scheme for the study, prophylaxis, and cure of the disease, which was unanimously approved.

A NOTE ON ORIENTAL SORE.

By R. MARKHAM CARTER, Captain I.M.S.,
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In order to prevent any possibility of my being credited with priority in noting flagellate forms in cultures from Oriental sore by those readers of this Journal who may not have access to the literature of this subject, I bring to notice the following facts: In the *Quarterly Journal of Microscopic Science*, new series, No. 212, vol. liii, part 4, p. 753, Minchin, in a postscript to a communication by Dr. Row, draws attention to the fact that parasites of Oriental sore have been cultivated by Nicolle in Tunis—a fact that seems to have escaped most workers on this subject. Dr. Row's more recent work on the development of flagellates from cultures of Oriental sore in 1908 and 1909 is dealt with by Minchin in the same volume (p. 747). Dr. Row exhibited his preparations at the Bombay Medical Congress in February, 1909.

In my paper on Oriental sore of North India in the British Medical Journal of September 11th, 1909, p. 647, I was unable to criticize the results of previous workers on the flagellate forms of this class, as they were not then available to me; since, however, Dr. Row's interesting communication has appeared in print, I should like to draw attention to the following points in connexion with what is termed Oriental sore.

The term "Oriental sore" is an anomaly as it stands at present, for under this name are grouped what seem to me several clinically distinct affections of the skin and subcutaneous tissues which occur in tropical and subtropical countries. Recent laboratory research [1 2 3] on the Leishmania group indicates the probable existence of a series similar to *Leishmania donovani* in their early stages, but having culturally different requirements of temperature, acidity, etc., and differing in morphology after culture from one another. It is quite reasonable to expect that as in the case of other classes of protozoa, such as *trypanosoma*, *spirochaeta*, and *piroplasma*, further work will reveal more varieties of what are to-day grouped under one heading. I briefly referred to this in my last paper.

There are several clinical types of Oriental sore in India alone and certainly two types in Arabia. Amongst Oriental sores in North India we find the three following types:

1. *Monghyr phora*—a pale yellow painless raised area varying from ¼ to ½ in. square surrounded by a faint red margin. This sore is usually situated on the face near the lips, eyes, or on the cheek or on the forehead. Such an Oriental sore is found commonly in Gujrat, in the Lahore district, and in the Himalayas. It does not break down as other sores do. It may last for over a year, and after healing with a faint scar the disease may recur on other parts of the body, such as the elbow joint or wrist. The cultural forms and characteristics of this type of Oriental sore I have briefly described in my preliminary communication of September 11th.

2. *Chambal* is a large flat-surfaced ulcer fairly deep, with a bed of raised papilliform prolongations of the corium, which support a mass of epithelial débris.

3. *The typical Delhi boil* I have described in my previous communication, and from what I can remember of Dr. Row's communications at the Bombay Medical Congress it was a similar condition of "deep seated boils" that afforded the material for Dr. Row's cultures. The natives of North India recognize the clinical differences between the affections, and it is interesting to note that there are striking differences between the cultural characteristics noted by Row in South India in 1908 and myself later in North India in 1909. Row, using (infected) unheated undiluted serum, obtained flagellates in seventy-two hours at 25° to 28° C. Skeins of banana shaped parasites with parallel sides and rounded ends were seen in forty-eight hours. Using "Monghyr phora" material and the same culture medium (infected capsules of unheated undiluted serum) I found that flagellates only showed under similar conditions in five days. The banana-shaped parasites noted by Dr. Row I have never yet found.

The parasite Row described from South India is capsulated and according to his plate is chiefly of an oval type. Further he states that each parasite is lodged in a clear space in the macrophage. The parasite worked with in North India has no capsule, is almost entirely torpedo-shaped, has no clear space around it, and distends the mononuclear cell it invades almost to bursting point. The rosy red parasites seen in culture tubes from cases of "Monghyr phora" apparently do not occur in the type of Oriental sore worked at by Row. If they occur they are not described by him, nor does he record flagellated bodies of this type.

There are several other points of difference, which will, however, be dealt with in my second paper on Oriental sore. Dr. Row's interesting communication now being available for criticism and confirmation by workers at this disease in different parts of the world, it will be interesting to note if, as I believe, several varieties of Leishmania morphologically similar in their early forms, will be found responsible for the various clinical conditions at present loosely grouped under the incorrect term "Oriental sore."

Note.—In the method of cultivation mentioned in my previous paper I beg to point out two errors: 29 c.cm. should be 2 c.cm., and 50 c.cm. of normal human blood should be 5 c.cm.

References.

[1] Le Kala-Azar. Infantile. Charles Nicolle. *Annales de l'Institut Pasteur*, May, 1909, p. 361. [2] Ibid., June, 1909, p. 441. [3] "Sur une infection à corps de Leishman et organismes voisins du Gondi. *Comptes rendus de l'Académie des Sciences*, tome cxlvii, October 28th, 1908, p. 763.

SOME OBSERVATIONS ON TUBERCLE IN BOMBAY:

WITH SPECIAL REFERENCE TO A PRECIPITATION SERUM-REACTION.*

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(Preliminary Communication.)

It would appear that tuberculous disease, which is very common in Bombay, and which runs often a very acute course, could be propagated with equal facility and equal rapidity in the laboratory animals by experimental infection. Yet when one actually comes to work with tuberculous material (mainly sputum from phthisical cases), it is interesting to note that at best one can produce a very chronic infection in guinea-pigs and hardly any disease in rabbits. Out of about 30 animals experimented upon, in not a single instance has death ensued as a result of acute general tuberculosis.

The minimum limit of the disease artificially induced in guinea-pigs has been 11 weeks and the maximum 28 weeks, giving an average of 16.3 weeks for all the animals who have succumbed to the disease. Further, a series of 3 guinea-pigs (infected with 0.1 c.cm. of sputum) show no signs of any deep infection, the only obvious lesion being adenitis of the set of lymphatic glands proximal to the seat of infection. And another series of 4 rabbits infected with 0.2 c.cm. of another sputum (rich in tubercle bacilli) are quite unaffected. In the first lot of these it may be that the virulence of the tubercle bacilli has undergone a marked diminution of virulence, as the patient from whom the infecting material was obtained was showing marked improvement in health at the time, and has been practically well for the last three years.

The results obtained so far seem to indicate that there is a great variation in the virulence of the different specimens used for infection, and it is not unlikely that both in behaviour and culture the tubercle bacilli are not all identical. But further study will throw light on this. And we may then learn what percentages are allied to particular species (bovine, human, etc.).

The particular specimen of sputum which has been chiefly used in the experiments so far completed by me was derived from a patient who died about six months from the time of his showing any symptoms or signs of the disease; it may therefore be taken to be of a fairly average virulence, and yet the results produced by this material in guinea-pigs appear to me so striking that I propose to give a summary of the effects produced after a subcutaneous infection. The animals for the first two months or more invariably flourished—that is, put on weight, and were to all appearances well, and it was only towards the last few days before their death that they

* Read at a meeting of the Bombay Branch of the British Medical Association.

showed signs of deterioration; just before death they showed the following appearances:

1. A certain amount of wasting in general.
2. An invariable enlargement of the lymphatic glands nearest the seat of infection.
3. An enormous enlargement of the spleen, which could be felt during the last weeks of the animal's life.
4. *Post mortem.*—Adenitis, caseation, and even breaking down of some of the lymphatic glands proximal to the seat of infection; pus from the same contained a fair number of tubercle bacilli, which in some specimens appeared in large clumps. Enormous enlargement of the spleen, which in some cases occupied the whole abdominal cavity. The surface of the spleen was sometimes rough, but seldom was there perisplenitis; at looked marbled, the caseating portions being separated by patches or streaks of unaltered splenic tissue, and in some cases the organ was a mass of caseating material. The spleen was firm, and the caseating masses seldom showed any breaking down. Tubercle bacilli were found, but in small numbers, in smear preparations, and cultures were obtained of pure tubercle bacilli. The liver was fatty and mottled in some places, with distinct patches of caseation, but this was less than what was seen in the spleen. Tubercle bacilli were seen, as in splenic smears. The lungs showed a fair number of tubercle bacilli and young tubercles, but obvious tuberculous masses and caseating patches were conspicuous by their absence. A few enlarged glands (lymphatic) in the abdomen, but these did not indicate the course by which infection had travelled. Some showed the presence of tubercle bacilli in smear preparations. Kidneys and suprarenal bodies were obviously healthy, no tubercle bacilli being found in smear preparations.

From the foregoing it appears that there are some important differences in the results obtained by infecting guinea-pigs from this particular tuberculous material to those one is accustomed to see in European laboratories, the chief being: (1) The slow and chronic character of the infection: (2) the production of large necrotic masses in the spleen and liver, and the absence of diffuse miliary tuberculosis, such as is seen in experiments in European laboratories with material from tuberculous patients. Briefly put, the lesions in our guinea-pigs correspond with those produced partly by human tubercle bacilli and partly by bovine tubercle bacilli, as observed by Max Beck, who in a paper on the differential diagnosis of bovine and human tuberculosis describes the lesion as follows:

> In the guinea-pig infected with bovine tubercle subcutaneously one finds more necrotic masses than tubercles. The spleen and liver have large lesions which give them a marbled appearance, the lungs are in general less affected, etc.
>
> In the rabbit subcutaneous infection with human tubercle produces hardly any visceral lesions, these one observes being renal, while infection subcutaneously with bovine tubercle produces a general miliary tuberculosis in the kidney, spleen, liver, and lungs, etc.[1]

Although this authority may not be taken by all to be final with regard to the differential diagnosis of human and bovine tuberculosis, a subject by no means so easy as it seems, it is a fact that the two or three specimens of tuberculous material which I have used in the course of this investigation on about thirty animals, produced lesions corresponding partly with those obtained by Max Beck with bovine tubercle (and not human) on the guinea-pig and partly with those produced by human tubercle in rabbits.

From a number of observations of cases of phthisis under my own care for the last ten years, I may be permitted to make a rough generalized statement, which may be taken for what it is worth, that when a patient shows any improvement, side by side with his clinical progress, one finds in his sputum characteristic changes in the tubercle bacilli, especially in the grouping, and making allowances for all the fallacies connected with the technique of preparing the specimens under exactly identical conditions, one cannot resist being struck with the constancy of these changes, which, stated in brief, are:

1. Characteristic grouping of the tubercle bacillus—instead of being diffuse and scattered, or at best in twos and threes, they group in masses of eight, ten, or twelve or more bacilli, scattered here and there in the specimen, coming under focus as the search is proceeded with—in addition to the singles, twos, or threes, which appear to be fewer.
2. A gradual diminution of the number of the bacilli found in the sputum.
3. A morphological change of the individual bacilli—the individual rods, which were at first solid, show more beading, erosion of edges, and thinning—an appearance of distinct degenerative change in the bacilli.
4. A very great diminution of even these degenerate bacilli, so that one observes a few granules here and there indicative of some bacilli or their products.
5. Loss of their virulence, as no result is obtained by inoculation experiments.

Thus it appears that in the course of infection there is always a certain phase when agglutinins make their appearance, and these agglutinins are manifested by the groupings above referred to, and *a priori* I was led to suspect the possible presence of these bodies or allied bodies in the tuberculous sputum, in the spleen, and the liver, where the partial caseating necrotic masses were so prominently noticed in our guinea-pigs. The splenic and hepatic lesions above referred to appear to be formed as though by selection, the whole defensive machinery of the guinea-pigs being brought into activity mainly in these organs, where the poison and its reaction products, so to say, become concentrated during the course of infection.

These considerations have led me to attempt to isolate from these foci a material which, when acted on by blood serum of undoubtedly tuberculous patients, would in all probability demonstrate the presence of agglutinins. With this object in view, extracts were obtained (1) from phthisical sputum, (2) caseating glands, and (3) necrotic and partially caseous livers, and (4) caseating spleens of guinea-pigs; and from the large number of chemicals tried rectified spirit has been selected as being the best reagent for the purpose. After a series of trials, the extracts of the first three classes were rejected as being unsuited for the purpose in view, because a large admixture of substances other than the active body in question are taken up by the spirit, and these other bodies, especially fats, extractives, and possibly traces of albumose, interfere with the reaction; caseating spleens afford the best extract, especially those spleens which show a maximum of caseating material and minimum of true splenic structure.

Technique.

The animal, well advanced in tubercle, is bled to death, and the organ is taken up and cut up into small bits and ground up in a mortar with powdered glass, and the whole is taken up with spirit and allowed to extract for one or two weeks; the alcoholic extract is filtered through paper and allowed to dry over sulphuric acid, and when dry appears as a yellowish cerumbinus mass with a characteristic odour, and is very deliquescent, is feebly acid in reaction, and is acid-fast to carbol fuchsin. On taking up a small particle—say, as much as a pin's head—and grinding it up in a mortar with normal saline, 1 c.m., and centrifugalizing this saline emulsion, one obtains an opalescent fluid, which keeps its physical characteristics for several days, and it is with this solution that I try the agglutinin, or precipitation reaction, in the usual way, the only difference being that the serum is mixed in equal proportions with the emulsion and the observations recorded eight, ten, or twenty-four hours after the admixture. Should the reaction appear to be positive, the opalescent solution separates in smaller or larger particles, which coalesce, and these either sink to the bottom of the tube or stick to its side, leaving a clear fluid, or more often floats up to the top. Should the reaction be strong, this takes six to eight hours, while a feeble reaction may not come off till after twenty hours. The control reaction shows no such separation and stands turbid by contrast.

Here is a series of cases where the test was applied:

De S. Splenic extract iv; chronic course, no fever. Positive reaction.

B. W. Splenic extract iii; acute fever, 105°; very bad case. No reaction.

Ch. Early pulmonary phthisis; splenic extract iv. Positive reaction.

Woman. Early four months; splenic extract iv. Very positive reaction.

M. V. Splenic extract iv. Very positive reaction.

Mr. A. M. Three days before death; advanced cavities, semi-conscious; splenic extract iv. Very feeble reaction.

D. Two days before death; splenic extract iv. Very feeble reaction.

Mrs. U. Early case; splenic extract iv. Strong positive reaction.

B. M. Ten months' history; splenic extract iv. Strong positive reaction.

S. R. Early case; splenic extract iv. Strong reaction.

Mrs. R. (Rajkot). Early case; splenic extract iii. Strong reaction.

P. Very bad case; caseating; splenic extract iv. Feeble reaction.

Bal. Seven years' history; tubercle bacilli found in sputum; splenic extract iii. Hardly any precipitate.

Mr. C. Six weeks, very early; splenic extract iii. Feeble precipitate.

Mr. A. S. (Irani). Two years; splenic extract iv. Strong precipitate.

S. Doubtful signs of phthisis pulmonalis; no tubercle bacilli in sputum; splenic extract iv. Strong suspicion.

Dr. Heredia's case. Suspected tuberculous peritonitis; splenic extract iv. Strong precipitate in six hours.

Dr. Surveyor's case of obstinate fever; suspicion of pulmonary tuberculosis; no tubercle bacilli in sputum; splenic extract iv. Strong reaction in eight hours.

Dr. Purshotam's case of phthisis pulmonalis; six months improving: tubercle bacilli found in sputum; splenic extract iv. Strong reaction in six hours.

From the cases in the above list and others not quoted here, it will be noted that, although the test had been applied to blood serums coming from undoubted cases of tubercle, there are a few which either give a partial reaction or no reaction at all. This want of uniformity in the reaction may be partly because the microbe causing the disease may not be identical, although of the same race: or the proper vehicle to extract the most potent precipitating material, as to bring out the reaction, is not yet found; or, again, the optimum period when a patient's blood serum is best suited for the test has not yet been determined; or, further, as in the cases where a negative result is noted, the patients being quite well for two or three years, no agglutinins are now produced in them: although the sputum in these cases does show tubercle bacilli, these are probably no more active in them than *B. typhosus* in the so-called "typhoid carriers," or streptococci or *B. coli* in healthy individuals. But all these and other questions will have to be solved only by further study. It is on this account that I desire to designate the results embodied in this paper as only preliminary observations, and have brought them before you as such.

Although the general result of the serum reaction in cases of tubercle is positive, yet when we use the splenic extract I have been able to notice an equally potent reaction in certain cases of sprue, where the patient's blood is hydraemic and slightly haemolytic, and in all cases of leprosy (about twelve) tested. It may be that in these diseases the blood is loaded with agglutin or allied substances having a definite action on the tuberculous splenic extract or the reaction product in these diseases is closely allied to that of tubercle. I have tested the value of the reaction by its giving negative results with malaria, enteric infection, dysentery, meningitis, bronchitis, and a few other septic conditions. Fuller details and the important bearings of these reactions in the study of allied diseases I reserve for a further communication.

REFERENCE.

[1] Max Beck, in *Koch's Festschrift*, p. 611-624.

A STUDY OF THE TUBERCULIN REACTIONS IN SKIN AND EYE:

A SERIES OF ONE HUNDRED AND FIFTY-THREE CASES.

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THE following local tuberculin reactions were obtained in 153 consecutive cases. In all, the skin reaction test (v. Pirquet) was performed, and in 78 of these the conjunctival test (Wolff-Eisner or Calmette) was also employed. The investigation was mainly to test the value of the v. Pirquet reaction in children up to the age of 13, and also to compare it in a representative number of cases with the Calmette test.

Technique of the Skin Reaction.

The method recommended by v. Pirquet[1] and practised by him and his assistants in Vienna is to place a drop of tuberculin solution on the skin and to rub it into a skin abrasion by boring the skin through the drop with a blunt instrument—for example, a steel knitting needle. Another similar abrasion, without the use of tuberculin, serves as a control. This method is fairly satisfactory. It is superior to the method of scarification, as in vaccination. In my experience it is also better than the method recommended by Emmett Holt,[2] which consists in scratching the epidermis with a sharp point and inoculating one portion of it with the reactive fluid.

But I obtained the best results by the following modification of v. Pirquet's technique. With the sharp point of a straight surgical needle I chafed off the epidermis, exposing a small circular patch of the pink cutis vera. Bleeding or oozing was expressly avoided. On this vascular surface the tuberculin solution was placed, and rubbed in by rotation of the head of the needle. A control surface was similarly prepared and inoculated with 50 per cent. glycerine in water. The original method of v. Pirquet and the modification described were tested against one another in 9 cases. Of these, 7 gave a positive reaction with the modified technique. But with v. Pirquet's method only two positive reactions were obtained; the remainder were negative. It should be said that most of the cases tested were of advanced tuberculous disease, and so belonged to the class in which v. Pirquet admits occasional failures of reaction. Nevertheless, they tested fairly the respective merits of the two methods, and showed emphatically the superiority of the modification. It was therefore employed throughout the series. A positive reaction was defined as a red papule which persisted for seven days. Sometimes, both in the control and the tuberculin-inoculated area, a narrow red ring appeared round the puncture after twenty-four hours. This had always disappeared by forty-eight hours, and was never regarded as a positive reaction. Two characteristics were required for a positive reaction—a papule of peculiar deep livid hue, and its persistence for not less than a week after its appearance. So defined, no positive reaction was obtained in any of the controls. The strong solution of "old" tuberculin of Koch was employed.

Analysis of Results. v. Pirquet Reaction.

Disease.	No. of Cases.	Positive.	Negative.
Joint affections	15	10	5
Enlarged glands of neck	17	14	3
Affections of bone	5	5	0
Pleural effusion (serous)	14	13	1
Pulmonary fibrosis and bronchiectasis .	6	4	2
Tuberculous peritonitis	12	9	3
General tuberculosis	4	0	4
Tuberculous meningitis	4	1	3
Non-tuberculous meningitis and cerebral tumour	7	1	6
Marasmus and chronic diarrhoea ...	9	2	7
Bronchopneumonia	12	3	9
Lobar pneumonia	10	0	10
Empyema	11	0	11
Chorea	5	0	5
Rheumatism	5	0	5
Miscellaneous	14	1	13
Skin diseases	5	2	3

Results.

The accompanying table gives the results. In the group of diseases of bone, lymphatic glands, and joints, the reactions were very clear, either emphatically positive or negative. It will be seen that a large proportion of the cases of enlarged or suppurating neck glands gave positive reactions. The test was of great value in obscure joint conditions where the clinical diagnosis was doubtful, and especially in cases of slight but persistent joint disablement after injury. If the v. Pirquet test can be absolutely relied on, its positive or negative findings in such cases must be of unique assistance to early diagnosis.

Perhaps the most significant group is that of the simple pleural effusions. In adults their close association with pulmonary tuberculosis is recognized. In children the association is not generally regarded as equally inevitable. But in the above group, 13 out of 14 cases gave a positive reaction. If this test is a true indicator of tuberculosis, these results must mean that already there is a systemic infection by the bacillus. Whether the pleural effusion is a chronic tuberculous inflammation of the serous membrane, or the skin reaction is a response to tuberculous infection of deep lymphatic glands, say, at the pulmonary roots, it is, of course, impossible to say.

The cases of tuberculous peritonitis for the most part reacted well. Three failed to react. They were all severe cases with great general prostration, and two of them have already proved fatal.

The groups of tuberculous meningitis and general tuberculosis illustrate well how in very severe or general infections the test, like the ophthalmo-reaction, breaks down. In all the cases of these groups the clinical diagnosis was confirmed *post mortem*.

In the group of non-tuberculous meningitis and cerebral tumour, the single case that gave a positive reaction was of unusual interest and may be specially mentioned.

A girl, aged 3 years, was admitted with fever, deep coma, and marked head retraction and general rigidity amounting to opisthotonos. The clinical picture was that of epidemic cerebro-spinal meningitis. The v. Pirquet reaction was intensely positive. Lumbar puncture yielded abundant clear fluid, remaining clear after boiling and containing very few lymphocytes. This fluid also gave a positive skin reaction on inoculation. In four days the child was well, fully conscious, without fever or muscular rigidity, though lumbar puncture again gave excess of similar fluid.

A fortnight later, just before dismissal, the v. Pirquet test was repeated and was again markedly positive. In a month the child returned to hospital with measles, and the v. Pirquet reaction was now negative. This is consonant with Holt's statement that a superposed intoxication interferes with the tuberculin reaction.[1] But the original positive reactions with the clinical signs would indicate a tuberculous focus in the cerebro-spinal axis. Meningitis can be ruled out, both by the fact of recovery and by the characters of the spinal fluid. The probable diagnosis is therefore a tuberculous mass in the cerebellum setting up temporary pressure and causing the clinical phenomena described.

Of the skin conditions, two were clinically tuberculous—lupus and tuberculous ulceration—and gave positive reactions. The remaining negative results were in cases of eczema.

The numerous control cases were taken from cases of lobar pneumonia, empyema, chorea, and other miscellaneous conditions. They were all negative, with the exception of a very healthy-looking girl, aged 13, who gave an intense reaction.

The important question is, Is the cutaneous tuberculin reaction reliable? The above results show that it is not so in advanced tuberculous disease. But in such the diagnosis is usually evident. In early or chronic conditions the results obtained are very strongly in favour of its reliability. Absolute proof is impossible. If a positive reaction is obtained in an apparently healthy subject, the only other evidence is that of the conjunctival and hypodermic reactions; and that if it confirms, is only confirmatory—it is not fresh evidence.

It is, however, certain that the reaction is specific, and, though local, an index of a general blood condition. If the reaction is repeated, it is always confirmed, *provided the general condition of the patient remains the same.* In 18 of the above series, I repeated the test after a varying interval. Of the original results, 11 were positive, and 7 negative. The repeated tests confirmed these in every instance. So far as proof is in the meantime possible, a positive v. Pirquet reaction may be regarded as a certain index of tuberculous disease, whether it is clinically manifest or not.

Late and Negative Reactions.

It is very necessary to make the proviso that, in a repeated test, the condition of the patient in general vigour and vitality must remain approximately the same. The recital of the following case makes the point very clear:

B. W., aged 4, a well-developed, but thin little girl, was admitted on April 15th for whooping-cough. No physical signs of tuberculosis in lungs, abdomen, or lymphatic glands. On April 17th she gave a marked v. Pirquet reaction. She steadily lost weight and strength, and on May 25th was very weak and emaciated; the test then repeated was negative. A few days later she developed measles. On June 8th the test was repeated, and was negative. Now there were signs of consolidation at the right apex and both bases. Death occurred on June 20th, and *post-mortem* examination showed enlarged lymphatic glands at the lung roots, hard, caseous and pigmented; extensive caseating tuberculosis in both lungs, and recently enlarged peritoneal glands, with numerous tubercles in the peritoneum.

Such a case is a striking illustration both of the strength and weakness of the von Pirquet test. It is capable of detecting tuberculous disease where clinical manifestations are completely wanting. It is a very delicate test in early conditions. And yet in advanced stages of the disease it may completely fail.

The two following cases illustrate the same point, the alteration of the reaction with the altered condition of the patient. The change is here less extreme, but no less interesting.

Name and Age.	Disease.	Development of First Reaction.	Change of Condition in Interval (Several Weeks).	Development of Second Reaction.
H. C., 10 years	Tuberculous hip	24 hours	Retrogression	48 hours
R. L., 10 years	Enlarged cervical, inguinal and axillary glands	Absent	Improvement	24 hours

These results lead up to the cases of late reaction—that is, where an abnormally long period elapses before the appearance of a reaction. Any period over twenty-four hours has been regarded as a late reaction, and the limit is stated to be forty-eight hours. In several of the following cases this limit was exceeded. Where two periods of time are given the first refers to the earliest appearance of a flush or areola, the second to the development of a definite papule, which completes the reaction.

Name.	Disease.	Time of Reaction.
A. C.	Abdominal tuberculosis	36 hours.
D. B.	Spinal abscess and gangrene of lung	48-72 hours.
J. W.	Tuberculous hip	48 hours.
H. C.	Tuberculous hip	48-72 hours.
V. T.	Bronchopneumonia	48-72 hours.
M. M.	Abdominal tuberculosis	72-90 hours.
V. L.	Abdominal tuberculosis	72-120 hours.

Holt states that the appearance of the areola is rarely later than twenty-four hours; and yet in the above series, which is much less numerous than his, 6 cases did not show reaction till forty-eight hours or later. In 2 cases the areola only appeared after three days, and in one the papule did not develop until after five days. Possibly these very late reactions have been overlooked in other investigations. It is more probable that they did not occur, because of the different technique employed in the performance of the test, and that their appearance in the above series is due to a superior technique. The modification of v. Pirquet's technique employed in this investigation may seem very trifling, but the tough epidermis is a serious barrier between the capillary circulation of the skin and the outside. And refinements of technique are not unimportant if they ensure contact of the toxin with the local circulation. That this modification is highly important has already been demonstrated by the results of a short series of cases in which it was compared with the original technique of v. Pirquet. It is also extremely probable that it accounts for the very late reactions shown in the above table.

These late reactions all occurred either in cases of widespread tuberculous disease, or where the local disease was complicated by another infection, as in the two cases of hip-joint disease. They form a group intermediate between those of vigorous reaction in early or moderate cases and those of negative reaction in advanced cases. Such negative reactions in my series were obtained in the following conditions:

Negative Reactions.

Condition.	Number of Cases.
General tuberculosis	4
Tuberculous meningitis	3
Tuberculous peritonitis	3
Bronchiectasis	1

All these were cases of very active or very widespread tuberculosis, in which the general prostration and weakness was profound; but of the 11 cases 10 have already died, and in every fatal case the clinical diagnosis of tuberculosis was confirmed *post mortem*.

The conclusion to be drawn from these cases of late and negative reaction to v. Pirquet's test is that the vigour of the reaction varies directly with the vigour of the patient and inversely with the amount of tuberculous infection. Where the general vigour is only slightly impaired a rapid and intense reaction is obtained. The most intense reactions I obtained were among the cases of osseous and joint tuberculosis, and also of pleural effusion. But where the vigour of the patient is low and the disease is widespread or complicated, the reaction is late in appearance and feeble or is absent altogether. With regard to the same point in the ophthalmo-reaction there is some difference of opinion. That will be discussed later. But in v. Pirquet's reaction the whole evidence strongly points to the conclusion just reached.

Comparison of the Conjunctival and Skin Reactions.

In 78 cases the Calmette and v. Pirquet reactions were tried in the same patient. The v. Pirquet test was performed as already described. In the Calmette test the dried tuberculin was used in 0·5 per cent. solution in distilled water. The solution was only employed freshly made up. The results were as follows:

	Positive.	Negative.
v. Pirquet	31	47
Calmette	21	57

I should say that these cases are not new, but have already been included in the v. Pirquet series. Out of the 78 cases, the v. Pirquet test was positive in 31: it was negative in 47. In these 47 negatives the Calmette reaction was also negative in every case. It was positive in 21 of the cases in which v. Pirquet was positive, but it failed to react in the remaining 10 cases in which v. Pirquet was positive. That is to say, out of a total of 78 cases, the Calmette test either coincided with the v. Pirquet or contradicted it negatively. It did not contradict positively in a single case—that is, it never gave a positive reaction where the v. Pirquet was negative. A closer analysis of those 10 cases may be useful.

Name.	Condition.
G. B. ...	Tuberculous ankle.
D. W. ...	Tuberculous spine.
J. W. ...	Simple pleural effusion.
W. B. ...	.. ..
F. G. ...	.. ..
A. S. ...	Chronic bronchopneumonia.
C. W. ...	Tuberculous peritonitis.
R. S. ...	.. ..
H. C. ...	Tuberculous hip-joint (mixed infection).
J. A. ...	Tuberculous meningitis.

(V. Pirquet's reaction was positive and Calmette's reaction negative in all these cases.)

These conditions may be said to include all degrees of severity of tuberculous infection so that in this list the v. Pirquet test is superior to the Calmette over the whole range of tuberculous conditions. The superior delicacy of the skin reaction is not partial or in one direction. It is total and in all directions. In these 78 cases it undoubtedly failed in some cases of widespread tuberculosis: it may have failed also in some incipient cases. But in each of these extreme directions it gave some reactions where the conjunctival test did not; and in neither of these groups did the Calmette test succeed where the other failed.

At the last meeting of the British Medical Association Calmette held that the conjunctival reaction was more useful than the skin reaction, because of the failure of the former to detect healed or quiescent tubercles.[1] That is really an admission of the greater delicacy of the v. Pirquet test. Moreover, it is a difficult matter to say when a tubercle is healed. So long as the blood reacts to the skin test the tuberculous focus is potentially active. In the adult the limitation of the focus is more thorough; but in the child the activation of a buried tuberculous lymphatic gland may in a few weeks cause a general dissemination of tubercles, so that in children the power of the v. Pirquet test to detect latent or quiescent tuberculosis gives it an important advantage.

It must be noted that in the above cases a weak solution of tuberculin (0·5 per cent.) was used for the eye test. Again, the subjects were all children, and though the solution could always be dropped on to the eye, it was often much diluted by a flood of tears. But these difficulties are inherent: stronger solutions in the eye are sometimes unsafe, and children will not cease to cry. Dealing with the skin much stronger solutions are used and can there be brought more effectively into contact with the local circulation. In a comparison of these two forms of tuberculin reaction, their essential similarity must be admitted. Both are vascular reactions depending on the close contact of toxines with the capillary circulation. But their practical application is different. With the skin it is safe to sensitize the local circulation by some form of scarification or abrasion. With the conjunctiva it has from the first been recognized as dangerous to employ the test where any degree of inflammation is already present. We aim at producing an abraded cutis. We deliberately avoid an injured conjunctiva. In that contrast lies the cause of the superior delicacy of the v. Pirquet test.

But it is needful to point out that the superficial circulation is much less accessible in the skin than in the eye. Therefore a proper technique in preparation of a vascular surface on the skin is highly important. Neglect of that may turn the balance in favour of the eye reaction, and may throw away the advantage in delicacy and safety which the v. Pirquet test undoubtedly possesses.

One final point is worth mentioning. It is much disputed whether severe conjunctival reaction means an active tuberculous process or the reverse. Wolff-Eisner holds the former view.[3] Calmette, in his statement that the severity of the reaction corresponds with the number of antibodies present in the blood, inclines to the latter view.[4] The evidence seems to be conflicting; but in the v. Pirquet test it has already been shown that the severity of the reaction varies inversely with the severity of the disease. In the skin the conditions almost approximate to those of an exact experiment by a definite abrasion. In the conjunctiva, the local vascularity, and therefore the local sensitiveness, must vary much even within the range of health. That fact probably explains the discrepant results obtained.

In conclusion, I would cordially express my thanks to the members of the staff of the East London Hospital for Children for their permission to use the abundant material of the hospital for the purpose of this investigation.

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A CASE OF DISSEMINATED TUBERCULOSIS TREATED WITH MARMOREK'S SERUM.

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THE results of treatment by Marmorek's serum in the following case seem to me sufficiently striking to render its publication desirable.

The patient was a schoolboy, of Spanish nationality, aged 15. He was first seen on December 14th of last year, when he was suffering from severe haematuria of more than six months' duration. His temperature was 103° F., and the abdomen was distended. There was an operation scar in the right kidney region. The case rapidly assumed a typical typhoid condition, with evening temperature about 104° F. and slight morning remissions. The following is a summary of the symptoms at this time:

The pulse was very rapid and feeble, the abdomen distended, with thickening in the right kidney region; pale yellow diarrhœa with much mucus and some blood; profuse haematuria but no spurts; rapid emaciation. Widal's reaction was repeatedly negative, and so was the Ehrlich Diazo test. The blood counts showed distinct paucity of leucocytes.

We were a little baffled at this stage by misleading information to the effect that the operation scar was due to a successful nephrolithotomy, but we now obtained a more veracious account from France which made it obvious that the case was tuberculous. We ascertained that the right kidney had been removed in the previous June for tuberculosis, and the bladder and prostate were found cystoscopically to be tuberculous.

Within the next few days crepitations gradually developed all over both lungs, and there was constant short, dry cough, but no expectoration. Intestinal matting occurred throughout the abdomen, especially in the flanks. A distinct squint developed in the left eye, but no choroidal tubercles were discovered. The ophthalmoscopic examination was not very complete owing to the patient's deplorable condition at this time. He became delirious, with constant twitchings of the face and eyes, and emitted loud meningeal cries.

About this time the patient was seen by several eminent medical men, including specialists, from London and Paris, and I think I may fairly say the consensus of opinion was that the boy could not live more than three or four weeks; at any rate, I expressed that opinion emphatically to the relatives. He had been given sodium cacodylate and $\frac{5}{3000}$ mg. T.R. injections without apparent effect.

On January 17th, 1909, after the patient had been acutely ill for a month, Dr. Marmorek arrived from Paris, and in spite of the fact that the lad was almost moribund, with every evidence of generalized miliary tuberculosis, he took a positively cheerful view of the case, and advised injection each day of 5 c.cm. of his new serum, which is made from what he calls the primitive tubercle bacillus obtained from the growing margin of a culture. With this he immunizes a horse for about eight months, and thence obtains his serum. Injections were made subcutaneously in the thighs in the usual way through a bead of lysol for twelve consecutive days, at the end of which some abatement of the acute symptoms was observed. Dr. Marmorek then visited the patient again and advised 10 c.cm. of serum per rectum, but this produced no good result, and this, indeed, has been my experience of giving any serum by the rectum.

Hypodermic injections were therefore resumed, and twenty-eight doses of 5 c.cm. were given during the ensuing seven weeks, during which time the patient slowly but surely improved. He gained weight and strength, intestinal matting subsided, diarrhœa ceased, squint disappeared, and the urine showed no blood except under the microscope. Crepitations and rhonchi gradually subsided, and though a pleuritic effusion of slightly turbid fluid appeared on the left side, this absorbed rapidly after tapping.

By April the patient was able to return to Paris, looking the picture of health and having regained his normal weight. Dr. Marmorek has sent most favourable reports since. The only apparent abnormality now is the presence of a little albuminuria, and this is diminishing. The last report, received during October, was that the patient was very well and putting on weight.

The chief features of interest were:

1. Repeatedly negative Widal's when every symptom was consistent with typhoid. I may say that in my experience Widal's test is actually more reliable than clinical evidence. This was very noticeable in the Bristol typhoid epidemic some years ago.

2. There seemed no doubt that Marmorek's serum—of which this patient had forty injections, or nearly half a pint altogether, in less than three months—was responsible for the improvement. The clinical signs pointed to tuberculous lesions of the intestines, peritoneum, bladder, lungs, and meninges, and I suppose the invasion was of the miliary type, in which case, by all the rules of medicine, surgery, and midwifery, the patient ought to have died.

3. Temperature reactions, commencing about three hours after injections, are prominent in the charts.

4. Of course it is impossible to say that the lad will not ultimately become a chronic phthisic, but his improvement being so steady and consistent is most encouraging.

I have not entered into minutiæ of symptoms and treatment, and I am aware the case is open to certain criticisms, inasmuch as no tubercle bacilli were actually demonstrated in the urine or elsewhere, and there was no sputum at any time to examine. I have merely published the crude facts as they appeared to me, and I think they justify a more extended use of this antituberculous serum.

THE SCIENCE COMMITTEE
OF THE
British Medical Association.
REPORT CXVII.

FURTHER RESEARCHES INTO THE BACTERIOLOGY AND VACCINE THERAPY OF COMMON COLDS.

BY C. H. BENHAM, M.D., M.R.C.P.,
HOVE, SUSSEX.

IN a former paper[1] I drew attention to the occurrence of a diphtheroid bacillus for which the name *Bacillus septus* was suggested. This germ was associated with the *Micrococcus catarrhalis*, and occurred in 20 out of 21 cases examined during the winter 1905–6.

During the winters of 1907–8 and 1908–9 further researches have been carried out on similar lines, with results which may be summarized as follows:

1. The prevailing organisms—that is, those which were present in greatest numbers and grew most readily—were the *Micrococcus catarrhalis* and the *Micrococcus paratetragenus*.

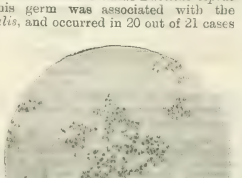


Fig. 1.—Photomicrograph of a forty-eight hours' culture of *Micrococcus catarrhalis*. × 1,000 diameters.

2. The *Bacillus septus* was present in a number of the cases, but did not grow readily, and was difficult to isolate. This is in marked contrast to its behaviour in 1905–6, when it grew with great ease on ordinary media.

3. The bacillus of Pfeiffer was present in small numbers in a few of the cases, but it was not possible to isolate it.

4. The pneumococcus was seen in the swabs in a few cases, but in small numbers, and it was not isolated.

5. The bacillus of Friedländer was isolated from a few of the cases.

The organisms which appeared to me to be the causal factors in the majority of the cases were the *Micrococcus catarrhalis* and the *Micrococcus paratetragenus*. The *Micrococcus catarrhalis* is already well known, having been described in a paper by Drs. Dunn and M. H. Gordon on The Bacteriology of an Epidemic Simulating Influenza.[2] It is described at length in an article by Neisser and Kolle in Wassermann's *Pathologenen Micro-organismen*.[3]

Characters.—It is a rather large coccus, occurring in pairs, or sometimes in dense masses, in the sputum or in swabs taken from the noses and throats of patients suffering from common colds, "influenza," bronchitis, and pneumonia. It can be seen in masses in pharyngeal cells, and occasionally in leucocytes. It is negative to Gram's stain, and resembles the gonococcus, though I think it is usually rounder and less bean-shaped.

Cultures.—It grows readily on nasgar, blood agar, and on ordinary agar (especially if made with 2 per cent. of Witte's peptone). On these media colonies appear in twelve to eighteen hours at 37° C. They are at first translucent, but rapidly become yellowish-white, rounded, and raised above the surface of the medium. The colonies are very viscid, and adhere firmly to the medium, so that it is easy to touch them without removing any of the growth. This may account for the difficulty of subculture which the writer and others formerly experienced. If one is careful to remove a visible portion of growth from a colony, the subcultures grow readily and are vigorous.

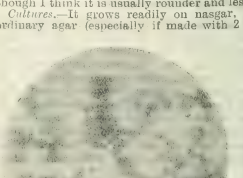


Fig. 4.—Cultures of *Micrococcus paratetragenus*.

On gelatine growth takes place more slowly, and the gelatine is not liquefied. It grows in broth, and does not produce acid in broth containing 1 per cent. of glucose, lactose, maltose, saccharose, or mannite.

The *Micrococcus paratetragenus* is not so well known as a pathogenic organism. I think it has been taken for the *M. catarrhalis* by some observers, and described as a large staphylococcus by others. It has been described at length by Bezançon and de Jong,[4] who believe that it can be distinguished from the ordinary *M. tetragenus* of the mouth by its peculiar morphology and staining reactions. On this point I am not quite convinced, but have nevertheless adopted the name *Micrococcus paratetragenus*.

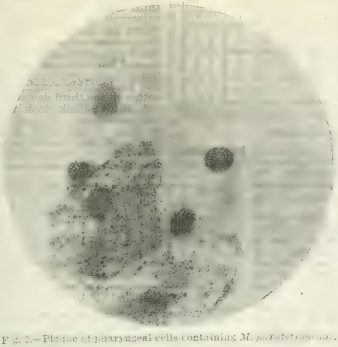


Fig. 2.—Plate cell pharyngeal cells containing *M. paratetragenus*.

Its characters are as follows: It is a coccus of very variable size, and is very common in the sputum in all kinds of pulmonary affections, as well as in mild catarrhal cases.

It can frequently be seen packing pharyngeal cells, and its peculiar morphology is very characteristic. It occurs in masses, pairs, or tetrads, often surrounded by a very definite capsule or zoogloea. The masses consist of several very large tetrads which stain deeply with aniline dyes, and are intensely stained by Gram. These are embedded in a mass of smaller tetrads and diplococci, amongst which are often minute bacillary forms. The smaller elements stain feebly, and are negative to Gram's stain.

In cultures the *M. paratetragenus* grows very readily on all the ordinary media. On agar definite colonies appear in twelve hours at 37° C., and growth also takes place freely but rather more slowly on gelatine at 22° C.; the gelatine is not liquefied. The colonies are rounded, creamy white, and glistening, but occasionally they have a yellowish tinge. They are soft, and are readily removed from the medium by the platinum wire.

Acid is formed in glucose, lactose, saccharose, maltose, and mannite broths. The appearance of the cocci in subcultures varies very greatly, but there is nearly always a considerable difference in the size and intensity of staining of the various elements. Commonly very large tetrads without zoogloea appear in twenty-four hours, but sometimes large single cocci or diplococci, which are strongly positive to Gram's stain, and might on a cursory examination be taken for large staphylococci.

The above have been the prevailing organisms, but numerous others have been found with less frequency. In a few cases I have found the bacillus of Friedländer, and in a few cases Pfeiffer's bacillus in very small numbers.

Pneumococci have been seen in throat swabs, but in small numbers, and I have not succeeded in satisfactorily growing them. There is also a polymorphous organism which occurs frequently. It forms dewdrop-like colonies, which resemble those of a streptococcus, and consist of chains of oval cocci, bacilli, and wedge-shaped and irregular forms. The cocci are very variable in size and shape, and often seem to be capsulated. As to the nature of this germ and its possible rôle I am at present uncertain, but it appears to correspond to an organism resembling a streptococcus, and described by Thiercelin as the "enterococcus."[5]

Are these organisms pathogenic?

The Micrococcus Catarrhalis.

1. This organism has been found in "influenzal" cases by the following: Sternberg,[6] Hastings,[7] Rubermann,[8] Kleinberger,[9] Bulloch,[10] Gordon,[2] the author.[1]

2. It causes fatal peritonitis when injected into the peritoneal cavity of guinea-pigs (Gordon[2]).

3. Gordon states that he contracted an acute cold by accidentally sucking up a pure culture of *Micrococcus catarrhalis*. Quoted by Allen.[11]

4. Variations of opsonic index to *M. catarrhalis* in cases of common cold (Allen[11]), and improvement in clinical condition after injection of vaccine.

The Bacillus Septus.

1. This bacillus has been found in cases of common cold (Edmund Cautley[12] (*Bacillus coryzae segmentosus*), Gordon,[13] Prosser White,[14] the writer,[1] R. W. Allen[11]).

2. Some of Dr. Allen's most successful cases of treatment of common colds by vaccine therapy have been cases in which *B. septus* was the infecting agent.[11]

The Micrococcus Paratetragenus.

1. This micrococcus has been found in cases of influenza (Bezançon and de Jong[4]), and in a case of fatal pulmonary gangrene (Bezançon[15]). The writer has found it in a large number of cases of common colds and mild influenza.

2. Opsonic determinations are at present few: the writer is of the opinion that variations of the opsonic index occur after the injection of a vaccine of *M. paratetragenus*, but his observations are at present too few to speak with certainty.

The Bacillus of Friedländer.

1. This bacillus has been found in coryza (Cardone[17]), in acute pharyngitis with œdema of glottis (Weichselbaum[16]), tonsillitis (Nicolle and Hebert[18]), parotitis (Garode[19]), middle ear disease (Zaufal[20]), in cases of common cold, especially chronic nasal catarrh (Allen[11]).

2 Vaccine therapy, in cases of common cold, especially chronic nasal catarrh (Allen[11]).

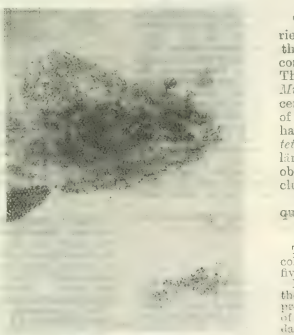


Fig. 3.—Pharyngeal cell containing *B. septus*. A group of *M. paratetragenus*.

Opsonic Work.

The writer has recently carried out some observations on the opsonic index in cases of common cold and mild influenza. The results, as far as the *Micrococcus catarrhalis* is concerned, appear to confirm those of Allen. A few observations have been made with *M. paratetragenus*, *B. septus*, and Friedländer's bacillus, but the results obtained have not been conclusive.

A few illustrative cases will be quoted.

CASE I.

Throat and ear specialist. Acute cold in the head, sore throat, cough five days.

In this case there was a rise of the opsonic index from 0.8 on the day preceding the injection of 125 million of stock *catarrhalis* vaccine to 1.6 six days later. The patient was already recovering from his cold when the injection was given. I could not be certain whether the treatment accelerated his recovery or no. He has had several slight colds since.

CASE II.

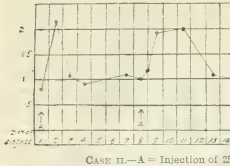
Throat and ear specialist. Is subject to acute colds, which usually last three weeks, beginning with sneezing, dryness and tickling of nose and upper surface of soft palate, and usually going on to naso-pharangeal catarrh, with irritable cough and mucous expectoration.



CASE II.—A injection of 125 million stock *M. catarrhalis*.

Present Attack.—Caught while having his hair cut by a hairdresser who was suffering from a streaming cold. Within twenty-four hours there was sneezing and tickling in left nostril and pharynx, and mucous membrane of nose appeared red and glazed. In the direct smears taken from the posterior pharyngeal wall the *M. catarrhalis* was seen and afterwards

isolated. Two hundred and fifty million of stock *catarrhalis* vaccine prepared from a case of acute influenza by the writer



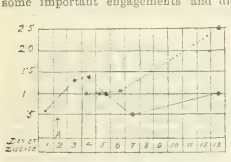
CASE II.—A = Injection of 250 million.

were given within twenty-four hours of the onset. The attack appeared to be similar to previous attacks, but by the third day the symptoms had completely disappeared. he saw his out-patients at the hospital, attended the hospital committee, and read aloud to his wife in the evening.

On the eighth day a further dose of 250 million of stock vaccine was given, without subjective symptoms, but with a more prolonged rise in the opsonic index. The patient remained perfectly well for five weeks, when he had a second acute attack following a journey to town, and an injection of 250 million of stock *catarrhalis* vaccine was given *twenty-eight hours after the onset*.

Four hours after the injection the patient felt ill, had a rigor, and a temperature of 104° F., and was confined to his bed next day. The *Micrococcus catarrhalis* and the *Micrococcus paratetragenus* were both isolated and autogenous vaccines prepared.

The patient was better on the third day, and the symptoms disappeared with the exception of a feeling of prostration and a slight cough. As he had some important engagements and did not wish to risk a severe negative phase, the autogenous vaccines were not given. In spite of this fact it will be seen from the chart that the opsonic index to *M. paratetragenus* was as high as 2.5 on the thirteenth day. The patient has had one or two slight colds since, which have aborted within twenty-four hours. It appears, therefore, that some degree of immunity was obtained, and it is probable that had the autogenous vaccines of both *M. catarrhalis* and *M. paratetragenus* been used a still better result might have been obtained.

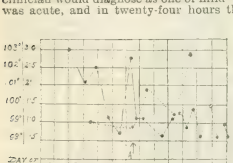


CASE II.——— Opsonic index to *M. catarrhalis*; ..... opsonic index to *M. paratetragenus*. A = Injection of 250 million.

This case illustrates the danger which Allen[11] points out, of giving a vaccine on the second day of an acute attack.

CASE III.

Mr. O., dispensing chemist. The case was one which any clinician would diagnose as one of mild "influenza." The onset was acute, and in twenty-four hours the patient was ill, with severe headache, sore throat, backache, stiff neck, and a temperature of 103°.



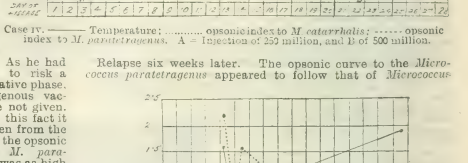
CASE III. ——— Temperature; ..... opsonic index to *Micrococcus catarrhalis*. A = Injection of 250 million. The chart illustrates the inverse ratio between the temperature and the opsonic index.

The *Micrococcus catarrhalis* was isolated from the throat, and a vaccine prepared from it. On the sixth day the patient seemed better, and the temperature was normal in the evening; but on the seventh day it rose to 102.4° in the morning, and there was acute pain and feeling of tension in the right ear, with a swollen, tender gland in anterior triangle of neck on right side; 250 million of the autogenous vaccine were given, after which the temperature rapidly came down, the pain in the ear and the glandular swelling disappeared. His convalescence was fairly rapid, and he returned to work in a fortnight.

CASE IV.

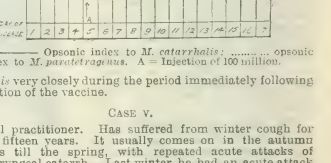
Housewife, aged 35. "Influenza" coming on after a drive on a very cold day. Severe frontal headache, malaise, pains all over; temperature 102.4°. *M. catarrhalis* isolated; 250 million of a stock vaccine prepared from Case III were given on the third day. Within twenty four hours the patient was convalescent, the temperature normal, and the attack was certainly cut short. A slight cough remained, which was loose. The patient remained well until the twenty-second day, when there was a further sore throat and nasal obstruction. A further dose of 500 million of stock *catarrhalis* vaccine was given. For the following twenty-four hours there was considerable malaise and an irritable cough, but the patient again became rapidly better on the third day after injection.

A third attack took place six weeks later, in which the *M. catarrhalis*, *M. paratetragenus*, and *B. septus* were all present. A dose of Dr. Allen's mixed vaccine was given, with the result that there was some improvement in the cough, but this did not disappear for several weeks. There have been several abortive colds since, lasting only a day or two.



CASE IV. ——— Temperature; ..... opsonic index to *M. catarrhalis*; ------ opsonic index to *M. paratetragenus*. A = Injection of 250 million, and B of 500 million.

Relapse six weeks later. The opsonic curve to the *Micrococcus paratetragenus* appeared to follow that of *Micrococcus*



CASE IV. ——— Opsonic index to *M. catarrhalis*; ..... opsonic index to *M. paratetragenus*. A = Injection of 100 million.

catarrhalis very closely during the period immediately following the injection of the vaccine.

CASE V.

Medical practitioner. Has suffered from winter cough for the last fifteen years. It usually comes on in the autumn and lasts till the spring, with repeated acute attacks of naso-pharyngeal catarrh. Last winter he had an acute attack six weeks before treatment was begun, and had had troublesome cough with a little mucous expectoration in the morning ever since. He was advised to winter in Egypt, as slight emphysema was present.

The *Micrococcus catarrhalis* and *Micrococcus paratetragenus* were isolated and a vaccine made of the *M. catarrhalis*.

On November 26th 250 million of stock vaccine prepared from Case III were injected. The opsonic index at time of injection was 1.4. Four hours later it fell to 1, then rose to a maximum of 1.95 on November 27th.

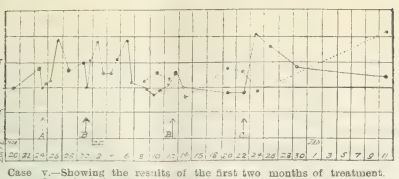
On November 30th the opsonic index was 1.45; 250 million of autogenous *catarrhalis* vaccine were injected. Four hours later the index had fallen to 1. but on December 1st had risen to 1.5, and on December 2nd to 1.85.

On December 12th a further injection of 250 million appeared to produce little result. A mixed vaccine was then made from a nasgar plate on which a piece of washed sputum had been smeared; all the organisms were washed off indiscriminately, and a vaccine made in the usual way. It consisted of *M. catarrhalis*, *M. paratetragenus*, a small diphtheroid bacillus, and other organisms; 500 million of this were injected on December 22nd, with a rise of the index to *M. catarrhalis* to 2.1 on December 24th. The opsonic index to *M. paratetragenus* stood at 1.35 on December 22nd, and had fallen on December 24th to 0.95, but in a subsequent observation taken on January 11th it had risen to 2.25. Treatment on these lines was continued until the middle of February.

Notes of Symptoms.

November 30th. Cough certainly better, nasal catarrh somewhat improved.

December 3rd. Post-nasal catarrh continues; cough much better, not so irritating; expectoration slight and looser. Has been to London in thick fog, and seems none the worse.



Case v.—Showing the results of the first two months of treatment. ——— Opsonic index to *M. catarrhalis*; ..... opsonic index to *M. paratetragenus*. A = Injection of 250 million stock *catarrhalis*; B of 250 million autogenous *catarrhalis*; and C of 500 million mixed vaccine.

December 12th. Cough very slight; post-nasal catarrh still present.

February 10th. Treatment discontinued. Patient is suffering from a detachment of retina, and has to stay in a darkened room for three weeks. "The cough has certainly been less troublesome this winter than previous winters."

These cases appear to me to prove:

1. That in cases of catarrh caused by *M. catarrhalis* there are marked fluctuations of the opsonic index.

2. That a fall in the opsonic index corresponds with an increase in severity, and a rise in the index with a decrease in severity of the symptoms. All the cases illustrate this, but it is naturally most marked in the more acute cases (III and IV).

3. That a suitable dose of vaccine given at an appropriate time will cause a rise of the opsonic index, which may be preceded by a negative phase of short duration (Case v).

4. That it is probable that similar fluctuations occur in the case of the *M. paratetragenus*, though my observations are at present very limited in number.

I have not succeeded in getting good cultures of *B. septus* and Friedländer's bacillus for opsonic work at present.

My results as far as they have gone appear to confirm those of R. W. Allen,[11] and it would therefore seem that there are good grounds for hoping that common colds may be successfully treated by vaccine therapy.

The subject is not of such minor importance as it might appear, for it seems certain that the mild affections called colds are closely allied, if not identical pathological processes, with more serious pulmonary affections. Every general practitioner must have observed the "common cold" extending down the trachea and causing laryngitis, and further into the larger and smaller bronchi causing bronchial catarrh, then bronchitis or bronchopneumonia. Is it not reasonable to suppose that this is a mere extension of the area of infection, the whole process being a general infection of the whole surface of the lining membranes of the respiratory tract?

Dr. Butler Harris has drawn my attention to a very interesting case in which pneumococci were found in the throat in a case of "common cold" for some weeks, but this was followed by a typical attack of lobar pneumonia.

The *Micrococcus catarrhalis* has been found in healthy noses and throats, in the lung in cases of acute pneumonia (Bernheim[12]), and in all the organs in a fatal case of "pneumo-typhus" (Petruschky[13]).

The *Micrococcus paratetragenus* has been found in the blood of a patient who died of pulmonary gangrene (Bezançon[10]); and I have found it in the pus from a very foul empyema.

The medicine of the future will concern itself more and more with prophylaxis, and my small researches will not have been in vain if they lead vaccine therapists to the consideration of the possibility of the prevention of severe diseases of the respiratory organs by paying very close attention to the mild infections of the nose and throat which precede them, and by studying all the methods by which such infections may be treated, whether by local treatment, general hygiene, or vaccine therapy, or by a combination of all these methods.

I wish to express my thanks to the Science Committee

TABLE I.—*Showing Prevailing Organisms and Symptoms of Cases in Series 1907–8.*

	M. paratetragenus.	M. catarrhalis.	B. septus.	B. Friedländer.	Staphylococci.	Streptococci.	B. Pfeiffer.	Pneumococci.	Symptoms.
1	+								Female, aged 7. Acute cold three days, caught in Paris. Laryngeal stridor; cough; sneezing; coryza; temperature 101°; stiff neck.
2	+	+	+		+	+			Female, aged 25. Sore throat fourteen days; backache; sneezing; cough.
3	+	+	+	+	+	+			Female, aged 8. Sore throat. Follicular tonsillitis.
4	+	+							Male, aged 7. Caught from Case 1. Malaise; temperature 102°; pain in left shoulder; no cough or coryza.
5	+	+	+					+	Female, aged 4. Seven days. Cough loose; coryza; sore throat; fauces red; earache left ear.
6	+	+	+		+		+		Male, aged 10. Cold in head one week; severe cough two days; pleurisy left side; temperature 103°, pulse 148.
7	+	+	+						Female, aged 19. Laryngitis; cough forty-eight hours; sore throat.
8	+	+			+				Male, aged 55. Coryza; headache; cough three days.
9	+	+	+		+		+		Male, aged 30. Cold in head; cough three days; stiff neck; pains in shins; temperature 98°.
10	+	+	+		+	+	+		Female, aged 30. Cold in head; headache; cough; epistaxis.
11	+	+	+		+				Female, aged 35. Cold in head; sore throat ten hours.
12	+	+	+	+					Female, aged 25. Sore throat and cough five days; headache; pains in arms; stiff neck.
13	+	+	+	+			+	+	Female, aged 48. Very mild bronchitis seven days.
14	+	+	+		+	+			Male, aged 32. Coryza three weeks; cough and sore throat three days.
	14	13	11	3	8	4	4	2	

TABLE. II.—*Showing Prevailing Organisms and Symptoms of Cases in Series 1908–9.*

	M. pseudotetragenus.	M. catarrhalis.	B. septus.	B. Friedländer.	Staphylococci.	Streptococci.	B. Pfeiffer.	Pneumococci.	Symptoms.
1	+								Irritable cough one week.
2									Chronic nasal catarrh; clear discharge every morning.
3		÷							Acute cold, on chronic six months.
4	+								Acute cold and cough three days.
5					+				Chronic nasal catarrh.
6	+		÷						Acute sore throat twenty-four hours; yellow exudation on left tonsil; muscular pains.
7			+						Sore throat, cough, occurring during convalescence from abdominal operation. CHCl$_3$.
8			÷		+				"Clergyman's sore throat" four months; laryngitis; cough; slight nasal obstruction; left otitis media.
9		–					+ (?)		Acute coryza twenty-four hours: headache, malaise.
10	÷	÷	÷			–	+		Acute coryza occurring in Case 8.
11		+	–			–			Acute cold seven days; sore throat, malaise, muscular pains; no cough.
12		+	–			+			Acute cold five days.
13	+	+	+						Sore throat three days; "chest feels stuffy"; no physical signs.
14	–		÷				+ (?)		Acute sore throat three days; fauces red; cough; no coryza.
15	+	÷	– (?)						"Influenza"; temperature 103°; severe headache and muscular pains; sore throat; right otitis media.
16	+	÷							Acute cold twenty-four hours.
17	÷		–				+ (?)		Acute cold.
18									Acute cold; negative bacteriological examination.
19									Acute cold; nil: had been using atomizer.
20	÷	÷			–				"Influenza" three days; temperature 102.4°; headache; muscular pains; cough.
21		+	+						Coryza; headache one week; suffers from chronic nasal catarrh.
22	+	+	+		+				Cold and cough fourteen days.
23	÷	÷	÷						Chronic cold.
24	–	÷	÷				+ (?)		Winter cough fifteen years; acute exacerbations.
25	÷	–	–						Acute cold.
26		÷	÷	+ (?)	+	÷			Acute exacerbation in Case 24.
27	÷						+ (?)	+	Severe nasal catarrh three months; profuse coryza; acute exacerbation twenty-four hours.
28	÷		+						Same patient as Case 20. Coryza; headache; cough four days.
29	÷		+		+				Follicular tonsillitis; temperature 102.4°.
30		÷	–	–		÷			Same patient as Case 24; slight increase of nasal catarrh.
31	+	+	–	+		–			Acute coryza on chronic; slight cough.
32	–	÷				÷			Acute cold four days.
33	+	+	÷		+				Coryza five days; sore throat; temperature 100°.
34	+		+						Acute exacerbation in Case 31; sneezing, sore throat, backache; some cough.
35	+	–	–	+	+				Chronic nasal catarrh.
36					+	+			Follicular tonsillitis.
37		+			+	+			Chronic nasal catarrh; pus in left nostril; irritable cough all winter for twelve years.
38	÷		+			+			Acute exacerbation in Case 31.
39	–			+		+			Chronic cold 6 years.
40	÷		÷					+	Follicular tonsillitis; painful; temperature 102°.
	25	21	25	5	10	11	6	2	

of the British Medical Association for grants of £2 and £10 towards the expenses of this research, and to Mr. Edmund Spitta for his kindness in taking the high power photomicrographs which illustrate the text.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RUPTURE OF BOTH QUADRICEPS EXTENSOR CRURIS TENDONS.

Towards the end of January, 1909, I was sent for to see Mr. W., aged 64, who gave me the following history: On December 23rd, 1908, he jumped from a cask to the ground, a distance of 3 or 4 ft. He landed on his feet, but his legs seemed to give under him, and "he fell in a heap." He noticed that he could not extend his right leg, but not thinking there was much the matter, tried to walk to his house a few yards away, after he had been helped up by some of his workmen. He managed to get along for 20 or 30 yards, when he felt his legs double up under him, and he fell again. After this he felt that he could walk no more alone, and was assisted home. He went to bed and remained there till I saw him, thinking that by degrees he would get back his strength. He told me that he had pain in both legs, below the knees, and was too weak to stand or walk alone. On examination, there was nothing to be seen below the knees, beyond some extravasated blood below the outer side of the right knee. Above the patella, however, on each side, was a well marked oval hollow, extending upwards 2 or 3 in. He was able to raise either leg from the bed, with some difficulty, but could not stand alone. It was quite obvious that he had ruptured both quadriceps extensor tendons. I advised him to have the tendons sutured, to which he agreed.

On February 11th Dr. Day kindly gave him an anaesthetic, whilst Dr. Renny assisted me in the operations, which were precisely similar in both legs. A vertical incision was made, long enough to expose the upper end of the patella and the lower end of the retracted tendon, which had given way quite close to its insertion into the bone. The ruptured tendon was then with very considerable difficulty brought down to its original position, some small cross cuts through the muscular tissue above the tendon being made to facilitate matters. It was held in position by means of two stout silk ligatures, passed through holes drilled in the patella, and then passed twice, backwards and forwards, through the tendon, in such a way as to get a firm grip. Several thick catgut sutures were also passed between the tendon and the fibrous structures, in front of and at the side of the patella. I found it necessary to use silk, as catgut would not stand the strain, even when doubled. In both legs the knee-joint was freely opened.

Recovery was quite uneventful, though for several days the temperature ranged as high as 100° to 101°, probably on account of absorption from fluid effused into the joints. I kept the limbs for about five weeks in back splints, which were then removed, and gradually increasing passive, and then active, movements were begun. Before many more weeks were over he could stand alone and walk fairly well across the room, and now, September 20th, 1909, he can walk about again as well as ever. For a long time after he began to try to walk he was troubled with very considerable oedema of the legs, and though this has not yet disappeared it is much better, and getting less and less.

Although rupture of one quadriceps extensor tendon is not very uncommon, I have not seen or heard of a case where both snapped, and Mr. Openshaw, who was in Colchester at the time and saw the patient, tells me that he also has not met with a similar case, so that I think it is deserving of being put on record.

Ed. Chichester, M.B.Lond.,
Honorary Surgeon, Essex County Hospital, Colchester.

THE SEARCH FOR PERFORATING ULCER OF THE STOMACH.

In the Epitome of October 23rd, paragraph No. 209, appears an interesting abstract of an article by Ewald, of Vienna, on this subject, its object being to indicate an area 1 cm. to 2 cm. above or below the pyloric ring, in which it is asserted the perforation is almost always situated. My purpose in writing is not to express any opinion on this statement, but to call attention to a guide to the perforation which I have found almost invariably present when operating.

I always look for a vivid scarlet injection of some portion of the peritoneum; this has its source and centre in the area round the perforation. When the abdomen is opened and the stomach or duodenum exposed, a red streak can usually be seen, which becomes more intense in one direction; if this is followed the ulcer is found. In other instances the incision exposes the inflamed area towards its centre. The next step is to expose the portion which is most intensely red. This immediately surrounds the lesion. The colouring of the peritoneum is quite distinctive; it is bright red, with patches of lymph on the surface. It is swollen and pulpy looking.

The guidance is so good that I have closed a perforation which I never saw. The operation was done under unfavourable circumstances. It was in a small farm-house: everything had to be done by two of us. Our light was from three or four tallow candles. All efforts failed to bring the perforation into sight; it was somewhere near the cardiac end of the stomach, but, relying on this sign, the area of greatest intensity of inflammation was folded in and sutured. This closure held and the patient recovered.

The extent and intensity of this appearance vary in accordance with the length of time which has intervened between the occurrence of perforation and the operation, and probably also in proportion to the irritating qualities of the effused stomach contents, but whatever its amount, its centre is the ulcer, and it diminishes in degree from it outwards. There is an obvious advantage in being able to use for guidance an appearance which has its source in, and which is relative to, the individual local condition under consideration.

Carlisle. Roderick Maclaren.

"NASTIN" IN THE TREATMENT OF LEPROSY.

My attention was called to "nastin" only a year ago, prior to my taking charge of the E. F. Allbless Leper Home at Trombay. I commenced to use it on three lepers on August 14th, 1908.

Case I, Mathew N. Rodriques, a native Christian, aged 29, from Africa, had suffered from mixed leprosy for the last eleven years. The skin of the whole face, chin, and ears was enormously thickened, and there were clusters of tubercles on the body, face, arms, forearms, fingers, legs, and feet. There was discoloration of the skin of both thighs, scaly dark patches here and there on the feet, anaesthesia in the fingers of the left hand and from the knee downwards to the tips of the toes of both lower extremities. The nails of the toes were wasted away. In conformity with Professor Deycke's directions, the injections were weekly on and after August 14th, 1908, the patient having forty-four injections in all. His condition to-day (September 24th, 1909) is as follows: Sensation has returned completely in fingers, knees, and tips of toes. The tubercles on the body, legs, feet, and hands have subsided, but not those of the face, although the thickening here shows decided symptoms of going down. Ulcerations have healed, discolorations and scaly patches have faded, and the nodules softened. The skin is much moister than before.

Cases II and III are instances of tuberculous and mixed varieties respectively; they have had the same number of injections as Case I, and show decided improvement and feel generally better than they did before the commencement of nastin. I have treated a few other cases in the hospital, side by side with the above three, with arsenic, iodides, salol, Chaulmoogra, etc, but can hardly vouch for the utility of these drugs either in curing leprosy or arresting its progress. Further, iodides—and Chaulmoogra in particular—have caused pronounced general and local reaction. Considering that leprosy is a disease requiring a steady persevering course of treatment, extending over months, possibly years, it is but fair that Professor Deycke's nastin should be given a wider and more extensive trial.

Dr. D. A. D. Monte, M.D., L.R.C.P.Lond., J.P., of Bandra, Bombay, Honorary Secretary, Treasurer, and Consulting Physician to this home, saw my cases quite recently, and agrees with this my report.

F. Raschid,
Medical Officer in Charge, E. F. Allbless Leper Home, Trombay.

Described by Professor Deycke in the Deutsch. Medicinal. Zeitschr., vol. i, 1908, p. 802.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GYMPIE HOSPITAL, QUEENSLAND.

CASES OF INJURY AND DISEASE OF THE EYE.

(Reported by W. SIDNEY SWEET, B.Sc., M.B., B.S.Lond., M.R.C.S.Eng., Medical Superintendent and Resident Surgeon.)

INJURIES.

THE following cases should be of interest to ophthalmic surgeons:

CASE I.

Albert S., aged 23, was chopping a piece of hard-wood, when the wood flew up and struck him in the left eye. He was seen next day. There was a wound in the left upper eyelid and the tarsus was cut through, with such marked chemosis that it was difficult to separate the lids sufficiently to see the eyeball. The cornea was hazy and the pupil large and irregular, so that only a narrow fringe of iris could be seen. The sphincter pupillæ was torn through on the outer side and there were small extravasations of blood above and below. On optical examination there was complete absence of retinal reflex; light perception only. Tension of the globe same as uninjured eye. The subsequent course of this case was as follows: Chemosis soon cleared up, and, except for some irregularity of the pupil, the eye on casual examination regained its former appearance, *but no retinal reflex returned nor any improvement of sight.*

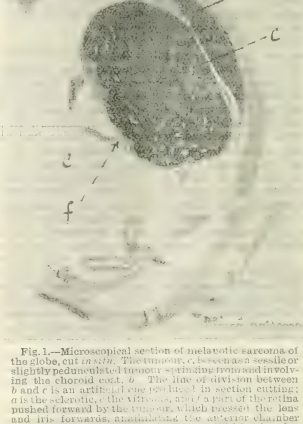


FIG. 1.—Microscopical section of melanotic sarcoma of the globe, cut *in situ*. The tumour, *c*, has a mushroom sessile or slightly pedunculated tumour springing from and involving the choroid coat, *b*. The line of division between *b* and *c* is an artificial one produced in section cutting; *a* is the sclerotic, the vitreous, and a part of the retina pushed forward by the tumour, which presses the lens and iris forwards, diminishing the anterior chamber and producing secondary glaucoma. Within the ring shown by the dotted line there were dense deposits of melanin, which was more diffuse and scattered in other parts of the section.

CASE II.

Thomas F., aged 47, was mining underground when a fall of earth took place, and he was injured about the face and head. When seen an hour later both eyes were closed by swelling of lids. The nose was swollen, nasal bones fractured, blood oozing from nostrils, a fracture of upper jaw and hard palate centrally with ½in. separation and some mobility, and a transverse fracture just in front of second molars, with displacement downwards of the posterior fragment, with the second and third molars on each side depressed, so that when the jaw was closed the teeth in front of this would not meet. The eyes could not be examined on account of the swelling until the second day after the injury, when it was found that there was impairment of vision in the left eye, so that he could not count fingers properly. The outer part of the field was more distinct than the inner. The pupils were equal, and the left reacted to light directly and reflexly. Ocular tension in both eyes equal. On ophthalmoscopic examination the retinal reflex was uneven, coming from the upper portion only. Below was a dark mass, which appeared to be a blood extravasation, two-thirds behind the lens. On the nasal side there was a patch of red reflection, and the vessels were congested. The optic disc could not be made out with distinctness, its edge was ill defined; there was no pulse. Two days later the upper part of the retinal reflex was of a greyish-white, except the patch mentioned on the nasal side, which was now more defined and very deeply congested. The vessels could be traced into the disc, which was a little more defined, were oblique and parallel. Light perception only. A few days later no retinal reflex could be obtained, and it never returned. Two months later a casual examination of the eye revealed no apparent difference from the fellow. Pupils equal, and reacting reflexly to light, but there was no picture of vision or retinal reflex. The left eye did not react to light directly, but dilated when the healthy eye was covered, and contracted when the latter was uncovered.

These two cases are interesting examples of injuries to the globe, with probable haemorrhage into the media, and loss of sight without disorganization. Both cases were seen by competent ophthalmic surgeons, who were at a loss to explain their exact nature. The pupil reaction in Case II implies injury to optic fibres without any impairment of the reflex path through the third nerve and Meynert's commissure, and is suggestive of injury to the optic nerve in its foramen and perhaps a crack fracture. This point, which is of considerable interest, is also illustrated in the next case.

CASE III.

William H., aged 42, fell from a bicycle on to the right side of his head. He lost consciousness for a few minutes, and since has been troubled with bad headaches. He came for advice six weeks later, and a scar was then visible in the right temporal region, extending towards the orbit. Near and distant vision were both much impaired in the right eye. Test type normally read at 20 metres could just be deciphered at 1 metre distance. The right pupil reacted very slightly to light, and not at all to accommodation. On covering the left eye the right pupil dilated, and on exposing the former the latter contracted, contracting still further to perfect equality when both eyes were uncovered. On ophthalmoscopic examination after homatropine, the retinal reflex was normal and the media clear. No haemorrhages, vessels normal, disc pale. Patient was kept in hospital eight days and his nervous system carefully examined, but no abnormality found, except plus knee-jerks. A dark room and caffeine relieved his headaches. He was seen again several weeks later, but without any change in the physical signs.

The writer looked after a similar case in the Middlesex Hospital a few years ago, under the charge of Mr. Lang. An old woman walking home from church with an umbrella up came in contact with a cab and fell down, striking the left orbital margin in her fall. There was only a slight abrasion, but complete loss of sight in the same eye, the pupil only reacting reflexly through the sound eye. The sight was partially restored. The diagnosis was injury to optic nerve in its foramen.

MELANOTIC TUMOURS.

The following case is very interesting, because it illustrates well the difficulties of diagnosis when there is more than one lesion present at the same time.

CASE I.—*Melanotic Sarcoma of the Globe.*

Anders P., aged 47, was taken ill a week before he was seen with headache and pains all over. He had had neuralgia on the right side of the face, and had been delirious for the last night or two. During the present illness his right eye had given him pain, but not before. He thought it was the neuralgia affecting the eye. The sight of this eye had been affected for about three years, and more than a year ago he noticed, when he shut his other eye to shoot, that he was quite blind in the right eye. There was nothing else in his past history that threw any light on his condition. On examination his temperature was 104·2°, pulse 120, and respirations 26. He was dull and heavy, but the tongue was clean, and a detailed examination of lungs, heart, abdomen, and nervous system, etc., elicited no further information of value. There was a zone of congestion in the ocular conjunctiva; the pupil was irregular, dilated, and fixed, the outer part of the iris being more contracted, producing a little notch in the sphincter pupillæ. The ocular tension was slightly raised as compared with the sound eye. There was some discoloration of the iris at its free margin, and this was pushed right up against the cornea, the anterior chamber being practically non existent. Through the pupil a milky opacity was visible which, on focussing, showed branching streaks. Cornea sensitive and clear; tenderness on palpating globe.

Next day his temperature came down to normal, and he sweated very profusely, but it rapidly rose again to 102.6°, and he had a rigor. He became very depressed and then very heavy, almost comatose, and passed both motions and urine in bed. The temperature fell to 97°. A careful physical examination was made, but no new sign presented itself except tender-

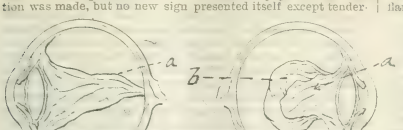


Fig. 2.

Left or nasal half. *a*, Prolapsed retina. Right half of globe. *b*, Tumour, 10 mm. in diameter, pushing retina forwards.

ness on pressure in the right hypochondrium. He then developed delusions, regarded his food with suspicion, said there was a conspiracy to kill him, and constantly reiterated that he was mad. The temperature rose to 99°, the pulse remaining between 70 and 80. A consultation was held, and various possibilities canvassed. The sweating, mental symptoms, and irregular temperature suggested a focus of inflammation and pus, and, if the lesion were a single one, this might be expected to be in the neighbourhood of the sella turcica. On the other hand, there was neither proptosis nor vomiting, and, moreover, there was an influenza epidemic in the neighbourhood, and his initial symptoms had been headache and pains in the limbs, and his eye had not troubled him at the beginning, so that a dual lesion had to be considered with remote effects upon the eye. The following day the patient became more rational, and he was quite sensible on the next. His temperature remained normal and his pulse became slow (60). These facts and the subsequent course of the case favoured the alternative diagnosis, which also was the original one. The tenderness and congestion of the right eyeball diminished, and the patient became convalescent. Two weeks after his admission the right eye was enucleated. The globe was then frozen by ether evaporation, and a sagittal section made. It was then seen that there was a spherical tumour in the outer half of the vitreous, exactly 10 millimetres (about two-fifths of an inch) in diameter, and pressing against the lens. The tumour was external to the retina, and appeared to come from the choroid. It extended as far inwards as the middle line, and did not project beyond the globe. The base of the tumour was rather more than half its diameter, and the sclerotic over it appeared to be normal, although Tenon's capsule, or the fascial extension from the external rectus, was a little thicker at that point. The right upper wisdom tooth, which had a cavity, was removed at the operation. This probably accounted for his neuralgia. Sections of the tumour (*in situ*) were cut and stained and examined by Dr. Love, the Government pathologist. (See Fig. 1.) It was reported to be a melanotic sarcoma.

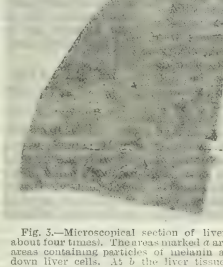


Fig. 3.—Microscopical section of liver (enlarged about four times). The areas marked *a* are melanotic areas containing particles of melanin and broken-down liver cells. At *b* the liver tissue is almost normal. This has a very different appearance to the liver as seen *post-mortem*, where the affected areas appeared very dark, almost black, and the whole liver resembled coarse granite, as described in the text. A band of thickly deposited melanin separates these areas. *a*, from the more normal tissue, although deposits of melanin are also seen dotted about throughout the section.

The patient made an uninterrupted recovery, and there has been no recurrence up to the present. An interesting feature in this case is the slowness of the growth and the absence of symptoms other than failing sight.

CASE II.—*Melanotic Tumour of the Liver.*

Johnson N., aged 47, a goldminer, had not been in good health for six months, since he first noticed a painful lump behind his right shoulder. This, however, had not been painful lately. Two weeks ago he had to give up work and seek medical advice for pain and "soreness" in the upper part of the abdomen and right flank. In the past he had had fever and ague thirty-five years ago, but there was no history of syphilis or alcohol. On examination he was spare but not emaciated, he was pinched and anxious-looking, and his breath very offensive, but tongue moist and fairly clean. There was a very hard lump about the size of a walnut behind and below the right shoulder, not much below the skin and not attached to it, and a similar lump in the right axilla. The upper part of the abdomen looked full and the lower border of the liver could be felt almost on a level with the umbilicus in the mammary line and shelving across to the tip of the ninth left costal cartilage. The surface was smooth. The liver dulness commenced in the fourth space and became absolute at the upper border of the sixth rib in the mammary line. The flanks were slightly bulged, the usual horseshoe-shaped area of dulness on percussing the abdomen. Extension from flank to flank and shifting dulness. Spleen area not enlarged. Heart and lungs normal. Urine very dark, a brownish colour with deposit of urates. The colour darkened on exposure to the air and on the addition of acids, and got lighter on the addition of alkalis. It changed the colour of Fehling's solution to a brownish hue, but there was no precipitation of cuprous oxide. There was no albumen. Microscopical examination showed pigment in small particles, black in some parts, brownish in others. Some granules were free, others in small epithelial cells. No casts or blood were present. Chemical tests for melanin were then applied and its presence established. The temperature was 99.6 and the pulse 96. There was no swelling of the feet. A diagnosis of melanotic tumour of the liver with ascites was made.

The subsequent course of the case was rapid. He became restless and light headed, and the abdomen tympanitic and slightly distended with increase of fluid. Petechiæ appeared in cheeks and abdomen, and the tongue became raw and beef-like and very dry and small. The liver edge could now be felt to be both hard and sharp. Retention of urine followed, and the pulse became weak and compressible. He answered questions rationally, but wandered at times. The temperature became normal, then subnormal, the retention continued, and he died on the tenth day after admission.

On *post-mortem* examination there was free yellow, clear fluid in the abdomen, peritoneum normal except a few petechiæ, omentum injected slightly in parts. *Liver*, much enlarged, surface slightly roughened, very firm and hard. Dark patches of brown pigment all over the surface, with paler areas between, and here and there petechiæ in the capsule. On section it was tough, and had the appearance of a coarse granite, the dark areas being about the size of the top of the finger, brown in parts, quite black in others, and separated by pale yellowish, opaque-looking areas. Lobulation indistinct. *Spleen*, somewhat enlarged, otherwise normal. *Kidneys*, normal. *Lungs*, slight emphysema and small shotty growths near lower margins. *Heart*, muscle soft and somewhat pale. Valves normal. One small shotty growth in visceral pericardium over the right ventricle. The tumour behind the right shoulder was just deep to the deep fascia, and had the appearance of an enlarged lymphatic gland. On section it was deeply pigmented.

The gland and a portion of the liver were sent to the Government pathologist, who made a microscopical examination and reported: *Liver*, melanotic sarcoma, with carcinomatous affinities. *Gland*, melanotic sarcoma. (See Fig. 3.)

The interesting points about this case were (1) its rapidity (the patient performed his daily work up to within about two weeks of his death), and (2) the absence of any apparent primary growth in the skin, choroid, etc. Also it is to be noted that the infected glands were on the right side—that is, the same side as the liver. The growth was disseminated equally throughout the liver, and would appear to have been primarily in the liver, the other disseminations being apparently secondary. There was no sign of any skin lesion in the area drained by the infected glands, although it is stated by some pathologists that in cases where it is apparently primary in the liver, if the skin had been searched, small pigmented moles would probably be found.

THE firm of Ernst Leitz, 9, Oxford Street, London, W., has issued a new edition of its catalogue of microscopes containing several new models; and also a catalogue of microscopical accessories, including some new appliances.

ACCORDING to the German *Universitätskalender* recently issued, the numbers of students of medicine in the universities of Germany during the last summer session were as follows: Munich, 1,696; Berlin, 1,162; Freiburg, 794; Leipzig, 574; Heidelberg, 553; Kiel, 490; Würzburg, 490; Bonn, 370; Breslau, 349; Strassburg, 318; Marburg, 313; Königsberg, 304; Tübingen, 301; Jena, 287; Erlangen, 260; Göttingen, 254; Halle, 234; Greifswald, 213; Giessen, 209; Münster, 166; Rostock, 165.

Reports of Societies.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, October 22nd, 1909.

Professor ROBERT MUIR, President, in the Chair.

DR. J. S. MCKENDRICK, in a paper on *Reflexes in cardiac disease*, described the case of a man aged 83, who for fully a year before his death had attacks of tachycardia and paroxysmal dyspnoea associated with profuse salivation. His lungs and abdominal organs were sound: the urine contained no albumen; there was no nervous element in the case. The heart as a rule was normal in size, and there was no valvular disease; but during the period of paroxysmal tachycardia it perceptibly enlarged to the left side, and ventricular systolic mitral murmur could be heard. By the next day the heart had returned to its normal size and all trace of the murmur had gone. The sphygmogram during the quiescent period showed ordinary cardiac arrhythmia with frequent extrasystole of the ventricle, and the rate varied from 65 to 75 beats in the minute. During the tachycardial state the pulse was regular, of low tension, and showed well-marked "pulsus alternans," the rate being often 150 beats to the minute. During each of these seizures, which lasted from ten minutes to several hours, there was a profuse salivary discharge. The blood pressure was never high, averaging from 125 to 135 mm. Hg, and it did not materially vary either during or after the tachycardial seizure. The tendency to low blood pressure, the dilatation of the heart during the attack, and the pulsus alternans all went to prove that the causation of the attack was probably myocardial and due to disturbed contractility. There was no anginoid pain or hyperalgesia of skin or muscle. The salivary flow was believed to be due to a cardiac reflex of the vagus to the nucleus of the fifth nerve, thereby stimulating its lingual branch. The patient died suddenly, probably from vagus inhibition, and there was no *post-mortem* examination.

DR. J. M. COWAN, in reporting a case in which the bruit de Roger was present, pointed out that in the majority of cases of congenital heart disease the lesions were so extensive that death ensued shortly after birth or in early childhood. During life cyanosis was generally well marked, and often obtrusive. The defects were frequently multiple, and accurate diagnosis was usually possible only on *post-mortem* examination. Cases, however, occurred in which the defect was single, unaccompanied by cyanosis, not incompatible with average health, and associated with distinctive physical signs. Such a defect was the persistence of a communication between the ventricles—a condition described by Henri Roger thirty years ago, and present in a case which the author proceeded to describe. The apex impulse was diffuse but not well sustained, and was palpable in the fourth and fifth left interspaces. A long, fairly harsh systolic murmur was audible all over the cardiac area. It was heard best down the left margin and at the foot of the sternum, was fairly well heard at the apex, and was conducted to the axilla and the left scapular angle. It was not conducted into the carotids or towards the left shoulder. The second aortic sound was clear and distinct, but no second sound was heard on auscultation over the ventricle, nor at the xiphoid cartilage. The murmur thus closely corresponded to the original description of it by Roger (Académie de Médecine, 1879). DRS. ROWAN and STODDART BARR reported upon a further investigation into the frequency and significance of *Optic neuritis* and other vascular changes in the retinae of patients suffering from purulent disease of the middle ear. DR. A. G. FAULDS, in a paper on the *Operative treatment of hernia* in boys, recommended, as an alternative to the usual open operation for radical cure, the following procedure: (1) Reduction of the hernia; (2) insertion of the operator's left forefinger into the canal by invagination of the scrotum; (3) transfixion of both pillars of the ring by one or two ligatures passed subcutaneously; (4) occlusion of the ring by the drawing tight and tying of these ligatures. Gratifying results were claimed for the operation, which, however, had not proved invariably successful.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, October 21st, 1909.

Dr. T. HOLLAND in the Chair.

MR. FRANK JEANS, in a paper on *Perforative peritonitis*, discussed 10 consecutive cases on which he had operated. There were 2 cases of perforated duodenal ulcer and 8 cases of general peritonitis due to perforated or gangrenous appendicitis. The series included 4 children of 15 years or under. There were 2 deaths, both being amongst the appendix cases. One child of 11 died of pneumonia on the fourth day, the *post-mortem* examination showing a clean peritoneum, although the symptoms had dated from four days before the operation. In one case the patient was four and a half months pregnant, but recovered without abortion. One man died on the tenth day, after a small secondary abscess had been opened. In the pregnant case no suprapubic tube could be used to drain the pelvis. The author mentioned a sign which had been present in two of the cases, and which he called "the abdomen moving the wrong way," and attached some importance to it as an early sign of general peritonitis. All the cases were treated with slight modifications of the Murphy method, and the author suggested that possibly the continuous administration of salines might act as a vaccine in appendicitis cases by the absorption of solutions of the products of the *B. coli*, but he left this problem to the vaccinators and the immunizators. DRS. STOOKES and E. E. GLYNN related a case of a woman, aged 28, who, in her fifth pregnancy, had *Accidental haemorrhage* for eight days at the sixth month, and died two days later with symptoms of uraemia. On *post-mortem* examination numerous small anaemic infarctions were found in the cortex of the kidneys. Cultures made from kidneys and spleen showed *B. proteus vulgaris*. The uterus contained *Staphylococcus aureus*.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Friday, October 22nd, 1909.

DR. J. B. HELLIER, President, in the Chair.

DR. HELLIER having delivered a presidential address dealing with the medical student and his curriculum, from a teacher's point of view, Mr. W. ASTEN read notes on the treatment of *Inebriety* by the hypodermic injection of atropin and strychnine twice or thrice daily for a month or six weeks, with attention to general hygienic conditions, and tonics by the mouth. At the commencement of the treatment patients were told that its success depended on their regular attendance at the surgery for injections. He described seven cases, all of them presenting marked degrees of alcoholism, which had been treated in this way. In five treatment was commenced in September 1905, July 1907, March 1908 (two cases), and July 1909 respectively. These cases had remained cured up to date. In the two other cases relapses had occurred after two months and four years respectively. The following were among the exhibits:—MR. H. LITTLEWOOD: (1) Six inches of sigmoid flexure thickened from chronic diverticulitis which had led to fistulous openings between the colon, bladder, and the abdominal wall. The specimen was from a woman aged 65, who had for twenty years passed faeces and flatus per urethram, and faeces and urine through the abdominal wound. (2) Gall stones in the appendix, and in an appendical abscess from a man aged 52 years, who had several attacks of gall stones and some attacks of appendicitis. MR. G. CONSTABLE HAYES: Two cases of primary carcinoma of the middle ear, one in a man aged 47, the other in a woman aged 35; the growth in each case was squamous, and preceded by chronic suppuration. DR. WARDROP GRIFFITH: Two cases of disseminated sclerosis in young women. In one case, when the patient was seen two years previously, she could not walk without assistance. In twelve months she improved so much that she was able to play hockey, and was regarded by her friends as cured. The symptoms, however, gradually returned, confirming the original diagnosis. MR. MICHAEL TEALE and DR. E. F. TREVELYAN: An unusual form of keratitis in a child, which had produced extreme photophobia for several years. It was finally treated by tuberculin. DR. MAXWELL TELLING: A case of hypertrophic cirrhosis of the liver in a child; there was marked clubbing of the fingers and toes.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Tuesday, October 19th, 1909.

Dr. W. Ward-Smith, President, in the Chair.

Presidential Address.

Dr. Ward-Smith, in his presidential address, after reviewing the general treatment of rickets, passed on to the consideration of *Knock-knee, bowlegs, and coxa vara.* The treatment of these conditions depended upon the age of the patient, the extent of the deformity, and the circumstances and surroundings. No operative procedure should be adopted until the active general symptoms of rickets had subsided. There was a strong natural tendency to correction. Enormous benefit could be derived from proper local non-operative treatment while the bones were soft. In respect of treatment, he said that in very youthful cases rest and recumbency, with daily massage and passive movements, usually sufficed. In more advanced cases in knock-knee a light wooden external splint should be applied extending from the upper part of the thigh to 3 in. below the sole of the foot, and the knee drawn firmly to the splint by a wide strap; it should be daily removed for massage and passive movements. In bow-legs the splint is placed on the inner side of the leg. In older children, between the ages of 2 and 6, some form of ambulant splint should be used. When the patient had passed the age of 6 osteotomy was indicated. With regard to coxa vara, it was without doubt due to ossification as the result of rickets permitting the body weight to bend the neck of the femur. It might be distinguished from morbus coxae by the following points: The gait was usually erect, *not* with the body bent forward as in morbus coxae; the pain was in the groin, not referred to the thigh or knee; no "shooting pains" at night; there was flexion and external rotation, as against adduction and internal rotation in hip disease; there was absence of involuntary muscular spasm, so frequent in hip disease. The *x* rays would always clear up any doubtful case.

ROYAL SOCIETY OF MEDICINE.

Medical Section.

Tuesday, October 26th, 1909.

Dr. J. Mitchell Bruce, President, in the Chair.

Oxaluria.

Dr. Robert Maguire, in a paper on oxaluria and its treatment, said that urinary showers of crystalline calcium oxalate alternating with uric acid were frequent, without other symptoms, but must be caused by a disordered metabolism. Greater deposits of the oxalate could only occur when there was great excess of oxalic acid in the urine. Such copious deposit was frequently associated with nervous and dyspeptic symptoms, the whole grouped as oxaluria, the symptoms being usually supposed to be caused by the same general disorder which produced the oxalate deposit. Sometimes, at least, the first item was great nervous strain, leading to a special dyspepsia, and because of the latter there occurred excessive production and deposit from the urine of calcium oxalate. In a case detailed an attempt had been made to trace the connexion between the dyspepsia and the oxaluria, the estimation of the oxalic acid in the urine being made by Neubauer's method, and in doing so it was noted that in the estimation an error of experiment had to be allowed for, in that the acid phosphate of sodium of the urine held up in solution a certain amount of calcium oxalate. It seemed to Dr. Maguire that, by greatly increasing this salt in the urine, some of the stone might be dissolved and its passage facilitated. It was first ascertained by analysis of the phosphates in the urine that the salt given by the mouth actually appeared as such in the urine. Therefore 2 oz. per diem of NaH_2PO_4 were administered in 100 oz. of distilled water, and in six weeks all symptoms of stone had disappeared, and yet no calculus was passed. It was claimed that the stone was dissolved. The experiment was then repeated *in vitro*. By means of an apparatus devised, between 45 and 50 oz. of fluid at blood heat could be passed continuously over a calculus in twenty-four hours, imitating the passage of urine through one ureter. An imitation of the drugged urine and in the amount which would probably pass through one ureter was by means of the apparatus dripped over an oxalate stone which had been removed from the bladder, and which weighed when dried 0.48 gram. After six weeks the remainder would easily have passed the urinary passages unperceived. It weighed 0.08 gram, and, though afterwards diminished in size and weight by treatment with HCl, consisted mainly of a uric acid nucleus. A uric acid calculus was treated in the same way by means of similar salts of potassium (as being more favourable for the solution of uric acid), but no change of importance was observed. It was suggested not only that oxalate of lime calculus should be treated by this solvent method, but that in cases of simple oxalate of lime deposit without stone formation, the acid phosphate of sodium should be given from time to time in order to prevent concretion. Dr. R. Hutchison was sceptical as to an oxaluric dyspepsia or symptom complex. The clinical effects of oxalates were purely mechanical. He had found that acid phosphate of soda was by far the most potent means of increasing the acidity of the urine, and the greater its acidity the greater, no doubt, was the solvent action on calcium oxalate. But this artificial increase of the acidity favoured the deposition of uric acid. A simultaneous effect in diminishing the alkalinity of the blood was not without disadvantage. Hence the method might not prove acceptable in practical medicine. Dr. Beckett-Overy also thought the importance of oxalates in the urine was due to their mechanical effects, and believed he had found that the citrates given by the mouth exerted a solvent action on the oxalates in the urine. After remarks by Dr. J. Anderson and Dr. Nestor Tirard, Dr. Maguire replied.

Section of Diseases in Children.

Friday, October 22nd, 1909.

Dr. G. A. Sutherland in the Chair.

The following were among the cases demonstrated: Dr. A. Manuel: Two cases of *Anterior poliomyelitis involving the four limbs.* The first was a child, aged 1 year 8 months, in whom the condition developed suddenly after a slight injury. The child's temperature when brought to the hospital was 100° F., and all four limbs were paralysed. Some improvement had occurred in the arms since the child was admitted. The second case was a child, aged 1, in whom the condition resulted from a sudden illness on August 15th. Considerable recovery in the arms had already occurred, but there was still complete paralysis of all the extensors of the foot and leg. Mr. Ralph Thompson: A case of *Extra-capsular fracture of the neck of the femur*, in a boy aged 6. The injury had resulted from a fall. The diagnosis was at first very obscure, but a skiagram revealed the true nature of the injury. The case had been treated by extension and Thomas's hip splint. Mr. Mummery said that this injury was very seldom diagnosed in children, but some of the cases of obscure deformity of the hip-joint were very possibly due to a similar injury. Dr. Higgs (for Mr. Howell Evans): Case of *Congenital hemidystrophy* in a child aged 1 year 10 months. When only a month old it was noticed that the left side of the tongue was larger than the right, and later that there was asymmetry of the abdomen. When shown, a marked difference could be observed between the sizes of the two sides of the body. The condition in this case was progressive. Dr. Parkes Weber regarded the case as one of hemihypertrophy of muscular origin. Mr. Lockhart Mummery reminded the Section of a similar case shown by him two years previously. The condition was likely to lead to great deformity. Dr. F. W. Higgs: An appendix infiltrated with *Lymphosarcoma.* The kidneys also showed diffuse infiltration with lympho-sarcoma cells. Mr. Ivor Back: A specimen removed from a girl aged 8 by operation, the child recovering. It showed an appendix completely involuted into the caecum, and markedly inflamed. No explanation as to the origin of the condition was offered. Dr. Walter Carr described a case of *Pneumococcal infection* simulating generalized tuberculosis in an infant aged 15 months, admitted to hospital with an indefinite history of illness. The case was at first thought to be one of acute pneumonia, but when after several weeks the condition remained unaltered, with an irregular temperature, it was thought to be one of general tuberculosis. Calmette's test gave a negative result. The child died, and the autopsy

revealed no trace of tubercle, but a general pneumococcal infection. There was well-marked pericarditis. The right lung was universally adherent, and the upper lobe showed old unresolved pneumonia; the left lung was also adherent. The peritoneal cavity contained about a pint of semi-purulent fluid. Dr. SUTHERLAND said he regarded the case as a very unusual one.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.

Thursday, October 21st, 1909.

Dr. JAMES MELVIN, President, in the Chair.

DR. MELVIN, in an address on *Faith Healing*, said that the practice of "touching for the King's Evil" was introduced in the time of Edward the Confessor; it was associated with religious ceremonies and the passing of the Royal hands over the face of the kneeling patient. Wart charming had been practised from the earliest times, and high authority could be cited for its efficacy. Hypnotism commenced in the eighteenth century, being introduced by Mesmer; he practised it with great success in Germany, and in Paris reached the height of his fame; his patients were so numerous that he delegated his mesmeric functions to a tree. Subsequently, as the result of the findings of a special Government Commission, Mesmer was utterly discredited. The address concluded with an exhaustive account of Mrs. Eddy's views as to the non-existence of matter and pain. In the discussion which followed, Drs. MENZIES and COX insisted on the desirability of the medical profession putting the power of suggestion to greater use than had hitherto been common.

Reviews.

THE BLACK DEATH.

MUCH has been written about the great outbreaks of disease which from time to time have decimated nations, but modern historians till comparatively recent times were too much occupied in chronicling wars and political intrigues to bestow attention on the far-reaching effects of epidemics on social evolution. How potent a factor disease is in the history of a people is well shown by the Black Death. The history of that devastating pestilence has been written from one point of view by Dr. Creighton, and from another by Abbot GASQUET, D.D., the President of the English Congregation of Benedictines, whose learning and literary abilities have earned him a place in the first rank of living English historians. A reprint of his *Black Death of 1348 and 1349*[1] has been published recently, and will be read with interest by those who recognize the important part disease has played in the history of all great social upheavals. Dr. Gasquet has estimated the Black Death at its true value. Hitherto, historians have regarded this terrible epidemic as an isolated incident of Edward III's long and eventful reign, of less interest and far less importance than the French wars. Dr. Gasquet, on the other hand, treats it as the most important event of the Middle Ages, and a prime factor in the making of modern England. It was, as he remarks in his introduction, "a turning point in the national life. It formed the real close of the Mediaeval period and the beginning of our Modern Age." Tracing the whole course of the plague, which, starting from its home in the East, travelled across Europe and finally spread ruin and desolation throughout the British Isles, the author gives a graphic description of its effects, both immediate and future, and its tremendous results upon English society, religion and morality. There seems to be every reason to believe that the Black Death (which for two or three centuries was known simply as "the death," "the great mortality," or, as Piers the Ploughman always calls it, "the pestilence") was in reality bubonic plague. Simon de Covino, a doctor of Paris, who wrote a a poetical account of the outbreak at Montpellier, calls it *pestis inguinaria*, or bubonic plague of the East. The truth of this theory is proved by all descriptions of the symptoms left us by eye-witnesses. The Black Death in Europe, however, seems to have had certain characteristics peculiar to itself. These are enumerated by Dr. Gasquet as follows: "1, Gangrenous inflammation of the throat and lungs; 2, violent pains in the chest; 3, the vomiting and spitting of blood; 4, the pestilential odour coming from the bodies and breath of the sick." The vomiting of blood is the most distinctive feature of the Black Death, which, in all other respects, exactly resembles the later epidemics of bubonic plague in England. The disease never lasted longer than three to five days, and frequently ran its course in a few hours. Usually it began with swellings under the arm and in the groin, followed by high fever, delirium, and death, but there were several different forms.

Some were struck suddenly and died within a few hours; others fell into a deep sleep from which they could not be roused; whilst others again were racked with a sleepless fever and tormented with a burning thirst.

A peculiarly malignant type of plague was characterized by small black pustules on the skin, and from this very few recovered. The glandular swellings, however, were not necessarily fatal, for we learn from contemporary writers that many people had them and lived; but the spitting of blood was an infallible sign of impending death. It is interesting to note one peculiarity of this epidemic: it claimed a large part of its victims from among the young and strong, whilst the mortality amongst men was greater than amongst women. Medical treatment appears to have been simple enough, consisting merely of lancing the swellings, which in many cases were dry and hard and contained little or no fluid. The unfortunate patient was left to nurse himself, for the fear of infection was so overpowering that none dared enter a plague-stricken house, and the sick and dying were abandoned by their nearest relatives. The dead lay in heaps in the streets or in the deserted houses, with no one to bury them, for it was almost certain death to touch a corpse, or even the clothes he wore, or the bed on which he lay. So deadly was the infection that once the disease entered a house there was no hope of escaping it; parents, children, servants, even the domestic animals, usually succumbed within a few days, and lay "shut up within their own houses, when the effluvia which came from their corpses was the first intimation of their deaths."

There can be little doubt that the Black Death came into Europe from China. During the first half of the fourteenth century, according to the Chinese annals, the people were reduced to such a state of misery that the dead lay unburied all over the country. A pestilence broke out which raged with frightful virulence all over the East. The Tartars carried it to the Crimea, where they infected a small colony of Italian traders; these in their turn introduced it into Italy, which was almost depopulated in consequence. From Italy it spread to France, and thence to England. It made its first appearance on these shores at Weymouth in the month of July, 1348, and spread rapidly throughout Dorset, Devonshire, and Somerset. It reached London in the autumn of the same year, by which time it was raging all over England. Wales and Ireland were attacked at the same time, but in the latter country only the English colonists suffered. Scotland escaped until the following year. It is almost impossible for us to realize the state of England during and after the Black Death. Dr. Gasquet estimates that "the disease swept away fully one-half of the entire population of England and Wales." But even that stupendous fact fails to bring home to us the desolation and terror throughout the length and breadth of the land and the utter disorganization both of public and of private life. For many years the whole country bore witness to the terrible ordeal through which it had passed, and which had had as disastrous an effect upon the morals as upon the material prosperity of the people.

Yet the results of the Black Death were by no means entirely evil, for the plague was the immediate cause of a social revolution so important that its effects have lasted to our own times. The sickness had destroyed so large a proportion of the labouring class that the survivors found themselves in a position which enabled them to place their own price upon their services. They were not slow to realize their power over their helpless employers, and to take advantage of it. The years following "the great mortality" witnessed the abolition of serfdom, the struggle

[1] *The Black Death of 1348 and 1349.* By Francis Aidan Gasquet, D.D., Abbot-President of the English Benedictines. Second edition. London: George Bell and Son. 1908. (Pp. 255.)

of the serfs towards complete freedom and independence, and the gradual rise of the lower orders from mere "dumb, driven cattle" into a powerful body of men, bound closely together by a common interest, protected by the newly-formed trades unions, and strong enough to wrest their privileges by force from the unwilling hands of King and nobles. The Black Death had yet another important result. Whilst all progress in the art, education, and commerce of the country was checked for years to come, religion received a blow from which it did not recover for a long time. The decay in religious fervour which is so striking a feature of the latter half of the fourteenth century was partly the natural and inevitable result of the overwhelming national catastrophe, but it was also due to the scandalous state of things arising from the lack of priests properly qualified for their work. So few priests had survived the plague that the bishops were forced to ordain mere boys, half-educated, and often wholly unfitted for the cure of souls. The bad example set by many of these men, the frequent scandals and abuses in the Church, had a demoralizing effect upon the people. At that time the seeds were sown that were to bear fruit in a future generation. There can be no doubt that the Black Death paved the way for the Reformation, as well as for a new order of things in the body politic.

MALARIA AND THE DECADENCE OF GREECE.

The influence of disease in sapping the manhood of a people and leading to its political, moral, and intellectual decadence is well illustrated by Mr. W. H. S. Jones's book, *Malaria and Greek History*.[2] In a little work written at the suggestion of Professor Ronald Ross and Mr. A. E. Shipley, and published a year or two ago,[2] Mr. Jones had tentatively sketched out a theory, which is corrected and developed in the work here reviewed.

Briefly stated, it is that malaria fell like a blight upon many fertile districts of Greece, as it almost certainly fell upon Attica in the fifth century B.C., and that the disease played a large part in the decadence of the race. Mr. Jones gives the results of a critical survey of Greek literature, including the non-medical as well as the medical writers, and the body of evidence which he has thus collected, if it does not carry full conviction, makes a strong case for his contention. He shows, both by direct testimony and by the analogy of certain districts in France, the Roman Campagna, and many parts of India, that malarious regions gradually lose many of their inhabitants not only by death but by emigration. Those who leave the country are naturally the richer and more intelligent of the natives, till at last there remains but a residue of the poor, the stupid, and the unenterprising. Left to themselves these unfortunate people inevitably sink into deeper degradation. The young are foredoomed to the disease, which has also a very decided effect in shortening the lives of those who grow up. Hippocrates recognized that among the evil consequences of malaria are laziness and cowardice. It also reduces the population not only by the number of victims whom it kills, but by diminishing fecundity.

Mr. Jones does not hold that malaria alone is accountable for the decadence of Greece; it was one of many factors. Its consequences may be stated in his own words in a series of propositions in which he sums up its effects: (1) The rich, the capable, and the energetic seek healthier homes, and so the inhabitants of a malarious district tend to become a mere residue of the poor and wretched. (2) Cities being, as a rule, less malarious than cultivated plains, the urban population tends to absorb the agricultural class, and national physique and well-being suffer in consequence. Cities isolated by malarious surroundings often fall into decay and ruin. (3) This process will be accompanied by great economic loss, for extremely fertile districts, which are the peculiar prey of malaria, may fall altogether out of cultivation. The ruin of agriculture is a great blow to any country, and it must be remembered that malaria attacks farmers in particular, and that mostly at harvest time, when all their energies are specially needed. (4) Malaria falls most heavily upon the young, whose physical powers are so weakened by repeated attacks of fever that childhood may be one long sickness and adequate education impossible. *Aestate pueri si valent satis discunt.* The inhabitants of malarious districts age rapidly and die young. (5) Exertion and strain often bring about a relapse, because the malaria parasite will live in the body for months or even years. Naturally the inhabitants of malarious places tend to avoid fatigue and to become sluggish and unenterprising. A habit of laziness is gradually formed. (6) Account must also be taken of the loss of life, loss of time, and the physical suffering caused by the disease, besides the permanent psychical disturbances it may produce in the patient.

Mr. Jones concludes that from 400 B.C. onwards malaria was endemic throughout a large part of the Greek world. Therefore, he argues, whatever be the time when it was first introduced, it must have been producing its inevitable consequences at least during the fourth century and after. These consequences include the desolation of whole districts, caused by the death or flight of the most energetic inhabitants; the harm inflicted upon children, the chief victims of malaria; the economic loss resulting from the decay of agriculture and the incapacitation of labourers and others; the development of habits of inactivity or laziness, due to the fear of a relapse, which generally follows over-exertion or chill. The history of medicine after 400 B.C. shows a growing popularity, extending even to the cultured classes, of dream-oracles, charms, and other superstitions. This has never yet been adequately explained, but an increase of malaria and its sequels, which cannot be successfully treated without quinine, would account for the growth of superstitious practices and the decline of rational methods of cure.

Dr. Withington contributes a most interesting and learned chapter on Greek therapeutics and the malaria theory, in which he puts forward an explanation of the collapse of rational medicine before temple cures and other superstitions. The rapid development and spread of the therapeutic dream-oracle coincided with a cessation of scientific medical progress and a substitution of "cures" for clinical histories and observations. Physicians themselves adopted charms and "purifications." The post-Hippocratic period was marked by a loss of the scientific spirit, and Dr. Withington suggests that this was due to the increase and spread of a disease, such as malaria, against which rational medicine was at a disadvantage as compared with religion, magic, and empiricism.

Whether the views of Mr. Jones and Dr. Withington be accepted or not, they have added a fascinating chapter to medical history and made a suggestive contribution to the study of the causes which influence the destiny of nations.

[2] *Malaria and Greek History.* By W. H. S. Jones, M.A., Fellow of St Catharine's College, Cambridge, Assistant Master at the Perse School. To which is added the History of Greek Therapeutics and the Malaria Theory. By E. T. Withington, M.A., M.R., Balliol College, Oxford. Manchester: At the University Press. 1909.

[3] *Malaria: a Neglected Factor in the History of Greece and Rome.* By W. H. S. Jones, M.A., with an introduction by Major R. Ross, F.R.S., C.B.; and a concluding chapter by G. G. Ellett, M.B. Cambridge: Macmillan and Bowes. Pp. 128. 12s.

TROPICAL MEDICINE.

The last number of the *Annals of Tropical Medicine and Parasitology*[1] is devoted entirely to a paper on "An Investigation into the Mechanism of Production of Blackwater Fever," by Drs. Barratt and Yorke. It is an excellent piece of work, and contains, in addition to much else that is interesting, a very large number of carefully recorded observations. In their introduction the authors observe that in the past the study of blackwater fever has been chiefly clinical, but that the recent advances in experimental physiology and pathology, and, above all, in physical chemistry, have provided methods applicable for research work in the disease. This is true. It is probable that the further advance of knowledge with regard to the etiology of this somewhat obscure complaint will come about in this way. The subject is undoubtedly difficult from whichever side it is attacked, and the first three sections of the work will appeal chiefly to specialists. They deal with the haemolysis of red blood cells by quinine, and also by acid, alkali, and urine; the relation of haemolysinaemia to the haemoglobinuria of blackwater

[1] University of Liverpool. October 1st, 1909. Series T.M. vol. iii. No. 1. *Annals of Tropical Medicine and Parasitology.* Issued by the Liverpool School of Tropical Medicine. Liverpool: At the University Press. London: Constable and Co., Ltd., 10, Orange Street, Leicester Square, W.C. (Price 10s. 6d. net.

fever, and the relation of haemoglobinaemia to haemoglobinuria. In the fourth section the mechanism of suppression of urine in blackwater fever is considered. After a careful study of the histological pathology of kidneys from two individuals who died of this serious complication, the authors conclude that suppression of urine in blackwater fever is of mechanical origin, due to a blocking of the renal tubules. This is probably the theory now most usually accepted; at least, the saline injections introduced some nine years ago were supposed to act specially against that danger by washing out the casts in the kidneys, and so preventing the mechanical obstruction. Another peculiar point brought out in this chapter (p. 107) is the small number of records of the aspect of the kidneys in suppression of urine in blackwater fever, accompanied by a report of the microscopical appearances. This is, no doubt, true, although many sections of the condition have been cut from time to time, and can be seen in one at least of the tropical schools of medicine—such a one, cut in 1902, showing very clearly the details described by the authors; but the original observer does not seem to have attached to the condition the importance now attributed to it. In Section V, on the mechanism of production of blackwater, there are some statements which are bound to be criticized by students of the subject: on p. 153, for example, one reads "that the assumption that considerable destruction of red cells occurs in the peripheral blood during an attack of blackwater fever, an assumption based upon red cell counts per cubic millimetre before and after the attack, has not yet been established, because the total volume of the blood has not been determined in these cases, and the influence of any accompanying variation in the volume of blood plasma thereby determined." The authors will find a difficulty in persuading clinicians with a large experience of the disease that there is no considerable destruction of red cells during an attack of blackwater fever; the blanching and pallor of the patient, the sighing respiration, the restlessness, the hiccough, and the great tendency to syncope, certainly suggesting a serious loss or destruction of red cells. The authors rather weaken their position by stating a few pages further on (p. 160) that amongst the symptoms seen in the cases coming under their notice rapid anaemia was one. How did they establish this? Did they determine the total volume of blood before coming to this conclusion? The fact of there being no red cells containing parasites in the peripheral blood on one occasion just before the onset of haemoglobinuria does not settle the point. There may have been plenty of parasites in the blood of some of the internal organs, and it is quite conceivable that that is where the haemolysis takes place. It is well known clinically that an attack of blackwater fever generally completely clears the blood of malarial parasites, and the patient as a result may be free from fever for a considerable time afterwards. These are a few points worthy of discussion and criticism. The histories of the cases studied complete the book. In addition to being interesting, they will be found useful, as they are very carefully recorded. As already stated, the report is an excellent piece of work. Diagrams, tables, and charts throughout the text enhance its value.

Another report on sleeping sickness is to hand; it deals with the work of the investigations of sleeping sickness done during 1906–1907 by the Commission sent to East Africa[5] by the German Government. It is by Professors KOCH, KLEINE, and BECK. It contains accounts of researches on the *Trypanosoma gambiense*, on *Glossina palpalis*, and on general measures for combating sleeping sickness by Professor Koch. The diagnosis of sleeping sickness by gland puncture, lumbar puncture, and blood research, clinical researches on sleeping sickness, the treatment of sleeping sickness, and measures taken against sleeping sickness in British East Africa (Sese Islands and Uganda) are the subjects discussed by Dr. M. Beck. The treatment of sleeping sickness with other preparations than atoxyl and the measures taken against sleeping sickness in German East Africa (Kisiba and Schirati) are described by Dr. Kleine. There are three appendices, the last containing the clinical records of some hundreds of cases studied. It is rather unfortunate that the report of work done in 1906–1907 should appear so late as 1909, because in a subject to which so much keen study is being given, work done and written one year may be rather out of date the next. Several of the special points, such as the part crocodiles play in keeping up the numbers of *Glossinae*, the value of atoxyl as a curative agent in the disease, and so on, have not only been already freely discussed, but their true importance was defined a year or more ago. The history of the question of crocodiles as food reservoirs for the tsetses shows how much care must be taken in drawing general conclusions from a special instance. It is now known, for example, that there are plenty of places where tsetse flies abound and crocodiles are completely absent, so that if a campaign of destruction had been organized on the Victoria Nyanza against these reptiles, it would practically have meant throwing valuable money away, as the fly would have adapted itself to the changed conditions, and fed on monkeys or other animals inhabiting its special zone. The first rosy coloured reports of the success of atoxyl as a permanent curative drug for sleeping sickness have not been substantiated, sufficient time having now elapsed to follow up the original cases. Bagshawe, in his quotation from a report by Hodges (about to be published) at a recent meeting of the Society of Tropical Medicine and Hygiene, sums up the matter tersely thus: "The number of early cases which have maintained their improvement has steadily decreased, and the number of cases likely to be permanently cured is now inconsiderable." It is interesting to note that as regards the value of blood examination as a diagnostic method in sleeping sickness, Dr. Beck gives 50 per cent. positive at the first examination with a further 20 to 28 per cent. at a second. This supports the conclusions of the French Commission as to the value of blood examination, and should place this method of diagnosis on a firmer basis. Kleine's valuable experiments on the development of the trypanosomes inside the *Glossina* are of too recent date to be included in the report. The photographs which illustrate the report are excellent, seldom can better have been seen, and they give a very good idea both of the disease and the country in which it occurs.

[5] *Bericht über die tätigkeit der zur erforschung der Schlafkrankheit im Jahre 1906–1907, Nach Ostafrika entsandten Kommission.* Erstattet von Dr. R. Koch, Dr. M. Beck, and Dr. F. Kleine. Berlin: Julius Springer. 1909. (Demy 4to, pp. 318; 5 Tafeln und zahlreichen in den Text gedruckten Abbildungen.)

MEDICAL REFORMS.

THE object of Mr. H. ELLIOT-BLAKE, in his book *Medical Reform Measures*,[6] is to give a "concise explanation of practical and remedial measures" of medical reform which he has from time to time advocated. The greater part is taken up with a plea for the reform of the Royal Colleges of Physicians and Surgeons in London and their junction with the University of London. A useful short history is given of the rise of the orders of surgeons, physicians, and apothecaries, and the growth of the Royal Colleges. The author laments that in the Royal College of Surgeons of England all just governing power has been taken from the Members, and he speaks of the present "debased status of the Licentiates" of the Royal College of Physicians. A sketch is given of "the fight for the supremacy in the College between the fixed and sagging oligarchic governing class and the indifferently treated but advancing Members;" and he argues that "the strong fibre of discontent, dissatisfaction, and unrest" could best be improved by a junction of the colleges with the University of London. An attack is made on what the author holds to be an excessive number of examinations, and we read: "Nothing is more required for the advance of medicine in London than the end of the rule of the Examinee-Prude in the hot-house examining system of the university of London." A summary is given of the reasons for reform and the ways and means, and a table showing that in competitive examinations with graduates for the services the diplomates come out at the top. The author further advocates an Act of Parliament for "the abatement of unnecessary noises." He next claims that every medical practitioner should have the use of the courtesy title of "Doctor," on the special ground that through the General Medical Council the "standards of qualification have so conformed to the general level of the State's requirements

[6] *Medical Reform Measures, including the Reform of the Medical Colleges.* By H. Elliot-Blake, M.R.C.S., L.R.C.P., L.S.A. London: J. Bale, Sons, and Danielsson. 1908. (Fcap. 4to, pp. 155. 5s.)

that the licence or university qualifications must now be legally regarded as synonymous." Finally he sketches the provisions of a proposed bill for the limitation of quackery, which would establish a legal right in prescriptions to be possessed by "medical doctors," and make it an offence to sell pharmacopœial drugs except under certain regulations. The proposal that the Government should institute an inquiry into unqualified practice makes this quite opportune, and no doubt the author's suggestions will receive due consideration.

The style and diction of the book are unique. To call its style an elaborate imitation of the eighteenth century essayists would be unfair to its originality. A large proportion of the sentences need reading twice before the meaning can be grasped, owing to the habit of piling up polysyllabic and phrase-adjectives in an ultra-German way. The style is adapted for expressing biting sarcasm, with which the book abounds, but the smile that it raises is often rather at the mode of expression than at the object of sarcasm. Two or three typical examples may suffice. Speaking of university examinations, we read: "The passing scholarship of eclectic dunderheads is best typified in commemorative work, and in compilations, and in the passing ebulliency of oratory." Of Royal Commissions, the author says they "are endangered by influential dallying with the hindering composities of over-civilization." While of legal actions in the High Court, he says: "The proceedings often amount to nothing but a lawyer's forum, with some acatalectic legal battledore and shuttlecock tactics." Occasional expressions like these might have been effective enough, but when nearly every page is burdened with such laboured phrases the impression left is one of regret that the author should have given such licence to an exuberant verbosity, or, to use his own phrase, to an "ebulliency of oratory," where a few plain facts would have done more good. The regret is all the more as many of the reforms advocated are so desirable.

NOTES ON BOOKS.

THE student of social customs has not failed to notice that the valentine has quite lost its vogue, even with the masses, and there were signs some years ago that the Christmas card was losing its popularity. Had it gone out of fashion it would have been a disaster for the Postmaster-General, and would have meant the disappearance of a pretty custom. Within the last few years the publishers have come to the rescue, and after a period when composite cards chiefly printed in Germany reigned, we seem now to be coming to a time when British publishers will issue at a low price well-chosen small books in good print and pretty bindings worth preserving for their own sake, which, though not ostensibly designed to replace the old-fashioned Christmas greeting card, may very well be employed for this purpose. The latest we have seen is the *Gem Series* of Messrs. Macmillan, small miniature quarto-shaped volumes, artistically printed with decorated titles, and tastefully bound in peltine leather, which is apparently some kind of paper, but looks like *peau de suède*. The volumes include Fitzgerald's *Omar Khayyám* (fourth edition); Tennyson's *In Memoriam*: Christina Rosetti's *Goblin Market*, with Laurence Housman's illustrations; Washington Irving's *Christmas*, with Caldecott's illustrations: selections from Miss Mitford's *Our Village* with the title *Country Pictures*: and Hood's inimitable *Faithless Sally Brown*, with other poems. The price of the volumes is 1s. net each.

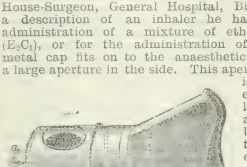
There is a feature of melancholy interest in these *Reports*,[7] an article on "Seven Cases in which Operation Wounds were Infected with *Molluscum contagiosum*," by Mr. Paton, who did not live to see it published. His colleague, Dr. Drummond Robinson, has written a graceful obituary notice, which also appears in this volume. The article by the deceased surgeon deserves study, and dermatologists will certainly not overlook it. Mr. W. G. Spencer reports some abdominal cases. One instance of apoplexy of the ovary deserves notice because although the blood cyst did not burst it might have done so and caused more or less severe intraperitoneal haemorrhage, and at the same time there was no evidence of extrauterine fetation. De Rouville has recently published a monograph on retro-uterine haematocele caused by rupture of haemorrhagic cysts in an ovary the subject of microcystic degeneration, which confirms the views of Mr. Spencer and of another observer whom he quotes. Dr. Hebb writes on the vaccine treatment of a case of sycosis, on a remarkable issuance of thoracic fistula of obscure origin, and other subjects. Dr. Stoddart's "Some Remarks on the Instinct of Lying, with the Report of a Case of 'Pseudologia Fantastica,'" will interest psychologists. Dr. de Havilland Hall treats of the haemorrhages met with in chronic Bright's disease, especially retinal and nasal. There are, besides those above mentioned, several interesting original articles, and a second obituary, the subject being the late Dr. B. L. Abrahams, the author Sir W. Allchin. The later pages of the volume include the Registrars' reports, also the report of the Pathological Department, and a catalogue of specimens recently added to the museum. The editors deserve credit for having prepared a very useful volume, showing what excellent work is undertaken at the Westminster Hospital.

[7] *The Westminster Hospital Reports.* Edited by E. D. Macnamara and E. Rock Carling. Vol. xvi. London: George Pulman and Sons, Limited. 1909. (Demy 8vo, pp. 414. 6s. net; to subscribers, 5s.)

MEDICAL AND SURGICAL APPLIANCES.

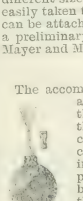
All-Metal Inhaler with Adjustable Airway.

MR. E. WILSON HIRD, M.R.C.S., L.R.C.P.Lond. (late House-Surgeon, General Hospital, Birmingham), sends a description of an inhaler he has devised for the administration of a mixture of ether and chloroform (E_2Cl_1), or for the administration of ether alone. A metal cap fits on to the anaesthetic chamber and has a large aperture in the side. This aperture, when the cap is in position, fits exactly over a similar opening in the anaesthetic chamber. By rotating this cap the strength of the vapour administered can be increased or diminished as desired. In the dome of the cap there is a small permanent airway. The anaesthetic chamber is a hollow metal cylinder open at both ends: one end receives the facepiece, the other is in contact with the dome of the metal cap. It is loosely packed with coarse sponge or gauze, maintained in position by a single metal bar running across the middle of the lower orifice. The facepiece fits into the anaesthetic chamber by bayonet joints; it is so moulded as to fit closely the curves of the average face. Very little anaesthetic is needed to induce or maintain anaesthesia. The following advantages are claimed for this inhaler: There is an adjustable airway by means of which the strength of the vapour administered can be regulated. It is economical, as there is no overflow of the anaesthetic from the sponge or gauze. It is very easy to handle and is perfectly balanced; with the largest facepiece it only measured 6 in. in height. By having three different-sized facepieces a perfect fit is obtained. It is easily taken to pieces for cleaning and sterilization. A bag can be attached for the administration of ethyl chloride as a preliminary to ether. The inhaler is made by Messrs. Mayer and Meltzer.



A New Spray.

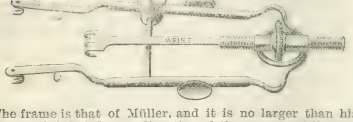
The accompanying engraving represents a new spraying apparatus of glass and india-rubber, named the "Iris" spray. The glass is annealed, and therefore so far unbreakable that the apparatus can be safely carried in the pocket; in such case, and, indeed, whenever the spray is not in actual use, the point of the ejecting tube is protected, and the inroad of dust prevented. by putting over it the small cap shown in the illustration alongside the issuing jet. The appliance is of simple construction, all valves being dispensed with; it is easily filled, and the spray is notably fine. It is made in two sizes, the smaller one sufficing for the application of about 2 drachms of either aqueous or spirituous solution. The patentees and makers are Messrs. C. J. Hewlett and Son, Limited, of 35–42, Charlotte Street, London, E.C.



A Retractor for Use in Excision of the Lacrymal Sac.

Mr. N. BISHOP HARMAN, M.B., F.R.C.S. (London), writes: Some form of retractor is almost a necessity in performing excision of the lacrymal sac, first, to open out the

incision, which is awkwardly situated in a narrow place between the inner canthus of the lids and the side of the nose, and, secondly, because efficient traction on the tissues provides the best means of checking bleeding. At present Müller's and Axenfeld's tractors are those most generally used. Müller's is neat and convenient in form, but not sufficiently powerful as a haemostat. Axenfeld's is large and clumsy, but very efficient as a haemostat; yet it has a serious drawback in that its large claws drag the wound open vertically, and the upper claw is greatly in the surgeon's way in removing the upper *cul de sac* of the main sac, the complete removal of which is essential to the success of the operation. The instrument shown in the cut combines the actions of these two forms of retractors.



The frame is that of Müller, and it is no larger than his neat model, but, by an alteration of the prongs at the extremity of the laterally acting blades, and the addition of a claw (something like an old-fashioned "back-scratcher") which can be drawn back by the milled nut at the spring end of the frame, this retractor will exert the powerful tractor action of Axenfeld's instrument, and yet leave the upper end of the site of the operation free. In inserting the new retractor the instrument should be first closed, the blades approximated, and locked by the turn of the side check-screw and the long claw pushed home to just behind the side prongs of the lateral blades. The claws are inserted into the wound just as in using Müller's instrument. Now the side check-screw is released, and the blades being forced apart by the spring of the frame stretch the incision laterally; the side check-screw should now be firmly locked. The blades are then gently pressed into the wound by one finger, and the milled nut at the spring end of the frame turned so as to draw back the long claw: the front claws on the blades are pivoted and so shaped that they oppose the backward drag of the long claw, so that the incision is stretched tight. The field of the operation is well exposed, and the traction exerted on all sides of the wound acts as a most efficient haemostat, yet the important upper limit of the wound is left quite free of any obstruction that would hinder the work of the surgeon. The instrument is made by Messrs. John Weiss and Son, Limited.

MEDICINAL AND DIETETIC ARTICLES.

Glidine.

WE have received from Messrs. Menley and James, Limited (Farringdon Road, London, E.C.), samples of their preparation called Glidine, and of various combinations thereof, for medicinal use. Glidine is a substance derived from wheat, and consists almost entirely of vegetable protein of the kind known as gluten. The specimen submitted to us showed on analysis the following composition:

Protein	...	...	...	87.9 per cent.
Fat	...	...	...	1.4 ,,
Ash	...	...	...	0.7 ,,
Water	...	...	...	8.3 ,,
Carbohydrates (by difference)			...	1.7 ,,

Only a trace of starch was present. The ash consisted chiefly of phosphate, and lecithin could be detected in the fat. The substance itself is a dry, yellowish-white powder, odourless and tasteless, and may be added to almost any sort of food to increase its nutritive value: it is stated that it is normally digested within one hour and entirely absorbed.

Ferroglidine.—This is a compound of iron with glidine supplied in the form of tablets; these were found to have an average weight of 13 grains, and to contain in each iron 0.35 grain, protein 3.1 grains. The advantages of administering iron in organic combination are well recognized, and it is claimed that in this case the combination is much the same as that in which iron occurs in natural ferruginous foods.

Bromoglidine and Iodoglidine.—These are preparations in which glidine is in combination respectively with bromine and iodine. Both are supplied in tablets which gave the following results on analysis:

Bromoglidine: Average weight of tablet, 12.7 grains; bromine, 0.8 grain; protein 5.0 grains in each.

Iodoglidine: Average weight of tablet, 13.4 grains; iodine, 0.8 grain; protein, 10.0 grains in each.

It is stated that the halogen is liberated from these compounds only when they reach the intestine, and that its full therapeutic effect is obtained without the undesirable results that may follow the use of bromides or iodides.

Lucsan.—A combination of mercury with glidine is another of these preparations, and this is supplied under the name Luesan in the form of tablets. Our analysis of these gave the following results: Average weight of tablet, 11.1 grains; mercury, 0.15 grain; protein, 2.1 grains in each. This is intended to be used as a substitute for, or in conjunction with, mercury treatment by inunction, inhalation, or intramuscular injection. It is stated that it can be taken for mouths without ill effects.

Arsan.—Arsan is the name given to a combination of glidine with arsenic. The tablets are stated to contain 0.002 gram (0.03 grain) of arsenic in each, and this was confirmed by our analysis, which further showed the presence of 2.0 grains of protein. The average weight of one tablet was 8.6 grains. Arsenic is said to be discoverable in the urine only some days after it has been taken in this form, showing gradual absorption, and it is asserted to be less toxic than when given in the form of an inorganic salt.

All these preparations are practically tasteless, and the tablets were easily powdered.

THE MIND AS A THERAPEUTIC AGENT.

"THE growth of Christian Science and various forms of mental healing"—to quote the President of the Harveian Society—"having made it incumbent upon the medical profession to take cognizance of the trend of public opinion, and to ascertain how far suggestion may operate in the treatment of morbid conditions," a discussion on the subject took place at the Harveian Society's meeting on October 28th. Dr. CHARLES BUTTAR occupied the chair.

The discussion was introduced by Dr. CLAYE SHAW, who said that when any theory was brought forward and recommended as fit for application by responsible men, it behoved them to examine its claims impartially, and if the basis were sound and the results credible, it was their duty to avail themselves of it in the interests of patients. As seen nowadays, the influence of mind as a therapeutic agent was chiefly practised under the term "suggestion": and it was familiar under the term "hypnotic suggestion," though all suggestion was not of the hypnotic form. Let them have a clear conception of what was meant by "suggestion." It was the insinuation of a belief or impulse into the mind of a subject by any means, as by words or gestures, usually by emphatic declaration; also the impulse of trust and submission, which led to the effectiveness of such incitement. According to Dr. MacDougall:

> Suggestion is a process of communication resulting in the acceptance with conviction of the communicated proposition in the absence of logically adequate grounds for its acceptance.

Suggestion was no new thing; it was used in the times of Tertullian, St. Augustine, Scaliger, Hobbes, Locke, Berkeley, etc. The basis of much of the treatment by suggestion was the unseen and the intangible, and it rested on what was called the spiritual mind. It postulated the existence of connective processes, such as will, faith, power of attention, treating these as actual entities which could be influenced by being strengthened when weak, or called into energy when dormant. In the majority of those who practised it there was no idea of physical alteration in the sense of producing a change in tissue, their object being to strengthen will power and certain lines of thought, whilst weakening others which were adjuvant to the existing conditions of ailment. Others, however, did not go as far as this; they still appealed to what they called the entities, whilst acknowledging that the revival or strengthening of these entities had an appreciable effect on the nerve structure. The reverse process—the influence of structure or material on the mental processes—they must ignore, because the dependence of mind upon structure was to them not necessary. They might perhaps go so far as to

allow that proper diet, tonics, etc., were useful as enabling the "mind" to act upon an improved tissue, which was before this physically impaired, and therefore incapable of playing its subsidiary role as the exponent of what the "mind" wanted or intended, but that was not the primary object of the treatment. This was the strengthening or the correction of an intangible essential principle which overrode all other conditions of whatever sort. This must be so, since the supporters of treatment by suggestion stated that they had cured epilepsy, locomotor ataxia, neurasthenia, etc.—conditions which most people associated with organic disease of tissue.

In the course of a discussion on treatment by hypnotic suggestion at the meeting of the British Medical Association held at Exeter in 1908, one distinguished member unhesitatingly affirmed that by his methods he had succeeded in effecting cures in cases of the kind referred to, and, though histories and exhibition of the cases could not, under the circumstances, be given, the *ipse dixit* of the reader of the paper was received as being the truthful experience of a qualified and conscientious medical man who had clinically investigated the pathological conditions which he reported to be cures. There were, then, two schools: the one held that there was a purely mental element, susceptible to influence by direction, by dictum, by appeal to it as a primary and separate agent: another regarded mental conditions as inseparably associated with nerve states, and denied the existence of such separate entities as will and active attention, except in so far as they were *exhibitions*, the result of nerve states secondary to or parallel with definite activities of the nerve elements.

The difference between the two schools was important; the one which might be called that of the unfettered or free thinkers did not really require any training at all in medical matters, and very often it had none. Its upholders dealt with an impalpable something which they could not materialize; they had no surgical cabinets, no anæsthetics, no pharmaceutics; they appealed to the individual to cure himself, or to receive from themselves an authority which should be incorporated and become a will of their own, and tried to assist him by taking upon themselves the responsibility of "suggesting" that such and such results would follow the cultivation or employment of a definite mental process which they might or might not indicate. In its extreme forms no education was required for this. The man who had studied the nature of disease and was unable to separate structure and function was pitted against him who violently dislocated the two, and elevated function into an independent and controlling position—these function specialists forming the class called faith-healers, exponents of which doctrine were to be found in every section of society. Still there were many educated medical men of position and reputation who resorted to suggestion as a remedial agency, either alone or in combination with other medical and surgical methods; and though it might be difficult to say how much of their success was due to the one or the other factor of the combination, or even to the combination itself, yet people who had the interests of their patients at heart wanted to know, if possible, how much truth there was in the theory of those who employed suggestive treatment. They wanted to know how much humbug, if any, entered into the composition of treatment by suggestion, and whether there was so much truth in the process that it must be seriously entertained. They could scarcely avoid discussing the present position with regard to the *spiritual* life, because it was with this that suggestion was concerned. Was there such a thing? Was there, apart from the bodily tissue, a something independent of it which could operate on and be affected by this body, and which could be used by the patient for his own advantage? What was the controlling agency that was to whip up or put the brake on the dormant or the perverted will? Was there a higher will somewhere in the background? The religious party said there was, and this was what they called the Deity, and He must be petitioned to give power to use the will in the right direction. Did the hypnotist, then, or the suggestor make himself into a *deus ex machinâ*? Did he impose his own will on that of the patient and arouse it or guide it in a vicarious manner? If there was no such spiritual world, no such Deity, then millions of men had been for ages and now were mistaken, and immeasurable oceans of blood had been spilt over a myth. The teaching of the Church in all its forms was by suggestion and—what was linked with it—by authority.

The greater one's experience the more one must acknowledge that there were possible powers and influences which were at present unknown to us more closely, and it was this indefiniteness, ignorance, and want of precision which was made the ground of the spiritualists, the hypnotists, and the suggestors. Nor could one say that they were wrong. When modern science had demonstrated the actual truth of bombardment by ions as the cause of magnetic storms and the phenomena of the aurora borealis; when the composition of matter was said to consist of concentric whirls of electric ions rotating with inconceivable rapidity, who was to say to what at present unseen and unknown agencies one might not yet be introduced, or that their feelings that a spiritual world did exist may not be brought within actual demonstration? The modern school of psychology was absolutely materialistic in its teaching. It insisted that will, attention, and causative processes were *results*, not causes, and if so that there were, of course, no such things as primitive faculties in the direction of compelling forces. Instances, however, were not wanting where men who had ceased teaching but not thinking, found themselves saying, "Now that my teaching is done, I am constrained to own that there is yet something to be explained—'I will' goes beyond 'I must.'" Take the three processes of voluntary action, attention, and emotion. Modern physiologists said that the two former could be analytically split up into certain components, but that they depended chiefly upon the strength of emotion, but they knew nothing of the real nature of emotion. In his recent lectures Dr. Mott gave the results of a most learned investigation of emotion, entering fully into all that was known of its connexion with bodily and visceral states, but the speaker submitted that they were still no nearer the understanding of the real nature of emotion than before. If so, then they could not understand any more the real nature of the curative processes. The study of psychology was almost unknown in the medical curriculum. Of what use, they said, was it to study the intangible, which had no basis capable of physical treatment, when one knew that one had a material at hand which, when impaired or affected, rendered manifest mental obliquities? But were we quite sure that mental defects and aberrations were necessarily connected with structural defects? Was insanity always the result of diseased structure, or might it not be associated with a tissue somewhat different in kind and function from what was usually met with? There were some forms which led one to think so.

It was not necessary to assume the supernatural and to profess to treat an essence without influencing the physical substratum, for the structure might be influenced by psychical processes, but it was in a *physical* manner. Most of them used suggestion without perhaps appreciating what they were doing—for instance, the annual holiday, during which they forgot the work which had reduced them to a state of mono-ideism, was nothing but suggestion. He had it on authentic evidence that during the great earthquake at Valparaiso paralytics jumped from their beds, as also did people with actual pneumonia, and, moreover, that they were cured. Of course, in all these processes there were secondary factors, such as the physiological changes brought about by rest or movement, which contributed to the improvement or cure; but the suggestion, or change of ideas, was the primary thing. Much of the modern treatment of lunacy was suggestive—for example, the dances, concerts, games, and gymnastics had the object of rousing dormant tracts, and the assurance that there was "nothing the matter" had had the best effects upon people who thought they were ill, but it required the man who gave the opinion to be sure of his facts. The quack, though ignorant of underlying morbid conditions, was often successful because he was a psychologist, and was able to put himself *en rapport* with the trend of the patient's mind.

Clever amateurs might be successful where the ordinary professional man failed, not because of supernatural powers, but because they were by nature more acute students of the trend of mental states, though they might

do harm by not ceasing in time, or by engrafting a morbid trend, or by unscrupulous uses of their knowledge for their own private ends. After all, specialists in suggestion were not very numerous. Why were there not more of them if it was so valuable a remedial agent? He took no account of theosophists who believed themselves to possess a knowledge of the Divinity and his works by supernatural inspiration, nor of Christian Science devotees, whose methods seemed to him ridiculous; but, confining himself to those medical men who used suggestion pure or combined with hypnotism, he would ask, Must there not be valid ground for using it as a therapeutic agent? Personally he believed there was. They were not *all* able to use it beyond a very limited extent. It was in such conditions as chronic inebriety, opium, or drug habit that suggestion was most powerful; in acute insanity he had not seen it successful, and though it had been fairly tried in asylum practice it had not obtained general recognition as a therapeutic agent.

It was not always easy to distinguish between functional and organic disease, and, bearing this in mind, they might be inclined to side with the exponents of suggestion that no case should be relegated to the scrap-heap of failures without this method having been tried.

Dr. J. MILNE BRAMWELL gave a brief history of the employment of suggestion in the medical profession. James Braid, the father of hypnotism, drew attention to the fact that when a drug was given it was worth while trying to find out how much of the effect was due to the drug, and how much to the mental influence of the physician. Much of the suggestion treatment, said Dr. Bramwell, had been unconscious. The enthusiastic practitioner prescribed a drug with great confidence, and this evoked confidence in his patient. Braid thought it necessary to put his patient into a condition of hypnotic sleep, but the opinion of the specialist had since moved away from this position. Neurasthenic patients came to him (the speaker) saying that they knew he could not save them; they had come to please husband or wife or doctor. He did not pretend to the possession of any mysterious force, nor could he explain his results. He placed his patients in an arm chair, and made the suggestions he thought appropriate in each case. They did not go to sleep—indeed, many of them were in such a condition that they could not rest at all. One of his recent cases was that of a clever young man, who had broken down through intellectual overwork, after severe shock. (His mother had committed suicide.) He had a form of locomotor ataxia, was emaciated to a skeleton, was subject to vomiting, and had to be assisted across the room. Six weeks after the treatment commenced he was leading a healthy life, and within a few months he was climbing mountains. Suggestion showed its best results in the treatment of obsessions. What drug could be possibly prescribed for a man, more than usually strong and brave, who had a morbid fear of cats? One patient, a schoolmaster, suffered from the obsession that he was being impelled by some one to throw himself from his class room window. He said that he was ruined, and could never face his work again. He was told to get three months' leave of absence from his college, and in six weeks after the initiation of treatment by suggestion he was well, and since that time he had done brilliant work without any return of his obsessional fears. Dr. Bramwell concluded with a complaint against the professional press for its prejudiced attitude upon this question.

Dr. T. SEYMOUR TUKE said that, so far as his own speciality—the treatment of the insane—was concerned, hypnotism and suggestion could operate only in cases which were to all intents and purposes physically and mentally sound except upon one particular point. Hypnotism was of little use with the actually insane, and, indeed, it was of no use with any patient who could not concentrate sufficiently to put his mind in subjection to the power which was brought to bear upon him. Nevertheless, in his insanity work he had been impressed over and over again by the fact that it was possible by the exercise of patience to get into communication with the mind of the patient and affect him for good, especially in cases in which, save for one mental delusion, the patient possessed a great amount of common sense.

Dr. C. LLOYD TUCKEY also gave his experiences. He said that he had been using hypnotism for twenty years, and had seen a great change come over the profession in its attitude towards it. One prominent medical man a few years ago called hypnotism humbug, saying that the profession of medicine was in a most satisfactory condition, and that there were already twenty good remedies for every disease. This light-hearted optimism would not be widely shared to-day. What cure was there, for instance, for real dipsomania? One of his patients was a business man, who became madly, uncontrollably drunk at certain periods and loathed drink during the intervals. Suggestion was being tried in this otherwise hopeless case, and he was now on the way to an absolute cure. He (Dr. Tuckey) had cured three cases of Ménière's disease by suggestion, although he would not say that suggestion would cure every such case. In conclusion, he thought it unfair to medical students and young practitioners that they should be given no inkling of this treatment. He knew a Cambridge Bachelor of Medicine who recently came from New Zealand to London for a post-graduate course, and until the last few days of his visit knew nothing whatever about hypnotism. Such a man had a real grievance against the teaching profession. If suggestion could only cure 3 or 4 per cent. of the difficult cases—and he had never seen it do harm in any case whatsoever—it was worth while for the teachers in the hospitals to devote some attention to it.

Mr. STEPHEN PAGET, who followed, approached the subject from a somewhat different point of view. He had recently been inquiring into the works of Christian Science, and in all that he had been saying on that subject he had addressed himself to the man in the street. He spoke that evening as the representative of that individual. The man in the street especially wanted a definite and precise list of those diseases which were open to mental healing, and a similar list of those which were not. He further wanted to know the exact difference between functional and organic diseases, and under what conditions and to what extent hope and faith might help a man towards recovery after an operation, or enable him to pull through a long illness. Could the mind, acting through the nervous system, supplement, for instance, the diphtheria antitoxin? He thought it would be of great service if a committee of the profession could publish a clear statement setting forth in general terms the diseases which were open to the influences of mental treatment and those which were closed against such influences. But, in order to be acceptable to the man in the street, such a statement would have to advance beyond the bounds of psychology. He confessed to some disappointment that all the chosen speakers that evening, save himself, were men of authority. They were men who had given years of life to the study of psychology, and what they did not know might seem to be not worth knowing. At the same time, he thought that such a discussion ought not to be limited to pronouncements by men of authority, but that in a matter of this kind they needed non-expert, outside evidence. They wanted a formula which should cover the works of healing at Lourdes, the undoubted successes of Christian Science, the conversion of drunkards, and the striking results obtained by good parents in the care of morbid-minded children. They would never obtain such a formula so long as they stayed within psychology, or, if they worked it out in terms of psychology, they would never get the man in the street to accept it from them. The man in the street thought that psychology was not, and never would be, a complete science. In the popular opinion one could not so much as mention mind and will and consciousness without acknowledging certain philosophical principles which might be forgotten or denied by psychology. The man in the street thought that psychology was apt to do without such principles, especially when she gave herself to experimental work. The speaker took an extreme case to illustrate the difference between psychology and public opinion—the case of a boy addicted to sexual abuse. Popular opinion utterly refused to regard such cases as purely pathological. The boy, let them suppose, corrupted other boys at school deliberately and of purpose. According to popular ideas such a boy ought to be severely thrashed. What he needed was not treatment by suggestion but heavy corporal punishment, and the nature of his offence and

the purpose of his chastisement ought to be made clear to him in language certainly not to be found in the vocabulary of psychology. Everywhere there was the same antagonism between the scientific and the popular mind. The man in the street insisted that he was more than a succession of states of consciousness. He still held the old ethical and religious concepts of human conduct. He was more than unscientific, he was antiscientific. He admired that line in Pope's "Essay on Man":

'Tis but a part we see, and not the whole.

If this individual were told that this was obscurantism, he instantly replied that this was the right attitude to take in a world in which so much was obscure. For the Greek word *psyche* he substituted the English word "soul." He was a philosopher, and there was no more ancient fend than that which was waged between true philosophy and true science. Christian Science, therefore, appealed to a man of this temperament. If psychology were a science in the sense in which astronomy and chemistry were sciences, the discussion would have no reference to popular opinion. But, as things were, medical men found themselves between two opposed armies, and not in perfect agreement with either of them. If they confined themselves to psychology they turned their backs upon a great many essential facts in human experience; and if they thought only of public opinion they got further away than they liked from real science, and nearer than they liked to Christian Science. It was not possible for the profession by any corporate action to give official recognition to matters which were of faith. Even if they all held—which they did not—the views of the man in the street, nothing would be gained by publishing the fact. He thought, however, that a statement as to the diseases in which mental treatment had a good opening and those in which it had not, clearly drawn up and widely circulated, would be an excellent weapon against the ill deeds of Christian Science, and in accordance with the best traditions of the profession.

Dr. R. H. Cole referred to the striking nature of his early experiments in hypnotism, but confessed to subsequent disappointment. He now came back to the subject, however, with a mind less sceptical, though still shaken. He had come to the conclusion that hypnotism was a potent power for good or evil. The exercise of this power in the treatment of diseases should be limited to medical men, and, moreover, to *certain* medical men. It was advisable for the general practitioner not to hypnotize his own patients, but to send them to the specialist. He thought it as well to emphasize the fact that as medical men they had a distinct position apart from the Church. It was best to separate purely spiritual agencies from their own methods of treatment. Hypnotic influence had nothing to do with matters of faith, which were upon an entirely different plane.

Dr. J. F. Woods related some of his experiences during the past seventeen years. In his early cases he invariably practised hypnotic sleep. He was very successful with one woman, of about 40 years of age, who had the delusion that persons were following her about intending to cut her up. She went into a hypnotic sleep within ten minutes, and slept for eight hours. On the following day she acknowledged that her fears were nonsense, and the delusions never returned. Later on he gave up the use of sleep, and treated the patients by suggestion alone. His practice was to place his patient in an easy chair, sit by him, and induce him to relax his muscles and quieten his mind. Sometimes he put his hand on the patient's epigastrium, so as to suggest tranquillity and warmth. The patient was told to remain in that condition until he returned, and, on returning, he generally found him to be fast asleep. Suggestion was most useful in all functional diseases, and it also did good in organic diseases by helping the nerve element. One lady, aged 36, consulted him in 1897 for sciatica. She had been treated by means of rest-cures, diet, plasters, drugs, fomentations, etc., without avail. He simply placed his hand upon her hip, outside her dress, and she immediately exclaimed, "The pain has gone!" That was the quickest result he ever had, and the cure of the sciatica was permanent, although five years later the patient came to him again for treatment of neuralgia in the head.

Mr. H. W. Armit thought that it was always better for treatment by suggestion to be carried out by a strange medical practitioner rather than by the "family doctor." He pointed out that in the course of the discussion there had been a constant succession of meaningless words. Such terms as "mind," "will," "subconsciousness," and "hypoconsciousness" had been introduced without any definition whatever. Was it worth while to attempt to explain—when it could only be done in this vague way—the action of suggestion, seeing that they understood nothing at all about it? As a toxicologist he maintained that they did not know anything about the action of the majority of drugs. They gave a person iron and cured his anaemia, but they had no settled idea as to the way in which the drug acted. He could definitely prove that it did not go to build up the haemoglobin. But because they could not explain the thing, it did not follow that they could not influence the patient. He thought that the success of the quack was in part to be attributed to the fact that he did not bother about the diseases which were or were not amenable to this form of treatment, but endeavoured to influence the patient's idea of his own disease and to make him comfortable. The speaker pointed out one danger to which those who applied suggestion in medical practice were liable. He knew of two pious individuals, husband and wife, who explained everything by saying that it was the will of God. The husband suffered from sciatica, and ultimately went to see Dr. Woods, who told him that he would get better thirteen days later. About ten days later he went to him again and said that the sciatica was worse than ever. He was told to wait for the thirteenth day, and on that particular day the sciatica went away, and he walked in three minutes a distance which had previously taken him twenty. But the man did not believe that Dr. Woods had cured him. He said that it was the will of God. If asked his opinion of Dr. Woods, he would reply that he was a wonderful man, but that he had a special gift of God.

Dr. Edwin L. Ash thought that one had to choose between two different methods: (1) Dominating the personality of the patient by the induction of the hypnotic state, and (2) combining suggestion with some material means of treatment. In his early work he followed the teaching of the time—that hypnosis was necessary before suggestion would work, but he had since revised his opinions. Success in the use of suggestion could be obtained only by the most careful estimation of the various factors. Sometimes suggestion could be used alone; at others it was necessary to have suggestion plus electricity, or plus prescriptions, or plus a course of massage. In a case of enuresis nocturna he impressed upon the child the fact that he would wake up at a certain hour in the night. Waking at that hour, he naturally was able to evade the consequences of his trouble. The reason for the enuresis nocturna was that the child slept too deeply, and the normal reflex action of the vesical muscular coats of the bladder was overlooked by the nervous system. He had known neuralgia in an old abdominal scar improve under suggestion, plus mild electricity—electricity so mild that he could not think the physical factor had any bearing on the result. He had not found suggestion of much use in actual insanity, but in very early symptoms the normal condition could be restored by suggestion and a serious mental breakdown prevented.

Some short personal testimonies were given by speakers other than those announced on the programme. Dr. W. H. Blake (West Wickham) mentioned a case of asthma of long standing which disappeared after hypnotic treatment. He maintained that there was no satisfactory cure for real dipsomania other than hypnotic suggestion. He had treated the secretary of a cricket club after an attack of delirium tremens, and the patient had remained absolutely right during the seven years that had since elapsed. His method was, under hypnotism, to impress upon such a patient how miserable his conduct was making his parents, and generally to restore his self-respect. The curious thing was that afterwards the man imagined that he himself had done it "off his own bat," and at the end of the treatment he rolled off these improving suggestions as though they were his own. A case of actual insanity in a soldier,

who was sent home from Wei-hai-Wei because he heard "voices," and believed he had committed the unpardonable sin, and prayed to be hanged or shot, had also come into his hands, and he was able by suggestion so to restore the man's mental balance that, although he was not permitted to return to the army, he had become a useful member of society.

Dr. CLAYE SHAW replied upon the whole discussion. "The distinguished members of our profession who have spoken this evening," he said, "have done so in a liberal spirit. They have stated, as responsible men, their belief in the efficacy of hypnotic suggestion. With the exception of Mr. Stephen Paget they have all been experts—all members of the mystic circle. Are we to put aside their experience? My conclusion is that the society is bound to accept the fact that hypnotic suggestion is in some cases of the greatest benefit. In answer to Mr. Paget, I would say that the man in the street has always concerned himself with psychological puzzles, and there is more in psychology and its connexion with science than Mr. Paget would have us believe. When we can reduce memory to a question of logarithms, express sensation in the same way, and, by applying certain instruments, test the quantity of emotional influence of which a man is possessed, we are getting very near to the linking-up of psychological entities with physical demonstrations. These things are being done. The power of attention is having physical education, and all the processes which we formerly supposed to be spiritual things and beyond understanding are gradually being brought into the rôle of physical science and being expressed in mathematical terms. We may in the future be able to see that the facts which these experts have expounded here to-night, although they themselves may not be able to explain their powers, harmonize with the spiritual elements of the clergyman, who has very often had to do with our failures."

THE INTERNATIONAL CONFERENCE ON LEPROSY.

IN the JOURNAL of October 16th, p. 1163, we published resolutions passed by the Second International Conference on Leprosy, held at Bergen in August last. We have since received the report of Dr. Arthur Newsholme and Sir Malcolm Morris, the delegates of His Majesty's Government to the Conference, in which they state that the Conference was opened on August 15th by H.M. King Haakon, who also presided at the inaugural banquet on the same evening, when the delegates and the British Colonial representatives were presented to His Majesty. Forty-eight official delegates representing twenty-two countries were present, and a large number of learned societies from different countries were also represented.

The following representatives from the British Colonies were present: Dr. R. J. Bull, delegate for the Commonwealth of Australia; Dr. C. F. K. Murray, delegate for the Colonies of the Cape of Good Hope and Natal; Dr. George Turner, delegate for the Colonies of the Transvaal and Orange River; Sir Allan Perry, M.D., delegate for Ceylon; Dr. J. E. Godfrey, delegate for the Colonies of British Guiana and the Bahamas; Dr. B. Glanvill Corney, delegate for the Colony of Fiji.

The conclusions expressed in the resolutions already published, which were passed with only two dissentients, were signed by Dr. Armauer Hansen, President of the Conference; Dr. H. P. Lie, the Secretary-General, and the following secretaries: Dr. E. Arning (Germany), Professor E. Ehlers (Denmark), Dr. J. M. H. Macleod (England), Dr. J. Darier (France), Dr. Dubois-Havenith (Belgium), Dr. E. Sederholm (Sweden), Dr. Kr. Grön (Norway), Dr. Lyder Borthen (Norway). During the conference a meeting of the British and Colonial delegates was arranged, and on the day following the last sitting of the official conference a further meeting of these delegates was held, at which the following statement and recommendations were prepared and unanimously approved:

> We, the undersigned delegates from the British and certain Colonial Governments, unanimously approve the resolutions adopted by the Second International Scientific Conference on Leprosy, held at Bergen, August 16th to 19th, 1909. At a special meeting held by us on August 20th we agreed to the following additional resolutions:
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> 1. Leprosy is spread by direct and indirect contagion from persons suffering from the disease. The possibility that indirect contagion may be effected by fleas, bugs, lice, the itch parasite, etc., has to be borne in mind. Leprosy is most prevalent under conditions of personal and domestic uncleanliness and overcrowding, especially where there is close and protracted association between the leprous and non-leprous.
>
> 2. Leprosy is not due to the eating of any particular food, such as fish.
>
> 3. There is no evidence that leprosy is hereditary; the occurrence of several cases in a single family is due to contagion.
>
> 4. In leprosy an interval of years may elapse between infection and the first recognized appearance of disease. It is a disease of long duration, though some of its symptoms may be quiescent for a considerable period and then recur.
>
> 5. The danger of infection from leprous persons is greater when there is discharge from mucous membranes or from ulcerated surfaces.
>
> 6. Compulsory notification of every case of leprosy should be enforced.
>
> 7. The most important administrative measure is to separate the leprous from the non-leprous by segregation in settlements or asylums.
>
> 8. In settlements home life may be permitted under regulation by the responsible authorities.
>
> 9. The preceding recommendations, if carried out, will provide the most efficient means of mitigating the leper's suffering and of assisting in his recovery, and at the same time will produce a reduction and ultimate extinction of the disease.
> —ARTHUR NEWSHOLME, M.D., MALCOLM MORRIS, K.C.V.O., Delegates of the British Government; R. J. BULL, M.D., Delegate to the Commonwealth of Australia; CHARLES F. K. MURRAY, M.D., Delegate for the Colonies of the Cape of Good Hope and Natal; GEORGE TURNER, Delegate from the Colonies of the Transvaal and Orange River; ALLAN PERRY, M.D., Delegate from Ceylon; J. E. GODFREY, Delegate from the Colonies of British Guiana and the Bahamas; B. GLANVILL CORNEY, Delegate from the Colony of Fiji.

This British statement, in the judgement of the delegates, embodies—when read in conjunction with the official resolutions of the Bergen Conference, published in the JOURNAL of October 16th—the line of administrative policy which it is desirable to adopt for the prevention of leprosy throughout the British Empire, so far as local circumstances permit.

AN International Congress of Pharmacy is to be held at Brussels, September 1st to 5th, 1910. The following is the programme of matters to be discussed so far as at present settled: (1) Study of the general principles of the titration of drugs and galenical preparations, with the object of promoting the international unification of methods of analysis applied to medicaments. (2) Study of the means of bringing about an international unification of the composition of reagents to help in the reading of pharmacopoeias and chemical works, and to facilitate analytical work. (3) Are there any measures that should be taken, either by professional bodies or by public authorities, or by both combined, for the regulation of the sale of antiseptic specialities, for the purpose of ensuring honesty in commercial transactions and safeguarding the interests of the public. (4) The necessity of including courses of macroscopy, microscopy, and chemistry of certain natural and pathological secretions, with their clinical significance, into the pharmaceutical curriculum. (5) The utility of the pharmacist making his own galenical preparations. (6) The regulation of the sale of specialities, laws relating thereto in different countries, countries in which there is and is not a system of discount, advantages and disadvantages of the different systems of regulations, and their results. (7) The creation of an international association of professional pharmaceutical bodies. (8) The utility and necessity of a strong representation of practising pharmacists on commissions entrusted with the elaboration of national codices and of an international pharmacopoeia. The organizing committee offers a prize for the best essay on the following questions: Details of the internal arrangement of a modern pharmacy and its dependencies, account being taken of the legal requirements of the country in which the pharmacy is situated. The competition is open to all members of the congress. The essays should reach the General Secretary, 12, rue Malibran, Brussels, on or before August 15th, 1910. They are to be authenticated by a motto corresponding to one in a sealed envelope containing the name and address of the writer. The award will be made on the judgement of an international jury. The prizes consist of two silver-gilt medals placed at the disposal of the jury by the Royal Society of Pharmacy, Brussels, and of certificates of honour. The result of the competition will be declared at the closing meeting of the congress.

THE AFTER-CARE OF FEEBLE-MINDED CHILDREN.

A conference of After-care Committees in connexion with the National Association for the Feeble-minded was held at Leicester on October 26th. There was a numerous attendance of delegates from all parts of the country. The morning sitting was presided over by Dr. Astley V. Clarke, Chairman of the Leicester After-care Committee, who briefly explained that the object of the organization was to keep in touch with young persons of both sexes whose intellects were subnormal, and who had been provided by the State with a modified form of education in special classes. Such State care extended only till the age of 16; hence the necessity for after-care committees to follow up the cases. Adequate care of this class was well-nigh impossible without increased powers of control and detention, and even if these were granted by the State, there would be need of voluntary workers to secure the best results.

Sir William Chance contributed a paper dealing with the growth of after-care committees and summarizing their returns; the number of cases reported on this year was 2,185, as compared with 1,373 in 1908 and 1,037 in 1907. He pointed out how the neglect of systematic supervision of the feeble-minded affected detrimentally the health of the community, and urged the need of the legislature enforcing two principles in dealing with them—uniformity and control.

Social Dangers of Feeble-mindedness.

Dr. G. H. Savage addressed the meeting upon "The social dangers of feeble-mindedness," commenting more particularly on a class of persons who are injurious to society and require some control because "they are partly bad and partly mad." Neglect of the feeble-minded as such tended not only to the misery of these unfortunates, but to the harm of the public at large, for they gravitated into remand homes, houses of detention, convict prisons, and criminal lunatic asylums, where they formed a considerable percentage of the inmates. Therefore they had evidence enough to justify society in protecting itself, and in protecting itself it must begin at the very root. If good were to be done in preventing the frequently recurring fatuous and irresponsible crimes and offences of mentally-defective persons, it must be by continuous observation and control, and, when necessary, by permanent detention.

Dr. Allan Warner, Medical Officer of the Leicester Education Committee, read notes on the "Home conditions of families where there is mental deficiency in one or both of the parents," plainly indicating that there are very good reasons why certain types of mentally-defective persons should not be allowed to become parents. When the heredity and environment of numbers of children were considered, it was not surprising that so many proved themselves useless members of society. Good hygienic conditions were essential for normal mental development, and where there was lack of parental care, want of personal control, and evil habits amongst the rest of the household, the only remedy seemed to be the removal of children from such detrimental home surroundings.

In the discussion that followed, Mr. C. J. Bond, F.R.C.S., Senior Surgeon to the Leicester Infirmary, described the problem as an eugenic one, and pointed out that the necessary social legislation to meet the case must be based on the investigation and classification of individual cases, such as was undertaken by the after-care committees.

Statistics.

In the afternoon Lady Frederick Brudenell-Bruce, President of the National Association for the Feeble-minded, took the chair, and papers were read by Mr. W. H. Dickinson, M.P., on "The feeble-minded in America," and by Mrs. Hume-Pinsent, of Birmingham, on "Compulsory *versus* voluntary methods." She pointed out that there were at least 66,000 mentally defective persons in urgent need of care, training, and control, and advocated speedy legislative action following the recommendations of the Royal Commission.

The Scope and Functions of the Colony.

Dr. R. Langdon-Down, in a paper on this subject, said that the Royal Commission on the Care of the Feeble-minded in its report devoted one chapter to the consideration of how to provide for chronic and harmless patients otherwise than in asylums. Among the various plans reviewed, some were more especially adapted to the case of persons of unsound mind. The methods which seemed more applicable to the case of the feeble-minded were family colonies, boarding out, and farm colonies, and he proposed to confine his attention mainly to the third of these methods, as being more calculated to meet the conditions of the problem before us in the large majority of cases. After describing the principal features of the colony system, he discussed the two features of this scheme, which seemed to be fundamental to its success and were mutually interdependent. The first was that it was essential that it should be on a sufficiently large scale and deal with considerable numbers. It was only in this way that employment could be found of a suitable kind, and in sufficient variety and amount, to meet the very varied capacities of the inmates of the colony. The larger the numbers in the colony the greater the facilities for proper grouping and classification on the varying grounds of age, sex, physical condition, mental capacity, capacity for hard manual labour of different kinds, trustworthiness, compatibility of temper and disposition. Moreover, it was this grouping of large numbers in one society that provided an element of variety and complexity of life which afforded opportunities of employment and usefulness which did not otherwise occur. Very different grades of defect could be successfully dealt with in one colony. Any one practically familiar with these cases must be aware that some of the best workers were those of comparatively low level of intelligence, and in some cases hardly capable of human speech; whereas some of those apparently more intelligent, owing to physical disability or unreliability, were of little value for industrial purposes. This plan of bringing together of different groups in one community, so that the more able might assist in the work of supporting the less able and infirm, and yet suitably classified for living purposes, all groups working together for mutual benefit, was a striking feature in the colony scheme in America. It was these characters which distinguished the colony from the institution on the one hand, and from the small and isolated home on the other. The institution was apt to be lacking in flexibility, adaptability, and scope for developing and adjusting itself to the great variety of conditions with which it had to deal, and was more likely to do for the inmates in a mechanical manner too much of what the colony system left for the inmates to do for themselves. Both the "institution" and the "colony" might be economical in providing efficient administration and management at a relatively low cost. The economy of the "institution" was more likely to be at the expense of the welfare of the inmates; whereas the economy of the colony should coincide as far as possible with their welfare, and should in addition utilize its members to the full. The small "home," on the other hand, involved more expense than the colony method, without any of the advantages of the corporate life of the colony, and made no provision for the future of its inmates, as they had to move on to make room for others; it did not provide for the permanent care which was so important an element in the problem. It must not, however, be supposed that industrial work of this kind was new to this country, either in the small homes or in the institution. For instance, Earlswood in the early Sixties established workshops for tailoring, matmaking, woodwork, and other industries, and built large farm buildings which were still in use. Darenth, Sandlebridge, Starcross, and other homes also were doing good work of this kind. It must be remembered that the mental defect was in itself a permanent condition, and that though some of the sufferers might be capable of earning a living or partially supporting themselves under favourable circumstances, none of them were capable of competing on equal terms with their normal fellows or of managing themselves or their affairs with ordinary prudence. From the first, and always if left to themselves in the world, they were out of harmony with their environment: their environment must be brought into harmony with them. The colony should aim to make life in the colony an end

in itself; once it had been decided that an individual was mentally stunted and a suitable person to join the colony, it should be possible to provide an appropriate mode of life for him there as long as he lived. If public opinion were once fully aroused to the justice and the importance of dealing comprehensively with the question, there would be an increased readiness among parents to prefer that their feeble-minded children should be recognized as such, and dealt with in this way, than to try to conceal the defect and let them rub along as best they might in the outer world. There would then be less likelihood of the colony being overweighted with the extreme cases of defect, and with the aged and incompetent. It was one of the conditions of success that the fairly able feeble-minded shall form the backbone of the colony, and there seemed now to be a greater readiness on the part of the public to recognize the need of special treatment for the milder cases of defect than ever before. If the American plan was followed, the colony would have an educational department—a residential school. The question arose, what should be the relation of the colony school to the special school, or the ordinary elementary school? Supposing that adequate provision were made in the colony the answer would appear to be that, if it was likely that the child would always be feeble-minded or defective, however slightly, then it was better that he should be dealt with from the start at the colony school. It was hardly possible to exaggerate the importance of the constant observation and control afforded by a residential school. This plan would have the advantage of reserving the special classes for the backward, the delicate, and the slow developing normal children who were a handicap to, and derived little benefit from, the ordinary class. At the same time it would relieve the special classes of all children incapable of ultimately returning to the ordinary school classes, or of taking their place in the world at the age of 16, and thus be a considerable saving of expense. Even if later the child sent to the colony school showed greater powers of development than were expected, the question of his future could be reconsidered before he came of age, and if he were then thought capable of taking his place in the world he would probably be much more fitted to do so than if under such doubtful circumstances he had left a special school at the age of 16. In the colony school the curriculum should be specifically devised to lead up to, and prepare for, useful colony life, only pursuing literary subjects where obvious benefit to the individual was likely to results therefrom. The training of the defective child should go on without intermission, and it should quite early be turned into the channel most likely to make him of economic value and industrially efficient in the sphere for which he was now destined. In descending the scale of mental defect the transition from the feeble-minded group to the imbecile group, and thence into the group of idiots, was made imperceptibly. Indeed it might be asserted that they scientifically all formed a single natural group. In so far as they had been separated in the Report of the Royal Commission, the definitions were avowedly based on rough and ready social criteria for practical convenience, and did not correspond to any scientific differences. Thus the distinction drawn between the feeble-minded and the imbecile depended on whether the individual was "incapable of earning a living," or "may be capable of earning a living under favourable circumstances." The words "may be" were particularly indefinite, and allowed of the possibility that the person "may not be," when he would fall under the definition of imbecile equally well. This vagueness and difficulty of definition corresponded with the actual facts: the line between the imbecile and the feeble-minded was almost impossible to draw. Experience in selecting cases for homes proved that it was considerably easier to distinguish the feeble-minded from the normal than from the imbecile, especially without the experience gained from day to day observation in a home.

To the question, Should the colony be organized so as to correspond to the natural facts, or have its scope limited according to some artificial division of this kind? Dr. Langdon Down answered that, whatever the line of approach at first, in the long run the most complete and satisfactory solution would be to follow the example of some of the colonies in the United States, and allow each colony full scope to deal with the whole "mentally stunted" group. The colony was specially adapted by its structure to provide for cross-classifications and variations in the subgroups, whereas any attempt to cut the group in two introduced difficulties in practical organization, and did away with certain economic and social advantages attaching to the single colony. For instance, there was the importance of being readily able to make transfers of an experimental or temporary nature from one class to another, and the fact that there were many low grade imbeciles whose work was of industrial value, particularly if it could be fitted in with the work of others slightly more gifted, though they would not be suited to live under the same roof. Isolation in a separate custodial institution would not be doing the best possible for them, as it would hardly be practicable to provide the same facilities there as in the colony. On the economic side, the attempt to make the whole group as far as possible self-supporting could be carried out most fully by giving the more capable the opportunity of doing their share of service for the less capable, and this was best secured by residence of all grades in proximity to each other. For example, the roadways for all could be kept by one group, and the washing of the custodial department could be done by the colony laundry. Similarly, for such social gatherings as religious services or entertainments, it was better that there should be a certain meeting of extremes rather than a perpetual rigid separation into age groups and class groups; without such a blending the colony life would be artificial and incomplete. If that were true of the colonists, it applied in a similar way but with even greater force to the staff, to whom the complete isolation of custodial cases implied great hardship.

In the discussion which followed, Dr. E. Ellis, Chairman of the Leicester Board of Guardians, laid stress on the subject of heredity, a factor which must be reckoned with in any satisfactory scheme of prevention, and Dr. Clifton, Alderman, Leicester, advocated the necessity of increased compulsory power in dealing with the mentally defective. In conclusion, a resolution, moved by Sir William Chance, urging upon the Government the importance of immediate legislation on the lines of the report of the Royal Commission on the Care and Control of the Feeble-minded, was carried by the meeting.

THE ASSOCIATION OF PUBLIC VACCINATORS OF ENGLAND AND WALES.

Annual Meeting.

The annual meeting of this association was held at the Adelphi Hotel, Liverpool, on Friday, October 29th.

The Retiring President (Dr. Drury, Halifax) occupied the chair during the transaction of the formal business of the meeting. In moving the adoption of the report he referred to the failure of the association so far to persuade the Local Government Board of the importance and justice of the often-repeated application for fixity of tenure of office. Several causes might have contributed to this failure. It might be that they had not gone about in the best way; the assistance of the British Medical Association, as representing the whole medical profession, might have been more extensively sought and relied upon. In this matter the Local Government Board could not be blamed entirely. The Departmental Committee of the Local Government Board actually did adopt the suggestion, and recommended that fixity of tenure of office should be granted. In view of the opposition of a small but active band, means must be taken to satisfy politicians that vaccination was a good thing, and was a necessity for the State. If that were not done, no efforts would bring the goal nearer.

Dr. Brassey Brierley (Manchester), who seconded the adoption of the report, said that medical officers of health had never ceased to worry the Local Government Board for fixity of tenure, and had succeeded in making the Government believe it could not do without them. He advised that every association of medical officers under Government control in the country should coalesce and go to the Government and say they must have fixity of tenure.

Let them coalesce or affiliate as they chose, but let them join up in one constitution, when they wanted the interests of either one section or the other promoted by Parliament. The resolution to adopt the report was then carried.

On the motion of Dr. A. E. Cope (London), seconded by Dr. Piggott (Shrewsbury), it was unanimously resolved to request the council to take steps during the coming year to approach the various medical organizations with a view to carrying out the suggestions made that day for securing fixity of tenure.

On the motion of Dr. Cope, the retiring President was thanked heartily for his services in the chair during the two years he had held office. All knew, he said, how extremely assiduous Dr. Drury had been in his work, and he did not think there was any one who had devoted so much energy and work to the cause of vaccination and public vaccinators as Dr. Drury had.

Dr. Hodgson (Rochdale) seconded, and the vote of thanks was carried with much applause.

On the proposition of Dr. Cope, seconded by Dr. W. J. Williams (Manchester), it was resolved that the best thanks of the Association be tendered to the British Medical Association for assistance given during the past year, and that a letter to that effect be communicated to the British Medical Association.

Dr. Bradshaw, one of the public vaccinators of the West Derby Union, was elected President of the Association for the ensuing year, and took the chair amid much enthusiastic applause.

Some Present Aspects of Vaccination and Revaccination.

Dr. E. W. Hope (M.O.H. Liverpool) read a paper with this title, in the course of which he said that when the enemy was at the gate all were on the alert for the means of defence, but in the long absences of alarm or danger the necessity for defence was apt to be forgotten or disregarded. He referred to the enormous influence upon the human race and upon all the affairs of life which had been exercised by vaccination and its controlling influence over small-pox in all civilized communities. The good work done by public vaccinators had not always received the recognition which it deserved as with some other branches of the public health service. The very success which had attended their work had obscured to some extent the necessity for its continuance. It was perfectly true that modern methods of sanitation, more especially administrative methods, had not been without a very marked effect upon the presence of small-pox. The Public Health Act, the compulsory notification of infectious diseases, had provided most valuable agencies in removing from a susceptible population many sources of infection, and they had enabled limitations to be placed upon the intercourse of infected persons with healthy ones, or the transmission or handling of infected clothing or things, whilst the hospital, with a vaccinated community of nurses and attendants—who themselves ran absolutely no risk whatever—had provided a suitable refuge for the patient. Modern administrative methods provided also that when necessary children might be kept from school, and workers from their work. Liverpool, exposed as it was to such frequent importations of small-pox, had special parliamentary powers to enable her to protect herself and the country from this disease. Trading, as she did, with every quarter of the globe, there was always the risk of importation of small-pox whenever that disease existed abroad. Thus during the last year or so, small-pox had been introduced from places as widely apart as Bombay, New York, Quebec, Valparaiso, Bilbao, various West African ports, Shanghai, and elsewhere. But these measures had their limitations, and the sheet anchor of protection was, and must remain, vaccination and revaccination at or about the age of 10 or 12 years. In none of the cases of late years in which small-pox had been imported here had extension occurred, but these happy results could not, of course, always be expected. In Liverpool vaccination, revaccination, or isolation was done voluntarily; throughout Germany compulsorily; but the primary and secondary examinations were carried out throughout Germany far more rigorously and far more efficiently than was done in this country, and the Germans reaped the reward in two ways. The various towns or other communities were not put to the many difficulties and great expense that they had to incur in this country in connexion with the upkeep of separate small-pox hospitals. In this country every community, practically, was burdened either wholly or with its share of the cost of maintenance of such an institution. In Germany separate small-pox hospitals were not provided, except in rare cases. Germany, with a population almost twice as large as that of England, had during a period of twelve years—from 1891 to 1902—only 600 deaths from small-pox, whilst in England and Wales, with a population not much more than half as large as that of Germany, 6,761 deaths from small-pox—more than ten times the number—occurred during the same period. Figures relating to the condition as to vaccination amongst school children in this city and, no doubt, elsewhere, showed that out of a large number of children from 12 to 14 years of age, in round numbers 4 per cent. are unvaccinated; but out of a large number of children from 3 to 7 years of age, in round numbers 8 per cent. are unvaccinated, showing that of recent years there was a larger proportion unvaccinated than was formerly the case. A surprising amount of ignorance existed amongst the poorer parents as to the objects of vaccination, and it was not a matter of wonder, therefore, that the elder children on leaving school were almost universally ignorant of the objects of vaccination. It was unfortunate that a few medical practitioners were still satisfied to give a certificate of successful vaccination when only one insertion was made. The proceeding was a popular one with many parents, but it had the misfortune of giving but a very imperfect protection to the person so vaccinated, and the unfortunate occurrence of small-pox in such a poorly protected subject was seized hold of with the object of discrediting the value of vaccination. However much this neglect was to be deplored, it did not appear to him that any efforts at compulsion were likely to prove of value, but every educative means should certainly be had recourse to to enlighten those who had charge of young unvaccinated children as to the needs of the case.

After discussion, in which a number of members took part, a hearty vote of thanks was accorded to Dr. Hope.

Annual Dinner.

The annual dinner of the association was held in the evening at the Adelphi Hotel, the President, Dr. Bradshaw, in the chair.

After the usual loyal toasts, Dr. Cope proposed "The Association of Public Vaccinators." The association, he said, had failed to accomplish the main object which called it into existence, but he had noted that whilst on the way to accomplishing its original object it had come across other important objects, many of which had been realized. The association had done a great work, and he strongly advocated the educating of the public in this matter.

Dr. Drury, in responding, observed that the attack which was being made by the enemy was in reality not an attack upon vaccination itself, but was in essence and substance an attack upon the medical profession and medical science. At the recent Antivaccination Conference held in Southport there was abundant evidence of this in the speeches. A clergyman, who had qualified for the antivaccination platform by an article in his parish magazine attacking the medical profession, was invited to that conference to deliver a further attack. This was duly reported in the press, and constituted the most bitter and uncharitable attack on medical men he had ever read. It was their duty to protect themselves from those outrages, and the association had that day adopted a report which counselled a further extension of effort in the direction of correcting misrepresentation.

The toast of "The Guests of the Association" was proposed by Dr. Isaac Holmes (Liverpool).

Dr. S. Monckton Copeman, F.R.S., in replying, declared that it was not likely there would be the opposition to vaccination if only the public could be educated up to the point of appreciating its value. He was convinced that not only amongst the lower classes, but also in the upper classes, there was a great want of knowledge of the subject. The members of that association, above all others, had the opportunity of inculcating that knowledge. Their work as public vaccinators was most important and onerous. He was glad to have had the

opportunity of putting to scientific proof that, contrary to the suggestion of the antivaccinators, one disease could cope with another, and to prove definitely that the reason why vaccination was a really effective protection against smallpox was because it was really derived from that disease itself.

Dr. GLYNN (Liverpool), who also responded, said that in addition to educating the public they had to deal with stupidity, prejudice, and idiocy. They must educate the Government. They had an illustration of that in regard to hydrophobia.

Professor RONALD ROSS (Liverpool), also responding, urged that they wanted a more fighting spirit amongst the medical profession. More funds were also required for scientific research.

The PRESIDENT, proposing "The Health and Poor Law," asserted that the Poor Law, through its officers, the public vaccinators, had a great deal to be grateful for to the public health administration in the country.

Dr. HOPE, in response, paid a high tribute to the work which had been done in the past by the Poor Law guardians, the parent of the public health service, from whence came the germ of modern preventive measures. He recognized what an enormous amount of work public vaccinators had done for the public health. He hoped the day was not far distant when the work of the public vaccinators would be more officially associated with the public health service.

Mr. HARRIS P. CLEAVER, Clerk to the West Derby Union, also responded.

The toast of "The President" was proposed by Dr. DRURY.

Dr. BRADSHAW replied, expressing his thanks for the honour which had that day been conferred upon him. The public vaccinators of the West Derby Union had always been staunch supporters of the association, and he felt that in selecting him honour was intended for his colleagues also, from whom he had received much assistance in making the arrangements for the meeting.

The musical programme, which contributed greatly to the enjoyment of the evening, was of exceptional excellence, and the solos throughout were kindly contributed by amateurs. Mrs. Drury (Halifax) and Mr. George Barnett (Liverpool) contributed delightful songs and a duet. Dr. Grossmann played two 'cello solos in most artistic style, and Dr. Pethick (a member of the association) enlivened the proceedings with several thoroughly amusing and topical humorous songs.

PROPOSED AMENDMENT OF THE MIDWIVES ACT.

THE Manchester Corporation has, on the advice of the Midwives Supervising Committee, caused the following letter to be addressed to other local supervising authorities in large centres of population:

Public Health Office,
Town Hall, Manchester.
October 27th, 1909.

Dear Sir,—

REPORT OF DEPARTMENTAL COMMITTEE *RE* MIDWIVES ACT, 1902.

At a meeting of the Midwives Supervising Committee of this city held on September 30th, 1909, the report of the Departmental Committee appointed to consider the working of the Midwives Act, 1902, was submitted, and I am directed to forward you the result of their deliberations.

The first section considered was that relating to the constitution of the Central Midwives Board (see paragraph *d* (1), page 20 of report). This paragraph contains a recommendation that the number of members should be increased to twelve by giving an additional nominee to the Lord President of the Council, and a representative each to the Local Government Board, the British Medical Association, and the Society of Medical Officers of Health. Also that the representation of the Royal British Nurses' Association should be discontinued. The Midwives Supervising Committee are unanimously of opinion that there should be a municipal representative, and accordingly passed the following resolution:

That in the opinion of this Committee the Municipal Corporations Association should be represented on the Central Midwives Board, and that a copy of this resolution be forwarded to the Lord President of the Privy Council, the President of the Local Government Board, the Chairman of the Central Midwives Board, and the President of the Municipal Corporations Association.

Attention was next directed to the recommendation (paragraph *b* (2), page 20) that "the Poor Law authority should be responsible for the payment, and should be empowered to charge the fee paid as 'relief on loan' to the patient." Provision for the payment of such fees in Manchester is made under Section 133 of the Public Health Act, 1875. The arrangement is that a fee of £1 1s. for emergencies under Rule E 19 (5), and also for secondary *post-partum* haemorrhage, and 5s. for contingencies mentioned in Rule E 19 (4) (1, 2, 3, 4) is paid, providing that the income of the family does not exceed a certain scale. For a small annual payment the District Provident Association investigates and reports as to the income of the family concerned. This report, along with the application stating the character of the emergency and the procedures adopted by the medical practitioner are submitted to a subcommittee, consisting of the medical members of the Midwives Supervising Committee—that is, four members of the City Council and four co-opted medical practitioners. On their recommendation the fees are paid or disallowed.

This arrangement works very satisfactorily, and the Committee consider it to be a better method than payment through Boards of Guardians.

It may be remembered that in the evidence submitted to the Departmental Committee on behalf of the British Medical Association they expressed the opinion that of the two methods of payment that afforded by Section 133 of the Public Health Act is the best. They also expressed the opinion that the machinery of the Poor Law, as at present administered, is not yet adapted for providing prompt and efficient medical assistance by means of the kind under consideration.

The Committee also lay stress upon the hardship imposed upon certain families by the occurrence of unforeseen emergencies subjecting them to what they regard as pauperization.

The following resolution was passed:

That in the opinion of this Committee the fees of medical practitioners called in under the Midwives Act should, as far as practicable be paid by the Local Supervising Authority, and not by the Board of Guardians.

These resolutions were approved by the City Council on October 6th, 1909.

The further consideration of the report of the Departmental Committee was deferred.

The Chairman of the Midwives Supervising Committee (Councillor Dr. Chapman) will be obliged if you will direct the attention of your Sanitary Authority to these specific proceedings, so that if the recommendations contained therein meet with approval they may take such action as they may consider desirable.

Yours faithfully,
(Signed) JAMES NIVEN,
Medical Officer of Health.

We append for convenience of reference the passages in the report of the Departmental Committee, to which reference is made in the above letter, together with the text of Section 133 of the Public Health Act, 1875:

Report.

Recommendations (*b*) (1) A secure expectation of payment should be given to a medical practitioner summoned on the advice of a midwife in a case of emergency. (2) The Poor Law authority should be responsible for the payment, and should be empowered to charge the fee paid as "relief on loan" to the patient.

Recommendation (*d*) (1) Constitution of the Central Midwives Board: (i) The number of members should be increased from nine to twelve by giving an additional nominee to the Lord President of the Council and a representative each to the Local Government Board, the British Medical Association, and the Society of Medical Officers of Health. The member appointed by the Incorporated Midwives Institute should in future be a certified midwife instead of a medical practitioner, and the representation of the Royal British Nurses' Association should be discontinued.

Public Health Act, 1875.

133. Any local authority may, with the sanction of the Local Government Board, themselves provide, or contract with, any person to provide a temporary supply of medicine and medical assistance for the poorer inhabitants of their district.

It may be useful to recall that the President of the Local Government Board in reply to a question addressed to him in May, 1908, said that the guardians were authorized by the Poor Law Amendment Act, 1848, to pay for any medical assistance rendered to a poor person on the happening of any sudden illness although no order had been given for the same by the guardians of any of their officers or by the overseers. He held that under this provision the guardians might pay a fee to any medical man called in on the advice of a midwife to attend a woman in childbirth in any case of difficulty. He added that the Board had not power to alter this provision so as to make it compulsory.

It may be convenient to quote the words of the Act to which Mr. Burns referred, 11 and 12 Victoria, Cap. 110, Section II, enacts:

It shall be lawful for the guardians of any union, if they think proper, to pay for any medical or other assistance which shall be rendered to any poor person on the happening of any accident, bodily casualty, or sudden illness, although no order shall have been given for the same by them or any of their officers, or by the overseers, and to charge the same to some one parish in the union, or to the common fund of the union, according as such parish or union would have been liable for the ordinary relief of such poor person; provided that nothing herein contained shall exempt the guardians of the union or parish, or their officers, or the overseers of the parish in which such poor person shall require relief by reason of such accident, bodily casualty, or sudden illness, from their liability to supply the requisite relief to such poor person whilst in such union or parish.

Section VIII provides:

That the guardians of any union shall be entitled to obtain orders of maintenance upon the relations liable under any statute now in force to maintain any poor person.

And provides further that:

All relief to be granted by the guardians to any pauper upon loan, and which shall be chargeable to the common fund of the union, or to any parish therein, may be recoverable in the county court or other court for the recovery of small debts.

LITERARY NOTES.

A VOLUME entitled, *Bibliography of Trypanosomiasis, embracing Original Papers published prior to April, 1909, and References to Works and Papers on Tsetse Flies, especially Glossina palpalis, Rob.-Desv.*, compiled by C. A. Thimm, and issued under the direction of the honorary managing committee of the Sleeping Sickness Bureau, will be published in a few weeks. Dr. Arthur G. Bagshawe, Director of the Sleeping Sickness Bureau, states in the preface that he believes the work contains an almost complete list of references to the published works on sleeping sickness and the trypanosomiases of man and animals from 1803 to March 31st, 1909; it includes also references to recent papers on the tsetse flies. The arrangement is by authors in alphabetical order, the papers being given again under the names of the journals in which they appeared. Against each original reference is an index number. A subject index will be prepared indicating the numbers to be consulted for the various subjects (sleeping sickness, nagana, mal de Caderas, the rat trypanosome, dourine, trypanosomes of birds, trypanosomes of fishes, chemo-therapy, *Glossina palpalis*, and the like), and will be forwarded to subscribers as a supplementary pamphlet. The references subsequent to March, 1909, are contained in No. 6 of the *Sleeping Sickness Bureau Bulletin*, and in following numbers.

To the *West London Medical Journal* for October Mr. C. B. Keetley contributes some interesting historical notes on the West London Hospital and people connected with it. Speaking of Mr. Bowater J. Vernon, the ophthalmic surgeon, Mr. Keetley says he used to relate how, when he was assisting the late Mr. Critchett, Sir William Gull would bring fashionable patients to that great ophthalmic surgeon. "At the same time," he says, "Vernon would give a dryly humorous account of the vigilant manner in which the illustrious physician would take care that the eye surgeon should revolve only on his own orbit—that is, the patient's. When it came to the cheek or the nose, 'Thank you, that is my affair.'" This reminds one of Mr. Dooley's account of the scrupulous manner in which doctors of the present day are expected not to move their neighbour's landmarks. "Hinnessy" consults a physician, and the following dialogue ensues:

"'Tis ye'er heart," says he. "Glory be," says I; "what's the matter with that ol' ingine," says I.

"I could tell ye," he says, "but I'll have to call in Dock Vinthricle th' specyalist," he says. "I ought'nt to be lookin' at ye'er heart at all," he says. "I niver larned below th' chin, an' I'd be fired be the Union if they knew I was wurrukin' on the heart," he says. So he sinds for Dock Vinthricle, and th' Dock climbs me chest an' listens, an' then he says, "They'se somethin' th' matter with his lungs too," he says.

Bellows must therefore be sent for. Bellows in turn insists that "Dock Lapparatteny" must be summoned and so the patient passed from one to the other, like a football, till he is kicked through the goal.

The *Pharmaceutical Journal* of October 30th contains extracts from the *Plymouth and Dock Telegraph* of March 19th, 1808. As our contemporary says, a perusal of these makes it clear that present day makers of proprietary medicines are really almost modest persons compared with their predecessors of a century ago. One advertiser informs all whom it may concern that he has just received a large supply of "Robberd's Improved Balsam Elixir or Cough Drops," on the virtues of which he enlarges as follows:

There cannot be too much said in praise of this medicine, as experience in almost innumerable cases has proved it the most extraordinary and beneficial discovery ever made; it is a certain, efficacious, speedy, and easy cure for coughs, colds, asthma, and consumption. Not an instance has occurred, having been taken by nearly 60,000 patients annually, where it has been known to fail to relieve the above complaints. So extraordinary are its virtues that even though the patient be ever so emaciated or reduced, after having tried every medical assistance to no purpose, it will act as it were a charm, and instantly relieve the most inveterate cough, at the same time give freedom to respiration, and promote gentle expectoration, strengthen the whole debilities, and procure the refreshing comforts of rest and sleep.

Bald heads were then, as now, the objects of special attention on the part of nostrum sellers. It seems that in 1803 "the Royal family and gentlemen in the fashion" used "Prince's Russia Oil" for moistening the hair when dressing, and that "several gentlemen who were bald have declared after using the Russia oil regularly for three months, the bald place became covered with hair." Another advertisement warns sufferers that if they are not cured it will be their own fault:

Reader! blame thyself if thou be ill henceforth, or if thy disease be not vanished!!! Just imported from the Continent, a medicine for the prevention and infallible cure of all degrees of a certain disorder.

This, says our contemporary, is recommended as infinitely superior to other remedies, which are described as "unwarrantable quackery." We may say of quackery what was said of French governments: *Plus ça change, plus c'est la même chose.*

We have received the first number of the *Local Government Review*, which claims to be the pioneer in a hitherto unbroken field. "It is the first *review* devoted exclusively to the adequate and impartial treatment of the great range of subjects classed under the term 'local government.'" How large is the scope of our new contemporary may be gathered from the list of the subjects which are the *farrago libelli*. "Public health, education, housing, the relief of distress; the care of the sick, the aged, and the feeble-minded; unemployment, the provision of allotments and small holdings, highway administration, public libraries, rating and assessment, public service undertakings, the protection of public rights of way, and the preservation and control of commons and open spaces—these are some of the great and important questions with which local government is directly concerned." All this and much more the new periodical takes for its province. Among the principal contents of the first number are the following articles: The Afforestation of Commons, by Sir Robert Hunter, C.B.: The Impending Revolution in English Local Government, by Mrs. Sidney Webb: German Municipal Government, by Mr. W. Harbutt Dawson; and The Unification of the Public Health Service, by Dr. H. R. Kenwood. The *Local Government Review*, which is published monthly by Messrs. Simpkin, Marshall, Hamilton, Kent, and Co., Limited, is excellently printed, and seems likely to fulfil a most useful function.

In the October number of the *Caledonian Medical Journal* Sir Dyce Duckworth gives an account of his grandfather, William Nicol, M.A., M.D., of Stonehaven. Born at Browniehill, in the parish of Kinneff, Dr. Nicol studied at Aberdeen, becoming Master of Arts in 1782 and Doctor of Medicine in 1805. In the meantime he had served in the Royal Navy as surgeon's mate. Later he was appointed Surgeon to H.M.S. *Leander*, and saw a good deal of life at Lisbon, Gibraltar, Naples, Malta, and elsewhere. He recorded his experiences in a diary and in letters to his father, which have been preserved. He

retired from the navy in 1792 after about seven years' service, and probably settled in practice at Stonehaven. In 1794 he married Margaret Dyce, daughter of a merchant and burgess at Aberdeen. He continued to practise at Stonehaven till his death in 1827, a period of thirty-four years. He continued his habit of diary keeping, and a portion of these records, covering from 1802 to 1804 are in the hands of his distinguished grandson. It shows that he must have led a strenuous life, in full practice of medicine, surgery and midwifery. He was surgeon to the militia and to a corps of volunteers embodied at that time of European disturbance. He made his rounds on horseback. The famous athlete, Captain Barclay, of Ury, Stonehaven, who walked a thousand miles in a thousand hours, was his patient. Dr. Nichol practised inoculation with cow-pox very extensively, and no mention is made of untoward results. He was popular in the town and neighbourhood, and often dined at the houses of the local magnates of Ury and Fetteresso. On one occasion he restored to life a youth who had been overcome by the fumes of burning charcoal, and Sir Dyce Duckworth has in his possession the gold medal presented to his ancestor by the Royal Humane Society on the occasion. Dr. Nicol was evidently a man of strong character, fitted for energy and action. Sir Dyce Duckworth says that, as a firm believer in hereditary transmissions and atavism, he imagines that his own inherited predilection for matters both medical and naval led to his joining the medical service of the navy for a short period at the outset of his career. Dr. Nicol's only son, James Dyce, after a career in Bombay, acquired the estate of Ballogie and others, and sometime M.P. for Kincardineshire. A son of Dr. Nicol's second daughter, General Sir Alexander Low, K.C.B., rode in the Balaclava charge, and afterwards commanded his regiment, the 4th Hussars. Sir Dyce Duckworth concludes by saying that he hears with some apprehension of developments in Stonehaven, and he expresses a pious hope that these may not lead to its vulgarization as a holiday resort. He regards it as a duty to posterity to preserve such little towns in their pristine simplicity, while having due regard to modern sanitation, and he deprecates the desecration of the speculator and the abominations of the jerry builder.

Medical News.

THE first scientific meeting for the session of the Zoological Society of London will be held in the Society's rooms at 3, Hanover Square, on Tuesday next, at 8.30 p.m.

THE dinner of the past and present students of the Royal Dental Hospital of London will be held at the Hotel Metropole on Saturday, November 20th, when Mr. C. F. Rilot will take the chair.

THE students' annual dinner of the National Dental Hospital will be held at the Trocadero Restaurant, Piccadilly, W., on Friday, November 19th, under the presidency of Sir Thomas Barlow, K.C.V.O.

THE opening meeting of the one hundred and fifty-sixth session of the Royal Society of Arts will be held on Wednesday, November 17th, at 8 p.m., when Sir William White, K.C.B., F.R.S., Chairman of Council, will deliver an address on an Imperial Navy.

ON the occasion of the opening of the winter session of the Central London Throat and Ear Hospital, Gray's Inn Road, on Monday next, at 4.30 p.m., Mr. Charles Ballance, M.V.O., will deliver an address on the lesson to be learnt in London from the history of the mastoid operation.

THE annual meeting and dinner of the Glasgow University Club of Manchester and district will be held at the Queen's Hotel, Manchester, on Tuesday, November 16th, when Sir Henry Craik, M.P., Sir Hector Cameron, and Dr. G. S. Middleton will be present. Further particulars can be obtained from Mr. D. Richmond, 176, Drake Street, Rochdale.

AT a meeting of the council of the University of Birmingham on November 3rd, Mr. J. Sholto Cameron Douglas, M.A., M.B., B.Ch.Oxon., was appointed lecturer in pathology and bacteriology; Mr. Leonard Doncaster, special lecturer in heredity and variation; Mr. Edward Bach and Mr. Samuel Lewis Graham, M.B., prosectors of anatomy.

THE long expected has at length happened, the Lord Mayor of the City of London having issued last week an appeal for assistance on behalf of St. Bartholomew's Hospital. The annual working deficit is now some £12,000. The probability of such an appeal becoming imperative was pointed out in a review of the financial position of hospitals in the metropolis, published in the JOURNAL early last year. The institution, with a history of 800 years' work behind it, is one of the most famous and scientifically successful hospitals in the kingdom, and its appeal will no doubt meet with a ready response.

THE thirteenth annual conference of the Parents' National Education Union will be held in Birmingham on November 15th and the four following days. The first meeting will take place in the great hall of the university, under the chairmanship of the Earl of Lytton, when an address will be given by Sir Oliver Lodge. On the following day Miss Helen Webb, M.B., will read a paper on environment in relation to nervous stability. Other subjects to be discussed will be social work for girls at leisure, how to interest young people in art, and co-education of boys and girls.

ON October 19th the weekly board of Newark Hospital held an inquiry into an accusation recently made against the institution in the *Newark Advertiser* by the squire of a neighbouring village. The allegation was to the effect that a woman sent by him to the hospital had been wrongfully refused admission, and that life had thus been endangered. The inquiry showed that all the officials of the hospital, including the house-surgeon and the matron, had acted according to its regulations and also wisely, and that it was untrue that the patient had in any wise suffered in health from the refusal to admit her. On examination there proved to be nothing the matter with her beyond being very dirty and of considerable age. She was therefore inadmissible as a case of urgency and equally inadmissible as an ordinary case, because no letter of recommendation stating that she was a fit subject for hospital treatment and signed by a medical man was sent with her. Instead of sending her away forthwith the house-surgeon brought the case to the notice of the Poor Law authorities; the relieving officer, finding she did not belong to a village within the union, nor appear to be in need of indoor treatment at all, refused to deal with the case. The patient was then, after being given tea and carefully wrapped up, sent back home in the same vehicle and with the same companions—a woman and the squire's groom. Within forty-eight hours she was also examined by the Poor Law medical officer of the district, who also found nothing the matter with her. The board is to be congratulated on having met this charge boldly and promptly by a public inquiry.

AT King Edward VII Hospital, Windsor, two interesting events took place recently—the opening of a library and the unveiling of a portrait of Dr. W. B. Holderness, the first President of the Windsor and District Medical Society. Dr. Francis Hawkins (Reading), President of the society, who occupied the chair, said that about a year ago one of their members, Mr. Tippets, of Staines, made a suggestion that books should be circulated amongst members, and expressed a wish that the society should have a library. At that time such a scheme seemed almost impossible. But at their last annual dinner Dr. Hurry, President of the Reading Pathological Society, spoke of the desirability of that society having a library. Dr. Holderness at once came forward with a generous gift of 10 guineas. Then the Committee of King Edward VII Hospital placed a room in the hospital at their disposal. By this means and by a grant of £20 from the funds of the society, a possibility had now become a reality. A library committee consisting of the Treasurer, Mr. Gooch, Dr. Holderness, Dr. Norris, senior surgeon to the hospital, Mr. Tippets, Dr. Spurrier, and Dr. Elgood, was formed, and contributions in the form of books and money began to come in. The company then proceeded to the new library, and Sir Richard Douglas Powell, having declared it open, unveiled the portrait of Dr. Holderness. On returning to the meeting room, Sir Richard Douglas Powell said he thought the library furnished another link in the association of all those who were practising in the district, and rendered their ethical relations happier; it was one of the obligations of a society like that to bring men into touch with one another—in larger sympathy with one another in their work and in their ethical relations. He also thought the formation of a library brought out the sympathy and generosity of many people. Sir Richard Douglas Powell then presented to the library a copy of the facsimile executed under the auspices of the Royal College of Physicians of London, of the diploma presented to William Harvey at Padua at the beginning of the seventeenth century.

British Medical Journal.

SATURDAY, NOVEMBER 6TH, 1909.

THE ANNUAL MEETING, LONDON, 1910.

In our last issue we were able to announce in brief terms that the next Annual Meeting of the Association will be held in London in July, 1910. Each autumn it is our duty to give notice of the place of meeting for the following session, and the congratulations which in the past it has always been possible to offer to members of the Association on the acceptance of the invitation from the city to be visited have never yet been otherwise than justified by the event. The acceptance of the present invitation that the Association should again, after fifteen years' interval, hold its annual meeting in the metropolis, will, we are confident, prove a matter of very special congratulation. Although the interval is not a very long one in the life of an association such as ours, and is, as a matter of fact, a little shorter than that which elapsed between the last London meeting and its predecessor, it must be recognized that within this period changes of considerable importance have taken place in the Association as well as in the great city which is to receive it next July.

Those whose duty it will be to organize the reception will doubtless at once appreciate the much stronger ties subsisting between the Association in the United Kingdom and its rapidly-growing Branches and Divisions in distant parts of the Empire than existed when the last London meeting was held. A meeting in the metropolis would seem to be a fitting opportunity to emphasize the Imperial aspect of the British Medical Association. No other city of the Empire, however attractive in other ways, could, perhaps, expect to be as successful as London in bringing men from the uttermost parts of the earth, and thus providing an opportunity for full discussion of the medical problems which, while, as to fundamental principles, essentially similar, must yet present varying aspects in different places. A mutual understanding of these similarities and differences can alone secure the solidarity of our imperial professional interests. We confidently look forward to the London meeting to demonstrate to our Colonial brethren and all other fellow-subjects of our King that it is possible for a single Association to provide at the same time the force that can be obtained by union and the elasticity which can be secured by an intelligent appreciation of the different circumstances in different parts of the Empire.

Within the last few years London has been the seat of the interchange of courtesies between foreign and British medical men to an extent in advance, we believe, of anything which took place in the last generation. Following upon the memory of these agreeable occasions, we may confidently expect a ready response to the invitations which will naturally be addressed to medical men in Europe and America, and possibly as far afield as Japan. The annual meetings of the British Medical Association have always been honoured by the presence of distinguished foreigners, but the numbers attending the 1910 meeting will probably exceed previous records, and be a striking instance of the power of science—especially medical science—to do away with all barriers of race and creed.

Although the Meeting of Representatives of the Association—the parliament of the medical profession in Great Britain and Ireland and the dominions beyond the seas—has on one or two former occasions been held in London, next year will be the first occasion in which it will have been held in the metropolis as part of the annual meeting and in close association with all the other activities connected with this gathering. Thus will be afforded a good opportunity for the profession generally to become acquainted with the details of this impressive meeting at which nearly 200 delegates from the various Divisions of the Association exchange views and endeavour to arrive at conclusions designed to increase the profession's power for good.

It may be expected that of the members and visitors who will register at the annual meeting in 1910 a considerable number will visit London again for the first time since the meeting under the presidency of Sir J. Russell Reynolds in 1895. Still more will they, for the first time since that date, be officially visiting medical London. Some attempt may perhaps be made next year to indicate the progress which has been made in medical London during the last fifteen years. Visitors will, we are confident, be struck by the remarkable progress in many directions. The inauguration of a teaching university for London, as opposed to a mere examination board, is an event which has occurred in the interval, and its results—a mere beginning it must be admitted—will be plainly observable. Many of the London hospitals have been almost transformed during the last fifteen years, and it is a common complaint of former alumni revisiting their medical schools that the additions and alterations render their old haunts unrecognizable. London has this advantage over all other cities which have entertained the Association, that the number of its resident medical men is actually in excess of the number who come from outside to attend the annual meeting. The possibilities of personal hospitality are, therefore, very great, and will, no doubt, be made a special feature of the forthcoming meeting.

Specialization in medicine has made great strides in fifteen years, and many more Sections will be required to deal effectively with all interests than were found necessary at the last London Meeting.

The members of the Metropolitan Counties Branch are, as we are all aware, fully alive to the opportunities and responsibilities of a metropolitan meeting. In Mr. Butlin, as President-Elect of the Association, they have an ideal chief, whose infectious enthusiasm will permeate the numerous band of workers which is already being organized in order to secure that the London Meeting in 1910 shall be a success.

THE CONQUEST OF THE TROPICS.

In a discussion which took place at the Royal Geographical Society eleven years ago, Dr. (now Sir Patrick) Manson expressed a firm belief in the possibility of tropical colonization by white races.[1] The direct causes of 90 per cent. of tropical diseases were, he said, living organisms. To kill these was simply a matter of knowledge and the application of

[1] British Medical Journal, April 30th, 1898, p. 1168.

that knowledge—sanitary knowledge, with its practical outcome in sanitation. Some months later Mr. Benjamin Kidd, from the *a priori* view of the armchair philosopher, peremptorily declared that our future policy in regard to the tropics must be based on a frank recognition of the fact that the attempt to acclimatize the white man in the tropics was a blunder of the first magnitude. Prophecy is always dangerous, and this particular Sir Oracle must now—if oracles can ever admit error—recognize, if he has followed the development of the subject on which he made so confident a pronouncement, that, like David, he spoke in his haste. Professor Osler's address at the opening of the winter session of the London School of Tropical Medicine—a summary of which appeared in the JOURNAL of October 30th—was a magnificent justification of the forethought of the men—foremost among whom must be placed Sir Patrick Manson—who, through good and evil report, laboured to impress on their fellow-countrymen that the white man's burden could be lightened by knowledge of the causes which made it almost beyond his strength to bear, and whose efforts, made fruitful by the energizing genius of Mr. Joseph Chamberlain, ensured the foundation of the school. That school is in the true sense of the word the metropolis of tropical pathology; it is the mother city from which have sprung "colonies" in Liverpool, and also in France, Germany, the United States, and the Philippine Islands. As for results, the history of the Panama Canal alone is sufficient to show the futility of Mr. Kidd's ill-considered statement. Panama, as Professor Osler said, had been the white man's grave for four centuries. Saavedra dreamed of a canal in 1520; Raleigh, Drake, and Morgan the buccaneer, sailed westward in their quest of gold, and found in fever a deadlier foe than the Spaniard. For three and twenty years de Lesseps struggled to cut through the canal. The problem was much more one of sanitation than of engineering, and it was not till Colonel Gorgas of the medical department of the United States Army, applying the scientific knowledge of which the foundation had been laid by Laveran many years before, cleared the Isthmus of Panama of the enemies which carried within them the seeds of disease and death that a solution of the problem became possible. The deliverance of Cuba from the thraldom of yellow fever which levied from it year by year a heavy tribute of human lives, is another striking proof of the fact that in knowledge and the application of that knowledge lies the secret of the conquest of the tropics.

By those interested in the expansion of our empire, and in the civilization of the many peoples who still lie under the shadow of ignorance and avoidable death, the London School of Tropical Medicine must always be looked upon with reverence as the cradle of modern effort in a direction as to the beneficial results of which there can be no dispute. To those who remember the incredulity and ridicule with which the preaching of the new crusade against tropical disease was received less than twenty years ago, the success which has already been achieved is nothing less than marvellous. The school has grown from very small beginnings, and this makes the completeness of its equipment at the present day all the more surprising. The place is full of life; there are to be seen officers of the various services whose sphere of work lies abroad, and representatives of many of the dependencies which are under the sway of the British Crown. Teaching goes on in the wards, the lecture room, and the large laboratory; while in smaller rooms research work in protozoology, helminthology, and tropical pathology is patiently pursued, too often under conditions of discomfort that must tend to interfere with efficiency.

It is clear to the most cursory observation that more room is urgently needed for laboratories. For this, in the first place, more ground is required. There is a site adjoining the school which would afford room for the expansion made necessary by the growth of its work. It is hoped that the Port of London Authority may see its way to grant the site. That this would be to the interest of the community is unquestionable in view of the important function which the School of Tropical Medicine is by its situation peculiarly fitted to discharge. It receives cases of disease occurring among the crews of ships entering the Port of London from all parts of the world: thus cases of plague, cholera, relapsing fever, and other infectious diseases are, as it were, trapped at the inlet. Enlargement of the institution to an adequate degree would undoubtedly strengthen the last line of defence against imported disease. There are other exotic diseases, such as beriberi, the elucidation of which in respect of direct etiology and contributory causes is highly desirable in the interest of all who go down to the sea in ships. Moreover, there are diseases, such as plague, that may be conveyed from animals to man, which require to be better understood. The neighbourhood in which the school is situated swarms with vermin of various kinds; and during the summer and autumn it is visited by a veritable plague of flies. The part played by these insects in the propagation of disease is still very imperfectly understood, but it is coming to be recognized that this is a factor that must be reckoned with, and it is of the utmost importance that its true value as a means of carrying infection should be exactly determined. Such scientific work—all of which, it must be borne in mind, has a direct practical bearing—it is the special function of the London School of Tropical Medicine to perform. It is as a sentinel standing at the entry of the Port of London; more than this, it is a highly skilled detective agency working for the prevention of harm to the community and for the discovery and extinction of possible evildoers. For these reasons it is to the interest not only of the Port of London but of the City of London and of the vast congregation of human beings who live within the area of London that the school should be placed in a position to do its work of safeguarding the population from imported disease as efficiently as possible.

Not only is more room wanted for the development of the work of the school, but money is needed if it is successfully to discharge its mission of usefulness. Science makes no appeal to the mob, and therefore it may be assumed that, if the Chancellor of the Exchequer were asked for money, he would say, as Pitt said of literature, "Science must take care of itself." We may be allowed, therefore, to urge again, as we have done before, that the School of Tropical Medicine has a claim not only on London, but on the whole country and on the empire. Successful colonization in the tropics depends on the white man's power of resisting the indigenous organisms that threaten health and life. The mere number of men who have perished in carrying the British flag over tropical lands and seas is appalling. And when it is remembered that the lives thus sacrificed have been those of the flower of our manhood, and that they have been lost in great part through sheer ignorance, shame must further embitter our cup of sorrow.

We have before us the examples of Greece and Italy to prove that disease is a powerful cause of national decay. We now know that malaria, which has made wastes of some of the most fruitful regions of the earth, can be prevented. There is every reason to believe that the other diseases which threaten our empire in one part or another can be combated with equal success by knowledge gained in the laboratory and in the ward, and the application of that knowledge in the forests and swamps of the tropics. To that end the Schools of Tropical Medicine are working with ever-growing hopefulness. The workers are there, and fields of research are opening all around. The one thing wanted is money. All honour to the Liverpool School of Tropical Medicine and to its liberal patron, Sir Alfred Jones. It has sent out more than twenty expeditions to study tropical diseases and the means of combating them. These expeditions have added largely to knowledge. The Liverpool and London Schools are working in generous rivalry. If the London School has not done so much in the way of research, this is because it is heavily handicapped in the race by want of funds. It has, indeed, a few liberal benefactors, but it has not the magnificent support which the Liverpool School enjoys. There is not the same corporate pride—the feeling expressed by the Romans in the words *Civis Romanus Sum*—in London that exists in smaller cities. If the people of London could be aroused to a sense of the direct personal interest which the study of tropical diseases should have for them, the School of Tropical Medicine —the very existence of which is unknown to most of them—would, we are sure, not be allowed to lag behind in research for the want of money. It will be a reproach to the centre of the world's trade if it allows any other city to rob it of the honour of the conquest of the tropics.

THE SIGNIFICANCE OF DARWINISM.

THE conception of evolution, as Professor Lindsay remarks in his Bradshaw Lecture (p. 1325), was present in the minds of scientific and philosophical speculators long before the birth of Darwin; we can find it adumbrated even in the dawn of serious speculative thought. The idea of evolution was familiar to Heraclitus and to Aristotle, and it can be traced through a succession of thinkers down to modern times. Amongst the comparatively recent precursors of Darwin Professor Lindsay mentions Dr. Prichard of Bristol, whose work, published in 1826, recognized the existence of organic evolution, discussed the influence of selection upon racial development, and distinguished between acquired and congenital characters as regards their capacity for transmission.

The conception of evolution was also familiar to many of the German philosophers. Amongst these the lecturer mentioned Kant; he might have added Hegel, one of Kant's most important successors in metaphysical speculation of the idealist school. Throughout Hegel's *Logic*, and indeed pervading the whole of his philosophy, the dominant conception is the progressive evolution of the higher forms of thought and reality out of the lower. Unfortunately Hegel was born before his time and did not live to see the era of modern biological science; had he survived half a century longer, biology would have provided him with a wealth of material wherewith he might have corroborated his ideas by concrete and convincing examples derived from vital phenomena. But when he wrote, the requisite scientific data had not been discovered, and he was compelled to express his conception of evolution in abstruse terms, borrowed largely from abstract metaphysics, with the natural result that much of what he did write is obscure. Hence his philosophy has not found much favour with modern exponents of the natural sciences. But, considering that he wrote before the dawn of the modern scientific age, he displays a marvellous insight into the fundamental principles of evolution, and his unconscious prescience of Darwinism is a valuable demonstration of the underlying unity between the fundamental laws of the empirical sciences and the more general principles which find their expression in the philosophical contemplation of reality as a whole.

"Darwin," says Professor Lindsay, "did not discover "evolution. He discovered its leading law, and by "a long series of observations, experiments, and "reflections, unparalleled in the history of science, "converted the brilliant guesses of earlier inquirers "into an assured truth and an established principle." The lecturer finds the secret of Darwin's success in the fact that he possessed in a supreme degree two faculties rarely developed to perfection in the same individual, "immense industry and accuracy in the "accumulation of facts, and a daring originality of "speculation, coupled with much caution in drawing "any final conclusions." At the present day the necessity for the laborious collection of data is recognized in all scientific work, but, as is sufficiently obvious in the overwhelming output of current medical literature, it is often difficult, if not impossible, to discern general principles amidst the chaos of detail. For this reason the lecturer calls special attention to the high place which Darwin assigned to theorizing and speculation in scientific work. "What "we need," he says, "is the illuminating generaliza- "tion, the daring hypothesis, to co-ordinate facts "hitherto out of relation with each other, to give "perchance to science a new *organon*, to light the "way to fresh fields of inquiry and discovery." Yes, undoubtedly this is a desideratum most fervently to be prayed for, and we wish Professor Lindsay had entered into the subject more fully.

The difficult problem that lies at the root of the matter is the task of discriminating between the use and the abuse of the "working hypothesis." Any fool can generalize, or enunciate a bold hypothesis, and one can hardly say that current literature does not present a plentiful crop of ambitious statements; the trouble is that such statements are rarely substantiated by adequate evidence. If, as not uncommonly happens, an investigator sets out with an enthusiasm for some particular "working hypothesis," he often tends to view his subject matter through coloured spectacles, seeing everything which lends colour to his hypothesis and unconsciously passing over such data as are not in harmony with it. This is a very common feature of research emanating from many of the famous schools of pathology. The investigator takes as his starting-point some particular principle which is part of the pathological doctrine laid down by the founder of the school, and endeavours to ascertain whether this principle is valid in the particular circumstances which he selects for investigation. His "working hypothesis" is the assumption that the principle *may* be valid; he emphasizes all the facts which come to light in support of this view, severely scrutinizes apparent discrepancies, manages to discover some reason why they "don't count," and

then proceeds to the conclusion that the principle is valid. Quite so; we strongly suspect from the first page of such articles that the conclusion was predestined. The author "must follow his master"; and in private conversation he is sometimes ingenuous enough to confess that he was not altogether unconscious of a desire to corroborate his chief.

Obviously, this sort of a "working hypothesis" is most decidedly not Darwinian. Then we have the class of workers who formulate their conclusions in the shape of "hypotheses" which are palpably of a more general nature than is warranted by the data brought forward in evidence. Generalizations of this type, which might be more properly described as "pious opinions," are, again, not of the sort which is likely to yield substantial progress in scientific theory.

Preferable to either of these types of research work is the investigation by the patient man who delights in the gymnastics of a skilful and accurate technique, records his facts because he knows they are true, and makes no pretence of drawing broad generalizations from them. At all events he has the genuine satisfaction of feeling that his data will be valid, as such for all time, and that they may therefore provide something of the solid bricks and mortar to be utilized, when future material has accumulated in sufficient abundance, for building the solid edifice of a scientific principle.

But Professor Lindsay is not satisfied with such modest ambitions. He wants us to be great architects as well as good bricklayers. We wish we could be; and if only he will show us how, he will indeed advance the cause of science by leaps and bounds. Darwin was both, and so are some of his most distinguished successors; but to us of the ordinary rank and file genius has been allotted by a more niggardly stepmother, yet, we may hope, with the superaddition of some saving grace, born of the modest desire to do thoroughly such things as we are capable of doing. A good bricklayer is better than the architect of a house of cards.

THE MIND AS A THERAPEUTIC AGENT.

THE recent debate at the Harveian Society, a report of which appears at p. 1352, was interesting, but did not throw much new light on the subject. Every one will agree with Dr. Claye Shaw that when any method of treatment is brought to the notice of the medical profession by practitioners to whose statements weight must, owing to their personal character and proved knowledge, be attached, it is our duty to examine with impartiality the methods they recommend. Every one, too, who is capable of forming a judgement will agree that the influence of mind as a therapeutic agent makes itself felt chiefly by what is called "suggestion." The difficulty is that to the average man suggestion conveys no meaning but that which the word connotes in ordinary language—that is to say, an influence exercised on a person's mind by another person who tells him that he must, or must not, do this or that. Suggestion *is*, in fact, the basis of education; it has been practised on all of us—reinforced it may be by the application of more or less violent stimuli which help to impress the suggestion deeper on our minds—in the nursery and at school. Suggestion lies at the bottom of all forms of moral and religious teaching. But there is nothing more mysterious in it than the power exerted by a strong personality over one whose mind is open to its influence, spiritual or other. We gather that those who practise hypnotism have come to recognize this fact, for there was a general agreement that the hypnotic sleep which used to be thought an essential part of the process is unnecessary. This is a distinct advance, as the passes and other manœuvres used to bring on the sleep contributed greatly to bring hypnotism into discredit. That many diseases are cured by suggestion is unquestionable; but the questions what diseases are so cured, and how they are cured, remain unanswered. So called "functional" disease is obviously a favourable field for such treatment; but can any one draw an exact line of demarcation between functional and organic disease? All that can be said at present is that, as pathology becomes more and more an exact science, the domain of functional disease tends more and more to dwindle, while that of organic disease expands. There is no reason that we can see why the nervous system, if stimulated to act in the right direction, should not help the restoration to a healthy state of a tissue or an organ that is not damaged past repair. We have no difficulty in believing that ulcers that have a malignant aspect may be healed by the hope that comes from a potent suggestion. We have ourselves known of more than one case in which every clinical sign of malignant disease of the stomach was present, and in which a cure was effected by means that could only have derived their potency from suggestion. But has any one ever seen a limb made useless by damage to the nerve centres with which its muscular power is bound up, or a heart maimed by structural changes in its valves or walls, or a lung transformed into cicatricial tissue, or a cancer-eaten liver, restored to full efficiency by suggestion? Short of actual miracle, the thing is to the medical mind unthinkable. But there is a vast Tom Tiddler's ground of ailments about which little is known, and there suggestion—in which term we include all forms of "metaphysical aid"—has a legitimate field of exercise. It is unfortunate that its cultivation should still to a great extent be in the hands of quacks and honest but ignorant "healers" of one complexion or another. We welcome the discussion at the Harveian Society, as a sign that the profession is more fully realizing the value of certain potentialities of healing and relief which an ingrained materialism passes by on one side. We have, it is to be hoped, got beyond the stage of wilful blindness to facts of which unqualified persons are eager to avail themselves. The practitioners of hypnotism themselves have emerged from the region of humbug, conscious or unconscious, which made Charcot in his later years abandon it as an unclean thing. All around us spiritual or mental healing is going on. It is our duty, as it is our interest, to study the process scientifically, to define its limitations both in regard to the conditions to which it is applicable and to the persons who can successfully apply it, and to recognize, perhaps more fully than before, that man is a compound of body and spirit, both of which have to be taken into account by those who undertake the treatment of disease. The first step to be taken, if the profession is not to surrender a large part of its sphere of usefulness, is that medical practitioners should be trained in psychology as well as in physiology. In saying this we do not wish to be understood as pinning our faith entirely to experimental psychology. A careful study of the works of the great masters of the human heart is at least as important as the estimate of time reactions and the accuracy of visual impressions.

BODY, SOUL, AND SPIRIT.

THE second of the three ceremonies in connexion with the jubilee of the National Hospital for the Paralysed and Epileptic in Queen Square took place

on November 2nd, when a service of thanksgiving for the completion of fifty years' work was held. The Archbishop of Canterbury preached the sermon and took as his text: "When Jesus saw their faith, He "said to the sick of the palsy: Son, thy sins be forgiven "thee." In the course of his address he said that it had become a commonplace to say that the miracles of our Lord were signs, and not merely intended for the relief of human distress, but part of something greater. It was startling to see that the idea of God's care extending over the whole range of human life had been missed by authorities or left out in regard to the teaching of the Christian miracles. Little by little the world was learning that there was no such distinction as used to be drawn between one part of man's nature and the rest. Among the noteworthy lessons being learnt by the present generation was that of the unity of every part of human life, the harmonious working and effective interlacing of what was called "body, soul, and spirit." The very fantasies and exaggerations which were so rife nowadays on both sides of the Atlantic attested the growth of a wider recognition of that magnificent truth. The miracle of repairing that which was amiss pervaded the whole of the New Testament, and was very familiar to the present generation. In his book on surgical pathology, Sir James Paget well brought out the interdependence of the parts of the human body, and had shown that some were intended not for immediate use, but for eventualities or accidents which might occur. Recovery from injury and disease seemed to point to the existence of a higher law, which aimed at the recovery of all lost good things, and the whole trend of such thought suggested the impossibility of severance and disjunction between the different parts of the composite thing called "the life of man on earth." That idea was particularly appropriate to the National Hospital, where a special study was made of the interlacing and interdependence of human actions and their causes, and where special power was acquired for dealing with all that underlay the meaning of the difficult word "neurology." That hospital was a memorial to a thoughtful prince who in the school of suffering had learnt sympathy; and in it for fifty years medical men had step by step been acquiring valuable knowledge and the power of affording splendid service to sufferers. Those who realized the grip that was now being taken on problems and mysteries wholly misunderstood generations ago could not doubt that the present generation or its children would witness even greater achievements. At the conclusion of the service the Duchess of Albany received purses on behalf of the Jubilee Fund, which now stands at £19,000. The total sum required is £50,000.

THE HOUSING BILL.

THE amendments made by the Lords to this measure engaged the attention of the House of Commons for nearly twelve hours on Monday. The consideration of the alterations proposed by the Upper Chamber began at a quarter to four on Monday afternoon and finished at a quarter-past three on Tuesday morning. Eighteen pages of amendments were disposed of, and all the important points fully and keenly debated. The President of the Local Government Board pointed out that there were some four or five amendments destructive to the principles of the bill, and these must be opposed by the Government. The first related to the acquisition of land, and substituted the more costly and cumbrous method embodied in the Port of London Act for the more simple and economic plan proposed in the bill. After a brisk debate this amendment was rejected and the bill restored to its original form by 163 votes to 47. The other vital alterations, substituting the county court for the Local Government Board in deciding certain questions, the new clauses as regards town planning introduced by Lord Cawdor, and the amendments to the betterment provisions, were all in turn rejected by the Commons. A very vigorous attempt was made by the members for Leeds, supported by Mr. Lupton, to retain an alteration made in the Lords in favour of back-to-back houses as sanctioned at Leeds, but Mr. Burns demolished the advocates of this form of dwelling by a flood of statistics relating to the death-rates of children and the prevalence of tuberculosis in such houses, and the opposition was not carried to a division. Two other matters of much medical interest also came up in connexion with Part III, which deals with county medical officers. In the Lords the second subsection, which gave the Local Government Board power to prescribe the duties of county medical officers of health, had been struck out. Mr. Burns met this by the offer of a compromise, which gave the Local Government Board power to prescribe the general duties while the local authority regulated the work of the medical officer by its own regulations. On this there was a very animated debate. The action of the Lords was defended from the Liberal benches by those who stood up for the independence of local authorities, especially county councils. Mr. Ryland Adkins was the champion of the county councils, and he was supported by Sir William Collins. Sir Walter Foster, on the other hand, supported the compromise offered by Mr. Burns, and this was carried by a majority of 52. A majority of the same strength also rejected the amendment of the Lords which deprived the medical officer of health of a county of the right to appeal to the Local Government Board against dismissal. This was opposed in the interests of the county councils, and Lord Morpeth accused Sir Walter Foster of trades-unionism for advocating security of tenure. The principle, however, was affirmed, and the bill now goes back to the Upper Chamber very much in its original form, and retaining the points of great medical value which had been endangered. After the conferences between the Houses which must follow, we hope the measure will pass into law retaining all the best features of the original draft.

THE AMENDMENT OF THE MIDWIVES ACT.

IT appears to be now universally recognized by all who have given attention to the matter, that amendment of the Midwives Act, 1902, is necessary in several directions. One glaring defect in the Act is that, though it imposes upon midwives the duty to summon medical assistance under certain specified circumstances, it provides no machinery for remunerating the medical practitioner thus summoned. The British Medical Association submitted evidence on this and other matters to the Departmental Committee,* and that Committee reported that secure expectation of payment should be given to a medical practitioner summoned on the advice of a midwife in a case of emergency. The Central Midwives Board at its meeting last week, as will be seen from a report in the SUPPLEMENT, adopted a resolution to the effect that any amendment of the Midwives Act should comprise provision for adequate and certain remuneration of medical practitioners called in under the Board's regulations to assist midwives. As was pointed out in the evidence submitted by the Association to the Departmental Committee, the existing law provides two methods whereby local authorities might make the necessary provision—namely, through

* An abstract of the evidence given was published in the JOURNAL of August 28th, 1909, p. 553.

the board of guardians under the Poor Law or through the local sanitary authority under Section 133 of the Public Health Act, 1875. Cogent reasons were advanced for giving the preference to the latter alternative, one of these being that the provision of medical assistance is undertaken by the State more in the interests of the public than in those of the individual. There is published elsewhere (p. 1360) a letter, written on the instructions of the Manchester Corporation, showing that that body, after full consideration, has arrived at the conclusion that the fees of medical practitioners called in under the circumstances stated should be paid, not by the board of guardians, but by the local supervising authority. In Manchester the payments are now made under the Public Health Act, 1875, and the Corporation is opposed to the duty being cast upon the guardians. The letter has been circulated to local supervising authorities in other large centres of population, and will no doubt influence them in forming an opinion as to this administrative point. It is satisfactory to find that all responsible persons who have looked into the matter are agreed that the injustice inflicted on the medical profession by the absence from the Midwives Act of any provision for the payment of fees under the circumstances here considered must be remedied. It is reasonable to ask that the application of the remedy should not be delayed, but that the Government should introduce and pass an amending bill in the next session of Parliament.

SECRET REMEDIES.

THE demand for *Secret Remedies*, large almost from the first, appears to be steadily increasing. To meet the orders of the booksellers and newsagents a series of reissues have rapidly been made, but even so copies have been on several occasions temporarily exhausted. In consequence each reissue has been larger than the one before, and the last, made very recently, consists of twice as many copies as any of its predecessors. This success is the more remarkable as the book has been very little advertised, and certain newspapers, as has already been stated, have refused the advertisements tendered. Nor has the book been fortunate in obtaining many reviews, the reticence of so many of our contemporaries in their editorial columns being due, it is fair to assume, to the same cause as has led to exclusion from their advertising columns. The book is, however, strong enough to make its way by its own merits, and the circulation of tens of thousands of copies of this plain statement of undisputed facts cannot fail to do much to enlighten the public mind as to the methods of a trade which lives on the fears, the ignorance, and the credulity of mankind.*

RESEARCH AND HIGHER EDUCATION IN LONDON.

THE London public takes so little interest in science, and knows so little about the scientific institutions of the metropolis, and the education and research work they do, that the enterprise of the *Standard* in attempting to enlighten public opinion in these matters deserves a cordial welcome. It intends once a month to devote a considerable amount of space to information as to the facilities for higher education and for research in London institutions. There are many reasons why such a scheme, if judiciously conducted, may do much good. It may encourage young Londoners to take advantage of the opportunities already afforded to them, it may stimulate Londoners generally to feel a pride in their colleges and laboratories, and may perhaps induce the pious founder to take his share in filling up some of the many gaps in a field where many willing workers would be ready if the necessary laboratories and apparatus could be provided. The experiment was begun on Monday last, when a page was devoted to it, leading off with a stirring article by the Principal of the University of London on the place of research in training. Dr. Miers is able to tell the public, with all the authority which his position gives, that the spirit of research is so potent a force in higher education that without it no university teaching is likely to be able to hold its own. There ought, he says, to be no place for the university professor who is not moving with the restless tide of advancing knowledge, and who is not himself one of the forces that direct it. The article by Dr. Miers is followed by an account from the lips of Professor Flinders Petrie of the work of the British School of Archaeology in Egypt, and that by a description of the ultra-microscope (so-called). Reviews of scientific books overflow on to a second page, but the last two columns of the first page are devoted to lists of the more important lectures and courses of lectures to be delivered in the University of London, of research facilities in London, and of extension courses. Very wisely no attempt is made to give particulars of the ordinary academic lecture courses, but the list would perhaps still bear a little more pruning in this respect. In other directions the lists might no doubt have been extended, but, as they stand, will probably be a revelation to most Londoners. The only part of the scheme, however, to which serious objection can be taken is to "a selected list of research publications." It is rather difficult to see on what principle the selection has been made; so far as medical subjects is concerned, it is both inadequate and redundant. Some of the papers, enumerated with the names and diplomas of their authors, are not really research papers, but ordinary contributions to medical and surgical practice. Even if the principle which has guided this selection were sounder than it would appear to be, we have no hesitation in saying that the inclusion of clinical papers is a mistake. It will, we are quite sure, be distasteful to the medical profession, and, as we have pointed out, such contributions to medical literature fall distinctly outside the scope of the experiment which the *Standard* is making.

MINE RESCUES.

THE failure of the Government to introduce regulations to lessen the loss of life after explosions in mines ought to arouse the public conscience. Science has proved that such deaths are not inevitable, and it is sixteen years since Dr. Haldane demonstrated at an annual meeting of the British Medical Association a portable apparatus capable of containing enough oxygen to sustain life during active movement for four hours; even earlier than this Fleuss so far proved the value of an appliance of similar purpose at the Seaham Collieries that a Commission on Mining Accidents then sitting recommended that in all mining districts centres should be formed for the instruction of men in the use of oxygen machines. Effect was not given to this recommendation, and when some three years ago the Courrières disaster focussed public attention on the subject, the Government included the matter in the reference to a Royal Commission which it appointed. This Commission unfortunately expressed the opinion that the time had not yet come when the provision of rescue appliances in mines should be made compulsory; the reason assigned was that only experience could prove that they were of real utility

* *Secret Remedies* can be obtained either through any bookseller or direct from the Manager, British Medical Association, 429, Strand, W.C. Price, 1s. 3d., post free.

in the saving of life after accident. Such experience is not likely to be forthcoming unless mineowners keep such appliances at hand and train men in their use; but there is ample evidence that the appliance used by the Westphalian miners, which provides for the removal of carbonic acid as well as for the supply of oxygen—a development, it is believed, of a device originating in this country—is of sufficient utility to make it clear that the problem, though presenting practical difficulties, is not insoluble. Men merely entombed by blockage of galleries can commonly be rescued in time provided those engaged in digging them out can be supplied with sufficient oxygen, and, as a case recorded in these columns by Dr. Robertson of Clackmannan[1] last March, this can sometimes be effected by the simple process of liberating pure oxygen in the galleries in sufficient amount to produce a respirable mixture. The position of men overcome by after-damp is much more urgent. Immediately after an explosion they are immersed in an atmosphere containing nitrogen, carbonic acid, carbon monoxide mixed with some ordinary air, and (unless the mine is one singularly free from dust) sulphurous acid, or sulphuretted hydrogen, together with certain products of the dry distillation of coal, which give to after-damp a characteristic unpleasant smell. In unmixed after-damp the percentage of nitrogen is about 88 per cent., of carbonic acid 12, and of carbon monoxide 4. Even should the carbon monoxide be much less and the proportion of normal air remaining in the galleries considerable, carbon monoxide poisoning—the chief cause of death in these accidents—will sooner or later ensue. The air which subsequently fills the galleries, and which has to be encountered by rescuers, is a somewhat different mixture, as, besides after-damp, it contains black-damp (a mixture of nitrogen and carbonic acid) and fire-damp, which, according to Haldane, is in English mines always pure methane. But, even though oxygen appliances are unlikely to be of direct utility to the actual victims, they are of immense indirect value, because they allow rescuers to approach them in comparative safety, and bring them rapidly into pure air. Arrived there, oxygen appliances may again be of utility to the victim. It seems indisputable, therefore, that however far short of perfection existing appliances may be, the Government ought to insist upon some one or other of them being kept ready at mines, and on a certain number of miners at each being trained to use them, so that the experience said to be necessary before an ideal apparatus can be devised may begin to accumulate. Meanwhile, we may draw such consolation as is possible from the proof afforded by these accidents of the persistence in the race of cool, self-sacrificing courage. After the recent disaster in Wales party after party of rescuers descended, and five lost their lives. One of the first to descend and the first to suffer was a young medical man, Dr. W. Turner, of Deri, who climbed down the shaft to attend to two men known to be lying injured at its foot. After attending to these he appears to have gone further into the mine in the hope of helping others, but fell unconscious, and was only rescued five hours later. Besides suffering from carbon monoxide poisoning, he was found to have a dislocated shoulder. Among those who finally brought him to the surface was another medical man, whose name we have not yet learnt.

[1] BRITISH MEDICAL JOURNAL, vol. i, 1909, p. 712.

BRITISH MEDICAL BENEVOLENT FUND GUILD.

A MEETING was held at the house of Sir John Tweedy, 100, Harley Street, on October 28th, for the purpose of inaugurating a guild in connexion with the British Medical Benevolent Fund. The object of the guild is to make the fund more widely known and to obtain additional support for it, especially from women, and to supplement its work by giving help and practical sympathy to the beneficiaries of a more personal character than is possible for the parent fund. Sir John Tweedy presided, and among those present were: Lady Tweedy, Sir William and Lady Church, Lady Barlow, Mrs. Butlin, Mrs. Scharlieb, Mrs. Rose Bradford, Lady Fripp, Lady Bennett, Mrs. West, Mrs. Liveing, Mrs. Godlee, Mrs. Crocker, Lady Critchett, Dowager Lady Broadbent, Lady Broadbent, Miss Broadbent, and Dr. West. The Chairman said there was appalling distress among the poorer members of the medical profession, and without some such help as this fund had been able to give hundreds of wives, daughters, and sons of doctors would have had to face extreme poverty and destitution. Lady Tweedy gave particulars of many cases of distress among the families of many members of the medical profession, and urged that in the new guild ladies should be the missionaries of the Benevolent Fund. The guild proposed to visit and take personal interest in the cases recommended by the Executive Committee of the fund, to make gifts of clothing and other necessaries, and to do such other work as might from time to time seem desirable and be approved by the Executive Committee of the fund. Dr. West said that while the fund would deal with money, the guild would give not money, but money's worth. There could be no worthier object than the relief of the poor members of the medical profession, and the guild appealed for support, not to the medical profession only, but to the public at large, upon whom it has such strong claims. Dr. West then proposed a resolution that such a guild should be established. This was seconded by Lady Church and carried unanimously. The following officers were appointed: President, Dowager Lady Broadbent; Treasurer, Dr. May Thorne; Chairman, Lady Tweedy; Honorary Auditor, Mr. Knox, with a council and various committees. The guild is to consist of members who pay not less than 10s. 6d. annually and associates who give not less than 2s. 6d. annually and their personal services. The guild has, we understand, already met with very cordial support from wives of members of the profession in London, and we have no doubt that it has only to become more widely known to ensure offers of help from ladies residing elsewhere. Subscriptions and donations to the guild may be sent to Lady Tweedy, 100, Harley Street, and to Dr. May Thorne, 148, Harley Street. Parcels of clothing, etc., to 11, Chandos Street, Cavendish Square. Letters and communications to the Secretary, 100, Harley Street.

DR. RAYNER OF STOCKPORT.

WHEN early this year Dr. Edwin Rayner resigned his position on the active staff of the Stockport Infirmary, after thirty-four years of hospital work, we announced that his resignation had been received by the committee of the hospital with great regret, and that he had been appointed Consulting Surgeon and Vice-President of the hospital. On October 28th further evidence of the high esteem in which Dr. Rayner is held in Stockport was afforded by a short ceremony which took place at the infirmary, when Dr. Rayner was presented with a very fine service of silver plate on behalf of a large number of subscribers. The presentation was made by Mr. Sydney Hollins, Chairman of the Infirmary Board, who asked Dr. Rayner, in accepting the gift, to accept also from those present, from every one connected with the infirmary, and, in fact, from the whole of Stockport, their

gratitude for the good and kind work he had done in the town and the district so long and so well. Major Alan Sykes, Treasurer of the infirmary, said that it was the habit of a treasurer to discharge debts with money, but there were some debts which could not be so discharged, and the obligation under which Dr. Rayner had put the infirmary was one of them. It was the support of men like Dr. Rayner, eminent in their profession and honoured in their walks of life, which obtained the support and respect of their fellow-citizens for institutions such as the infirmary, and which gave confidence to the people that the administration of an institution like that was conducted on right and proper lines. The Mayor said that the feeling towards Dr. Rayner which found expression in the presentation was in fact general throughout the town. Canon Symonds and Mr. Alderman William Lees having spoken in the same sense, Dr. Murray said a few words on behalf of the medical staff of the infirmary. He spoke of the chivalry and loyal affection with which Dr. Rayner had guided their deliberations, of the very high esteem in which the profession in the town held him, and to the evidence which the fact that Dr. Rayner was treasurer of the British Medical Association afforded that that opinion was shared far beyond the bounds of Stockport. Dr. Rayner, in acknowledging the presentation, recalled some memories of former members of the medical staff of the infirmary which he had known since his school days. In the work of the infirmary there was, he said, a kind of partnership between the medical staff and the public, the latter finding the money and the staff the work done within the institution. As the one would be no use without the other, it was a very fair partnership, and it was only right that the outside partners should know of the great services which the progress of surgery had enabled the inside partners to render to the many hundreds of people who applied to the hospital for relief in their physical needs. He relinquished his services to the institution in the happy assurance that his successors would carry on its great and beneficial work with equal success. The presentation consisted of twenty-nine articles in solid silver, including twenty fruit stands, six flower vases, two rose bowls, and one fruit dish. The larger articles bore an inscription to the effect that the presentation had been made by the supporters and friends of the Stockport Infirmary to mark their appreciation of Dr. Rayner's valuable services as honorary surgeon for a period of thirty-four years. It should be added that Dr. Rayner has been presented by the medical profession in the town with a handsome silver salver.

MOTOR CAR INSURANCE.

A POINT has been raised in connexion with the "Doctor's" Motor Car Policy issued through Lloyd's which it seems desirable to clear up. Section I provides against "all damage to car which is the direct "result of accidental collision or impact with any "object (excluding wilful damage, wear and tear, and "mechanical breakdowns)" the question which has arisen on this is, Does the policy cover a collision due to brakes failing to act or to the steering gear going wrong? The answer is that it does. The underwriters will pay for, or make good all damage to, a car which is the direct result of accidental collision, whether such collision resulted from some mechanical breakdown or not. On the other hand, if an axle were to break when the car was being driven over a bad road, the damage done would not be covered under either the doctor's policy or comprehensive policy "A." Such accidents are covered by the comprehensive "B" policies. To take a concrete instance, the premiums on a 9-h.p. car, valued at £300, would be: Doctor's policy, £11 10s.; comprehensive policy "A," £10; comprehensive policy "B," £12 10s.; comprehensive policy "B," including special compensation, £13 15s. Under the doctor's policy an estimate for the repairs must be lodged immediately, and compensation for loss of use of the car begins two days after receipt of the estimate. Full particulars can be obtained on application to the Secretary and Agent of the Medical Insurance Committee, 429, Strand, London, W.C.

PROFESSOR OSLER ON THE HISTORY OF MEDICINE.

PROFESSOR OSLER delivered the inaugural lecture of the York Medical Society's winter session on November 2nd. He traced the work and influence of the great Greek physicians through the Byzantine, Graeco-Roman, and Arabian schools, and remarked that the Arabians really discovered chemistry and the pharmacopoeia, and preserved the light of medicine when priests and monks treated the sick with superstitious remedies. Two Oxford men did something for the revival of medicine in England—Roger Bacon and John of Gaddesden, the latter being the author of the *Rosa Anglica*, one of the earliest printed medical books. He it was who cured the young Prince Edward of small-pox by the use of red blankets, thus introducing the use of red light, a modern treatment. Referring to the revival of medicine in Europe by the founding of the Universities of Montpelier and Bologna, the latter made illustrious by the work of a contemporary of Dante, the great physician Tadeo, who was regarded as the first citizen of Bologna and, as a public benefactor, exempted from taxes. The founder of modern anatomy was Andreas Vesalius, and what he did for modern anatomy Harvey did for modern physiology. But none of the great men in the early schools of medicine could have had the faintest conception of the possibility of such progress as the Victorian era had witnessed. Great as had been their achievements in literature, yet greater in the physical sciences, and greater still in social and political reform, they were as nothing in respect to the gifts which modern medicine had given to suffering humanity—the conquest of pain, Listerian surgery, and the control of infectious diseases. A vote of thanks to the lecturer was moved by Dr. Jalland. The Dean of York, who supported, remarked that he commenced his early clerical life in Gaddesden, where John of Gaddesden was said to have cured the prince of small-pox.

ETHER DAY AT BOSTON.

COMMEMORATION exercises were held at the Massachusetts General Hospital on October 16th, in honour of the anniversary of the first use of ether by Dr. William T. C. Morton in 1846. President Emeritus Charles W. Eliot, of Harvard University, delivered an address in which he defended animal experimentation. A bronze bust of Morton was exhibited; it is to have a permanent place in the Smithsonian Institute in Washington. The inscription on the base is as follows: "MDCCCXIX. MDCCCLXVIII. Discoverer "of surgical anaesthesia. By whom pain in surgery "was averted and annulled. Before whom in all time "surgery was agony. Since whom Science has control "of pain."

A TUBERCULOSIS CONFERENCE AT OXFORD.

A CONFERENCE on Tuberculosis is to be held, under the auspices of the Oxford and Reading Branch of the British Medical Association and the Oxford Medical Society, on Tuesday, November 9th, at 3.15 p.m., in the Pathological Laboratory, the Museums,

Oxford. During the week the Exhibition of the National Tuberculosis Association will be held in Oxford, to which the public and the profession are cordially invited. It is an educational exhibit in which, so far as possible, everything relating to the disease will be shown. On Monday, Wednesday, Friday, and Saturday, at 3.30 p.m., popular lectures will be delivered by Dr. Theodore Acland, Dr. Bosanquet, Dr. Arthur Latham, and Dr. French, of London. On Tuesday afternoon and evening special professional meetings will be held in the Pathological Laboratory in the Museums. The programme will be found in the SUPPLEMENT in the Association Notices under the head of the Oxford and Reading Branch (see p. 300). On Thursday afternoon, at 3.30, in the Examination Schools, there will be a public meeting, presided over by Lord Valentia. The Lord Bishop of Oxford, the Vice-Chancellor, the Mayor, Sir William Anson, will make brief remarks, and addresses will be given by Dr. Philip, of Edinburgh, and Dr. Newsholme, Medical Officer to the Local Government Board.

THE friends and pupils of the late Professor Arthur Gamgee have initiated a fund which is intended to mark their high appreciation of his eminent services to science and his life-long devotion to the prosecution of knowledge. Subscriptions to the Gamgee Fund may be sent to Professor Arthur Schuster, Victoria Park, Manchester; Dr. A. D. Waller, Physiological Laboratory, University of London, S.W.; or to Dr. G. A. Buckmaster, University College, London, W.C. A meeting will be held shortly, the date and place of which will be announced in due course.

Medical Notes in Parliament.

The Housing Bill and the Lords' Amendments.

THE whole sitting on Monday last, which lasted till after 3 on Tuesday morning, was devoted by the House of Commons to the consideration of the Lords' amendments to this bill.

The discussion opened with a very conciliatory speech by the President of the Local Government Board, who then moved to disagree with the first amendment, which altered the proposals of the Government for the acquisition of land for housing.

A lively debate ensued, in the course of which Sir Walter Foster pointed out that what was feared were the delay and expense entailed by the procedure set forth in the amendment under consideration. The proposal that an order for the acquisition of land should be laid on the table of both Houses of Parliament was a subtle method of delay, the effect of which would be a reversion to the cumbrous and expensive method which had obtained for many years.

After nearly two hours' debate the Lords' amendment was rejected by a majority of 116, and the consequential amendments also similarly disposed of. The increased powers given to the Local Government Board were criticized at some length, but were retained in nearly all particulars, and proposals of the Lords to exclude London and the county boroughs from the purview of the bill were also disagreed with. Two amendments were refused on the ground of privilege as they touched on finance.

The right of the landlord to inspect his house on twenty-four hours' notice, inserted by the Lords, was adversely criticized by Mr. Keir Hardie, Mr. Lupton, and others, but was finally accepted, as were also the amendments extending the time from fourteen to twenty-one days for making repairs and the power of closing a house unfit for habitation instead of repairing it. The amendments allowing the landlord an appeal to the county court instead of the Local Government Board were struck out in every instance. The Lords' definition of a landlord as a person who lets a house "to a tenant for his own habitation" was disagreed with after some discussion, in which Sir Walter Foster pointed out that it would enable many houses which were in a deplorable condition to be let to a "man of straw," who would stand between the local authority and the responsible owner. This elicited an interesting and amusing speech from Mr. Balfour on the definition of a "man of straw." Clause 24, which had been struck out in the Upper House, was reinserted.

Later on a debate arose on Clause 44, which prohibits the erection of back-to-back houses but which the Lords had modified so as to allow the medical officer to pass certain houses so built, as in the case of Leeds. This extension was warmly supported by the members for that city, but Mr. Burns would have none of it. He said there had never been a reformer interested in housing for the poorest of the working classes who had not found that wherever back-to-back houses prevailed insanitation, fever, disease, and anaemia followed in their track. As against one authority who asked to be allowed to build these houses, all others, all Government departments, and all medical officers of health that he knew were against them. The Local Government Board inspectors were unanimous. The Leeds Trades Council, members of which lived in these houses, unanimously passed a resolution asking him to ignore the representations of property owners, and to have nothing to do with such houses. Dr. Niven had shown that in districts with no back-to-back houses deaths from all causes were 27.5, as against 38 in those with back-to-back houses: for infectious disease the difference between districts with and without these houses was the difference between 4.5 and 8.7 per 1,000, for consumption between 2.8 and 5.2, and for death from diarrhoea among children between 1.4 and 3.4. It was the general experience that these houses were bad. The advocates of back-to-back houses were supported by Mr. Lupton, who said that Mr. Burns had proved too much, but when a division was called the Lords' amendment was rejected without a vote being taken.

The town planning part of the bill was next taken, and the amendments mostly disagreed with or amended.

When Part III was reached, on Clause 68, appointment of medical officer by county council, Mr. Burns moved a new subsection to give the Local Government Board power to prescribe the general duties of the medical officer, in place of the subsection struck out by the Lords. A brisk debate arose on this proposal although it was close on 2 in the morning, as Mr. Adkins resisted on the part of the county councils, and appealed to the Government not to tie the hands of county councils in this way. It was, he argued, an attack on the capacity of great local authorities. Sir William Collins also regarded it as an invasion of the rights of local governing bodies in regard to the control of their own officers. Sir Walter Foster said the campaign against bad housing ought to be directed on general principles laid down by the Local Government Board, while the local control of the medical officer could be retained by the County Council. In this matter of public health they did not owe any great debt of gratitude to the county councils. For many years they had neglected their duties in this respect. Only a few of them undertook their duties. When the Bill of 1888 was before the House he had contended for the compulsory discharge of duties in this connexion, and it was not granted. A clause was inserted in this bill to compel every county council to appoint a medical officer, and he thought no county council would be injured by having general regulations laid down by the highest possible authority in this country—he might say by the highest authority in these matters in the world. The House then divided, and carried Mr. Burns's amendment by 77 to 25.

The restoration of the subsection struck at by the Lords giving the medical officers of a county the right of appeal to the Local Government Board against dismissal then came on, and was opposed by Mr. Adkins and Mr. Munro Ferguson as humiliating to great local authorities and unnecessary. A long debate ensued, in which Lord Morpeth, Mr. Bowles, Mr. Everitt, and Mr. Jowett also opposed.

Sir Walter Foster strongly supported the proposal, and said that it must not be forgotten that the bill placed new duties on the medical officers of health, and that they were to have relations with property owners which they never had before. One of the matters with which he frequently had to deal when at the Local Government Board was the dismissal of medical officers because they had interfered with bad property, and they had a difficulty in keeping these men in their positions. He would like to see, not only every medical officer of health of a county, but every officer in the country have the right of appeal to the Local Government Board. No local authority would ever be refused by the Local Government Board the right of dismissal when officers had done wrong. It was only when the medical officer was in the right that the Local Government Board would not sanction his dismissal. On a division the right of appeal against removal was carried by 75 to 23.

The remaining clauses of the bill and the schedules were next amended in several particulars and the Lords' amendments in most instances disagreed with, and the reasons for disagreeing with the Lords' amendments reported and ordered to be communicated.

Enteric Germ Carriers.—Captain Clive asked the Secretary for War whether the supposed enteric germ carriers were still being detained in military hospitals and subjected to experimental medical treatment; and when he proposed to publish a further report on the success, or want of success, of this treatment. Mr. Haldane said that the Army Council had decided that germ carriers should be treated for three months in hospital on arrival in England, and if not cured at the end of that time would be given the option of remaining in hospital for further treatment. If they declined further treatment they would be discharged from the service. Consequent on this decision the men now at Netley would be discharged from the service if they declined further treatment. The second report on the carriers would shortly be published. In answer to a suggestion that the matter should be referred to an unprejudiced authority for investigation, Mr. Haldane said that he thought the Army Council was an unprejudiced authority. Mr. Lupton then asked if many did not think the whole subject of germ carrying, as now dealt with, nonsense, and Mr. Haldane answered that this was a new branch of knowledge which was not so far advanced as he should like it to be.

Deaths from Fever in India and Sanitary Expenditure.—Dr. Rutherford asked the Under Secretary of State for India last week whether, in view of the Viceroy's statement on October 12th at Simla that the deaths from fever in India during the last ten years averaged nearly 4½ millions, and that last year the deaths were one million over the average, and the increase was believed to be due to malaria, he could say how much money was allocated by the Government of India in 1898 and 1908 respectively, under the following heads: sanitation, irrigation, education, railway, and army. The Master of Elibank replied that the expenditure on sanitation was not recorded under one head in the accounts, as officers of various departments were engaged in work intended to improve the health of the people. He had, therefore, grouped together, as representing expenditure of this nature, the outlay shown in the Government Accounts under the head "Medical," the outlay shown in the same accounts under the head "Civil Works" for hospitals, dispensaries, drainage, waterworks, and similar objects, and that shown in the accounts of municipalities and other local bodies under the heads "Medical," "Conservancy," "Water Supply," and "Public Health and Convenience." The total expenditure under all these heads amounted to £2,915,000 in 1897-8, and £4,455,000 in 1907-8. He might add that a special permanent grant of £200,000 a year was made in 1908-9 by the Government of India to Provincial Governments to be used for additional expenditure on sanitary purposes.

Civil and Military Medical Services (India).—Mr. Hazleton asked the Under Secretary of State for India whether the higher grades of both the civil and military medical services in the Native States were usually filled by Indians to the entire satisfaction of the Government and the people; whether similar posts outside these States were held by officers of the Indian Medical Service at much higher salaries; and, seeing that this latter system led to extravagance, inefficiency, and discontent, whether he proposed to abolish it by filling these places as in the Native States. The Master of Elibank replied that so far as the Secretary of State had information on the subject, in the twenty-five most important Native States the headship of the medical department, with six exceptions, was held by an Indian: in the six mentioned the head was an officer of the Indian Medical Service; but in sixteen of the remainder there was an agency surgeon, whose advice was doubtless available to the Durbar in medical matters. He had no information as to other medical appointments in those States, and had not heard that any dissatisfaction with them had been expressed. As to the system in force outside those States, and the measures being taken in connexion therewith, he referred Mr. Hazleton to the papers recently laid on the table of the House.

Sanitation and Malaria in India.—Mr. Rees asked the Under Secretary of State for India whether he had any official information showing that the diminution of deaths from malaria necessarily followed upon improved sanitation, or whether it was still doubtful if improved sanitation materially lessened mortality from malaria; and whether the Secretary of State had any figures in relation to those matters which he could lay before the House. The Master of Elibank answered that the Secretary of State saw no reason to doubt the conclusion of medical authorities in India that rational sanitary improvements, by raising the public health, tended to increase immunity against malaria, and that particular measures such as drainage, clearing of sites, and distribution of quinine directly reduced sickness and mortality in epidemics. But he was unable to give reliable figures, as the effect was often obscured by imperfect mortality returns and other circumstances.

Vaccination.—Mr. Summerbell asked whether the inoculation of calves with variolous matter, or with matter impregnated with small-pox, or with matter whose origin was small-pox, produced variolous disease in the calves inoculated with it; and, if not, what was the disease which was produced in the calves so inoculated. Mr. Burns replied that the subject referred to would be found fully discussed in Paragraphs 352 to 362 of the Final Report of the Royal Commission on Vaccination. He might state briefly that, whilst the Commission of the Society of Medical Sciences at Lyons, who fully investigated the matter in 1865, failed to transform human small-pox into cow-pox by inoculating cattle, other experimenters had succeeded in so doing, but that the eruption produced was entirely local in its character, and was incapable of producing small-pox in human beings. Mr. Summerbell also asked the President of the Local Government Board whether he would issue an order to boards of guardians and public vaccinators giving practical effect to Section 32 of the Vaccination Act, 1867, in view of the fact that the lymph now in use for vaccination had probably a variolous origin. Mr. Burns said that he was not aware that any order was required, or indeed could be issued, to give effect to Section 32 of the Vaccination Act, 1867. As he had pointed out on September 28th in reply to a question, that section rendered it an offence to produce or attempt to produce small-pox in any person by inoculation with variolous matter or by any other means. Most of the lymph used in cases of primary vaccination was that supplied from the Government Lymph Establishment. That lymph did not produce, and was not used to produce, small-pox, and persons using

it did not come within the section. There was no reason to doubt that the same observations applied to other lymph in use in this country.

Medical Inspection and Vaccination.—Mr. Lupton, in connexion with the recent incident in Hertfordshire, asked the President of the Board of Education whether it was in accordance with the rules of the Board that the examination of children should be used for the advocacy of cowpoxing, and if not, what steps he proposed to take. Mr. Runciman, in reply, stated that the local education authority had been advised that "care must be exercised . . . so that the work of medical inspection may not be prejudiced in the minds of parents who have a conscientious objection to vaccination," and that "the inquiry should not be used as the basis of action under the Vaccination Acts."

Feeding Suffragettes in Prison.—Mr. Keir Hardie asked the Secretary of State for the Home Department whether Mrs. Leigh was still being fed by force in Winson Green Gaol, Birmingham; whether persons convicted of a similar offence to hers at Newcastle, Dundee, and elsewhere, who refused voluntarily to take food were liberated; and on what grounds forcible feeding was being applied to Mrs. Leigh and not applied to the other cases named. Mr. Gladstone said in reply that, since the outbreak of violence at Birmingham in September, he had followed one rule with regard to the prisoners who refused to take food. Where they were reported medically unfit to be fed by artificial means he had advised the remission of their sentences as soon as this was recommended by the medical authorities of the prison. In other cases it had been obviously impossible for him to remit the sentences, and they had received the medical treatment appropriate to their condition. Some of the Newcastle prisoners were released on medical certificates; others served their sentences under suitable medical treatment. In the case of Mary Leigh, there was no indication until Friday last of any medical reason for her discharge; but on Friday, owing to a change in her condition, a consultant was called in, and on Saturday he received certificates which showed that her health, weakened by her repeated attempts at starvation, was suffering, and her discharge was immediately authorized. In reply to further questions, he said he was not responsible for what was done at Dundee, and he declined to publish the medical reports. Mr. Keir Hardie then asked if he had any reports of the condition of Charlotte Marsh, whose sentence did not expire for some six weeks. Mr. Gladstone said that reports were furnished every day about all the cases, but if the hon. member wished he would communicate with the prison authorities. Mr. Hugh Law then asked if he was prepared to abandon this filthy and disgusting practice. Mr. Gladstone replied that he did not agree that it was a filthy practice. Hon. members had made no protest against this practice, which had prevailed for very many years past in asylums, in prisons, and hospitals, and the effect of which had been grossly exaggerated, as the hon. member was himself aware. Asked, then, if the balance of medical evidence was not to the effect that it was exceedingly dangerous, Mr. Gladstone answered: Emphatically no. The most skilled and experienced medical men had given a precisely opposite opinion.

Care of Feeble-minded.—Mr. Henry Walker asked the Prime Minister on Monday whether, in view of the unanimous recommendation of the Royal Commission on the Care and Control of the Feeble-minded in favour of taking out of the Poor Law all classes of mentally defective persons and of removing the feeble-minded from the workhouses, steps were now being taken for the preparation of legislation on the subject; and whether, in the meantime, care would be taken not to give the sanction of His Majesty's Government to any schemes of local authorities which would involve in any Department expenditure in a direction contrary to the recommendations of the said Royal Commission. Mr. Asquith replied that the Government were alive to the importance of this matter, and he would refer to a statement of the Home Secretary, made on August 31st last, in reply to a deputation. The Home Secretary on that occasion said that, though there might be considerable difficulties in the way of legislation, he was in agreement with the deputation as to the importance of the subject, and that he had ascertained that the Lord Chancellor was of the same opinion; and he added that he hoped to be able to make a practical effort next session in the direction of legislation. In answer to the latter part of the question, he would refer to an answer given on August 27th by the President of the Local Government Board, in the course of which he gave an assurance that he would bear in mind the recommendations of the Royal Commission, but that, pending legislation, he was not prepared to undertake that his sanction should be withheld in all cases in which proposals for new buildings for inmates of the class described might be brought before him.

The Sanitary Condition of Croydon.—Mr. William Thorne asked questions on Monday last relating to the large number of cesspools in Croydon, and the menace to the public health therefrom, and asked the President of the Local Government Board whether he would request a report to be made by the medical officer of health, or, if not, whether he would direct a local inquiry to be held. Mr. Burns replied that it was estimated that there were 11,900 inhabited houses in the Croydon rural district, and that approximately 400 properties drained into cesspools. Of these 270 were outside the areas in respect of which there was an agreement between the councils of the borough and of the rural district for the reception of the sewage into the sewers of the corporation, and these houses were stated to be for the most part in rural portions of the district, and at a considerable distance from an outfall sewer. In one parish, Woodmansterne, it was stated that there was urgent need for main drainage for about ninety houses near the boundary of Coulsdon which could be connected with the borough sewers, but this parish was outside the areas from which the corporation received the sewage, and he was informed that they refused to extend these areas except upon terms which the District Council were unable to accept. The Rural District Council, who had spent some £220,000 on works of sewerage and sewage disposal, had schemes already sanctioned or in course of preparation in respect of seventy of the properties in the parishes of Beddington, Coulsdon, and Sanderstead, parts of which were included in the drainage areas, and it was stated that the remainder of these properties were, with a few exceptions, in isolated places where at present the cost of sewer extension would be unreasonable. It was added that in every case where a public sewer was within 100 ft. of the property draining into a cesspool, the owner had been urged by notice or otherwise to connect with the sewer. The Rural District Council had offered to instruct the medical officer of health to prepare a report upon the matter referred to, and he had requested that this might be done.

The Sewerage of Kilkee.—In answer to Mr. Arthur Lynch, Mr. Birrell stated that the question of the unsatisfactory sewerage of Kilkee had occupied the attention of the Local Government Board for a long time, which in 1904 issued an order dealing with this subject and with the water supply. Legal difficulties had, however, considerably delayed the Kilrush Rural District Council in procuring an improved water supply, without which new sewers could not advantageously be laid down. As the Board now understood that the new water supply would shortly be in working order, it had urged the District Council to appoint an engineer and obtain plans for the sewerage system. In the event of unnecessary delay in proceeding with the works the Board would take steps to enforce its order.

Health Resorts and Watering Places (Ireland) Bill.—This bill was read a third time in the Lords last week and passed.

England and Wales.

[From Our Special Correspondents.]

LONDON.

The Medical Treatment of School Children in London.

As already reported in the British Medical Journal (July 17th, 1909, p. 155, and July 31st, p. 295) the London County Council before the summer recess accepted the offers of various hospitals to provide medical treatment, either gratuitously or for payment, for children attending the London elementary schools, and instructed the Education Committee to negotiate with other hospitals which might be prepared to undertake treatment.

The Education Committee on November 3rd had before it the results of inquiries addressed to fifty-five hospitals. The Day Schools Subcommittee, which made the investigations, reported that of the fifty hospitals which had replied eighteen had either not expressed any desire to co-operate with the Council in the matter or were sympathetic, but unable to undertake additional work. This number included the Paddington Green Children's Hospital, which in July was prepared to provide medical treatment free of charge, but now stated that it was not in a position to undertake additional work. The committee of the London Hospital, which had also offered free assistance, had since intimated a desire to come to an agreement on the financial basis proposed by the Council for the treatment of children sent to it. The undermentioned four hospitals were now providing medical treatment free of charge to the Council for the following number of children:

Hospital.	No. of Cases which can be Treated per Week.			Total.
	Eyes.	Ear, Nose and Throat.	Skin.	
Central London Ophthalmic ...				
Queen's (Children's)	198	75	28	301
Royal Westminster Ophthalmic				
Victoria (Children's)				

In addition about 90 children a week were being treated at Guy's Hospital, the authorities of which expressed their willingness to deal with school children in accordance with the regulations of the hospital. Arrangements were now being made to secure that, as far as possible, 390 children per week attended the hospitals named.

The authorities of the remaining 27 hospitals desired financial assistance, and final terms had been suggested in respect of 14 of these hospitals. As a guide in determining the extent to which provision is necessary the subcommittee had before them figures prepared by the Medical Officer (Education) in April, 1909. It was then estimated that some 44,000 children required treatment for bad vision, discharging ears, or ringworm, and they had taken that figure as the annual number for which provision was necessary, although there was much difficulty in dealing with estimates of that kind. The hospitals providing free treatment had undertaken to deal with 17,000 children a year, but the subcommittee found that, owing to the location of the hospitals, the districts which might reasonably be expected to serve these hospitals would not be able to supply more than 16,000 children suffering from the ailments referred to. Provision had therefore to be made for the remaining 28,000 children. A certain proportion of this number —say, one quarter—would probably obtain treatment privately or at hospitals with which the Council had not made arrangements. The subcommittee was accordingly of opinion that it would be well to assume that medical treatment would have to be paid for in respect of 21,000 children.

There would be considerable difficulty in controlling the numbers of children attending the hospitals with which the Council might make arrangements, and the committee thought, therefore, that in making arrangements with the hospitals on a financial basis, it would be well to leave a margin between the number of cases to be treated by the hospital and the number of cases estimated to require treatment, at all events until they had had some experience as to the extent to which the parents would conform to the arrangements made by the Council.

Having regard to this difficulty and to the arrangements already being carried out at the hospitals which are providing free treatment, the committee had considered the facilities offered by the various hospitals desiring financial assistance, and found that the undermentioned eight hospitals could be utilized for the treatment of approximately 16,000 children a year, suffering from eye, ear (including nose and throat), and skin ailments, at a cost of about £4,000 a year:

The Belgrave Hospital for Children, Clapham Road, S.W.	1,750	cases.
Charing Cross Hospital, W.C.	2,200	,,
The Hospital for Diseases of the Throat, Golden Square, W.	1,000	,,
King's College Hospital, Lincoln's Inn Fields, W.C.	500	,,
The London Hospital, Whitechapel Road, E.	4,750	,,
The Metropolitan Ear, Nose, and Throat Hospital, Tottenham Court Road ...	500	,,
The Royal London Ophthalmic Hospital, Moorfields, E.C.	*3,000	,,
St. George's Hospital, Hyde Park Corner, S.W.	2,000	,,
Total	15,710	,,

The subcommittee recommended that these offers be accepted, and in commenting upon the details of the agreements proposed to be entered into in each case, remarked that the charges varied somewhat in form from those upon which the Council decided that negotiations should be conducted, although there was not much difference in the total charge, except in the case of the treatment of ringworm. The authorities of the Charing Cross and King's College Hospitals needed a grant for new apparatus, and, in the case of the London Hospital, a grant for apparatus was desired if found necessary. The *per capita* charge for the treatment of ringworm by means of *x* rays at the London Hospital was temporarily fixed at 7s., and at Charing Cross and St. George's Hospitals the charge for this form of treatment had yet to be determined. The basis of payment at the Hospital for Diseases of the Throat, Golden Square, and the Metropolitan Ear, Nose, and Throat Hospital was an inclusive *per capita* charge of 4s. in each case. In some instances the hospitals stipulated that the *per capita* payment should be made whether or not the Council actually sent the specified number of children to the hospital. The authorities of the Royal London Ophthalmic Hospital were considering proposals for the establishment of a school eye clinic within the hospital, involving an initial expenditure of £1,200. In this building 12,000 children a year (48 a day for 250 days) could be treated. Apart from the question of the capital expenditure referred to, the annual charge for 12,000 cases would be £2,400. The committee did not think that it would be possible for the Council to contribute any part of the capital expenditure, and had informed the hospital authorities accordingly. They proposed that the authorities of the hospital should be asked to provide treatment for not less than 3,000 or more than 6,000 children on the basis of the above annual charge.

The subcommittee also recommended the acceptance of the offer of the committee of the Charing Cross Hospital to provide treatment by means of *x* rays for twenty-five children at a cost of £35, and stated that there were no reliable data upon which to estimate the cost of this form of treatment, but the

* The number of cases to be sent to this hospital is to be increased if necessary, but is not to exceed 6,000.

authorities of the Charing Cross and St. George's Hospitals had agreed to undertake a preliminary treatment of twenty-five children suffering from ringworm by means of x rays with a view to determining this. The committee of the Charing Cross Hospital required a guarantee that the Council would refund to them the cost of the experiment not exceeding £35—namely, £25 for a clinical assistant and £10 for apparatus. They thought, however, that it was probable that the actual cost would work out at less than that sum. To meet the convenience of the hospital it was desired that the experiment should be put into operation as early as possible in October, 1909, and, in view of the urgency of the matter, the Chairman of the Education Committe gave the required guarantee, and the experiment began on October 18th.

The subcommittee had also received proposals from various dispensaries and other institutions, and submitted one emanating from the Hampstead Council of Social Welfare, which offered to provide gratuitously, for one term, medical treatment for children attending public elementary schools in the borough of Hampstead who were suffering from affections of the eyes, ears (including throat and nose), and skin. It was proposed that the treatment should be provided at two clinics situated in the eastern and western districts of the borough respectively. The eastern clinic would be conducted at the out-patient department of the Hampstead General Hospital, which is at present closed. With regard to the western clinic, the Hampstead Council of Social Welfare desired the use of accommodation at the Kingsgate Road London County Council School (Hampstead). It had, however, other accommodation in view which could be utilized for the purpose of the western clinic in the event of the Council being unable to grant the use of Kingsgate Road London County Council School. The treatment would be given by local doctors who were specialists in respect of the ailments in question. The Hampstead Council of Social Welfare was willing to make special arrangements for dealing with children suffering from ringworm and was also prepared to undertake to secure that minor operations were undertaken by the doctors engaged at the clinics, who would provide an anaesthetist when necessary. Cases requiring operations of a serious nature would be referred to suitable hospitals.

The subcommittee recommended the acceptance of the offer, but advised that the use of the Kingsgate Road School should be declined.

The subcommittee added that these proposals would involve an expenditure of £4,000 a year, and would secure medical treatment for 16,000 children in respect of eye, ear, and skin ailments. There were, therefore, 5,000 children not provided for. It hoped to report shortly that further negotiations with existing institutions had reached a final stage. It might be taken that 5s. was the average cost of medical treatment by arrangement with hospitals (including the treatment of ringworm). A complete scheme for the treatment of the three ailments referred to would, it was at present estimated, therefore, involve an annual expenditure of from £5,000 to £6,000. It was difficult to make even an approximate estimate of the ultimate cost, as a year or so of experience would be necessary before this could be done. Sums which might be recovered from parents under the Local Education Authorities (Medical Treatment) Act, 1909, would, of course, affect the cost of treatment.

In conclusion the subcommittee stated that the present proposals were of an experimental nature, and would be reviewed after twelve months in the light of experience gained.

The proposals were debated at some length in the Education Committee. On the recommendation that the offers of eight hospitals be accepted, Mr. Saunders moved, and the Rev. J. Scott Lidgett seconded, an amendment that the agreements with the hospitals should include a provision that the waiting-room and other accommodation should be satisfactory to the Council, and that the hours of treatment should be convenient to working-class parents. The argument of those who supported the amendment was that the Council should exercise some control to ensure that the children received proper treatment in return for the expenditure of public money, while those who disagreed with it said that if the hospitals could be trusted to carry out treatment at all they could be trusted to give it under proper conditions.

The amendment was defeated by 22 votes to 14, and the recommendation carried.

It was also proposed by Mr. Bray to qualify the acceptance of the offer of the Hampstead Council of Social Welfare with the words "provided that the Council is satisfied as to the qualifications of the medical staff, and with the waiting room provision and the hours of treatment." The Chairman having stated that the medical men chosen for the work were approved by the Council's medical officer as "men sufficiently qualified and with good degrees," the amendment was altered to "understanding that the qualifications of the medical men are satisfactory and provided that the waiting rooms and hours of treatment are approved by the Council."

The whole report was then agreed to and will be submitted to the Council for final approval.

Tuberculous Cows.

The suggestion was made, at the meeting of the London County Council on November 2nd, that the result of the administration of Part V of the Council's General Powers Act, 1904, authorizing the seizure of cows suffering from tuberculous udders, has been to encourage dealers to send diseased cattle to London. Mr. Reynolds, commenting on a report by the Public Health Committee that a number of cows had been seized and slaughtered, said that in recent years an illicit trade in diseased animals had grown up. The medical officer of health for Portsmouth in a report directed to the "menace to health through the systematic trade in diseased animals, particularly tuberculous cows carried on in markets outside Portsmouth," and stated that owing to measures taken by the town, the animals were sent to other places, and specially to London. Mr. Reynolds thought the London County Council was paying excessively high compensation, and that the result was to tempt dealers to send diseased cattle to London. He wondered how long the cows mentioned in the present report had been in the hands of the owners. Mr. Easton remarked that until the Government passed general legislation to deal with the milk industry it would not be possible to trace a particular cow. Mr. Gilbert Johnstone, Chairman of the Committee, said the possibility of tuberculous cows gravitating to London as a consequence of the Milk Act had not been overlooked. Since last March only 22 cows had been seized in London, and there was no indication that an unusually large number of diseased cows were coming into London. The inspectors had instructions to report at once if they saw any sign of such a thing, and also to ascertain how long a particular cow had been in the possession of its present owners. Most of the cases which came before the Committee were undoubtedly bona fide, for it was only after careful expert examination that the indications of disease were detected.

MANCHESTER AND DISTRICT.

The Vicarious Philanthropy of a Lancashire Coroner.

The failure on the part of coroners to summon medical men to inquests where it is practically certain that the conduct of the medical man will come under review is fast becoming a scandal. It may not always be possible to know beforehand that a doctor's conduct will be impugned, but when that occurs unexpectedly, one would have thought that regard for common fairness would prevent any coroner making any remarks in court reflecting on a medical man who is not present to defend himself. A few words of explanation would often put a totally different construction on statements which by themselves give a wrong impression. Half a truth is

often worse than a lie in its effects, and it is surely an elementary duty of a coroner not to form conclusions from half-truths where it would be quite easy to obtain the whole truth. It is a matter for the greatest surprise that this fact seems to have been forgotten by Mr. Brighouse, the county coroner for the Ormskirk district of Lancashire, especially as on previous occasions he has shown himself by no means ill-disposed towards the medical profession. In an inquest held not long ago by Mr. Brighouse at St. Helens on a baby a few hours old, Dr. Unsworth, who had made a *post-mortem* examination, gave it as his opinion that the cause of death was premature confinement of the mother, and that the child would have had no chance of recovery even with medical attendance. The verdict was death from natural causes. It was stated in evidence that the child was born about 4 a.m., and that at 5 p.m. a midwife found it apparently in a fit. It was sent to Dr. O'Keeffe's surgery, but as he was out, it was taken to Dr. Bassett's. The witness who took it said that Dr. Bassett asked what was the matter, and was told that the nurse thought the child was dying, and that he could not attend unless he was paid. As the witness was going away, Dr. Bassett, it was stated, asked what the nurse wanted him to do with the child, and the witness said she thought the nurse wanted him to look at it. He then looked at it, and said that half a crown must be sent to the surgery and he would then attend it. The coroner then said in a suggestive way that was most unfair, "Although the baby was there right in front of him, he did not prescribe for it, or say anything about it, but simply said that if they would bring half a crown he would attend to it?" The witness assented to this, and the coroner then said, "He [Dr. Bassett] was within his strict legal rights, but whether he was within his moral rights I do not know. I will leave that to his conscience." It was stated that the father of the infant was shiftless and lazy, and the utter poverty of the family was due to his laziness. The coroner gave £1 out of the poor box, to be spent on the mother, and said "Let her know that there is at least one person with some compassion in his soul." One hardly knows which to be the more surprised at, the coroner's smug satisfaction at his own compassion, which was shown by giving something which cost himself nothing, or the pharisaic remarks about the medical man, founded on statements which that medical man would have absolutely denied if he had had the least chance. Dr. Bassett is too well known in St. Helens for these remarks to affect his reputation, except perhaps among that class to which apparently the father of the infant belongs. But this in no way mitigates the offensiveness of the coroner's remarks. Dr. Bassett has stated definitely in a letter to the coroner, written since the inquest: "The baby was not brought for treatment; as it was dying when I saw it, no treatment could have been of any avail. The object of bringing it to my surgery was so that I might see it before its death and so give a certificate. This I was unable to do, because the woman who brought the baby informed me that it had been born precipitately into a bucket of water. I certainly asked for a fee, but never said I would attend if the fee were sent, as there was no question of attendance." He says further that he censured the woman for not sending for him to visit the baby, and told her that the exposure was enough to cause the child's death. "I then examined the baby, and found it to be dying. I told the woman I could do nothing and advised her to take it home and keep it warm. That was all the treatment any doctor could have given. My fee for that examination and advice was half a crown which I asked the woman to have sent. I had no knowledge of the poor circumstances of the parents from first to last." It is evident from this that Dr. Bassett did not refuse medical treatment; he did all that could be done for a child that was actually dying when he first saw it, and having done all he could be asked for his fee to be sent. If he had given a certificate, he would have been greatly to blame, though probably it was this refusal that annoyed the friends. If Dr. Bassett had given the dying child an utterly useless bottle of medicine, apparently he would have satisfied the coroner; but to charge for time and trouble and advice without "a bottle" seems to be unpardonable, for the coroner says, "It is difficult to see what services the fee had to cover." One last absurdity remains: the coroner having uttered in open court an inconsiderate censure, all of which appeared in the public press, has offered to allow Dr. Bassett to attend the next inquiry at St. Helens and to make such public statement as he deems desirable. This is a tardy recognition on the part of the coroner that Dr. Bassett has ground for complaint that he was condemned without being heard. To offer to hear him after condemning him would be but scant satisfaction, as it is proverbially difficult to overtake an unjust aspersion. The St. Helens Division of the British Medical Association has passed resolutions expressing the opinion that the inquest was incomplete, owing to the failure to call the only medical practitioner who saw the child in life, and the Division "expresses its sympathy with Dr. Bassett in the unjustified and unwarrantable attack made upon him by the county coroner in relation to this inquest." These resolutions are under the consideration of the Medico-Political Committee of the British Medical Association, and will, we understand, be included among the matters dealt with in the evidence to be given on behalf of the Association before the Departmental Committee on Coroners' Law.

NOTIFICATIONS OF BIRTHS AT ST. HELENS.

On June 23rd last the medical officer of St. Helens, in a special report to the St. Helens Town Council on the working of the Notification of Births Act there, pointed out that the medical men in that town generally refused to notify births under the Act. As a result of this report the medical officer was instructed to report the specific cases. During the four weeks which followed, 16 cases occurred of failure to notify birth, and the Council, after considering very carefully all the circumstances, was of opinion that this failure to notify by medical practitioners was the result of the improper framing of the Act, which imposed upon professional attendants of the mother duties for which they were not remunerated. The St. Helens Town Council felt that it was not morally justified in taking proceedings under this Act against such professional attendants in these circumstances, and therefore on October 6th resolved to pay for each notification of birth under the Notification of Births Act the fee of 6d. In adopting this course it was believed that the recognition of the principle of remuneration was of more importance than the amount, and that it would lead to a more efficient working of the Act.

LIVERPOOL.

ANNUAL SERVICE FOR MEDICAL MEN.

THE annual service for medical practitioners was held on the Sunday following St. Luke's Day (October 24th) at St. Luke's Church. The preacher was the Bishop of Carlisle (Dr. Diggle). After mature consideration, the committee which makes arrangements for this annual function decided to invite the members of the profession to attend in academical costume. The invitation was cordially responded to, the majority of those attending being so attired. The church was quite full in spite of the weather being most unfavourable, and the collection, over £34, was the largest taken at any of these services.

SIR JAMES BARR AND THE ROYAL INFIRMARY.

In conformity with the rule which requires the members of the staff to vacate office on attaining the age of 60, Sir James Barr's term of office as physician to the Royal Infirmary (a position which he has held since 1897) has terminated. He had previously been physician to the Northern and to the Stanley Hospitals. The election of a successor is fixed for November 24th. So far the only candidate known

to be in the field is Dr. R. J. M. Buchanan, physician to out-patients and senior assistant physician to the infirmary.

Dinner of Graduates of the University of Dublin.

The dinner of graduates of the University of Dublin resident in the North of England, which took place at the Adelphi Hotel on October 18th was in every way a brilliant success. Covers were laid for about 120, and the Chair was taken by Sir Robert Ball, F.R.S., a distinguished graduate of the university. The principal guest of the evening was the Rev. J. P. Mahaffy, D.D., M.V.O., and the official guests included Mr. Edgar A. Browne, M.Ch., and Mr. T. H. Bickerton, President of the Medical Institution. Mr. Browne proposed the toast of the evening, "The University of Dublin," in one of his charming, humorous speeches, which was replied to by Sir Robert Ball and Dr. Mahaffy. Dr. Mahaffy then gave "The Sister Universities," which was responded to by the Lord Mayor of Liverpool, who is a graduate of Oxford. Dr. T. R. Bradshaw then proposed the toast of "The Visitors," to which the Archdeacon of Liverpool and Mr. Bickerton replied. A vote of thanks to the Chairman, proposed by Canon Rountree, brought the proceedings to a close. An agreeable musical programme was rendered during dinner. Those present were generally of the opinion that the gathering was the most successful that has taken place since the annual dinner was inaugurated nearly twenty years ago, and great credit is due to the local secretaries, Dr. F. Strong Heaney and the Rev. H. D. Morgan, LL.B., for their share in its promotion.

WEST YORKSHIRE.

Dinner of Yorkshire Graduates of Edinburgh University.

The dinner of the Yorkshire Association of Graduates of the University of Edinburgh took place at the Great Northern Victoria Hotel, Bradford, on October 29th. A large number of members, including four ladies, and several guests, were present. The Chair was occupied by Dr. Rabagliati, of Bradford. The chief guest of the evening was to have been Sir Thomas R. Fraser, of Edinburgh, but he was unfortunately prevented by illness from attending. His place was very admirably filled by Dr. J. E. Eddison, of Leeds. The Chairman, in proposing the toast of "The University of Edinburgh," made a delightful speech, tracing the influence of Edinburgh graduates on contemporary thought during the 300 years of the university's existence. Dr. Eddison made an excellent and humorous reply. The toast of "The Yorkshire Association of Graduates of the University of Edinburgh" was proposed by Sir Nathan Bodington, Vice-Chancellor of the University of Leeds, and responded to by Lieutenant-Colonel John Stevenson, D.Sc. Other toasts were "Kindred Associations" and "The Guests." The speeches were interspersed by songs, and a very pleasant evening was spent.

Bradford Hospitals.

In a recent issue of this Journal it was stated that the Lord Mayor of Bradford had appealed for funds to build a new Royal Infirmary and the Royal Eye and Ear Hospital to form an extension to the present building. A controversy has arisen in the Bradford press as to the necessity or desirability of the latter extension. The question was again discussed at the quarterly meeting of the Committee of the Bradford Joint Hospital Fund held on October 28th. Some of the members of the Board of Management of the Royal Infirmary would like to absorb the Eye and Ear Hospital in the new Royal Infirmary, but the board as a whole does not appear at present to regard this as feasible. The surgeons of the Royal Eye and Ear Hospital are of opinion that the accommodation at present in the hospital is insufficient; this opinion has been challenged in the press by a layman, on evidence which is certainly incomplete. It undoubtedly is necessary to improve the accommodation at the Eye and Ear Hospital, and it is urged that the expenditure of a few thousand pounds in this way would not form an insuperable obstacle to an amalgamation with the Royal Infirmary at some future date if this was considered desirable.

Dinner of the Huddersfield Medical Society.

The annual dinner of the Huddersfield Medical Society took place on October 28th. Dr. F. H. Knaggs, President of the Society, was in the chair, and among those present were the Mayor of Huddersfield (Alderman John Holroyd) and the United States Consul (Mr. F. J. Bright). The Vicar of Huddersfield, who replied to the toast of "The Guests," said that doctors and clergymen had a common enemy to fight. All Christians and all scientific men ought to be banded together in order to try to negative the caricatures both of Christianity and science which were found among them at the present time. Mr. Harold Smith, the prospective Conservative candidate for Huddersfield, who also acknowledged the toast, said even the greatest enemies of medicine—even Christian Scientists—must recognize the great and wonderful development which had taken place in the profession during the last hundred years, and every one must appreciate the wide range of scientific knowledge and practical skill it was absolutely essential every member of the profession should acquire before he was allowed to practise. The history of the medical profession during the last fifty or a hundred years was a history of wonderful and fruitful research, of ever-growing knowledge and of devotion and self-sacrifice. The Mayor, in replying to the toast, said during the last few years the death-rate of the town had gone down considerably, and since Alderman Broadbent took up the question of infantile mortality the death-rate amongst infants had decreased considerably. When there was better housing and all the people lived above ground under sanitary conditions, and preventable diseases were done away with, he wondered what the doctors were going to do. Were they going to join the ranks of the unemployed? The toast of "The President" was given by Dr. Crosland, and responded to by Dr. Knaggs, who said that members of his family had on three previous occasions occupied the presidential chair.

BIRMINGHAM.

Reserve of Officers, R.A.M.C.

At a meeting held at the University on October 25th, Lieutenant-Colonel Macpherson, R.A.M.C., addressed the medical students and recently qualified medical men in reference to the creation of a special reserve of officers for the Royal Army Medical Corps. Between 400 and 500 additional medical officers would be required in the event of war, and only about 100 of the reserve formed by officers who have retired before the age of 55 could be calculated upon. The University of Birmingham has about 2 per cent. of the total number of students entering the medical schools of England and Wales every year, and it was suggested that it should provide that proportion of the medical officers for the special reserve. This would mean that Birmingham should contribute ten men. The terms offered to the candidates appear to be easy and liberal. The candidate must not be over 30 years of age, and if selected he will be appointed a lieutenant on probation, and will incur a liability for one year only and then from year to year. He will be required to undergo three months' training at Aldershot in military medical organization. He will be given an allowance towards outfit, will receive the army pay and allowances of his rank during the training, and £20 per annum during three years and a half. At the end of this period he will be eligible for promotion to the rank of captain on fulfilling a month's "refresher" course of training at a military medical establishment. On completing twelve years'

service he will be eligible for promotion to the rank of major without undergoing any further training, receiving the £20 per annum up to 40 years of age. He may resign his commission at any time during peace after 40 years of age, or at the expiration of any year's service, by giving one month's notice; but retirement is compulsory for captains at the age of 45, and for majors at 48. In the event of national emergency officers of the special reserve will be liable to be called up for service at home or abroad. The authorities recognize that a medical man well established in practice cannot throw up his practice and proceed on active service, but it is believed that many young, recently qualified men, or men who are about to qualify, would in their early years join this reserve, in the same way as members of the other technical professions join the General Reserve of Officers. Lieutenant-Colonel Macpherson suggested that young medical men should become members of the special reserve, and after they had settled down to private practice could join the Territorial Royal Army Medical Corps. He also pointed out that there would be special advantages to be obtained by a medical student who joined while he was a member of the Officers' Training Corps. Professor Gilbert Barling (Dean of the Medical Faculty at the University) was in the chair, and great interest was taken in the movement.

Midland Medical Society.

The first meeting for the session 1909–10 was held at the Grand Hotel, Birmingham, on October 28th, when Sir Lauder Brunton, Bart., delivered an address on vascular changes in later life. The chair was taken by the President, Mr. Frank Marsh, and the meeting was largely attended.

WALES.

Asylum Deadlock.

At a quarterly meeting of the Carmarthenshire County Council, held at Carmarthen on October 27th, attention was drawn to the deadlock which existed at Carmarthen Asylum. It was impossible for necessary work to be carried out because there was some abstruse dispute about quotas. Special attention was called to the nuisance caused by the sewage discharged from the asylum in the neighbourhood of Johnstown. The Lunacy Commissioners had threatened to report the matter to the Home Office. The following resolution was carried unanimously:

> The county council expresses its entire sympathy with the recommendations of the Lunacy Commissioners, and dissociates itself from any neglect which exists.

Pontypool Water.

At the monthly meeting of the Pontypool Urban District Council, on October 27th, a letter was read from the Pontypool Gas and Water Company, in reply to a communication from the council, calling attention to adverse reports in regard to the company's water supply by the county analyst for Monmouthshire. The letter stated that samples of water had been submitted to Dr. Thresh, of the London Hospital Medical College, who assured the company that the *Bacillus coli* was absent from both samples submitted to him. The company had taken steps to filter effectually all the water supplied by it, and was further increasing the filtration plant. The council should substitute for the old ball type of hydrants new valve hydrants, as the old type might prove a source of danger whenever it was necessary to turn off the water to effect repairs. In his analysis Dr. Thresh stated that "both waters are of good quality and well fitted for domestic purposes." The surveyor said that, although the company's manager was present when he took the last sample of water, yet the council had received the analysis of the company's sample. After further discussion, the whole matter was referred to the Sanitary Committee.

West African Medical Staff Committee.

Mr. A. Fiddian, of the Colonial Office, who has now been appointed secretary of the Departmental Advisory Committee on the African Medical Staff, is the eldest son of Dr. Alex. Fiddian, of Cardiff. Mr. A. Fiddian held the Draper Scholarship at the University College at Cardiff, and then proceeded to Oxford, where he finished up with a double first. He subsequently entered the Colonial Office, where he was assistant private secretary, a position he held at the time Mr. Joseph Chamberlain went out of office. He also served in a similar capacity under Lord Elgin.

Scotland.

[From Our Special Correspondents.]

Appointment of Principal of Aberdeen University.

The King has been pleased, on the recommendation of the Secretary for Scotland, to approve the appointment of Rev. George Adam Smith, M.A., D.D., LL.D., Professor of Old Testament Language, Literature, and Theology, at the United Free Church College, Glasgow, to be Principal of the University of Aberdeen to fill the vacancy occasioned by the death of the Very Rev. John Marshall Lang, D.D. The appointment was not unexpected, as for some time Professor Smith's name has been freely mentioned in connexion with the vacancy. It is believed that there were some ten candidates for the Principalship, and rumour has it that neither Lord Pentland nor Mr. Asquith considered that a divinity professor was an ideal candidate, but apparently Dr. Smith's personal merits have outweighed this consideration. The new Principal is well known in Aberdeen where he occupied for a short period the chair of Hebrew in the United Free Church College at the time of the Robertson-Smith controversy, and thereafter for over ten years acted as minister of the Queen's Cross Church, and during that time exercised a potent influence over student life in the city. He now returns to Aberdeen with a world-wide reputation as a preacher, lecturer, and theological writer. The appointment has been received with warm approval both in the university and outside, while it creates a precedent in that Professor Smith is the first United Free Church minister to hold the Principalship of a Scottish university, all previous ministerial occupants belonging to the Established Church of Scotland.

Fife Miners.

We are informed that the reference to this matter in the paragraph published in the Journal last week (p. 1309) was incorrect in so far as it implied that all the terms of the agreement there set out had been accepted by the medical profession. We learn that at a full meeting of the Colliery Surgeons' Committee of the Fife Branch of the British Medical Association—which has conducted the dispute on behalf of the local profession—the first five clauses were accepted, but that clauses 6 and 7, dealing with the supply of medicines, were not accepted. We understand that one medical man has allowed himself to be induced to give an undertaking to supply to all his patients among the miners free medicine, and that this action is viewed with strong disfavour by the Colliery Surgeons' Committee.

Ireland.

[From Our Special Correspondents.]

The Royal Academy of Medicine.

At the annual general meeting of the Royal Academy of Medicine in Ireland, Sir Charles Ball was elected President for the ensuing session, and Dr. J. Craig and Sir John Moore General and Foreign Secretaries respectively. As presidents of the various Sections

the following were elected: *Medicine*, Professor W. G. Smith; *Surgery*, Mr. John Lentaigne, F.R.C.S.; *Obstetrics*, Dr. H. Jellett; *Pathology*, Dr. A. H. Benson; *Anatomy and Physiology*, Professor T. H. Milroy; *State Medicine*, Professor E. J. McWeeney. At the same meeting a resolution expressing regret at the loss sustained by the deaths of Professors Alec Fraser and D. J. Cunningham was passed; resolutions in favour of a permanent anthropometric survey being made of all children and young persons, and of the compulsory introduction into all schools, primary and secondary, of physical drill in conjunction with a proper system of medical inspection, were adopted.

Cork District Hospital.

The visiting committee of the Cork Board of Guardians has held an inquiry into a charge of neglect brought respecting the treatment of an infant in the healthy nursery. The mother of the child was sent into the Cork District Hospital suffering from paralysis, which developed within a week after the birth. On arrival at the hospital the infant was sent to the healthy nursery, and remained there for nine days, during which time it became so emaciated that the father had it removed, and it died a few days afterwards. The dispensary doctor gave evidence of the healthy condition of the baby previous to its admission, and its wasted and uncared-for condition on coming out; death was due, he said, to exhaustion and want of proper assimilation of food. During the inquiry it was elicited that there were eighty-seven infants in the healthy nursery, and that there was no responsible person left in charge at night time, and often from 11 p.m. to 6 a.m. these unfortunate infants would have no person to look after them, except the scanty care bestowed on them by what is called a foster mother, who was left to do as she liked with the child or children, and possibly leave them all night without food. The medical officers of the union all spoke in condemnation of the whole surroundings and management of the healthy nursery. They had again and again spoken to the same effect, but the board had never taken any action; the chairman acknowledged that the members of the board were responsible for the death of hundreds of children by not taking action to remedy the condition of things. It was agreed that the medical officers should furnish a report putting forward the suggestions of the medical staff, with a view of improving the existing state of affairs.

Cork Medical and Surgical Society.

The opening meeting for the session of this society took place on October 22nd at the Imperial Hotel. There was a large attendance of members. Professor D. Barry, President of the Society, occupied the chair, and in a few words introduced Mr. Rock Carling, of Westminster Hospital, London, who delivered the opening address on the peritoneum and peritonitis. He dealt with his subject in a most interesting, able, and exhaustive manner, giving a physiological and pathological description of the peritoneum and omentum, and described the surgical treatment in all its phases of peritonitis, more particularly of the acute condition. In the discussion which ensued Professor Yelverton Pearson, Dr. Cotter, Professor Ashley Cummins, and the President took part. On October 23rd the annual dinner of the society was attended by a large number of members with their guests. The usual toasts were drunk.

Health of Belfast.

The exceptionally low mortality and general freedom from sickness still continues. The medical superintendent officer of health reported on October 28th to the Public Health Committee that the death-rate from all causes for the week ending October 23rd had been 12.0, or 11.6 if calculated on the English method; only 1 case of typhoid fever had been notified.

Special Correspondence.

PARIS.

Société Médicale des Hôpitaux: The Pathology of Paralysis in Diphtheria.—New American Hospital in Paris.—Guarantee for Lying-in Women.—Prohibition of Feeding-bottles with Tubes.

At a recent meeting of the Société Médicale des Hôpitaux Drs. Georges Guillain and Guy Laroche read a paper on the results of their research in the pathological physiology of diphtherial paralysis. Clinical facts and experimental research, they contended, proved that paralyses in diphtheria were, in the majority of cases, related to the seat of formation of the toxin, and that the nerve centres were attacked by a process of ascending toxic neuritis, similar to the toxic neuritis which occurred in tetanus and hydrophobia. Morbid anatomy had not afforded any precise evidence as to the pathogeny of paralysis in diphtheria, which by the majority of writers was considered to be due to toxic polyneuritis. Drs. Guillain and Laroche recently had a case at the Cochin Hospital, a man aged 23, who after diphtheria had complete paralysis of the soft palate, with acute bulbar symptoms, hiccough, vomiting, a pulse of only 44 per minute, dyspnœa. He died, and at the *post-mortem* examination the bulb was kept to show by biological experiment the presence, if possible, of toxic bodies. Cerebro-spinal fluid withdrawn by lumbar puncture was clear, and did not show any trace of cellular reaction. No symptoms followed the injection of ½ c.cm. into cranial and peritoneal cavities in guinea-pigs. Inoculation of the central nervous system showed that the poison was fixed in certain parts of the bulb. The bulb and the cervical portion of the cord were washed in running water for twenty-four hours to eliminate the possible action of toxins in the blood; a portion of the bulb at the level of the vagus nuclei was removed, crushed in a mortar, and triturated in physiological serum. The product was divided into three portions and injected into guinea-pigs.

First guinea-pig at 4 p.m. received ½ c.cm. of this emulsion in intracranial injection. The animal died during the night.

Second guinea-pig received ½ c.cm. of emulsion in intraperitoneal injection. It died in thirty hours.

Third guinea-pig received ½ c.cm. of emulsion in hypodermic injection in right hind foot. It died in seventy-two hours.

Post-mortem examination of the animals did not reveal any sign of infection in the cranial or peritoneal cavities. Cultures of blood from the heart remained sterile. Similar injections given to guinea-pigs with emulsions made from the cervical portion of the cord and the anterior pyramidal portion of the bulb were absolutely negative, and the animals did not show any symptoms. These experiments proved that the toxin was present in the bulb of this patient, and not in other parts of the nervous system. Another series of experiments showed that small fragments of the central nervous system (brain, cerebellum, bulb, and spinal cord), after being placed in contact for sixteen hours with diphtheria toxin, pure and diluted in physiological serum at 1 in 10, 1 in 100, and 1 in 200 parts, and then washed in running water for twenty-four hours before being triturated in a mortar with an equal volume of physiological serum, were able to fix the toxin. The intracranial injection of these emulsions caused the death of guinea-pigs at a dose of ½ or ¼ c.cm.; the subcutaneous injection gave one positive result in two experiments; the intraperitoneal injection gave one positive result in five experiments. This series of facts proved, it was held, better than morbid anatomy had been able to do, the central origin of diphtherial paralysis in man.

The new American hospital in Paris was inaugurated on October 28th. Mr. Henry White, the American Ambassador, and the members of the Board of Governors, with the hospital medical board, received the numerous guests, who included M. Doumergue, Minister of Public Instruction, specially delegated to represent the French Government. The hospital is situated at Neuilly, in a large park, two villas having been transformed for the purpose. The main building contains two wards, each of six beds, for males and females respectively, and twelve private rooms, some provided with a bathroom and lavatory. All the wards and rooms are painted

white; the beds and baths are all on rubber-tyred wheels, and are very light and easily moved. The wards are too low in the ceiling; but the operating theatre on the second floor is lofty and has many points worthy of notice. The north wall is formed by an immense pane of glass, which, when it is desired to air the room, can be made to turn on its axis very easily by a simple lever; a long window in the roof also supplements the supply of light; the theatre can be rapidly heated by a large copper plate forming one of its sides, which covers the radiators placed in the thickness of the wall; the operating table is a very practical automatic hydraulic one. The sterilizing room is next to the operating theatre. A large lift can take a patient in bed up to the roof, which is arranged as a terrace, half being a glass-covered verandah. From the top to the bottom of the building is a chute, with openings on each floor, by which the soiled linen in bags is sent down to an underground passage, which communicates with the disinfecting room and the laundry; this is a model of its kind, with all the latest mechanisms for the disinfection and washing of the linen. The corners of the rooms and the furniture have been designed with rounded angles; the electric lights are placed in the walls and the ceilings, covered with a convex glass. The administrative accommodation and the kitchen seem rather small for their purpose. The institution, on the model of the big hospitals in the United States, is free, there being no charge for any of the private rooms or beds in the wards, but donations to the fund will be accepted. Sufficient money has not yet been collected to receive patients, and the board has decided not to do so till it has enough to see its way clear for two years. The recent inauguration was rather to make the existence of the institution more widely known, with the result that more than £1,200 was received in donations during the afternoon.

The French Senate has passed a law guaranteeing to women at the time of their confinement their work and employment. Women will be allowed to stop work for eight consecutive weeks during the time which precedes or follows their confinement without losing their posts.

The Senate has also passed a law forbidding the sale or importation of infants' feeding bottles provided with a rubber tube.

Correspondence.

INTERMITTENT CLOSING OF CEREBRAL ARTERIES.

SIR,—The theory of intermittent arterial spasm as a cause of paralysis, broached in Dr. William Russell's interesting lecture[1] and pursued by Sir Lauder Brunton and Dr. Hobhouse, finds confirmatory evidence in the occasional behaviour of the retinal vessels. In the retina, as in the brain, sudden loss of function may be due to haemorrhage, to embolism, or to arterial spasm, and the latter may, at once or after many temporary attacks, lead to thrombosis. In the retina the diagnosis of haemorrhage presents no difficulty, for we can see the blood. The diagnosis of blockage of an artery, whether by embolism or thrombosis, and whether recent or of old standing, is seldom difficult, for the appearances are characteristic. As between embolism and thrombosis as the cause of the blockage, the diagnosis is often decided, as in the analogous cerebral condition, by a history of previous temporary attacks. It may also be decided by a history of simultaneous temporary disturbance in an area other than the one supplied by the artery which remains blocked. For example: A middle-aged woman during several years has many attacks of blindness in one eye only; it comes on suddenly and is complete while it lasts; it passes off completely within half an hour and is followed by headache. At last there is an attack from which there is no recovery. Examined three days later, the eye presents the retinal changes formerly supposed to be always due to embolism. The diagnosis of embolism, however, is excluded by the history. Again, a police constable, after a heavy meal and a long sleep, awakes blind; the blindness is at first complete in both eyes; one eye recovers in a few minutes, the other remains nearly blind. On examination the retinal artery of the blind eye is greatly contracted. Here the simultaneous complete failure of both eyes forbids the diagnosis of embolism.

Again, I could cite cases of temporary blindness affecting only the upper or lower half of one retina, and ending, after many recurrences, in abolition of the lumen of the corresponding branch of the retinal artery. So long ago as 1884 I published in the *Ophthalmic Review*, under the title "Reflex Amblyopia and Thrombosis," several papers on this subject, and to these I will venture to refer anyone who may care to examine the evidence which the retinal artery can supply concerning functional disturbance through arterial spasm.—I am, etc.,

Birmingham, Nov. 1st. PRIESTLEY SMITH.

SIR,—In Sir Lauder Brunton's interesting letter of October 30th he refers to the investigations of Kussmaul and Jenner in 1857, and their view that spasmodic closure of the cerebral arteries is one of the possible causes of epileptic fits, and he mentions his employment of amyl nitrite, ten years afterwards, in an attempt to cut short a commencing paroxysm. Acting upon a similar hypothesis, and guided by his researches on the vaso-dilatory properties possessed by the nitrites, it occurred to me, nearly thirty years ago, to try the effect of a drug more slowly acting and less transient in its influence than amyl nitrite. At that time erythrol tetranitrate and its congeners were unknown, so I employed sodium nitrite, and gave it for the purpose of warding off recurrence of the attacks. I and others had some encouraging results, and I published an article on the subject at the time. It was afterwards tried by the late Dr. C. H. Ralfe at the London and by Dr. Murrell at the Westminster Hospitals, and the former read a paper at the Medico-Chirurgical Society detailing his observations. In complying with a request to open the discussion that followed Dr. Ralfe's paper, I advanced the opinion that the results of the use of sodium nitrite lent support to the view that spasm of the cerebral arteries was, under certain circumstances, capable of causing an epileptic fit. I may say that this hypothesis did not then find much favour among the neurologists who were present, but I cannot help thinking that Dr. W. Russell's remarkable lecture and Professor Sherrington's physiological observations in your issue of October 16th, together with the highly interesting letter of Sir Lauder Brunton and the cases adduced by Dr. E. Hobhouse in the JOURNAL of October 30th, will give fresh support to the belief that the part played by intermittent arterial closure in the production of epilepsy is more important than many suppose.

Sir Lauder Brunton in his letter shows that the well-known special sensory disturbances that accompany an attack of migraine may be reasonably explained by supposing that a wave of arterial spasm in its course successively involves the special centres concerned. If this be so, it would appear probable that the various auræ which often precede an epileptic fit may own a like causation. These "warnings" are very diverse in different persons, and often involve the special senses. Sometimes they are highly complex, as in the case of the famous Dr. Gregory, who used to see an old woman with a red cloak who struck him on the head with her stick and made him insensible. Then, again, mental disturbance is often temporarily associated with an epileptic fit, and this would seem to bring such patients into a similar group with those described by Dr. Hobhouse, if regarded from the etiological standpoint of a presumed temporary closure of the arteries in a portion of the brain tissues, with the resulting anaemia of certain centres and consequent paresis and loss of function.—I am, etc.,

London, W., Oct. 30th. W. T. LAW.

SIR,—In the interesting lecture by Dr. William Russell in the JOURNAL of October 16th, he ascribes the temporary paralysis to the closing by muscular action of some cerebral artery. It is difficult to realize that the poor muscular supply of a cerebral artery could close it if it were of normal calibre; surely there must be some previous partial occlusion of the artery by atheroma or gumma.

A few years ago I was sent for to see an old gentleman of 77 who had suddenly lost power in his left arm after a walk longer

[1] BRITISH MEDICAL JOURNAL, October 16th.

than he was accustomed to. When seen the paresis had quite passed off. He was found to have a pulse very easily compressible, a large heart with no visible or palpable apex beat and very poor sounds, no murmurs. A few weeks later he had an attack of diarrhoea, which pulled him down very much, and he developed complete left hemiplegia, from which, however, he recovered in twenty-four hours under the influence of full doses of ammonia and ether added to a bismuth diarrhoea mixture. A fortnight later he walked up a flight of stairs unusually quickly just as I arrived; he was very out of breath, sat down on the first chair, and became paralysed again in arm and leg. His pulse was then very irregular and his heart more dilated. He was given strychnine and a stimulant mixture, and was put to bed: the paralysis passed off in less than two hours, and did not recur while he was under my care and taking regularly a cardiac tonic. Six months later he developed permanent left hemiplegia.

My interpretation of this case was that the right middle cerebral artery was partially blocked by atheroma, and when, from some strain, the flabby heart failed to keep up the blood pressure, sufficient blood was not forced into the narrowed artery to supply the cerebral cortex.

Another case of temporary hemiplegia in a younger man came on while he was walking on the pier on a stormy day. This cleared up in a few days under mercury and iodide, and there has been no recurrence. In all probability the explanation of this was that a gumma was narrowing the calibre of the artery, and the heart was overstrained by walking in a high wind.—I am, etc.,

Brighton, Oct. 28th. WALTER BROADBENT.

THE STRUCTURE OF THE PANCREAS.

SIR,—In the JOURNAL of September 11th, in the report of the Section of Anatomy and Physiology of the British Medical Association, is an interesting contribution entitled, The Structure of the Pancreas in Relation to Function, by Messrs. J. S. Goodall and H. G. Earle. These authors give an account of the structure of the pancreas in elasmobranch fishes. Their work appears to have been done mostly upon *Mustelus*, and it is gratifying to note that they have arrived at the same conclusions as did Mrs. Thompson and myself in regard to the structure of the pancreas in these fishes, and have been enabled fully to confirm the views expressed by us as to the anatomical relationship existing between the zymogenous tubules and the islets of Langerhans.

Our results were published in the *Proceedings of the Physiological Society*, June 2nd, 1906; *Journal of Physiology*, vol. xxxiv; *Internationale Monatsschrift für Anatomie und Physiologie*, Bd. xxxiv, 1907; *Proceedings of the Physiological Society*, May 18th, 1907; *Journal of Physiology*, vol. xxxv; *Transactions of the Royal Society, Canada*, 1907–8; and furnished abundant evidence, as do the results of Goodall and Earle, in favour of the view expressing continuity of structure in the pancreas.

Throughout vertebrates we found that the islets frequently show traces of an alveolar arrangement. The islet columns are often in complete anatomical continuity with the surrounding zymogenous tubules, and all kinds of transition forms are common. In birds, reptiles, and fishes a distinct lumen within the leptochrome islet area can sometimes be detected.

In mammals (dogs and cats), birds (pigeons), and amphibians (frogs) the effect of inanition is markedly to increase the amount of the islet tissue at the expense of the zymogenous tissue.

After a period of inanition, direct continuity and transition forms are even more marked than in the normal animal. If, after a period of inanition, the animal be restored to its normal condition of nutrition, the pancreas likewise returns to the normal, and the presumption is that alveoli are reconstructed from islets.

Confirming the observations of Dale,[1] we found that an increase in the amount of islet tissue may also be induced by exhausting the pancreas with secretin.

We further expressed the opinion that, although the islets of Langerhans cannot be regarded as in any sense a tissue *sui generis*, their abundant capillary supply and the nature of their protoplasm suggest that they may be localized areas of the zymogenous tissue, modified by physiological conditions, and set apart for the purpose of a special internal secretion.

In regard to the pancreas in elasmobranch fishes, it may be well to quote from our paper in the *Proceedings of the Physiological Society*:

> The intimate relation between duct and secreting cavity is of such a nature that it is not always possible to draw any hard-and-fast line between the individual cells of the two structures. This has been pointed out by Laguesse in the case of the ophidians and the teleostean fishes. The developmental and structural relationship between ductules and "clear areas" or islets in elasmobranchs has been fully recognized by Diamare, Laguesse, Helly, and other observers. The work of Laguesse, Dale, and ourselves upon the islets of various groups of vertebrates has shown a similar relationship between islets and zymogenous tubules. In elasmobranchs, and especially in *Mustelus*, we see exemplified in a very interesting manner a primitive state of affairs in which ductule, islet, and zymogenous tubule reveal themselves as portions, variably modified, of the same morphological entity. Thus the connexion between "clear areas" or islets and ductules is obvious, or at any rate very readily perceived. The external layer of cells of the ductules can be seen to be gradually merged into the zymogenous tubules, and occasionally typical zymogenous cells can be seen scattered among the cells of the ductules. Further, transitions are frequent here, as in the higher vertebrates, between the clear islets and the zymogenous cells. These transitions occur naturally in the region where ductule with its masses of islet cells is becoming continuous with, or merged into, the zymogenous tubule.

It is not clear whether Goodall and Earle have seen our papers. As the account given in the JOURNAL is presumably only an abstract, it may well be that references to literature have been reserved by these authors for a fuller memoir. In any case, it appeared to me desirable to point out at this time how close is the correspondence between the results obtained by the workers at Middlesex Hospital and those previously obtained by us.

As for the main point involved in these investigations—namely, the question as to the morphological independence of the islets of Langerhans—the balance of evidence seems overwhelmingly in favour of an intimate morphological relationship between islet and tubule. The question of a functional relationship raised by Goodall and Earle is one upon which it is too early to express a dogmatic opinion.—I am, etc.,

Winnipeg, Oct. 2nd. SWALE VINCENT.

[1] *Phil. Trans.*, Ser. B, vol. cxcvii, pp. 25–46, London, 1904.

THE ULTRA-MICROSCOPE.

SIR,—Your note on the ultra microscope, in the JOURNAL of October 30th (p. 1299), leads me to call attention to the essential difference between dark-ground illumination and the ultra-microscope, a misunderstanding with regard to the latter term having arisen through the use of this word by not a few French and other workers in a sense quite different from that originally intended, which is liable to cause no little confusion amongst workers who may be attracted by published accounts of new methods of examining unstained bacteria and spirochaetes. As I have not had an opportunity of referring to the original paper by Dr. J. Comandon, I write with some reserve; but I think he is probably referring to the use of what is known by English and German microscopists as the dark-ground condenser. This method is merely an adaptation for use with high powers of the old spot-lens or paraboloid or its modification by means of a spot placed beneath an ordinary condenser. The principle of dark-ground illumination is simple enough. The spot beneath the condenser is of such a size as to cut out a solid cone of light equal to the total aperture of the objective used, so that the field of view appears quite dark. But the condenser has a wide angle, and its marginal rays, of too great an aperture to enter the objective, are caught and refracted by, let us say, unstained bacteria placed upon a slide on the stage, and thus the bacteria become evident as brightly lit up objects shining upon a dark background. It will be evident that the spot must bear an exact ratio to the aperture of the objective used, and must be changed if an objective of a different aperture is required.

So far I have assumed that an ordinary condenser has been used, with a movable spot beneath it, but when we use objectives of high aperture we find that the construction of such a condenser does not give good results with objectives of more than medium aperture—say about 0·6 N.A. Quite recently, therefore, special condensers have been made, which by reflection from surfaces instead of by refraction, are capable of giving satisfactory results with even the highest powers, such as a $\frac{1}{12}$ in. oil immersion. Such condensers need careful centring, and will

only work through a slide of definite thickness, but the principle is the same as before, though the method of application differs somewhat. The dark-ground condenser is of high aperture, but the central cone of light, amounting to 1 N.A., is stopped out by a fixed central spot, so that rays above 1 N.A. alone pass. An ordinary immersion objective of 1.3 N.A. can be used, but as its aperture must be less than 1 N.A. it is stopped down to this aperture by a diaphragm behind its posterior lens. This can be done to any existing lens without interfering with its use for other purposes, by means of a removable diaphragm or funnel. Again the objects become visible as bright objects shining on a dark ground.

This method has been much used in the study of living bacteria, and is a great advance upon the old "hanging-drop" method. It has been proved of service also in studying spirochaetes, but the important point I wish to make is that it is a means of *annular* illumination, which is of little service for making visible objects which are too *minute* to be visible by ordinary methods, though it is of service in studying minute objects which are too *transparent* to be visible by ordinary methods. It is not really difficult to use.

It cannot be too clearly understood that the word "ultra-microscope" belongs by priority and by its evident meaning to a method adopted by Siedentopf and Zsigmondy to a special apparatus designed by them for making visible particles to which the word ultra-microscopic may really be applied, namely, those which are beyond the limits of microscopic resolution, say less than 0.25 μ. Here an exceedingly narrow and powerful beam of light, collected from a slit and arrangement of lenses, is directed, from one side only, at right angles (and not obliquely) into the field of view, and the resulting image is merely a diffraction effect, and does not attempt to show resolvable structure. The apparatus is somewhat elaborate (see *Journal of the Royal Microscopical Society*, 1903, pp. 573–578), and by its means Dr. Zsigmondy has made many interesting investigations into the structure of colloids, the results of which he has recently published in a book entitled *Colloids and the Ultra-Microscope*.

It is, therefore, advisable to draw a sharp distinction between "dark-ground illumination" and the "ultra-microscope," the apparatus being distinct.—I am, etc.,

F. SHILLINGTON SCALES, M.A., B.C., F.R.M.S.

Cambridge, Nov. 1st.

"CHRISTIAN SCIENCE AND SPIRITUAL HEALING."

SIR,—In the JOURNAL of October 23rd you adduce the outcry of the Christian Scientists at Mr. Stephen Paget's address to the Church Congress as a proof that they are hard hit. Judged by this test, the medical profession is, at least, slightly uneasy. You, Sir, at any rate, hardly allow a week to pass by without holding up to scorn and ridicule the sayings and doings of the "spiritual healers." It is certainly true, as you have said, that from time immemorial practitioners of the healing art have employed suggestion as a curative agent; it is also no doubt true, as Mr. Stephen Paget points out, that the word Hypnotism will be found stamped on every page of the evidence of Christian Science cures.

But the fact cannot be denied that, with a very few exceptions, we do not practise suggestion in a systematic and scientific manner, and that the vast majority of medical practitioners—in this country, at any rate—have no knowledge of hypnotism, give it no serious thought, do not even know that the practice of it is compatible with scientific respectability. And the reason for this is not far to seek.

Professor James, in the course of an address to a philosophical association, touching on the manifestations of Christian Science and so-called metaphysical healing, said, "Our scientific education has unfitted most of us for comprehending the phenomenon," and I think the same remark applies to medical education—the physical side is emphasized, the mental side is practically ignored.

The scientific practice of suggestion (which includes hypnotism), no less than the proper comprehension of many disorders of health, demands a sound psychological training; yet, as far as I know, in this country no facilities are offered to medical students for acquiring any training in mental science. The time has, I think, come when the general practitioner ought to be in a position to understand certain well-ascertained laws of mental life and to practise mental therapy along with physical therapy in a scientific and definite way, and this can only come to pass when the student has been provided with the right kind of training which must have its basis in psychology.

Until such provision is made, the public demand for mental therapeutics will be for the most part supplied in an unscientific way by people who have no scientific qualifications or training for the work—a state of things which is undoubtedly fraught with a certain amount of danger.—I am, etc.,

Edinburgh, Oct. 26th. H. TORRANCE THOMSON.

*** We agree with our correspondent. Our position has always been that the psychical factor was too much neglected by the medical profession. But when the "sayings and doings of the spiritual healers" seem to us foolish or false, or both, we think it our duty to expose their true character.

COLOUR-BLIND ENGINE-DRIVERS IN ENGLAND.

SIR,—I was lately informed by a medical man who examines men for the railway service for one of our colonies that numerous cases have come before him of men who have been working on our railways and passed the wool test who have failed when he examined them with the lantern. I know of many instances. Many of our railway companies still use the "card test." This test dates from 1868, and consists of naming four squares of colour—red, green, blue, and yellow—occupying definite positions on a card. It is the most extraordinarily inefficient test I have come across. I have often examined colour-blind men with this test and never been able to reject one with it. The superintendent of one railway company informed me that they had carefully examined all their men for years with this test, and had not yet found a case of colour blindness. He added: "Colour blindness must be very rare."—I am, etc.,

Hendon, Nov. 2nd. F. W. EDRIDGE-GREEN.

AMBULANCE LECTURES AND VOLUNTARY AID DETACHMENTS.

SIR,—I should be glad to ascertain through the medium of your columns what is being done, or has been done, with regard to the giving of ambulance instruction in the different parts of the country.

Some time ago—I think it was at the Leicester meeting—a resolution was passed by the Representatives to the effect that all ambulance work should be looked upon as a matter of business, and a notice to that effect was duly received by the honorary secretaries of the Divisions.

Acting on these instructions, the members of the Cleveland Division promptly decided that in future a fee must be charged for ambulance instruction and examination. The fee was fixed at a nominal value, as it was felt that the profession did not wish to make money out of the St. John Ambulance Association, but only to have the principle recognized.

Since adopting this attitude we have had several interviews and much correspondence with the local representatives of the St. John Ambulance Association, who say that their association can not afford to pay a medical fee; and I am afraid medical men here have got into bad odium so far as regards ambulance work; in fact, it has been hinted that we are lacking the common feelings of humanity by withholding gratuitous instruction.

We have now before us, and shall be asked to undertake, a national system of instruction in ambulance work and nursing in connexion with the British Red Cross Society's scheme of voluntary ambulance detachments as an adjunct to the Territorial Army.

I take it that these detachments will consist of fifty to sixty men with their staff of officers. Their duties will be to render first aid, improvise stretchers or ambulance wagons from farmers' carts, etc., to form bearer companies, to work ambulance trains, and, in fact, all duties connected with first aid to and removal of the wounded from the field of action. All these men must be trained in ambulance work and hold certificates. The same or similar conditions apply to the voluntary nursing detachments in connexion with women.

From this it will be seen that an immense amount of work in ambulance instruction will be required.

Is this work and instruction to be voluntary on the part of medical men? Are we as a profession once more to have our brains sucked and pockets depleted—this time on the plea of patriotism?

I understand that medical men and medical women are to be asked to volunteer as officers of these detachments and to undertake their instruction in hygienic, ambulance, and nursing duty. By all means let us volunteer as officers, and thereby show our loyalty and our patriotism, but there our service should stop. When it is a matter of instruction, it becomes a matter of business—professional business—and ought to be treated as such.

It behoves the profession to move warily in this matter, and at once take steps to ensure uniformity of action in different parts of the country.

Medical men in the Cleveland district have been singled out for invidious comparison with other districts where ambulance work is still gratuitous. Why should we have to suffer because we have carried out the recommendation of the Association? What has been done in the other 140 or 150 constituencies who were represented when the resolution advising that gratuitous ambulance work should cease was adopted?

Would it not be possible for the Organization Committee to take immediate steps to ascertain the views of the Divisions, and then advise the line of action to be taken so that a definite policy might be followed? It would be a blot on our organization if different Divisions adopt different policies with regard to this scheme of the British Red Cross Society. Judging from the differences of opinion expressed at our Divisional meeting on this subject, I should imagine this letter will lead to ample correspondence. If it leads to some uniformity of action it will have served its purpose.—I am, etc.,

R. E. Howell,

Middlesbrough, Oct. 31st. Representative of the Cleveland Division.

THE DOCTOR AS A PHILANTHROPIST.

Sir,—Dr. Todd-White writes in a most moderate and courteous tone, but I certainly do not agree with him in some ways.

Let me put my proposition in another form. Whatever may be the hope of those entering the profession as a rule, I hoped on entering to make a decent living. I found that I was in exactly the same position as any other person with a commodity for sale, that I must charge a proper price to all, or make one set of customers pay for those who did not pay. I found in a very short time that the latter was a radically unsound policy, and that in order to deal honestly with my clients I must insist on strict business principles. Unless I was able to make a free gift to the public I refused to do so, as I was bound to make my other clients pay for that which I gave away but could not afford.

This is exactly the position of a large proportion of the medical profession to-day who are called upon by the public to perform gratuitous services of all sorts that have now assumed such large proportions that the profession are practically bankrupt, or are not giving their paying clients a fair bargain.

I see no reason whatever why the medical profession should be less businesslike or be afforded less protection than solicitors.

I am convinced that the bulk of the work done gratuitously is done unwillingly, and only for some indirect gain.

What right have the public when an accident occurs to ring up half a dozen medical men requesting their services? How many times has Dr. Todd-White been called out to an accident and found three or four other men also on the spot?

I was for a time the only available doctor for some miles round, and found that, once I announced my intention of refusing to go to accidents unless my fee was guaranteed, that in the first place most of the frivolous and unnecessary calls stopped, and any serious accident was paid for by the police or the person requesting my services, and, rightly or wrongly, I was not abused. Further, any gratuitous work was done as a distinct act of charity, and only as such, and was called by its proper name—*charity*.

Many objected to the idea, and, when possible, went elsewhere, ran up accounts they could not hope to pay, and blackguarded the man who sent them far more than they did me for not charging them and calling a spade a spade.

Why, because we as a profession are able to relieve suffering, we should be called upon to do so for nothing, I fail to see. If we are bound to relieve suffering, pay or no pay, why should not the principle be extended to those who sell food and raiment, and on application they should be compelled by public opinion and fear of discredit to relieve the distressed? Or, why are solicitors not compelled to protect the interests of the widow and fatherless free or fail into public disgrace?

I have worked in several large practices amongst the poor, and have no hesitation in saying that the care I was able to give each case was, from pressure of work, not worth the money paid, small as was the sum. A guardian of the poor a few days ago, when speaking of a Poor Law appointment, remarked, "You doctors are a —— cheap lot; there's always some fool among you ready to work for less than the other chap."

Let us give up cant about charity and the noble profession, and combine to give the public a fair bargain, and live as an educated highly trained profession should. The bulk of us enter the profession to make a living, and very few of us work for nothing from any other motive than self-interest of some sort. Personally, I announced my intention of running my practice on business lines, and never had any cause to regret it.—I am, etc.,

September 26th. Anglo-Colonial.

THE POOR LAW REPORT AND THE SANITARY MEDICAL SERVICE.

Sir,—Dr. Greenwood objects, in his letter published in the Journal of October 23rd, to the statement that under the Minority scheme the total remuneration received by the medical profession would be increased. I understand that the medical portion of this scheme proposes to unite under the sanitary authorities all arrangements in which tax or rate-raised money is spent on the prevention and treatment of disease.

Nearly every medical man treats numbers of poor persons without any hope of payment, because he does not not know what would become of them if he did not do so; and I believe that with the Minority scheme he could send such unpaid work to a department able and willing to deal with it, where it would be paid for, and become an additional remuneration to the medical profession.

Moreover, Dr. Greenwood seems to take no account of the present greatly changed conditions of medical work compared with those prevailing some years ago. These would probably be more apparent if we consider the changes which have taken place in such industries as weaving or engineering since the introduction of steam and mechanical power: previously all such work was done by small tradesmen in small workshops, as a result of great labour, and at a comparatively large cost, and things produced by such work, except articles of the most elementary description, were only available as luxuries for the rich. With machinery these craftsmen were forced into factories, their work became specialized, the output enormously increased, and the public at large on account of the diminished prices are now able to possess articles which before the introduction of machinery were only luxuries for the rich—the skilled workman with his regular hours, settled wages, trades-union protection, has a more comfortable position than the small tradesman whom he displaced, and the total sum of money paid to his class has tremendously increased.

The great medical discoveries of last century has caused the development of large institutions in which medical labour is organized and specialized corresponding to the factories, and for the bulk of the population a great part of the most important medical work of to-day is done in them—in fact it seems that only by such means would it be possible to place the benefits of these discoveries effectually and economically within the reach of those who could not adequately pay for them.

The benefits arising to the community from the development of this system, as judged by their improved health and comfort, is incalculable.

The economic gain to the medical profession is surprisingly little, compared with that which has accrued to

the ordinary craftsman from the introduction of machinery; the doctor gets in such institutions either no pay at all or only the pay of an apprentice—this is the second class of unpaid or gratuitous work of which Dr. Lyster complains.

In dealing with disease, especially amongst the poor, who are the most diseased section of the community, elaborate organization for its cure and prevention is absolutely necessary, and it is because an increasing number of people recognize this that many people are willing to spend in travelling to a hospital or sacrifice in loss of time more money than would provide them with the services of a doctor at home.

As the Minority Report would, in my opinion, tend to develop institutions on similar lines to these which the public are now demanding, in which the medical staff would be paid, and give members opportunities for leisure, and combination which would enable them to make more satisfactory terms with their employers than at present prevails, I think that the additional income accruing to medical men from these sources would materially increase the total amount of money received by medical men in this country as a reward for their labours.—I am, etc.,

Barking, Oct. 29th. A. BYGOTT.

HOME RULE FOR LONDON.

SIR,—May I again trespass on your space, for the last time in this connexion, to reply to the comments on my letter of last week's issue. To take Mr. Wallis's letter first: He says, "It is, of course, not to be expected that any one from the provinces who has, or hopes to have, a hospital appointment will do otherwise than decry any attempt to improve the position of London as a great medical centre." Why not? Does this description not apply exactly to himself who graduated at a provincial university and now holds office in a hospital which is part of one of the medical schools of London University?

I grant that even though he and I differ as to the means whereby progress is to be made that he is earnest and disinterested in his views. May not others be equally impartial?

As I presume I am the "any one" above alluded to, I have not, nor do I desire, a hospital appointment in any of the affiliated schools, my course is mapped out otherwise; but I should, as much as Mr. Wallis, like to see all the "various examining bodies wheel into line," though I do not wish to see London University take one pace to the rear, which lowering of the standard would entail.

In reply to Dr. Elliot-Blake I regret that I have not had the pleasure of reading his book, but I think if he will peruse my letter more carefully he will see that I give the palm for market value under existing hospital-committee regulations, not to the M.D.London, but to the M.R.C.P. and F.R.C.S., which can only be obtained through the Conjoint Board; and that I consider the market value of the M.D.London as "a means to an end" is *low* by comparison, and that is exactly my point, which Dr. Elliot-Blake seems to have missed.—I am, etc.,

London, N.W., Nov. 1st. HORACE WILSON.

CLINICAL TEACHING.

SIR,—With reference to clinical teaching in hospitals, I think it may be fairly said that it hardly equips the student sufficiently for general practice, admirable and necessary as it is for him; but if it were supplemented by a course of pupilship to a general practitioner, as in former days, the results would be more satisfactory for the young man commencing general practice.

Clinical teaching in hospital resolves itself into demonstrations on well-defined cases in the wards and elsewhere, and the student passes through the various special departments during his course, and for the time is absorbed in that branch where he is working; so that given a case of a woman complaining of pain in the lower part of the body, the student in the gynaecological wards naturally thinks of uterine or ovarian disease; the student in the surgical or medical wards naturally thinks of the appendix, bladder, or of intestinal obstruction, because being in one case in the gynaecological wards he thinks gynaecologically, and in the other cases, again, he thinks according to his appointment, that is, either surgically or medically to the exclusion of all other teaching.

It is because he has not to diagnose the case before it reaches the proper ward that he thinks particularly and not generally. Now the general practitioner meeting such a case as described above considers the case not as an interesting pathological problem, but as a living being who has pathological possibilities certainly, but in addition a stomach and bowels into which is despatched frequently a very miscellaneous collection of articles calculated to cause as much disturbance as any microbe. Generally, therefore, if he is wise, he will make inquiries about the diet of his patient, and in most cases will find that a purgative will remove the pain, reveal the cause, and relieve the mind both of patient and doctor. Why this difference? It is because the general practitioner looks at the case generally, being taught to do so by experience, taking note of the local signs and symptoms and also of the general appearance, asking himself whether the patient looks ill, haggard, or feverish, and whether his statements are consistent with real or feigned disease. In fact, the student requires a better acquaintance with the earliest signs and symptoms of disease, wherever it may appear.

In conclusion, I will say that Mr. Moynihan's advice to study the "inaugural symptoms" will be found to be most beneficial when in general practice for the first time.—I am, etc.,

Althorpe, Oct. 25th. J. F. ROBERTSON.

LONDON HOSPITALS AND SCHOOL CHILDREN.

SIR,—Under the above heading, in the *Times* of November 3rd, a proposed arrangement between the London County Council and various hospitals is outlined.

May I point out, in regard to St. George's Hospital, that the children to be seen are to be selected necessitous cases, who are unable to provide adequate treatment for themselves, either through a private general practitioner or otherwise, there being a double safeguard that only necessitous children are treated—first, by an inquiry by the London County Council, and, secondly, one by the hospital almoner, for whom the hospital reserves this right.

I trust you will be good enough to insert this, as this distinction makes a great difference, and the statement as it appeared may give rise to serious misunderstanding.—I am, etc.,

A. WILLIAM WISE,
Treasurer and Chairman, St. George's Hospital, S.W.
November 3rd.

See page 1374.

The Services.

EXAMINATIONS FOR PROMOTION, R.A.M.C. (TERRITORIAL).

AN officers' class for promotion R.A.M.C.(T.), Examinations A and B, is being held at 51, Calthorpe Street, Gray's Inn Road, W.C., on Tuesdays and Thursdays, from 4.15 to 6.15, and on Fridays from 7.30 to 9.30. It is open to all officers of the First and Second London Divisions and London Mounted Brigade. Officers wishing to join should apply to the Adjutant, R.A.M.C.(T.), School of Instruction, at the above address.

AT meetings of the South Shields Town Council on October 11th and October 16th a proposal brought forward to reduce the rates by reducing the salaries of nearly all the responsible officials of the council was eventually rejected by a majority of over 3 to 1. Among the opponents of the measure were the Labour representatives, some of whom indicated a belief that the motion was merely a move on behalf of property owners. This fact, it was suggested, explained why the health officer and his staff, whose work necessitated their making suggestions inconvenient to property owners, had been included in the motion. It was admitted that the salaries of some officials had been much increased of late years, but it was shown that the slow increase of the medical officer's salary to £500 was in virtue of a contract made with him at the time of his appointment; the amount could not be reduced unless he were given notice to terminate the contract and a new appointment made. In the course of the debate it was shown that South Shields was among the least indebted of the great borough councils, and that neither the rating of the town nor the salaries paid were above the normal.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Appointments.

The following appointments are announced: *Additional Demonstrator of Physiology*, Mr. V. H. Mottram, M.A., Trinity College. *John Lucas Walker Students*, W. McDonald Scott, M.B., Ch.B., B.Sc.Edin., and Constant W. Ponder, M.A., M.D., Emmanuel College. *Curator Botanical Museum*, H. H. Thomas, B.A., Downing College. *Superintendent Museum of Zoology*, C. L. Boulenger, B.A., King's College. *Studentship in Medical Entomology*, Gordon Merriman, Trinity Hall.

Examinations.

The following candidates have been approved at the examinations indicated:

First M.B. (*Part I, Chemistry*).—K. Bellwood, W. K. Bigger, H. A. Crouch, J. L. Davies, H. P. Dawson, C. D. Day, A. N. Drury, W. H. Edgar, H. A. C. Goodwin, L. M. Ingle, L. H. James, J. B. Leather, E. C. Malden, S. C. Miskin, D. F. A. Neilson, S. H. Rhodes, E. J. Selby, T. H. Somervell, H. Stocks, C. R. A. Thacker, W. G. Thompson, T. T. B. Watson, W. R. Wilson, F. B. Winfield.

First M.B. (*Part II, Physics*).—A. C. Ainsley, K. Bellwood, W. K. Bigger, C. C. Brewis, G. Cockayne, H. A. Crouch, J. L. Davies, H. P. Dawson, A. N. Drury, L. M. Ingle, S. H. M. Johns, J. B. Leather, E. C. Malden, E. W. Mason, S. C. Miskin, E. J. Selby, T. H. Somervell, G. E. Spicer, H. Stocks, C. R. A. Thacker, T. T. B. Watson, E. Watson-Williams, W. R. Wilson, F. B. Winfield.

First M.B. (*Part III, Biology*).—H. S. Bartlett, W. K. Bigger, H. R. Buttery, B.A., G. F. Clifton, H. A. Crouch, H. P. Dawson, A. N. Drury, L. M. Ingle, M. L. Loveless, J. B. McFarland, E. C. Malden, S. C. Miskin, D. M. Muir, D. F. A. Neilson, N. D. Nurse, R. A. W. Proctor, S. H. Rhodes, J. W. Sewill, H. N. Stafford, P. Stocks, C. R. A. Thacker, W. G. Thompson, E. Watson-Williams.

D.P.H. (*Both Parts*).—L. A. Clutterbuck, R. R. Elworth, T. S. Hele, F. J. Henry, E. L. Hunt, R. B. Khambata, N. P. O'G. Lalor (Major, I.M.S.), R. McC. Linnell, G. H. K. Macalister, A. S. M. Macgregor, Alice Corbet Moss, A. W. Parker, A. R. Parkinson, F. J. Pierce, S. Rowland, Mabel Russell, G. H. Skinner, R. M. Srinivasa, D. Thomson, G. D. H. Wallace, A. G. Wells.

Degrees.

The following degrees have been conferred:

M.D.—W. H. Brailey, Queens'.

M.B., B.C.—W. M. Jeffreys, Trin., C. C. Holman, Gonv. and Cai., W. Power, Magd., L. P. Dean, Sid. Suss.

B.C.—J. F. Buckley, Trin., P. G. Fildes, Trin., E. T. Shann, Gonv. and Cai.

UNIVERSITY OF LIVERPOOL.

THE total number of undergraduates registered in the Medical Faculty at the beginning of the present session was 132. These include 23 new entries for degree courses, and 8 new entries for diploma courses. For the diplomas in tropical medicine and public health there have been 14 and 13 new entries respectively.

UNIVERSITY OF EDINBURGH.

THE MEDICAL CURRICULUM AND EXAMINATIONS.

AT the meeting on October 29th Dr. Norman Walker moved the following motion:

To remit to the Business Committee to consider and report as to the desirability of procuring by an amending ordinance of the university court, or otherwise, further improvements in the medical curriculum and examinations.

In the course of his remarks Dr. Walker said that the question of medical examination was by no means special to Edinburgh at the present time; he referred the council to the report of the Pathological Club, whose further report and suggestions, the Business Committee stated, were of much assistance towards the framing of the recent ordinance. (A note on this report, giving the recommendations in full, was published in the JOURNAL of October 23rd.) Dr. Walker entered into some of the details of the recommendations, and said that a great difficulty arose from the fact that under the existing ordinances the subject of anatomy split up the winter session. He pointed to the advantage that would follow if study were to begin three months earlier. All were anxious that the students turned out from Edinburgh should be the best product of medical education anywhere, and there was no antagonism to the existing state of affairs. All that was wanted was to make the fullest possible use of the great advantages held out in Edinburgh. The motion was seconded by Dr. James Ritchie, and, after a few remarks by Professor Harvey Littlejohn, was approved.

NORTH WALES COLLEGE.

AT the half-yearly meeting of the governors of the University College of North Wales, Bangor, held at Chester on October 27th, Lord Kenyon, who presided, said the new annual Treasury grant of £4,000 was a great relief to the finances. That morning the council had set apart about half of it for increasing the salaries of the professors. That was an act of justice too long delayed. The Drapers' Company had made a further grant of £10,000 to the building fund. In the English and philosophy department the professors had reported that students came up with perhaps an insufficient preparation, and thought the college matriculation examination might be improved. The professors frequently deplored the number of examinations in secondary schools, and anything the governors could do to lessen the number and to increase individual attention was a matter worthy of consideration. In the discussion Professor James Gibson said that the frequent examinations did not encourage a scholar to make the best use of his intellectual faculties; intelligence was inevitably subordinated to the effort of mere memory. Sir Harry Reichel said the tendency of a highly specialized system of examination like the Central Welsh Board system was to become more severe in its demands every year. That difficulty must be dealt with soon. The Court of Governors agreed to instruct the committee attending the Modern University Congress to represent their views upon this subject.

THE ROYAL UNIVERSITY OF IRELAND.

THE CLOSING SCENES.

THE last meeting of the Royal University of Ireland, which has now been replaced by the two universities, the National University and the University of Belfast, was held at 5 p.m. on October 29th. Before that hour the undergraduates had taken possession of one of the galleries where their exuberant spirits found expression in the singing of songs, the blowing of bugles, the throwing of rice and flour, and, finally, of squibs. Ultimately while the new graduates were being presented for degrees, a hose pipe which had been used in unavailing attempts to douse them, was connected with the gas bracket, most of those who had withstood the squibs retired under umbrellas before the water.

The Vice-Chancellor, Sir Christopher Nixon, presided, but the address which he delivered was unfortunately almost inaudible owing to the tumult. After acknowledging his regret at the absence of the Chancellor (Lord Castletown), Sir Christopher Nixon was understood to pay an appropriate tribute to the services of former chancellors and vice-chancellors. He then stated that the senate at its last meeting had decided that it would be appropriate that the university should present honorary degrees to those members of the senate who had not yet received that distinction. Among those to receive the degree of LL.D. under this decision of the senate were Sir Francis Cruise, M.D., Dr. John Walton Browne, Dr. R. W. Leslie, and Dr. John Campbell. At the same time the honorary degree of D.Sc. was conferred on Professor Alexander MacAlister. Having referred to the spirit of toleration which had characterized the organization of the university, the Vice-Chancellor said that he was authorized to confer the honorary degree of LL.D. on the distinguished graduates, including Dr. W. R. Huggard of Davos Platz, Switzerland. Turning then to the subject of the new universities, Sir Christopher Nixon said that the gratitude of Irishmen was due to the distinguished statesman, Mr. Birrell, for having carried legislation to establish for the first time in the history of Ireland a university for Catholics. The Royal University, though it had fallen short of the ideal, had exercised an important influence on higher education in Ireland; it had opened its portals to women, and during its existence there had been phenomenal activity with respect to intermediate education in Ireland, culminating in the record return of candidates for examination during 1909; they numbered 11,332, the number of passes being about 55 per cent. The university had provided substantial rewards and encouragements, and had placed its distinctions and honours within the reach of all. In the various professions, both at home and abroad, names of Royal University graduates could be cited as holders of positions of rank and influence; it had given encouragement also to a large number who prepared themselves for the position of professors and lecturers in the various colleges connected with it. Its constitution had compelled it to concentrate its attention upon examinations, but it had set itself to maintain as high a standard as was possible. In the profession of medicine the university had been pre-eminently successful, and could claim in the strictest sense to be a teaching university. The defects in its organization, however, and the too great influence on its work exercised by the examination system had developed an intense feeling that it could not be maintained without reform. The university had fulfilled its destiny, and the two universities would bring to fruition the seed which it had sown.

The following have been awarded the examinations indicated:

M.D.—J. Fitzmaurice, J. Killen, C. S. Pearson, S. P. Walsh, T. Walsh, S. H. Wilson, J. E. Wilson.

DIPLOMA IN MENTAL DISEASES.—D. Gillespie.

The following have been awarded honours in one or more groups of the examination indicated:

FINAL M.B., B.CH., B.A.O.—*E. G. Kennedy, *J. J. Gilmore, J. B. Butler, *J. M. M'Cloy, *W. Dickey, †T. Scanlan, *B. Byrne, S. R. Campbell, †J. A. Hanrahan.

* First class. † Second class.

(Mr. E. G. Kennedy also received exhibitions, valued £21 each, both in the medicine and surgery group, and Mr. B. Byrne received the exhibition in the midwifery group.)

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly comitia was held at the college on Thursday, October 28th, the President, Sir R. Douglas Powell, in the chair.

Membership.

Wm. David Keyworth, M.B., B.C.Cantab., and Charles Joseph Singer, M.B.Oxon., L.R.C.P., were admitted Members of the College.

Licence.

The Licence of the college was granted to 104 gentlemen.

Jenks Memorial Scholarship.

Philip Dennis Scott was elected Jenks Memorial scholar.

Parkes-Weber Prize.

The following was announced as the subject for the Parkes-Weber Prize for the year 1912: "The influence of mixed and secondary infections upon pulmonary tuberculosis in man, and the measures, preventative and curative, for dealing with them."

Communications.

The following communications were received: (1) From Professor Emil Fischer, thanking the college for the award of the Baly medal to him. (2) From the Secretary of the Royal College of Surgeons, reporting proceedings of the Council of the College on July 29th and October 14th last.

International Medical Congress.

A report was received from Dr. Pavy, college representative at the International Congress at Budapest, on the proceedings of the Congress. On the motion of the President, a vote of thanks was passed to Dr. Pavy by acclamation.

Imperial Cancer Research Fund.

The resignation of Dr. Pye-Smith as a member of the Imperial Cancer Research Fund was accepted, and Dr. Newsholme was appointed a representative of the college in his place.

Committee of Management.

Dr. Norman Moore, who retired by rotation, was re-elected a member of the Committee of Management.

Examinations.

The quarterly report of the Examiners for the Licence on the results of the July examinations was received.

Library.

Books and other publications presented to the library during the past quarter were received, and thanks returned to the donors.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

As already announced, the annual meeting of the Fellows and Members will be held on Thursday, November 18th, at 3 p.m.

THE ANNUAL REPORT.

The annual report of the Council for 1909 has recently been issued. Most of the matters dealt with in it have already been recorded in these columns.

Proposed Combination with the University of London.

In the section of the report which deals with this subject, the report of the delegates of the two colleges published in the BRITISH MEDICAL JOURNAL of March 6th, p. 607, is set out, and it is added that the college has learnt that it will be afforded the opportunity of giving evidence before the Royal Commission on University Education in London at some date in 1910. In the meantime, the Royal Colleges have approached the University of London, and on July 2nd, 1909, the delegates of the Royal Colleges met representatives of the university and placed the proposed scheme for combination before them.

Administration of Anæsthetics.

In reply to the letter received in December, 1908, from the General Medical Council, inquiring how far effect had been given to the recommendation of that Council communicated to the College in June, 1907, to require students to procure evidence of having received practical instruction in the administration of anæsthetics, a letter was sent stating that the desirability of making practical instruction in the administration of anæsthetics a compulsory part of the medical curriculum was recognised by the Council of the College in 1901, and that in December of that year, in conjunction with the Royal College of Physicians, a regulation was adopted requiring a candidate before admission to the final examination to produce a certificate "of having received, at a recognized medical school and hospital instruction in the administration of anæsthetics to the satisfaction of his teachers," and that, moreover, questions on the subject were from time to time put to candidates by the examiners of the college. The letter went on to express the hope that the General Medical Council would be successful in its endeavour to induce other examining bodies to adopt a regulation which had long been in force at the English Royal Colleges of Physicians and Surgeons. Upon the recommendation of the Board of Examiners in Dental Surgery candidates for the licence in dental surgery of the college are now required to produce evidence that they have received instruction in the administration of anæsthetics, and all candidates for the licence who enter at a recognized dental hospital or school on or after October 1st, 1909, will be required to produce a certificate "of having attended a recognized dental hospital and school a course of practical instruction in the administration of such anæsthetics as are in common use in dental surgery."

The Central Midwives Board.

The report made by Mr. J. Ward Cousins, the then representative of the Council of the College upon the Central Midwives Board, sets out the facts which make it evident that the Midwives Act, 1902, could never effectually work without considerable alteration. The experience of the past, he stated, clearly indicated the necessity for amendments in the following directions: (1) The county councils and county borough councils should be granted power for defraying all expenses incurred by the local supervising authorities in the discharge of their duties; (2) the payment of medical men summoned by certified midwives should be regulated by a definite scale suitable to the local circumstances and the services rendered; (3) some provision ought to be introduced for securing better co-operation between the local supervising authorities and the Central Midwives Board.

From a tabular statement embodied in the report, it appears that of the 92 cases reported to the Central Midwives Board during 1908 by local supervising authorities throughout the country, 44 were charges of neglect to send for medical aid. In 24 of these 44 cases the midwife was struck off the roll, in 15 she was censured, in 6 cautioned, and in 1 no action was taken.

Examination Hall.

The report states that the site for the new examination hall acquired in Queen Square, Bloomsbury, has cost £25,200, and that it will also be necessary to purchase the furniture to the several houses, the net cost of which is not likely to exceed £1,000.

Finance.

The gross income of the college amounted to £25,401, an increase of £427 on the gross income of the previous year. The expenditure amounted to £23,076, an increase of £1,895 on the expenditure of the previous year. The most noticeable item in which increase occurred was under special expenses for the museum, where there was a difference of £1,000, largely attributable to an expenditure of £663 on furniture and fittings. The special expenses of the library showed little variation, and, as in the previous year, amounted to over £1,600. The original cost to the college of the Examination Hall buildings amounted to £30,251, but the share of the sinking fund transferred to the college was £1,736. The net sum realized by the college from the sale of the Examination Hall buildings and lease was £24,512; the loss on the original cost thus amounted to £4,000, but the price received was considered satisfactory, having regard to the depreciation of the buildings during some twenty-two years.

Issue of Diplomas.

The number of diplomas issued was as follows: Membership, 356; Fellowship, 66; Licence in Dental Surgery, 81; Diploma in Public Health granted jointly with the Royal College of Physicians, 30.

Museum.

Alterations are being effected in the system of cataloguing and labelling the contents of the Museum. Each specimen is to be furnished with its own explanatory card, to be found with others contained in specially designed boxes attached to each case or adjacent pair of cases, throughout the Museum so that visitors may find at hand a full history and explanation of the specimens. Already thirty boxes are in use. Four cabinets have been designed by Mr. E. C. Frere, A.R.I.B.A., to contain the hall catalogue; a double series of cards which will serve the same purposes for the Museum as the "index" and "table of contents" do for a book. It is estimated that the "index series" will involve the preparation of 250,000 cards—an enormous labour—but one which will greatly increase the utility of the Museum. Owing to the rapid growth of certain sections of the Museum it was found necessary to introduce a system of numbering the specimens which will admit of unlimited additions at a point in the collection without disturbing pre-existing numbers. The method adopted is a modification of the decimal system.

Alterations have been effected during the past year in the organization and equipment of the museum. The anatomical plates prepared in Padua in 1646 under the direction of John Evelyn, F.R.S., the diarist, the oldest anatomical studies in this country, with the exception of the "Harvey plates" in the Royal College of Physicians, have been removed from one of the staircases and placed with the modern anatomical preparations. Two important additions have been made to the equipment of the articulator's department, a dental engine and a mechanically driven saw for the accurate preparation of large sections.

A small collection of about forty stuffed animals, purchased over a hundred years ago at the sale of the Ashton Lever collection, being of historical rather than scientific interest, were offered to and accepted by the authorities of the British Museum. Hunter's pea-hen showing male plumage has been retained for the museum.

Mr. J. Herbert Parsons, F.R.C.S., has been appointed by the Council to revise, extend, and recatalogue the collection illustrating injuries and diseases of the eye, and Dr. R. T. Leiper, of the Tropical School of Medicine, has undertaken a similar revision of the collection of entozoa.

The collection of specimens shown at the Franco-British Exhibition was safely returned and the Diploma of the Grand Prize was awarded to it. Mr. Shattock's series, sent to the International Tuberculosis Congress held at Washington in 1908, formed an important part of the British section of specimens exhibited there, to which a gold medal was awarded. Specimens presented to the museum by Darwin have been sent on loan to the British Museum Natural History Collection, to be placed on exhibition there in connexion with the Darwin centenary celebration. Specimens have also been sent to the exhibition given in Whitechapel under the auspices of the National Association for the Prevention of Consumption.

The Nubian Pathological Collection presented last year has been arranged and catalogued by Mr. Shattock, and the Council of the College has accepted as a trust the collection of the Odontological Section of the Royal Society of Medicine, one of the most valuable odontological collections in the world.

Six demonstrations explanatory of the contents of the museum were given during the past year by the Conservator and six by the Pathological Curator. These demonstrations were well attended.

Their Royal Highnesses the Prince and Princess of Wales, accompanied by Sir Frederick Treves, Bart., visited the museum and were received by the President of the College. Two large parties of French physicians, introduced by Dr. Leonard Williams, were received, and twenty-eight Saturday afternoon student parties paid visits in the course of the year.

CONJOINT BOARD IN ENGLAND.

The following candidates have been approved at the examination indicated:

SECOND COLLEGE.—E. S. Abraham, H. A. Ash, R. Brewitt-Taylor, N. Cheune, E. R. C. Cooke, B.A.Cantab., F. C. Cowtan, W. T. Dobson, A. R. Esler, M. Ffoulkes, A. A. H. Fyzee, H. Gibson, N. Grellier, C. C. Harrison, B.A.Cantab., W. G. Holsby, G. A. Hodgson, G. A. Hooton, G. J. P. Huddleston, F. M. Hughes, F. M. S. Hulke, A. R. Jennings, B.A.Cantab., J. E. T. Jones, G. W. King, E. F. H. Lee, C. C. Line, E. M. Mahon, C. H. G. Penny, J. L. Perceval, M. Pern, C. Pitt, M. Radford, H. Robinson, A. R. Rosher, H. Sharpe, B.A.Cantab., E. W. Twining, C. B. Vakil, A. Viney, T. M. O. Williams, B.A.Cantab., and H. S. Young.

Medico-Legal.

VERONAL POISONING.

AT an inquest in Marylebone on November 1st the jury returned a verdict of death by misadventure in a case of supposed veronal poisoning. The deceased was a barrister who suffered occasionally from sleeplessness. Just before bedtime on the night before his death a medical friend who shared house with him suggested his substituting for the veronal a bottle of stout. Between 8 and 9 the following morning the patient came to the medical man's room in what seemed to be a state of fright. He said that he had had a seizure in the night, and that he had no control over his limbs. He was taken back to bed, and after some breakfast seemed better. Two hours later he became unconscious and died about 9 p.m. Meantime another medical man had been called in, and was informed by the patient that he had taken 15 grains of veronal about 3 a.m. Both medical witnesses regarded veronal poisoning as the cause of death.

VALUE OF A SHARE.

M.—According to our correspondent's figures, the practice has diminished in value one-third while he has been a partner; if, therefore, he were to retire from it now, he could not fairly expect to receive for his share more than two-thirds of the price he originally paid for it.

CURIOUS.—Strictly speaking, the letters "Brux." should be placed after an unregistered Brussels M.D., but it could not be said to be illegal for a registered medical practitioner to omit this affix when simply using the M.D. as an ordinary academic distinction.

Medico-Ethical.

THE OBLIGATIONS OF A SUBSTITUTE.

T. W. M.—It not uncommonly happens that a practitioner who has acted as substitute for another in a case of acute illness is asked to see the case to the end, and as the patient in this case made a great point of it, we think our correspondent was justified in agreeing; as he considered himself throughout as acting as the substitute for A., but for whose absence he would not have been called into the case, the fees for the whole attendance should be divided between them.

GRATIS ATTENDANCE ON NURSES.

DEVON RURAL.—Not to make any charge for professional services to a nurse is purely an act of grace. Our correspondent is fully entitled to make a charge if he thinks the circumstances justify it.

Public Health
AND
POOR LAW MEDICAL SERVICES.

DISINFECTION OF CLOTHING.

A. E.—The powers which local authorities possess to enforce the disinfection of infected clothing are contained in Section 120 of the Public Health Act, 1875, and in Sections 5 and 6 of the Infectious Disease (Prevention) Act, 1890. Section 120 of the latter Act, which is adoptive, enables the authority to require the owner of articles certified by a medical officer of health or registered medical practitioner as infectious to be disinfected, and in default the authority may carry out the disinfection at the owner's cost. Sections 5 and 6 give the same power with slightly varied procedure. If action is taken under Section 6 the cost of disinfection must be borne by the authority, which must compensate the owner for any unnecessary damage occurring during the process of disinfection.

NOTIFICATIONS.

R. J. H.—There is no obligation upon a medical practitioner to notify a case of infectious disease to any one but the medical officer of health of the district in which the case occurs.

Obituary.

WE regret to record the death of DR. HUGH ARTHUR, of Airdrie, Lanarkshire, in the sixty-fifth year of his age. It occurred suddenly on October 5th, from cerebral haemorrhage, almost immediately after his return very late in the evening from a long day's work. Dr. Arthur, a native of Old Cumnock, Ayrshire, and a Glasgow student, graduated M.B., C.M.Glasg., in 1869, proceeding to M.D. some three years later. Among his teachers, as he used to record with pride, were Professors Gairdner and Muirhead, and Lord Lister. In Airdrie he settled down some forty years ago, and in the course of time acquired a large practice, and received a large number of public appointments. At the time of his death he held the health officership of the burgh, and was surgeon to the police, public vaccinator, parochial medical officer, physician to the Airdrie Fever Hospital, and certifying factory surgeon. In the course of his long professional life Dr. Arthur had formed and was ready to support very definite opinions on several points. He regarded the old apprenticeship system with high esteem, and thought that it was to its abolition that many latter-day difficulties were in some degree due. The difficulty, for instance, of exercising proper control over contract practice and obtaining adequate remuneration would, he thought, be much less if young men on commencing independent practice possessed the same kind of knowledge and ethical training as that which was instilled into pupil apprentices in past times. He also regarded surgical interference in cases of appendicitis as rarely necessary, and in proof thereof used to state that he had never had occasion to call in a surgeon, nor had ever had a fatal result, treatment by calomel and opium having brought about a favourable outcome in all the cases which had passed through his hands. Among drugs he attached great value to ammonium carbonate, which he regarded as almost specific in the treatment of scarlet fever. He was a member of the Lanarkshire Division of the British Medical Association, a Fellow of the Royal Institute of Public Health, and a regular attendant at the annual public health congresses in Scotland, frequently taking part in discussions. He was also for a good many years an active volunteer, and held rank as surgeon-major in the 5th Volunteer Battalion of the Scottish Rifles. Personally Dr. Arthur was a man not alone of genial manners, but of most unselfish spirit, beloved by his friends and esteemed by the whole countryside. He was married, and is survived by his wife and five daughters.

AT a meeting of the Royal Sanitary Institute to be held in the Council Chamber, Exchange Buildings, Nottingham, on Saturday, November 20th, at 10.30 a.m., a discussion on the improvement of city slums by housing reforms and otherwise will be opened by Alderman T. J. Dabell, J.P., M.R.C.S., chairman of the Health Committee, Nottingham.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2651, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

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AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

GOUT.

N. L. asks for advice in the following case: A gentleman, aged 35, came under my treatment towards the end of last May suffering from gout in the hands of a few weeks' duration, also from small gouty chalk-stones loosely attached to the anterior and posterior pillars of both fauces. His health was otherwise fairly good. I prescribed a mixture consisting of lithii carb., piperazine pur., citrate and bicarbonate of potash and tr. colchici seminum. The hands soon became completely cured, and the throat also improved. He was kept on that treatment for nearly two months; when I substituted a mixture containing the iodide and bicarbonate of potassium; and also ordered formamint lozenges and a gargle made up of potassium chlorate and alum sulphate. For a time the condition continued to improve, the chalk-stones to separate and become detached, though on the pillars of the left fauces new ones would frequently form. In the last three weeks, however, there has been a marked tendency for the entire condition to get worse—the throat and hands, but the former much more so. The patient's occupation is of a sedentary nature. I may add his diet had been regulated during the whole course of treatment.

INCOME TAX.

1. T.—Our correspondent wishes to know whether the Income Tax authorities are right in requiring him to pay tax from April 5th to July 1st, 1909, at which date he sold his practice on such terms that his successor took all bookings from the end of March. Also whether his travelling expenses would be paid in the event of a successful appeal.

*** There is no doubt as to the legal position. Income tax on the profits of a profession is payable by the person who exercises the profession. In the event of a change during the year, the charge is required to be apportioned between the persons concerned, having regard only to the periods during which each has exercised the profession. In no circumstances have the officials power to collect the full year's tax under Schedule D from the successor, and it would probably be useless to appeal to the Commissioners on the point. The assumption in the particular case would be that the profits for the first two months were purchased by the successor, and if he did not, as a matter of fact, pay an enhanced price on this account the only remedy would seem to be by private agreement between the persons concerned. No expenses can be claimed in connexion with income tax appeals.

THE COMPARATIVE VALUE OF WHOLE MEAL AND WHITE BREAD.

G. R. W. writes that it is proposed to substitute whole meal for white bread in a Poor Law school to which he is medical officer, and the matter has been referred to him for his opinion. He asks for information as to the relative nutritive value of these articles of diet.

*** According to the tables given in Friedenwald and Ruhräh (third edition, 1909, page 706) the composition of white bread (mean of 198 analyses) is as follows: Water, 35.3; protein, 9.2; fat, 1.3; fuel value per lb., 1,215 heat units. Of whole meal bread (the mean of 12 analyses): Water, 38.4; protein, 9.7; fat, 0.9; fuel value per lb., 1,140 heat units. Hutchison (*Food and the Principles of Dietetics*, 1906, page 212) gives the following figures: 100 grams of white bread contain 269 heat units; 100 grams of entire white bread 235 heat units. These figures show a difference of 8 per cent. to 10 per cent. in favour of white bread, but the nutritive value of whole meal bread is less than the chemical analysis suggests owing to its defective absorption; neither the mineral constituents nor the carbohydrates are absorbed so completely as those of white bread. Hutchison says: "We may fairly regard the vexed question of whole meal *versus* white bread as finally settled, and settled in favour of the latter, and had due regard been paid to the behaviour of bread in the intestine instead of merely its chemical composition the Bread Reform League would probably never have come into existence" (Ibid., p. 216).

LETTERS, NOTES, ETC.

A DISCLAIMER.

DR. W. C. RIVERS (Barrasford Sanatorium, Northumberland) writes that his attention having been called to the fact that his name is being used in connexion with a paper read at the recent annual meeting of the British Medical Association at Belfast, in an advertisement of a certain form of treatment appearing in the daily press, he is taking steps to prevent further such use of his name.

THE FIRST OBSERVATION OF GLOSSINA PALPALIS IN NORTH-EASTERN RHODESIA.

DR. SHEFFIELD NEAVE, M.R.C.P. (Ingatestone) writes: I have come across a passage in the report by Dr. Allan Kinghorn on the incidence of human trypanosomiasis in North-Eastern Rhodesia to the Liverpool School of Tropical Medicine, in the *Annals of Tropical Medicine*, vol. ii, No. 2, June 9th, 1908, which may prove of importance at some future time, and which should be corrected as being an error in a matter of fact. It is stated on page 79 that *G. palpalis*, in reference to North-Eastern Rhodesia, "was first found in 1906 by Dr. Noble at Kasenga and the Nafunta Falls on the Congo side of the Luapula." Knowing that Dr. Arthur Pearson was generally believed to have been first in this matter, I wrote to him on the subject, and he writes as follows to me: "I first found *palpalis* on the Luapula, 4 miles down stream from Madona and just above the Nafunta Falls (or, rather, rapids) in the first week of January, 1906." This was confirmed in July, I believe, by Dr. Noble, and I have always imagined that it was on account of the communication by Dr. Pearson of this fact that Dr. Noble was sent to examine the river. I may, however, be mistaken on this point. Two of the flies sent by Dr. Pearson in January to the British Museum were examined by Mr. Austen, and the diagnosis confirmed by him.

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Presidential Address

ON THE

PRESENT POSITION OF THE NEURONE DOCTRINE IN RELATION TO NEURO-PATHOLOGY.

Delivered before the Section of Pathology of the Royal Society of Medicine.

By F. W. MOTT, M.D., F.R.C.P., F.R.S.,

PATHOLOGIST, LONDON COUNTY COUNCIL ASYLUMS; PHYSICIAN TO CHARING CROSS HOSPITAL.

[With Special Plates.]

Gentlemen,—Allow me first to thank you for the great honour in electing me to the chair of this Section.

I was recently informed by the Senior Secretary that I should be expected to open this session by an address, and I propose therefore to give a general survey of the present position of the neurone concept, a subject in which I have been especially interested, as it is fundamental in neuro-pathology.

During the last fifteen years it has given rise to much discussion, to many experiments and observations, and to new modes of improving our knowledge of the minute structure and development of the nervous system.

The neurone theory was at first accepted by most neurologists without hesitation, as it explained so many facts in pathology; but grave doubts were cast upon it, owing to observations and experiments made by those who disbelieved the interpretation put upon histological details by those who upheld the doctrine.

This controversy between scientific men seeking after truth was not without great advantages, for it led to the discovery of new methods of technique and new methods of embryological research, which now have finally established on a firm basis the *neurone concept*, which I may remind you was due to Forel although reintroduced in the following terms by Waldeyer: A neurone is a nerve cell and all its processes, including the protoplasmic processes or dendrons and the single axis cylinder process with its cone of origin, its collaterals or side branches, and its terminal arborization. The *neurone theory* is that the nervous system consists of innumerable such anatomically independent nervous units in contignity but not in continuity. There is interlacing of the processes but no network. The nervous units are genetically and trophically independent cellular organisms arranged in functionally correlated systems, communities, and constellations.

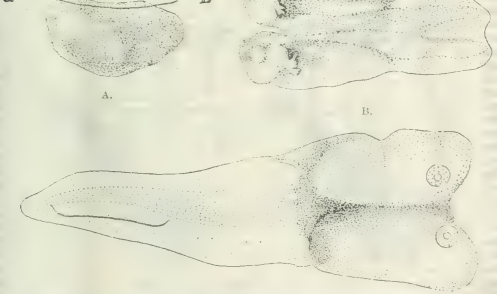


Fig. 1.—A, Frog embryo 2.7 mm. long. The line a b indicates the incision for the removal of the ganglion crest. B, C, Two double embryos, from each of which the ganglion crest has been removed—B, two days after operation; C, six days after. (After Ross Harrison.)

It is admitted by all that the nervous system consists of nerve fibres and nerve cells supported by neuroglia, and the main point of discussion has been the origin of the nerve fibres. Waller[1] more than fifty years ago showed experimentally that a nerve separated from its ganglion underwent degeneration, and every one has admitted there must be some intimate relation between the ganglion cells and the nerves. But it was asserted that when regeneration occurred it was owing to new fibres being formed by the cells of the sheath of Schwann. The question has long been in dispute whether regeneration takes place by a new outgrowth from the cell of origin or whether it is effected by the sheath cells. Likewise, there have been two opposing theories with regard to the genesis of the nerve fibres, one being that the fibre is an outgrowth from the cell, the other that it is a product of the sheath cells. Consequently, the subject that I shall discuss first will be the genesis of the nerve fibre.

How is the nerve fibre formed? The answer given, first by Schwann and later by Kupfer, Balfour, Dohrn, and many others, and still more recently by Apathy, Bethe, and Schultze, is that the nerve fibre is the product of a chain of cells, which extends from the nerve cells to the peripheral termination: they assert that these sheath cells secrete the fibrillae within their protoplasm. Certainly such an interpretation of the histological appearances could not be refuted till new methods of staining and new methods of experimentation were adopted to disprove this statement.

His, by his embryological researches, on the other hand, claimed that the axis cylinder and the other processes of the nerve cell were the outgrowths of the cell protoplasm. Then came the chrome silver method of Golgi, which, in the hands of Ramon y Cajal, Kölliker, Retzius, Lenhossek, Van Gehuchten, and many others, apparently demonstrated the fact that the whole nervous system consisted essentially of independent anatomical units, and the cylinder axon was an outgrowth of the nerve cell.

Ramon y Cajal was able to follow the development of the neurone from the neuroblast in all its stages, from the first appearance of the short nervous process up to the long outgrowth which formed the nerve fibre. His researches extended over the most varied motor and sensory regions of the central as well as of the sympathetic nervous system, and fully confirmed the researches of His. These results of the researches of Cajal were soon followed by important researches of Held, who was able to demonstrate that the nerve fibre is an outgrowth of the nerve cell. Moreover, he accurately followed the origin and further development of the neuro-fibrils. They are situated, as already His, Besta, and Lenhossek had observed, in the interior of the neuroblastic protoplasm, first in the form of a loose skein, and then they grow out from the nerve cell body into the nerve process. Held, however, like Hensen, finds that the nerve processes are not free, but grow into preformed tracts, which Hensen calls intracellular bridges, and he further believes that instances may arise where the neuro-fibrils of one cell grow into another cell, and commingling with the fibres of that cell pass out of its axon process. As Verworn remarks, these facts are interesting histological details, but are completely indifferent for the neurone doctrine.

If we look at the figures [Plate I—1, 2, 3, 4] given by the neuronists and the antineuronists, we can understand why this different interpretation of the mode of development of fibres should occur. Ross Harrison truly remarks it is impossible to decide by microscopic examination of sections of embryos whether the spindle-shaped cells lying around the nerve fibres form the fibres, or whether they simply

ensheath processes of the nerve cells. He states that his own observations upon the normal development of the salmon and frog had led him to a decided opinion in favour of the neurone conception, but the attitude of the opponents of the doctrine was such that the study of normal development would never prove convincing; consequently he set about finding some means of differential experiment.

Profiting by the knowledge of the transplantation experiments in tadpoles of Born, Ross Harrison planned a new and exact method of study—namely, the removal in turn of each of the two structures in the developing embryo—frogs. Embryological studies had already shown that the source of the sheath cells was the ganglion crest; accordingly he removed this structure in the embryo *Rana esculenta* before any differentiation of nerve cells and fibres had occurred. The dorsal portion of the medullary tube and the ganglion crest was removed, and the embryo was thus left with its nervous system as an open groove in its back, the walls of which contained the cells which would subsequently develop into the spinal motor cells. Two embryos so operated upon were joined back to back, so as to prevent regeneration processes vitiating the result. (Fig. 1.) These animals were allowed to live a certain time and grow; they were then killed and examined carefully afterwards by serial sections. No spinal ganglia or sensory nerves were found, and what was of great interest was the fact that the motor nerves were found as fine protoplasmic threads extending from the spinal cord with not a single sheath cell around them (Fig. 2, C). The nerve consisted simply of delicate fibrils. This experiment shows that the ganglion crest forms the posterior spinal ganglion sensory nerves and the sheath cells. The conclusion is that the ganglion cells can form the nerve fibres without the aid of the sheath cells.

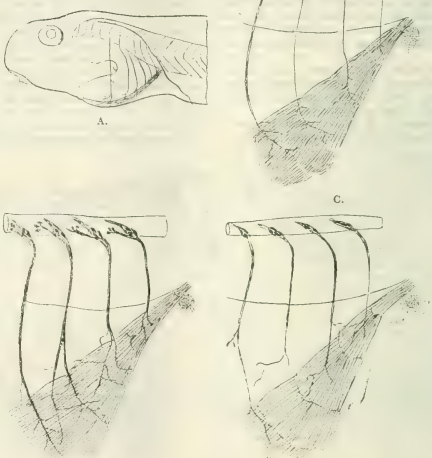


Fig. 2.—Diagrammatic views of the nerves in the abdominal walls of the tadpole. A, The body of a larva showing general arrangement of nerves. B, Arrangement in normal larva. C, Arrangement in larva from which ganglion crest has been removed, only the motor nerves showing. D, Arrangement in larva from which the ventral half of the spinal cord has been removed, showing only sensory nerves. (After Ross Harrison.)

The next question Harrison sought to answer—and it is complementary to the last—was this: Can sheath cells without ganglion cells form the nerve fibres? He made the same incision as before, but instead of removing the ganglion crest he lifted it up and replaced it after removing with a fine pointed glass pipette the remainder of the medullary tube. The embryo developed normally, but remained almost motionless; subsequent examination showed that the sensory fibres and the sheath cells developed, but no motor fibres; although normally the motor and sensory fibres run together, and this would allow the fibres to the muscles ample opportunities of developing from the sheath cells if they were really the source of the motor fibres. (Fig. 2, D.)

He found, moreover, that nerves separated from their cells of origin degenerate rapidly, and no signs of regeneration were observed.

The question may be asked, Does the ganglion cell process extend as a nerve fibre to its peripheral termination? or is this process, as Hensen maintains, a differentiation of protoplasmic connexions already *in situ*? This view of Hensen, according to which protoplasmic bridges are supposed to be left between the dividing embryonic cells, has been supported by the difficulty of conceiving how it is possible for a nerve fibre to grow out a long distance (and always to arrive at the right place) in the case of regeneration of the nerves of the foot, after division of the sciatic nerve for example. Harrison sought to solve the problem thus: He cut out the medullary groove that will form the spinal cord of an embryo before there was any trace of cell differentiation, and placed a small piece of it in lymph removed from the lymph sac of a frog; the preparation was put on a cover-glass, and mounted on a hollow slide and sealed with paraffin. The lymph clots almost immediately and holds the transplanted tissue in place. He has kept preparations alive five weeks and watched the development of the neuroblast, and he has seen the axon develop and grow (see Plate II—3, 4, 6). A somewhat similar structure to the cone of increase described by Cajal by his silver method of staining embryonic spinal cords (see Plate II—6) can be seen. Probably it is also similar to the terminal bulb of regenerating axons found in the peripheral stump of a divided nerve. Harrison has observed a growth of 20 μ in twenty-five minutes as shown in the figures. Control experiments with other tissues of the embryo gave no such results. These remarkable observations of Ross Harrison show beyond question that the nerve fibre begins as an outflow of hyaline protoplasm from cells situated within the central nervous system. This protoplasm is actively amœboid; retaining its pseudopodia at its distal end, the protoplasm is drawn out into a thread which becomes the axis cylinder of a nerve fibre. Although Harrison has disproved the theory that the sheath cells form the essential portion of the nerve—namely, the axis cylinder—yet he fully admits, as all those who uphold the neurone doctrine do, that the cells of the sheath of Schwann play an important rôle in the nutrition and production of the nerve fibre. These experiments of Harrison place the outgrowth theory of His on the safest of all foundations—namely, that of direct observation. It is, moreover, interesting and important to note briefly that Marinesco, Goldstein, Minea, and Nageotte have observed in transplanted spinal and sympathetic ganglia of warm-blooded and cold-blooded animals an outgrowth of fibrils from the ganglion cells. As Verworn truly says, the embryological basis of the neurone doctrine has been established beyond dispute. The formation of connexions of one neurone with another by fibrils, the passage of fibrils from one nerve cell through another nerve cell are matters of detail which in no way shake the fundamental principle

of the neurone concept—namely, the cell and its processes form a nerve unit which has a genetic independence. According to Kolliker, all the nerve fibres arise from nerve cells of the central nervous system and the ganglia. The peripheral nerve fibres are surrounded by special cells, constituting in the adult the sheath of Schwann. The latter appear when the axis cylinder is developed, and constitute for it a superficial envelope. These sheath cells all arise from the mesoderm and multiply by karyokinesis. According to Froriep, however, the cells of the sheath of Schwann of the peripheral nerves are probably, like the neuroglia cells, of ectodermal origin. Certainly Harrison's experiments seem to support Froriep's views.

The anatomical observations of Cajal and others I have named regarding the genetic independence of the neurone have thus been fully confirmed by the researches of Harrison. The next question is, Are the sheath cells of no further use than to enclose the axial core; in fact, is there a complete trophic independence of the nerve cell and its processes? Experimental and clinico-anatomical observations indicate that the sheath cells play an important part in regeneration after injury of the axon. To prove this statement we have only to consider the difference in the results on the extra-medullary and intra-medullary course of the axons of the posterior spinal ganglia after section of the posterior roots. Sherrington and many other observers have described fine medullated regenerated fibres around the cord—that is, central to the seat of injury—but only isolated observations have shown a few regenerated fibres in the exogenous systems of the posterior columns.* We may correlate these facts with the presence of sheath cells in the extra-medullary posterior roots and the absence of the same in their intra-medullary course. It was shown by Gudden that evulsion of the cranial nerve caused atrophy and disappearance of the nuclear cells of origin, and this method in his hands and that of his pupils, von Monakow and Forel, laid the foundation of much of our knowledge of the nuclear origin of the cranial nerves. Simple section of the nerves, as Nissl, Marinesco, Van Gehuchten, and others, have shown, produces chromolytic changes, but as a general rule the cells do not undergo atrophy. It may be assumed that evulsion was a more serious injury and destroyed not only all the sheath cells of the neuraxon up to the point of origin of the nerve from the central nervous system, but was also a much more serious injury of the neuraxon itself.

Before proceeding to describe the recent advances in our knowledge concerning the changes which take place in the central and peripheral ends of a divided nerve it will be well first to consider the changes in the nerve cells of origin as revealed by the Nissl method.

Changes in the Cells due to Lesions of Cranial and Peripheral Nerves.

Nissl first published (1892-1894) detailed accounts of the changes in the nerve cell (observed by his method of staining) produced by section of the nerves. Twenty-four hours after section of the facial nerve in the rabbit there is a reaction in the cells of the facial nucleus. The chromatic substances commence to disappear in limited regions of the cell body, and after two days instead of presenting the blocks of stainable substance, now known as the Nissl granules, there was observed a fine dust of coloured particles. By the third day the process had extended to the dendrons. At the end of five or six days the cell has changed its form, it has become rounder, the prolongations less visible and the protoplasm looks as if sprinkled with dust like particles of stainable substance. During this time the nucleus has changed its position and become eccentric. Nissl also studied the alterations in the cells of the posterior spinal ganglia produced by section. Marinesco repeated and confirmed Nissl's experiments, using the hypoglossal nerve. He was followed by Ballet et Dutil, Lugaro, Van Gehuchten, Flemming, and many others. The changes observed may be thus summarized: Swelling of the cell body with slight increase of volume of the nucleus and of the nucleolus, the cell becomes rounder and the prolongations in their turn swell; there is disintegration of the Nissl granules, a process which begins in the central region of the cell near the axon cone of origin. The first changes are observed twenty-four hours after section, and they progress until the whole perinuclear region exhibits this chromatolysis and the Nissl granules on the protoplasmic processes disappear. The nucleus becomes eccentric in proportion to the amount of chromatolysis. These changes are due to alterations of the osmotic conditions of the cell caused by the injury to its axon process, whereby fluid is absorbed from the ambient medium. Marinesco names this characteristic change "perinuclear chromatolysis"; a similar appearance of the nerve cells is seen in neuritis. I have observed it in all cases of alcoholic polyneuritis and in lead neuritis. This reaction of injury to the nerve cell when its axis cylinder process is injured is in direct confirmation of the correctness of the neurone doctrine, for if the sheath cells formed the axon it is much less likely that the nerve cell would show such changes, which may even proceed to their atrophy and disappearance. It is remarkable that when a nerve is divided only some motor spinal ganglion cells are so severely damaged that they do not recover but undergo atrophy and disappear, so it is found in polyneuritis some cells hardly show any change, while others are so injured as to be incapable of recovery and eventually atrophy and disappear. [Vide Plate I—6.] Again, in transverse lesions of the spinal cord, as shown by Pusateri, Marinesco, and Gordon Holmes, the Betz cells of the cortex undergo similar chromolytic changes which may proceed to atrophy, but the cells are affected very unequally, for we may observe two Betz cells lying side by side, the one seriously damaged and the other hardly affected at all. Drs. Sewell and Turnbull have investigated a case of transverse lesion of the spinal cord due to fracture of the spine at the level of the fifth cervical. The boy died at Charing Cross Hospital eight weeks after the injury. The Betz cells at the top of the ascending frontal convolution showed all degrees of chromatolysis, from cells with hardly perceptible changes to complete disappearance of the Nissl granules. I have observed also in experimental poisoning by botulin, absinthe, phosphorus, and other poisons, also in acute and chronic poisoning of human beings, that the neurones are not equally affected. Still more striking is the fact that, after experimental ligature of all four arteries, 2 carotids and 2 vertebrals, or 2 carotids, 1 vertebral, and 1 subclavian, whereby an experimental cortical anaemia in lower animals—for example, monkey, cat, and dog—was produced, the cells of the same type, for example, the Betz cells, were not equally affected; relatively only a few were so damaged as to undergo destruction. The conclusion is that the specific vital energy of some cells is greater than that of others, just the same as the individuals of a society are not all possessed of the same vital resistance to injury or poison; but as we know that the vital resistance of the individuals of a society is largely a matter of nutrition, fatigue, and powers of conservation of energy, so probably it is with the neurones. Those in which nutritional equilibrium is, either from inherent defect, fatigue, or other causes, in a low state, will suffer most.

I have also observed this chromatolysis of the Betz cells very marked in cases of chronic alcoholic and chronic lead polyneuritis; it was more marked to my mind than could be accounted for by the small amount of degeneration of the pyramidal tracts, and I cannot help thinking that it was the effect of the poison on the whole system of efferent neurones concerned with reflex and voluntary movements *plus* the parenchymatous and peripheral interstitial polyneuritis [Plate I—6]. All the neurones, however, do not undergo destructive atrophy; probably only those in which the nucleus is extruded are incapable of recovery. My experience has taught me that even in severe cases of polyneuritis recovery may result from continued passive movements of all the joints and massage of the muscles. The avoidance of pressure and weight of the bed-clothes in rendering a foot-drop permanent, the instruction of the patient to make voluntary effort by aid of attention and vision, and try to assist the operator making the passive movements: the placing the feet against a board while lying in bed, and the daily placing the feet on the ground in the effort to feel the weight of the body supported by the limbs, all tend, by favouring incoming and outgoing stimuli, to open up the old paths or to restore function by new paths. This

* Again, although Marinesco, Minea, and Fickler have seen attempts at formation of regenerating fibres after transverse lesions of the spinal cord, there is no restoration of function, because there is no re-establishment of connexion with the appropriate neurones.

is no mere hypothesis, for it is based upon the fact that Munk found that monkeys in which the motor area had been removed much more completely regained movements when placed in a cage large enough to enable them to spring about and take free exercise.

Upon this assumption, therefore, that stimulus exercised an important influence upon regeneration of nerves Halliburton and I carried out a series of investigations to see if regeneration of the motor nerves was interfered with by cutting off, so far as we were able, stimuli from the spinal motor neurones of a limb. The following procedure was adopted: Unilateral section of the posterior roots from the third cervical to the third dorsal inclusive was performed, the animals used being monkeys. There was as a result a marked hypotonus of the limb, which hung useless as a flail, and the animal did not use it for refined voluntary purposive movements. Either the median or the ulnar nerves on the two sides were then divided and sutured. There was apparently no difference in the time taken for regeneration on the two sides, nor could I discover any more marked changes in the anterior horn cells of one side than of the other. Again, the motor area of the right side of the brain was removed in an animal in which those same posterior roots had been divided; the nerves were divided on both sides, and the result was the same as in the previous related experiment. A third experiment was performed: a unilateral section of the lumbo-sacral roots was combined with hemisection of the spinal cord in the mid-dorsal region and both sciatics were subsequently divided and sutured. Even in this experiment we could not claim that all sources of stimulus to the spinal motor neurones of the side of the double lesion had been removed. Still, the greater part of the paths exercising any influence upon the discharge from the spinal motor neurones had been removed, and it stimulus really did play an important part in the nutritional activity necessary for regeneration of the motor nerves, after section of the axons of the motor neurones, it might be certainly expected that regeneration would be delayed on that side; but it was not, and this accords with the fact that the characteristic changes in the ganglion cells were not more apparent on the side of the double lesion than on the opposite side. A careful examination of sections of the spinal cord failed to show more ganglion cells presenting chromolytic changes on one side than the other. In order to avoid any personal bias, I tried to see if I could ascertain on which side the double lesion had been made by an examination of the anterior horns; but I failed entirely, although when I shifted the specimen to the posterior cornua it was quite evident from the atrophy of the fibres and changes in the cells. Plate I, 6, shows two degenerated cells on the side opposite to the spinal and root lesions.

The trophic activity of the spinal motor neurones is therefore in all probability independent of stimulus arriving from other neurones. They possess, indeed, a trophic autonomy. The observations of Harrison support this idea; moreover, this accords with the neurone doctrine of genetic and trophic independence. Direct injury of any part of the neurone will cause changes but not injury of neurones with which it is functionally but not nutritionally correlated.



Fig. 3.—Wallerian degeneration of regenerated nerve fibres in a case Marchi method of staining. ×60 diameters.

The axon consists of a number of conductile fibrils, and the more of these fibrils which are severed the greater will be the injury to the neurone. It is possible that fibrils constituting an axon may not come entirely from one cell in every case; there may be, as Held suggests, in some instances a commingling of fibrils proceeding from different cells to form the axon of a nerve; in such a case it is conceivable that the reaction of injury would be less than when all the fibrils of a cell are divided.

We have briefly discussed what happens to the cell when that portion of the neurone which is termed the axon is injured; I will now consider the changes which occur (*a*) in the peripheral portion of the nerve, and (*b*) in the central end of a divided nerve, in the light of modern researches, especially as revealed by the new silver method of Cajal, which shows that a neurone consists of fibrils which pass from the dendrons through the body of the cell to the axon, and consequently may be [vide Plate II—5] assumed to act as the conductile element of the neurone.

The appearances presented by fibres undergoing degeneration when stained by the Marchi method are well known. I may call your attention to Fig. 3, which is of considerable interest for another reason to which I will briefly refer. The following experiment was performed by Halliburton and myself.

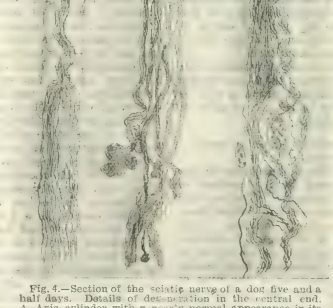


Fig. 4.—Section of the sciatic nerve of a dog five and a half days. Details of degeneration in the central end. A, Axis cylinder with a nearly normal appearance in its upper part, whilst in its lower part it is considerably swollen, and the neuro-fibrils are very apparent, and like a tress of hair. In reality it is a reticulated structure made evident by an increase of the interfibrillary and perifibrillary substance. B, Axis cylinder swollen and with the neuro-fibrils dissociated at the upper part, and reunited in diverging cords towards the upper third. Some of these end in a terminal bulk. C, The axis cylinder swollen in a still more marked manner, and consisting above of tresses of neuro-fibrils. These reunite into cords below, which surround more or less the débris of a degenerated axis cylinder. (After Marinesco).

A small piece was resected from a nerve in which regeneration had taken place, and histologically the nerve was shown to possess many fine myelinated fibres. Ten days later the animal was killed, and the portion of the nerve below the resection was examined; no myelinated fibres were found, but a number showing Wallerian degeneration. If the sheath cells had been mainly instrumental in the formation of the new regenerated fibres, resection of the piece of nerve should have had no influence upon the nerve which had developed from the sheath cells.

The changes which occur in the central end of the cut nerve were very incompletely known before Cajal introduced his silver method, and the histological observations of Peroncito, Cajal, and Marinesco by this method have thrown a new light upon the process of regeneration. Peroncito, three hours after section of the nerve, has found in the central end of the nerve very fine collateral ramifications of the axon, terminating after a short course, in very delicate filaments. After eighteen hours he has observed in the central end most of the anatomical conditions indicative of regeneration, which, previous to his researches, had been looked upon as late productions of the axis cylinder—namely, the plaquette, the ring, the button, and the helicoidal formation. [Plate II—1.] These

observations of Peroncito show that active nutritive changes commence almost directly after the injury before the sheath cells divide. Marinesco has confirmed the observations of Peroncito, and has found that within twenty-four hours of section of the sciatic nerve very important and interesting phenomena of regeneration occur. These phenomena are the results of an increased nutritive activity associated with a swelling and hypertrophy of the large axis cylinders, whereby the constituent nerve fibrils which make up the axons become evident. The network or skein of fibrils are clearly seen, owing to a great increase of the interfibrillary substance, and a longitudinal dissociation of the bundle of fibrils takes place. These skeins of fibrils may run side by side or intercross one another. The various appearances of the fibrils resulting from this longitudinal dissociation are represented in Fig. 4, and are very different from one another. Between the tangled skeins of dissociated fibrils there may be off-shoots of more delicate fibrils forming plexuses. Some of these delicate fibrils, as Fig. 5 shows, terminate in a little olive or cone of growth. This process of longitudinal dissociation of the axon leads to the formation of a number of embryonic fibres, from which develop a number of young axis cylinders. These young fibres can be followed through the central cut end to the cicatrix. Some are seen to terminate in a button, olive, or club-shaped extremity, forming a cone of growth which penetrates between the more or less longitudinally-arranged sheath cells. [Plate II—7.] At the termination of the cut ends there is a cellular exudation and new-formed blood vessels; this undergoes organization, and at the end of six or seven days forms a bridge which unites the two cut ends for the passage of the young regenerating fibres. But in proportion as the axon fibres penetrate the cicatrix they diminish in numbers and their branches are less numerous. The new fibres may be seen to diverge, intercross, and form a felt work, as seen in Fig. 6. A certain number of them, however, can be seen taking a straight course and descending vertically in the peripheral stump. Cajal considers that the terminal bulbs correspond to the cone of growth of the developing axon in the embryo or pseudopodia in the advancing axon of the neuron observed by Harrison in his experiments. Probably Cajal is correct in maintaining that the terminals of the new-formed young fibres correspond to an amœboid phase of very active growth, which assures the neurotization of the peripheral end of the divided nerve. After the stage of active ramification or dendro-amœboidism numbers of terminal clubs of the young fibres are seen. These traverse paths rendered free to their passage between the sheath cells. Marinesco thinks that these terminal clubs only indicate a delay or retardation of chimiotropism of the sheath cells. The shape of these terminal bulbs, which are so striking a feature of the regenerating nerve fibrils, is variable; in structure they consist of a network or twisted skein of fibrils in the form of an olive or bulb and an interfibrillary amorphous substance (Plate II—2). It is difficult to decide whether these bulbous terminals represent cones of growth or a twisting up of a fibril on account of an obstacle to the growth or nutrition of the nerve fibril.

If sections be made of the junction of the central and peripheral ends at successive periods of time, three stages can be seen: (1) The sprouting of large numbers of new fibres from the central cut axon; (2) the penetration of the bridge of young vascular connective tissue joining the cut ends by the young nerve fibres; and (3) the penetration and growth downwards of these young fibres between the proliferated sheath cells of the peripheral portion [vide Plate II—7]. There can be no doubt, then, that the new nerve fibres depend upon an outgrowth from the central cut end of the neuraxon.

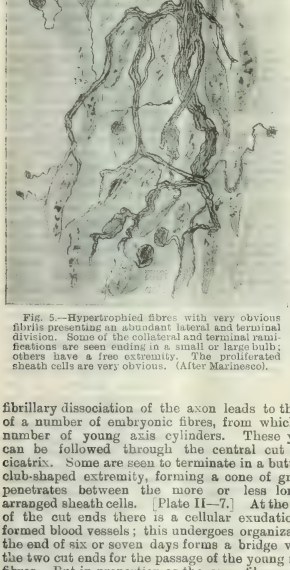


Fig. 5.—Hypertrophied fibres with very obvious fibrils presenting an abundant lateral and terminal division. Some of the collateral and terminal ramifications are seen ending in a small or large bulb; others have a free extremity. The proliferated sheath cells are very obvious. (After Marinesco).

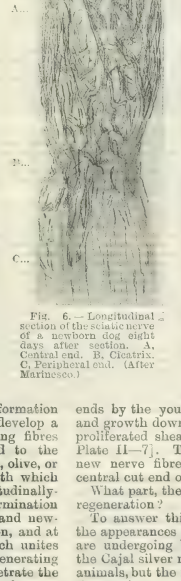


Fig. 6.—Longitudinal section of the sciatic nerve of a newborn dog eight days after section. A, Central end. B, Cicatrix. C, Peripheral end. (After Marinesco.)

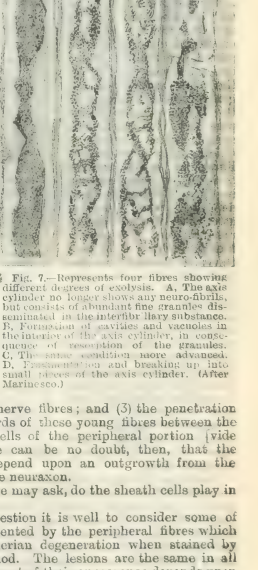


Fig. 7.—Represents four fibres showing different degrees of exolysis. A, The axis cylinder no longer shows any neuro-fibrils, but consists of abundant fine granules disseminated in the interfibrillary substance. B, Formation of cavities and vacuoles in the interior of the axis cylinder, in consequence of resorption of the granules. C, The same condition more advanced. D, Fragmentation and breaking up into small pieces of the axis cylinder. (After Marinesco.)

What part, then, we may ask, do the sheath cells play in regeneration?

To answer this question it is well to consider some of the appearances presented by the peripheral fibres which are undergoing Wallerian degeneration when stained by the Cajal silver method. The lesions are the same in all animals, but the moment of their appearance depends upon the species, age of the animal, and severity of the injury which has caused the solution of continuity of the nerve. The changes appear first at the upper end and are propagated peripheral-wards through the whole extent of the nerve below the lesion. The degeneration does not affect all the fibres equally. The first change is a swelling of the axis cylinder whereby the fibrillary network is displayed. The neuro-fibrils are visible and appear thickened in their course. But very soon the axon appears only as a dark stained finely granular cord (Fig. 7, A). In place of neuro-fibrils there is a dark mass of fine granules.

Marinesco terms this condition "axolysis." He believes that the fragmentation of the myelin sheath and axis cylinder constitute connected phenomena dependent upon the same cause, namely, the formation of a digestive ferment on the inner surface of the sheath of Schwann. He moreover considers the ferments formed are analogous to the proteolytic and lipolytic ferments of the pancreatic juice, for Bokay has found that the pancreatic juice splits lecithin up into cholin glycero-phosphoric acid and fatty acid. It is the oleic acid which stains black with the Marchi reaction. Resorption occurs in this softened and swollen axon, causing vacuolation. The vacuolation becomes more marked as the process of resorption continues, and this results in fragmentation of the axon, and finally the fragmented axon is completely destroyed and absorbed (Fig. 7. B, C, D). The sheath cells undergo rapid proliferation and exercise a phagocytic action upon the products of degeneration, while others arrange themselves in a longitudinal direction to receive and attract the rapidly growing young fibres which have come from the central cut end. The experiments of Forssman appear to show that the products of degeneration have a chimiotropic influence upon the developing fibrils of the cut central end of the nerve.

Forssman cut the tibial nerve and brought the central cut end into relation with the divided peroneal and tibial nerves which he placed in a celloidin tube; two months later he found the same number of regenerated fibres in each of the nerves. This may support the view that the sheath fibres exercise a chimiotactic influence, but Forssman made another series of experiments showing that this chimiotropism depends upon chemical attraction of the degenerated myelin. His experiments were conducted thus: He divided the central end of a nerve and placed each half into two separate celloidin tubes; one was filled with emulsion of liver and the other with brain emulsion; the fibres all grew in a direction towards the tube containing the brain emulsion. It may be concluded from this experiment that the degenerated myelin of the peripheral portion of the nerve attracts the young fibres and the sheath cells ensheath them.

Forssman also showed that the fibres of the central end do not take the line of least resistance, but the direction to which chimiotropism attracts them. Cajal, however, asserts that it is the attraction of the protoplasmic strands formed by the sheath cells which are arranged in dense fusiform bundles, and Cajal and Marinesco believe that these neurilemmal cells secrete a chimiotropic substance capable of exciting a moeboid movement in the pseudopodia of the young regenerating axons, and having attracted, direct and nourish them. Marinesco claims to have proved this by the following experiments. He took a piece of nerve in which the sheath cells are dead; it was obtained either from a dead animal or by resection of a piece of nerve from a living animal which was allowed to remain a sufficient time in serum for death of the sheath cells to have taken place. This was connected to the central cut end of the sciatic nerve of an animal. To the central end of the other divided sciatic nerve he connected a piece of nerve kept alive in Locke's oxygenated serum. In the former case, when the sheath cells are dead there is no chimiotropic influence upon the fibres of the central cut end, whereas in the latter, if the resected nerve is from the same species, the fibres of the central end grow in. As the cell processes grow down into the new sheath an interaction takes place between the new axis cylinder and its sheath, leading to the formation of intervening myelin. Moreover, Halliburton and I found, in regenerating nerves, a much larger number of myelinated fibres and the myelin sheath of the fibres thicker near the point of section than in a remote portion of the nerve [vide Plate II–5]. This was an indirect support to the outgrowth theory, and has also been observed by Langley and Anderson.

It may be assumed, therefore, from what I have said, that the trophic and genetic independence of the neurone has been established. A question still remains, and that is, How are these nervous units connected with one another—if they are independent, how are they functionally correlated? This has, from the foundation of the neurone concept, been a point in dispute. Although many valuable researches have been published, still we are far from understanding the problem. The Golgi method appeared to show that the neurones are arranged in systems and communities in contiguity but not continuity, and numbers of experiments and observations were made to show that the dendrites exercised amoeboid functions, and little buds or gemmules on these processes of the cells were supposed to appear and disappear owing to the contractility of the protoplasm, thus leading to varying degrees of contact influence of one neurone upon another. But there is no proof that these gemmules exist in the living cells, although the amoeboidism of the branching processes of the neurones does seem possible as an explanation, when Harrison's experiments combined with Peroncito's observations are considered. But, as Verworn justly remarks, we must be careful not to generalize upon insufficient data, for the physiological connexions in the nervous system of the lowest types of animals as compared with the higher vertebrates are different; take, for example, the simple reflex processes in the lower invertebrates and the complicated processes of association in the human brain. In the invertebrates there can be no question that Apathy and Bethe are right in asserting that there is a fibrillary continuum through several ganglion cells.

But does a continuity exist in the vertebrates? In my Croonian lectures on the Degeneration of the Neurone, I referred in the following words to some important researches of Held which had been put forward to disprove the neurone theory. "In my opinion, however, one can still accept the neurone theory and admit the truth of Held's observations—namely, that the terminal arborization of the axis cylinder process of one neurone forms protoplasmic concrescences by fusion with the cell body and dendrons of another. This, of course, implies continuity of the protoplasm of one neurone with another, but trophically and genetically the two are independent, and it is merely a question of degree of contact of the protoplasm of one with the other. Held agrees with other investigators that in embryonic tissues, and even

DESCRIPTION OF PLATE I.

1.—Section through the spinal cord of a chick embryo of three days. *a*, Motor root. B, spinal ganglion. *c*, young neuroblast; *b*, *c*, commissural neuroblasts. (After Ramon y Cajal.)

2.—Cross section through a chick embryo of seventy-three hours, to show the beginning of a spinal nerve (*sp. n.*); *m. c.*, medullary cord. (After Bethe.)

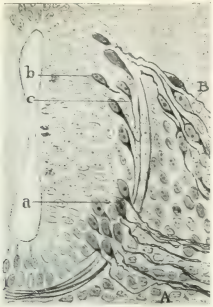
3.—Cross-section through the medullary cord of a salmon embryo, to show neuroblasts and motor nerve fibres (*m.n.*). (After His.)

4.—Semi-diagrammatic section through the spinal cord and adjacent organs of an axolotl embryo. The peripheral nerve fibre is seen arising from the ganglion cell, but does not grow out free into spaces between the cells, but into protoplasmic bridges or plasmodesmata which have been already formed by other cells. According to this theory the nerve paths arise through the transformation of these plasmodesmata into neurodesmats. (After Held.)

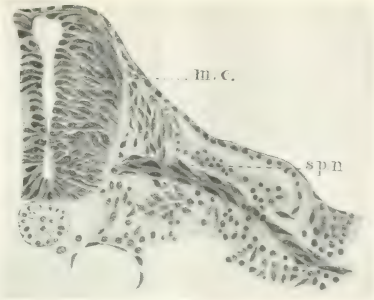
5.—(*a*) Regenerating motor bundle of a cat's sciatic nerve ninety-one days after the nerve was divided and sutured. Marchi's method of staining. The transverse section shows well marked myelination in the majority of the fibres; it was taken from the upper end of the nerve. (Magnified 220 diameters.) (*b*) The same bundle 3 in. lower down. Myelination much less advanced. (Magnification 220 diameters.)

6.—(1) Group of anterior horn cells from a monkey's spinal cord on the side in which section of the sciatic nerve had been performed. On the opposite side hemisection and section of all the lumbo-sacral roots had been performed, in addition to section of the sciatic nerve. Yet there were as many altered spinal motor neurones on the one side as the other, thus showing that the cause of this alteration was the section of the nerves, and that interference with the passage of stimulus has had little to do with the trophic condition of the cell. It will be observed that some cells have the normal Nissl pattern. (2) Cells of the cortex cerebri in phosphorus poisoning of the rabbit. It will be observed that one cell shows considerably more chromolytic change than the other. (3) Cells of the anterior horn; cervical enlargement in a case of peripheral neuritis caused by chronic lead poisoning. The perinuclear chromatolysis and eccentric condition of the nucleus is very evident, and the appearance presented is the same as by the large cells in Fig. 1. (4) A large Betz cell of the cerebral cortex with eccentric nucleus and chromatolysis specially marked around the axon cone of origin; from the same case of lead neuritis. (5) Five cells showing various degrees of eccentricity of the nucleus; chromatolysis from the posterior spinal ganglion group; a case of alcoholic neuritis.

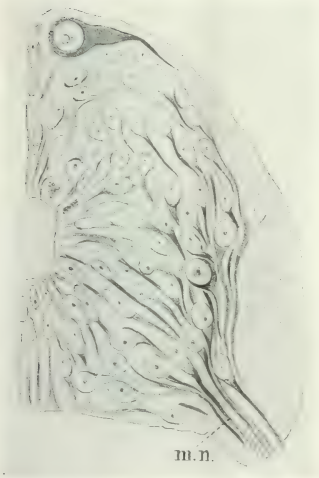
PLATE I.



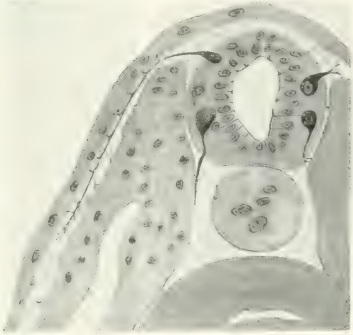
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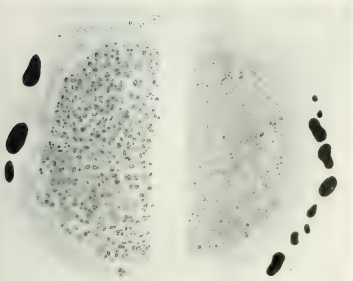
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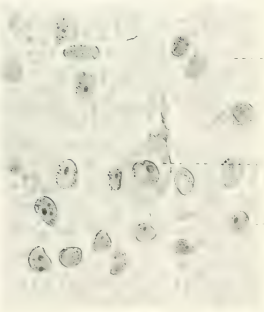
PLATE II.



1.



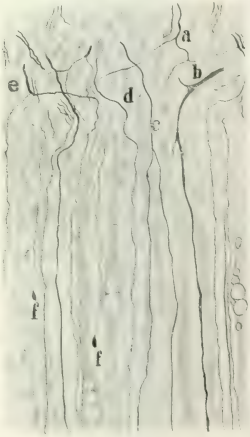
2.



3.



4.



7.



5.



6.

in early life, the neurones are entirely independent of one another. This independence he can determine by a line of demarcation at the points of contact due to a difference in refraction. This refractile limiting line is, however, not demonstrable in the adult, and he comes to the conclusion that during the process of growth the protoplasm of related neurones fuses." Verworn states that the pictures which Held publishes are not clear enough to satisfy him. On the other hand, the possibility is undeniable that where the axon of one neurone is in contact with the dendrites of another there is a "receptive substance," which Sherrington has termed the synapse; this substance may possess certain physiological properties which have a similarity with those of the end organ in striped muscle—for example, easy fatigability, great summation, capacity for excitations, and specific reactions for certain poisons, etc. "But it remains undecided whether the acceptance of such a synapse having the above related physiological properties is necessary for the explanation of the physiological processes. In any case great difficulties exist both for the acceptance of the synapse as for the acceptance of a continuous path of conduction. It is a fact that conduction of the stimulus through the reflex arcs only occurs in the physiological and not in the opposite direction. Yet it can be demonstrated that the nerve possesses conductibility in both directions; therefore the necessary conditions for this difference of conductibility must be in the centre. Where the conditions are situated and how they are affected, the future must decide." It is admitted that the lower we descend in the zoological scale the more obvious is the fibrillary continuum, and the simpler and less varied are the motor adaptations to environment. We may assume, therefore, that in the upward development of the animal series with the complexity and refinement of motor adaptation there coexists a neuronic independence. We may ask the question, What would be the advantage in the evolution of the nervous system of neuronic independence? In the attempt to answer such a question it is desirable to look at it from a broad biological standpoint. What are the properties of nerve tissue, and how does it differ from other cell protoplasm? We may say it is irritable and conductile, but we know that the protoplasm of the carnivorous plants—the sundews and Venus flytrap—is irritable, conductile, contractile, and secretory, and these plants are capable of exhibiting reflex action without a nervous system when the appropriate stimulus is applied. This reflex action, however, differs from that of the plant-like animals with their diffuse network of neuro-muscular cells in speed of reaction.

Consider, moreover, the advantage of speed of voluntary action initiated in the brain by the impulse having to pass through the conductile fibrils of only two nervous cells in the production of motor reactions of the arm, leg, face, and tongue. But if there existed a fibrillary continuum from the cerebral neurone through the anterior spinal neurone, how could the anterior motor spinal neurones form the "final common path" for a multitude of different muscular activities?

The idea that the neuraxon of a Betz psycho-motor cell is connected by its conductile fibrils with one anterior spinal motor neurone is a textbook myth, which instead of making the nature of voluntary movements to the thoughtful student clear, only makes him ask the question, Are the number of fibres in the pyramids of the medulla equal to the sum of all the fibres in the anterior roots? Clearly the fibrils, then, of the Betz cells must be connected with a number of spinal motor neurones forming the final common path for a multitude of different voluntary muscular activities. Moreover, we know that there is not a direct connexion between the upper cerebral neurones and the lower spinal motor neurones, for intercalary neurones with axons which do not leave the grey matter intervene and the terminal arborization of sensory afferent neurones, cerebral, mesencephalic, and bulbar efferent neurones, combine with spinal association neurones through the intercalary neurones in augmenting and inhibiting the outflow of energy of the spinal motor neurones, whereby the most varied, refined, and complex muscular reactions in adaptation to environment are effected. The nervous energy is expended in the grey matter of the brain and spinal cord.

There are many other interesting points concerning the neurone which I might, had time permitted, have spoken about—for example, the significance of the nodes of Ranvier and the perifibrillary protoplasm; the theories in respect to the functions of the interfibrillary chromophilous substance of the ganglion cell and the dendrons. Is this chromophilous substance the source of nerve energy, and if so, is it used at the seat of its formation, the nerve cell, or is this substance, which in the dead cell corresponds to the Nissl granules, a store of energy-producing substance in the latent state analogous to the proferment of secretory glands—a substance which is transformed into the active energy-producing substance at the terminal arborizations of the neurone? I must, however, rest content if the facts and arguments which I have related have satisfied you that the neurone doctrine, pronounced dead only a few years ago, now rests on a surer basis than ever, this satisfactory result being due especially to the introduction of new methods of investigation by Ramon y Cajal and Harrison.

DESCRIPTION OF PLATE II.

1.—Regenerating nerve fibres from the end of the central nerve stump of the sciatic nerve of a dog, taken from six to forty-eight hours after cutting the nerve. (After Perroncito.)

2.—Olive-shaped swellings at the end of nerve fibres, growing downwards from the central end twenty-one days after the nerve had been divided. Coiled-up fibrils can be seen in these swellings. (After Marinesco.)

3.—Portion of a horizontal longitudinal section through the spinal cord (*m.c.*) and portion of two muscle plates (*my.*) of a 96-hr. chick embryo. (*m.*) with the branched neurone is a neuroblast, showing the first stage in the formation of the nerve fibre. (After Ross Harrison.)

4.—Isolated cell from a piece of embryonic spinal cord growing in a drop of clotted lymph. The cell body, which is filled with yolk granules, is sending out a hyaline protoplasmic process which undergoes amœboid movements. Drawn from a live specimen. (After Ross Harrison.)

5.—Two views, taken twenty-five minutes apart, of the same nerve fibre growing from a group of embryonic spinal cord cells into the lymph. (After Ross Harrison.)

6.—A, Neuroblasts stained with silver nitrate. B, Neuroblast impregnated by the Golgi method. Growth cone appears well marked at the top of B. (After Ramon y Cajal.)

7.—Regenerating nerve fibres of a cut nerve. The young fibres *a, b, c, d, e*, growing from the central end, can be seen passing through the cicatrix down into the peripheral portion between the proliferated sheath cells. Some of these are seen to bifurcate—for example *d, e, e*. One branch of *d* terminates in an olive-shaped bulb, *f*, the other proceeding onwards. It is possible that the former is arrested in its progress, and coils up to form the olive. (After Ramon y Cajal.)

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Remarks on GENERAL SPINAL ANALGESIA.

BY

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BUCHAREST.

At a meeting of the German Society of Surgery in Berlin in April, 1909, Professor Bier of Berlin is reported [1] to have said that the method of general spinal analgesia described by me at the Congress of the International Society of Surgery in Brussels in September, 1908, must be rejected, and Professor Rehn of Frankfort is reported [1] to have said that experiments on animals showed that considerable danger attended such injections if made higher than the lumbar region as recommended by me.

These pronouncements, which seem to be without appeal, prove once more that the method described by myself and my assistant, Dr. Anza Jiano, was too novel and too hardy to be accepted without opposition. I have never doubted that this would be so, but the facts which I am about to state will prove the conviction that this condemnation on *a priori* grounds is mistaken, and I am firmly convinced that my new method of general spinal analgesia will in a short time be universally accepted. During the eight months subsequent to October, 1908, I used spinal analgesia in all my operations, whether performed in the university clinic in the Coltza Hospital, or in my private practice; I have never once had recourse to anæsthesia by inhalation. In addition, my hospital colleagues have daily had recourse to this method with complete success. Dr. Canny Ryall, of London, who spent twenty days in Bucarest for the purpose of studying my method, saw it used for forty operations of various character, and afterwards used it in the clinics of Professor Doelinger, of Budapest, and Eiselsberg, of Vienna. Recently I practised it myself in the clinic of Professor Schauta, of Vienna, who was convinced of its superiority over anæsthesia by inhalation. The description of the actual method which I shall now give is founded upon this extensive experience of its use.

Method.

There are two essential points of novelty in the method: (1) The puncture is made at a level of the spinal column appropriate to the region to be operated upon; (2) an anæsthetic solution is used which, thanks to the addition of strychnine, is tolerated by the higher nervous centres. The selection of the anæsthetic substance to be used will be determined by the surgeon's experience or confidence in any particular drug. I prefer stovaine, which has given me excellent results, and which I know how to manage; but tropacocaine or novocain are equally efficacious, and, thanks to the addition of strychnine, equally harmless.



Fig. 1.

1. *The Preparation of the Solution.*

The solution must be made at the time when the operation is to be performed as follows: The necessary quantity of stovaine, tropacocaine, or novocain is introduced into a glass tube (Fig. 1) provided with an indiarubber stopper, and sterilized in the autoclave. The substances need not be sterilized since they are themselves antiseptic, and some of their properties would be destroyed by heat.

The strychnine solution is made by dissolving 5 to 10 cg. of neutral strychnine sulphate in 100 grams of sterilized (not distilled) water in a glass-stoppered bottle previously sterilized; if 5 cg. of strychnine are used, 1 c.cm. of the solution will contain ½ mg.; if 10 cg., 1 c.cm. will contain 1 mg. The weaker solution is used for the upper, the stronger for the lower puncture. As the strychnine takes some time to dissolve, it is better to prepare this solution a little before the time when it has to be used. With an ordinary Pravaz syringe provided with a needle for lumbar puncture, 1 c.cm. of the solution of strychnine, a syringeful, is drawn up and is injected into the tube containing the dose of stovaine judged to be necessary for the puncture about to be made. The tube is corked again, and shaken, and the salts are dissolved. The same syringe is then filled with the contents of the tube, and is held with a sterilized compress and removed from the needle while the puncture is being made.

2. *The Apparatus.*

This, as has already been indicated, is very simple, and within the reach of every surgeon in all circumstances, since it consists only of a common Pravaz syringe holding 1 c.cm., and the usual needle for lumbar puncture previously sterilized by boiling. The needle I prefer has a point cut rather squarely, for since the arachnoid space is relatively small, if the point of the needle be oblique, it is possible that part of the opening might go through the dura mater while part remained outside it. If this occurs part only of the solution penetrates into the arachnoid space, while a greater or less quantity is injected into the space between the dura mater and the osseous canal, and either analgesia is not produced at all, or it is incomplete; a result too often attributed to the insufficiency of the method or the idiosyncrasy of the patient.

3. *The Puncture.*

In my communications to the Congress at Brussels and to the Academy of Medicine in Paris, I indicated four points in the spine at which the puncture should be made in order to obtain analgesia of the region to be operated upon. I had already been convinced by experience that spinal anæsthesia was not so regional as I had believed, and that medio-cervical puncture was as useless as it was dangerous. It favours the appearance of bulbar phenomena—nausea, vomiting, pallor of the face, faintness, momentary stoppage of respiration, and so on, phenomena due to a too direct action of the anæsthetic fluid upon the bulb. Their occurrence may be avoided by making the puncture lower down between the first and second dorsal vertebræ, which produces as perfect and deep analgesia for the segment of the body comprising the head, neck, and upper limbs as is produced by medio-cervical puncture. Medio-dorsal puncture between the seventh and eighth dorsal vertebræ is very often difficult to perform, and is not necessary, for perfect analgesia of the lower segment of the thorax can be obtained by puncture made between the last dorsal and first lumbar vertebræ, which is easier to perform and produces also anæsthesia of the whole lower part of the body.

I have therefore reduced sites of election for puncture to two—namely:

(*a*) *Upper Dorsal Puncture.*

Upper dorsal puncture between the first and second dorsal vertebræ is easily performed; the landmark is the vertebra prominens with the visible and tangible protuberances of the spinous processes of the second and third dorsal vertebræ. When the patient's head is strongly flexed, so that the chin touches the sternum, the protuberances are very marked, and the spaces they bound are enlarged (Figs. 2, 3, and 4). The patient being placed in this position, the surgeon marks with the forefinger of his left hand the space between the first and second dorsal vertebræ, and the needle, held between the thumb and forefinger and middle finger of the right hand, is pushed in, following the upper border of the spinous processes of the second dorsal vertebræ (Fig. 4). For operations on the head, neck, upper limbs, and thorax the puncture should be made in this situation.

(*b*) *The Dorso-Lumbar Puncture.*

The dorso-lumbar puncture between the twelfth dorsal and first lumbar vertebræ is very easily made, owing to the large space which separates the two spinous processes. (Figs. 2 and 3). I prefer this puncture to the classical lumbar puncture between the third and fourth lumbar

vertebræ, because it produces more perfect analgesia of the whole abdomen and lower segment of the body. The space is easily found, for it is necessary only to count the lumbar spines upwards. The patient is seated with the thorax bent strongly forward, as in ordinary lumbar puncture (Fig. 5). In making the puncture, the forefinger of the left hand marks the space, while the needle is pushed in with the right hand, following the upper border of the underlying spinous process.

In both cases the puncture is made in the median plane. Once the resistance of the skin has been surmounted, the needle must be pushed forward slowly, so as not to tear the tissues which are being transfixed. As a rule the needle enters easily as far as the dura mater, when a momentary resistance is felt; when this has been overcome, the flow of spinal fluid shows that the needle is in the right space. When the puncture is made at the high dorsal level, where the pressure of the cerebro-spinal fluid is diminished, it comes out drop by drop, whereas in the dorso-lumbar puncture it spurts out in a stream. This is the rule, but there are exceptions, for sometimes in the high dorsal puncture no fluid escapes; an effort of coughing will then usually suffice to make it appear, although it may be necessary to adapt a sterilized syringe to the needle in order to aspirate the fluid. If no fluid is thus obtained, the surgeon must conclude that his needle is not in the arachnoid cavity; the point of the needle must be disengaged, drawn back slightly, and pushed in again until the space is found. If the needle is introduced obliquely it may impinge on a lamina, but the peculiar sensation of having touched bone will warn the surgeon; he must then withdraw the needle completely and reintroduce it in the proper way—namely, in the median plane. If the fluid which escapes is blood-stained, it shows that a small vein has been transfixed—a matter of no importance, since the haemorrhage will soon cease spontaneously and the fluid become clear.

It is also possible to make the punctures with the patient lying on his right side, the head being strongly bent on the chest for the high dorsal puncture, and the thorax being bent forward for the dorso-lumbar puncture. This position should be preferred when the patient is feeble or very impressionable and cannot remain in the sitting position without risk of fainting; it must also be used if, an operation having lasted longer than was anticipated, a second puncture and injection to prolong the analgesia become necessary.

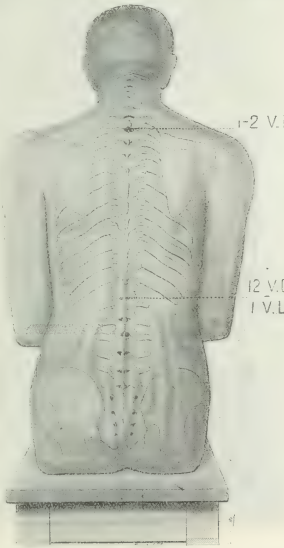


Fig. 2.

4. *The Injection.*

As soon as the escape of cerebro-spinal fluid renders it certain that the arachnoid space has been entered, its further loss should be stopped, for I am convinced that the escape of more than a certain quantity of fluid is rather harmful than useful. The loss of too much fluid (1) may cause signs of faintness, pallor of the face, sweating, etc.; and (2) by suddenly diminishing the quantity of cerebro-spinal fluid may cause too rapid diffusion of the anæsthetic, which is undesirable and may be mischievous. As soon, then, as a few drops of fluid have escaped, the needle is closed with the forefinger of the left hand, while with the right the syringe filled with the anæsthetic mixture is adapted to the needle. The liquid must be slowly injected so as not to produce an undue impact upon the spinal cord.

5. *Position of Patient after Injection.*

The position to be assumed by the patient after the injection, so as to ensure analgesia of the region to be operated upon, is a cardinal point, for by attention to it we can favour the distribution of the liquid in the desired direction. If with the higher dorsal injection it is desired to obtain analgesia of the head and neck, the patient is made to lie on his back; if the operation is to be on the throat, the head should be a little raised; if on the face or skull, he should lie horizontally; if on the upper limb or the thorax, he should remain sitting for two or three minutes, and then lie on the back with the head, neck, and thorax bent slightly forward. If after four or five minutes the analgesia of the head or of the neck is not complete, the patient's head should be lowered below the level of the body for three or four minutes.

With dorso-lumbar injection if the viscera of the upper abdominal region (liver, stomach, spleen, pancreas, kidneys, etc.) are to be operated upon, the patient must remain in the sitting posture for two or three minutes, and then lie on the back, the head neck, and shoulders being raised. If after five or six minutes the analgesia is incomplete, the patient must be inclined (Trendelenburg) for a few minutes three or four, after which he again returns to the sitting posture. If the operation is on the lower abdominal region (pelvis, perineum, external genital organs) or on the lower limbs, the patient should remain in the sitting posture for five or six minutes, and then lie on his back, with the upper part of the body, head, neck, and thorax raised and bent forward.

6. *The Dose.*

The amount of stovaine and strychnine in the anæsthetic mixture should vary with the site of the injection, the patient's age, and his general condition. I confine my remarks to stovaine, as it is the drug with which long practice has made me familiar, so that I can administer it with precision and safety. I cannot speak with equal confidence of other anæsthetics, such as novocain and tropacocaine, with which I have had little experience.

(1). *Strychnine.*

The variation in the quantity of strychnine is not relatively great. For the higher dorsal injection I employ: For children of from 1 to 5 years ½ mg. in 1 c.cm. The solution is made by dissolving 3½ cg. of neutral strychnine sulphate in 100 grams of sterilized water. For children above 5 years, for adolescents, adults, and aged people the solution contains ¾ mg. of neutral strychnine sulphate in 1 c.cm., and is made by dissolving 5 cg. of the strychnine salt in 100 grams of sterilized water. For dorso-lumbar injection, for children from 1 to 10 years old, I use a solution containing 1 mg. of strychnine in 1 c.cm.; for children above 10 years, adolescents, adults, and old people, a solution containing 1 mg. in 1 c.cm., made by dissolving 10 cg. of the neutral strychnine sulphate in 100 grams of sterilized water.

(2). *Stovaine.*

The amount of stovaine varies with the site of the injection, the patient's age, and his general condition. For the higher dorsal injection I use for children from 1 to 5 years old, 1 cg.; from 5 to 15 years, 2 cg.; for adolescents, adults, and aged people, 3 cg. For the dorso-lumbar puncture, for children from 1 to 5 years, 2 to 3 cg.; from

5 to 15 years, 4 to 6 cg.; for adolescents from 15 to 20 years old, 6 to 8 cg.; and for adults and aged people 10 cg. The dose of stovaine must also be adapted to the general condition of the patient. In persons who are consumptive, very anaemic, who are suffering from autointoxication or grave infections, or who have suffered severe injury, or are ischaemic owing to profuse haemorrhage, 5 or 6 cg. of stovaine produce deep and prolonged analgesia, and larger doses are badly tolerated, causing pallor of the face, nausea, vomiting, and transient faintness.

In order to be able to judge of the degree of the diffusibility of the liquid injected into the arachnoid cavity the specific gravity of the solution of strychnine and stovaine compared with that of the cerebro-spinal fluid must be known. The average density of cerebro-spinal fluid is 1,005, but it varies from 1,003 to 1,020.[2] Dr. Hancu, Chief Pharmacist to the Coltza Hospital, has found that the following solutions have the specific gravity stated:

	Grams.		Sp. gr.
1. Strychnine ...	0.05		
Stovaine ...	2.00	...	1,0019
Water ...	100.00		
2. Strychnine	0.05		
Stovaine ...	3.00	..	1.0030
Water ...	100.00		
3. Strychnine	0.10		
Stovaine ...	6.00	...	1,0071
Water ...	100.00		
4. Strychnine	0.10		
Stovaine ...	8.00	...	1,0105
Water ...	100.00		
5. Strychnine	0.10		
Stovaine ...	10.00	...	1,0120
Water ...	100.00		

The solution used for injection in high dorsal puncture (containing 5 cg. of stovaine and ½ mg. of strychnine) has a specific gravity equal to or greater than the average density of cerebro-spinal fluid; this fact explains the rapid diffusion towards the cervical part of the cord and the cranial cavity, which, as will be shown later, takes place if the injection is made here, and also the readiness with which analgesia is produced. The solution used for injection in the dorso-lumbar puncture has, on the other hand, a specific gravity greater than that of cerebro-spinal fluid, and the larger the quantity of stovaine the higher the specific gravity. In this situation the diffusion of the solution takes place slowly, a fact which explains the relative delay in the production of the analgesia, and partly also the harmlessness of the Trendelenburg position, the solution tending to remain in the lower parts of the arachnoid cavity.

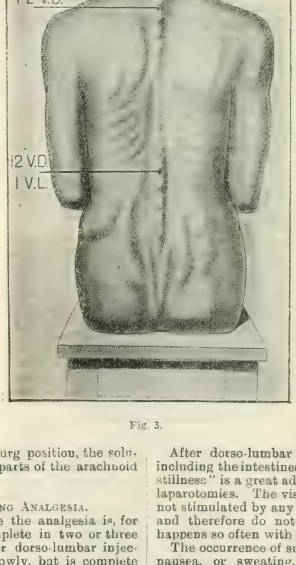


Fig. 3.

Phenomena Observed During Analgesia.

With the higher dorsal puncture the analgesia is, for the reason just stated, usually complete in two or three minutes. On the other hand, after dorso-lumbar injection, analgesia is produced more slowly, but is complete in at most ten minutes. If analgesia is not obtained within this time, it is evidence that the solution has not reached the arachnoid cavity, or has reached it in too small a quantity, and the puncture and injection must be repeated. It is a mistake to attribute failure to produce analgesia to idiosyncrasy. It is true that I have seen some cases in which after puncture followed by a flow of cerebro-spinal fluid no analgesia has been produced, but a second, or in some cases a third injection of the same dose of the anaesthetic has produced complete analgesia. It is tempting to suppose that these patients were refractory to normal doses and required larger doses, but this is a mistake; no patient could support 20 to 30 cg. of stovaine and 2 or 3 mg. of strychnine without presenting marked bulbar phenomena—stoppage of breathing and of the heart—attributable to the excess of stovaine. The occurrence must be otherwise explained. It is to be attributed to an untimely movement of the patient at the moment of the injection, very trifling, perhaps, in appearance, but sufficient to displace the point of the needle already engaged in the arachnoid cavity. Owing to the slight and imperceptible displacement the orifice of the needle is withdrawn partly or wholly from the cavity, and the solution is therefore injected in part or in whole outside the cavity, between the dura mater and the osseous canal.

In one case of high dorsal puncture I only obtained analgesia after a third injection—that is to say, after using 9 cg. of stovaine and 1½ mg. of strychnine, doses which no patient could support without showing bulbar phenomena. It is certain, therefore, that only the third injection penetrated the arachnoid cavity. In another case of dorso-lumbar injection, in a patient in whom on a previous occasion excellent analgesia was obtained with 6 cg. of stovaine, 16 cg. in two injections failed to give any result, and it was only after a third injection of 6 cg. that analgesia was produced.

During analgesia patients retain full consciousness, and I am in the habit of speaking to them to divert their attention from the operation, of which the majority are unaware, the operating field being hidden from them by a cloth supported by two bars attached to the operating table at the level of the neck. I prefer this cloth to a mask, which is embarrassing to the patient and a great trial to his patience during a long operation. A patient may be heard to ask after an operation is finished when it is to be begun.

The immobility of the limbs, the neck, and the head, due to paresis caused by the spinal analgesia, is a great advantage to the surgeon by suppressing movements which might embarrass him. It is true that there may be complete anaesthesia without loss of mobility in the limbs: this rarely happens, but its occurrence ought to be known, as it is not necessary to wait for paresis before beginning to operate.

After dorso-lumbar injection the abdominal viscera, including the intestines, are immobile, and this "abdominal stillness" is a great advantage, especially in gynaecological laparotomies. The viscera are, as it were, congealed, are not stimulated by any fit of coughing or effort of vomiting, and therefore do not obstruct the field of operation, as happens so often with inhalation anaesthesia.

The occurrence of such phenomena as pallor of the face, nausea, or sweating, so often observed when spinal analgesia is produced by the injection of stovaine, tropacocaine, or novocain is seen only exceptionally when the stovaine and strychnine solution is used. The face retains its normal aspect: nausea occurs in 2.25 per cent.; vomiting—a single effortless ejection—in 1.25 per cent.; and sweating in 2 per cent. In some cachectic, feeble individuals I have observed faecal incontinence (4 per cent.). The pulse, which is slowed in spinal analgesia produced by stovaine alone, is, when the stovaine and strychnine solution is used, usually normal in rapidity and strength. Sometimes it rises to 80 or 90, but always remains strong. These facts prove the powerful influence of the strychnine

in neutralizing the depressing action of the stovaine. Under certain special conditions I have in 5 cases observed momentary stoppage of respiration: in 3 of these cases I had used for medico-cervical puncture a solution to which atropine ½ mg. had been addded. I have abandoned both the use of atropine and puncture in this situation. In one other case I had used for high dorsal injection 4 cg. of stovaine, too large a dose, as subsequent experience has proved. In the fifth case dorso-lumbar puncture had been preceded by subcutaneous injection three and a half hours before operation of scopolamin and morphine. In this case, as I had feared in view of the poisonous effects of so powerful a drug as scopolamin, the respiration stopped, and was only re-established after fifteen minutes. None of these accidents can be attributed to the method that I have here described, but to departures from it which ought to be avoided.

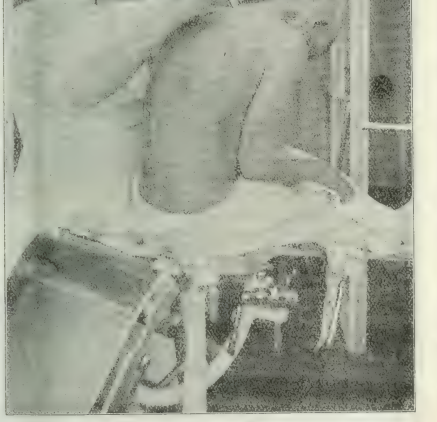


Fig. 4.

Duration of Analgesia.

The analgesia, when the anaesthetic is administered in the manner described, lasts from one and a half to two hours, a period longer than is necessary to perform any operation. I should add for the benefit of surgeons inexperienced in spinal analgesia, that though the condition may be obtained with less than 3 cg. of stovaine in high dorsal puncture, and less than 10 cg. in the dorso-lumbar puncture, the anaesthesia is neither so deep nor so durable. With 8 cg. analgesia may be produced, but the patient preserves sensation of contact and of traction on the viscera, or on the sides of the wound. With 10 cg. all sensation is abolished; for this reason there should be no hesitation in using doses which may seem large, but which are harmless and produce complete anaesthesia. If an operation has lasted so long that the analgesia passes off, I make another puncture with the patient in dorsal decubitus, and in this way analgesia can be prolonged as long as may be necessary without inconvenience. The dose used for the second injection should be either equal to that given in the first or smaller, according to the probable duration of the operation.

Phenomena after Analgesia.

Headache, retention of urine, and a rise of temperature, frequently observed when spinal analgesia is produced by stovaine alone, are seldom noted, and are of short duration when the method here described is followed. Headache has been observed in 6.25 per cent., but is not severe and disappears in a few hours. Transitory retention of urine was observed in 4.5 per cent., but only in those operations in which it is also produced with inhalation anaesthesia, such as those on the anus, the uterus, and for hernia. In no case did the temperature reach 40° C. (104° F.); a temperature as high as 39° C. (102.2° F.) was observed on the evening of the day of operation in 1.75 per cent.; of 38° C. (100.4° F.) in 16 per cent.; of 37° C. (98.6° F.) in 50 per cent. Post-operative vomiting has rarely been observed, and I have never seen post-analgesic paralysis.

Statistics.

The following are statistics of 398 operations performed by means of general spinal analgesia, from October 23rd, 1908, to July 5th, 1909.

I. High Dorsal Analgesia, 103 Cases.

(a) Operations on the Skull, 14.—Decompressive herni-craniectomies, for epilepsy (12); trephining of the mastoid process (1); angioma of the forehead (child 2 years old), extirpation (1).

(b) Operations on the Face, 45, including extirpation of epithelioma of the inferior lip, with extirpation of the submaxillary and submental glands (22); harelip, autoplasty, child, 5 years old (1); extirpation of a naevus of the labial commissure (1); cancer of the tongue, with extirpation of the submaxillary and submental glands (1); ectropion, autoplasty (5); ptosis of the superior eyelid, autoplasty (1); epithelioma of the inferior eyelid, autoplasty (1); paralysis of the left facial, myoplasty (1); sebaceous cyst of the orbit, extirpation (1); cancer of the orbit, enucleation (1); retro-ocular phlegmon, Kroenlein's operation (1); osteoma of the orbit, Kroenlein's operation (1); naso-pharyngeal polypes, Oliver's operation (5); resection of the superior maxilla (1); oste-operiostitis of the superior maxilla, trephining (1); osteo-sarcosis of the two submaxillary bones, resection (1).

(c) Operations on the Throat, 23. — Cervico-thoracic sympathectomy (11); resection of the superior cervical sympathetic ganglions (1); thyroidectomies (6); total laryngotomy for cancer (1); tracheotomy (1); external oesophagotomy for foreign body (set of teeth) (1); dorso-cervical lipoma, extirpation (1); cervical phlegmon, incision (1).

(d) Operations on Thorax, 7.—Cancer of the breast, large extirpation (Halsted-Balacesco-Legueu-Tiersch) (3); amputation of the breast with extirpation of the axillary gland (2); cystic disease of the breast, extirpation, and extirpation of the axillary glands (1); resection of ribs (1).

(e) Operations on the Upper Limb, 14.—Fracture of the clavicle, Lambotte suture (5); axillary adenitis, extirpation of the glands (2); axillary lipoma, extirpation (1); scapulo-humeral luxation (17 days), reduction (Kocher) (1); osteomyelitis of the humerus, trephining (1); enormous sarcoma of the arm, extirpation (1); ankylosis of the elbow, resection (1); autoplasty of the flexor tendons (1); section of the flexor tendons, tendinous sutures (1); tendinous dermoid cyst, extirpation (1); sanguineous redressment of the fingers and amputation of the thumb (1).

II. Spinal Dorso-Lumbar Analgesia, 295 Cases.

(a) Laparotomies, 52, including eventration (5); exploratory laparotomies (5); tuberculous peritonitis, laparotomy (2); Talma's operation (1); abdominal hydatid cyst, marsupialization (1); hydatid cyst of the liver, marsupialization (1); hydatid cyst of the liver, incision, extirpation, suture (5); cholecystectomies (4); splenectomies (8); gastro-enterostomies (5); resection of the pylorus, with gastro-enterostomy for ulcer (6); intestinal occlusion, laparotomy (2); appendectomies (6); iliac anus (1).

(b) Gynaecologic Laparotomies with Inclined Plane, 49, including hysterectomies (35); hysterectomies, with extirpation of the ilio-lumbo-pelvic ganglions for cancer of the uterus (5); retro-flexion of the uterus, plications of the large ligaments, and intra-abdominal shortenings of the round ligaments (1);

atrophic ligatures for inextirpable cancer of the uterus (4); ovariectomies (3); extrauterine pregnancy (1).

(c) Hernia, Radical Cure, 70, including inguinal unilateral hernia (49); bilateral inguinal hernia (9); strangulated inguinal hernia (5); inguinal hernia with appendicitis (1); unilateral crural hernia (1); bilateral crural hernia (1); strangulated crural hernia (2); umbilical hernia (2).

(d) Kidneys, Urinary Bladder, 8.—Nephrectomy (1); nephropexies (3); hypogastric cystotomies (3); exstrophy of the urinary bladder (1).

(e) Rectum and Anus, 26.—Cancer of the rectum, abdominoperineal extirpation (1); ano-rectal cancer, perineal extirpation (1); haemorrhoids, extirpation (Whitehead) (14); rectal stricture, extirpation (3); anal fissure, dilatation (2); anal stenosis, dilatation (1); rectal fistulae, cauterization (2); perianal vegetation, extirpation, cauterization (2); papilloma analis, extirpation (2).

(f) Operations by the Vaginal Route, 51.—Curettage of the uterus (20); vesico-vaginal fistulae (11).

(g) External Genital Organs of Man, 7.—Unilateral castration (2); radical cure of varicocele (4); radical cure of hydrocele (1).

(h) Perineum, 7.—Fistula and abscess, incision, curettage (6); perineorrhaphy (1).

(i) Abdominal Coat, 2.—Sarcoma, extirpation (2).

(j) Lower Limbs, 43.—Coxo-femoral luxations, reduction (9); coxo-tuberculosis, plaster apparatus (1); inguinal adenitis, extirpation (1); adenosarcosis, extirpation (3); fracture of the femur, Lambotte suture (1); myoma of the adductors, extirpation (1); varices, resection of the saphena (2); white tumour of the knee, arthrectomy and plaster apparatus (6); disarticulation of the knee (1); amputation, Sabanejeff (1); ankylosis of the knee, reduction (2); genu valgum, osteotomy (1); osteotomy of the leg bones (2); amputation of the leg (3); Lambotte suture of the tibia (3); extraction of pieces of metallic sutures (2); fractures of the leg bones, plaster apparatus (4); phlegmon of the leg, incision (1); transplantation of tendons, osseous resection for infantile paralysis (1); club-foot, Phelps's elongation of the tendo Achillis (4); inveterate malextraction (1).

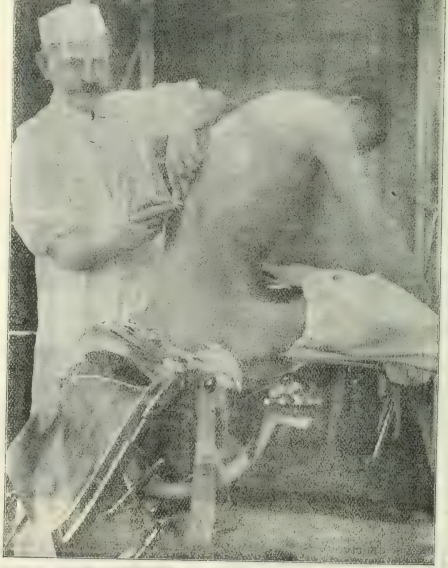


Fig. 5.

The ages of the patients have varied from children of 1 year 9 months to old people of 75 years.

I have operated on 15 children under 10 years old, 1 of 1 year 9 months, 4 of 2 years, 1 of 3 years, 2 of four years, 1 of 5 years, 2 of 6 years, 2 of 8 years, 1 of 9 years, and 1 of 10 years. They all supported the injection perfectly with the doses I have above indicated. Therefore age is not a contraindication.

With regard to the general condition of the patient, chronic cardiac, pulmonary, renal, or hepatic diseases do not contraindicate the use of the method described. I have operated on persons with advanced cardiac diseases, such as myocarditis, aortic insufficiency, and mitral stenosis or insufficiency, without inconvenience; the same can be said as to other chronic affections. Further, acute or chronic infectious diseases are not contraindications, but the dose of the anaesthetic must be diminished. Neither angular nor lateral curvature interferes with success, save in exceptional cases of ossification of ligament. If to these 398 cases I add the statistics which I presented to the Congress at Brussels relating to 617 operations performed from July 6th, 1904, to July 25th, 1908, with lumbar, medio-cervical, or superior dorsal spinal analgesia (14 cases), I have a total of 1,015 spinal analgesias without death, and without any serious complication either during analgesia or afterwards. Of earlier statistics, I need only recall that I have performed:

27 laparotomies (among them 2 splenectomies, 3 resection of the pylorus with gastro-enterostomy, 3 intestinal resections, 6 detortions of volvulus, 5 appendectomies, etc.); 24 gynaecologic laparotomies, with inclined plane (9 hysterectomies, 2 hysterectomies for cancer, with extirpation of the lumbo-ileo-pelvic ganglions, 12 atrophic ligatures for inoperable cancer of uterus). I have done also 14 first operations on the head, the neck, the thorax, and the upper limb, with medio-cervical or superior dorsal puncture (among them 1 temporary hemicraniectomy, 1 enucleation of the eye, 1 thyroidectomy, 2 resections of the cervico-thoracic sympathetic for exophthalmic goitre, 1 suture of the clavicle, 1 Halsted operation for cancer of the breast), etc.

Before concluding, I ought to add that two of my old pupils, now assistant surgeons to the hospitals—Drs. Jiano and Nasta—have been good enough to give me their statistics of operations under spinal analgesics produced by my method.

Dr. Jiano, operating in the first surgical clinic of the faculty (Senior Surgeon, Professor Severeano) at the Coltza Hospital, has had 114 cases, including 20 supero-dorsal or medio-cervical punctures (operations on the head, neck, thorax, and upper limbs), and 94 dorso-lumbar punctures (operations on the abdomen, pelvis, perineum, and lower limbs). Dr. Nasta, operating in the Dr. Racoviceano-Pitesti Clinic in the Colentina Hospital, reports the following: 19 dorso-superior and 78 dorso-lumbar punctures. In all these cases the results were excellent.

Deducting 603 lumbar analgesias with stovaine alone, I have 412 cases of analgesia with my new method published at Brussels—398 indicated in this paper and 14—with 117 high injections, medio-cervical or supero-dorsal, and 295 low dorso-lumbar injections. Adding the cases of Drs. Nasta and Jiano, I have a total of 623 operations done by means of my method from July, 1908, to July, 1909, of which 156 with medio cervical or supero-dorsal puncture—operations on the head, neck, thorax, upper limb—and 467 with dorso-lumbar puncture—operations on the abdomen, pelvis, perineum, lower limb, etc.

CONCLUSIONS.

1. The fundamental principles in spinal analgesia are that puncture of the arachnoid may be performed at all levels, and that to the anaesthetic, whether stovaine, tropacocaine, or novocain, strychnine should be added.

2. Puncture of the arachnoid at whatever level is harm-

less, and the fear of pricking the cord unfounded; even if it happens it is not harmful.

3. Medio-cervical puncture is useless and dangerous; mid-dorsal puncture is difficult and useless; superior dorsal puncture between the first and second dorsal vertebrae, and dorso-lumbar between the last dorsal and first lumbar vertebrae are easy, and suffice to obtain analgesia of all regions of the body.

4. The addition of neutral strychnine sulphate to the anaesthetic preserves the full antiseptic power of the solution and at the same time neutralizes its injurious action upon the bulb. Thanks to this addition, superior spinal analgesia can be performed without danger.

5. Among known anaesthetic substances, stovaine, tropacocaine, and novocain seem to be the best; any of them may be used with the addition of strychnine.

6. The strychnine and the anaesthetic substance need not be sterilized, a process which would destroy some of their properties.

7. The water used for making the solution must be sterilized but not distilled.

8. The injection should consist of 1 c.cm. of solution, the amount of strychnine and anaesthetic substance being varied.

9. The technique is simple, requiring only a Pravaz syringe and the usual needle for lumbar puncture.

10. There are no contraindications for general spinal anaesthesia, which always succeeds if the liquid penetrates into the arachnoid cavity and if the dose of the anaesthetic is sufficient.

11. General spinal anaesthesia is absolutely safe; it has never caused death, nor produced any important complications, early or late.

12. General spinal anaesthesia is infinitely superior to inhalation anaesthesia. Owing to its simplicity, it is within the reach of all, and as there is no contraindication it may be employed with any patient. As it can be performed by the surgeon himself it does away with the attendance of a person often inexperienced, and never responsible.

13. In operations on the face or the throat, where analgesia by inhalation is difficult and often incomplete, spinal analgesia is a great resource. In laparotomies, owing to the "abdominal silence" it determines, it is very much superior to analgesia by inhalation.

14. The facts stated in this paper will prove how in science a condemnation *a priori* like that pronounced by Professors Bier and Rehn is precipitate and ill-founded.

15. I am firmly convinced that general spinal analgesia will be the analgesic method of the future.

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[1] *Presse médicale*, Paris, May 1st, 1909. [2] Gaulthier, *Chimie biologique*, 1892.

THE DEPARTMENTAL COMMITTEE ON HUMIDITY AND VENTILATION IN HUMID COTTON-WEAVING SHEDS.

By COLONEL MATHEW D. O'CONNELL, M.D.

In the Warrant of appointment of the Departmental Committee on Humidity and Ventilation in Cotton-Weaving Sheds, the Home Secretary asks the Committee to say: "At what degrees of heat and humidity combined definite bodily discomfort arises, under the conditions of the work carried on by the operatives, and what, if any, danger to health is involved by continuous work at those degrees."

Being for many years much interested in the question of the effect of combined heat and humidity in raising body temperature in warm and hot climates, I made some observations on a number of healthy men at rest, exposed within glass houses heated by 5 in. pipes, and, when it appeared, by the sun, and humidified by sprinkling the earthen floor with water at the natural temperature. The air within the glass houses was still. These houses are used for growing orchids, crotons, ferns, grapes, and tomatoes. The men during exposure wore their coats or not as they pleased. The body temperature was taken in the mouth. My object was not to ascertain how high body temperature can be raised by exposure to high degrees of atmospheric heat and humidity, for this is known; but to ascertain, if possible, the lowest degrees of atmospheric heat and humidity combined at which body temperature begins to rise above the maximum normal limit—37.2° C. (99.0° F.).

In each observation I give the dry-bulb temperature, the wet-bulb temperature, the absolute and the relative humidity of the atmosphere; for there seems to be some uncertainty as to which of these atmospheric factors is the cause of body temperature rising. So I think it better to give all. The observations are as follows: The drying power of the air is given per 10 cubic feet, as this is approximately the bulk of an average man.

From my own sensations in the glass houses and in warm and hot climates, I would say that bodily discomfort begins as soon as the body temperature begins to rise above the maximum normal limit. 37.2° C. (99.0° F.), from impediment to heat loss from the body. When body temperature begins to rise above this normal limit from increased production of heat in the body, as from exercise in the open air, I have not noticed the same discomfort until the body temperature reaches nearly 37.7° C. (100.0 F.). But in this paper I am not concerned with rise of body temperature from increased production of heat, but only from impediment to heat loss.

In order to apportion the relative importance of each meteorological factor of the atmosphere within the glass houses in producing rise of body temperature by impeding heat loss from the body, it is necessary to remember that heat is lost from the body by radiation, by evaporation, by conduction and convection, and by the excreta.

Loss of Heat from the Body by the Excreta.

As no excretions were voided during the short exposures in the glass houses, this need not be further referred to.

Loss of Heat from the Body by Radiation.

The rate at which any radiating body gives off heat depends on the difference between its own temperature and that of the surrounding air. When the dry-bulb temperature of the surrounding air is the same as the normal temperature of man—36.8° C. (98.4° F.)—no heat is being lost from the human body by radiation. As the dry-bulb temperature of the surrounding air falls below the temperature of the body, loss of heat from the body by radiation increases. When the dry-bulb temperature of the air falls to 0.0° C. (32.0° F.), or over sixty degrees below the temperature of the body, loss of heat from the body by radiation must be considerable.

Loss of Heat from the Body by Evaporation.

The rate at which heat is being lost from the body by evaporation depends on the drying power of the surrounding air, that is, its capacity for taking up water vapour. The drying power of cold air is small. At 0.0° C. (32.0° F.), air can contain only 21 grains of water vapour per 10 cubic feet when saturated. As at such temperature air is always nearly saturated, the amount of vapour it can take up is very little. Consequently loss of heat from the body by evaporation is little. Thus in air having a dry-bulb temperature of 0.0° C. (32.0° F.), when loss of heat from the body by radiation is considerable, loss of heat by evaporation is inconsiderable.

As the dry-bulb temperature of the air rises the drying power of the air increases, and as the dry-bulb temperature falls the drying power of the air falls. Whilst air having a dry-bulb temperature of 0.0° C. (32.0° F.) can only contain 21 grains of water vapour per 10 cubic feet, at 10.0° C. (50.0° F.) it can contain 41 grains; at 21.1° C. (70° F.) it can contain 80 grains; and at 36.8° C. (98.4 F.)—that is, at the temperature of the human body—it can contain 193 grains per 10 cubic feet. Hence as the dry-bulb temperature of the air rises, and loss of heat from the body by radiation decreases, the drying power of the air and loss of heat from the body by evaporation increase. In like manner, as the dry-bulb temperature of the air falls and loss of heat from the body by radiation increases, the drying power of the air and loss of heat by evaporation decrease. Thus it seems that loss of heat from the body by radiation and loss of heat from the body by evaporation are usually complementary one of the other; and for this reason exposure to great extremes of atmospheric temperature can be borne without abnormal increase or

	Time.	Dry-Bulb Temperature. Degrees F.	Wet-Bulb Temperature. Degrees F.	Vapour in 10 cub. ft. of Air.	Vapour Required to Saturate 10 cub. ft. of Air.	Relative Humidity, per Cent.	Body Temperature. Degrees F.	
April 20th, 1909.								
First Observation:	p.m.			gr.	gr.			
Outside glass house	3.5	56.0	50.0	33	17	65	98.2	
Entered glass house	3.22							
Inside glass house	4.0	77.0	69.0	63	37	63	99.6	Uncomfortable.
Second Observation:								
Outside glass house	3.12	56.0	50.0	33	17	65	98.8	
Entered glass house	3.12							
Inside glass house	3.40	79.0	72.5	74	32	69	99.5	Uncomfortable.
April 21st, 1909.								
Third Observation:								
Outside glass house	3.40	47.5	45.5	34	5	86	98.0	
Entered glass house	3.45							
Inside glass house	4.22	62.5	59.5	53	10	82	98.8	Comfortable.
April 24th, 1909.								
Fourth Observation:								
Outside glass house	2.4	57.0	52.0	37	15	70	98.0	
Entered glass house	2.10							
Inside glass house	2.45	78.0	75.0	87	16	84	99.6	Uncomfortable.
Fifth Observation:								
Outside glass house	2.4	57.0	52.0	37	15	70	98.0	
Entered glass house	2.10							
Inside glass house	2.45	78.0	75.0	87	16	84	99.6	Uncomfortable.
Sixth Observation:								
Outside glass house	2.4	57.0	52.0	37	15	70	97.6	A rather anæmic man.
Entered glass house	2.19							
Inside glass house	3.5	78.0	75.0	87	16	84	99.7	Uncomfortable.
May 4th, 1909.								
Seventh Observation:								
Outside glass house	3.15	64.0	53.0	32	34	48	97.8	
Entered glass house	3.15							
Inside glass house	3.40	82.0	68.5	54	63	46	99.4	Uncomfortable.
May 7th, 1909.								
Eighth Observation:								
Outside glass house	3.40	62.0	51.5	30	32	48	99.2	After ½-mile walk.
Entered glass house	3.40							
Inside glass house	4.5	86.0	78.0	85	47	64	100.0	Bodily discomfort.
July 9th, 1909.								
Ninth Observation:	a.m.							
Outside glass house	10.15	64.0	58.0	45	21	67	98.0	
Entered glass house	10.15							
Inside glass house	11.10	80.5	71.5	67	45	59	99.6	Uncomfortable.
July 12th, 1909.								
Tenth Observation:								
Outside glass house	11.30	62.0	56.5	42	20	70	98.9	
Entered glass house	11.30							
Inside glass house	12.0	87.0	78.0	83	53	61	99.6	Uncomfortable.
July 13th, 1909.								
Eleventh Observation:	p.m.							
Outside glass house	3.30	66.0	61.0	51	19	73	98.6	
Entered glass house	3.35							
Inside glass house	4.0	78.0	73.0	78	25	75	99.7	Uncomfortable.
July 14th, 1909.								
Twelfth Observation:								
Outside glass house	4.7	65.0	59.0	46	22	68	98.4	
Entered glass house	4.7							
Inside glass house	4.25	67.5	65.0	63	11	85	98.8	Comfortable.
July 19th, 1909.								
Thirteenth Observation:	a.m.							
Outside glass house	11.30	62.0	55.0	39	23	62	98.4	
Entered glass house	11.30							
Inside glass house	11.55	78.0	71.5	71	32	69	99.2	Uncomfortable.
July 20th, 1909.								
Fourteenth Observation:	p.m.							
Outside glass house	2.5	63.0	60.0	52	12	82	98.4	
Entered glass house	2.10							
Inside glass house	2.38	77.5	72.0	74	30	73	99.2	Uncomfortable.
July 21st, 1909.								
Fifteenth Observation:								
Outside glass house	4.25	64.0	58.5	43	26	62	98.3	
Entered glass house	4.30							
Inside glass house	4.53	68.5	64.2	57	14	76	98.8	Comfortable.
July 29th, 1909.								
Sixteenth Observation:								
Outside glass house	4.0	62.0	57.0	44	18	72	98.0	
Entered glass house	4.0							
Inside glass house	4.20	68.0	65.5	64	11	83	98.9	Comfortable.
July 30th, 1909.								
Seventeenth Observation:								
Outside glass house	3.55	69.0	63.0	50	28	64	98.6	
Entered glass house	4.0							
Inside glass house	4.30	77.0	72.0	75	25	75	99.6	Uncomfortable.
August 3rd, 1909.								
Eighteenth Observation:								
Outside glass house	3.0	61.0	56.0	43	17	72	98.8	
Entered glass house	3.13							
Inside glass house	3.55	75.0	71.5	76.5	17.5	82.5	99.6	Uncomfortable.

decrease of body temperature. At high atmospheric temperatures loss of heat from the body by radiation is little or nothing; but loss of heat by evaporation is very great, and this prevents body temperature rising above normal. At low atmospheric temperatures, although heat loss by radiation is very great, heat loss by evaporation is little or nothing, and consequently body temperature does not fall below normal.

If, however, by natural or artificial humidification the drying power of warm or hot air is reduced, the complementary relationship between loss of heat by radiation and loss of heat by evaporation is upset, loss of heat by radiation is reduced by the high atmospheric temperature, and loss of heat by evaporation is impeded by the reduced drying power of the air, and therefore body temperature rises. On the other hand, if, by natural or artificial desiccation, the drying power of cold air is increased, loss of heat by radiation is increased by the low atmospheric temperature, and loss of heat by evaporation is increased by the increased drying power of the air, and body temperature falls.

Heat Loss by Conduction and Convexion.

The rate at which heat is being lost from the body by conduction and convexion depends on the rate of movement of the air, or, which has the same effect, of the body. Loss of heat from the body by conduction and convexion is increased by movement and impeded by stagnancy of the air. Hence if air is stagnant as well as hot and damp, loss of heat by conduction and convexion is impeded, as well as by radiation and evaporation, and body temperature must rise. Hence also if air is moving as well as cold and dry, loss of heat by conduction and convexion is increased, as well as by radiation and evaporation, and body temperature must fall.

In my first observation the body temperature of a healthy man was raised from 36.7° C. (98.2° F.) to 37.5° C. (99.6° F.) in thirty-eight minutes by going from a moving atmosphere having a dry-bulb temperature of 56.0° F. and a drying power of 17 grains per 10 cub. ft. into a stagnant atmosphere having a dry-bulb temperature of 77.0° F. and a drying power of 37 grains per 10 cub. ft. In this observation heat loss from the body by conduction and convection was reduced by going from the moving atmosphere outside the glass house into the stagnant atmosphere inside. Heat loss by radiation was reduced by going from the outside atmosphere having a dry-bulb temperature of 56.0° F. into an atmosphere within the glass house having a dry-bulb temperature twenty degrees higher—namely, 77.0° F. The impediment to loss of heat by conduction, convection, and radiation produced by this hot stagnant atmosphere caused the body temperature to rise to 37.5° C. (99.6° F.) in thirty-eight minutes, notwithstanding the fact that the drying power of the air, and consequently loss of heat from the body by evaporation, was increased by 20 grains per 10 cub. ft. In other words, the reduction of heat loss by radiation and conduction and convection caused by the hot stagnant atmosphere was greater than the increase of heat loss by evaporation due to the greater drying power of the air within the glass house, and consequently body temperature rose 0.8° C. (or 1.4° F.) in thirty-eight minutes.

As previously stated, I think that bodily discomfort begins as soon as the body temperature begins to rise above 37.2° C. (99.0° F.), from impediment to heat loss. To say briefly what are the lowest degrees of heat and humidity combined which give rise to this bodily discomfort is not so easy. Professor Haldane's statement that body temperature begins to rise above normal when the atmospheric temperature, wet bulb, rises above 70.0° F. approaches nearest to an accurate answer. And yet I suppose he does not intend to convey that this always holds good. If he does, then residents in hot climates would suffer from pyrexia more frequently even than they are known to do. When the dry-bulb temperature is, say, above 90.0° F., would a wet-bulb temperature of 70.0° F. cause the body temperature to rise above 37.2° C. (99.0° F.)? I think not.

In order to formulate an answer to the Secretary of State's question, it seems to me that it would be necessary to take into consideration three factors of the atmospheric environment found within the cotton-weaving sheds. These are, first, *the dry-bulb temperature of the air*, for by the difference between this and the normal temperature of the body is regulated the rate at which heat is being lost from the body by radiation. Secondly, *the drying power of the air* at such dry-bulb temperature, for by this is regulated the rate at which heat is being lost from the body by evaporation. The drying power of air can be ascertained from Glaisher's tables if the dry-bulb temperature, and either the wet-bulb temperature or the absolute or relative humidity of the air are also known. And, thirdly, *the rate of movement of the air*, for by this is regulated the rate at which heat is being lost from the body by conduction and convection.

It should be remembered that in my observations the men were at rest. If, like the weavers in the cotton sheds, they had been doing hard, continuous work during the exposure, it is to be presumed that body temperature would have risen still higher.

As regards the danger to health involved by continuous hard work in a hot, damp, stagnant atmosphere, I think it is sufficiently obvious. Any one who sees a body of men, women, and children who have been exposed to a hot damp atmosphere, natural or artificial, cannot but be impressed by their anaemic appearance. In a higher degree it may be observed in troops returning to England after a few years' service in a hot climate. In a lower degree it may be observed in the workers in certain industries, such as the cotton-weaving sheds, who carry on their work in a hot, damp atmosphere. There is only a difference in degree. The troops in hot climates live for many months of the year in a hot, damp atmosphere from which they cannot escape. The workers in the hot damp atmosphere of the humid cotton-weaving sheds escape from it from 6 o'clock p.m., when work ceases, until 8 o'clock a.m., when work begins, and at intervals during the day for meals, etc.

The anaemia produced by the hot damp atmosphere in which work is carried on in certain industries is described by Malden in the *Journal of Hygiene*, 1907. He examined the blood of many workers in the aniline and nitrobenzin compounds works, and describes the results as follows:

1. The specific gravity of such blood is below normal.
2. The haemoglobin is reduced from 5 per cent. to 50 per cent.
3. The colour index is low.
4. Diminished polymorphonuclears.
5. Increased number of lymphocytes.
6. Reduced number of red corpuscles, which also show signs of degeneration and of imperfect development.

Malden apparently attributes these changes to the poisonous action of the dyes, but is it not plainly the result of the hot damp atmosphere in which the men work. And is it not exactly the same change which is found in the blood of those who reside in hot damp climates? Nay, more, is it not malarial blood minus the parasite? (See *Journal of Tropical Medicine*, March 15th, 1909.)

CLASSIFICATION OF CASES OF PULMONARY TUBERCULOSIS.

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A SIMPLE and easily-worked clinical classification of cases of pulmonary tuberculosis according to their gravity has long been a desideratum. Statistics comparing the results of different methods of treatment are of value only in so far as they deal with disease of the same degree of severity. A praiseworthy effort to secure the necessary precision led to Turban's classification, which recognizes three stadia or stages, as follows:

1. Disease of slight severity, affecting at most one lobe or two half-lobes.
2. Disease of slight severity, more extensive than first, but affecting at most two lobes; or severe, and affecting at most one lobe.
3. All cases of greater extent and severity than second.

This classification has the radical defect of fixing attention on what is not the most important aspect of the case—on its extent—the intensity of the disease

and its duration being left out of account. The modifications and improvements that it has undergone since it was first put forward diminish, but do not remove, the defect. The wide adoption of this anatomical classification, whether modified or not, seems to me to be responsible for a somewhat mechanical view of the disease, to the comparative disregard of its constitutional aspect.

Trudeau divides his cases into: (1) Incipient, (2) Advanced, (3) Far Advanced. In this classification the combination of local conditions and constitutional disturbance is recognized.

Nearly all the great clinicians—British, American, French, and German—of the past as well as of the present generation have classified cases as Acute and Chronic, with subdivisions based on the pathological condition, the pathological condition corresponding fairly well to the intensity.

Thus in the chief classifications of recent years the extent of the disease, its intensity, and its duration have served as principles of division. Alone, each principle of division can yield only distorted or inadequate results. While, as a joint principle of division, extent and intensity, not running parallel courses in pulmonary tuberculosis, must be forced somewhat in order to yield the rather rigid combination at present in vogue.

In the following classification I believe I have succeeded in allowing full value to each of the three aspects in question—Extent, Intensity, Duration—at the same time preserving their independence. This classification, while fuller and more exact, is also, I think, easier to apply than any previous scheme. In addition, I may say that it embodies a large amount of clinical experience.

The plan is to estimate numerically, according to the definitions presently to be given, the Extent, the Intensity, and the Duration of the disease, from 1, the lowest grade, to 5, the highest, except that the highest grade of Intensity must be taken to range from 5 to 10, so as to include excessively acute or fulminating cases. The sum of these figures will indicate the class in which the case is to be placed.

EXTENT.

Amount of Tubercle in Lung.

E^1 = Not more than $\frac{1}{25}$ of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

E^2 = Not more than $\frac{1}{10}$ of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

E^3 = Not more than $\frac{1}{25}$–$\frac{1}{10}$ of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

E^4 = Not more than $\frac{1}{10}$–$\frac{1}{3}$, or roughly $\frac{1}{4}$, of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

E^5 = Not more than $\frac{1}{10}$–$\frac{1}{3}$, or roughly $\frac{1}{2}$, of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

INTENSITY.

All the conditions named under one heading need not be present at the same time.

I^1 = Sluggish, with little or no rise of temperature or other general symptoms. Only slight, if any, haemoptysis. Physical signs of active disease slight, just detectable.

I^2 = Slight pyrexia and night sweats; moderate loss of appetite and of strength. Physical signs of moderate activity. Bronchial catarrh, if present, slight in amount and restricted to the area of tubercle.

I^3 = Moderate fever and night sweats; seriously impaired health; loss of strength and of weight. Haemoptysis, if present, followed by continued pyrexia. Physical signs of softening or of cavity formation. Bronchitis, if present, more marked or more diffused than in I^2. Recent tubercle, if elsewhere than in lungs, very slight.

I^4 = Grave constitutional disturbance—more pronounced than in I^3. Physical signs of greater activity. Bronchitis, if present, more marked or more diffused. Tubercle, if present elsewhere, more active than in I^3.

I^{5-10} = Very serious illness. Physical signs more active still. Bronchial catarrh more pronounced or more diffused. Acute or fulminating phthisis.

DURATION.

D^1 = not over 3 months.	D^4 = not over 3 years.
D^2 = ,, 6 ,,	D^5 = over 3 years.
D^3 = ,, 1 year.	

CLASSES.

I = 3	IV = 10–12
II = 4–6	V = 13–15
III = 7–9	

EXAMPLES OF CLASSES.

$E^1 + I^1 + D^1 = 3 = I$.	$E^3 + I^2 + D^1 + 12 = IV$
$E^2 + I^2 + D^1 = 6 = II$	$E^4 + I^4 + D^3 = 13 = V$
$E^2 + I^3 + D^3 = 8 = III$	$E^3 + I^{10} + D^1 = 13 = V$

Extent, Intensity, and Duration are to be understood as indicating the extent, intensity, and duration at the time of examination. The disease may begin with I^2 and end with I or arrest. Similarly in a case that is undergoing arrest the extent may have been E^{3-4}; but by the removal or transformation of the diseased tissue, the volume of actual tubercle may have diminished to E^1. Likewise in regard to duration there may have been a previous attack in which complete healing took place, only fibroid tissue or a cavity remaining as evidence of the former tubercle. In such a case a fresh attack would be marked D^1 for the first three months, and so on.

By this notation the fluctuations in Extent and in Intensity are readily and exactly shown; but a seeming difficulty is presented by the Duration, which would continue adding to the gravity of the case. Within certain limits this corresponds with the clinical facts; but in regressive or healing cases some correction may be needed. The correction is required only when the higher grades, 4 or 5, of Duration coexist with rapidly vanishing Extent and Intensity. The simplest way of making the correction is, I think, by deducting instead of adding a point for the Extent or for the Intensity when the grade of either has fallen to 1 from some higher grade within the previous three months. In the case of D^3, where both E and I had fallen to E^1 and I^1 within the previous three months, two points would be deducted. This could be expressed as follows: $E^{-1} + I^{-1} + D^3 = 3 = I$.

A CASE OF ACUTE LUPUS ERYTHEMATOSUS.

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NOT alone the rarity of the following case—Mr. (now Sir) Jonathan Hutchinson, with whom we were able to discuss it, having declared it to be *unique* in his experience—but also its apparent purity and freedom from complications, and the presence of symptoms not previously recorded, justify the publication of these notes.

A young lady, aged 15, had been out of sorts for some days before medical advice was sought. She complained at that time (the beginning of April, 1908) of headache, loss of appetite, and a little nausea. In a little time these symptoms abated sufficiently to permit her to return to school; but after a few days they reasserted themselves, and she took to her bed. At that time, too, slight evening rises in temperature were noted—from 98° to 99.5° F. Generally a bright, high-spirited girl, she now lay in bed, pale, listless, with eyes closed, but keenly alive to all that was going on around her. The pulse-rate was not increased. She rather shunned the light, and was unusually sensitive to cold. The conjunctivae were slightly injected. The tongue was moist, furred, broad, indented at the edges, and, what attracted particular attention, was very tremulous. There were no sordes: the lips and gums were pale. The breath was somewhat offensive, and on further examination of the mouth we were surprised to find two ulcers on the hard palate, one on each side of the raphe, each nearly 1 in. in length and ½ to ¾ in. wide, dusky red, with irregular, flat edges, and bleeding readily on touch, but not tender. There was a similar but smaller ulcer on the posterior wall of the pharynx. The patient was quite unconscious of their existence, and had made no complaints respecting her mouth. No glands could be felt.

A remarkable appearance was presented by the hands and feet. The skin over the back of the second and third phalanges of each finger and toe, and over the terminal phalanx of each thumb, was thin, as though tightly stretched over the bones, yellowish-white and waxy in appearance. Around each nail this colour changed to a reddish-purple mottling, and the skin was shrivelled. Around the nail of each little finger the skin was very superficially ulcerated, and as though worm-eaten. The palmar surface of each finger-tip was similarly discoloured and shrivelled. On the hypothenar eminence were splashes and dots of purplish red, not raised above the level of the skin, and a few delicate patches were also seen on the ball of each thumb. The finger-tips were a little tender, the toes distinctly so. The lobes of the ears were slightly swollen, dusky-red, and scaly. These changes were symmetrical, but rather more pronounced on the left side. They had been noted by the mother some four months before, but no special notice was taken of them, the

child having in previous winters suffered from chilblains, for which these patches were, very naturally, mistaken; it was noticed, however, that they were painless on this occasion.

The knee-jerks were faint and very difficult to elicit. No other changes were found indicative of visceral disease. The blood presented the characters of secondary anaemia: red cells, 2,500,000; white cells, 7,000; haemoglobin (Sahli), 35 per cent.; slight poikilocytosis. The Widal test, performed by one of us (F. W. E.), was negative.

During the following week the symptoms persisted with little change. The temperature rose a little higher in the evenings (100° or over), and often failed to reach the normal in the morning. There was at the end of that time a fresh development in the form of a purplish tender swelling over the left malar region, of the size of half a crown, doughy, and the epidermis over it felt thickened and was dry and scaly. The mottling on the finger-tips and toes was more deeply coloured and more extensive; the skin over the backs of the fingers looked thinner and more glossy, and was difficult to pinch up; so also the skin over the front of the tibiae.

Up to this point we made no diagnosis, though we inclined towards lupus erythematosus. Within a couple of days a patch similar to that on the left cheek developed over a corresponding area on the right side, and a connecting streak of purplish discoloration traversed the bridge of the nose, thus completing the bat's-wing arrangement of the eruption. By this time the eyelids had become swollen as well as the nose and cheeks. We now concluded that the case was one of acute lupus erythematosus, and the bad symptoms which began to this form of the disease came true only too soon. From that day onward, that is, from the end of the third week, the disease progressed rapidly. The temperature gradually mounted higher, and the rash spread, appearing on the loins in the shape of small, purplish, slightly elevated patches; then on the buttocks, on the back and sides, always arranged more or less symmetrically. The spots on the sides were grouped as though following the lines of the intercostal nerves. The spots on the lateral aspects of the hands began to spread upwards, but the backs of the hands and the centre of the palms remained comparatively free. In a few days the spots became confluent. The patch on the left cheek developed one or two small herpetiform blebs, with clear serous contents. Then, three days before death, that is, on May 9th, the skin began to break superficially, and soon a diffuse haemorrhagic exudation issued, from minute points, from the skin of the back, buttocks, and face. One would have thought that it would be exquisitely painful to be handled while in such a condition; but it appears not to have been so. She complained far more of the hardness which lay under the touch of a cool finger at the wrist—than of any discomfort caused by necessary manipulations. The face finally became an unsightly mass of boggy swellings from which blood-stained fluid trickled; crusts formed in the nostrils and on the lips; blood oozed from the ulcerated edge of the mouth; and during the last two days of life there was trismus, rendering an efficient cleansing of the mouth impossible. During these last three days the temperature ranged from 105° to 106°, and death ensued—preceded a few hours by a convulsion—on May 12th, one month from the first day of observation. With the exception of a little albuminuria during the last week and of some dilatation of the heart towards the end, there were at no time any symptoms referable to any internal organ. A week before death a further examination of the blood was made, both bacteriologically and histologically, with negative results.

On *post-mortem* examination nothing was found which could throw the faintest ray of light upon the disease. The spleen, as might be expected, was a little enlarged and pulpy; the liver a little fatty; and there was cloudy swelling of the heart muscle, liver, and kidneys. Though every organ was subjected to a microscopic examination, nothing else was found except a single small calcified mesenteric gland. It is particularly to be noted that there were no other signs of tuberculosis, old or recent. Films were made from every organ, and examined for bacteria and protozoa, but nothing suspicious was found. The epithelial layer of the skin, particularly that of the Malpighian, was markedly thickened in places, and there was a diffuse cellular infiltration of the corium; in other places the rete was unusually thin. The more minute histological changes of the skin could not, however, be studied, as the rest of the specimen was unfortunately lost during a removal.

The diagnosis of acute disseminated lupus erythematosus (Kaposi) seems a justifiable one. The initial discoloration round the finger-tips, so like that of chilblains: the affection of the lobes of the ears; and, later, the bat's-wing arrangement on the face, are highly suggestive, if not characteristic. The principal objection that could be raised against the diagnosis is the development of minute blebs on the malar regions. Bullae are said not to be a feature of the disease. However, Kaposi in his earlier publications refers to the occasional formation of minute bullae and serous exudation, principally over the cheek bones, as in this case; and subsequent observers have now and again noted the same occurrence. The bullae were certainly not associated with erysipelas; the "erysipelas perstans" which Kaposi mentions as being of frequent occurrence in these cases was absent. A very unusual feature was the ulceration on the hard palate, the rest of the buccal mucous membrane escaping. Trismus has not previously been noted, so far as we know. Very remarkable was the contrast between the objective symptoms and the patient's actual complaints; on the one hand, an acute and diffuse affection of the skin, with serous and haemorrhagic effusions and exfoliation of the horny layer, and ulceration of the hard palate; on the other, only headache, general malaise, photophobia, and acute hyperaesthesia to cold. To this very marked hyperaesthesia we have found no reference elsewhere: it was her constant complaint, not only when the temperature was high, but in the earliest stages. It is worthy of note that the general symptoms were already those of a severe toxaemia at a time when the cutaneous changes were still slight and confined to the fingers, toes, and ears. These toxic symptoms steadily increased in severity, though the patient never lapsed into the typhoid state.

The pathology of the disease is still unknown. Tuberculosis is still considered by some to be an important factor. Our case, however, does not support this view; the family history showed no tendency to tuberculous infection, and there was no sign of tuberculosis of any organ; the one calcified mesenteric gland may safely be discarded. That the process must be an acute infective one no one can doubt who has watched such a case, especially when neither erysipelas nor pneumonia (the most frequent complications of the disease) have blurred the picture.

As for treatment—everything conceivable was tried in turn—beta-naphthol, quinine, mercury by the mouth, atoxyl injections in the later stages, ointment and plasters, prolonged warm baths, and lotions. The only conviction to which we came was that ointments were badly borne, and that lead lotion alone gave the slightest relief.

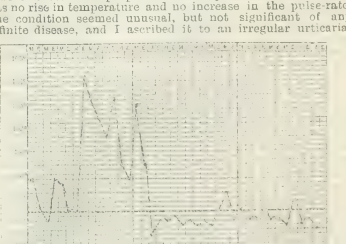
A CASE OF HENOCH'S PURPURA.

By LEIGH DAY, M.D., B.Ch., B.A.Oxon.,
ASSISTANT SURGEON, ESSEX COUNTY HOSPITAL, COLCHESTER.

Owing to the rarity of Henoch's purpura, the following case appears to be worthy of record. It was characterized by the following symptoms: (1) Swelling and oedema around joints; (2) purpura; (3) abdominal colic; (4) vomiting; (5) oedema of lax tissues; (6) ? subperiosteal haemorrhagea; (7) haemorrhage into the lungs; (8) albuminuria; (9) haemorrhages from the bowel; (10) slight haematemesis, with large quantities of phosphates in the urine.

N. J., male, aged 5 years, had an attack of epigastric pain on November 1st, 1908. He was given some calomel, and the pain was relieved. He then developed a slight cold.

On November 4th there was some swelling of the right ankle and elbow and left hand. There was oedema over the joints, but no effusion into them, and no pain on movement. There were a few scratches and papules around the swollen areas, but none of these were purpuric. The boy seemed well. There was no rise in temperature and no increase in the pulse-rate. The condition seemed unusual, but not significant of any definite disease, and I ascribed it to an irregular urticarial



state, with some swelling of the subcutaneous tissues. In the evening there was definite swelling of the joints of the hands; of both knees and of the left ankle-joint with pain on movement. There were definite purpuric spots on the legs. There was a heavy deposit of phosphates on boiling the urine.

On November 5th abdominal pain, referred to the umbilicus, occurred. This gradually became worse, until it was so severe that the child sat doubled up and screamed with pain.

Increased paroxysms occurred at intervals. Pressure increased the pain, but there was no rigidity of the abdomen. The spleen was not palpable. The patient vomited once, after food. As the colic developed, the pain and swelling of the joints subsided.

November 6th and 7th. More purpuric spots on the penis, the nates, back, and face; also on feet and legs. Phosphaturia very great; abdominal pain continued; bowels open after enema.

November 8th. Dr. H. D. Rolleston saw the case with me and agreed that the case was one of Henoch's purpura. He recommended that 10 c.cm. of normal horse serum should be given by the mouth in two doses, and that, if this failed, calcium chloride should be given in 5-grain doses.

November 10th. Great tenderness of both tibiae and spine, so that the mere touch of a finger caused pain. Forearms and hands swollen again.

November 12th. Temperature rose suddenly to 104.2°; pulse, 176; respirations, 26; signs of consolidation appeared at the back of the right lung and advanced until the whole lower lobe of the right side presented signs of lobar pneumonia. These signs began to clear up on November 15th, and in twelve hours the lung appeared normal.

November 16th. A patch of consolidation appeared over the back of the left lower lobe, and for a short period of about twelve hours the signs of consolidation reappeared on the right side.

November 17th. Lungs clear; abdominal colic, which had disappeared while the lungs were affected, recurred.

November 18th. Diarrhoea commenced, the stools consisting almost entirely of mucus, blood, and shreds. There was some albuminuria. The boy also vomited several times. There was tenderness of the abdomen, but no rigidity. Dr. Rolleston again saw the case with me.

This condition of abdominal colic with stools, as above described, continued till December 1st, but improvement began on November 25th, and was uninterrupted after November. On one occasion the vomit was streaked with blood, and throughout purpuric spots were appearing in considerable numbers almost daily. There was also a good deal of swelling of lax tissues with haemorrhage into them. The prepuce at one time became enormously swollen. There was also swelling of the scrotum and the eyelids at other times. These swellings subsided very rapidly, usually within twelve hours. On another occasion there appeared to be a haemorrhage into the corpus cavernosum as the whole penis was swollen and curved to the right.

The treatment given was very various. At first tr. opii m iij, and tr. belladonnae m v, was given four-hourly. Later, morphine gr. ⅛ was given hypodermically every four hours as the pain necessitated, and this was continued throughout.

Horse serum, as stated, was used; and calcium chloride in 5-grain doses, and later calcium lactate in 7½-grain doses were given four-hourly for six doses with intervals of forty-eight hours. Adrenalin chloride 1 in 1,000 was also given for some time in 5-minim doses. Small doses of liq. strychninae were given during the last affection.

The case was particularly interesting, apart from the rarity of the disease, inasmuch as it was quite impossible to say on first seeing the patient that such a sequence of events was likely to occur. The child did not look ill, and the onset of any serious disease did not seem likely. The recurrent nature of the disease was very well exemplified; over and over again it appeared as if the trouble was subsiding when some renewal of symptoms occurred. It was also remarkable how the dominant symptom disappeared so soon as a further one arose to take its place. Thus, the onset of the colic was accompanied by a diminution of the joint symptoms. The onset of the lung condition was accompanied by cessation of colic, and as soon as the lungs were clear colic recommenced.

The lung condition was most peculiar. Clinically the condition of the right side was, at its commencement and height, that of a typical lobar pneumonia. Was, then, the condition of the lung due to an intercurrent affection, or was it merely a symptom of the disease? The fact that a small patch appeared in the left lung was opposed to a diagnosis of lobar pneumonia, and the affection was of too short a duration—seventy-two hours—to be due to a bronchopneumonia. Considering the extraordinary rapidity with which the haemorrhage and oedema of the scrotum, penis, and eyelids were reabsorbed, and the short-lived affection of the lungs, it would appear that the condition of the latter was a symptom of the disease, and was due to haemorrhage into the lung alveoli, since nowhere else did oedema occur without accompanying haemorrhage.

With regard to the occurrence of pneumonia in the disease, Pratt,[1] in an article based on a collection of 43 cases, does not mention it, but says that pleurisy is a rare complication. I cannot find any other case recorded in which the lungs were affected, except Dr. Dean's case,[2] and it seems that in this case the bronchopneumonia was not a symptom of the disease, but was of septic origin and consequent on tracheotomy.

The skin lesions were of two kinds: (1) Petechiae and larger haemorrhages, bright red in colour, and (2) more diffuse haemorrhages, bluish in colour. The latter occurred in lax tissues and cleared up in the same wonderfully rapid way as the lung condition, while the former persisted much longer.

Mr. Lotit[3] has called attention to the difficulty in deciding whether an intussusception has occurred in the course of a case of Henoch's purpura, when symptoms of intussusception are present. In the present case the symptoms led to great anxiety lest an intussusception should occur; but fortunately there was never any doubt about its absence.

The tenderness of the spine and tibiae was very well marked while it lasted, and was possibly due to haemorrhage under the periosteum, which cleared up as rapidly as in other places.

Phosphaturia was a prominent feature throughout. If the suggestion of Albu and Neuberg,[4] that phosphaturia may be due to inflammation of the intestinal mucosa, is correct, its occurrence may be possibly accounted for thus in this case. As the disease is, at any rate in many respects, allied to angioneurotic oedema, it was thought advisable to keep everything ready for immediate tracheotomy in case need for it should unhappily arise. In Dr. Dean's case, quoted above,[2] tracheotomy was actually necessitated.

It is noteworthy that the patient's grandmother and aunt (maternal), who live in the same neighbourhood, have both suffered from "purpura," and other cases of purpura have occurred in the same district. In view of this it was thought advisable that all water taken by the patient should be boiled.

An interesting point in the previous history of the patient is that he had two or three attacks of appendicitis at the age of 3 years; the appendix, which was ultimately removed, being found to contain a concretion. The colic of Henoch's purpura may imitate appendicitis; and, though there is no reason to believe that in this instance the previous abdominal condition was due to Henoch's purpura, the knowledge that the appendix had been removed made the diagnosis somewhat easier.

With reference to treatment, horse serum did not appear to be of any avail. Dr. Soltau Fenwick and Dr. Porter Parkinson[5] recorded a case of purpura haemorrhagica, in which also horse serum was given, and in their case it produced no effect. It seems that the large amount of morphine given may, by checking spasm, have prevented intussusception, as the amount of colic and haemorrhage pointed to its being a likely complication.

I am much indebted to Dr. Rolleston for his kindness in helping me with the treatment of the case, and also in revising these notes.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SPONTANEOUS *POST-MORTEM* DELIVERY.

THE following case is a unique one as far as I am concerned and is interesting from a medico-legal point of view.

A. B., a stout, robust young woman, had threatened to commit suicide in consequence of being pregnant and her young man refusing to marry her. At 4.30 a.m. on May 20th (Thursday) she was called by her father to go to work. He did not see her, but she replied and got up. She did not go to her work and was not again seen alive.

On May 22nd (Saturday), at 5.40 a.m., her body was seen floating on a warm water reservoir of one of the mills. The body was recovered and removed to the public mortuary, where, during the morning, it was washed and

laid out in the usual manner. Decomposition had already set in, parts of the body being quite discoloured. The woman who washed the body states that there was nothing then unusual. The mortuary was closed until May 24th (Monday). It was then noticed that since the Saturday the woman had given birth to a child—probably about 7 months—which was still attached by the cord to the body. The body of the child was but slightly discoloured; that of the woman was quite black and putrid, and the abdomen was much distended with gas.

Oldham. JAMES B. WILKINSON, M.D.

THE ETIOLOGY OF EPILEPSY.

A paper in the British Medical Journal of March 3rd, 1906, by Dr. J. Turner, on the pathology of epilepsy, expresses the conclusion that the cause is due to "the correlation of defectively developed and probably unstable nerve cells, with stasis of blood stream," etc., a hypothesis which is an enlargement of that of Dr. Hughlings Jackson in 1864 that the pathology was simply vascular.

The influence of the alimentary system on cerebral function is now outside the debating ring. The diseases such as pellagra, ergot and other fungi poisoning (*Amanita muscarin* and *A. phalloides*) have this much in common with epilepsy, that there are convulsions or disturbance of consciousness, and often gastric trouble; and it suggests itself as possible that epilepsy may have its origin in some endogenous or exogenous flora in the intestinal tube. It may have been introduced in diseased cereals—a working idea—or it may be a normal endogenous ferment or plant turned "rogue" through peculiarity of the diet.

There is no doubt a certain periodicity about epileptic attacks, rough and irregular, but still discernible. I am not now alluding to menstrual epilepsy, which can be explained by the temporary high blood pressure producing cerebral congestion, with special susceptibility of the nervous formations to be routed by toxic attack. It is conceivable that, like malaria, the epileptic seizures may be due to sporulation, which acts either mechanically or through a toxin let loose, or both.

A review of the prevalent therapeutics is useful in hinting also at a possible source of the evil.

The bromides have a double action, the acid radical acting as a sedative on the nerve elements, enabling them to present a better and more solid front at the approach of the toxic enemy, and the basic radical on the intestinal tract, influencing the growth of the flora. The various bases, such as strontium, possibly depend for their effect on the influence they exert on the secretions and contents of the intestine.

From the bromides (and I shall pass over hyoscine, cannabis indica, etc., as ranking with them) one comes to another class of reputed remedies which are doubtless of benefit, and often curative, and these it will be seen have no near organic or inorganic relationship, and yet experience has led to their being similarly employed:

Borax (Sir William Gowers).	
Tar (a lay remedy).	
Sulphocarbolates (Dr. Wm. Blake, British Medical Journal.)	
Creosote Salicylates Zinc salts Iron sometimes	Other writers in Epitome and papers.

Apart from their possible nerve action, all, it may be assumed, possess the property of retarding fermentative processes, and it seems possible that they owe their efficacy chiefly to their inhibiting the growth of those flora which play the important rôle of toxin producers in the intestine—or keep the normal within healthy bounds.

As supporting this suggestion of pathogenic flora, it may be observed in a good many epileptic patients that after, or, if closely watched, before, attacks, the breath is foul and the tongue coated, and there may be stomatitis. This furred tongue, moreover, persists for a longer time than the usual in spite of orthodox treatment.

In one case, on microscopic examination of the tongue "fur" after a seizure, I was struck with its unusual composition, which seemed to be little else than fungi-like hyphomycetes, and not observable at examinations made frequently at other times.

I do not suppose all epilepsy is due to one cause; but I take it that it is due to a complex of interacting causes, and probably the factors are not in the same relative proportion in all cases—that is, a person with nervous instability would require a smaller dosage of toxin to cause an explosion than another with firmer or more poison-proof nervous structure; whilst impaired intestinal function would favour pathogenic growths, and so on. Further, that the alimentary channel may not in all cases be guilty as a contributory party; but in some I hold that there is circumstantial evidence of it, and in these instances it is not unreasonable to infer the existence of a something autogenous (at least not immediately introduced), and that to be a low type of vegetable life. Treatment based on this supposition has, in my experience, been attended with good results.

Fauresmith, O.R.C. ARTHUR KING, M.R.C.S., L.R.C.P.

GAS AND ETHER AS AN ANAESTHETIC.

Given ten healthy people requiring an anaesthetic, it will be admitted, I believe—supposing of course nitrous oxide be not capable of producing anaesthesia for a sufficient length of time for the operation—that gas followed by ether would possess the merits of being not only safer but possibly more rapid than chloroform or A C E.

In hospital practice there are no difficulties, as gas is ready to hand. In the dentist's rooms, too, gas is always found.

The anaesthetist, however, giving ether in a private house or nursing home is handicapped, as the gas cylinders are weighty to carry about. In order to meet this difficulty, I had made for me some twelve months ago small cylinders holding 6 or 12 gallons of gas, weighing 12 and 20 oz. respectively, and measuring 7 and 11 in. long. With a wide-bore ether inhaler of a modern pattern, all that is necessary is to screw on to the cylinder a special valve connected with the rubber tube to the bag. Inhalation of gas is then begun in the ordinary way with the expiratory valve in operation. After a few inhalations the ether is turned on, and after a few more inhalations of gas and ether mixture the cylinder is disconnected and the expiratory valve is closed, breathing taking place backwards into the bag.

Usually a small cylinder is sufficient in this manner for four patients. If gas alone be required, the face-piece is connected directly to the three-way cock attached to the bag, and the larger cylinder (holding 12 gallons) is more than sufficient for an ordinary gas inhalation for teeth, etc.,

Coventry. EDWARD PHILLIPS, M.B.

STRANGULATED HERNIA OF THE OVARY IN INFANT: OPERATION: RECOVERY.

M., 4 months old, was quite well until July 6th, 1909, when she became cross and restless. Next morning the mother noticed a swelling in the left groin rapidly increasing in size. It was very tender, and the child cried a good deal, especially on being moved, but had no vomiting or other symptoms. Dr. Clifford, of Adare, saw her on the evening of that day, and, thinking the case was probably one of irreducible inguinal hernia, sent her in to me for operation.

When I saw the infant on the morning of July 8th she was laughing and crowing, and not apparently suffering in any way. There was a hard, tender, well-defined lump nearly as large as a pigeon's egg in the left inguinal region and extending down into the labium of that side. The skin over the swelling was dusky red. The child was anaesthetized with chloroform-ether by Dr. Everina Massy. I divided the skin and worked carefully downwards until I came upon a plum-coloured body lying in the inguinal canal. This proved to be the ovary and Fallopian tube engorged with blood and swollen to about the size of the adult organ. By pulling gently upon it I was able to reach healthy tissue, and, having ligatured the pedicle with catgut, I removed the ovary, and pushed the stump as far up the canal as possible. I then closed the wound with a subcuticular silkworm gut stitch. I did not care to prolong the operation by doing a radical cure. The small patient made an uninterrupted recovery.

This case is, I think, of interest on account of the age of the patient and also from the almost complete absence of constitutional symptoms.

F. W. KENNEDY, M.D.Dubl.,
Visiting Surgeon, co. Limerick Infirmary.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 3rd, 1909.

Dr. James Ritchie, President, in the Chair.

Valedictory Address.

The President delivered an address dealing with the influence of the tissues on the incidence and treatment of disease, and then vacated the chair for Dr. Byrom Bramwell, the newly-elected President.

Fracture-dislocation of the Vertebra.

Dr. Alexander Bruce and Mr. David Wallace showed a marine engineer, aged 40 without taint of syphilis, who when at sea in October, 1908, and while stooping at his work, suddenly turned his head sideways. He heard a slight click, and immediately found himself incapable of lateral movement of the head, and only of slight antero-posterior movement. He felt a lump at the back of the neck. The other movements of trunk and limbs were unimpaired. Pain was felt at the nape of the neck, and continued until early in 1909, when he came under the observation of Mr. Wallace. An *x*-ray photograph then showed a backward dislocation of the bodies of the axis and third and fourth cervical vertebrae, with a fracture of the odontoid process of the axis. There was no lateral displacement. In view of the trifling pressure effects of the displacement reduction was inadvisable. On March 21st, 1909, he again suddenly turned his head to the side, with immediate pain in the back of the head and on the right side of the neck. Next day there was weakness in the finger movements, which steadily spread up the arms and down the legs. On admission to hospital on March 27th there was complete paralysis of both arms and legs, save for very feeble movement of some of the fingers, and of the left hip and knee; complete paralysis of the diaphragm, and inability to cough; retention of urine; anaesthesia over the lower thorax and in patches over the limbs, and general analgesia. Respirations were extremely shallow, and the effort of speech induced severe dyspnoea. Exaggeration of all deep reflexes and a double Babinski sign were present. The extremity of his position and the peril of an attempt at reduction were explained to the patient, and his will was drawn up, to which he affixed a X by a pen held in his teeth. Reduction was effected successfully, a faint crunching sound being heard on this being done. The patient immediately coughed, and in ten minutes some movement of the diaphragm and of the legs were seen. A poroplastic frame was then fitted to the body and neck and head. Next day there was voluntary micturition. Thereafter muscular power steadily returned, and by August he could feed himself and walk without support. All anaesthesia and analgesia had disappeared. When shown at the meeting the patient walked steadily, though with slight spasticity. The movements of the arm were free, and the hand grip was powerful. Deep reflexes were still exaggerated, and the plantar reflexes remained extensor, indicating a persistence of slight myelitis. The lateral movement of the head was still prevented, and the antero-posterior movement limited by a plaster collar. The special interest of the case lay in the trifling nature of the causal agent, in the widespread degree of paralysis induced, and in the completeness of recovery.

Scopolamine and Morphine in Anaesthesia.

Dr. Torrance Thomson and Mr. Denis Cotterill read a paper on the use of scopolamine and morphine as an adjunct to the production of anaesthesia, based on a series of 150 cases. The combination was administered hypodermically in one of two ways: Either in a single dose of $\frac{1}{4}$ grain scopolamine bromohydrate and $\frac{1}{4}$ grain morphine sulphate two hours before operation; or in three divided doses of scopolamine $\frac{1}{150}$, $\frac{1}{100}$ grain, and morphine $\frac{1}{4}$ grain, two and a half, one and a half, and half an hour before operation. The latter method was used in a majority of cases, and gave better results. When so given, sleep was generally induced by the first dose, and the patient was not roused from narcosis by the administration of the last. By this alone, a considerable degree of anaesthesia was attained, but not sufficient to prevent reflex movements during skin incisions or on traction of parietal peritoneum or the spermatic cord. Deeper anaesthesia was induced by chloroform and maintained by ether given by the open method. After completion of the operation patients generally slept for five or six hours. Respiration became slow, but, even if it sank to 12 per minute, was never embarrassed. Pulse-rate on the whole decreased, but blood pressure, as estimated by the finger, was well maintained during and after operation. There was no fatality from its use in the series. There was no retching or vomiting during the administration of chloroform or ether, and a striking diminution of nausea, retching, and vomiting after operation. This fact, with the abolition of fear immediately before operation, the peaceful sleep following it, and the absence of any untoward effect justified a very favourable verdict on the use of the combination as an anaesthetic adjunct. In the discussion which followed Professor Caird commended the use of the method in connexion with spinal anaesthesia. Mr. A. Miles had not found scopolamine an entirely safe drug, and advised that the minimum adequate dose should be used. Dr. Ross said the safety or danger of scopolamine depended on whether it did or did not produce shock, evidenced by a fall of blood pressure, either during or subsequent to operation. Mr. D. Cotterill, in reply, pointed out that the dosage varied with the subject; it was greatest in alcoholic strong men, and much less in women and aged persons. The practice of dividing the administration allowed a regulation of the dosage.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Thursday, October 28th, 1909.

Dr. George Wilkinson, President, in the Chair.

The following were among the exhibits:—Dr. Sinclair White: A boy, whose lower jaw had been resected for *Sarcoma*, the deformity being obviated by inserting a stout silver wire into the gap. Dr. W. S. Kerr: A case of *Rudimentary auricles*, with absence of meati. No sign of hearing could be elicited by the usual tests. A supernumerary auricle was present low down on the left side of the neck. The right thumb was deformed, and there was paresis of the left orbicularis palpebrarum. Dr. E. F. Skinner: Specimens from a case of *Ritter's disease* (dermatitis exfoliativa neonatorum). Death occurred eighty hours after the appearance of the first bleb. The histology was chiefly characterized by a complete absence of small round cell infiltration, and enormous vascular dilatation, with consequent oedema of the mucous layer. There was a remarkable growth of cocci on the surface of the skin beneath the exfoliated corneal layer, which in the sections did not invade the tissues. Dr. A. E. Naish, in a paper on *Summer diarrhoea*, said the theory that it was due to the direct action of heat could not be established, as there was no close correspondence between the maximum incidence of the disease and the maximum air temperature, as one would expect. The majority of authorities agreed that there was in most acute cases a bacterial invasion of the body. It still remained to be seen whether these bacteria were derived from the normal intestinal flora. Probably too much stress was laid on the transmission of the disease by milk. Sterilization of milk had little effect in preventing its spread, and the relative immunity of breast-fed infants might be explained by the absence of predisposing causes (intestinal catarrh, etc) and possibly by the inhibitory action of absolutely fresh milk on bacterial growth. Overcrowding seemed the most important factor in the incidence of the disease. Spot maps showing a marked grouping of cases in certain houses and areas suggested that personal contact or contact by flies played a large part in its spread. The great reduction in mortality in institutions for infants, by the adoption of measures for ensuring cleanliness, especially in the treatment of the excreta, suggested a practical means of lessening the spread of the disease in the homes. A limited experiment had been made in Sheffield this summer with the the object of teaching the mothers such cleanliness. The results had been encouraging. Dr. Percival Hay, in a paper on *Optic neuritis and paralysis of the sixth nerve*, and their value in cerebral localization, said little value

could be placed upon "choked disc" as an aid to deciding upon which side of the cerebrum a tumour was situated. Possibly some assistance might be got from a coexisting paralysis or paresis of the sixth nerve. In seven out of eight cases of cerebral and cerebellar tumour in which optic neuritis was associated with paralysis of the abducens, he found the latter situated on the same side as the tumour. In the eighth case disease of the contralateral petrous bone accounted for a contralateral paralysis of the sixth nerve.

ROYAL SOCIETY OF MEDICINE.

Therapeutical and Pharmacological Section.

Tuesday, November 2nd, 1909.

Professor A. R. Cushny, F.R.S., in the Chair.

Dr. David Lees read a paper in which he advocated the treatment of early *Tuberculosis of the lung*, by the continuous use of an oro-nasal respirator charged with a solution composed of carbolic acid, creosote, tincture of iodine, spirits of ether, and spirits of chloroform. He considered that the use of this apparatus had been instrumental in cutting short the disease in a series of 30 cases of which he gave particulars. The paper was discussed by Dr. Ewart, who emphasized the fallibility of physical signs in early cases. There were present even in health, in different persons, great differences in the characters of the percussion note and of the vesicular murmur. Dr. Gray Duncanson advocated the procedure recommended. Professor Cushny doubted if the effect could be correctly described as antiseptic. The strength of the vapour inhaled could only be very small. Dr. H. H. Dale, in a paper on the pharmacological action of apocynum cannabinum, traced the history of the drug, and the vicissitudes which its reputation had undergone. By some the drug had been dismissed as worthless; others had claimed for it that it was a specific for dropsy, ascites, and even hydrocephalus. Working independently, two recent investigators had each isolated from the commercial apocynum a crystalline substance which contained a marked digitalis-like action. This substance, unlike the crude preparation, contained no cathartic and no emetic action. Independently of its action upon the circulation, no specific diuretic effect could be demonstrated. The author showed on the screen tracings taken by himself and Mr. Laidlaw illustrating the characteristic action of the drug upon the heart beat, blood pressure, and urinary outflow.

Laryngological Section.

Friday, November 5th, 1909.

Dr. Dundas Grant, President, in the Chair.

The following were among the exhibits:—Mr. G. Seccombe Hett: Specimens from a case of *Chronic glanders* in a man, aged 24. The principal visible lesions during life had been ulcerations within the mouth, and nose, and pharynx. In the lungs and liver a strong resemblance to tertiary syphilitic lesions was noted. Dr. Dan McKenzie: Perforation of the nasal septum from *Salt dust* in a woman employed in a salt factory. Three other females, out of a total of eight employees, were affected to a less extent. Microscopical sections from the marginal tissues showed typical giant cell systems. Dr. StClair Thomson: (1) A lady, aged 46, affected with *Tuberculosis of the left vocal cord* and the interarytenoid space, and in whom consolidation of the right apex had been diagnosed. The lesions were completely healed by two months' silence and sanatorium treatment. (2) Two patients, in whom *Tuberculosis of the epiglottis*, cords, interspaces, and folds of the larynx respectively had been arrested by galvano-cautery and sanatorium treatment. It was pointed out that tuberculosis developing in the larynx after the process had been arrested in the lungs did not generally assume an acute form, but was apt to become extremely tedious; also that, in spite of a fair amount of active mischief in the chest, the temperature began to improve with the improvement in the larynx. (3) A boy, aged 6½, with *Papilloma of the larynx* of four years' duration, cured by tracheotomy and repeated operations by direct laryngoscopy. This case showed the persistent recurrence of papillomata in spite of frequent and complete removal, and the natural tendency of the disease to disappear about the age of 6. It also emphasized the advantage and harmlessness of wearing a tracheotomy tube, and occasion was taken to decry the useless and crippling employment of laryngo-fissure, or laryngo-tracheotomy, as recently proposed, in these cases. (4) A woman, aged 56, after *Laryngo-fissure for subglottic enchondroma*. After having been previously shown before the Section in 1908 by Drs. Stanley Green and Lambert Lack, the enchondroma had been finally removed by laryngo-fissure by Sir Watson Cheyne. Dr. Jobson Horne: A case of *Laryngeal neoplasm presenting unusual features* in a woman aged 65. The growth occupied the posterior half of the right side of the larynx, and appeared to spring from the ventricle or ventricular band. Pieces had been removed at intervals for microscopical examination, and these sections were referred to the Morbid Growths Committee for report. Mr. Stuart-Low: Three cases of inoperable carcinoma, extralaryngeal, pharyngeal, and lingual respectively, in whom *Ligation of all the vessels for partial ablation of the enlarged thyroid gland* had been performed with great benefit. Dr. Dundas Grant: *Infiltration of the left ventricular band* in a woman aged 62. The infiltrated band bulged so as to cover the whole of the left cord and the anterior part of the right one, occasionally dipping between the cords and preventing approximation. Microscopical examination revealed only inflammatory hyperplasia. Mr. Clayton Fox: *Paralysis of the right vocal cord* in a case of myotonia atrophica. Dr. H. J. Davis: A case of *Acute pemphigus of the larynx* in a woman aged 40. There were bullae all over the body, and the mucous membrane of the nose, lips, tongue, and pharynx were also affected. The condition of the fauces somewhat resembled secondary syphilis. The larynx was raw and blistered, and the cords a brilliant crimson. Dr. D. R. Paterson: A case of *Soft foreign body in the bronchus* in a child aged 6. A portion of "ground nut" (*Arachis hypogoea*) had been impacted in the right bronchus for six weeks. It was removed entire, under chloroform, through a 7 mm. tube by means of a telescopic forceps having the fenestrated "bean" point. The child made a good recovery. Dr. William Hill: Two cases of *Malignant tumours of the neck* to show improvement under treatment by radium.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, November 4th, 1909.

Mr. T. R. Bickerton, President, in the Chair.

Chronic Constipation.

Mr. R. W. Murray, in a note on the surgical treatment of chronic constipation, said this condition when calling for surgical interference was met with chiefly in women who had suffered from mucous colitis. Removal of the large bowel was too serious a measure to be justifiable or necessary. Bringing the appendix to the surface and irrigating through it the large bowel had given in his hands satisfactory results. Mr. F. T. Paul said he had dilated the anus in cases of uncomplicated chronic constipation with very good result. Mr. Murray's cases seemed at least complicated by, if not altogether due to, colitis. He had several times used appendicostomy for this condition, and always with success. Dr. Lloyd Roberts referred to a case of mucous colitis in which lavage through the appendix caused pain so severe that the treatment could not be proceeded with.

The Pituitary Body.

Dr. Blair Bell, in a paper on the pituitary body and the therapeutic use of the infundibular extract in shock, uterine atony, and intestinal paresis, gave an account of the clinical use to which he had put the infundibular extract. Hitherto it had only been used occasionally as a diuretic in tabloid form, but now, from work with a preparation for hypodermic administration made for him by Messrs. Burroughs, Wellcome, and Co., he drew the following conclusions: (1) In shock the prolonged period during which the blood pressure was raised made it a most valuable therapeutic agent. (2) In uterine atony powerful and prolonged contractions were induced, so that in such conditions as *post-partum* haemorrhage it was specially indicated. (3) In intestinal paresis—post-operative or otherwise—immediate effects were always obtained. Sir James Barr thought that pituitary extract should be

used with caution, and its misuse would bring it into disrepute. The drug was active in producing arterio-sclerosis, contracted the coronary arteries, and led to their degeneration. When used as recommended by Dr. Blair Bell with low blood pressure, no mischief could result, and it reserved for such cases it would hold a valuable position in therapeutics. Dr. PANTLAND HICK, who had carried out experimental work on the subject with Dr. Blair Bell, drew attention to the danger of using the drug in cases of heart failure. Mr. F. T. PAUL had used it in a case of intestinal paresis after operation, with the most remarkable result after all else had failed to give relief. Mr. FRANK JEANS also had used the drug in several cases, and fully confirmed its action on the intestines. Drs. A. HOPE SIMPSON and R. J. M. BUCHANAN referred to a case of splenic anaemia with distension and ascites, in which the extract had given marked relief over a period of several weeks when given at intervals; the relief was maintained, and there was a great diminution in the size of the spleen. The fluid was kept in abeyance. Dr. Buchanan also referred to the opinion held by Müller and others, that the centres for the involuntary action of the uterus, bladder, and rectum were situated in the pelvic sympathetic ganglia, and desired to know if the pars nervosa of the pituitary body could be regarded as an integral part of the sympathetic nervous system, and whether the extract acted by stimulating the ganglia. He considered that cases of so-called acute intestinal paresis associated with peritonitis, for which operation had to be performed, were not due to any special affection of the gut itself, but to paralysis of the sympathetic nervous system, the distension being a symptom of this condition—namely, shock. Dr. E. E. GLYNN believed that the extract would be far less efficacious in intestinal atony due to acute general peritonitis than when due to other causes.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

MAY DICKENSON BERRY, M.D.Lond., President, in the Chair.

Tuesday, November 2nd, 1909.

MRS. SCHARLIEB, in a paper on *Puerperal sepsis*, after referring to the work of Semmelweis and Oliver Wendell Holmes, said that the old division of the different forms of the disease into sapraemia, septicaemia, and pyaemia, was more convenient clinically than a classification according to the degree of pyrexia. Among possible causes of puerperal sepsis were mentioned oral sepsis in the patient and the medical attendant. Prophylaxis was an important part of treatment, and included the care of the pregnant woman and the management of an aseptic labour. The obstetrician should wear long rubber gloves. Should the temperature in the puerperium rise to 101° for twenty-four hours, it was the speaker's practice to explore the uterus with the finger; any remains of placenta that could not be dislodged in this way were removed with a broad, blunt curette. The uterus was then irrigated with 1 in 2,000 perchloride solution, followed by a borscic or saline douche. In some cases it was packed with iodoform gauze. Puerperal ulcers should be touched with pure carbolic. With the exception of aperients, drugs played a very subsidiary part; food and stimulants were much more valuable. Acute septic peritonitis should be treated by vaginal drainage through Douglas's pouch and by subcutaneous saline infusions. Puerperal hysterectomy was seldom advisable, except for such conditions as rupture of the uterus or sloughing fibroids. Polyvalent antistreptococcic serum was useful; vaccines were probably of greater value, but time was lost in preparing them. A discussion followed, in which MRS. VAUGHAN SAWYER remarked that in certain cases of puerperal sepsis the infection was derived from the patient herself, the source being pyorrhoea alveolaris, whitlows, boils, or the lighting up of old gonorrhoeal or septic salpingitis. When the *Bacillus coli communis* was the causal organism, it was probably introduced from without, and not derived from the patient's intestine. The bacillus was known to abound in the dust of large cities. Where drainage of the uterus was indicated, the speaker preferred a large rubber tube to gauze. MRS. WILLEY said that starvation and other bad hygienic conditions were important predisposing causes, and that it should be a part of medical treatment to see that the patients were properly nourished during pregnancy. In the last Maternity Report of the Royal Free Hospital, 4 septic cases occurred. Of these, 3 were found to be suffering from local suppurative lesions. These were treated, and all the women made good recoveries. MRS. WILLEY recommended that pregnant women should be examined for such conditions before parturition, that they might be treated and autoinfection by the patient's fingers be avoided. The value of blood cultures, and of cultures from the lochia, was emphasized. Vaccines were considered to be preferable to serums, which were not without dangers. MISS CHAMBERS stated that infection by the blood stream was very rare. The normal vaginal organisms also played an unimportant part, if any, in the production of puerperal sepsis. She had found streptococci in 4 out of 6 cases. If a patient to whom antistreptococcic serum had been given showed no improvement within twelve hours, a serum from a different maker should be tried.

MEDICO LEGAL SOCIETY.

Tuesday, October 26th, 1909.

Sir JOHN TWEEDY, President, in the Chair.

President's Address.

SIR JOHN TWEEDY, in his opening address, discussed the relative status in bygone ages of the professions of law and medicine. The remarkable differences in the degrees of importance which had been at various times attached to these two branches of learning depended upon social, economic, religious, and ethnological conditions. In ancient Athens, for example, medicine was highly honoured, while professional lawyers had scarcely come into existence. Hired advocates were not permitted in courts of law, the *logographos*, or man who made a business of writing speeches to be delivered by others, being held in contempt. This was at a time when Hippocrates was laying the foundations of medical science. In Rome, on the other hand, arms and the law were the only professions; medicine was almost unknown, and the treatment of disease was chiefly by recipes based upon tradition and superstition. This contrast was due to ethnological and political differences. The Greeks, though living in many self-centred and self-controlled city states, claimed a close relationship and a common origin. The Greek citizen was a pronounced individualist. The Romans, on the other hand, were a mixed race, and in Rome individualism was suppressed. All activity was concentrated upon the affairs of the State. In the Middle Ages great differences existed in the learning of Paris and of Italy. In the University of Paris in the twelfth and thirteenth centuries there was no systematic teaching either of medicine or of civil law. Theology was the only branch of learning which was thought worthy of serious study. In the south of Europe, however, medicine and law were actively cultivated, partly as a result of the educational traditions of the old Roman world, and partly under the influence of Arabian writings. In France intellectual life was confined to the cloister or to the schools which were dependants of the cloister; while in Italy intellectual activity manifested itself mostly in the political sphere. In England the new learning was largely helped by an eminent lawyer, Sir Robert Rede, and by an eminent physician, Thomas Linacre. At the present day law and medicine were working together in the spread of learning, the defence of liberty, and freedom of thought, but some readjustment was required between the necessities of legal evidence and the character of medical evidence in order that the highest interests of the community might be secured.

THE spread of pellagra in certain parts of the United States is beginning to cause some uneasiness. A national conference on the subject was held on November 3rd and 4th at the State Hospital for the Insane, Columbia, S.C., under the auspices of the South Carolina State Board of Health. A number of papers were read, and the question of establishing a permanent national organization for the study of pellagra was discussed. In Illinois the Governor has appointed a committee to investigate the outbreak of pellagra in the State. Among the members of the committee are Dr. Frank Billings, President of the State Board of Charities, Chicago, and Dr. George W. Webster, President of the State Board of Health, Chicago.

Reviews.

NAVAL HYGIENE.

Naval Hygiene,[1] by Dr. J. D. Gatewood, Medical Inspector, United States Navy, is the first book in English on the subject published since the last edition of Macdonald's *Naval Hygiene* in 1881. As such it supplies a long-felt want, as the old navy has given place to the new, and ships and the conditions of life in them differ materially from what they were.

The book is divided into eight chapters, and there is a copious index; each part is full of information for the naval medical officer. Vital statistics of the navy—the death-rate, invaliding-rate, and the admission-rate—are fully dealt with. The author remarks: "The diseases of our navy are the diseases of all other navies," and he makes the valuable suggestion that much good would be accomplished by an "international convention for the adoption of a nomenclature of diseases to be used for all naval services."

Under the title of "The air without and within the ship," several subjects are considered. Ventilation, both in ships on the surface and in submarines, is described. As regards the former, the ventilation systems in the United States navy differ considerably from those in the British navy, although the principles are the same. In this chapter the diver and his dress, and the dangers associated with his occupation, are well described, full use having been made of the report of the Deep Diving Committee issued by the British Admiralty.

In Chapter III the effects of light within and without the ship—both sunlight and artificial light—are described, and the value of shade from awnings, particularly double ones, in the tropics is very properly insisted on. Attention is also drawn to the anæmia caused in men whose work is principally between decks, and to the fact that these men furnish a considerable percentage of cases of tuberculosis. This is undoubtedly true, and the obvious remedy is stated.

Electric amblyopia and its prevention is dealt with; there is no doubt that many obscure cases of defective vision are thus caused, and that they will go on increasing in number now that wireless installations are universal.

The ship's water supply and drainage are next considered. The water supply is fully described, and the important note is made that it is "safe and best for salt and fresh water never to be delivered through an opening in common." The amount of fresh water supplied for drinking, cooking, and washing is given as a minimum of 5.7 gallons a head a day, and this will give some idea of the enormous amount of water that would have to be distilled for a ship carrying a large complement. A device for abolishing the use of drinking-cups called the Gale's Sanitary Scuttle Butt is described, but does not recommend itself as practical. The value of distillation is emphasized, and no consideration of expense or trouble should be allowed to stand in its way. Filters and their defects are mentioned; apparently they are still in use in the United States Navy. They have been abolished in the British Navy.

Next in order comes the subject of the navy's food, and the constituents of proper dietaries are given. The necessity for elasticity in a dietary is insisted on, and a valuable table of the chemical composition of articles of the United States Navy Ration by Atwater is appended. A glance through the list of articles supplied will give a good idea of the variety as compared with that issued to the British Navy, where there is a standard ration low in nutritive value but supplemented by a money grant which may or may not be well spent.

The three last chapters deal with clothing, disinfection of the ship, and recruiting. They are all full of salient facts such as should be common knowledge to all naval medical officers. With regard to recruiting the author makes the pregnant remark that "the health of a navy is primarily in the hands of the medical officers at the recruiting stations." How true this is can be told by medical officers at the monthly boards of survey, when numbers of men who should never have been entered have to be invalided.

This book will be found of great use to the British naval medical officer and can be cordially recommended.

[1] *Naval Hygiene*. By James Duncan Gatewood, M.D., Instructor of Naval Hygiene, United States Naval Medical School, Washington; Medical Inspector, United States Navy. London: Rebman, Ltd. 1909. Roy. 8vo, pp. 793; 8 coloured plates, and 105 other illustrations. 25s.)

TUBERCULOSIS.

It is perhaps to be expected that the meeting of the International Congress on Tuberculosis in Washington last year should be followed by an outcrop of works on this subject in America. It is possible also that, having listened to what the representatives of other countries had to say, the American authorities feel that other nations will be anxious to know their views. However this may be, a work on *Tuberculosis, by American Authors*, published in London as well as New York, invites comparison with what has been done in this country.[2] In what respects and in what degree do our transatlantic brethren differ from our own experts either in knowledge of the causation, pathology, or treatment of the disease, or in the thoroughness with which they urge and carry out preventive measures? Are they in advance of us, and what may we learn from them? The imposing volume of over 850 pages which Dr. Arnold Klebs has provided for us contains chapters, each dealing with a distinct phase of the subject of tuberculosis, by authors who have given particular study to the branch of the subject on which they have been selected to write. A historical sketch by Professor Osler serves as an introduction, fittingly entrusted to one who in himself forms so strong a link in the chain of friendship and common interest between the members of the profession on the two sides of the Atlantic. Part I of the book deals with etiology and morbid anatomy. The first chapter, on etiology, by Dr. Mazyck P. Ravenal, sums up very fully our present knowledge of the tubercle bacillus, its morphology, and chemical composition, its life-history and the manner in which it invades the body. In referring to the poisons of the bacillus details are given of a dozen different tuberculins which have been applied in treatment. In describing the modes of invasion an excellent summary of the facts which indicate infection through the respiratory tract and the digestive tract respectively brings us quite up to date in the investigations on this point. Chapter II, on tubercle and morbid anatomy, by Dr. Ludvic Hektoen, is clear and interesting, and is certainly one of the best sections in the book. Dr. Baldwin, of Saranac Lake, is responsible for Chapter III, on resistance, predisposition, and immunity, which, though short, is authoritative and reliable. In Part II, on frequency and distribution, the editor writes the first chapter, and gives some most instructive statistics and tables. The other two chapters—on tuberculosis in the negro and other dark-skinned races in America, and on tuberculosis in asylums for the insane—are of less general interest. Part III, dealing with symptomatology and diagnosis, will naturally appeal most strongly to the practising physician, and will well repay careful perusal. The greater part of this section is written by Dr. Charles L. Minor, whose practical acquaintance with his subject shows throughout. Almost every point is discussed from the standpoint of personal observation: he has made himself acquainted with the literature of the subject, but he has evidently checked it by his personal experience of a large number of cases of pulmonary tuberculosis. In the few details on which we feel constrained to criticize his remarks, it would seem as though it was his special attention to this one disease which had caused him to class as distinctive of tuberculosis symptoms which are common to other types of illness as well. For instance, he speaks of a subnormal morning temperature as being of real diagnostic value in tuberculosis, whereas a subnormal temperature before rising is found in health as well as in many chronic illnesses. So, also, a premenstrual rise of temperature can be noted in many healthy women as well as in the tuberculous. In these and other respects the temperature in tuberculosis shows significant modifications, but in degree rather than in kind. There is some rather careless writing in this interesting review of the temperature in tuberculosis which somewhat detracts from

[2] *Tuberculosis: A Treatise by American Authors on its Prevalence, Pathology, Diagnosis, Symptomatology, Prognosis, Prevention and Treatment*. Edited by Arnold C. Klebs, M.D. New York and London: D. Appleton and Co. 1909. (Roy. 8vo, pp. 863. 25s.)

the pleasure of reading it. For example: "One can disclose *an otherwise hidden temperature* by ordering a long walk;" or, again, "a temperature of great obstinacy" where high or febrile temperature seems to be intended. The clinical section of the work gives evidence of much personal experience and observation, but seems unduly long. As a point of comparison between the methods of the American physician and those of the practitioner at home, we may note the picture suggested by the following extracts. In recommending that everything needed should be in readiness before commencing to examine a patient, Dr. Minor says: "Too commonly the physician has nothing ready, he must hunt up a stethoscope and tape. . . ." When, however, he has at length found the necessary instruments and apparatus, he does not quickly turn away from his investigations, for we are told that a first examination "demands at the very least one hour, often much more," whilst "re-examinations can be completed usually in from half an hour to forty-five minutes." It is, perhaps, in the state and municipal control of tuberculosis that we have most to learn from America; and Part IV, on prophylaxis, by Dr. Hermann Biggs and Dr. Adolphus Knopf, merit the most careful consideration. From the section on treatment (Part V) it would appear that the use of tuberculins and other specific remedies is more general than it has yet become in this country. This subject, as also sanatorium treatment, is fully discussed. Part VI deals with surgical tuberculosis. It will be seen that in this volume we are offered an opportunity of learning what the leading men in America have to teach in reference to tuberculosis. The book is illustrated by many excellent plates and diagrams, and we would especially draw attention to the coloured plate showing the various early manifestations of tuberculous laryngitis, and to the many exceptionally good skiagraphs furnished by Dr. Lewis Gregory Cole.

Dr. HENRY CLARKE'S *Studies in Tuberculosis*[3] consist mainly of a thesis submitted for the degree of doctor of medicine of the University of Cambridge. The book is divided into three sections. The first section deals with the diagnosis of consumption and other tuberculous diseases. Its interest centres round the author's experience of the various aids to diagnosis he has employed. Sticker's method of intensifying the physical signs of catarrh in the lung by the administration of potassium iodide he finds produces the effect claimed for it; but, since the reaction occurs with any lung lesion, it does not assist in determining the presence of tuberculosis, though it may demonstrate the presence of some lesion which, without it, might have remained undetected. Calmette's reaction has been found by Dr. Clarke to be of considerable value. The determination of the opsonic index is also of value, especially if taken for several days; the heated serum test he finds of no practical value. Von Pirquet's skin reaction, with Dr. Ladislaus Detre's modification to give a differential cutaneous reaction, is, in Dr. Clarke's experience, so satisfactory that he has abandoned Calmette's reaction for this. He gives details of his technique, which differs somewhat from that followed by the introducer of the test. Koch's old tuberculin has also given satisfactory results in his hands, but a case is reported which suggests that it may be possible to sacrifice too much for the sake of a diagnosis. A girl was admitted with catarrhal signs at the apices of both lungs, and with signs of consolidation at the right apex. Examination of the sputum showed no tubercle bacilli, but a large number of pneumococci, from which pure cultures were obtained and a vaccine prepared. The opsonic index for tuberculosis was taken daily for two weeks, and that for the pneumococcus was taken on five occasions; both indices remained within the limits of the normal. Calmette's reaction was normal on two occasions. Koch's old tuberculin was then injected in increasing doses on four occasions, giving on the last a definite positive reaction. A diagnosis of tuberculosis was then made, after about six weeks, but the girl now left the hospital at her own request. It is the sequel which contains the moral: About a year later the girl died of acute pneumonia, and Dr. Clarke comments as follows:

> At the time I regarded this as a case of tuberculous infection secondary to pneumonia. In the light, however, of the further history I think it is clear that the patient had chronic pneumonia due to pneumococci, which occasionally caused catarrh, and finally flared up in an attack of acute pneumonia. The reaction to old tuberculin must have been due to some small quiescent focus of tuberculosis.

There seems nothing worthy of comment in Section II—on the prevention of tuberculosis—except that Dr. Clarke agrees that compulsory notification is necessary if this problem is to be satisfactorily dealt with. Section III—on the treatment of tuberculosis—will repay study by those who are interested in the subject of the specific treatment of the disease. Dr. Clarke gives new tuberculin (bacillus emulsion) by the mouth, in the German method and dosage, in preference to the English way, and has come to the conclusion that the determination of the opsonic index is not necessary, since the patient's temperature is a sufficient guide. There is a good bibliography on the opsonic index and the tuberculin treatment, which is arranged so as to show the development of knowledge on these subjects; a brief synopsis of the salient points in each paper mentioned adds value to this excellent bibliography.

ANATOMY.

Dr. P. P. BARTELS'S contribution to the anatomy of the lymphatic system constitutes the seventeenth number, and the fourth part of the third volume, of Professor BARDELEBEN'S *Handbuch* of human anatomy.[4] It is a masterly piece of work, disclosing a wide, accurate, and practical knowledge of the subject, and an understanding of how to place it in an attractive and concise manner before others less well acquainted with its details. The author deals with the history of the subject, the methods utilized in its study, and the results obtained by the methods employed; but in stating the results he has not given due notice to the recent work of Jamieson and Dobson, which has thrown so much new and valuable light on the anatomy of the abdominal lymphatic vessels and glands. With that exception, the book does justice to other workers in the same field as the author. It is too elaborate and detailed to serve as an ordinary student's textbook, but it will be invaluable to surgeons and practitioners for purposes of reference, and as a storehouse of information for those who desire to carry out further investigation on the anatomy of the lymphatic system.

The preparation of the third edition of his *Textbook of Anatomy* was one of the last pieces of work which Professor CUNNINGHAM performed, and it is a worthy memorial of his continuous attempts to advance and improve the study of anatomy.[5] Only two of the sections have been materially altered—those dealing with the bones and the muscular system—but many illustrations have been added, and old illustrations have been replaced by new and better figures. The authorship of the various sections is the same as in the second edition, Professor Cunningham himself being responsible for the articles on the brain and spinal cord, the respiratory system and the ductless glands, and for the revisal of the late Professor Ambrose Birmingham's account of the digestive system. The article on osteology is by Professor Arthur Thomson: that upon muscles, the spinal and cranial nerves, and the sympathetic nervous system by Professor A. M. Paterson. General embryology and the vascular system are dealt with by Professors A. H. Young and Arthur Robinson. The section on the urinogenital system is by Professor Francis Dixon; the organs of sense and the integument are described by Professor Howden, and the joints by Professor David Hepburn; whilst the article on surface and surgical anatomy is by Mr. Harold J. Stiles. The changes which have been made are almost without exception improvements, but the introduction for the first time

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[3] *Studies in Tuberculosis.* By Henry Clarke, M.A., M.D.Cantab. Liverpool: University Press; and London: A. Constable and Co. (Imp. 8vo, pp. 64; charts ix. 5s.)

[4] *Das Lymphgefässsystem.* Von Dr. P. Bartels. *Handbuch der Anatomie des Menschen.* Herausgegeben von Professor Dr. Karl Bardeleben. Band 3, Abth. 4. Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 292; 77 figures. M.12.)

[5] *A Textbook of Anatomy.* Edited by D. J. Cunningham, F.R.S. Third edition. London: Henry Frowde, and Hodder and Stoughton. 1909. (Sup. royal 8vo, pp. 1467, figs. 936. 31s. 6d.)

of process blocks instead of woodcuts is an innovation not without its drawbacks, for whilst it must be admitted that most of the new process figures are a great success, and are more artistic in appearance than many of the woodcuts, there are others in which the high lights are entirely spoiled. The volume will continue to hold the high position it gained on its first appearance nine years ago, for it retains its character as a textbook excellently adapted for students, and as a book of reference containing all the information likely to be required by the general practitioner.

In a period of fifty-one years Gray's *Anatomy* has attained to its seventeenth edition.[6] On an average, therefore, a new edition has been called for once every three years since the book was first launched. Such a history renders criticism or suggestion superfluous, for it is obvious that the author, the editors, and the publishers have always appreciated and always supplied the requirements of both medical students and medical practitioners. When the book first appeared its subject matter occupied 750 pages, and it was illustrated by 363 illustrations. To-day the illustrations are more than doubled, and the pages are almost as many again as in the first edition. Many of the drawings made for the first edition still do good service, and in design and execution they have never been surpassed; indeed, some of the more recent figures appear poor in execution when compared with the earlier. All sections of the book have participated in the growth which has taken place, but a very considerable part of the increase is due to the sections devoted to histology and embryology. During the period of its growth the book has kept pace with the modifications and changes in the subject with which it deals. In the sixteenth edition definite advances were made, and in the present edition the improvements are still more numerous and obvious. The subject matter in all sections has been brought fully up to date, more particularly in the embryological, histological, and vascular sections, and in the lymphatic division of the latter section all the more recent discoveries, which are playing so important a part in surgical work, have been incorporated. In addition many new illustrations have been added, and there can be no doubt that the book will not only hold its place as one of the very best textbooks of human anatomy but will also, in all probability, encroach upon the favour which has hitherto been shown to some of its rivals.

FEVER HOSPITALS.

ALTHOUGH Mr. FREEMAN'S little volume on *The Planning of Fever Hospitals*[7] is not by any means an exhaustive treatise on the subject, he has gathered together a large amount of information which will be found of service to those who have to advise local authorities as to the construction of these institutions. Attention is drawn to many points of detail which are often overlooked in the planning of hospitals. A description is given, for example, of two forms of destructor, one of which should find a place in every hospital with accommodation for any number of patients, say, over thirty. The author makes no mention, however, of the destructor invented many years ago by Dr. Edward Sergeant, and now in use in many institutions. There is a great deal of difference of opinion as to the best material for ward floors, and we are disposed to agree with the author in his recommendation of the Stonwood or Dolomont flooring. It is jointless, it is not cold, and it has a certain amount of elasticity, which is wanting in other materials, such as terrazzo or cement. In his remarks on planning and construction, Mr. Freeman suggests that in the case of small-pox hospitals arrangements should be made to burn all the air which passes from the wards in which the patients are placed. Theoretically, this advice may be excellent, but in actual practice it has been found impossible of achievement. At the Bradford Hospital, for example, most elaborate arrangements were made for burning the air from the small-pox wards, but, after a very short time, the scheme had to be abandoned as unworkable. The slop closet recommended is not quite the best, for by its use there is possibility of the splashing of the contents of utensils in the face of the nurse; this can be prevented if the form used is one in which the utensil is enclosed during the time it is being swilled out by a closely-fitting glazed door.

NOTES ON BOOKS.

THE *Calendar*[8] of the Royal College of Surgeons of England is now much more complete than its predecessors of twenty years past, and the College continues year by year to make judicious additions and amendments. It includes much matter already noticed in the JOURNAL, such as the record of the work of the College from August 1st, 1908, to August 1st, 1909, issued as the Annual Report of the Council, and the account of the proceedings at the annual meeting on November 19th last year. The value of a publication of this kind is apt to be underrated, as its details are supposed to be dry, but all must agree that they are exact. For the small sum of one shilling the purchaser can make himself acquainted at first hand with matter about which many in our profession hold but hazy notions throughout their whole lives. The by-laws, constitution of the Council, the dates of office of living and recently deceased past presidents, can all be found without any trouble, and when found the reader may feel sure that the information is correct. We trust that he will likewise remember that the Museum of the College and the Hunterian Collection are not the same thing. The former is the whole which contains the latter, the part.

The second edition of the *Guide to Promotion*,[9] for non-commissioned officers and men of the Royal Army Medical Corps, by Captain S. T. BEGGS, M.B., R.A.M.C., will, we think, be found as useful as its predecessor. It has been brought up to date, and several new matters have been introduced. The rules regarding the examinations are quoted, the various duties are explained, and a series of questions and answers on each subject are added. At the beginning of each chapter references are given to the regulations which have suggested the questions. There are good illustrations in the chapter on surgical instruments and appliances, which will prove very useful to those who have not the opportunity of examining them at their leisure. There are also examples of army forms and returns, and the methods of filling them up accurately are described: they will be found specially useful by Territorial soldiers.

In its second edition, *Practical Microscopy*, by Mr. SHILLINGTON SCALES, has been expanded to nearly twice its former size.[10] The author is a well known member of the Microscopical Society, and possesses an exceptionally wide knowledge of the various microscope stands, lenses, and accessories turned out by different firms. Perhaps the student who consults the book as a guide to the purchase of a microscope will be perplexed by the amount of information given, and will find it difficult to choose between the various articles recommended. But the microscope is an instrument which needs careful study if the best is to be got out of it, and for this purpose we thoroughly recommend a careful perusal of the present volume.

A pamphlet by Dr. R. T. WILLIAMSON, of Manchester, entitled *The Articles of Food Suitable for Diabetic Patients*,[11] should be in the hands of every practitioner who has to treat a diabetic patient. In Germany a pamphlet of the same kind was published recently by Naunyn (see JOURNAL, March 13th, 1909, p. 667), and an excellent set of tables to form the basis of dieting in any disease by Drs. Hermann Schall and August Heisler, but in England, although the information can be obtained from standard works on dietetics or diabetes, there is distinctly a want of a cheap publication in pamphlet form which the practitioner can have always available at his elbow or in his pocket when he has to write out a dietary. As Dr Williamson says very truly, there is no one diet table suitable for all cases.

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[6] *Anatomy, Descriptive and Applied.* By H. Gray, F.R.S. Seventeenth edition. Edited by R. Howden. London: Longmans, Green and Co. 1909. (Roy. 8vo, pp. 1310, figs. 1032. 28s.)

[7] *The Planning of Fever Hospitals and Disinfecting and Cleansing Stations.* By Albert C. Freeman, M.S.A. London: The Sanitary Publishing Company, Limited. (Demy 8vo, pp. 165, with plans. 7s. 6d.)

[8] *Calendar of the Royal College of Surgeons of England.* August 1st, 1909. London: Taylor and Francis. (Med. 8vo, pp. 476. 1s.)

[9] *Guide to Promotion for Non-commissioned Officers (Corporal to Staff Sergeant) and Men of the Royal Army Medical Corps*: with Appendix on Hints for Young Non-commissioned Officers on Clerical and other Duties in a Military Hospital. By Captain S. T. Beggs, M.B., R.A.M.C. (Reserve of Officers). Second Edition. Aldershot and Portsmouth: Gale and Polden, Limited. (8vo, pp. 330; 77 illustrations. 3s. 6d. net.)

[10] *Practical Microscopy: an Introduction to Microscopical Method.* By F. Shillington Scales, M.A., B.C. Second edition. London: Baillière, Tindall and Cox. 1909. (Cr. 8vo, pp. 350; 122 illustrations. 5s.)

[11] *The Articles of Food Suitable for Diabetic Patients.* By Dr. R. T. Williamson. London and Manchester: Sherratt and Hughes. (6d.)

but the articles of diet must be prescribed for each case, and further, an attempt should be made to fit each with a diet which is quantitatively as well as qualitatively calculated for his needs. This can easily be done by any one who consults intelligently Dr. Williamson's pamphlet, which also gives a number of recipes for preparing diabetic foods and drinks.

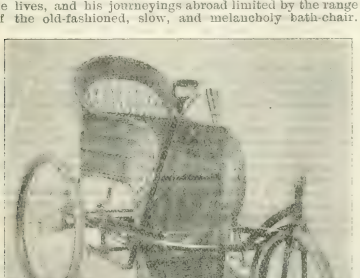
The seventh quarterly instalment of Dr. BYROM BRAMWELL'S *Clinical Studies*[12] is a substantial volume of 400 pages with 132 illustrations. In addition to a verbatim account of his teaching in his 'Wednesday Cliniques" there are reports of two clinical lectures and two post-graduate demonstrations on nervous diseases, and several articles, not all of which, however, are from his own pen. Among the more interesting are one on the differential diagnosis of intracranial tumour and lead encephalopathy, an analysis of 42 cases of progressive muscular atrophy, and an analysis of 42 cases of pseudo-hypertrophic paralysis and myopathic muscular atrophy. The teaching throughout bears its well-known character of great clinical acumen, wide experience, and essential practical trend. From the point of view of the reader there certainly seems an unnecessary expenditure of printer's ink, resulting largely, it is true, from the adoption of the Socratic method. The illustrations are uniformly good.

[12] *Clinical Studies: A Quarterly Journal of Clinical Medicine.* By Byrom Bramwell, M.D., etc. Vol. vii. Edinburgh: R. and R. Clark. 1909. (Roy. 8vo, pp. 402, 132 illustrations.)

MEDICAL AND SURGICAL APPLIANCES.

An Invalid Carriage.

DR. CUNYNGHAM BROWN (Parkhurst) writes: To medical men who may wish to recommend to patients needing it a most comfortable, speedy, safe, and easily worked invalid carriage, the following brief description of the "Dingwall-Witham tricycles or bath-chairs" may be useful. From early childhood the designer, Mr. J. P. Witham, shared the dismal lot of the paraplegic. His lugubrious days were confined to the precincts of the little town in which he lives, and his journeyings abroad limited by the range of the old-fashioned, slow, and melancholy bath-chair.



After years of dependence on the muscular energy and kindness of his friends, he is now independent; is a free-man of all roads, and can watch the sun set over the Channel from the head of Blackgang Chine, and be back in Newport for supper. Only the palsied can realize what this means: a new heaven and a new earth. The machines are the outcome of nine years' constant experiment on the part of Mr. Witham and a mechanical and cycle engineer, Mr. Dingwall. First, with regard to propulsion. They are hand-propelled by a to-and-fro action, the rider pushing one of the two levers forward while pulling the other back, this having been found in this, as in other machines, to be the most comfortable and efficient action. By this alternate motion the rider gets a purchase from one lever to the other, and no undue strain is put upon his back. A special point is the steering. This is effected by merely twisting the right hand propelling lever, whether working the chair or not—a contrivance so simple and responsive that a crowded street can be threaded with ease. The joy of coasting at twenty miles an hour downhill is provided for by the free-wheel clutch, motived by a small lever on the left-hand side of the machine, which throws the propelling lever out of action. When the clutch is engaged, the chair can be propelled both backwards and forwards, thus differing from the ordinary free wheel of a bicycle. Necessarily, the important function of braking is not overlooked. This varies with the type of carriage required, but to all powerful rim-brakes are fitted. The carriages are made, as desired, of wicker, or coach-built, are at once light and strong, and the wheels, of course, are pneumatic and of latest pattern. Finally, the machines are fitted either with one-speed or two-speed gear, as desired. The advantages of a two-speed gear are too obvious to be insisted upon. I enclose herewith a photograph of a front-steering chair, which, in the opinion of the designer, is the best type of chair for most invalids. In this machine, for the convenience of those whose legs are quite helpless and who would find the frame in front a hindrance, the front of the frame can be dropped. Also a rear-steering car can be supplied, making the chair as easy of entrance as an armchair. The machine is little heavier than an ordinary tricycle, is perfectly safe and easy of management, and can be supplied by the makers from £14 upwards. Further information and illustrated pamphlets may be obtained from the sole agent, Mr. Witham, of Pyle House, Newport, I.W.

Adenoid Curette.

DR. W. FERMEWAN (Liverpool) writes: Messrs. White and Wright, Renshaw Street, Liverpool, have made for me an adenoid curette as shown in the illustration. The objects I had in view were first to ensure in every case a perfectly sharp instrument. In the case of curettes of the Beckmann shape, which remove the pharyngeal tonsil in one piece, it is very necessary to avoid partial detachment of the growth. In this curette there are always two or three separate blades ready for use. Further, the frequent



sharpening of the ordinary curette is apt to reduce the thickness of the sides to a dangerous degree. In my instrument the blades can be detached for sharpening without interfering with the rest of the curette. The mode of attachment is sufficiently shown by the diagrams and is perfectly secure. The instrument is quite efficient in actual use.

THE *Australasian Medical Gazette* says that South Australia has lagged behind the other States of the Commonwealth in the provision made for the detention and treatment of the insane. The one asylum at Parkside is hopelessly antiquated and understaffed from a medical point of view, and the wonder is that Dr. Cleland has been enabled to preserve such favourable returns from year to year on the results of the treatment adopted. A Royal Commission was recently appointed to inquire into the management of the asylum, especially as concerns the criminal inmates. Its report, which has been presented to the State Parliament, states that the manner in which criminal lunatics obtained liberty was irregular and slipshod, and it recommends the detention of that class in a separate prison ward or separate lunacy institution. The appointment of at least two additional medical experts with facilities for pathological work is urgently recommended. The Commission further found that the classification of patients is altogether inadequate. Private patients, paying largely above the actual cost of maintenance, are mixed with non-paying patients, murderers, and other criminals, both as regards dining and sleeping accommodation. The establishment of a reception house, similar to those in existence in Victoria and New South Wales, is regarded as necessary. The housing of private asylums is recommended, and the removal of Parkside Asylum to a site a few miles from the city, where 800 acres of land are available.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

The report of the Royal Commission[*] appointed on December 4th, 1905, relating to Scotland, was issued on November 2nd. It is a folio volume containing 314 pages, and like the report relating to England and Wales and of Ireland, there is a Majority Report (signed by 14 members) and a Minority Report (signed by 4 members).

The work has been thorough and systematic. The Commissioners received evidence from 283 witnesses from Scotland, of whom 85 were examined orally, and 198 submitted written statements. Parish councils, distress committees, and the General Assembly of the Church of Scotland were invited to furnish information on particular points. That obtained from the Committee of the Church of Scotland was as to the extent and intensity of poverty in various parts of the country and the methods of administering charitable assistance; the facts were collected by the parish clergy. A number of special investigators were appointed to make local inquiries as to:

1. The effect of outdoor relief on wages and the conditions of unemployment. (Professor Thomas Jones.)
2. The effects of employment or assistance given to the unemployed outside the Poor Law. (Rev. J. C. Pringle.)
3. The administrative relations of charity and the Poor Law. (Mr. A. C. Kay and Mr. H. V. Toynbee.)
4. The condition of children in receipt of Poor Law relief. (Dr. C. T. Parsons, assisted by Miss Mary Longman and Mrs. Marion Phillips.)
5. A comparison of the physical conditions of the "ordinary" paupers in certain Scottish poorhouses with that of the able-bodied paupers in certain English workhouses and labour yards. (Dr. C. T. Parsons.)

The results of these inquiries are to be published separately in volumes of the Appendix.

The Commissioners who sign the Majority Report are the Chairman, Lord George Hamilton; Dr. Kelly, Bishop of Ross, Ireland; Sir Henry Robinson, K.C.B., Vice-President of the Local Government Board for Ireland; Sir Samuel B. Provis, K.C.B., Permanent Secretary to the Local Government Board for England; Mr. Frank Holdsworth Bentham, ex-Chairman of the Bradford Board of Guardians; Dr. A. H. Downes, Senior Medical Inspector for Poor Law purposes to the Local Government Board for England; Rev. Thory Gage Gardiner, M.A.; Mr. C. D. Loch, Secretary of the London Charity Organization Society; Mr. J. Patten MacDougall, late Vice-President of the Local Government Board for Scotland; Mr. Thos. H. Nunn, member of Hampstead Board of Guardians; Rev. L. R. Phelps, Vice-Chairman of the Oxford Board of Guardians; Mr. William Smart, Adam Smith Professor of Political Economy, University of Glasgow; Mrs. Bosanquet; Miss Octavia Hill; Dr. A. H. Downes has signed subject to a memorandum appended to the report. The signatories to the Minority Report are: The Very Rev. the Dean of Norwich; Mr. F. Chandler, Secretary to the Amalgamated Society of Carpenters and Joiners, late Chairman Chorlton Board of Guardians: Mr. George Lansbury, member of the Borough Council and Board of Guardians for Poplar, and of the Central Unemployed Body for London; Mrs. Sidney Webb.

The difference of attitude between the Majority and the Minority is largely the same as that mentioned in the reports for England and Wales. All are agreed as to the need of reform; but the recommendations made differ widely. Regarding the treatment of the non-ablebodied who are in need of aid, the Majority, while proposing far-reaching changes in the machinery, adheres to the principle of relieving destitute or "necessitous" cases under a Public Assistance Authority. The Minority, on the other hand, with the purpose of preventing the rise of destitution, propose the abolition of the Poor Law, and the distribution of its work among various authorities—for example, the education, public health, and lunacy authorities. With regard to unemployment, both reports recommend the establishment of labour exchanges, a better system of technical education for the young, the regularization of employment, and the discouragement of boy labour; but while the Majority propose to assist the unemployed workman through the Public Assistance Authority, the Minority would remove him from any association with that authority.

[*] Royal Commission on the Poor Laws and Relief of Distress: Report on Scotland. London: Wyman and Sons: Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. (Cd. 4922.) (Price 2s. 3d.)

Majority Report.

The Majority Report is divided into seven parts:

Part I deals with procedure.

Part II is a statistical survey of Poor Law problems in Scotland.

Part III shows the historical development and present conditions of the Poor Law, and the Commissioners' criticisms thereon.

Part IV gives a critical account of the present methods of medical relief, with a scheme for its reorganization.

Part V deals with the able-bodied and unemployment.

Part VI relates to charity, and proposes a scheme for the co-ordination of all agencies dealing with the poor.

Part VII is devoted to miscellaneous subjects, such as recovery of cost of relief, vagrants, and the detention of certain classes.

Part I.—Procedure.

The Commissioners state that they visited various parts of Scotland in order to acquire a more intimate knowledge of the social and industrial conditions of the country, and to compare the different methods of relief adopted by various parish councils and by charitable and other agencies for dealing with poverty and distress. In connexion with these inquiries they state that they adopted the same policy in Scotland as they did in England.

Part II.—Statistical Survey.

The Measure of Pauperism.—There are three day counts of the numbers relieved—namely, January 15th, May 15th, and September 15th—representing roughly the maximum, normal, and minimum positions. On May 15th, 1903, the number of lunatic poor and other classes of poor was: Lunatic poor 15,242, sane poor 95,963, making a total of 111,205. The sane poor represent a rate of 19.9 per 1,000 of the population at the middle of 1903; that is, 1 person in every 50 was a pauper. This represents the day count, but if we take the year's count we find 31.2 per 1,000 of the population received relief during the year; the difference being due to the number of "repeats" over a year's working. The day count shows a difference of 3.3 per 1,000 below that of England. Comparing these figures with that of 1859, the statistics reveal a considerable reduction both in the actual number of persons relieved and in the ratio to population; but since 1897 there has been a remarkable recrudescence of pauperism.

Local Variations.—The variation in the extent of pauperism from one district to another is striking. The highest rates are found in the impoverished districts of the West and North-West Highlands of Scotland. Taking counties as units, the rates varied on March 31st, 1903, from 7.7 per 1,000 in Peebles to 41.4 per 1,000 in Sutherland. These statistics are, of course, affected by the age distribution of the people in the different counties. Sutherland, as compared with Lanark, has three times as many persons over 60 years per 1,000 of the population.

The Cost of Pauperism.—The expenditure on poor relief in Scotland is over £1,250,000 per annum, or about 5s. 6d. per head of the estimated population. It has increased considerably during the last fifteen years. This increase is due to the development of the more expensive forms of indoor relief and to the rising standard of comfort in the institutions generally. The figures are: In 1889-90, £13 8s. per pauper, and in 1905-6, £18 12s.

Scotland and England Compared.—A comparison between the rates of pauperism shows that the Scottish rate is 3.3 per 1,000 below the English rate. The expenditure a head of the population in Scotland is still considerably below that in England and Wales. The cost a head in England is about 8s. as against 5s. 6d. in Scotland.

Part III.—Historical Development and Present Condition.

The part of the report dealing with the development and present condition of the various branches of the Poor Law is divided into twelve chapters, in which are pointed out the main features of the Poor Law Act of 1845, and the amending Acts which have been passed since that date.

Then follows what changes, in the Commissioners' opinion, they consider necessary.

Indoor Relief.—In discussing improvement of the system of relief, the following recommendations are made as to indoor relief: General poorhouses should be abolished, and indoor assistance given in separate institutions appropriate to the various classes for whom such assistance may be necessary. The treatment should, as far as possible, be curative and reformative; and in every institution each case should be periodically reconsidered by a responsible committee to see whether the treatment is producing the desired result. In addition, statutory powers are necessary to detain certain classes of cases, especially "ins and outs," and to compel the able-bodied classes to perform their allotted task of work.

Outdoor Relief.—The principles on which outdoor relief, or home assistance, should in future be administered are as follows: Home assistance should be given only after thorough inquiry, except in cases of sudden and urgent necessity. The assistance given should, together with the rest of the income, be in all cases adequate to meet the needs of the recipients. The grant of assistance should be conditional; the homes should be decent, clean, and well-kept, and there should be constant supervision of the moral and sanitary surroundings. Where the grant takes the form of money, it should be paid at the home of the poor person, and the intervals between payments should be short. Every case of home assistance to widows should receive individual assistance, and home assistance should not, except in special cases, be given to any woman deserted by her husband during the first twelve months after desertion, or to any woman with an illegitimate child. Finally, there should be systematic co-operation between burgh public assistance authorities, parish councils, and recognized voluntary aid committees, with interchange of information, division of cases for purposes of relief, and visitation of all prolonged cases by voluntary agencies.

Aged Persons.—The aged poor, so far as they are unsuited for or cannot properly receive home assistance, should be accommodated in institutions specially set apart for them; and that they should be classified according to physical conditions and moral character. For the accommodation of the respectable aged poor in institutions, the system of parish homes should be promoted and extended and brought under the systematic control of the Local Government Board.

Pauper Children.—The Commissioners recommend the boarding out system, but under the careful supervision of the Local Government Board. The authorities should have power to adopt children of undesirable parents, and, where necessary, retain the supervision of such children up to the age of 21, parental responsibility and liability for maintenance being always most strictly enforced. There should be closer supervision of children of outdoor paupers, co-operation with the sanitary authority to obtain healthy housing conditions, co operation with voluntary agencies for their after-care, and the medical supervision of all children in receipt of out-relief should be generally secured.

Unmarried Mothers.—The Commissioners recommend that institutional assistance only, save in cases of emergency, should be given in this class. A clear distinction should be drawn between the cases of (1) first confinement, (2) of weak intellect, and (3) of repeated chargeability.

Part IV.—Medical Relief.

This part deals with statutory enactments, the medical relief grant, Local Government Board control, indoor medical relief, voluntary hospitals, outdoor medical relief, outdoor medical aid by agencies other than the Poor Law, and phthisis. With regard to statutory enactments, the only ones providing for Poor Law medical relief are to be found in the Act of 1845. As regards poorhouses, the Act specifies that a medical man is to be appointed to give regular attendance and to be paid a regular remuneration therefor. As regards outdoor medical relief, the Act leaves the Poor Law authorities to provide it, "in such manner and to such extent as may seem equitable and expedient"; that is to say, a parish council is not bound to appoint an outdoor medical officer at a fixed salary, but may employ a medical practitioner as occasion arises and pay him a fee for his service.

Local Government Board Control.—As regards the administration of medical relief, no power of initiative has been conferred on the central department, nor is there any system of regular medical inspection on behalf of the Board. The power to approve rules for the management of poorhouses, and for the dispensing and supplying of medicines to the sick inmates, gives a certain amount of direct statutory control over the arrangements for indoor relief. But, as regards outdoor relief, such control is only obtained through the medium of the grant. The inspection of medical relief, as far as it is inspected, is done by the general superintendents.

Indoor Medical Relief.—The Commissioners have already pointed out in the chapter on indoor relief, that in only one parish—Glasgow—have hospitals been erected on sites detached from the general poorhouse and placed under the management of a medical superintendent. They say that the great advance in this respect, which dates in England from 1867, can hardly be said, therefore, to have begun in Scotland. Great advances have recently been effected in the provision of trained nursing for the sick inmates of poorhouses, but out of 68 poorhouses there are still 26 that have no trained nurses. Not only so, but pauper nursing, it appears, is permissible in all Scottish poorhouses.

Medical Officer.—The Departmental Committee of the Local Government Board (Scotland) on Poor Law Medical Relief which was appointed in 1904, and was presided over by Mr. Patten MacDougall, one of the Commissioners, went fully into all matters connected with medical relief, both outdoor and indoor, and reported that the poorhouse rules do not give him the position in the poorhouse to which he seems to be entitled. For example, although responsible for the care and treatment of the sick, he has no voice in the selection, suspension, or dismissal of nurses.

Voluntary Hospitals.

The Commissioners state that parish councils frequently make use of their power of subscribing to voluntary hospitals. Sick poor persons are also sent to such hospitals and paid for by the councils concerned. As regards general hospital accommodation for the community, the problem which confronts many towns in England is growing up in the large towns in Scotland. On the one hand, the voluntary hospitals are struggling to cope with the demands made upon them. "There are about 1,000 persons waiting for admission to the three hospitals in Glasgow." On the other hand, we have the Poor Law authorities gradually providing hospitals which are primarily for pauper cases, but which also receive others whose "destitution" mainly consists in the fact that they are in need of hospital treatment which they cannot obtain elsewhere.

Regarding hospital abuse, the Commissioners state that no general infirmary or hospital, as far as they have been able to ascertain, has made any systematic attempt, either by the appointment of an almoner or otherwise, to institute inquiries into the circumstances of persons applying for treatment. As might be expected, then, the benefits of the infirmaries are not infrequently taken advantage of by persons well able to pay for treatment.

The Report goes on to state that the abuse of hospital charities by the well-to-do, the inability of persons in moderate circumstances to obtain specialist treatment otherwise than by entering a voluntary hospital or infirmary, and possibly also the desire of the hospital authorities to procure cases that are "interesting" from a clinical point of view, have led to the exclusion from these institutions of numbers of poor patients, as well as patients suffering from chronic illness. For such patients there is practically no provision apart from the Poor Law hospital—the Commissioners state that there is no effective or intelligent co operation between the voluntary and the Poor Law hospitals. No clear line, economic or medical, can be drawn between the cases dealt with in the two classes of institutions. As regards the destitute and non-destitute alike, surgical and acute medical cases may be dealt with by both. The tendency is, however, for the voluntary hospitals to confine their attention to cases of acute illness and to send cases of chronic illness to the Poor Law. Two things are, it is said, clear as regards the large towns: First, that the amount of hospital accommo-

dation is generally inadequate to the needs of the inhabitants, and, secondly, that, in the interests of economy and of the patients themselves, any expansion of the hospital system must be accompanied by closer co-operation between the voluntary hospitals and the Poor Law.

Passing over the subjects of outdoor medical relief and of the treatment of phthisis amongst paupers we come to the conclusions and recommendations of the Commissioners signing the Majority Report.

Conclusions of the Majority.

They are of opinion:

1. That, while the medical relief grant has been the means of effecting great improvements in the administration of medical relief, further advance is difficult so long as the conditions of the grant remain stereotyped by the Local Government (Scotland) Act, 1889; that, owing to changes in the parochial areas, and in some instances to the creation of new parishes, these conditions operate with considerable hardship in certain parishes; and that failing the introduction of a system of "block grants," the medical relief grant might with advantage be increased.

2. That the Local Government Board control over the medical relief arrangements is too indirect and incomplete to effect such improvements as may, from time to time, be necessary.

3. That, in spite of recent improvements, the provision made by Poor Law authorities for the treatment of the sick indoor poor is inadequate because the accommodation is in many cases defective; that the sick are not properly classified; that the position of the poorhouse medical officers is administratively anomalous; that, in some poorhouses, the medical staff is insufficient; that the salaries of medical officers call for revision; that the nursing staff is in many cases insufficient; and that pauper nursing should be abolished.

4. That much good would accrue if poorhouse hospitals were opened for purposes of clinical instruction.

5. That there is an increasing demand on the part of the general population for hospital treatment in sickness; that the voluntary hospitals are unable to cope with that demand; that further hospital accommodation is necessary throughout the country; that the benefits of the hospitals are frequently abused by the well-to-do; that the Poor Law authorities are gradually being forced to provide accommodation for cases that formerly would have been treated in a voluntary hospital; and that there is overlapping and want of co-operation between the voluntary hospital and the Poor Law authorities.

6. That, in large towns, and probably also in country districts, the provision of medical attendance on the outdoor poor would be insufficient if we were not supplemented to a large extent by medical charities and especially by the gratuitous attendance of private practitioners.

7. That, in many parts of the Highlands and Islands, the provision of medical attendance is deplorably inadequate; that, in these districts, the absence of sufficient doctors has a prejudicial effect on the health of the community; that the extreme poverty of the great majority of the inhabitants makes it impossible for them to support more doctors unaided; and that this question is one demanding immediate attention.

8. That in certain country districts better arrangements for medical relief might be secured if power were given to provide a dwelling house for the medical officer.

9. That the method of remunerating outdoor medical officers is not satisfactory.

10. That the assistance rendered to the outdoor sick poor by the various voluntary nursing associations has been of inestimable benefit; the parish councils have not always sufficiently recognized the assistance thus rendered; and that there exists, especially in Highland and Island districts, a great need for a better provision for trained nursing.

11. That public assistance authorities and parish councils should have power to remove compulsorily to a poorhouse or other institution certain cases which cannot be treated at home; and that the grants of outdoor medical assistance should be made conditional on the maintenance of a healthy domicile and good habits.

12. That suitable provision is not always made for the accommodation and temporary treatment of cases of casual sickness arising among wayfarers.

13. That in large towns there is much overlapping between the medical charities and the Poor Law in regard to medical attendance on the outdoor sick poor; and that the benefits of such charities are frequently abused by persons in a position to pay for medical treatment.

Recommendations of the Majority.

In submitting proposals for reform the Commissioners deal first with the question of medical relief under the Poor Law and, secondly, with the wider question of medical assistance to the poorer classes generally.

I. *Poor Law Medical Relief.*

As in England, the Commissioners say, so in Scotland they have had proposals made to them for the establishment of a gratuitous system of medical relief. For reasons detailed in the English Report (vide British Medical Journal, February 20th, 1909, p. 481) they do not think that such a system is either feasible or desirable, and, accordingly, they are of opinion that an applicant for medical aid provided by public assistance funds should still, as a general rule, be liable to repay the cost or part of the cost of such aid if he is in a financial position to do so.

Subject to the above they recommend:

1. That, failing the introduction of a system of "block grants," the amount of the medical relief grant should be increased.

2. That Section 22 (4) of the Local Government (Scotland) Act, 1889, should be amended so as to enable the Local Government Board to alter the medical relief rules, and the conditions of participation in the medical relief grant.

3. That the Local Government Board should be empowered to prescribe, from time to time, the arrangements necessary for providing the poor with medical assistance and nursing; and that the arrangements for outdoor and indoor medical relief should be periodically inspected on behalf of the Board by a medical inspector.

4. That the sick poor should no longer be accommodated in general poorhouses but in hospitals on detached sites, adequately staffed with doctors and trained nurses, under the superintendence of a medical officer, and open for the purposes of clinical instruction; and that, as far as possible, superfluous poorhouses should be converted into hospitals for the sick, as was recommended by the Departmental Committee on Medical Relief.

5. That arrangements should be made, when necessary, for the reception of patients in voluntary and general hospitals on payment, or by agreement between the public assistance authorities or parish councils and those responsible for the management of the hospital.

6. That, in certain cases, power of compulsory removal to, and detention in, an institution should be given to the public assistance authorities and parish councils under proper safeguard; these are explained elsewhere.

7. That the Local Government Board should draw up a scale of fees to be paid to outdoor medical officers for special operations and midwifery cases; and that the fees paid for lunacy certificates should be revised.

8. That medicines should not be provided by medical officers out of their salaries.

9. That, in rural parishes, the parish council should be empowered, where necessary, to provide a dwelling house for their medical officer, subject to the sanction of the Local Government Board.

10. That in many parts of the Highlands and Islands additional medical officers should be appointed, and that increased grants to the locality are necessary to enable this to be done.

11. That better provision should be made for nursing the outdoor sick poor—especially in Highland and Island parishes—and that as far as possible public assistance authorities in towns and parish councils in rural districts should provide such nursing by means of a contract with existing nursing organizations.

12. That better provision should be made for the accommodation and temporary treatment of casual sickness among wayfarers.

13. That, as has been recommended for England, no disfranchisement should be attached to any form of medical assistance.

14. That the administration of the Vaccination Acts should be handed over to the sanitary authorities.

II. *Medical Aid to the Poorer Classes.*

1. That a better supply of hospital accommodation should be provided, based on the needs of each public assistance area.

2. That a united effort should be made to prevent the abuse of medical charities by persons in a position to pay for treatment.

3. That there should be systematic co-operation between the public assistance authorities, the sanitary authorities, the education authorities, and voluntary medical institutions, based on a clear definition of their respective functions.

4. That a joint committee, representative of these authorities and of the medical profession, should be appointed for the purpose (*a*) of framing schemes of co-operation to be adopted by the various bodies concerned, and (*b*) of considering, after consultation with the Voluntary Aid Council, where such exists, the needs of each Public Assistance area in regard to hospital accommodation.

5. That steps should be taken to organize, with the co-operation of the medical profession, a system of medical aid by some form of insurance—for example, by the establishment of provident dispensaries or medical clubs—and that a departmental committee should be appointed to consider the means by which such a system can best be organized.

The other parts of the Majority Report deal with the able-bodied and the unemployed, charity and the Poor Law, and the recovery of the cost of relief.

MINORITY REPORT.

In the main those signing the Minority Report agree with the description given by the Majority of the evils of the present situation, and the need for reform; but they do not think the changes recommended by the majority of their colleagues would remedy the evils.

Recommendations.

The Minority are in favour of breaking up the Poor Law as now existing, and accordingly they recommend:

1. That the Scottish Poor Law be abolished, and in its stead an entirely different method of provision for those needing public aid be inaugurated, so as to get rid of pauperism both in name and the thing.

2. That a systematic crusade against destitution in all its forms be set on foot; against the destitution caused by unemployment, the destitution caused by old age, the destitution caused by feeble-mindedness and lunacy, the destitution caused by ill health and disease, and the destitution caused by neglected infancy and neglected childhood.

3. That the local health authority be empowered and required to search out all sick persons within the district who are destitute of medical attendance and nursing, and to apply the appropriate treatment either in their homes or in suitable institutions.

4. That the local education authority be empowered and required to search out all children of school age within its district who are destitute of proper nurture, and to secure to them a fitting upbringing.

5. That the lunacy authority be empowered and required to search out all feeble-minded and mentally defective persons destitute of proper care and control, and to make appropriate provision for them.

6. That the local pension authority be empowered and required to search out all persons within its district who are destitute from old age, and to provide old age pensions for such of them as are able and willing to live decently thereon.

7. That a new national authority be empowered and required to search out all able-bodied persons destitute of employment, to take the necessary steps both to diminish as far as practicable the social disease of unemployment and to supply proper maintenance and training for those who are unemployed and unprovided for.

8. That all these specialized and preventive authorities be empowered and required to enforce by counsel and warning, by sustained pressure of public opinion, and, where needed, by process of law, the obligation of all able-bodied persons to maintain themselves and their families in due health and efficiency.

These recommendations appear to be identical with those set out in the Minority Report for England and Wales.

Treatment of the Sick.

Regarding the treatment of the sick, the Minority report that they concur in the trenchant criticism and the emphatic condemnation contained in the Majority Report as regards the provision which, in the twentieth century, Scotland makes for its sick poor. According to Poor Law theory—and, indeed, according also to the practice of the Scottish Poor Law—every person who is sick and unable to obtain for himself the medical attendance, nursing, and medicine that his condition requires, is entitled to have such medical attendance, etc., provided for him at the expense of the poor rate—at least, up to the customary standard of the time.

They mention that the state of things revealed in the evidence brought before them amounts, in their opinion, to a disgrace to twentieth-century administration.

The Minority feel, therefore, driven to agree with DR. MCVAIL that the Poor Law Medical Service should be merged, along with the Public Health Service, in a united medical service, which would be completely responsible for the prevention and treatment of disease so far as this is or may be provided out of public funds. The sick ought, in fact, to be wholly taken out of the Poor Law and cut off from all connexion with pauperism. The Minority therefore propose that the whole care of the sick and infirm, so far as this is made a matter of public provision, should be transferred to the local health authority for each burgh or district, which should be assisted by sufficient grants in aid to make really adequate provision for the prevention and treatment of disease.

UNDER the will of the late Rev. Warneford Seymour Trimmere Gompertz, of Ventnor, who died on September 8th, the Brompton Hospital for Consumption receives a sum of £1,200 conditional upon one of its wards being called "The Warneford Gompertz Memorial Ward," and the Royal National Hospital for Consumption, Ventnor, £1,050, conditional on the board of management suitably recording the benefaction by the erection of a brass memorial in the hospital chapel.

THE President of the American Gynaecological Society has, we learn from the *Medical Record*, appointed a committee to report at the next annual meeting in Washington, on the present status of obstetrical teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of obstetrics in America. The committee consists of the professors of obstetrics in Columbia University, the Universities of Pennsylvania and Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University, and the University of Chicago.

DR. KLEIN, F.R.S., has reported to the Local Government Board the results of his investigations upon a dead rat found on a vessel which arrived at Bristol on July 4th from Alexandria. The animal was one of four or five dead rats which were discovered during the discharge of cargo. It was a big black *Mus rattus*, and, when received by Dr. Klein, had probably been dead for about twenty-eight or thirty hours. There were no enlarged lymph glands, and in none of the organs could any bacilli be discovered microscopically. Cultures and inoculations of a guinea-pig with the blood of the lung yielded negative results as regards plague and other bacillary infection. But the thoracic cavity contained a considerable amount of free blood, and both lungs showed extensive haemorrhages. In fresh microscopic specimens of blood from the thoracic cavity and lungs great numbers of actively motile trypanosomata were conspicuous. When film specimens were stained with methyl-blue eosin these organisms could be readily identified as *Trypanosoma lewisi*. It is interesting to note that they were in a living and motile state so long after the death of the animal as, according to many observers, other species of trypanosomata lose their vitality a few hours after the death of the infected host. From the condition of the lungs and thoracic cavity Dr. Klein thinks that death was due to the trypanosomata; hence he suggests that in future trypanosomiasis will have to be borne in mind as a possible cause of mortality amongst ship rats. A guinea-pig and two white mice were inoculated with the sanguineous fluid from the thorax, but no trypanosomata were recoverable from these animals. These negative results are in accordance with the fact that guinea-pigs and mice are usually refractory to *Trypanosoma lewisi*.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

A CONSUMPTION CURE.

A proprietary medicine which has been brought to our notice since the earlier article on consumption remedies was published (British Medical Journal, 1908, vol. ii, p. 505) is sold under the name Liqufruta, from "The Liqufruta Laboratory," 195, Camberwell Grove, London, S.E. There appear to be two varieties of this medicine, the one being called simply "Liqufruta," and described on the label as "cure for consumption cough, whooping and every other cough," while the other is called "Liqufruta Medica," and is described on the label as "The Great Consumption Cure." The price of the latter is 2s. 9d., and the bottle was found to contain 12½ fluid ounces.

Other particulars given on the label are as follows:

Liqufruta Medica the Only Safe Cure for Pulmonary Consumption, Chronic Asthma, Bronchitis, Catarrh.

Certain of the germicidal constituents contained in this remedy are otherwise unobtainable throughout the world.

Guaranteed free of poison, laudanum, copper solution, cocaine, morphia, opium, chloral, calomel, paregoric, narcotics, or preservatives. . . .

Liqufruta Medica heals the chest, lungs, and throat, arrests the inflammation, loosens the phlegm, and effectually destroys the bacilli of consumption, etc., which no other medicine can reach. Whilst the cough will be eased at once, the expectoration will be more profuse for a short time.

Directions. One dessertspoonful every two hours; in severe cases every hour, and also during the night whenever cough is troublesome; take a dose when getting into bed and the moment of awaking in the morning. When symptoms moderate and pronounced benefit has been obtained, the doses may be administered with one and a half to two hours interval if desired.

The mixture was found to be a dark brown, rather thick liquid, smelling like a mixture of garlic or onion and peppermint. On distilling, a trace of volatile oil was obtained, the distillate closely resembling the liquid obtained by distilling onion and a trace of oil of peppermint with water; 100 parts by measure of the mixture contained 10·05 parts of solids; of these, 2·05 parts were of mucilaginous or pectinous nature. 3·44 parts were glucose, and 2·28 parts were cane sugar. A decoction of onion was found to contain a mucilaginous substance somewhat similar to that obtained from the mixture.

The liquid was acid, and on evaporation and ignition yielded an ash which was alkaline, the acidity before and the alkalinity after ignition being approximately equivalent. This is characteristic of acid salts containing an alkali-metal and an organic acid, such as potassium bitartrate. The ash contained a considerable proportion of potassium, but in the presence of the sugars and vegetable extractive the small quantity of tartaric acid could not be identified; the acidity and alkalinity indicated 0·4 part (in 100 fluid parts) of potassium bitartrate, accounting for 0·16 part of ash; the total ash was 0·4 part, and the other constituents were such as are found in the ash of most vegetable extracts.

Alkaloid was present in very small quantity, the amount being about 0·01 per cent.; this consisted of two (or more) alkaloids, neither of which gave the reactions of any of the ordinary medicinal alkaloids. The other constituents consisted of tannin, a trace of resin, and extractive. The original liquid had a very slightly pungent taste, such as would be given by a trace of a preparation of capsicum or ginger.

The results of the analysis thus showed:

Oil of peppermint		
Oil of onion, or garlic		traces
Alkaloids		
Potassium bitartrate	0·4	part
Glucose	3·44	parts
Cane sugar	2·28	,,
Mucilaginous matter	2·05	,,
Tannin		
Extractive	together 1·9	,,
Resin		
Water	to 100 parts by measure	

No alcohol was present, and no metallic salts beyond the traces ordinarily accompanying plant extracts.

Examination of the plain Liqufruta (for cough) did not show any important differences between it and "Liqufruta Medica."

A PREVENTIVE OF SEA SICKNESS.

Various proprietary remedies for sea sickness have been put forward at one time and another, but none of those now in the market appears to have come into very general use. One of the most recently introduced is being supplied under the name Zotos, and is at present being very widely advertised. From information supplied to us by correspondents with regard to its effects, it appeared to be of interest to submit it to analysis, and the results of our analysis are here presented.

Zotos is supplied by Zotos, Limited, Theobald's Road, London, W.C.; the price is 2s. 9d. per box containing twelve capsules.

It is described on the outside of the package as "the infallible remedy against sea sickness"; on the inner package it is stated that

Zotos is an infallible remedy against sea sickness, train sickness, etc.

Zotos not only prevents sickness but stimulates the appetite.

Zotos contains no injurious drug and produces no bad after-effects.

A circular contained in the package gives a so-called "analytical report" on the preparation, in which it is stated that the capsules "are free from any noxious ingredient," and that the contents "consist of compounds of high therapeutic activity."

Somewhat lengthy directions are given, the principal part being as follows:

The capsules to be swallowed whole and to be taken before, not after, a meal.

Take a capsule half an hour before the steamer sails, another just as the steamer leaves, and a third (though this is rarely required) half an hour later. Afterwards, if any uneasiness be caused by the movement of the vessel, capsules may be taken from time to time up to 6 per day. If travelling by night, take a capsule on going to bed and another half an hour before getting up.

The capsules were found to contain a pink powder, the average weight of the contents of one being 6·3 grains. Analysis showed the powder to consist of a mixture of sugar of milk and chlorbutol, with traces of colouring and flavouring matters. Chlorbutol, or trichlor-tertiary butyl alcohol, is better known under the trade name, Chloretone. It is described in the *British Pharmaceutical Codex* as "a local anæsthetic, analgesic, and antiseptic." "Its anæsthetic properties are specially exerted upon the stomach, small repeated doses being used to allay post-operative vomiting and sea sickness."

The proportions of the ingredients were found to be:

Chlorbutol	76·9	per cent.
Lactose	23·0	,,

No other substance was found, except the traces of colouring and flavouring matters already mentioned.

The estimated cost of the ingredients for twelve capsules is 5d.

A REMEDY FOR FITS.

A qualitative analysis of a specimen bottle of a remedy for fits which a correspondent informs us is prepared by a chemist in Guernsey, and has a large sale in the Channel Islands, showed that it contained bromides of potassium and ammonium, sugar, a little chloroform, a little alcohol, and small quantities of bitter aromatic substances which were evidently the constituents of compound infusion of gentian. No evidence of any other ingredient was found.

A SPECIFIC FOR UTERINE DISEASES.

A correspondent has called our attention to the "Orange Blossom Specific for Uterine Diseases." In a circular it is stated to be the invention of a doctor practising in Chicago, and it is declared not to be "a quack remedy," and that it "cannot be analysed." The inventor "was impelled by his own domestic necessities to the discovery of this marvellous remedy." It is stated that it "may and sometimes does set up . . . pruritus vulvæ from the operation of the remedy on the diseased organs," but in a separate slip it

* Previous articles of this series were published in the following issues of the British Medical Journal: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 215; vol. ii, pp. 21, 167, 209, 393, 530, 1653; 1908, vol. i, pp. 853, 986, 1375; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1333, 1566, 1687, 1825; 1909, vol. i, pp. 31, 909, 1128.

is recommended for the treatment of this condition. Further, it is stated that, "if not curing cancer (with a few exceptions) except in the incipient stages," it at least relieves the agony and removes "the most unpleasant features of the loathsome and incomprehensible disease."

The principal constituents of the specific were found on analysis to be alum and boric acid, the basis being principally soft paraffin. The total weight of the one product sent was 70 grains, and the alum and boric acid together constituted more than one-half of it.

CONGRESS OF RADIOLOGY AND ELECTRICITY.

An International Congress on Radiology and Electricity will take place in Brussels on September 6th, 7th, and 8th, 1910, in connexion with the exhibition to be held there. There will be three sections. In the first section general questions of terminology and methods of measurement in radio-activity and subjects connected with ions, electrons, and corpuscles will be dealt with. The second section will be divided into various subsections, dealing respectively with fundamental theories of electricity, study of radiations (including spectroscopy, chemical effects of radiations, and other allied questions), radio-activity, atomic theory, cosmical phenomena (including atmospheric electricity and atmospheric radio-activity). The third section will be biological, and will be devoted to consideration of the effects of radiations on living organisms. Its programme is as follows:

SECTION III.

Biological Sciences.

A. *Biology Proper.*

In this division will be included all communications relative to the action of various radiations upon organisms. The questions so far suggested as subjects for consideration are:

1. Action of x rays and radio-activity on cellular elements.
2. Action of radiations in general on the development of plants.

Medical Radiology.

B. *Radio-diagnosis.*

Under this head will be included all medical applications of radioscopy and radiography. The three following subjects have so far been suggested:

1. Rapid and instantaneous radiography.
2. Physiological and pathological investigations of the stomach and intestines.
3. Endodiascopy.

C. *Radio-therapy.*

The communications under this heading will be those having reference to the treatment of various affections by:

(*a*) X rays.
(*b*) Radio-activity.
(*c*) Other radiations.

The subjects so far suggested as suitable for discussion are:

1. Filtration of rays (x rays and radio-activity).
2. Radio-active medicaments.
3. Treatment of vascular nævi by radium.
4. The present position of light treatment and its various modifications.
5. Treatment of cancer by radium.

Committees to promote the success of the congress have been formed in the various countries which will take part in it. Professor Rutherford, of Manchester, is the president of the committee for Great Britain and Ireland; Mr. Makower, lecturer in the University of Manchester, and Dr. W. Deane Butcher, editor of the *Archives of the Roentgen Rays*, London, are its secretaries.

General communications regarding the congress may be addressed to Professor Rutherford or Mr. Makower at the University of Manchester, but communications relating to the biological and medical section should be addressed to Dr. W. Deane Butcher, Holyrood, Cleveland Road, Ealing, London, W. Any person who desires to become a member of the congress should, however, communicate his intention to the General Secretary, Dr. J. Daniel, 1, rue de la Prévoté, Brussels, direct.

Mr. William Soper, medical officer of the Jews' Hospital and Orphan Asylum, Norwood, was last week presented with a handsome silver rose bowl and a tea and coffee service as a token of the committee's appreciation of his services to the hospital during forty-six years. He is succeeded by his son Dr. Bertram Soper. The presentation was made by Sir George Faudel-Phillips, President of the institution.

LITERARY NOTES.

Of the official publications of the London County Council, none are of greater interest to the general reader—who probably is for the most part unaware of their existence—than the collection of pamphlets relating to houses of historical interest or made shrines of hero worship by the fact that illustrious persons have dwelt there. It was on December 17th, 1901, that the Council, on the recommendation of the Historical Records and Buildings Committee, decided to undertake the work which till then had been carried on by the Society of Arts, of indicating houses of historical interest in London. The first memorial tablet (to Macaulay) was unveiled by Lord Rosebery on Holly Lodge, Campden Hill, W., on November 26th, 1903. Since then a number of others have been put up. On December 13th, 1904, the Council decided to commemorate the residence of Jenner at 14, Hertford Street, Mayfair, and on August 19th, 1905, a tablet was fixed on the house. It may be recalled that when Jenner was granted a sum of money by Parliament in 1802, the Chancellor of the Exchequer in arguing that the grant should not exceed £10,000, laid stress on the advantages which could accrue to Jenner from an extended practice. Elated by the prospect thus held out, Jenner says he took a house in London for ten years at a high rent and furnished it, but his first year's practice convinced him of his own temerity and imprudence and of the falsity of the Minister's predictions. His fees fell off both in number and value, for people sent to their own family doctors to perform vaccination, alleging that they could not think of troubling him about a thing so easily executed. After a year in London he gave up hope of establishing a lucrative practice there, and returned to Berkeley. On October 11th, 1907, a tablet was affixed to 31, Golden Square, where John Hunter lived from the early part of 1763 till about 1770, when he took over the house of his brother William in Jermyn Street. The house, it is said, does not appear to have been rebuilt or seriously altered since the time when Hunter was its tenant. His practice during the time he lived in Golden Square was so small that it must have left him abundant time for original work. It is satisfactory that medicine is not altogether ignored; but we feel inclined to say, as Charles Lamb did when some one showed him a small book entitled *Beauties of Shakespeare*: "This is good enough; but where are the other ten volumes?"

The Association for the Study of Medical History, which was founded last year at Perugia, held its first formal Congress recently at Venice under the presidency of Professor Davide Giordano. A message of congratulation was sent to the University of Padua, where a chair of the history of medical and physical science has been established. We can only mention one or two of the communications read. Dr. Carboncelli was to have read a paper on the teaching of midwifery in Italy, illustrated by photographs of a very rare mannikin made in wax, of detachable pieces, and dating from about 1600, but these were not available. Professor Fiocco presented a dissertation on prostitution in Padua. The Venetian Republic had special laws regulating it, and breach of them was punished by fines, imprisonment, and other penalties. Prostitutes had to wear a red hood. At Padua there are no documents relating to the early history of syphilis, but at Venice, as far back as in 1512, persons suffering from that disease were admitted to the Hospital for Incurables. There were doctors who gave their services gratuitously to prostitutes. Dr. Giordano dealt with the Medico-Chirurgical College of Venice, of which he had examined the official records from 1476 to 1801. The college provided for the daily teaching of surgery and the annual demonstration in anatomy. The surgeons belonging to the corporation were exempt from taxes; they gave expert opinions on matters referred to them, and adjudicated on questions of fees and professional conduct. The college also safeguarded the rights of surgeons against physicians, and waged war against unqualified practice. He sketched the history of the "Priors" or Presidents of the College, dwelling especially on the important work done by Jacopo Grandi, who raised the corporation to its highest pitch of dignity and influence, made examinations more stringent, insisted on the teaching of anatomy and physiology, the lectures being some-

times illustrated by operations on living animals; made provision for instruction in all branches of surgical art, but discouraged specialism, unless it were based on a broad foundation of general knowledge. Dr. Leonardi, discussing the question, Did Italian medicine take its rise in Umbria? said the first doctors were monks whose abode was the valley of the Nera. He quoted a lapidary inscription in Latin commemorating Serapivus, a doctor who flourished about A.D. 300, and several other similar inscriptions. The medical work of the first monks was continued by the Benedictines at Monte Cassino, from which, according to Leonardi, came that knowledge and spirit of inquiry which later led to the foundation of the famous medical school of Salerno. From Umbria, too, came cutters for stone and similar irregular practitioners who spread over Italy.

Nova et Vetera.

ANCIENT HIGHLAND SPAS.

From the days of antiquity it has been the fashion to resort to mineral springs in search of health, and each country and each generation has had its own favourite spas. Just as we flock to Homburg or Marienbad, so the Roman senator went to cure his gout at Baiae, and the courtier of St. James's or Whitehall retired to Bath or Tunbridge Wells to counteract the effects of dissipation; and even in the Scottish Highlands there were in former times springs and wells of medicinal water famous for the cures they wrought. St. Fergan's Well, in the hill of Knockfergan near Kirkmichael, in the Banffshire Highlands, was one of the most noted of these places. According to tradition, this spring originally flowed in Italy, and was transported miraculously to Scotland. The author of a curious old book on the manners and customs of the ancient Highlanders, published in 1860,[1] gives a short account of this primitive spa. He states that a century before the date of writing St. Fergan was crowded with visitors, many of whom had come from great distances to drink the waters, which were supposed to cure all bodily diseases. Like most of the medical springs of the Highlands, St. Fergan's had a guardian spirit, without whose charms the waters would have been useless. This particular spirit always haunted the well in the form of a fly; and it need scarcely be added that all who drank the waters were supposed to leave him an offering, which might be in the form of money or pins, or bits of cloth. The author adds that he himself remembers having seen some of these ex votos. St. Fergan's Well has fallen from its high estate, but traces of its ancient glory still linger, though under a different form. The celebrity of the well was so great that at one time a market was held there every year; but a great Highland fight (known as the Battle of the Kebbock, since it had originated in a dispute about a cheese) having resulted in much damage both to persons and property, the market was transferred to Tomintoul during the latter half of the eighteenth century, and there to this day it is held annually on the Thursday which falls between the 6th and 12th of August, under the name of "Healing Well Market."

Speyside seems to have been peculiarly blessed with miraculous springs. Over a century ago the "Chappel Wall" at St. Mary's, Orton, was renowned for the cure, at certain seasons of the year, of whooping-cough and diseases of the eyes and joints. But many years ago the well degenerated into a stagnant pool used by cattle. Two miles further down the Spey the wells at Althash were also the resort of children suffering from whooping cough, who were brought in great numbers to drink the waters during the month of May. These two wells were close to each other; one, which was kept covered, was within the kitchen of a farmhouse, and the other, below the house, was near a little burn. Here, as at St. Fergan's, votive offerings of pins, coins, rags, and even little "mutches" or caps, were left as a mark of gratitude.

[1] *Lectures on the Mountains: or, The Highlands and Highlanders, as they were and as they are.* Published by Saunders, Otley and Co., 50, Conduit Street, Hanover Square, London. 1860.

Preventive Fumigation.

The *Lectures* contain further interesting information regarding the treatment of disease in the Highlands many years ago. The author, a Highlander of Strathavon, describes an ancient rite which was still kept up in his boyhood by his own family, and which had been practised from time immemorial in every home in his native strath. The ceremony took place on the morning of New Year's Day, and was performed in the following manner. First, the head of the family, before the rest of the household were up, went to every bed in the house and sprinkled their occupants with the "usquecasheichd." This was water taken from a "dead and living ford," that is, a ford crossed by funerals as well as by living passengers, drawn on the previous evening in profound silence by some careful person who would not let the pitcher touch the ground lest the water should lose its virtue. The "usquecasheichd" was believed to preserve the members of the household throughout the coming year against dangers from witchcraft or evil spirits. After the sprinkling, all the windows, chimneys, keyholes, etc., were stuffed up, and great piles of dried juniper were kindled in every room and allowed to burn until the unfortunate inmates were almost stifled with the smoke. This, however, was looked upon as a mere trifle, in view of the fact that the fumes of the juniper not only drove out any disease with which the body was afflicted at the time, but ensured it against all further attacks until the following New Year's Day. The more the patients coughed, sneezed, and choked, and the nearer they approached suffocation the more thorough was the cure, and the greater was the efficacy of the remedy, and it was only when the smoke became unbearable that the windows were thrown open and the fresh air let in. The master of the house then proceeded to treat his horses, cattle, and the rest of the live stock in the same fashion.

A Dancing Cure.

A still more curious Highland remedy was the dancing cure, as it was practised many years ago in Strathspey. A Highland shepherd, one Donald M'Alpin, a famous dancer, was reputed to have cured his mistress of a mysterious malady by means of dancing a reel with her, and this story being noised abroad gained him the reputation of being a successful physician. His humble cottage in Slockmuick, overlooking Strathspey, was besieged with crowds of patients who hoped to get rid of their ailments by a dance with Donald. The shepherd did not hesitate to take advantage of this stroke of good luck, and soon had a large and thriving practice. He engaged as assistant an ancient piper, who did the duties of apothecary, and the two between them evolved a course of treatment for almost every ill to which the flesh is heir. This treatment was very simple, the main features being as follows: In cases of indigestion, moderate doses of medicated "acqua" were taken, followed by the *ceum shuil* or promenade step. Headache or local plethora was treated with laxatives, followed by *ceum cosich* or footing step, or *ceum crask* or cross step. For catarrh Donald prescribed, in order to produce perspiration, a large dose of gruel mixed with honey and butter, followed by *ceum crask* or Highland fling. In cases of serious illness, either of mind or body, he administered large doses of laxatives combined with diaphoretics, followed by the "M'Alpin leap." All these different processes terminated in the patient being well wrapped up in warm blankets, and the doses of medicine and dancing were repeated according to the patient's constitution and the nature of his disease. How long the shepherd-physician continued his experiments at the expense of his confiding neighbours is not known, nor is it possible to discover what degree of success attended his administrations. But those who may be inclined to scoff at poor Donald's humble remedies and the credulity of his *clientèle* would do well to remember that these same remedies were at least as rational and decidedly more harmless than those of some other empirics who gained a European reputation; whilst the rude Highlanders who sought his advice were but displaying the same ignorance and superstitious reverence as did the cultivated society of Paris when it thronged to the consulting room of a Mesmer or a Cagliostro.

British Medical Journal.

SATURDAY, NOVEMBER 13TH, 1909.

THE POOR LAW COMMISSION'S REPORT ON SCOTLAND.

THE volume of the report of the Royal Commission on the Poor Law and Relief of Distress dealing with Scotland has just been issued, and an analysis of its contents with special reference to medical matters is ublished at p. 1415.

The report follows very much the same lines as that on England and Wales, and reveals a similar cleavage of opinion among the Commissioners, the Majority and the Minority being the same.

From a historical point of view, the Scottish Poor Law differs from that of England because it approached the problem of the able-bodied poor in what English administrators regarded as a very unsympathetic spirit. No one can deny that the Scottish system favoured economy, possibly to the detriment of persons more immediately affected by it. In later years, however, the tendency has been for those responsible for the working of the Scottish Poor Law to assimilate the administration to the lines prevailing in England, partly because of the harshness of the condition which made poor relief in the case of the able-bodied contingent on their inability to earn a living, and partly because, when strictly observed, the law induced fraud, immorality, and wife desertion. The general problem of poverty in Scotland in its essential features is a reproduction of that which the Commissioners had to deal with in their English report. Defects in the present system were revealed at every step of the inquiry, and this together with the minuteness with which the Commissioners have gone into the subject, enables them to come to the general conclusion that only a radical transformation of the existing order will suffice to place the administration of the Poor Law on a satisfactory basis. As in the English Report, both the Majority and the Minority are in general agreement in their criticism of the existing system, but there is a great difference in the way in which it is recommended that improvement shall be made.

With regard to medical relief, the majority of the Commissioners do not think that a gratuitous system is either feasible or desirable; they recommend that medical assistance should be reorganized on a provident basis on the lines of the recommendations of the British Medical Association in its report on contract practice. But, while strongly of opinion that a system of medical aid based on provident lines should be gradually established in Scotland, the majority feel that they have not sufficient evidence to do more than make general suggestions for reform. The evils to be remedied are: The inadequate provision for sick indoor poor; insufficient medical attendance; inability of the voluntary hospitals to cope with the demands upon them; overlapping of medical charities and Poor Law in the large towns; and deplorably inadequate provision of medical attendance in the Highlands and islands. In these districts the absence of sufficient doctors has a prejudicial effect on the health of the community, and the extreme poverty of the majority of the inhabitants makes it impossible for them to support more doctors unaided: in a word, the keynote of the Majority Report is better organization and more effectual administration.

The report of the Minority expresses the opinion that the sick ought to be taken wholly out of the Poor Law, and cut off from all connexion with pauperism. It is proposed, therefore, that the whole care of the sick and infirm, so far as this is made a matter of public provision, should be transferred to the Local Health Authority for each burgh or district, which should be assisted by sufficient grants in aid to make really adequate provision for the prevention and treatment of disease.

Probably the British Medical Association has never had before it—never, certainly, since the institution of the present extended representative organization—matter of such far-reaching importance to the profession as the criticisms and recommendations of the Poor Law Commissioners. The question of medical relief alone, upon which the Association is not only entitled but expected to speak with authority, is one of extraordinary extent and complexity. It is being carefully studied by the Special Poor Law Committee appointed soon after the earliest reports of the Royal Commissioners were issued. This committee consists of five members nominated by the Medico-Political Committee, three by the Public Health Committee, two by the Hospitals Committee, two by the Scottish Committee, and two by the Irish Committee. The committee has elected Dr. J. A. Macdonald to be Chairman, and has exercised its power of co-option by choosing Dr. Major Greenwood, Dr. J. C. McVail, and Dr. Lauriston Shaw. Matters specially affecting England and Wales are considered by the English and Welsh members, while the Scottish Committee and the Irish Committee have been invited to consider questions specially affecting Scotland and Ireland respectively, the plenary sittings of the committee being directed to the consideration of questions affecting the United Kingdom as a whole. The full committee has held several meetings, has taken stock of the information at its disposal, has planned out the lines on which it will proceed, and intends shortly to issue to the Divisions a report setting out the various ways in which medical relief is at present administered.

OUR FRIEND THE ENEMY.

TIME was when students were brought up in the notion that inflammation was a thing to be dreaded. No one could disentangle for them the phenomena of repair and those of inflammation. They gathered vaguely that the common vascular and haemic events were to be classed as inflammatory when they attained a degree constituting a menace, if not actual damage, to the tissues. There was difficulty in appreciating the exact distinction between the histological processes observed in the healing of a wound by first intention and in one that became inflamed; the differences observed about the site of ligature of an artery in a stump healing without suppuration and in one acutely inflamed—that is, infected—seemed to be accidental, not incidental. Then, again, no one offered a satisfactory explanation of the cessation of pain following the application of

a hot fomentation to an inflamed area. It was said that the pain was due to pressure upon the nerve endings, caused by undue quantity and tension of fluid in the tissues: and yet the further increase of vascularity produced by the fomentation banished the pain. The fact of the matter was, the clinical phenomena could be reconciled with the severely anatomical picture of inflammation given in the textbooks of pathology only by the aid of a lively imagination.

It would have been a surprise in those days to come across a sentence describing the inflammatory reaction seen in acute peritonitis as "the more potent "*second line of defence*."[1] Here is the ever-dreaded "peritonitis" accorded honour as a means of defence against bacterial invasion. Surely that is turning the tables with a vengeance. To-day we have Professor Bier adducing this recognition of the useful part played by inflammation, in certain circumstances, as the best evidence he has to show of the progress and development of surgery.[2] He will have no truce with the compromisers who admit that in certain circumstances inflammation *may* be a useful agency, but do not commit themselves to the deliberate promotion of inflammation where it does not already exist, or to its encouragement where it is not vigorous enough to subdue the invader and rid the sufferer of his pain. He says that in the earliest times inflammation was looked upon favourably as the evidence of a good struggle with the enemy. The enemy, he says, has changed as men's perceptions have changed. "Daemons, telluric and stellar in-"fluences, poisons, miasmata, and bacteria," all in turn have been recognized as the foe; the defender has remained the same—inflammation. He attributes the renunciation of the defensive conception of inflammation to the ascendancy won by the devotees of the microscope, who concentrated their vision upon the minute anatomy of central foci of inflammation, and neglected altogether the physiology of the question. In a quaint digression he further attributes to them an inordinate fear of teleological philosophy, and in consequence rigid adherence to a study of the mechanics of natural phenomena. To encourage a whole-hearted return to the mediaeval idea, with fresh enlightenment but hardly more discrimination, he then attacks the sacred cardinal signs of inflammation. *Calor, tumor, rubor*, he admits, with some qualification, may be part and parcel of the inflammatory process; *dolor* and *functio laesa* he rejects, and casts back upon the enemy, the invader. His practical experience with congestion-hyperaemia has taught him that deliberate exacerbation of the vascular phenomena of inflammation, of the hyperaemia, the blood stasis, the oedema, far from increasing the pain, the loss of function, and the fear of necrosis, will make a whitlow quite bearable, will restore movement to a knee attacked by gonorrhoeal arthritis, and will save a doomed tendon even when completely bathed in pus.

Professor Bier naturally summons to his aid all that is known of the circulation and the blood elements as the mechanism for dealing with bacteria, bacterial and other toxins invading the body. That, however, is common ground, and the question resolves itself once more into a matter of definition. He is not content with the pronouncement of Weigert, that "the body answers every local damage with inflam-"mation as a precedent of repair," and, if we judge rightly, would not accept anything so broad as the declaration of Burdon-Sanderson that by "the process "of inflammation" he understood "the succession of "changes which occurs in a living tissue when it is "injured, provided that the injury is not of such a "degree as at once to destroy its structure and "vitality." He centres his vision, not without, as it seems to us, a certain obliquity, upon those features of the inflammatory complex which are amenable to influence by an elastic bandage or a suction cup. Or conversely it might be said that he has fallen into the heresy of Hüter, who confounded pyogenesis with inflammation. It must be borne in mind that degeneration of tissue cells is not represented only by the necrosis which results from the presence of the irritant, but that it may result directly from those processes which Bier classifies as "useful." Again, a conception of inflammation should be wide enough to admit that, as Adami says, "centrifugal nervous "impulses alone, apart from any local injury, may "originate a succession of phenomena of inflamma-"tion in a part." Of course, too, active hyperaemia is absent in injuries in non-vascular areas which nevertheless are the seat of inflammation.

To admit the usefulness of Bier's methods of treating certain forms of local infection is not equivalent to an admission in broad terms of the "usefulness" of inflammation, or the propriety of deliberate and routine accentuation of its gross circulatory phenomena as a means of therapy.

[1] F. W. Andrewes, *Allbutt's System of Medicine*, vol. iii, p. 897.

[2] Über die Entzündung, von Geh. Med.-Rat. Prof. Dr. A. Bier. Von Bergmann's *Vortragszyklus. Entwicklung und Fortschritte der Chirurgie*, p. 464.

THE ABSORPTION AND EXCRETION OF IRON.

No axiom in medicine has received wider recognition than that which connects the cure of anaemia with the administration of iron in some form or another. But it is equally well known that the connexion is an uncertain one, and that accurate knowledge of the behaviour of iron within the organism has yet to be acquired. Research upon this point has of late years brought some definite facts to light, and in a recent monograph on the subject Dr. Schirokauer, of Berlin, has collected results of his own and other observers' experiments, which add materially to the better understanding of the means by which iron is absorbed and excreted.

Organic chemistry has done much, but the disturbing factors which militate against chemical accuracy are so numerous that, for practical purposes, some other means of investigation are needed. Hence many of those who have investigated the question have used the method introduced by Quincke, of direct microscopic evidence of absorption whereby the "behaviour of the iron can be followed from its "entrance to its exit, to and from the body."

Perfect unanimity amongst observers of such subtle processes can hardly be looked for, but a strong consensus of opinion is manifested that the absorption of iron, whether in organic or inorganic combination, occurs in the duodenum, and that it takes place into lymphatic channels, only a small proportion passing directly into the blood stream. Observations of the lining membrane of the small intestine below the duodenum gave little evidence of absorption, and only when the caecum and large intestine were reached did any direct proof of the presence of iron again become manifest. Assuming that its presence in these parts must be due

rather to excretion than absorption, the continuity of the large and the small intestines was severed, while iron continued to be administered by the mouth, with the result that the iron still appeared in the lower bowel to which no iron-containing food had access.

Much controversy has ranged over the means by which iron in any form is made available for absorption while in the stomach. In the monograph to which we have referred the firm belief is expressed that iron in any form is at once converted in the stomach to ferric chloride, and that it enters in that form into close combination with albuminous matter, and passes as albuminate into the intestine, where, having possibly undergone further molecular change, it passes through the epithelium of the mucous membrane in "ionized" condition. Thus far the course of the iron entering and leaving the body is shown, but its progress from entrance to exit cannot be traced with equal facility, and the results of feeding experiments and clinical observation have to be relied upon. Modern opinion, as shown in the most recent textbooks, has tended toward the belief that iron acts more as a stimulant to the blood-forming organs than as a constituent of new blood, but the plain evidence of feeding experiments and of clinical experience proves incontestably that in whatever way it enters the blood corpuscle iron is an essential factor in treatment.

In selecting the most appropriate form in which to administer the drug, the physician has usually to consider one point above all others—the digestive power of his patient; and it is probable that, as laid down by Dr. Schirokauer, it is a matter of indifference whether an organic or an inorganic preparation be used if the digestive power is normal. In cases of irregular and enfeebled digestion the albuminate preparations are probably to be preferred, although, as previously stated, the change that they undergo in the stomach is identical with that of the cruder drugs. Only in very exceptional cases is it necessary to resort to the use of haemoglobin itself, while the administration of iron by subcutaneous injection need only be thought of as a last hope.

Many time-honoured traditions still cling to the routine use of iron, some of which are held more closely in memory on the Continent than in this country. The belief that fat and fresh fruit must be avoided when taking iron, or that chalybeate waters must always be drunk fasting, has but little rational evidence to support it. The new light of recent research will doubtless show in the near future the way to still more effective methods of utilizing modern knowledge.

INCOME TAX ASSESSMENTS.

As the notices of the assessments made by the Income Tax Commissioners for the current year are now being delivered, it may be well to point out that if the recipient of a notice is not satisfied with the assessment he should at once write to the Surveyor of Taxes, whose address is given on the notice, to make formal appeal against the charge. It is not essential, when notifying the intention to appeal, to furnish details of the adjustment that is desired, a formal notice of appeal being sufficient; but this notice should be sent within ten days from the receipt of the blue assessment paper, or the right to appeal may be lost. The notification of objection should be followed without delay by a statement of the grounds on which the appeal is made. In the ordinary case of a too liberal estimate by the Commissioners of the profits of the practice, this statement should take the form of an account of the appellant's professional receipts and expenses for each of the three years preceding the year of assessment—that is, to December, 1908, or March, 1909. It is not usually necessary for the appellant to appear before the Commissioners if he is able to satisfy the Surveyor that the figures he furnishes are accurate, or, where estimates are necessary, as in the case of certain expenses, are based on a reasonable calculation. It is to be observed that if the Finance Bill passes into law, any individual whose total income from all sources does not exceed £500 will be entitled to relief from income tax to the extent of duty on £10 for each of his children or stepchildren living and under the age of 16 years on April 6th, 1909; also that an individual whose total income from all sources exceeds £2,000, but does not exceed £3,000, will be entitled to be charged at the rate of 1s. in the £ on that part of his income that is earned, instead of at 1s. 2d. Those who are entitled to claim under either of these heads will be well advised to make formal claim at once by letter to the Surveyor of Taxes.

THE ROYAL SOCIETY OF EDINBURGH.

PRINCIPAL SIR WILLIAM TURNER, who gave his inaugural address as President of the Royal Society of Edinburgh on November 8th, took the opportunity, as the Society was about to open a fresh page in its history, to sketch the rise of scientific study in Scotland, the means and opportunities afforded for that purpose, the formation of societies and institutions for the encouragement and diffusion of science in Edinburgh, and to put in the form of a continuous narrative the chief incidents during the century and a quarter that had elapsed since the foundation of the Royal Society. On St. Andrew's Day, 1681, after much negotiation, conducted chiefly by Drs. Sibbald, Balfour, and Stevenson, a patent was granted by Charles II to found the Royal College of Physicians of Edinburgh, and in 1684 Sibbald was elected first president. The severance in 1722 of the corporate interests of the surgeons from those of the barbers, and the granting of a new charter to the surgeons which incorporated them as a Royal College, greatly improved the tone and status of the medical profession. Later clubs and societies of various kinds became the fashion. One of the earliest of these of which there was record was called the "Rankenian Club." Somewhat later the Select Society was projected by Allan Ramsay. In 1731 the leading physicians and surgeons of Edinburgh instituted a medical society. A society formed by combination with the medical society became the Philosophical Society. In March, 1783, a charter under the name of the Royal Society of Edinburgh was granted. The first meeting was held in June, 1783, in the University Library, with Principal Robertson in the chair, when it was resolved that all the members of the Philosophical Society should be co-opted as members of the Royal Society, and that the Judges of the Supreme Court and a number of other gentlemen should be invited to join it. Professor John Robinson was elected general secretary, and Mr. Alexander Keith, who afterwards founded the Keith prize, treasurer. The society had in its first year as President, Henry, third Duke of Buccleuch, and numbered 102 resident and 71 non-resident members. The Duke was succeeded in 1812 by Sir James Hall, and in 1820 Sir Walter Scott was appointed, and held office till his death in 1832. He was succeeded by Sir Thomas MacDougall Brisbane, the founder of the prize which bears his name, who remained in office till 1830. In

February, 1840, the society resolved that while the President should continue to be elected annually, in future the re-election should not be expected to take place after he had held office for a period of five years. With one exception this arrangement had been carried out. The society began to publish its *Transactions* in 1788, and forty-six quarto volumes altogether had appeared. The publication of the *Proceedings* was suspended for nearly thirty years, between 1805 and 1832.

THE CENTENARY OF OLIVER WENDELL HOLMES.

The centenary of Oliver Wendell Holmes was celebrated by the Medical Society of the County of New York on October 9th, 1909. Dr. Jacobi, who was in the chair, said Holmes was a rare combination of science and poetry. He was destined to be a follower of Apollo, the only Greek god who combined medicine and art and music and poetry. Dr. Maurice H. Richardson gave some personal reminiscences of the "Autocrat." They related to the last years of Holmes's teaching, when he was at the height of his fame and Dr. Richardson was his youngest assistant. He made even the dry bones intensely interesting. His lectures were full of wit, bright and sparkling. Many of his sayings had been handed down from student to student to this day. Dr. Richardson recalled Holmes's description of the greatest possible rewards of the physician and surgeon: "He is always one of the most "respected of men; his highest political reward is "to be on the school committee: he lives well but "dies poor." He said that his highest possible ambition was to have some loathsome disease named after him—Bright's disease, Ménière's disease, etc. The surgeon's highest reward would be to have some bloody operation named after him. Holmes had to lecture on a subject repulsive to some, difficult for all, and at an hour—one o'clock—when the class was jaded and hungry. The wooden seats were hard, the backs were straight, and the air was bad. In alluding to the air, he said: "So when the class was "sitting in an atmosphere once breathed already, "after I had seen head after head gently declining "and one pair of eyes after another emptying them-"selves of intelligence, I have said inaudibly, with "the considerate self-restraint of Musidora's rural "lover, 'Sleep on, dear youth, this does not mean "'that you are indolent or that I am dull. It is "'the partial coma of commencing asphyxia.'" To make head against these odds he gave his imagination full play in comparisons often charming and quaint. None but Holmes could have compared the microscopic coiled tube of a sweat gland to a fairy's intestine. Medical readers would appreciate the aptness of comparing the mesentery to the shirt ruffles of a preceding generation, which from a short line of attachment expanded into yards of complicated folds. In seeking some illustration of his way of teaching anatomy, he mentioned the book of Spigelius, "in which lovely ladies display their viscera with "a coquettish grace, implying that it is rather a "pleasure than otherwise to show the lacelike "omentum, and hold up their appendices epiploïcae, "as if they were saying 'these are our jewels.'" Great pains were taken in getting the subject ready for the anatomical room to make the dissection as beautiful in itself as it could be made, and to make the setting appropriate. The dissections were really works of art. Holmes's plan was to arouse his audience to keen receptiveness, and then to plunge at once into his subject. One simply could not help listening, absorbing and storing away the driest of facts. By the association of ideas, especially by the aid of humour, he suggested, through easily remembered anecdotes, jokes, puns, or mnemonics, the really dry facts of anatomy. One method he used was to bring out the applications of anatomy, and today the applications of anatomy offer a more attractive field than they did then. He believed in iteration and reiteration. He said: "My advice to every "teacher less experienced than myself would be, "therefore, 'Do not fret over details you have to "'omit; you probably teach altogether too many as it "'is. The only way of teaching a whole class is by "'enormous repetition, representation, and illustra-"'tion in all possible forms.'" A curious thing was his unwillingness to allow any one to lecture for him. He said: "If I allow any one to take my place "he may give a better lecture than I could." Dr. Edward O. Otis, of Boston, spoke of Holmes's medical work, and traced the influence of his professional knowledge on his literary productions. He believed that Holmes felt—at least for the greater part of his life—that, while literature was his avocation, medicine and the teaching of his branch of medicine was his vocation. He might well have been an original investigator if he had been less of a literary man, but he was in some respects an incomparable medical interpreter and critic. Dr. William Hanna Thomson spoke of Holmes as author, poet, and man, and the proceedings were brought to a close by the reading of a poem by Mr. Richard Watson Gilder, who described Holmes as

> The poet who first to science sought,
> And to the Merry Muses after,
> Who learned what in no school is taught—
> The secret of men's tears and laughter.

THE DOCTOR AS A SOCIAL FORCE.

At the present time, when a general election is looming in the not distant future, the thought comes naturally to one's mind that the doctor is still almost a negligible factor in politics, while his value as a social force is not generally acknowledged. How little the true extent of the doctor's activity is recognized at the present day is shown by the answers given to questions on the subject addressed some time ago to leading men in France by M. Fernand Mazade. M. d'Haussonville's answer was short if not altogether to the point; it was conveyed in the words, *Ne sutor*. M. Alfred Mézières replied as follows: "Let the "doctor look after his patients; let him cure them. "Thus he will fulfil his true social duty." M. Costa de Beauregard answered somewhat oracularly as follows: "Every physical suffering belongs to "the scientific sphere of the doctor as every "moral suffering appeals to the conscience. "Why? Because the doctor is the only person "on earth to whom one never lies." According to Mr. Kipling the doctor is precisely the person to whom every one, if a patient, lies most freely. Many other answers were to the like effect as those quoted. What strikes us most about them is the narrow view that seems to be taken by many, even among intellectual persons, of the part which the profession really has to take in the work of the world. By all means let the doctor give his best attention to curing the sufferers under his care. But the influence of each individual member of the profession should extend far beyond the sick room. He should within his sphere be the apostle of medical science, which, as far as bodily efficiency goes, carries in it the hope of the present welfare and future development of the community. Notwithstanding the great strides forward which have been made, the people still perish, not only in slums but in palaces, for lack of knowledge. Such saving knowledge

it is the function of the medical profession not only to gain for itself but to teach to the public. The doctor's province includes everything that concerns the life of man, and much that is vital to the development of the nation and the progress of mankind. It was the recognition of this fact that led Mr. Gladstone to say that as civilization advanced the medical profession would gain more and more in influence. It is the perception of this fact, too, that causes rebellion against what is called medical tyranny and priestcraft in that type of mind so common at the present day, which revolts against anything like authority, even that of reason, and prefers its own small fads to the accumulation of stored and ever-gathering knowledge. Had the doctor "stuck to his last" there would have been no such thing as public health. Every movement for the prevention of disease, every effort for the physical well-being of the population, has come from the profession. In the application of medical knowledge lies the solution of many social problems. The real obstacles to progress have been the apathy of the people on the one hand and the blindness of the rulers on the other. Both people and rulers have had to be educated by the profession, and it has succeeded better with the public than with the politicians. This is fortunate, for politicians will do nothing that cannot show results expressible in terms of the ballot box. It were to be wished that the profession was much more largely represented in the Legislature. In the clamour of the numerous interests—land, beer, spirits, sects, and so forth—which have their spokesmen in that assembly, the voice of medicine is but faintly heard. The small number of our representatives is, of course, partly due to the fact that doctors, unlike lawyers, do not find it professionally profitable to have a seat in the House of Commons. Very few of them can afford the time, and the sad fate of the late Member for Bermondsey is not likely to encourage men to try to combine practice with parliamentary life. It is to be hoped, however, that there is sufficient public spirit in the profession to induce a considerable number of medical candidates to come forward.

COMPULSORY OPERATIONS.

ELSEWHERE this week (p. 1443) a note is published on a case in which the English Court of Appeal dealt in detail with a point on which hitherto there have been great differences of opinion. The earliest occasion on which a court of appeal considered the right of a workman to continue to draw compensation rather than undergo an operation deemed likely to lessen his inefficiency, if not to remove it completely, was as long ago as 1903.[1] On that occasion it was held that no workman could be compelled to undergo an operation. Reference was made to this case when (in Warnecken v. R. Moreland) the same question came before the Court of Appeal for the second time (November, 1908). The court then expressed regret that the reasons for the decision in the earlier case had not been more amply stated, and finally held that the workman concerned ought to have submitted to the operation proposed. His existing incapacity arose not from the original injury, but from his unreasonable refusal to undergo an operation involving only slight risk. Meantime the Scottish Court of Appeal had had occasion to consider much the same point, and the judgement was recorded in these columns shortly after its deliverance.[2] This was a case in which three of five medical men who had examined the appellant recommended the removal of a second finger, which, being crooked as the result of an injury, interfered with his capacity for work. The court held that refusal to undergo the operation recommended precluded him from any further right to compensation; because, like any other prudent and reasonable person who wished to be restored to health, he was bound to submit to an operation not attended with material risk. Finally comes this latest decision, in which the Court of Appeal ruled in favour of the workman, and at the same time laid down the principle on which these cases as a whole should be decided. The test to be applied, it would appear, is not whether the balance of medical opinion is in favour of the view that the proposed operation is one of a reasonably safe kind, but whether it is one which any ordinary person might reasonably decline to undergo. In this particular case the injured workman was advised by his own medical man not to undergo an operation, and once he had received this advice he did not act unreasonably in abiding by it, whatever views might subsequently be expressed by other medical men. In such a case no amount of evidence as to the slightness of the risk involved could have any effect so far as the law courts were concerned. This judgement is of a readily comprehensible character, and supplies medical men with a good working principle for dealing with cases on which their advice is sought with increasing frequency every year. The only drawback is that the decision increases the responsibility of the medical man in direct charge of a person entitled to compensation for injury, as the outcome of the case would appear to depend upon the view he expresses. It is clear that when advising against an operation the medical aspects only of the question must be considered. There are, of course, plenty of cases in which the patient himself might prefer lameness *plus* the certainty of £1 a week, to ability to walk easily *plus* the certainty of having to work and the uncertainty of finding a job.

[1] Rothwell v. Davies, 1903, *Times Law Reports*, vol. xiii. p. 423.
[2] BRITISH MEDICAL JOURNAL, 1908, vol. i. p. 359.

LUNACY ADMINISTRATION IN AUSTRALIA.

THOSE who are interested in comparative lunacy administration will be grateful to Dr. Eric Sinclair, Inspector-General of the Insane, New South Wales, for the admirable account of Australian lunacy administration[1] which he gave last year, as President of the Section of Neurology and Psychiatry, at the Australian Medical Congress. While the broad principles of Australian lunacy administration and the statutes which govern it are very similar to those in England, they present several distinctive features of considerable interest. Some of these, like the numerous admissions through police courts, are unavoidable evils—the natural outcome of sparse populations and the impossibility of indefinitely multiplying reception houses; others, like the provision of these last-named institutions, are of great value. To obviate the undesirable admission through police courts—a procedure which involves a certain publicity and conveys the impression that insanity is a legal offence—Dr. Sinclair considers that the easiest way would be for the country hospitals to open their doors to insane patients. In Victoria something has been done in this direction, and in Western Australia arrangements are being made to attach mental to general hospitals; but in New South Wales the hospitals have steadfastly refused to admit insane patients, even whilst awaiting certification. Concerning this Dr. Sinclair says: "It is surely an anomalous "state of affairs that, while those in charge of "mental hospitals and interested in improving the "condition of the insane should be straining every

[1] Sydney: William Applegate Gullick, Government Printer. 1909.

"endeavour to remove the feeling in the community "against insane patients, so that they may be looked "on as suffering from an illness which only differs "from that of other sick in the organ which is "attacked, those responsible for general hospitals "should stand aloof, and by refusing to assist in the "endeavour should perpetuate the mediaeval idea of "the mentally afflicted being a class apart from their "fellows." Reception houses are provided for in the statutes of all the States except South Australia and Tasmania. The primary objects of these houses are to receive and treat cases not yet certified; to decide as to the nature of transient or doubtful disorders, including alcoholism; and to assist in the classification of patients in transit to the hospitals. As is pointed out in another part of this issue, in New South Wales alone, during 1908, no less than 390 patients were discharged from the two reception houses of the State without going to a hospital for the insane. Other interesting facts mentioned concern the boarding out of harmless patients in private dwellings; the very large employment of leave of absence (1,024 patients in 1908 out of a total number of patients of 14,453); the absence of any clause restricting the use of mechanical restraint, except in the case of Victoria; and certain points with regard to the criminal insane. Under this last head Dr. Sinclair says that, "Should the patient still be insane "on the conclusion of his sentence, his name is "removed from the books of the criminal hos-"pital, and he is transferred to a free ward, "unless he is certified to be homicidal or dan-"gerous, when on a special warrant from the "Minister he may be detained in the Criminal "division." This refers to the ordinary insane criminal, not to the "Governor's pleasure" cases, and outlines a procedure which might be copied with advantage at home. With regard to the treatment of cases of incipient insanity, Dr. Sinclair points out that the reception houses, though they have done admirable work in the past, cannot properly cope with these cases. Other steps, therefore, are being taken. In Victoria a mental hospital for curable cases has been opened, and in New South Wales a special and entirely separate mental hospital for early and curable cases is being added to each of the hospitals for the insane. Only certified cases are admitted, but in Sydney a ward has been erected for uncertified male cases, the medical staff consisting of the honorary visiting physicians, and the conditions resembling those of a general hospital. In Western Australia a mental ward is in existence in connexion with the general hospital at Perth, being supported jointly by the hospital and the Lunacy Department. The patients are visited by the resident and honorary staffs of the hospital, and the maintenance of those proved to be insane is defrayed by the State. Lastly, it should be mentioned that the hospitals for the insane in Australia are State institutions, supported wholly from the public revenues. In only two States, Victoria and New South Wales, are there licensed houses or private institutions, and in these the patients number only 172, or 1.7 per cent. of the whole number of patients in these States.

LICE AND LIBERTY.

A SHORT time ago indignant parents rose in revolt against the tyranny of the education authority at Willesden, which put in operation the clause of the Children's Act relating to personal cleanliness. A medical inspection of the Lower Place Council School had shown that the hair of 60 per cent. of the girls required treatment, and Dr. Butler, the medical officer of health and school medical officer, issued a circular recommending the parents to have their daughters' hair cut short. This notice was generally ignored, and thereupon Dr. Butler issued forms to be sent to parents of children whose heads were found to be verminous warning them that, unless steps were forthwith taken to cleanse them, he would have the children removed to a suitable place, where their heads would be "dressed." The attempt to give effect to this warning caused a number of angry mothers to besiege the van in which the children were to be taken to the place of purification, and their attitude towards the nurse in charge of the children became so threatening that she left them and made her escape. Afterwards, in order to avoid similar disturbances, the girls were dealt with one by one. The Willesden matrons evidently thought that "louses," as Sir Hugh Evans called them, become a young head well, and that the parasite is a familiar beast to man. Perhaps the symbolic meaning which he gives the pediculus when he describes it as signifying love may have had something to do with their unwillingness to sanction a sacrifice that might have imperilled their daughters' chances of marriage. The advocates of personal rights, who take their stand on the great principle of the liberty of the subject, would doubtless say that any one is free to turn his head into a preserve of pediculi. This seems to be the view taken by "progressive" persons in France. The time was when lice were regarded, if not exactly as emblems of sanctity, at any rate as having an intimate association with certain forms of religious fervour. Now in that enlightened country the louse seems to be looked upon as a symbol of liberty. We learn from a recent number of the *Province Médicale* that a teacher, noticing that the head of one of her pupils was swarming with vermin, put her apart from her school-fellows, and sent a message to the child's father suggesting that her head should be cleaned before she was sent back to school. The reply was a writ for defamation, with a claim for damages. An inquiry was ordered by the judge, and the teacher's observations were amply confirmed. In due course the question came before the court, and in a long deliverance the judge solemnly pronounced that the teacher had not overstepped the limits of her duty. We congratulate the lady on her acquittal from the grave charge brought against her; we take the fact as a proof that there is no taint of "clericalism" about her. The judgement, however, will probably not be to the taste of those fanatics of freedom who claim it as their birthright to be as dirty as they please, both in their persons and in their habits. But we are glad that the louse, though according to the authority already quoted it "becomes an old coat well," has not yet taken the place of the historic *fleur de lys* in the arms of modern France.

NEW UNIVERSITIES AND OLD.

WHAT proportion members of the Medical Faculty of the University of Glasgow bear to the whole of its graduates we do not know for certain, but in any case it must be large, so it was not surprising to find that medical men considerably outnumbered all other diners at the annual dinner of the London Glasgow University Club at the Gaiety Restaurant last week. For the same reason medicine may take to itself no small share of the praise bestowed by Lord Rosebery, Chancellor of the University and Chairman at the dinner, on the general work which the graduates of this university perform. There was no place, he said, throughout the Indian Empire or throughout the Outer Britains which form the remainder of the British dominions where a graduate of Glasgow would not be found as a centre of learning and civilization

in the district in which he lived. Glasgow, as a pre-Reformation University, could claim both the halo of antiquity and the advantages of newer universities. It owed its special position to the fact that the city and itself had been united from the beginning. The university had always formed part of the city and the city had always sympathized with and supported the university. Something, too, was due to the character of Glasgow itself, a commercial city which had vast interests all over the world. It had taken the university to its heart and promoted its interests because it knew that the interests of the city were its own. It had built up and extended the schools because it had felt that they were an advantage practically and commercially to the city. Lord Rosebery went on to express the hope that the six new universities which in his own time had come into existence in England were the outward and visible sign of a grace that would demonstrate itself by a beneficial influence on the national destinies. He did not believe greatly in the development of the universities of Oxford and Cambridge on modern lines. Possessors of a venerable tradition, they must remain immemorial shrines of that exquisite learning which they had provided for many centuries past. They still had a task before them in the advancement of studies, such as they had always carried on, and which must always appeal to a large, leisured, and learned section of the nation, but he was doubtful if the grafting on of newer technical schools was likely to prove of advantage in any respect. They could not compete with newer universities founded with the object of promoting those practical and technical branches of knowledge for which the increasing demands of the age had called. As for the university of the great disjointed wilderness which was called the capital, it had a great present and a great future, perhaps, as a place of study for students from scattered portions of the Empire who would naturally come to the metropolis, but it could never be so identified with London as was the University of Glasgow with the city of Glasgow. These remarks are interesting, but not every one will agree with them. There are several cities in which the university is regarded as an essential and inseparable part of the public life, and none of the ancient universities has ever confined itself to "culture" pure and simple. They have, for instance, all taught medicine, which is a highly practical subject. Unless, therefore, the newer universities are to become mere technological institutes, there does not seem to be any reason why the old and new universities should be essentially different in their aims and objects. As for the University of London, whatever may be said of its past, its future depends greatly on the extent to which citizens of London recognize its existence, and this they will never do until the university endeavours to fit itself for the needs of the metropolis before catering for those of the world at large.

AUTAN DISINFECTION.

A NUMBER of publications treating on disinfection by means of autan have recently appeared. Many of them claim for autan a satisfactory action and accept the explanation of chemico-physical changes given by the introducers, the general impression left by a perusal of the bacteriological tests employed being that autan is a practical formaldehyde disinfectant. F. Auerbach and W. Pluddelmann[1] have recently examined minutely the chemical and physical process, and have sought to determine the amount of formaldehyde liberated in a room of given cubic space. By careful experiment they found that the action is not a simple liberation of formaldehyde vapour and water. The amount of heat liberated when autan, which is a mixture of formaldehyde and barium peroxide, is mixed with the prescribed amount of water was determined, heat being necessary to split up the peroxide to hydrate and to volatilize the formaldehyde. The heat produced by the spontaneous dissociation of barium peroxide was found to be insufficient. On calculating the heat required to volatilize paraformaldehyde, to evaporate the necessary amount of water, and to warm the mixture up to about 100° C., it was found that something like 150 calories would be required, for 1 Mol. The amount of heat liberated, however, was only 15.4 calories per Mol. Next the authors dealt with the oxidation of the paraformaldehyde; it proved to be considerable, the oxidation product being formic acid. Allowing for this oxidation, they found that 3 Mols of formaldehyde would be required in autan to evaporate 1 Mol of aldehyde and the corresponding amount of water. Further, it was necessary to ascertain how much of the paraformaldehyde went directly into solution. A third loss of formaldehyde in the process proved to be due to evaporation. The result of the experiments was to indicate that the reaction is chiefly an oxidation of formaldehyde to formic acid with liberation of hydrogen. On examining the residue after carrying out the directions for disinfecting, it was found that about 10 per cent. of formaldehyde as such was left behind in solution, and from 60 to 73 per cent. was in the form of formates. From this it appears that only about 2½ grams for 1 cubic metre space is volatilized or even less when the reaction takes place slowly, and that some of this formaldehyde may be in a polymeric inactive state. These experiments would favour the opinion that disinfection with autan will be insufficient unless the quantity used for a given cubic space is twice that advised. The authors raise the question whether the advantages of autan disinfection are great enough as compared with the ordinary formaldehyde disinfection to justify the high price.

[1] *Arbeit. a. d. kaiserl. Gesundheitsamt*, vol. xxx, No. 1, 1909.

A BEDROOM DISEASE.

MR. JOHN BURNS, M.P., President of the Local Government Board, has printed in a pamphlet the text of the address which he delivered in opening the Tuberculosis Exhibition at the Whitechapel Art Gallery last June. An abstract of the address was published in the JOURNAL at the time (June 5th, p. 1381), but we may recall his summing up: "Consumption is a house "disease, almost it is a bedroom disease, and prevent-"able. It is hereditary only—and this is the glad "tidings the doctor conveys to us—so far as predis-"position is concerned. Spitting is the chief cause; "dust is a carrier of infection; milk a source of con-"tagion mainly amongst children; want of light, air, "and sunshine; foul air in bedrooms, courts, alleys, "and living rooms. The best, simplest, cheapest "remedy is to open your windows day and night." We may also quote some of the words which Mr. Burns used in replying to a vote of thanks: "I am drawn forward in work of this kind by the "lure of London, its pathos, its poverty, its misery, "its self-sacrifice, its devotion, and its nobility." A good many other people have felt the same call as Mr. Burns, although they have not the same energy, eloquence, and opportunity as he. They have in recent times responded, each in his or her own way, not only in larger numbers, but with more intelligent understanding of the faults, the virtues, and the difficulties of the poor. Sympathy is the first requisite, but it is almost useless without knowledge. The

exhibition which Mr. Burns was opening has since been at the Shepherd's Bush Exhibition: it is in Oxford this week, and it is, afterwards, we believe, to be taken to Cambridge.

We regret to record the death, at the age of 59, of Mr. H. H. Clutton, Senior Surgeon to St. Thomas's Hospital, which occurred on November 9th, after a long illness.

Medical Notes in Parliament.

[From Our Lobby Correspondent.]

Navy (Medical Service).—Dr. Rutherford asked whether the committee which was appointed to inquire into certain circumstances affecting the medical service in the navy had reported yet; and, if so, whether the report would be laid upon the table of the House. Mr. McKenna said that the report of the committee, which was receiving earnest consideration, was a long one, and as it included recommendations dealing with numbers and organizations for war, it was not practicable yet to say whether it could be made public in whole or in part.

Medical Examinations at Post Office.—Mr. Wiles asked the Postmaster-General if he would consider the advisability of recommending that in future all applicants for the position of assistant postman or other temporary position should be medically examined on appointment, so that the difficulty might be avoided, for those who were found medically unfit for established service after serving twelve months or more in unestablished positions, of finding work with other employers owing to their medical disqualification by the Post Office. Mr. Sydney Buxton replied that the question had already been considered, and he had arranged that persons selected for employment as assistant postmen should be medically examined at the time of selection. There did not appear to be any necessity to require all applicants for temporary employment to undergo a medical examination.

Public Health Acts Amendment Act.—Mr. J. W. Wilson asked the President of the Local Government Board whether he would state the number of applications received from rural, urban district, and borough councils, respectively, for the adoption, in whole or part, of the Public Health Acts Amendment Act, 1907; and to what number of these the necessary authority had been already given by the Local Government Board. Mr. Burns said that the following statement gave the information asked for:

	No. of Applications received by Local Government Board.	No. of Orders issued.
Boroughs	130 ...	103
Urban districts (other than boroughs) ...	278 ...	252
Rural districts	55 ...	45
	463	400

Hospital Antitoxin Treatment (Diphtheria).—Mr. Lupton asked the President of the Local Government Board if he was aware that during the thirteen years 1895–1907, at the hospitals of the Metropolitan Asylums Board, there were 63,249 cases of diphtheria treated with antitoxin; that 8,917 of these cases died, being a case fatality of 14 per cent; that in the same hospitals, in the same period, there were 11,716 cases of diphtheria which were not treated with antitoxin; that 703 of these cases died, being a case fatality of 6 per cent.; and that out of these 703 deaths 55 were considered hopeless on admission to hospital; and if he would recommend legislation to stop the use of antitoxin in public hospitals. Mr. Burns replied that he was aware of the figures, which appeared to be derived from the annual report of the managers for 1907. No comparison, however, could properly be drawn between the death-rate of patients treated with antitoxin and that of patients not so treated. The latter class consisted largely of persons suffering from a mild form of diphtheria, who were not ill enough to require the special treatment, and, indeed, the few deaths that occurred in this class were almost entirely those of patients who were too ill or who came into hospital at too late a stage in their illness to derive any benefit from the injection of antitoxin. He could not undertake to adopt the suggestion in the last part of the question. Mr. Lupton then suggested that the good effects of antitoxin were seen in cases in which it was given on the first day of the illness.

Vaccination (Workhouse Infirmaries).—Mr. Pointer asked the President of the Local Government Board whether, seeing the prevalence of the practice of vaccinating children under 14 days in various unions, he would take steps to prevent the provisions of Section 1, Subsection (5) of the Vaccination Act, 1898, from becoming a dead letter, by issuing an Order to prohibit the vaccination of infants in workhouse infirmaries without the previous written permission of the parent. Mr. Burns said he was not aware that the practice prevailed in various unions of compelling the parent of a child born in the workhouse to have the child vaccinated within fourteen days of the birth. It was against compulsion of this kind that the subsection was directed. He did not think it was necessary to issue any Order on the subject, but if any case was brought to his notice in which any such compulsion was alleged to have been exercised, he would investigate the matter.

Vaccination (Paddington Workhouse).—Mr. Lupton asked the President of the Local Government Board if he was aware that, at the Paddington Union Workhouse lying-in ward, babies were habitually vaccinated at ages of 4 days, 5 days, 7 days, and 10 days, and that vaccination at these early ages was the rule; if this practice had his sanction; and, if not, would he give directions that this practice should be discontinued, and no vaccination offered until the child was 6 months old. Mr. Burns understood that it was the practice to vaccinate infants in the workhouse of the parish of Paddington at the ages stated in the question, but that this was never done without the consent of the mother being first obtained. The view taken by the Local Government Board was that the vaccination of a child in a workhouse before the age of 2 months was to be deprecated, unless there was at the time obvious danger of small-pox contagion, or unless the parent specially requested the operation. He would communicate this view to the guardians in the present case.

Vaccine Farms.—Mr. Lupton asked how many vaccine farms there were in the United Kingdom of Great Britain and Ireland; if there was one or more in Scotland; and in what locality was each vaccine farm situated. Mr. Burns replied that so far as he was aware there were only two vaccine farms in England and Wales, one belonging to the Local Government Board at Hendon, and the other belonging to the Lister Institute at Elstree. He believed that there was one in Ireland belonging to the Irish Local Government Board, and that there was none in Scotland.

Foot-and-Mouth Disease (Vaccine Lymph).—Mr. Lupton asked the President of the Local Government Board if the late outbreak of foot-and-mouth disease in the United States of America was due to the use of vaccine lymph impregnated with the disease, which had been introduced from Japan and used on a vaccine farm for starting cultures of vaccine lymph; whether there

was any means known to science of testing a given sample of vaccine lymph and ascertaining with certainty that it was free from the infection of foot-and-mouth disease; if no such means was known to science, if he would introduce legislation for the purpose of prohibiting the importation of foreign lymph into the United Kingdom, and also the sale of lymphs manufactured in England, until a scientific and conclusive test had been discovered which would show that the product was free from the infection of foot-and-mouth disease; and, if such a scientific test had been discovered and was in use in the Government vaccine farm and in other vaccine farms in the United Kingdom, if he would describe that test. Mr. Herbert Lewis answered that he was aware that the outbreak of foot-and-mouth disease in the United States of America had been attributed to the cause suggested in the question. The matter was receiving consideration, and he was in communication with the Board of Agriculture and Fisheries in regard to it. He thought the recent outbreak in Edinburgh should be included in the inquiry.

Vaccination and Law in India.—Last week Mr. Lupton asked the Under Secretary of State for India if he had seen a letter from Mr. R. Hawthorne, Poona, describing the forcible arrest of a woman and child by an agent of police and their conveyance to a vaccination station, where the child was vaccinated contrary to the wish of the mother and despite Mr. Hawthorne's intervention; if such a proceeding was in accordance with the law of India at Poona; and, if not, whether he would bring the matter to the attention of the Governor-General of India. The Under Secretary replied that he had seen the letter referred to. The acts alleged to have taken place were not authorized by the law as to vaccination in force in Poona, and persons committing them would render themselves liable to conviction and penalty in the criminal courts. The Secretary of State had no official information on the subject, but he would ask the Bombay Government for a report.

Asiatic Seamen (Vital Statistics).—Mr. William Thorne asked the President of the Board of Trade whether he was aware that, during the twelve months ending June 30th, 1909, over 570 Asiatic seamen were reported to have lost their lives from suicide, heat stroke, consumption, heart failure, beri-beri, and other causes while serving on British ships, and, seeing that about 38,000 Asiatics were stated to be employed on British ships, which worked out at a death-rate of about 15 per 1,000; and whether, in view of this death-rate amongst Asiatic seamen, he would appoint a Select Committee to consider the whole question of the employment of Asiatics on British ships. Mr. Churchill said that the returns relating to deaths of seamen during the twelve months ended June, 1909, had not yet been completely analysed, and he was, therefore, unable to say whether the figures stated in the question were correct. It appeared, however, that the number of persons on oriental articles of agreement who died in the previous year was 427, of whom 45 lost their lives by suicide, supposed suicide, or disappearance; 6 by heat stroke and heat apoplexy, 48 by consumption, 45 by heart disease, 68 by beri-beri, and 216 by other causes. Compared with the number of persons employed on oriental articles of agreement, as shown by the ordinary Shipping Return for 1907, these figures showed a death-rate of 9.8 per 1,000. In addition to the deaths of persons on oriental articles, the deaths of 86 other Asiatics were reported, but he was unable at present to say how many of such persons were employed or what was the death-rate amongst them. The death-rate amongst foreigners, not including Lascars, in steamships (in which Asiatics were usually found) was 11.7 per 1,000, and in sailing ships, in which few Asiatics were employed, 27.5 per 1,000. The general death-rate amongst British and foreign seamen, excluding Lascars, was 19.2 per 1,000 in sailing ships, 8.3 per 1,000 in steamers, and 9.7 per 1,000 in all vessels. The subject of the employment of Asiatics was receiving careful attention, but there was nothing in recent statistics of deaths of seamen that would justify the appointment of a Select Committee of the House on the question.

The Death-rate among Indian Indentured Labourers.—On Tuesday Sir H. Cotton asked a question as to the death-rates in several colonies, and Colonel Seely replied that there were no indentured labourers in Ceylon. As to Mauritius, where the death-rate on estates (presumably including indentured immigrants) was said to be 37.6 per 1,000, and the Straits Settlements special inquiry would be made. The rate of mortality of indentured labourers in the other colonies mentioned appeared to be as follows:

British Guiana	...	...	...	19.5 per 1,000
Jamaica	...	...	...	16.4 ,,
Fiji	...	...	...	20.3 ,,
Natal	...	...	...	16.82 ,,

The question of the death-rate amongst the indentured population in each colony formed an essential element in the deliberations of the Committee which was at present inquiring into coolie immigration, and it was receiving the careful attention of the Committee in each case.

New Hebrides (Native Mortality).—In reply to Sir Charles Dilke, the Under Secretary for the Colonies said that the question of the decrease of the native population throughout the Pacific was one of long standing and of extreme complexity. The Government had no special official reports with regard to the New Hebrides; owing to the uncivilized condition of the group it had been impossible to obtain even approximately accurate figures of the population. It was hoped that with the gradual extension of settled government under the Convention of 1906, and particularly with the prohibition of the sale of arms and liquor to natives, the decrease of numbers might be checked.

Death-rate in the Malay States.—Last week the Under Secretary of State for the Colonies informed Mr. Rees that the death-rate in the Federated Malay States in 1908 was approximately 38 per 1,000. No separate statistics were available as regards the death-rate amongst labourers on rubber plantations. Asked as to the death-rate of 84 per 1,000 previously given, Colonel Seely said the death-rate given in reply to a previous question was for Indian indentured labourers. This was the general death-rate. They had not the figures for all labourers, but would try to obtain them if desired.

Typhoid Fever (Lewis.)—Mr. Weir asked last week, in view of the outbreak of typhoid fever in the townships of Borve and Lower Shader, island of Lewis, attributable to the insanitary condition of the townships, whether arrangements had yet been arrived at under which sites might be secured in suitable positions, especially bearing in mind that Dr. Dittmar, the Medical Inspector for the Local Government Board for Scotland, in his report published in April, 1905, had strongly condemned the condition of the Lewis townships. Mr. Ure said that in this case the outbreak was attributed as to a probable cause to contamination from surface wells. Steady progress was being made by the district sanitary authority, with such resources as they had at their disposal, in improving the water supply. The question of sites was a matter in the hands of the local authority.

Royal Army Medical Corps.—In reply to Mr. Ashley, Mr. Hobhouse stated that under normal conditions it was now possible to give every Royal Army Medical Corps officer serving in Ireland throughout the year full leave, provided that he was willing to take it when the exigencies of the service permitted.

England and Wales.

[From Our Special Correspondents.]

MANCHESTER AND DISTRICT.

The Treatment of Consumption.

At a meeting of the Chorlton Board of Guardians where the medical officers were present by special invitation, the treatment of cases of consumption was discussed. The Chairman said that the difficulty with which the guardians were faced was that nearly every case of consumption the district medical officers had to deal with was so advanced that no sanatorium would take it in. At the Withington Hospital there were about 150 cases, and of all the cases that passed through the hospital every year not more than 12 or 15 could be treated at a sanatorium with any chance of success. Even with the hopeful cases there was no power of detention, and no sooner did they feel a little better than most of them insisted on returning to their old surroundings. At present the board had 11 cases under sanatorium treatment, costing £1,100 a year, and 484 cases were admitted to the hospital last year. There were 194 deaths, 1 death out of every 5 at the hospital being from this cause. There were also 46 cases on out-relief, 175 members of their families having in consequence to receive relief. There was nothing like sufficient accommodation in existing sanatoriums, as there were ten persons waiting for every vacancy. The Manchester Corporation paid £2,000 a year to maintain 20 beds at Delamere, but this was only a drop in the bucket. Manchester had by far the highest male death-rate from phthisis of all the large towns, and in the Withington Hospital there were three men to one woman; as the men were generally the breadwinners, the loss to the community must be very great. One cause of the high male rate was the herding together in common lodging-houses. A serious aspect of the matter arose when the head of a family suffering from phthisis wanted out-relief so that he himself and his family could be maintained while he was treated at home. The guardians were bound to keep the family from starving, and had no power to remove the man to hospital without his consent.

Several of the medical officers spoke, and all agreed that by the time cases came to them they had generally reached a stage too late for sanatorium treatment. Some doubt was expressed whether it was any use for the guardians to build a sanatorium. Early cases suitable for sanatorium treatment persisted in keeping at their work, and, not being destitute, could not be reached by the guardians. Only when they could work no longer did they become destitute and eligible for treatment by the guardians, and then it was too late for sanatorium treatment. In the end the board resolved to join with the Manchester Township Board of Guardians to approach the Health Department of the Manchester Corporation and request it to provide sanatorium accommodation for consumptives.

In the case of working men with families dependent on them, it will make little difference which authority provides the sanatorium. If such a man in the earliest stage of phthisis goes into a sanatorium, whether provided by the corporation or by the guardians, his family will almost at once become destitute and the guardians will become chargeable for both him and his family, and there will be the same reluctance to enter in either case. But in the case of single men with no dependents, the absence of the stigma of pauperism would perhaps induce them in early stages more readily to enter a corporation sanatorium than one provided by the guardians.

The Manchester University Union.

Captain R. A. Needham, B.Sc., M.B., M.R.C.S., L.R.C.P., of the Indian Medical Service, who is now at home on leave from India, has been elected chairman of the Manchester University Men's Union for the present session. Captain Needham, before going to India, served as house-physician at the Manchester Infirmary, and for some time as demonstrator of anatomy at the Manchester Medical School. Mr. C. T. Needham, brother of Captain Needham, has been chosen as one of the parliamentary candidates for the South-West constituency of Manchester. Mr. Needham is a graduate in arts of Manchester, and has always taken a most active interest in the University Union, and is now a member of the Court of Governors of the University. If elected as a member of Parliament, there is no doubt that Mr. Needham will be a most valuable supporter in the House of Commons of all the interests of the university. He has taken much interest in medical education, and is understood to be paying special attention at present to the report of the Poor Law Commission, especially as it affects the question of a public health service. As a member of Parliament Mr. Needham would be one of the few members who could be depended on to give an intelligent attention to questions affecting the medical profession, and his past work at the university gives him a claim to the support of medical men.

Poisoning by Sulphonal.

An inquiry was held last week by the Manchester City Coroner into the death of a well-known master spinner of Oldham. It appears that he had been suffering from rheumatism and neuritis, and had been sleeping badly. He had been accustomed to take large quanties of whisky, and it was alleged that a male nurse had advised him to take sleeping draughts, and that a medical man had on several occasions given him such draughts. A chemist's assistant at an Oldham shop said that he had served him with two bottles of sulphonal tablets, one containing about 125 grains and the other about 500 grains. Deceased then went to a lodging-house in Manchester and engaged a room, saying that he had just come from Holland and was in need of sleep. After taking a considerable amount of whisky he took a handful of tablets of sulphonal. The landlady saw him take a second handful, and, thinking it dangerous, sent out to inquire of a chemist, who replied that it would mean death to take so many. She then sent for a doctor, who ordered him to the infirmary. On arrival he was unconscious, and died early the next morning without regaining consciousness. Dr. Tylecote, who had made a *post-mortem* examination, said that the stomach contained a considerable number of undissolved tablets of sulphonal, and the symptoms were consistent with poisoning by sulphonal. There was a case on record of a person having recovered after taking 3 oz. of sulphonal, but anything over about 60 grains would probably be fatal to most persons. The verdict was suicide, no reference being made to the state of deceased's mind.

This case, following so soon after a death from veronal in London recorded last week, shows the absolute necessity of more stringent regulations about the sale of tablets which offer such a ready method of self-drugging. For a male nurse to recommend a patient to take any sleeping draughts of any kind is to assume a responsibility which not even a medical man ought to undertake unless the patient can be kept under close supervision.

Manchester Surgical Aid Society.

The annual meeting of the Manchester Surgical Aid Society was held last week in the Lord Mayor's Parlour. The object of the society is to supply, either free or at reduced cost, trusses and other surgical appliances to those who need them but are unable to afford the expense. During the year 438 cases were dealt with, as compared with 336 in the previous year. In spite of special efforts, the year ended with an adverse balance of £101, towards which the treasurer announced at the meeting he had just received a donation of £50. He said there was need for a large increase in the number of annual subscriptions. Every case is carefully investigated, and many patients bring recommendations from their own medical attendant. The patients are always encouraged to pay something towards the cost of the instruments

they receive. Dr. Howson Ray said the cost of the appliances was often prohibitive to poor people and but for the society many would have to continue to suffer helplessly. He drew attention to the large number of advertisements in the daily newspapers of so-called surgical appliances. These advertisements were read with avidity by uneducated persons, some of whom collected among their friends what to them were large sums in order to buy worthless things. He thought the society was able to some extent to protect poor people against being imposed on by quacks.

LIVERPOOL.

THE SCHOOL OF TROPICAL MEDICINE.

DR. J. W. W. STEVENS, Walter Myers Lecturer in the Liverpool School of Tropical Medicine, sailed on November 3rd from the Mersey for Alexandria to undertake an important mission in Egypt on behalf of the school. He will have the co-operation and assistance of Professor Looss, Professor of Parasitology in the School of Medicine, Cairo. Dr. Stevens will make a special study of helminthology, and will institute investigations in connexion with various threadworms which are responsible for many tropical diseases. Furthermore, he will inquire into certain problems regarding disease in Egypt, and collect material for teaching purposes at the school. This is the twenty-third expedition sent out by the Liverpool School of Tropical Medicine. Among the contributors to the fund that is being raised to meet the expenses of the expedition is Lord Milner.

WEST YORKSHIRE.

SIR TITUS SALT'S HOSPITAL, SALTAIRE.

THIS hospital was reopened on November 2nd, after considerable extensions. The building now consists of three stories. The ground floor contains a waiting room and a dispensary for out-patients, a board room, and 2 sitting rooms. On the first floor is the Lee Ward with 5 beds, 2 small wards with 2 beds, 2 other small wards with 2 beds and 1 cot in each, and 1 single-bedded ward. On the second floor there is an excellent operating theatre, an anaesthetic room, a sterilizing room, a small ward with 2 beds to accommodate patients after operation, and a small room to be fitted up with *x*-ray apparatus. There are now in all 16 beds and 2 cots in place of the 9 beds and 1 cot in the old building. The whole building has been fitted with electric light, and plugs for heating by electric radiators have been put into every room. The corridors and the operating theatre are heated by hot-water radiators. The hospital is now thoroughly equipped on modern lines for the treatment of accidents and disease. The financial statement made at the opening ceremony showed that the expenditure on the building and electric lighting had amounted to £3,030; the furnishing would cost £200; the medical staff asked for surgical and other appliances costing £201, and an *x* ray outfit costing £225, making a total of £3,656.

WORKMEN'S COMPENSATION AND ANTHRAX INFECTION.

An interesting case arising under the Workmen's Compensation Act has recently been decided in the Bradford County Court. A woman who had worked for eighteen months prior to December 24th, 1908, as a box minder at the mill of the Charlestown Combing Company, near Bradford, entered the employment of the Airedale Mills Combing Company on January 6th, 1909. She remained with them until January 27th, and on February 8th went back to the Charlestown Company. On February 12th she had to remain in bed, and on February 15th was informed that she was suffering from anthrax. She was not feeling well when she started at the Charlestown Company's place on February 8th, and a pimple had appeared on her chin the day previous. At the Charlestown Company's works she had not handled any foreign wool, but she had handled such wool when in the employment of the Airedale Company. At the latter company's works it was also part of her duty to clean up the dust from the combs. The medical evidence showed that she had under the right lower jaw a black, dirty-looking slough, which was pronounced by Dr. Eurich to be anthrax. The woman had recovered, but she was still suffering from nervous prostration. Dr. Eurich in his evidence stated that the applicant told him that she first noticed the pimple on February 7th, and that statement was quite in accord with the appearance of the pustule when he saw it on February 15th. It was quite impossible that anthrax could have been contracted between February 8th and 11th, when the applicant was working for the Charlestown Company, because, assuming the germ to have entered her skin on February 8th, it would take from twenty-four to forty-eight hours for any external signs to develop, and from the first symptom of anthrax to the condition of the pustule as he saw it at least five days must have elapsed, and probably more. The judge held that the Charlestown Company could not be held responsible. The Act stated that where the disease was due to the nature of any employment carried on by the applicant within twelve months, whether under one or more employers, he should be entitled to compensation as if the disease was a personal injury by accident arising out of and in the course of that employment. The disease should be deemed to be due to the nature of the employment unless the employer showed to the contrary. In this case the employer called no evidence and did not prove the contrary. The consequence was that the Airedale Company must be held liable to pay compensation.

BIRMINGHAM.

HOSPITAL SUNDAY.

ON Sunday, October 31st, collections were made in Birmingham at nearly all the churches and chapels in the city and neighbourhood in aid of the local medical charities. The returns made on the first day were from 64 places of worship, giving a total of £2,976, as compared with £2,922 from 66 places last year. Over £200 were collected at 2 churches, over £150 at 3, and over £100 at 8 others. The total amount of these 13 highest collections was £1,949, a decrease of £139. The total amount received at the end of the week was £3,858.

HEALTH LECTURES.

The usual series of health lectures are being given this winter under the auspices of the Birmingham Athletic Institute. The lectures are delivered in four different parts of the city each week, and are well attended. The lecturers this winter are: Dr. John A. Berlyn, Dr. Fraser Harris, Dr. Alexander Bryce, who speak about general rules of health; Dr. W. T. Elliott, who lectures on the teeth; Dr. Douglas Heath, on the skin; and Dr. Jameson Evans, on the eye.

THE ADULTERATION OF FOOD.

The report of Mr. J. F. Liverseege, Public Analyst of Birmingham, for the third quarter of 1909 states that 639 samples were submitted for analysis, of which 483 were sent by the Health Department under the Sale of Food and Drugs Act. Ten of the 194 samples of milk analysed contained less than 11.5 per cent. of total solids, or were below the limit for genuineness fixed by the Board of Agriculture. The proportion of adulteration was 5.2 per cent., which was unusually low. Formic aldehyde was not present in any of the samples of milk examined, and only one sample contained boric acid. Only 0.5 per cent. of the samples of milk contained preservatives. None of the 201 samples of butter contained more than 0.5 per cent. of boric acid, but 13 samples were adulterated with foreign fat. Twelve samples of rice were examined; four were practically free from insoluble mineral matter, containing only from 0.17 to 0.24 per cent., but five contained from 0.65 to 0.88 per cent. This great difference in the percentage of mineral matter is due to the practice which has arisen in recent years of "facing" rice. Some millers coat the grains of rice

with French chalk, which gives them a high polish, and the more facing material added to the grains the higher is the amount of insoluble mineral matter. An outside limit of not more than 0.5 per cent. of mineral matter would, Mr. Liverseege considers, amply meet the requirements of traders who represent this practice as necessary; using this limit, the five samples of rice containing from 0.65 to 0.88 per cent. of insoluble mineral matter were classified as adulterated. The attention of the grocery trade has been called to the matter.

Health of Birmingham.

The report of the medical officer of health for the third quarter of the present year shows that there were 3,724 births registered, or 26.5 per 1,000, and 1,719 deaths, or 12.2 per 1,000. The low mortality rate is due mainly to the smaller number of deaths from infantile summer diarrhœa, and certain other of the infectious diseases. The rate of infant mortality was 145 per 1,000 births, as compared with 184 in the third quarter in 1908, and 124 in 1907. The number of deaths from the seven principal zymotic diseases was 252, or 1.79 per 1,000, which compares favourably with the previous year, when the rate during the third quarter was 2.93 per 1,000. Deaths from phthisis numbered 143, and other forms of tuberculosis 35, making a total of 178. The number of new cases of tuberculosis of the lungs notified under the tuberculosis order during the third quarter was 150, while 224 other cases were voluntarily notified, making a total of 374.

LONDON.

Notification of Births Act.

Last year the London County Council asked the Local Government Board to consider the desirability of making an order under Section 3, requiring those authorities which had not adopted the Act to do so. The section empowers the Local Government Board by order to declare that the Act shall be in force in the area of any local authority having power to adopt the Act, although it has not been so adopted, if the Board thinks it expedient, having regard to the circumstances of the area. Last March the Public Health Committee reported that the Local Government Board had not taken action as requested, and that there were then eleven metropolitan boroughs in which the Act had not been adopted. A motion was made to refer the report back; but after the Chairman of the Committee had stated that the very districts in which the Act had not been put into force were those with the highest death-rate, the motion was rejected by a large majority. Notice has now been given that the Local Government Board has made an order bringing the Act into operation in the metropolis on November 30th next.

Officers' Training Corps.

At the first annual training of the University of London Contingent of the Officers' Training Corps 540 cadets out of a total enrolment of 596, and 23 out of 25 officers, attended camp for the minimum period of eight days. The work of the medical unit included three days with ambulance wagons and horses, and field operations with an infantry battalion. The report on the contingent made by Major-General Stopford to the War Office stated that it had made good progress in drill; that the cadets showed themselves to have benefited by the instruction given, and gave promise for the future; discipline had been excellent, turnout smart, clothing, arms, and equipment in good order, and all ranks had displayed great keenness, and made the most of their opportunities while in camp.

What Becomes of London Children.

An interesting report dealing with the question of boy and girl labour was submitted by the Education Committee at the meeting of the London County Council on November 9th. The committee pointed out that legislation on the lines of the report of the Poor Law Commission was possible in the immediate future, and any recommendations by the Council as to the best method of dealing with unemployment due to inadequate training of the young would receive attention. In order to discover what becomes of the boys and girls leaving school at 14 years of age, the committee, during the years 1906 and 1907, had returns compiled containing such particulars as could be obtained of the occupations selected by the children in several hundred London schools. For various reasons the returns obtained in 1907 were the more trustworthy, and the figures were remarkable. Of the boys leaving school, 28.5 per cent. went into skilled employment, 67.9 per cent. joined the ranks of unskilled labour, and only 3.6 per cent. continued their education at secondary schools, but this did not take account of boys who left before the age of 14 to go to secondary schools. In the case of girls the percentages were better—52.7 being returned as skilled workers and 38.7 being returned as unskilled, whilst, curiously enough, more girls than boys—namely, 8.6—passed on to secondary schools. The difficulty of deciding what was skilled labour in the case of women had some effect upon these figures. For instance, girls who took up domestic service were classified as skilled or unskilled according as they obtained good positions or were merely employed as "day girls." The committee deplored the unsatisfactory state of affairs made manifest by the investigation, and suggested as one possible remedy the extension of the school-leaving age to 15, as it was found that in thousands of cases most changes of employment occurred during the first year after schooling was finished. So lax was parental responsibility in these days, that it was the usual practice amongst the poorer classes for the children, and not their parents, to select the form of occupation to be followed during life. Another proposal made by the committee was the establishment of part-time classes to be held during working hours, before the boys and girls were tired by labour; but, to be effective, such classes must be compulsory. In another part of the report, which was full of interest for the social student, the committee related what had been done up to the present in the attempt to revive the system of apprenticeship, and mentioned that although it had not been able to obtain much help from the trustees of charities having funds available for apprenticeship, it had been able to establish the closest and most cordial relations with the Apprenticeship and Skilled Employment Association, 36–37, Denison House, Vauxhall Bridge Road, S.W., which had been largely instrumental in forming local apprenticeship committees in sixteen districts of London. Unfortunately the enthusiasm of the Education Committee was somewhat damped by a report from the Finance Committee, which, after going into the question of cost, stated that with the charge on the rates in respect of education still rising, the present was not the time to put forward such drastic and far-reaching proposals.

At the request of the General Purposes Committee, which wished to consider the Committee's report, the Council adjourned for a fortnight the consideration of the matter. In reply to a question, Mr. Cyril Jackson denied that the interval would be spent in recasting the report, and said it would be submitted in its present form.

The Medical Treatment of School Children.

The report with reference to the medical treatment of London school children, published in the Journal last week, has not yet come as a whole before the London County Council, but on November 9th the Council approved the arrangements proposed in the case of Hampstead, where the local Council of Social Welfare has undertaken to make arrangements.

Tuberculous Cows.

The London County Council decided on November 9th that as the Milk and Dairies Bill introduced by the Government this session was not proceeded with, they will reintroduce next session the clauses contained in the General Powers Bill of 1909 to enable the

Council to take measures to exclude from London dirty or impure milk and to empower the metropolitan borough councils to prevent its sale in their districts. At the same meeting the Council decided to adopt one of the provisions of the Milk and Dairies Bill—that granting the power to prohibit sale of milk from cows suffering from tuberculosis with emaciation as well as from those having tuberculous disease of the udder. It was pointed out that in the third interim report the Royal Commission on Tuberculosis had stated that the presence of tubercle bacilli in the milk of cows clinically recognizable as tuberculous confirmed the earlier view that the milk of such cows must be considered dangerous to human beings. Another clause to be inserted in next year's General Powers Bill is one designed to simplify the method of inspection and sampling by enabling a qualified veterinary surgeon, armed with an authority from the medical officer of health, to inspect dairies and take samples—powers which are only exercisable at present by the medical officer if accompanied by a veterinary surgeon.

BRISTOL.

THE PUBLIC HEALTH IN 1908.

THE report of the medical officer of health, if it grows bigger, certainly each year becomes of greater interest. That for 1908, which has recently been published, contains, besides the usual vital statistics and tables, a special report on "carrier" typhoid by Dr. Davies and Professor Walker Hall.

It is impossible in a short notice to touch upon all the important and interesting matters mentioned, but a few of the facts of major importance may be commented on. Bristol has grown remarkably during the past twelve years, owing largely to Acts that have extended the boundaries and swept in great outlying districts, more or less thickly populated. The Act of 1904 added 13,000 persons and 5,347 acres, thus increasing the population to 354,000 persons on 17,000 acres, but there has been no additional help given to the medical officer, except on emergencies, and five part-time medical officers of health have been displaced.

Births numbered 8,753, giving a birth-rate of 23.0, the fall being continuous since 1882; deaths numbered 5,230, with a death-rate of 13.76 per 1,000—slightly higher than 1907. Of the deaths, infants under 1 year numbered 1,102, giving an infant mortality-rate of 125.8—lower than that of the seventy-six great towns (129), but high for Bristol. The zymotic disease mortality-rate was 1.2. Only 1 case of small-pox was notified; there were 486 cases of scarlet fever, with 10 deaths—the lowest number since 1894, when there was 1 case less. Dr. Davies calls attention to the fact that the prevalence of scarlet fever bears no relation to the sanitary condition of the district, and also to the difference in the mortality during the past forty years, showing that if there had been a similar loss in regard to the population as there was in the epidemic of 1863 the number of deaths in 1908 would have been 2,000, instead of only 10. The type of the disease appears to be of a milder character than it was forty years ago, and is due to the development of the public health work in removing the patients to the isolation hospitals. Of enteric fever there were 103 cases, with 10 deaths.

In the special report on "carrier" cases, Dr. Davies refers to his report of 1907 on the case of Mrs. H. at the Brentry Inebriate Homes. Since then it has been shown that she was cook at a girls' home at Brislington, and that 25 out of 36 girls contracted enteric in 1904. Mrs. H. has been under observation and had an apparent attack of autointoxication, being ill for about three weeks and *B. typhosus* being found in the faeces. The subsequent events at Brentry were as follows: All cases were isolated, but in July, 1908, another patient developed enteric fever, and it was proved that this woman was in the habit of finishing Mrs. H.'s lunch for her. In August two more cases occurred, both patients having been at the common table with Mrs. H. After August 8th, when Mrs. H. was removed, no further cases appeared. Another carrier case is reported from St. George's, in the case of the wife of a man who died of the disease in 1907. In June, 1908, four of her children developed the disease, there being no local circumstances to account for their taking it. The mother's blood gave Widal's reaction. A third case is reported from Devizes, from whom ten cases originated, and the carrier is under care at the Ham Green Hospital.

Of diphtheria and membranous croup, 924 cases were notified, ending fatally in 69 instances. A special outbreak in a school is reported on fully. Infantile diarrhoea accounted for 154 deaths, which gives a diarrhoea mortality-rate of 0.40. Bristol appears from the tables of the seventy-six big towns to be fairly well off. Measles caused 96 deaths; the fluctuations in the tables year by year are remarkable. Tuberculosis in the form of phthisis caused 397 deaths, a decreasing number on previous years. A large number of tables are given showing the occupations of the cases, the number of persons in the affected houses, etc.

In Part II of the report the general sanitary work of the city is reviewed, including the medical inspection of public elementary schools. There are 93 schools of this description in Bristol, and 60,457 children attending. So that from this it may be gathered that the five medical inspectors have plenty of work before them. A special report on farms, dairies, and cowsheds in the city follows. In the twenty-seven square miles of city 60 exist, but there is only one now remaining amongst the dwelling houses. From the report it appears that considerable improvements might be made, as two-thirds are reported on as unfit, but Dr. Davies assures his committee that the city compares well with others, and that many improvements have been carried out. Page 98 contains the ambulance service available in the city, and from it it will be seen that the two voluntary corps carried over 5,000 cases to the medical institutions. Whether this really represents the actual number of cases that need have been moved there is more than doubtful. When even a trivial accident occurs in the street the ambulance is telephoned for, and the injured person, sometimes even uninjured, is rushed off to a public institution. In former days many of these cases were taken to the nearest medical man, and not a little grumbling is heard now about the ubiquitousness of the ambulance carts.

The meteorological observations that always end the report are most interesting. It will be remembered that 1908 was remarkable for the heavy snowstorm in April and the fine summer. The rainfall was only 26.13 in., the annual average being 32.406.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

MEMORIAL TO THE LATE PROFESSOR D. J. CUNNINGHAM.

ON Wednesday, November 3rd, a meeting was held in the Medical School, Trinity College, Dublin, to take steps to establish a memorial to Professor Cunningham. The Provost occupied the chair. Among those who spoke were Dr. James Little, Regius Professor of Physic; Sir Charles Ball, Regius Professor of Surgery; the Dean of St. Patrick's, the Hon. Mr. Justice Boyd, Dr. A. C. O'Sullivan, and Mr. E. J. Gwynn. It was decided to found a medal and prize to be called after the late professor, and also that his portrait in bronze should be placed in the school. It was further resolved that the friends and former students of Professor Cunningham should be invited to join in the movement and subscribe to the fund, subscriptions not to exceed £2 2s. The following were appointed an executive committee to carry out the wishes of the meeting: Professor James Little, Sir Charles Ball, the Hon. Mr. Justice Boyd, the Right Hon. Jonathan Hogg, Dr. A. C. O'Sullivan, Mr. E. J. Gwynn, Professor A. F. Dixon,

Professor C. J. Patten, Dr. T. G. Moorhead, and Dr. R. A. Stoney. Friends and former pupils who desire to join are requested to communicate with some member of this committee.

THE HUMOUR OF AN IRISH DISPENSARY.

Belmullet is a small town of about 650 inhabitants situated in the County Mayo and on the edge of the Atlantic Ocean, next door in fact to Canada. It is said to be a very thriving town, with two hotels, the usual supply of public-houses, a workhouse, and a board of guardians. The area of the union in which Belmullet is situated is 180,000 acres, and the population only 13,000 of the poorest of the poor; three dispensary doctors are provided for the service of it. Salaries are not extravagant there, and in one of the districts, Knocknatower, though the salary is £160 the changes have been so frequent that the guardians are in despair; but though most of the time they are paying locumtenents it never seems to have occurred to them to offer a salary a man could live on.

At a recent meeting to elect a permanent officer the Clerk read an application from Dr. Carson, the acting locumtenent, and Dr. Holmes, of London, but it was stated that Dr. Carson would not consent to reside in the district. There was a dead silence, broken at last by the Chairman saying, "Now we have applications and we should get the one who would live in the district." A photograph of Dr. Holmes was handed round, and the Chairman said he was "a thorough-going looking man."

Mr. O'Reilly said he was "all that." "Well, what are you going to do?" asked the Chairman. Dead silence was the only reply.

Some one suggested they should wait for more guardians to come up, but an observation of the road from the window elicited the fact that no more were in sight.

Again the Chairman appealed for some one to say something as there had been a dozen doctors in the last twelve months; but no one would say a word. At last a Mr. Mills got up and said he was going away, but was prevailed upon to stay. A little later the Clerk suggested that the Chairman should propose a candidate himself, and the Chairman proposed Dr. Holmes because he was married, and though the other man was his nephew he was afraid he would not stay. But there was no one to second him. After some more talk the guardians were going to adjourn the appointment, when the Clerk said the Local Government Board might surcharge them the cost of the locumtenents. Still no one would propose a candidate or second the Chairman, and no business was done.

India.

THE SIMLA MALARIAL CONFERENCE.

THE proceedings of the Malaria Conference in Simla, to which administrative, medical, and Indian delegates were sent from each province, were opened at Viceregal Lodge on October 12th by an address from the Viceroy, in which the great importance of the subject was emphasized. He pointed out that about one million deaths were believed to result from malarial fevers alone annually in India, while, as the case-mortality was very small, the amount of suffering and loss occasioned by the disease must affect a very much larger number of people. In fact, in the more malarious tracts few, if any, escaped one or more attacks of ague in the fever season, while repeated attacks predisposed to various fatal affections.

Lieutenant-Colonel Leslie, I.M.S., the Sanitary Commissioner with the Government of India, read a paper on the problem of malaria in India, in which the question was considered in its broader aspects, and the great difficulty of dealing adequately with it in such an immense country, with very various conditions in the several provinces, was pointed out; the chief means of preventing the disease were considered, and a plan for a central and provincial organizations for controlling and co-ordinating the necessary operations was sketched.

On the second day, when the distribution of malaria in India was the subject for consideration, Major James read the opening paper, in which, after pointing out that many parts of India were not at all malarious, he said that further information was required as to the exact areas which were highly malarious in order to enable special attention to be paid to them. Captain Christophers described a simple way of ascertaining the prevalence of malaria in different areas of a province by a graphical study of the monthly mortality returns, for any marked mortality from the disease showed itself in the Punjab by a great rise in the total death-rate during the malarial season. Major Kenrick drew attention to the danger of contracting malaria by halting in certain malarious tracts in the Central Provinces, chiefly at the foot of hills.

On the third day Captain Christophers read an interesting paper on malaria in the Punjab, dealing with his inquiries following the terrible outbreak in that province in the autumn of 1908. The relationship of such periodical epidemics to unusually heavy rain in the affected tracts, leading to extensive flooding, was well brought out. Colonel King, I.M.S., contributed much information on malarial operations in Madras and in Burmah, while malaria in cantonments was dealt with by Lieutenant-Colonel Thornhill, of the Indian army, who dwelt on the importance of all antimalarial operations being controlled by malarial experts, in order to avoid waste of money on useless or incomplete operations. The use of small fish to destroy mosquito larvae wherever possible was advocated by Major Chaytor-White, the experience in the West Indies being narrated.

The remaining two days were devoted to papers on the use of quinine in malaria. On the first of these two days quinine prophylaxis and the different salts in use were discussed in the papers read, while on the second day schemes for the distribution of quinine and for educating the people to use it were dealt with. The final sitting was on October 18th, when the programme was "Suggestions and conclusions." It is understood that the discussions and the conclusions arrived at will be published before very long; it is to be hoped that an authoritative opinion as to the best measures to use under varying conditions will have been recorded, and that the necessary machinery to carry them out in the most malarious tracts of India will shortly be set in motion. Much investigation still remains to be carried out, and experiments in lessening or eradicating malaria require to be undertaken in every province under expert supervision, and the time seems ill chosen for prohibiting any increase of the cadre of the Indian Medical Service. Highly qualified officers will be required for this great work, and it is hoped that Lord Morley will be too broad-minded to refuse to reconsider his order in such an important and urgent need as the proposed great battle against malaria.

Hong Kong.

HEALTH REPORT.

THE Joint Report by the Principal Civil Medical Officer and the Medical Officer of Health for 1908 has recently been issued.

Area.

For administrative purposes, the part of the colony under the jurisdiction of the Sanitary Board is divided into two primary divisions—namely, the Island of Hong Kong and Kowloon, including only a portion, known as New Kowloon, of the New Territories.

General Sanitary Condition.

In connexion with antiplague measures, 811 houses have had rat holes filled in with cement under notice from the Sanitary Board, and in addition to the above a large number of rat holes have been filled in by the

employees of the board in the course of disinfection of houses. Forty-nine basements illegally inhabited were vacated under notice, 53 basement living rooms, and 118 basement kitchens were granted permits for occupation, and 5 basements were altered to meet the legal requirements. Improvements have also been carried out in providing open spaces in the rear of houses, and obstructions removed from the back yards. Scavenging lanes have been provided to a total length of 756 ft., and an area of 5,078 sq. ft. As an anti-malarial measure, 5,750 lineal feet of nullahs have been trained, and the subsoil drainage of Wong Nei Chung Valley has been much improved.

Meteorological Return.

The mean monthly temperature for the year has been 71.8° F., the maximum temperature, 87.3° F., having been registered in August, and the minimum, 54.9° F., in February.

The highest mean monthly humidity (89 per cent.) was recorded in April; and the lowest (63 per cent.) in November; while the mean monthly humidity for the year was 79 per cent.

The total hours of sunshine were 1,917.1; the greatest monthly number of hours—namely, 227.0—was registered in July.

The total rainfall during the year was 91.875 in.; the average rainfall for the decade ending 1897 was 92.6 in.; and for that ending 1907, 77.3 in.

Population.

The population of the colony is primarily divided into Chinese and non-Chinese. The following table shows the distribution according to nationality of the population as estimated for the year 1908:

Europeans and Americans	11,252
Africans	10
East Indians	4,116
Chinese and Malays	316,850
Mixed and coloured	4,260
Total	336,488

The population, exclusive of the army and navy, consists chiefly of male adults.

The estimated population to the middle of 1908 is as follows:

Non-Chinese, exclusive of the army and navy		15,200
Chinese:		
City of Victoria (including Peak and Stonecutter's Island)	177,130	
Villages of Hong Kong	17,350	
Kowloon	74,350	
Floating population	44,940	
Mercantile marine	2,700	
		316,450
Army (average strength)		4,485
Navy (average strength)		2,355
Total population of the colony in 1908, exclusive of the New Territories (except New Kowloon)		336,488

The Chinese population of the New Territories (exclusive of New Kowloon) was 85,011 at the census taken in 1901, but no census has been taken since that date.

Births.

The births registered during the year were as follows:

	Males.	Females.	Total.
Chinese	788	338	1,126
Non-Chinese	149	137	286
	937	475	1,412

The number of registered Chinese births is considerably lower than the actual number: especially is this so in regard to female children, as the Chinese commonly do not register the births of females. It is customary also for the Chinese not to register births unless the children survive for one month. The estimated corrected birth-rate puts the number of births at 2,264 at least during the year.

Deaths.

The deaths registered during the year numbered 9,271 (7,286 in 1907). The death-rate was, therefore, 27.55 per 1,000, as against 22.12 in 1907. These deaths included 986 from plague (198 in 1907).

Diseases.

Respiratory Diseases.—The total number of deaths from these diseases was 2,553, of which 55 were among the non-Chinese community, leaving 2,498 among the Chinese population; 186 out of this total occurred in infants under 1 year of age. Phthisis alone accounts for 8.3 per cent. of the total deaths amongst the Chinese, as compared with 9.6 per cent. in 1907. Pneumonia caused 1,130 deaths, of which 1,106 were amongst Chinese.

Nervous Diseases.—There were 419 deaths from nervous diseases in 1908, compared with 522 in 1907. Of these 304 were Chinese children under 5 years of age, as compared with 424 in 1907, and 219 of these were among children of 1 year old or less. The principal causes of these latter deaths were convulsions, tetanus, and trismus, which accounted for 178, and meningitis, which accounted for 41 deaths.

Malarial Fever.—The total number of deaths from malarial fever during 1908 was 499, as compared with 579 in the previous year, a decrease of 80; of these 7 were non-Chinese, 6 being from the civil population, and 1 (an Indian) from the troops. Three tables are given in the report which show that there has been a steady diminution in the number of malaria cases coincident with the establishment of antimalarial measures.

Beri-beri.—There were 736 deaths from this disease during 1908 (562 in 1907 and 561 in 1906), of which 8 were non-Chinese. Of these 4 were Japanese and 2 Indians from ships calling at the port. Two other Japanese cases occurred in the city.

Plague.—There was a recrudescence of this disease during the year 1908, the total number of cases recorded being 1,073, as compared with 240 in 1907 and 893 in 1906. It has frequently happened that years of mild and severe plague in the colony have occurred alternately, so that the 1908 epidemic may be more justly compared with the 1906 than the 1907 outbreak. The total number of deaths from plague was 986, of which 29 were from the non-Chinese population and 957 amongst the Chinese. This gives a case mortality of 91.9 per cent. for Chinese and 90.6 per cent. for the non-Chinese cases. There were 3 cases amongst the British with one death. Of the total number of plague cases, only 3 were returned as pneumonic plague. The special staff of rat-catchers was abolished at the end of January, 1908, as it had been found that the co-operation of the Chinese could not be thereby obtained, and it was not till near the end of the epidemic that a substitute scheme was adopted by which some 2,000 traps were distributed to the Chinese, and several hundred special rat-bins put up throughout the city and Kowloon for the reception of rats caught by the people. The rats are collected daily from these bins and sent for examination, and if any are infected the locality they come from is known, though not the individual house. This enables the Sanitary Department to watch for warnings of plague in the different localities, and if necessary to adopt special measures. The reports of the Indian Plague Commission have been duly followed, with the result that former methods of disinfection of houses with disinfectants of the coal-tar derivative series have given place to special washing of houses with a flea-killing mixture of water and an emulsion of kerosine oil with soap. Late in the year a large quantity of rat poison was distributed throughout the city and Kowloon, resulting in an increased daily destruction of rats.

Cholera.—The cases of cholera recorded during the year numbered 56. One of these was a European, one a Japanese, and one an Indian. The rest were Chinese. The Japanese case and all the Chinese cases died. Nine cases were imported, 6 in one ship.

Typhoid Fever.—There were 38 cases in 1908, as compared with 73 during 1907, and 66 in 1906. Ten of

these cases were imported. The European cases numbered 26, the Chinese 7, and 5 cases occurred among the other non-Chinese races. Four Europeans died and all the Chinese. The source of infection, one always present, is most probably, in the majority of cases, in native grown vegetables, which are manured with diluted human excreta. Raw vegetables, salads, etc., from Chinese sources should therefore never be eaten. Oysters, also, should not be eaten raw.

Small-pox.—The number of cases of small-pox during 1908 was 472, as compared with 341 in 1907. Of these cases, 20 were Europeans, 446 Chinese, and 6 of other races. Three Europeans, one other non-Chinese case, and 376 Chinese cases died. The number of vaccinations during 1908 was 7,655 as compared with 6,799 in 1907.

Diphtheria.—Fourteen cases were notified during the year, as compared with 43 in 1907. Four were European cases, 2 other non-Chinese cases, and 8 Chinese cases. All the Chinese cases died.

Puerperal Fever.—Fifteen cases of this disease were recorded during 1908, 14 of which were Chinese and 1 Portuguese. Twelve of the Chinese cases died.

Alice Memorial Maternity Charity.

Eight Chinese midwives were employed during the year, as against six in 1907; the two additional ones were employed at Kowloon, one at Hanghom and the other at Yaumati. Six pupil midwives were in training during the year; three passed the Government examination and were registered as midwives; 1,043 confinements were attended, as against 578 in 1907, Dr. Alice Sibree being called into consultation in 49 of them.

Disinfection.

The disinfecting stations in the city and at Kowloon have been of great service; the public baths have been largely used by Chinese. Throughout the city and in the surrounding districts a well-equipped ambulance service has been maintained.

New South Wales.

Lunacy in 1908.

The annual report for 1908 of Dr. Eric Sinclair, Inspector-General of the Insane for New South Wales, shows that on December 31st, 1907, there were 5,607 certified insane in the colony, and that on December 31st, 1908, there were 5,705. The increase for the year was thus 98, which is well below the average annual increase for the last twenty years of 140. The figures furnished by Dr. Sinclair as to the yearly increases show very wide fluctuations, which, he says, stand in some relation to times of prosperity or distress in the State. The proportion of insane to population in this State is now 1 to 281. The patients on the register at the end of the year were distributed as follows: 5,379 were in hospitals for the insane, 76 in licensed houses, 218 were absent on leave, and 32 were in hospitals for the insane in South Australia. During the year the number of insane in hospitals for the insane increased by 59, in licensed houses by 19, in South Australian hospitals by 1, and on leave by 19. The total number of cases under care during the year was 6,660, and the average number daily resident 5,438.

Accommodation.

In previous reports reference has been made to the insufficiency of provided accommodation in this State. At the time of the report the accommodation was for 4,967; whereas the number of patients resident was 5,379, giving an excess of patients of 412. Dr. Sinclair says, however, that a decided effort has now been made to meet the necessities; sums of money have been granted with liberality by the Government, and considerable additions have been made to the hospitals.

At the same time greater facilities for the treatment of new cases have been obtained, mental hospitals having been added to each of the larger institutions. A new hospital has been commenced on a suitable site at Lake Macquarie, and the erection of other hospitals is under consideration. Also, with regard to the criminal insane, fresh provision is required. At present separate accommodation is provided only for 62 at the Parramatta Hospital for Criminal Insane. This is quite insufficient, and, in consequence, insane criminals have to be detained in gaols until vacancies occur in the Parramatta Hospital. It is probable that the Paramatta Hospital will be enlarged.

Admissions.

During the year, 771 were admitted for the first time, 198 were readmitted, and 115 were transferred from one institution to another. The direct admissions were less than those of any year since 1901. Of the total admissions, 533 were natives of New South Wales and 111 of other Australian colonies; 261 were natives of Great Britain, Scotland again sending the smallest contingent with 23, as compared with 152 from England and Wales and 86 from Ireland; the remaining 64 being natives of many other countries in small numbers. The total admissions were classified according to the forms of mental disorder into: Mania of all kinds, 474; melancholia of all kinds, 195; senile, secondary, and organic dementia, 74; primary dementia, 48; dementia a potu, 2; general paralysis, 47; epileptic insanity, 45; and congenital or infantile defect, 84. As to probable causation, alcohol was assigned in 175, or 18.0 per cent.; venereal disease in 36, critical periods in 113, childbirth in 35, epilepsy in 54, diseases of the skull and brain in 15, other bodily diseases or disorders in 74, bodily trauma in 35, and mental stress in 166. Hereditary influences were ascertained in 135, and congenital defect in 104.

Discharges, etc.

During the year 387 were discharged as recovered, giving a recovery-rate on the direct admissions of 50.19 per cent., or on the total admissions of 39.93 per cent.; 80 as relieved; 115 were transfers, and 3 escaped. During the year also 462 died, giving a death-rate on the average numbers resident of 7.39 per cent. The deaths were due in 171 to cerebro-spinal diseases, including 56 deaths from general paralysis; in 106 to thoracic diseases, including 43 from pulmonary consumption; in 56 to abdominal diseases, with 24 deaths from dysentery and diarrhœa; in 5 to accident or violence, and in the remainder to general diseases, including 35 from senile decay.

Reception Houses.

The statistics of the two reception houses, Darlinghurst and Newcastle, are not included with those of the hospitals for the insane, as the patients at the former are for the most part only admitted for temporary care and treatment on their way to the hospitals, or whilst awaiting the signature of certificates and orders. On December 31st, 1907, there were 18 patients in these two institutions. During the year 994 were admitted, for the most part on remand. Of the total number of admissions and those left over from 1907, 28 were discharged as recovered by certificate during 1908, 390 were discharged recovered from the police-court, and 2 were discharged as relieved, also 341 were sent to the police-court and returned to the reception houses under certificate, and 223 were transferred to hospitals or licensed houses. The value of these institutions in dealing with patients who can be discharged after a few days' residence without going to a hospital for the insane is well brought out by these figures. As shown above, no less than 390 were thus discharged. Also during the year 7 died in the reception houses, leaving 21 remaining at the end of the year.

Correspondence.

THE PROFESSION AND THE STATE.

SIR,—Before the Ethical Section of the Annual Meeting of our Association held in London in 1895, and on convenient occasions since, I, among others, have urged the necessity of recognizing and adapting ourselves to the changes arising in the relations of the profession and the public.

These changes, due to altered social conditions, to the increased necessity and value of our services to the public, and to the wider and more humane views prevailing as to the provision of these services for all in need of them, are now receiving more extended recognition as the result of the work and authority of a Royal Commission and of an earnest and well-organized public movement in support of one of its alternative reports. This, the Minority Report embodies in its proposals regarding medical services reforms which many of us hope and believe may soon be largely carried into effect, to the benefit of the public and the profession. We have lost the opportunity of leading the advance; but it is still in our power to accept the spirit of these reforms, and to urge necessary conditions and modifications, or at least to decline to place ourselves in antagonism to them. We know the need better than any others, and we know also better than any others the value our services might be to our fellow-citizens and to our country if they were rendered properly available.

I submit, then, that we ought to welcome the prospect of making better provision for the prompt treatment of emergencies; for the continuance of necessary treatment in the case of those unable to provide for themselves; for the education of the public in the prevention and early recognition of the causes of disease and disablement; and for the inclusion of these with other extensions of the present public health service generally in a unified public medical service.

But this service, though, as proposed, it should be administered locally over a convenient area, must, for the general benefit, be further unified into a national service. Each local unit, concerned on the one hand with the individual and his conditions and surroundings, must, on the other hand, be co-ordinated and controlled by means of a central health administration of the national government. Subordination to a limited local authority is now, and always might be, a source of damage to the public interest, and of injustice to the services, so long as ignorance, prejudice, neglect, or self interest are possible as a controlling element of such authority.

On these grounds, then, and also because the increased cost of the services cannot justly be paid out of local rates, but must be nationalized, the administration must be also nationalized. The central administration should exercise a general control over all the services in all localities and regulate their numbers, their appointment, and their expenses, their relations with the public, and with each other. But unchecked officialism is good neither for the services nor the public, and would be disliked and suspected by both. Each individual officer should be given as much personal responsibility and liberty of action as is compatible with functional organization for the whole, efficiency to be judged by results rather than by methods.

As these officers, for the reasons given, cannot be directly responsible to the public, and yet cannot be entirely withdrawn from its influence, I suggest (and I think it is a suggestion which might be found to have a still more extended application) that the executive branches of these enlarged public services should be subject to the supervision, each in its own area, of a board elected *ad hoc* by the people of the district served. These boards of inspection to have powers of entry and inquiry unlimited, except for obvious technical necessities, with easy access to the administrations, but no administrative or correctional powers of their own. In this way, by publicity and the power of moving authority, official abuses and mistakes would be minimized—the former prevented, the latter recognized—while active public servants would receive encouragement, or at least immunity from discouragement, at the hands of an enlightened and contented public opinion.

The central authority should directly administer branches of work entirely national in scope and purpose—such as port medical administration, the provision of medical assessors for the assistance of courts of law, and for the departments of life, accident, and sickness insurance, and also those branches which affect larger areas than those of the local units, such as water supply and the prevention of water and air pollution.

With regard to the provision of necessary treatment the Minority Commissioners "think that many more suitable cases than at present might, on proper arrangement as to payment, be transferred from rate-maintained to voluntary institutions." If the arrangements for payment are to include the adequate remuneration of the whole necessary staff one entirely reasonable objection of the profession to such a provision would be removed. But even in that case there are the strongest objections to such use of the voluntary hospitals, both on professional and on public grounds.

To again quote the Minority Report, "It is clear that in the public interest neither the promptitude nor the efficiency of the medical treatment must be in any way limited by considerations of whether the patient can or should repay its cost." But the special and general hospitals of our large towns, while showing how much may be done by voluntary organization, also show strongly its limitations and defects. These hospitals being in private ownership and admittedly limited in scope, admissions are governed not solely by the necessities of the case, but by considerations of space and other processes of selection. On behalf of subscribers, they are placed under lay management, which, in a medical institution, is incompatible with efficiency and economy. There is no detail of administration in a hospital which is without a direct bearing upon the proper treatment of the patients; and, such being the case, every hospital must needs be under the direct control of a medical administration responsible for the results.

A competent staff of special pathologists, operating surgeons (including ophthalmologists and dentists), anaesthetists, electricians, mechanicians, pharmacists, and nurses, should assist the responsible resident staff of the hospitals, and secure that the highest professional efficiency shall be obtainable for the patients, while, so far as possible, they should be also available for the assistance of the other services and the general profession when required.

The Minority Report pleads for the claims of the public to share as they ought in the increased welfare which the advance of knowledge has brought within the reach of mankind. If the profession will but sympathetically respond to these claims, and unite to claim in turn justice to itself when and where the public demand appears to fall short of just consideration, we shall have helped to gain much for the public, and shall find that most of our own difficulties and disputes will have disappeared.

—I am, etc.

London, N.W., Oct. 15th. A. D. WILLIAMS.

SIR,—In his further contribution to the above discussion Dr. Greenwood endeavours to justify his use of the word "gratuitous." The sentence in his letter in your issue of October 2nd ran thus: "At the present time the great evil in our profession is the amount of gratuitous work given to the public." If Dr. Greenwood meant what he wrote, I think that all the members of the medical profession would agree with him that "gratuitous work," or "*work without fee*" (including underpaid work) is an evil thing, and is a curse to the profession. The context, however, shows clearly that Dr. Greenwood did not refer to work that was not paid for, but merely to work that was not paid for by the patient. How he argues that medical services for which the patient does not pay, but for which some one else properly pays, constitute an evil in our profession is not clear, as this extraordinary statement is made without a word of explanation or support. I must quote his own words, and remind Dr. Greenwood that "the onus of proof is usually thrown on the one that asserts, and it is no proof to state an opinion based on personal belief."

The evil in our profession is the vast amount of medical services that are gratuitous in the real meaning of the word, and the still greater amount underpaid. Surely it

will be a step forward when a guaranteed payment is made for all services rendered to poor people. Instead of this being accepted as solving one of our many grievances, the public are being chilled by a wrangle about "plums" and a screech about "socialism." So far as the sanitary service is concerned, the evils are similar to those of the profession as a whole. Services on behalf of public health are grossly underpaid, especially in the case of part-time medical officers of health, and there is, in addition, the old grievance of insecurity of tenure—an evil that again principally and most unfairly affects the part-timer.

The article in your issue of October 23rd, to which Dr. Greenwood calls attention, is undoubtedly interesting and instructive. Two of the scandalous cases mentioned there are the works of boards of guardians, bodies that would be swept away under the Minority scheme, but perpetuated under another name if the Majority Report is adopted. The other three cases are merely part of the undisguised intention of the public to get medical work on the minimum terms. This intention is the natural outcome of the gratuitous work that the profession has for many generations done, and which has been steadily increasing in volume. Our efforts by means of combination to prevent the success of such schemes are only occasionally successful in these isolated cases, but in the event of the adoption of the Minority Report there would be created simultaneously hundreds of new appointments, and our associations are quite strong enough to prevent quite easily the possibility of underpayment in such circumstances. The benefits of adequate payment for services in such appointments would be felt throughout the profession, apart from the fact that the work now being done gratuitously would then be paid for properly.

Another statement of Dr. Greenwood that appears to be merely "an opinion based on personal belief" is to the effect that "Poor Law medical officers are nearly all in agreement with Dr. Downes." It is, perhaps, fair to assume that this statement is made on the authority of the Poor Law Medical Officers' Association. If so, one naturally asks what means have been taken to ascertain the opinions of the members of that association, and how many have declared themselves in agreement with Dr. Downes? At the same time it would be interesting to know how the membership of the above association compares with the number of Poor Law medical officers in the country.

I most earnestly hope that this subject may be considered by our profession purely and simply as to the effect that the change would have upon us and our work. To confuse the issue by talking about socialism and thereby introducing a political element into the discussion will serve undoubtedly to discredit us in the eyes of the public. We have quite enough to do if we devote ourselves to securing the possibility of doing really good medical work, together with fair remuneration for all work done, and upon this subject the public must and will listen to us. If, on the other hand, we introduce into the discussion the parrot cries of politics, there will be a contemptuous brushing aside of our representations.—I am, etc.,

Winchester, Nov. 6th. R. A. LYSTER.

SIR,—In reading the correspondence that has appeared on the subject of the Poor Law Commission's Reports, what strikes me most forcibly is that your correspondents are, as a rule, much more concerned with the position and remuneration of medical officers than with the well-being of the patients.

It is, no doubt, wise to look after our own interests, for it is not likely that any one else will look after them. On the other hand, if we wish for consideration on the part of the community, it were better not to begin to judge of the merits of two important rival schemes of social reform simply by their probable effect on our own pockets.

May I remind my brothers that we medical officers are the means and not the end of the public medical service? The Poor Law does not exist for the purpose of providing us with incomes. If it did, it would be fulfilling its end even worse than it does at present.

It lies with us, when the best scheme has been decided upon, on grounds of public utility, to make for ourselves the best terms we can. If we are sweated (as we probably shall be), it will be our own fault (as it is at present) for accepting work at unremunerative rates.

Drs. Bristowe and Greenwood seem afraid of the socialism of the Minority Report. May I recommend to them the excellent article on the subject by Sir John Gorst, published in the *Sociological Review* for July, and reprinted by the National Committee to Promote the Break-up of the Poor Law? In this article, which gives far the best general sketch of the Reports that I have seen, he points out that the Majority "depart so widely in their recommendations from orthodox individualism, that they deserve equally with the Minority the opprobrious name of Socialists."

Surely scientific men might leave to professional politicians the pleasant thrill of being frightened by the bogeys of their own creation, and judge schemes of social reform on their merits.

Personally, I must confess to still having an open mind on the two schemes. But if we are to begin throwing about the term "Socialist" at each other, we may give up hopes of reasonable discussion.—I am, etc.,

Maldon, Essex, Oct. 31st. H. REYNOLDS BROWN, M.D.

SIR,—Dr. Bygott has mentioned my name several times in a letter on the above subject, published in your last issue, but I cannot compliment him on the accuracy with which he has commented on my views. He says: "I object to the statement that under the Minority scheme the total remuneration received by the medical profession would be increased." I do nothing of the kind; I objected that this increase was not *obvious:* I said it might or might not be, and, if he thinks that in his letter he has proved that I am in error, I can only say with all respect that I am not convinced. I admit that I had not taken into consideration the manifold changes in our economical system during the last generation, referred to by Dr. Bygott, as I did not think they had any bearing on the point I was then discussing. If the poor are the most diseased section of the community, their necessities would be amply ministered to by a reformed Poor Law and Sanitary Medical Service, with suitable co-ordination between the two. This need not threaten the existing vital interests of the numerous practitioners among the poor, which the abolition of a destitution authority and other revolutionary changes of the Minority Commissioners, in my opinion, undoubtedly do.—I am, etc.,

London, N.E., Nov. 6th. MAJOR GREENWOOD.

LONDON HOSPITALS AND SCHOOL CHILDREN.

SIR,—In a communication appearing in your last issue Mr. A. William Wise, Chairman of St George's Hospital, implies that in his opinion the two clauses which he has had placed in the agreement come to with the London County Council are of great importance, and should be widely known. These conditions are: (1) The London County Council will make inquiries to prevent abuse of charitable funds; and (2) his almoner will do likewise.

Before this correspondence develops further, will Mr. Wise afford the medical profession which he addresses information on two points: (*a*) What form of inquiry that he evidently considers satisfactory does the London County Council propose to make? and (*b*) What form of inquiry which he thinks satisfactory does his almoner make which allows, what I heard yesterday, that a daughter of a patient of mine, aged 14, who paid me £4 2s. eight months ago with many remarks of thanks, has been allowed during the past eight weeks to attend at his out-patient department? Such instances occur almost every week. Will Mr. Wise therefore kindly further amplify his communication to the profession?—I am, etc.,

London, S.W., Nov. 8th. E. ROWLAND FOTHERGILL.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

SIR,—I may perhaps be permitted to say a few more words in answer to Dr. Brockbank's letter in the JOURNAL of October 23rd, though much that I might have said has been well put by Sir John Broadbent in his letter published a week later.

My contention is that, apart from aortic regurgitation, all the long murmurs occupying diastole in a case of mitral stenosis are due to the flow of blood from auricle to ventricle through the stenosed orifice; and this with one reservation is admitted now by Dr. Brockbank. The reservation is that the final portion of such of these murmurs as run up to the first sound are caused by a regurgitating current driven by ventricular contraction. This portion he regards as lasting only 0.1 second, but in his appeal both to cardiographic tracings and, as it seems to me, to Weiss and Joachim's sound records, he is obliged to lengthen this period of ventricular contraction so much as to leave little time for ventricular diastole. For instance, answering my objection to his reading of Dr. Galabin's tracing (xiii), he accepts the modern statement that auricular contraction occupies only 0.1 second, and places the remaining 0.3 second, which appears to belong to the diastolic period, to the credit of ventricular systole preceding the main impulse and the first sound—an amount three times the length of the crescendo murmur, as defined.

But I do not see the necessity of placing the period of auricular contraction at the very beginning of the long murmur, the first part of which I regard as due to the passive flow through the valve, or to ventricular suction in diastole, as adopted by Sir John Broadbent.

I am afraid that I shall not convince Dr. Brockbank as to the necessity of some indication in the sound other than rise of pitch or loudness when the auricular contractions change for the ventricular. He says that the difficulty is never raised in the 'practically analogous condition of the see-saw murmur of aortic disease." But the use of the word see-saw itself shows that there is no difficulty to raise: the name is suggestive of two sounds, and even different sounds separated by an interval. The word to-and-fro suggests the same thing. It is because there is no see-saw in the mitral murmur in question that I am unwilling to accept Dr. Brockbank's view of it. The quickening of the auriculo-ventricular flow by terminal contractions of the auricle does not seem to me to involve the same alteration of sound as occurs certainly in the reversal of current in double aortic disease.

I make any further remarks on Drs. Weiss and Joachim's tracings with some hesitation. The material is very scanty. Only three tracings of mitral stenosis are given, and of these Dr. Brockbank admits that one is debatable from his point of view, and the other two are of different values. In mitral regurgitation they find that the time from the beginning of the murmur to the carotid rise is about twice as great as in the beat of a normal heart. They assume, probably rightly, that the beginning of the sound is the beginning of systole. In their tracings of mitral stenosis, the time from the beginning of the vibration to the carotid rise measures twice the normal in one case (Dr. Brockbank's Fig. 4), four times the normal in another, and four and a half times the normal in the third (his Fig. 5). Dr. Brockbank suggests, at any rate with regard to the first, that the beginning of the sound is the beginning of ventricular systole; but surely that is just the point in question. His argument appears to be: In mitral regurgitation the said interval is lengthened; therefore, when we find the interval lengthened, there must be mitral regurgitation. Is this quite safe?

Dr. Brockbank says that I have wrongly interpreted his Fig. 5 from Weiss and Joachim. I was, perhaps, too brief. They call it a diastolic with presystolic reinforcement; I speak of it as diastolic, meaning to include under that term presystolic reinforcement and all else that takes place between the second sound and the succeeding first sound.

With regard to audibility of a murmur in the back, I cannot agree that it is only a question of the "penetrating power of the murmur." The chief element of penetration of sounds is loudness, and I am quite sure that audibility of a systolic murmur in the back is not proportionate only to its loudness in front; and that a crescendo murmur, quite inaudible behind, is often louder at the apex than many of the mitral regurgitant murmurs which we hear on both sides behind. I still entertain the belief that the vibrations of mitral regurgitant murmurs take place chiefly in the auricle which is close to the spine, and that the crescendo murmur, with its vibrations often palpable in the fifth intercostal space, is produced in the ventricle.—I am, etc.,

London, W., Nov. 6th. FREDERICK TAYLOR.

A NATURAL EXPERIMENT IN CARDIAC STRAIN.

SIR,—The saying that "doctors differ" is a favourite amongst those who are not of our profession, and often we have to recognize its truth—it may be when applied to one's own opinion and the opinion of another whom one greatly respects.

To differ from my colleague Dr. Clive Riviere may reveal my own incapacity; but, however that may be, I feel compelled to say that the few observations made by myself regarding the effect of exercise upon the heart of children point to different conclusions from his own.

It may be of interest to refer to one expedition made by children to the same district as that visited by the children who were examined by Dr. Clive Riviere, since, apart from the question of the effect of the expedition upon the size of the heart, it is of interest as illustrating what children brought up in a poor district in London are capable of accomplishing, especially as the children in question were girls, and girls not selected on account of being endowed with physique above the average. All, however—thirteen in number—were examined before they left London. They stayed in a hilly country district for a week, taking daily walks. On the last day of the week they walked 20 miles and climbed a hill 600 ft. in height. Knowing that it had been arranged that the girls should take this walk, I bicycled down in order to examine them on their return to the place at which they were staying. In not one of the girls was there any sign of more than what might be described as healthy fatigue, and in none could I detect the slightest difference between the size of the heart at the end of their week's holiday and the size noted before they left London. Thinking that the girls might show some sign of fatigue on the following day, I met them upon the platform of the station at the time of their arrival in London, but all appeared to be in thoroughly good spirits, and took the exuberant interest characteristic of children in some glow-worms which I had taken from the hedgerows by the wayside during my journey home on the evening before. Since it appeared possible that signs of weariness might manifest themselves at the end of a day or two, I asked the head mistress of the school to maintain careful observation in order to note if anything of the kind occurred, but she assured me later that neither she nor the girls' class teachers could detect anything of the kind.

To determine the size of the heart is sometimes spoken of as if it were a simple matter. To express a definite opinion upon the presence or absence of slight dilatation of the heart in a child seems, however, to me to be far from easy. The situation of the apex beat differs so greatly in children that it may be impossible in a particular case to say that apparent displacement of the apex beat indicates that the heart exceeds the limits of the normal. It may be difficult also to be sure that the apex beat has altered its position to a slight degree between two examinations since the localization of the apex beat to one definite very limited area is not always possible. Dr. Clive Riviere apparently relies largely upon cardiac dullness. As he correctly notes, the portion of the heart which appears to the right of the sternum is the right auricle, but this auricle is covered by lung, and is continually emptying itself. Dullness to the right of the sternum appears to me to be a deceptive factor in examination of the heart, as I have been able to show on several occasions in the *post-mortem* room to the clinician.

To say that one cannot detect slight differences in alteration of the size of the heart by means of percussion may be a confession of one's own want of fineness of perception, but it seems to me that the most certain sign of the presence of dilatation of slight degree in the heart of a child is the appearance of murmurs. In an adult a heart may be considerably dilated, although murmurs are absent, but not, I believe, in a child. When acute or subacute dilatation of a child's heart occurs both basic and apical systolic murmurs appear. The meaning of the appearance of a diastolic sound at the apex is not clear to me. It may appear—when not present before—under various conditions which tend to enfeeble the heart, and

possibly may be associated with slight dilatation. Such a sound may be, however, present when there is no reason to suspect any dilatation of the heart, but apical and basic systolic murmurs, although very common in quite young children, always indicate, I believe, the presence of dilatation, and are, it seems to me, the most reliable signs of such dilatation.—I am, etc.,

September 25th. THEODORE FISHER.

THE ORIGIN OF CANCER.

SIR,—In reference to your review of *A Theory Regarding the Origin of Cancer*, by Mr. C. E. Green, in the issue of September 11th, p. 704. I venture to put forward my ideas on this disease: they are so diametrically opposed to those of Mr. Green.

I do so with considerable diffidence, inasmuch as I do not think I have seen six cases of "cancer" in my ten years' practice in this district. I can only remember two. This may or may not bear some relation to my "theory."

Mr. Green puts forward the presence of sulphuric acid in the atmosphere as a cause (or, rather, *the* cause) of cancer. My idea is "that cancer cannot 'grow' in an acid medium," and, briefly, the grounds for this theory are: In all parts of the body attacked by cancer we have an alkaline medium, except in the stomach; and here in cases of gastric ulcer the natural acidity is so frequently absent as to lead to this very absence of free acid being made a diagnostic feature. Many cases have been reported in your columns where the administration of acids by the mouth has cleared up symptoms and signs, clearly pointing to cancer in the stomach.

All other "treatments" which I have seen put forward with any claim to successful results, except surgery and caustics, which are simply tedious and dirty surgery, have contained some acid—for example, cinnamic.

Two cases of my own are at least suggestive, both cases of cancer of the cervix uteri:

1. An early case, diagnosed by a Glasgow surgeon; operation refused. Douched twice daily with weak solution of acetic acid. Kept perfectly well for many years till lost trace of.

2. Advanced case when first seen. At once sent to Edinburgh Royal Infirmary; sent home as inoperable, bladder wall being involved. Acid douching as above kept this patient sweet and clean and free from pain for nearly three years, when she died in comfort.

Now, as I have said, I put forward this "theory" with great diffidence. It is so antagonistic to Mr. Green's, and yet I think it is not without reason. I am not advocating a line of treatment, although in inoperable cases it might be further tested; as also in cases where operation is refused, if only until we can bring the patient to consent to such. I do think, however, that it has a very considerable interest for those working at the bacteriology and parasitology of cancer. I have read reports of such working in acid media, and have felt certain that this factor alone barred success.—I am, etc.,

T. DUNCAN NEWBIGGING, M.B., C.M.Glasg.

Abington, Lanarkshire, Oct. 1st.

SIR,—I have read with great interest the article by Drs. Hislop and Clennell Fenwick, on cancer in New Zealand, in the JOURNAL of October 23rd, p. 1222, and am rather surprised that such remarkable facts should have remained unnoticed in your correspondence columns.

The increase of cancer is interesting, but it is still more remarkable that it causes more deaths in men than in women, the reverse of what happens in this country. There is nothing to find fault with in the occupations of the sufferers, but when we come to their habits there is much that needs amendment. All indulge very largely in meat and tea, and the men take the latter to excess. Under these conditions rheumatism is universal, and cancer tends constantly to appear at an earlier age. Such are a few of the main points of the article, and it is not difficult to read their meaning.

The authors themselves suggest that the circulation of the blood in rheumatic cases may act as a direct irritant to the tissues. Now this is very close to my own explanation, as I have long been suggesting that uric acid, the substance which of all others causes the most widespread irritation in the tissues of the body, is at least one of the causes of cancer.[1]

[1] *Uric Acid*, Ed. vii, p. 420: *Medical Press and Circular*, June, 1909.

With such a large introduction of purins in meat and tea it is small wonder that rheumatism is universal, and since the men introduce more than the women, and are, moreover, somewhat more exposed to damp, it is not extraordinary that the incidence of cancer is increasing most with men. Further, they both brew and drink their tea out of metal pannikins which are corroded, so that they take along with their purins a metal which would act as a precipitant and increase the tendency to local irritation. I believe it will some day be seen that not only every grain of purin we swallow, but every fraction of a grain of such metals as iron, mercury, copper, lead, tin, or silver, increases our chance of cancer.[2]

No doubt the action of damp, which is the same as that of cold—namely, retentive or precipitant—reinforces the effects of the other retentives, and thus aids in producing both rheumatism and cancer; hence the relation of these things to creeks, rivers, and swamps.—I am, etc.,

London, W. Nov. 6th. ALEXANDER HAIG.

THE CAUSE OF THE DECLINING BIRTH-RATE.

SIR,—In the "Bradshaw Lecture" Dr. Lindsay says: "By the law of compensation or economy we mean that principle whereby nutriment required by the overgrowth of one organ is withdrawn from another organ. It is probably in consequence of this law that the highly-specialized reactions of the nervous system developed in an advanced stage of civilization are accompanied by a decline in the birth-rate." That at the present time the birth-race is declining is certainly true, also the fact that civilization is advancing, but that the decline is due to a withdrawal of nutrient and a falling of the powers of reproduction is by no means established.

In my experience of medical work amongst varied classes of the community, extending over sixteen years, I am convinced that the reproductive powers are in abeyance, but that they are by no means "out of action" from any atrophic conditions. The sexual act is as extensively carried out as ever, but means are almost universally utilized in limiting the success of the operation. I am positive that 90 per cent. of the cases of childless unions, and of marriages with only one or two children, are due, not to sterility on the part of the parents, but to active measures being taken to prevent fecundation.

It may be that the mental condition of anxiety and desire to avoid the embarrassment of a long family is in itself an expression of unfitness, but whether or not, the state of the reproductive organs does not, in my experience, explain the "declining birth-rate."

I can only say that these "economic" practises are very largely carried out, and that there is a very great dread amongst all classes of the community against having a large family. The conditions of life are severe, and though bishops may object and militant emperors declaim, the fact exists, and is likely to do so. "The law of self" seems to be the most appropriate explanation at present to hand, which will account for this phase of modern life.—I am, etc.,

Bristol, Nov. 7th. JOHN WM. TAYLOR.

AMBULANCE LECTURES AND VOLUNTARY AID DETACHMENTS.

SIR,—Let me fully endorse the arguments on the above mentioned subject used by Dr. R. E. Howell as Representative of the Cleveland Division in your issue of November 6th, p. 1382, and let me congratulate him and the Division he represents on their firm attitude with regard to ambulance instruction.

Personally I have signified my willingness to act as a medical officer of the proposed local detachment of the voluntary aid scheme, and after a long, interesting, and very instructive interview with the vice-president of this district, I came to the conclusion that I could not as yet see my way to promise to instruct the members of the detachment gratis. In my opinion it is not fair to ask medical men to do more than to give their services and to make themselves efficient in their duties, just as the other members will have to do. There are many methods used in field service which a doctor does not use in hospital or in ordinary general practice. Most men will have to rub

[2] *Uric Acid*, prev. ref. with regard to silver.

up their knowledge of stretcher drill, if they ever had any, and many other subjects will have to be read up, discussed, and learnt, such as those the R.A.M.C. surgeon finds he has to learn after appointment. To ask the medical officer, then, not only to do this, but also to teach the other members their duties, is, I think, asking too much of any one.

This great scheme should be taken seriously, and it behoves the Vice Presidents and other honorary officers all over the country to have these claims of the medical officers put before them, else the scheme will be a failure. The best men may remain out, and let men with some petty motive of self-interest dawdle through with it.

In my opinion this scheme cannot be permanent, and probably in any case, no matter how efficiently it works, the Government and the man in the street will in the end malign it, just as they did the volunteer service before its transition, quite forgetting that against great odds this body managed to reach quite a fair measure of efficiency, and in every case did, aye, and sometimes died doing, their best.

I do hope we will save the voluntary aid scheme from becoming a failure by uniting willingly to offer our services, and our lives if necessary, to the scheme, and to make ourselves as efficient as possible. At the same time, to ensure that this question of the lectures be taken seriously, that we offer these extra and *extra*-ordinary services at their proper business value, as the price asked represents to the man in the street the value thereof.—I am, etc.,

Painswick, Gloucestershire, Nov. 6th. D. J. SCOTT.

ANNUAL MEETING OF FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

SIR,—The farce of this meeting of the Council and Fellows and Members of the College is again to be enacted on November 18th.

There does not appear to be any object to be gained by either party, unless it is to prove the utter helpless and hopeless position of the Members. Why not abolish the title altogether, and call them Licentiates?

The Council refuses to grant any reasonable requests of the Members, and manifestly think that Might is Right, and that law is justice.

The Members cannot express an opinion on the accounts of the College Council, as they are audited and found to be correct. Correct they may be, so far as the balance is concerned, but they show what appears to be a most reckless expenditure. The net loss on calendars and catalogues for the past two years is £580 1s. 10d. Why are new instruments purchased for each examination? What is their cost? What becomes of them? Why are such large sums paid to patients? Surely the patients owe some debt of gratitude to the profession, and, if they cannot pay in cash, they ought to do so in kind. The loss on the sale of the Examination Hall is stated to be "only £4,000"! A loss of £4,000 to the Council may not seem much, but it reads like bad finance, and it is a sum which many of the poor Members would like to see as a balance at their bankers, if they happen to have one after a long life of anxiety and toil.

That the President has been elected by a few personal friends instead of by the 17,000 Members, is for him a misfortune rather than the reverse; if his name had been submitted to the entire body of the Members, it is more than probable that a majority would have supported him, and he would truly have been President of the Royal College of Surgeons, whereas he is now only the President of the Council. It is not the men to whom objections are raised, it is the methods that are so obnoxious.—I am, etc.,

November 5th. FIAT JUSTITIA, RUAT COELUM.

THE MIDWIVES ACT AND THE PAYMENT OF FEES.

SIR,—On page 1360 of this volume of the BRITISH MEDICAL JOURNAL appears a report of the Manchester Midwives Supervising Committee circulated amongst other supervising committees. It might be assumed that the scheme met with the complete approval of the Manchester practitioners. This is far from being the case, as it fails in one vital respect. One heartily agrees that it is vastly superior to many schemes. We all agree that the supervising committee must be responsible for the fees, and not the guardians—undoubtedly not the guardians. But we contend also that the committee should be responsible for *all* fees. The figures given will explain this:

	1906.	1907.	1908.
Medical aid called in	1,255	1,514	1,634
Hospital cases	354	363	483
Applications for fees	113	288	315
Applications rejected	35	49	43
Amount of fees	£181	£247	£279

It must not be assumed that where the doctor made no application for the fee he got it from the patient. The committee only recognizes some of the emergencies, not all.

The contention of the committee is that our plan is open to abuse in two ways:

(*a*) Midwives will send unnecessarily.

(*b*) Well-to-do patients will be paid for by the municipality.

As regards (*a*), the remedy is simple. Censure the midwife. Why should the doctor suffer for the midwife's fault? As regards public feeling, better far send ten times unnecessarily than once too late.

As regards (*b*), a well-to-do individual will think twice in such a case before facing the publicity of the county court against a municipality, whereas he does not care a straw for the doctor's threats.—I am, etc,

November 8th. A MANCHESTER PRACTITIONER.

HOME RULE FOR LONDON.

SIR,—The ordinary specious reply is not usually worth remark. Still, for once, I should like to stretch the courtesy of contention. If it be any consolation to Dr. Horace Wilson, I will admit, as he must know everybody else is aware of, the standing of the degrees of the Royal Colleges in London, and of their old custom and use for the London medical hospital posts; so, of course, my concern had, and has, nothing to do with that.

But the opportunity presents itself of drawing attention to the retention of these fellowship qualifications in the coming changes and extension of the University of London: and which latter are, at last, being earnestly referred to, not only by the Deans, but by the Senate of the University, its Principal, and Dr. Osler, and even the Chancellor, Lord Rosebery. The old Royal Collegiate Fellowships might well be retained as the highest qualifications for any *specialized* work in medicine or surgery, after, say, four extra years of *specialized* study, and be rewarded with the initials F.M. or F.S. Both these points were mentioned, in another way, in my book, *Medical Reform Measures*. May I add, that the permanent entertainment and instruction offered in my book costs 7s. 6d., not the 5s., as, by an accidental publisher's slip, your last week's respected and accurate review stated.—I am, etc.,

Bognor, Nov. 6th. H. ELLIOT-BLAKE.

SIR,—In reply to Mr. Horace Wilson, I must point out that it is not correct to say that the M.R.C.P. and F.R.C.S. are obtained through the Conjoint Board. These diplomas being, in fact, granted by the College of Physicians and Surgeons respectively, and, further, that it is not necessary to take the pass diplomas L.R.C.P.Lond., M.R.C.S.Eng. as a preliminary step to obtaining these honour diplomas. Most hospital committees require for the office of physician that candidates shall hold a British degree and the Membership or Fellowship of the College of Physicians, so that every holder of a provincial degree obtaining the M.R.C.P.Lond. is an eligible candidate, whereas a conjoint diplomat (L.R.C.P.Lond., M.R.C.S.) having a professional qualification in every respect equal to a provincial degree, on obtaining the membership, is still ineligible.—I am, etc.,

London, W., Nov. 6. FREDERICK W. COLLINGWOOD.

Medico-Legal.

THE WORKMEN'S COMPENSATION ACT.

Compulsory Operations.

The Court of Appeal last session delivered judgement in a case (Tutton *v.* Owners of ss. *Majestic*) in which the county court judge who originally heard the case had authorized the cessation of weekly compensation to an injured workman on the ground that the operation which he was asked to undergo was one which with ordinary precautions could be performed with very slight risk, and that it was, therefore, one to which the applicant, if he were minded to act reasonably, should have consented. The applicant appealed, claiming compensation during his total or partial incapacity, and the Appeal Court upheld him. The other facts of the case, as well as the view of the Appeal Court on the point mentioned, will be gathered from the judgements delivered by the Master of the Rolls—one in which the other Lords Justices concurred.

The Master of the Rolls, according to the *Times Law Reports*, said that the case was important, but that, as he had formed a clear opinion upon the point, he did not think there was anything to be gained by reserving judgement. The facts might be stated very shortly. The applicant was engaged on board a vessel. He met with a serious accident, which caused a double rupture. He was not a young man, and he was also suffering from disease of the kidneys. He was taken on board the ship to Southampton. There the ship's doctor first, and on his arrival at Southampton he saw a doctor at the hospital. On November 20th, 1908, he was asked to undergo an operation. He consulted his own doctor, who was aware of the man's general state of health and of the disease from which he was suffering. The doctor gave evidence, and said that in no circumstances could he advise that the operation suggested should be performed. His words were: "I thought it would be barbarous for him to undergo an operation without anaesthetics. With kidney disease an anaesthetic would be a risk to life." On cross-examination he adhered to that statement, and said that the anaesthetic would be more dangerous in the applicant's case because there was a small enlargement of the heart. Now, what was the test which was laid down by the Appeal Court in "Warncken *v.* R. Moreland and Son, Limited," as recently as November last, and before the Scottish courts and by the Court of Appeal in "Rothwell *v.* Davies"? His lordship thought it was this: Of course there was no power to compel a man to undergo an operation. On the other hand the man must act reasonably, and if he did not act reasonably and the circumstances were such as were before the Court of Appeal in Warncken's case, where a man had refused to follow the advice of his own doctor to undergo an operation, which was a trivial one and one which his own doctor said that he ought to undergo, then the Court held that, if a man refused in such circumstances, his continued disability was due to his own unreasonableness. But the test was whether the man in refusing to undergo the operation acted unreasonably, and his lordship declined to admit that in a case of an operation of this nature a man could be said to have acted unreasonably in following the advice of a competent doctor. His lordship thought that the learned county court judge thought that he had to decide on the balance of the medical evidence before him whether the operation as an operation was reasonably safe or not. But that was not the real question; the point was whether the man had acted unreasonably in refusing to undergo the operation. After the evidence of the man's own doctor, his lordship thought that no amount of other medical evidence was relevant to this question. The learned county court judge had misdirected himself, and there was no doubt in the circumstances that there was no evidence that the man acted unreasonably in refusing to undergo an operation in the circumstances indicated. The appeal must be allowed.

[A further note on this case appears on page 1426 of this issue.]

Judgement was given in an appeal—Marshall *v.* The Orient Steam Navigation Company, Limited—on a somewhat similar point on November 9th. A workman, a ship's steward, burnt his right hand, suppuration occurred in the middle finger, and on the ninth day after the injury it was opened by the ship's doctor. Next day the doctor wished to make two or three additional incisions, but the workman refused: the finger was eventually amputated at a hospital. The county court judge had come to the conclusion that the applicant could have quite well undergone the operation, and that it was unreasonable of him to refuse, but held that as another doctor who saw the workman later on had given evidence that in his opinion the finger was so implicated that the operation could not have saved it, the Court could not say whether the operation would have saved the finger or not, and as in fact the finger had been lost, judgement must be in favour of the applicant. The employers appealed. In giving his decision the Master of the Rolls, after referring to Warncken *v.* R. Moreland and Son, Limited, and Tutton *v.* ss. *Majestic*, said that in the case under consideration an accident had occurred, and it was for the employer to show that something had happened the result of which was that the loss of the finger was not due to the accident, the burden was on the employer to break the chain of causation. There was no evidence on which the learned county court judge was not entitled to say, as he had, that this burden of proof had not been discharged, that the liability remained on the employers, and that the workman was entitled to compensation. The appeal was dismissed, the Lords Justices concurring.

Effect of a Medical Referee's Report.

On Saturday, October 30th, an important judgement was pronounced in the Second Division of the Court of Session, Edinburgh. The plaintiff claimed from the United Collieries, Limited, compensation at the rate of 15s. 2d. a week in respect of injuries received while working in the employment of the defenders. On February 25th, 1907, under agreement, the claimant, King, was paid compensation at the rate of 15s. 7d. a week until October 20th, 1908. Payments were stopped at that date, and on December 3rd, 1908, the parties applied to the Sheriff Clerk for a remit to a medical referee, who reported that incapacity had ceased on October 20th, 1908. The workman admittedly acquiesced in non-payment until May last. He now said that incapacity recurred then, and asked payment of compensation as from that date. In defence it was pleaded that the report of the medical referee was conclusive, and barred the present claim. Sheriff-Substitute Glegg, Airdrie, repelled the pleas stated in defence, and allowed a proof. The question of law stated for the opinion of the Court was, Does the certificate of the medical referee bar the pursuer's application for arbitration?

The Division answered the question in the negative, and found the respondent entitled to expenses. Lord Ardwall said no step had been taken by the employers to have the compensation ended in terms of the Act. If they had made an application to the Sheriff he might have ended the compensation or he might not. It was maintained that necessarily he must have ended it; but nothing could be performed as necessarily certain under the Act or any proceedings under it; nobody could say what could happen under it. There was no judicial finding showing that the compensation had been ended. It could not be successfully maintained that arbitration proceedings, otherwise lawful, could be barred by a medical referee's report.

Lords Low and Dundas concurred.

The Lord Justice Clerk said it required to be noted that the effect of a referee's report was limited to this, that it was conclusive evidence of something. But evidence was not decision. It might make a decision inevitable if a party took the proper proceedings because that conclusive evidence to take operative effect. Here the employers were entitled to ask a judgement "ending" the compensation in terms of the Act. They did not do so, and therefore the Court could not hold that the workman was excluded on the ground that compensation had ended under the Act.

Examination by Employer's Doctor.

A. E. T.—It is in accordance with professional usage for the employer's doctor to inform the workmen's doctor, if he knows who this is, of his intention to visit the injured man, or he may write to the workman, fixing the date and hour of the visit, in order that the workman may have an opportunity of requesting his doctor to be present. The injured workman is obliged to submit himself to an examination by the employer's doctor at reasonable hours, or his right to payments may be suspended. In some districts where a large amount of this work is done, the workmen's doctor agrees with the employer's doctor to disregard the usual obligation, as it might be found too great a tax on time. Our correspondent would do well to bring the matter before the Executive Committee of his Division and endeavour to secure an amicable arrangement, and so avoid friction.

PROFESSIONAL PRIVILEGE.

H. M. W. asks: (1) If I enter on a medical certificate that a child has died of congenital syphilis, do I lay myself open to libel proceedings? (2) If a married woman consults me and I find her to be suffering from syphilis, do I run any legal risk in telling her so or in telling her husband with her consent?

*** In Atkinson's *The Law in General Medical Practice*, p. 104, we find:

> It may be necessary to certify the medical cause of death of an infant as "congenital syphilis," the local registrar having declined "atrophy."

In Glenn's *Manual of the Laws affecting Medical Men*, p. 230, there is the following passage, which seems to apply to both questions:

> "The legal canon is, that a communication made bona fide upon any subject-matter in which the party communicating has an interest, or in reference to which he has a duty, is privileged, if made to a person having a corresponding interest or duty, although it contain criminatory matter, which, without this privilege, would be slanderous and actionable.

ASSISTANTS' FEES.

P. M. O. writes: The principal medical officer of a small hospital recently engaged an assistant, and part of the agreement as to the remuneration of the latter was that he should receive, in addition to his salary, one-half of any fees, less share of expenses in earning them. Litigation has arisen with regard to a case attended at this hospital a year before the engagement of the assistant, and the principal medical officer has been subpoenaed to give evidence in London.

P. M. O. asks whether the assistant, under his agreement, is entitled to a share of the fees in this case.

*** If the terms of the agreement are correctly stated, it would appear that the assistant is entitled to a share in *any* fees received, and it is not material that the circumstances out of which the litigation arose occurred before he had any connexion with the hospital, provided the fees are earned while he holds his present position.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

DISTRICT NURSES AND MEDICAL MEN.

RURAL PRACTITIONER.—If our correspondent is satisfied as to the cause of death, even if he saw the case only once, and there has been no reason to believe that there has been a want of proper treatment, then he should grant a certificate. It is a different matter if, through want of proper treatment, the case has a fatal termination; then his position is plain—refuse to give a death certificate, and the Procurator-Fiscal will institute an inquiry.

THE OBLIGATION OF A SUBSTITUTE.

J. R.—We do not agree with our correspondent that it is usual to pay a substitute the whole fee for his attendance, but it is possible that different customs obtain in different places. The remainder of our correspondent's letter seems to have no relation to the circumstances of the case with which we dealt last week.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Appointments.

THE following appointments have been made: *Professor of Zoology and Comparative Anatomy*, J. S. Gardiner, M.A., of Caius College. *Quick Professor of Biology*, G. H. F. Nuttall, Sc.D., re-elected for three years. *Demonstrator of Experimental Psychology*, E. O. Lewis, B.A., St. John's College.

Examiners.

Elementary Physics, C. T. R. Wilson, M.A., Sidney Sussex College. *Elementary Biology*, J. S. Gardiner, M.A., Gonville and Caius College. *Elementary Chemistry*, R. H. Adie, M.A., Trinity College. *Anatomy*, W. L. Duckworth and C. Addison, M.A., B.S., London. *Physiology*, Dr. Anderson and Professor Halliburton. *Pharmacology*, C. S. Marshall, M.A., Downing College; W. E. Dixon, M.A., Downing College. *General Pathology*, Professor Woodhead and R. F. C. Leith, M.Sc., Birmingham.

Degrees.

The following degrees have been conferred.

M.D.—G. Cowan, King's; H. J. D. Birkett, Trin.; H. L. Dixon, Non-Coll.

M.B.—E. G. Wheat, Christ's.

B.C.—R. W. S. Walker, Trin.

Dates of Examinations.

The next examination for medical and surgical degrees will begin on the following dates:

First Examination.—Part I (Chemistry), Monday, December 13th. Part II (Physics), Monday, December 13th. Part III (Elementary Biology) Wednesday, December 15th.

Second Examination.—Human Anatomy and Physiology, Monday, December 13th.

Third Examination.—Part I (Pharmacology and General Pathology), Monday, December 13th. Part II (Surgery, Midwifery, and Medicine), Tuesday, December 14th.

M.C. Examination.—Thursday, December 16th.

The names of candidates for the First and Second Examinations must be sent in on or before Wednesday, December 1st, and for the Third and M.C. Examinations on or before Thursday, December 2nd.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on October 20th.

Report of the Professor of Protozoology.

The report of the Professor of Protozoology announced the resignation of Dr. J. D. Thomson from the post of assistant, and the appointment of Miss Muriel Robertson, M.A., to the vacancy. It stated that Professor Minchin had been investigating the trypanosome of the common rat, the blood parasites of the fresh water fishes, and the development of the blood parasites of the little owl (*Athene noctuma*), and had also given twenty-three lectures on protozoa, each lecture being followed with an exhibit of microscopic preparations, as well as giving instruction or assistance to gentlemen working in the laboratory.

Regulations for Degrees in Medicine for External Students.

It was resolved that Regulation 5 on page 189 of the external regulations in medicine (Blue Book, September, 1909) be amended to read as follows:

5. To have been engaged in their professional studies during five and a half years subsequent to matriculation and to have been engaged in such studies for four and a half years subsequent to their passing the first examination for medical degrees.

Appointments Board.

The fee payable to the Appointments Board constituted to assist graduates and students of the University in obtaining appointments, and to co-ordinate and supplement the work done by the schools and institutions of the University with this object has been fixed at five shillings, renewable annually so long as the name is retained on the register. Further information can be obtained on application to the secretary of the board at the University.

UNIVERSITY OF SHEFFIELD.

Appointments.

THE following appointments have been made: Mr. George Wilkinson, B.A., M.B., F.R.C.S., to be Lecturer on Diseases of the Ear, Nose, and Throat. Mr. George H. Pooley, B.A., F.R.C.S.Eng., F.R.C.S.Edin., to be Lecturer on Ophthalmology.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

THIRD COLLEGE.—F. M. J. Byrne, T. Farrell, M. Golding, E. Holder, F. Hamilton, F. P. Kennedy, P. B. Kelly, N. Keating, A. G. MacIlvaine, W. G. Maguire, F. H. McDonough, C. Nolan, B. O'Donnell, T. P. O'Reilly, T. F. O'Donnell, K. O'Sullivan, J. B. Power, L. C. Rorke, P. Ross-Todd, J. V. Ryan, L. W. Roberts, J. C. Scanlan.

FINAL.—S. J. Barry, R. Charles, W. Crymble, G. A. Finegan, H. Gray, W. F. Lane, C. Macauley, T. J. McDonald, C. O'E. Ryan, O. W. J. Wynne.

D.P.H.—J. Casey, L.R.C.P. and S.I., A. Cook, M.D. Univ. Glasg., F.R.C.S.Edin., Captain O. W. A. Elsner, R.A.M.C., L.R.C.P. and S.I., J. A. Gannon, M.B., B.Ch., B.A.O., C. Griffiths, M.D. Univ. Lond., A. Leitch, M.B., B.Ch., B.A.O., R. P. McDonnell, L.R.C.P. and S.I., C. F. Watson, M.R.C.S.E., L.R.C.P. Lond.

Public Health
AND
POOR LAW MEDICAL SERVICES.

THE CASTLEFORD DISPUTE REVIVED.

THE circumstances which occasioned the resignation of the two district medical officers at Castleford nearly two years ago were stated in an article which appeared in the BRITISH MEDICAL JOURNAL of March 7th, 1908. Drs. Hillman and Kemp, who held the posts, declined to continue to serve the guardians on terms which worked out at seven farthings a visit or attendance, and their application for an increase was refused by the Pontefract Board of Guardians. As it was impossible to obtain the services of two medical men on these terms, the guardians combined the districts to accommodate the only practitioner willing to accept this pittance. If the guardians thought they had settled their troubles and disputes by the arrangement then made, subsequent events must have undeceived them. As men supposed to have some knowledge of business affairs it was surprising to find them persisting in a policy which had no prospect of success. It was not long before the new incumbent addressed an appeal to the board for an increase, in a letter published in the JOURNAL of May 7th, which demonstrated what Drs. Hillman and Kemp had already contended, that the Poor Law appointment cost more in drugs, dressings, and appliances than the whole salary for this part of the work. In reply to this the guardians voted a bonus of £25. This outburst of generosity still leaves the remuneration wholly inadequate, and another letter has been addressed to the board by Dr. Hall, the district medical officer, asking for an increase of salary to assist in meeting the various demands made upon him in carrying out his duties as medical officer. As grounds justifying his application, he referred to the increase in the price of rectified spirits, to the decrease in the number of vaccinations, and to other matters. He said that his salary averaged £180 a year; at the beginning it was advertised at £220 as a minimum, and was increased by £25 up to £245 as a minimum, but he expected that the minimum would be exceeded.

Dr. Hall must have known the reasons which had compelled Drs. Hillman and Kemp to resign, and all the other practitioners in the neighbourhood remained loyal during the dispute with the guardians. He is now asking the guardians to do for himself what his action about two years ago chiefly, if not entirely, prevented the guardians from doing for their medical

officers at that time. Dr. Hall must have known that the bulk of his remuneration was by vaccination fees and that the guardians could give no guarantee that these would continue as in the past. The guardians must by this time be convinced of the absolute justice of the claims made upon them by Drs. Hillman and Kemp, and we hope to find them ready to redress an undoubted wrong and injury.

WORKHOUSE NURSING AND ADMINISTRATION.

The Workhouse Nursing Association has presented to the President of the Local Government Board a memorial signed by the Princess Christian and others, calling attention to the case of Nurse Bellamy, who had been committed on a charge of manslaughter by accelerating the death of a male inmate of the Hemel Hempstead Workhouse Infirmary by ordering him a bath. The Grand Jury threw out the bill, and the association considers that the case exemplifies the deplorable uncertainty of the Local Government Board's orders and rules governing the administration of workhouses and infirmaries, the lax manner in which effect is given to them, and the distress and danger to inmates which result. The memorial concludes as follows:

"It is indeed a big blot on the laws of our land that it should be possible for our workhouse sick poor to be subjected to such incompetent and insufficient protection as this case discloses, and that nurses and others should be appointed who are unfit for the discharge of the duties they will be called upon to perform, led by the belief resulting from their appointment that they were fitted, and then subjected to such treatment as Nurse Bellamy has suffered for a misadventure which is not surprising under the conditions which obtained, but which could not have arisen were the laws as they should be and those appointed under them properly qualified for their appointment."

MEDICAL FEES IN "THE BIARRITZ OF WALES."

As reported in the JOURNAL of October 16th, p. 1199, the Aberystwyth Board of Guardians at its meeting on October 11th refused to pay a fee of one guinea which Dr. Bonsall had requested should be paid to another practitioner who had administered chloroform for him to a patient in the workhouse. The guardians reported the case to the Local Government Board, offering at the same time to pay a fee of 10s. 6d. At the meeting of the guardians on November 8th a letter was read from the Local Government Board stating that the Board had received a communication from Dr. Bonsall pointing out that no local medical practitioner would give his services to administer an anæsthetic in a case of confinement for a fee less than one guinea, and submitting that he was not under the obligation to incur the risk of possible disaster and loss of life in instrumental and other complicated cases without the assistance of another medical man to administer the anæsthetic. He added that the fee of one guinea had always been granted by the guardians in similar cases. The Local Government Board asked for the favourable consideration of the guardians on this letter, and also whether they were prepared to reconsider their offer of 10s. 6d. The guardians proposed that the Local Government Board should be referred to its own orders, and after some discussion this was agreed to with one dissentient. The Rev. T. A. Perry then asked what was to be done if Dr. Bonsall could not get the assistance of a medical man, the chairman replied that Dr. Bonsall was responsible for all the paupers in the workhouse. Dr. Bonsall said he would not take the responsibility of administering anæsthetics single-handed.

At the recent election of the town council of Aberystwyth Dr. Bonsall was a candidate, his opponent being Mr. Edwin Morris, vice-chairman of the board of guardians. Dr. Bonsall was elected by 745 to 725 votes. It should perhaps be added that at this election the Conservatives gained two seats, and that Dr. Bonsall was put forward by that party.

THE SELECTION OF MEDICAL OFFICERS OF HEALTH.

RUGBY.—It is not accurate to say that the Local Government Board has resolved not to sanction the appointment (which sanction carries with it the payment of one-half the salary from the Exchequer grants) of a medical officer of health who is a local medical practitioner. The Board is advising that wherever practicable a whole-time medical officer of health should be appointed, and that for this purpose, wherever it is necessary, a combination of districts should be formed.

FEVER HOSPITALS.

M.O.H. asks for advice in preparing a report on a pavilion for diphtheria cases to be added to the fever hospital.

*** It is not possible to give helpful advice in the space of a short answer. "M.O.H." might obtain a good deal of useful information by consulting the last edition of *Burdett's Cottage Hospitals*, while he will find plans which—with, of course, the necessary modifications—might suit his purpose in Mackay's *Management and Construction of Poorhouses and Almshouses*. 1908, published by William Green and Sons, Edinburgh. The probable cost would depend very much on the material used and the situation, as regards expense of conveying material, etc. The only satisfactory method of settling this point is to consult a local architect who knows something of such work. The best plan that could be obtained is probably that of the Isolation Block in the grounds of the Episcopal Hospital at Philadelphia. We may also call our correspondent's attention to the review of Mr. A. C. Freeman's book, entitled *The Planning of Fever Hospitals and Disinfecting and Cleansing Stations*, which appears in another column.

Obituary.

JOHN WAGGETT, M.D., F.R.C.S.,

LATE OF KENSINGTON.

On All Souls' Day (November 2nd) there passed away at Bournemouth one of the oldest practitioners in the kingdom and a perfect specimen of the highest class of general practitioner of the last century.

Dr. John Waggett, who at the time of his death was within a few days of completing his 91st year, was educated at University College Hospital and the University of Edinburgh. He was a fellow student and great friend of Sir William Jenner and Sir William Ferguson; he had the great advantage of being a pupil of Mr. Liston, by general consent one of the ablest surgeons the world has seen; and he enjoyed the friendship of Sir Benjamin Brodie and Sir Astley Cooper. With such a record he was a most interesting link with the past, and it was little to be wondered at that in his old age Dr. Waggett delighted in recounting his associations with the great men who flourished in the middle of the nineteenth century. In 1841 he became a Member of the Royal College of Surgeons of England, and in 1842 he took the M.D. degree of Edinburgh. In 1855, at the request of the Government, he wrote a report, entitled Observations on Cholera. In 1860 he was elected a Fellow of the Royal College of Surgeons of England, and in 1884 a Member of the Royal College of Physicians of Edinburgh. After qualifying, Dr. Waggett settled down to the active work of his profession as a general practitioner in Kensington, and there for forty years he continued until he retired about twenty-five years ago. It is, therefore, as a general practitioner that Dr. Waggett's life should be judged. It may confidently be affirmed that all who came in contact with him in that capacity were struck by his kindliness, transparent honesty, and ability. His cheery presence and confident air were as good as a tonic in the sick room, and will help to account for his great success in practice. Though not a man who cared for public life, he was always ready to aid any good work, and among other appointments he held that of Consulting Physician to the Soldiers' Daughters' Home at Hampstead, and was an Honorary Surgeon to the Kensington Dispensary. After his retirement he settled at Bournemouth, and spent the evening of his days among his family and numerous friends, retaining to the very last his keen interest in the progress of medicine.

Dr. Waggett belonged to a type which is less common than it was—the practitioner who has attended several generations of the same family, and who is therefore the trusted adviser of its members, not only in medical but also in other matters. At the present time the link between patient and doctor is usually more slender, greatly to the loss of both parties. The last year of his life was saddened by the sudden death of a son who had already achieved marked success as a barrister, but he accepted the inevitable with resignation. The end came quite peacefully; he fell back in his armchair at the end of a quiet, happy day spent in reading and talking with his daughters and friends. It may, indeed, be said of him: "The path of the just is as the shining light, that shineth more and more unto the perfect day."

He leaves four daughters and two sons—one a Cowley Father, and one a member of his own profession.

ROBERT CREWDSON BENINGTON,

M.D., B.S.Durh., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A.

The friends of Dr. Robert Crewdson Benington will have heard with deepest regret of his sudden death at Gillingham, Kent, on August 20th, whilst acting as substitute for a medical colleague in that town. A many-sided man, with many interests, both literary and scientific

outside his profession, his career had been varied and remarkable, and the sadness of his untimely end—he was only 57—is increased by the knowledge that had he been spared but a few months longer he would have witnessed the publication of the results of an important scientific investigation on which he had been for a long time engaged.

His medical education began at St. Thomas's, and after obtaining the diplomas of L.S.A., M.R.C.S., and L.R.C.P. in 1879 he remained for another year at the hospital as House-Physician. In 1881 he acquired an extensive practice at Denmark Hill, and conducted it with great success until 1886, when, desiring to pursue a further course of study, he sold out and proceeded to Durham. He was appointed Demonstrator in Anatomy and Physiology there, and graduated as M.B., B.S. in 1888, taking the M.D. four years later, and also obtaining a diploma in sanitary science. At this time, too, he specialized in gynaecology, and became one of the most active members of the Northumberland and Durham Medical Society, contributing to its *Transactions* many valuable papers, and, in association with Mr. Rutherford Morison, in a large private hospital proved himself a keen and skilful operator. This work, together with his duties as Medical Tutor to the University, occupied him until 1896, when he returned to London, where he became Clinical Assistant at the Hospital for Women, Soho Square, and will be remembered there as an enthusiast in his special subject, and, as a member of the British Gynaecological Association and later one of its vice-presidents, continued his literary work. Circumstances, however, compelled him to abandon what promised to be a brilliant career as a gynaecologist in London, and in 1897 he went out to Western Australia to engage in private practice and to take up a hospital appointment in Perth. Four years later he proceeded to Natal, and for a year held an appointment as District Surgeon. Then, finding the work uncongenial, he resigned, returned to England, and decided to abandon the practice of his profession and to devote himself to the study of certain branches of science, such as archaeology, Egyptology, and anthropology, in which he had always taken the deepest interest. As time went on he concentrated his attention chiefly on anthropology, especially in relation to the problems of evolution, and in his zealous pursuit of this subject he made several voyages to distant lands (notably to the upper reaches of the Amazon) for the purpose of studying native types and obtaining objects of scientific interest.

About two years ago he was chosen by Professor Karl Pearson, University College, London, to assist him in researches in connexion with anthropology and craniology, and, as in all he undertook, he entered upon his new work with enthusiasm. In the Galton Laboratory at University College, in the Museum of the Royal College of Surgeons, and in the Natural History Museum, South Kensington, he made an elaborate and accurate series of measurements and tracings illustrating the problems of comparative craniology. He had thus not only accumulated a vast store of important data, but had embodied a portion of it in a paper which was to have been published in collaboration with Professor Pearson during the autumn, and to be followed by others of a like nature at intervals. It is hoped that these records, which are of great value, will yet be given to the scientific world as the work of one of its most modest, and withal most enthusiastic and painstaking, workers.

In private life he was a man whom to know was to love—a man kind and generous to a fault, keen of intellect, widely read in a variety of subjects, a fluent speaker, a facile writer; his gifts were many and varied, and, but for unfortunate circumstances in the early part of his career, were such as would in due course have given him a position of influence and importance both in social and scientific circles.

DR. EDWARD CLAPTON, who died on September 28th, aged 79, left estate valued at £43,114 gross and at £41,549 net.

SIR STEPHEN MACKENZIE, for many years Senior Physician to the London Hospital, who died September 3rd last, aged 64, left £10,181.

THE late Sir Thomas Smith, Bart., K.C.V.O., Hon. Sergeant-Surgeon to the King, left estate valued at £101,245 gross, of which £99,765 is net personalty.

Medical News.

MR. R. HENSLOWE WELLINGTON delivered a lecture upon Forensic Medicine and Coroner's Law on Wednesday last before the North East London Post-Graduate College.

THE President, Sir J. A. Baines, C.S.I., will deliver his inaugural address before the Royal Statistical Society on Tuesday next, at 5 p.m., in the theatre of the Royal United Service Institution, Whitehall, London, S.W.

THE RIGHT HON. A. J. BALFOUR, Chancellor of the University of Edinburgh, will deliver the Romanes Lecture before the University of Oxford in the Sheldonian Theatre on Wednesday, November 24th. The Chancellor, Lord Curzon of Kedleston, will preside.

MEDICAL MAYORS.—Among the mayors who came into office on November 9th are the following members of the medical profession: Mrs. E. Garrett Anderson, M.D. (Aldeburgh), re-elected; Dr. Frederick H. Appleby (Newark), Dr. R. de la Poer Beresford (Oswestry), Mr. Edward F. Chinery, F.R.C.S. (Lymington), Dr. J. Grout (Wolverhampton), Dr. E. Lipscombe (St. Albans).

AT a meeting of medical men resident in Chelsea and Fulham, held at Fulham Town Hall, on November 10th, to consider the refusal of the guardians to be responsible for payment for emergency medical calls from midwives, it was unanimously resolved: "That the medical practitioners of Chelsea and Fulham refuse to attend any women in or immediately after childbirth, or in respect of some puerperal malady or affection, unless the respective boards of guardians of Chelsea and Fulham guarantee to pay the fee for attendance."

PROFESSOR SILVANUS P. THOMPSON will deliver an inaugural address at the opening meeting of the Illuminating Engineering Society, to be held at the premises of the Society of Arts, John Street, Adelphi, London, W.C., on November 18th, at 8 p.m. A brief report of the progress of the society will be presented by the honorary secretary.

THE dinner of the London (Royal Free Hospital) School of Medicine for Women will be held at the Trocadero Restaurant, London, W., on Friday, December 10th, when Mr. H. Work Dodd, F.R.C.S., will take the chair at 7.15 p.m. Applications for dinner tickets should be sent to Dr. A. G. Phear, 47, Weymouth Street, W., or to Mr. T. P. Legg, M.S., 141, Harley Street, not later than Wednesday, December 1st.

AT a meeting of the Medico-Psychological Association of Great Britain and Ireland to be held on Tuesday, November 23rd, at 11, Chandos Street, London, W., Dr. Sidney Coupland will read a paper on the causes of insanity, with especial reference to the correlation of assigned factors. Among other papers, one on the histological evidence that toxins reach the spinal cord by way of the spinal roots will be contributed by Dr. David Orr and Dr. R. G. Rows.

THE list of honours conferred in connexion with the King's birthday contains the names of four medical men. Dr. G. Herbert Pollard, who receives the honour of knighthood, is M.P. for the Eccles Division of Lancashire; he is a barrister of the Inner Temple, and holds the degree of M.D. Edin. He was Mayor of Southport in 1897, of which borough he is also a Justice of the Peace. Dr. James Matthew Moody, who receives a like honour, has been medical superintendent of Cane Hill Asylum for the past twenty-five years. Dr. H. W. Newton, who also receives a knighthood, has twice been Mayor of Newcastle-upon-Tyne. Dr. James Augustine Haran, Medical Officer of Health, Mombasa, East Africa Protectorate, has been appointed a Companion of the Order of St. Michael and St. George.

THE structural improvements recently carried out at the National Hospital for the Paralysed and Epileptic, Bloomsbury, were opened by the King last week. The governing body considered that it would be fitting to mark the jubilee of the institution by carrying out some much-needed structural alterations which had been postponed owing to lack of funds. Under the presidency of the Duchess of Albany, to whose late husband the institution is a memorial, a National Hospital Jubilee Committee was formed, with the object of raising £50,000; of this sum £19,000 has been received, and about £10,000 has been expended upon the improvements. The King, in reply to an address, said that when he considered the nature of the maladies for which provision was made he did not wonder that it had aroused the charitable instincts of the benevolent and called forth the enthusiastic services and devotion of the medical and nursing staffs. The King conferred upon Mr. Frederick Macmillan, the Chairman of the Board of Management, the honour of knighthood.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

BULLDOG asks help in the treatment of a man, aged 40, suffering from osteo-arthritis of the spine and jaw joints; there is considerable pain, which is not relieved by the usual remedies.

A MEDICAL SUFFERER asks whether the removal of the septum nasi entails much subsequent discomfort or deformity. Can the operation be performed under local anæsthesia? and for how long would it incapacitate him from work?

TREATMENT OF RAYNAUD'S DISEASE.

A. H. B. asks whether Raynaud's disease would be benefited by the high-frequency current, and, if so, how it should be applied. The patient on whose behalf he inquires is aged 32, and has a slight mitral lesion. The ordinary treatment—galvanization and massage—keeps the trouble in abeyance, but as soon as discontinued the usual phenomena reappear.

THE EXAMINATION FOR THE M.D. BRUX.

D.P.H. Cantab.—We are informed that viva voce questions are asked on questions of public health and forensic medicine in the examination for the M.D. Brux., but candidates are only expected to know the law relating to these subjects as established in their own country. The whole of the examination is usually viva voce, and the Continental methods of examination differ somewhat from ours. Candidates should be at least as well read, when presenting themselves for examination at Brussels, as in this country, and it is a mistake to imagine that any well-qualified practitioner will have no difficulty in obtaining the degree, notwithstanding he may have allowed his former bookwork and academical knowledge to lapse and grow rusty.

APHASIC CHILD.

APHASIA desires to hear of a school where a girl, aged 11, the daughter of middle-class parents, could be taught to speak. The child, who can say a few simple words, is neither deaf nor dumb, and the local conditions are normal.

*** As the child is neither "deaf nor dumb," the case would appear to be one of, at any rate, some amount of mental defect. If so, tuition in a special school for defective children seems indicated. At Bristol there are two such schools, information as to which might be obtained from the Secretary of the Education Committee. If the friends can afford a private boarding school receiving such cases they should write for particulars to Miss MacDowall, 5, Grange Road, Ealing, London, W. Instruction in speaking on the oral system to deaf but not defective children is given at 11, Fitzroy Square, London, W., and information may be obtained from Mr. Haycock, the director.

EDUCATION OF DEAF-MUTE.

TYMPANUM, who has been consulted with regard to the education of a deaf-mute, aged 5½ years, asks: (1) Can the child be educated at home by a properly trained teacher? (2) Are such teachers sent out by any institution; if not, what is the best channel through which to obtain one? (3) What is the usual salary offered? (4) What is the probable prognosis regarding the child's possibility for speech and lip-reading? (5) Seeing that the sense of hearing is not completely absent, is there any apparatus on telephone principle that can be recommended with the object of rendering ordinary sounds perceptible?

*** (1 to 3) A teacher might be obtained from a deaf and dumb institution who in his, or her, spare time would give instruction in lip-reading to the child at home. Probable fees, £5 to £6 a quarter. The advisability of sending the child to a private school for deaf-mutes, or, when two or three years older, to a boarding school, should be considered. The results from school tuition are better, as a rule, than from home tuition. (4) Good. (5) The appliances made by Acoustics Patents, Limited, 20, Bucklersbury, E.C., might possibly prove useful in dealing with the case.

INCOME TAX.

G. W. S. purchased a death vacancy but did not buy the book debts. The surveyor has assessed him for the remainder of the year on his predecessor's profits. He has made a return on his own earnings for the last three years as hospital resident and locumtenent for various periods, with an estimate of the current year's profits.

*** As successor to his predecessor our correspondent is not bound to pay income tax on the basis of his profits if he can show that the profits of the practice are less since or by reason of the change. On the other hand, the law does not admit of his being assessed on the average of the salary and fees he earned elsewhere during the past three years; nor can G. W. S. claim to be assessed on the basis of his actual cash receipts for the first year, in view of the fact that he did not take over the book debts and his receipts in this particular year did not, in consequence, represent the full profits of the practice. Cash receipts are accepted as the basis of assessment only, as a rule, where on the average they represent the full yearly profits. Our correspondent's best course will be to apply to have the matter left over until January next, when he has had the practice a year, and then to be assessed on the basis of his cash receipts *plus* the amount he may reasonably expect to receive on account of book debts then outstanding. There should be no difficulty in getting an adjustment on these lines, but it is not likely that any further relief will be obtained.

W. A. H., who has had to buy a motor car this year, wishes to know if he can claim a reduction in his income tax assessment on that account.

*** No reduction of the assessment for the year in which the expenditure is incurred will be admitted; but in making up the account of receipts and expenses for the year to be used in making future returns (on the average of three years) so much of the cost of the car as represents a renewal of a former conveyance may be charged as an expense. If the car is not a replacement of some other means of conveyance the allowance will probably not be admitted, on the ground that it is expenditure of a capital nature.

ANSWERS.

A. L.—For information on the subject of skin eruptions due to occupation, the following works may be consulted: Departmental Committee's Reports on Compensation for Industrial Diseases, Minutes of Evidence, etc. *Diseases of Occupation from the Legislative, Social, and Medical Points of View.* By Sir T. Oliver. London: Methuen and Co. (10s. 6d.) *Dangerous Trades.* By Sir T. Oliver. London: John Murray. 1902. (25s.) *The Diseases of Workmen.* By T. Luson and R. Hyde. London: Butterworth and Co. 1903. (4s.) Also an article by M. Fayet in Rochard's *Encyclopédie d'Hygiène et de Médecine Publique.*

W. P.—There is a considerable amount of reference to deep breathing and physical exercise scattered through the numerous publications on physical exercise, school hygiene, and works on the treatment of chest diseases. In most of these books the subject is dismissed in a few paragraphs or pages. There is a fairly good reference to the subject in Knopf's book on *Pulmonary Tuberculosis*, lately reviewed in the JOURNAL, and a recent book, *Exercise in Education and Medicine*, by R. Tait Mackenzie (Saunders and Co), has about half a dozen pages describing breathing exercises with diagrams.

LETTERS, NOTES, ETC.

"Suffragette."

A correspondent writes: In contrast with your own fair usage, which is of course correct, I notice that your parliamentary correspondent, in speaking of women who are but fighting for a just cause, makes use of the term "suffragettes," whatever that term may mean. With doubtless many other readers of the Journal, I should be glad indeed to see the usage of your correspondent made to conform, if that be possible, with your own.

*** The question raised by our correspondent does not seem to be of much importance. But we may point out that his letter appears to show that he is not a close student of the movement with which he expresses sympathy. If he will glance at the illuminating pages of *Votes for Women* he will see the word to which he objects frequently used in the editorial columns. Among the advertisements, too, he may see one of a "Suffragette toilet soap," the special virtue of which, we suppose, is to be found in the statement that it is "made and used by the Suffragettes." A lady advertises herself as a "Suffragette milliner"; another offers "a rest for Suffragettes"; a voice trainer addresses herself to "Suffragette speakers." We may remark incidentally that we do not observe any one advertising herself as a trainer in stone throwing or kicking. But there is an advertisement of an "amusing and exciting" new game called "Pank-A-Squith," "showing the difficulties a Suffragette meets with going from her home to the Houses of Parliament," which may have some esoteric meaning. In the *Woman's Journal*, published at Boston, Mass., a copy of which some one has obligingly sent us, we find the word "Suffragette" at least twice in headlines, and also in the editorial columns. In an interview with Miss Jenny af Forselles, a member of the Finnish Parliament, which appears in the *Daily News* of November 8th, the lady is reported as speaking of "the violent things the Suffragettes are doing." Our correspondent professes not to know what the word means; we suggest that he should apply to Mrs. Pethick Lawrence, who is one of the editors of *Votes for Women*, or to any other of the militant sisterhood who are training themselves for legislative functions by breaking the law. They would probably, in Bardolph's phrase, maintain the word with their swords—or with stones or pyrogallic acid—to be "a soldier-like word and a word of exceeding good command." It has the advantage, as far as the general public is concerned, of differentiating the fighting from the constitutional agitator.

Ship Surgeons.

Dr. John F. Elliott (Warrenpoint, co. Down) writes: "Ex-Ship Surgeon" in the Journal of October 23rd, p. 1264, calls attention to a system which, although it may admit of abuse, is nevertheless of considerable convenience to medical men from time to time. The surgeon who "works his passage," either for convenience or health's sake, can no more be accused of keeping "someone else from earning a decent and honest living" than the "hospitality locum" now so fashionable. In each case the medical man gives his services in return for change of air and free board and lodging, and in this respect it must be acknowledged the ship surgeon frequently has the advantage of the shoreman. However, if "Ex-Ship Surgeon" and his brethren in service in the mercantile marine would combine, this and other matters of interest to ship surgeons could be discussed and steps taken for redressing the grievances of the sea-going branch of the profession. In company with Dr. Metcalfe Sharpe, of Middlesbrough, I endeavoured to form a British Ship Surgeons' Association, and, indeed, communicated within the past year with this Journal on the matter, but up to the present no success has attended our efforts. I personally communicated with over eighty ship surgeons, and Dr. Sharpe, I believe, also corresponded with many, but no adequate response met our efforts at organization. There seems to be too much of the "Jack ashore" about the average ship surgeon, and, with the exception of an occasional grossly, such as that of your correspondent, they resemble the rest of the sea-going community, bearing their grievances in silence. Refusing to respond to the call to organize, it is their own fault if they find themselves frequently at the mercy of shipowners.

Ex-Salt Surgeon writes: "Ex-Ship Surgeon" was very caustic with regard to late "Dogs' Home" boarding-house for ships' surgeons in a northern town, and imputed conduct to these gentlemen similar to what I gather from his remarks he himself has been guilty of, namely, keeping "someone else from earning a decent and honest living" by accepting an appointment without pay on an ocean-going steamer. In reply thereto may I say that during an experience of a number of years in the early Nineties at the "Dogs' Home" I never knew or heard of a medical man from there doing what "Ship Surgeon" apparently did? "Dogs' Home" men always set value on their time, money, and temper, and did not hire their services for nothing. If "Ex-Ship Surgeon" had set more value on his profession he would, perhaps, have had no cause to complain, and he would have found that the calling of a surgeon at sea is as remunerative and less onerous than an assistantship on land.

Oriental Sore.

Major G. H. Fink, I.M.S. (ret.) (Margate), writes: With reference to the further remarks on Oriental sore by Captain Markham Carter, I.M.S. (Journal, November 6th, 1909, p. 1333), I feel it is a mistake to introduce new names to the list already large enough. In India it is generally known to be present in sandy districts with extremes of temperature, and every medical officer and practitioner (European and native) knows what is meant by "Lahore," "Multan," and "Delhi" sore, as the disease is common in these particular districts of the country. Often names in works on tropical medicine are given, but usually it will be found that the geographical distribution is in places with a sandy soil and great heat. Captain Carter mentions (1) "Monghyr phora" and (2) "Chambal," but he prefaces his remarks for these "clinical types" by informing his readers as follows: "Amongst Oriental sores in North India we find the three following," and he gives us two names to begin with that do not geographically belong to Northern India, and are not to be found in works on tropical nor European medicine. Monghyr is in Lower Bengal, and therefore to introduce Oriental sore under such a name, and yet say it is in North India, is misleading; and to further (under this term of "Monghyr phora") introduce and cover the expression by informing us that "such an Oriental sore is commonly found in Gujrat, in the Lahore district, and the Himalayas," breaks down all true classification as we hitherto have been used to in tropical works on this subject. In Gujrat and Lahore the true Oriental sore is known by the term "Saidh," or "Lahore sore" or boil, which are typical terms for the disease; but to place these terms under "Monghyr phora" is absolutely incorrect according to the recognized rules of nomenclature and commonly recognized terms among medical men in India and the tropics generally.

Dr. Rhagavendra Row's communications dwelt on the typical "Delhi boil," which we all fully know when such a term is used, and I should say that it is as old as the days of Moses, for in Palestine the Jews used to inoculate, we are told, with the virus from the sac, and here again is a sandy country, in close position with Arabia, and thence through Sindh and Gujrat, Multan, Jashore, and Delhi—all sandy places—with great heat and sand flies, as I have mentioned before in my communication at Leicester in the Section of Tropical Medicine at the British Medical Association Meeting.

Medical missionaries would perhaps be able to assist us out of the difficulty in the matter of the ancient and modern aspects of Oriental sore and its nomenclature, the term "Oriental" having been introduced in modern times by the late Tilbury Fox.

Assistant Medical Officers of Asylums.

V. S. writes to express the opinion that fixity of tenure, which is in force in some cases, should be given to assistant medical officers in all asylums. The reasons he advances are as follows:

1. It is absurd to imagine that a man will devote his best energies to the study of mental disease where he is not encouraged to remain at the work; again, an applicant for the senior appointment must have previous asylum experience. Well, suppose he has three years, then, if selected, he puts in three years more at the asylum; he has then spent six very valuable years at specialistic work. It is apparent that he ought then to be a useful officer in any asylum both with regard to knowledge of administration and experience of mental disease.

2. If medical officers of asylums were definitely organized into a service with fixity of tenure, the salaries given need not be so large.

3. After six years or so of work in an asylum, it is quite evident that a medical man would be handicapped in general practice when competing with men who had spent that number of years in active practice. What would the opinion of the profession be supposing such conditions were imposed on medical men in, say, the naval or prison services, neither of which is so specialistic or so trying as is work amongst the insane.

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The FitzPatrick Lectures

ON

GREEK MEDICINE IN ROME.*

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

BY

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PRESIDENT AND FELLOWS,—In calling me to deliver the FitzPatrick Lectures you have done me much honour; and it would be an ill-timed however genuine a diffidence which might seem to disparage your election; I may, notwithstanding, hesitate for a moment as I regard the dignity of this place, and as I admire the services of my predecessors. In them we have had examples of wide and sound learning, of biographical skill and of anecdotal charm, which are above my hope, and I trust outside your comparisons. For such lists I am unarmed. To original research I have no pretensions; I am a child in scholarship. Yet in some converse with letters my tastes, if not my talents, have attracted me to the development and propagation of ideas: and it will be my endeavour to present to you some broad sketch, thin and partial as it may be, of this evolution as illustrated in the history of Medicine.

On the dark and stupendous background of Rome, from the foundation of the City to this day, has been displayed, as on no other canvas, the procession of those forms and those forces, innate or acquired, of science, art, politics, and religion, by the conflict and interpenetration of which the nations of modern Europe were made, governed, and inspired.

We have our moods in which we ask ourselves if history is a fruitful study—nay, indeed, if it be not a sign of an uncreative or even of a decadent society. If our hearts are opening more and more towards the promises of the future, why should we be hankering after pictures of the past? Did the Greeks of the Parthenon regard the earlier temples whose fragments they built into their battlements, or did the Greeks of Sancta Sophia painfully restore the ruins of the Temple of Constantine? Did not the builders of St. Mark's or of St. Paul's without the Walls for their own creation even demolish the monuments of the past, as the painters of the generation of Massacio obliterated the frescoes of their fathers, and as the scribe of the cloister buried the silver uncials of some rare pagan manuscript under his ruder record of the Gospels? Was it not, then, the wistfulness and pathos of a nation passing its prime which first tuned the notes of Virgil to a historical theme? Was not his patriotism the passionate clinging to a form which was passing away? And when our own poets take up the chant of *On sont les neiges d'antan*, is the voice one of joy or of foreboding? In our saner judgement we shall answer with some boldness that the study of history need be no wistful turning back from the plough to yearn after golden ages which never were: that history is much more than the raw material for pious platitudes, and regrets, and picturesque instances. The study of history must become the orderly reflexion and method of a society, past its golden childhood indeed, yet parting with this blessed blindness, to enter upon a nobler life, in the maturity of reason and responsibility. To sap our ideals, as Roman history and all history show, does mean decadence; and it is for history to reveal the unity, the spirit, and the growth of all human ideals; and to maintain our standards. Nay, may it not, as at the Renaissance which drank deep of the past, by a kind of psychical cross-fertilization, infuse in us the rudiments of a new epoch? It has been said that as an emotional and instinctive being man is dateless, but as a reasonable being that he is of yesterday. In its youth society is sustained by authority—by authority of king, priest, or philosopher: myth is then its history; but when authority ceases and self-consciousness awakes historical reflection must begin. The society which had grown up on tradition, on its instincts as the ants and the rooks, must, if it is to interpret its own nature and to shape its future, now take to learn at first hand the origins, the course, and the principles of its growth, wealth, and activities, and moreover to apprehend the vast scale upon which not only material but spiritual forces operate. For time present can scarcely be said to exist: *Dum loquimur fugerit invida aetas.* From history, "a longitudinal section of human life," as Ilberg calls it, we shall apprehend how hideous is the waste in the phases of unreflective social development; and how progress may be made, not by scrapping one human society or devouring another, but on lines of continuity in free spaces of expansion, and by disengaging and delineating the methods by which a rational creates an economical evolution.

Thus truly it is that we are assured by our professorial colleagues that History is a Science; a truth of which we are made painfully aware when nowadays from the Capitoline Hill we look down upon the stone mason's yard still bearing the name of the Roman Forum. Science looks to the future, it is true, but to the more material future. It has little or no concern with values, but with means rather. Science seeks not exemplary instances; for science no fact is despicable because it is little; true and false opinions are alike significant of the mind of the past. History is a science when by its methods we analyse our past; it becomes an art when for our inspiration we recreate the ideals which time had devoured, and when as politicians we apply them to life. With the disengagement of reason there is no doubt in society, as in the individual, some loss of spontaneity; moreover, the creative and the deliberative impulses, instead of uniting in fertile marriage, are but too apt at first to get in each other's way, to act at cross and even contrary purposes, and to mistrust each other; so that each faculty drags its images and counterfeits from the past to impose them upon its own times. Thus we are provided with static monuments of the past for admiration and example, rather than with the breath of its dynamics for our life, strength, and beauty. But the historical philosophy of an age gone by did not consist in its fashions, nor even in its ostensible systems of logic. Of course, no category which becomes an instrument of thinking can ever become obsolete, but to imitate the past, as our modern mediaevalists would do, is but a masque; as to form and custom history never repeats itself; it is in a restoration of the motive and the spirit of the past that we must cherish the perpetual fire to animate and renew the ever-changing forms which are never repeated. Man should ever be more and mightier than his past. It is, then, the mediatory office of such lectures as these to interpret the past *sub specie historiae*; to construct a historical or comparative criticism of life; to bring life and flexibility into law and logic, to warn us against the clumsiness of interpreting the ancients by translating our ideas and ways into theirs, as men have imputed Christianity to Virgil and Shakespeare to Bacon, and as the earlier critics of the Bible, in the immaturity of the historical sense, occupied themselves with judicial criticisms of its contents; or conversely to warn us against the illusion of tricking out modern ideals in ancient trappings. From history we have to learn not only what our ancestors conceived and made, but also why they thought and acted so.

Once more: both as science and art, both in reflective and developmental criticism and in regenerative idea, does not history make yet another kind of appeal to us? The mountaineer, familiar with a group of peaks as they had long appeared to him in his accustomed haunts, where and again he had climbed their summits and explored their recesses, takes a new journey; he traverses a great valley, outflanks the hills, and suddenly from a strange vantage the once familiar peaks burst again into view; but with fresh features and in new relations. He gazes wondering at the transformation, as it were of some wary herd which, while he was making his circuit, had silently faced round to watch him, but yet were not the same. In some solemn maze they have wheeled about each other, and have turned other faces to the wanderer. Thus, in no extravagant figure I hope, I have sought to convey

* On the occasions of these Lectures portions only of a larger manuscript were read. For some consequent incoherences the author hopes to be pardoned.

to you the new, the strangely new, regard of the constructions of man when, by our adventures in history, we come round to see them from other quarters and other prospects. We knew our own group of ideas; we had, if you please, scaled its summits and explored its recesses; but these ideas now reveal themselves with fresh features and in new relations. And thus the real forms and organic plan of our own age are manifested to us as never they were before; and, whether as artists or geographers, we discover how partial was that knowledge, even of our own life, which before we had believed to be intimate and comprehensive. We do not know the full truth of our own folk, our own walks, and our own phases of life until by travel of time and space we have outbranched them, and discovered their form and growth by other avenues and in other illuminations.

Now of medicine the history is, or until our own day has been, part of the history of natural science; and indeed the source of that philosophy of history which regards human societes as conditioned by circumstances; a conception in which Hippocrates preceded Comte, Buckle, and Taine. He, therefore, who would interpret the documents and the history of medicine must be at least initiated into all history. Physicians of the past, as of the present, were made of common humanity, and their life in medicine was not alien from their life, and the common life of their age, in love, work and war. In the medical historian, therefore, the sympathy of humanity must be added to the accuracy of the scholar, and these to a technical equipment in our art. And in the age of Leonicenus, of Linacre, of Caius, of Fuchs, of Foesius, of Mercurialis, we made at the Renaissance a famous beginning. But the humanists, never really friendly to science, soon began to play us false. Disliking the raw anatomy of knowledge, with what they called "The Classics" they built a walled pleasaunce for themselves and dwelt therein, raising florist's blooms and cut flowers, till Wolfe and Schliemann began to throw stones over the fence. They were of the kind of the old grammarian who said there could be no interest in a period when ἀπό governed the accusative. In classical periods we realize our traditional ideals, but if they claim by their stationary contemplation to govern development they stifle the spirit of history, not only in forms of words and artificial categories, but also by an assumption of "common sense." Now "common sense" never verified premisses, discovered origins, or interpreted natural means, orders, or ends. A curious instance of this claim of common sense peeped out in a recent *Times* review of Mr. Jones's *Malaria and Greek History;* by this faculty the literary man supposed he could settle Mr. Jones's problem without even the pretence of repeating and verifying his researches. The study of language deals only with past experience; the past of the whole of mankind and of its chief persons, yet still of the past. New and enlarging experience is to be had not by common sense, but by new uses of the senses; and for the record of these fresh receptions new words, new phrases, new combinations of old words will be required. Thus a nation, or an individual, which is not continually returning to the direct uses of its five senses on advancing problems may collect experiences, but makes none. No small part of the labours recorded in our classical journals may have its narrow utility, but, intellectually and ideally regarded, seems to me to rank with chess problems. As studied statically, literature is deprived of the keys of growth, and of those tests of affinity whereby we learn to discriminate the formal and incidental from the essential and spiritual.

Although, then, in the first ardour of the Renaissance medical texts sprang into discovery, some were printed, and Medicine received its place in the universities as a liberal study, yet humanist fastidiousness so prevailed that no original medical texts followed those of the sixteenth century; nor did eminent scholars and commentators labour much even upon these. Naturally, therefore, among the incunabula medical history settled on its lees; the baser utilities prevailed, and, in the eclipse of Greek, Latin texts were more in demand. Hence, beside the invaluable recovery of Celsus, sprang up a thick crop of Isagoges, Articellas, and crude Latin renderings of portions of Hippocrates, Galen, Soranus, Rufus, and Oribasius, often derived through the anything but achromatic medium of Syriac, Arabian, or Hebrew. Thus, as I have foreshadowed, forms were copied; but the spirit—the return to nature—was not imparted. The cruder stuff came over, the finer evaporated.

How hardly the sacerdotal crust of the false Aristotle and Galen was cracked and split up, I endeavoured in my Harveian Oration to illustrate† And, even when by the sledge-hammers of Vesalius and Harvey this crust was cracked, the awakening was slumberous. In my own reading for these lectures I have been surprised to discover the faults of the texts, the poverty of criticism, and the sequacious dependency of medical historians one upon another, even to verbal repetition. For the edition and interpretations of our documents, as I have hinted, and as Ilberg and Wellmann have declared, the too rare combination of physician and scholar—as in our own Adams and Greenhill—is required. So it has been left to our own time—I had almost said to our generation—to see the first great edition of a medical classic; I scarcely need say that I refer to the Hippocrates of Littré. But since then our progress has become more lively. In Greek we have had the Oribasius of Daremberg, Ideler's‡ *Physici et Medici Graeci Minores*, Wellmann's *Dioscorides*, Puschmann's *Alexander;* in Latin three or four critical editions or commentaries of Celsus, and so forth.§ To Littré and Daremberg in France, and in Germany to Diels, Ilberg, and Wellmann, we are largely indebted for the impulse they have given to the re-editing of medical texts, and for the fertile culture, both linguistic and scientific, which they have brought to the task. I wish we could show in this country a like accomplishment. It is mainly, I believe, to Professor Diels, upon whom the other day in Cambridge by bestowing an honorary degree we honoured ourselves, that we owe the great project of a *Corpus Medicorum Graecorum* from Hippocrates to Paul, now undertaken by the Berlin University under the auspices of the Associated Academies, and initiated by the *Excerpta Vaticana* of Philumenos, edited by that distinguished scholar, Max Wellmann. But after all our collections, probably after all we can hope to collect hereafter, the history of medicine will resemble the geological record in its breaches, in its fractions, in its faults, and in its embeddings of ancient and precious débris in later conglomerates. Cicero's conditions, "excipiente memoria, prodendisque monumentis" are in our history too often wanting (*De Div.*, i, 6).

I have regarded Rome as a vast dark background against which were projected the processions and conflicts of human ideas, as they gathered from east to west to pass before her, or through her, or to be taken into herself. It is necessary to my purpose, then, to see how this background was laid in; though in this place a survey of Roman origins must be so curt as bluntly to state for truths a set of opinions which, however probable, have as yet scarcely more than a provisional acceptance. The original, the lowest, and still perhaps the thickest stratum of the peoples of the region I may briefly indicate as Mediterranean, was and is a small slender dark race, long skulled, delicate in limb and feature, probably of neolithic descent, who buried their dead. This race was vivacious but not robust in body; not of large political capacity, being more factious than warlike, more clannish than national; vain and fickle but attractive, sociable, affectionate, even tender, yet wily, and with strange red veins of cruelty; but above all endowed with imaginative or at any rate with artistic gifts beyond the rest of the children of men. In the great peninsulas and myriad islands of the inland sea, and no doubt over a larger area, this race established civilizations of high culture, especially of artistic culture, which in its various modes and places is now known to us under such names as Pelasgian, Minoan, Aegean, Attic, Ionian, and so forth.

* I find this construction was not a mere pedantic pleasantry, Liddell and Scott do indeed ignore it with severity; but in Sophocles I find many examples from Alexandrian and Byzantine Greek, for example, Porphyry, Hermas, Leo Grammaticus, etc.

† *Science and Medieval Thought.* By T. C. Allbutt, Harveian Oration, 1901. Cambridge: University Press.

‡ Ideler published this work in the last year of his life (1841-2) at the age of 33. In him we had to lament a death even more premature than of Daremberg.

§ Another edition of Celsus is announced by the Saxon Society of Sciences under the care of F. Marx. There are rumours of the discovery of another and much earlier MS.

Now we are to suppose that northwards of this Mediterranean world there was an area of high pressure occupied by prolific races of alien stock, of greater physical strength and hardihood, of larger political aptitude, and perhaps possessed of weapons of iron. These various kinds of northmen were fair of complexion, and on the whole bigger of body; in temper warlike, dominant, stubborn, and ruthless. In contrast to the earlier race they burned their dead, and thus in later days the two customs continued side by side. We must presume that some period of time, probably a very long period, elapsed before, by their own increase or by the pressure of other races upon them, these fiercer northmen or mountaineers, as in the cases of Elam and of Assyria, became restless; pressure rose higher and higher, and the thrust southwards irresistible. Especially, as it concerns us at present, their periodical irruptions began and increased by way of the Balkans. Under the various names of Achaians, Thessalians, Dorians, Sicili, Umbrians, Sabines (probably akin to Umbrians), Oscans, and so forth, kindred tribes of warriors swept downwards on the peninsulas of Greece, Italy, and Spain, slaughtering more or less, but for the most part subduing and enslaving the more slenderly built dark people probably already enervated by peace and indolence.* The later descent on Rome of a coalition of "Keltic" and other tribes under Brennus, is more within common memory. "Gauls" and "Kelts," in one shape or another, were probably continual immigrants.

It is important to remember that, although in the Greek peninsula the Dorians swept downwards to Sparta and the South, into the southern half of the Italian peninsula the northern tribes scarcely penetrated. From geographical causes this area was more open to occupation by way of the sea, and was thus invaded from Greece; and the history of the flourishing harbours and cities of Southern Italy indicates that it was not malaria which at that time arrested or checked the immigration from the north, but the natural features of the land and coast. Southern Italy, in the times of which we are speaking—say from *c.* 570–280 B.C., when these cities submitted to Rome—was not Italian even in name, but in name was Magna Graecia and in character was Greek; and this character, until blighted by malaria, it maintained. The Italiote Greeks held their general assembly at Heraclea; the later Thurium was an outpost of Athenian influence. The people of this region were greatly reinforced, moreover, by the flight of kindred folk chased from Greece to "Saturnia" by the Dorians and their kind. In the time of Augustus Dr. Verrall speaks still of the Hellenic city of Naples, Hellenic in its society, culture, and festivals; it became filiated to Rome late and reluctantly. I have long held the belief that rivulets of this Greek blood and culture, choked indeed by oppression, disaster, and pestilence, were yet one source of those springs of new culture which broke forth in this region in mediaeval times—of the inspiration, so various in its manifestations, of Paulinus, of Telesius, of the physicians of Salerno, of the savants of Naples, and possibly of the Pisani. Frederick the Second, by the library he collected, fed these springs, but he did not make them. Dr. James tells me he thinks that before that collection there were not a few Greek MSS. in Calabria. The natives of Calabria of 1155 A.D., says Gibbon, were still attached to the Greek language and worship, and in mediaeval times passed themselves off as Greek. I may note that the first professor of Greek in a Western university was a Calabrian, Legrizio Pilato, at Florence, who pretended to be a Greek of Thessalonica. He is said to have translated Homer into Latin for Petrarch. If I remember right he was forcibly described by Boccaccio as a dirty, grumbling little beast. He had the honour, however of being killed by lightning on board a ship in the Adriatic. The archaeological spade work so much needed in Calabria will doubtless reveal hereafter in richer measure the distinctively Greek works and qualities of this region; and it will do more. Even to-day the Greek walls and tombs of the fourth century B.C. laid bare on the desolate waste of Metaponto read us not only the old homily of the mutability of human things, but the new and unlearned lesson that without Medicine there can be no abiding city.

About the time of the foundation of Rome, then, a large under population of the slight dark people was submitted to the ascendancy of more vigorous northern tribes, of whom Umbrians and Sabines may be taken as types. But this was not all. By way probably of the Po, but thence extending over the Appenines, a strong, a strange, and a gifted people, from whom the region of Etruria derived its name (Rasena in their own tongue), had in some foretime of history, perhaps about 1200 B.C., established themselves by fortified cities in northern and central Italy. As from this race Rome took much of its nature and customs, we must digress for a moment to learn what we can of the obscure story of its origin and affinities. We shall consider hereafter the close connexion of Latin Medicine in its later history with Asia Minor, a side of the story which the recent essay of Mr. Hogarth on Ionia has set very ably before us. To proceed after my summary fashion, we will regard Asia Minor as controlled by a great power whose history lies in the mists of the past, every key to whose language is lost, and, indeed, had disappeared in Strabo's time. This power—for we can scarcely indicate it less vaguely—was in its might continental rather than of the seaboard, and the seat of its power in inland cities. It seems to have consisted in a lordship of Aryan invaders from the North, by way of the Black Sea, over native races which in ancient times, under the names of Carians, Lydians and the like, occupied also the Levantine seaboard; and ancient records and modern researches indicate that what must have been a vast host of these people, Carians or Lydians, thrust out, perhaps, by the North Cappadocian overlords, whether these arrived by sea, as may be supposed from their place of origin, the tradition of their advance from south to north, and their Italian history as scalords, "pirates," and great traders, or, as Mommsen supposes—less probably *salvâ tamen ejus laude*, by the Balkans and Aquileja, and established themselves in Italy as Etruscans,† and brought with them not only some literature, some astronomical science, and a rich art, but also customs and ceremonies of such potency and tenacity as to have entered into the construction of ancient Roman society, so deeply as in no small part to have survived in the Roman hierarchy from then till now: for the Roman Ceremonial, as we see it, is not wholly, perhaps not chiefly, "Aryan." As, on the physical side, in their fleshy bodies ("Tuscus obesus"), almond eyes, big noses, and gorgeous tastes, so in their caste and stationary policy, customs, divinations,‡ magical and sepulchral ceremonies, dances, and festivals, this people was in character strongly oriental; and their divinations may have been witnessed by Abraham himself on his entry into Hebron. Their trumpets are said to have been Lydian, their pipes Phrygian. "Tuscos Asia sibi vindicat" was the record of Seneca. Profoundly as the Etruscans differed from the Umbrian or Sabine Roman, especially in respect of artistic faculty, yet in warlike energy, military caste, doggedness, hard and exclusive temper, aristocratic supremacy, and curiously enough in the status of their women, the two masterful races had so much in common that by their fusion Rome was created, and a permanent ascendancy established over the weaker but still multitudinous and, no doubt, somewhat mongrel people, or plebs, which we have regarded on the whole as aboriginal. We read of the "parcus Umber"—the close-fisted Umbrian; of the "tetrica et tristis Sabinorum

* Vid. paper by Mr. Stuart-Glennie (Meeting of American School in Rome, December, 1908) on a tomb of Pelasgic origin at Quinto Fiorentino (near Florence) which gives further evidence of a Pelasgic period between (as the author puts it) "the Ligurian and Etruscan epochs of Roman (Italian ?) history." If I dare enter into such vexed questions as of the round and long headed dark people of mid-Europe, and of Gael and Goidel, it will be readily forgiven me.

† That ornaments and utensils like those of Etruscan provenance have been found in Rhaetia is true, as I myself observed under Professor Pigorini's kind instruction many years ago, at Matrai, Trent, and elsewhere. But all bronze civilisation was not Etruscan. Moreover, the Etruscans buried their dead; the Rhaetians, like all the Hallstadt and Villanova folk (Umbrian?) cremated. The Sabine family is in Rome cremated. At Matrai bronze fibulae, coral and amber have been found together. Etruscan sway probably extended far beyond its realms, as, for instance, to the L. Benacus, the "Lydian Lake" of Catullus. The wonderful beauty and genius of their crafts are preserved for our admiration in all great museums, especially in the Vatican, in the Castellani and in Florence, and their work is described in Dennis's *Etruria* and later books.

‡ Divinations by entrails, flight of birds, etc., rather than by the astrology of the Chaldeans. Certain of the gods of ancient Rome were of Etruscan importation.

disciplina"—the sombre and puritanical discipline of the Sabines, who were the backbone of old Rome.* The patricians and their flamens seem to have worshipped Sabine deities. In broad outline, then, the background of Rome, for us the soil on which Roman medicine was to be cultivated, consisted of the original small, dark race, reduced to formal or virtual servitude, degraded but still vivacious and factious, and of an ascendant and irresistible aristocracy, mainly of northern invaders, but interpenetrated by another ruling race of oriental habits. It is remarkable, and belongs perhaps to the military avocation of Rome, that while in religion the omens and auguries of the Etruscans persisted and even prevailed, their notable artistic qualities, unless in the mighty architecture † and cloacæ, seemed under military rigour to have been blighted, or in later times to have been stifled in luxury, until the Renaissance, when in Tuscany especially it reappeared. In early times they were warriors, hunters, pirates, and athletes; we all remember the later description of them:

> Semper inertes Tyrrheni;
> At non in Venerem segnes nocturnaque bella,
> Aut ubi curva choros indixit tibia Bacchi;
> Expectare dapes et plena pocula mensæ
> Hic amor, hoc studium.
>
> *Æn.*, xi, 752 (vid. et Catullus, xxxix, 11).

Whether in war, in religion, in literature, or in any high purpose of man, when forms are not kept fluid by an ardent and expanding spirit, induration and corruption set in. We have spoken of one of the lessons of history—that so long as we keep mind and passion free, forms will take care of themselves and be transformed in ever new revelations of beauty and strength. Thus of the so-called Iberian or Pelasgian people, the artistic and imaginative qualities, which in all the Ægean cities were notable and in Greece attained to incomparable achievement, in Rome seem to have been crushed under the weight of the State; even the melancholy harp of the oppressed seems to have been muffled or silenced. Yet, such were the undying gifts of this brilliant race to an ungrateful world, that wherever they broke forth again into some freedom, in realms—as in Gaul and in Spain—where the fury of the northern invaders was appeased; or in remoter fastnesses such as Brittany, Wales, and Ireland, where they were, so to speak, squeezed out at the edges of the conquering principalities, their song was heard again; no longer indeed joyous, dominant, supreme, but wistful and symbolic, dreamy and unsubstantial in the sense of uncondensed mystery rather than of chaos; yet, as in the Ireland of the eleventh century, soaring again; in Alfred and Charlemagne educating not kings only but dynasties, and in France, in Belgium, in Franconia, in Switzerland, in North Italy (Bobbio) teaching and illuminating the new Europe; so that to this remnant in the far west, as to Greece, the old phrase may be adapted: *—Hibernia capta ferum victorem cepit, et artes Intulit agresti.* Their creative work, like that of the Jews, if it has not gone to the making of nations, has built up the spiritual kingdoms of mankind.

And of this race, not as the artificially degraded plebs of Rome but as the spiritually free, if politically subordinate, Pelasgic Ionians of Greece and Asia Minor, we have to speak as protagonists of Medicine in the arena of Rome; Rome as we have seen her grow up—austere, masterful not in ideas but in material predominance; yet, being ignorant and infused with Oriental affinities, superstitious, and in religion ritualistic and pharisaic; a people entrenched also in a folklore rank of folk medicine of their own, and worshipping a mob of pallid deities each, as elsewhere so in Medicine, personating rather than creating not only every chief system and function of the body but every stage of each. For each stage of labour there was its peculiar deity; and of limbs—even the harmless, unnecessary navel had its divine warden. Thus, as Bloch says in Pagel's *Handbook*, "the religious cult of Rome contained an entire pathological system"—and consecrated it. Mommsen had said also that this religion contained every function of life. Even the itch was not without its goddess. Thus for the early and religious Roman a scientific medicine was impossible. How in the decay of faith and by the immigration of the busy, curious Greek, this "cake of custom" was broken up we shall consider hereafter. Soranus bluntly declared that the obstetrician should be "ἀθεώτατος." It were scarcely worth while for the purpose of these lectures, even if I had the mythological knowledge, to distinguish in the chthonian and olympian hierarchies between the gods of the Etruscans and those, on the one hand, of the aborigines, and, on the other, of the northern invaders. Into the populous circles of Græco-Roman divinity almost any new god was welcome who would play in the old game. The Etruscan worship was, however, in the main nature worship, and its deities chiefly chthonian. And among all the aboriginal Mediterranean races the chief deity was, and still is, the great and fertile Earth Goddess—Dea dia, under various names—Cybele, Rhea, Ashtoreth, Diana, Orthia of the Spartans, Artemis of the Ephesians, and so on. In his rare hymn to Diana, Catullus, after saluting her as the mistress of woods and fountains, as Luna, as Trivia, as the patroness of corn and fruits, and as *Tu Lucina dolentibus Juno dicta puerperis*, exclaims:

> Sis quocumque tibi placet,
> Sancta, nomine; Romulique
> Antiquam, ut solita es, bona
> Sospites ope gentium.
>
> Catull., *Carmen. Sec ad Dianam.*

And, as Mr. Hogarth points out, in the General Council of A.D. 431, when the Nestorians were condemned, the Madonna had taken this place in the hearts of the people, and has held it ever since, both in the Roman and the Eastern Church. And I may remind you of a passage in the first volume of the *Stones of Venice*: "The Madonna is in great glory, enthroned above ten or dozen large red casks of three-year-old vintage, and flanked by goodly ranks of bottles of Maraschino and two crimson lamps . . . in the evening, when the gondoliers come to drink under her auspices, she will have a whole chandelier."

We cannot wonder that the Solemn City, the seat of so grave and haughty a race, mistrusted and repulsed the plausible and versatile but yet alert and intellectual Greek. When Greece was at its height Rome was the land of the soldier, the peasant, and the small trader; a people without art, literature, or philosophy. It has been aptly said that the relative geographies of the two peninsulas, Greece and Italy (for the elder Greeks the land of Hesperia), especially in respect of harbours and seafaring, were such that they turned their backs upon each other; and the mission of Rome was westward. Until the third century, except at Cumæ, and a little later at the remoter Ancona, the only fair harbour on the Adriatic aspect, the contact of Greeks with Rome, if any, was only by way of the southern provinces. It was not until four centuries after the time when Rome was little more than a dyke and a palisade commanding an agricultural domain that she established diplomatic intercourse with Greece,§ and that a Greek freedman of Tarentum became the earliest of Latin poets. After Metapontum, Tarentum, a great city upon a rock, founded by Dorians of Lacedæmon in 708 B.C., produced between 400–330 B.C. its finest coins, and led the southern confederacy until its reduction by Rome in 272 B.C.

So far, then, as we have analysed the sources of Roman Medicine we discover a broad and deep but far from pellucid stream issuing from and compounded of the folklore of the small dark people we have taken as aboriginal, of the Etruscans, and of the invading northern tribes whom we may indicate roughly as Thessalian. It is obviously impossible, were it worth while, to trace Roman folklore farther and severally upward to these

* The "Equirrinus after atque dentatus" (" with fine teeth," as we gather from the context) was probably "Iberian." This passage, to which I have lost the reference, alludes to the practice of rinsing the teeth with urine: the whiter the teeth and the redder the gums the more of this nauseating lotion must have been used. Urine has not ceased to be highly disinfectant in pharmacopœia; there are still connoisseurs among us who would use it, like "lasting spittle," for cuticle cleaners, and especially for children.

† It is said that the great temple of Jupiter on the Capitol was of Etruscan architecture; but great examples of it, in enormous city walls, the cantilever but overbearing, in the arch with uncemented key-stones, and the magnificent specimens of jeweller's work, are well known to all travellers interested in ancient history. The Roman house is supposed to be on Etruscan plan.

‡ To speak of "wedding the Celtic vivacity to Greek technique," unless in certain late and special instances when Greek had shrunk into a "technique," seems to me, etymologically speaking, misapprehension.

§ The well-remembered embassy of Diogenes, Critolaos, and Carneades to the Roman Senate praying for the reduction of an indemnity. The decree of expulsion of the "philosophers," a few years previously, must be taken as a sign that Greek ideas were then spreading in Rome.

three constituent founts; we must content ourselves with some note of its characters as we find them in respect of medicine when Greek physicians first appeared in Rome. Into that main stream were now poured three fresh tributaries. Two of these tributaries were medicine of the Greek clinical or Hippocratean school, which again was twofold: The earlier current of Italo-Greek origin, dating from the sixth century, deriving from the following of Pythagoras, Empedocles, Philolaus, Alcmaeon, at Achaian Croton, a school second only to Cos, from Metapontum, also from the school of that great physician, Diocles of Carystus, probably at Athens; and the later, but more direct, current, reinforced by the Alexandrians, of which Celsus is our exponent and eminent example. The third tributary was the Hellenistic medicine of which Asclepiades was in Rome virtually the first, as Galen was the chief example.

In an inchoate society, founded as was Rome, in the year 759 B.C. on some federative basis, the faculties of religion, law, custom, medicine, agriculture, could not be fully differentiated; and we shall see how long a time it took to release medicine from other functions, and especially from religion and custom; and even then how vehement were the later conflicts and reactions between clinical and scientific medicine, priestcraft, and folklore.

Folk medicine, whether independent or still engaged with religion and custom,* belongs to all peoples and to all times, including our own. It is not the appanage of a nation, it is rooted in man, in his needs and in his primeval observation, instinct, reason, and temperament. Still it is largely modified by the kind of man; for instance, in the Greek folk medicine was soon separated from theurgic medicine, and even from mysticism; so that a professional medicine was more quickly conceived and built up. The necessarily sceptical attitude of professional medicine whereby the infinite complexity of function and the baffling conditions of observation are understood, an attitude which even commended it to the subtle, inquisitive, and irresponsible apprehension of the Greek, was for the ceremonial and slow-witted Roman even more intolerable than it is for our own fellow-countrymen to-day. To folk medicine doubt is unknown; it brings the peace of security. If infallibility failed! why, the game was not played properly. From Cicero we learn, as we learn in modern Rome, the potencies of an inflexible ritual exactness. First of all, the right deity for the job had to be discovered; let us say, for fortune Mercury, Neptune for a voyage, Robigus against the mildew, and so on. Then he tells us how there was one priest for ceremony, another for formula. If a word was altered, if a flute player rested, or if an actor stopped short, the rite was broken; all must be recommenced. Prayer and personal observance had to be no less pharisaic.† So in medicine; the proper god or goddess had to be ascertained; then the proper formula of magic utterance to accompany the drug or operation, which, as we read in Cato and elsewhere, was to be recited with rigid precision.

Of supernatural or magical observances the more specific were "binding and loosing," the virtue of laying on of hands, the discovery of names, lustrations, holy wells, dreams and their interpretation, temple incubation with its corresponding donaria, and the fantastic notions of signatures and symbolisms, of sympathy and analogy, of talismans; all of which observances entered deeply into early Roman as into other folk medicine of those and of later times.

[These several veins of folk medicine, worked out at some length, were necessarily omitted from the Lecture.]

Having now indicated rather than described the theurgic and magical elements in Roman medicine, I will with your permission step back to take up my story again with the household and folk medicine, and particularly with the practice of Cato the Elder. The more remote and secluded the society the more freely domestic medicine flourishes, as common experience tells us. In the agricultural and pastoral provinces of Scotland, where journeys were long and toilsome, the housewife's medicine closet was the busier. The lairds and their wives "doctored and drenched themselves and their dependants with all sorts of weird and wonderful decoctions," mixed according to manuscript collections of recipes handed down from generations beyond memory. And in the English counties this self-reliance was not much less, especially among those of the gentry who rarely travelled far from home. I remember hearing that the great sportsman, Mr. Meynell, to get rid of the gout for a hunting day, would take on his own counsel two strong calomel pills and a teaspoonful of colchicum wine in a glass of hot gin and water; while the only stimulant he took with him in his flask was tincture of rhubarb. It is in some such light as this that we must regard the medicine of Cato—as one of the many arts and home industries which in early societies are not yet differentiated. Though not noble yet probably of old Sabine stock, Cato, by his rude honesty, energy, strength, and austere ascendency—*ferrei prope corporis et animi*, as Cicero says in the *De Senectute*—rose from quaestor to be aedile, praetor, consul, and censor. Like nearly all the old Romans, and like many Swiss landholders down to our own day, before the importation of Sicilian and foreign grain, and presumably before the introduction of malaria, he "tilled his own lands with his own hands." Now we learn from Pliny that Cato practised medicine by the guidance of a certain *Commentarium*, or traditional recipe book in many chapters, extant in Pliny's time (*Hist. Nat.*, xxix, 8), the contents of which, so far as conveyed in the *Historia Naturalis*, are partially known to us. Many of the prescriptions were futile, many were filthy, though in later generations they became filthier and filthier; some, however, were efficacious enough. Local and general narcosis were practised after a fashion. As we find the same or similar recipes in Dioscorides, Scribonius, and other such collections, we infer that Greek and Roman drew from the common sources of an ancient medical lore.

The best known of Cato's medical means are the homely prescriptions of cabbage and wine in various forms for almost all internal complaints, and his magic sentences, gibberish‡ which was uttered over both surgical and medical cases to expedite the cure. Now, although I have not met with the suggestion, it must have occurred to many medical readers that Cato's cabbage, in days when fresh meat was not to be had in winter, or certainly not by the lower orders and the slaves, probably acted very effectively as an antiscorbutic, and that by this virtue its repute as a medicine was made and sustained. The cabbage—*Olus* under its more general name, more specifically *Brassica*—was regarded seriously as a remedy long before Cato's time; by the Etruscans, for instance, and by the Greeks—at any rate by the Sicilian Greeks of the tradition of Pythagoras, as by Epicharmus, a pupil of Empedocles, who wrote a treatise in the Doric dialect in which cabbage was thus recommended;§ and, indeed, by physicians of no less distinction than Diocles, and Chrysippus the master of Erasistratus. If, then, Cato erred, it was in good company. The variety in use as a medicine in early times was probably the colewort, or sea cabbage, which has a slenderer leaf and a more bitter taste.

It may be asked why we should occupy ourselves with Cato, who, whatever his merits as a patriot, was from the point of view of scientific or artistic culture, a gruff, obstinate, narrow-minded rustic, whose violent denunciations of Greek physic were but illiterate prejudice. I think in this respect historians have done Cato some injustice. In no small part we as physicians have derived our impressions of Cato from the babbling of Pliny, who had the vanity and garrulity of Boswell without his reverential sincerity. But in Plutarch we have a truer appreciation of Cato. It was said that he took to learning Greek "in his old age"; "belike fearing," as Sir Philip

* Mr. Warde Fowler points out that the rites of Rome, whether Etruscan or Old Italian, are to be regarded separately from the religion much of which came from other sources.

† I read this year in a certain church, and over the signature of an eminent archbishop, that forty days of indulgence would be obtained by saluting a particular crucifix, and reciting one pater and one ave. But for one unable to go to this image twenty paters and aves would be required; one for each of the fourteen stations of the Cross, five for the five wounds, and one "à l'intention du saint Père." Thus tenacious is ritual tradition. In the recent controversies around the deathbed and burial of the late Mr. Tyrrell much curious matter of this kind was notable.

‡ From our point of view, gibberish; yet even gibberish may have its specific interest. It is probable that not Cato's incantations only, but those also of other times and peoples, are the degraded remains of some ancient tongue. Cato's "Daries, Dardanies, etc. . . ." may be remnants of Etruscan?

§ Vide Schneider, *Script. rei. med. Brassica* = κράμβη. "crambe repetita"; in the late Greek lexicon of Sophocles, κράμβη = κραμβίον, cabbage.

Sidney puts it, "that Pluto understood not Latin"; or, as Professor Mackail suggests, because of his admiration for the younger Scipio. But Cato was no such ignoramus; on the contrary, for his time he was a learned man. His stoicism, stern and inhuman as it was no doubt when compared with the milder interpretations of Panaetius, he owed nevertheless to Greece. And, before Celsus and Varro, he was an encyclopaedist—a "summist," whose chapters, not only on military matters and agriculture but also on law and history, were extant and respected in Cicero's generation. After his African campaign, and some nine years before his consulship, he discovered Ennius in Sardinia, brought him to Rome, and learned Greek of him at an age nearer 30 than 80 years. So that his Greek studies, were they more or less, extended over some half-century of his life. So far, then, from regarding Cato as a narrow and arrogant boor, may we not come as near to the truth if we regard him with Ennius as one of the founders of Roman prose, and put him in some low degree of comparison with Petrarch, whose diatribes against physicians were no less unmeasured and indiscriminate? Can we be surprised, on looking back to their several epochs, that the harsh puritan and the petulant humanist, the one and the other alike without scientific insight, denounced the parade, the greediness, the luxury, and the glosses of medical adventurers as they saw them? If Petrarch could not understand or foresee the growth of the scientific thought of his own age, shall we blame Cato for that he did not foresee Asclepiades or Galen, nor perceive that in 150 years Rome would be dependent on Greeks not for medicine only, but also for its science and philosophy, and for much of its exquisite and derivative literature? "Beliko" Cato, had he foreseen it, might have thought these Danaan gifts dearly bought at the cost of a sterner patriotism, of honour, and of righteousness. However, in all military periods of society—except, perhaps, that of Athens—the craftsman, whether of fine or practical art, has been regarded by the noble warrior with contempt; even *scholæ*—leisure itself—in such a period is humble.

It is improbable that Cato, versed as he was in annals and customs, would have accepted the absurd assertion of Pliny that for 600 years Rome had done without physicians, a new-fangled order, and moreover a canker in the State. Rome, in all its wars and plagues, must have had more than a domestic medicine, some accredited practitioners, even if of a Homeric order. For example, even in the reign of Numa the Caesarean operations both for removal of a living child from the dead mother, and conversely, were imposed by law.[1] A liability for this service in case of urgency was imposed upon all citizens, it is true; but these and other operations, such as the semi-sacred operation of trepanning, those for fractures and dislocations, for fistula, stone, etc., which we know were regularly and successfully undertaken, were no doubt as a rule committed to persons of professed dexterity. We know that there were many Greek physicians in Rome in Sulla's time; and certainly in the first century before Christ the "medicus" was plainly distinguished from the crowd of barbers, quack salvers, and wizards; for in the *Digest*, L. 13, 1, we read, "Medicorum quoque eadem causa est quae professorum nisi quod justior," and the law goes on to include orderly specialists, as for the eyes, ears, and teeth, for fistula, etc.[2] But "Non tamen stincantavit, si imprecatusest," which are not of the kind of medicine. To do more than note probabilities concerning ancient times of which we have few historical data is otiose; and it is only too certain that in and after Cato's generation many, perhaps most, of the medical adventurers who flocked to Rome were a gang of impostors who stank in the nostrils of high-minded men. Notwithstanding, secluded as early Rome was, it seems impossible that the learned and honourable traditions of the medical schools of Magna Graecia, of Alexandria, of Cnidus, and the rest can have passed over and around Rome, even into distant provinces of the West, such, for example, as Marseilles, etc., and yet left the Mother of Nations—not even then a very simple society—as if they had never been. Pliny was talking of times long before his own, yet he knew enough of Chrysippus, at any rate, to abuse him, and gives his case away when he says: "*Non rem (medicinam) antiqui* [our ancestors *damnabant, sed artem* [the craftsmen]." How can we say there were and had been no physicians in Rome before Archagathus, when in the time of Plautus, the contemporary of Cato, we note the Greek cast of his plays, and note specifically such remarks as: "*Ibo ad medicum atque ibi me toxico morti dabo*," though we can apprehend Cato's angry repudiations of them. Plautus speaks also of the Roman coin numus (*nummus*=about 1s.) as being not enough for a doctor's fee (*pius jam medico mercede est opus*). Again, Amphitryon exclaims: "I have looked for him in the marketplace, in the spice shops . . . in medicinis et tonstrinis."[3] There is in Plautus a good deal more of medicine with a colour so local that it clearly was not a hearsay medicine from Greece. Let us turn, for instance, to the fussy doctor in the *Menaechmi*—written 200 years before Christ—making his visits and boasting of his grand patients. He appears, moreover, to have had a Home in which he received sick persons for special treatment—*Ad me face uti deferatur. . . . Scin' quid facias optumum?* (that is, for a course of hellebore for twenty days). Lucilius again uses many medical words and phrases—not a few, such as "cataplasm," etc., taken from the Greek, as if Hippocrates had been filtering in between the generations of Ennius and Lucilius. We note from Plautus also that skin diseases were evidently rife in those days of dirt—*Serpere uti gangraena mala atque herpetica possit.*

Varro (Marcus Terentius) was a full century younger than Cato; he belongs, indeed, to Cicero's generation, yet he remained a Catonic sort of person; he also was a "summist" of the kind which in Rome Cato initiated, and Celsus, and may we not add, Virgil, whose *Georgics* were written about the same time in Rome, carried to its culmination. In Varro's nine *Libri Disciplinarum* medicine was the eighth book. In the time of Cicero, who was well versed in medicine, and even in that of Aulus Gellius, (*Noctes Att.* xviii. 10) a knowledge of the broader truths of medicine, and especially of bodily hygiene, was still considered part of the education of a man *liber liberaliterque institutus*; smatterings which, in the contemptuous phrase of Galen, had degenerated into "philiatry." In the volume of his output Varro almost equalled Galen; but all is lost, except his *De re rustica* and a few fragments. He seems, however, to have given to Rome less of medicine than of literature, antiquities, and "natural philosophy," especially mathematics; while to popularize "the higher philosophy" and rhetoric was Cicero's work. However, Varro says much on the salubrity of sites; and Hacser draws attention to the following remarkable passage: When the fleet and army of Pompey were at Corfu a pestilence broke out, and the houses were full of sick persons and corpses. Varro, however, "immisso fenestris novis aquilone, et obstructis pestilentibus, januaque permutata, caeteraque ejus generis diligentia, suos comites ac familiam incolumes reduxit."

While such was the general medical equipment of a Roman gentleman, and while also under the Republic we read of *medici* rich enough to own slaves, yet the technical practice was chiefly confided to domestic slaves. But we are not to suppose the slave of those times to have been what the haughty Roman took him for, nor to judge him on our prepossessions derived from negro slavery. The Roman medical slave was usually a Greek, and his price, by law fixed at not less than 60 minae, was a high one. The slavery was a convention enforced by the hardness of the times; the captive was not usually of an inferior race, but in brains as well as in dexterity often superior to his owner. His bondage was an accident; for on manumission his personal qualities often commanded such professional success and independence as to dissipate the sense of gratitude and attachment, and thus to give some check to manumission whereby valuable services were often lost

[1] Comparable legends of Zeus and Athene, of Bacchus in Virgil and Ovid, and one of Aesculapius as well as such celebrated cases as those of [illegible] Antonius.

In the *Lex Regia*, "si mater praegnans mortua sit fructus quum primum caute excidatur."

[illegible] in derision.

[2] Plautus speaks also of interpreters of dreams and omens, and of a charmer against disease—"praecantatrix." That the midwife should be "manibus pueris, aquilo operto" applies, I fear, rather to religious rites than to safe-ness. The midwife of the clandestine confinement in the Andria of Terence was a drunken slut. I need scarcely direct the reader to M. Pierce's delightful books on Medicine in the Latin Poets, and in Cicero.

Cancer, of course, was well known from early times: Ovid's *Utque malum late solet immedicabile cancer Serpere*—is, it an ape, of course, [illegible]

to the patron. Conversely, whatsoever the personal virtues of the slave, the debasing pressure and conventions of that status must have thrown some shade upon his character; so that too often the Greek, by nature slippery and inconstant, as a freedman—and even between the *libertus* and the Roman there was still a chasm—betrayed himself as a stealthy and venomous rascal.

Of medical colleges and public medical offices I will treat hereafter; but, speaking generally, it is true that in Rome itself there was no kind of professional test or standard to discriminate sharply between such medici as the gentle and accomplished freedman Antonius Musa or the botanist Lenaeus, and villains like Vettius. As manners softened, and intelligence and skill compelled recognition, the position of these slaves and freedmen improved, especially under the enfranchisements of Julius and Augustus; but their calling could not well progress nor gain public recognition as *ars prudentiae majoris*. Thus it was that, even under the Empire, Roman medicine remained almost wholly Greek; for the few physicians, such as Scribonius Largus, who bore Latinized names, were nearly all of them Greeks.[*]

How are we, then, to explain the enmity of Cato; and the malice of Pliny, who, while he endeavoured to ignore the physicians, could not refrain from signifying by his indiscriminate if not wholly unjustifiable abuse that they existed, and among the "antiqui" had existed, only too abundantly? Now, the fault of these physicians was not so much that they were crafty and rapacious as that their craft and rapacity were not of the Roman sort. As the physicians in Rome were practically all Greeks, their ideas were Greek, so Greek that no Roman could enter into them: furthermore, these Greek notions were not only mischievous in medicine, but in their more general tendency were socially subversive. The scent of a ruling class, secular or ecclesiastic, for inquisitive or esoteric opinions is amazingly keen, and its resentment ruthless. How haughty, ruthless, and unreceptive was the temper of the conquering races in Rome, how sacred were their religion and rites, how rooted their superstitions and folk medicine, how obstinately impermeable their qualities and customs to new ideas, and how incapable of elastic adaptations, we have already seen. We shall not wonder that all these conservative opinions and instincts should have incited, especially in Republican Rome, an alarm against foreign ideas. The old Roman of the type of Cato, austere and imperious as he was, was also, consciously or subconsciously, apprehensive of the instability of his State. Built as it was, not only upon slavery but also upon the quicksand of a restless, excitable *plebs*, mostly of alien blood, its security could be maintained only by the rigidity of the old iron will, consecrated tradition, military framework, and hardy strenuous habits. Thus the dominant class was clinging fiercely to creeds and rites whose validity they dare not suspect, and to intellectual conventions which, already sapped by Hellenic curiosity, were ultimately by Christianity to be overthrown. This issue the old Roman dimly but uneasily foresaw. And is it too fanciful to surmise that no less dimly, but by some community of racial instincts, the bent of the subject or plebeian Roman was apt to assimilate the notions of his distant kinsfolk of the Aegean, and to be stirred by the fickle passions, the irresponsible wit and faction of that clannish primeval race then, as before and since, intolerant of rank, though submissive to despotism? Such may have been Cato's presages; such, at any rate, was the upshot. For with spoils came luxury; with the defection of Carthage ease and security; with intellectual curiosity the sapping of creeds and the decay of patriotism. It is scarcely true, I think, to say that Rome was unstable for lack of a middle class; the equestrians took some such place; the instability lay in the rift between the upper classes and the plebs, an unassimilated and naturally turbulent mass, mixed with the nation but not mingled or organized with it.

NOTE.—The bibliographical references are reserved for the fuller and more formal publication of these Lectures.

[*] Sextius Niger and Julius Bassus, in Caesar's time, are said to have been Romans, though, as the fashion was, they wrote in Greek.

THE RELATION BETWEEN THE TIME OF RUPTURE OF THE FETAL MEMBRANES AND LACERATIONS OF THE CERVIX UTERI.

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VAGINAL examination during the puerperium is a practice the value of which is not generally recognized and is very seldom followed. Were it, the experience that would have been gained would, I think, have materially influenced in certain directions some methods which are at present too common among many practitioners; in other words we should have learnt from a new quarter the disadvantages of meddlesome midwifery. In these days when midwifery is slowly but surely passing out of the hands of trained practitioners into those of partially trained midwives, it becomes most essential to discover whether our methods of conducting labour are correct, so that definite rules may be formulated for their guidance.

Following the rule which has been in force for many years at the General Lying-in Hospital, I made vaginal examinations, when advisable, upon patients before they left hospital. I noticed, among other things, in my early examinations, that the damage to the cervix varied within wide limits, and I determined, if possible, to discover the reason or reasons for these conditions.

Many different factors might be held responsible—such, for instance, as the age of the patient, the size and weight of the child, and the time of rupture of the membranes. I came to the conclusion that the size and weight of the child were relatively, if not absolutely, unimportant factors. The time of rupture of the membranes was therefore left to explain the phenomenon. During the inquiry many other relations occurred to me to study.

My conclusions are based upon a consideration of 233 primiparous cases, in 164 of which vaginal examinations were made. The notes were recorded partly by Mr. Basil Hood, who succeeded me as house physician, and partly by myself, and, as a definite systematic method was followed, the results, due allowance being made for the personal factor, are comparable.

The examinations were made on the ninth or tenth day of the puerperium, after thorough evacuation of the bowel and bladder. The points recorded were:

First, the height of the fundus uteri above the pubes.

Secondly, the lie of the corpus uteri—whether to the right of, left of, or in the midline—and also its state of version or flexion.

Thirdly, the condition of the cervix, more especially with regard to lacerations. The lacerations, if present, being recorded under three degrees: First, those reaching less than half way up the vaginal cervix; secondly, those reaching half way; thirdly, those reaching up to or beyond the reflection of the vaginal mucous membrane.

Fourthly, the condition of the bases of the broad ligaments, any thickening in them being recorded, as slight or moderate.

Fifthly, the nature and quantity of the lochia.

In addition to the important relation I hoped to establish, there were three others that I thought might possibly be shown to exist—namely:

1. A relation between the quality and quantity of the lochia and the degree of uterine involution.

2. A relation between uterine involution and lacerations of the cervix.

3. A relation between cervical lacerations and thickenings of the broad ligaments.

A careful consideration of the notes has failed to prove to me that there is a definite relation between the lochia and the degree of involution. Unfortunately two disturbing factors crept in—namely, the patient being allowed to get up for a short time the day before the examination, and being given an enema upon the same morning—both factors which often lead to an increase and an alteration in the quality of the lochia.

Although my own notes show a definite relation between the thickening of the bases of the broad ligaments and

cervical lacerations, the degree of thickening increasing with the degree of laceration of the cervix on the same side, those of Mr. Hood do not. The difference in our findings was due, I believe, to the fact that Mr. Hood examined his patients in the Sims positions whilst I examined mine in the dorsal. To my surprise, I could find no relation between involution of the uterus and cervical lacerations.

The thesis to which I now turn is that *the degree of dilatation of the os at the time of rupture of the membranes determines for the most part the degree of laceration of the cervix.*

It is generally agreed that there are three factors concerned in the mechanism of the dilatation of the cervix. There is the contraction of the longitudinal fibres of the uterus, the relaxation of the circular fibres, and the mechanical stretching by the projecting bag of membranes, or, in their absence, the presenting part of the fetus. With regard to the third factor, Galabin states:

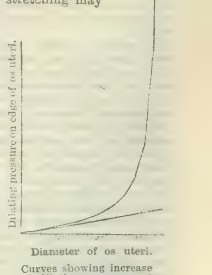
> The mechanical action of the dilating part, as it is pressed into the cervix, is that of a wedge: a fluid and uniform wedge in the case of the bag of membranes; a solid and irregular wedge in the case of the head or other part of the fetus. It follows that the effect produced by the wedge varies according to the acuteness of the angle at the points where it is in contact with the edge of the os.[1]

The dilating force of the bag of membranes continues until full dilatation of the os is attained, at which point, in most naturally conducted normal cases of labour, spontaneous rupture of the membranes occurs.

The generally accepted theory as to why the membranes rupture at full dilatation is, that they have just sufficient strength to resist rupture by the increasing pains until that point is reached.[2] But this does not explain why the membranes should so often rupture early in cases of breech or transverse presentations, or in cases of contracted pelvis, nor does it explain why the membranes which vary so widely in density and strength should in normal cases so frequently rupture at full dilatation. The membranes rupture early in the class of cases I have mentioned because they are early subjected to direct intrauterine pressure, and probably in normal cases rupture at the end of the first stage of labour because they are *not subjected until then to direct intrauterine pressure.*

Contrary to the usually accepted opinion, I believe those are correct who hold that direct uterine pressure upon the fetus forcing it downwards comes into play comparatively early in the first stage. If an examination be made, it will be found that the presenting part becomes firmly fixed over the os before the height of a pain, and by so doing acts as a ball valve which cuts off the forewaters from the backwaters, and thus from further intrauterine pressure, except such additional pressure as may be transmitted to them by any downward movement of the presenting part. Such an arrangement leads to a very gradually increasing pressure within the bulging bag of membranes. So long as the dilatation of the cervix remains less than the greatest circumference of the presenting part, so long will the ball valve action remain good; but, once the circumference becomes the least degree the longer of the two, it will cease, and the maximum intrauterine pressure will be transmitted to the forewaters suddenly and for the first time, and will as a rule be a greater strain than the membranes can resist. This, I believe, is the usual way that the maximum intrauterine pressure is transmitted to the forewaters; but it is quite possible that in many cases it is transmitted by means of descent of the presenting part, as was held by Playfair.

It follows that, when the first stage of labour is normal, the presenting part descends into a dilated cervix by which it is not tightly grasped, and hence no lacerations are likely to ensue. But should it so happen that the membranes rupture before the end of the first stage then the presenting part will descend into an incompletely dilated cervix by which it will be lightly grasped. In the latter case second stage pains will ensue and the uterus will transmit a force to the presenting part which will stretch the cervix at a rate in excess of its physiological yielding power, and, as a rule, beyond its momentarily elastic limit, and thus lead to its laceration. The nearer the os approaches to full dilatation the greater will be the force exerted upon it by the presenting part, because not only does the angle between the two become increasingly acute, but the pains will be stronger. It is not uncommon when the membranes rupture late to find that the presenting part is driven through an incompletely dilated cervix in one or two pains, thus proving how rapidly the stretching may take place. In those cases in which the membranes rupture early we should not find lacerations of the cervix so common, for in them, as a rule, labour is slow until the cervix is sufficiently dilated to allow the presenting part to enter; and when it does enter the pains gradually change in character from those of the first stage to those of the second. In the second stage contraction and retraction of the longitudinal fibres becomes marked, and thus tends to draw up the cervix and lead to a more rapid dilatation of the os. But even with these compensations a slight rupture appears to occur in most cases.



Curves showing increase of dilating pressure at the edge of the os uteri as the diameter of the os increases, the pains being supposed of the same strength throughout. The lower curve gives the pressure with membranes intact, and is straight, because under these conditions the pressure varies directly as the diameter of the os. The upper curve gives the dilating pressure of the head after rupture of the membranes. $\frac{3}{4}$ in is considered complete dilatation.

The increase in force that a descending vertex exerts on the cervix as the cervix itself increases in circumference will be more clearly understood if we consider for a moment mathematically a somewhat similar case. The accompanying diagram illustrates graphically the increasing stretching force that a sphere grasped as far as its greatest circumference by an unyielding substance would exert in that substance, as the hole through which it was passing was increased in size. (The problem has been kindly worked out for me by Dr. Gill, of Halifax, and I append the notes which he has sent me.)

NOTE BY DR. GILL.

Assuming it to be the fact that the most extensive tearing of the cervix occurs if the membranes are ruptured when dilatation of the external os is almost complete, what explanation can be found for it?

The dilating pressure of the head will be greater than that of the bag of membranes for most degrees of dilatation, and the ratio between them increases rapidly with increase in dilatation of the os. But this is not an explanation, because when the membranes are ruptured early, the os must still pass through the stage of more complete dilatation and sustain the severe dilating pressure of the head at the stage of almost complete dilatation. Also seeing that dilatation by the membranes is usually slower than dilatation by the head, the explanation cannot be that when the membranes are ruptured early the cervix has more time to soften, and therefore yields more readily when it meets the greater pressure, rather than tearing. On the contrary, the slower the dilatation the longer time the cervix would have in which to soften, so that if the condition of the cervix were the factor determining tearing we should expect less tearing when the membranes were ruptured late than when they ruptured early, whereas the opposite appears to be the fact. The only obvious remaining explanation is that the cause of tearing of the cervix is the sudden increase in pressure which results when the membranes are ruptured and the pressure of the head is substituted for that of the membranes.

If this is the explanation, then the greater the ratio of the pressure of the head to the pressure of the membranes for any given dilatation of the os, the greater the tearing which will occur if the membranes are ruptured at that stage of dilatation.

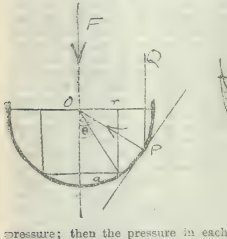
The following is an attempt to find the above ratio for varying degrees of dilatation of the external os:

It has been necessary to neglect friction between the head or the membranes and the inner surface of the cervix, as it is difficult to say whether friction would be greater in the case of the head or the membranes.

Probably in a moist labour friction would not be great in either case. If the friction were great enough, instead of producing a radial tear, as is usual, the head would tear off a more or less circular ring of the cervix. It has also been assumed that the head is spherical in shape. As it is more usually conical this would increase the tearing pressures above those

calculated, and in cases in which there is great moulding of the head, this will tend greatly to increase its dilating pressure on the os. The forces of the pains before and after rupture of the membranes have been taken as equal, but the pains after rupture of the membranes are usually more vigorous than those before rupture; this will further increase the ratio of the dilating pressure of the head to that of the membranes for any given degree of dilatation, so that the ratios shown on the accompanying curve probably make the dilating force of the head too small.

Before rupture of the membranes, if F is the force of a pain and r is the radius of the head, then the pressure in the forewaters will be approximately $\frac{F}{\pi r^2}$. At the edge of the os the dilating pressure will be the horizontal component of this pressure, or $\frac{F}{\pi r^2} \sin \theta$, where θ is the angle between a perpendicular through the centre of the plane of the os and a line drawn perpendicular to the tangent to the surface of the membrane at the edge of the os. Assuming that there is not much bulging of the membranes through the os and that the radius of the spherical surface formed by the bag of membranes is equal to that of the head (it could hardly be less, and is not likely to be much more), then the dilating pressure will be nearly $\frac{F}{\pi r^2} \times \frac{a}{r}$, where a is the radius of the os. After rupture of the membranes, let the force F of the pain be imagined broken up into an infinite number of very small vertical prisms of



pressure; then the pressure in each of these prisms in the direction of F will be $\frac{F}{\pi (r^2 - a^2)}$, where r is the radius of the head and a that of the os. The ratio of the area of surface at the point P on the cervix at the bottom of such a prism to the cross-section of the prism is nearly $\frac{1}{\cos \alpha}$, where α is the angle between the perpendicular to the plane of the os and a perpendicular to the surface of the head at P. Hence the pressure on unit area of surface at P along the line P Q parallel to the line of action of F will be $\frac{F}{\pi (r^2 - a^2)} \cos \alpha$. Then, if friction be disregarded, this pressure is the vertical component of the pressure P perpendicular to the surface at P, and the dilating pressure at P will be the horizontal component of this same pressure R—namely, $\frac{F}{\pi (r^2 - a^2)} \cos \alpha \tan \alpha$, or $\frac{F}{\pi (r^2 - a^2)} \sin \alpha$. At the edge of the os $\sin \alpha = \sin \theta = \frac{a}{r}$, so the dilating pressure there is $\frac{F a}{\pi r (r^2 - a^2)}$. Here the elasticity of the cervix is assumed to be the same throughout its extent, and as this is probably not the case, the results can only be approximately correct. They will serve, however, to give an idea of the order of the differences in dilating pressures at the edge of the os for varying diameters of the os when the dilatation is being done by the head and the membranes respectively and the force of the pains remains constant.

It will be seen that increase of force is remarkably rapid. In the case of a vertex passing through a cervix, how much more rapid must be the increase where not only is the practically unimportant weight of the child to be considered, but a rapidly increasing *vis a tergo* brought about by increasingly strong uterine contractions. Theoretically it follows that one would expect severe lacerations in those cases in which the rupture of the membranes occurred when the os was about fully dilated—say, for example, seven-eighths dilated, clinically expressed as "almost fully dilated"—and less severe when the os was too small for the presenting part to enter.

A consideration of the accompanying statistics will show that practically these theoretical expectations are borne out. Although the figures speak clearly for themselves, one or two points may with advantage be pointed out. It is noteworthy that 5 per cent. more severe lacerations occur in those cases in which, the cervix being clinically considered fully dilated, the membranes were ruptured, than in those cases in which the membranes ruptured spontaneously and the cervix was subsequently found on examination to be fully dilated. Most probably in both classes dilatation was not complete in some of the cases when rupture occurred, but Nature appears to have made the fewer errors. In those cases in which the os was "almost fully dilated" the percentage of deep lacerations is extremely high—namely, 45. In those in which the os was not more than a five-shilling piece in size, only 12½ per cent. show deep lacerations, but laceration of some sort occurred in every case.

It is unfortunate that in the last two classes the number of cases is so small, but I think the results, taken in conjunction with the rest, are sufficiently striking to arrest attention. As I have before mentioned, it believe that the premature rupture of the membranes is by far the most important factor in the causation of cervical lacerations; but belief, however firm, cannot in itself be considered proof. I have, therefore, considered the average weight of the infants, their suboccipito-bregmatic diameter, and their suboccipito-bregmatic circumference in relation to rupture of the cervix, and I find, as the second table will show, that they are quite negligible. I may add in this connexion that with two of the lightest fetuses deep lacerations occurred.

TABLE I.

	Number of Cases.	Average Age.	Percentage of Cervical Lacerations. Extent of Laceration.	Right Side.	Left Side.
All cases	164	23.17	Slight	49.39	46.93
			Moderate	15.24	17.07
			Deep	6.09	12.18
Spontaneous rupture: Os fully dilated ...	33	21.16	Slight	48.48	48.48
			Moderate	3.03	21.21
			Deep	6.06	9.09
Artificial rupture: Os fully dilated ...	46	22.8	Slight	54.34	41.32
			Moderate	19.56	36.95
			Deep	6.52	15.21
Spontaneous and artificial rupture: Os "almost fully dilated"	11	23.52	Slight	36.36	27.27
			Moderate	36.36	18.18
			Deep	9.09	45.45
Os not more than five-shilling piece	8	21.5	Slight	50	75
			Moderate	25	12.5
			Deep	0	12.5

TABLE II.

	No. of Cases.	Weight of Child in Ounces.	Suboccipito-bregmatic Diameter.	Suboccipito-bregmatic Circumference.
			In.	In.
Rupture of membranes—spontaneous: Os fully dilated	33	105.24	3.77	12.14
Rupture of membranes—artificial: Os fully dilated	45	110.51	3.81	12.2
Rupture—artificial or spontaneous: Os not more than five-shilling piece	8	113.56	3.81	12.53
Os almost fully dilated	10	116.9	3.75	12.22
Average for all cases	96	111.5	3.78	12.21
Deep lacerations all cases	33	111.75	3.76	12.07

The practical results to be drawn from this inquiry are, I think, obvious. If the ideal to be aimed at in the conduct of labour be to bring the process to a conclusion with the least harm both to the mother and child, then that ideal will be best attained by leaving the patient to deliver

herself, whenever possible, until towards the end of the second stage. It is curious to note how much attention is given to the preservation of the perineum, the principle borne in mind being to deliver gradually, and to contrast this with the frequent treatment—namely, hurrying—adopted when the presenting part is passing through an incompletely dilated cervix—an almost analogous condition. It follows that the membranes should only be ruptured artificially when the indications are definite, and as a routine method of hastening labour should not be practised. In those cases in which such treatment becomes necessary, the best time to rupture appears to be when the os is about half dilated, and on no account should they be ruptured towards the end of the first stage. Moreover, when the os is nearly fully dilated, the character of the pains gradually merges into that of the second; hence, the best chance will be given to the membranes to rupture at the critical time if the woman be advised neither to strain or bear down.

In conclusion, let me say that I in no way consider the results in my paper as finally settling this most important point. My original wish was to base them upon a thousand cases, but the opportunities for doing so having passed, I publish this paper rather in the nature of a preliminary communication, and in the belief that it opens up a neglected field for research in obstetrics.

Much labour has been expended in its production, the greater proportion of which has been borne by others rather than myself. Upon Miss Olive Haydon, the head midwife at the General Lying-in Hospital, has fallen by far the greater share; and to her my thanks are chiefly due, for without her patient help in many directions the paper must have remained unwritten.

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A SHORT CRITICISM OF THE SO-CALLED "RATIONAL PUERPERIUM."

By H. T. HICKS, F.R.C.S,

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I THINK Dr. Haultain's paper entitled "A Plea for a Rational Puerperium" should receive more criticism than it has. For some time past many German surgeons and obstetricians have been recommending early rising on the second or third day following abdominal operations and labour. Professor Kroenig has practised this early rising during the puerperium for more than two years. I admit that many of us keep our abdominal section cases in bed for too long a period, but I feel convinced that the ten to fourteen days' rest in bed during the puerperium is not only right but rational. I think Dr. Haultain's arguments in favour of early rising are far from convincing. He first mentions a few social reasons in favour of early rising, and says that multiparous patients spoke in eulogistic terms of it in comparison with their former experience. This may well be, because to them such treatment was a novelty, and the public, as a rule, likes something which they imagine to be new. On the other hand, one finds that women of the poorer classes complain commonly of having been forced to get up on the third or fourth day on account of domestic affairs, and they frequently date their uterine trouble from this period.

I do not believe that many women will agree with Dr. Haultain's patients that the ten days of rest is irksome to a degree, nor is it the rule for women to look upon their puerperal rest as either "invalidism or penal servitude." In my experience the majority of puerperal patients lie in bed after the birth of the child in a contented and happy frame of mind, while the uterus and surrounding structures undergo involution, and the process of lactation becomes established. It is true that labour and the puerperium are physiological processes, but this statement requires qualification. It would be more accurate to describe the puerperium as an extraordinary physiological process which, on account of the profound alterations in the local and general condition of the patient, may become immediately or remotely pathological. If this be not so, what is the use of the presence of the doctor? Now, considering that these profound changes are taking place during the puerperium, we have to place our patient in the best position to help Nature, and to avoid the many pathological incidents that may arise.

Dr. Haultain and some of the German authorities would have us believe that the upright position will not only help a normal puerperium, but will also prevent displacements and even benefit septic uterine conditions by affording better drainage. I am quite convinced that there is no real evidence that the lying-in period during the puerperium should be curtailed or altered in any way; and, further, that the position of rest for ten or fourteen days is the best means of aiding the natural physiological processes at work during this time, and that it also lessens the likelihood of incidental pathological complications. Dr. Haultain has given several specific examples in support of early rising. First, he says that by getting the patient up the active movements of the abdominal wall quickly increase the tone of the muscles, and therefore increase the intra-abdominal pressure, which he thinks of great importance in relieving venous engorgement and preventing constipation. In opposition to this theory I maintain that the abdominal walls will undergo involution just as well while the patient is lying in bed, for in spite of all theories to the contrary, the one great method of relieving congestion and venous engorgement of the lower abdominal viscera is to place the patient in the natural position of rest—namely, recumbent. Moreover, if the patient is allowed to be in the upright position on the second or third day, the abdominal muscles will have to bear the weight of a large uterus together with all the mobile abdominal viscera while they are yet in a slack and softened condition. This pressure must cause permanent stretching and pendulosity, and it seems to me that the useless obstetric abdominal binder would in this case be of some small use. In the recumbent position the abdominal muscles undergo a quiet and passive involution, unmolested by the weight of the viscera above, and aided to a small degree by active respiratory movements. I believe that rest, good food, and a happy state of mind will do more to prevent pendulosity and visceral proptosis during the involution changes of the puerperium than any small amount of tone that can be acquired in six or seven days of indifferent active muscular movements in the upright position. In ten to fourteen days profound physiological changes take place which render the abdominal walls able to withstand the visceral pressure of the upright position, let alone the fact that the uterus at the end of this period has sunk below the level of the pubes, and therefore no longer throws its weight upon the abdominal walls.

SEPSIS.

Dr. Haultain says rightly that the position of the patient has no influence as a primary cause of sepsis, and I suppose no one would allow a bad case of sepsis to be wandering about even if she could do so. So I will confine myself to the less virulent forms. Dr. Haultain quotes an ancient authority in connexion with this point (Rueff, 1634), and then goes on to say that several of his cases during their first day's exercise passed large clots which, had the woman rested in the recumbent position, would probably have remained in the genital passages for an indefinite period as a medium of septic incubation. He further states that the upright position affords better drainage of septic lochia. Now, if a puerperium is normal and the uterus is undergoing involution as it should, the passage of large clots is of rare occurrence. Again, if the lochia is septic, our duty is to clear out the uterine cavity and keep the patient all the more at rest in order that the circulation should be as quiet as possible, and thus prevent a local condition becoming a general infection. Further, I cannot see any reason for supposing that the uterus, which, after all, is the most important organ concerned, drains one whit more satisfactorily in the upright than in the recumbent position. No doubt if clots form they may remain in the upper part of the vagina for a short while, but some excessive respiratory movement or active straining at once dislodges them. Moreover, the upper part of the vagina should be sterile, and infection by this means extremely rare.

The last point which I wish to touch upon is the question of uterine displacements. For the sake of

brevity I will epitomize Dr. Haultain's conclusion. He says that at first sight the upright position would seem to favour a backward and downward displacement of the uterus, but this is not borne out by clinical facts, and that only 2 per cent. of his 100 cases showed displacements. Dr. Haultain forgets that against his 100 cases it would, perhaps, be possible to bring thousands of women who had gone through labour, followed by a restful puerperium, without uterine displacements. He then lays stress on the forward lie of the uterus being favoured by the upright position, and writes of the importance of the round ligament in maintaining this position. He says that the recumbent position must allow of the heavy uterus falling backwards and thus stretching the round ligament and predisposing to retroversion. Now, this theory may at first sight appear to favour early rising on anatomical grounds, but it is not the round ligaments alone which we have to preserve from strain and pressure while they are yet in their softened condition. More important by far are the structures which form the pelvic floor. Now, if the pelvic diaphragm is injured during labour, there is a very good chance that the ligaments, fascia, and muscles, which are in a softened and stretched condition, will undergo involution and heal if venous engorgement be lessened as much as possible, and the weight of the heavy uterus and other viscera be not borne by them while in their lacerated and softened condition. The early upright position must throw most of the weight of the uterus and other abdominal viscera upon the pelvic floor, as well as increase venous engorgement. These two factors are therefore extremely potent causes of pelvic visceral proplosis. I certainly do not understand Dr. Haultain's meaning when he says:

> It is unnecessary to argue that prolapse, like retroversion, will be equally avoided by the early upright position, as the prime factor in the initial stages of the downward displacements is retroversion.

Every one knows that when a uterus prolapses it must retrovert during the process of descent, but in these cases the prime factors at work are softening, atony, wasting and laceration of the complex structures of the pelvic floor, and the retroversion is a mere incident in the descent. Dr. Haultain gives what he calls an extreme example of the benefit derived from the early upright position in a patient who developed retroversion after a previous confinement, which was cured by early rising after a subsequent delivery. Apart from the fact that simple retroversion is quite a different thing from prolapse *plus* retroversion, this example is not convincing, for one has frequently seen such cases completely cured by satisfactory involution after a subsequent labour. There is abundant clinical evidence that the uterus not only maintains its normal position more easily when a patient is in the recumbent position, but, further, that even a retroverted or prolapsed gravid uterus will in nine cases out of ten rise from its displaced to a normal position after a few hours' rest in bed, even when incarceration has taken place.

Why is it that this well-known clinical phenomenon occurs? It is because the recumbent position at once relieves the venous engorgement of the pelvic organs and allows the weakened natural uterine supports to exert their forces, while at the same time, being free from engorgement, they tend to regain their tone. If a heavy retroverted gravid uterus will rise spontaneously to its normal level and anteverted position after a few hours' rest in bed, and will at once fall back after a few hours in the upright position, it surely requires no further clinical evidence to prove conclusively that a heavy subinvoluted uterus will keep its normal position better with the patient recumbent than taking exercise in the upright position. To argue that ten days in bed during a normal puerperium causes loss of voluntary muscular tone to any degree is an exaggeration.

One of the arguments in favour of early rising is that by stimulating the circulation those mild but extremely irksome cases of venous thrombosis will be less likely to occur. Well, we do not quite know the pathology of post-partum and post-operative thrombosis, but what little we do know points to its being due to a mild form of staphylococcal infection, and it may even be possible that the formation of a thrombus may be a natural protection against a general infection: further, there is absolutely no proof that stimulating the circulation will avoid it. The only scientific evidence in favour of increasing the rate of the circulation comes from the fact that coagulation nearly always picks out the most stagnant part of the blood stream. Lastly, we must not forget that there is always a chance that an embolus may become detached and block a vital portion of the circulation.

THE BLOOD-TIGHT UTERUS AND ITS INFLUENCE ON INVOLUTION.*

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By a blood-tight uterus I mean a uterus which not only does not allow blood to pass through its walls, but one which is itself empty of blood, and is actually anaemic. This is, I think, the ideal condition to be aimed at in the management of labour, and I shall attempt, first, to show the extent of Nature's endeavour to attain this ideal condition; secondly, to define the relation existing between this ideal condition and the process of involution of the uterus; and, lastly, to formulate a more definite conception of involution than, so far as I am aware, has hitherto been submitted to the criticism of the profession.

Natural Methods of Haemostasis after Delivery.

I believe that Nature provided at least two lines of defence against haemorrhage, and possibly she has another card up her sleeve as a reserve. We have two excessively vascular organs—the uterus and the placenta—connected together. It is essential that their union should possess at least three characteristics:

1. It must be sufficiently firm to minimize all chances of accidental detachment of the placenta.

2. It must be sufficiently delicate to allow the placenta to peel off readily when its functions have been fulfilled; and

3. This happy medium, when found, must itself be exceedingly vascular and capable of transmitting enormous quantities of blood.

There are no means of ascertaining exactly the volume of blood which passes through the uterus at term, but a rough estimate, based upon the collective diameter of the arteries supplying the uterus, would, I think, place it very close to the volume which passes through the femoral artery.

The preliminary stages of the problem were cleared and the happy medium was provided by the adaptation of the mucous membrane of the uterus, which, in its decidual form, fulfils, in addition to other functions, the three requirements I have postulated as being necessary to it. The critical point of the problem then presents itself. How is the cleavage of this very vascular union between two very vascular organs to take place with the loss of a minimum quantity of blood? One cannot resist the temptation to describe the solution in Horace's immortal phrase, *Simplex munditiis*. It is done simply and efficiently by the anatomical arrangement of the arteries. As you know, these thread their way between the bundles of uterine muscle in an exceedingly tortuous manner. During contraction of the muscle bundles the vessels which they enclose are compressed and kinked in such a fashion that it is practically impossible for any blood to pour through them, and the uterus becomes anaemic. In the periods between the contractions the compression and kinking of the vessels is kept up to a certain extent by means of that function of the uterine muscle which is called "retraction," which I believe partakes more of the nature of a passive elastic recoil than of an active force. If this be so, it will be perceived that during the periods of relaxation of the uterus the vessels are only held by the passive elasticity of the muscle bundle.

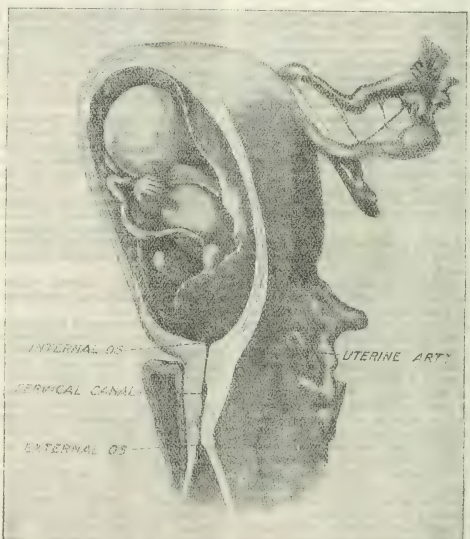
Now we have to take into consideration the pressure of the blood stream which is trying to force its way through the vessels in the uterine wall. Some years ago I made a series of observations upon about 150 primigravidae to ascertain the variations of blood pressure during the later months of pregnancy, and I found that there was a distinct rise of about 20 mm. of Hg at term. An American

* Read before the Obstetrical Section of the Branch of the British Medical Association.

observer working at the same time arrived at almost identical figures with my own. After labour a drop of about 20 mm. is found, but even this leaves a considerable pressure. It is very difficult to conceive that blood forced into the uterine wall at a pressure of something over 100 mm. of Hg would not open up the vessels when they are held closed during relaxation of the uterus by the mere passive elasticity of the muscle bundles. Yet we know that during relaxation the uterus does not bleed after normal labour. Therefore there is some other factor in the problem, and that other factor is what I venture to call the second line of defence against haemorrhage.

The uterine artery reaches the side of the uterus about the level of the internal os, and thence runs upwards. It is very tortuous, and one might compare it to a corkscrew or a spiral spring. In the Museum of the Royal College of Surgeons there is a specimen which illustrates this point very well.

During pregnancy the uterine artery grows to a certain extent, but there is no necessity for its growth to keep pace exactly with that of the uterus, because its length can be increased simply by straightening out some of its corkscrew-like turns, so that at term we have an artery 9 or 10 in. long, but which still remembers the corkscrew-like feeling. When the uterus has expelled the child, the uterus sinks down into the pelvis, and carries the uterine artery along with it, and the 9 or 10 in. of its length lie telescoped in 3 in. or so by the side of the uterus. In the telescoping process numerous sharp twists and kinks are produced, and in this simple device lies the second line of defence, for it is obvious that if the blood stream is able to pass through an artery so kinked and twisted as this one at all, it will by the time it reaches the practically undefended vessels of the uterine wall be robbed of its power to force its way through them.



Reproduced from Longridge's *Manual for Midwives* (London: J. and A. Churchill).

It is a matter of great regret to me that I have not a specimen of this condition to show; the demonstration dissection which I used to keep having unfortunately been lost, and I have had no opportunity recently of securing another. But a practical everyday proof of this second line of defence will, I expect, occur to the mind of every one. We often meet with a case in which after labour the uterus leaks; one cannot call it haemorrhage, but the leakage is sufficient to make one feel that it is not absolutely safe to leave the patient. One of the very commonest causes of this leakage is a full bladder, and it was one of the first clinical facts I learnt when I became resident at Queen Charlotte's. The full bladder occupies a large amount of room and prevents the uterus nestling down in the pelvis. This holding up of the uterus tends to straighten out the uterine artery, and so allows the blood to pass through it. Directly a catheter is passed, the bladder emptied, and a good squeeze given to the uterus, the leakage stops.

As regards the possible card which Nature holds up her sleeve, I will say nothing beyond mentioning that Dr. Blair Bell finds an increased calcium content in the blood at term, and that this fact is pregnant with possibilities which I have not time to discuss.

This account of the natural methods of haemostasis has a considerable bearing upon the problem which is the main subject of this paper, and that is involution of the uterus. I want you to recognize that Nature has provided a mechanism by means of which it is quite possible for the uterus to be blood-tight.

Involution is one of those subjects in medicine which one does not question, much less makes a problem of, until one begins to think a little about it. We take it very much for granted, and superficially it appears simple enough. Here is an organ which has hypertrophied with great rapidity for a specific purpose, after the fulfilment of which what can be more reasonable and proper than that it should disappear?

A certain amount of research work has been done upon involution of the uterus, but mostly of a microscopical nature. It was at one time considered to be merely a fatty degeneration of the muscle fibres, a view which was accepted until Helme, somewhere in the Eighties, I think, produced a paper in the *Transactions of the Royal Society of Edinburgh*. His work again was a piece of microscopical research, but from it he came to this clear-sighted conclusion. I will quote his exact words:

> The change is one of physiological retrogression; the actual chemical character is not revealed by the microscope, but it is probable that the cell protoplasm undergoes a sort of peptonization, all the surplus material that is no longer required being changed into some more soluble substance, which finds its way into the surrounding lymph.

This prophetic if somewhat vague, conclusion has been quoted in and copied from one modern textbook on midwifery to another, and there the matter has been allowed to rest. The various other facts concerning involution which a modern textbook reveals are not many. The most striking and peculiar is the fact that the process is exceedingly rapid for the first week or so, and after that becomes much slower. Whitridge Williams gives the weight of the uterus after delivery as 1,000 grams, 500 grams at the end of the first week, 375 grams at the end of the next week, and 60 grams after six weeks. Other authors agree approximately as to the accuracy of these figures. The outstanding fact is that the organ loses half its weight in a week. We learn, too, that the process of involution is apt to be delayed if any inflammatory action takes place, or if the organ is allowed to become unnaturally congested. Further delving into obstetrical literature brings to the surface certain cases of superinvolution, and in one case which I shall refer to shortly the uterus disappeared entirely after childbirth.

It is an extraordinary phenomenon for an organ to lose half its weight in a week as a physiological process. In this the uterus stands alone, therefore it is probable that the process by means of which this unique phenomenon is brought about is also something out of the common. Of course, many organs can and do lose half their weight in a week or even less—a whole baby can—but the process is then pathological, as, for instance, the rapid autolytic degradation of the liver in acute yellow atrophy.

As the term "autolysis" has come into medical literature since the time when most of us were occupied with purely physiological studies, I may say a little about it. If you take a piece of fresh tissue—say 5 grams of liver tissue—you are able to dissolve out of it a certain quantity of nitrogenous extractives. If you take an exactly similar piece of tissue, removed and kept absolutely aseptically in order to obviate all possibility of bacterial action, you are able to dissolve out of it at the end of some hours a greatly increased quantity of extractives. A change has taken place in the tissue which is independent of bacterial action, and this change consists in the transformation of insoluble tissue into soluble nitrogenous extractives. The name given to it is "autolysis." A large amount of work has been done concerning this change, and one of the main facts ascertained is that the change takes place far more rapidly in an acid than in an alkaline medium.

We have now three facts to help us in the study of involution:

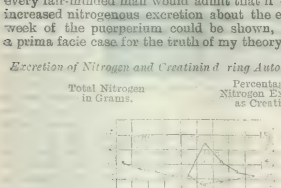
1. The fact that the healthy uterus loses half its weight in the first week after delivery; or, in other words, undergoes very rapid autolysis.
2. The fact that Nature provided mechanism enabling the healthy uterus to be blood-tight after delivery; or, in other words, intended that it should not be continuously flushed with an alkaline stream of blood.
3. The fact that autolysis of a tissue takes place much more rapidly in an acid than in an alkaline medium.

After delivery the uterus is anaemic: the powerful contractions of labour have developed in it a certain amount of sarcolactic acid, rendering the conditions for rapid autolysis as perfect as could be devised. Rapid autolysis, or the acid medium first stage of involution, proceeds up to a certain point: when, as I imagine, not wholly without some evidence, the uterine tissue has become so softened that the blood begins to percolate very slowly again through the organ, washes out the acid and the products of autolysis, and establishes an alkaline medium. The slow or alkaline medium second stage of involution then begins, and continues for some weeks.

This theory, if it does nothing else, meets the facts; but I should not venture to bring it before you if I were not armed with a certain amount of evidence in favour of it—evidence quite free from personal bias, because I found it in the negative result of another investigation which I was engaged upon.

If my theory is correct, it is reasonable to expect that, some time about the period when the acid medium first stage of involution is brought to an end by the blood beginning to circulate again through the uterus, the products of autolysis—that is, a large amount of nitrogenous extractives—should be washed out of the uterus by the blood and lymph streams and be excreted. And every fair-minded man would admit that if evidence of an increased nitrogenous excretion about the end of the first week of the puerperium could be shown, I should have a prima facie case for the truth of my theory.

Excretion of Nitrogen and Creatinin during Autolysis of Uterus.



Total Nitrogen: Continuous line. Creatinin: Dotted line.

The accompanying diagram represents the results of a long and tedious piece of work. At the time I was interested in the subject of creatinin, and believing that creatinin was due to katabolism of muscle, I thought I should find an increased creatinin excretion during the first week of the puerperium. In order that the results should not be vitiated by the excretion of exogenous creatinin, I had the patients kept upon a standard creatinin-free diet containing approximately 135 grams of nitrogen a day.

In this research it was, of course, necessary to estimate the total amount of nitrogen passed in the urine, because it was more important to arrive at the percentage of nitrogen excreted as creatinin, than at the absolute amount of creatinin excreted. All the total nitrogen estimations were carried out in duplicate and under the same conditions. I found it unnecessary to discard any on account of different values obtained. The observations were carried out upon ten patients for a period of nine days each.

As a creatinin research this piece of work must be classed as a negative result as far as my expectations were concerned, my expectations and not the result being at fault. The figure works out at about 3 per cent.* of total nitrogen excreted as creatinin, which is the normal figure for excretion of endogenous creatinin and subject to very little variation, since it is now known that the endogenous creatinin is due to the katabolism of tissue proteid.

The point that now concerns us is the curve taken by the total nitrogen excretion. It will be noticed that there is a marked rise about the end of the first week; this is not an accidental result due to striking an average, since in each separate case there was a similar rise. At first I was at a loss to account for this rise, but when it showed itself in case after case during my investigation, it seemed that it must possess some significance, and led to the somewhat shadowy and vague ideas which one had about involution becoming clarified and crystallized into a moderately definite conception of the process.

Physiologically, then, involution of the uterus may be considered as an acute autolytic degradation of the muscular tissue. It takes place in two stages, a rapid and a slow stage. The rapid stage differs from the slow in that in the former the uterus is practically anaemic and the reaction of the tissue is acid, whereas in the slow stage the reaction is alkaline and blood is slowly percolating through the vessel walls. I think that the initial acidity of the uterus is brought about by the retention of sarcolactic acid. The transition from one stage to the other is marked by an increased excretion of nitrogen. This theory is, as far as I am aware, the first and only one of which attempts adequately to meet the facts in the light of modern knowledge, and it is based partly on a commonsense application of the facts of autolysis to the process of involution and partly on definite experimental results.

I will now refer to a case recorded by Whitehead in the British Medical Journal, October 12th, 1872, which I think can only be accounted for on the lines of this theory. The patient was an anaemic woman, and after the birth of her last child she had *post-partum* haemorrhage. She was left, you notice, with very little blood in her body. After the cessation of the flooding "the discharge"—I am now quoting—"does not appear to have had the ordinary character of lochia, but to have consisted of a brown watery fluid, which persisted for a couple of weeks without any change in its appearance." Menstruation was never re-established, and upon examination later there was absolutely no trace of the uterus to be found; the entire organ had disappeared. The woman probably had an atonic uterus, and after the severe flooding she was bloodless. I conceive that the uterine arteries became thrombosed, and thus cut off the blood supply to the uterus. The usual rapid acid medium stage of autolysis progressed, but as the circulation was not re-established about the end of the first week, owing to the assumed thrombosis of the uterine arteries, there was no alkaline flushing of the tissue. The rapid acid medium stage of autolysis progressed for another week until the whole uterus was dissolved away in the brown watery fluid, which took the place of the ordinary lochia. Cases of superinvolution are not excessively uncommon, and I have sometimes asked myself whether the comparatively

* The higher values for creatinin on the first three days are due to excretion of exogenous creatinin, since the patients could not be placed upon the creatinin-free diet until after delivery.

small families of the present day may not be due in some degree to the excellent results which modern obstetricians obtain as regards involution, since there is no doubt that superinvolution may lead to sterility.

While on this subject I may add that I think a little knowledge of the process of autolysis is sufficient to elucidate the mystery of the curious pathological process known as red degeneration or necrobiosis which takes place in fibroids and in the centre of other large tumours.

There is at least one very obvious objection which may be urged against this theory of a blood-tight uterus, and that is that for some days after delivery a patient has a blood-stained vaginal discharge. The blood in this discharge oozes from the uterus and from small lacerations in the vagina and cervix. There is no doubt that in the majority of cases the greater part of the blood comes from the uterus, and, of course, in these circumstances the uterus is not blood-tight. But the question whether it is necessary for a patient to have any lochia at all may be asked on the following grounds. First, because in all surgical manipulations it is not in accordance with the best principles to leave any surface oozing. Secondly, because it is possible for a patient to be delivered and to pass through a puerperium without any further loss of blood; this statement is based upon my own observations on a certain number of cases, and, indeed, is not an uncommon experience. Thirdly, the human female is the only one among the mammalia to be afflicted in this way. No other mammal has lochia in the ordinary sense of the word at all.

Clinical observation has shown me that women sometimes are free from any lochia at all with the exception of a slight muco-serous discharge. In these cases I have more than once noticed about the fifth or sixth day a slight red discharge, which soon ceases. This is due, I think, to the circulation in the uterus being re-established. It ceases as soon as the surface of the uterus is sufficiently healed to check it.

Therefore I think that in the future the day may dawn when it will be generally recognized that it is not necessary for women to have lochia after normal labour. For the conclusion that a thing is right and proper because it is customary, is an argument the fallaciousness of which is at once demonstrated when we remember that forty years ago any wound which healed by first intention was looked upon with suspicion and distrust.

CASE OF LYMPHANGIOPLASTY FOR SOLID OEDEMA.

By A. B. MITCHELL, M.B., F.R.C.S.I.,
SURGEON, ROYAL VICTORIA HOSPITAL, BELFAST.

A. M., aged 25, had severe erysipelas of the face in June, 1907. This was followed by solid oedema of both eyelids. No improvement had resulted from treatment, including injections of fibrolysin. Fig. 1 shows the condition on June 29th, 1909, when operation was undertaken. As suggested by Mr. Sampson Handley,[1] artificial lymphatics in the form of sterile silk threads were introduced into the subcutaneous tissue. The operation was carried out as follows: (1) Two short curved incisions, ½ in. long, were made into the oedematous tissue of each eyelid; (2) a similar incision was made at the outer margin of the orbit; (3) a fourth incision low down on the cheek below the oedematous thickening. The skin below this last incision was freely separated by a blunt director so as to leave a loose pouch into which the lower end of the thread could be dropped. A round needle threaded with sterile silk was then introduced through the incision in the upper lid, and brought out through the incision at the orbital margin, and the thread drawn through till its upper end, which was knotted (to prevent it becoming dislodged by facial movements), lay buried in the swollen orbital tissue. The needle was again introduced, carried along under the fascia of the cheek, and brought out at the lower incision. The thread was now cut, leaving enough to drop into the pouch already prepared by separation of skin. A second thread was then introduced in the same way, so as to drain the lower lid. The little incisions were sealed with compound tincture of benzoin and flexile collodion.

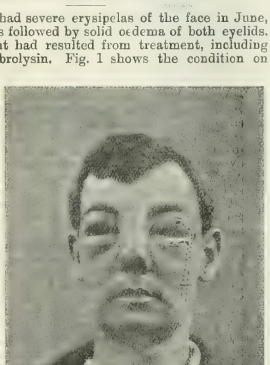


Fig. 1.—Condition at time of operation. Dotted lines indicate the position of the threads. The four lines — indicate the incisions required for introduction.

The other eye was similarly treated. The dotted lines in Fig. 1 indicate the position of the threads. Fig. 2 shows the condition three weeks after operation.

The thread leading from the right lower lid subsequently gave rise to slight irritation and was removed; the others still remain in position (October 9th, 1909).

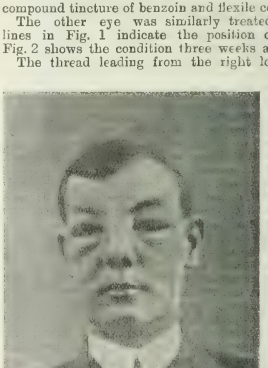


Fig. 2—Condition three weeks after lymphangioplasty.

The patient was shown to the Surgical Section of the annual meeting of the British Medical Association at Belfast, when I also showed a case of solid oedema of the left side of the face and lips supervening on erysipelas, which attacked a young soldier during recovery after operation for enlarged cervical glands, carried out in one of the military hospitals in England in 1907. On May 11th, 1909, two artificial lymphatics were introduced, the upper ends being secured into the fascia covering the masseter, the threads carried down along the vessels of the neck, their lower ends being dropped into the loose tissue behind the clavicle. The result was entirely satisfactory; the threads never gave the slightest trouble. The face assumed its natural contour.

REFERENCE
[1] *Lancet*, January 2nd, 1909; *Med. Annual*, 1909, p. 413.

INTESTINAL OBSTRUCTION FROM TRAUMATIC RUPTURE OF BLOOD VESSEL.

By ROBERT STEWART, L.R.C.P. and S. Ed., L.F.P. and S.G., D.P.H. Vict., NELSON, LANCASHIRE.

The following case came under my care recently, and I thought it worth recording, owing to the apparently slight injury that caused it.

I was called on October 18th, 1909, to see a girl aged 13, and found her fully dressed reclining on a couch by the fire in the sitting-room of a cottage house. She looked pale and very thin, but sat up shortly after I entered. The pulse was 96, temperature normal. She was suffering from nausea. The abdomen was flat, and there was pain above and to the left of the umbilicus. The stomach contained a quantity of fluid, and was somewhat distended.

The history was that on the evening of October 16th, while on a skating rink, a man (another skater) had accidentally struck her in the back, that is, the mid-dorsal region slightly to the left of the spinal column, causing her to feel pain both there and in the abdomen. She took hold of the barricade to prevent herself falling, but soon recovered sufficiently to be able to resume skating, and continued for about twenty minutes, until the rink closed. As soon as she was outside, the pain in the abdomen returned, and she commenced vomiting. This condition continued (although she went to bed as soon as she got home) till the morning of October 17th, on which she was able to go out, feeling much better, but she returned in about twenty minutes, and again commenced vomiting; this was accompanied by the pain in the stomach, and thirst. Previous to going out she took a little soda and milk, etc., but that was returned with the subsequent vomiting. This condition continued all night and till I saw her. She was put to bed, and given small quantities of fluid; an enema produced little result. Hot applications were made to the abdomen. I was again called late at night, and found her somewhat excitable. Her mother told me that she had been vomiting, and drinking water and soda water by turns almost continuously, the vomit being only clear fluid. The pulse was 100, temperature normal, and there was very little pain. The abdomen was flat, except that there was fullness over the stomach. By applying my hand over the stomach, and keeping up continuous gentle pressure, the stomach was emptied easily, as the contained fluid simply welled up. She then seemed much better, but very thirsty. A hypodermic injection of 1/4 grain of morphine was given, and no fluid allowed by the mouth; there was very little nausea through the night, and she had rested, though she had not slept much. In the morning small quantities of ice to suck were allowed. The abdomen was flat, the pulse 98, the temperature normal, and there was practically no pain in the abdomen except on pressure.

I was again called in the afternoon, and found her as on the previous night—vomiting, thirst, pain on pressure, stomach containing a good deal of fluid, apparently out of all proportion to the quantity taken. The vomit was very much bile-stained, but not faecal. I then ordered her removal to the Victoria Hospital, Burnley, for immediate operation, as a case of obstruction of the bowel high up near the stomach, and thought it might possibly be due to hernia of the bowel into the lesser sac of the duodeno-jejunalis. Dr. Rodgers, under whose care she was placed, agreed with the diagnosis and operated at once. I gave chloroform.

Operation.

Previous to opening the abdomen 36 oz. of bile-stained fluid were siphoned out of the stomach, which was then thoroughly washed out with normal saline solution until clear and the stomach thoroughly emptied. An incision was made in the middle line extending from just below the umbilicus upwards for about 2 in., and was later enlarged toward the ensiform cartilage. The small intestine, together with the caecum and large intestine, were enormously dilated and empty, and more or less studded over with small tuberculous nodules, as was also the greater part of the peritoneal cavity.

A great number of adhesions were felt at the pyloric end of the stomach, with much thickening. On turning the mass of small intestines aside, the first 7 or 8 inches of the jejunum was seen to be of a dark purple colour, greatly distended; the peritoneal covering had not lost its lustre, but in parts there were small black patches, especially at the free edge of the bowel. This distension and discoloration tapered both ways, and was longest at the free edge—in fact, had a very close resemblance to a piece of strangulated gut. While the upper limit of the injured bowel was being defined the swelling, which was firmly fixed, gave way, and a large quantity of dark, partly fluid, partly clotted blood was discharged. This disclosed the real cause of the obstruction. A vessel had been ruptured in the bowel wall and the blood discharged between the serous and muscular coats, where being confined, the pressure caused complete obstruction. When the blood was removed the lumen of the bowel again became patent.

Although the operation was quickly and thoroughly carried out the patient died next day.

The blood being confined between the coats of the bowel had limited the haemorrhage by pressure, while the same pressure had obstructed the bowel, and it is evident that, but for the pressure—that is, had the serous coat been ruptured—the patient would in all probability have died of internal haemorrhage soon after the accident. Another interesting point is that there was no external evidence of violence, subjective or objective, at the point where the patient received the knock.

ON THE EARLY RECOGNITION AND TREATMENT OF ACUTE INTESTINAL OBSTRUCTION.

By JOHN HARTLEY, F.R.C.S. Eng., HONORARY SURGEON TO THE DARLINGTON HOSPITAL.

I venture to bring forward these very imperfect jottings in the hope that they may induce others to believe that which has been all too slowly impressed on my own mind—namely, our proneness to neglect the early symptoms of obstruction, and to attribute them to biliousness, errors of diet, and the like—thus wasting much precious time, until the onset of so-called confirmatory signs, such as dry tongue, rapid pulse, and distended abdomen, forces us to amend our diagnosis and to recommend operation—all too late, it may be—to save the patient. For dry tongue, rapid pulse, and distended abdomen are not strictly signs of obstruction at all, but of the intestinal and peritoneal infection and toxic absorption resulting from obstruction and strangulation, results which we have permitted to develop by our delay. There can be little doubt that these secondary results rather than the initial lesion are mainly responsible for the difficulties and dangers which beset most operations for acute obstruction, and that they greatly conduce to their high mortality. Early operation has greatly lowered the death-rate in strangulated external hernia, and there can be no question that it would greatly reduce that from internal obstruction, although it is probable that the latter will always remain the more fatal lesion owing to greater difficulties of location and access.

In the following case the onset and early symptoms of obstruction and strangulation were clearly marked.

Case I.

A. H., aged 27. Was seen for the first time at 10.30 a.m. on Sunday, May 30th, 1909.

History.

He stated that on the previous Thursday he had been seized with severe pain in the *pit of the stomach*, which lasted on and off for several hours, and then went off entirely. He was not sick, was well and at work on Friday, and the bowels acted naturally on Saturday morning. He felt shivery about midday on Saturday, and his wife said he looked ill, but he soon recovered himself, and seemed all right until 8 p.m., when the pain returned severely at the pit of the stomach, and he became very cold. The pain was relieved for a time by vomiting, but recurred every hour or so during that night, being followed and relieved each time by vomiting. The vomit consisted at first of food, but later of yellowish-green slimy liquid. The bowels had not acted since the preceding morning, but he stated that he had passed a little wind, downwards, on three occasions since the onset of pain and sickness. He also stated that he had had what he considered a similar attack seven years previously, after eating raw plums, but on that occasion there was diarrhoea.

Condition when First Seen.

His aspect was by no means one of distress, and he said that he was fairly comfortable. The tongue was moist and clean; the pulse quiet, full, and rather soft; and the temperature normal. There was no fullness of the abdomen, which moved freely on respiration; no tenderness anywhere, and only very doubtful increase of resistance over the upper part of the right rectus; the area of stomach resonance was considerably increased upwards, the left chest below the nipple line being markedly tympanitic, and the resonance extending round to the posterior axillary line. The patient pointed emphatically to the epigastrium as having been all along the seat of the pain. Nothing definite was felt by the rectum except that the grip of the sphincter was slack.

He was taken into the hospital about 1 p.m. An enema of olive oil ℥v, castor oil ℥ss, and turpentine ℥ss, was given, followed by soap and water, and the stomach was washed out. The enema produced a very large motion, a thoroughly satisfactory evacuation, except that no flatus accompanied it. The washings from the stomach consisted of nearly clear fluid tinged with blood. The patient was relieved for a time, but in the afternoon the pain recurred in paroxysms, its character and position

being the same as before. He was no better during the night, except that he did not vomit until 7 a.m. When seen at 11 a.m. on Monday his aspect was markedly changed, the face being pinched, grey, and distressed. The tongue was still moist, but the lips dry and indented; the pulse was little altered in rate, but had lost firmness and was floppy. The abdomen was slightly fuller, but still moved fairly in respiration; there was pain still in the epigastrium, with in addition an area of distinct tenderness below and to the right of the navel, where something which suggested a distended coil of bowel could be felt. There was slight but definite increase of resistance over the right rectus. On rectal examination some bulging, like that of a full bladder, could be felt, though the bladder had just been emptied naturally. There was no ballooning and no tenderness, but the sphincter was slack.

Operation.

Chloroform followed by ether was given about 1 p.m. The abdomen was opened by an incision through the right rectus muscle a little to the right of the middle line reaching from above the umbilicus to just above the pubis. Clear blood-stained fluid welled up freely, and coils of somewhat distended and injected small intestine presented. On tracing toward the spine the mesentery corresponding to the distended coils, a firmly-twisted stalk was felt. Untwisting was impossible until a mass of heavy, distended coils, intensely congested and ecchymosed, had been lifted out of the pelvis. After this the twist, which was in the direction taken by the hands of a watch, was reduced without difficulty. A part of the ileum, about 2 in. from the ileo-cæcal valve, had formed the axis of the volvulus which consisted entirely of ileum. At this point the bowel was constricted, and appeared scarred, as if the volvulus had existed to some extent for a considerable time. A split rubber tube with gauze wick was put into the pelvis. The operation occupied about thirty minutes.

After-History.

There was no great amount of shock at the time, but an hour after the operation the pulse was 120 and rather feeble. An enema of saline with ʒj brandy had been given directly after the operation. When seen at 6 p.m. he was in less pain than before the operation; the pulse was 116 and the tongue moist. Liq. strych. mv was given hypodermically every four hours. Brandy and water by mouth and an enema containing magnesium sulphate to be given every four hours. He had little sleep during the night but was not restless; at 11 a.m. he looked less distressed, his colour was improved, the pulse was 108 and the temperature 99.6° F.; there had been no sickness, and he thought he had passed a little flatus. The abdomen was but little distended and moved well in the upper half but not much below. The enema had been returned after a few minutes with no motion. A considerable amount of blood-stained serum was removed from the tube by pushing down and withdrawing strips of boiled gauze. The stomach, being still distended, was washed out; very little gas escaped, but some glairy, yellow liquid was ether-like. In the evening, after another injection of turpentine and soapy water, the bowels acted moderately well with flatus, and the patient went to sleep. The case gave no further trouble, and the patient, when seen five months afterwards, expressed himself as well.

I have related this case in full not only because its early symptoms were clearly marked, but also because its progress seems to be definitely divisible into three stages, as occurs, I believe, in nearly every case of acute obstruction unless interrupted by treatment.

First there was the preliminary stage in which the volvulus, though apparently existing, was not screwed up sufficiently tightly to cause strangulation or more than partial obstruction. The scarred appearance of the constricted gut, noted at the operation, together with the passing pain of Thursday, showed I think that the volvulus was in being on that day, and probably long before.

The second stage began with the acute attack of Saturday, when the presumably already partially obstructed coils in the pelvis had become sufficiently heavy to put on the screw (possibly owing to some sudden movement) and cause strangulation and total obstruction. The onset of acute strangulation was marked by sudden severe pain, shock (the patient becoming very cold) and vomiting, followed by temporary relief.

This sequence of pain, vomiting, and relief recurred throughout the night until the patient was seen at 9.30 a.m. on the Sunday. There was then one physical sign, and so far as I could see only one, namely, distension of the stomach upwards and to the left—without general distension or other discoverable abnormality of the abdomen, without change in pulse, temperature, or tongue, and without loss of the general appearance of health. This, be it remembered, was after acute strangulation had already existed for at least fourteen hours. Moreover, the bowels had acted naturally within twenty-four hours, and were to act again most freely, though without the passage of flatus, after an enema given two hours later. Little result was obtained by washing out the stomach. The enema gave relief for a time, but the pain recurred in the afternoon, and through the night, becoming gradually less severe, but more continuous.

The third stage had begun when the patient was seen on the Monday morning, thirty-eight hours after the acute onset. Signs of peritoneal infection and toxic absorption, though slight, were then present—namely, slight fullness of the abdomen, with tenderness remote from the site of initial pain, together with softness of the pulse and some pinching and greyness of the face; the distended coils in the pelvis could then be felt on rectal examination as a fullness, the lips were dryish but the tongue moist. At the operation the coils of the volvulus were found distended, congested, and ecchymosed, and the lower abdomen full of clear blood-stained fluid. Had the operation been postponed for another twenty-four hours, it cannot be doubted that the coils of the volvulus would have been beyond repair and the abdomen full of pus. Indeed, I cannot help the conclusion that it might have been safer to have operated on the previous day, when it had become clear that stomach tube and enemata had failed to relieve the pain.

The difficulties attending very early operation are, first, the very natural repugnance of patient and friends to operation at a time when the patient does not appear seriously ill; and, secondly, the choice of the site of incision when no local tenderness or palpable abnormality is to be found. Probably one would not be far wrong in taking the old recommendation to go in a little to the right of the middle line, from 2 or 3 in. above to 2 or 3 in. below the navel in the first instance, according to the size of the abdomen and the amount of fat, afterwards lengthening the opening in either direction as required.

The site of initial pain is often, as is well known, in the upper abdomen or about the navel, and may be quite remote from that of the lesion, at any rate, at first.

CASE II.

A man, E. W., aged 55, was literally struck down, whilst giving a lecture, by sudden faintness with a pain (as he afterwards described it) as of a heavy blow over the middle third of his spine. He was violently collapsed, and on partially recovering from the faintness, suffered, almost continuously till his death, from vomiting and diarrhœa without the passage of flatus. Slight tenderness was found on the second day just below the right hypochondrium. There was no distension till the third day. He died suddenly on the fourth day, having been so feeble throughout the illness that I feared to explore lest he should die on the table. At the *post-mortem* examination it was found that the ascending and transverse colons were united by firm old adhesions in such a way that the hepatic flexure formed a pocket roofed over by the adhesions. In this pocket a knuckle of ascending colon (which being provided with a long mesocolon was freely movable) was found, herniated and strangled. Only a small part of the lumen of the herniated knuckle was involved, hence the diarrhœa, but the adhesions were very firm, and the herniated part showed a dense fibroid ring of scar tissue. I learnt that the patient had suffered from flatulence and vague pains "about the liver" for many years.

This was obviously a case of acute exacerbation of a very old lesion. The site of the initial pain was remote from the lesion; the obstruction was not sufficiently absolute to prevent diarrhœa, but the strangulation of even so small a portion of the lumen of the gut did as a fact prevent the passage of flatus altogether. The acuteness of the onset gave here, as in so many cases, no hint of the chronicity of the original lesion.

I am indebted to my colleague, Mr. Pearson, for permission to refer to the two following cases, where were under his care in the Darlington Hospital. They emphasize the point that the passage of a good motion, or even of motion with some flatus (especially if it occur as the result of enemata), does not necessarily negative the diagnosis of acute obstruction in a suspected case.

CASE III.

A boy, aged 14, was admitted on a Saturday evening, suffering from severe paroxysmal pain in the abdomen, with vomiting followed by relief, and this pain, vomiting, and relief recurred many times during the night. The abdomen appeared normal except that there was slight tenderness in the region of the appendix.

As he seemed somewhat better on the Sunday morning, and there were no further signs, it was decided to await developments. He passed both motion and flatus that afternoon, but pain and vomiting returned during Sunday night, and at the

operation on Monday morning the end of the ileum was found tightly tied down by an inflamed appendix. This was removed, and the case did well.

CASE IV.

In the case of a young fellow who was admitted for recurrent paroxysmal pain and vomiting, the abdomen remained quite flat for five or six days, and the bowels acted regularly after enemata, but pain and vomiting continued. The abdomen then gradually became distended, and he died at the end of a week. At the *post-mortem* examination it was most difficult to make out the condition until the abdomen had been laid most thoroughly open by both transverse and longitudinal incisions. It was then found that the small intestines, the ascending and transverse colons, had something of the nature of a common mesentery, and that a huge volvulus had taken place around the duodeno-jejunal flexure. Relief by operation must obviously have been impossible.

Distension of the stomach upwards is, I believe, a sign not to be lightly passed over in a suspected case, and the washing out of the stomach should, I think, be as much a matter of routine as the administration of enemata before proceeding to operation. This latter point has been impressed on me by its results in two cases—one in a man of 45, the other in a man of 70. In both there was sudden onset of severe pain and vomiting. In one the initial pain was in the epigastrium, and when seen twelve hours after the onset there were slight resistance and tenderness below and to the left of the umbilicus. In the other case the sites of pain and tenderness were coincident in the left flank. In both cases there were periodical pain and vomiting, and in both there was well-marked shock. They appeared to be typical cases of acute obstruction. In both there was marked upward distension of the stomach, in both enemata failed to give relief until the stomach-tube was used, and a large quantity of gas in one case, and brown fluid in the other, had been evacuated. Then flatus and motion began to pass, and the patients were soon convalescent. No tenderness or resistance could be found the next day in the abdomen in either, though one could not help suspecting that a chronic lesion still existed in each case.

Distension of the abdomen does not, I believe, as a rule, occur to any extent until from thirty to forty hours, or even longer, after the onset of acute symptoms. Secondary changes are apparently more rapid where a loop of bowel is strangled, than when the constriction is single, though Mr. Pearson's case of volvulus seems to be an exception. I believe that distension should never be waited for, but that the abdomen should be explored as soon as it has become clear that stomach tube and enemata have failed to do away with both pain and sickness. The following case, which occurred in my own general practice, has been a lesson to me as to the difficulties and dangers which will almost surely follow the practice of waiting for distension, more especially as the amount of bowel distension always proves considerably greater than the size of the abdomen would have led one to expect.

CASE V.

A boy, A.B., aged 16, was seized with sudden pain in the epigastrium followed by vomiting on a Saturday evening. He was so far relieved by the vomiting that he was able to continue his work, but both pain and vomiting recurred frequently during the night, and when seen for the first time on Sunday afternoon these paroxysms of pain, followed by retching and relief, were still taking place. The tongue was clean and moist, the temperature and pulse natural, the boy did not look ill, the abdomen was flat, soft, and free from tenderness, and moved freely with respiration. He had passed neither motion nor flatus since the onset. On the Monday a fair amount of flatus was passed after enemata, but pain was still present, less severe but more continuous. On Monday evening it was noticed that the abdomen was a little fuller and more resonant. Tenderness was present but indefinite, chiefly over the left lower quadrant, the tongue was moist and not quite so clean.

On Tuesday morning there was definite distension, especially of the right lower quadrant, the pain was not severe but continuous, and there was occasional retching. The pulse was quiet and the temperature normal, but the tongue was inclined to be dry. The boy was now beginning to look ill.

First Operation.

The abdomen was opened through the right rectus near the middle line, from the level of the navel to a little above the pubis. Distended and injected small intestine presented. The incision was lengthened, and much distended intestine was extruded from the abdomen before the obstruction could be found and isolated, being due to the whip-like end of a Meckel's diverticulum which had tightly constricted the ileum a few inches from the ileo-cæcal valve. The intestines were much distended and difficult to return, and it was felt that if returned in their distended condition there would be subjected to much pressure and kinking. A Carwardine's tube, with a rubber one attached, was therefore put into the bowel just above the site of the relieved obstruction. There was, of course, considerable shock, but the tube acted freely.

Second Operation.

The boy did well for a fortnight, when paroxysmal pain and slight local distension again occurred. The abdomen was again opened, through the left rectus over a distended coil, and many adhesions broken down. The case appeared quite hopeless, but after a very long and severe illness the boy recovered, though with a fistula, the result of opening the ileum, which kept him continually in a mess and always sore.

Third Operation.

Many attempts were made to close it without opening the peritoneum, but at the end of fifteen months it was felt that something radical must be done. The fistula, which was constantly discharging, was about midway between navel and pubis, and a little to the right of the middle line. The skin of the abdomen was raw and soaked with discharges, and any attempts to cleanse it merely rubbed off more epidermis. A crescentic flap of skin and subcutaneous tissue was therefore dissected up from the right rectus, the fistula being covered with a gauze swab, and the flap turned back over swab and fistula, and stitched to the skin of the left side of the abdomen. A split in the bowel was then stitched, one edge to the right margin of the wound and the other edge to the raw surface of the flap. A fairly aseptic surface was thus secured over the right rectus, and the abdomen opened through this. The afferent and efferent limbs of the fistulous bowel were clamped and divided, and an end-to-end anastomosis made. An inverted V-shaped piece of bowel now hung from the edges of the fistula, the end of each limb of the V being secured by a stout ligature left long. By passing the eyed end of a probe through the fistula and the wall of a limb of the V, and threading the eye with the ligature, the limbs were in turn drawn inside out through the fistula to the outside of the abdomen, when they were ligatured and cut off. The wound was closed in the usual way and healed well.

The case was in the end satisfactory, but one cannot help feeling that the price paid for twenty-four hours' delay was a heavy one. Had the boy been opened on the Monday morning, before distension took place, there would have been less difficulty in finding the obstruction—probably no need to open the bowel—no turning out of distended and congested coils, with consequent formation of dangerous adhesions, and probably no further operation would have been needed. I may contrast with this the following case:

CASE VI.

A little boy, aged 4, was admitted for paroxysmal pain, followed by vomiting and intervals of ease. His bowels had not been open since the previous day, when the illness began. The stomach was distended upwards; the abdomen was perhaps slightly full, and there appeared to be some tenderness in the right iliac fossa. The temperature was normal.

On opening the abdomen, the small intestine was seen to be slightly injected and distended. Two coils of the lower ileum were found to be looped into a kind of rosette by a tightly constricting band. This was divided and the child got quickly well. We had not waited for distension in this case.

Case v occurred before I had fully realized the danger of distension. If distension is present to any extent at the time of operation, either distended bowels must be handled and probably turned out of the abdomen before the obstruction is found, and, even so, an enterostomy will probably be necessary, or, as so ably advocated by the late Mr. Greig Smith, an emergency enterostomy only may be done in a prominent coil, the obstruction being left until later. The former line of practice usually produces immediate and often fatal shock, and, if the patient survives, is liable to be followed by dangerous adhesions; while the simple enterostomy can only be satisfactory when the obstruction is single in the continuity of the gut. For, where a loop of bowel is shut off by an obstruction, it is difficult to see how a simple enterostomy can save life. The moral is, I think, that cases of acute obstruction should be diagnosed and submitted to operation before distension has occurred—provided, of course, they are seen sufficiently early.

I venture to make these remarks because I am that thing—neither flesh, fowl, nor good red herring—a general practitioner, holding a surgical appointment; and because I think the hospital surgeon proper rarely sees these cases in the earliest stage. As a rule the early diagnosis of acute intestinal obstruction is a matter for the general practitioner, and to my brother general practitioners I would venture to submit the following suggestions:

That every case of recurrent paroxysmal abdominal pain, followed by vomiting and succeeded by intervals of ease, more especially if the stomach resonance be increased upwards, should be considered as presumably a case of obstruction. If the onset has been accompanied by shock the presumption is still stronger. External hernia should be at once searched for. If this be absent, then enemata should be carefully and thoroughly given and repeated and the stomach washed out, *morphine being absolutely withheld*, and hot applications used to relieve pain. If, after this treatment has been carefully carried out, relief from both pain and vomiting does not occur *and continue*, whether or not there may have been motion or flatus passed after the enemata, then operation should be arranged for without waiting for the signals of the third stage—namely, the dry tongue, quick pulse, anxious face, and, above all, the distended abdomen. For dry tongue, quick pulse, and anxious face mean that toxic absorption from an infected peritoneum has already sapped the patient's power of withstanding shock, and the distended abdomen implies either an incomplete and unsatisfactory operation or one around which nearly all the elements of shock are sure to be assembled.

A distended abdomen in those cases which survive operation usually means a long and distressing illness, too often complicated by the effects of adhesions, and frequently to be followed by a second operation for the closure of the enterostomy. As general practitioners we are all of us, I suppose, agreed that it is little less than criminal to watch and wait while a glaucomatous eye becomes blind and stony, or a cancerous breast contracts obvious adhesions and develops palpable masses in the axilla. None of us would advise postponing operation till extravasation should take place from an impassably strictured urethra, nor should we put off turning till an arm presentation had become firmly impacted. About such cases as these we have fully made up our minds, and I believe that before long we shall consider it not less criminal in cases of intestinal obstruction to wait for the distension and peritoneal infection, which—rather than the obstruction itself—are too often the true causes of unsuccessful operation and fatal results.

A METHOD OF INTESTINAL DRAINAGE.

By MARCUS MAMOURIAN, M.B., Ch.B.EDIN.,
SENIOR HOUSE-SURGEON, THE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL, ASHTON-UNDER-LYNE.

IT is well recognized nowadays that it is a fatal mistake to return over-distended bowel into the abdomen in cases of intestinal obstruction.

The usual method for evacuating the intestinal contents and the one which is the most effective is to incise the most distended loop after protecting the rest of the coils with towels or gauze. This practice, however, has many disadvantages. To begin with, it has to be carried out by an assistant. Secondly, it is practically impossible, one way or another, to prevent infection being conveyed into the peritoneal cavity. Furthermore, it entails a great deal of trouble for the surgeon and his assistants, as it necessitates frequent change of gloves and cleansing of hands.

To obviate all these drawbacks I have thought of a simple method which has been used with success in this hospital, and which consists in utilizing the well known Murphy button with a piece of soft rubber tubing (about a yard or more long) as follows: A purse-string suture of silk is passed round one of the ends of the rubber tube, the male or female half of the button is introduced into the lumen and the thread tightened so as to grip the neck of the button. Next, a segment of the distended bowel is clamped and a linear purse-string suture inserted. The gut is incised, the other half of the button placed in position, and finally the two sections of the instrument united in the usual way. The anastomosis between bowel and rubber tube is complete, and on removing the clamp there is no leakage and the faecal contents pass out of the tube into a jar containing some kind of deodorant well away from the area of operation. The purse-string on the bowel need only be secured by a temporary knot so that the suture may be tightened and the incision instantaneously closed after the withdrawal of the button, the bowel being reclamped before the button is removed. If one opening does not give satisfactory drainage, the process can be repeated with as many coils as the surgeon desires, or a piece of drainage tubing can be passed up the soft tube through the button into the bowel and the intestines "milked" without the hands coming into contact with faecal matter.

This method is perhaps more serviceable in cases which require immediate colotomy. The use of the Murphy button would be found to be in every way superior to Paul's tubes, as it involves no danger of detachment or leakage. The soft tube with half the button in position being ready the operation can be completed in a few minutes. The button, as a rule, remains *in situ*, affording good drainage for at least four days, during which time there is no necessity to even inspect the wound. When the button comes away the peritoneal cavity is completely shut off and the wound partially healed. The artificial anus thus made leaves nothing to be desired.

With the kind permission of Dr. Thomas Clifford, Surgeon to this hospital, I am able to cite the following case which illustrates the twofold use of the method:

Mrs. D., admitted on October 10th, suffered from intestinal obstruction. Immediate laparotomy. There was great distension of bowels rendering palpation difficult. The most distended coil (upper sigmoid) was secured and emptied by Murphy button and tubing. There was good drainage. At this stage the hand could easily be introduced into the abdomen and the nature and extent of the obstruction ascertained, which turned out to be a carcinoma of the lower part of the sigmoid flexure. As the patient was very collapsed by this time, the small loop of bowel to which the button was attached was fixed to the lower angle of the incision and the rest of the wound rapidly closed. The dressings remained dry till October 15th when the button became detached, leaving a perfect artificial anus. The wound healed by first intention. The rubber tube was also utilized for introducing large quantities of saline solution into the large intestine.

SEVERE ECLAMPSIA IN EARLY PREGNANCY: RECOVERY.

By A. SYDNEY CAMPBELL, M.B., CH.B.,
ASSISTANT TO PROFESSOR OF OBSTETRICS, ST. ANDREWS UNIVERSITY; ASSISTANT SURGEON, DUNDEE ROYAL INFIRMARY.

THIS case presents some points which I venture to think may be of interest. First, it is somewhat rare for eclampsia to occur so early in pregnancy. In this case the patient was between four and a half and five months pregnant as nearly as could be judged by the menstrual history. It is also generally taught that in severe cases of eclampsia the fits usually persist till the completion of labour. Here the last fit occurred twenty-six hours before delivery.

Mrs. J. K., primipara, aged 30, married in August last year, had previous to becoming pregnant enjoyed excellent health. She had never had scarlet fever. Menstruation commenced at the age of 15, was of the usual twenty-eight day type, the flow lasting five days. Menstruation occurred last on New Year's Day, 1909, but she had one day's bleeding on January 30th. I was called to her at 2.30 p.m., on June 3rd. I was told that she had been sitting in a chair when she suddenly became unconscious and began to twitch all over. She had been complaining of headache and slight swelling of the ankles for several weeks previous, but had always been able to go about. Had never been troubled with sickness.

Condition on Arrival.—The patient was lying in bed deeply comatose. The conjunctivae were sensitive, but she could not be roused. There was slight swelling of both ankles. The fundus of the uterus lay midway between the pubis and the umbilicus. Vaginal examination showed the cervix to be tightly closed.

Treatment.—Morphine, croton oil, hot packs, and the usual remedies were applied.

Subsequent Course.—After I had been in the house twenty minutes a second fit, characteristic of the usual eclamptic seizure, occurred. A sample of urine obtained by the catheter went practically solid on boiling. After this fit the patient became partially conscious for a few minutes and was able to recognize her sister. At 5.50 p.m. she had another severe fit. The bowels opened freely and the skin reacted, but no diminution took place in the severity of the fits. Between 3 p.m. and 11 p.m. the patient had nine fits, the last four of which had to be controlled by chloroform.

At 11 p.m. Professor Kynoch saw her in consultation with me. As there was no sign of labour setting in, and as the

patient's condition was distinctly precarious, we decided to empty the uterus. The slow method of inducing labour was decided on, and two bougies were introduced into the uterus, one of which accidentally ruptured the membranes.

The patient remained quiet until 2 a.m., when she had another severe fit, which, however, proved to be the last. She remained deeply comatose all night, but in the forenoon became maniacal, and it was almost impossible to keep her in bed. She had to be controlled by large doses of morphine. Labour came on at 4 a.m. on June 5th, exactly twenty-six hours after the last fit. When seen again at 9 a.m., the patient was quite conscious and sensible, but did not remember anything that had taken place. A catheter specimen of urine which was tested showed only a faint cloud of albumen. Since then the patient has made an uninterrupted recovery, and is now in the best of health. The urine is absolutely normal in every respect.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN UNUSUAL CASE OF POISONING BY A DEODORIZED PREPARATION OF OPIUM: RECOVERY.

The following case seems to me to have some points of interest: In May last, three days homeward bound from Kingston, W.I., I was hurriedly summoned just before breakfast to a lady passenger, first-class, M. C., aged 49. She was lying in her bunk in a semi-comatose state; respirations, 10 or 11 per minute, with a quick, weak pulse, intensely contracted but regular pupils, face slightly flushed; lips, ears, and finger-nails very blue, hands and feet cold and clammy, skin of body generally moist but not cold. There was no stain about the lips, inside of mouth, gums, or nostrils, and absolutely no smell either of alcohol or drugs. Her cabin companion, who was a particularly sensible young lady, told me that my patient had complained of pain in the stomach after dinner, and that she had eased it by drinking some medicine. No bottle, however, could be found. Preparatory to the stomach tube I roused the patient sufficiently to get her to swallow ½ oz. of sulphate of zinc in a small quantity of hot water. She was violently sick several times, but the character of the vomit, which was, except for a little bile, quite colourless, conveyed nothing to me either by smell or appearance. Shortly after this I washed out the stomach and gave her feeds of the strongest coffee the ship could supply, and, with the help of the stewardesses, roused her sufficiently to get her into some garments. At the end of another hour we practically had to drag her into the saloon, and with the utmost difficulty kept her on her legs and on the move. Finally she was helped on deck. She was intensely blue, and her teeth were chattering. She begged to be left alone and to rest. By the help of relays of apprentices I kept her perpetually in motion practically the whole day, giving short intervals for champagne, sandwiches, etc., and hypodermic injections of liq. strychninæ, 4 minims, or brandy, 10 to 30 minims, varied at intervals of half an hour, or more frequently if the pulse flagged.

Liq. atropinæ sulph. (1/60 grain atrop. sulph.) I found useless; in fact, it produced alarming symptoms—weakening of the pulse, irregularity of pulse, sighing respirations, etc. By 8 p.m. the patient was well enough to be helped to her cabin. I sat up the night and superintended her feeds and kept her up with hypodermics of liq. strych. and brandy at long intervals. By lunch next day she was well enough to take a place at my table. The bottle, which turned up in the rack above the patient's bunk, contained 2 oz. of tinct. opii deodorized, purchased either in Havana or Cuba; it had up to that night been quite full, there now remained a drachm only.

The case appears to be of interest because (1) fairly quick recovery occurred after nearly 2 oz. had been taken so long as fourteen hours previously; (2) liq. atrop. sulph. so signally failed, in spite of what one would have expected; (3) the patient was not an opium taker, and one can only account for the drug not having taken a greater hold by the fact that the stomach contained a good deal of undigested food and some stimulant at the time the overdose was taken; (4) it further instances the slap-dash way in which drugs are sometimes put up abroad, without "caution," "poison," or "dose" on the label.

Whitchurch, Hants. JOHN ASTON SWINDALE, M.D.

RELAPSES IN SCARLET FEVER.

Is there an exanthem which is not scarlet fever, and yet which so closely simulates this disease that a differential diagnosis is never made?

We all know, and some of us to our cost, that rubella is often mistaken for scarlet fever, and sent to hospital, where it may, in due time, give place to the true disease. In this case the error reveals itself, for some eighteen days after admission, and about the time that a "relapse" occurs, we find other cases in the infected ward, cases more typical, and of easy recognition; for the scarlatiniform German measles does not always "breed true"; it more often gives rise to the usual form of the disease. This sequence of events has occurred so often, that at the present time there is no longer dispute as to the entity of the cause; and rubella, with its two types, receives its proper place in the nosology.

Another condition which may be confused with scarlet fever is produced by food poisoning. Here there is a scarlet rash and a sore throat, with some pyrexia, just as in mild forms of the exanthem; but it is never followed by the common complications of scarlet fever, and the desquamation, if any, is different; it arises, too, in several members of a family at the same time. Perhaps it is of an urticarial nature. Some cases, however, find their way into hospital wards, and a percentage of them there contract the disease, and may sincerely enough be called relapses.

I come now to the third form of relapse—a form by no means uncommon in an infectious diseases hospital, and a form that should well repay further investigation. A patient is admitted suffering from a severe and typical attack of scarlet fever; the disease runs a typical course; there is nothing whatever to suggest a mistaken diagnosis. Yet some time before or after the onset of nephritis the rash appears again; the patient is acutely ill again; the tongue re peels; "pin-holes" occur as before, and he seems in every respect to have developed another attack of the same disease. I only know of one difference in the subsequent history—nephritis is never redeveloped. In another case matters are reversed; there is no nephritis with the first attack; it comes on in the second instead, or not at all.

The problem is: Are these instances of true relapse, or are we dealing with two distinct diseases? Are they nephritic phenomena? or, fourthly, is the condition due, as has been suggested, to pyogenic dermatitis?

The explanation "relapse" has the advantage of simplicity, and is not inherently impossible, but I have not yet met a practitioner of wide experience of infectious disease who remembers having seen a relapse of any other exanthem, though what was probably pemphigus has been cited as a relapse of varicella. Even second attacks after a long interval are quite rare, notwithstanding the large number of times some children are alleged to have had measles.

Whilst acting as a medical officer in one of the fever hospitals of the Metropolitan Asylums Board, it occurred to me to inquire into the question. Owing to the system of transferring convalescents it is difficult to trace the majority of the contacts, and my results were nearly negative. One instance of the third variety of relapse was followed by two more three weeks later, and these two again by another three weeks later still; but the majority seemed to have no probable connexion with each other.

Though unable to throw light on the matter myself, this note will fulfil a useful purpose if some correspondent can do so, or if further inquiry is stimulated.

J. W. FOX, M.B.Lond., D.P.H.,
Assistant to the
Tonbridge. Medical Officer for the County of Kent.

RECURRING APPENDICITIS: RIGHT OOPHORITIS IN ASSOCIATION WITH MODIFIED GRAVES'S DISEASE.

MR. ERNEST STRATFORD—a memorandum by whom on this subject was published in the JOURNAL of October 30th, p. 1281—informs us that there is an error in the report of the case of R. S., in which an operation was performed. The operation was performed by DR. J. LAWRIE of Woking. Mr. Stratford informs us that he has written to Dr. Lawrie, and expresses "regret that his name was not mentioned in connexion with the case."

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL VICTORIA HOSPITAL, BELFAST.

NOTES ON A CASE OF TYPHOID OSTEITIS, OPERATED ON SIX AND A HALF YEARS AFTER AN ATTACK OF TYPHOID FEVER.

(Under the care of T. S. KIRK, B.A., M.B., B.Ch., Surgeon to the Hospital.)

D. C., aged 31 years, a plater in a shipyard, was admitted on February 8th, 1909.

Six and a half years ago he had typhoid fever, and during his convalescence he developed an abscess in the upper part of the right leg. This abscess opened and discharged a quantity of pus. It healed soundly, and has remained healed ever since. There was no evidence of any bone involvement: the abscess was apparently subcutaneous.

A few weeks after this abscess had healed he had a severe pain just above the right knee. This pain shortly disappeared. About eighteen months later he had a dull aching pain in his right thigh, extending over the whole region of the femur. This pain was worse at night and prevented sleep. He was at that time under my care for four weeks. There was then no thickening of the femur, and with potassium iodide and rest he apparently recovered entirely.

When admitted, on February 8th, 1909, there was thickening of the entire shaft of the femur. Dull, aching pain was present constantly but was worse at night, so that he got very little sleep. He was anaemic and nervous. The affected thigh was slightly tender on percussion and not at all tender on compression. He had an evening rise of temperature to 100° or 101° F.

On February 18th the medullary cavity of the femur was opened, and a considerable quantity of thick pus was found in it; there were no sequestra in it. This abscess cavity occupied the lower half of the medullary cavity of the femur, and was shut off entirely by bone from the upper part. This cavity was left open and granulated rapidly. When last seen, in June, he was back at his work and quite well.

NOTE BY PROFESSOR W. ST. CLAIR SYMMERS.

As soon as the abscess was opened loopfuls of pus were transferred to ordinary agar-agar, to Conradi-Drigalski plates, and to plates of Fawcus's modification of the Conradi medium (sodium taurocholate, brilliant green, picric acid).[1] After twenty-four hours' incubation at 37° C., all these media showed numerous colonies (pure) of the type characteristic of the typhoid bacillus on the respective media. These bacilli were motile, Gram-negative, did not liquefy gelatine, produced no indol, did not change lactose, but produced acid (without gas) in bile salt, glucose and mannite. After three subcultures on agar the bacilli were agglutinated by a typhoid serum (from the rabbit) in a dilution of 1 in 4,000, this being the highest dilution in which this serum was agglutinative to the ordinary laboratory cultures of *Bacillus typhosus*. It is thus evident that the pus contained Eberth's bacillus and no other bacteria.

[1] Fawcus: *Journal of the Royal Army Medical Corps*, February, 1909, p. 151.

A RADIUM institute has been organized in New York by a committee of which Dr. Charles F. Chandler, Professor of Chemistry in the Columbia University, is President. It is proposed to establish research laboratories, and a clinical department for the free treatment of the poor.

Reports of Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, November 11th, 1909.

DR. G. A. BERRY, President, in the Chair.

Oxycephaly.

MR. W. M. BEAUMONT, in a paper on oxycephaly, said he regarded the association with this condition of optic neuritis or atrophy as a not inevitable secondary result, so that the term "syndrome" applied to it by Patry seemed to him inaccurate. The credit of first pointing out the clinical symptoms of the disease was due to William Mackenzie of Glasgow, whose description, however, had failed to attract the attention it deserved. He had noted the shallowness of the orbits and the consequent exophthalmos, the vertical position of the roof of the orbits, the extreme height of the head, and the blindness. In 14 cases recorded in recent British literature there were 5 females. In Patry's list, drawn from French and German sources, there were 7 females in 64 cases. The author disagreed with Dorfmann, who advocated trephining to prevent optic atrophy, because he considered that the optic neuritis and atrophy were not due to an increase of the intracranial pressure, but rather were the result of direct injury by bony distortion. Patry had stated that Sir Walter Scott and others had suffered from a slight degree of this disease. If this were true it was possible that cases of arrested oxycephaly might be overlooked. Possibly so-called idiopathic optic atrophy might be due to a fruste form of oxycephaly.

Binocular Vision.

MR. BISHOP HARMAN, in a paper on the measurement of the desire for binocular vision, said: So far the capability of the average man for binocular vision had escaped a critical study. Ordinary tests either determined the presence or absence of binocular vision, or were complicated by muscle stresses which vitiated the results. The diaphragm test was a pure test for binocular vision, and by a variation of its mode of application it was possible to measure the desire for binocular vision as easily as the stature or weight of a man. The test-cards seen through the hole in the screen of the test were viewed for their greater part by each eye separately, but a median band was seen by the direct vision of the two eyes together; this median band acted as a balancer to the eyes, and their controlling mechanism; for this reason it was called the "ocular poise." Different individuals, and the same individual under different conditions, required different breadths of ocular poise; the more perfect the binocular vision, the narrower the ocular poise required to maintain the eye balance; hence the smallest measure of the ocular poise became the measure of the desire for binocular vision. The standard pattern diaphragm test had a fixed hole in the screen of 17 mm.; the instrument to measure the ocular poise had a variable aperture. The aperture was varied by means of shutters which were moved by suitable gearing; the variation of the ocular poise was shown automatically upon a scale. The scale had a compensating adjustment for the varying width between the eyes of different subjects, so that the measures given by the test became truly comparative. To the ophthalmic surgeon the new test had a particular value for those cases of occasional divergent squint with feeble convergence which were due to defective cerebral control. These were those for which at present it had been possible to do but very little. With the variable aperture to the diaphragm test the ocular poise could be made so large as to present an attractive point of binocular fixation; and, with practice, control of the eyes might be developed, so that the balance could be maintained under conditions of gradually increasing difficulty.

Hyperphoria.

In a paper on the measurement of hyperphoria by means of the diaphragm test, MR. BISHOP HARMAN said that if a line of letters or figures was viewed through the hole in the screen it appeared in perfect alignment to the man with good binocular vision and balance. In the case

of latent squint the order and alignment of the letters was altered. The line 123456789 would appear on two levels to the man with hyperphoria, in right hyperphoria thus: 12345
56789.
The displacement was found to be constant for equal degrees of divergence and proportionate for different degrees. So as to be able to measure the degree of divergence directly, a test-card had been prepared; one half bore a vertical tangent scale, the other a horizontal pointer. When viewed through the diaphragm test the scale was seen by one eye, the pointer by the other. When there was hyperphoria the pointer was displaced from its neutral point and appeared shifted upwards or downwards according to the kind of hyperphoria, and rested at a level of the scale corresponding to the degree of latent squint. The degree indicated was the degree required in the correcting prism, or the same result could be obtained by measuring directly the decentralization of any glasses worn by the patient.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 10th. 1909.

Dr. James Swain, President, in the Chair.

Dr. Walter Swayne, in a paper on *Retroversion of the gravid uterus*, said disturbances of micturition were most important symptoms, and catheterization of the distended bladder frequently became too complicated a matter for a nurse. If, after emptying the bladder, digital reposition of the uterus could not be effected even with the aid of the vulsellum and an anaesthetic, the uterus should be emptied. This failing, laparotomy should be performed, when adhesions, the common obstacle to reposition, could be dealt with. Dr. Fells recommended the knee-elbow position as an aid to digital reposition; also the use of a large curved sponge-holder to exert pressure on the fundus. Dr. Rayner described a case complicated by the presence of a fibroid in which he performed laparotomy, and, on account of haemorrhage on attempting to enucleate the fibroid, was compelled to do a complete hysterectomy. The President thought Dr. Swayne too apologetic on behalf of laparotomy; pregnant women bore abdominal operations well, and laparotomy was preferable to abortion. Dr. T. A. Green mentioned a case with persistent vomiting as the chief factor. Dr. Rendle Short, in a paper on *Iodoform and thyroidism*, described a case in which the external application of iodoform to a wound appeared to bring on typical Graves's disease, lasting for twelve months. Iodoform when absorbed was excreted, he said, by the thyroid gland as iodothyrin, and excessive absorption might produce thyroid intoxication, which in a susceptible person might prove chronic. Children were relatively insusceptible to iodoform intoxication. Dr. Shingleton Smith had used iodoform in many cases, but had seen no results suggestive of thyroidism. Dr. Rogers corroborated the statement that children were insusceptible to iodoform poisoning. Dr. Every-Clayton was surprised to hear that fever was a symptom in Dr. Short's case, as he had never heard of a drug which could produce pyrexia. Dr. Waterhouse was not inclined to accept the suggestion made by Dr. Short that endemic goitre might be due to deficiency of iodine in the drinking water, since recent observations had shown that goitre was prevented by boiling the water. Dr. Home compared the delay in appearance of toxic symptoms after iodoform absorption with delayed chloroform poisoning. The following were among the exhibits:—Dr. Charles: A case of *Kala-azar* from which the parasite had been obtained by hepatic puncture. Dr. Rendle Short referred to the apparent immunity from kala-azar enjoyed by those who in early life were affected by Oriental sore. Dr. Edgeworth: A case of *Tuberculous meningitis*, followed by recovery. The diagnosis was founded on headache, cranial tenderness, vomiting, moderate double optic neuritis, slight fever, a positive Pirquet's cutaneous reaction, and the absence of signs of any other disease, of cells or micro-organisms in the cerebro-spinal fluid, and the relief obtained from spinal puncture. Dr. Harsant said that Dr. A. Martin, in a recent paper, had showed the recovery-rate in tuberculous meningitis to be about 1 per cent. Dr. Rogers thought recovery commoner than usually supposed. Pirquet's reaction had proved a reliable sign after prolonged use at the Children's Hospital. Dr. Waterhouse suggested that anaemia and syphilis had not been quite excluded, and mentioned the occasional success of morphine injections in meningitis.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, November 5th, 1909.

Dr. Neville Woods, President, in the Chair.

The following cases were among the exhibits: Dr. P. S. Abraham: (1) A case of *Pemphigus vegetans* in a woman, aged 42, of nine weeks' duration. The blebs appeared in crops, with some itching. The pharynx and larynx were affected, the larynx showing bright redness without oedema. Attempts to cultivate organisms had so far failed. (2) A case of *Multiple lupus* in which *x*-ray treatment had failed, and in which Mr. Reginald Morton was trying the solid CO_2 pencil. It was too early to report the result. Mr. Walter Fry: (1) A case of *Enlarged tibial tubercles* in a boy aged 16. Dr. H. Robinson remarked that the condition was described as "Schlatter's disease." Several members of the society said it was not uncommon to find this disease in young people who played football, and that it persisted in later life as a large bony tubercle. Mr. Bidwell said he thought there was an inflamed bursa under the tendon in some cases. Mr. Fry: (2) A case of *Congenital scar* in a child aged 2. There was a scar on the left side of the upper lip simulating the result of an operation for hare-lip. No operation had been performed. There was a deformity of the left nostril. There was a family history of hare-lip and cleft palate. Mr. D. C. Fitzwilliams: A case of *Syphilitic periostitis* of the right tibia in a boy aged 11. Dr. E. A. Saunders: A case of *Syphilitic periostitis* of both tibiae in a girl aged 12. Mr. G. Graham: A patient from whom Mr. C. B. Keetley had successfully removed a *Ruptured spleen*. The operation was performed six hours after the accident; the spleen was badly ruptured, and the abdomen full of blood. Now, fourteen weeks after the accident, the patient, aged 25, felt well, except for some shortness of breath on exertion. Mr. Cecil Leaf: Two patients in whom he had excised a portion of the colon containing carcinomatous growth, with end-to-end anastomosis. One patient required no purgative to make the bowels act; the other had to take an occasional laxative. Mr. Archibald Smith: (1) A case of *Myxoedema* in a woman aged 36, whose left forearm was 1½ in. larger in circumference than the right. Under thyroid treatment the arm had diminished half an inch in circumference, and was softer. There had never been any evidence of venous or lymphatic obstruction to be found. (2) A child aged 22 months with six fingers on each hand and six toes on each foot. Mr. Reginald Morton said that from the radiograms he had made there was no doubt the extra fingers were supernumerary fifths. Dr. Bishop Harman showed two cases of "*Coppock*" *cataract*. The parents were not related, and did not appear to be related to any of the families exhibiting this defect which had been previously investigated. The lenses of both parents were normal.

HUNTERIAN SOCIETY.

Wednesday, November 10th, 1909.

Mr. T. H. Openshaw, President, in the Chair.

In an address on *X ray Diagnosis* in medical practice, Dr. A. C. Jordan claimed that every case of phthisis with definite physical signs could be detected with certainty by an *x*-ray examination, and the exact extent and distribution of the disease ascertained. Many cases with no physical signs could be similarly detected. In examining the gastro-intestinal tract, 2 oz. to 4 oz. of carbonate, not subnitrate, of bismuth might be given without hesitation, in emulsion with sugar-of-milk and water, or mixed with cornflour or bread-and-milk. In Germany several patients in whom the subnitrate was used had died owing to liberation of nitrous acid by bacterial action

in the bowel. In strictures of the œsophagus the bismuth emulsion remained lodged in the dilated portion above the stricture, and a thin stream trickled through and entered the stomach. When œsophageal pouches existed the bismuth emulsion could be seen during the fluorescent screen examination to pass through the œsophagus in a full stream and to enter the stomach, but a portion remained lodged in the pouch at the upper end. The shape of the normal stomach, as revealed by a bismuth meal, was not constant, but depended upon the other abdominal viscera which pressed closely upon it, and the amount and weight of the gastric contents. If a patient with a dropped transverse colon were asked to contract the abdominal muscles, the transverse colon was seen to rise to its normal level in some cases. In these cases exercises, massage, etc., might be of benefit by strengthening the abdominal muscles, and increasing their tone. When no rise of the colon (and stomach, which was usually dropped also) was produced by the patient "drawing in the stomach," manual pressure with the flat hand upon the abdomen below the umbilicus often caused the stomach and colon to rise to their normal levels; in such cases a well-fitting belt might be of benefit. Among the eighty slides by which the address was illustrated was one of a case of congenital dilatation of the colon in a baby. The greatly dilated colon was full of gas, and showed as a clear wide band against the rest of the abdomen, which was darker.

ULSTER MEDICAL SOCIETY.

Thursday, November 4th, 1909.

Mr. THOMAS SINCLAIR KIRK in the Chair.

AT this, the opening meeting of the session, the retiring President, Mr. T. S. KIRK, introduced Dr. J. J. AUSTIN, the President for the ensuing session, who then delivered his opening address. He took as his subject *Life assurance in its relation to the profession*, and pointed out that it was a question of constantly increasing interest, as the practice was now common among all classes. In the last twenty years the popularity of life insurance had immensely increased, and even amongst the working population there were now as many as 13,000,000 people insured. He advised young medical men to insure early, and recommended an all life policy, as the object should be to obtain as large a cover as possible. With respect to examinations, these ought not to be conducted by the candidate's own medical attendant, nor should the local medical examiner be asked to estimate the value of a life; that estimation should be the task of the medical referee of the head office in concert with the actuary of the society. The President then referred to some moot points in the examination of an applicant—to the importance of a history of pleurisy, the value of a family history of tubercle in relation to the present opinion as to the infectiousness of phthisis, the importance of a personal history of alcoholism and of the existence of intermittent albuminuria, and to many other allied points. During the course of the evening votes of thanks were passed to the outgoing President for his efforts on behalf of the society during the past year, and to the new President on his address.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, November 12th, 1909.

Mr. A. PEARCE GOULD, President, in the Chair.

Vesical Calculus.

THE PRESIDENT showed a patient from whose bladder he had removed a stone in July, 1906; on January 5th, 1907, the patient complained of not passing his urine freely, and was sounded, but no stone was detected. In June, 1908, he was again sounded, but no stone was found. In October, 1909, a sound at once struck a large stone, which when removed on October 18th, 1909, weighed 8 oz.

Sclerodermia with Sclerodactyly.

Dr. H. B. ROLLESTON and Dr. CARPENTER showed a woman, aged 30, who was exhibited at the Clinical Society in 1901 as a case of generalized sclerodermia with Raynaud's disease. The hands showed considerable ulnar deflection, and were flexed and claw like. For the last month she had been treated with combined faradism and galvanism, and subsequently with galvanism alone. As the result of this and of massage and passive movements of the fingers there had been considerable improvement.

Sclerodermia of the Extremities.

Dr. T. D. SAVILL exhibited a patient described as a sequel of a case of sclerodermia of the extremities (sclerodactylia, acroteric sclerodermia of Hutchinson) associated with a previous and family history of angioneurotic œdema. The patient, a married woman, aged 56, had had attacks of angioneurotic œdema at intervals throughout life. When she was first shown to the Section on April 30th last she could walk easily, but now only with the greatest difficulty. The thickening of the skin had extended up the limbs. In spite of careful diet and medicinal and electrical treatment she had become progressively worse. Dr GALLOWAY said he had obtained the best results in cases involving the joints by careful massage. Dr. HERRINGHAM said it was misleading to regard the complaint as a disease of the skin; it seemed to him to be a sort of general sclerosis of the limbs. Dr. ROLLESTON pointed out that the disease tended to recover spontaneously.

Thoracic Tumour in a Boy.

Dr. A. SALUSBURY MACNALTY showed a boy, aged 15, as a patient with thoracic aneurysm. The lad was pale and undersized, and complained of palpitation and shortness of breath. The physical signs were those of double aortic disease and mitral regurgitation. In addition, in front of and to the right of the trachea was an expansile tumour extending 1½ in. above the mid-sternal notch, and on the left side as far as the sterno-mastoid; on the right, part of the tumour seemed to disappear under the clavicle, part swept up under the right sterno-mastoid in the position of the right carotid. Below, the swelling was not defined. There was a marked systolic thrill over the tumour; on auscultation two harsh systolic sounds were heard. The tumour had increased considerably in size within the last five months. Dr. PARKES WEBER pointed out that at each expansion of the tumour there was a slight upward movement of the trachea. Dr. HERRINGHAM suggested that the tumour was caused by a connexion between the arteries and the veins. Dr. ROLLESTON spoke of the possibility of the case being one of aneurysm of the ductus arteriosus. Dr. DALTON said that there was disease of the arteries because both carotids showed the forward kink which was well seen in arterio-sclerosis in older persons. Dr. MORLEY FLETCHER considered that the condition might be congenital. Dr. HALE WHITE said that if the lad had suffered from congenital syphilis that would be an argument in favour of the tumour being an aneurysm. Dr. MACNALTY, in reply, said that the absence of a continuous murmur was against the diagnosis of the tumour being due to a communication between arteries and veins, and there was no history of congenital syphilis in the case.

Pneumococcal Colitis.

A paper by Dr. HALE WHITE, Mr. LOCKHART MUMMERY, and Dr. H. BRUCE PORTER, on a case of pneumococcal colitis with hypertrophy in the course of which severe haemorrhage was treated by appendicostomy, was read by Dr. Hale White. The case was reported because the authors believed it was unusual for a diagnosis of colitis due to pneumococcus to be made during life and confirmed by bacteriological examination, and because it illustrated the difficulties of such a case and the successful treatment of the hyperpyrexia by cold sponging. Especial attention was drawn to the beneficial effect of having iced water run through the colon. The case also illustrated the value of appendicostomy as a means of stopping severe bleeding from the colon. Before the patient came under their notice the bowel had been washed out from the anus by intestinal douches without in any way controlling the haemorrhage, nor did the same method of applying hazeline and water have any effect during the four days it was tried before doing the appendicostomy.

Pathological Section.

Tuesday, November 16th, 1909.

Dr. F. W. Mott, F.R.S., President, in the Chair.

Autoinoculation and Heterologous Inoculation of Cancer.

Dr. M. Haaland, in a paper on the above subject, drew attention to the comparative ease with which a spontaneously appearing carcinoma could be grafted upon the same animal as against the grafting of the same tumour into other mice affected with spontaneous carcinoma or into normal mice. In a similar way it was probable that better results would be gained in surgery by employing tissues from the same individual in transplantations than those from other individuals. So, too, whilst there was great danger for the individual operated upon, if cancer cells were disseminated in the wound, the danger of the transference of the disease from one individual to another was relatively very small. Experiments showed, moreover, that conditions of growth were specific for each individual sporadic tumour.

Dissemination of Carcinoma.

Dr. J. A. Murray exhibited organs of a cow affected with adeno-carcinoma of the liver, and in which ingrowths of the tumours occurred into the portal vein, leading to metastasis. The theory that the blood contained substances inimical to the growth of carcinoma cells when transferred by the blood stream the author did not hold. For an embolus to grow it was necessary that it should sooner or later become vascularized from the wall of the vessel, and if this failed, the growth aborted. He exhibited a rat in which pulmonary carcinomata had been produced by the intravenous injection of carcinoma.

Experimental Production of Sarcoma during the Propagation of an Adeno-carcinoma of the Mouse.

Dr. B. J. R. Russell showed a specimen from a mouse in which carcinoma cells, grafted experimentally, established the growth of a sarcoma, the cells of the latter being furnished by the tissues of the host.

Retroperitoneal Teratoma.

Mr. Raymond Johnson and Mr. T. W. P. Lawrence showed a specimen of retroperitoneal teratoma which had projected into the spinal canal displacing, but not compressing, the cauda equina and adjacent cord. The tumour had been regarded as probably due to tuberculous disease of the vertebrae, its true nature being revealed by exploratory incision.

Oöphorectomy and the Growth of the Uterus.

Mr. S. G. Shattock showed the results upon the growth of the uteri of double oöphorectomy when carried out upon the young rabbit without the application of any ligatures and without injury and displacement of the rest of the generative apparatus. The result in question was a striking hypoplasia or undergrowth of the uteri (which in the rabbit are two), as compared with those of an animal of the same size, whether it had been pregnant or not. In the case of the human subject it was still doubted by some whether the ovary was the organ which dominated the growth of the rest of the generative apparatus. The evidence to the contrary in the case of man, however, was indirect and inconclusive. The case was parallel with that of the ill-development of the testicles in cryptorchism. In scarcely any cases of bilateral cryptorchism was there evidence that the testicles were spermatogenic. Nevertheless, such individuals might present all the external secondary marks of maleness. Here the right deduction must be that the hypoplastic undescended testicle functionates for a short period only and then rapidly becomes senile. And so in the case of the ovary, the speaker held that a fully-developed condition of the uterus was evidence that one or both ovaries had at some time functionated, though they might afterwards have prematurely atrophied; the disparity between the size of the ovaries and that of the uterus might then be erroneously read as a proof that the uterus had grown independently of any ovarian influence. In both cases the speaker held that the external sexual characters were due to the production of an internal secretion which probably acted upon the vascular supply of the accessory organs through the nervous system; but he thought that the production of this was in some indirect way dependent upon spermatogenesis or ovulation. There was a curious converse belief current amongst poultry breeders, namely, that section or partial excision of the oviduct in young hens led to atrophy of the ovary, the procedure being adopted to produce poulardes, or fat birds, for the table. This belief Dr. C. G. Seligmann and he had demonstrated to be erroneous, by removing the oviduct in young birds, and examining the ovary when the birds were fully grown.

Section of Anaesthetics.

Friday, November 5th, 1909.

Mr. R. Gill, President, in the Chair.

Dr. Vivian Orr, in a paper on heart massage in chloroform syncope, said that in the light of both verbal and written evidence the claims of massage appeared to be clearly established. The subdiaphragmatic route was shown by results to be the preferable method of reaching the heart; 10 successful cases resulting from this procedure had been reported. The most difficult point to decide was the exact moment when this treatment should be applied. The higher nervous centres seemed to be irreparably damaged before the lower centres, and these again before the intrinsic heart vitality; and cases were cited which exhibited a return of both circulation and respiration for some hours, with no return of consciousness, and ultimate death. If massage were performed within five minutes of the heart arrest there was a reasonable prospect of a favourable result if efficient lung aëration were maintained. Valuable time was often lost in necessarily futile injections of stimulants, while the methods of aspiration, simple or electric puncture, electricity, and combined pressure on the lower limbs and injections of Ringer's fluid with adrenalin, had not so far proved successful measures in man. The author then recorded a case in which the heart failed just before an operation for gastric trouble. Mr. Charles Stonham opened the abdomen and massaged the heart from below the diaphragm from three to four minutes after the failure. In response to stimulation the heart beats returned, and the patient completely recovered. Dr. Dudley Buxton traversed the various physiological factors which produced heart failure under chloroform, and the circumstances which, arising during anaesthesia for a surgical operation, would tend to increase the danger of its occurrence. Circulatory failure, although often associated with respiratory difficulties which themselves were adjuvant towards causing heart standstill, was directly the result of chloroform dosage, and its degree varied directly as the strength of the vapour inhaled. The abdominal route without incision into the diaphragm was, he believed, the best one for heart massage, and that measure should not be unduly delayed if the case were at at all appropriate, as the surgical procedure involved did not increase the patient's risk seriously. Other subsidiary measures were necessary, but electrical stimulation of the heart was to be deprecated. Dr. Starling mentioned a case of a weakly child aged 11 months, who required the needling of a cataract. Chloroform was given from a Junker's inhaler, and was taken well. When the child was under, the head was slightly raised to adjust the towels, when both the pulse and the breathing ceased. The head was lowered, and artificial respiration performed, while ether and strychnine were administered hypodermically, and warm saline injected into the rectum. The fingers were passed up under the ribs, and the heart compressed five or six times, when a gasping inspiration was taken, and the heart was heard to beat again; after which gradual recovery took place. It was essential, he considered, that artificial respiration should be continued for some time after the heart recommenced to beat.

Reviews.

MYOMA OF THE UTERUS

Myomata of the Uterus deals almost exclusively with the work done by the authors, Drs. HOWARD KELLY and THOMAS CULLEN,[1] and others connected with the gynaecological department of the Johns Hopkins Hospital, Baltimore. The authors began their study in 1894, and after putting aside for awhile the records of their earlier experience, they set once more to work at the subject of uterine fibroid disease in 1900, and since that time have never ceased to collect the necessary pathological, clinical, and surgical material. The result is a fine monograph, which can hardly fail to be the standard work on "fibroids" for the present generation. In form, it appears as one of those sumptuous publications of the great Baltimore school of medicine with which the medical world is already so familiar. In substance, it is an admirable record of the experience of two experts in the treatment of one of the commonest types of new growth to which women are subject.

The total number of fibroids examined by the authors amounts to 1,674, including cases in which the myoma was not the principal disease, as certain instances of uterine cancer and ovarian tumour. Drs. Kelly and Cullen, as is plainly manifest in the very name of their work, prefer the modern pathological word "myoma," on the ground that they have never detected a true fibroma of the uterus.

The pathological section of this work is far too deep for cursory criticism. It is a mine of scientific wealth, and of necessity includes matter of high clinical importance, under such headings as "calcification," "suppuration," and association with malignant disease. The statistics of diseases of the appendages which the authors found co-existent with fibroids afford most useful material for study by all who are practically associated with gynaecology. There is much negative evidence worth remembering, when we consider with what care the authors studied every single case and specimen. For instance, they state that we still know practically nothing as to the origin of uterine myomata. The association of tuberculosis of the endometrium with uterine fibroids must, according to the authors' opinion, be regarded as a mere coincidence. As to the alleged disappearance of myomata after pregnancy, the authors have never seen a case, nor can they admit the validity of evidence supporting this theory, but, with a candour which less experienced writers would do well to bear in mind, they admit that their experience of pregnancy associated with myomata has been too limited to enable them to speak with any degree of certainty on that point. The authors found morbid changes in the endometrium and ovaries to be very frequent, but none of those changes could be held to be constant, and still less could be reckoned as causes of the new growth.

We should have liked to have read more about the course of fibroid disease in women not subjected to operation, but the authors afford us an instructive analysis of all instances in which uterine myoma were found at autopsies in the pathological laboratory of their hospital from 1889 to 1906. The total was 742 cases, no less than 311 occurring in negresses and coloured women. Those who advocate expectant treatment will naturally point to the fact that the authors make out no more than 4 cases in this *post-mortem* series in which death was directly due to myoma, and in all the patient had been exhausted by long-standing haemorrhages or poisoned by sloughing of the new growth.

The copious notes on anatomical relations and the morbid anatomy of the fibroid uterus will prove of high practical value. We refer in particular to the paragraphs on true displacement of the bladder by the morbid growth itself, and on displacements due to inflammatory adhesions fixing the bladder in the way of the operator's scalpel. We may also turn attention to the important chapter on the ureters in cases of uterine myomata, where the authors state that they now make it a rule to examine these ducts carefully in any case in which there is the slightest possibility that they have been injured. Catheterization is often impossible in these very cases in which injury during operation is most probable. The authors gently stroke the peritoneum at the pelvic brim over the normal site of the ureter with a blunt forceps, and the ureter will usually begin the snake-like contraction which Professor Kelly first noted many years ago in the course of his earlier operative experience. The duct is then dissected out down to the cervix, but not loosened from its peritoneal covering. Accidental division of the ureter is a very bad accident; it occurred twice in the series on which this book is founded, and anastomosis, successful in one case, failed in the other, so that nephrectomy was found necessary. The "rectal findings," as the authors say, must not be overlooked. Adhesions of the fibroid to the bowel, fortunately rare, are always serious. In one instance fatal perforation occurred on the ninth day; in a second an enema given on the third day was the cause of death, as it passed into the peritoneal cavity through a hole in the rectum.

The authors find that heredity plays little or no part in the development of uterine myomata. The youngest patient was 19, but let it be noted, first, that she was a married mulatto who had twice been pregnant, and, secondly, that in her case the tumour was "a small myoma, 2.5 cm. (0.975 in.) in diameter," growing from the right cornu, whence it was removed. In this country the tumour would most likely have lain latent for years and possibly escaped operation altogether.

The authors must be commended for their valuable indexes of the numbers of their gynaecological, pathological, and necrological reports, which save great trouble in reference, especially as the same case is often mentioned in several different chapters.

Rightly or wrongly, most of the readers of this work will, we fancy, turn first to the chapters on operative treatment. The only serious matter for criticism is the great prominence given to surgery, but the advocates of operation in every case of uterine fibroid disease must not make use of this work in defence of their extreme views, as the authors expressly remind us that it is essentially a register of work done in a great hospital, where patients apply when the growth has already caused trouble. Professor Howard Kelly himself has openly condemned the doctrine that all fibroids demand operation. In this work he and his colleague insist that the presence of a myomatous uterus two or three times its natural size, when unaccompanied by any discomfort, is no indication for operation. They most properly add, however, that the patient should be kept under observation.

Consistently with the best principles of surgery, the authors dwell on conservative operations. Myomectomy is undoubtedly the right procedure when the new growth is pedunculated. Thus, the authors record the successful removal of a pedunculated cystic myoma 39 lb. in weight. It is quite otherwise with sessile, deep myomata. The enucleation of such growths and the closing of the cavity left in the uterine wall is illustrated by drawings, which are even more remarkable for clearness, combined with faithfulness to nature, than are previous works of art by the same artist, Mr. August Horn. The result is to produce a conviction that myomectomy is not an operation to be undertaken except by experts. The authors register 296 cases with 16 deaths, a death-rate of 5.4 per cent. They publish abstracts of the fatal cases, including one in which infection from catgut was probable.

Professors Kelly and Cullen still prefer what is known in Continental Europe as the subtotal operation, when the uterus must be sacrificed as well as the myoma. They positively prefer it to panhysterectomy. "After carefully weighing the advantages and the disadvantages of each operation, we have adopted supravaginal hysterectomy as the usual procedure." The mortality when bisection was needed was very high in their series, namely, 8 deaths out of 68 cases, and the reader must bear in mind that 50 out of the 901 cases of the supravaginal operation without bisection proved fatal. The authors advance statistical evidence to support the view that the surgeon should, whenever it is possible, save every normal ovary. Quite recently one of the authors, Professor Kelly, in the *American Journal of Obstetrics*, approved of the practice of amputating the uterus above the level of the os internum, so as to save a little of the endometrium as well.

[1] *Myomata of the Uterus*. By Howard A. Kelly, Professor of Gynaecology in the Johns Hopkins University, and Thomas S. Cullen, Associate Professor of Gynaecology. Illustrated by August Horn and Hermann Becker. Philadelphia and London: W. B. Saunders Company. 1909. (Sup. roy. 8vo; pp. 725; 388 illustrations, 19 coloured. 35s.)

as the ovary. Abel, Zweifel[1] and Doran had already shown, on statistical evidence, that it was advisable to do so in order to ensure the patient as thoroughly as possible against distressing menopause symptoms.

This solid record of the labours of two distinguished authorities is almost void of references. The reader will find hardly one single footnote. The book is a pure digest of the authors' experience, a monograph of striking originality which every obstetrician and gynaecologist should possess.

SURGERY.

A good deal of water has flowed beneath London Bridge since Mr. Lockwood first published his surgical apologia in 1895, but the present edition of his *Aseptic Surgery*[2] serves to show that the progress of bacteriological knowledge and the accumulation of experience have not necessitated any deviation from the guiding principles originally laid down. Mr. Lockwood still adheres to his "mixed method" for securing freedom from bacterial infection in his operation wounds, "but with an abiding faith in the efficacy of heat, and a profound scepticism as to the power of chemicals." In this practice and in this belief he is now followed by the great majority of surgeons; the teaching reflected in this book has become a general article of surgical faith, but it would serve a most salutary purpose if every surgeon could be induced to look upon the volume as a manual and give it a place upon his table for daily use—better still, if he would test the efficacy of his ceremonial observances by carrying out a series of tests similar to those wherewith the author has fortified his own beliefs. The paragraphs dealing with "a fallacy in using culture media" do not entirely convince us, it is true, but it is a wholesome discipline to discover that, even with the inhibitory effect of traces of recently-applied antiseptics, a particle of skin snipped from an operator's finger does sometimes inoculate a culture tube—especially instructive when the finger is one's own. The arrangement of the book has been preserved, despite a change in its appearance due to a transference from the original publishers to those responsible for the Oxford medical manuals. The first section deals with the part played by bacteria in causing the diseases of wounds, and with the varieties and peculiarities of organisms commonly found in cases of suppuration. The second part, on the sources of infection, is a record of repeated investigations which ought to be kept in mind constantly. The question of the sterility of the healthy tissues is not yet quite so definitely settled as the author seems to indicate; at any rate it has been called in question again recently as regards some of the internal organs. The third section deals with disinfection and antisepsis, and discusses the relative values of some of the commonly used chemicals. The author retains his preference for biniodide, but his enthusiasm for iodoform has waned to the point of faint praise. The fourth part is devoted to apparatus and the application of the principles enunciated, and constitutes as sound a guide as ever to the practice in which long training makes perfect. The chapter on the results of aseptic surgery might perhaps have been made even more striking than it now appears. A well-known manual that deserves all its popularity.

The twelfth volume of le Dentu and Delbet's *Nouveau Traité de Chirurgie* is concerned with the diseases of the veins and lymphatics,[3] and is written by MM. Launay and Brodier. The reputation already established by the parts of this system previously issued will not suffer at their hands. The style is simple, direct, and fluent; the authors have had the courage—or, rather, the discretion—to discard a good deal of traditional material, for which readers will be properly grateful, but it would appear that the two surgeons are not of quite the same decision of character. In parts there is no hesitation about the expression of opinion; in parts there is a tendency to escape the obligation of definite statement in a nicely balanced exposition of opposing views. It is refreshing to come across the first sentence of the paragraph on the etiology and pathology of phlebitis: "The origin of phlebitis is invariably infective." It implies a pleasant freedom from bias to find a dogma of the general editor's —"actinomyces do not invade the lymphatic system"—traversed and confuted. The book opens with sixty-six pages devoted to the veins—wounds, varices, and phlebitis. Naturally, suture of veins is now included amongst the routine operative measures. We note, too, mention of Trendelenburg's operation on the pulmonary artery for embolus, but it is too early to expect an account of Handley's lymphangeioplasty in the treatment of phlegmasia. The whole of the rest of the book is taken up with the lymphatic vessels and glands. Tuberculosis of the glands is treated exhaustively and with that genius for descriptive classification to which the Gallic mind and tongue lend themselves so well. Much space is given to the treatment by injections of such drugs as iodoform in ether, and camphor-naphthol; this is followed by a long catalogue of accidents that may ensue, which almost stultifies the praise, faint though it be, accorded to such methods. Possibly some space might have been spared. An adenitis, "syphilo-tuberculeuse," is described, that recalls Mr D'Arcy Power's insistence upon this association. There is an interesting discussion of the etiology of oriental bubo; an observation of Luzzati's is cited relating to 9 cases occurring on board two cruisers, one Italian and one German, directly after leaving the port of Iquique where plague was epidemic: it seems to lend some support to the "attenuated-plague" view of the origin of the disorder. The paragraph on rheumatic adenitis is colourless: we should like to have heard the other author's opinion. The authors quote with approval the rather unsatisfying view of Letulle that primary carcinoma of lymphatic glands is really "alveolar sarcoma." In talking of serum treatment of cancerous adenitis, no mention is made of Coley's mixed-toxins; on the other hand, the *Micrococcus neoformans* is accepted, but obviously with reservations upon its etiological significance. There is an excellent account of the various forms of lymphangiectasis, including those of tuberculous origin which are so much more often seen in the hospitals of Paris than of London. Lymphangitis both in its more general and special forms is carefully, and one might say vividly, described. The sporotrichosic form, of which only 11 cases seems to be on record, has perhaps not much more claim to inclusion than a blastomycotic, but it permits the quotation of Beurmann's happy description of the skin lesion. "At the periphery," he says, "it is syphiloid; in the middle zone, tuberculoid; suppurative at the centre." Wounds, diseases, and incidental affections of the thoracic duct come in for their share of attention. In accidental wound of the duct at the root of the neck, it is recommended to tie the thoracic end rather than tamponade. The picture on page 131 of cancerous lymphangitis of the intestinal villi in a case of obliteration of the thoracic duct consecutive to cancer of the stomach is perhaps a little diagrammatic, but it contrasts very well with that on page 104, purporting to portray tuberculous lymphangitis, which is useless. The illustrations as a whole are quite good. There is only one drawback to the volume—it has no index. Otherwise it is a useful contribution to compact surgical literature; a good guide to practice with just the right amount of original references.

When a book on *Emergency Surgery for the General Practitioner*[4] is found to contain a chapter of thirty-five pages, or one-twentieth of the entire letterpress, on gunshot and other wounds in military practice, it might be suspected that the author was an ardent Territorial, but Dr. John W. Sluss is, in fact, the professor of anatomy in the Indiana University Medical School. The book is published in London, and so, no doubt, it is addressed to the British general practitioner. To secure the British reader's favourable consideration, the author has made use of a great many old friends in the way of illustrations. It gives the reader quite a sense of familiarity when he opens the book on Heath's pictures of bandages beautifully applied in the way we could never get them to lie: it is quite like old times to see again the pictures from Farabœuf, and the figures from the works of Lejars and of

[2] Oxford Medical Publications. *Aseptic Surgery*. By Charles Barrett Lockwood, F.R.C.S. Third edition. London: Henry Frowde, and Hodder and Stoughton. 1909. (Cr. 8vo, pp. 237. 5s.)

[3] *Nouveau Traité de Chirurgie*. Vol. xii. Edited by A. le Dentu and P. Delbet. *Maladies des veines et des lymphatiques*. Par Paul Launay et Henri Brodier. Paris: J. B. Baillière et Fils. 1909. (Sup. coy. 8vo, pp. 256, figs. 59. Fr. 5.)

[4] *Emergency Surgery for the General Practitioner*. By John W. Sluss, A.M., M.D. London: Rebman, Limited. 1908. (Post 8vo, pp. 704, 581 illustrations. 15s.)

Veau on urgency surgery are tolerably good friends. In the military chapter, too, Mr. Sluss has shown his appreciation of Mr. Makins's writings on surgical experiences in South Africa so practically that we easily recognize the pages. In fact, a casual glance through the book would leave the impression that it was a mere compendium of other people's statements. The question for the reviewer, then, is, "Has the selection been made with discrimination?" The answer, on the whole, is in the affirmative; there are a good many points with which it would be easy to quarrel, but the author excuses his own dogmatism, and may be taken as a pretty safe guide in an emergency. He enunciates the heresy of taxis in treatment of strangulated hernias, but, as he recants on the next page but one, it does not involve excommunication. There is a good deal in the book that can be classed as emergency work only by the inclusion of a number of things which would require a much bigger volume for their adequate presentation.

Dr. LOUIS J. HIRSCHMAN'S *Handbook of the Diseases of the Rectum*[5] resolves itself into an account of all the conditions that may be treated in the consulting room, or rather in the "office," for a great many conditions seem to be treatable in an "office" that British surgeons would consider eminently to require confinement to bed. Not every man in this country would like to go home on a street car after having piles removed under local anaesthesia. It is perfectly true that not enough use of infiltration anaesthesia is made in this country, but the author of this volume goes altogether too far for the susceptibilities of our countrymen and for the amenities of ordinary association. Many of the observations recorded are well worthy of note and some of the drug treatment is enterprising or suggestive. We suppose the stimulation of sluggish fistula wounds by bathing them with what we take to be a proprietary meat extract, comes under the heading of treatment by "alien" serums. Operations such as "valvulotomy" are assuredly not difficult, but how often are they necessary? There is a short chapter on the faeces and their clinical examination by Dr. Wagner, of Detroit, and one on dysentery by Dr. Jelks, of Memphis. Some of the illustrations, which are numerous, are very good; some distinctly, or indistinctly, indifferent. The book is interesting as an exposition of a certain class of merican practice.

Mr. CHILDE'S little book on *Operative Nursing and Technique*[6] should be read by every theatre sister and all surgical nurses who aspire to a full appreciation of what is meant by aseptic surgery. It would be a useful exercise for every house-surgeon to read it and find a reason for every divergence in the practice at his own hospital from that here described. Mr. Childe describes in minute detail the duties of sister, theatre nurse, and assistant theatre nurse, in preparing the patient, in preparing the theatre, during the course of an operation, and after, all in accordance with an organized plan for securing perfect asepsis. The plan adopted by Mr. Childe is justified by its results, for among the "clean" cases of six months' work he had no case of suppuration. It is not to be thought that the plan is without drawbacks, or that it is not open to the charge of over-elaboration, but it constitutes an attempt, and a successful attempt, to furnish detailed instructions on a reasoned system. There are chapters on bacteria and infection, on the selection of instruments for operations, and on other nursing points, which are satisfactory, but the scope of the book is strictly limited to the requirements of the surgeon operating, and of the patient throughout the course of his surgical illness. There are nine good illustrative plates, and a number of figures of instruments.

ADULTERATION OF FOODS.

IN the perpetual competition that is always going on between the skilful adulterator on the one hand, and the analyst who detects and exposes his adulterations on the other, both sides are continually making advances, and the methods of yesterday will not suffice for to-day; new handbooks on the subject of the analysis of foods, and new editions of the older ones, are therefore necessary and welcome. When a book of this kind has reached its sixth edition, as WYNTER BLYTH'S *Foods: Their Composition and Analysis*[7] has, its usefulness may be regarded as established beyond the need of comment by the reviewer, whose principal interest then lies in noting how far it embodies advances on its predecessors. In the present case the new edition is presumably the result of the exhaustion of the previous one and a continued demand, rather than of any felt necessity of including new matter, as the differences between this and the fifth edition are not very considerable. The principal alterations and extensions, to which attention is directed in a prefatory note, are the additional matter on the detection of cocoanut oil in butter, the bacteriological and chemical examination of water, the identification of alcohols, and the use of the newer types of instruments for spectroscopy. The adulteration of butter furnishes an interesting example of how the very tests relied on by the analyst may be turned to account by the adulterator; the much higher proportion in butter fat than in most other fats of the esters of volatile water-soluble acids (as determined by the Reichert-Wollny test), has been one of the principal characters on which the analyst has relied for revealing the presence of foreign fat; cocoanut oil, however, also contains a somewhat high proportion of these constituents, and it has accordingly been possible to add quite considerable proportions of this substance to butter, without lowering the Reichert-Wollny figure below the limit recognized as permissible. Special methods of detecting this adulteration have, therefore, become necessary, and several of these are described in additional pages of the book under review. The reference to new types of spectroscopes serves to suggest the very wide range of methods, physical as well as chemical, which the analyst must now employ; the processes and tests described include microscopic, spectroscopic, polarimetric, refractometric, and many other kinds of examination, in addition to the wide range and variety of chemical tests which form the analyst's most important weapons against fraud and carelessness. The sixth edition will doubtless prove as acceptable and useful as have the earlier.

NOTES ON BOOKS.

IT is perhaps a little surprising that it should be thought worth while to write a book of some eight score pages about a single golf club and its course, especially one founded only some five and thirty years ago. However, Dr. J. D. GILRUTH has done this in a volume with the title *The Arbroath Golf Course*,[8] and though only a local enthusiast or a reviewer will read the book through, the author contrives to tell his story in a very pleasant way. The net result is that the ancient burgh by the North Sea has transformed a wild stretch of low-lying sandy dune and unkempt benty land into what must undoubtedly be a very good and well-kept eighteen-hole course. To the Golf Club, which, as may be judged from a photograph reproduced in the volume, possesses a substantial bungalow house, temporary members are admitted on payment of 1s. a day or 3s. a week. The impression left is that there can be few better places at which to spend a golfing holiday than Arbroath, and as this is doubtless the impression the author desired to produce, the burgh is to be congratulated on the skill of its historiographer.

The fact that a new French pharmaceutical *Codex* has recently been issued no doubt accounts for the appearance of new editions of two well-known formularies. The one is a fourth edition of Dr. VAUCAIRE'S *Formulaire moderne*,[9] the other the third edition of Dr. COMBY'S *Formulaire de poche pour les maladies des enfants*.[9] Both have been revised to accord with the new *Codex*, and both are arranged on the same plan; in a first part we have an

[5] *Handbook of Diseases of the Rectum.* By Louis J. Hirschman, M.D., Lecturer on Rectal Surgery, Detroit Medical College. St. Louis: C. V. Mosby Medical Book and Publishing Company. 1909. (Med. 8vo, pp. 378, plates 2, illustrations 147 4 dols.)

[6] *Operative Nursing and Technique. A Book for Nurses, Dressers, House Surgeons, etc.* By C. F. Childe, F.R.C.S. London: Bailliere, Tindall and Cox. 1909. (Cr 8vo, pp. 236. 4s.)

[7] *Foods: Their Composition and Analysis.* By Alexander Wynter Blyth, M.R.C.S., F.I.C., F.C.S., etc.; and Meredith Wynter Blyth, B.A., B.Sc., F.I.C., F.C.S., etc. Sixth Edition. London: Charles Griffin and Co., Limited. 1909. (Med. 8vo, pp. 644, 80 illustrations, 4 plates. 21s.)

[8] *The Arbroath Golf Course.* By J. D. Gilruth, M.A., M.D.Edin. Arbroath: T. Buncle and Co. 1909. (Cr. 8vo, pp. 168; with illustrations and a plan. 1s.)

[9] Paris: Vigot Frères: *Formulaire moderne*, pp. 1026, price 7 francs. *Formulaire de poche* pp. 636, price 8 francs.

alphabetical list of diseases, and in a second an alphabetical list of medicaments. Both books are, of course, addressed to French practitioners, but contain notes and suggestions which will be useful to all medical men.

In the second volume of the nineteenth series of *International Clinics*[10] for 1909 there is little calling for special notice. Among the more interesting articles are those on immunization against typhoid fever by Dr. H. Shoemaker, on the diagnosis and treatment of pneumonia in children by Dr. Louis Fischer, on psychasthenia by Dr. B. C. Loveland, on hyperchlorrhydria by Dr. G. M. Niles, and on the pathogenesis of spontaneous cerebral haemorrhage by Dr. A. G. Ellis. The chief feature of the volume will seem to many to be the representations in colour of intracranial miliary aneurysm. In the third volume of the same series there is hardly an article which is not only of interest but of real importance. Among them are those on the treatment of tuberculosis by Dr. A. P. Francine, on the present position of antitetanic serotherapy by Dr. L. Legane, on Graves's disease, Raynaud's disease and some of the allied forms of vasomotor disorder (vasomotor ataxia) by Dr. S. Solis Cohen, on gonococcic septicaemia by Dr. G. Dieulafoy (an extremely valuable article), on early and complete resection of varicose veins of the leg by Dr. F. Alglare, on Hirschsprung's disease (idiopathic dilatation of the colon) by Dr. P. S. Potter, on the radiographic examination of the gastro-intestinal tract with especial reference to the diagnosis and treatment of gastro-enteroptosis by Dr. H. K. Pancoast, and on exotic dysenteries by Dr. P. G. Woolley. This volume likewise contains a good coloured picture showing paroxysmal acro-asphyxia of the hand.

Messrs. Shaw and Sons send a copy of *Sugden's Doctor's Account Book*,[11] which claims to be "a complete system of accounts for the profession, enabling them to keep up to date with the least possible trouble." The copy sent consists of 48 pages of what is called "ledger," though it is only of the style of an ordinary monthly visiting book with one line to each patient. It is available for 104 patients a month for twelve months. Next follow 60 pages for "cash book," and there are extra pages for alphabetical index. The claim that accounts can be kept up to date is certainly correct, but the labour involved is considerable, as it is necessary every six days (not every week, which would have been more convenient), and also at the end of every month, to add up the fees charged for visits and consultations and those charged for medicines, which are entered separately. The total for the six days is then put in a "carried forward" column, then in a "brought forward" column on the next page. When the attendance is finished the total is entered in a "total account" column, side by side with which is a column for "date paid." The name and address with amount owing needs copying out afresh each month for each patient whose account is running, which is an unnecessary trouble. Turning to the "cash book" part, there are no less than twelve columns with various headings for name and date, amount received, amount paid, amount paid into bank, amount paid by cheque, and half a dozen detail columns for various payments, it being assumed that all payments are by cheque. The detail columns in the cash book are useful, but there is unnecessary labour in the ledger part. It is doubtful whether this or any of the other so-called labour-saving devices are really an improvement on the old standard method with separate ledger and cash book. In all cases the rough day book is needed for particulars of prescriptions.

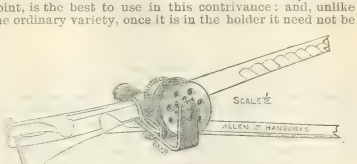
[10] *International Clinics: A Quarterly.* Nineteenth series. 1909. Vols. ii and iii. Edited by W. T. Longcope, M.D. Philadelphia and London: J. B. Lippincott Co. 1909. (Med. 8vo, vol. ii, p. 309; vol. iii, pp. 304; £1 15s. per four volumes.)

[11] *Sugden's Doctor's Account Book.* London: Shaw and Sons. (Fcap. 4to. 8s.)

MEDICAL AND SURGICAL APPLIANCES.

A Simple Suture and Ligature Spool Attachment.

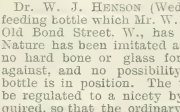
DR. B. RICHARDSON BILLINGS (Liss, Hants) writes: With the help of Mr. W. F. Chambers, of the Victoria Hospital, Folkestone, I have devised a suture and ligature spool whereby rapid and easy suturing and ligaturing can be accomplished. The apparatus is a substitute for the more expensive "sewing machines" which have been devised from time to time, and consists simply of a light metal reel on a framework, which can be attached to most of the needle-holders in common use, or even to a pair of Spencer Wells artery forceps. The reel has deep flanges, which are perforated, allowing for thorough sterilization of its contents. Its six is instantly unmountable from the frame by a half turn of a milled nut seen in the illustration. This nut is just under the thumb when working, and serves to control the rate of supply of the suture material. A needle half curved, with an eye at the point, is the best to use in this contrivance: and, unlike the ordinary variety, once it is in the holder it need not be



released. The needle is threaded as shown, and then passed through the tissues in the ordinary way; the end of the thread is then gripped and held in forceps, and the needle brought back along the thread, which is then cut between tissues and needle. Thus is one suture made, and the needle is ready for the next. It reads longer and more complicated on paper than it is, but actually the process is simple and rapid. A continuous suture can be adopted with slight modification, while for ligaturing the advantages are obvious. The whole attachment is cheap, adaptable, simple, efficient, clean, instantly changeable—allowing materials of different sizes to be used—time saving, and practical. It and its contents need not be touched at all after sterilizing. A good all-round material to use on the spool is linen thread. Messrs. Allen and Hanburys have most ably carried out the idea from my models and sketches.

A Feeding Bottle.

DR. W. J. HENSON (Wedmore, Somerset) describes a feeding bottle which Mr. W. E. Lowe, of 8, Stafford Street, Old Bond Street, W., has had made at his suggestion. Nature has been imitated as nearly as possible. There is no hard bone or glass for the child's mouth to press against, and no possibility of sucking air when the bottle is in position. The tiny air hole in the glass can be regulated to a nicety by the thumb or finger if required, so that the ordinary rubber valve, often a source of infection, as well as being easily lost, is done away with. The teat is turned inside out each time it is taken off, so that any sour milk or other deposit must be seen. The inside of the teat, as well as of the bottle, can be readily reached and cleaned by the fingers or a piece of boiled lint or rag, so that the dangerous bristle brush, often used for improper purposes as well as its ordinary use, and whose tiny broken bristles are a constant source of danger, is also done away with, and the whole thing may be readily sterilized in a pint saucepan, although its round shape leaves so little room for deposit, this is not always required. Dr. Henson has used them in his own practice for over two years, and found babies take to them more readily than to the ordinary teat, and he has seen some bad cases of sickness stopped by the use of them alone in place of the ordinary bottles, which are impossible to clean properly. He was led to design this bottle by articles in the BRITISH MEDICAL JOURNAL, which showed very forcibly that adenoids and jaw deformities (comparatively unknown before the advent of the modern feeding bottle and dummy teat) were caused by them.



Gerrould's Zygomatic Face Protector.

DR. G. A. GARDY SIMPSON (London, W.) writes: In your criticism of Gerrould's Zygomatic Face Protector, in the JOURNAL of October 23rd, you say that the only objection you can see to the apparatus is that the breath of the wearer condenses on the glass screen. Will you kindly allow me to state that I have worn the mask for quite fifteen minutes with only the slightest condensation on the glass opposite my mouth, leaving the sight perfect. If there should be any fear of such trouble it can be easily overcome by the use of a Lassen pencil, or smearing a little soap on the glass and rubbing clean, which does equally as well. This mask is a most useful invention, especially for the examination of children with suspicious throats. It will also be found of great service if worn during the performance of tracheotomy on a diphtherial patient, for membrane is frequently blown out over the operator on his opening the trachea. I can strongly recommend this mask to throat specialists and general practitioners.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

THE POOR IN THE HIGHLANDS AND ISLANDS.

THE part of the Commissioners' report—in which both the Majority and Minority agree—relating to the condition of the poor in the Highlands and islands of Scotland, and the means, or rather, the want of means, for affording them medical relief, is painful reading, and scarcely spells credit for those responsible for the pitiable state of affairs. When we find such expressions in the report as, "Many of the houses are more worthy of a Kaffir kraal than a section of Great Britain," and "the condition of affairs here described seems scarcely credible in the twentieth century," it is surely time that a remedy for such a state of things should be found. Reference has often been made in the columns of the JOURNAL to the frequent complaints made by medical officers in these outlying districts as to the inadequacy of salary and the difficulty of obtaining house accommodation. Both of these points are referred to in the report.

The Commissioners state that medical attendance in many parishes of the Highlands and islands is deplorably insufficient, and that the physical well-being not only of the paupers, but also of the whole population, is affected thereby. At the same time it appears that, notwithstanding the deficiency, the paupers themselves are better off in respect to medical attendance than the classes immediately above them. The problem in these parishes is to secure even a minimum of medical attendance for the inhabitants. Mr. Millar, one of the general superintendents of the Local Government Board, states as follows:

> Many of the smaller parishes cannot maintain a doctor. Some of the smaller islands in Orkney and Shetland are without medical officers. In these small island parishes the medical officers are continually changing, and the cost of advertising (it may be for months) is a heavy charge on the rates.

The poverty of the great majority of the population renders it very difficult for a private practitioner to eke out a bare subsistence. But "besides the poverty," Dr. Fletcher Harris, one of the witnesses examined, states,

> a great deal of callousness exists among the people with regard to calling in a doctor. They are mostly extreme fatalists, and often do not call a doctor, on the plea that "the hour has come."

The situation has been partially but very inadequately met by the aid given from the medical relief grant. Salaries higher in amount than "mere attendance on the poor would justify" have been allowed by the Board to rank against the grant, in order "to provide the nucleus of a living for a medical man." Not infrequently, however, the "nucleus" is almost the only source of income, there being no field from which the medical officer can add to his salary by private practice. In other words, the medical officer actually though not avowedly gives medical attendance to the people generally in respect of his Poor Law salary. Yet, in spite of the assistance from the grant, the number of doctors is still insufficient, and sometimes villages may be ten or fifteen miles distant from the place where a doctor resides. To illustrate the very grave and unjustifiable condition existing, the evidence of the late Dr. MacDonald of Stornoway may be quoted. Referring to the island of Lewis, he says:

> Taking the west side of the island, extending from the village of Europie, near the Butt of Lewis, to Mealshader, at the upper end of Uig, we have a district seventy-two miles long by the only existing road. The district embraces the parishes of Barvas and Uig, and has a population of close on 13,000 scattered all over the district in some forty villages. All the available medical assistance in this large area is what can be rendered by two medical men living at a distance of fifty miles from one another. It can hardly be understood how very inadequate the services of these two gentlemen, willing and energetic though they are, are to meet the requirements of this large district, for it must be borne in mind that most of the villages are some distance from the main road, which is practically the only road in the district on which a gig can go. It follows, therefore, that the doctor must leave his gig on the main roads, and make all his visits to these villages on foot. It must also be kept in mind that, though typhus and typhoid fevers are of frequent occurrence in the district, there is not a single place from end to end of the district in which a case of infectious trouble can be isolated or treated. A similar state of matters prevails in the parish of Lochs, which is so cut up by the narrow arms of the sea, that one part of the parish may be completely isolated from the other for several days except by walking round these arms of the sea, over trackless moors. In a parish so cut up, and without any intercommunication between the villages by roads, it is plain that one medical man, athlete though he is, cannot render anything like efficient medical assistance to over 6,000 people scattered over such an area.
>
> Here also there is absolutely no provision for the isolation and treatment of infectious diseases. Here the remedy is the same as in the other parishes—hospital accommodation for the treatment and isolation of infectious diseases and a medical officer for each section of the parish.
>
> I have visited the greater part of our vast empire, but have yet to visit any part thereof in which British philanthropy has failed to put medical assistance and hospital treatment within easy reach of the poor than in Lewis; nay, more, that same philanthropy has extended the same privileges to poor people living beyond the bounds of our empire, so much so that, were some globe-trotter to run across similar conditions to those prevailing in Lewis, a Mansion House Fund would be immediately instituted for its relief; but here in Lewis, within twenty-four hours' journey of London, men, women, and children are allowed to die without adequate provision being made to bring medical assistance and hospital treatment within easy reach of them, and under sanitary conditions that had better not be described. The reason for their being thus neglected by their more favoured fellow subjects is self-evident. Centuries of poverty have induced in them a sort of blind fatalism, so that rebelling against their present condition would be, in their opinion, tantamount to rebelling against the decrees of Providence.

Truly a piteous tale, but by no means an isolated one In connexion with medical aid to the poorer classes, the Majority Report recommends that a better supply of hospital accommodation should be provided, based upon the needs of each Public Assistance area; that steps should be taken to organize, with the co-operation of the medical profession, a system of medical aid by the establishment of provident dispensaries or medical clubs; and that a Departmental Committee should be appointed to consider the means by which such a system can best be organized.

These recommendations, supposing they were to be carried out, might be applied to the towns in the mainland of Scotland, but in the Highlands and islands some other means must be adopted; and the only solution of the difficulty is to give larger salaries to the medical officers, with security of tenure, and a suitable residence, so as to enable them at least to earn sufficient to live with some degree of comfort.

Referring to the want of proper hospital provision and of means of isolation treatment, the Commissioners state that it has caused infectious disease to become endemic in the island of Lewis. We are also told that the inadequacy of medical relief is apparent from "the alarming manner in which tuberculosis is becoming general all over the island."

The most obvious and conclusive evidence of the lack of medical attendance in Highland and island parishes, however, is to be found in the statistics of uncertified deaths, and the medical member of the Local Government Board and a member of the Medical Relief Committee supplied them with the following particulars:

> The number of uncertified deaths is, in some parishes enormous. For instance, in 1900, in certain parishes of Inverness-shire, the uncertified deaths were:
>
> | | Per cent. |
> |---|---|
> | Kilmuir ... ... | 70 |
> | South Uist ... ... | 67 |
> | Duirinish... ... ... | 64 |
> | Harris ... ... | 52 |
>
> Again, in 1905, the crude figures for certain areas were:
>
> | | Total Deaths. | Uncertified. |
> |---|---|---|
> | Ross-shire: | | |
> | Lewis (as a whole) ... ... | 202 ... | 114 |
> | Mid-Ross ... ... | 204 ... | 57 |
> | Western Ross ... ... | 81 ... | 43 |
> | Inverness-shire: | | |
> | Skye ... ... | 218 ... | 89 |
> | Harris ... ... | 67 ... | 34 |
> | North Uist .. .. | 69 ... | 15 |
> | South Uist... ... ... | 145 ... | 71 |
> | Sutherland ... ... | 329 ... | 69 |
> | Shetland (landward) ... | 337 ... | 1·4 |
> | Argyll (landward) ... | 714 ... | 103 |

The whole subject was fully discussed by the Medical Relief Committee in 1904, and it suggested two remedies, either (1) a special grant in aid of medical attendance in the Highlands, or (2) the institution of a system similar to that of the Irish dispensaries. Unfortunately the Government has not been able to carry out either of these recommendations. The committee also mentions, but "without comment or criticism," that in some parishes the club system of providing medical attendance has been adopted, and "appears to work well on the whole."

Turning to a matter which the Commissioners say is somewhat beyond the terms of their reference, but which is often commented on in the reports from the medical officers, namely, the grossly insanitary condition of the houses in many parts of the Highlands and islands, they state that the intimate connexion between sanitation and pauperism has long been recognized. Defective sanitation causes sickness, and sickness is one of the most fertile causes of pauperism. The following extract from the evidence of Dr. Ross, medical officer for the parish of Barvas, is given:

The number of inhabited houses is over 1,300, grouped into some twenty-six separate townships; and over 1,000 of these houses are glaringly and shockingly defective, from a sanitary point of view, as regards their construction, internal arrangements, ventilation, lighting, drainage, and surroundings. Human beings, cattle, and other live stock are housed under the same roof without any effective partition wall, all enter by the same door as a rule, breathe the same air night and day, while the excretal matters of man and beast, and refuse and slops, are allowed to accumulate in the byre end of the house from spring to spring. Drainage is almost entirely neglected about the houses, and liquid sewage is permitted to find its way where it may. The water supply is often defective, and frequently contaminated with sewage. From the foregoing brief statement it may be inferred that the task of attending to the wants of such a population is no light one; and it need not surprise any one to learn that hitherto the agencies employed to cope with the difficulty have signally failed to effect any marked reform.

The condition of affairs here described is considered scarcely credible in the twentieth century, and the Commissioners would have been inclined to think it exaggerated, if it were not amply corroborated by the recent report by Dr. Dittmar, medical inspector, and Mr. Millar, one of the general superintendents of the Local Government Board.

A committee of the Commissioners which visited the outer islands found houses of the above description not only in Barvas, but in other parishes. The following extract from one of their reports describes the house of a pauper:

We visited five cases, beginning at the far end of the island by the lighthouse. As we approached the cot of the most distant pauper we heard the old man singing his psalms, and waited until he had finished, and then entered with one of his married daughters, who lives close by. It was the ordinary wigwam style of cot. The floor was rock and mud and muck; the fire, before which the old man sat in a little wooden chair, was in the centre of the room; the fowls, which frequented all the houses and made themselves very much at home, were for the most part squatting about amongst the rags on the wooden bed in the inner room.

In the opinion of the Commissioners, many of the houses are more worthy of a Kaffir kraal than a section of Great Britain.

They are convinced that the problem in the outer islands is very largely one of public health, and that without pecuniary assistance it is scarcely possible that any adequate measures can be taken to improve the existing conditions.

The need for better provision of nursing for the outdoor sick poor has, says the report, been strongly impressed on the Commissioners by witnesses from the Highlands and Islands, where the inadequacy of the present arrangements is said to lead to much preventable suffering. Parish councils frequently subscribe to the funds of the voluntary nursing associations, and in so doing have the approval of the Local Government Board. Evidence shows, however, that, although the nurse renders invaluable service to the outdoor sick poor, parish councils do not always deem it necessary to contribute to the nursing associations.

THE COMPOSITION OF SOME PROPRIETARY FOOD PREPARATIONS.

IV.—MALT EXTRACTS.

Extract of malt is largely employed as a readily-assimilable food, containing both carbohydrate and protein, and also as an aid to the digestion of starchy foods. A considerable number of proprietary brands are before the profession and the public, and the results of the analysis of some of the principal of these is here given. The samples were all obtained through ordinary trade channels.

Extract of malt is prepared by "mashing" crushed malt, as in the first stage of the brewing of beer; the malt is infused in warm water for some time, and the liquor is then drained off and concentrated *in vacuo* to about the consistence of treacle. During the mashing process the starch of the grain is attacked by two enzymes—cytase and diastase—and converted principally into a mixture of dextrin and maltose; some of the protein of the grain is also rendered soluble. During the concentration a small proportion of the maltose is further hydrolyzed to glucose. A properly prepared pure malt extract will accordingly contain maltose as the principal ingredient—protein, dextrin, a little glucose, and diastase; the proportions of all these are subject to some variation, according to the variety of malt used and the details of the method followed.

The principal sophistications of malt extract include:

1. The addition of glucose prepared from starch by the action of sulphuric acid. A limit for the amount of glucose which occurs as a normal constituent of malt extract has never been fixed, but the proportion is certainly very small, and the presence of an unusually high proportion of reducing sugars is strong evidence that glucose has been added.

2. The addition of dextrin, usually made from potato starch. When dextrin is employed, it is usually added at a rather early stage of the evaporation, and it is then partially converted into maltose by the action of the diastase. The nature of the carbohydrates in the product is then substantially the same as in a pure extract. If either glucose or dextrin is added, the proportion of protein in the extract is, of course, lowered in a corresponding degree; in a pure extract containing about 25 per cent. of water, protein will usually be present to the extent of about 6 per cent., or 8 per cent. of the total solids.

3. Preservatives of various kinds are sometimes added; these include salicylic and benzoic acids, sulphites, and formaldehyde. A small quantity of glycerin is often added, and this can hardly be objected to.

In the analyses here recorded, the total reducing sugar found was calculated as maltose; the protein was calculated from the total nitrogen found; the dextrin, ash, and alcohol (when present) were determined directly. The diastatic power was ascertained by the action of the extract on starch, following, with slight modification, the method given in the *British Pharmaceutical Codex*: it is expressed as the percentage of starch which is completely digested by the extract in half an hour at a temperature of 40° C. (104° F.)—that is, an extract having a diastatic power of 100 digests its own weight of starch, one having a diastatic power of 1,000 digests ten times its own weight, and so on, under the conditions of the test.

Kepler Extract of Malt.

This preparation is sold by Burroughs, Wellcome and Co., London. A bottle, priced 2s., contained 9 fluid ounces. The dose for an adult was stated to be two dessertspoonfuls three times a day. Analysis showed this preparation to contain:

Total solids	78.4	per cent.
Reducing sugars, calculated as maltose	67.7	,,
Protein	5.66	,,
(= 7.22 per cent. of total solids)		
Dextrin	7.4	per cent.
Ash	1.5	,,
Diastatic power	380	,,

(A small quantity of benzoic acid was present.)

TROMMER'S EXTRACT OF MALT.

This extract is sold by the Trommer Co., London. A bottle, priced 2s. 6d., contained 9½ fluid ounces. The dose for an adult was stated to be a tablespoonful three times a day. The result of analysis was as follows:

Total solids	73.6 per cent.	
Reducing sugars, calculated as maltose	55.9	,,
Protein	4.05	,,
(= 5.50 per cent. of total solids.)		
Dextrin	8.3 per cent.	
Ash	1.1	,,
Diastatic power	23	

ALLEN AND HANBURYS' MALT EXTRACT.

This preparation is sold by Allen and Hanburys, Ltd., London. A bottle, priced 1s. 6d., contained 9½ fluid ounces. The dose was given as a dessertspoonful to a tablespoonful three times a day. Analysis showed this preparation to contain:

Total solids	79.0 per cent.	
Reducing sugars, calculated as maltose	65.2	,,
Protein	4.55	,,
(= 5.76 per cent. of total solids.)		
Dextrin	13.4 per cent.	
Ash	1.2	,,
Diastatic power	39	

D.C.L. MALT EXTRACT.

This preparation is sold by the Distillers' Company, Limited, Edinburgh, and a bottle, priced 1s., contained 8 fluid ounces. The dose was stated to be a teaspoonful to a tablespoonful two or three times a day. Analysis showed this preparation to contain:

Total solids	78.3 per cent.	
Reducing sugars, calculated as maltose	70.9	,,
Protein	6.25	,,
(= 7.98 per cent. of total solids.)		
Dextrin	10.0	,,
Ash	1.4	,,
Diastatic power	366	

OPPENHEIMER'S CREAM OF MALT.

This preparation is sold by Oppenheimer, Son, and Co., Limited, London. A bottle, priced 2s. 6d., contained 9½ fluid ounces. The dose for an adult was stated to be a tablespoonful three times a day. Analysis showed this preparation to contain:

Total solids	73.8 per cent.	
Reducing sugars, calculated as maltose	60.8	,,
Protein	5.55	,,
(= 7.52 per cent. of total solids.)		
Dextrin	13.8	,,
Ash	1.8	,,
Diastatic power	86	

MALTINE.

This preparation is sold by the Maltine Manufacturing Company, Limited, London. A bottle, priced 2s. 9d., contained 8½ fluid ounces. The dose for an adult was stated to be a dessertspoonful to a tablespoonful three times a day. Analysis gave the following result:

Total solids	67.3 per cent.	
Reducing sugars, calculated as maltose	61.9	,,
Protein	5.25	,,
(= 7.80 per cent. of total solids.)		
Dextrin	5.0 per cent.	
Ash	1.2	,,
Diastatic power	940	

DIAMALT.

This extract is made by the British Diamalt Company, London. A bottle, priced 1s. 6d., contained 11 fluid ounces. The dose for an adult was stated to be a dessertspoonful to a tablespoonful three times a day. Analysis showed this preparation to contain

Total solids	74.0 per cent.	
Reducing sugars, calculated as maltose	63.9	,,
Protein	6.52	,,
(= 8.81 per cent. of total solids.)		
Dextrin	12.7 per cent.	
Ash	1.2	,,
Diastatic power	1060	

STANDARD MALT EXTRACT.

This preparation is manufactured by the Standard Malt Extract Company, Liverpool and London. A bottle, priced 1s. 3d., contained 4½ fluid ounces. The dose for an adult was stated to be two teaspoonfuls three times a day.

The first bottle of this which was examined was found to contain 1.5 per cent. of an oil smelling like cod-liver oil: a second supply was therefore obtained, and analysis showed this to contain

Total solids	76.6 per cent.	
Reducing sugars, calculated as maltose	70.0	,,
Protein	5.3	,,
(= 6.92 per cent. of total solids.)		
Dextrin	12.2 per cent.	
Ash	1.4	,,
Diastatic power	382	

The above preparations were very thick, or semi-solid. The next three differed in being quite fluid.

BYNIN.

This preparation is made by Allen and Hanburys, Ltd., London. A bottle, price 1s. 9d., contained 10¾ fluid ounces. The dose was given as one or two tablespoonfuls three times a day. Analysis showed this preparation to contain:

Total solids	52.9 per cent.	
Reducing sugars, calculated as maltose	51.6	,,
Protein	3.39	,,
(= 6.40 per cent. of total solids.)		
Dextrin	3.1	,,
Ash	0.9	,,
Alcohol	8.3	,,
Diastatic power	38	

(A small quantity of benzoic acid was present.)

STANDARD LIQUID MALT EXTRACT.

This extract is prepared by the Standard Malt Extract Co., Liverpool and London. A bottle, priced 1s. 9d., contained 5¾ fluid ounces. The dose for an adult was stated to be two teaspoonfuls two or three times a day. The results of analysis were as follows:

Total solids	53.7 per cent.	
Reducing sugars, calculated as maltose	51.6	,,
Protein	5.5	,,
(= 10.4 per cent. of total solids.)		
Dextrin	2.3	,,
Ash	1.1	,,
Alcohol	5.0	,,
Diastatic power	866	

HOFF'S MALT EXTRACT, OR HOMAX.

This preparation is sold by M. Hoff, Hamburg. A bottle, priced 1s. 9d., contained 12 fluid ounces. The dose was stated to be from a wineglassful to a third of a bottle three times a day. Analysis showed this preparation to contain:

Total solids	7.8 per cent.	
Reducing sugars, calculated as maltose	2.5	,,
Protein	0.4	,,
(= 5.3 per cent. of total solids.)		
Dextrin	2.3	,,
Ash	0.2	,,
Glycerine	3.7	,,
Alcohol	3.1	,,
Diastatic power	0	

THE ANNUAL REPORT OF THE PRISON COMMISSIONERS.

The Annual Report for the year ended March 31st, 1909, of His Majesty's Prison Commissioners,[1] shows that the total number in custody or out on bail at the beginning of the year was 20,794, and at the end of the year 21,172.

Statistics.

The number of persons received into local prisons under sentences of penal servitude or imprisonment by the ordinary courts was 184,901; by courts-martial, 465; as debtors or on civil process, 18,996; and in default of sureties, 1,319, giving a total of 205,681. During the previous year the numbers were: by the ordinary courts, 176,602; by courts-martial, 501; as debtors or on civil process, 17,918; and in default of sureties, 1,212, giving a total of 196,233. There was thus an increase of no less than 9,448 prisoners as compared with the previous year. The average daily population of local prisons in 1908–9 was 18,923, as compared with 17,719 for the previous year, and in convict prisons 3,195, as compared with 3,064 for the previous year.

As giving a better idea of the volume of crime than the average prison populations—which might be the result of longer and not a greater number of sentences—the Commissioners show by means of a table the proportion of annual receptions into prison from ordinary courts to the general population since 1881. From this it appears that the ratio of commitments has fluctuated widely between 521.6 and 460.7 per 100,000, the proportion for the year 1908–9 being 523.1, as compared with 505.4 per 100,000 for the previous year.

The Commissioners also supply a table showing the offences which led to imprisonment during the last six years. This shows that, comparing the year 1908–9 with the previous twelve months, the numbers of those committed for offences against the person rose from 1,374 to 1,410; against property, from 7,512 to 7,998; indictable offences tried summarily, from 20,886 to 21,710; and other offences tried summarily, from 146,625 to 153,578. The increase was general throughout the country, 37 out of 57 prisons showing an increased number on the previous year, and greatly straining the cellular accommodation at the prisons. The Commissioners say that if the numbers continue to remain high and to keep pace, as they seem to do, with the growth of the population, the question of providing more accommodation must arise in the near future. The reason for this striking increase, in the opinion of the local authorities consulted by the Commissioners, is to be found in what the recent Poor Law Commission called "the new problem of chronic unemployment," a social disease which is not only chronic, but is stated to be rapidly increasing. Doubtless related to this is the notable increase in commitments for begging and sleeping out, the total numbering 25,168, or about one-seventh of the total commitments from ordinary courts, and giving an increase of 4,178 on those of the previous year. Concerning these convictions the Commissioners agree with the Departmental Committee of 1905, whose conclusions have been endorsed to a large extent by the Poor Law Commission, that the habitual vagrant should be dealt with otherwise than under the Vagrant Act, and should be treated, as far as possible, not as a criminal but as a person requiring detention on account of his mode of life. Apart from vagrancy, the increase of offences over the preceding year has been most marked in larceny, breach of police regulations and the Highway Acts, to a large extent also due to trade depression and consequent unemployment. On the other hand, and possibly related to the same economic conditions, commitments for drunkenness diminished by 1,403 as compared with the previous year.

The Prevention of Crimes Act.

Turning from these somewhat dismal figures to the brighter side of the Commissioners' report, they discuss at considerable length the satisfactory results of the "Borstal system" and its more extensive application under the Prevention of Crime Act which has recently become law. This important measure is divided into two parts, Part I dealing with the reformation of young offenders, and Part II with the detention of habitual criminals. The young offender aimed at by the Act is the adolescent between the ages of 16 and 21, the class since 1900 experimentally dealt with under the Borstal rules in local prisons. Under the new Act the work and responsibilities of the Borstal Association will become greatly enlarged, but for the Commissioners' exceedingly interesting discussion of a measure which seems likely to be of immense benefit to the offenders treated, and consequently to the community at large, we must refer readers to the report itself. A quotation from the Borstal Association's annual report gives a general description of the results of its efforts so far: "For the most part they enter Borstal in an unpromising condition of mind and body—lumpy, slack, sometimes defiant, generally out of condition, and, as a whole, below the average of physique and intelligence of their class. They come out healthy, well set up, improved in manner, and, in the great majority of cases, anxious to show that they can work honestly and hard." Another consequence of the new Act will be the application of the Borstal system to young women between the ages of 16, and 21. The regulations made under the new Act, together with the instructions giving effect to them, are printed in the Commissioners' Report in Appendix 17.

Juvenile Offenders.

In our previous digests of the Prison Commissioners' reports the fall in numbers of juvenile offenders has been noted. The Commissioners have published year by year a table setting forth the yearly commitments to prison of offenders under 12 years and between 12 and 16 years of age. This table has now made its last appearance. Offenders under the age of 16 are now divided into two classes—children under 14 and young persons between 14 and 16. In future no child can be sentenced to imprisonment, and a "young person" only when so unruly or so depraved that the detention provided by the Act is unsuitable.

Habitual Criminals.

As to Part II, dealing with habitual criminals, the Commissioners point out that, as a minimum period of three years' penal servitude is a necessary antecedent of the system, it will be some time before "prevention detention" comes into operation.

Medical Report.

Turning to more strictly medical matters, Dr. Smalley, Medical Inspector, in his report prefacing the usual statistical tables, alludes to the important bearings the recommendations of the Royal Commission on the Feeble-minded, if put into effect, will have upon prisons. Speaking of feeble-minded prisoners, he says that the number of such prisoners received by local prisons averages about 400 each year. For the last four or five years a record has been kept of their convictions, etc., and there are now nearly 1,000 individuals on this register. The removal of such cases to more suitable care would be advantageous both to the people themselves and to the prisons.

The clearing out from prisons of the tramp and the drunkard by legislative action on the lines recommended by the Poor Law Commission and the Departmental Committee on Inebriety will in still greater degree permit of prisons being employed exclusively for treatment of the criminal, and will thus, Dr. Smalley says, facilitate the extension of methods of individualization of which the success of the Borstal system is likely to be so conspicuous a proof. Lastly, it may be mentioned that the death-rate in local prisons from natural causes was 0.41 per 1,000 prisoners received, the average for the previous twenty-five years being 0.54 per 1,000. The death-rate from natural causes in convict prisons was 5.9 per 1,000 of the daily average population, as compared with 6.5 in the preceding year. During the year 135 persons in local prisons were found to be insane and certified after reception, and in convict prisons 23. Of the 135 certified insane in local prisons 73 were found to be insane on reception, and 25 exhibited symptoms of insanity within a month of reception. At the end of the year there were 142 convicts at Parkhurst Prison who had been classed as of weak mind, and 13 at Aylesbury. The general health was good throughout the year in both local

[1] Report of the Commissioners of Prisons and the Directors of Convict Prisons, with Appendices. (For the year ended March 31st, 1909.) Darling and Son, Parker Street, E. 1909. (Price 7d.)

and convict prisons and the few cases of infectious diseases recorded were sporadic in character and in most cases due to infection prior to imprisonment.

There were 16 suicides in prison during the year, 14 in local and 2 in convict prisons.

ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

The annual meeting and dinner took place at the Grand Hotel, Manchester, on November 12th, both functions being very well attended.

Meeting.

Dr. S. King-Alcock (Burslem), the retiring president, took the chair, and congratulated the members on the large and valuable amount of work which had been got through during the year, paying a special tribute to those members of the council who had displayed so much energy in the work of compiling standards of physical fitness for all trades, and in producing the scheme for incorporation of the society.

The proposed memorandum and articles of association were then considered. The Honorary Secretary (Dr. W. F. Dearden) explained that the objects of the new association could be summarized under the double heading of the advancement and defence of the interests of certifying surgeons and the spread of knowledge of industrial hygiene. The liability of members would be limited to the amount of their subscription, and to a guarantee of £1 in case of not being able to meet any outstanding liabilities should it be decided at any time to wind up the association. It was proposed to elect honorary fellows from amongst medical men who had interested themselves in the subject of industrial hygiene, both in England and abroad. Members of the association would be divided into fellows and ordinary members, the choice of class being left to members themselves, the subscription being graduated accordingly.

With the exception of the articles relating to appeal from the decision of a general meeting to a poll of members, which were deleted, the scheme was passed as presented by the Council.

The Honorary Secretary then reported that during the year certain important work had been undertaken by the Council. In the first place, and mainly as a result of a discussion on certificates of fitness, which took place at the Sheffield meeting of the British Medical Association, it had been thought advisable to ask Dr. Newman, of the Board of Education, to receive a deputation from the association. This deputation, which consisted of Dr. S. King-Alcock, President; Dr. G. Paddock Bate, of London; Dr. T. F. Young, of Liverpool; and the Honorary Secretary, was received by Dr. Newman at the offices of the Board of Education, on January 28th. The powers and scope of the work of certifying surgeons in connexion with the examination for certificates of fitness were explained, as were also the actual methods of examination and the keeping of records. The desirability of co-ordinating the work of the certifying surgeon with that of school medical officers, to enable the former to be placed in possession of the earlier records of children and young persons presented to him for certificates, was particularly emphasized. The theory as to whether the ultimate result of school medical examinations would not result in a diminished demand for the services of the factory surgeon was referred to, the general opinion of the deputation being that, whilst the natural tendency to perfection in that direction might tend towards a diminution in the demand for the certifying surgeon, counteracting influences would prevent any practical outcome. Disease would never cease to exist, and the abolition of examinations would mean that the unfit would again gravitate into factories and workshops, as in times gone by, while further, manufacturing progress and alteration in processes produced a steadily increasing list of particular dangers. Information was also provided upon the half-time question. Though Dr. Newman diplomatically abstained from making any comments on the general questions raised, he pointed out that it was the endeavour of his department to avoid as much as possible undue interference with other branches of the medical profession, and that careful consideration would be given to the various points discussed. The Public Health Congress at Leeds was next referred to, and the satisfaction of the Council at the acceptance by Dr. A. Whitelegge of the presidency of the Section of Industrial Hygiene duly emphasized. Three members of the association had contributed papers to this section, and a number of others took part in discussions. A large number of certifying surgeons attended the first day's proceedings, when an important discussion on lead poisoning took place, and Dr. Glen-Park read a paper on conditional certificates of fitness. A paper contributed by Dr. T. Heywood, of Darwen, on the half-time question, had rather unexpected results. Some days after the meeting a prominent member of the "Half-time Council" wrote very strong letters commenting on Dr. Heywood and his arguments to at least eight newspapers. These comments were so personal and so unjustifiable that Dr. Heywood felt compelled to place the matter in the hands of his solicitor, with the result that a writ for libel was duly served. Though an appearance was entered against the writ better counsels eventually prevailed, with the result that a complete withdrawal and apology with an undertaking to pay all costs was subsequently forwarded. The Council of the Association regarded this matter as of so much concern to the honour of certifying surgeons generally, that it had been determined to support Dr. Heywood's action, and to establish a guarantee fund. The committee formed for the purpose of drawing up a universal scheme for examinations for certificates of fitness had met on many occasions during the year, and satisfactory progress had been made. The statistical tables of examinations, rejections, and conditional certificates during the year 1908 were then presented, it being pointed out that the educational work of the Association could not be better exemplified than by the results there set forth. Although the total examinations throughout the country were considerably less than during the previous year, the rejections for medical reasons increased from 4,407 to 6,213; whilst those members of the Association who had sent in their returns to the secretary accounted for somewhat over half the examinations, they were responsible for two-thirds of the rejections. The record of conditional certificates had increased from 800 in 1906 to 2,500 in 1908.

The officers for the year were elected as follows: President, Dr. T. Fort, Oldham; Honorary Treasurer, Dr. T. Watts, Hyde; Honorary Secretary, Dr. W. F. Dearden, Manchester; Honorary Corresponding Secretaries for Ireland, Scotland, and London, Dr. H. C. Manley, Dr. A. Scott, and Dr. W. H. F. Oxley respectively.

Dinner.

The newly-elected President (Dr. T. Fort) presided, and among the guests present were Mr. H. S. Knyvett, H.M. Deputy Chief Inspector of Factories; Dr. T. M. Legge, Chief Medical Inspector of Factories; Miss R. Squire, Principal Lady Inspector of Factories for Manchester District; Professor Sheridan Delépine; Mr. W. Mullins, Secretary of the Card and Blowing Room Cotton Operatives' Society; and Mr. J. Ashworth, Principal Inspector for the Manchester District.

The President, in proposing the health of the Factory Department of the Home Office, alluded to the difference in the standing and quality of work done by the certifying surgeon of to-day as compared with that of thirty years ago, when he was appointed. During that period sanitation in factories had advanced enormously, the health of the operatives was now undoubtedly better, and certainly the certifying surgeon was thought more of by both operatives and employers. As certifying surgeon for the important cotton district of Oldham, he thought that, without being controversial, he might be allowed to mention a few facts which had some bearing on the half-time question. He was of opinion that the danger to children working in the factory had been very much exaggerated, and this was borne out by the returns of the Chief Inspector of Factories on accidents, as well as by his own figures. In the last return of the Chief Inspector the total number of accidents investigated by certifying surgeons was stated to be 41,901, and of these 9 061 of the injured were "young persons" and only 189 half-timers. He thought it was more fair, however, to give the particular figures for the

cotton trade, which, out of a total of 3,849, showed 1,255 "young persons" and 121 half-timers. The ratio of children to young persons in Lancashire being about 1 to 4, and these accidents occurring in the ratio of 1 to 10, he thought it very obvious that some very wrong deductions had been drawn by active opponents of the half-time system. His own figures for five years showed that out of a total of 2,529 accidents which he had investigated, only 13 half-timers had been affected, and none had been fatally injured. Under present day conditions he thought there was a great deal to be said for the half-time system from an economic point of view. That the half-timer was a factor as a wage-earner—at any rate, in his own district—could be graphically shown by some figures he had got out when making his examinations. He found, in 1907, that out of 4,466 examinations of children and young persons, 619 had lost their fathers, 300 had lost their mothers, and 120 had lost both.

Mr. H. S. Knyvett, in responding, mentioned that in his early days as an inspector it was one of his main duties to see if the doctors had "passed" children and young persons—a duty which was not at that time very onerous. Times, however, had now changed, and the certifying surgeon had become an integral part of Factory Act administration.

Dr. T. M. Legge proposed the toast of "The Certifying Factory Surgeons' Association," and expressed the opinion that after two years' experience of school medical inspection there appeared to be less likelihood than ever of it clashing with the work of the certifying surgeon, and that really, in their procedure, they were taking a leaf out of the certifying surgeon's book. He very much discountenanced the attempts that had been made by opponents of the half-time system to drag the certifying surgeon into the controversy. From an educational standpoint the arguments against the system were convincing, but proof was distinctly wanting in the terrible deterioration which these advocates wished to lay at its door.

Professor Delépine, in responding to the toast of "The Visitors," spoke very highly of the excellent work which had been accomplished by certifying surgeons from the point of view of industrial hygiene, and his hope that the study of this subject would soon receive a place in the university medical curriculums.

THE OLYMPIA MOTOR SHOW.

The motor exhibition at Olympia this year, organized by the Society of Motor Manufacturers and Traders, seems to be larger—as in fact it is, for some additional space has been taken in—to contain more stands, and to have attracted more visitors than ever before. In fact, its attractiveness to the general public has somewhat interfered with the task of reporting on the various exhibits.

The first and strongest impression is of the magnitude of the motor car industry which has been built up in this country. For variety of power and design and excellence of workmanship the cars now turned out by British manufacturers are second to none. The next impression received is that most makers have now attained so high a standard of reliability, facility of driving, and convenience in use that there is room for improvement only in details, which, though important, are yet relatively minor matters. And the final general impression is of the immense amount of ingenuity and capital that is being expended on the perfecting of these details, especially, perhaps, with regard to suspension and the great matter of tyres. There is very distinct evidence of a growing belief of a possible future for solid tyres, by way of some special construction of the tyre itself or of some special mode of suspension.

Hydraulic Transmission.

The greatest novelty in construction is probably the Torbinia system of hydraulic transmission exhibited by the Motor Mercantile Association. A box carrying thin flat blades is keyed on to the engine shaft; the blades revolve in a drum filled with liquid. The angle at which the blades stand can be adjusted by mechanism actuated by a foot pedal. They are normally placed in the position of maximum drive which obtains when the angle formed by any two adjacent blades is about 160°. Each blade can be turned through an angle of 90° when two adjacent blades are brought into a position parallel to each other; in this position practically no liquid is displaced, owing to the fact that each blade is only $\frac{1}{4}$ in. thick in the middle and tapered to sharp edges, and consequently a neutral position is obtained. As the blades are allowed to revert towards the position of maximum drive the driving power applied increases. The drum is provided with radial ribs in order to facilitate the absorption by the drum of the whole of the kinetic energy imparted to the liquid. The pressure on the drum is equal to that on the blades. It is claimed for this method of transmission that it permits almost continuous use of the top drive, increases flexibility, and prevents jerks and jars, giving smoothness in running and starting, with a consequent economy in general wear and tear of chassis, body, and tyres. The makers had a Torbinia car running with the hydraulic transmission for trial runs, and had also a car on their stand. As this mode of transmission does not permit of reversing, an epicyclic reverse is fitted to the car.

Pneumatic Suspension.

The Amans pneumatic suspension is an apparatus supplementing the ordinary metal road springs, and designed to take up shocks so effectually as to render the use of solid tyres under all circumstances possible. It consists of a metal body attached by bolts to the side frame of the vehicle, having two air-tight cylinders rigidly fixed. Pistons operating within these cylinders are fitted with pliant leather cup glands, which serve a twofold purpose: (1) for compressing the air; (2) for relief valves. A central ball-ended lever, operating the pistons independently, is itself actuated by a horizontal lever connected with the centre of the road spring and axle by a double ball socket connecting link. Movements of the axle, to or from the frame, due to the roughness of the road surface, cause a corresponding proportionate movement of the central lever operating the pistons. The piston moving towards the top of its cylinder, called the "compression chamber," compresses the air in front of it. As the piston advances a space is formed at the back and in this suction chamber, a partial vacuum is created, which opens a small ball-operated suction valve, admitting atmospheric air. When the normal position between the axle and chassis frame is resumed the central lever releases the piston, which is forced back to its seat by the combined action of the expansion of the compressed air and a spring fitted between the piston and cylinder head. This reverse action of the piston in turn compresses the air in the suction chamber (previously admitted through the suction valve). When the pressure of the air in the suction chamber exceeds that of the air in the compression chamber a portion of it passes from the former to the latter, between the leather cup gland and the cylinder walls. There is thus an increase in the volume of air in the compression chamber equivalent to the amount originally drawn into the suction chamber. This action is repeated at every movement of the axle, and a further quantity of induced air increases the volume already stored in the compression chamber. To prevent this pressure from rising beyond a determined limit a hollow space is provided at the back of the piston. A certain quantity of air remains compressed in this space when the piston has returned to its normal position, and consequently, if the volume compressed is sufficient to fill the suction chamber as the piston moves forward, no partial vacuum will be created, and the suction valve does not open or additional air enter. It is claimed that the apparatus is automatic in its action, being regulated by the speed of the car, the weight carried, and the state of the roads.

Body Building.

A very general, but by no means invariable, feature was the excellence of body work as distinct from the construction of chassis. On the same size chassis as formerly coach builders now seem able to place a more roomy body than heretofore, and to make better provision for the comfort of drivers. A considerable number of cars, for instance, were fitted with inside driving seats, and high doors to front as well as to back seats in open-seated vehicles. Another good point in this connexion is the

tendency to fix the hinges of doors to the fore part of the carriage, thus making the doors open forward instead of backward, and limiting the risk of any one being knocked down by a sudden movement of the car while getting in or out. Moreover, high finish in body work was to be found on a very large number of even moderately-priced cars, notably on those shown by Messrs. Maythorn, the Biggleswade coach builders. Even in the matter of paint high finish is an advantage. It is not merely attractive to the eye, but adds to general durability, and defers the day when the heavy expense of repainting will have to be faced. Apart from its general finish, one of the four cars shown by this firm was specially attractive in another respect. The fact that the driver cannot easily leave the car except on the left side is commonly recognized as a disadvantage, and, in the case of medical men who like to drive themselves but have to get up and down frequently, it is a subject of constant complaint. This point has been met, we found, by Messrs. Maythorn in a very neat coupé landaulette, in which the driver's seat is in the interior, and is made on the principle of the benches now to be found in many schools. In other words, it slides back, when desired, from the driving-wheel, and thus makes it as easy to get down one side as the other. It is a contrivance likely to prove exceedingly popular.

SOME MODERATE-PRICED CARS.

The DE DION BOUTON COMPANY, whose cars have always been highly popular among medical automobilists, showed six models. We include in this count the chassis of one of their 14 h.p. four-cylinder cars, which had all its parts sectioned, in order that the construction and mechanism might be examined with ease. Another of the models shown was of new type—a 35 h.p. car, with as many as eight cylinders—but the remainder were all priced a long way under £400, the precise cost varying with the construction of the body. One of them was a well-devised combination body on a 14 h.p. four-cylinder chassis, so built that it could be used either as an open car or converted, by means of its close-windowed Cape-cart hood, into a landaulette. The popular mono-cylinder 3 h.p. "De Dion," and, what is now almost equally well known, the 10 h.p. four-cylinder of the same firm, were among those shown. The price of the former, with chassis and tyres complete, is £197, and it is usually fitted with a two-seated body and hood and screen. It is so long since this particular model made its name that it might have been expected that no alteration would be introduced in its construction, but like all the 1910 models of the firm it is now being fitted with a direct drive on top. This is a decided improvement, as the noise caused by the extra gearing which must otherwise be used is eliminated. A further improvement applied to all 1910 models is placing the shackle of the front spring at the forward end. The object of this alteration is to minimize oscillation of the front wheels and the consequent thrust on the steering wheels brought about by travelling over rough roads. Also in the nature of a new departure is the suspension of the differential on a tubular stay isolated from the frame by rubber buffers. The firm is still, we understand, maintaining and developing its system of making all chassis parts interchangeable, so as to be able to supply forthwith any spare part which may be required by a customer with the assurance that it will fit.

The WOLSELEY TOOL AND MOTOR CAR COMPANY has announced six models for 1910, five of which are new and range from 12–16 h.p. to 40–50 h.p. All the models are of the live-axle type. In the two smaller models, 12–15 h.p. and 16–20 h.p., the engine and gear box are mounted on the under-frame, and are fitted with a worm drive. In all but the smallest car, in which the circulation is by thermo-syphon, it is by gear driven centrifugal pump, and all the models are fitted with honeycombed radiators. The carburetter in all cases is of the two-jet type—that is to say, there are in reality two carburetters, the smaller one being used solely for starting and very slow running, the main carburetter being entirely cut off; a continuation of the movement of the throttle opens the main carburetter. The smallest car, 12–16 h.p., has four cylinders, and with the "rotonde" body to seat four makes a roomy and comfortable side-entrance car; it is fitted with Cape hood and screen, and is declared to be a high grade car in miniature; it is a very workmanlike vehicle, well worthy of the consideration of medical men, in spite of the fact that the initial price of the chassis is higher than that of some others of a similar rating. The 16–20 h.p., which replaces the 14 h.p. introduced about two years ago, has an engine with a longer stroke, and in order to meet the demand for covered carriages of greater seating capacity on a comparatively low-power chassis the wheel base has been lengthened and the chassis made generally larger. Any kind of body can be fitted. It is considered to be specially suitable for town work.

A special feature of the ARMSTRONG-WHITWORTH stall was the 12–14 h.p. four cylinder chassis. It has been designed with the idea of rendering every part completely accessible. The driving shafts can be withdrawn from the back axle without jacking up the road wheels, and the differential removed complete with equal facility. The clutch, pistons, connecting rods, and crank shaft are likewise all accessible. As for the engine itself, the four cylinders are cast *en bloc*, the air-petrol compound reaching the inlet valve through a passage cast in the cylinders, while the valves which are operated by a single cam shaft with ball bearings are all placed on one side; the opposite side is given up to inlet and exhaust pipes, and water circulation secured by thermo-syphonage. One of these chassis was shown fitted with a coupé body especially designed for medical use.

The ROVER exhibit comprised six models running in horse power from 6 h.p. upwards, though none exceeded 15 h.p. The 6 h.p. car has a single cylinder, double ignition, and side-lever gear control, and is fitted with a two-seated body and hood and screen. Considering the workmanship of this useful runabout, its price—namely, £155—is remarkably low. At the other extreme comes the 15 h.p. four-cylinder Rover, which when fitted up as a touring car costs £385. It has high doors to the front seats as well as to the back, and the engine is silent and flexible. This particular model was placed on the market for the first time last year, and appears to have met with approval.

Among the many comparatively new comers was the CHENARD-WALCKER COMPANY, four of whose models were shown. They all seemed of a workmanlike character and very well finished, especially perhaps the 12 h.p. four-cylinder car fitted with a four-seated side-entrance carriage body, and priced at £275. Among other notable performances standing to the credit of the Chenard-Walcker car with this particular chassis in the country of its origin is running in a competition from Bordeaux to Royat—a distance of 120 kilometres—with a total consumption of only two gallons of petrol. The firm's cars have also come out well, we understand, in a test run from London to Edinburgh, conducted by the Royal Automobile Club. Only two powers of car were shown by the firm, the other being a 8–9 h.p. single-cylinder chassis, which, when fitted with a two-seated carriage body, costs £200.

The exhibit of the DARRACQ COMPANY included some half dozen models, but its special feature from our point of view was a 14–16 h.p. car with a double phaeton body and a four-cylinder engine. The cylinders are cast in one, the valves all on one side, and the carburetter is simple and accessible. The driving wheels receive their power from a live axle and a universally jointed propeller shaft. Water circulation is by pump, and a three-speed gear box is operated by a gate lever; the ignition is high tension Bosch. Considering that this car has behind it the reputation of one of the most celebrated French constructors, its price, 225 guineas, is certainly low. Indeed, with the exception of a 25–30 h.p. Limousine landaulette, the cars shown by this firm were all of moderate price, and should be borne in mind.

AN exhibition of leadless glazed china and earthenware will be opened at Caxton Hall, Westminster, by the Bishop of Birmingham at noon on Tuesday next. The exhibition will be open on the two following days from 11.30 a.m. to 10 p.m. In addition to numerous specimens of table and toilet ware, one exhibitor will show complete furnishings in china and earthenware for a whole house, and another stall will be furnished by ladies of the organizing subcommittee exclusively with leadless glazed ware guaranteed to have been in constant use during a specified period in their own households.

LITERARY NOTES.

In the JOURNAL of April 24th we called attention to a new periodical entitled the *British Health Review*, edited by Mrs. D. Hodgkinson. The object of the *Review* was said to be to create a better understanding between the medical profession and the public, "making it clear to the former that none of our old gratitude for their sympathy and humanity has deserted us in the new call we make upon their more intellectual qualities, and to the latter that the greater half of the responsibility for disease and degradation rests upon their own shoulders, and can in no wise be shifted or ignored." We have followed the subsequent career of the *British Health Review* with interest, and we can say, with some reservation on certain points, that the good intention professed in the words we have quoted seems likely to be fulfilled. The November number contains several interesting articles, among which we would give the foremost place to one by Mrs. Hodgkinson on The Girl and the State. The gist of her teaching may be gathered from the following passage:

It is well known that more boys are born than girls, yet the fewer survive. Here is a reason given for this excessive male mortality. It is said that the head of the male infant is at present rather larger than that of the female, and that a frequent cause of death or injury to the child is pressure caused by narrowness of the pelvis in the mother—a condition associated with ill-developments often due to rickets consequent on improper feeding and lack of air and exercise during the first few years of life. If this be even partially true, it will be seen that the wrong feeding of girls as children may affect not only the health and progress of the race, but even the numerical proportion of the sexes when they become mothers later on. It is absolutely impossible to overstate the importance to the nation of the early years of a girl's life, and one of the most hopeful and encouraging signs of the present day is the newly awakened interest in women, their position, capacities, and, indeed, all that concerns them. This interest, directed by ever increasing knowledge on some of the more dubious points, will accomplish great things.

Lady Isabel Margesson writes on mental suggestion in health and disease, but without throwing any new light on that obscure subject. A medical writer describes a visit to Battle Creek Sanitarium, Michigan, an "up-to-date" shrine of healing where, under the guidance of the tutelary deity, Dr. J. H. Kellogg, the demon of autointoxication is exorcised by means of a purin-free diet.

Nothing in the way of fish, flesh, or fowl, tea, coffee, or cocoa, has been admitted within the sanitarium doors for many years; hence fruit, nuts, and cereals, with a moderate supply of eggs and dairy produce, constitute the dietetic system in vogue.

Those who come under the hands of Dr. Kellogg live by chemical formulae. The system does not appeal to the *homme sensuel moyen*. But the answer would doubtless be, So much the worse for the poor creature. Still it would be interesting to have the writer's own observations as to the results on the health, the intellectual efficiency, and the temper—which, though not often considered in such a connexion, yet counts for something—of those who take refuge in this modern Thebaid. But on this point he preserves a silence which may be discreet, or may be merely meant to convey that the dietary speaks for itself. Man, however, does not live by chemistry alone. This is fortunate for him, as chemistry is always changing. But the diet, though in its essence as old as rational medicine, figures under new names, and therefore may have a greater effect owing to mental suggestion. A rose by any other name may smell as sweet, but potatoes, cheese, and eggs probably gain some virtue in losing their vulgarity when expressed in terms of proteids, fats, and carbohydrates. Our own articles on *Secret Remedies*, now issued by the British Medical Association in book form, are favourably noticed. On this we take the liberty of congratulating the writer and the review.

Dr. Squire Sprigge, writing on mating and medicine in the current issue of the *Contemporary Review*, deals with the proposal now advocated in many quarters that a contract of marriage should not be entered into without the sanction of the doctor—in other words, without a medical certificate that neither party is the subject of any disease that may be a source of injury to the other or their offspring. To take the opposite view, says Dr. Sprigge, is regarded by some ardent spirits as a betrayal of eugenics; nevertheless, he expresses his belief that "the time has not yet come when the legalized interference of the medical man in respect of marriage designs would serve practical purposes commensurate with its inconveniences." Too many of the problems of heredity, he says, remain unsolved and too much waste land lies between the territories of physiology and psychology to make it safe for medicine to undertake the task of even saying whether the offspring of any particular pair will be healthy; he concludes, "*a fortiori* any claim that is made for medicine, either that by systematic examination of all candidates for marriage a greater general happiness would be obtained, or that a larger proportion of unions, fortunate for the State, is bound to break down." Many couples who passed all the possible tests successfully would be unhappy or might breed bad citizens. Where obvious reasons exist (the author proceeds) for doubting the good health of one or other of the contracting parties, medical opinion would be most valuable, and an absolute veto of the marriage on medical grounds might be highly reasonable. But these are gross cases of physical risk, and, as with gross cases of property, their number in the aggregate is small. And just as it would be an absurd, boring, and grandmotherly piece of legislation to enact that no people should be married unless they could bring into the church with them, say, three years' income in cash, so it would be an intolerable piece of social bullying to legislate that all intending couples ought to undergo some form of medical inspection, merely because in gross cases the opinion of a medical man is desirable, and because perhaps in these few cases a medical veto might be the only means of averting a serious tragedy. Again, as in a pecuniary sense a young man and a young woman are not to be considered criminally imprudent who marry without any further provision than the income or wages earned from day to day, so a stock of health which appears to be up to the average on each side ought to be considered sufficient whereon to begin married life. Dr. Sprigge, in short, thinks the medical certificate "a mischievous proceeding often and a useless one generally." He adds: "Those who study how to promote the improvement of the breed as applied to man point naturally to the improper or ill-assorted marriage as the cause of much degeneration of the stock. The cry in cases where obvious physical or moral defect is present is for segregation of the unfortunate subjects as a method of sterilizing unfit persons. Murderers are sterilized effectually by capital punishment or life sentences, and habitual criminals are sterilized for long periods by their recurrent visits to penal institutions. But society, which thus impedes the fertility of the murderer and the professional burglar, subsidizes insanity, and other forms of degeneracy to some extent by a bountiful supply of philanthropic and State institutions, where persons under skilful care are brought into a sufficiently stable condition to be treated as free agents, when they immediately produce a progeny of suspicious origin. But sterilization, whether partial or complete, and whether by imprisonment or by anatomical treatment, is an unthinkable remedy for possible hereditary ills in most cases, if only because of the uncertainty as to the part played by heredity. If we consult the most thoughtful of our modern biologists for any leading in the matter, we find the number of conditions which in their opinion warrant the imposition of compulsory sterility far smaller than the number that is recommended by less scientific authorities; and there must always be great difficulty in deciding who is and who is not wholly unfit to be a parent." He concludes that the practical use of Mendelian doctrines for the prevention of transmissible disease has as yet no existence.

In *The Memoirs of Ann, Lady Fanshawe, Wife of the Right Hon. Sir Richard Fanshawe, Bart., 1600–72*, reprinted from the original MSS. in the possession of Mr. Evelyn John Fanshawe of Parsloes, and recently published, it is stated that three months after the birth of the future Lady Fanshawe, her mother, Lady Harrison, of Balls, Hertfordshire, fell ill of a fever. Then there occurs the following curious passage:

Her friends and servants thought to all outward appearance that she was dead, and so she lay almost two days and a night; but Dr. Winston coming to comfort my father, went into my mother's chamber, and looking earnestly in her face said, "She is so handsome and now looks so lovely I cannot think she is dead;" and suddenly took a lancet out of his pocket, and with it cut the sole of her foot, which bled. Upon this he immediately caused her to be laid upon her bed again, and to be rubbed, and such means used that she came to life, and opening

hereyes saw two of her kinswomen stand by her, my Lady Knollys and my Lady Russell, both with great wide sleeves, as the fashion was then. And (she) said, "Did ye not promise me fifteen years? And are you come again?" which, they not understanding, persuaded her to keep her spirits quiet, in that great weakness wherein she then was. But some few hours after she desired my father and Doctor Holdsworth might be left alone with her, to whom she said: "I will acquaint you that during the time of my trance I was in great quiet, but in a place I could neither distinguish nor describe; but the sense of leaving my girl, which is dearer to me than all my children, remained a trouble upon my spirit. Suddenly I saw two by me clothed in long white garments, and methought I fell down with my face in the dust: and they asked why I was troubled in so great happiness. I replied, 'Oh, let me have the same grant given to Hezekiah, that I may live fifteen years to see my daughter a woman.' To which they answered, 'It is done,' and then at that instant I waked out of my trance." And Doctor Holdsworth did there affirm that that day she died made just fifteen years from that time.

Is this spiritualism or a dream-oracle, or a rivulet of fact meandering through a meadow of fiction?

Nova et Vetera.

THE FASTING-SPITTLE.

Their beads of nits, bels, book and wax,
Candles, forsooth, and other knacks:
Their holy oil; their fasting-spittle.

Herrick, *Hesperides*.

EVERYBODY has heard of the fasting-spittle cure. Many of us have tried it. Warts, "contracted sinews," wounds, sores, naevi, and skin rashes are peculiarly susceptible to its influence, the diseases melting away like snow-wreaths in a poetic June. And in an age when the re-establishment of faith as a scientific remedy finds favour in high places, one may well ask why the fasting-spittle should be so undeservedly overlooked.

An investigation into the reasons which may have operated in leading to the employment of the fasting-spittle as a remedy brings us into several interesting by-paths of ancient and popular medicine.

First of all, I suppose, we may admit that the sight of a dog licking his sores may have given rise to an impression that saliva was "vulnerary," to use an old medical term.

Secondly, in the days when the power of healing was vested in certain individuals as a mystic quality, inherent in them from heredity or sanctity, the curative virtue seems to have impregnated their saliva very much in the same way as it emanated from their clothing, flowed from their finger-tips, or clung about their bones after death. Among these healers are to be numbered one, at least, of the Roman emperors (Vespasian), the kings of France and England, and members of certain old families in Ireland, Scotland, and France. In France, we are told, only those who had a large number of quarterings were possessed of the gift. The famous Renan was acquainted in his youth, he tells us, with a certain nobleman driven by stern necessity to earn his bread as a flax-worker. His blue blood, however, was untainted by the rough work, and he continued to be the repository of healing powers, his saliva being used in the treatment of all kinds of weaknesses. People used to bring to him children who were backward in walking or weak in the legs, and he would moisten his finger with his saliva and anoint therewith the little patient's loins.

But the fasting-spittle of people who have no claim either to saintliness or gentle birth was used in medicine. There must, therefore, be some way of accounting for its employment other than that of these special attributes.

Saliva figured at times in the practices of magic. There were many varieties of magic, but two great classes have been distinguished. The first, which is typified by the mediaeval physician when he used turmeric to cure jaundice, is sometimes known as *homoeopathic* magic; and the second, which I venture to name *telepathic* magic, is seen in the practice of the witch when she burned or otherwise abused the hair, nail-parings, or clothing of an individual she wished to injure. The saliva figures in telepathic magic. In Dahomey and in sundry other parts of the world, extreme care is taken to cover up, or otherwise dispose of, the saliva of kings and other important personages, lest it should fall into the hands of sorcerers and be doctored, and the king die.

Again, in that very large class of folk-cures known as transference cures, we read that the saliva is at times the medium by which the disease is conveyed from the patient to some external object. These facts of folk-lore prove that the saliva was looked upon as intimately connected with the personality.

We turn now to another department of primitive psychology. In consequence partly of these folk-beliefs, and partly of certain other considerations which need not here detain us, the ancients thought that strong emotion had the power of profoundly altering the secretions, the saliva as well as the others. The bite of snakes and dogs for example, was poisonous because they were enraged, and the same idea prevailed concerning mankind. The bite of a madman was feared because it was likely to infect those bitten with his madness. The saliva was envenomed, as it were, by the humour of rage, or madness, as the case might be. From this it is permissible to suppose that the saliva of a fasting man in health was believed to contain in concentrated form the normal vigour of the individual, undiluted with food and drink and unaltered by the varying moods of his daily life.

The consequences of this belief were many and considerable. For one thing, it was held that, as the buccal fluids of vipers, toads, and other noxious reptiles were poisonous to man, so the human spittle was poisonous to them, especially, as Pliny said, if the fasting-spittle was used.

Nearly all medical writers, from Galen in the second century to Salmon in the seventeenth, firmly believed that this was true. Of Galen the story is told that on one occasion a sorcerer tried to convert him to a belief in magic by killing a scorpion with a spell. But in the weaving of the spell the magician spat upon the beast, and Galen remained unconvinced, "for," said he, "the animal was killed by the spittle."

Although the Ebers papyrus contains a large number of folk remedies, I have not found any mention of saliva in that ancient document. Hippocrates, as we might expect from his severely critical attitude towards mysticism, is also silent on the matter. But the medical authors of the classical age subsequent to him, together with those of the early and late mediaeval times, held the fasting-spittle in high repute. Galen, as we have seen, believed it to be toxic to scorpions. As a remedy, he advised its use in skin diseases and sores. Actius, influenced by the humoral doctrine already mentioned, held that the virtues of saliva varied according as it was a fasting-spittle, or a spittle after thirsting, drinking, or eating. Paulus Aegineta described the fasting-spittle as "discutient and detergent; . . . it therefore clears away the lichen of children when the parts are anointed with it. . . . It removes hypopion."

The mediaevalists followed, and improved upon, the ancient opinion. In the *Saxon Leechdoms* we are told that spitting upon a part affected with rheumatism, and singing three times three: "*Malignus obligavit, angelus curavit, dominus salvavit*," will relieve the sufferer. Bartolomeus Anglicus wrote:

> The spittle of a man fasting hath a manner strength of privy infection. For it grieveth and hurteth the blood of a beast, if it come into a bleeding wound, and is meddled with the blood. And that, peradventure, is, as saith Aviceuns, by reason of rawness. For raw humour meddled with blood that hath perfect digestion, is contrary thereto in its quality, and disturbeth the temperance thereof, as the authors say. And therefore it is that the spittle of a fasting man slayeth serpents and adders, and is venom to venomous beasts, as saith Basil.

The same sort of teaching runs through medical literature, with one or two prominent exceptions, until the eighteenth century, when spittle was deleted from the dispensatories. It did not, however, entirely disappear from medical practice, for we come across several prominent writers as late as the nineteenth century who were inclined to credit saliva with some kind of therapeutic action. Dr. Francis Adams, for example, in his commentary upon *Paulus Aegineta*, considers it not "ill-adapted" to the treatment of cutaneous eruptions and sores. He also quotes the following sentence from Dr. Thomson's *Chemistry*:

> Saliva has a great affinity for oxygen, absorbs it readily from the air, and gives it out again to other bodies; hence, in all probability, the reason that saliva is a useful application to the skin.

DAN M'KENZIE.

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INHERITANCE IN PHTHISIS AND INSANITY.

DR. CHARLES GORING has just made a notable addition to the growing number of statistical memoirs treating of inheritance in disease.[1] Professor Karl Pearson, from a study of sanatorium figures collected by Dr. Rivers,[2] concluded that a tuberculous "diathesis" was inherited with the same intensity as are the principal physical characters of man. Pope[3] and Greenwood,[4] who also worked on sanatorium data, inferred that the factor of inheritance was more important than that of environment in the genesis of the disease. An obvious defect of the material used by these investigators was the fact that it constituted not a random sample, but a selection of the race, since each family contained one or more tuberculous subjects. Consequently it was necessary to form an estimate of the actual prevalence of phthisis in the population. Dr. Goring has used some of the data collected by the medical staff in the service of the Prison Commission—namely, 723 family histories of convicts, concerning whom definite information was given in each case as to the occurrence or non-occurrence in parents and children of pulmonary tuberculosis, and 1,433 histories giving corresponding information with regard to insanity. The author writes: "It is claimed that the present contribution "will, to a certain extent, meet the difficulty above "referred to,[5] by its basis of family histories which do "represent, in the author's opinion, a random sample "of the general population as far as the diseases "under consideration are concerned: and this view is "maintained in spite of the fact that at least one "member in each of these families is, or has been, a "convicted felon. If it be objected that consumption "and insanity may be more common to criminal than "to non-criminal stock, we can only reply that the "objection is unsupported by evidence."

By the use of the fourfold method, which has been frequently referred to in these columns, Dr. Goring obtains as a maximum value of r, the coefficient of correlation, 0.62, and 0.43 as a minimum when no allowance is made for completion of the family history by members not infected at the time of record being subsequently affected: he concludes that the most probable value is 0.5. A secondary inference is that the percentage of the present generation suffering at some time during their lives from pulmonary tuberculosis is nearer 8 than 10.

An analysis of the data relating to insanity yields a value of the correlation equal to 0.47, which is in close agreement with the result of Heron[6] (0.53). Indeed, the agreement is probably closer than it appears, since Heron, who dealt with an asylum population, may have underestimated the prevalence of insanity in the general population. It is a point which merits the attention of those numerous critics who declined to attach any importance to the results obtained by other statisticians on the ground of imperfection in the data, that Dr. Goring, working on very different material, obtains almost identical results.

He adduces various evidence, such as the low value of the interconjugal correlation, in favour of the view that environment is of much less importance than heredity in the production of the disease. This part of his work, although very interesting, seems to require amplification. Thus he divides his material into "destitute" and "well-to-do," and finds no significant correlation between poverty (measured in this way) and tuberculosis. We should like to see the material grouped in several different fourfold tables and the resulting coefficients evaluated, for the following reasons: Newsholme,[7] Niven,[8] and others have brought forward strong evidence in favour of the view that poverty has an important bearing on the prevalence of phthisis, and that the factor mainly concerned is overcrowding. In Dr. Goring's fourfold table the well-to-do classes (in the ordinary sense of that term) are grouped with the "prosperous poor." But even the prosperous poor are often badly housed, and usually reside in overcrowded districts. The distinction between the housing of the middle classes on the one hand and that of the prosperous poor on the other is, we think, far greater than between the housing of the latter and that of the very poor or destitute. The arrangement of the material may have tended to blur the distinctness of the relation between overcrowding and phthisis. Unfortunately, only some 11 per cent. of Dr. Goring's families belonged to the well-to-do classes, so that the result of such a division of the material would, perhaps, hardly be strictly comparable with that of the other tables.

This memoir is of great value, and we shall look forward with pleasure to further contributions from the same pen on a subject of great practical importance.

[1] *On the Inheritance of the Diathesis of Phthisis and Insanity:* A Statistical Study based upon the Family History of 1,500 Criminals. By Charles Goring, M.D., B.Sc. (Drapers' Company Research Memoirs). London: Dulau, 1909. (Price 2s. 6d.)

[2] *A First Study of the Statistics of Pulmonary Tuberculosis* (Drapers' Company Research Memoirs).

[3] *A Second Study of the Statistics of Pulmonary Tuberculosis* (Drapers' Company Research Memoirs).

[4] The Problem of Mental Infection in Pulmonary Tuberculosis. *Proc. Roy. Soc. Med.*, 1909.

[5] That is, the non-random character of the samples analysed by Pearson, Pope, and Greenwood.

[6] *A First Study of the Statistics of Insanity and the Inheritance of the Insane Diathesis.* Eugenics Laboratory Memoirs. Dulau and Co.

DISASTERS AND MENTAL DISEASE.

THE ancient belief that mental diseases are especially the outcome of events of a psychic order has long been steadily waning. At one time, and that not so very long ago, "moral causes," including shock or fright, took first place in the returns made to the Board of Lunacy among the etiological factors: to-day many medical superintendents return hardly any cases under the head of "mental stress," and attribute the whole causation to constitutional and somatic, including toxic, factors. The effect of great disasters has been a much disputed question, but though Legrand du Saulle, after the war of 1870–1871, concluded that there had been no increase in lunacy traceable to this cause, and Lunier went so far as to say that wars tended to avert it, the statistics of the Russo-Japanese campaign showed that the conditions of war undoubtedly swelled the numbers of the insane, the increase waxing in proportion as the struggle became more drawn out. Tanzi, in his textbook of mental diseases, recently translated,

[1] *The Prevention of Tuberculosis* (London: Methuen, 1908); and Presidential Address to the Epidemiological Section, Royal Society of Medicine, 1908.

[2] Presidential Address to the Epidemiological Section, Royal Society of Medicine, 1909.

affirms that disasters at sea, great fires, earthquakes, rebellions, and the like, always give rise to cases of insanity, either immediately, in the form of amentia; or, in the course of a little time, in the form of neurasthenia. Even granting this, in the case of wars, it must be wellnigh impossible to distinguish between the effects of broken rest, intermittent excitements, dashed hopes, and all the din and horror of tremendous carnage, from those naturally ensuing upon bodily fatigue, bad and insufficient food, and polluted drinking water. There can, however, be little doubt that profound emotional disturbance is among the most potent of the exciting causes of insanity. The disintegrating effect of psychic traumata upon consciousness is well exemplified by the phenomena of hysteria, and, remembering the intimate connexions between emotional disturbance and vascular and glandular reflexes, it is hardly exceeding the bounds of legitimate hypothesis to assume that the bodily metabolism may be deeply, even pathologically, affected by the shock of sudden fires, earthquakes, inundations, or, as Burton puts it, "any such dismal objects."

Dr. Eduard Stierlin, of Zürich, recently published an essay on the consequences of the catastrophe of Courrières from the medical point of view,[1] and has added the result of some personal observations made after the mining disaster at Hamm last year, after the earthquake at Valparaiso in 1906, and after that at Messina last December. He deals first with the psychoses and neuro-psychoses resulting from the continued effects of carbon-monoxide poisoning, hunger, over-exertion, and fear in the entombed miners of Courrières and Hamm, and then with the fright psychoses and neuroses produced by earthquakes. We are for the present concerned only with the latter.

Whilst the people generally lost their wits in the panic produced by the earthquakes of Valparaiso and Messina, and ran in droves or stood in flocks like sheep, many became stuporose, and still more evidenced a curious apathy to their appalling losses. Thus, to take one example out of many, a woman who had been immovably buried with her husband and children for some days in the ruins of their home, related with the utmost calm and apparent personal detachment that she heard their moanings grow fainter and cease, and felt her husband's body grow cold. Others evinced a complete change in their emotional attitudes, reminding us of the statement of Dr. Williams of the Kingston Asylum that, after the Jamaica earthquake, many of the formerly depressed became exalted and the maniacal became melancholic. In the actual though brief acute fright-psychoses the most marked symptoms were mental confusion, disorientation in both time and space relations, slight delirium, and a characteristic amnesia. This combination of symptoms lasted, as a rule, only a few days, but in some cases for weeks.

Contrary to expectation, after the earthquakes few cases of traumatic neuroses were to be found, though many showed pronounced psycho-neurotic symptoms which could not be so named. Out of 500 cases Professor Bianchi found not one case of traumatic neurosis. Mentally, the numerous psycho-neurotic cases investigated by Dr. Stierlin corresponded neither to the state usual in the traumatic neuroses nor to the circumstances in which the patients found themselves—that is, in place of depression there was either a settled resignation or an unexpected cheerfulness, almost carelessness, even in those who had lost everything. With the exceptional cases which showed depression this was associated with an excessive fear of earthquakes and a falsification of sensation of such a kind that maximal reactions—fear, dyspnoea, and palpitation—followed the smallest earth tremor. Of his total cases Dr. Stierlin noted also insomnia in 25 per cent.; heightened pulse frequency also in 25 per cent.; greatly increased tendon reflexes in 20 per cent., amounting in some cases to actual clonus; factitious urticaria in 15 per cent.; headache in 15 per cent.; giddiness in 8 per cent.; finger tremor in 5 per cent.; and in a great number of cases subjective sensations of hot flushes. A notable feature was the almost complete absence of true hysterical symptoms. A curious observation made by many surgeons was that simple wounds and uncomplicated fractures took a much longer time than usual to heal. It was also noted that when nerves had been accidentally injured, atrophic changes in the corresponding muscles followed with unusual celerity. This Dr. Stierlin attributes to inhibition of trophic influences through the shock of the earthquake. Bearing upon the latter is the observation of Professor D'Abundo that in the majority of the saved examined by him there was at first a diminished secretion of urine with an increase in the output of urates and phosphates. Among the hysterical and epileptic the effect of the earthquake appeared to have been to precipitate convulsive seizures, this heightened tendency to convulsions having possibly some bearing on the often-recorded fact that earthquakes bring about abortions in gravid women. It should be mentioned that in Dr. Stierlin's cases, both of acute fright psychoses and in the psycho-neuroses with exaggerated tendon reflexes and other objective signs of nervous disorder, the subjects had sustained no head injuries.

[1] *Ueber die medizinischen Folgezustände der Katastrophe von Courrières.* By Dr. Eduard Stierlin. 1909. Berlin: S. Karger. (Pp. 188.)

MEDICAL RELIEF IN THE HIGHLANDS AND ISLANDS OF SCOTLAND.

OUR columns have frequently borne witness to the difficulties and grievances of parochial medical officers in the Highlands and Islands of Scotland. The grievances in the majority of cases were concerned principally with fixity of tenure or the caprice of a factor or parish council. Any one who will read the account of that part of the Poor Law Commission Report dealing with the condition of the poor in the Highlands and Islands, which is published at p. 1476, will find it difficult to believe that such a state of things has been allowed to persist into the twentieth century, for the Commissioners declare that "many "of the houses are more worthy of a Kaffir kraal "than a section of Great Britain." This narrative of the Commissioners is, indeed, painful reading; it sets out in bare truth the condition of people living in this civilized country of ours—conditions which neither the central Government nor local authorities have taken any effective steps to remedy. The people are so poor that they are almost destitute. This is one aspect of the case; another, which is fraught with danger to the community at large, is the absolute want of any kind of attempt to live under decent sanitary conditions, whilst there is a total want of elevating social environment.

Hygiene is unknown, and in many cases there is no medical help available in times of sickness.

Whilst the condition of the people, their houses, and their social surroundings are bad, sympathy must be extended to those medical men who at great sacrifice to their health and social comfort, minister not only to the official sick poor, but also to all and sundry, many of whom are less able to pay for medical attendance than the legal paupers themselves. Medical men cannot make a living on these islands, and if one does remain at his post for any length of time, he may find himself drifting into the destitution which is the chronic condition of the place. It cannot be wondered at that parochial medical men are continually changing; the wonder is that any one can be got to take up this work. The Scottish Poor Law Medical Officers' Association has done its best to make the facts and circumstances known to medical men who might be disposed to apply for these posts when they become vacant. The sick poor must of course be medically attended, and it is the duty of the Government to make the salary and conditions of service of the parochial medical officer reasonably adequate. At present the salaries are usually absurdly small, and the incumbent is deprived of every vestige of independence. No suitable houses are in the majority of cases provided, and often none are to be obtained in the district. The physical conditions under which these medical officers have to work are trying to a degree. Long tramps over moorland where no road is discoverable, and hazardous journeys against storm and tide are indeed no enviable tasks. Those who brave such work deserve the sympathy and support of the profession in any attempt to improve their position. Those members of it who, more happily circumstanced, drive either in comfortable carriage or motor car will, we are sure, after reading the report of the Commissioners referred to, extend their sympathy to their professional brethren in these highlands and islands and do what they can to induce the Government to make the conditions under which they serve more in keeping with the requirements of the twentieth century than they are at present.

THE ANNUAL MEETING IN LONDON, 1910.

SINCE the formal acceptance by the Council at its last meeting of the invitation from the Metropolitan Counties Branch to hold the annual meeting of the British Medical Association next year in London, considerable progress has been made towards completing the preliminary arrangements. The President will be Mr. Butlin, Consulting Surgeon to St. Bartholomew's Hospital, and President also of the Royal College of Surgeons of England. The Council delegated to its Arrangements Committee full power to draw up a provisional programme, and at a recent meeting of that Committee it was decided that the statutory General Meeting should be held on Friday, July 22nd, so as to enable the Annual Representative Meeting to commence its deliberations on that day. The Sectional meetings will be held on Wednesday, Thursday, and Friday, July 27th, 28th, and 29th, and the meeting will end on Saturday, July 30th. In addition to the address of the President there will be general addresses in medicine and surgery, and the other scientific work of the meeting will be conducted in twenty-one sections as follows:—Anaesthetics; Anatomy; Bacteriology; Dermatology; Diseases of Children; Gynaecology and Obstetrics; Laryngology; Medical Sociology; Medicine; Naval, Military and Ambulance; Ophthalmology; Otology; Pathology; Pharmacology and Therapeutics; Physiology; Psychological Medicine with Neurology; Odontology; State Medicine; Surgery; Tropical Medicine; Radiology and Medical Electricity. Since the British Medical Association last held its Annual Meeting in London, in 1895, very great changes and improvements have been made in most of the London hospitals and medical schools, and old students who have not visited the school of their youth in the interval will often be surprised to find how much the aspect of the buildings have been altered, and how greatly the facilities for teaching and research have been increased. It is intended to commence next week a series of articles giving some account of the changes which have taken place.

THE FRUITS OF ANIMAL EXPERIMENTATION.

IN an address delivered at the Massachusetts General Hospital on the sixty-third anniversary of the first public use of ether as an anaesthetic for surgical purposes, the full text of which is published in the *Boston Medical and Surgical Journal*, of October 28th, 1909, Dr. Charles W. Eliot, President Emeritus of Harvard University, dwelt on the fruits of medical research with the aid of anaesthesia and asepticism. In animal experimentation, he said, both the painless operation and the safe recovery were usually necessary to any instructive results. Animal experimentation had already given mankind by far the greater part of all the exact knowledge of medicine now possessed, since experiment on human beings had been impossible until animal experimentation had shown the profitable direction and safe limits of experiment. He went on to discuss the doubts that had been suggested concerning the value of animal experimentation. One of these was expressed in the question, Has biological research really contributed to the success of the medical art? Another was, Is the search for truth through experiments on animals justifiable when it is not known that the scientific results, though true or sound as knowledge, can have any effect whatever on human well-being? The third, said President Eliot, was felt most commonly by persons who make pets of domestic animals and particularly of dogs. It might fairly be stated in this form, Is truth-seeking in biology commendable, even with the help of anaesthesia and asepticism, if the search be conducted at the expense of the comfort, joy, or life of animals? Dealing with these questions severally, he said the first doubt might be resolved in two ways—first, by mention of the actual achievements in medicine which had resulted from animal experimentation; and, secondly, by describing the hopes for the future founded on the rapid progress of medical science and art since bacteriology became a recognized science. The first immense result of the combined study of diseases in animals and man was the introduction of vaccination instead of inoculation as a protection against smallpox. Another great gain in medical art was the newly acquired power of controlling infectious diseases, which had resulted from the discovery of their living contagia and of the means of defeating these contagia. Sanitary science was deeply indebted to bacteriology, the whole of which was built up by research on lower forms of life in connexion with higher. The economic results of animal experimentation had been of very great importance. Was it not clear, urged Dr. Eliot, that the comparative exemption of the human race to-day from the pestilences and

contagious diseases which used to be so destructive was due to the fact that biological research had placed at the service of every medical practitioner effective means of preventing and curing disease? As regards the future, the legitimate hopes based on past successes justified them in looking forward to the continuation and enlargement of medical research and to an endless series of its invaluable contributions to medical practice and public medicine. As instances showing how the discovery of facts which seemed to have no immediate practical application might come to be directly useful, President Eliot pointed to galvanism; to the invention of the compound microscope and the introduction of the oil-immersion lens, which made the discovery of infective agents possible; to the ophthalmoscope, which was called by Helmholtz himself his "optical toy"; to the x rays; and to the discovery of ethyl ether by Valerius Cordus in 1540, and of chloroform by Soubeiran in 1831, and by Liebig in 1832—discoveries which were made by chemical investigators without the slightest idea of the blessings these liquids were to confer on mankind through their use as anaesthetics. The development and application of Pasteur's ideas forcibly illustrated the way in which researches, apparently purely scientific, might yield practical results of the highest value to mankind, and emphasized the fact that the number of animals used for experimental purposes in all the scientific laboratories was absolutely insignificant compared with the daily use of animal products as food and clothing for mankind. Man not only made use of all sorts of animals for his own advantage, but he destroyed, without the slightest compunction, multitudes of creatures which he considered noxious. It could not be questioned that this was a rational state of mind. If, he added, the educated public could only see clearly the immense benefits to mankind which had already come, and might reasonably be expected to come in much larger amount, from the experiments on animals which were necessary to the progress of medical research; if the public could only realize the saving of human suffering and woe which had already resulted, and was sure to result in still greater proportion, from the sacrifice of a very limited amount of animal comfort and joy, the world would hear nothing more of objections to medical research. Humanity and mercy were conspicuously the attributes of medical research in the eyes of all people who could see what it had already done and what it promised to do. President Eliot's testimony must carry special weight as coming from a man of such intellectual distinction who is not a member of the medical profession.

COLDS AND THE HARDENING PROCESS.

THE common cold is almost as great a scourge to the inhabitants of Northern Europe and America as the touch of fever to the tropical resident. The multitude of remedies, domestic, medical, and proprietary, ranging from blackberry tea and a tallow candle to opium and smelling salts and nasal sprays, is a proof that no really effectual remedy is known. Dr. Benham, in his recent interesting report to the Science Committee of the British Medical Association, holds out some hope that a vaccine may cut short an attack or help to make it bearable; but unfortunately the microbe is not always the same, so that it would be necessary first to discover the name of the enemy or to use a mixed vaccine. On the sound principle that prevention is better than cure, many people have endeavoured to harden themselves against catching cold, and the hatless brigade claim that they are immune to colds in the head, or at least much less susceptible than the generality. The use of the morning cold tub is praised for the same reason, and there are people who regard the wearing of a great-coat in winter as a direct inducement to the microbes to work their evil will. There is no reason why robust adults should not follow their beliefs and inclinations in this matter, but for adults who are not robust and for children the hardening process is not free from risk. Upon this point Dr. A. Kuhn recently published some judicious observations in a paper on the prevention of colds. He seems to think that a cold is not usually caught from another person, but that a chill affords to microbes already in the nose, throat, or mouth the conditions favourable to their activity. This it does by producing an alteration in the cutaneous circulation, and indirectly modifying the usual resistance against infections. He adduces evidence in support of the lessening of bactericidal power in an organ in which the quantity of blood is diminished by contraction of the vessels. From an examination of the conditions in which cold is applied for a short or long time, he concludes that if short exposure to cold is followed by a reactionary dilatation of the vessels, it never produces the state favourable to infection, the fortifying effect being due to the flushing of the part with blood in the reaction stage. In dealing with plans for hardening the body to resist the noxious influences of cold, he utters a word of warning against exaggeration. The body must be kept warm, and this is particularly true in the case of children. He does not approve of cold-water hardening for very young children, but advises the gradual resort to cold bathing at a later age. Throughout his articles he preaches moderation, and advises the use of cold water, fresh air, exercise in the open air, and so on, in such measure as the individual can easily tolerate without feeling a sensation of coldness or discomfort.

THE POISONS OF CANCER.

DR. N. GIRARD-MANGIN has investigated[1] the toxicity of 90 different tumours, 62 of these being derived from human beings, 26 from dogs, one from a horse, and one from a cat. The test of toxicity which he usually employed was inoculation into a rabbit, but some experiments were made on rats, guinea-pigs, dogs, and mice also. He arrives at the conclusion that whereas benign tumours do not contain toxic substances in larger amount than normal organs, malignant tumours are characterized by the toxicity of their extracts. He has been careful, be it added, to exclude from his investigations tumours which were ulcerated, or which showed signs of secondary infection. Considerable variation was found in the degree of toxicity which different tumours presented. Those consisting of very dense fibrous tissue were only slightly toxic or not at all. Tumours which contained islands of "vegetative" cancer cells surrounded by fibrous tissue were more toxic, and produced slow death associated with cachexia; whilst very actively-growing cellular tumours containing little fibrous tissue proved to be highly toxic, their effect being, according to the dose, either immediate death or death from cachexia after a longer interval. The author states that in some cases he was able to obtain a protective serum from animals treated by intraperitoneal injections of cancer extracts. He regards the cancer toxins as being of a colloidal nature. They are precipitated by alcohol and are not dialysable; they

[1] *Les poisons cancéreux.* Par Dr. Nicole Girard-Mangin. Paris G. Steinheil. 1909. (Roy. 8vo, pp. 155.)

are destroyed by heat, and in small doses act like ferments. Their toxicity, particularly in the liquid state, is not preserved for long. We note that in a large number of his experiments the intravenous method of inoculation was employed, and that in a considerable proportion of these death resulted either immediately or within a few minutes or hours. We take it for granted that Dr. Girard-Mangin is aware of the extreme care requisite in performing intravenous inoculations upon rabbits in order to avoid the production of sudden death from mechanical causes due to the coarse or otherwise physically unsuitable nature of the inoculum. Without suggesting that he may have mistaken effects of this nature for a specifically cancerous toxicity, we should like to see his work confirmed by other observers, and corroborated by a more extensive series of control experiments with extracts of non-malignant tissue before accepting his conclusions as definitely established.

DYING DECLARATIONS.

No one who has visited an English court of justice can have failed to observe the rigour with which hearsay evidence is excluded. The reason underlying this rule is that the statement which it is sought to repeat was not made upon oath, and is therefore not proper for the consideration of the jury. The most important exception to the rule is that "dying declarations" are admissible. Thus, a statement made by a moribund person to the effect that some one (naming him) had inflicted the fatal wound might be allowed to be proved. The origin of this curious rule cannot be better stated than in the words of Lord Chief Justice Eyre, who said in 1789: "Now the general principle "on which this species of evidence is admitted is that "they are declarations made in extremity, when the "party is at the point of death, and when every hope "of this world is gone, when every motive to falsehood is silenced, and the mind is induced by the "most powerful considerations to speak the truth: "a situation so solemn, and so awful, is considered by "the law as creating an obligation equal to that which "is imposed by a positive oath administered in a "court of justice." As was stated in another case, a dying declaration is admitted in evidence because it is presumed that no person who believes himself to be immediately going into the presence of his Maker will do so with a lie on his lips. Statements made by a person who is *in extremis* may therefore become important when proved in a court of justice. A striking example of a dying declaration which was held to be capable of proof was recently discussed in the Court of Criminal Appeal. The facts of the case may be very briefly stated: A woman was charged with murder at the Warwick Assizes, the allegation being that death had followed an attempt to procure abortion. The victim was a single woman, aged 24. On April 10th, 1909, when four months pregnant, she fell ill and vomited, and the defendant was called in. Subsequently, on April 14th, the girl had a miscarriage, and on the night of April 15th she became very ill. A doctor who was called said, in a voice which was loud enough for the patient to hear, "There is very "great danger. She may die at any moment." On the morning of April 16th the victim said to her sister, "Oh! Gert, I shall go; but keep this a secret. Let "the worst come to the worst. That woman "opened my womb with something like a crochet "hook on Good Friday. She told me to take a "half-quartern of gin and a halfpenny packet of salts, "and sit on a chamber of hot water." Subsequently, in the presence of a second doctor, the victim said the miscarriage was caused by the kick of a horse. She died the same day. The medical evidence was to the effect that the deceased girl had died from a punctured wound in the uterus followed by suppurative peritonitis, and that it was impossible that she could have inflicted the injury on herself. At the trial it was contended on the part of the prosecution that the statement made by the victim to her sister was admissible in evidence as a dying declaration. The Court of Criminal Appeal said that this was so, holding that on the question of whether a statement made by a person since deceased was so admissible, the true test was not whether the declarant believed that he was just about to die, but that he had given up every hope of life. For such a declaration to be admissible it must be proved that death was "imminent," although it need not have been "immediate," and that the declarant, at the time he made the declaration, was under a settled and hopeless expectation of death.

THE DEPOPULATION OF FRANCE.

It has been argued by some writers that the significance of the falling birth-rate in this country is not so great because there is also a diminution in the death-rate, but there will necessarily come a time when the latter circumstance will cease to mask the former. It would almost appear as if that time had come in the case of France and her vital statistics. In Dr. Variot's journal (*La Clinique Infantile*, November, 1909) the French figures for the first six months of 1909 are compared with those of the corresponding period of 1908. The marriages decreased from 162,495 to 156,294 and the divorces increased from 5,605 to 6,148. The births decreased from 411,402 to 398,710 and the deaths increased from 401,894 to 426,913. It thus appears that the births have diminished by 12,692, and the deaths have increased by 25,019, the net effect upon the population of France has been a decrease of 28,203, being the excess of the deaths over the births. No wonder Dr. Variot makes this comment—"Cette statistique est désolante." One may hide the facts from oneself and from the public when the fall in the birth-rate has not been going on long and whilst hygienic improvements are adding to the years of the aged, but there comes a time when this process must necessarily cease. The old may have their years stretched out beyond the fourscore, but they must die sooner or later; no such necessary limit affects the births, and it is conceivable that there may come a year when there are no births. Immortality is the only effective answer to a cessation of reproduction, and, alas, the King of Terrors still reigns.

THE MORTALITY FROM DIABETES IN TOWN AND COUNTRY.

Professor Lépine[1] draws attention to the statistics as to the distribution of diabetes published by Dr. R. T. Williams, of Manchester, to which reference was recently made in this Journal.[2] Professor Lépine notices the variation that exists between the figures given for town and country, instancing the Duchy of Baden, where the mortality for the whole duchy is given as 7.1, while for Carlsruhe it is 12.9, and for all Scotland as 7.3, but for Edinburgh 12.7. He admits that the statistics in great towns may be more carefully kept than those in the country, but it is less easy to explain why the mortality in certain great towns is less than that for the whole country, as in the case of Dublin, which is only 3.4 as against 7.2 for the whole of Ireland; London and Manchester are 8.3 and 6.6 respectively, and the whole of England and Wales is 9.6. This he thinks hardly explicable by simple statistical negligence. Again, he points out the great

[1] *Semaine Médicale*, August 10th, 1909.
[2] September 18th, 1909, p. 807.

variation between great towns; for example, Rouen has a mortality of 8.4, while at Bordeaux it is 25.8. He recalls that M. J. Bertillon has shown that there is a relation in Paris between wealth and diabetes; those quarters of the city in which the richest inhabitants live show regularly a much higher rate of mortality than those which are poor, but in Professor Lépine's opinion this explanation cannot be invoked here. According to M. Bertillon, Paris seems to have reached the high-water mark of its mortality some twenty years ago, for since that time the increase has been slight or none. The greater or less prevalence of alcoholism does not appear to offer a solution, as he believes there is no more alcoholism in Bordeaux than in Rouen, although the diabetic mortality is thrice as great. In London the relatively favourable figures may be due to the wide area from which its sanitary statistics are collected, including much healthy suburban country and a large and poor East End, but it is remarkable that Dr. Williamson has quoted the figures for no town in England or Wales in which the mortality equals that of the whole country. Are we to conclude, Professor Lépine asks, that, contrary to the belief which has hitherto universally prevailed, diabetes is more common and more fatal in the country than in town? If not, the relatively low mortality of London and Manchester must be counterbalanced by higher rates in other large cities.

ART AND SCIENCE.

THE cover of Mr. Masefield's new book *Multitude and Solitude* awoke a vague memory of something familiar: but the opening chapters did nothing to make it clearer, for they were about a play that was damned because it contained too much of "the new mind"; and then we came to an episode of the drowning of the dramatic author's love, and learn the dumb confusion of mind to which these ill strokes of fortune reduced him. This part of the book is made a little weary by a certain peevish tone and rather poor gibes against everything English. About half-way we are taken with the dramatist to tropical Africa, to which land of elemental energies he goes to study sleeping sickness, and we have the explanation of the picture on the cover—it is the *Glossina palpalis*. We need not follow the incidents of the story; the real interest of the book, the quality which takes it out of the ruck of novels—if indeed it can be called a novel, any more than Huysman's *La Cathédrale* can be called a novel—is that it is an attempt to compare the type of thought of the artist and the man of science. We had written "contrast," but it would scarcely be fair to Mr. Masefield to say that he draws a contrast. He is, it may be surmised, not quite sure that the types are fundamentally different. The history of some of the greatest artists—of Leonardo da Vinci, for instance—might well give pause to any one who would assert that there was any essential antagonism. If it is the part of the artist to interpret Nature, including the mind of man, to man, is not the same duty laid on the man of science? What is the essence of the difference between a life-like photograph of, say, the Emperor William II and for instance, Titian's portrait of the Emperor Charles V at Munich? Is it not the same sort of difference as there is between the experiment of a painstaking chemist in a German laboratory who adds one more compound to the myriads in the benzine group, and the illuminating researches of a Faraday who, with perhaps the rudest apparatus, suddenly reveals a new world to every one who can see? The difference is due in either case to a certain quality of the mind of artist or experimenter, a quality which in the artist we frankly call imagination and in the man of science insight. If we transpose our terms and say that Titian possessed insight and Faraday imagination, who will quarrel with us? Mr. Masefield has hit upon a very interesting problem, but he would probably be the first to admit that he has not solved it, for it is no solution to say that this is a scientific age. It is only to raise the ghost of our old friend the *Zeitgeist*, who has never explained anything.

TASMANIAN CRANIA.

DRS. BERRY AND ROBERTSON[1] have discovered, or, at least, are the first to describe, no less than 42 Tasmanian crania, of which only 2 are characterized as fragmentary. Of 78 crania of that race previously known and described, 3 were fragmentary; we have, therefore, an addition of 40 good specimens to our previous stock of 75, or more than one-third of the total number. Eleven of these 42 appear to have been actually discovered and disinterred by Drs. Berry, Robertson, and Crowther, of Hobart; 6 had been rejected by Messrs. Harper and Clarke on grounds which the present writers think insufficient; and the remainder have been found existing in various public or private collections, but more or less neglected and undescribed. The previous rejection of the 6 above mentioned seems to have been based mainly on their size, which, however, does not appear greatly aberrant. The largest is said not to have exceeded 1450 c.cm. in cubic capacity, but we are not informed how this figure was arrived at—if by Broca's method, or even by Flower's, it is by no means improbably great. Many of the characteristic Tasmanian features—such as the high position of the nasion and the small post-orbital compared with the maximum orbital diameter—are recognized by the authors, together with several points in which the Tasmanians and Australians agree, but which are valuable for their argument, as there is no question of native Australian, but only of European admixture. The publication of full measurements, as well as of the numerous "dioptrographic" tracings which the authors promise, will be awaited with much interest in many quarters.

X-RAY TREATMENT OF RINGWORM.

DR. HIGHAM COOPER, of University College and the Evelina Hospitals, who opened the discussion at Belfast in the Section of Dermatology and Electro-Therapeutics on the supposed risks attending *x*-ray treatment of ringworm, recorded three sets of experiments performed by him, and drew from them, as a whole, the conclusion that *x*-ray treatworm of ringworm could not possibly be a source of danger either to superficial or deep-lying portions of the brain. He first repeated Dr. McLeod's published experiments on the same subject, and found that the resistance offered by the scalp and underlying bone was so great that the portion of the brain immediately subjacent could receive no dangerous dose during the treatment of a single area of the scalp. He next supplemented the treatment of a series of patients by simultaneous observations which showed that practically all the rays used were absorbed in the skull. Finally he placed inside a dried skull, and at a point to which the greatest number of rays would converge during the cross-fire treatment necessitated by treatment of the whole scalp, a Sabouraud pastille further protected by an artificial resistance equal to that of the scalp, and found that the dose received by the pastille was

[1] *Preliminary Communication on 53 Tasmanian Crania, 42 of which are now Recorded for the First Time.* By R. J. A. Berry, M.D.Edin. et Melb., F.R.S.Edin., F.R.C.S.Edin., and A. W. D. Robertson, M.B., Ch.B.Melb. Proceedings of the Royal Society of Victoria, vol. xxii (N.S. Part 1.

infinitesimal. Hence he concluded that if the added resistance of fluid in living tissues and that of the brain itself were regarded as *nil*, no deleterious results could possibly follow from cross-fire treatment. Some other details with regard to the second experiment and Dr. Cooper's remarks on the whole subject will be found in the issue of the JOURNAL for August 21st, 1909.

DR. GARVIN OF COLOMBO.

On October 23rd a meeting of members of the medical profession in Ceylon, and of friends and patients of Dr. Garvin, was held in Colombo to present to him a testimonial to which a large number of persons had contributed. The presentation was made by Dr. O. W. Vangeyzel, who, addressing Dr. Garvin, said that on his retirement from Government service it had been resolved to raise a subscription among Dr. Garvin's friends, patients, and professional colleagues, with a view of expressing their appreciation of his qualities of head and heart; it had been considered that the purpose to which the sum subscribed could most appropriately be devoted was the foundation of an annual prize in the form of a gold medal for operative surgery at the Ceylon Medical College. It would perpetuate Dr. Garvin's memory in a place where during many years of his life he had been lecturer in systematic and clinical surgery. Dr. Vangeyzel then spoke of Dr. Garvin's great services not only as superintendent and surgeon in charge of the General Hospital, Colombo, but also as a surgeon whose opinion was valued in every part of the island. Dr. Garvin, who was accompanied by his wife and daughter, made an appropriate reply, in the course of which he said he was very greatly touched by the evidence of the kind feelings of his friends towards him personally. He had been engaged for thirty-three years in the practice of medicine, and had endeavoured to serve the Government to the best of his ability. To him had been entrusted perhaps more special duties than to any other member of the Ceylon Civil Medical Department. He referred to the anxious duties concerned with the detention of the Boer prisoners of war, and said that he was glad to have the impartial testimony of Sir West Ridgeway that that great undertaking had been a splendid success. He was rejoiced to know that the testimonial was to be devoted to the endowment of a medal in operative surgery. He believed that the Colombo Medical College was providing the Civil Medical Department with most excellent officers, and added that of the eight Colonial surgeons at present in the island six were pupils of the college. Operative surgery was a department in which Ceylonese greatly excelled, and he was glad to think that the testimonial was to be devoted to the encouragement of that branch of medicine. Dr. Garvin is an ex-President of the Ceylon Branch of the British Medical Association.

SIR WILLIAM THOMSON.

THE death of Sir William Thomson of Dublin after a long illness, which had for several months left little room for any hope of permanent recovery, deprives the medical profession of the services of a man who was a conspicuous example of a type which is not too common in any profession. Distinguished as a surgeon both on the practical and theoretical sides, he also took all through his life a keen interest in the public affairs of the profession. Though he never entered the political arena, he was ever ready to champion the cause of the profession, and especially of those members of it who are least fortunately placed. His work for the Poor Law Medical Service in Ireland is a proof of this, and his exertions in their behalf did not relax after the publication in the BRITISH MEDICAL JOURNAL in 1891–2 of his report on "The Case of the Irish Dispensary Doctors." This very valuable document, which was republished in 1904, displayed the qualities which made Sir William Thomson so great an intellectual force—his power of marshalling facts, his grasp of detail, his clearness and elegance of diction, and his power of letting himself go in a stirring appeal after he had given his readers the materials for forming an opinion. He was not only a striking writer, but a ready, easy, and convincing speaker. He was a direct representative of Ireland on the General Medical Council for two periods, and contributed much to the value of its debates.

CRIME IN ENGLAND AND WALES.

IN another place will be found a brief digest of the recently issued report of H.M. Commissioners of Prisons and Directors of Convict Prisons for the year ended March 31st, 1909. This official Blue Book, always of profound significance to those who read between the lines, is this year of more than usual interest, for, with the passing of the Prevention of Crime Act, the treatment of criminals enters upon a new era. It may be too early to speak with absolute certainty of the results which will follow the large application of the Borstal system which has been experimentally applied to young male criminals for the last nine years, and now sanctioned in a new Act, but the omens are of the most hopeful augury. The prolonged detention, under a more elastic discipline, of habitual criminals seems likely also to be of distinct benefit to society. Most happily these important steps have been taken at a time when drastic changes in the treatment of the destitute and the weak-minded are impending; changes which will have the effect of removing the stigma of crime from many acts which are only technically criminal, and are, on the one hand, the mere expressions of the inherent constitutional defects of feeble minded persons committed to prisons, or, on the other, of disturbed social and economic conditions. Perhaps, however, the most gratifying feature of this report is the convincing evidence it affords of the earnest, wise, and thoroughly practical endeavours that are being made to educate, rehabilitate, and morally reform those who, in the words of Villon, "have not wit alway to walk "righteously."

DIETETICS AND HYGIENE FOR CONSUMPTIVES.

EDUCATED sufferers from consumption in every part part of the world must at the present day have had the opportunity of learning, from lectures, leaflets, and special literature, all that it is well that they should know about the ordinary treatment of their disease. There are many considerations, however, that their medical advisers have to bear in mind, and these are well set forth by Dr. Blumenfeld in the second enlarged edition of his monograph on the subject.[1] Writing with an experience of twenty years behind him, the writer aims at a rational explanation of the dietary of consumptives rather than at mere assertion founded on the opinions of "authorities." He has investigated more especially the caloric values of various classes of foods, and has discussed at some length the results arrived at. Although it cannot be said that these conclusions do much more than confirm previous beliefs, they are nevertheless valuable as a basis of observations in the same direction for the future. The indiscriminate use of excessive alimentation which has doubtless done appreciable harm in the past, needs just such scientific

[1] *Specielle Diätetik und Hygiene des Lungen- und Kehlkopf Schwindsüchtigen.* By Dr. Felix Blumenfeld, of Wiesbaden. Second edition. Berlin: August Hirschwald. 1909. (Roy. 8vo, pp. 116. M.2.80.)

investigation, and Dr. Blumenfeld properly restricts its use to non-febrile cases. The physiological vigour of the cell is a more important factor in nutrition than the amount or quality of the food supplied to it. The value of the fatty food is insisted upon, and some practical hints given as to its administration by a skilled cook without the knowledge of the patient. The adaptation of the diet to the social habits of the sufferer have always to be considered, but the use of raw meat and of horseflesh would probably not commend itself even to the poorest in this country. The universal use of meat-soups supplemented with a raw or lightly-boiled egg might, on the other hand, be imitated with advantage. In discussing general hygiene the author is in agreement with most of the writers of recent times. He has a strong belief in the deleterious effect of wind, and hence prefers the more sheltered health resorts. The establishment of sanatoriums for women only is, in his judgement, highly desirable. There is a marked tendency on the part of young consumptives of both sexes to rebel against rules and to wander from one establishment to another in search of greater freedom, a course of life which inevitably leads downhill. The monograph contains a very interesting, if sometimes verbose, account of its subject. It is essentially practical and contains much useful advice.

The next session of the General Medical Council will begin on Tuesday next, when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 p.m.

The Royal Society has awarded a Royal medal to Major Ronald Ross, F.R.S., in recognition of his researches in connexion with malaria; the other Royal medal has been awarded to Professor A. E. H. Love, F.R.S., for his researches in the theory of electricity and cognate subjects; the Davy medal to Sir James Dewar, F.R.S., for his researches on low temperatures; the Copley medal to Dr. G. W. Hill, a foreign member of the Royal Society, for his researches in mathematical astronomy; and the Hughes medal to R. T. Glazebrook, F.R.S., for his researches on electrical standards.

Although the fact has already been announced in the Journal, it may not be superfluous to remind our readers that the Council of the Metropolitan Counties Branch has made arrangements to hold a meeting at which the three Direct Representatives of the profession of England and Wales on the General Medical Council, Dr. H. W. Langley Browne, Dr. H. A. Latimer, and Dr. L. S. McManus, will address such of their constituents as are resident in the metropolis and its neighbourhood. The meeting will be held at the St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus), on Monday, November 22nd, at 4.30 p.m. All members of the profession, whether they belong to the Association or not, are invited to attend the meeting.

Medical Notes in Parliament.

The Asylum Officers' Superannuation Bill was considered on report in the Lords last week, and several further amendments were made. In Clause 2 the following words were added by Lord Monk Bretton, who was in charge of the bill:

and a gratuity under this section shall not exceed one year's salary or wages and emoluments of the person to whom it is granted.

On the next clause Lord Donoughmore inserted an amendment to substitute "visiting committee" for "managers" as the authority to decide on incapacity and allowances. On Clause 4 (gratuities to dependants) Lord Hardinge moved and carried an amendment dividing the clause into subsections, and providing that in case of the death of an established officer or servant while in service, a gratuity might be granted, with consent of the local authority, to the widow and children. On Clause 11 Lord Monk Bretton moved to insert words providing that in case of compulsory retirement of an officer, the order should be approved by the Home Secretary before it took effect. Lord Beauchamp opposed on behalf of the Government, as he objected to such duties being put upon busy Ministers. Lord Ashbourne thought some such provision was necessary in Ireland, but the amendment was by leave withdrawn. On Clause 12 Lord Donoughmore inserted a proviso, with the consent of the Government, as follows:

Provided that every superannuation allowance or gratuity under this Act shall be paid out of the fund out of which the salary or wages or emoluments of the officers or servant is or has been paid.

On the motion of Lord Monk Bretton, Clause 13 (aggregation of Poor Law and asylum service) was omitted as unworkable. On Clause 14, relating to declarations in connexion with grants, a penalty of £50 or imprisonment for misstatements was added. Some other amendments of less consequence were made, and the report stage concluded. On Thursday in last week, according to the methods of procedure peculiar to the House of Lords, the bill was read a third time, and then, on the motion that it be passed, the House proceeded to amend it further. Lord Shaftesbury tried to amend Clause 2 so as to make female asylum officers eligible for superannuation at 50 instead of 55, the age for males. Lord Beauchamp objected, and said there was at present no pension scheme in this or any country in which a distinction was made between men and women. The amendment was rejected. On Clause 4 it was agreed to give the visiting committee power to grant either a gratuity or an annual allowance to a widow or children. On Clause 9, which deals with the percentage to be deducted from salaries, Lord Belper moved to raise the contribution of officers and servants from 2 per cent. to 3 per cent. of their salaries. Lord Beauchamp supported the amendment and Lord Monk Bretton opposed, but it was agreed to. Lord Donoughmore then moved that pensions should be calculated on the average salary of the last five years instead of ten years. The alteration of the contribution to 3 per cent. would seriously affect the pensions of the lower officials if the ten years' average were retained. Lord Monk Bretton supported the amendment, and Lord Beauchamp opposed it and appealed to the House to support the Government. A division was taken, and the Government had a majority of 29. Two other amendments were made, one preserving the right of appeal to the Lord Lieutenant in case of Irish officers, and the other ordering the Act to come into force on April 1st instead of March 31st, 1910. The bill was then passed.

Back-to-Back Houses.—Lord Monk Bretton asked whether Dr. Darra Mair was instructed to report on the sanitary conditions of back-to-back houses at Halifax in 1908; whether he carried out his inspection in May, 1908; and whether the Government would lay his report upon the table of the House. He said that according to a report in a Yorkshire newspaper the medical officer of health of Halifax had stated that Dr. Darra Mair had selected certain back-to-back houses at Halifax as typical. He gave a table which showed that the death-rate for back-to-back houses was 13.3, and for through houses 15.6. From phthisis the death-rate for back-to-back was 1, and for through houses 1.6. These figures were favourable to the back-to-back houses, which were being condemned by the Government. Mr. Burns, on moving the second reading of the Housing and Town Planning Bill in another place, quoted other figures, but he did not quote Dr. Darra Mair's report. Lord Allendale said

Dr. Darra Mair was instructed to make the investigation in question, but it was part of a very wide investigation, in the course of which he visited a considerable number of towns besides Halifax. The report was now in an advanced state of preparation, and when it was issued steps would be taken for presenting it to Parliament. Lord Wenlock asked whether, as the whole question of back-to-back houses appeared to be *sub judice*, the Local Government Board would go on with the provisions relating to it included in the Housing and Town Planning Bill. Lord Allendale said he understood that negotiations were going on in regard to the bill, but to what extent that particular question was under consideration he could not say.

THE SOCIETY OF APOTHECARIES.

The Master and Wardens of the Society of Apothecaries of London gave a dinner at their Hall on November 16th to meet the Lord Mayor. Mr. R. Bligh Wall, the Master, presided, and, in addition to the Lord Mayor, the company included, among many others, Sir R. Douglas Powell, Mr. Butlin, Sir William Church, Dr. Champneys, Alderman Sir T. Crosby, Sir Clifford Allbutt, the Masters of the Drapers', Skinners'. and Haberdashers' Companies, Mr. J. T. Helby, Sir Shirley Murphy, Sir T. Chavasse, Sir Hugh Beevor, and Mr. A. Mowbray Upton, the clerk.

After the customary loyal toasts had been duly honoured the Senior Warden, Mr. A. T. Norton, F.R.C.S., proposed the Royal Colleges of Physicians and Surgeons. He said he was glad to have the opportunity of proposing the toast, for at the present moment much anxiety and grave responsibility rested on the examining bodies of London. Last year he had foreshadowed the possibility of a combination of the London examining bodies with the object of urging the Government to make arrangements that the students of London should be able to obtain a university degree on a parallel with that granted by the universities of Scotland and Ireland and the provincial universities of England. Since then something had been attempted, but they were still in the same position as last year, indeed as long as fifteen or twenty years ago. If the London students could not obtain a degree they would cease to come to London. That would be a very serious matter to the students, for the medical education and clinical instruction given at the London medical schools, which could not be equalled in the provinces, would be lost to them. But it would be a catastrophe to the London examining bodies and the medical schools. He could not conceive it possible that it would be permitted that the Apothecaries Society should be wiped out as an examining body, or that the City Company with its valuable property, attendant privileges, and important investments should be lost to the medical profession. But this would certainly happen if things remained as at present. He would add that whatever happened to the Society would likewise happen to the two Royal Colleges, and certainly, though perhaps more gradually, they would cease to be the examiners of the general practitioner. He did not see that the University of London should be called upon to descend from its high pedestal. If it should do so, it would crush the diploma-granting bodies unless it incorporated them into itself, and if that took place the university would lose the grand reputation which it had maintained since its foundation. As a number of representatives of the universities and examining bodies were present, he would ask their permission to make a suggestion. It would be made entirely upon his own responsibility, as he held no brief for the Apothecaries' Society. He would urge the creation of a new university to be called the State University of Medicine. It should grant only the degree of Doctor of Medicine and Surgery. He would incorporate all diploma-granting bodies in the three divisions of the kingdom, and there should be but one examination and one set of questions for all. There should no longer be vicing of one examining body with another by diminution of the severity of its examinations. There should be a council in England, in Scotland, and in Ireland, and a general council common to all and strengthened by representatives of the State. This common council could easily arrange all details, division of fees, curriculum, etc. He believed the obstacles to such a university—a one portal to the profession—were but few and easy to overcome. The universities might at first raise objections, but they could be placated. The great universities could scarcely be interfered with. They would have to accept the State degree, and could add what subjects they liked to their own examinations. If there should be loss in fees that loss should be in part made good from the funds of the State university, taking into consideration the double examination. Those universities which had taken to examining the general practitioner within the last twenty five years or so, were those which had bereft them of their inheritance. Yet they should receive justice. The objections of such universities as that of Edinburgh, which was a great "general practitioners' examining university," must receive local consideration, and not be allowed to lose either its graduates or its fees. The Senior Warden concluded with some words of graceful compliment to the Presidents of the two Royal Colleges.

Sir R. Douglas Powell, in reply, said there was no lack of sympathy on the part of the Colleges. For thirty or forty years they had done their utmost to bring about an arrangement that would make a degree accessible to the London student. Their Licentiates were as fully equipped in medicine as any other students, and they ought to be permitted to tack on to their professional training such equipment in arts and sciences as would warrant the granting of a degree. A State University of Medicine he thought was impossible. There could not be a university of one faculty. The only way the thing could be done would be for the Colleges and perhaps the Society to associate themselves with the University of London in some way so as to make the medical qualifications sufficient for a degree. The University of London was at the first only an examining board open to all comers. The examinations were test examinations and no evidence of collegiate training being required, were necessarily the more severe. Students who had studied medicine for four years in London should not be so severely tested in preliminary scientific matters. If this failed the corporations should associate themselves with some other university. The Colleges had been considering the question for a long time when suddenly the proposal for the Royal Commission was sprung upon them. But if the corporations would combine something he thought would certainly come of it.

The President of the Royal College of Surgeons—who was prophetically styled by the toast master "Sir Henry Butlin"—also responded. He said the compliment paid him by the Warden was particularly graceful inasmuch as the two Colleges had at various times done their best to wipe out the Society. He was not at liberty to say what he thought about Mr. Norton's suggestion. He had every sympathy with the students of London. Mr. Norton would doubtless be surprised if he could hear the evidence which had recently been placed before him on the subject of degrees for the London student. The whole subject would have to be dealt with by the Royal Commission.

The Lord Mayor, in proposing the "Society of Apothecaries of London," referred to its history. The hall in which they were was the one built after the first had been burnt in the Great Fire of London.

The Master, in acknowledging the toast, said the Society was a link between professional and civil life.

Mr. Parker Young, in proposing the health of the Visitors, referred to the increased duty on spirits as it affected the cost of medicines. The Society had made representations to Mr. Lloyd George on the subject, but got no more satisfactory reply than that the matter would be taken into serious consideration.

The toast was acknowledged by the Master of the Skinners' Company, who contrasted the state of Blackfriars and London generally in 1617, when the Society was incorporated by Royal Charter, with that existing at the present day, and spoke in praise of the work of the medical profession.

The evening was enlivened by a number of old English songs, excellently rendered by Miss Bramley Taylor, daughter of Mr. W. Bramley Taylor, M.R.C.S., L.S.A., J.P. for the County of London, Miss Florence Dixon, Mr. Gwynne Davies, and Mr. John Ridding.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PROPOSED EXTENSION OF THE MEDICAL SCHOOL AT GLASGOW.

THE draft provisional order embodying the final results of the prolonged deliberations of the Medical Faculty, Senate, and University Court has now received the approval of the General Council of the University. The draft order was submitted to the Council by the Court, and at the half-yearly Council meeting in October was referred to the Business Committee of the Council for consideration. The committee's report was submitted to the Council at a special meeting convened on November 10th, when it was stated that this committee by a majority approved of the draft order. The chief features of the scheme consist in the abolition of the two clinical chairs at the Western Infirmary and the creation of four new professorial chairs in medicine, surgery, obstetrics and gynaecology, and pathology at the Royal Infirmary, for which funds amounting to £50,000 have been offered by the Muirhead Trustees. St. Mungo College and Royal Infirmary, and the Carnegie Trustees. The subjects are to be taught both to men and women, and the new professors are to be on an equal footing, as regards examining and other matters, with the present professors. It is also proposed to create a new status of lecturer-examiner among the clinical teachers at the various infirmaries, in order to distribute the clinical teaching, and render it more efficient, it is intended that the Court shall obtain power to limit the number of students attending a qualifying clinical course, so as to ensure more individual instruction.

Though this scheme received the approval of the majority of the Business Committee, the minority brought forward an alternative scheme that was put to the meeting as an amendment. The amendment was to the following effect:

> That the General Council of the University is in entire sympathy with the intention of the Court and Senate to associate more closely with the University the great clinical fields of the Royal, Western, and Victoria Infirmaries, and the Council gratefully thanks the several bodies of trustees who offer annual donations amounting to £1,800 in furtherance of this endeavour; and the Council is of opinion that the intention of the Court, Senate, and donors could best be given effect to by the appointment as university lecturers and lecturer-examiners of such of the physicians and surgeons of the Royal, Western, and Victoria Infirmaries as engage in clinical teaching, and with whose competence as teachers the Court is satisfied; and also that on application any of these clinical lecturers may, in addition, be appointed university systematic lecturers and lecturer-examiners, each in his own subject, when the Court is satisfied that sufficient accommodation and teaching appliances have been provided; and, further, that in connexion with the Royal and Victoria Infirmaries the Court should appoint university lecturers and lecturer-examiners in the systematic subjects of the medical curriculum when the Court is satisfied with the accommodation and teaching appliances, and that the Court should have a predominant voice in the appointment of every such lecturer when a vacancy shall occur; and, further, that provision be made for women being taught equally with men, and that the fees and all income from donations be paid into the University chest, and that the lecturers be remunerated as the Court, with the sanction of the donors, may determine; and that this be a representation to the University Court.

This was moved by Dr. Ebenezer Duncan, who argued that the lecturer-examiner scheme would be much cheaper than the endowment of the four new chairs, which would be permanent appointments *ad vitam aut culpam*. The scheme was to some extent an experimental one, and it was better at first to test it with lecturer-examiners appointed for a term of years only, so that unsuitable appointments could be easily rectified. The money saved would enable other lectureships to be established. In any case the first step to be decided was the limitation of the clinical classes, as on this depended the whole success of the scheme. Further, he doubted whether the Muirhead Trustees would obtain the necessary Parliamentary sanction to utilize the trust money in the manner proposed, as opposition was probable.

Dr. David Knox, in supporting the amendment, dwelt upon the difficulty of mixed clinical classes.

Dr. Marion Gilchrist supported the amendment in so far as it meant delay, as she did not think the interests of women students had been considered as they ought to have been. A great part of the money it was proposed to use had been specially left by Dr. Muirhead to benefit women, but the draft order appeared to benefit men more than women. The order, if adopted, would postpone the entrance of the women into the Western Infirmary, and into the few classes at the university which still remained closed to women students.

Dr. D. C. McVail spoke strongly in favour of the amendment, which he thought a much more elastic scheme, and provided everything necessary for a medical school. There was no facility for extending the other scheme to the Victoria Infirmary.

Professor Glaister spoke in favour of the Draft Order.

The Vice-Chancellor (Sir Donald MacAlister) pointed out that there was nothing in the amendment which was not in the power of the Council at present, and therefore there was nothing in it which was not compatible with the scheme before them, which was an attempt to put one of the hospitals, to begin with, more nearly on an equality with the Western Infirmary by instituting professorships which would make it more attractive to the students. The £50,000 was offered for this definite purpose and was not available for other schemes. Not adopting the motion meant throwing back this generous offer.

The report of the Business Committee was carried by 31 votes to 10.

The approval of the Council was notified to the University Court, which is now proceeding to take the necessary steps to obtain the Provisional Order. But that all even yet is not to be plain sailing is made evident by the decision of the governors of the Victoria Infirmary to oppose the Muirhead Trustees in the attempt to obtain parliamentary sanction for their part of the scheme. The views of the governors are clearly stated in the following communication to the press:

> The governors of the Victoria Infirmary have had seriously to consider what the effect would be on their infirmary of the proposed changes at the Royal Infirmary, these amounting to the foundation of four professorships in medicine, surgery, midwifery, and pathology, and the recognition as university lecturers of the physicians and surgeons of that institution. The governors understand that an essential part of the scheme is that the Muirhead Trustees are to provide incomes for two of these proposed chairs. This scheme, if carried out in connexion with the Royal Infirmary, must inevitably place the Victoria Infirmary in an inferior position to the Royal Infirmary, and the tendency would be that physicians and surgeons of eminence and ability as teachers would prefer appointments at the Royal Infirmary rather than at the Victoria Infirmary. Thus the interests of the Victoria Infirmary would suffer. Patients also, when it became known that the posts in the Royal were filled by men of the highest ability, would undoubtedly prefer to be admitted into the Royal rather than into the Victoria, and donors would also be influenced unfavourably to the Victoria as regards the support of the two institutions. Hitherto, of the three great Glasgow hospitals, only one of them, the Western, has participated in special university privileges, the Royal and the Victoria Infirmaries being on the same platform. This equality is now to be disturbed, and that largely by money from the Muirhead Trust, and so far the Muirhead Trustees have not expressed any willingness to assist the Victoria Infirmary equally with the Royal Infirmary, notwithstanding that the governors of the Victoria have approached them and asked to be put on a similar footing.
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> The case of the Victoria Infirmary is regarded by the governors as being peculiarly strong in relation to the Muirhead Trust, as Dr. Muirhead in his will expressed as his final opinion and direction that his proposed college "might and should be placed in proximity to the Victoria Hospital." Clearly, therefore, the Victoria Infirmary has a greater claim to participate in the funds left by Dr. Muirhead than any other institution in Glasgow.
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> As showing the opinion formed by competent judges as to the special claims of the Victoria Infirmary on the Muirhead Trust, the judges of the court of session in sanctioning a permanent constitution for the disposal and application of Dr. Muirhead's bequest framed a board of representative governors, of whom three were to be appointed by the governors of the Victoria Infirmary and not by any other infirmary in Glasgow, and not more than two by any other of the great public bodies of Glasgow. The governors of the Victoria Infirmary, therefore,

have been surprised to learn that the Muirhead Trust are promoting a provisional order to enable them to pay over annually £800 a year to the scheme of the Royal Infirmary, whilst they have refused in any way to recognize the claims of the Victoria Infirmary. The governors, therefore, at a meeting yesterday, felt that no course was open to them but the legal course of opposing the provisional order, and they unanimously agreed at their meeting to adopt that course and to enter formal opposition to the provisional order when it should come before the Parliamentary Committee.

Occupation Mortalities.

Dr. Dunlop, Superintendent of the Statistical Department in the Registrar General's Office, Edinburgh, read a paper on occupation mortalities, at a meeting of the Faculty of Actuaries in Scotland on November 8th. Dr. Dunlop based his communication on a recent report issued by the Registrar-General of England and Wales, in which there is a large mass of statistical information regarding mortalities in a number of occupations. Dr. Dunlop devised new methods for studying that information, and by these new methods tabulated the results. He also compared the results found in the recent English study with those of former studies made in England, Scotland, Paris, Switzerland, and America. The twelve occupations found to be of lowest mortality, or with the greatest expectation of life were:

Clergy (with an estimated expectation of life at age 25 of 42.5 years).
Gardeners (42.3 years).
Gamekeepers (42.21 years).
Farmers (41.8 years).
Railway engine drivers (41.7 years).
Farm labourers (41.5 years).
School masters (41.2 years).
Brick makers (41.1 years).
Civil Service officials (40.5 years).
Grocers (40.2 years).
Paper makers (40.2 years).
Ironstone miners (40.2 years).

The twelve occupations found to be of the highest mortality, or with the smallest expectation of life, are:

General labourers (27.8 years).
Tin miners (28.5 years).
Costermongers (29.0 years).
Inn and hotel servants (29.4 years).
Publicans and innkeepers (30.4 years).
Seamen (31.3 years).
File makers (31.5 years).
General shopkeepers (32.4 years).
Cutlers (32.6 years).
Dock labourers (32.9 years).
Messengers (33.0 years).
Potters (33.5 years).

Glasgow Smoke.

At a meeting of the Glasgow Corporation on November 11th, Bailie Paxton said that, though the quantity of black smoke emitted had been diminished, the impurity of the Glasgow atmosphere was still painfully obvious. Many appliances for heating and ventilating houses had been brought to notice within the last few years, and he moved an instruction to the subcommittee on air purification of the health committee to consider a report on the practicability of the corporation departments adopting smokeless means of heating. The resolution was adopted, and Councillor Moir gave notice of a motion for a further instruction to the subcommittee to report upon the methods best calculated to spread among consumers of coal for domestic purposes a knowledge of the most up-to-date system of heating.

Emeritus Professor Crum Brown.

On the 12th inst., Professor Crum Brown was presented with his portrait, painted by Mr. E. A. Walton, R.S.A. The presentation was made by Principal Sir William Turner in presence of a large company of friends and subscribers. The subscribers numbered 350.

The Medical and Dental Defence Union of Scotland.

The seventh annual report of this union has just been issued; it states that the past year has been one of progress and prosperity. A large number of applications for defence of claims threatened against members, and for advice and assistance in professional dangers and difficulties were received during the year. Out of the numerous claims intimated against members only a relatively small proportion of actions at law has ensued. The membership at the close of the year was 1,189. The financial report is satisfactory, showing that both the receipts from income and the capital fund are increasing. The council has made arrangements with the General Accident, Fire, and Life Assurance Corporation, Limited, to insure members of the union against the risk of damages being awarded against members in connexion with their professional work. Arrangements have been made whereby members of English defence societies resident in Scotland may be admitted as members of the Scottish Defence Union without entrance fee. Claims made against any such practitioner, originating prior to membership in this union, will be treated by the council in the same way as if he had been a member at the time when the incident out of which the claim originated occurred, provided that the member was in active benefit with such English society at the time when the incident occurred, and that the question at issue fails to be decided by the Scottish courts. On the whole, the report shows that the Scottish Defence Union is doing much good work, and has proved itself worthy of the support of medical practitioners resident in Scotland.

Royal Infirmary, Edinburgh.

At the weekly meeting of the managers on Monday, November 8th, Dr. Henry Wade was elected an Assistant Surgeon and Dr. James Miller an Assistant Pathologist. There were six candidates for the former and three for the latter appointment.

England and Wales.

[From Our Special Correspondents.]

MANCHESTER AND DISTRICT.

The Milk Supply of Manchester.

In an address before the Manchester Statistical Society last week, Professor Delépine spoke of the methods employed to guarantee a pure milk supply for Manchester. It is estimated that about 70,000 gallons of milk come into Manchester daily: more than half comes from farms in Cheshire, while Derbyshire, Lancashire, Staffordshire, and North Wales send smaller quantities. About 16 per cent. of the farms have at one time or another sent tuberculous milk, the Cheshire farms being the worst in this respect. The difficulty in obtaining a supply of good quality was much greater than generally supposed, for if the authorities were too strict in excluding poor samples the supply was soon inadequate, and the poor classes suffered. Milk might be dangerous in three ways—by conveying infection from one person to another; by containing faecal and other pollution, which caused infant diarrhoea; and by transmitting microbes from diseased cows, tuberculosis being the most important disease thus transmitted. To obtain a pure supply attention must be paid to the following points: The state of the stable, the cow, the dairy hands and utensils, and possible infection from flies. The removal of dirt by straining and centrifugalization was by no means sufficient, and safety could only be obtained by prevention. Refrigeration from the moment the milk left the cow to the time when it reached the consumer was a good safeguard. While it seemed to be impossible to remove at once all cows suffering from tubercle, it was usually only when the disease was advanced and the udder infected that there was much danger of the milk containing tubercle bacilli. Nevertheless, Professor Delépine insisted on the necessity of boiling all milk that had not come from herds free from tubercle or where absolute cleanness could not be guaranteed.

The Effects of the Smoke Nuisance.

In an inaugural address as chairman of the Manchester section of the Society of Chemical Industry, Mr. R. H. Clayton devoted considerable attention to the damage done to finished textile products by smoke. He said it was not the factory chimney that was the main cause of the dirty condition of towns, but the domestic chimney. In the case of the factory chimney, even when emitting black smoke, not more than 1 to 2 per cent. of the coal went off in the shape of soot and tarry oils, and this was almost negligible. The greater part of the tarry oils was decomposed in the furnace and was given off as free carbon. But in domestic smoke there was less of this decomposition, and the tarry oils were given off as a fine blue mist, the particles of which gradually coalesced in the air and settled on everything around; at least 5 per cent. of the coal burnt in a house fire passes into the air as soot and tarry oils. Mr. Clayton estimated that in Manchester alone every year the waste from domestic chimneys was equivalent to between 25,000 and 30,000 tons of coal. The effect of this enormous amount of soot and tarry products on textiles was twofold, first, in causing wear and tear, and, secondly, in necessitating cleaning. Owing to cheap labour and efficient manufacture, Lancashire could produce yarn more cheaply than any other place, but the whole benefit of cheap production was lost through the products being submitted to conditions which either reduced their life 50 per cent. or necessitated their remaining dirty. Cotton products remained clean six times as long in the country as in the towns. The same effect was seen with linen and silk goods. As a result the soap consumption was quite doubled, and the expenditure on paint, wall paper, and so on was immensely increased. The same wastage went on with dye stuffs. In a foggy week in December, 1904, Messrs. Affleck and Brown, drapers, of Manchester, reckoned that their goods were depreciated about £600, to say nothing of the extra cost of lighting and cleaning. Furnishing firms had also given the lecturer particulars of the deterioration of wood and metal work from the same cause, and he calculated that the yearly loss to the nation due to coal smoke was between £30,000,000 and £40,000,000. He thought it was useless to imagine that simply by legislating against factory chimneys the necessary end would be attained, and he advocated the prohibition of the open grate burning soft coal, and the extension of gas and coke heating.

Infant Mortality in Lancashire.

From the annual report of the medical officer for the administrative county of Lancashire, it appears that the total number of births for the year 1908 was 44,889, an increase of 1,748 over the previous year. This gives a birth-rate of 24·8 per 1,000, which is 0·63 higher than in 1907, but, with this exception, is the lowest on record. The slight increase is almost confined to those districts where the people are mostly engaged in collieries and cotton mills, and where early, and often improvident, marriages are the rule. In the more well-to-do districts the birth-rate still continues to decline, probably, as Dr. Sergeant suggests, owing to a common cause which affects the whole country.

The infant death-rate was 131 per 1,000, an increase of 6 per 1,000 over the previous year, though it should be said that the rate in 1907 was exceptionally low. The rate for 1906 was 139, and, with the exception of 1907, last year's rate was the lowest recorded. In the urban districts the rate was 136, an increase of 7, while the rural rate was 97, an increase of 1 per 1,000. Compared with the large towns of Lancashire, as might naturally be expected, the county stands well. Burnley has an infant death-rate of 201, Bolton 161, Oldham 160, Salford 153, Manchester 151, and Liverpool 142. But the Lancashire towns are notoriously bad compared with the seventy-six large towns, which average 128 per 1,000, and the 142 smaller towns, which average 124. For the whole of England and Wales the infant death-rate was 121, and for England and Wales, less the 218 towns, it was 110. Thus the position of the county of Lancashire is very decidedly bad. A large proportion of the infant deaths occur during the first few weeks after birth, and Dr. Sergeant suggests that some prejudicial influences are at work, partly antenatal, due to industrial employment of mothers, and partly from the effects of maternal ignorance and neglect, deprivation of mother's milk, food contamination, and insanitary surroundings. The Registrar-General suggests that the gradual decline in the infant death-rate during the last twenty years is partly due to improved sanitation, but the cool showery summers of the last few years have certainly had something to do with lessened mortality from diarrhœal diseases. Dr. Sergeant quotes the opinions of several of the medical officers of health on the subject. Dr. Brown of Bacup suggests that the bad state of the cotton trade may have prevented mothers going to work in the mills and enabled them to give more time to maternal duties, and this may have had the effect of reducing the infant death-rate. Dr. Parker of Lancaster says that the 11 deaths occurring in his district were all easily preventable with a little more knowledge of the management of infants. Another medical officer attributes the high rate in some parts to the mothers hurrying back to work as soon as possible after their confinement. Another would prohibit the employment of girls in factories under the age of 15, and would make instruction in hygiene and infant nurture compulsory in all elementary schools.

Opticians and State Recognition.

In the Journal of October 16th, p. 1186, it was stated that another meeting of the Manchester and North of England Optical Society was shortly to be held to consider the means which should be taken to obtain recognition of opticians as a profession. At a meeting held last week a resolution was moved to the effect that some form of federation be established between the various optical societies in Great Britain with the object of obtaining "a legal status for qualified opticians." An amendment was moved to substitute for the words "obtaining a legal status" the phrase "mutual aid and advancement of opticians' interests," the mover stating that he objected to any society appointing travelling inspectors to drop upon men who did not happen to be registered and hold its diploma. A professional man was one who sold nothing but advice; opticians were tradesmen, in business to do as big a trade as they could in spectacles. He was in favour of federation for the advancement of the industry, and to protect opticians from any attempt on the part of the medical profession to penalize opticians, but thought the question of State recognition should be left alone, for the present at any rate. A lengthy discussion followed, the general opinion being that the first step was to bring about an amalgamation of the various optical societies in England, Scotland, and Ireland, the ultimate aim being an effort to obtain State recognition. Finally a resolution was agreed to unanimously that efforts be made to bring about a federation of the different societies to "promote and advance the interests of opticians," it being understood, however, that this was but the first step in a movement to secure, if possible, State recognition for qualified opticians. Circulars are to be sent out to the various societies, and it is proposed to hold a conference of representatives from them in Manchester next January or February to discuss the matter.

NEWCASTLE-ON-TYNE.

The Medical Societies.

Last week, at a largely-attended meeting of the Northumberland and Durham Medical Society, a discussion on empyema was opened by Dr. James Drummond of South Shields, who dealt with the subject from the general practitioner's point of view. A most profitable evening was spent, thanks to the energetic honorary secretaries, who had acted most successfully as whips.

This week the members of the local Branch of the British Medical Association have been invited to attend a scientific demonstration in the Royal Victoria Infirmary. This is the first of a series of five demonstrations to be held in Newcastle during the winter months. Sir Thomas Oliver, who gives the first demonstration, has chosen spleno-medullary leukæmia; Mr. Rutherford Morison follows on diseases of bone; Drs. McCracken and Ruxton on Mongolian imbecility; Mr. Richardson on breast carcinoma; Mr. Percival on eye injuries; and Dr. Bolam on xerodermia. There are few districts which offer such a wealth of clinical material as Newcastle and the surrounding neighbourhood. These demonstrations will, practically speaking, take the place for the present of a post-graduate course of study, and, as they are open to all medical practitioners in the North of England and are held late in the afternoon, the attendance will, it is expected, be large.

The Clinical Society, under the presidency of Mr. Joseph W. Leech, will hold its annual banquet about the middle of January. Sir John Halliday Croom, who is to be the guest of the evening, will give an address in the College of Medicine during the afternoon. The banquets of the Clinical Society have always been most successful. The transference of Mr. Leech from the position of Honorary Secretary to that of President ought to make the approaching dinner a greater success even than usual. At a recent meeting of members the question of inviting ladies to the dinner was discussed. The proposition was negatived.

At the last meeting of the University of Durham Medical Students' Society, Dr. W. E. Hume in the chair, an interesting paper on explosives and their use in modern warfare was read by Sir Andrew Noble, Bart., head of the Elswick firm of ordnance and ship builders.

The Maternity Hospital.

The ball in aid of the funds of the Maternity Hospital passed off well. The attendance was large. Drs. Ranken Lyle and R. Nesham had left no stone unturned to make it a success. As a result of their efforts, the charity will benefit considerably.

Workmen's Compensation Act.

On Tyneside the operation of the Workmen's Compensation Act has given recently an increasing amount of work to the medical and legal profession, and it does not seem likely that this kind of work will diminish. More claims are being lodged for lead poisoning than hitherto.

Beri-Beri.

There were a week ago one or two cases of beri-beri on the Tyne among the sailors of a Brazilian man-of-war, but the disease is evidently on the decline.

Western Australia.

Government Hospitals.

We learn from the *Australasian Medical Journal* that it has been decided by the Government that the time has come when the people themselves should be called upon to support their own local hospitals. Till the present year the whole of the control of the hospitals has been undertaken by the Government, and the annual expenditure has been nearly £100,000. It is now proposed that the management of hospitals shall be vested in local committees, and that the Government shall grant annual subsidies towards the maintenance of these hospitals. The expenditure for 1908-9 in the Perth Hospital was nearly £18,000. The Government now proposes to give an annual subsidy of £13,000. Either the balance is to be found by the general public, or the hospital will be reduced so as to work within the limits of the Government subsidy. Similarly in Fremantle, in place of an annual expenditure of nearly £6,000, the Government gives an annual subsidy of £4,000. The committees have decided to undertake the responsibilities, and have already begun to consider in what way the hospitals can be reduced in scope without seriously interfering with their efficiency. In Kalgoorlie, also, instead of an annual expenditure of £6,000, the Government is giving £5,000 in the first year and £4,000 in the next year. At Newcastle and Wagin the principle of local control with the Government subsidy has been accepted by the public. At other centres the proposal has been favourably received, and at several of the hospitals control will be taken over by local committees as soon as the Government gives power to local bodies to levy rates for this purpose. It is intended that such legislation shall be introduced at an early date. In connexion with the assisted hospitals the system of subsidizing a hospital on the 15s. granted by the Government for every £1 subscribed locally is to be replaced by an annual grant in aid of maintenance of the hospital. These grants have been allocated with regard to the importance of each district. The system of subsidizing district medical officers had originally for its object the encouragement of medical practitioners to settle in sparsely populated districts. As the districts have become more settled the practice of the doctor has increased, and the necessity for these subsidies has ceased. therefore, the salaries of the district medical officers in the more settled districts have been materially reduced.

Queensland.

Lunacy in 1908.

From the report for the year 1908 of Mr. Linford E. Row, Acting Inspector of Hospitals for the Insane in Queensland, we see that on the last day of the year 1907 there were 2,078 certified insane in this colony, and that on the last day of 1908 there were 2,189, giving an increase of 111 for the year as compared with the average increase for the decade of 55. The population of the State at the end of 1908 was estimated to be 558,237, so that the ratio of insane to population was 3·92 per 1,000, as compared with the 3·60 per 1,000 of England and Wales. The total number of patients in the hospitals during the year was 2,429, and the average number daily resident 2,120. The patients were distributed over the three asylums of Goodna, Ipswich, and Toowoomba, and the three reception houses of Brisbane, Rockhampton, and Townsville. Owing to the steady increase in the number of patients the accommodation in the various hospitals is taxed to the utmost. This is particularly noticeable at the Goodna asylum, which, Mr. Row says, is fearfully overcrowded, some of the wards having 40 per cent. more patients than provided accommodation, reducing the average cubic air space to 550 ft. a bed.

Admissions.

During the year 360 were admitted to the hospitals, of whom 31 were readmissions during the year. Of the total admissions 155 were born in Australia, 166 in Great Britain, 20 in other parts of Europe, 6 in Asia, 2 in America, and 3 in Pacific Islands. Of the natives of Australia only 12 were aborigines. Of those born in Britain 62 were Irish, 74 English or Welsh, and 30 Scottish. They were classified according to the forms of mental disorder on admission into: Mania 169, melancholia 68, dementia 82, general paralysis 6, epileptic insanity 14, and imbecility and idiocy 21. With regard to probable causation, and noting merely the most frequent etiological factors, alcohol was assigned in 61, or just under 17 per cent.; venereal disease in 14, old age in 29, epilepsy in 15, and mental stress in 18. An insane heredity was ascertained in 40, congenital defect in 14, and in 63 no cause could be assigned. Of the total number 168 were received in good health and condition, 136 in indifferent health and reduced condition, and 56 in bad health and exhausted condition.

Discharges.

During the year 108 were discharged as recovered, giving a recovery-rate on the admissions of 30 per cent., 22 as relieved, 2 as not improved, and 1 escaped. Also

112 died during the year, giving a death-rate on the average numbers resident of 5.28 per cent. The deaths were due in 25 to cerebro-spinal diseases, with only 5 deaths from general paralysis; in 28 to diseases of the heart and blood vessels; in 16 to respiratory diseases; in 14 to abdominal diseases: in 1 to suicide by drowning, and in another to poisoning, and in the remainder to general diseases, including 7 deaths, or 6.2 per cent. of the total deaths, from tuberculosis, and 10 from senile decay.

Cost.

The average gross cost per patient for 1908 was £24 14s. 5d., or, deducting collections, a net cost of £22 2s. 9d.

Reception Houses.

On January 1st there remained from the previous year 9 patients in these institutions. During the year 252 were admitted, of whom 126 were cases of mania, 6 of melancholia, 81 of dementia, 10 of idiocy and imbecility, 4 of epileptic insanity, and 25 of delirium tremens. Of these, 214 were sent to Goodna Asylum as insane, including 6 of the cases of delirium tremens and 38 were discharged from the reception houses. Also 4 died, leaving 5 in the reception houses at the end of the year.

Staff.

During the year the Insanity Department sustained a severe loss by the death of Dr. Hogg, Inspector of Asylums and Medical Superintendent of the Goodna Asylum. He had been connected with the department for twenty-five years, and his devotion to duty and whole-hearted zeal were well known. The tragic death of Dr. Whishaw, Assistant Medical Superintendent of the Toowoomba Asylum, at the hands of a patient, cast a deep gloom over the whole of the department.

Special Correspondence.

PARIS.

Combination of Cinematograph and Ultra-microscope — The Method of Action of Lactic Ferments.—Fraudulent Manufacture of French Mineral Waters.—Opening of American Hospital.

AT a recent meeting of the Académie des Sciences Professor Dastre introduced M. Jean Comandon, who showed a new method he had developed of demonstrating microscopic life by a combination of the cinematograph with the "ultra-microscope." The source of light was an arc of 30 ampères with an automatic regulator; the microscope was provided with a parabolic condenser to give the lateral illumination. The cinematograph apparatus was fitted to the microscope by an intervening bellows. The cinematograph pictures were taken at the rate of sixteen photographs a second, and 1 metre of film contained fifty-four pictures. The images were magnified on the film about 280 times, and when thrown on the screen at the demonstration were magnified 10,000 to 20,000 times. M. Comandon first showed films taken by simple transparence of the circulation of the blood in the vessels of the hind limb of a salamander. By the method of lateral illumination the red cells of human blood looked like luminous rings; the white cells were white with brilliant granulations, the nucleus being darker. The small motile particles in the blood named "haemokonies" by Muller were distinctly visible with their Brownian movement, and experiment proved that there were fat particles from the food, as after a diet rich in fat, both in birds and animals, these particles were more numerous, appeared at a certain time after the meal in the blood, then gradually diminished in number, whereas they were absent when the animals were starved. By examining a limited and fixed area of a series of cinematograph pictures it was possible to count the number of these elements, which, on account of their motility, was otherwise impossible. Mononuclear blood cells when breaking up gave rise to bodies which had all the appearance of haematoblasts. Another series of pictures demonstrated clearly the amoeboid movement of a white cell of a salamander and the pseudopod formation. M. Comandon showed a series of pictures of several spirochaetes, those of the angina of Vincent, of syphilis, of recurrent fever, and of fowls in Brazil. The corkscrew and eel-like movements of the spirochaetes among the blood cells were clearly demonstrated. Other series of pictures showed the trypanosome of Lewis and *Trypanosoma nagana* moving among the blood cells, the action of the flagellum and the undulating membrane being most clearly visible. Microbes were differently affected by an electric current; thus in a mixture of typhoid bacilli and *Bacilli coli communis* the typhoid bacilli moved towards the negative while the *B. coli* moved towards the positive pole. In a preparation of blood containing trypanosomes, the red corpuscles moved towards the positive while the trypanosomata moved towards the negative pole. Professor Dastre said the consequences of this discovery were incalculable. All microbian movements and Brownian movements, so little understood at present, would in the future be studied with precision. In histology it would be possible to have a more complete picture of the preparations and in physiology it would be possible by this new method to solve problems which were of great importance.

At a recent meeting of the Société de Thérapeutique MM. G. Rosenthal and Chazarain-Wetzel made a communication on the results of experiments on lactic ferments. In mixed cultures of Bulgarian bacillus and *Staphylococcus aureus*, or of Bulgarian bacillus and enterococcus of Thiercelin, the growths were purified in a few days, the inflammatory microbes disappearing. Their disappearance was due to the culture media becoming acid, for if the media were kept neutral the staphylococci and enterococci multiplied abundantly even in very rich cultures of Bulgarian bacillus.

M. Chesney, one of the Paris judges, is at present making an exhaustive inquiry into a charge of extensive fraud on French mineral waters. The accused, it is alleged, falsified or fraudulently manufactured water said to come from the springs of Vichy Saint-Yorre, Vals Saint-André, and the source Badoit Saint-Galmier. In some cases water sent from the springs in barrels was largely diluted in Paris; in other cases bottles with proper labels and all the marks of genuineness were filled with Paris water, to which sodium bicarbonate and tartaric acid had been added. The office for the suppression of frauds has discovered, on the premises of two manufacturers in partnership for the wholesale sale of mineral waters, a large store of sodium bicarbonate, and more than 55 000 capsules or corks ready for use with the marks of Evian or Vals water. From an examination of the books of the business it was concluded that in three months 45,888 bottles of falsified Vichy water had gone out. On the premises of another manufacturer workmen, it is stated, were discovered in the act of filling bottles. The examination of the water meter showed that during 1907 1,254,000 litres, and during 1908 1,694,000 litres of spring water had been registered. During 1907 440 tubes, and during 1908 441 cylinders, each containing 10 kg. of carbonic acid, had been bought. The manufacturer in question stated, it is reported, that he had thus manufactured 500,000 bottles of Vichy water, 100,000 bottles of Roche-Sauteuil, and 500 bottles of Vals water.

The new American Hospital, which was inaugurated on October 28th, will receive patients on December 1st, as, in addition to the money subscribed at the inauguration, the board of management has since received donations to the extent of more than £5,000.

BERLIN.

Laboratory Diagnosis of Tuberculosis.—Cholera in East Prussia.

AFTER months of discussion, committees of inquiry, reports and renewed discussions, the Berlin city authorities have at last decided that henceforth tuberculosis examinations are to be carried out free of charge for inhabitants of Berlin by the Municipal Institute. The resolution embodying this decision was communicated to the city

council during its last meeting at the moment when one of the medical city councillors, Dr. Lauden, had risen to move that the magistrates of Berlin be requested to accede to the general wish on this subject. After the official declaration the motion was naturally withdrawn, but speakers of all parties having come to the meeting with indignation speeches prepared, these were evidently thought too good to be lost, so four city councillors in succession drove home their reproaches that the municipality of Berlin should have been found lacking and dilatory in so great a question.

Some isolated cases of cholera having lately appeared in East Prussia near the Russian frontier, official measures on a large scale have been taken to prevent its spread. Throughout the Memel district inspection of the dead has been made obligatory. Several temporary cholera hospitals have been erected. Sanitary inspection of the boat and raft population has been organized, and is carried out from numerous central stations, covering a large district. All Russian emigrants on their way to America are carefully examined and bathed, and, after their clothing and belongings have been disinfected, they are conveyed to Hamburg or Bremen in locked railway carriages.

Correspondence.

THE SIGNIFICANCE OF DARWINISM.

SIR,—In spite of your rather discouraging leader on the question of a "working hypothesis," I cannot resist the following comment on Professor Lindsay's Bradshaw Lecture. He says: "It is evident that civilization runs counter to natural selection." Is it not possible to trace the evolution of civilization as follows? The two elemental functions of a living being are (1) nutrition and (2) reproduction. Nutrition comes to mean self-preservation, and is sufficiently well accounted for in the Darwinian theory as "the struggle for existence." Reproduction, however, must imply not only the bearing of progeny which resemble the parent, but the protection of such progeny—for example, during its immaturity—necessarily at some self-sacrifice. It follows that the species which is capable of (1) taking care of itself individually, (2) reproducing itself in good numbers, and (3) sacrificing itself for its progeny or the good of the species, is the one which will survive.

It is obvious that the human species possesses the last quality in an overwhelming degree, and it may be that this more than anything else accounts for its high place in Nature. From it has developed love of family, of tribe, of nation, of all human beings, resulting in all those social and missionary efforts which go under the name of Christian civilization. Is it not more than probable, then, that civilization is not only not counter to the theory of natural selection, but is a necessary element in the evolution of the perfect being? If so, charity—in its widest sense—is a good thing to cultivate. Of course, there is the other side, and if we are to be hosts there must also be parasites. While not presuming to question the statistics of physical deterioration, I would venture to suggest that the heavy percentage of "degenerates" is in large measure due to an unsuitable environment, physical, mental, and moral, and that either (1) the race will become immune to it, or, better, (2) the environment being improved, these acquired characters will die out. (Weissman).

A being is only degenerate when its progeny is degenerate, which simply means that Nature alone can decide which is the unfit, and eliminate them according to her own laws.—I am, etc.,

November 9th. J. C. T.

INTERMITTENT CLOSING OF CEREBRAL ARTERIES.

SIR,—The theory of local spasm of the cerebral vessels as a cause of transient paralysis seems at first sight very simple and rational, but I would submit that it has little or no foundation in physiology, and, if it should be accepted, we are only explaining *ignotum per ignotius*, for we should then have also to account for the spasm, and show how a contraction is produced at a convenient spot in the vessel which in some cases is a perfectly healthy one. It is much simpler to suppose at once some abnormal irritability, change, or toxin in the cells of that area which directly inhibits the local function, instead of acting through the production of a spasmodic arterial contraction. The quotation from Professor Sherrington as to the ease with which contraction is set up is not to the point. No one doubts that systemic arteries have great power of spasmodic contraction, but ordinary methods show no contractile power in the cerebral arteries at all. Neither the stimulation of vasomotor centres nor the injection of pressor substances to act directly on the muscular coats will, as a rule, produce any effect. This, I think, is generally accepted. Cushing and Carl F. Wiggers alone seem to have succeeded in demonstrating any contractile power whatever, and some of their tests were of extraordinary delicacy. Perhaps it is no exaggeration to say that in any case the power of contraction is extremely slight, and the muscular coats peculiarly feeble compared with those of the systemic vessels. Practically "the cerebral vessels passively receive and transmit the blood stream, the pressure of which is predetermined by the variation of the systemic and still more of the splanchnic vessels." We may almost as well suppose a spasm of the pulmonary vessels.

If, then, there is practically no contractile power the effects of a spasm are negligible; and, again, what does it matter if (as Dr. Hobhouse suggests is the case in sclerosis) degenerated areas in the vessel walls do mechanically set up stresses and irritate the muscular coat near them? Such an argument might apply to systemic vessels, but certainly not to cerebral ones.

I have elsewhere[1] shown how temporary anaemia may be mechanically produced in sclerotic or syphilitic cerebral vessels without the need of a hypothetical spasm where there is practically nothing to contract, and that this local anaemia and the consequent paralysis are often abolished when we act on the systemic pressure by nitrites. It is possible, by the way, that the latter act very little, if at all, on the cerebral vessels. In any case, I am in no way committed to the view that high blood pressure with healthy vessels can cause cerebral anaemia or stasis.

I quite agree with Dr. Russell that temporary paralyses are more common in arterio-sclerosis than we are apt to suppose, and I have referred to many reported cases in the paper mentioned.

If we turn our thoughts to other diseases we find a great number of paralyses, more or less transient, where neither haemorrhage, thrombosis, or embolism exist. Such are the instances in uraemia, apart from the cases of arterio-sclerosis and high tension, in general paralysis, in chorea and diabetes, and a remarkable case of hemiplegia in lardaceous disease reported by R. W. Philip. All these are quite explicable without dragging in a hypothetical spasm.

Mr. Priestley Smith's observations are most interesting and important, but one would like to be certain whether the vaso-motor condition of the retinal arteries is the same as that of the cerebral ones, or whether they actively respond to the systemic vaso-motor centre. Again, how about the supply from the ciliary vessels?

I am sorry to find myself opposed to Sir Lauder Brunton's view of migraine, and I have myself experienced sensory auræ in the attacks, but I would ask if the contraction of an external systemic artery is any guide whatever to the contractile power of the feeble cerebral vessel concerned? We must agree that we are absolutely ignorant of the pathology of migraine, which may possibly be due to arterio-sclerosis, though it affects younger people by preference, or to direct irritation of certain nerves.—I am, etc.,

Bristol, Nov. 13th. G. PARKER.

THE PROFESSION AND THE STATE.

SIR,—I do not endeavour to justify my use of the word "gratuitous," as I consider it requires no justification. To object to Dr. Lyster's criticism is not necessarily an attempt to justify. Dr. Lyster appears to think that when medical work is properly paid for by someone no evil can arise to the profession, and he denounces my statement to the contrary as "extraordinary," and made without a word of explanation.

[1] *Bristol Med. Chir. Journ., November, 1909.*

I regret that my statement should appear "extraordinary," and should have thought the explanation was —I will not say "obvious," but—unnecessary, seeing the amount of attention that has been given to this great evil for many years by the whole medical world. Is Dr. Lyster unacquainted with all the arguments against hospital abuse? A quibble might arise as to whether in this case the medical officers of these institutions were "properly" paid; but if we were forced to admit that they personally were munificently paid, the evil to the profession would remain just where it is. There are institutions scattered over the country where "gratuitous work"—that is, "work without fee"—is given, and where the medical officers cannot be said to be badly paid, which nevertheless constitute evils in the eyes of the profession.

It is very regrettable that Dr. Lyster, and many others occupying whole-time appointments, do not see the necessity of making the recipient, as far as possible, pay for medical services. To medical men occupying such positions, no doubt the chief point, as far as they are concerned, is that the work is "properly paid for by someone." To the general practitioner it is otherwise; his interests are very seriously jeopardized when large classes of the public are permitted to enjoy gratuitous medical work, even if the latter is properly paid for by someone. To them it is a matter of life or death that the recipients should pay, and it will be no satisfaction to them if the State enrols a unified medical service to take their patients off their hands, even if its members are well paid.

As to the "wrangle about plums," I would remind Dr. Lyster that Mrs. Sidney Webb is the author of the phrase, and that the obnoxious expression has only been borrowed by her opponents. With regard to the "screech about socialism," that comes under another category. The Minority Commissioners propose that every "poor" person shall have the right to demand immediate medical assistance at all times, subject to no test, and with no liability beyond the possibility of being compelled to pay the cost at a later period if it can be proved in a court of law that he or she is able; they also propose that the "poor" should not be left to themselves to apply for medical assistance, but that organized means should be employed in (presumably) poor districts to seek out the sick and the infirm, to encourage them to apply at an earlier period for treatment at the public cost. If Dr. Lyster regards criticism of such provisions as a "screech about socialism," I have no objection. Whether such provisions be socialistic or not, I am equally opposed to them.

Dr. Lyster wishes to know why I state that most Poor Law officers are in agreement with Dr. Downes. Resolutions framed in accord with Dr. Downes's opinions were passed by our Council and sent to every member of the *Poor Law Medical Service*. All were invited to the Conference at the Guildhall last July, and the said resolutions were carried unanimously by those who attended.—I am, etc.,

London, E.C., Nov. 13th. MAJOR GREENWOOD.

THE DOCTOR AS A SOCIAL FORCE.

SIR,—While agreeing with the Editor of our JOURNAL that "the doctor is still almost a negligible factor in politics while his value as a social force is not generally acknowledged," an organized attempt is shortly to be made to remove the disabilities under which we exist, and to show that the united effort of eighteen or twenty thousand men is a factor which shall no longer be ignored, either in politics or by the public.

The real obstacles to progress have been "neither the apathy of the people nor the blindness of the rulers," but have been the mutual jealousies of a body of men who as an undisciplined mob have no moral force, but who, if united, could make their voice heard by both public and politicians. You, sir, rightly deplore that we are not "more largely represented in the Legislature," but this is the very object for which a meeting is to be held in London in about three weeks, where a scheme is to be advanced by means of which the medical men of the kingdom can send one, or even two, direct representatives into the House of Commons. This object can only be achieved by a very novel force in medical matters, a force called "united effort."

Our representative is to be placed in such a position financially that he will be able to devote his energies solely to parliamentary affairs, as he will be independent of medical practice.

The notice of this meeting will be given to secretaries of London Branches, and it is hoped that the results of the meeting will be definite and substantial.—I am, etc.,

Fulham, S.W., Nov. 15th. JOHN FLETCHER.

THE BLACK DEATH.

SIR,—It would be interesting to know the names of the historians to whom your reviewer referred in the notice of Abbot Gasquet's book on the Black Death, when he says that "hitherto historians have regarded this terrible epidemic as an isolated incident . . . of less interest and far less importance than the French wars." History, no doubt, as usually taught, consists of little more than wars, but any one who has studied the social and industrial life of the people of this country in the past cannot fail to be well aware that the visitation of the plague was one of the greatest landmarks of our history. I would go further and say that all historians recognize this fact and have done so for years, agreeing with Abbot Gasquet that "it was the turning point of our national life." If I may suggest one author whom your reviewer might with advantage consult, I would advise him to read the writings of my father, Professor J. E. Thorold Rogers, and he would not then fall into such a grievous error as to charge historians with blindness to obvious facts.—I am, etc.,

Clifton, Bristol, Nov. 9th. BERTRAM M. H. ROGERS.

*** It would be interesting if our correspondent would give references to the historians who have adequately recognized the far-reaching importance of the Black Death. Hume, like the older writers, devotes only a perfunctory sentence or two to the subject. Lingard dismisses it in three or four pages without one word as to its results, except the immediate effects, such as dearth of labour, rise of wages, etc. Macaulay, in the general survey of the making of England with which he introduces his history, does not mention it at all. J. R. Green, who showed a larger appreciation than his predecessors of the factors determining the evolution of a people, deals with the plague, but speaks only of the immediate results, rise of wages, etc. He says:

> Nowhere was the effect of the Black Death so keenly felt as in its bearing on the social evolution which had been steadily going for a century past throughout the country.

But he does not seem to realize the magnitude of that social revolution. Stubbs only refers incidentally to the plague. In vol. i, p. 434, he says it "produced in every country some marked social dangers." At p. 435 he says: "In England the effects of the plague are historically prominent, chiefly among the lower classes of society . . . the whole system of farming was changed in consequence . . . and after a short interval . . . the modern system of letting was introduced, and the permanent distinction between the farmer and labourer established." Though in fullest sympathy with the filial piety of Dr. Bertram Rogers, we, having studied the writings of the late Professor Thorold Rogers, cannot agree that he realized the tremendous social and religious effects of the Black Death. The references to it we have been able to find are in sentences scattered here and there, and deal only with the economic effects of the great plague. Questions of labour and wages are undoubtedly of great importance, but they do not constitute the whole life of a people. Canon Jessopp and Professor Seebohm have taken a wider view. But we adhere to the opinion we expressed, that the consequences of the Black Death were for the first time fully set forth in Abbot Gasquet's monograph.

ACUTE LUPUS ERYTHEMATOSUS.

SIR,—With regard to the case of acute lupus erythematosus so carefully recorded by Drs. Beetham and Eurich in your issue of November 13th (p. 1404), I should like to call the authors' attention to an exhaustive monograph of mine on the subject of acute lupus erythema-

tosus *of sudden onset*, to which I have given the name "*d'emblée*," in order to distinguish a very unusual form of the disease.[1] In my thesis I have dealt with 10 cases, all but one (my own case) occurring in females. In 9 out of the 10 cases the disease terminated fatally, one female only recovering. The cutaneous manifestations may be very polymorphous, including bullae. A perusal of the details of the cases, which wherever possible have been given at length in my monograph, bring this feature out very clearly. These cases *d'emblée* are not to be confounded with the disseminated form associated with albuminuria, and much better known. Quinine appears to have saved the woman of my series already referred to. As to the young male under my own care his life appears to have been prolonged for a week by rectal injections of polyvalent serum, together with the good nursing, and so forth.—I am, etc.

GEORGE PERNET, M.D.

London, W., Nov. 15th.

[1] *Le Lupus érythémateux aigu d'emblée*. George Pernet. (Paris Thesis, 1908; pp. 135, with a bibliography. Paris: Rousset.)

THE RESPONSIBILITY FOR THE ANAESTHETIC.

SIR,—I do not think that such a statement as is made use of in the interesting and instructive paper of Professor Thomas Jonnesco in the BRITISH MEDICAL JOURNAL of November 13th should be allowed to pass without comment. In summing-up the conclusions that cause Professor Jonnesco to advocate his method of spinal analgesia in preference to general anaesthesia, it is stated (Conclusion 12, p. 1401), "It (spinal analgesia) does away with the attendance of a person (anaesthetist) often inexperienced and *never responsible*."

While not intending to comment on the words "often inexperienced" (although there must be more medical men experienced in general anaesthesia than there are surgeons, and others, who are experienced in spinal analgesia), it is the words "*never responsible*" to which I take exception. I maintain, and stoutly maintain, that the anaesthetist is wholly and entirely responsible for his part of the work. The choice of anaesthetic is decided by the anaesthetist; the administration is dependent upon his skill, and for the results of that administration he alone is absolutely *responsible*.

The anaesthetist now devotes so much time and work to his special branch of medicine at the various hospitals to which he is attached (generally he is a member of the staff), that he is as highly skilled in his particular branch of the profession as any other specialist. There is so much discussion in the lay papers about anaesthetics that our medical journals should make it known that the large body of professed anaesthetists devote so much time to their work that they do not shirk their responsibilities, but rightly consider themselves "responsible persons."—I am, etc.,

HAROLD S. SINGTON, M.D., M.R.C.S., L.R.C.P.,
Anaesthetist to the Hospital for Sick Children, Great Ormond Street, and to the Royal Ear Hospital, Dean Street, Soho.

London, W., Nov. 15th.

THE ABSORPTION AND EXCRETION OF IRON.

SIR,—In reference to the article in the BRITISH MEDICAL JOURNAL of November 13th on the absorption and excretion of iron, it is personally interesting to note that the view is being taken by different authors that iron acts in anaemia by stimulating the blood-forming organs, and not by directly restoring the quality of the individual red cells while they circulate in the blood, as, so far as I am aware, I am the originator of it. (See *The National Physique*, 1908, p. 26.)

The conclusion was arrived at by the method of deduction, rather than of scientific research undertaken with the purpose of inquiring into the matter, and it seems only reasonable to suppose that while the blood-forming organs are responsible for the numerical restoration of the red corpuscles, they also gradually become capable as their nutrition is renewed through the agency of the iron which is administered of producing those of normal quality.—I am, etc.,

A. STAYT DUTTON.

Oxford, Nov. 15th.

PERMANENT ATTACHMENT OF TRANSPORT TO MEDICAL UNITS.

SIR,—My attention has been called to an article written by Colonel P. B. Giles, F.R.C.S., which was published in the BRITISH MEDICAL JOURNAL (August 14th, p. 385) on the transport of medical units in the Territorial Force. I quite endorse what he says about the necessity of better arrangements being made with regard to transport. The recent order to return all service harness to Woolwich is most unpopular, and will be a sure cause of inefficiency in the future. There has been no difficulty in getting recruits for most of the transport sections, but if the men are to use civilian transport and civilian harness it is absurd to expect efficiency, and there is no doubt that delays and breakdowns will be inevitable.

It is just as well to know that officers who served in the volunteers and yeomanry may obtain some portion of the outfit allowance, but only with regard to what they have paid for service dress since their transfer.

Lastly, the fee for the examination of recruits should be increased from one shilling to half a crown. The latter rate was paid officers of the Imperial Yeomanry before the Territorial Force was formed.—I am, etc.,

X. X. X.

November 15th.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

SIR,—There seems to be as great a diversity of interpretation of the arrangements entered into between various hospitals and the London County Council regarding the special medical treatment of children attending the Council schools as there is difference of opinion in the prudence of such arrangements.

In the hope that the position taken up by the committee of the Central London Throat and Ear Hospital will commend itself to their subscribers, to the charitable public, and to the medical profession, I venture to give the resolution passed at our recent meeting, namely:

> That the Committee of the Central London Throat and Ear Hospital is willing, as hitherto, to receive those children of the London County Council schools who are suitable for hospital treatment so far as the capacity and resources of the hospital will allow.

It will be seen that we neither enter into financial contract, nor give preferential treatment, our intention being to receive the children on their merits, not because they are children under the supervision of the London County Council, but because they are children of the poor, who have a claim on our sympathy and our assistance, the only passport needed being illness and the absence of means to pay for the adequate medical treatment of that illness.—I am, etc.,

RICHARD KERSHAW.

Central London Throat and Ear Hospital, Gray's Inn Road, Nov. 17th.

SECRET REMEDIES.

SIR,—I was very pleased to see in the JOURNAL that the sale of *Secret Remedies* is satisfactory. I should like to suggest to all lecturers of either first aid or nursing in connexion with the St. John Ambulance Association to have supplies of the book at their classes and interest the members on the subject, at the close of the lecture. It would thereby go into many homes and be freely circulated among a section of the people who buy largely of these so-called remedies.—I am, etc.,

REGINALD W. T. CLAMPETT, M.B.

Birkenhead, Nov. 16th.

Medico-Legal.

AN ACTION FOR LIBEL.

RETRACTATION AND APOLOGY.

THE King's Bench Division, on November 11th, saw the beginning and rapid ending of an action for libel brought by Dr. Alice Johnson, of Upper Norwood, against the Brixton "Free Press" Printing and Advertising Company, and the editor, printer, and publisher of its paper the *Norwood Observer*. Miss Johnson, who is medical officer to the Out Poor Law Schools belonging to the Parish of Lambeth and situated in Norwood, and also assistant medical officer to the Board of Education under the London County Council, was made the subject last year of two paragraphs, in the first of which she was represented as being an autocrat, unnecessarily exacting in respect of the isolation of children whom she regarded as suffering from infective eye, throat, and other

diseases. The second paragraph, on the contrary, seemed rather to suggest that she was careless in her work, and that in future an expert was to be employed to verify her diagnosis whenever she decided to isolate any children. It was claimed on her behalf that in any case the words meant that she was incompetent and negligent in the performance of her duties and unfit to practise her profession or to hold either of her offices, and that thereby her character, credit, and reputation had suffered. The case ended almost as soon as begun on terms which included the publication of a retractation and apology, signed by the defendants, which runs as follows:

In the issue of the *Norwood Observer* for the 4th July, 1908, we published certain statements which constituted libels on the above-named plaintiff as Medical Officer of the Poor Law Schools and Infirmary at Norwood.

We unreservedly withdraw each and all of the said statements, and apologise to Dr. Alice Johnson for having made them.

We have submitted to judgement with costs as between solicitor and client, and Dr. Alice Johnson is to be at liberty to publish this retractation and apology in such newspapers as she may think fit.

Dated this 11th November, 1909.

A. KENDALL, } Directors.
P. SINCLAIR, }
A. C. MUSSELWHITE, Secretary.
"The Bexhill" Free Press" Printing and Advertising Company Limited.

The presiding judge was Mr. Justice Darling, who, on agreeing to sign judgement according to the terms recorded, said that Dr. Alice Johnson had acted very generously in accepting them. The action was conducted on her behalf by Messrs. Hempson as representatives of the Medical Defence Union.

ENGAGEMENT OF LOCUMTENENT.

A CASE of some interest in connexion with the engagement of a locumtenent was decided recently in the Colchester County Court. Dr. X. wrote an identical letter to two medical agents in the following terms: "Can you send a locum to me for July 30th? We shall require him from July 30th to August 14th, at £4 4s. per week." One of the agents thereafter engaged a locumtenent, Dr. Y., without further instructions, and informed Dr. X. that he had done so. Dr. X. replied that he had in the interval made an engagement with another medical man. Dr. Y. sued Dr. X. for breach of contract. The judge, who gave judgement for the defendant with costs, said: "The question is whether a man writing such a letter as Dr. X. gives the agent the authority to engage a locumtenent without anything further. The agent says that this is the custom. It seems to me that that custom would be a very remarkable one. It would enable the agent to send a Bob Sawyer to attend to the medical man's patients. The reasonable construction is that the principal, who is reasonably responsible to his patients for the man who takes his place, should have an opportunity to exercise his judgement, and that there is no absolute authority to engage, and that the principal is entitled to exercise his own judgement and pay that he won't take the man unless he is satisfied. The plaintiff very fairly says if Dr. X. had asked for an interview he would gladly have given him one."

WORKMEN'S COMPENSATION ACT.

Cerebral Haemorrhage.

IN a case heard at Liverpool on September 23rd, the applicant was the widow of a man who had died within two hours of a sudden attack of illness in the stokehole of a steamer. Two medical men gave their opinion that the deceased met his death by cerebral haemorrhage as the result of excessive heat in the stokehole and the copious consumption of water he drank. Their opinion was based on the description of the symptoms given in the evidence of the chief engineer, who was present when the man was overcome. On the other hand, a medical man called by the respondents did not think the man's death had been caused by cerebral haemorrhage as a result of excessive heat of the furnaces. Heat stroke, which is quite different, was not uncommon among stokers; but he had never heard of cerebral haemorrhage as a disease to which stokers were particularly liable. Upon the evidence, the judge inclined to the belief that the man's death was caused by cerebral haemorrhage as the result of excessive heat, and as the cases of heat stroke decided in the Court of Appeal favoured the applicant, the award in this case was given the widow.

Obituary.

SIR WILLIAM THOMSON, C.B., M.D., M.Ch.Q.U.I.,

HONORARY SURGEON TO HIS MAJESTY THE KING; EX-PRESIDENT, ROYAL COLLEGE OF SURGEONS IN IRELAND.

WE record with deep regret the death of Sir William Thomson, C.B., which occurred at his residence, 54, St. Stephen's Green, Dublin, on November 13th.

For the past year it was known that Sir William was not in good health, but only within the last few months had he been confined to his room suffering from cardiac trouble, to which eventually he succumbed. From his early days Sir William led a strenuous life, and by ability and hard work he had reached to the top of the surgical profession in Ireland. It was not in his nature to rest contented with the hard work which the pursuit of a purely surgical career entailed. He threw himself into the labours of charitable organizations, into the arduous pursuit of medical politics, and into the support of the medical associations and the scientific medical societies.

He took a prominent part in the movement which originated with Lady Dudley to procure trained nurses for service in the poorest districts in Ireland, but probably his most trying physical experience was in connexion with the command of the Irish Hospital in South Africa, the equipment of which had been suggested to Lord Iveagh by Dr. George Stoker. In the arrangements for this field hospital Sir William Thomson and Dr. George Stoker were intimately associated, the latter being second in command. Its work entailed great endurance and hardship on all connected with it, but it proved one of the most effective hospital organizations that took part in the campaign. A life of unflagging activity such as has been here outlined, with frequent outbursts of work which demanded more than ordinary physical strain, can scarcely be reckoned upon as the surest methods of attaining to a ripe old age. At all events, such a life has terminated for Sir William Thomson at the comparatively early age of 66 years. He died, however, rich in honours, to which his professional attainments, his many-sided philanthropic activities, and his upright character had thoroughly entitled him.

William Thomson was born at Downpatrick, in the North of Ireland, in the year 1843, where his parents, who were natives of Lanark, had settled. The death of his father and the subsequent marriage of his mother to the proprietor of a newspaper in the town of Galway directed his youthful attention to journalism. After a few years' experience as a reporter, first in Galway and then in Dublin, he decided to join the medical profession. His early studies began in the now extinct Carmichael College of Medicine, but his brilliant career started in earnest when he entered the Queen's College of Galway, in 1864. He obtained a scholarship and many prizes in his undergraduate days, and gained for himself the friendship, which only terminated with his death, of the late Sir Thomas Moffatt, the then President of the College. He also made many lifelong friendships among his teachers and fellow pupils, and the latter reckoned in their number quite a galaxy of brilliant young men that have since risen to great distinction, not the least being the present Lord McDonnell.

At the end of three years Thomson obtained the degree of B.A. in the Queen's University of Ireland, and five years later graduated with M.D. and M.Ch. (1872). In the following year he became House-Surgeon to the Richmond Surgical Hospital, and was appointed a Demonstrator of Anatomy in the Carmichael College. In 1873 he became Visiting Surgeon to the Richmond Hospital, and was entrusted with a Lectureship in Anatomy in the Carmichael College. In the year after he became a Fellow of the Royal College of Surgeons, and in the subsequent year was elected on the Court of Examiners in that College—a position which he held for many years. In 1879 his own university elected him to be an Examiner in Surgery, and two years later it conferred upon him, shortly before its extinction, an honorary degree of M.A. In 1886 he became a Senator of the Royal University, a position which he occupied until the university became extinct a few weeks ago.

In 1882 he undertook the great work of the formation of the Royal Academy of Medicine in Ireland by judiciously bringing together into one homogeneous working association a number of independent societies which were then in existence. His efforts were crowned with complete success; he became the first General Secretary of the Academy and the Editor of its *Transactions*, for which his journalistic training made him eminently fitted. Owing to his zeal, urbanity, and businesslike methods, the Royal Academy of Medicine grew and flourished, and when at the end of fourteen years he found himself, as President of the Royal College of Surgeons, no longer able to retain the General Secretaryship of the Academy of Medicine, his resignation was accepted with great regret by the latter body.

Thomson's connexion with the British Medical Association was intimate and of long standing. He was an original member of the Dublin (now Leinster) Branch,

at the time of its formation in 1877. For many years he represented the Branch on the Central Council, and filled with distinction the office of Branch President. In 1891 the late Mr. Ernest Hart conceived the idea of making an exhaustive inquiry into the abuses connected with the Poor Law Medical Service in Ireland, and entrusted to William Thomson the task of collecting evidence and presenting a report on the subject to the British Medical Association. It is now a matter of history how thoroughly Thomson did his work. The report, which was republished in 1904, remains to-day as a monument to his industry, perception, and masterly handling of facts. It gained the sympathies of the entire Association for the Irish Poor Law medical officers in their demand for the redress of their many grievances.

For many years past successive editors of this JOURNAL have been able to depend upon Sir William Thomson's assistance in dealing generally with matters affecting Ireland, and he had long acted as the Dublin correspondent of the JOURNAL.



Photograph by SIR WILLIAM THOMSON. *W. Lawrence, Dublin.*

In 1887, when the Association held its Annual Meeting in Dublin, Sir William Thomson was one of the Secretaries of the Section of Surgery; and in 1901 he delivered the Address in Surgery at the Annual Meeting at Cheltenham, choosing as his subject "Some Surgical Lessons from the South African Campaign." This was the result of his experiences as the Chief Surgeon to the Irish Hospital in South Africa, as already alluded to.

At the close of the Boer war Sir William was placed by the Government on the Commission which was formed to inquire into the changes that were necessary to ensure efficiency and popularity for the Army Medical Service, and when the recommendations of this Commission had been adopted and an Advisory Board formed, Sir William was asked to become one of the surgical examiners. He accepted the position, and, during the two years in which he served on the Examining Board, he did much to place the conduct of the examinations for the Army Medical Service on a practical and acceptable basis.

Thomson's energy found a new field for action when on February 29th, 1893, he succeeded the late Dr. George Hugh Kidd as the Direct Representative for Ireland on the General Medical Council. He was specially fitted for this honourable position, which he occupied for ten years, for he made himself familiar with the labours of the Poor Law medical officers in Ireland. He was a Senator of the Royal University, and he was at that time Vice-President of the Royal College of Surgeons in Ireland, and a few months later became its President. These qualifications, combined with a natural gift of speech and the power of rapidly divesting a subject under discussion of all side issues, soon brought him to the front in the debates in the General Medical Council. A few years ago, on the death of the late Dr. William Martin, Sir William Thomson succeeded to the position of Inspector of the Schools of Anatomy in Ireland. He had also served the office of President of the Irish Medical Schools and Graduates' Association. He was for many years Surgeon to the London and North-Western Railway Company and Surgeon to the Mageogh Home for Aged Ladies.

It was during his Presidency of the Royal College of Surgeons in Ireland that the honour of knighthood was conferred upon him in 1897. Distinctions followed rapidly upon this, as he was appointed successively Surgeon to the Lord Lieutenant, Surgeon-in-Ordinary to Her late Majesty Queen Victoria, and Honorary Surgeon to His Majesty the King. His services in South Africa received recognition from the late Queen, who conferred upon him a Civil C.B. in 1900.

Sir William's contributions to surgical literature were numerous. In addition to many papers on various subjects, in his earlier years he rewrote and published *Power's Surgical Anatomy of the Arteries* and edited Fleming's *Injuries and Diseases of the Genito-Urinary Organs*. Of late years his communications have dealt mainly with the subject of the removal of enlarged prostate. He had considerable experience in the operative treatment of this affection, and was the first among Dublin surgeons to undertake the operation; an address by him on the operative treatment of enlarged prostate was printed in our columns in 1903, vol. i, p. 895.

For thirty-six years Thomson was Visiting Surgeon to the Richmond Hospital. He was a lucid and painstaking teacher, and a skilled and careful operator. He was one of the most important members of the governing body of the Richmond, Whitworth, and Hardwicke Hospitals, and with the late Right Hon. T. A. Dickson, M.P., was responsible for undertaking the building of the present Richmond Hospital, and the purchase of the ground on which it stands, at a cost of £60,000. Although the prospect of raising the money required for the purpose was quite remote, it did not deter Sir William Thomson and Mr. Dickson from carrying their timorous colleagues on the Board with them, and in the end the new hospital was erected, and the debt incurred was soon paid off.

In private life Sir William was a most genial and entertaining companion. He was a man of simple tastes and of kindly disposition. He occupied a prominent place in the social life of Dublin, where his philanthropic character and his high professional attainments were widely appreciated.

He married Margaret, daughter of the late Mr. Abraham Stoker, of the Chief Secretary's Office, Dublin Castle. A son and daughter are left to mourn with Lady Thomson the loss of a devoted father and husband. His son is a captain in the Royal Army Medical Corps, and is seconded for service in the Egyptian army. To him, to Lady Thomson, and to his daughter, Mrs. Hornibrooke, in their great bereavement the sympathy of the medical profession is extended.

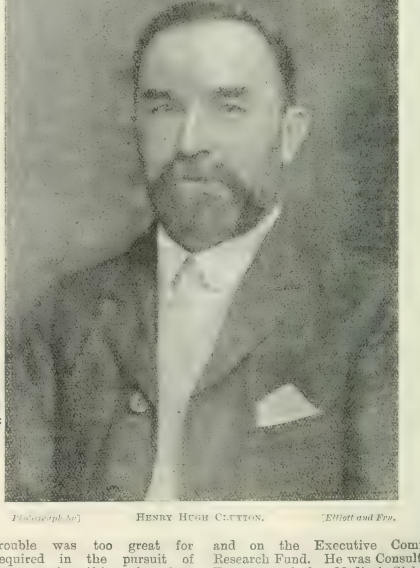
HENRY HUGH CLUTTON, M.A., M.C.CANTAB., F.R.C.S.ENG.,

SENIOR SURGEON TO ST. THOMAS'S HOSPITAL, LONDON.

IN Henry Hugh Clutton, whose death occurred on November 9th, at the age of 59, the profession has lost one of its most able, energetic, and distinguished surgeons. His last illness was a long and very painful one, and was borne with remarkable fortitude. It began in the summer of 1908, and, although some alleviation followed an operation performed at that time, the symptoms recurred with increased severity in July last. From that time until the very end he met all his troubles with courage beyond all praise, displaying throughout a determination to get well, if that end could by any means be accomplished. His heart was so deeply in his work that he longed to get back to it, and he expressed, even very shortly before his death, his keen desire to return to his hospital duties next January.

He was born in 1850 at Saffron Walden, where his father was for many years vicar. He was sent to school at Marlborough, but had to leave prematurely owing to ill-health, from which he suffered for some years after. Subsequently he went to Clare College, Cambridge, and, after leaving the university, entered as a student at St. Thomas's Hospital in 1872. There he had a distinguished career, and was appointed Resident Assistant Surgeon in 1876, later Assistant Surgeon, and finally, in 1892, full Surgeon. At the time of his death he occupied the position of Senior Surgeon.

The writer first made the acquaintance of Clutton in 1876, when he held the post of Resident Assistant Surgeon, and from that time till his death he remained on terms of the closest intimacy and friendship with him, and acted as his medical colleague during the whole period of his full surgeoncy. Clutton possessed in a very high degree the scientific mind. He was a patient, careful, and skilled observer; no trouble was too great for him, whether it was required in the pursuit of purely scientific knowledge, or in sifting the signs and symptoms at the bedside. Throughout his career he was a keen pathologist, and his whole knowledge and art of surgery was founded on the pathology of the day, of which he kept himself well abreast. His intellect was keen and powerful, and the reasoning capacity he displayed in forming and explaining the conclusions he arrived at was of the highest order. His surgery was from beginning to end rational. The love he had for his work was palpable to all, and the interest he took in his patients was not limited to their diseases, but embraced their whole welfare. He had a great love for children, and when he came to see them professionally his first thought appeared to be to play with them, and this he generally did. His value as a colleague in the wards of the hospital cannot be overestimated. Once called in consultation, he would come again and again of his own accord to watch the case until he had come to a final conclusion as to what was the best course to pursue. In this way one's responsibility in the care of serious and urgent cases was equally shared with him, and the burden of them was greatly lightened.



Photograph by] HENRY HUGH CLUTTON. [Elliott and Fry.

Clutton's endurance and capacity for work were very remarkable in his early days; indeed until about the last twelve years of his life, he seemed never to tire, but to work all day and read and write until late at night. His strength was first sapped by two serious illnesses due to septicæmia from poisoned wounds about twelve years before his death. He was left by them in a condition of profound neurasthenia, and yet with an indomitable determination to work. Nothing proved the force of character he possessed more than the manner in which he carried on both hospital and private work under difficulties which would have paralysed most people, and this for years. In fact, he never was the same man again. He used to do an ordinary full day's work, although it exhausted him to walk even to the top of Portland Place and back; and on his return from the hospital he frequently had to remain lying on his back unable to do anything for the rest of the evening.

The business of Clutton's life was not, however, confined to his hospital and private practice. His interest and work extended in many directions, and he took upon himself gladly many public duties. His business capacity and readiness to serve on all kinds of committees concerned with the general management of his hospital and school caused a great addition to his life's work, and deserves to be remembered with gratitude by those to whom he so gladly gave his time.

His activities extended, moreover, far beyond the walls of St. Thomas's. He was a visitor for many years to King Edward's Hospital Fund; he represented the Royal College of Surgeons on the Senate of the London University and on the Executive Committee of the Cancer Research Fund. He was Consulting Surgeon to Osborne: Treasurer of the Medical Sickness, Annuity, and Life Assurance Society, and of the Convalescent Homes Association. He was also at one time Surgeon to the Victoria Hospital for Children, and he was the last President of the Clinical Society.

In any notice of Clutton's career, however cursory, his relations with medical students deserve special mention. He was a clear and admirable teacher at the bedside, and he took special pleasure and pride in the classes he held in the wards for this purpose. He was always followed by a keen and appreciative crowd of students, numbers of whom, but perhaps especially the more advanced men, derived the greatest advantage from his brilliantly clear and practical instruction. In one respect Clutton richly deserves the title of "students' friend," when one thinks of the number of them who are to be found, not only in this country but in

many others, who have profited by his knowledge of the world, and of the conditions of general practice. Just at the time when they became qualified, and were uncertain what to do, or how to do it, Clutton was always at their service, and would consider each one's case and prospects with the utmost interest, and give them the soundest and most businesslike advice. Many a man, I have no doubt, would be only too ready to acknowledge how deep his debt to Clutton is for past kindness and wise advice.

As regards general character Clutton was as straightforward and downright a man as one could wish to meet, and abhorred everything that savoured in the slightest degree of humbug. He held strong views and defended them with vigour. He had a great dislike, however, for squabbles or heated discussions, though he would not flinch from them if they were forced upon him. He did not like publicity or parade of any kind, and avoided them when possible. He was a very generous man, but his wisdom and common sense ensured that his generosity was bestowed upon worthy objects. He loved sociability and hospitality, but not that of the grand type; he preferred the unpretentious meetings of a small number of friends as often as opportunity arose.

During the last twelve years of his life his physical capacities were of a very restricted order, and he could not indulge in active exercise. But in earlier days we used to go for walking expeditions in the Lake District, Scotland, and elsewhere, and in these he took great pleasure. Though never given to fishing in his youth, he was later on seduced, and we spent our holidays together on more than one occasion on Scottish and Irish lakes and rivers.

Clutton was a great reader, and was particularly fond of works on history, art, architecture, and travel. To visit celebrated picture galleries and the best specimens of ecclesiastical architecture always gave him keen pleasure.

I think it can be truly said that the happiest period of his life was his married life, notwithstanding the fact that it was marred by so much ill-health; for he married a wife who was as devoted to him as he was to her, who became his constant companion, and helped him in his correspondence and work as in many other ways, and who satisfied his love for children by giving him a little daughter to be the joy of his life, and who stood by him in his last illness with the most unflinching devotion.

Clutton, alas! is gone, and prematurely; but it may in truth be said of him that though dead he yet speaketh and will continue for many a day to speak in the hearts and lives of many old friends and pupils now scattered over the face of the earth.

S. J. S.

Mr. G. H. Makins, one of his surgical colleagues at St. Thomas's Hospital, writes: Henry Hugh Clutton has passed away at the early age of 59 while still retaining an active connexion with the hospital and school, in the interests of which he worked so strenuously during every day of his professional life. As a member of the staff of St. Thomas's Hospital, he created for himself a reputation which will long persist both in his own school and far beyond its walls. A man of strong character and lofty aims he exercised an influence on all with whom he came in contact, whether pupils, colleagues, or patients, and few men have possessed a greater capacity of actively interesting themselves in the affairs of others, or acquired a more devoted following.

Clutton enjoyed the privilege of working actively during the most striking and rapid era of advance in the science and practice of surgery that the world has known, and in the labours of this advance he bore a yeoman's share, one of the strongest features of his work being his capacity to assimilate and utilise the progressive facts afforded by the growing science of pathology, and readily to abandon beliefs and methods on which he had depended as soon as they proved untenable or capable of improvement.

The single word "thoroughness" suffices to describe the character of his work; a general surgeon in the best sense of the term, he was able to take an equal interest in whatever class of case might come before him, and a glance at the titles of the long list of papers written by him shows how wide a field he traversed. Mention of a few only of the subjects which especially attracted his attention is compatible with the length of this notice.

At the commencement of his career, whilst Surgeon-in-Charge of the department for diseases of the ear, he was an early advocate of an active attitude in the treatment of suppuration of the middle ear and its annexes, a department of surgery which has since acquired so great importance. To this period of his life we owe also the urethral sounds associated with his name. In abdominal surgery his early successful operations for intestinal obstruction due to a persistent Meckel's diverticulum and to an impacted gall stone, the treatment of the dilated sigmoid colon by anastomosis and removal of the loop, and the removal of a pancreatic cyst may be cited, while the paper on the treatment of appendicitis published in the *St. Thomas's Hospital Reports for 1897* might be republished at the present day. Diseases of the bones attracted much of his attention; he was an early advocate of limited removal in the case of myeloid sarcoma, and he wrote on late rickets, completing the account of his observations during the term of his presidency of the Clinical Society of London. Another department of surgery in which he excelled was that of orthopaedics, his splendid results in this field being due to the energy and perseverance he displayed in treating his cases to the end.

Clutton was not an originator of methods, but he stamped those he adopted with an individuality of his own. Commencing as an ardent disciple of the antiseptic faith, he became a strong and early supporter of aseptic methods, and in his precision as to details, especially in the care with which he handled the wound and its tissues, he was second to no man. As an operating surgeon, boldness combined with excellent judgement were his main characteristics; he rarely operated on any case except an emergency without devoting an unusual amount of thought and consideration to it; each patient's disease formed a problem for his mind which he worked out to the very best of his capacity before proceeding to attack it, with the result that he was comparatively rarely faced with a position for which he was totally unprepared. Again, the after-results of his operations were followed with an equal enthusiasm to that with which the methods of treatment had been undertaken.

Clutton was a wide reader, but the value of his contributions to surgical literature depends on the fact that they are founded entirely on his own observation, and hence form reliable practical aids to those who consult them. It is difficult to ascertain their exact number, but he contributed some 25 communications to the *Transactions* of the Pathological Society, 19 to those of the Clinical Society, 3 to those of the Royal Medical and Chirurgical Society, 17 to the St. Thomas's Hospital Reports, besides a number of contributions to the medical papers, the *Annals of Surgery* and the *American Journal of the Medical Sciences*. He also wrote the article on Diseases of the Bones and that on Deformities in Treves's *System of Surgery*; the article on Pyaemia and Septicaemia in Holmes's *System*; and made a translation of von Esmarch's *Handbook for Military Surgeons*.

As a teacher he belonged to the school who look on the study of pathology as the proper preparation for a surgical career, and he perhaps somewhat unduly disparaged the old-time course by way of the anatomical department.

His lectures were popular and well attended, but his strong point was as a clinical teacher, he always attracted a large class both of the junior and more advanced students, and, as was the case with his writing, the feature of his clinical teaching was that the instruction was the direct outcome of practical personal experience. During the whole period of his professional life he kept careful notes in his own hand of every case of importance in his practice, whether private or in hospital, while these histories were kept up for years after the patients left his charge. A considerable time daily was devoted to this work, by means of which he accumulated an enormous and exact practical experience, and it is sad to think that physical weakness sturdily borne up against, and the catholic nature of his occupations, prevented his making a great deal more use of the material in his possession than he was able.

Clutton was very highly respected by his colleagues on the Council of the College of Surgeons, where he was nearing the completion of a first term of office. At first a

little impatient with the deliberate methods of procedure, which were ill-suited to his constitutional desire for rapid action, he became gradually and increasingly interested in the business of the College. He did much valuable work in committee, where he often shone more than in the formal procedure of a larger body. He was very much interested in all matters connected with the medical curriculum, and of late was much occupied with the question of more fully utilizing the museum for the purpose of teaching pathology.

This brief notice of the surgical aspect of Clutton's career cannot be concluded without emphasizing the value of the work he performed for his own school. Beyond the information he imparted, his strenuous example reacted upon his colleagues and pupils and influenced them deeply. His colleagues will sadly miss his stirring spirit from among themselves, while many a man will feel that he has lost a friend ever ready to be consulted and to give valuable and practical advice and help.

The Rev. W. H. Dallinger, D.Sc., well known as a microscopist, and to several generations of medical students as the editor of two editions of Carpenter's *Microscope*, died on November 7th in his 68th year. He was well known as an opponent, when the question was a burning one, of the doctrine of spontaneous generation, being led to assume that attitude by observations on the behaviour of putrescible fluids exposed to an optically pure atmosphere and one charged with organic germs respectively. He was elected F.R.S. in 1880, and was President of the Royal Microscopical Society for four years. In his address to that Society in 1887, he described a research he had conducted to ascertain whether minute forms, whose life-cycle was short, could adapt themselves to changes in the environment. The variable factor he chose was temperature. Taking certain organisms which flourished at 60° F., he submitted succeeding generations to a gradual increase of temperature, extending over several years, until 158° F. was reached. He was prevented by an accident to his apparatus from going further, but Darwin, who took a great interest in the research, pointed out that it explained incidentally how it came about that certain algae flourished in hot springs.

We regret to announce the death of John Campbell Mackenzie at the early age of 45. He was born at Geelong, of Scottish parentage, and at the age of 10 years went to Edinburgh, where he was educated at the Royal High School. Later he studied medicine, taking the diplomas of L.R.C.P. and S. in 1896. Subsequently he settled in Highley, where for ten years he practised successfully, being much liked in the district. He was a sound and good all-round practitioner, and zealous in his work, while in his personal character he was straightforward and conscientious. Courteous and kindly in his nature, he won the respect and esteem of his professional brethren as well as his patients. What looked a promising and useful career was cut short by the development of a large goitre about two years ago. He relinquished practice and went to live in Edinburgh. He did locum work when his health permitted, bearing up under his malady patiently and courageously. It was while in this capacity at Dollar, N.B., that his final illness seized him, and he died of cardiac failure on November 10th. He leaves a widow and two children to mourn his loss.

The death is announced of Dr. Michael Castañeda Consulting Physician to the Italian Hospital, Queen Square, London. He received his medical education at University College, where he was House-Surgeon in 1859. He graduated M.B. Lond. in 1857, and took the diploma of M.R.C.P. Lond. in 1859. His connexion with the Italian Hospital was of long standing, as he served it first as Physician on the active staff, and afterwards as Chairman. He was also at one time a Physician to the West End Dispensary of the German Hospital. He was for long Physician to the Spanish Embassy and to the Italian Consulate, and his services were recognized by the Crowns of both countries, as he was a Chevalier of the Orders of the Crown of Italy and of Charles III of Spain. He had for some time retired for practice, but was for many years well known to the foreign colony in London, among whom his medical skill and energetic character gained him many patients and personal friends.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:

M.D.—Sidney Herbert Clarke, Gonv. and Cai.
M.B., B.C.—Frank Rhodes Armitage, Pemb.
M.B.—Samuel Edward Thornhill Shann, Gonv. and Cai., Francis Shillington Scales, Jes.

UNIVERSITY OF GLASGOW.

McCall Anderson Memorial Lectureship.

Dr. John Wyllie Nicol, who at present is the Physician-in-Charge of the wards in which skin diseases are treated in the Western Infirmary, has recently been appointed by the University Court McCall Anderson Memorial Lecturer in Dermatology in the University of Glasgow.

Reserve of Officers, R.A.M.C.

Colonel W. Babtie, C.M.G., V.C., M.B., recently delivered an address on the new Special Reserve of the Royal Army Corps to a meeting of senior medical students and recent graduates in the Pathology Classroom.

NATIONAL UNIVERSITY OF IRELAND.

The Senate of the National University of Ireland has elected Sir Christopher Nixon, M.D., Vice-Chancellor, and has also appointed him the representative of the University on the General Medical Council.

A general board of studies has been constituted and a standing committee and finance committee elected.

The Senate has decided that during 1910 the first university examination shall not be obligatory on students of medicine, engineering, and music.

A deputation from the General Council of the Irish County Councils recently received by the Senate put before it a request that the Irish language should be made compulsory for matriculation and up to the point where specialization begins in the various university courses. The county councils have, under the Universities Act, the power of making grants for scholarships, and it is understood that the deputation intimated that such grants might be withheld if the Senate refused to make a knowledge of the Irish language compulsory.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council was held on November 11th, 1909, Mr. H. T. Butlin, President, in the chair.

Diploma of Member.

Diplomas were issued to 99 candidates found qualified at the recent examination.

Admission of Women.

The Secretary reported that the by-laws relating to the admission of women and other matters had been signed by the Home Secretary, the Lord Chancellor, and the Lord Chief Justice.

A form of diplomas to be granted to women was adopted by the Council as follows:

"*Diploma of Member.*

We, the Court of Examiners of the Royal College of Surgeons of England, have examined , and find her to be duly qualified in the Science and Art of Surgery. Dated this day of , 19 .

(Signatures of Examiners.)

We, the Royal College of Surgeons of England, in pursuance and by virtue of the Medical Act, 1876, do hereby issue our Letters Testimonial, that the said is qualified to practise Surgery, and do hereby admit her a Member of the College subject to the provisions of the said Act. Given under our Common Seal this day of , 19 .

President.

L. S.

Enrolled by Secretary.

Signature of Member.

Diploma of Fellow by Examination.

We, the Court of Examiners of the Royal College of Surgeons of England, have examined , and find her qualified for the Fellowship. As witness our hands this day of , 19 .

(Signatures of Examiners.)

Know all Men by these Presents, that We, the Royal College of Surgeons of England, in pursuance and by virtue of the Medical Act 1858, do hereby admit the said
a Fellow of the College subject to the provisions of the said Act. As witness our Common Seal this day of , 19 .

President.

L. S.

Vice-Presidents.

Secretary.

Signature of Fellow.

The late Mr. H. H. Clutton.

A vote of regret and of sympathy was passed in the following terms:

That the Council do hereby express their great regret at the death of Mr. Henry Hugh Clutton, who for the last seven years has been a member of the Council, and taken an active part in the affairs of the College. While recording their sorrow at the loss of so useful a colleague, the Council would take the opportunity of saying that Mr. Clutton will long be remembered by them with affection and esteem on account of his attractive disposition and his interest in all that concerned the welfare of the College.

That the Council also desire to express their deep sympathy with Mrs. Clutton and family in their anxiety during the long illness which has now terminated in his death.

Bradshaw Lecture.

This lecture will be delivered by Mr. F. R. Cross, on Friday, December 10th, at 5 p.m., on the Brain structures concerned in vision, and the visual field.

Vacancy on the Examining Board.

The President announced that Mr. Bernard Pitts's period of office on the Court of Examiners would expire on December 8th next, and that the vacancy thus occasioned would be filled up at the ordinary meeting of the Council on December 9th.

Fellowship Examination.

The following candidates have been approved at the examination indicated:

FIRST FELLOWSHIP.—C. V. Anderson, J. A. Andrews, R. R. Armstrong, E. T. H. Davies, G. A. Ewart, T. C. Graves, F. Guevara-Rojas, T. E. Hanson-Lane, A. Hawkins, A. Haslam, C. C. Hickey, B. W. Howell, W. H. Kauntze, M. D. Mackenzie, E. Mapother, P. H. Mitchiner, P. M. Neild, W. M. Cakden, W. S. Ferrin, S. S. Radley, W. Ransom, H. Robinson, H. H. Robinson, S. H. Rouquette, E. G. Schlesinger, W. E. Tanner, J. Taylor, A. H. Todd, S. A. Vairakiam, J. R. D. Webb, A. E. Woodall, H. L. W. Woodroffe, J. M. Wyatt.

CONJOINT BOARD IN ENGLAND.

At a meeting of the Comitia of the Royal College of Physicians on the 28th ult., and at a meeting of the Council of the Royal College of Surgeons on the 11th inst., diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the following gentlemen who have passed the Final Examination of the Conjoint Examining Board:

E. M. Adam, S. D. Adam, W. A. Alexander, T. C. R. Archer, †E. T. Atkinson, H. L. Attwater, C. C. R. Binns, C. J. Blaikie, N. A. Bosworth, T. S. Bradshaw, H. C. Brearley, E. M. Browne, S. H. Browning, E. S. Calthrop, G. O. Chambers, A. E. P. Cheesman, W. N. Child, E. A. Collins, W. V. Corbett, A. R. Dale, M. E. Dalleliahi, A. Dias, D. C. Dirwill, E. A. Dyson, †I. M. Edis, A. O. English, A. Feiling, S. C. R. Flaxman, *P. C. Foxwell, R. C. H. Francis, A. J. Friedlander, C. G. Galpin, H. J. H. Graves, H. Gray, F. M. Harvey, G. F. Haycraft, G. R. Heard, W. L. Hibbert, R. H. P. Hick, T. T. Higgins, R. Bowey, G. P. Humphry, H. E. Jeffreys, C. H. Kantawala, R. D. Kapadia, E. M. Lauderdale, E. C. Lindsay, A. G. H. Lovell, D. McCully, D. R. McDonald, N. McDonald, A. E. McKenzie, P. J. Martin, P. S. Martin, L. Meakin, J. M. Mehaffey, P. Mellor, R. M. Miller, C. H. Mills, T. A. Milrov, D. A. Mitchell, H. G. Monteith, J. C. Morgan, W. C. Morgan, J. F. H. Morgan, †C. A. Moseley, W. Mulder, C. Newcomb, B. O. N. O'Reilly, J. G. Owen, W. H. Peacock, G. H. Peall, R. B. Phillips, E. H. Rainey, E. L. N. Rhodes, R. S. Richardson, J. E. Ritchie, *C. D. Roberts, C. J. Rogerson, C. Rolleston, C. E. F. Salt, E. A. Seymour, C. E. Shattock, J. S. Simpson, P. L. Smith, H. S. C. Starkey, L. Storey, A. W. Stott, C. H. S. Taylor, H. H. S. Templeton, R. M. R. Thursfield, F. C. Tibbs, K. J. Titlestad, W. W. C. Topley, C. E. Walker, S. H. Ward, A. A. M. Wernerscull, C. E. Wiles, G. A. Williams, T. J. Williams, C. S. Wink, K. Wolferstan, D. Wood, J. C. Woods.

* Diploma of M.R.C.S. granted on October 14th, 1909.

† Under Regulations previous to October 1st, 1884.

Public Health

AND

POOR LAW MEDICAL SERVICES.

LECTURES TO WORKHOUSE NURSES.

WORKHOUSE MEDICAL OFFICER asks whether Poor Law guardians are within their legal rights in appointing a paid lecturer to give lectures to nurses who are not paupers.

*** We are not aware of any law or regulation which enables a board of guardians to utilize funds raised by the poor-rate for the purpose of imparting instruction to non-pauper nurses. A county council acting as an education authority would probably have power and could appoint a subcommittee (which might possibly consist wholly or partly of guardians) for this purpose.

Medical News.

IT is stated that the Nobel prize in medicine will this year be awarded to Dr. Roux, Director of the Pasteur Institute, Paris.

MR. H. O. HUGHES, L.R.C.P., L.R.C.S.Edin., of Abergele, North Wales, has been placed on the Commission of the Peace for the County of Denbigh.

DR. E. DYKES BOWER, senior and ophthalmic surgeon to the Gloucester General Infirmary, has been nominated to serve as sheriff of that city for the ensuing year.

MR. D. J. REES, Secretary of the Llanelly Hospital, has received a cheque for £350 from Miss Stepney, in accordance with the intention of the will of her late father, Sir Arthur Stepney.

ON November 19th Dr. Philip Bahr and some students of the London School of Tropical Medicine left for Fiji to study dysentery. The money for the expedition is being provided by the family of Lord Sheffield.

THE autumn dinner of the Irish Medical Schools' and Graduates' Association is to take place at the Hotel Cecil on Wednesday, November 24th, the guest of the evening being the Right Hon. Lord McDonnell, K.C.V.O.

DR. R. A. LYSTER, County Medical Officer for Hampshire: Dr. J. M. Mason, Chief Health Officer, Wellington, New Zealand; and Colonel R. P. Roth, P.M.O., New South Wales, have been elected Fellows of the Royal Sanitary Institute.

THE annual dinner of the Medical Society of University College Hospital, London, will be held at the Gaiety Restaurant on Friday, November 26th, at 7.30. Further particulars can be obtained on application to the honorary secretary of the society.

SINCE October 29th four cases of small-pox have been notified in the County of London. All of them have occurred in Stepney. The London County Council has brought the matter to the notice of the Whitechapel guardians, and has expressed the hope that they will arrange for the vaccination or revaccination of all persons who may be specially exposed to the danger of infection.

A PUBLIC meeting summoned by Dr. Finny, the retiring mayor of Kingston-on-Thames, was held in the Town Hall on November 8th to consider the steps to be taken for the formation of a Red Cross Voluntary Aid detachment. The proposal having been commended by the Mayor, Dr. Owen Coleman, Dr. Beale Collins, and others, was adopted, and a committee was appointed. Dr. Coleman stated that he had had an opportunity of bringing the matter before the medical men of the district, whose cordial co-operation could be relied upon.

DR. SALTER, L.C.C., informed the Bermondsey Borough Council on November 16th that a wealthy gentleman had determined to expend his fortune for the benefit of one of the poorest districts of London, and had selected Bermondsey. Several schemes had been considered, including the provision of parks and open spaces, the clearing of insanitary areas, and the erection of a hostel for unmarried factory girls. The benefactor had now decided to purchase a burial ground off Tower Bridge Road and some of the adjoining property, which the council had been unable, for want of funds, to purchase some time ago, and to convert the whole into a recreation ground, which would contain a children's gymnasium. The same benefactor was prepared to make other gifts to Bermondsey in the future.

A SPECIAL general meeting of the London and Counties Medical Protection Society, Limited, will be held at 4 p.m. on Wednesday next at the offices, 31, Craven Street, Strand, London, W.C. The special business is to approve the action of the council in arranging for an insurance of the members of the society against damages or costs up to several thousand pounds awarded in any proceedings which the society may undertake on behalf of its members, and for that purpose to raise the subscription to a sum not exceeding £1 per year. We are informed that many members of the society have already effected individual insurance, but that the insurance could be effected more satisfactorily if the society was insured *en bloc*.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—

2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

L.R.C.P. desires to hear of some device for warming very cold hands when visiting patients.

ANSWERS.

NEMO.—There are two recent handbooks on operative surgery: (1) *A Manual of Operative Surgery.* By H. J. Waring, M.S., M.B., B.Sc., F.R.C.S. (Henry Frowde, and Hodder and Stoughton.) (2) 12s. 6d. (2) *The Students' Handbook of Surgical Operations.* By Sir F. Treves and Jonathan Hutchinson, F.R.C.S. (Cassell.) For the purpose of the examination mentioned the former might be the more useful.

REMOVAL OF SEPTUM NASI.

W. F. L. D. writes in reply to "Medical Sufferer": I had my septum nasi removed about three months back for nasal obstruction, which led to granular pharyngitis. There is no subsequent discomfort or deformity, and I do not now suffer from frequent sore throat. The operation was done under local anaesthesia (adrenalin and cocaine), and I was able to do my work the next day.

SEPTUM writes: I had a good part of my septum nasi removed. No deformity has resulted, but wonderful comfort and increased capacity, mentally and physically. It was removed under cocaine. It was strange to watch a surgeon chiselling at one's face painlessly. The succeeding night was an unhappy one, as the feature was packed; that was all. I resumed work on the third day.

LETTERS, NOTES, ETC.

WARNINGS.

MESSRS. WILCOX, JOZEAU AND CO., Chemists, 49, Haymarket, S.W., desire to warn members of the medical profession against a man, thinly built, apparently about 40 years of age, shabbily dressed, with a pronounced habit of sniffing, who has been representing himself as their agent and making extraordinary proposals. No such person is in their employ or has had any authority whatsoever to use their name.

MESSRS. RADFORD AND FRANKLAND, Solicitors, 27, Chancery Lane, W.C., inform us that a person representing himself to be a partner in a firm of wholesale druggists carrying on business at 9, Mincing Lane, E.C., has recently been calling on members of the medical profession with the object of selling a mineral water of which his firm are said to be the sole consignees. This person represents himself to be the father of an assistant physician to one of the London hospitals, and by this representation (which is entirely untrue) endeavours to interest the medical profession in his article.

MALARIA IN INDIA.

DR. V. P. GONSALVES (London) writes: Your special correspondent, writing about the Simla Malarial Conference (BRITISH MEDICAL JOURNAL, November 13th, 1909, p. 1435) says that "much investigation still remains to be carried out, and experiments in lessening or eradicating malaria require to be undertaken in every province under expert supervision, and the time seems to be ill-chosen for prohibiting any increase of the cadre of the Indian Medical Service." Herein, Sir, are statements of facts and opinion which challenge a reply, and ought not to be allowed to pass without notice. I appeal to you to enable me to do so. The writer of that article seems to imply that a failure to add to the ranks of the Indian Medical Service would cripple scientific investigation in India, and so allow malaria to rage for want of an adequate opposition. This opinion is based on the familiar assumptions: (1) That unless a medical man is a member of the Indian Medical Service he cannot attain expert knowledge in reference to medical matters concerning India. (2) That every officer of the Indian Medical Service who is appointed to the post of an expert is an expert. Are the real facts in favour of these views? The contention of the supporters of the medical reform foreshadowed in Lord Morley's dispatch, is that the existing system of reserving all important posts for the officers of the Indian Medical Service has been the cause of great inefficiency, has led to the systematic exclusion of highly qualified and competent medical men from them, imposed an unnecessary expenditure of over £100,000 a year on the Indian revenue, and given rise to a legitimate discontent among the people. It is a great mistake to identify the interests of the Indian Medical Service with the best interests of India and its people.

ASSISTANT MEDICAL OFFICERS OF ASYLUMS.

AN A. M. O. of twelve years' standing writes: The letter from "V. S." (p. 1448) has induced me to write to draw your attention to the new draft regulations for training and examining asylum attendants. These regulations are to be considered at the next meeting of the Medico-Psychological Association in London on November 23rd. Rule 17, Subsection (*h*), reads as follows: "The viva voce examination shall be conducted by the examiner-in-chief and a coadjutor on as early a date after the written examination as can be arranged." I think that, in common fairness to that large class of hard-working men, the assistant medical officers of the United Kingdom, a protest should be made at the meeting on November 23rd. Perhaps some Achilles among members of the Medico-Psychological Association may see his way to move an amendment that the words "the superintendent" in above shall be replaced by the words "medical officer who has delivered the required course of lectures in every asylum where an examination is held." If this is done it will also prevent any one "fluking" through the examination, and an examination conducted by the teacher of a subject in association with an outside examiner is the nearest thing known to an ideal examination. The rule would not prevent a superintendent of an asylum being the examiner if he has instructed his staff and prepared them for the examination.

MR. DOOLEY ON PROHIBITION.

OF a population of some 90,000,000 persons in the fourteen Southern States of the American Union, 17,000,000 are said to be under prohibitory law in some form in regard to alcohol. On this Mr. Dooley comments as follows: "Yes, Sir; in the sunny Southland 'tis as hard to get a dhrink now as it wasn't was not be yet one. Why, Hinnissy, I read th' other day a most unfortunate occurrence down in Texas. A perfectly respectable an' innocent man, of good connexions, while attemptin' to draw a revolver to plug an inimy, was hastily shot down by th' rangers, who thought he was pullin' a pocket flask. Is no man's life safe against th' acts iv irresponsible officers iv th' law?"

ERRATA.—In Major G. H. Fink's note on Oriental Sore, in the JOURNAL of November 13th, p. 1448, the following corrections should be made: In line 10, the word "often" should be "other"; in line 29, "Saidh" should be "Sindh"; and in line 35, "sac" should, of course, be "sore."

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The Schorstein Lecture

ON

SYPHILIS AND ANEURYSM.

Delivered at the London Hospital, October, 1909.

By WILLIAM OSLER, M.D., F.R.S.,
REGIUS PROFESSOR OF MEDICINE, OXFORD.

Could he have been asked, I am sure the good clinical physician to whom this hour is dedicated would have chosen to keep alive in this hospital which he loved so dearly the tradition of his name by an annual lecture; and he would have felt it peculiarly fitting that the official representative in medicine in his old university, of which he was so devoted a son, and which he remembered so generously in his will, should have been selected as the first lecturer.

Amid the tragedies of professional life two seem darkest—the young man full of hope cut off in the springtime of promise, stricken in the very forefront of the battle as it began, by sepsis, typhoid, tuberculosis or diphtheria. Scarcely less poignant is our grief at the loss of a man who has spent the strong years in gaining for himself a distinguished position, and just when everything has prospered in his hand, and he is entering after the long struggle upon well deserved honours and rewards, the "blind fury" snatches him away. Such was the fate of our friend Gustav Schorstein, the memory of whose service to the profession and to this great charity is to be commemorated in this most appropriate way.

There are those who see only dark clouds lowering on the horizon of the newly opened twentieth century; but already within its first decade we may boast of three achievements of the very first rank, each illustrating in its special way the spirit with which humanity is tackling its eternal problems. The dream—no, the carefully thought-out plan—of Leonardo da Vinci has been realized in the conquest of the air; the final tribute to the enterprise and endurance of man has been paid at the North Pole; and a Sphinx has been forced to break the silence of four centuries.

Syphilis has been one of the great riddles of the race. For generations it shared with malaria the peculiarity that we knew the cure without knowing the exact cause. As prevalent to-day as a century ago, problems of its origin and prevention have remained unsoluble. In one direction our knowledge has widened greatly: it added terror to an already terrible disorder to know that such implacable and cruel foes as locomotor ataxia and general paralysis of the insane, to say nothing of a host of less important affections of the nervous system, were of syphilitic origin. And now, after long years of patient research, the riddle of its origin has been read, and the brilliant work of the much-lamented Schaudinn has opened a new and hopeful chapter in the history of one of the greatest of human scourges. Already the discovery has placed in our hands a means of diagnosis, early and late, which cannot fail to add efficiency to our treatment.

The fact that the germ belongs to the spirochaetes has deepened the wide interest in a group of parasites the enormous importance of which we are just beginning to realize. Already attention has been called to the remarkable similarity in certain clinical features of one of the most representative of protozoan diseases—namely, sleeping sickness—with syphilis, the spirochaetes of which are believed to be very closely related to trypanosomes.

I said that a new and hopeful chapter in the history of the disease had been opened by the discovery of the cause, and a full warrant for such a statement is to be found in the experience of the past twenty-five years with tuberculosis and malaria. Let us ask ourselves, Where do we stand to-day in respect to syphilis? Where is its place in the hierarchy of the infections? The cold figures of the last Registrar-General's report for the year 1907 tell the tale. The great preventable diseases which head the mortality bills are tuberculosis, pneumonia, whooping-cough, influenza, measles, and diphtheria. Syphilis appears low down, credited with only 1,658 deaths. But this is not even a half-told tale. Syphilis kills in three ways and at three periods. Almost without exception the acute infections spare the child *in utero*, but this one takes a heavy toll of the unborn, and we may estimate that of the unnumbered, and as yet unregistered, stillbirths, more than one-half are due to it. The 1,658 deaths in 1907 form a second group; a majority were in children under 5 years of age, but practically all succumbed to the direct lesions of the disease, and this group alone appears in the register under the heading of syphilis. But it is not with syphilis as with other infections, most of which come in sharp assaults, and once defeated the enemy retires; though it sometimes happens, as in typhoid fever, hostile soldiers settle down in a harmless symbiosis, and in tuberculosis it is more often a protracted truce than a final victory.

But the worm that never dieth and the fire that is never quenched express in simile the only too frequent story of the syphilitic infection. And this chronicity and intractability appear to be a special feature of all protozoal disorders. Who can say when a case of amoebic dysentery is cured? Ask an old Mississippi doctor how long it takes to rid the body of the malarial parasite, and he will shrug his shoulders.

The full extent of the ravages of the pox has only been realized of late years, and to appreciate its dignity and rank among the killing maladies we must add from the Blue Book for 1907 a third great group—the 2,332 dead of general paralysis, the 584 dead of locomotor ataxia, half at least of the 1,983 dead of paraplegia, half at least of the 2,279 deaths recorded as softening of the brain, and perhaps a fourth of the motley group recorded as "other diseases of the nervous system." This brings the deaths in England and Wales to above 5,000, and gives syphilis the sixth place in the hierarchy of diseases due to specific germs. And yet we sometimes hear the remark, "syphilis is not a killing disease".

There remains to be considered another affection, the association of which with syphilis has been long under discussion. There died of aneurysm in Great Britain and Wales in 1907 1,140 persons—199 females and 941 males, the largest proportion coming in the middle period of life. How many of these had syphilis? Is there no way to prevent this large mortality? These questions may now be asked pertinently, since, as I have already remarked, the new researches have led to new methods of diagnosis, and they should enable us to settle once for all the vexed problem of the rôle played by syphilis in producing arterial disease, and more particularly that of the aorta.

Historical Summary.

The story of the association of aneurysm with syphilis takes us very far back and into very good company. There are three periods in the growth of our knowledge. The older begins with a very shrewd observation of the father of modern surgery, Ambroise Paré—I quote from the second English edition (London, 1634, page 287), which is practically the same in the original edition published in 1561: "The aneurismaes which happen in the internall parts are uncurable. Such as frequently happen to those who have often had the unction and sweat for the cure of the French disease, because the blood being so attenuated and heated therewith that it cannot be contayned in the receptacles of the Artery, it distends it to that largenesse as to hold a man's fist: Which I have observed in the dead body of a certain Taylor, who by an Aneurisma of the Arterious veine suddenly whilest hee was playing at Tennis fell downe dead, the vessell being broken; his body being opened I found a great quantity of blood powred forth into the capacity of the chest, but the body of the Artery was dilated to that largeness I formerly mentioned, and the inner Coate thereof was bony. For which cause within a while after I shewed it to the great admiration of the beholders in the Physitions Schole whilest I publiquely dissected a body there; the whilst he lived said he felt a beating and a great heate over all his body by the force of the pulsation of all the Arteryes, by occasion whereof he often swounded."

Vesalius, to whom we are indebted for the first recognition of internal aneurysm, does not mention syphilis as a possible cause; but his contemporary, Fernelius, mentions the coexistence: "Venus vénérien forme des aneurismes dans les arteries."

"The Italian physicians at the end of the seventeenth and beginning of the eighteenth centuries were really the first to lay great emphasis on the syphilitic origin of aneurysm. Morgagni, *facile princeps* of clinical pathologists, in Letter LXIV of the *De sedibus et causis morborum*, speaking of sudden death, refers to syphilis as the cause of a great number of disorders of the heart and arteries leading to it; and in the letters descriptive of the diseases of the heart and arteries one is impressed with the frequency with which syphilis is mentioned; and in one place he specifically states that the disease predisposes to aneurysm.

"Lancisi, the distinguished Roman physician, whose celebrated work on aneurysm was published after his death, in 1728, went even so far, in his thirty-second proposition, to discuss the signs, etc., by which we may recognize *Aneurysma gallicum*, or the aneurysm due to the French disease, the popular name for syphilis. It is evident from his description that he recognized quite clearly the relation of the two diseases, though neither he nor Paré felt quite certain how much was due to syphilis and how much to the mercurial cure. The writers of the early part of this century gave very little attention to the subject. Neither Scarpa nor Hodgson laid any special stress upon syphilis as a cause; and how completely it had become a negligible quantity is best attested by the scant reference in Broca's large work on aneurysm, 1856, by far the ablest contribution of the period.

The second period embraces the latter half of the last century, during which the subject of visceral syphilis was thoroughly studied. Dittrich, Steenberg, Wilks, Lancereaux,[1] Laveran, and others called attention to the frequency of arterial lesions in syphilis; but it was the medical officers of the British army who forced the recognition of the part played by it in aneurysm upon the attention of the profession. Unfortunately, many of the communications were buried in Annual Reports, which never had the proper recognition, such as the work now receives in the *Journal of the Royal Army Medical Corps*. In 1862 Assistant Surgeon Lewer[1] reported a case of aneurysm of the thoracic aorta in a soldier, aged 25, suffering at the time with secondary syphilis. There were four cup-shaped aneurysms of the arch with cicatricial changes in the vessel. Professor Aiken, of the Army Medical School, in the third edition of his textbook (1866), states that in 26 syphilitic soldiers who had died during four years, 17 presented changes in the aorta, "cicatricial-like loss of substance of the inner coats, small local dilatations of the artery, and in several cases aneurysmal expansions, one as large as an orange, which proved fatal."

A very important communication was that by Inspector-General Lawson,[2] in which he pointed out the great frequency of aneurysm in the army, and its increase at Aldershot from the millesimal ratio of 0.25 in 1860 to 1.68 in 1868. So far as I can see, he was one of the first to recognize clearly the independence of aneurysm of the ordinary atheromatous changes in the arteries. His conclusion is worth quoting:

> It would be going too far to discard the influence of this degeneration altogether, but certainly aneurysm, as I have met with it among soldiers, seems frequently to exist quite independent of that form of disease of the arteries, and destruction of large portions of even the whole three coats may take place by an acute process, and without a trace of atheroma in the neighbourhood.

Myers,[3] while recognizing the influence of syphilis, was not inclined to regard it as a very important cause of aortic disease. But so far as the army was concerned the question was definitely settled by Francis H. Welch, at the time Assistant Professor of Pathology at Netley. Read before the Medico-Chirurgical Society, November 23rd, 1875, his paper[4] remains the most important communication on the subject in English. He dwelt upon the recognition by military medical men of the influence of syphilis in causing vascular lesions, and supported this belief by a study of 34 fatal cases of aortic aneurysm at Netley. The average age at death was 32, the youngest 26. In 5 cases the aneurysms were multiple. In 64 per cent. the arch was involved. In at least 50 per cent. there was a definite history of syphilis. He combated the view that the disease bore any relation to chest constriction, or arterial obstruction, but he emphasized that the groundwork of aneurysm was laid in the aortic disease, and remarked that:

> While no dilatation need ensue under ordinary arterial pressure or such as might be present under civil exertion, yet under the forced exertions, with chest constriction, of army exercises, it would be difficult to understand how such a crippled tube as a degenerate and weakened aorta could resist the extra-internal pressure.

Welch recognized macroscopically the form of aortitis now regarded as pathognomonic of syphilis. It differs, he says, from the nodular form, as the lining of the aorta is thrown into wrinkles with the cicatricial-like puckering and internal roughness. The two fundamental propositions deserve to be quoted, as his study has scarcely received the consideration it deserves:

1. That the aneurysmal tumours are associated with, and preceded by, a diseased condition of the contiguous layers of the internal and middle coats of the vessel—as a tissue growth, terminating in degeneration—which, by impairing the elasticity and contractility of the walls, allows of their expansion and dilatation under the tension of normal arterial blood pressure, or this abnormally increased by any cause.
2. That these two forms of textural derangement of the aorta are dissimilar in origin and causation; that the limited passive opacity is connected with long-standing diseases of various kinds, inducing a diminished vitality of the system at large; that the structural growth is in the major number of instances associated with syphilis, and in a minor degree with rheumatism and alcoholism, as causations; hence it follows that, or the latter phase is the commencement of that pathological sequence of events under one aspect terminating as aneurysm, the means for the prevention of the aneurysmal tumour must be essentially directed towards the elimination of the special exciting agencies.

These quotations serve to show how completely the army surgeons were convinced of the immense importance of syphilis as the prime factor in the causation of aneurysm. These views did not have a very warm reception. I may be permitted to quote part of a recent letter from Colonel Welch, an old student of this school, who regrets very much that he cannot be with us to-day:

> The only individual who gave me the slightest support in 1876 was Sir James Paget, and since then one or two others have written giving me their experience, but for long after, as could be seen in the narration of annual cases in the professional journals, there was a dead set against my deductions.

Still there were a good many exceptions, and the view has gradually gained acceptance; and in 1894 Goodhart made the strong statement that "It is sufficiently near the truth to say that women never have aneurysm except they have had syphilis." Virchow and others in Germany, Jaccoud, Lancereaux, Verdie, Vallin, Laveran, and Huchard in France, were strong supporters of the syphilitic view. The Dublin physicians, whose contributions to the subject of aneurysm have been so important, described many cases associated with syphilis. Tufnell[5] reported a case of a man aged 19, in the early secondary stage of syphilis, who after a sudden strain felt faint, and had a pain in the abdomen, and shortly after presented signs of an abdominal aneurysm.

Sir Samuel Wilks[6] was the first in this country to recognize the importance of syphilis in arterial disease, and in his well-known paper he described the characteristic syphilitic arteritis of the cerebral vessels, and he mentions that above an aneurysm of the abdominal aorta in a young prostitute were structures resembling gummata. In 1868 Sir Clifford Allbutt studied the histological changes in the arteries in a case of cerebral syphilis, and in 1874 Heubner published his well-known researches.

Naturally the remarkable benefit which followed the use of potassium iodide suggested the syphilitic character of the aneurysmal lesion, a view which was strongly supported by Fournier, Vallin, Verdie, and Bramwell.

The past thirty years have been very fruitful in researches on the lesions of the aorta and their relation to syphilis. I cannot do more than touch upon one or two landmarks in the literature which is given with great fullness by Benda in the *Verhandlungen der Deutschen pathologischen Gesellschaft* (1904), and in Lubarch and Ostertag's *Ergebnisse* (1904). The sum total may be said to be the recognition of a type of aortitis if not peculiar to, at least most commonly found in connexion with, syphilis, and which forms the anatomical basis of a large proportion of cases of aneurysm. Quite recently the definitely syphilitic nature of certain of these lesions has been

demonstrated by the discovery of spirochaetes. Helmstedter,[7] a pupil of von Recklinghausen's, appears to have been the first to recognize that loss of the elastic fibres by rupture and necrosis was the essential histological change at the basis of aneurysm. You will see by these figures in his original paper, which I pass round, the characteristic fracture of the elastic laminae, and the infiltration in places with embryonic cells. In the plate which he gives of the first part of an aorta is figured very well the depressions and grooves which follow rupture and atrophy of the elastic fibres of the media. While he does not appear to have recognized these lesions as due to syphilis, we must give him the credit of the earliest description of the changes which are regarded now as most commonly due to this disease.

In 1875 Köster, discussing the relation of aneurysm and arterio-sclerosis, maintained that a special inflammation of the media, mesarteritis, should be regarded as the primary cause of aneurysm.

In 1877 Heiberg described the miliary gummata in the media, and Laveran shortly after spoke of the islands of embryonic cells as minute syphilitic gummata. The most fruitful contributions were from Heller, of Kiel, who with his students, particularly Dohle, described the sclerotic, cicatricial type of aortitis, with its characteristic macroscopic appearance, as peculiar to syphilis. The microscopic changes were very much those reported by Helmstedter and Köster. The great work of Eppinger, 1887, one of the most exhaustive ever written, and a series of papers by Thoma in *Virchow's Archiv*, emphasized still further the great importance of lesions of the media. Coats and Auld, of Glasgow, made valuable contributions to the histological changes in aortitis. The Scandinavian physicians appear to have long held the belief in the intimate association of syphilis and aneurysm, and the monograph of Malmstens[8] is largely devoted to the sclero-gummatous aortitis which he believed to be specific, and which he found in 80 per cent. of 101 cases of aneurysm.

The most important recent discussion on the subject was at the German Pathological Society in 1903, introduced by Chiari, whose very able study supports strongly the view that syphilis stands in close causal connexion with a *mesaortitis productiva*. Following a very thorough critical summary of the literature, Benda supported this view; and in the general discussion that followed, participated in by a large number of the most distinguished of the German pathologists, the same view was maintained. Only Marchand held that the majority of aortic aneurysms depended upon the common form of arterio-sclerosis, though he did not deny that the sclerotic variety, which he believed was caused by syphilis, also favoured aneurysm formation.

Of more recent papers, that of Aitchison, which appeared in vol. ii of the *Archives of the Pathological Institute* of this hospital, strongly supports the view that there are two distinct pathological processes in the aorta —the one degenerative, characterized by proliferation and subsequent necrosis in the intima, and by degeneration in the media (the ordinary atheroma); the other inflammatory, characterized by round-cell infiltration of the adventitia and media with destruction of the muscular and elastic elements, a mesaortitis which in a majority of cases is of syphilitic origin.

Brockbank, in a study of 182 cases of aneurysm *post mortem*, found 16 in which syphilitic lesions were present in other organs; in 19 additional cases the lesions were suggestive of syphilis. In 87 syphilitic subjects aneurysm was found *post mortem* in 18 cases.[9]

The surgeons of the British navy have from time to time contributed individual reports of cases of aneurysm associated with syphilis, and Fleet Surgeon Bassett-Smith has recently reported[10] the figures from the *post-mortem* room at Haslar—25 aneurysms in 300 bodies.

The subject has entered a third phase in which, with the new methods of diagnosis, the specific nature of the arterial lesions has been demonstrated, and the characteristic serum reaction detected. Several observers—Schmorl, Reuter, Benda, and Klotz—have described the spirochaetes in the lesions in the aorta. J. H. Wright,[11] of the Clinical Laboratory of the Massachusetts General Hospital, has found the parasites in five cases of aortitis, one of which was associated with aneurysm. In a personal communication, he states that he has found the organisms in two other cases. He has very kindly given me a microscopic section, in which I think you will be surprised to see the large number of parasites, though as a rule they were present only in small numbers. Dr. Wright's well-known reputation in this field of research gives to his work a very special value.

With an improved technique the results with the Wassermann reaction have become more and more trustworthy, and its enormous importance in the whole group of late syphilitic affections is now generally recognized. Syphilitics sometimes present two or more of the late lesions in combination; thus the association of aneurysm, and still more frequently of aortic insufficiency, with locomotor ataxia is well known; or a man may have tabes, aortic insufficiency, and aneurysm. The Wassermann reaction has been found in many of these cases. Citron[12] has tested it in 19 cases of aortic insufficiency, 11 of which gave a positive reaction. Of the 55 cases of this lesion examined during four years, there was a definite history of syphilis in 10.9, a probable history in 25.4 per cent. If all those were included with inequality of pupil, or absence of pupil or patellar reflexes, the percentage reached 36.3.

Collins and Sachs[13] have tested the Wassermann reaction in a number of cases of cardiac and vascular disease, which was positive in 5 cases of aneurysm, and in 10 of 13 cases of aortic valve disease. In 6 of 9 recent cases of aneurysm at the Johns Hopkins medical clinic, the reaction was present (L. F. Barker).

Syphilitic Aortitis.

The basic change which makes aneurysm possible is a mesaortitis, which may as a rule be readily distinguished from the ordinary atheromatous process. Macroscopically it presents two important characters: First, it is often localized, involving an area of an inch or more of the tube—very commonly the first part of the arch, with which the valves are often implicated. The coloured frontispiece of the aorta of a young man in the third edition of Balfour's well-known book on diseases of the heart, which I here show, is a typical illustration. Or there may be a localized patch about the origin of the great vessels or in the descending aorta, just above the diaphragm. With extensive disease of the thoracic part the abdominal aorta may be spared. Penrose has reported from my clinic[14] two typical instances: In a man aged 36, who had syphilis at 19, two circumscribed areas were present, one involving a part of the arch and the valves from which an aneurysm extended towards the right; the other was just above the diaphragm: the intervening portion of the aorta was healthy. Microscopically it showed the typical changes in the media and a nodule of epithelioid cells, which Dr. Flexner thought very suggestive of gumma. The second case, a man aged 35, with a well-marked scar on the penis, was admitted with aortic insufficiency. The lesion was limited to the first portion of the aorta and involved the valves. The rest of the tube was free.

Secondly, the appearance of the vessel differs strikingly from that seen in the ordinary degenerative atheroma. In typical cases the appearance is that now known as cicatricial or fibrous aortitis. The lining membrane is scarred and puckered with narrow linear furrows, sometimes little pits from which stellate lines radiate: very characteristic, too, is the translucency in places due to areas of localized atrophy, so that the bottom of the little shallow depressions presents a bluish tint. There may be an entire absence of the ordinary yellowish raised nodules of atheroma and of the calcified flakes so common in the similar degeneration. As one might expect, in some cases the two processes are combined. But there appears to be a consensus of opinion among pathologists that this type of sclerotic aortitis is characteristic of syphilis. Dr. Turnbull has very kindly placed a series of characteristic specimens on the table.

Microscopically, the changes are very striking. First, alterations are met with in the media, consisting of necrosis, with fragmentation of the elastic fibres, many of which are seen as though cut off sharply. Secondly, a cell infiltration in the media separating the elastic and muscular fibres, and extending between the lamellae in lines, sometimes forming large foci of round-celled infiltration containing giant cells and areas of necrosis. So

dominant are the changes in the media that the process is called mesaortitis. Definite miliary gummata may be present. Thirdly, the adventitia shows areas of cell infiltration, particularly about the vasa vasorum, and spreading into the media along their course. Many of the smaller vessels show the obliterative endarteritis. Fourthly, the intima is in places atrophic along the lineal depression, but more frequently shows compensatory thickening, but there is rarely calcification. And, lastly, the spirochaetes of syphilis have been demonstrated in the sections, and through the kindness of Dr. Wright, of the Massachusetts General Hospital, I am able to show you one of his remarkable specimens. This represents the briefest possible summary of the general features of the syphilitic aortitis. And we may say that the first essential factor in the causation of aneurysm, the groundwork, so to speak, is the weakening of the arterial wall by destruction in places of the media.

It would, I think, be taking altogether too narrow a view of the question to suppose that syphilis is the only infection capable of causing mesaortitis, and so responsible for aneurysm. The researches of scores of observers have shown how common it is to have foci of arterial degeneration in the acute infections. Thus in 52 necropsies in typhoid fever in which the state of the aorta was described, in 30 there were areas of arterial necrosis, 21 of which looked recent (W. S. Thayer).[16] What I think may reasonably be claimed is that the mesaortitis of the type I have mentioned is much more commonly caused by syphilis than by any other infection; and as it is so much more widespread, it naturally is much more liable to be followed by aneurysm.

One of the first lessons of the *post-mortem* room is that the common arterial degeneration, atheroma, does not necessarily lead to aneurysm. On the contrary, any one who has frequented the dead-house of a "sedimentarium," to coin a word, such as "Blockley," in Philadelphia, where the aged poor congregate, comes rather to the conclusion that extensive atheroma protects against it. And we know now that it is not the ordinary senile and pre-senile degenerations, but a special process as the middle period of life, due to the infections, that leads to aneurysm.

How Does an Aneurysm Begin?

Once mesaortitis is present, either in a small patch or in an area of 2 or 3 in. in extent, the aneurysm may arise in one of three ways: First, by acute necrosis and erosion. There exist in the literature a considerable number of cases in which in an aorta otherwise healthy an acute erosion of the coats has occurred, with the formation of an aneurysm. In some of the cases the appearance may well be called the round or acute perforating ulcer of the aorta. I show here three photographs of such cases. It is quite possible that some of these may be syphilitic in origin, as they have occurred in young persons. The edges are irregular, not covered with vegetations. The orifice, measuring from 1 to 2 cm., leads directly into a small aneurysmal sac or perforates directly in the periaortic tissues. Of the cases of which I show photographs one was in a young man of 21, one a woman of 35, and the third a man of 42. In one the perforation took place with the formation of an aneurysm which ruptured into the oesophagus. The other penetrated directly into the pleura, while the third perforated from the abdominal aorta into the retroperitoneal tissues. In the case of the man aged 21 the microscopic appearance is very suggestive of syphilitic mesaortitis. Dr. Klotz has kindly examined for me the edges of the specimen from the woman aged 35, and he thinks the aneurysm and the perforation was probably exogenous, and he takes the same view of the specimen from the man aged 42. In the multiple small cup-shaped aneurysms of the arch rupture may take place through a very small punched-out erosion, usually opening into the pericardium. It may be difficult to determine in a given case whether the perforation has taken place from without or from within. Some of the cases may be mycotic or septic in origin. As sudden death is the rule the condition is uncommon in routine hospital work, and more frequently comes before the medico-legal physician.

Secondly, given the presence of an area of mesaortitis with loss of the elastic resistance of the wall, spontaneously or as the result of strain or effort, the intima over the weak spot may split with the formation of an aneurysm. This view of internal rupture is a very old one, but one had a somewhat hazy idea of what was meant until we found how it could be produced experimentally over an area of degeneration of the media caused by adrenalin. A clean-cut fissure of the intima may lead directly into a small aneurysmal pouch, as in this drawing of the aorta of a rabbit from Fisher's paper,[16] which shows this method of formation of aneurysm very clearly. The acute mesaortitis met with in ulcerative endocarditis and septic conditions may show these splits and fissures in a most remarkable manner. I show photographs of an aorta, the specimen of which is in St. Bartholomew's Hospital, taken from a boy aged 6½, a patient of Dr. Jordan. Following an attack of otorrhoea, headache, and synovitis of one knee, lasting for about three weeks, with a temperature of 103°, while convalescent and up and about, laughing and playing, the boy suddenly turned pale and died. The small aneurysm of the aorta had ruptured into the pericardium. Corresponding to it, the intima showed a triangular tear with sharp edges. There may be on the arch three or four of these small sacs, each one showing a clean-cut split of the intima. In what was perhaps the first case (according to Eppinger) in which the mycotic character of an aneurysm was recognized I found four in the arch in connexion with ulcerative endocarditis. There are a good many cases now in the literature, and I pass round a photograph of one which I have examined at the museum at McGill College, and which has been reported by Dr. John MacCrae.[17]

There are cases with more extensive tears of the intima and inner layer of the media, which may lead to rupture of the aorta, or to dissecting aneurysm, or which may heal completely. It is in connexion with this special mode of production of aneurysm that strain plays so important a rôle. What we mean by strain is a sudden muscular effort by which the blood pressure in the aorta is suddenly heightened. One cannot but be impressed with the extraordinary frequency of the history of a sudden muscular effort, followed often directly by pain in the chest, which passes away gradually, and then a few weeks or a month later the signs of aneurysm appear. Take such a case, for example—a case already referred to by Tufnell. A young man aged 19, in the early secondary stages of syphilis, was shoving up a side of beef, but it came back on him so that he had to let it down. He tried again and again, and at last succeeded. He was faint and tired, and soon felt a severe pain in the abdomen. Shortly after he developed a large aneurysm of the abdominal aorta. In this, as in most of these cases in young persons, the sequence of events is: a specific aortitis with weakening of the media, a sudden exertion, a split of the intima over the weakened spot, and the gradual formation of an aneurysm. Whether a perfectly normal intima and media ever split has been questioned, except as the result of direct trauma. Dr. Turnbull has shown me a recent specimen in the museum which he has placed here for your inspection, in which there was an extensive tear of the intima in a middle-aged woman, with formation of a dissecting aneurysm, and death after about a week. The edges of the clean-cut tear certainly do not show any very serious change in structure. In going over this specimen, I put the new system in vogue in the pathological department to a test. I asked for a slide of the edge of the tear, and the histological description, both of which were immediately forthcoming. A very interesting point is that these splits may occur in a perfectly normal-looking vessel, as was the case in the abdominal aorta of George II, in whom this type of lesion was recognized for the first time by the well-known anatomist Nicholls.

And the third and very common mode of production of aneurysm is weakening of the aortic wall, localized or diffused, followed by a gradual dilatation, either involving a large area of the tube, sometimes the whole tube, but more frequently a localized area. This dilatation form of aneurysm is readily produced experimentally, and the aorta of a rabbit treated with adrenalin may show a dozen or more saccular pouches. It is a not uncommon form in the syphilitic aortitis, in which one may see three or four small cup-shaped pouches, often at the root of the aorta, the intima extending into a little sac. In the star-shaped scars the linear fissures and depressions are covered by intima, and the bluish

translucent appearance is due to the loss in great part of the elastic and muscular elements of the media. But this type of aneurysm is most characteristic of the ordinary degeneration, the senile or presenile atheroma, in which the entire arch, or even the whole aorta, may be diffusely dilated, or in local areas there are flat, saucer-like dilatations of the coats, associated with advanced degeneration, fatty and calcareous, of both media and intima.

Statistics.

There are many interesting problems concerning the incidence of aneurysm in different countries under different social conditions and among known syphilitics. I do not propose to inflict many figures upon you, but there are a few worthy of attention. The general mortality I have already given. About 1 in 459 deaths are returned in England and Wales from aneurysm, and the proportion of cases has not varied much from year to year. Until recently we have had little or no information upon the question of how many of the deaths among syphilitics are from aneurysm. In a recent study by Alexandre[18] the figures are collected particularly from the reports of the insurance companies. Among 3,658 deaths in connexion with the Widows' Fund Insurance Company, there were only 24 from aneurysm, and only 2.2 per cent. could be attributed to syphilis. Blaschko, quoted by Alexandre, in 5,574 deaths found that 5.2 per cent. could be attributed to syphilis. These figures probably represent two extremes among the better class of people who take out life insurance. As to the relative number of known syphilitics who die of aneurysm, there are a few statistics available. In Blaschko's series of 150 deaths, only 4 died of aneurysm. Of 487 cases in Goolmer's statistics, quoted by Alexandre (of Gothaer Insurance Company), known to be syphilitic at the time of insurance, 13 died of aneurysm of the aorta; 28 per cent. in all cases died of definite syphilitic disease. In 87 persons with positive syphilitic lesions at the Royal Infirmary, Manchester, aneurysm was found in 18—that is, 20.6 per cent. (Brockbank).

It has long been known that the incidence of aneurysm varies very greatly in different countries. The *post-mortem* returns are the most accurate. Among 19,300 necropsies at Vienna, von Schroetter[19] gives 230 cases of aneurysm (1 in 83), and E. Müller,[20] among 10,360 necropsies, gives 183 aneurysms. The Leipzig figures for three years are given by Briesemester.[21] 3,037 necropsies, 50 aneurysms of the different arteries. These three give a fair average for Germany. At Guy's Hospital,[22] among 18,673 necropsies, there were 325 aneurysms (1 in 57), a very much higher percentage than the German figures. At this hospital, in 3,467 necropsies—January, 1907, to October 1st, 1909—there were only 31 cases of aneurysm. One reason for the small number is the large proportion of children. At the Johns Hopkins Hospital, among 3,100 necropsies, 99 aneurysms were found (1 in 31), an extraordinarily high percentage in comparison with the German figures, and nearly double the percentage of those in Guy's Hospital.

Professor Allen has sent me the figures from the Melbourne Hospital. Of 46,878 patients admitted for the ten years ending June 30th, 1905, there were 298 cases of aneurysm.

Leonard Rogers, of Calcutta, has very kindly had analysed for me the *post-mortem* records of the Calcutta Medical College for the last thirty-five years. There were only 30 aneurysms in 5,900 bodies (1 in 196), 0.05 per cent.

We now come to the interesting question as to the percentage of cases of aneurysm with a syphilitic history. Haphazard figures, collected without special reference to the condition under survey, are fallacious. The profession has had a sharp and useful lesson in locomotor ataxia and general paralysis. How far have we travelled since Erb's paper at the International Congress in 1881 forced us to consider the connexion of these two diseases with syphilis? The studies of Fournier, Gowers, and others show that the more carefully the past histories of tabetics and paretics are inquired into the larger the percentage of those found affected with syphilis.

It is the same with our study of aneurysm. I shall not quote the old figures, which may be found in any textbook, and in which the ratio ranges from 40 to 85 per cent. I propose to give you my own personal experience. Of 31 cases of aneurysm of the aorta seen in private, in 3 no mention was made of syphilis, in 10 syphilis was denied, while in 18—that is, in 58 per cent.—there was a positive history. At the Johns Hopkins Hospital aneurysm is a very common affection; during the twenty years ending May 16th, 1909, there were 386 admissions for aneurysm among 24,363 admissions to the medical wards. A very large number of these were readmissions, which reduces the total number of cases to 248, which have been picked out and analysed for me by Dr. W. T. Parsons.

There were 204 cases of aneurysm of the thoracic aorta, 23 cases of aneurysm of the abdominal aorta, 3 cases of aneurysm of both thoracic and abdominal aorta, 4 cases of the mesenteric artery, 1 of the thoracic and innominate artery, 6 of the innominate artery, the balance of the axillary, carotid and femoral arteries. It may be mentioned that in these same series there were 3 cases of aneurysm of the heart.

Of the total number of cases of aneurysm, 101 had a well-marked syphilitic history—40.9 per cent. Taking the thoracic aneurysm alone, of the 204 cases, 83—that is, 40.6 per cent.—had had syphilis. Compared with some other figures, this represents a low percentage of syphilis cases, but we know how difficult it often is to get a satisfactory account from the patient, and the histories are very often defective, and only those with very clear accounts of the disease were included. Among 9 recent cases in which the Wassermann reaction was tested, it was positive in 6.

The comparatively large proportion of cases of aneurysm at the medical clinic of the Johns Hopkins Hospital does not necessarily mean that syphilis is more prevalent in Baltimore than elsewhere. Two causes may be mentioned: the hospital is a consulting centre for a very wide extent of country in the southern and western portions of the United States, and the proportion of negroes is large. The ratio of coloured to white in the aneurysm series is about 1 to 2.6, while the proportion of white to coloured in the wards is about 5 to 1. The incidence of syphilis in the coloured population is high, and many of the men have very hard work, necessitating sudden effort and strain.

Clinical Features.

In a great majority of all the cases the clinical features are those which we recognize as in ordinary aneurysm, but there are a few peculiarities deserving of special consideration. As pointed out by Morgagni, arterial syphilis is a common cause of sudden death. It is, *par excellence*, the unsuspected aneurysm, the aneurysm without either symptoms or physical signs. The most frequent site of perforation is in the first portion of the aorta, usually in one of the small cup-shaped sacs. The literature is full of cases of this type. The perforation may take place in any part of the aorta, and from a very small orifice. I have already alluded to the possibility of certain of the cases of acute perforation of the aorta being the result of a rapid necrosis and softening of a large focus of mesaortitis.

It is a common type of aneurysm of cerebral arteries, and a frequent cause of sudden death with symptoms of apoplexy. In Beadles's[23] study of the 555 cases of cerebral aneurysm recorded in the literature no special mention is made of age or of the relation to syphilis, but it is very suggestive that in 46.3 per cent. the patients were in apparently good health. One half of the 12 cases of cerebral aneurysm which I reported were probably syphilitic. One of the cases, a man aged 36, who was in perfect health at the time of the rupture, had had a hard chancre eighteen months previously; extensive disease of the basillar artery was present.

In Bradford's[24] case, in which a very similar fusiform aneurysm existed in the basilar artery, in a man aged 29, who died suddenly, numerous gummata were found in the liver.

A second peculiarity is that it is the aneurysm of the third and fourth decades. Welch referred to this in his series of 34 Netley cases; the average age was 32. Of course the army is made up largely of men under 40, but in looking over the specimens in the museum of the Royal Army Medical College, Millbank, one is impressed with the youth of the subjects from which they have been derived. Of 44 cases of aortic aneurysm in which the ages were given, 15 of the soldiers were under 30, and 36 under 40 years of age. In the Johns Hopkins Hospital series there were 89 patients under 40 years, and 159 above that age.

Moreover, in young and middle-aged men the syphilitic form often presents a triad of symptoms—angina pectoris, aortic insufficiency, and aneurysm. This special type of syphilitic mesaortitis is very prone to affect the root of the aorta, and I have had a very interesting group of cases, some of which I have reported,[12] in which the very first symptoms were severe attacks of angina pectoris. Gradually under observation aortic insufficiency has supervened, with the signs of aneurysmal dilatation. In some of the cases the insufficiency has been induced rapidly enough to cause great cardiac dilatation, and months have elapsed before the cardiac equilibrium was restored. This is just the group of cases of aortic insufficiency in which it is not always easy to say whether aneurysm co-exists.

And the last and most suggestive feature is the prompt relief which may follow the use of potassium iodide. Since its introduction by Bouillaud, few remedies have stood the test of time more satisfactorily, particularly in the cases of young men with a well-marked syphilitic history. The prompt disappearance of the anginal pains, the improvement in the local symptoms, the diminution under observation of the aneurysm itself, and in rare instances a complete cure, are within the experience of all of us. Particularly is this the case in the group with the triad of symptoms just mentioned. I see at intervals two patients, both old syphilitics, one of whom has had a large sac growing to the left of the sternum for eight years; the other, after very severe symptoms of chiefly dyspnœa and venous obstructions, has been very comfortable for more than five years. The type of sac is very apt to be just the form in which obliteration is most likely to occur, the one with the narrow neck, and, once consolidated, no further trouble occurs. More than once I have referred to the case of a soldier discharged for aneurysm after the Crimean war. Twenty years later we found a completely healed aneurysm of the terminal portion of the arch, and a perfect double aorta, the result of complete healing of a dissecting aneurysm.

CONCLUSION.

The practical question remains, What can we do to restrain the ravages of syphilis, and so reduce the proportion of deaths from aneurysm and other diseases directly due to it? At a low estimate, we may place the mortality at between 6,000 and 7,000 annually, about 1 in 80 of the deaths, not taking into account the unestimated and very large number of stillbirths. In about one-seventh of the cases the deaths are due to what we regard as the more direct effects of the disease; aneurysm and the enormous group of affections of the nervous system represent later, but none the less definite, effects of the poison. The Wassermann reaction and the detection of the spirochaetes gives an entirely new aspect to the disease, and obliterates in great measure old distinctions and divisions. There is only one syphilis, one and indivisible, with many manifestations.

The discovery of the cause is the first step towards successful measures for the prevention of an infectious disease. So far as venereal disease is concerned our attitude has been one of hopeless inactivity, partly owing to inherent difficulties, partly to a lack of courage. The innate difficulty relates to the problem of controlling one of the two great primal appetites. No measures yet devised have successfully restricted illicit intercourse between the sexes. Prostitution, the blackest blot in our civilization, exacts a ghastly toll of suffering, and a sacrifice annually of thousands of lives. Add to the 6,000 or 7,000 slain by the spirochaete the thousands maimed and killed by the gonococcus—a David among cocci—and the sum total debited the venereal infections reaches figures only behind those of tuberculosis, pneumonia, and cancer. Too deeply entrenched in the very citadel of our social fabric for a frontal attack, the lessons of other successful campaigns must be conned, and long years of training must be undergone before we can hope for a truce, to say nothing of victory. There are four lines of attack possible. The first is a wholesome and healthy education of our youth in matters sexual, pointing out plainly the necessity of continence, though a hard condition; the really terrible risks, and the sad train of events likely to follow an infection. Secondly, steps should be taken to lessen "the sight of means," as the proverb puts it, the open, flagrant whoredom which makes the streets of this city, for example, a byword among the nations. In other capitals vice has deliberately to be sought, here it jostles our youth in most seductive form at every turn, to the great peril of even "a fugitive and cloistered virtue." It is no wonder that so many yield, "Knowing not" (or for the moment forgetting) "that the dead are there," and that he "goeth down to the chamber of death." A special police force of men and women could in a year clear the streets and places of public amusements. Such a measure *alone* might only "skin and film the ulcerous spot," as no doubt it does in Paris, where Bizard[26] estimates that one million men visit annually "les Maisons de tolérance" and "les Maisons de rendez-vous"!

Thirdly, venereal diseases should be put in the same category as other acute infections of public danger, and every case should be known, registered, and supervised. Chimerical, futile, visionary, impossible! Yes, so it seems, and so it is to-day; but twenty years ago how wild and fanciful we thought the notification of tuberculosis!

And, lastly, much may be done to lessen the ravages of the disease by increasing everywhere the facilities for early and prolonged treatment. The new methods of investigation have raised a hope that—perhaps at the very outset, at the portal of entry—the disease may be jugulated. Time will tell. Like other protozoal affections, syphilis displays an obstinacy and chronicity that has made some authorities doubtful of the possibility of a final cure. On this question I have always pinned my faith to the greatest of British syphilographers—that special ornament of your school, Jonathan Hutchinson—sharing his belief in the permanent curability of the disease. I have been long enough in the profession to see the children's children of syphilitics hale and hearty, with no taint left in stem or branch; but unhappily this is not always the case, and unless the treatment is thorough and prolonged recurrences are only too common, and the Registrar-General's report indicates in how many thousands it is still inefficient.

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AN exhibition of working models of sewage distributors and sprinklers shown in action has been opened in the Parkes Museum of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., and will be continued until the end of next January. The museum is open daily from 9.30 a.m. till 5.30 p.m., and on Mondays till 8 p.m.

THE annual dinner of the staff and past and present students of the Royal Dental Hospital of London was held at the Whitehall Rooms, Hôtel Métropole, on November 20th, under the chairmanship of Mr. C. F. Rilot. The toast to "The Hospital and its School" was proposed from the chair, Mr. Rilot in the course of his remarks alluding to the resignation by Mr. Colyer of the post of Dean, who during his tenure of office had done the school most excellent service, his compelling personality giving a healthy and invigorating impulse to the whole of its work. In order that the hospital Gazette should attain a full measure of success it should, Mr. Rilot said, be supported by old students. The toast was acknowledged on behalf of old students by Mr. E. A. Mansell, and on behalf of present students by Mr. W. L. Jackson, who stated that some twenty-five of his fellow students had joined the Territorials, and that the formation of a rifle club was under consideration. Mr. Dolamore, the new Dean, speaking to the same toast, gave an account of the existing conditions of the school. The present was the fiftieth anniversary of the foundation, and all those who had preceded him in the office of Dean were still alive. There were now 160 students on his books. The evening was brought to a close by the singing of "Auld Lang Syne."

The Fitz Patrick Lectures

ON

GREEK MEDICINE IN ROME.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

BY

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PRESIDENT AND FELLOWS,—As Coleridge said of Greek literature so of Greek medicine, it was "a superfetation upon, and not an ingredient in the national character." The first physicians to wend their way to Rome were among those who we know were employed about the gymnasia and the arena.[1] But on the common knowledge of the standard histories, the *trita scholarum*, I will forbear to dwell. Archagathus arrived in Rome about 220 B.C., some twenty years after the Punic war for the cornlands of Sicily. He was one of the first to feel the brunt of Roman indignation at the blasphemy of mistrusting the protecting gods, and at the impiety of supplanting the tried resources of the Penates. Was it only this prejudice which turned his title of "Vulnerarius" into that of "Carnifex"? Was he so barbarous a surgeon, or was this story only Pliny's fun? For, on the other hand, he certainly was accepted as a Roman citizen, and a *taberna* was assigned to him at the State expense in the city near the Forum Marcelli. Whether or not he was subsidized as a public physician—δημοσιεύων—after the Greek fashion, is an interesting question; for if so, as we shall see later, this office must in Rome itself, though not in the provinces, have fallen soon into desuetude.

Passing from Archagathus over obscure names and traces, I would concentrate our attention, in respect of the effective invasion of Rome by Greek medicine, upon the great name of Asclepiades. It is one of the flouts of time that the reputation of this great physician had fallen, not only into neglect, but even into obloquy; and the belated duty of restoring his name and place, after the lapse of nearly two thousand years, to their merited honour has been reserved for our own times. I say after nearly two thousand years because, although Asclepiades was born somewhere between 130 and 124 years before Christ, and thirty years later was famous, yet his fame suffered no eclipse until the star of Galen arose; then the torch of Asclepiades was quenched. Never a voluminous writer, his works, scarce by the fourth century, by the sixth century were lost; so that his reputation was at the mercy of any idle scribbler whose malice was thus placed beyond direct confutation. Something like the same neglect befell Celsus, whose treatise on medicine was also practically lost until the fifteenth century, when it was rediscovered, as it is said, by that respectable Pope Nicholas V. The facts, according to Sabbadini, are that the first and less correct MS. was found at Siena by the humanist known as Il Panormita; the next and better one came to light soon afterwards in the Ambrosian Library. Portions of Celsus, however, had probably survived also in the obscurity of monkish closets. The work was not printed until 1478, at Florence. It is interesting to us to note that Politian took some pains with the text of Celsus, and that among those who attended his lectures were Grocyn and Linacre.[2] But Celsus was a Roman gentleman and a layman, whose treatise on medicine did not arouse any jealousies, and whose credit was safe with his own coterie. The spiteful arrows of Pliny were shot elsewhere. Neglect, therefore—unmerited neglect—might, and did, overtake Celsus, but not contumely.

It may be that this earthly orb, when it judges, judges securely; but it takes an unconscionable time to consider its judgements, and too often meanwhile this loss of documents arrests the course of its justice. Six hundred years ago, when the path of secular knowledge was the path to persecution or to the stake, flourished, or tried to flourish, Roger Bacon, the friend of Grossetête and Adam Marsh, one of the most masterly spirits of any time or people, and one of the boldest and most unfortunate champions of the emancipation of the human mind. Yet last year the historical school of his own university knew no better than to represent Bacon publicly as a buffoon. So much for humanism. And if this be true of modern history, what may we expect concerning the submerged scientific geniuses of two thousand years ago? Now it will not compare the memorable talents of Asclepiades, whose reputation for something like this interval has been under eclipse, with the genius of Bacon; nor the career of that favourite of kings and harvester of fees with the bitter bread of captivity and the ironical denial of the currency of the pen to the bounty of an unconquerable mind; yet, had Asclepiades been a smaller man than in fact he was, for the sake of historical truth no inconsiderable measure of justice would still have been his due.

Asclepiades may remind us in many respects of Boerhaave. In the one case and the other affable manners, good fortune, and worldly success threw a glitter of vulgarity over a career of rich practical and philosophic attainments, versatility of mind and temperament, rapid clinical perception, and sagacious insight into the conditions of health and disease; these were the endowments of both men, and in them approached, if they did not quite amount to, original genius. We meet with the curious coincidence that, in his first dissertation, Boerhaave also occupied himself in part with the philosophy of Epicurus. To Boerhaave ingratiating manners, elegant accomplishments, and popular vogue and fortune became no reproach; but in Asclepiades these qualities have been construed into sycophancy, sophistry, chicanery, and avarice.

It may be said that Asclepiades lived a long time ago; that his contemporaries knew him better than we can do: or, anyhow, that there is no use in worrying over dead issues and obsolete reputations. We shall see, however, that Asclepiades occupies not only a high, but a cardinal, place in the history of medicine. Broken as are the lights in which for us he stands, yet his is the first figure which stands forth under any illumination since the dispersion of the greatest schools of Greece. The great names of Herophilus and Erasistratus are but shadows. Again, in so far as history is, or is to be, a science, or even morally true, no fact is to be taken of its apparent dimensions. Now the cardinal moment at which Asclepiades flourished was that of a new outpouring of Greek philosophy and medicine into the alien air of Rome. The meaning of his career contains, therefore, much of the meaning of the age in which he lived, and of which he was a type; and, if the report of his contemporaries were coloured by envy or prejudice, our view of the period and of the course of the history is so far perverted. We must weigh the value of each witness, and compare the witnesses one with another, remembering that *calumniare audacter, semper aliquid haeret*. Moreover, we must not give too much latitude to the word "contemporary."

About 130–124 B.C., then, Asclepiades was born, at that interesting city Prusa, in Bithynia; so that he was about a generation older than Lucretius. His name indicates that his family had some connexion with the medical calling. But the name was no uncommon one; of his time fourteen persons are known to have borne it, and it seems the physician, himself an eloquent man, was confounded with another Asclepiades, a rhetorician; whence arose Pliny's spiteful legend that, having found rhetoric unprofitable, Asclepiades had turned to medicine with a sophist's adroitness and the ignorance of a layman. But, to rectify our definition of a contemporary, it was about seventy years after the death of Asclepiades that Pliny was born; and the prudent Celsus, who lived a little earlier, though none too willing a witness, says of him that "*Medendi rationem ex magna parte mutavit.*" Asclepiades has suffered the more in reputation with modern English scholars as Greenhill, lately the honoured friend of some of us, and in medical history the revered teacher of us all, in my opinion and that of others, accepted too readily the irresponsible invective of Pliny, and the current estimate founded upon his testimony, reinforced by certain strictures of Celsus and Galen which were animated by controversial strife, not by moral censure. With such doctrinal differences, and the schisms which gave rise to them, I will deal presently. Suffice it to say now that for Asclepiades

medicine was no afterthought; from his youth he was educated for our profession. In Wellmann's[3] opinion he was not only thus educated at Athens, as we now know, but probably at Alexandria also. It was from Athens that he brought to Rome a theory of medicine founded upon the atomistic philosophy of Democritus, then passing under the name of Epicurus, and soon afterwards to be transfigured in the shining car of Lucretius.

As in England the adverse view of the life and doctrine of Asclepiades received the sanction of Greenhill, it is from him that I must curtly present it. In his well-known article in Smith, Greenhill says, "Asclepiades may fairly be characterized as a man of natural talents, acquainted with human nature, or rather with human weakness, possessed of considerable shrewdness and address, but with little science or professional skill. He began (upon the plan which is so generally found successful by those who are conscious of their own ignorance) by vilifying the principles and practice of his predecessors, and by asserting that he had discovered a more compendious and effective mode of treating disease *than had been before known to the world.* [Italics mine. ... He directed his attacks more especially against the writings of Hippocrates." Greenhill then proceeds to argue that the methods of Asclepiades owed their popularity to his assiduous attention to everything which contributed to the comfort, flattered the prejudices, and indulged the inclinations of the luxurious classes. "We cannot fail," he adds, "to recognize in Asclepiades the prototype of more than one popular physician of modern times." This is tolerably scathing; and I suspect the distinguished critic, who was better versed in medicine than in philosophy, was not indisposed to use this parable of Asclepiades for the chastisement of certain professional vices of his own times. Dr. Withington, who may be said to represent opinion as now prevalent, with a more even verdict but still with an ironical pen, sides, on the whole, with Greenhill. He, too, is not unnaturally angry with Asclepiades for his revolt from Hippocrates. Nevertheless, during the last century there were not a few writers to take a more respectful view of Asclepiades, both as to his virtue and ability. The first scholar to qualify my own estimate of Asclepiades was that brilliant friend of my youth, Maurice Raynaud, snatched so prematurely from his friends and from medical science.

At a much later date, some half-dozen years ago, a tract by Dr. v. Vilas came into my hands which made a radical alteration in my estimate of Asclepiades. It may be true, as Max Wellmann says, that v. Vilas was not sufficiently equipped with learning to do full justice to his theme; still Wellmann's standard is a high one, and a pioneer such as v. Vilas may on a humbler scale deserve very well of us. He put his points well, and supported them with no inconsiderable information. Moreover, he did the reader the service of putting him in the way to discover the earlier literary testimony. M. Albert also, in his *Les Médecins Grecs à Rome*, has given a balanced and better-informed estimate of the place due to Asclepiades; and Fuchs (in Pagel) and Neuburger (the latter especially, whose work I had failed to consult until this lecture was under correction) have dwelt more adequately on the evidence for a far different interpretation of his character and talents; yet even these authors realize imperfectly the weakness and bias of the persistent detractions. *Aliquid haerebat.* The last and most convincing vindication of the place of Asclepiades in history is the essay by Wellmann to which I have already referred.

Without claiming for Asclepiades a measure of magnanimity far beyond the easy standard of the age in which he lived, we shall remember, nevertheless, the gross licence of backbiting and invective then tolerated, nay, even customary, in Rome. Of this extravagance we see colossal examples in the forensic orations of the time, even in those of men as cultivated and humane as Cicero; and in cases where we have better means of knowing the truth than remain to us in the instance of Asclepiades. Moreover, in the latter days of Athens and Alexandria, Hellenism, settling on its lees, had become more and more artificial and disputatious, more and more charged with schismatic animosities. In these passions of opinion reputations were indiscriminately devastated.

It is narrated of Asclepiades that one day, passing along the street, he saw a body stretched upon a bier, on the way to burial. He interfered, perceived some sign of life in the body, and applied restoratives; the supposed corpse quickened, and the man was made whole. The multitude acclaimed Asclepiades as a god—to the annoyance, no doubt, of rival practitioners. This story is used in building up the accusations of charlatanry against the too lucky physician. But we know nothing of the circumstances which led Asclepiades to intervene, nor do we know how he carried himself under the adulation. What we do know is, that to expose the sick and dying on the highways for the chance wisdom of the passers by was an ancient and familiar custom. Moreover, we know, from a passage in Galen, that Asclepiades, as Herophilus before him, had devoted especial attention to the pulse.

Another, and I think the only other, evidence alleged for the charlatanry or wily complaisance of the Greek is that in a time of growing luxury he made his therapeutical means also luxurious; that he laid aside coarse and drastic remedies for gentler means—for regimen, baths, diet, exercises, and so forth; and that he introduced these changes in Rome with the manners of Boerhaave and Mead rather than of Radcliffe and Abernethy. But it seems not to have occurred to historians to consider whether these mitigations of practice were supple concessions to a voluptuous generation, or were consistent with a new and revolutionary doctrine, not of his own invention but a fountain from the Alexandrian stream of thought, which drew upon him the hostilities and revenges which pursue innovations and innovators. That Asclepiades should have lifted up his voice against the sacred head of Hippocrates has made all historians, from Celsus to Dr. Withington, righteously indignant; and not without some reason. The leader of the Hippocratean school had seen certain aspects of pathology with the eye of genius; Asclepiades saw another—a smaller side, if you please, but not fictitious. Yet there is no evidence that his opposition to Hippocrates, as construed by the Dogmatists, was embittered by personal acrimony; it seems to have been in the form of argument, and of sarcasm pointed by epigram. It is indeed a little curious that he should have called the Hippocratean expectancy a study upon death (*θανάτου μελέτη*), seeing that his own movement had been from dashing therapeutics to more rational and temperate methods; but this very discrepancy seems to mark his polemic as petulant rather than impious, while Galen's arrant teleological convictions were outraged by the flippant quip that Nature was as ready to kill a man as to cure him. But in moments of temper have not some of the moderns of us said the like?

The fragments of Asclepiades, who is quoted by about thirty-three authors in various fields, in which passages moreover ten more references are embedded, were collected by Gumpert in 1794. The chief sources, however, are only four, namely, Celsus, Pliny, Galen, and Caelius Aurelianus; and of these Caelius Aurelianus is the most important. Unfortunately, such has been the ill luck of Asclepiades, that for many generations the writings of Caelius Aurelianus were lost, or concealed under corruptions of his name. By the same misfortune, much of our knowledge of Soranus, and of the history of the sect of the Methodists, lay long in obscurity.

A modern writer on medical history has made the interesting remark that as celestial bodies, while themselves invisible, may in some measure be recognized by their influences upon the paths of the bodies visible, so phases of the past of which, as in the case of Alexandria, the records are lost, may in some measure come into our ken by certain otherwise unaccountable deviations of recorded periods. We must endeavour, then, to calculate from the orbits of medical thought and practice which we can plot out, those influences which, in the absence of records, may give us some notion of the history of medicine during the blank period between Hippocrates and Asclepiades; and for a moment I must revert to the geographical aspects of the problem.

We have seen that before and during the period which we may briefly call the Homeric the western seaboard of Asia Minor was not Greek; it was an outlying border of an inland power then strong enough to hold it against western encroachment. Miletus, for example, was for the Greeks of that period a city of the "barbarously-speaking" Carians; although the Carians were experts in certain delicate arts, yet they spoke a tongue unknown to the

Achaeans. Mr. Hogarth thinks that the north-west corner of Asia Minor and Rhodes—Ialysus, Cameirus, etc—first became Greek. As the inland overlords—probably the "Hittites," Aryan invaders from the north, who were not a sea-going people—began to lose grip, and shrunk away from the seaboard, the titful raids of the Aegean people became consolidated into permanent colonies. How these colonies grew into the magnificent cities, and intellectual and artistic centres of Ionic Greece—centres which retained their vitality through many vicissitudes down to Byzantine times—there is no need for me to describe.

The Alexandrian Empire began about fifty years after the death of Hippocrates, and Alexandria became the centre of trade and intellectual activity; yet Attalid Pergamon was almost comparable with it for culture. The swift advance of Greek science in Alexandria is comparable with the bloom of Greek art in Athens; Euclid, Archimedes, Aristarchus, Hipparchus, Ptolemy, Heron, and other men almost as great, carried the sciences forward, especially astronomy and physics, with astonishing effect; and the great school of Medicine sprang up which produced Herophilus and Erasistratus, to us almost mythical names—so illustrious was their fame, so little are they known to us. Our reasonable hope that the discoveries in modern Egypt would bring forth some records of Alexandrian medicine has so far been disappointed. At the time of the foundation of the school of Alexandria the tradition of Hippocrates was probably in full vigour, a tradition, that is, not so much of formal doctrine, as of observation, comparison, and suspension of judgement. For, although it is true that the humoral doctrines were held speculatively, yet the observant reader will perceive in the best Hippocratean treatises how little of the practice was derived from *a priori* applications of them. This pedantry grew up with the Galenists. But we know from this positive medicine, as from religions, how under the Alexandrian mixture of Greek and Oriental tendencies—especially of platonic and pythagorean ideas—certain notions in medicine, the humoral doctrines especially, crystallized out in exaggerated shapes; and how principles and even words, becoming detached as abstract dogmas and terms, gained acceptance as forces or as entities. Hence these later traditional teachers became known as λογικοὶ—*dogmatici*: medicine became more than ever interfused with philosophy, and probably the *Timaeus*—as Haurĕau said, a bad training ground for ignorant men—began to impose itself upon physiology, as it did in the Middle Ages. To these tendencies were added from the East other influences also, of still worse consequence: motley mysticisms and occultisms, emanations, astrology, and the whole apparatus of demonology. From Pharaonic Egypt medicine probably received little, for good or harm, unless it were the accumulation of drugs; medicine under the Pharaohs was dried and sterile, and the anatomy of the embalmers was as rudimentary and pettifogging as a quartermaster's astronomy.

These extravagances, as was natural, resulted in the empirical reaction to which I shall allude presently. Meanwhile we may turn to the Greek tradition, not purely Hippocratean but generally speaking almost free from sacerdotalism, on which Herophilus and Erasistratus were nurtured.

The formal attempt to contrast the schools of Cos and Cnidus, and to allot to each its several system of argument and practice, fluctuating as such doctrines must with the inclinations of the more eminent leaders, was perhaps never a very profitable inquiry; and in the absence of almost all considerable documentary data it is in the opinion of Haeser impracticable. All we can safely assume is that on the whole the Coans were disposed to have regard rather to the general state of the patient, the equipoise of his functions, and the external conditions, such as climate; whereas the Cnidians were disposed to give more attention to the organ affected, and so to rely more on local than on constitutional means of cure. In our own terms we should say that the Cnidian would have discouraged general pathology, and that reliance in prognosis and therapeutics on the whole man, on the *vis medicatrix Naturae* (νόσων φύσις ἰατρὸς) was a Coan point of view. Asclepiades, instructed in the physics of Alexandria, cannot but have recognized the tendency of moving systems to regain equilibrium, and from his practice it is evident that he protested, not against this beneficent bias, but against the teleological way of putting it. And for Aristotle himself, in distinction from Galen, it is no less just to admit that "teleology" meant no more than an analysis of statical relations, that the bodily functions knew no end outside themselves. From allusions in Aretaeus, Galen, Caelius Aurelianus, and other authors, we apprehend that at the time of the rise of the school of Alexandria both these earlier schools, Coan and Cnidian, were in activity. The son-in-law of Hippocrates, Polybus, in magnanimity, sagacity, and experience worthy of his noble kinsman, had carried forward the Coan school with signal success; and we cannot suppose that so eminent a physician as Diocles, though resident at Athens, could have been without considerable influence on the rising Alexandrian school. Diocles was too wise and too experienced a man to be a partisan, yet, as a platonist, his influence may have helped towards this bias in Alexandria; he may have sent them a copy of the *Timaeus*? Praxagoras of Cos, the first physician to teach the value of the pulse, was the master of Herophilus, who, and whose scholars, were accordingly, with more or less truth, regarded as in habit of mind Coan; while, as Chrysippus the Cnidian was the master of Erasistratus, he and his scholars were reckoned on the side of the tradition of Cnidus. In nearer proximity were the important schools of Magna Graecia and Sicily, of the great disciples of Pythagoras and Empedocles. Herodotus speaks of Cnidus and Rhodes as the two great medical schools of his time. It is probable that the inclination to anatomy was carried into Alexandria by the influence of Diocles and Praxagoras; for, although Galen respectfully banters him on the roughness of his dissections, Diocles was no inconsiderable anatomist. He is best known as the discoverer of the *punctum saliens*; but he carried the distinction between the venous and arterial areas beyond Aristotle, and traced the course of some of the glandular ducts. His anatomy, like that of Galen, was of animals only; it is the distinction of the Alexandrians, on the advantages peculiar to their city, to have founded the anatomy of man. Unfortunately too soon afterwards human anatomy—never practicable, perhaps, in Athens—became again impossible, and what had been gained in Alexandria must have been, as physicians are wont to say now of pharmacology and experimental psychology, too far from the sphere of practical medicine to be of co-operative service.

In discussing the later sects, in some of which anatomy was thus repudiated as otiose, we must remember that Daremberg, rather against the impression given us by Galen, was of opinion that up to the time of Asclepiades the school of Erasistratus had prevailed over that of Herophilus; and such also is my opinion; so far as this, at any rate, that the Erasistratids seem to have been commonly accepted as the "progressives" and the Herophilids as conservatives. This point is one of some little importance, as we shall see. It is known that during the life of Asclepiades some of the disciples of Erasistratus founded a medical school at Smyrna; and whether it be true or not that Asclepiades studied in Alexandria, which, in spite of the loss of its political importance on the shift of the centre of political gravity to Rome, was still a seat of cosmopolitan learning—a hive of Romans, Greeks, and Jews—we do know that he began his medical studies in Ionia, where in his time were the great cities and great schools of which I have spoken.

Now, in consequence of intrigues and persecutions in the early Ptolemaic period of Alexandria, many philosophers, physicians, and men of science were exiled or left the city. Certain of the emigrants settled in Asia Minor, and founded or developed these medical and other schools in Ionia and Syria; as, for instance, at Laodicea, and so forth. From the earlier of these schools issued many eminent physicians, among them Alexander Philalethes and Cleophantus, who was one of the masters of Asclepiades. From the school of Laodicea came the oculist Demosthenes Philalethes, whose renown was great in the Middle Ages. Now Cleophantus is mentioned by Pliny himself (*N. H.*, xxvi, 8) as recommending wine as a medicine—an ancient remedy adopted by Asclepiades also, and imputed

to him for unrighteousness. The school of Laodicea was founded by followers of Herophilus, so that Themison cannot have been deeply imbued with the doctrines of his birthplace; that of Smyrna, founded by one Hicesius about 50 B.C., when Asclepiades was an old man, was, as I have said, Erasistratean, so that these principles were still flourishing. Now we are told that Erasistratus, after his master Chrysippus of Cnidus, vigorously opposed the abuses of venesections, of purgation, and of emetics and clysters—Cnidian mitigations which in Asclepiades Pliny wrathfully denounced as cajoleries; for how in the face of a disease with horns and hoofs could any honest physician dare to stand prating about "Cito, tuto, et jucunde"—the well-known formula of Asclepiades! Again, Erasistratus laid stress upon diet, regimen, and exercises; and it is to be noted that he originated that initial abstinence which Asclepiades, and after him the Methodists, made so much of at the commencement of a cure, and which Galen indeed approved. The disciples of Herophilus, on the other hand, as we note also in Galen, were much more addicted to venesection and to a profusion of drugs. Herophilus himself, indeed, seems to have been a somewhat severe practitioner; but he retained the Hippocratic reliance on clinical observation, and was the first physician to watch the pulse and to describe its characters, even with excessive refinement.

By these considerations we are led to the subject of the medical sects. As the medicine of Alexandria stiffened, and was drawn out into naked formulas, there, as under like circumstances elsewhere, a reaction set in, which, however, by a contrary extravagance ended in a similar sterility. Thus, at Alexandria, in the later part of the third century, or, as it is said, a little earlier, under Philinus of Cos, a pupil of Herophilus, arose the sect of the Empirics, whom in a former essay I have called the Philistines of Medicine. Like our own Philistines, these physicians were not without excuse, and were guided by a sort of brutal if rather barren common sense. In discussing the history of schisms and sects we must endeavour not to accentuate the differences by logical oppositions, but to perceive the modes and impulses which drove men apart. Men rarely separate for fantastic or empty reasons, nor even on mere divergencies of temperament; they secede because certain relatively enlightened minds begin to apprehend the hollowness or inadequacy of current tenets. They secede and carry others with them; the established party is wroth, the dissenters hit back, and in the fury of their disputes and repartees the points of difference are forced into exorbitant contrasts. While in calmer moments no sensible dogmatist would have admitted that he treated his patients on an abstract formalism, so no sensible empiric would have admitted that he treated them on detached phenomena, without any attempt to attach fact to fact, or to interpret their directions. Yet in these dissensions of Alexandria the dogmatist was represented as recognizing no facts, the empiric no reasons. Some such extremists there may have been. Empiricism has, notwithstanding, been a valuable discipline, a more valuable discipline than scepticism, because it bases itself on action, while the sceptic gradually draws aloof from action. Celsus did not lose sight of these considerations of historical justice, but Galen accused the empirics less fairly. From Celsus we gather that the empiric of that day relied on three methods: on chance observations of happy results, but also on deliberate experiments or trials, and on systematic collection of facts. From Menodotus we learn that the empiric accepted what he called an *ἐπιδύγαμος*—which I might translate as common sense; for instance, we read that in a case of disease of the brain signs of any former injury to the head would be sought for, and weighed, even if outside direct perception. Still in his mistrust of tentative hypothesis the empiric was an extreme Baconian; he believed in induction, but did not apprehend the inductive method in its completeness; indeed he tried to restrict himself as narrowly as possible to proximate causes, and to regard longer concatenations and remoter causes with suspicion. The faults of the empiric were that he was unaware of the fallacy of *enumeratio simplex;* he had no criteria; and in treatment he would be guided only by the uppermost signs. Obviously, then, he would vilipend the only anatomy he could know, as Sydenham eschewed pathology. We have surmised that even the anatomy of Alexandria was not developed so far as to give much practical aid to medicine, except in some confirmations of surgery. And it is a remarkable tradition concerning Herophilus that this brilliant anatomist did divide his science from his clinical practice, thus leaning towards the empirics; as in later times revolts have been made to clinical observation from an inchoate pathology. Soranus, indeed, said necropsies were useless—"*ἀναιρεῖ*" (that is, *post-mortem* examinations) *ἀχρηστὸς ἐστιν.*" And surely in the midst of Alexandrian visions many of the sayings of the empirics were refreshing: such as these, quoted by Celsus, "Ne agricolam quidem aut gubernatorem disputatione sed usu fieri"; "Morbos non eloquentia sed remediis sanari"; or even the characteristic "Non interesse quid morbum faciat sed quid tollat." The empiric at worst meant business. And we can readily understand the testimony of Celsus and others that the empirics turned out excellent surgeons, such as Heracleides of Tarentum. They were no transitory sect; we read of professed empirics down to the time of the half empiric and half sceptic Sextus Empiricus in the fifth century. In these times, and before them, we find that the medical like other sceptics, as they lost their zeal, began to crave for coarse mental stimulants, and gave themselves up to rank superstitions.

Still, as I have said, the more rational empirics undoubtedly put symptoms in some sort of major and minor subordination, and they esteemed the clinical descriptions of Hippocrates and his immediate followers. Even as physicians they could not ignore the memory of experiences, nor assert that observation can proceed without connotation; but in principle to the *ἐνδείξεις* of the dogmatist they opposed *τήρησις*. The best rendering of these terms I have found in Castelli, who renders *ἐνδείξεις* as the determination of agents by the causes and mode of generation, *indicati ex indicante*, and *τήρησις*, as *cognitio fide sensuum;* or, as I may put it, a tight attachment of the perception to the mere events. On this habit Galen, in his treatise on Sects, rightly comments that, as phenomena are infinite, we cannot but select; we cannot but note one feature and discard another—for example, that a patient has naturally curly hair will be irrelevant; and as it is not every man who knows what to accept and what to discard, therefore discerning observation implies training. Moreover, many of the profounder affinities cannot be detected but by reason. This is, of course, the perennial quarrel between the practical man and the theorist; the theorist is prone to overlook the contingent, the practical man to see nothing but the immediately accessible, incidents. Still even early and rude empiricism could not but begin to demand explanations, and to perceive that there were things *ἄδηλα*, as well as *φανερά*, with which, if true affinities are to be traced out, the understanding must deal. One fact was not as good as another; facts had their relative values, to be appreciated by a mental operation, and some indeed were crucial. But, persisted the empiric, clinical observation cannot teach us causes, while shrewdness and insight with experience—*πεῖρα τριβική*—can by provisional axioms make order enough to give the physician no insufficient a guidance in the infinite world of symptoms. The empiric starved his method by isolating it. With these and such limitations, however, it would seem that the empiric, as such, could never have risen even to the bare idea of preventive medicine.

The empiric did not see that the human mind cannot content itself with perpetual suspense, but in default of some chain of reason will betake itself to analogies, which are usually superficial and false; nor did he perceive the indirect influence of the sciences in training the mind as an instrument to accuracy and method. Serapion, indeed, explicitly advocated analogy—*ἡ ἀπὸ τοῦ ὁμοίου μετάβασις*—a method fraught with the gross errors of folk medicine. A debased empiricism will then abut either on the one hand by recognition only of the coarser phenomena upon folk medicine, or on the other, as in Sextus, upon the fatigue of scepticism; but more enlightened empirics, such as Menodotus, came near the salvation of the inductive method, and definitely did take account of remoter and obscurer causes. Menodotus, as M. Favier in an able essay has shown, even recognized the value and purpose of provisional hypothesis.[4] The contrary tendency to scepticism

is indicated by such terms, common to both empirics and sceptics, as ἐγκλισις—a lighting upon events, as opposed to conceptual anticipations of them.

When we try to compare the standpoint of the dogmatist with that of the empiric, we are met on the threshold with the curious question, How much in the direction of the understanding the senses contain, or imply; and how much διανοια—or the intelligent collection of apparent facts, contains of the ἀθροισμος—or a reconstruction of them; and again, how far these processes are functionally in combination with ἱστορια or memory? On reflection we shall perceive that only in an abstract logical scheme, in a sort of Athanasian mosaic, is the mind divisible into such severalties. The faculties of mind and body work not in compartments but as a contexture; and in so far as these faculties are drawn asunder the functions of the whole understanding are thrown out of balance and its products perverted. In the school of Hippocrates it is true that humoral hypothesis was professed, yet in the matter of practice the bent of it was strongly empirical, and the understanding was regarded as receptive rather than productive. It was to this attitude of mind that Sydenham returned, to a sort of systematic empiricism making for the plotting out of phenomena in series, in some contrast with the comparatively occult curiosity of Morgagni about seats of disease, and of modern medicine about their genesis. It was in their reliance on sagacity before logic, that the saner dogmatists—such as Celsus—were Hippocratean; they trained and trusted the faculty which Cicero calls *ingenium sagax*. But, after all, perhaps, few schools—as few religions—were as bad as their creeds.

Of the state of medical opinion in Rome in the first century B.C. we have but indirect evidence, and even of this not much. Moreover, we have to set aside the random invectives of Pliny; happily, indeed, we are able to discard them for the evidence of Celsus, a sober and competent author, who, moreover, flourished nearer to the time we are considering—the time, that is, of the setting of the school of Alexandria and of the large migration of medicine to Rome. In the treatise of Celsus, then, medicine in Rome is presented to us as still in its main quality solidly Hippocratic, fortified by Alexandrian science, and chastened by the influence of the empirics who were protesting against the later Hellenistic vagaries in Oriental metaphysics. As I have recently published a note on Celsus in the *Classical Review*, I will not stop to repeat it here; I will do no more than indicate that among the upper classes of Rome in the first century B.C. medicine had been lifted far above the folk medicine of Cato; although beneath these classes it was flowing on in scarcely diminished volume. Thus was floating upon a Graeco-Roman aristocracy of family and wealth a Greek but still, as represented by their spokesman Celsus, a sedate and instructed medicine worthy of the Roman gravity, when, from more than one quarter, burst forth a new and revolutionary idea, championed by men of great ability, by a poet of transcendent genius, and by a physician rich in talents, which shook the Hippocratean raft almost to pieces. Indeed, in its later and corrupted form it was decomposing the science and art of medicine into empty conceits, when the more tremendous and, on the whole, more virtuous arm of Galen attacked and demolished it. So close have been the alliances between medicine and philosophy one may wonder that the atomism of the unrivalled twin masters Democritus and Leucippus had not made an earlier prize of our art—an art drifting then and since through many ages with uncharted methods, and without anchorages in substantial knowledge; for humoralism had ignored or neglected the pathology of the solids of the body. The triumph of Methodism proved but a hollow show, though, as I have stated upon the elucidations of Daremberg, Diels, and Wellmann, its survival, from its beginning to its fading away in Salerno, was a longer story than is usually told. For my part, however, I should speak, not so much of the late survival of Methodism as of its relics, and of these rather as its accidents than as its substance: but it is true that doctrines have their roots deeper in the past, and their vitality lingers longer than is obvious to the cursory observer.

The Hippocratic Canon is permeated by many inconsistent strains of thought; as, for example, in the Περὶ διαίτης; the Περὶ φύσεως ἀνθρώπου; the Περὶ φυσῶν, etc. Again, Diocles seems to have been a forerunner of the pneumatists. So among the adumbrations of Methodism, we find that Asclepiades apparently held the strange opinion, excusably derided by Galen, that the urine was not, as Hippocrates (Περὶ ὀστέων φύσιος) truly held, a stream secreted by the kidneys and trickling as rivulets by way of the ureters into the reservoir of the bladder, but that the corporeal fluids rising in vapour exhaled, and, vaguely permeating the pores of the body, condensed in the bladder. Now it luckily happens that Galen, in contesting this very unanatomical but very methodistical notion, remarked that it was in origin pre-Alexandrian. Furthermore, certain opinions concerning plethora, similar to those of Asclepiades, were also held before Erasistratus by one Aegimius of Elis. Now Aegimius, as it seems from Celsus and Galen, did not accept the humoral pathology, and was therefore neither Coan nor Cnidian in doctrine. Aegimius, then, may have been the first champion of atomism in medicine, as Asclepiades was really the last. These and such questions are very ably treated by Wellmann in the new Pauly,[5] where he traces back the atomistic stage of medical history to Erasistratus and beyond him. Diels is now of opinion that Erasistratus endeavoured to harmonize the materialism of Democritus with the ideas of Aristotle; that, according to Erasistratus, it was by an atomic mechanism that the great artist Nature created and acted; as Galen put it (*De Facult. Nat.*, II, 2, etc.), "προνοητικὴν τοῦ ζῶου καὶ τεχνικὴν αὐτὸς ὁ Ἐρἰστρατος ὑπέθετο τὴν φὑσιν." Health accordingly consisted in a συμμετρία (rhythmical system) of these rudiments.

Again, as we learn from Brieger and other commentators, Democritus opined that the soul consisted in a collective activity of spiritualized—that is the finest—atoms in all parts of the body; this opinion was held with a small difference by Asclepiades also, who proceeded to found upon it a positive method of psychiatry, wherein παραφροσὑνη—which he clearly distinguished from the cerebral symptoms of other diseases—was to be treated as a disorder of the brain, a corporeal disease remediable by corporeal means, in which, however, he included music and other psychical influences; a true, and for that age admirable conception which may be said to have fallen into utter neglect until its restoration by Pinel. A note of the rare insight of Asclepiades is to be marked in his ideas of the integration of soul and body; for that these were real thoughts of his, not notions coloured after our modern patterns, is illustrated by such reflections as this—that hallucinations dissolve or diminish in the daytime, because they are counteracted by the data of the senses; as in the rays of the sun a torch becomes invisible. But in the dark the veil of oppression over the senses cannot be drawn away, and thus in sleep, the senses being closed, the pictures of fancy have free play. (Cf. Lucretius, vi, 45.)

It was, then, to the remarkable opinions of Democritus on the nature of the soul that Asclepiades, surpassing certain shortcomings of later thinkers, indeed of Epicurus himself, returned; but now we come to an important advance of his own. Democritus, as I have said, held the interesting view that the soul consisted in the sum of functions, in a co-operation of the atoms of all parts of the bodily system (συγγυμνασία τῶν αἰσθησέων), so that between animation, consciousness, and thought—the ἄλογον and the λογιστικὸν—there were for him only degrees, no radical division. Erasistratus accepted the familiar divisions between the vital principle in the viscera, that of the animal life in the arteries and respiration (τὸ ζωτικὸν), and that of the mind (τὸ ψυχικὸν). For Diocles the soul was in the blood, for Praxagoras in the heart. It was the corollary of Epicurus that for the sake of the soul the body must therefore be cherished, which led to the degradations of hedonism. Now it is recorded of Asclepiades that in this part of physiology he made certain proofs by experiment. The view of Democritus—πνεῦμα παντὶ τῷ σώματι παρακείμενον—obviously excluded a particular seat of the soul; yet, said Asclepiades, in the synthesis the brain must take a predominant part: for he had observed diseases of the brain to be followed by notable perversions of the mind. It was to throw light on this dilemma that he undertook the experiments, in some prescience of the methods of Galen; he decapitated animals of different orders, eels, tortoises, goats, crickets, flies, and pointed out that, though under this dismemberment they could all survive a while, it was in very various degrees. Moreover, in his research Asclepiades took heed of a certain reserve

akin to the system of controls in our experimental method. He pointed out that the functional products were continually variable, even of the soul; this he explained by the incessant whirling restlessness of the atoms (*κίνησις, φόρα, ῥυσίς*); he warned the empirics that therefore two and more observations could never be made under identical conditions. If, then, Asclepiades, in concentrating his explanation of insanity upon the brain, conjectured that the atoms of the brain were rounder and smoother, and so more mobile, than those in the rest of the body, where they united by hooks to form a web (*συμπλοκή, complexio*), yet he was led into this transcendental speculation by observation and experiment. We know, also, that he made *post-mortem* examinations; for in a gibe of Galen's, Asclepiades, who consistently with his theory and with the teaching of Erasistratus regarded digestion as a merely mechanical grinding and pulping, is derided for not observing different qualities in the digested food, whether in the vomit or "*ἐν ταῖς ἀναπάμαις*." But I will not attempt to detain you by farther illustration of the researches of Asclepiades, for, as in the case of Francis Bacon, his meditations were often more fruitful than his applications. Thus it was his logic which dictated to him that the finest atoms must be in the centre of gravity of the body —namely, in the breast; and, with more truth, he adhered to the belief that respiration consisted in the affinity of these finest atoms for the like finest particles of the atmosphere, those nearest like fire or pneuma, or, as we might say, of oxygen. The directions of the *φόραι*—the atomic orbits—he explained partly by "logic," yet also (as we might expect from an Alexandrian student) by some mathematical conceptions. For this reason the hypotheses of Asclepiades have been seriously compared with those of the iatro-physicists or iatro-mathematicians of the seventeenth century; but surely this is to forget that in the vast interval the bases of the medical sciences had been wholly transformed. Of philosophy the bases continued to be more uniform; Asclepiades, like his intellectual ancestor Democritus, was as convinced a teacher as Locke of the relativity of knowledge and of the relative finality of the appreciations of the senses. Ultimate substance is *ἄδηλον*, and we cannot, he says, carry the bases of our knowledge beyond phenomena (*φαινόμενα*).[*]

From considerations such as these, by a closer and wider investigation of such fragments and allusions as are extant, we begin to perceive that to regard Asclepiades as a smooth-tongued and covetous intriguer, bent on plausible inventions and pliable therapeutics wherewith to tickle the fancy of an enervated and self-indulgent society, was an unfair and mistaken judgement. On the contrary, we have seen that this eminent man was educated from his youth for the medical career; that to this end he studied in Erasistratean schools, perhaps in Alexandria itself, and came to Rome inspired by no time-serving, extemporal, or individual sentiments, but by a large and revolutionary system of doctrine, seriously intended to overthrow the post-Hippocratean dogmatism, already combated by the empirics. This system, adapted from the atomic theory of Democritus and Epicurus, and developed in its applications to medical science, had been delivered to him through four or five generations of authoritative teachers; and about the same time this theory and interpretation of life, already for two or three generations propagated in Rome, was to reach its zenith in the splendour of the epic of Lucretius. In common life educated men, and even the general public also, were repudiating the crude tenets and the barbarous practices of the old-fashioned medicine; while in respect of the empirics, on the other hand, intellectual observers, such as Crassus the orator,[†] Cicero, Atticus, Mark Antony, some of whom are recorded as personal friends and patients of Asclepiades, could not fail to discern the aridity of doctrines which professed to see facts only one by one. Thus the minds of thoughtful Romans were open to consider almost any plausible doctrine of causation, and meanwhile to welcome more temperate therapeutical methods. At this time it was that Asclepiades arrived from Athens, animated by the atomic theory, a physical conception of nature which in philosophy and literature also had already inspired other eager spirits with the ardour of a revelation, and professing to found a new practice upon those methods of diet, active and passive exercises, baths, and the conduct of life which we honourably distinguish as physiological; and that Asclepiades was no ineffectual sophist, but expert enough with his hands on occasion, we infer from his reputation as a surgeon, and from the attribution to him of the operation of laryngotomy.

But what about the ungenerous denunciations of Hippocrates! Why, we shall step out of the study, and apply to these scoffs a little worldly common sense. Asclepiades came to Rome as a rebel; he had to fight for his hand against a powerful army of conservative forces, especially against a jealous and none too scrupulous body of practitioners, all or nearly all of them either dogmatists or pretenders; both of which parties armed themselves alike with weapons from the armoury of the older tradition. As for our fathers Moses, being interpreted, meant Bishop Usher, so in the months of the Greek doctors in possession "Hippocrates" meant the prevalent dogmatics and routine. And it were no inconsistency of temperament in a reformer one day, as irascible man, to throw controversial missiles at the effigy of a Hippocrates or a Moses, and on the next, as sage, to treat their persons with reverence. The remonstrances of Asclepiades were far away from the raw and insolent abuse of Thessalus, such as that the aphorisms of Hippocrates were all lies. Pliny is the only writer to impute moral delinquency to Asclepiades; the medical botanist and folk-lorist and the philosophical physician were irreconcilable. Varro, whose leanings were towards the Empirics, bitterly opposed the Epicureans, and in this sense only opposed Asclepiades. Scribonius Largus protested, but with great respect, against a physician who discouraged the liberal use of drugs. The wise and learned Celsus, in a period when literary acknowledgements were usually disregarded, mentions Asclepiades —so I have computed from the index of Dr. Friebos—no less than twenty-nine times; if often with dissent, yet always with respect, and many times with honour; for instance as "*auctor summus*," and as one who "*medendi rationem ex magna parte mutavit.*" How paramount in his own day was the reputation of Asclepiades we know from the attempts by other potentates, especially by Mithridates, to allure him elsewhere. Galen, though more acrimonious in dispute than Celsus, yet likewise betrays in his arguments, and indeed avows, that the fame and ascendency of Asclepiades were still paramount, and that he sought to discredit that fame not in morals but in doctrine. Between such antagonists there could be no truce; and, as Asclepiades had been in his grave for a century and a half, the illustrious Galen got all his own way in the wrangle. Still I repeat that these angry protests of Galen, for much of which there was controversial justification, were a tribute to the authority of Asclepiades, and carried with them no more imputation of guile or dishonour than in the case of Menodotus and others whom he pursued with the same pugnacious eloquence.

While Asclepiades erred towards a dissipation of the specific in the universal, Galen, who belonged rather to the Herophilean tradition, became accordingly engaged and even entangled in too assiduous an occupation with specifics and the consequent enormous polypharmacy. Moreover, Galen had adopted the monotheism which, as it were in reaction from the invasion of demonology, had arisen in Alexandria, and in with it he had woven a highly elaborated teleology, which virtually postponed the divine to the human intelligence and turned any incidental result of the coadaptation of an organism and its conditions into its end. Besides his loyal devotion to the name and school of Hippocrates, Galen was himself an ardent, only too ardent, humoralist. He relied also upon the Critical Days, repudiated by the atomist school, which, if a remnant of magical numbers, was accented, and more rationally, by the periods of pneumonia—a malady then frequent, and of the malarial influence which tainted many of the other diseases of the Mediterranean. It is a mistake, however, to suppose from this that the Methodists did not recognize crisis; what they denied was that crises were determined by calculable periods.

[*] For the discussion of these materials derived from Sextus Empiricus, Caelius Aurelianus, Galen, Aetius, Cassius the iatro-sophist, Antiochus of Ascalon, etc., I am indebted chiefly to Daremberg, Brieger, and Wellmann.

[†] Cicero, in writing to Crassus of Asclepiades as both friend and physician (apparently of both?), says that Asclepiades was indeed eloquent, adding: "In eo ipso quod ornate dicebat medicinae facilitate utebatur non eloquentiae."—*De Orat.*, I, 14.

The researches of Maxwell, Kelvin, and J. J. Thomson—to mention but a few recent workers in this field—have linked us so much more intimately with the atomists of old, that we read even the esoteric *Timaeus* with less sense of the bizarre; still for medicine the doctrines of Asclepiades, and still more justly those of Themison and formal Methodism, were very crude, even as hypotheses; and from the peculiar needs of medicine they rambled far away. What the art of medicine needed above all things was positive methods and a ruthless fidelity to facts. I have been led to imply that for medicine even the cramped and illiberal notions of the empirics were less unwholesome than the fascinating and philosophically interesting visions of atomism. Philosophy is one thing, a craft is another, and a craft must walk before it can fly. Atomism did, it is true, recall men to the forgotten solids of the body, yet so very impalpably that not professional antagonists only, but the very nature of things warred against Asclepiades. If the despotism of Galenic tradition became an incubus to medicine, we may surmise that a tyranny of Methodism might have been a worse misfortune. Methodism would have started indeed with a "cito et jucunde," and the western sick might have been spared the flourishes of the actual cautery and volumes of blood, but the following centuries were rough; perhaps they were fascinated by rough handling, at least they did not resent it: and if Methodism ignored the *vis medicatrix Naturae*, Galenism too often forgot it.

To move onwards from Asclepiades: the early atomists had said little of the spatial relations of the atoms, of pores between them.* Plato supposed his triangles to act in a plenum.† Erasistratus and Asclepiades, however, laid stress on the pores; for instance, if there were no pores in the skin how could one sweat?‡ And Themison, who is commonly regarded, perhaps conveniently, as the founder of Methodism proper, for the pores almost forgot the atoms themselves. In what kind of association, then, did the atoms seem to the atomists? Had they any conception—to use our current terms—of a grouping of the indivisible atoms into molecules? Even when we come down to Asclepiades, had he in his mind's eye any functional, differential, or heterogeneous segregation of atoms? After some rummage among texts and commentaries, I have come to the conclusion that to this question no answer can be given. The difficulty is not so much that in respect of a building of atoms into molecules there is no allusion; as that in the relevant passages of the texts—fragmentary as they are—the extant terms and sentences are at variance, or indeed contradictory. Some Epicureans, using the word *ἄτομος*, regarded these particles as ultimate; others, using the word *ὄγκος*, as divisible; but it is not apparent that any point of constructional principle depended upon the difference. The probability is that the notion of systems of atoms, or of compound atoms as molecules, did not present itself formally to the ancient thinkers as a mode of functional development. They supposed that atoms might stick or crowd together, but they looked upon such adhesions as incidental, and usually, as hampering them in their orbits, mischievous. But Asclepiades, as we have seen, conceived of the atoms themselves as coarser and finer, and so differential in function. To read more into their expressions—at any rate into their extant phrases—is, I think, to import into them ideas of our own.

What is, then, the distinction which separates Asclepiades from Themison—the Epicurean from the Methodist? Well, this—that from regarding the atoms as in a plenum, or, again, as rushing, spinning, or whirling in space or spaces, Themison, as I have said, almost forgot the atoms in the pores, or, rather, forgot both in the meagre notions of relaxation (*ῥυσίς, τὸ ῥύωδες*) and constriction (*στέγνωσις, τὸ στέγνον*) in this area or in that. Asclepiades conceived of the atoms as losing their balance and crowding together, in this direction or in that, so as to cause a stoppage (*ἔμφραξις*), or at least a retardation (*στάσις*), of the currents in one part with a corresponding rarefaction in other parts. Of the rarefactions Asclepiades says less than Themison, for whom they loomed larger; and Themison contrasted the rarefied parts, where he regarded the tissues as relaxed, with the congested parts where they became choked or constricted. Thus, pain for Asclepiades consisted more particularly in a sense of stoppage, of aggregation of coarser atoms—as in thick blood, for instance; Themison reduced it to a mere *strictum*: and in their respective explanations of fever there were the same differences. Generally speaking, for the Methodist acute disease was a *status strictus*, chronic disease a *status laxus*.§ For pain, then, Asclepiades conceded that venesection, preferably local, might fairly be practised, though cautiously and only for instant relief; for he affirmed that on the whole bleeding tended to draw off the finer, the more vital, atoms first, leaving the coarser behind: so that rigor, due to such a peripheral viscosity, might follow venesection. Again, when arrests took place in certain parts, as in glands or in a lesion of a limb, the swift atoms, finding themselves thwarted in their orbits, would sweep upwards from the block, or perhaps from a more universal closure of the pores of the system, and thus set up general fever.

I may digress not inconveniently here to say that the interpretation of Fever was one of the great questions of the schools; that of the atomists we have noted. Diocles held that fever was a contingent effect (*ἐπιγέννημα*) of some morbid process, and Galen took a similar view of it, the not irrational view—over-emphasized in later times by Broussais—that all fever depended upon some focus of inflammation, especially if pus were forming. Other schools attributed fever to plethora: the Hippocrateans to bile—the degrees of malaria, for instance, being degrees or kinds of biliary crasis. And external poisons were not forgotten—such as bad food or bad gases; for to some such agency Thucydides tells us the great plague of Athens was attributed. By the Methodists, however, these doubts and conjectures were all diluted into the vague conceit of a mere *strictum*, more jejune even than the Asclepiadean stoppages of the pores. This was one of the universals (*κοινότητες*) of the Methodists; the other two chief *communitates* being the "laxum" and a third or mixed state, *μεμίγμενον*; this last being one of those shifts for the disposal of awkward instances to which most system-mongers are driven, only to find that it unites the difficulties of both extremes. This "mixtum" was inserted by Themison. On those universals Soranus wrote a book, lost with the rest of his works. Thus, conceptions which in Asclepiades were an endeavour to range biology with the positive sciences, to bring medicine into contact with physical methods, to anticipate Haller by bringing the solids of the body into the reckoning, were, by the extravagancies and fantasies of his immediate successors, the Methodists, attenuated into the flimsiest of cobwebs. To the most eviscerated of these notions the Methodists referred all phenomena; they scorned axiomata media, and sought to know the whole without knowledge of the parts. For them the problem of diagnosis was not, What are the phenomena? but how far could the malady be evaporated into a *communitas*—a *strictum*, or a *laxum*, or a *mixtum*? The treatment, accordingly, was just a correlative formula—laxative, tonic, tono-laxative—a facile device which, at any rate, discouraged polypharmacy. But, as Galen happily retorted upon them, as Humanity, for example, is a universal, but in the examination of individual cases, or even in inquiring into the species and sorts of Man, one very vaguely useful, so in disease the physician must not only pay regard to particular symptoms and characters, but must also inquire into what Galen called the procatarctic (occasional) causes, such as climate, age, sex, habit, and the like. This aspect of causation was familiar to Asclepiades, who taught, for instance, that diseases behaved differently, and patients tolerated treatment differently in Rome and in the Levant. However, too often these discussions were, after all, fights between one windmill and another. It is curious that each in his own extreme, the Empiric and the Methodist alike, the

* Empedocles supposed the emanations from external bodies passed through pores into the organs of sense.

† The *πύκνωσις* and *ἀραίωσις* of Anaximenes were not spatial relations of atoms but extenuation and condensation of a uniform "air." For the extant sources the reader is referred to the collection of Ritter and Preller.

‡ I may here recall the contemporary, and especially Methodist, idea of respiration by the skin in man.

§ That Asclepiades, or any other one physician, propounded the distinction between Acute and Chronic Disease I can hardly admit. The prevailing notion in the time of Hippocrates seems to have been that Chronic Disease was a sequel of Acute, and this notion became modified gradually.

Empiric glued to his particular, and the Methodist blown into his universal, dispensed with the need of inquiry into causes, or, indeed, into processes. While for the Methodist the specific fact was as soon as possible to be sublimed into one of the three universals, for the Empiric it was an ultimate; the one refused to see it, the other refused to pursue it. This was a sad falling off from Erasistratus, who made some necropsies; he observed, for example, that in ascites the liver might be of stony hardness.

But the Methodists soon discovered—or it was discovered for them—that to reduce medicine to two, or even to three, abstract categories was, because of its very facility, to reduce it to a vapid and fruitless pretence; they formulated, therefore, other universals subordinate to the chief triad. Yet even then, for the explanation of poisoning, of the invasion of foreign bodies, of tumours, and of surgery in general, the idea was unworkable, and, at any rate in its emptiness of content, futile.

The parallel categories to which their therapeutics were necessarily reduced were of *contraria contrariis*: if, as in the first stage of fever, there was constriction, then relaxants were to be used; if, as in the second stage, there was solution, then astringents. So, again, in presumptive local leaks or stoppages astringent or solvent remedies respectively were to be directed to the affected area. It is easy to see how such rules-of-thumb must lead, as in fact they did, to the vainest and most senseless routine, and how destructive they were of the method of Hippocrates, which, as Celsus wrote, was *mederi oportere et communia et propria intuentem*. Still, as in all such revolts, the leaders, as we have glimpses of them down the centuries in Oribasius, Aetius, Alexander of Tralles, were better than their followers. But I must permit myself again to commend the excellent and permanently influential side of their therapeutics, derived from their forefathers, Asclepiades and Erasistratus, that which congruently with their physical views led to the correspondent extension and development of the physical means of cure—of passive movements, graduated exercises, special baths, diet, regimen, and so forth. These were the methods which in the hands of Asclepiades supplemented the barbarous practices of Archagathus. A proverbial rule of the Methodists, which we trace back to Asclepiades and Erasistratus, was the well-known three days' abstinence with which they commenced the treatment in acute disease. It was in the later stages that wine and good feeding was recommended.

In obstetrics the Methodists attained distinction, especially in the person of Soranus, whose fame, and the fragments and titles of whose works, testify to remarkable abilities, not in obstetrics only, but over the whole sphere of medicine. The man is reflected in his terse, lucid, shrewd, and practical style. Soranus was, as it were, reconstructed from these relics by Reinhold Dietz of Königsberg, another learned physician carried off prematurely by death. The development of obstetrics probably arose out of the Alexandrian anatomy; we know that Herophilus wrote upon the subject. Thessalus of Tralles, on the contrary, in the reign of Nero, reveals himself to us as an arrogant boaster, and not only as vainglorious, but as the captain of troops of pretenders, to whom he promised for a fee to teach in six months all that need be known in medicine. Such medicine as Thessalus had to teach might have been written on the proverbial half-sheet of notepaper, and learnt for less money in as many hours. He vaunted himself as the foe of doctors, and on his ostentatious tomb in the Appian Way inscribed himself as Iatronikes. He vanquished, it is true, whatever there was in the science and art of medicine, of understanding, of skill, of patience, and of honour; and must have revealed to the respectable Methodists how near are the boundaries of vanity of doctrine and vanity of conduct. Asclepiades was the forerunner of the Methodists it is true; but it was by Themison and his school that the atomistic conceptions, which at best lent themselves too readily to fantasy, were so reduced, both in theory and practice, to summary forms as to be comprehensible by any illiterate charlatan.

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AN OXYGEN GENERATOR AND INHALER: ITS USE IN MOUNTAIN SICKNESS.

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I HAVE contrived this simple and inexpensive piece of apparatus for use in places and conditions where cylinder oxygen cannot be easily obtained for patients with heart disease, asthma, etc., who are in a state to manipulate the apparatus, and particularly for use in mountain sickness. Its portability and lightness make it suitable for transport, and it can be used wherever a pint or two of water can be obtained. The apparatus is of less use in cases of pneumonia, etc., where oxygen can only be tolerated when administered through a funnel or a light mask; but even for these it may be worth having for emergency work, and in uplands and hinterland, away from big cities, where oxygen cylinders cannot be obtained, for successive bags full can be made and the gas pressed out through the funnel or mask.

The apparatus consists of a small metal box—the generator—connected with a vulcanized rubber bag—the breathing bag.

The bag holds about 15 litres, and ends in a rubber mouthpiece. The bottom of the generator is closed by a screw cap and asbestos washer, and a piece of wire gauze is

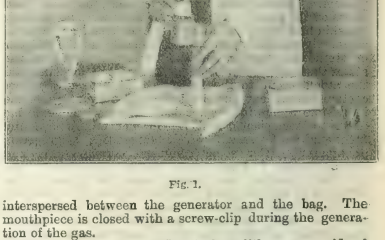


Fig. 1.

interspersed between the generator and the bag. The mouthpiece is closed with a screw-clip during the generation of the gas.

The oxygen is generated out of oxylithe—a peroxide of sodium—by contact with water, and there results a solution of caustic soda. Thus:

$$Na_2O_2 + H_2O = 2NaOH + O_2.$$

The caustic soda solution is used to absorb the exhaled carbonic acid. The oxylithe is sold in flat tins containing ten blocks to the pound. Three blocks make a full

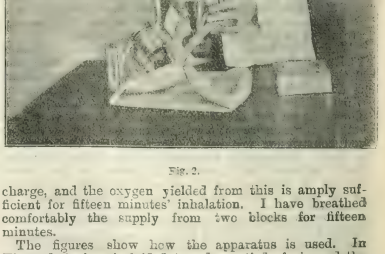


Fig. 2.

charge, and the oxygen yielded from this is amply sufficient for fifteen minutes' inhalation. I have breathed comfortably the supply from two blocks for fifteen minutes.

The figures show how the apparatus is used. In Figure 1 the bag is laid flat and emptied of air, and the oxylithe is introduced into the generator. Figure 2 shows

how one or two pints of water are introduced into the bag, the generator being elevated so that water cannot enter it.

In Fig. 3 the bag is shown elevated after closing the screw-clip on the mouthpiece, so that water enters the generator and the oxygen is evolved. It is not necessary but better to immerse the generator in water, or hold it under a running tap to cool it during the generation, for the heat produced by the chemical action is considerable. Fig. 4 shows the inhalation proceeding. The nose is closed by a soft clip, the mouthpiece is clasped by the lips, and the screw-clip opened. The solution of caustic soda is shaken round the bottom of the bag by the hand that grasps the generator. The solution, of course, must not be shaken too violently, or drops may reach the mouthpiece.

The subject should expire deeply before inhaling, so as to diminish the dilution of the oxygen by the nitrogen within the lungs. The inhalation proceeds till about two-thirds of the bag has been emptied. It is best to stop then because the oxygen is diluted by the nitrogen given out from the body. The subject, of course, must not draw in any outside air, or let any oxygen escape into the outside air during the inhalation, but keep his lips tight round the mouthpiece and his nose shut. After use the apparatus is washed out with water and hung up to dry.

The instrument has been put to the test in the high altitudes of Mexico by Mr. E. R. Calthrop, the distinguished engineer, who has just returned from a six months' visit to Mexico to carry out a reconnaissance survey for a projected railway. Mr. Calthrop, on his previous expedition, suffered severely from mountain sickness, and had considerable anxiety in facing the sickness again. Taking the instrument out with him after a lesson from me in its manipulation, he used it about twelve times, and each time with success. Several of his friends had suffered at these high altitudes in the same way, and so great was the benefit he obtained that he wished me to publish the details of his experience under the authority of his name. The apparatus had removed half the difficulty and discomfort of the journey. "Mexico City," he said, "has now no terrors for me." Mexico City is at an altitude of 7,450 ft., and Mr. Calthrop says all, except the young and perfectly fit, feel the effect of altitude, after going up there by train from the sea, for the first two or three weeks. "Men of my age feel it very commonly, and have to guard against over-exertion until acclimatized." The medical men, he says, told him they often had to convey people out of the high altitudes and back to the States, taking oxygen cylinders with them in the train. Cylinder oxygen there is very expensive and awkward for conveyance. Pneumonia, he said, was a common complaint, and the best chance was to convey the patients down as quickly as possible some 3,000 ft.

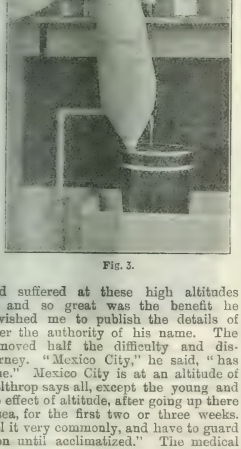


Fig. 3.

In the previous expedition Mr. Calthrop had had an alarming attack at 11,500 ft., after riding too quickly up the last 3,000 ft. He had at that time lost 2 st. in weight from bad feeding and the hardships of the journey. He got off his horse to take a photograph, and in half a minute could not stand, was "frightfully sick for about an hour with distressing palpitation, and had to be carried in a litter." In two days he became fairly acclimatized again to this altitude.

On his second expedition he was affected with palpitation and a feeling of "nervous strain" on the second day after reaching Mexico City. The palpitation was continuous, but increased on climbing upstairs, and was accompanied then by breathlessness.

He filled the bag with oxygen and inhaled it for about seven minutes. The palpitation ceased, and did not return for four days. He took oxygen again on the fifth day, and experienced complete relief from the symptoms during the next seven or eight days. He was certain that the oxygen not only relieved him at the time, but that the relief lasted for some days. On his previous visits, he had been very uncomfortable for the first ten days after arriving from sea level at this high altitude. He used the apparatus three times in Mexico City, and then went down to an altitude of about 1,000 ft. and eventually to sea level, the expedition occupying nearly three months. On his return to the highlands he attained an altitude of 5,000 in two days from sea level, and had no discomfort there, but began to feel trouble again two or three days after again reaching Mexico City, where he stayed ten days, took oxygen twice, and was relieved each time. He had learnt to handle the gas bag better, used it longer, and obtained relief quicker. He breathed from the bag till he had used most of the oxygen up, that is, about fifteen minutes. The palpitation always ceased within half an hour of beginning the inhalation. From Mexico City he went to an altitude of 9,000 ft., and was in bed there for four or five days with severe pain in the ear. He had suffered from a mastoid abscess previously. He got up feeling very feeble with much palpitation and shortness of breath. Oxygen was again taken and had even a more pronounced effect, but the after-effect only lasted about two days, that is, a shorter time than in Mexico City. He had recourse to the apparatus four or five times at this altitude, and at the end of three weeks became fairly acclimatized. He spent six weeks at this place and traversed the railway (10,050 ft.) from there to Mexico City four times. On one of these journeys several people in the carriage were badly affected, but he having taken oxygen beforehand was undisturbed. On returning to Mexico City he had ten days' malarial fever with a temperature going up to 104° F., and an irregular pulse. He inhaled oxygen then in the presence of Dr. Deakens. His pulse fell from 136 to 98 and became regular.

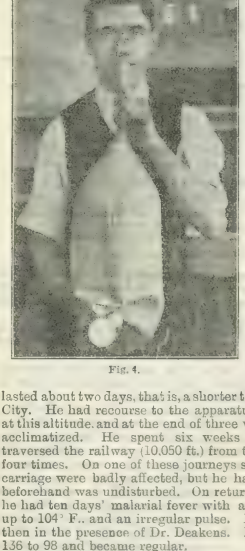


Fig. 4.

Mr. Calthrop also gave the British Vice-Consul the use of the apparatus, as he, too, was suffering from cardiac irregularity. Oxygen relieved him, and the relief lasted during the subsequent week.

It seems as if the oxygen supply fell just below the needs of the heart in these men, and that a chemical change occurred in the sarcoplasm, such as the accumulation of lactic acid, and disturbed the cardiac action. The additional oxygen supply just turned the balance, consumed the unoxidized products, and relieved the heart for some time.

In the case of a lad with mitral stenosis whom Dr. James Mackenzie invited me to study with him, the pulse, as shown by polygraph tracings, became very

irregular for some minutes after he had walked up and down a flight of eleven stairs. Inhalation of oxygen markedly lessened the irregularity. Double the climb, in fact, did not have the effect of a single climb without oxygen. In mitral stenosis we have a condition of oxygen want very like that which occurs at high altitudes.

OBSERVATIONS ON A YOUNG MAN WITH MITRAL STENOSIS.

Summary of Experiments, September 27th, 1909.

Tracing.	Irregularity Lasted.
1. After lying quietly in bed, then going up and down eleven stairs...	84 secs.
2. After lying quietly in bed, then going up and down eleven stairs...	72 ,,
3. Oxygen given for 9 minutes, and continued after going up and down eleven stairs ...	30 ,,
4. Oxygen given, but stopped after going up and down eleven stairs...	72 ,,
5. No oxygen given for 10 minutes before going up and down eleven stairs	60 ,,
6. No oxygen given for 12 minutes before going up and down eleven stairs	75 ,,
7. No oxygen given for 15 minutes before going up and down eleven stairs	110 ,,
8. Oxygen given for 5 minutes, and continued after going up and down eleven stairs ...	40 ,,
9. Oxygen given for 10 minutes, and continued after going up two flights of stairs... ...	90 ,,
10. Oxygen given before and continued after going up one flight of stairs	25 ,,

Summary of Experiments, September 30th, 1909.

Tracing.	Irregularity Lasted.
11. After lying in bed, first effort upstairs ...	42 secs.
12. After lying in bed, second effort upstairs ...	54 ,,
13. After lying in bed, third effort upstairs ...	90 ,,
14. After oxygen, first effort upstairs	40 ,,
15. After oxygen, second effort upstairs	48 ,,
16. After oxygen, third effort upstairs	48 ,,
17. After oxygen, fourth effort upstairs	42 ,,
18. After oxygen, fifth effort upstairs	40 ,,
19. Mask closed, and expired air breathed. Marked irregularity in a few seconds. The mask opened, and irregularity disappeared.	
20. Upstairs immediately after this	63 ,,

Mr. Calthrop found the apparatus very portable and durable. It weighs about 2 lb. It travelled on a pack mule most of the time, and suffered plenty of hard usage and exposure to great changes of temperature.

The apparatus returned looking in as good order as it went out. The 1-lb. cases of oxylithe packed nicely and kept tight and in good state.

It seems, then, after this searching test that the apparatus is one which may afford considerable relief to those who have to face high altitudes.

It is obvious that the apparatus can be used also for a short exploration of a poisonous atmosphere. For this purpose a mouthpiece is supplied which is strapped to the head so as to leave the hands free, and the middle of the bag can be strapped to the body. If a second apparatus were carried, and a tin of oxylithe, and this were charged when the other was almost expended, the wearer could stay a long period in a poisonous atmosphere, in fact until he used up his supply of oxylithe. The second apparatus can be carried with the water in the bag, and the oxylithe in the generator, a screw-clip closing the pipe between the two. To recharge the first apparatus the generator must be elevated and the water returned to the bag before the new charge is put in.

The apparatus is made by Messrs. Siebe, Gorman and Co., 187, Westminster Bridge Road, S.E.

A CURIOUS instance of the apparently incorrigible readiness of the public to make experiments on themselves with anything which professes to be a secret remedy is afforded by the recent tragedy in Vienna. Somebody sent to eleven out of twenty-five officers recently appointed to the general staff some pink capsules; these have been proved to contain a large quantity of potassium cyanide, and one officer who swallowed a capsule died within a few minutes.

A CASE OF FRACTURE OF THE RADIUS TREATED BY EARLY MASSAGE AND MOVEMENT.

By J. P. HASTINGS, M.B., M.R.C.S.,
DUNEDIN, NEW ZEALAND.

I THINK that in fractures such as this the splints may safely be removed much earlier than is customary. The ulna acts as a natural splint. Previous to the performance of the passive or active movements, the limb was always gently massaged. The result was convincing.

Mr. M., aged 18, student, fell upon his right arm whilst playing football. The radius was broken, as shown in the accompanying radiograph. Examination with the fluorescent screen showed that the displacement of the bones was lateral. There was no antero-posterior deformity. The patient was put under ether, and the deformity corrected as far as possible. The limb was then put up in Gooche splints. The anterior splint extended from the bend of the elbow to the palmar flexure, the posterior from the elbow to the level of the metacarpo-phalangeal articulation. On the day following the fracture the posterior splint was removed, and the limb gently rubbed. This was done for five or ten minutes daily for the first six days. From the very first the fingers were left free, and the patient told to exercise them. On the sixth day passive movements were begun; the posterior splint having been removed, the wrist and elbow were exercised for three to four minutes. To do this I steadied the seat of fracture with one hand, whilst with the other I moved the joints indicated. The movements were those of flexion and extension. On the eighth day I removed both splints, steadied the seat of fracture with one hand, and moved the joints as before. On the tenth day the patient was allowed to make active movements of the wrist and elbow, the seat of fracture being steadied with one hand. From the fourteenth day onwards he was allowed to make these active movements for five minutes daily without having the seat of fracture controlled in any way. On the twentieth day the splints were removed altogether. The arm was taken out of the sling on the twenty-fourth day. He now has a limb which presents no obvious signs of having been fractured; there is no deformity; at no time was there any obvious wasting of muscles. The movement at the wrist was perfect as early as the twentieth day. On the twenty-fourth day there was only a little stiffness in the right elbow-joint. He was able to write with the right hand before the twentieth day. I believe I could have dispensed with the splints on the fourteenth day, as even as early as that date the limb really required no further restraining apparatus.



THE EMPLOYMENT OF SILVER WIRE TO BRIDGE THE GAP AFTER RESECTION OF A PORTION OF THE LOWER JAW.

By SINCLAIR WHITE, M.Ch., F.R.C.S.Eng.,
SENIOR SURGEON TO THE ROYAL INFIRMARY, SHEFFIELD.

The very distressing deformity, the complete loss of masticatory power, and the constant dribbling of saliva which follow the removal of a considerable segment of the lower jaw, are only too well known, and constitute a serious objection to this operation. The desire to overcome these disabilities prompted me in the following case to bridge the hiatus with silver wire, and the gratifying result obtained must be my excuse for sending a report of it for publication.

H. H., aged 9 years, was admitted to the Sheffield Royal Infirmary for a tumour of the lower jaw which had been growing for nearly two years. The growth involved the alveolar border and upper half of the left side of the body of the mandible from the site of the first molar tooth backwards for about 2 in. It had obviously started in the interior of the bone and grown upwards. Two enlarged glands could be felt in the submaxillary triangle. A small portion of the tumour was removed and examined by Professor Beattie, who reported it to be a small round-celled sarcoma.

In view of the pathological finding it became necessary to

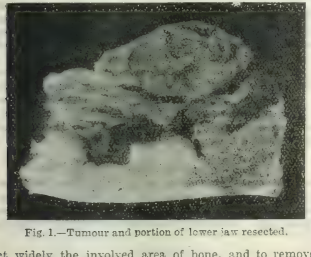


Fig. 1.—Tumour and portion of lower jaw resected.

resect widely the involved area of bone, and to remove the lymphatic glands in the submaxillary triangle.

Free exposure was secured by carrying an incision from the left angle of the mouth downwards and backwards to the neck. The bone was divided in front at the level of the left canine tooth, and behind just above the junction of the body with the left ramus, and the tumour together with 2 in. of the body of the jaw, as shown in Fig. 1, removed. The periosteum covering

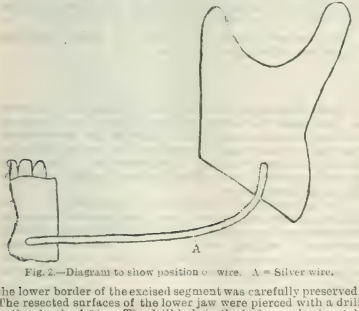


Fig. 2.—Diagram to show position of wire. A = Silver wire.

the lower border of the excised segment was carefully preserved. The resected surfaces of the lower jaw were pierced with a drill to the depth of ¾ in. The drill hole in the body was horizontal, and placed near its lower margin, so as to miss the teeth roots; that in the ramus was vertical and somewhat posterior to the mandibular foramen. The ends of a suitable length of stout silver wire were jammed tightly into the drill holes, and the wire completely covered by suturing together the mucous membranes of the cheek and the floor of the mouth over it. The diagram (Fig. 2) indicates the position and curve of the wire.

A small drain tube was placed in the neck end of the wound and retained for forty-eight hours, and the mouth was rinsed frequently with hydrogen peroxide solution. A little pus formed in the track of the tube, but the wound in the mouth healed quite kindly.

At the present time, except for the skin scar, there is, as the photograph (Fig. 3) shows, absolutely no external deformity. He can open his mouth almost to the full, and



Fig. 3.—Patient after recovery from the operation.

when the jaws are closed the teeth on the right side meet accurately those in the corresponding side of the upper jaw. He is able to bite soft things, and has to be restrained from attempting greater masticatory feats.

I think it is probable that new bone may form around the wire from the preserved periosteum and still further strengthen the mandibular arch.

Unfortunately the majority of cases in which wide resection of the lower jaw is called for are not likely to benefit by the adoption of this procedure. To be successful the wire should be completely buried in healthy tissue, and the wound should heal kindly. These conditions are seldom, if ever, attainable in operations for epithelioma, which is much the most common lesion for which resection is practised.

A CASE OF "GIANT FEET."

By HOWARD STEVENSON, B.A., M.B., Ch.B.R.U.I., F.R.C.S.I.,
SURGEON, CHILDREN'S DEPARTMENT, ULSTER HOSPITAL, BELFAST; ASSISTANT TO THE PROFESSOR OF SURGERY, QUEEN'S UNIVERSITY, BELFAST.

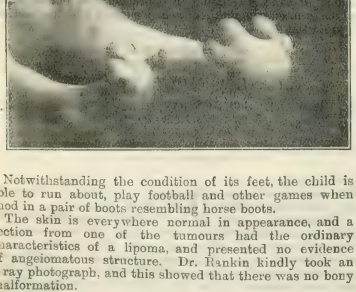
The subject of these illustrations is a boy of 4 years of age, who came under my notice early this year.

The history, as given by the mother, was as follows: At birth he was apparently a normal child, with the exception of the deformity of the toes and some enlargement of the ball of the left foot. At the age of 6 months the child was vaccinated, and about the same time the lumps in the leg and groin appeared. She first noticed the swelling in the left groin, and thought the child was ruptured. Gradually the enlargement extended towards the armpit, the arms at the same time getting thinner.

"Present condition: The two inner toes of the right foot are normal in development, the three outer very much enlarged and resembling small tubers; they are acutely dorsiflexed, and arise from a much thickened sole pad. The left foot is even more deformed, only the inner toe



escaping, and the characteristics described on the right side are more exaggerated. The left leg, thigh, groin, and infrascapular regions are sites of large fatty tumours, while a single large one is also present on the right buttock. When the child is standing there is well-marked lordosis, due apparently to the weight of the tumour in the groin, and possibly to some intra abdominal growths.



Notwithstanding the condition of its feet, the child is able to run about, play football and other games when shod in a pair of boots resembling horse boots.

The skin is everywhere normal in appearance, and a section from one of the tumours had the ordinary characteristics of a lipoma, and presented no evidence of angeiomatous structure. Dr. Rankin kindly took an x-ray photograph, and this showed that there was no bony malformation.

THE third edition of the Hungarian *Pharmacopoeia* will come into force on January 1st, 1910.

THE SCIENCE COMMITTEE OF THE British Medical Association.

REPORT CXVIII.

SOME OBSERVATIONS ON A TWENTY-FOUR HOURS' WALKING RACE.

BY

F. COOK, B.Sc.; E. G. SCHLEISINGER, B.Sc.;

AND

A. H. TODD, B.Sc.

(From the Physiological Department, Guy's Hospital.)

A TWENTY-FOUR HOURS' WALKING RACE, promoted by the Blackheath Harriers, took place at the Stadium, Shepherd's Bush, on September 17th and 18th, 1909. By the courtesy of the secretary and of the club's medical officer, Dr. Munro, we were enabled to make some observations on the physical condition of the competitors. Inquiries were also made concerning their age, mode of training, diet, costume, and the time and nature of any discomfort experienced during the race. Circumstances prevented our making a complete examination of every man before and after the contest, so that the results lack the exactitude of a laboratory experiment; it is interesting, however, to compare them with the many data that have been published within recent years concerning more strenuous and less prolonged feats of endurance, such as running, cycling, and rowing races. For these reasons the observations made are here recorded.

CONDITIONS.

The men were allowed to bring with them attendants, by whom they were massaged, fed, and cared for generally. The race began at 5 p.m., and continued until the same time next day. The weather conditions were as follows:

Temperature.

	Dry Bulb.	Wet Bulb.
September 17th, 6 p.m....	... 60.3°	57.0°
September 18th, 7 a.m....	... 56.4°	54.8°
,, ,, 1 p.m....	... 62.3°	55.1°
,, ,, 6 p.m....	... 59.2°	54.3°

On the second day there were five hours of sunshine. There was little wind throughout the race, and the cinder track was considered by the competitors to be in perfect condition.

The greatest distance covered was 127 miles; 24 of the 50 starters walked over 100 miles.

OBSERVATIONS.

1. *Clothing.*

Special leather boots were worn in the majority of cases in preference to shoes; besides shorts, long pants or stockings were generally worn. Most of the men had on vests and sweaters, and some wore hats, especially during the day. Others were more scantily clothed. The weight of clothing carried was therefore considerably less than that of everyday attire.

The advantages of boots were apparently: (*a*) The fixation of the ankle-joint, thus obviating the strain on the flexors and extensors of the foot, which are of no great assistance in walking; and (*b*) the avoidance of excessive friction and consequent blisters. All the men who were asked said that pants were worn for warmth only, not for support.

2. *Cardiac Condition.*

(1) *Pulse.*—The average pulse-rate of competitors before the race was from 70 to 80; two were of low frequency (47, 54) and two of high (112, 128), the latter being apparently due to excitement. At the end of the race the pulses were, as a rule, below 100. One competitor, however, whose pulse was 128 at the start, showed a frequency of 160 at the finish. In another the rate was only 52.

The rate of recovery, measured at various intervals after the end of the race, showed a rapid return to the normal value—for example:

From	96 to 88 in 5 minutes	
,,	100 to 80 in 10	,,
,,	160 to 86 in 10	,,
,,	90 to 57 in 20	,,

One interesting exception was that of a veteran competitor, 66 years of age, the recipient of numerous congratulations; his increase in pulse-rate, from 100 at 5 p.m. to 108 at 5.40, is probably explicable by excitement.

Pulse-rates taken during the race were, on the whole, higher than those taken at the end; a gradual increase was shown, reaching a maximum about midnight, and followed by a gradual fall. Recovery was good, or fair, except in the case of one man who fell out complaining of headache as well as gastric pain. At 12.30 a.m., on retiring permanently, his pulse was 110, at 1.30 it was 106, and at 7 a.m., 64 when lying down, 88 when standing. (This case is referred to later.)

(2) *Blood Pressure.*—Before the race the readings were all high, averaging 150 mm. Hg. This is sufficiently explained by the exposure to cold, the excitement, and the novelty, to the men, of the method of examination. These causes have frequently given rise to readings of 200 mm. or more. During the race only one measurement was made—namely, 140 mm. at 10 p.m. Only two readings, on different men, were made immediately after the race; 120 and 115 mm. were recorded. Twelve readings on different men were made up to an hour after the finish:

After a rest of	5 minutes,	96 mm. Hg.		
,,	,,	8	,,	110 ,,
,,	,,	15	,,	115 ,,
,,	,,	20	,,	100 ,,
,,	,,	24	,,	84 ,,
,,	,,	30	,,	110 ,,
,,	,,	30	,,	100 ,,
,,	,,	40	,,	95 ,,
,,	,,	40	,,	70 ,,
,,	,,	50	,,	92 ,,
,,	,,	58	,,	106 ,,
,,	,,	60	,,	98 ,,

It will be observed that the return to normal took place, as a rule, within 10 minutes or a quarter of an hour, and that the reading after 30 or 40 minutes was frequently below the ordinary value at rest.

(3) *Cardiac Impulse, etc.*—Before the race fifteen men were examined. In three cases only was the impulse found external to the nipple line. The sounds were normal. In six cases taken at random after the race, no sign of right-sided dilatation was found. In five out of six the impulse lay 1 in. or more external to the nipple line.

Three men were examined three days after the race. In one case the impulse was found ½ in. below the nipple and external to it, and in the other two it was in the nipple line. None of these men had any symptoms of heart trouble.

General Appearance.—Observations on the men's general appearance were made at intervals throughout the race. Sweating and flushing were noted during the earlier part; during this time they were continuous, and ran parallel in degree. In the later stages of the contest the competitors were repeatedly swabbed with sponges, whether to supplement or remove sweat is uncertain. In the early morning there was some cyanosis.

The main conclusion which we draw from these results is that a walking race such as this involves no undue strain on the heart. We would emphasize the practical value of noting the recovery-rate of the pulse; this is readily obtainable, and is at the same time a reliable guide to the condition of the compensating mechanism of the circulation.

3. *Body Weight.*

Before the race sixteen men were weighed, naked; all but one scaled 10 st. or less. One man, 11 st. 4½ lb. at the start, lost 12½ lb. during the race. The nine others who were weighed at the end had lost from 6 to 12 lb., although a considerable amount of food had been taken in the meantime.

4. *Urine.*

The urines of nine competitors were examined; in some cases samples were collected during the race as well as at the end.

The *specific gravity* rose, usually to 1030, and in one case to 1038. The *acidity, ammonia, lactic acid*, and *total nitrogen* have been determined by Mr. J. H. Ryffel and one of us (F. C.); the results will be recorded in a future paper.

Acetone was found in most of the specimens taken towards the end of the race, and many of these also reduced Fehling's solution. The nature of the reducing substance has not been determined. In one case, that of a vegetarian, the "rest" specimen also reduced Fehling's solution.

Albumen was detected in 4 cases only, and in 2 of these mere traces were present.

The rise in the specific gravity is of some importance, as will be shown later. The presence of acetone seems to indicate that the individual's stock of available carbohydrate is exhausted, and that a considerable call is being made on his body-fat.

The relative absence of albumen, taken in connexion with our other observation, tends to support Dr. Collier's view that "functional albuminuria" depends upon right-sided dilatation of the heart and renal congestion.

5. *Food.*

The following are types of the diet taken by competitors during the race:

1. Rice pudding, white of egg, milk and tea, barley-water, orange and quinine wine, brandy.
2. Brown bread and butter, rice pudding, stick-chocolate, meat extract, and weak tea.
3. Vegetarian, including, in the majority of cases, eggs and milk.

One man brought with him, but did not consume, a diet of seed-cake, meat-sandwiches, and some rashers of bacon. Food was taken, chiefly, whilst walking, and in the latter part of the race with increased frequency.

The previous diet of the competitors did not vary in any marked direction from the ordinary.

Causes of Distress.

Blistering of the feet caused much distress, but in one case only, that in which rubber shoes were worn, was this sufficient to cause withdrawal from the contest.

The almost invariable cause of retirement was *abdominal pain*, and this most striking symptom is one which we would emphasize. It was of a griping nature—in general, referred to the epigastrium, accompanied in some cases by vomiting, and in all by nausea. Eructation also occurred. It was particularly noted that in these cases the heart presented no abnormal feature (except in one instance, mentioned above, where the gastric pain was accompanied by severe headache). As explanations of the condition the following suggestions present themselves:

1. The psychical reaction, which normally initiates the secretion of gastric juice, is deficient, owing to the concentration of the attention of the walker upon the race, particularly as food was usually taken whilst walking.

The increased specific gravity of the blood, as evidenced by that of the urine, tends to prevent the secretion of fluid into the stomach, and at the same time promotes the rapid absorption of liquid from the lumen of the gut. Consequently, solid masses of food are present in the stomach, and, stimulating active but inefficient peristalsis, lead to pain.

2. It is generally accepted that during muscular activity the splanchnic vessels are constricted, in order to increase the blood supply of the muscles. From this one may infer anæmia of the stomach, and, consequently, decrease of the flow of gastric juice. Should this condition appear to be causing distress, carminatives should be administered as a rational line of treatment.

3. The acid gastric juice being decreased in amount, and the food being largely of a carbohydrate nature, conditions favouring excessive bacterial fermentation are present. The occurrence of eructations supports this idea, and suggests the administration of charcoal.

The use of carbonates, which seems to be a general practice amongst trainers, is contraindicated by the above considerations.

Inquiry amongst habitual walkers showed that chronic stomach trouble is unusually prevalent at middle age; this condition of "Walker's Stomach" may be due to continued irritation produced as above.

We would therefore suggest that in future contests of this kind competitors should take much more fluid than at present seems to be the custom. The appearance of

intermediate metabolites in the urine, the stiffness of the muscles, and other symptoms, lead us to believe that such products of metabolic activity are inefficiently removed from the system. The introduction of more fluid would remedy this deficiency of excretion, which we hold to be of far greater importance than deficiency of nutrition.

Repeated experience contradicts the popular conviction that large quantities of food must be taken in order to "keep up the strength" in contests of this kind. For instance, soldiers bearing heavy clothing and equipment have frequently marched for many hours with no food, provided that a sufficiency of water is available. Experiments on animals, too, show that external work can be performed for some days on a water diet only.

These facts serve to justify us in advising the consumption of little or no solid food during the race; we think that in this way the gastric disturbances would be entirely obviated. In order to avoid the depressing mental effect consequent upon the withholding of all food, albumen water, or some such preparation might be given. This would only be as a concession to the men's preconceived ideas, and not with the object of providing nutriment. The use of a little alcohol as a readily diffusible and oxidizable stimulant in the last stages of the race seems to be free from objection.

Although a walking race such as this seems to involve far less risk of over exertion than has hitherto been supposed, it is, as a general test of a man's physical capabilities, in our opinion, much less satisfactory than running, and infinitely less so than a contest of the nature of a football match, which brings into play the full exercise of every faculty as well as that of every muscle. It appeared, indeed, that endurance was the most potent factor in determining a competitor's position at the finish, and it quickly became evident that to estimate a man's chances from consideration of his physical appearance was absolutely impossible. This conclusion was shared with us by several physiologists who were present.

The mental factor in contests of this kind is worthy of careful consideration, the man of fine sensibility needing enormous self-control in order to compete on equal terms with the man of blunter temperament. This was recognized by the Committee in the provision of music during the night, and was also exemplified in the obvious mental and physical improvement which followed the rising of the sun.

The expenses of this investigation were defrayed from the British Medical Association's grant to Dr. Pembrey, who has added to the many other kindnesses shown to us that of suggesting the lines which the present research should follow. We are also greatly indebted to Mr. A. Sandison for valuable assistance in many of these observations.

REPORT CXIX.

AURICULAR FIBRILLATION: A COMMON CLINICAL CONDITION.*

BY THOMAS LEWIS, M.D.LOND., D.SC.WALES.
(From the Research Laboratories of University College Medical School.)

[*A Preliminary Communication.*]

IT is well known that in the late stages of mitral stenosis, and in cases of general cardio-vascular degeneration, the pulse is frequently continuously and extremely irregular. The type of irregularity is remarkable in that in radial and cardiographic curves it defies analysis. The nature of the arterial curves has given rise to the term *pulsus irregularis perpetuus*, and it has been supposed that the rhythm of the heart producing it has its origin in the node of Tawara (hence the term "nodal rhythm"). The condition is extremely common.

Facts are now at my disposal permitting of two conclusions:

I. That a rhythm arising in the neighbourhood of the node gives rise to a totally different clinical picture. This conclusion is based upon a detailed examination (polygraphic and electrocardiographic) of a case of paroxysmal tachycardia, in which it can be demonstrated that auricle and ventricle contract together. This rhythm is a rare clinical phenomenon.

II. That the irregular pulse of mitral stenosis, etc., already referred to, is due to fibrillation of the auricle.

The second conclusion is based upon the following evidence:

1. The clinical irregularity presented by arterial and heart apex curves is unique. The rhythm is entirely disorderly, and the sizes of the beats do not correspond to the pauses which precede them. Fibrillation of the auricle results in a similar action of the ventricle, and its action under these circumstances is unique experimentally.

2. Electrocardiograms taken from patients exhibiting the irregularity show a number of irregular waves, apart from the ventricular curve; they are more clearly defined in diastole. They are found in no other disorder of the heart's action. They disappear when, in a paroxysmal case, the irregularity vanishes, and are therefore due to a *temporary* and disorderly action of some part of the heart wall. Cardiographic curves give no evidence of such a disordered action in the ventricle. Fibrillation of the auricle yields curves which are identical in every respect, and no such curves have been obtained by any other experimental means. Further, the waves on the experimental electrocardiograms can be shown to correspond to the fibrillary movements in the auricle, by means of synchronous tracings.

3. The venous curves in the clinical irregularity is of the ventricular type; all the prominent waves occur during ventricular systole, and there is no wave corresponding to a normal auricular contraction. The same statement applies to the venous curves in fibrillation of the auricle. The clinical and experimental curves are of the same nature.

The facts point clearly to the conclusion that the irregularity in question is the result of auricular fibrillation, and the conclusion affords an explanation of several otherwise obscure facts. It provides us with a rational understanding of the disorderly nature of the ventricular rhythm, for it is dependent upon the irregular auricular movements. It explains the slowing which is obtained by digitalis in those instances in which auriculo-ventricular conduction is known to be frequently impaired—namely, in cases of rheumatic origin; for digitalis is known to increase the hindrance to the passage of the impulses where conduction is already damaged. Further it explains the difference between the type of venous pulse in the irregularity considered, and that due to what is termed "nodal extra-systole." It is in accord with the now generally accepted fact that the rhythm is supraventricular in origin; it harmonizes equally well with the evidence that the auricle is active in certain instances where the irregularity is present—for example, the auricular hypertrophy found at autopsy in cases succumbing with the irregularity present and of long duration. Finally, it suggests a plausible explanation of so-called "nodal bradycardia." This condition may be regarded as auricular fibrillation and spontaneous auriculo-ventricular heart-block. The full evidence, including the curves, will be placed on record at an early date.

* The expenses connected with this work have been defrayed by grants from the British Medical Association and the Royal Society.

THE Herbert Spencer Lecture before the University of Oxford will be delivered by Dr. G. C. Bourne, Linacre Professor of Comparative Anatomy, who has taken for his subject, "Herbert Spencer and animal evolution."

A REUTER'S telegram from Peking states that considerable progress has been made in the suppression of opium smoking in the northern provinces and in Yunnan and Kwangtung, less in the central provinces, and very little in Szechuan, Kweichau, and Shensi.

THE resolution adopted at the meeting of medical practitioners on November 10th, organized by the Chelsea Division of the British Medical Association, as to payment to medical practitioners for midwives' calls, was considered by the Fulham guardians at a meeting on November 19th, but its full discussion was adjourned to a later date. Meantime it may be said that one member of the council held that though medical men could not point to any passage in the Act which gave them a definite claim upon guardians in this connexion, it was the undoubted duty of guardians to guarantee the payment of his fee to any medical man called in to save life during childbirth.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWO RAPIDLY-FATAL CASES OF PNEUMONIA.

In March last, as I was standing at my hall door one evening bidding good-bye to a patient at 5 p.m., I saw an elderly man filling a bucket of water at the village pump, and chatting to two other men living in the neighbourhood. At 7.15 p.m. I was called to see this man, who was ill. He was sitting in a chair at his door gasping for breath; his face was ashen; he told me he was caught in his stomach and could not get his breath. I tried to get him to lie down in order to examine him carefully, but he could not breathe and jumped up at once into a sitting position. I examined his lungs and found pneumonia at the left base. I injected strychnine and digitalin, gave him a medicinal and other stimulants, but in spite of all he died in six hours.

On September 28th, 1909, about 7 p.m., I was called to see a farmer, aged 31, weighing 19 st. On the previous day he had received a great wetting. On September 28th he started to thresh corn in his barn with a horse threshing machine. He fed the machine himself, which, I understand, causes a fearful draught to play all over the feeder, not to speak of the dust that arises during the process. He fed the machine until 6.45 p.m., when he entered his house but did not take any supper. He went up to bed feeling sick and weak; he was shivering very much, and vomited twice. I found him in bed, with a large amount of bedclothes over him trying to get warm; his temperature was 101 6°, his pulse 124, his respirations were 56, but ten minutes after they were 36. He complained of a great pain across the pelvis, sharp pain in the head, and a tightness in his throat, but no pain or stitch in the chest. I found his throat inflamed, and the only thing abnormal in his lungs was a small patch of congestion about 1½ in. square at the base of the right lung; his face was dusky and anxious. I diagnosed pneumonia.

The next morning there was a patch of fine râles at the end of inspiration (about 4 in. by 1½ in.) at the base of each lung close to the spinal column; the temperature was 101°, pulse 128, and respirations 48; he complained greatly of headache and pain over the sacrum. I procured a nurse at once, also oxygen and ice. I had given him the previous evening a diaphoretic and diuretic mixture every three hours, with strychnine and caffeine every six hours, and did everything that could be done for him, but in thirty hours after stopping work he was dying, and died in thirty-five hours.

His face became quite black before death, and immediately after death blood flowed from the mouth. I wet-cupped the back of both lungs but only a little jet black blood was obtained; it was too thick to flow; he expectorated once thick blood quite black. There was such a layer of fat over his body that not a single vein over the entire arm was visible, even after applying a tourniquet, for I was prepared to bleed him rather extensively if the blood in the veins would flow at all, which was a matter of doubt. I did not open the temporal artery as I considered it would not relieve the right side of the heart. He also received hypodermics of strychnine, and was conscious to the last.

Rhode, King's Co., Ireland. W. T. Mills.

AVULSION OF THE EYEBALL DURING INSTRUMENTAL DELIVERY.

On April 7th this year I attended Mrs. C., aged 34, 10-para, in her confinement. As I had attended this same patient at her previous confinement I knew that she had a generally contracted pelvis. The midwife in attendance told me that the woman had been in labour for fourteen hours, the membranes had ruptured about four hours before my arrival, and since then no progress had been made, although the pains had been strong and regular.

I found the os fully dilated, the presentation vertex, and the position L.O.A.; the head was at the brim, the posterior fontanelle was low down, while the anterior was out of reach. I gave chloroform, put on forceps, and delivered the woman without having to use any excessive force in traction. The rest of the labour was normal, but on examining the child, a well-developed female, I found that the right eyeball was completely dislocated from the orbit, and lying on the cheek below, the optic nerve evidently being torn right across. Under the circumstances there seemed to be nothing else to do but to remove the eyeball, and this I did, applying a dressing to the orbit; there was some haemorrhage from the orbit at first, but this soon ceased.

The child's face was scarcely marked by the forceps, nor was there any displacement of the bones, and both mother and child made an uninterrupted recovery. This accident, so far as I can discover, seems to be unique in the practice of midwifery; it is a most unfortunate accident to happen to any child, but even more distressing, if possible, when the child is of the female sex.

Dunbar. A. E. Turnbull, M.B., Ch.B Edin.

LYMPHO-SARCOMA COMPLICATED BY PULMONARY TUBERCULOSIS.

J. C., aged 27 years, a carpenter, became ill with vague pains in the chest, under the sternum and left hypochondrium. His two paternal uncles died of "cancer of the liver" and "heart disease," his mother of cancer of the breast. The patient himself has never been strong and had suffered from anaemia, but there was no history of severe illness.

When he applied to me he complained of cough and pain on deep inspiration, retching, and chilliness. He stated that six weeks earlier he had suffered from "neuralgic pain" over the right side of the abdomen and between the shoulders, with dark-coloured urine. There was dullness over both apices, with a harsh inspiratory murmur. The supraclavicular and cervical glands were the size of walnuts; they were larger on the right side, freely movable, and painless. The sputum contained tubercle bacilli. Temperature 99°, pulse 96. He was ordered a generous diet, open air, and syr. fer. phosph. co. ℥j t.d.s.

During the following month the pains in the chest were sometimes less, but for a week he had slight jaundice, with dark-coloured urine and severe pains in the right hypochondriac and epigastric regions.

On December 17th, a little more than a month from the commencement of treatment, the sputum was reported to be free from tubercle bacilli, but the temperature still rose in the evening to 100° or 101, and there were nightly sweats; he became very feeble and emaciated, and began to complain of more deep-seated pain beneath the sternum, the swelling of all the superficial glands became more marked, and he was unable to sleep owing to incessant cough. The temperature now rose to 102° at night, and the axillary glands were large and painful, and there was increased vocal resonance over both bases. He complained of severe itching of the skin of the abdomen, arms, and legs; it was unaffected by local applications in ordinary doses of morphine hypodermically; an injection of pilocarpin nitrate produced profuse diaphoresis, and gave immediate relief, lasting for several hours. The jaundice became more intense, and was clearly due to pressure by enlarged glands. He complained of intense pain in the umbilical region.

Four months after the commencement of his illness he developed delusions of persecution with visual and sensory hallucinations. The face and lower limbs became oedematous, there was intense abdominal pain, and he could not bear to have the surface touched. He was very emaciated, feeble, and the icteric tinge much deeper.

During the next month the itching was less severe, the superficial glands became more swollen but less painful. His mental condition became worse, and after a ferocious attack upon his nurses he was removed to an asylum where he died nine months after the commencement of his illness.

Post-mortem examination showed great enlargement of all the lymphatic glands due to sarcomatous growth, with secondary deposits in the liver, spleen and kidneys, and posterior mediastinum; with pressure upon the common bile ducts, bronchi, and inferior vena cava. The tuberculous lesions on both sides were completely healed. During his illness several blood examinations were made, all showing increase of leucocytes and great diminution of red corpuscles. The spleen was never perceptibly enlarged.

Lechlade. F. W. Pilkington.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

THE ROYAL INFIRMARY, EDINBURGH.

A CASE OF ACANTHOSIS NIGRICANS.

(Under the charge of Dr. NORMAN WALKER.)

[Reported by T. S. MCINTOSH, M.B., M.R.C.P.]

THE patient, a woman aged 29, unmarried, a washerwoman by occupation, was admitted on April 6th, 1909.

Family History.

There was no history of any skin disease in the family, nor anything else worthy of note.

Previous Health.

This had been good, and there were no serious illnesses to note.

Present Illness.

About eight years ago her attention was drawn to the condition by the fact the palms of her hands were becoming hard and yellow. This seems to have begun on both hands simultaneously. After a time the palms became cracked. The feet began to be affected soon after the hands, the soles becoming hard and thick, and cracking taking place between the toes. For several years before the hands were affected the skin of the body was brownish in places, but the patient did not pay much attention to this. The brown discoloration became gradually more extensive and the colour deeper.

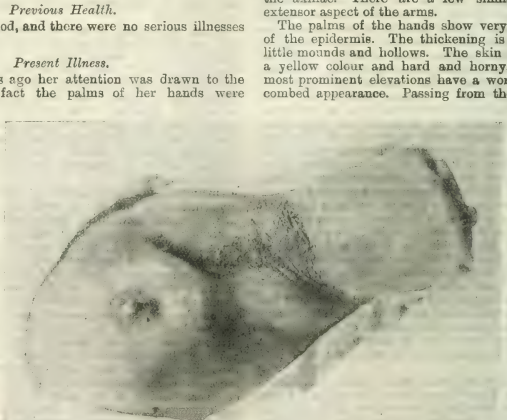


Fig. 1.—Papillomatous condition in the axilla, pigmentation on the chest, and a pigmented wart.

There has never been any itching, and the condition has given rise to no discomfort except stiffness of the fingers and occasional shooting pains in the hands and feet.

Some years ago she was under treatment for two or three months, when the thickening of the palms was greatly reduced, but it gradually increased again after the treatment was stopped. Lately the hands had become so stiff, especially in the morning, that she had found it difficult to perform her work. Since last year she had had from time to time attacks of what she thought were rheumatic pains in shoulders, arms, and legs in damp weather.

Condition on Admission.

The face and neck are of a uniformly dark colour, with a broad band of darker pigmentation across the forehead. On the body there are numerous patches, which at first sight look simply like patches of pigmentation; but when looked at more closely and the finger run over them they are found to be very slightly raised and made up of innumerable minute, flat-topped, warty growths, giving a velvety appearance to the patch.

The front of the chest as a whole is normal in colour, and the nipples and areolae are not unduly pigmented, but there is a small pigmented wart on the front of the chest and pigmented patches of the kind described on the anterior axillary folds. There is a line of pigmentation running down the mid-sternum and spreading out on the epigastrium into one of these velvety patches. The umbilicus is deeply pigmented, and slightly raised; pigmented bands run from it down to the symphysis pubis and up to join the epigastric patch. There are similar bands coming round from the back in a girdle-like fashion, more or less parallel to the costal margins, and there is a large patch on the left iliac fossa. The upper part of the back is not affected, but there are irregular bands and patches in the lumbar region and on the buttocks.

In the axillae the condition is most marked, the pigmentation being very deep and the papillomatous character of the patches much more apparent. On the flexor aspects of the forearms also there are well-marked patches in which the papillomatous character is more marked than on the trunk, though not so marked as in the axillae. There are a few similar patches on the extensor aspect of the arms.

The palms of the hands show very marked thickening of the epidermis. The thickening is irregular, showing little mounds and hollows. The skin of the palms is of a yellow colour and hard and horny, and some of the most prominent elevations have a worm-eaten or honeycombed appearance. Passing from the palms on to the wrists, the thickening gradually diminishes and shades off into the slightly-raised velvety patches on the forearm.

On the backs of the hands, especially over the heads of the metacarpals and along the radial sides of the thumb, index, and middle fingers, the epidermis is raised in flat, warty prominences of a yellow colour.

The anterior aspects of the knees are rough and pigmented. There are large corns on several of the toes of both feet, and the skin of the soles is markedly thickened and yellow, especially over the balls of the toes, the outer margin of the sole and the heel.

There are no patches of leucoderma on the skin of any part.

The posterior part of the hard palate is yellowish in colour, otherwise there is nothing abnormal about the mucous membrane of the mouth.

Microscopic Examination.

A small portion of one of the warty patches in the axillae was removed and showed the characteristic microscopic appearances of acanthosis nigricans. There is great elongation of the papillae, with marked hypertrophy of the prickle-cell layer ("acanthosis"), especially in the interpapillary processes. There is also well-marked hyperkeratosis. There is abundant infiltration, with small round cells around the vessels and hair follicles and many cells containing pigment in the corium, most abundant just under the palisade layer of the epidermis; but there is no marked increase of pigment in the palisade layer itself.

Digestive System.

Most of the cases of acanthosis nigricans which have been examined *post mortem* have shown malignant disease of the stomach, liver, or other abdominal organ. Accordingly the digestive system and the abdomen generally were carefully examined for any evidence of malignant disease.

About a year ago the patient began to be troubled with pain coming on very shortly after food. The pain was felt in the region of the xiphisternum, sometimes shooting under the right breast and sometimes under the left breast, and sometimes through to between the scapulae.

The appetite has never been much impaired. At first she used to vomit very frequently, and this relieved the pain till the next meal. There was never recognizable blood in the vomit, but once or twice an appearance like coffee grounds. She says the vomit was always very "bitter" and burning. She found milk was practically the only thing she could tolerate, and lived mainly on milk for about three months. She then consulted a doctor, who put her on ordinary light diet and prescribed medicine. This greatly relieved her, but she continued to have the pain at times, being always relieved, however, by taking another bottle of the medicine. At the beginning of this digestive trouble the pain was sometimes very sharp and severe; lately there has been none of this severe pain, but sometimes a sensation like a load lying in the lower part of the chest. She has not suffered from vomiting for several months, but sometimes has a feeling of nausea.

The tongue is rather large, flabby, and indented by the teeth, pale, and slightly furred with red papillae standing out prominently. The stomach is normal in size and position; there is no tumour to be felt, and there is no splashing. There is a little tenderness below and to the right of the xiphisternum, and just under the left costal margin. The liver is normal in size, cannot be felt, and no irregularities of its outline can be made out by percussion. There is nothing abnormal to be made out in connexion with any of the other abdominal organs.

The patient was given Ewald's test breakfast after fasting for twelve hours, and the stomach contents were drawn off three-quarters of an hour later.

The stomach contents smelt strongly of butyric acid, contained only a trace of free hydrochloric acid, and no lactic acid. Microscopically, no sarcinae were seen, a fair amount of yeast was present, and Boas-Oppler bacilli were fairly abundant. There were no oil drops or vegetable matter, nor anything to indicate retention of former meals in the stomach.

The stomach contents after a second test meal two or three days later showed the same characters as after the first, except that no Boas-Oppler bacilli were seen.

A third test meal was given some weeks later, and this time free hydrochloric acid was abundant. No Boas-Oppler bacilli were found, and otherwise the characters were the same as in the previous tests.

The examination, therefore, was not conclusive either of the presence or absence of malignant disease, but it is an interesting fact that in this case of a disease which is frequently associated with cancer of the stomach there should have been found indigestion, and on two occasions almost complete absence of hydrochloric acid, and on one occasion presence of Boas-Oppler bacilli.

The patient, however, improved greatly in general condition during her stay of twelve weeks in the hospital; she gained 8½ lb. in weight, and after the test meal given a day or two before leaving abundant free hydrochloric acid was found, so that one would certainly not be justified in diagnosing carcinoma.



Fig. 2.—The appearances on the hands.



Fig. 3.—Appearances like large corns on the soles and the thickening of the skin over the heels.

Examination of the blood showed:

Red blood corpuscles	... ...	4,420,000
Haemoglobin	... ...	75 per cent.
Colour index	... ...	0 85
White blood corpuscles	... ...	7,200

The film showed red cells rather deficient in haemoglobin, and varying considerably in size, many being small. The proportions of leucocytes are as follows:

Polymorphonuclear	... ...	54 0 per cent.
Lymphocytes	... ...	42. ,,
Eosinophiles	... ...	3. ,,

The other systems show nothing abnormal. The urine is normal.



Fig. 4.—The thickened pigmented patch on the knee and a wart on the anterior aspect of the thigh.

Treatment.

For the hands and feet, starch poultices, salicylic-creosote plasters, and salicylic soap plasters were tried, and lastly, 10 per cent. salicylic collodion. The last-named has been the most successful, and the epidermic thickening has greatly diminished under that treatment. The other parts were treated with boro-calamine lotion.

Adrenalin chloride was tried internally, but did not seem to have any effect. The pigmentation on the forearms and trunk has diminished slightly, but the warty, pigmented patches in the axillae do not seem to have altered appreciably.

The patient was discharged on July 2nd.

The accompanying illustrations are photographs of casts made from the patient.

Reports of Societies.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Wednesday, November 10th, 1909.

Dr. W. E. FOTHERGILL, President, in the Chair.

Encephalomyelitis.

DR. GEORGE MURRAY and Professor LORRAIN SMITH gave an account of a case of encephalomyelitis. The patient, a woman, aged 18 years, complained of failure of vision in the right eye, which became blind in four days. Then followed blindness in the left also, and loss of power of the left side of the face and of the right arm and leg. On the eleventh day she became deaf. On admission to the Manchester Royal Infirmary she was blind and deaf; pupils dilated, only slight reaction to light on right; fundus normal; paresis of left face and of right arm and leg; knee-jerks exaggerated, especially on right; ankle-clonus and Babinski reflex present on both sides, but more marked on right; apparently no anaesthesia. Fluid obtained by lumbar puncture in excess but normal in character. Temperature generally subnormal. Later lost sphincter control and died from respiratory failure a month after onset. Sections of cord and brain, stained by Weigert's myelin method, showed irregular areas of myelitis. In the cord in the cervical region the anterior and lateral, in the lumbar the lateral and posterior columns were chiefly affected. The fibres had to a large extent disappeared, and in the more recently affected areas large numbers of compound granular corpuscles were found scattered through the tissue and crowding the spaces of the perivascular sheath. The vessels were engorged, but the walls were not thickened, and there were no definite signs of thrombosis. An examination for microbes by Gram's method gave negative results. In the optic chiasma and in both auditory nerves recent myelitis was found, and in both cases the fibres had completely disappeared. There was an increase in the neuroglia cells in these areas. Sections from the white matter of the occipital lobe were also shown to demonstrate a myelitic focus. The changes in the brain were not so advanced as those in the cord and in the optic chiasma. The areas affected showed macroscopically small rounded patches of congestion without definite softening.

Disease in Ancient Egypt.

Professor ELLIOT SMITH gave an account of pathological conditions which he had met with in examining the bodies of ancient Egyptians. Tuberculous disease was very rare, only 5 cases having been found among more than 10,000 skeletons examined; 4 were cases of spinal caries and 1 of hip disease; the earliest was dated about 3,500 B.C. No evidence whatsoever of syphilis had yet been found. Osteoarthritis was extremely common, but only one case of true gout had been observed, and that was in a Christian immigrant into Egypt. Dental caries was exceedingly rare in prehistoric Egyptians, but quite common in the aristocratic classes in historic times. Twelve cases of mastoid disease were seen, in all of which the pus found a natural outlet in Macewen's triangle. A number of other conditions, including osteo-sarcoma (3,000 B.C.), calculi of bladder, kidney, and gall bladder, talipes, and prolapse of uterus and rectum, were referred to.

Splenic Anaemia.

DR. CUNLIFFE described a case of anaemia with enlargement of the spleen occurring in a girl aged 13 years, and presenting the features not of splenic anaemia of adults, but of splenic anaemia of infancy. A marked feature of the blood picture was the enormous number of nucleated red cells, chiefly of the normoblast type, with a certain proportion of megaloblasts. There were no signs of infantilism such as had been recorded by Cowan in two cases of similar nature.

ROYAL SOCIETY.

Thursday, November 11th, 1909.

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

Division of Spirochaetes.

MR. H. B. FANTHAM, D.Sc.Lond., and Miss ANNIE PORTER, B.Sc.Lond., communicated a paper on the modes of division of *Spirochaeta recurrentis* and *S. duttoni* as observed in the living organisms. The observations recorded were made on living spirochaetes, the examination of living material being imperative, as results based only on stained preparations were not always reliable. Both longitudinal and transverse division occurred in spirochaetes, as seen in *S. recurrentis*, *S. duttoni*, *S. anodontae*, and *S. balbiani*. A periodicity in the direction of division was exhibited by *S. recurrentis* and *S. duttoni*. At the onset of infection longitudinal division occurred; this was followed by transverse division of the spirochaetes when the infection was at its height. As the infection drew to an end, and there was a diminution in numbers of the parasites there was a reappearance of longitudinal division. Naturally there were times when both forms of division occurred together. The observations relating to periodicity were made on peripheral blood of the host. The actual processes of division, and the movements of the parasites meanwhile, were set forth in detail in the paper.

Carbon Monoxide in Blood.

DR. G. A. BUCKMASTER and Mr. J. A. GARDNER, in a paper on the supposed presence of carbon monoxide in

normal blood and in the blood of animals anaesthetized with chloroform, said that in a paper published in 1898 Desgrez and Nicloux stated that the normal blood of Paris dogs contains about 1·6 c.cm. of carbon monoxide per litre, and that when the animals were anaesthetized by chloroform the amount increased to 2·5–6 c.cm., according to the duration of anaesthesia. Their method of estimating carbon monoxide consisted in passing the blood gases over iodine pentoxide at 150° C. and determining the iodine liberated by the method of Rabourdin. The authors had carefully reinvestigated the question, making use of Haldane's method of estimating carbon monoxide by means of diluted blood, after having previously ascertained that far smaller quantities of this gas than those found by the French observers in normal blood gases could be readily detected. They found that neither normal cats' blood, nor the blood of cats anaesthetized by chloroform, contained any detectable trace of carbon monoxide. They found also that most of the chloroform in the blood came off with the gases when extracted at 40° C. In order to arrive at an explanation of Nicloux's results they (1) repeated his experiments with variations, investigated (2) the effect of heat on iodine pentoxide, (3) the effect of chloroform vapour on iodine pentoxide, and (4) the effect of chloroform vapour on alkalia. The latter experiments showed that chloroform vapour was readily decomposed by passing over solid potash, and also by the reagents used in gas analysis, with the production of carbon monoxide. They concluded from their experiments (1) that chloroform is not decomposed in the blood with formation of carbon monoxide, (2) the iodine liberated in the experiments of Nicloux was due to some extent to the direct decomposition of the iodine pentoxide by the chloroform vapour in the blood gases, but mainly to the carbon monoxide produced by the action of this chloroform on the solid potash over which he passed the blood gases in order to free them from carbon dioxide.

Cholesterol.

In continuation of a research on the origin and destiny of cholesterol in the animal organisms, Messrs. G. W. Ellis and J. A. Gardner, in a paper dealing with the excretion of cholesterol by the cat, described the results of a number of estimations of the cholesterol content of the faeces of cats fed on a variety of diets, animal and vegetable, of known cholesterol content. It was found that cats behaved similarly to dogs when fed on meat diets, but the tendency for the change of cholesterol into coprosterol appeared to be greater in the case of cats. The change was, however, never complete unless the diet contained a considerable amount of fat. In all these experiments the total cholesterol and coprosterol excreted was considerably less than that taken in with the food. Without considering the cholesterol poured into the gut with the bile, the percentage deficit was 50 to 60, an average loss of about 0·08 gram per day. In the case of vegetable diets free from cholesterol or phytosterol the weights of food necessary to keep the animals in condition were larger, and the amounts of faeces very much larger, than in the case of meat diets. Small amounts of cholesterol were excreted, averaging about 0·03 gram per day, but no change into coprosterol took place. In the case of artificial diets to which measured quantities of cholesterol or phytosterol were added, no excess of cholesterol above that administered was recovered from the faeces. The bearing of these results on hypotheses advanced in former papers of the series was discussed.

MIDLAND MEDICAL SOCIETY.

Wednesday, November 17th, 1909.

Mr. Frank Marsh, President, in the Chair.

The following were among the exhibits:—Mr. Billington: A child, aged 2½ years, the sixth of a family of seven, the rest being normal. Its fingers and toes were perfectly natural and showed no trophic disturbance, but each nail closely resembled the claw of a dog, being raised, almost black in colour, very hard, and projecting some distance beyond the extremity of the digit. Dr. J. G. Emanuel: A girl, aged 4, with an *Enlarged cirrhotic liver* and spleen and a slight amount of secondary anaemia. The condition was first noted three and a half months ago, when the child came under observation for an attack of catarrhal jaundice lasting a fortnight. The liver and spleen had not diminished in size under antisyphilitic treatment. There was reason to suspect that the child had been allowed to take small quantities of beer (it was impossible to compute how often), and the possibility of alcohol as the cause of the cirrhosis was suggested. Mr. Victor Milward: A case of rupture of a branch of the superior mesenteric artery in a man aged 49. The haemorrhage was excessive, but the pulse was never more than 70 per minute. Great difficulty was experienced in locating the torn vessel, and 5 pints of normal saline solution were infused into the internal saphenous vein. Ultimately recovery was uneventful. Dr. Sawyer: A boy, aged 18, showing *Rheumatic nodules* on the hands, fingers, wrists, elbows, knees, ankles, feet, and hands. They had been present six months, coming on two months after an attack of acute rheumatism and endocarditis of the mitral valve. The nodules varied in size from that of an almond to that of a small shot. Dr. Douglas Stanley: A child, aged 4, with signs of *Intrathoracic pressure* of nine months' duration. There was great oedema of the face and eyes, engorgement of the superficial veins of the neck, thorax, and abdomen, submanubrial dullness, and a spasmodic cough. At first the cause of these symptoms was thought to be a sarcoma of the thymus, but there had been such marked improvement in the course of some weeks that this diagnosis was no longer probable. Possibly the condition was due to tuberculous glands. Mr. Seymour Barling: A specimen removed from a man, aged 43, who twenty years ago suffered from an attack of "dysentery," though he had never been out of England. It showed a fibrous thickening of the walls, narrowing of the lumen, ulceration and congestion of the mucous membrane. There was a two years' history of passage of liquid motions with much blood and mucus, producing great anaemia and suggesting malignant disease. Left inguinal colotomy was performed, with resection of the bowel to the anus, and the patient made a satisfactory recovery. Dr. O. J. Kauffmann: A case of *Syringomyelia* in a girl, aged 15, of seven years' standing. The right pupil and palpebral fissure were smaller than the left, and there was very marked kyphosis of the cervico dorsal region, coupled with scoliosis below. No trophic joint lesion was present, but there was a great tendency to almost painless sores on the right limbs and the right buttock. The onset and progress had been gradual, and there had been no pain at any time. Dr. Smallwood Savage: A large hydrocephalic fetus, which had caused an *Obstructed labour*. The patient was admitted into the Birmingham Maternity Hospital with the body and limbs hanging outside the vulva, but the large head, reaching 3 in. above the umbilicus, obstructed the completion of delivery. An incision was made over the cervical spine, a trocar and cannula inserted into the brain, and 3 pints of cerebro-spinal fluid were withdrawn. The collapsed head was delivered with ease.

CLINICAL SOCIETY OF BATH.

Friday, November 5th, 1909.

Dr. T. Wigmore in the Chair.

Dr. G. Hely-Hutchinson Almond read notes of a case in which a boy aged 19 had a red count varying from 9,400,000 to 11,900,000 cells per c.mm., with haemoglobin 145 per cent., and an enlarged spleen. There was marked clubbing of the fingers, and other symptoms and signs of venous stasis had been present since birth. There was increased dullness to the right of the sternum, and he thought the case was probably one of erythrocytosis due to congenital heart disease. Dr. Munro, in a paper on *Vaccine therapy*, suggested that pustular acne of the face in young women without blackheads, the back and chest being clear, might be connected with staphylococcal infection of the blood from accompanying purulent cervical endometritis. He reported a case of so-called carbuncle of the nose, due to *Micrococcus catarrhalis*, cured by two inoculations of auto-vaccine, and drew attention to the value of tuberculin in certain cases of ulcerative endocarditis and in persistent chronic nasal and post-nasal catarrh. One such case had greatly

improved after seven years' previous treatment, including removal of the turbinated bones and draining frontal and sphenoidal sinuses and maxillary antra ineffectually. The following were among the exhibits:—Dr. WATERHOUSE: Case of *Rheumatoid arthritis* in a child aged 3, in whom great benefit had resulted from the administration of large doses (up to 3 drachms daily) of the syrup of iodide of iron. Mr. FORBES FRASER: A girl with early macrocheilia and macroglossia. Dr. LEECHE: A boy run over by a bicycle four months previously and rendered unconscious for some hours. Recovery took place, but he had since returned to hospital with headache and double optic neuritis. Dr. LINDSAY: A woman aged 36, with chronic disease of the joints, which had started in the great toe joint at the age of 14. The teeth were much ground down and there was persistent albuminuria with granular casts. Mr. FORBES FRASER: Microscopical sections from a *Sebaceous adenoma*, removed from a man and showing early malignant degeneration. Mr. TERRY: A tumour, weighing 26 oz., removed from the left lobe of the *Thyroid gland* in a young woman from whom the right lobe was said to have been previously removed. Mr. LACE: (1) A cylindrical-celled carcinoma, apparently arising at the origin of the appendix. (2) A gall stone which had caused complete intestinal obstruction in an old lady. Five years before she had an attack, during which she passed bloody discharge from the bowel, a tumour being felt in the cæcum. At that time a diagnosis of malignant disease of the bowel was made.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Friday, November 5th, 1909.

Dr. H. JELLETT, President, in the Chair.

DR. TWEEDY exhibited a specimen of an ordinary *Wertheim's operation* in a woman about 24 years of age. There was very considerable ulcerative cancer spreading into the broad ligament. The operation went well until he began to remove the cervical part of the uterus. The cancer then broke away, and he found the end of the vagina. He was able to shut off the intestines, and the woman did not become infected. What was particularly interesting was that he traced up the ureter, and found that while the cancer spread above and below the ureter, the latter was not diseased. The ureter was so intimately associated with the cervix that in dealing with it he had to hug the cervix to avoid the ureter. He pushed down the bladder far into the vagina, and got his finger between the vagina and bladder. He worked the bladder laterally, and was able to dig the ureter completely out of the cancer, and took away the macroscopic evidence of the disease. That was three weeks ago. The patient had gone on very well until a week ago, when her temperature ran up, and a fetid discharge arose. Though she could now hold a certain amount of urine in the bladder, still a quantity passed away, and he had no doubt he was now dealing with a ureteral fistula. In the majority of cases such fistulae healed spontaneously, but from the accounts which he had read on the subject he found that the ureter practically never became patent again. The urinary discharge would dry up. The ureter cicatrized and the kidney ceased to secrete. They would only get a hydronephrosis so long as there was some fluid passing through the ureter. If they did not allow a drop to escape through the ureter the kidney would not secrete urine; and his hope was that the cicatricial matter would absolutely occlude the ureter and the kidney would become inert. Sir WILLIAM SMYLY said ureteral fistula was a risk that any one was liable to who undertook Wertheim's operation. Recently, when assisting in a case where the ureter had been cut accidentally and where implantation into the bladder was impossible, he had persuaded the operator to ligature it with silk and fix it in the abdominal wound. In that case it was found necessary afterwards to extirpate the kidney. Sir CHARLES BALL said he had once transplanted the ureter into the bladder, and as far as he knew no leakage occurred, and no obvious kidney tumour developed. He would be interested to see the result in Dr. Tweedy's case, as it was difficult to understand why hydronephrosis should not occur when the ureter was completely blocked, since it occurred where the obstruction was only partial. Dr. FITZGIBBON recalled a case of Sir Arthur Macan's in which the urine continued to be secreted as freely as ever from the kidney belonging to the detached ureter, and showed no sign of cicatrization of the cut end of the ureter, or blocking off of the kidney. Dr. JELLETT said one could understand that there was a kind of race between the function of the kidney and the destruction of the substance by back pressure; he would be inclined to think that hydronephrosis would result before the destruction of the kidney substance. Dr. TWEEDY, in replying, said that he had in his remarks exactly summed up the conclusions of the experiments that he had read, the latest being from the Johns Hopkins Hospital within the past six months. The ureter was simply cicatrized over, there was no potency, and the kidney ceased to secrete. Sir William Smyly's case was not on all-fours with the condition of spontaneous healing. It was impossible to get the ureter to unite permanently by tying.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Thursday, November 11th, 1909.

Dr. GEORGE WILKINSON, President, in the Chair.

THE following were among the exhibits:—Dr. A. E. BARNES: Specimens from a case of *Haemorrhage into the suprarenals*. During life there were symptoms of intestinal and gastric disturbance, absence of free hydrochloric acid, presence of a small amount of lactic acid, total acidity below 10, connective tissue and undigested muscle fibres in the faeces, also slight excess of fats and soaps, in the urine excess of glycuronic acid, very marked indican reaction, urobilin, and Cammidge's pancreatic reaction. On autopsy there were found atrophy of the gastric mucosa, catarrhal changes in the pancreas, nodules of lymphomatous tissue in the liver where the capillaries also contained many lymphocytes. Dr. ARTHUR HALLS: A similar case which showed during life symptoms of enteric, but there was no serum reaction. Dr. H. LEADER: A third case of the same kind in a child aged 6 days. Streptococci were found in the kidneys. The PRESIDENT: A child with *Separation of the lateral cartilages of the nose* and of the nasal spines, due to a failure of approximation of the two mesial masses of the fronto-nasal process. There was also a slight notch in the centre of the upper lip and between the two halves of the premaxilla. Dr. A. HALL and Mr. GARRICK WILSON: A man who had had a large hard mass in the abdomen which could be easily palpated, and for which a laparotomy was performed. It was thought to be a carcinoma of the stomach wall, and as a gastrectomy was impossible owing to firm adhesions and the presence of numerous enlarged glands in the gastro-hepatic omentum, a posterior gastro-enterostomy was performed. In the course of a few weeks the tumour, which turned out to be inflammatory in nature, entirely disappeared, and the patient's weight increased from 7½ st. to 10 st. 9 lb. Dr. A. E. NAISH and Mr. GARRICK WILSON: A case of *Cervical rib* in a girl. The symptoms were pain in the right shoulder after a long swim and weakness in the hand and arm. The diagnosis was confirmed by an *x*-ray photograph, which also showed a very small cervical rib on the left side. The rib was removed by operation, and with the assistance of massage and the constant current the muscles of the hand and arm gradually regained their normal strength. Mr. W. S. KERR: A case of *Syphilitic perichondritis* of the larynx in a woman. There had been a large gummatous ulcer at the base of the tongue which had healed under potassium iodide. The right arytenoid was very oedematous, and the movements of the right cord impaired. Mr. GRAHAM SIMPSON the following specimens: (1) A hydrocele with much thickened walls; (2) a haematocele with calcified tunica vaginalis. Professor RALPH P. WILLIAMS, in a paper on *Open-air recovery schools*, said that Mulhausen, Gladbach, Elberfeld, London, Halifax, Norwich, Bradford, and Sheffield had now established such institutions. The arrangements in the Sheffield school were as follows: (1) Selection of children: Fifty children, suffering from the following physical defects, were provided for: pulmonary tuberculosis, 3; tuberculous glands, 2; anaemia and bad nutrition, 20; oral sepsis, 13; convalescing from acute disease, 2; convalescing from operations, 2; doubtful cases of phthisis, 8.

(2) Teeth examination: All the children were examined by Mr. Frank Harrison and the worst cases operated on. (3) All lessons taken in the open air, except in severe weather, when an old well-ventilated school building was available. (4) Three good meals provided, taken in an open shed facing south. (5) Shower-baths provided, one warm shower for each child once a week. (6) Educational work limited to three and three-quarter hours daily. (7) Each child was provided with a numbered raincloak, chair, blanket, brush and comb, toothbrush, towel, and bath towel. (8) Two hours' rest after the mid-day meal; 90 per cent. of the children slept all the time. The children were weighed every fortnight, and the 29 girls and 21 boys increased on an average 2·6 kilos (5¾ lb.) during the period the school was open—that is, June 21st to October 29th—compared with an average of 1·1 kilo increase put on by children of the same age attending ordinary elementary schools. The parents contributed towards the expense of feeding the children sums varying from 2s. 6d. to 6d. a week. He hoped that schools of this type would be erected in country districts surrounding all cities, where badly-nourished children could recover and be educated who otherwise would become a burden on their relations or on the State.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

Thursday, October 28th, 1909.

Dr. David Rennett, President, in the Chair.

The President delivered a valedictory address, in which he dealt with the progress of sanitation in the city of Aberdeen during the past sixty years. At the onset he gave an interesting historical survey and described the social and other conditions which led to the high morbidity and mortality rates prevailing up to the middle of last century. The first medical officer of health of the city, Dr. Francis Ogston, father of Emeritus Professor Ogston, was appointed to that post as early as 1831, but possessed only very limited power. An entry in the city accounts in the year 1839 of £1,032 16s. 10d., as having been paid to forty-five scavengers, showed that some systematized method of municipal cleansing was being attempted. The development of the drainage system of the city, introduction of water supply, provision of isolation hospitals, etc., were all traced, and the effects of them on the mortality-rates was clearly shown by a series of graphs and charts. There was one point of special interest in reference to the infant mortality-rate. Like that of phthisis, scarlet fever, typhus, and typhoid, it showed a steady decrease down to the passing of the Education Act in 1872, but thereafter and until a few years ago it remained almost stationary.

ROYAL SOCIETY OF MEDICINE.

Section of Surgery.

Friday, November 19th, 1909.

Mr. Rickman J. Godlee, President, in the Chair.

Professor Thomas Jonnesco, of Bucharest, gave an address on his method of high *Spinal analgesia* with stovaine and strychnine; it embodied for the most part the article by him which appeared in the British Medical Journal on November 13th. He showed a number of lantern slides to illustrate the success with which every region of the body could be brought under the influence of the drug injected, either in the interval between the first and second dorsal vertebrae, or between the twelfth dorsal and first lumbar. Craniectomy, gastro-enterostomy, splenectomy, and hysterectomy could all be performed without interfering with the patient's inclination to smile. At the conclusion of his address a number of questions were addressed to him by members of the Section, and by anaesthetists whose presence had been invited. Sir Watson Cheyne, proposing a vote of thanks to Professor Jonnesco, said that he had undoubtedly given an impulse to the method of stovainization in this country. Dr. Dudley Buxton said that, without accepting all M. Jonnesco's conclusions, it was possible to assure him of the great interest his communication had evoked.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

Northern and Midland Division.

Thursday, October 21st, 1909.

Dr. A. R. Douglas in the Chair.

Dr. Douglas, in a paper on the *Care and training of the feeble-minded*, outlined the history of the subject. The honour of being the first to recognize the condition of the imbecile belonged to Itard of the Bicêtre. At a later date there followed the formation of schools in England, Germany, and Switzerland, and afterwards in America and Scotland. These were all due to private charitable enterprise; and though brilliant results were obtained in them in many cases, the possibilities of the education of the idiot were somewhat overestimated. Care and protection should be the first consideration, special attention being paid to their hygienic surroundings and their health. An important factor was the bringing of the idiot into the society of his equals—a condition of healthy rivalry being thus induced amongst them. The control and discipline of institution life likewise had a beneficial effect, tending to encourage industry, honesty, and self-respect. At the Royal Albert Asylum (where the meeting was held) an attempt was first made to cultivate the senses, to perfect muscular co-ordination, and to establish normal relations between brain and hand. This was followed by the more serious problem of learning to read and write in the case of those able to get thus far. Probably the most interesting part of the institution was the Herbert Storey Industrial Schools and Workshops. In these boys were trained in carpentry and wood-carving, the making of clothes, boots and shoes, baskets, mats, etc., book-binding, printing, and other things. The estate also provided work in the gardens and on the farm for lads who showed an aptitude for it. In concluding his paper, he asked: "Besides training and educating these obviously defective children, are we doing anything for future generations?" and had to answer it by saying, "We are not."

Dr. D. W. Hunter showed a series of photographs illustrative of *Mongolian idiocy*, and recorded the following conclusions: The disease was not an entity; its characteristics could all be paralleled in the fetus. In short, the Mongolian idiot was a grown-up fetus. Some morphological aspects of the condition suggested that the orang-outang possibly approached much nearer the line of human ancestry than either the gorilla or chimpanzee.

The National Dental Hospital and its connected college held its annual dinner at the Trocadero on November 19th. Sir Thomas Barlow, consulting physician to the hospital, occupied the chair, and in proposing the toast of the evening dwelt on the importance of the medical inspection of schools, which, he said, possessed potentialities for good that no one connected with medicine should ever fail to emphasize. Education of children in the care of their teeth seemed to him almost more important than anything else, and on this account he regretted exceedingly that the London County Council, among other authorities, had not seen its way to including a definite system of dental inspection in its general scheme. The matter was of such national importance that, however meagre the pay offered, dentists should willingly assist educational authorities; dental inspection once established, its value would be recognized and adequate remuneration follow. In acknowledging the toast Mr. Sidney Spokes, the Dean of the hospital, appealed to old students to assist in raising funds necessary for some structural improvements in the school and hospital, and then introduced an interlude in the form of a prize distribution. The remaining items on the programme included a toast to "Past and Present Students," in proposing which Dr. Dudley Buxton, speaking of the proposed legislation regarding anaesthetics, deprecated the introduction of any provision which would interfere with the right of Licentiates of Dental Surgery to administer nitrous oxide gas. The toast was acknowledged by Mr. Sidney Rose, one of the surgeons to the institution, and by Mr. C. L. Donne, a student, who had previously been acclaimed in connexion with the prize distribution. He carried off not only the Rymer medal for the best student of the year, but other medals in five different subjects.

Reviews.

THE LAST ILLNESS OF CHARLES THE SECOND.

For nearly two centuries and a half the death of Charles II has furnished matter for discussion to historians. So conflicting are the accounts of his symptoms, and so diverse the opinions held by contemporaries as to their cause, that it has been almost impossible to form a clear idea of the real nature of the King's last illness. Most people both at the time and for many years after the event, believed that Charles had been struck down by apoplexy, a fate which they charitably regarded as the judgement of Heaven on a misspent life. It may be noted, by the way, that the term "apoplexy" was used by English physicians of that day as including all kinds of sudden seizures marked by convulsive or paralytic phenomena, with or without loss of consciousness. It is true that there were rumours of poisoning, but these inevitably followed the death of any important personage at that period. Dr. RAYMOND CRAWFURD, in a recent work,[1] passes in review all the available evidence, showing much critical insight in estimating its value. Rejecting the theory of poison as hardly worthy of serious discussion, he holds, after careful consideration of the facts, that the theory of apoplexy must also be ruled out of court. After studying and comparing the various accounts given by eye-witnesses and contemporaries (such as Lord Ailesbury, Barillon and Van Citters, the French and Dutch Ambassadors, and Sir Charles Scarburgh, the King's first physician) Dr. Crawfurd concludes that "one may assert with considerable confidence that (the King's) death was due to chronic granular kidney . . . with uraemic convulsions." Undismayed by Macaulay's warning, he has attacked the formidable mass of conflicting testimony, and has extracted from it a more or less coherent account of the main facts of the King's illness and death. With great judgement he has refrained from all discussion of that vexed question, the deathbed conversion, and has contented himself with a bare recital of facts and a description of the royal patient's symptoms and treatment. All the different accounts agree on one point, and that is that Charles's last illness was very sudden. In spite of his constant excesses he had always been a strong and active man, and, though only just recovered from a recent attack of gout, he appeared to his courtiers to be in unusually good health and spirits on the last Sunday of his life, that Sunday which Evelyn has immortalized in his diary. The following morning Charles arose dazed and ill, unable to speak connectedly, and just as he was about to be shaved he uttered a cry and fell back in violent convulsions. Lord Ailesbury and Dr. (afterwards Sir) Edmund King, the physician, who were present, held a hurried consultation, which resulted in King, who had previously been a surgeon, opening a vein in Charles's right arm and removing 16 oz. of blood. This gave immediate relief, and the King was left sitting in his chair; cupping glasses were applied to the King's shoulders and deep scarification carried out, resulting in the removal of 8 oz. of blood; a strong antimonial emetic was given, followed by a dose of sulphate of zinc, and a succession of clysters and purgatives, whilst the King's head was shaved and blistered. Even the red-hot cautery was used. In two hours, during which the convulsions continued with such violence that the doctors believed death to be imminent, the King recovered consciousness. The royal patient was then put to bed; and he was declared to be out of immediate danger. On the evening of the same day the physicians again held a consultation, the result of which was that besides additional aperients the King was dosed with remedies to cause sneezing in order to relieved the pressure of "the humours" on his brain, and a concoction of cowslips and spirit of sal ammoniac was given to stimulate the brain. Noxious plasters were placed on the soles of his feet whilst soothing draughts, light broth, and ale made without hops were administered throughout the night. It is unnecessary to follow the doctors step by step in their fruitless endeavours to combat the rapid progress of the disease. The recital of the first day's prescriptions, whilst incidentally throwing an interesting light on the therapeutic knowledge of the period, suffices to give us a fair idea of the treatment to which the unfortunate monarch was subjected, treatment which almost justifies Macaulay's assertion that Charles's medical attendants "tortured him during some hours like an Indian at a stake." On Wednesday night, whilst watching at the bedside of the King, the physicians who hitherto had been unable to form any definite opinion as to the nature of the disease with which they had to deal, decided that it was an intermittent fever, and decided "to give the cortex" (Peruvian bark). But this, like their other remedies, failed, and it became evident that Charles was sinking. Throughout the following day and night the dying man became rapidly weaker, though the doctors plied him with the most powerful stimulants they possessed—the famous Raleigh's antidote, powdered Goa stone, sal ammoniac, Peruvian bark, spirit of human skull, and, as a last resource, the Oriental bezoar stone, a remedy taken from the stomach of a goat, and held in great repute by seventeenth-century doctors. But Charles was beyond the aid of physic. He lingered till the morning of Friday, February 6th, 1684, when he sank into a stupor in which he passed quietly away.

The autopsy took place next day; and the observations of the doctors who were present are considered by Dr. Crawfurd a sufficiently convincing proof of the truth of his diagnosis. He says:

> The physicians were struck by the oedematous state of the brain, and the large amount of serous fluid in the ventricles, conditions associated later by Traube and others with uraemic convulsions. . . . No special mention is made of the kidney, but that, like the other abdominal organs, it was full of blood. . . . It is hard to see how medical knowledge, as it was at this period, could afford a fuller description than this of "gouty kidney with uraemia."

Perhaps the most interesting feature of the book is the narrative of Sir Charles Scarburgh, the King's chief physician, which is printed, both in the original Latin and in English, at the end of the volume. It is only a series of notes of the case, but it is valuable inasmuch as it gives in full the prescriptions for each day, together with a list of the doctors who signed each one.

The book is well printed and beautifully illustrated with several large plates; and Dr. Crawfurd is to be congratulated upon the plan followed throughout his narrative of giving in the margin beside each incident the name of the writer or writers from whom he has taken it. *The Last Days of Charles II* cannot fail to be of interest to the ever-increasing number of readers who love the by-paths of history. These sidelights on the past help us to picture to ourselves how those who went before us lived and died. It is to be hoped that others may follow the example set so ably by Dr. Crawfurd in helping to dispel the gloom which still enshrouds the medicine of history. In this lies the key to many a problem that puzzles the Dryasdusts who seek for the causes of political intrigues and events affecting the destinies of nations in the records of the council chamber when they may be found in those of the sick room.

[1] *The Last Days of Charles II.* By Raymond Crawfurd, M.A., M.D.Oxon., F.R.C.P. Published by the Clarendon Press, Oxford. 1909. (Pp. 80.)

DIRECT TRANSFUSION.

THE surgical methods introduced by Carrel for dealing with the union of blood vessels has opened up a wide field of possibilities. Some account of the wonders that have been worked are given in an article on the vascular system by Mr. Leonard Hill in *Further Advances of Physiology*. The successful transplantation of a limb from one dog to another; the grafting of a black Leghorn's ovary on to a white Leghorn which was mated to a white cock, resulting in spotted chickens: the exchange of kidneys from one cat to another, an exchange which resulted in the cat living a month, and for the first three weeks in apparent health—such are some of the results already achieved.

Dr. G. W. CRILE has now published in a volume entitled *Haemorrhage and Transfusion*[2] a very interesting account of his experimental and clinical researches on direct transfusion from the donor's radial artery to the recipient's vein. To effect the junction of artery and vein

[2] *Haemorrhage and Transfusion. An Experimental and Clinical Research.* By G. W. Crile, A.M., M.D. New York and London: Appleton and Co. 1909. (Roy. 8vo pp. 576; illustrations 66. 21s.)

He uses a special little cannula. The cannula consists of a straight tube with a handle which can be grasped by forceps. Various cannulae with diameter from 1.5 mm. to 3 mm. are provided. The end of the divided vein is pulled by a thread or pushed with fine forceps through the cannula, and its end is then cuffed back over the cannula by gentle traction on three "mosquito haemostat" forceps which are applied to the end of the vein. The vein is tied on to the cannula, the cuffed part is greased with sterile vaseline, and the end of the divided artery is then drawn over the cuffed part of the vein and tied on to the cannula. Thus intima is brought in contact with intima and clotting does not take place. Gentle traction is made on the vein during the transfusion to keep the way open through the cannula. Donors are found, as a rule, without difficulty. "When the gravity of the patient's condition and the reason for wishing to transfuse have been explained the entire family and numerous friends have frequently been eager to offer themselves."

Only one refusal among ignorant people has been met with. "In this case the parents of the patient, a nine-year-old child whose legs had been crushed, refused to assist, their argument being that the child was so much mutilated by the injury that it was not worth saving." In two instances donors were hired. "The commercial attitude was apparent, and they were not as tractable as those who responded to the appeal of sentiment." After the donor has been selected he is subjected to a thorough cross-questioning as to his family and personal history, and a thorough physical examination, so as to eliminate unsuitable donors. The best way of determining when to stop the flow in the interests of the donor is by watching his symptoms—slight quickening of respiration and pulse, pallor of mucous membranes, lowering of blood pressure, are signs to stop. Haemoglobin determinations may also be made. The blood lost by the donor is regained in four or five days, and he suffers very little inconvenience after the operation.

Dr. Crile, before turning to the practice of clinical transfusion, carried out many experiments on animals, and found that such might be resuscitated from any degree of haemorrhage by direct transfusion, and when the heart and respiration had stopped, and all other methods such as saline transfusion had failed. Similarly, animals poisoned by coal gas (carbon monoxide) were resuscitated by direct transfusion when all other methods, such as artificial ventilation with oxygen, failed. On the other hand, animals poisoned with strychnine or diphtheria toxin were not relieved by this method, because the poison had become anchored to the tissue cells. In surgical shock direct transfusion had just the same effect as after haemorrhage. This must be so if shock, as we think, is due to loss of vascular muscular tone, resulting in hypostatic congestion and circulatory failure. Animals transfused before an operation, so that they had more than their proper quantity of blood, could not be brought into the state of shock by trauma. Direct transfusion seems to be undoubtedly the best preparation for a patient in a profound state of shock after an accident who has to face an operation.

In cases of haemorrhage in typhoid fever "the patients were transformed from a dying state to a state sufficiently good to bear a laparotomy," and Dr. Crile says the attempt to secure the bleeding vessels should be seriously considered.

The most startling of Dr. Crile's results is the following:

> In 10 cases of transplantable lympho-sarcomata in dogs, bleeding and transfusion from donors immune to lympho-sarcoma was followed by complete regression of the tumours in seven cases; in two of the remaining ones there was a very marked effect from the transfusion, while one dog died without showing any tumour regression.

The immunity was determined by grafting pieces of tumour, and donors were chosen who failed to take the grafts. This cannot be done on man. But the results suggested that direct transfusion of blood of one or more donors might be tried in hopeless cases of sarcoma. So far, however, "transfusion in inoperable cases has cured none."

Transfusion, says Dr. Crile, has proved of no value in pernicious anaemia, leukaemia, hyperthyroidism. Cases of chronic suppuration and haemorrhage, on the other hand, were relieved, and often markedly, and the strength of the former might be thereby built up before operation.

The least satisfactory part of Dr. Crile's book is that in which he deals with such a subject as haemolysis. His summary of present knowledge on this subject is fragmentary and unconvincing.

MEDICAL DIAGNOSIS.

Dr. Otto Schumm's monograph on clinical spectroscopy[3] is a new example of the extension of exact laboratory methods to clinical medicine. The common practice of putting a suspected fluid into a test tube and merely glancing at it through a pocket spectroscope, has at Hamburg been replaced by systematic examination with a large Bunsen spectroscope, followed by accurate measurements of the absorption bands in wave lengths. Dr. Schumm gives us a complete description of his method and instruments, with examples of the spectra obtained, but he does not give any illustrations of the utility of these methods for ordinary clinical diagnosis, and therefore does not convince us that his elaborate technique demands a place in the clinical work of the present day. After a short account of the theory of spectroscopy there is a full description of eight varieties of spectroscopes. Two of them are from the author's own designs. There is an ingenious device for comparing two spectra by means of a Hufner's glass and a right-angled prism situated in front of the slit. By this means he can get with very little trouble equally illuminated spectra. Careful instructions are given as to the use of the instruments, and especially the accurate localization of absorption bands. A method of photographic reproduction is described which has been evolved by Herr Gummelt, a well-known German medical artist, and his illustrations show how photographs can produce "artefacts" in the way of non-existent absorption bands. The second part of the book deals with the spectra of various substances of more or less clinical interest. The haemoglobin derivatives come in for a great deal of attention. For the detection of carboxy-haemoglobin the author relies on the reduction test with ammonium sulphide (not Stokes's fluid), as by this means with his spectroscope he can detect 10 per cent. of carboxy-haemoglobin, whilst the other tests, including Tollen's test with formalin, are not nearly so sensitive. Whilst experimenting with coal gas from the city gas supply he noticed that he obtained under certain conditions the bands of cyan-haemoglobin, and a chemical examination of the gas showed that it contained 0·36 gram of hydrocyanic acid per cubic metre—rather a disturbing fact when it is remembered that 0·06 gram of this acid is fatal to man. For the recognition of blood in urine and faeces it is recommended to convert it into haemochromogen, and it is claimed that by doing so the spectroscopic test is rendered as sensitive as the unreliable guaiacum tests. Numerous tests for bile salts, bile acids, urinary pigments, cholesterin and oxycholesterin, oleic acid, etc, are described. For glycuronic acid in the urine the naphtho-resorcin test of Tollen is recommended, no mention being made of the old phloroglucin test. For the detection of pentose the author relies on the orcin test, and gives illustrations of the spectra obtained on adding arabinose to urine, whilst he does not mention the controversy which has been waged about the applicability of this pentose reaction to urine testing. We were sorry not to see any reference to Seliwanoff's test for laevulose, which is so often present in the urine of severe diabetes. Information as to its reliability would have been welcome. There is an appendix of twelve plates (uncoloured) which contain charts of 110 spectra, all accompanied by data of dilution, lighting, spectroscope, etc., so that they will prove of great use for comparing spectra with a known standard.

Dr. Engel's book on medical diagnosis[4] is stated to be the outcome of the post-graduate courses which have been held by the author for several years past, and have

[3] *Klinische Spektroskopie.* By Otto Schumm. Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 165, 12 plates, 59 figures in the text. M.8.)

[4] *Medizinische Diagnostik. Ein Leitfaden für Studierende und Aerzte.* Von Dr. C. S. Engel. Berlin. Leipsig: Georg Thieme. 1909. Sm. roy. 8vo, pp. 374. M.7.

been devoted to the examination of the various secretions and excreta of the human body. It claims to be a guide to those methods only which are at once trustworthy and simple; stress is laid upon any fallacies that exist, the diagnostic value of each reaction being summed up in a few words. The first chapter contains a description of the microscope as an optical instrument, of the various methods of staining, the formulae for all the better-known staining solutions, a list of the necessary apparatus for bacteriology, the mode of preparation of culture media, and the rules for identifying bacteria. All this is very well done and is illustrated by drawings sufficient to make the text perfectly intelligible. Succeeding sections deal with the blood, the secretions of the conjunctiva, nose, ear, mouth and pharynx, and the sputum, the first and last being discussed at length. The chapter on the stomach gives all the information required, but the author omits to make it clear that the principal object of diagnosis is to determine, first, whether or not there is pyloric obstruction; and, secondly, whether the obstruction is simple or malignant. It is true that the latter question cannot, with our present means of diagnosis, always be answered accurately, but the methods by which information of more or less trustworthy kind is obtained are quite properly given. The chapter on faeces follows Schmidt's well-known methods, but includes also some account of intestinal parasites. The last important subject dealt with is the urine, and we note that the author holds the presence of oxalates in the urine to have no other significance than that the urine is of low acidity and its only importance to be the possibility of the formation of a stone; he disbelieves in the existence of oxaluria as the consequence of any metabolic derangement. He quotes several modifications of von Jaksch's test, which have for their object its more rapid performance. Under acetone he does not mention the nitro-prusside and ammonia test generally used in this country. On the whole, the book is what it professes to be—a good guide for students and practitioners. It is clearly written, and its information can be relied on.

ASTHMA AND ITS TREATMENT.

THE causation and development of an attack of asthma have always attracted the attention of the speculative physician. In British textbooks the main facts of the case are stated, but theoretical comments are for the most part left in the hands of specialists and works devoted to the one subject. Dr. M. SAENGER, of Magdeburg, has made his name known as a student of asthma in its many forms, and he has recently issued, in a monograph of eighty-two pages,[6] the outcome of his thoughts upon the subject. Previous papers by the same author have appeared in German medical periodicals, and are here collected into a single volume, in which his opinions on causation and treatment are set forth at length, reference being made to a large experience of clinical cases, many of which are quoted in abstract.

The first part of the monograph is devoted to an inquiry as to the origin and nature of asthma, in which the theory of bronchiolar constriction is accepted without positive determination of the cause of the narrowing, although the probability is recognized that it is due either to actual nervous spasm or to local hyperaemia from reflex causes. That it is not due to an inflammatory process is equally clearly laid down. The author points out that most of the accepted causes of asthmatic seizures, whether they be physical or mental, are apt to produce acceleration of respiration, and that, in predisposed cases, such acceleration may culminate in a definite attack. Narrowing of the bronchioles by reflex action of this kind, when once it has occurred, is prone to occur again, and so to lead to irregular recrudescence of the trouble. But the psychical element has also to be reckoned with, and the author recognizes that there may be a morbid direction of the attention of the patient to the association of symptoms, and lead him to the constant fear that the symptoms which ushered in a previous attack are sure to lead to another. This fear is not controlled by the will, and a part of the method of treatment which Dr. Saenger advocates has for its object to overcome this want of will, and to enable the patient to realize that his will power is not lost, and that he can to some extent control the onset of the malady by the exercise of it.

In the latter part of the work, wherein he deals with treatment, the author enters at considerable length into the various morbid conditions which have been known or believed to induce asthma, and discusses the best methods of counteracting their influence; but it is upon the psychic aspect of the disease that he chiefly dwells, insisting upon the careful treatment in every case, and especially in its earlier stages, of the neurotic element. His system is for the most part directed to the regulation of the inspiratory movements, the patient's attention being centred upon a system of counting between each act of breathing. It may be open to question whether so much labour as has evidently been expended upon the preparation of this monograph is altogether compensated by the results achieved. It cannot be said to bring much practical assistance, but for those who love to speculate upon the problems of spasmodic affections, and are sufficiently well versed in German to unravel some truly colossal sentences, we can commend the study of Dr. Saenger's essay.

[6] *Ueber Asthma und Seine Behandlung.* By Dr. M. Saenger, of Magdeburg. Berlin: S. Karger. 1910. (Sup. roy. 8vo, pp. 82. M. 1·50.)

NOTES ON BOOKS.

So large a number of textbooks of chemistry exist already that the appearance of yet another may fairly be thought to require some justification. In their *Inorganic Chemistry, Part I.*[6] Messrs. KIPPING and PERKIN explain that they have not found the arrangement of the subject-matter in other books well adapted for use with the ordinary course of lectures in a college, and they have endeavoured to remedy these disadvantages by a different arrangement. This volume is intended to be the student's textbook during the first year of a three years' course, and is to be followed by a Part II. As might be expected from such experienced teachers as the authors, the information given is clearly presented, and the arrangement good; while the statements made are in proper accordance with recent discoveries and modern theories.

Dr. KELLAS'S *Introduction to Practical Chemistry*[7] is intended especially to meet the wants of students preparing for the examination of the Conjoint Board of the Royal Colleges of Physicians and Surgeons, and is the outcome of the author's experience in teaching medical students. It possesses throughout the character of a textbook intended for preparing for an examination rather than for imparting a thorough knowledge of the subject. Thus, in the first chapter the formulae for a large number of substances are given, with instructions for writing formulae and equations by aid of a table of valencies, which is given before anything has been said about the substances themselves. In dealing with the volumes of gases, the first statements about pressure are that volume varies inversely as pressure, and "the standard pressure is 760 mm.," but there is no mention of mercury in connexion with the 760 mm., or explanation of how pressure can be expressed by linear measure, and similar instances might be multiplied. The particulars of tests to be used in the analysis of salts are necessarily much the same as in other textbooks of the subject; short sections are devoted to quantitative analysis by gravimetric and volumetric methods.

ARNY'S *Principles of Pharmacy*[8] is primarily an explanatory commentary on the *United States Pharmacopoeia*, intended for the use of students. Four of the seven parts into which it is divided are so closely related to the text of the *Pharmacopoeia*, dealing respectively with its galenicals, inorganic and organic chemicals, and tests, that they seem very likely to be studied in detail by those whose concern is with the *British* and not the *American Pharmacopoeia*. The other sections, dealing with pharmaceutical processes, dispensing, and a course of laboratory work for students of pharmacy, are equally useful in any English-speaking country. The thoroughness with which the ground is covered is deserving of much praise. Such simple problems as how to prepare opium containing 12 per cent. of morphine from two batches containing

[6] *Inorganic Chemistry.* Part I. By F. Stanley Kipping, Ph.D., D.Sc., F.R.S., and W. H. Perkin, Ph.D., M.Sc., F.R.S. London and Edinburgh: W. and R. Chambers, Ltd. 1909. (Crown 8vo, pp. 320; 79 illustrations. 3s. 6d.)

[7] *Introduction to Practical Chemistry for Medical, Dental, and General Students.* Oxford Medical Publications. By A. M. Kellas, B.Sc., Ph.D. London: H. Frowde, and Hodder and Stoughton. 1909. (Med. 8vo, pp. 270; 20 illustrations. 3s. 6d.)

[8] *Principles of Pharmacy.* By Henry V. Arny, P. G., Ph.D. Philadelphia and London: W. B. Saunders Company. 1909. (Roy. 8vo, pp. 1175; 246 illustrations. 21s.)

respectively 10 and 18 per cent. are made thoroughly clear, and the student is led on to more complex matters like the processes of drug assay and the chemistry of the terpenes. Occasional lapses are to be noted, such as the classing of milk and ox gall as animal excretions, and the rather contradictory statements about the valency of aluminium and its compounds, but errors of any kind appear to be rare. The book will prove very useful to students of pharmacy.

The twenty-first volume of the reissue of the *Dictionary of National Biography*[9] has been published this month. It corresponds to the sixty-first, sixty-second, and sixty-third volumes of the original edition, and takes the alphabet to the end of Z: but three supplementary volumes to the original edition were published in 1901, and these will form the twenty-second volume of the reissue. Among the biographies in the twenty-first volume are those of Willis, who described the circle of cerebral arteries: of Sir Christopher Wren, the great architect, who made many of the drawings by which Willis's book was illustrated; and of Young, physician, physicist, and Egyptologist.

A second edition of Dr. LEROY'S book on massage of the face has been called for. The first edition, published less than a year ago, was reviewed in the BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 1486. The new edition[10] has been revised and corrected, and is probably the best book on a promising method of treating such obstinate affections as acne vulgaris and rosacea.

How to Become a Nurse, edited by Sir HENRY BURDETT,[11] is a useful book, not only for those who are desirous of becoming nurses, but as a book of reference for medical men and others to whom nurses look for guidance at the commencement of their career. Numbers of young women lose many valuable years of their lives, as far as their professional advancement is concerned, by accepting a training in cottage hospitals, nursing homes, or small union infirmaries, which are not recognized training schools. These institutions profess to train nurses, and give a certificate, and it is not until the nurse has left, and is applying for other posts, that she finds that her certificate will not enable her to obtain any good appointments. One of the most useful features in this new edition is a chapter classifying the hospitals and infirmaries in three divisions: (1) Institutions of 100 beds and over, giving a full and complete nursing training; (2) institutions of less than 100 beds, giving a partial training; (3) institutions for employment of nurses only. This classification would be improved if some of the larger county hospitals with less than 100 beds were added to No. 1. Some of these hospitals give an excellent training, and have a larger teaching staff of doctors and trained nurses, and a far greater variety of cases, and better surgical work than many of the union infirmaries of 100 beds and over which are included in the list. The introductory chapter on how to prepare at home for becoming a nurse is most excellent, and full of good advice. If a girl who is too young to commence her training learns the elements of physiology and hygiene, and goes through a course of "Home Science," such as that given at King's College, London, and tests her knowledge by entering for the examinations, she will find it will be a great assistance to her when she enters the hospital. There are good chapters on male nursing, the working of the Midwives Act, and on the principal laws affecting nurses.

Messrs. Shaw and Sons inform us that they merely printed *Sugden's Doctors' Account Book*, noticed last week, p. 1475, to Mr. Sugden's order. They do not publish the book.

[9] *Dictionary of National Biography.* Edited by S. Lee. Vol. xxi. Whitchood-Zuylestein. London: Smith, Elder, and Co. 1909. (Roy. 8vo, pp. 1364. 18s.)

[10] *Le massage plastique dans les dermatoses de la face, ses indications—ses résultats.* Par le Dr. Raoul Leroy. Deuxième édition. Préface de M. le Dr. L. Jacquet. Paris: Ch. Boulangé. 1909. (Pcap. 4to, pp. 215. Fr.4.)

[11] *How to Become a Nurse.* Edited by Sir Henry Burdett, K.C.B., K.C.V.O. New edition. London: The Scientific Press, Ltd. (Cr. 8vo, pp. 466. 2s.)

MEDICINAL AND DIETETIC PREPARATIONS.

Lysol.

THE water-soluble preparation of cresols called Lysol is widely known and in general use as a disinfectant and antiseptic. Messrs. C. Zimmermann and Co. (9 and 10, St. Mary-at-Hill, London, E.C.) have forwarded for our examination a bottle of this liquid showing the new style in which it is being packed. This is a flat bottle with lateral angles, of dark amber glass and fluted, and therefore at once distinguishable by sight or touch from bottles containing liquids for internal use. It is closed by a china stopper, with india-rubber washer, held firmly in place by an ingenious wire spring, so that it does not leak when inverted, but is more easily opened than a corked bottle.

BRITISH MEDICAL BENEVOLENT FUND.

At the November meeting of the committee, twenty-seven cases were considered, and grants amounting to £271 made to twenty-three of the applicants, three cases being passed over as unsuitable for help, and one postponed for further inquiry. Appended is an abstract of the cases relieved:

1. L.S.A., aged 65. Used to have a fair practice but lost it through ill-health and other misfortunes, and has had to start afresh in a neighbourhood where the fees are extremely small and the competition very severe. Is making progress but requires a little help. Relieved once, £18. Voted £18 in twelve instalments.

2. Widow, aged 64, of M.R.C.S., L.S.A. Since husband's death, twenty-four years ago, has supported herself until recently, but now finds it very difficult to obtain work, and is not in very good health. Relieved once, £12. Voted £12 in twelve instalments.

3. Wife, aged 64, of M.R.C.S., was deserted by her husband six years ago through no fault of her own, and is now destitute and in very feeble health. No friends or children able to help. Relieved twice, £24. Voted £12 in twelve instalments.

4. L.R.C.P., L.R.C.S.I., aged 62. Practised for many years in the north of London but lost all his patients through gradual failure of health, and is now quite incapacitated. No children, no income, and help given by friends during the last year is obliged to be withdrawn. Voted £18 in twelve instalments.

5. Daughter, aged 43, of late M.R.C.S., L.S.A. Was obliged to give up a good post as governess to nurse her mother during an illness which continued many years, and now needs a rest before again endeavouring to find employment. Income only a few shillings a week. Voted £5 in one sum.

6. Daughters, aged 59 and 50, of late M.R.C.S. Since father's sudden death more than thirty years ago have endeavoured to support themselves by receiving paying guests at a small house of which they are the owners. Are obliged to ask help for the winter owing to the expenses arising from a severe accident to the elder applicant. Voted £10 in one sum.

7. Widow, aged 65, of M.R.C.S., L.S.A. Maintained herself as a nurse-tender for many years, but is now practically destitute. Receives a few shillings occasionally from a son, recently made a bankrupt, and earns about a shilling a week by glove cleaning. Voted £12, in twelve instalments.

8. Widow, aged 68, of M.R.C.S. who practised in London, but was incapacitated owing to ill health, and supported for several years by the applicant. No income and dependent on a son-in-law, who can ill afford to help. Voted £10 in two instalments.

9. Widow, aged 68, of L.R.C.P.Edin., M.R.C.S.Eng. No income; children unable to help; health failing. Relieved twice, £24. Voted £12 in twelve instalments.

10. Daughter, aged 58, of late M.D.Lond. No income; endeavours to support herself by letting lodgings and by needlework; eyesight defective. Relieved twenty-six times, £196. Voted £6 in six instalments.

11. Widow, aged 72, of M.D.Lond. Only income two small annuities, and asks for a little help to obtain little comforts necessitated by her advanced age. Relieved four times, £26. Voted £5 in one sum.

12. Daughter, aged 55, of late M.D., L.S.A. Was a governess for many years, but is now in ill-health and quite unfitted to earn her living. Relieved eight times, £80. Voted £12 in twelve instalments.

13. Daughter, aged 53, of late M.D.Edin. No income; endeavours to support herself by taking lodgers, but has had a very bad season. Relieved twice, £12. Voted £10 in one sum.

14. Widow, aged 55, of M.B.Cantab. Quite unprovided for at husband's sudden death about seven years ago, and has since endeavoured to support herself by taking in washing and acting as charwoman. Has two daughters in domestic service, and is advised by one of them in Australia to go out there with the youngest child, aged 9. Relieved six times, £77. Voted £5 temporarily, and promised £12 towards passage money if friends find the balance.

15. Widow, aged 49, of L.S.A. Left quite destitute at husband's death from new growth a few years ago, and dependent on a son, aged 17, earning 15s. a week. Health feeble; very deaf; has lost her sight in one eye, and is nearly blind in the other. Relieved four times, £50. Voted £12, in twelve instalments.

16. Widow, aged 53, of L.F.P.S.Glasg. No income, slight help from elder children, but has three dependent on her, the youngest having spinal curvature. Relieved three times, £36. Voted £12, in twelve instalments.

17. Widow, aged 50, of L.S.A. Two daughters, aged 17 and 15. Has endeavoured to support herself and them by letting lodgings, but has been obliged to sell most of her furniture. Relieved twice, £20. Voted £12.

18. Daughters, aged 57 and 52, of late M.R.C.S. Small earnings from needlework and slight help from friends. Relieved five times, £56. Voted £18.

19. Widow, aged 75, of M.R.C.S. Has an Epsom College pension, and receives a little help from a son, but has been obliged to incur heavy expenses for a daughter who has recently undergone a severe operation. Relieved seven times, £68. Voted £10.

20. Daughter, aged 62, of late M.R.C.S. Assisted her mother to keep a boarding-house for thirteen years in order to support her father who was paralysed, and now acts as housekeeper to two sisters who are endeavouring to establish a school. Relieved once, £12. Voted £12.

21. Daughter, aged 51, of late M.R.C.S. Nursed her father, who was a pensioner of this Fund and Epsom College, for ten years, and now finds it very difficult to obtain sufficient work to support herself. Relieved once, £12. Voted £12.

22. L.R.C.P., L.R.C.S.Edin., aged 52. No income; has been incapacitated by spastic paralysis for several years. Relieved five times, £60. Voted £12.

23. Daughter, aged 49, of late M.R.C.S.Eng., L.R.C.P.Edin. No income, and has recently undergone a severe abdominal operation. Relieved once, £12. Voted £12.

Contributions may be sent to the Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

MEDICAL RELIEF AND ABUSE OF MEDICAL CHARITIES.

THE attention of the Commissioners was drawn to the abuse of outdoor medical charities in the large towns by persons well able to pay for treatment, and in dealing with the matter they express the opinion that it is somewhat remarkable that, notwithstanding the proverbial thriftiness and independence of the Scottish nation, there should not exist in any of the large towns in Scotland a single provident dispensary or a public medical service on a provident basis, such as are found in many towns in England. Of the numerous advantages which the organizations are considered by the majority of the Commissioners to possess special attention is directed to the following: That they provide a method of insurance for medical aid; that by means of a small weekly or other periodical payment members are enabled to obtain such aid for themselves and their families at a cheaper rate than if they went as ordinary patients to a private practitioner; that, as there are frequently a number of doctors attached to the staff of the dispensary or medical club, members have power to choose their own medical adviser as they would in ordinary life. The majority of the Commissioners, however, consider that one of the chief advantages of these organizations is their effect on character, since they enable the working classes to preserve a spirit of independence, instead of resorting to the Poor Law or charity in times of sickness. It is, they think, regrettable that so many persons in the large centres of population in Scotland appear to be willing to accept charitable medical relief instead of adopting some form of providence or thrift in order to provide themselves with medical attendance.

This to a certain extent is true, but medical practitioners in Scotland have never encouraged the formation of provident dispensaries or medical clubs, more especially those admitting wives and children. Clubs in connexion with industrial works do exist, but only for the employees, not their families; in many cases the annual capitation rate is so absurdly small that it is not, as a rule, worth while for medical men to have anything to do with them. This applies more especially to clubs in small towns averaging 50 or 60 members, whose demands on the services of the medical officer are most exacting. The case of the Fife collieries shows that the fee charged is 6d. per head a fortnight; this arrangement existed for some years until a few months ago, when a medical man came into the district and gave medicine—which was not included before—in addition for 6d. a fortnight. It will thus be seen that club work is neither profitable nor in many districts pleasant.

The Commissioners express surprise that abuse should exist in connexion with general hospitals, and express the hope that, as attention has now been drawn to the matter, "an endeavour will be made to vindicate the national character."

Parish councils frequently make use of their power of subscribing to voluntary hospitals. Sick poor are also sent to such hospitals and paid for by the councils concerned. It is stated in the report that this class of patient is decreasing; for example, while 400 cases were sent in 1866 to the Edinburgh Royal Infirmary by Poor Law infirmaries, in 1906 only 12 cases were sent, all of them by country parishes. The reason of this may be that better provision is now made for the treatment of sickness in poorhouses, and also that poor persons find their way to the infirmary without the intervention of the Poor Law authorities.

As regards the provision of hospital accommodation for the community, the Scottish sanitary authorities, unlike the English, have no power to provide hospitals other than for the treatment of infectious diseases. The Commissioners find, however, that much the same problem as that which prevails in many towns in England is growing up in the large towns in Scotland. On the one hand are the voluntary hospitals struggling to cope with the demands made upon them, and unable to accommodate every one seeking treatment within their walls; while, on the other hand, are the Poor Law authorities gradually providing hospitals which are primarily for pauper cases, but which also receive others whose "destitution" mainly consists in the fact that they are in need of hospital treatment which they cannot obtain elsewhere.

Regarding the terms of admission to the voluntary hospitals, the Commissioners note that they vary in different towns. Thus, at the Edinburgh Royal Infirmary "all treatment and advice is granted free," but in Glasgow, Dundee, and Aberdeen admission is gained chiefly by means of a subscriber's line, exception being made in cases of accident and urgency. No general hospital or infirmary, as far as the Commissioners have been able to ascertain, has made any systematic attempt, either by the appointment of an almoner or otherwise, to institute inquiries into the circumstances of persons applying for treatment. Consequently the benefits of the infirmaries are not infrequently taken advantage of by persons well able to pay for treatment. Many instances of hospital abuse were brought to the notice of the Commissioners. Independently of whether a patient has previously contributed to the funds of a hospital, or obtains admission on a subscriber's line, the treatment once he is admitted into a general infirmary is "absolutely free." Compared with this, the patient in the Poor Law hospital is at a great disadvantage. Not only is he subjected to the stigma of pauperism and liable to disfranchisement, but he or his relatives may be called on to refund the cost of treatment in whole or in part.

The abuse of hospital charities by the well-to-do, the inability of persons in moderate circumstances to obtain specialist treatment otherwise than by entering a voluntary hospital or infirmary, and possibly the desire of the hospital authorities to procure cases that are interesting from a clinical point of view, are given as the reasons why numbers of poor patients, as well as patients suffering from chronic illness, are excluded. For such patients there is practically no provision apart from the Poor Law hospital, to which they go either in the first instance or after being refused by the voluntary hospital.

The Commissioners report that there is no effective or intelligent co-operation between the voluntary and the Poor Law hospitals, and that no clear line, economic or medical, can be drawn between the cases dealt with in the two classes of institution. As regards the destitute and the non-destitute alike, surgical and acute medical cases may be dealt with by both. The tendency is, however, for the voluntary hospitals to confine their attention mainly to cases of acute illness, and to send cases of chronic illness to the Poor Law. There appears to be a feeling that co-operation should be developed along these lines. Suggestions have also been made that there should be in the large towns a local representative body, with powers of supervision and, in some respects, control over the various organizations providing hospital accommodation.

Two things, therefore, are, the majority of the Commissioners consider, clear as regards the large towns. First, that the amount of hospital accommodation is generally

inadequate to the needs of the inhabitants; and, secondly, that, in the interests of economy and the patients themselves, any expansion of the hospital system must be accompanied by closer co-operation between the voluntary hospitals and the Poor Law. Such co-operation, however, can never be satisfactorily accomplished until patients in both sets of institutions are treated on the same terms. Either the Poor Law treatment must be gratuitous, and without stigma, or there must be legal recovery from patients in both sets of institutions upon the same principle.

The Commissioners state that the evidence brought before them shows that the time has come when steps should be taken by the authorities of the voluntary hospitals to check the abuse of their benefits by the well-to-do, and that witnesses had suggested that patients should be called on to pay for treatment according to their means.

Were these suggestions carried out, voluntary hospitals would, the Commissioners consider, have greatly to increase their accommodation, and the general practitioner would be deprived of many patients who at present are able to pay him reasonable fees for medical attendance at their homes. While the large towns in Scotland are well supplied with voluntary hospitals—which are, however, taxed to their utmost to provide accommodation for deserving patients—outside these towns there are only a few county infirmaries supported by voluntary contributions, and there is reason to believe that, in the case of many of these, patients are admitted who are well able to pay for medical treatment outside, and hospital abuse is gradually extending to them also. There are also a number of cottage hospitals, many of them built and endowed by private donors. Although the number of such hospitals appears, say the Commissioners, to be gradually increasing, there is great need for a better provision of hospitals in rural districts, and this is the more urgent because of the inadequate provision made for the sick poor in rural poorhouses.

Reference was made in last week's JOURNAL to the lack of accommodation in certain parts of the Highlands and Islands of Scotland—notably in the island of Lewis. The want of such accommodation is alleged to result in great suffering, and to be seriously affecting the general health of the population. The late Dr. MacDonald, medical officer for the Parish of Stornoway, in his evidence before the Commission, stated:

> To begin with the parish of Stornoway, which has a population of 13,000, and which embraces the *quoad sacra* parishes of Knock and Back, there are, in the near vicinity of the town of Stornoway, a cottage hospital of twelve beds, and an infectious diseases hospital with a similar number of beds. These two modest institutions are supposed to supply all the medical requirements of the whole population of Lewis—over 31,000—amongst the rural population of whom, owing to the utter want of any efficient method of isolation and the insanitary condition of the houses, fever has become endemic.

Recommendations.

As regards the question of medical aid to the poorer classes generally, the majority of the Commissioners recommend:

1. That a better supply of hospital accommodation should be provided, based on the needs of each public assistance area.

2. That a united effort should be made to prevent the abuse of medical charities by persons in a position to pay for treatment.

Means to give Effect to the Recommendations.

In the opinion of the majority of the Commissioners, the first essential of reform is that steps be taken to prevent overlapping of effort, not only in regard to new hospitals, rate-provided or voluntary, but also in regard to those that at present exist. They recommend therefore:

That there should be systematic co-operation between the public assistance authorities, the sanitary authorities, the education authorities, and the voluntary medical institutions, based on a clear definition of their respective functions.

To that end it is necessary, they think, that there should be appointed a joint committee consisting of representatives of these authorities and of the medical profession. This committee should be entrusted with the duty of framing schemes of co-operation to be adopted by the various bodies concerned. The committee might also consider, after consultation with the voluntary aid councils,* where such exists, the needs of each public assistance area in regard to hospital accommodation, with a view to additional accommodation being provided where necessary. This must be a gradual process, and the Commissioners do not suggest that the rates should bear the entire cost. It is a popular form of charity, and to publish the needs of a district would be a guide to charitable donors. There is, too, as has been shown, evidence in favour of small self-supporting hospitals or nursing homes.

In order to prevent abuse of the medical charities by the well-to-do, and to preserve a spirit of independence among the working classes, the Commissioners recommend that a strong endeavour should be made to restrict the benefit of gratuitous medical aid to the really necessitous classes. For England, the provident dispensaries, being widely known, and in certain districts attended with much success, the Commissioners recommended the establishment of a universal system of provident dispensaries in order to assist and encourage existing voluntary institutions, and to make the lines of progress follow the lines of voluntary effort. Existing provident dispensaries were therefore made the basis for a reorganization of medical aid on a provident basis in England, but in Scotland the case is quite different. Though the general principle may be equally applicable to both countries, yet for practical purposes the provident dispensary system is unknown in Scotland. For these reasons the Commissioners do not recommend the immediate establishment of a universal system of provident dispensaries in Scotland, but think the time has come to offer the working classes further opportunities of securing medical aid for themselves and their families by means of some form of insurance, for example, by establishing provident dispensaries or medical clubs. Accordingly the Commissioners recommend that steps should be taken to see how far such dispensaries or clubs should be established. They suggest that as a beginning some of the free dispensaries might, as in England, be converted into provident dispensaries, and contributions from public assistance authorities might be offered as an inducement to them to do so.

In some parts of the highlands and islands, where the majority of the inhabitants are on the verge of pauperism, it is inevitable that a subsidy would have to be given which would represent a large proportion of the whole expenditure. In these districts the Commissioners think that at first the weekly contributions by members would be merely nominal, and that, as the condition of the inhabitants improved, the amount of the subsidy should be diminished gradually until the dispensaries became self-supporting. The establishment of provident dispensaries, if carried into effect, would concern the medical profession to a very large degree. The Commissioners state that of the inducements offered to poor people to join provident dispensaries, if the law enables them at any time to obtain from the public assistance bodies medical relief free from disabilities, the main are in their opinion these:

1. In the towns and populous districts, where, we assume, the establishment of provident dispensaries will be begun, the members of the provident dispensary would be able to choose their own doctor from the list of local medical practitioners attached to the dispensary. A member of a provident dispensary would thus be in the same position as a well to-do citizen, in that he would be employing a doctor chosen by himself, instead of a doctor chosen by a public authority.

2. A dispensary doctor should be empowered to recommend a member of the dispensary for admission to public assistance authority hospitals, and, in certain cases where arrangements have been made, to voluntary or general hospitals or infirmaries.

3. For reasons which they have detailed in their English Report the Commissioners think that the public assistance authority or parish council must continue to have the right and duty of demanding repayment of the cost of medical relief in cases where the patient is able to pay. In

* This council, it is suggested, should consist in part of trustees of endowed charities, of members of registered voluntary charities, of some members of public assistance authority, and of such persons as ministers of religion, members of kirk sessions, members of friendly societies and trade associations, and of other persons being co-opted members as may be settled in schemes to be approved by the Local Government Board.

the case, however, of a member of a provident dispensary, inasmuch as they propose that membership should be limited to persons below a certain wage limit, no inquiries as to means should be made. It would therefore follow that subscription to a voluntary dispensary would be held to include contributions by the patient towards the cost of his institutional treatment when necessary.

4. In addition to preserving the spirit of independence, the members of provident dispensaries would manage their own concerns, and it might well be hoped that there would grow up an *esprit de corps* analogous to that which prevails in a friendly society.

The Commissioners, while, however, strongly of opinion that a system of medical aid based on provident lines should gradually be established in Scotland, considered that they had not sufficient evidence to do more than make the above general suggestions. More especially do they consider that such a system could be established only with the hearty co-operation of the medical profession, whose interest at present suffer, and would be deeply affected by any such arrangement as that proposed. Accordingly, they recommend the appointment of a Departmental Committee to consider the best means for giving effect to the general proposals of which they have given the outline.

The remarks in the foregoing summary refer chiefly to the conclusions and recommendations of the Majority Report. The Minority state that they cannot but concur in the trenchant criticism and the emphatic condemnation contained in the Majority Report as regards the provision which, in the twentieth century, Scotland makes for its sick poor. They say that, according to Poor Law theory, and, indeed, according to the practice of the Scottish Poor Law, every person who is sick, and unable to obtain for himself the medical attendance, nursing, and medicine that his condition requires, is entitled to have such medical attendance, etc., provided for him at the expense of the poor rate, at least up to the customary standard of the time. It is, the Minority state, unfortunately only too plain that, up and down Scotland, the sick poor are in thousands of cases not so provided.

What the Minority recommend is that the Local Health Authority be empowered and required to search out all sick persons within the district who are destitute of medical attendance, all infants destitute of proper nurture, and all infirm persons needing medical attendance and nursing, and to apply the appropriate treatment, either in their homes or in suitable institutions.

SPINAL ANALGESIA.

ON Thursday, November 18th, at the Seamen's Hospital Greenwich, Professor JONNESCO of Bucharest demonstrated before a large number of medical men his method of applying spinal analgesia to operative procedures on the head, neck, and upper abdomen, which was described fully by him in our issue of November 13th. Mr. Lawrie McGavin, Surgeon to the Seamen's Hospital Society (Dreadnought Hospital, Greenwich), has kindly supplied the following report of the cases, three in number, which were submitted to operation:

CASE I.

A man, aged 32, of strong physique, suffering from a mass of tuberculous glands in the submaxillary region. The injection, which consisted of stovaine eg. 5 and neutral strychnine sulphate mg. ½, was made between the second and third dorsal spines in the median line, the patient being in the sitting position and with the head fully flexed on the neck. At the end of two minutes he was placed gently on his back, and the head and shoulders were lowered. Analgesia was complete in about one minute to the level of the forehead, when the table was levelled and the operation commenced. The glands were removed without any pain whatever, but deep tactile sensation was retained. Both costal and diaphragmatic respiration were carried on perfectly normally. The conjunctival reflex was partially abolished and the tongue was insensitive, although the patient could speak fairly well. Hearing was not interfered with. The analgesia extended to the region of the umbilicus, and lasted about an hour. He walked without difficulty from the theatre to the ward. He stated the following day that he had "felt no pain whatever, and only knew that something was being done, by the movement of his head and the pulling at his neck." He said he "would not mind undergoing it again." With the exception of some headache there were no post-analgesic phenomena.

CASE II.

A man aged 62, suffering from carcinoma of the stomach; rather feeble and wasted, of Irish nationality, and very impressionable. The injection was done through the dorso-lumbar interspace, and consisted of stovaine 10 eg. and strychnine 1 mg. Patient remained in sitting position for one minute, and was then placed on his back in moderate Trendelenburg position. Analgesia was complete in five minutes to the level of the zygoma above and the middle of the thighs below. Respiration perfect, both costal and diaphragmatic. Slight retching for a space of three minutes on table. Conjunctival reflex abolished. Patient spoke easily, but tongue insensitive. The skin incision was quite unfelt, as was division of the epigastric aponeurosis, but as soon as an attempt was made to withdraw the omentum and stomach the patient groaned and said that although he was not being hurt he felt "as if his insides were being pulled out." As the cardiac end of the stomach was found to be converted into a mass of growth nothing could be done, and the abdomen was closed. The analgesia lasted about an hour and a quarter, and the patient was none the worse.

CASE III.

A boy of 14 years of age with chronic suppuration in the mastoid antrum. The injection was made as in the first case, the dose being stovaine eg. 2 and strychnine mg. ½. On the head and shoulders being lowered the analgesia rose almost immediately to the level of the eyes and extended to about the costal margin below. Respiration was perfect. Upon incising the periosteum some pain was complained of, and as this persisted at each attempt a second injection was given. This, however, failed to have the desired effect, and the operation was completed under general anaesthesia. The patient was none the worse for the injection, which did not in the least interfere with the anaesthetic.

Commenting on the subject, Mr. LAWRIE MCGAVIN observes that all three cases serve definitely to prove that it is possible, by the addition of a respiratory stimulant to the spinal analgesic, to push the analgesia far above the level of the respiratory centres without interfering with the respiratory act. It was especially this point that Professor Jonnesco wished to demonstrate. The first case, he says, proved quite conclusively that with such surgical analgesia it is possible to perform operations at levels hitherto believed to be beyond the range of spinal analgesia. The second and third cases prove very little beyond what has been already stated. Neither of these patients were good subjects for such a demonstration as it was proposed to attempt. One was highly excitable and neurotic, the other was little more than a child; both were obviously rather frightened at the large concourse of medical men present in the theatre. In Mr. McGavin's opinion, the second case proved at least that whatever the effect of the method might be as regards the abdominal viscera, the muscles, fasciae, and skin were so completely analgesic that such an operation as an interscapulo thoracic amputation might easily have been performed without any difficulty had such operation been necessary, and this, it must be admitted, has hitherto been an absolute impossibility.

Mr. McGavin proceeds: Space will not permit of a discussion of the reasons for the partial failure in the second, and the complete failure in the third case so far as the surgical aspect is concerned; but it must be perfectly obvious to all who are not hopelessly prejudiced against any scientific innovation, that if one successful case is not sufficient to recommend the method, neither are two partial failures sufficient to condemn it. Every surgeon of experience has seen repeated failures attending various methods of general anaesthesia, and yet general anaesthesia is not condemned by all on that account. It is perfectly obvious to all thinking members of our profession, that spinal analgesia has come to stay; that those in whose hands the nurture of this new infant should rest will better serve their own interests, as well as those of their fellow-men by adopting it gradually and studying how to advance its welfare rather than by rejecting at the outset what they may later be compelled to accept. It is further perfectly obvious that Professor Jonnesco's method, as all will admit who witnessed his lantern demonstration before the Royal Society of Medicine, is a very great advance on our present methods of spinal analgesia, and that it will, when it is better known, and possibly even improved, revolutionize the science of anaesthetics. If we are obstinately conservative in this country with regard to such matters, how can we be surprised that our patients look upon us as being hopelessly behind our European *confrères* and hasten to them for the help which they believe to be unobtainable at home?

SEVENTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association

IN LONDON, JULY, 1910.

As has already been announced, the Association will next July hold its Annual Meeting in London. For some years past it has been the custom, at this season of the year, to put before readers of the British Medical Journal a short historical and topographical account of the city or town in which the Annual Meeting of the ensuing year is to be held, with a description of the principal industries and buildings, especially such of the latter as are to be employed for the accommodation of the various sections and assemblies connected with the meeting. At the moment of writing, however, negotiations are still in progress as to the buildings which will be most suitable for the purposes of the Association, so that we are unable now to deal with this portion of our subject. In respect of the rest, to attempt a description of the metropolis would be futile, having regard to the space at our disposal compared with the vastness of the theme, and unnecessary, because of the personal knowledge of London and its salient features which must certainly be possessed by the majority of our readers. Attention will therefore be confined to points of particular medical interest



The House of the Association in the Strand.

Next year's Meeting will be the fourth to be held in London. The first took place in 1862, under the presidency of Dr. (afterwards Sir) George Burrows; the second in 1873, under that of Sir William Ferguson; and the third in 1895, when Sir J. Russell Reynolds was President. The mere mention of the names of these presidents, with those of the equally eminent men who delivered the principal addresses—Walshe, Paget, Sharpey, Parkes, Wood, Broadbent, and Hutchinson—suggests a long flight of years, even though happily Sir Jonathan Hutchinson is still with us. And if, further, we set our minds deliberately to review the history of our Association since 1895, or to picture in the imagination London as it was in that year, we may well think it difficult to believe that the short span of fourteen years separates us from the occasion of the third London meeting. It is not, however, the purpose of this article to deal with the history of the Association, important though it has been during even the present century; rather are we concerned with visible changes in London itself.

If perchance there is any member of the Association who will be paying a visit to London next year for the first time since 1895—the date of the last meeting held therein—we venture to say that, even though his acquaintance with the city and its environs was at that time as extensive and peculiar as was that of Mr. Samuel Weller in his day, he would, if he were suddenly dropped into some of its streets, be hard put to it to know where he was, so busily has the "frequent contractor" been at work.

At the eastern end of the Strand, not far from the head quarters of the Association, the formation of the thoroughfares of Aldwych and Kingsway, north of the churches of St. Clement Danes and St. Mary-le-Strand, has completely transformed the locality. Considerable changes are to be noticed along the Strand itself, amongst which the rebuilt house of the Association is not the least. The elevation of the new building is simple and dignified, and a year's experience of its working proves that the interior arrangements, which were the subject of much anxious debate between the Premises Committee and the architect, are very well adapted to their purpose, and conduce to the convenient dispatch of the Association's business. There is a beautifully proportioned library on the first floor, a commodious Council chamber possessing excellent acoustic properties on the second floor, a common room for members on the third floor, commanding on clear days a remarkably fine view across the Thames to the hills of Sydenham and Norwood, and numerous excellent committee rooms and offices.

Westward, just beyond the south side of Trafalgar Square, the fine arches between Charing Cross and the Mall, hardly finished at the moment of writing, will by the time the Association meets, have placed an entirely different aspect on the view in that direction from the Association's premises. The southern end of Whitehall has been widened to an extent that now renders that thoroughfare worthy of its traditions and associations; and the new Government buildings erected along its sides are quite in keeping with these changes. All these alterations are to be found within a short walk of the Association's home. We might go further afield and describe others equally as important, the result of both public and private enterprise: the Victoria and Albert Museum at Kensington, the Roman Catholic Cathedral at Westminster, the Great Central Railway terminus in the Marylebone Road, the Central Criminal Courts in the Old Bailey, and so on. But we must content ourselves with saying that the member to whom we alluded above might spend an entertaining day in visiting the chief alterations that have been carried out during the last ten or fifteen years. This undertaking is the more easy to accomplish on account of the ready means now in existence for getting about from one part of London to another: the network of tube railways, the old but renewed and electrified "underground," the ramification of the electric tramways, and the motor vehicles on the roads—all of which, with the exception of the South London tube and the tunnels of the "underground," have been introduced since 1895.



University College Hospital.

But though we cannot attempt even to enumerate the many changes that have been made in London, there are some which from the professional point of view are interesting and important though they might fail to attract the attention of the layman. We refer to the alterations and improvements in the hospitals, and also in those buildings which are devoted to medical education. To the person who has not kept himself conversant with what has been done in this direction, these will be found, in several instances, to be almost startling. During the fourteen years that have elapsed since the third London meeting more improvements of this kind have been brought about than during the twenty-two years between the second and third, or, indeed, we believe we may truthfully say, than during the thirty-three years between the first and third meetings. Some of the hospitals and schools have been entirely rebuilt; others have been altered and enlarged beyond recognition; none have been suffered to remain as they were. In this and succeeding articles we propose to give a short account of the alterations that have been made, taking first those hospitals to which medical schools are attached, and to point out some of the features which we believe will prove of most interest to those members of the Association who may be visiting these institutions next July.

The reader of the accounts which follow must bear in mind that they deal only with recent additions to and improvements in the hospitals and medical schools of the metropolis. Hence there is more to tell of some than of others. All the medical schools are constituent colleges of the University of London, the head quarters of which are in the Imperial Institute at South Kensington. But while some of the medical schools undertake to educate the student during his preliminary as well as purely professional studies, others confine their attention to the latter. Of the hospitals dealt with in this first article, St. Bartholomew's provides the complete course of study, while the medical school of University College Hospital concerns itself only with the final courses, the courses in such subjects as anatomy and physiology forming parts of the Faculty of Science in University College.



University College Medical School.

University College Hospital and Medical School.

Since the Association met in London in 1895, probably no metropolitan centre has undergone greater change than the Faculty of Medicine of University

College and the associated institution, University College Hospital.

In the first place, following as a direct result of the change in the character of the University of London from a mere examining body to one which has also assumed the characters of a teaching university, it has been found advisable to sever the association between University College and University College Hospital, a connexion which had existed since 1826. To effect this change an Act of Parliament was required, in consequence of which the hospital and medical school are combined under one and the same controlling body, which is distinct from that of University College, the Senate of the University of London.



St. Bartholomew's Hospital.

In the college the preliminary subjects are taught—anatomy, physiology, chemistry, etc.—and it was only on June 18th last that the splendid institute of physiology was opened by Mr. Haldane, the Secretary of State for War. A full account of this building was given in the JOURNAL for June 12th. In the medical school the student pursues his final studies—medicine, surgery, etc.

The second great change appeals more readily to the visitor, as, being of an architectural nature, it is an apparent one. Through the munificence of the late Sir Blundell Maple, Bart., the old and very insufficient hospital has been entirely rebuilt at a cost of over £200,000.

The design of the building, which is on the site of the old one at the top of Gower Street, marked a departure from the ordinary type of kindred institutions, and the model has already been copied in the erection of at least one other hospital. This building, in plan, resembles a Maltese cross—there are four wings and a central administrative block. By means of this design there has been secured, on a site twice the size of the former building, one which allows of rapid and easy administration, a perfect sanitary system, and the maximum of air and sunshine. Three of the wings are given up to the provision of ward space, and the fourth to residence for the nursing and resident staff. The basement of each wing, and the space between these wings, provide accommodation for out-patients and special departments. A handsome waiting-hall occupies the base of one wing, and provides ample accommodation for the out-patients awaiting treatment. The sanitary offices, kitchens, and bath-rooms occupy separate towers at the outer ends of each wing, and are cut off from the wards by bridge-ways.

A feature which strikes the keynote of one of the most modern developments of hospitals is the provision of a clinical pathological department, which, with the *post-mortem* room, occupies the upper floor of one wing. The hospital is now provided with three operating theatres instead of with one, and special wards are set apart for the treatment of typhoid fever and diphtheria, and one of the most modern developments is the provision of an internal maternity department. The total number of beds provided by the hospital is 305.



Pathological Department, St. Bartholomew's Hospital.

University College Hospital is not the only metropolitan hospital which has turned its attention to the teaching of only the final medical studies, but it is the first hospital to build and equip a medical school for this purpose; the building, therefore, will be of interest to the visitor anxious to learn not only what is the trend of final medical studies, but also what steps are being taken in London to prepare for the advances which are likely to be made in the near future. The school authorities have spared no efforts to prepare for these advances, and owing to the thoughtful benevolence of the late Sir Donald Currie, their efforts in

this direction have been rendered possible. The medical school occupies the south side of that part of University Street which lies between Gower Street and Huntley Street. This imposing structure has added very considerably to the architectural features of the neighbourhood, and most skilfully there is incorporated in the edifice a nurses' home, for the accommodation of the private nursing staff of the hospital, and a students' house designed for the accommodation of the obstetric registrar and assistant and obstetric students whose duty it is to work in the external maternity department of the hospital. The medical school occupies about two thirds of the edifice, and its special character is easily recognized by the ample provision of window space. The total cost of the building was £80 000; this sum, with a further sum of £22,500 was given by Sir Donald Currie.

The Medical School contains a very complete appointment for the purposes for which it was designed. The visitor will find the usual administrative offices, two large lecture theatres, three specially designed demonstration laboratories for chemical pathology, bacteriology, and morbid anatomy, a very handsome library, a large museum of pathological anatomy, a forensic medicine museum, a suite of rooms for the Students' Medical Society, including a large gymnasium and refectory, two large examination rooms, a fully-equipped department for operative surgery and bandaging, and workrooms for the preparation of media for the cultivation of bacteria, a centrifuge room and incubator rooms.

The feature which will most impress the visitor, however, is the elaborate preparation that has been made to provide facilities for research in the Department of Pathology. A number of research rooms have been set aside for this purpose, each provided with hot and cold water, electric lighting, and electric or water-motor power. The charges for the rent of these rooms have been made as moderate as possible, and during the last year all the rooms were engaged.

St. Bartholomew's Hospital and Medical School.

St. Bartholomew's Hospital contains 744 beds, and is situated in West Smithfield, near Aldersgate Street station on the Metropolitan Railway. The new buildings at this ancient foundation consist mainly of two large blocks. The most important, so far as size goes, is that which has been erected, at a cost of £120 000, upon a site in Giltspur Street. It is a five-story building, which at once fills the eye as we approach the hospital from the Old Bailey. Its foundation stone was laid by the King in July, 1904, and it was opened by the Prince of Wales in July, 1907. Passing beneath a large arch, we reach the entrances—of which there is one for men and another for women—to the out-patient department. Entering, we find on the ground floor a spacious and comfortable hall, 140 ft. long and 45 ft. wide, surrounded by some twenty rooms, nearly all of which are lighted from the top, for the examination and treatment of patients by the casualty physicians and surgeons, assisted by senior students. There are, besides, two operating rooms and a dental room. In these ground-floor rooms the patients are sorted out for further examination, if necessary, in the special departments which are situated in the floors above. The arrangement of these departments is briefly as follows: On the west side of the hall on the ground floor near the entrances there are a staircase and lift which communicate with the upper floors. From each side of the staircase on each floor stretches a suite of rooms, six to eight in number. These comprise a waiting room, rooms for clinical assistants and clerks, a clinical laboratory, a private room for the member of the staff who is in charge, and, in those departments where they are needed, an operation room, sterilizing room, and dark room. Medical and surgical patients are seen on the first floor, where also are rooms for the detention of doubtful cases; on the second floor are the three departments for the diseases of women, of the ears, throat, and nose, and of the eyes; while on the third floor are the orthopaedic department, with a room for massage and Swedish exercises, and the skin, dental, and electrical departments, including the *x*-ray rooms. Each of these departments has been arranged most ingeniously and carefully with a view to the comfort and convenience of patient and medical attendant alike; and each is so complete in itself as to minimize as much as possible the length of time a patient has of necessity to wait. On the ground floor, at the north-east corner of the building, is the dispensary, and if any visitor wishes to see how a large dispensary should be arranged and fitted, especially with a view to saving time, let him inspect this one. Beneath the dispensary, in the basement, is the pharmaceutical laboratory.

Besides all the departments and rooms just enumerated there are contained in this block the residential quarters of the junior staff (house-physicians, house surgeons, etc.), the club rooms of the Students' Union, which are quite distinct from those of the residents, a clinical lecture theatre, a chemical laboratory, and a room for practical instruction in public health. In the basement of the club is a miniature rifle range.

The other important addition to St. Bartholomew's Hospital is the Pathological Block, which was opened so recently as May last. This building is situated close to King Henry VIII's gate, and cost £30,000. We term it an "addition to the hospital," because it does not require a very intimate acquaintance with the work carried out in this block to recognize how much at the present day the welfare of the patients housed in or attending at a hospital are dependent upon the skill and industry of a pathological department. From this point of view the suites of rooms on the first, second, and third floors are the most important, devoted as they are to the pursuit of bacteriology, histology, and chemical and clinical pathology in all their branches. By a well-devised scheme all the pathological material sent from the hospital is received in one room, where a record of it is taken; thence it is distributed to the various laboratories according to what is required. In the laboratories for chemical pathology and bacteriology respectively are placed mural tablets to the memory of Mr. G. A. Kingdon, F.R.C.S., and Mr. Alfred Boyd, two benefactors of the hospital. There are two laboratories, in which three or four men can comfortably work, for special research.

The ground floor is occupied by the offices of the Medical School. In the basement is a cold chamber, in which subjects are kept until an autopsy can be made. They are then conveyed by a special lift to the *post-mortem* room in the top story. The situation of this room assures that it is well provided with those most important necessities, light and air, and the fittings and adjuncts are all that can be desired. By means of a covered bridge there is direct communication between this floor and the pathological museum over the library in the school buildings. In a good-sized room on the third floor is the Memorial Library, named after the late Professor Kanthack. It is to contain not only a special collection of books on pathology, but all the clinical and pathological notes of cases for the last ten years, an arrangement which greatly facilitates reference to the records of former patients.

It will thus be seen that the pathological block at this hospital is not to be surpassed by any in the kingdom.

(To be continued.)

At a meeting of the Zoological Society of London on November 9th, Mr. S. F. Harmer, M.A., F.R.S., Vice-President, in the chair, Professor E. A. Minchin exhibited two specimens of a *Cysticercus* stage of a tapeworm found by him in the body cavity of the rat-flea (*Ceratophyllus fasciatus*). Dr. R. T. Leiper, F.Z.S., exhibited specimens of some rare helminths of man, including a new nematode worm found in abscesses in natives of Trinidad—namely, *Lagochilascaris minor*, which he described as follows: An ascarid with three jaws split along their inner surfaces and separated from body by a deep furrow. Small cuticular labia intermedia. Narrow keel of cuticle projecting from body in region of lateral bands. Oesophagus simple. Male 9 mm. in length, with over twenty-four pairs of pre-anal and with five pairs of post anal papillae. Spicules solid at tips, sickle-shaped, measuring 0.35 mm. and 0.4 mm. in length. Female 15 mm. long. Vulva 6 mm. from mouth. Ova round, with thick and pitted shell. They can be seen at the London School of Tropical Medicine.

LITERARY NOTES.

It is now close on two centuries since Port Royal was closed by order of the King of France. Naturally there has been much talk in the French papers about Pascal and his penitential girdle, and the other solitaries who lived in the famous abbey. Of one who was not the least important of them the public press has had little to say. This omission is repaired by the *Chronique Médicale*, which gives an account of Jean Hamon, who was a physician and also the tutor of the youth who afterwards became celebrated in French poetry as Racine. Hamon was a Norman and was born at Cherbourg in 1617. He studied medicine in Paris and gained considerable reputation in the Faculty. The way to fortune was open before him, and he was on the point of contracting an advantageous marriage when the exhortations of an enthusiastic priest induced him to join the Port Royal community. He was then 33 years of age. He sold his books and everything belonging to him and distributed the proceeds among the poor. He threw himself with ardour into the monastic life, never failing, however, to go to Paris periodically to discharge his duties as one of the Doctor-Regents of the Faculty while he held that office. He practised his profession for charity among the sick of the monastery and the district round about. With a stick in his hand and a Bible in his pocket, he made all his visits on foot, although he often had to go a distance of several leagues from the house. Only in the last years of his life, when his legs became weak, he rode upon an ass. When the persecutions against Port Royal began Hamon was included among those named in the *lettre de cachet* of November 9th, 1664. A grateful patient warned him in time, and he was able to escape arrest by flight. It was not till August, 1665, that he was able, by an authorization from the Archbishop of Paris, to return. But he was kept under close supervision, and could not even visit his patients without being accompanied by the porteress of the monastery, and he had to speak loud enough for her to hear all that he said. At night he was locked up in his room. He bore all these indignities with resignation. One of his last acts in connexion with the Medical Faculty was to appear as President of the Commission before which the son of one of his oldest friends, Dodart, was to defend his thesis for the doctor's degree. This was in 1687. The old man was a quaint figure in his old-fashioned doctor's robes, but he had taken care to read up some of the classic authors beforehand, and acquitted himself of the task with success. Returning to Port Royal, he reached home very tired, took to his bed, and died a few days afterwards, aged 69. The Faculty had his portrait placed among those of its celebrities, with some verses by Boileau underneath.

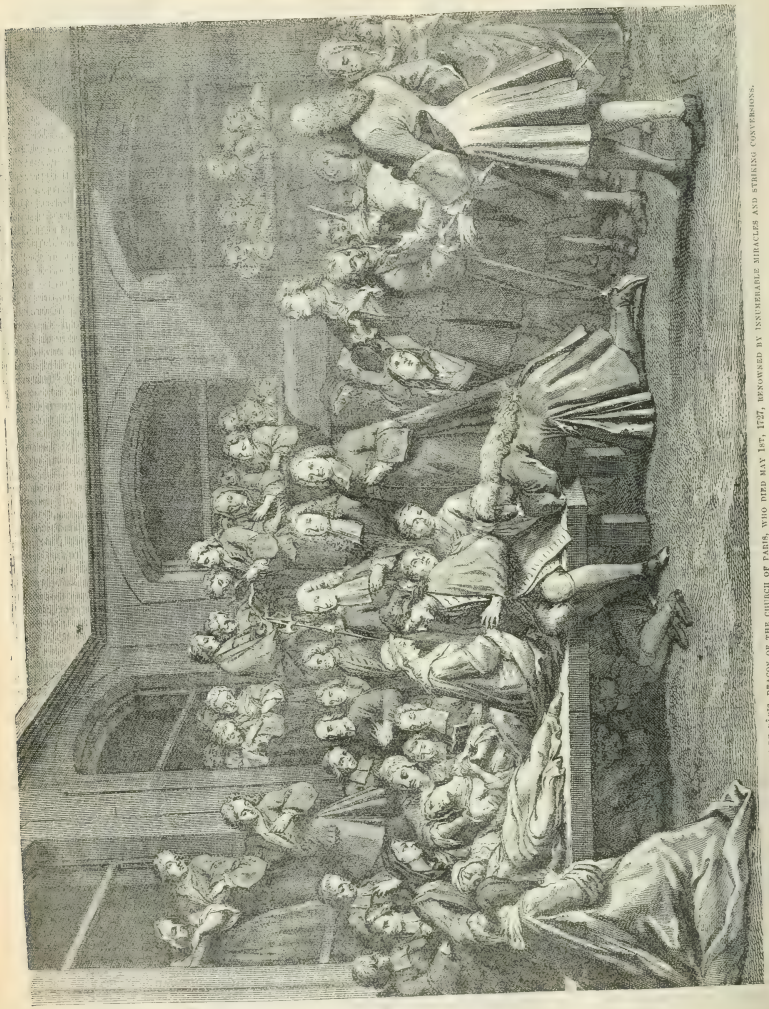
In the *Vieux Souvenirs* of the Prince de Joinville the following gruesome story is told:

> Jamaica was still celebrated for its rum at the time of our visit, and my father (Louis Philippe) had strongly recommended me to bring him back a barrel of it, a commission which I did not fail to execute. In regard to this barrel, however, a lamentable accident occurred. Brought to France, and duly lowered into the cellars of the Castle of Neuilly, it was there forgotten for a long time, when one fine day its existence was remembered, and the King ordered that some of the contents should be served at the end of dinner. All the guests licked their lips at the prospect. But a disenchantment awaited them, and the tasting of the rum was followed by frightful and universal grimaces. It was horrible. An inquiry was made, with the following result. A distinguished specialist in mental diseases, who had been ordered a sea voyage for the restoration of his broken health, had obtained leave from the minister to sail in the *Hercule*. Passionately interested in his speciality, he did nothing, wherever we stopped, but collect brains of men or beasts, which he at once ticketed and put into a barrel of alcohol absolutely resembling my barrel of rum. The rest may be guessed. The two barrels had got mixed up, and my father and his guests got a *rhum de cerveau* (the pun is impossible to reproduce in English).

The story reminds us of the old conundrum: What British admiral was killed in action and yet came home in good spirits? The answer was Nelson, whose body is said to have been conveyed to England after Trafalgar in a cask of rum. The story goes that the sailors drank the cask dry on the way home. This used to be a common way of bringing home the bodies of dead warriors. Marbot, in the *Mémoires*, mentions a general whose remains were accidentally left in a room at the Val-de-Grace military hospital for many years. When some person of an inquiring turn of mind had the barrel opened long afterwards the body of the defunct hero was found well preserved, but embellished with a beard reaching down to his waist. This the veracious chronicler assures us had grown after his death. If only the brand of spirits could be discovered, what a fortune there would be in it for any one who should advertise it as a hair restorer!

In the opening address in connexion with the eighty-ninth session of the Belfast Natural History and Philosophical Society, which was delivered on November 9th, the President, Sir John Byers, whose interest in all questions of language, dialect, and folk-lore is known, dealt with "The Ulster Dialect." The Ulster dialect was considered first analytically in relation to peculiarities of vocabulary, pronunciation, and idiom. It was a form of language spoken by the people themselves, and especially by those residing in the country districts. This dialect had been handed down from father to child since about the commencement of the eighteenth century as a spoken rather than as a written language; and it had remained wonderfully constant, being preserved by tradition and by the ear and voice of the people. It was really an admixture of all the various languages introduced from time to time into the North of Ireland, as well as of the original native Celtic, an amalgam being produced by their interaction on each other. In certain districts—especially in those parts of Antrim, Down, and Londonderry adjoining the sea-coast—the dialect was largely, as might be expected, Scottish; but even there words of Scottish origin not found in any English dictionary abounded. The original Scottish words in many instances had been considerably altered, and the type of words found in some of these places, as well as the pronunciation given them, showed that they were of an earlier origin than those found in other Scottish settlements in the North of Ireland. In other parts of the North of Ireland, the vocabulary was more clearly English, while again in many parts the words in use were more distinctly Celtic; yet in almost every district of the North of Ireland there was a certain admixture of words, idioms, and phrases, and even of pronunciation, which would enable an educated observer to say that the dialect, though it undoubtedly might show local peculiarities, was of the Ulster type. Sir John Byers gave many illustrations of the characteristics of the Ulster dialect as a whole. He showed that there were few forms of expressions which brought out in bolder relief the peculiarities of any dialect than the sayings and proverbs constantly used; the Ulster dialect was in that respect exceptionally strong. It was said by some that such phrases exhibited a certain poverty of language among the individuals employing them, and that accordingly they used a particular expression with a general application which their hearers thoroughly understood; but Sir John contended that these sayings indicated that they were really examples of intensity of thought employed by a most observant people, whose tendency was to be laconic and not to waste words on circumlocutions of speech. In order to bring out in concrete form the special peculiarities of the Ulster dialect, he gave a very full account of many diverse words, phrases, idioms, and proverbs associated with two most important Irish factors—the pig and the potato. Finally, with the view of illustrating a comparison between the North of Ireland and other dialects, he took one of the best known and most frequently quoted literary items and gave it in modern English, as well as in the Scottish and Ulster dialects. The lecture embodied the results of years of close observation and of varied collecting.

At the International Medical Congress recently held in Budapest Dr. L. L. Seaman, as a member of the Board of Trustees of the New York Museum of Safety and Sanitation, offered a prize of 2,500 kroner for the best essay on the following subject: What should be the organization and status of the medical department of any army in order that its sanitary and hygienic conditions may be maintained at their highest efficiency, so that in the emergency of battle its units may best respond to the call of its commanders? The award will be made by the Executive Committee of the Seventeenth International Medical Congress, London, 1912.



TOMB OF THE BLESSED FRANÇOIS DE PÂRIS, DEACON OF THE CHURCH OF PARIS, WHO DIED MAY 1ST, 1727, RENOWNED BY INNUMERABLE MIRACLES AND STRIKING CONVERSIONS.

Nova et Vetera.

MODERN FAITH HEALING.

THE MIRACLES OF THE DEACON DE PARIS.

In the "ages of faith" shrines of healing were so numerous that the rivalry between them led to specialism, St. Roch taking plague, St. Lazarus leprosy, St. Anthony erysipelas and gangrene, St. Guy or St. Vitus chorea, St. Lawrence burns, St. Job ulcers, for their several provinces; St. Benedict was believed to interest himself in diseases of the bladder, while piles and other affections of the lower bowel were the speciality of St. Fiacre, whose relics were brought to the bedside of Richelieu when he was dying of cancer of the rectum. St. Phillibert was in great repute for colic; there is a stone called by his name between Quimperlé and Moëlan which is believed to give immediate relief to the sufferer who rubs his stomach upon it. St. Gildas in Brittany, St. Menoux in the Bourbonnais country, St. Dizier in the Upper Rhine district, St. Dymphna at Gheel in Belgium, cured insanity, and many saints were credited with peculiar efficacy in fulfilling the hopes of wives who longed for offspring. The renown of some of these shrines goes back beyond Christianity, but, as in the case of certain rites and festivals, they have been absorbed by it. In Brittany there is a dolmen in the Côtes du Nord now called *le lit de St. Jean*; another in Finistère goes by the name of *le lit de St. Rouan*. Mr. Rowland Prothero says of these stones, in his *Pleasant Land of France*:

> The stones served as places of sacrifice and of burial, as temples, sanctuaries, landmarks, bounds, and, like the stones of Bethel and Sinai—so their common name of *témoins* implies—as pillars of testimony. In the ancient Eastern world similar stones passed from symbols of eternity and emblems of divinity into Gods themselves. So, too, in the degeneracy of Druidic Pantheism, upright obelisks first symbolized the forces of Nature, and then received the worship of deities. Rude as they are, they were scarcely rougher than the statue of Venus at Paphos, which was nothing but a simple conical stone.

The history of these shrines is interesting to the student of psychology, or what Falstaff irreverently called the brain of this foolish-compounded clay, man. It is a shallow philosophy that dismisses them as mere superstitions and imposture. Superstition and imposture there were, no doubt, mingled in varying proportions; and imposture became more and more predominant as faith decayed. This is illustrated by the story of the lady who, on her way to a shrine held in great repute for the cure of barrenness, was met by some one who told her it was useless for women to go there to seek for children as *le grand chanoine qui les faisait est mort*.

Imposture and superstition both continue to flourish rank and poisonous in the midst of our boasted civilization. The progress of knowledge, among more notable achievements, has explained away much that was looked upon as miraculous by our simple-minded ancestors; it has revealed to us the mechanism of the miracle. But while we are beginning to recognize the power of the mind over the body, we are still far from a full understanding of the range of that power or the conditions in which it works. Only by a study of faith healing in its manifold forms can we learn these things. By scientific analysis of the facts and critical weighing of the evidence we must strive to separate the large element of superstition from the active principle of truth which gives them such potency as they possess.

Homœopathy killed the old belief in the exorcism of disease by drastic medication, and showed that the human organism can be trusted to deal with many ailments, if left to itself. In the same way faith healing—another example of like curing like—is slaying the superstition of the miracle. To prevent misunderstanding, we wish to make our position clear. We do not meddle with theology, and we therefore consider the signs and wonders recorded in Holy Writ as being, for our purpose, outside the sphere of discussion. We are concerned here solely with "miracles" which rest on human testimony. Renan, echoed by Matthew Arnold, said airily that miracles do not happen. So far from this being true, miracles—in the sense of cures wrought by no known physical agency—happen every day. We are taught that the laws of Nature are immutable; but this is only one among many examples of the way in which man's mind is dominated by names. "Nature" is a creation of our own minds, and her "laws" are but a provisional synthesis of man's own gained knowledge at a particular time. To the contemporaries of Samuel Johnson the power of steam would have seemed "miraculous"; twenty-five years ago wireless telegraphy would have appeared miraculous to many: to-day the aeroplane would be accounted miraculous by a large proportion of mankind. What a great surgeon, happily still with us, called the "miracle of cure" is more wonderful than any of these things. We know that the mind is acted upon by the body. Byron found more inspiration in a dose of Epsom salts than he did in the waters of Hippocrene, and prophets would have had their outlook on life brightened by attention to the "bowels" of which they so often speak. It is not surprising, therefore, that the body should be acted upon by the mind. The old aphorism that happiness is the best of tonics is profoundly true: and the power of hope in curing disease is as well known as the deadly influence of despair. To neglect these factors because we cannot yet express the mode of their operation in terms of physical knowledge is to leave a vast field of possible usefulness to quacks and ignorant mystery-mongers.

We have at different times given sketches of the manner in which the influence of the mind on the body has been put to use in antiquity and in modern times. They serve to show that, with the widest variety in particulars, all the methods have this in common: that the treatment is directed to arouse the mental or spiritual powers of man's being to act upon his body. In the Journal of April 17th, 1909, we gave an account of the seventeenth century healer Valentine Greatrakes. In that article his "cures" were compared with those said to have been wrought at the tomb of the Deacon Pâris at the beginning of the eighteenth century. A description of some of these will serve to carry the history of modern faith healing somewhat further. Valentine Greatrakes professed to believe that God had chosen him as a means of healing disease for the following reasons:

> The first is to convince this Age of Atheism, who cannot yet believe Jesus to be God, when they see pains and diseases to vanish, and evil spirits flye his Power; as I have good cause to believe the Falling-sickness and other Distempers I have met withal sometimes to be. Next, God may, to abate the pride of the Papists that make Miracles the undeniable Manifesto of the truth of their Church, make use of a Protestant to do such strange things in the face of the sun, which they pretend to do in cells.

The "miracles" of the Deacon Pâris were held by those who believed in them to be for the glorification of Jansenism and the confusion of the Jesuits who were its bitter opponents. By way of introduction to the account of cures, a word or two must therefore be said about the theological dispute which rent the Church of France in twain for more than a century, and bulks large in the history of the reign of Louis XIV and his successor.

Jansenism was an attempt to restore the ancient Christian doctrine and discipline. Unlike the Reformers, however, its adherents wished to do the work they thought necessary without leaving the fold of the Catholic Church. They professed to derive their peculiar doctrines, which consisted in denying the freedom of the will and the possibility of resisting divine grace, from St. Augustine. Cornelius Jansen, or Jansenius, from whom the system took its name, was born in 1585 at Accoy in Holland, became professor at Louvain and later Bishop of Ypres. He died in 1638. His *Augustinus*, the work in which the opinions which formed the basis of Jansenism are contained, was published two years later, and excited great attention in the Low Countries and in France. In 1642 it was condemned by Pope Urban VIII. The publication of the Bull was resisted by a number of Flemish bishops, who were supported by the University of Louvain. It was, however, accepted by the King of France and the Sorbonne, but the Jansenists were numerous and powerful and were not easily suppressed. In 1649 five propositions from the work of Jansenius were submitted to the Sorbonne, and a commission was nominated to examine them. The Parliament, which as a body leant at this time towards Jansenism, interfered, and referred the inquiry to the assembly of the clergy. In 1651 Pope Innocent X was appealed to by a large proportion of the French bishops, and he appointed a commission

of five cardinals and thirteen theologians to examine the propositions. This commission sat for two years, and the Jansenists were heard at full length in their defence. In 1653 judgement was pronounced and the propositions were condemned. Shortly after the issue of the Bull an Edict of the French King ordered it to be accepted. Jansenism, however, remained an active force in the French Church, and numbered among its adherents many persons of note, the most illustrious of whom was Blaise Pascal. They concerned themselves not only with theology but with education, and though strict to the degree of Puritanism in their moral teaching were intellectually very advanced. The history of the famous community of Port Royal has been charmingly written by Sainte-Beuve.

The Jansenists, who were determined not to sever their external communication with the Church, tried various ways of evading the effects of the Pope's Bull. Arnauld, then their leader, expressed his willingness to reject the five propositions, but denied that they were to be found in Jansenius, or that if they were there as forms of words, they were not to be construed in the sense attached to them in the Papal Constitution. We need not follow the history of the Sect, for such it had become, through the intricacies of theological controversy. It is sufficient to say that in a further Constitution, issued in 1656, the propositions were again more absolutely condemned by Alexander VII. A further condemnation of the death of Arnauld in 1694, and the destruction of Port Royal in 1710, practically marked the suppression of Jansenism. The controversy flickered on, however, for a few years more, but in 1715, on the death of Louis XIV, who had always been opposed to Jansenism, an appeal was made on its behalf to a future council. This appeal was rejected by a Papal Bull issued in 1729. The Jesuits, who had throughout been the bitterest opponents of the Jansenists, were now victorious. Jansenism was at the last gasp, and miracles were wanted for its revival. These were found in alleged cures wrought at the tomb of the Deacon Páris in the cemetery of St. Médard. It should be said in justice to him that he had nothing to do with the manifestations of superstition, folly, and fraud with which his name is associated, these having occurred after his death.



Fig. 1.—MARIE ANNE COURONNEAU.

Francois de Páris was the son of a councillor in the Parliament of Paris, and was born in that city in 1690. At an early age he was placed under the care of the Canons Regular of the Congregation of St. Génevieve. As a schoolboy he was not only so idle that he forgot his letters, but he tried to set fire to the College. After a time he was put under the care of a private tutor, who instilled into him the love of study. When he had finished his education in Arts and Philosophy he wished to become a Benedictine, but being the eldest son and intended to succeed his father, he was made to study law, in which he graduated. He felt himself drawn to the priesthood so strongly, however, that he was allowed to throw up the law and enter a seminary. He gave himself up specially to the study of Greek and Hebrew in order that he might better understand the Scriptures. In the intervals of study he acted as catechist, spending much of his money in giving books to those whom he instructed. His father, who died in 1714, left him only one fourth of his estate, and his fortune was still further diminished by the bursting of the famous Law bubble. In due course he was ordained deacon, but being a strong Jansenist he refused to sign the required declaration. The way to the priesthood being thus closed to him, he gave himself up to a solitary life and had dreams of founding a new Port Royal. He took up his abode in a small house, where he gathered together a few clerics who lived under a common rule. He gave away his own income in charity, and lived by his work of his hands. His austere mode of life undermined his health, and he died in 1727. At that time, as has been said, a miracle-working saint was wanted by the Jansenists, and they found him in the poor Deacon who had given his life to the succour of the poor and the maintenance of what he held to be the truth. Soon people crowded to the little cemetery of St. Médard, where he was buried; they kissed even his grave, and carried away the earth as a precious relic. Pilgrimages were organized, and soon reports of miracles wrought at the grave began to get about, and Cardinal de Noailles, Archbishop of Paris, who had been one of the Appellants, as they were called, authorized the erection of a marble tomb, and made some kind of inquiry as to the truth of the reports. The Archbishop died in 1728, having previously, it may be said in passing, recanted his Jansenism. Several of the parish priests of Paris asked his successor, de Vintimille, to continue the inquiry. By this time enthusiasm among believers had increased to such a pitch that the tomb had become the scene not only of cures but convulsions and attacks of frenzy which were supposed to be means by which the healing power operated.

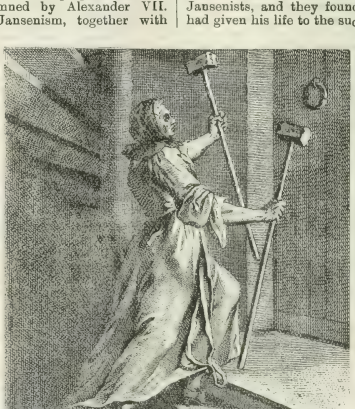


Fig. 2.—MARIE ANNE COURONNEAU.[2]

The inquiry demanded was held, and in 1735 five miracles chosen for the purpose were after rigorous examination declared to be false and illusory.

Three years before this, however, the Government had shut up the cemetery, an act satirized in the epigram

cited in the article on Valentine Greatrakes, in the Journal of April 17th, 1909:

De par le Roy, défense à Dieu,
De faire miracle en ce lieu.

Of this epigram a wicked wit of the day said that the surprising thing was the immediate obedience with which the Almighty obeyed the Royal ordinance.

The enthusiasm of the sectaries, which had throughout been more fictitious than real, quickly subsided, and the memory of the miracles would doubtless have perished had they not been recorded in three huge volumes by a fanatical believer named Montgeron. This man's career was sufficiently remarkable to deserve a short mention, especially as it throws light on his temper of mind, and will help the reader to appreciate the value of his testimony.

Louis-Basile Carré de Montgeron, a Councillor of the Paris Parliament, was born in that city in 1686. In the earlier part of his life he was a profligate and a scoffer at religion. His unstable temper of mind may be judged from the fact that after an accident which happened to him in 1707 he fled in terror to La Trappe. Soon, however, his passions once more got the upper hand. In 1719 a considerable increase of fortune enabled him to gratify them to the full. In 1731, happening to hear of the miracles at the tomb of the Deacon Paris, curiosity led him to visit the cemetery. The sight of girls convulsed and testifying—some at least of whom it is said, were paid for the performance—wrought a sudden conversion in the soul of the sinner. So frantic an enthusiast did he become that in the following year, when the Parliament got into trouble with the King on account of its obstinate attitude in regard to Jansenism, he was banished to Auvergne. Solitude only made the flame of his enthusiasm burn more freely, and he determined to write in defence of the miracles. On his return to Paris his house became a refuge for other fanatics, who exalted his zeal by their applause. On July 29th, 1737, he went to Versailles and presented his book — the first of three volumes which he produced on the miracles—to the King, who accepted it without knowing what it contained. On the same day he presented copies to the Duke of Orleans, to the first President, and to the Procurator-General. On July 30th he was sent to the Bastille. He was afterwards banished successively to Villeneuve-les-Avignon, Viviers, and Valence. His zeal in the cause of Jansenism increased till his excited brain became altogether disordered. This fanaticism made many of those who had been his admirers turn their backs on him, and he was disavowed by the Appellant bishops. He fell into utter discredit, and died at Valence in 1754. Montgeron's book, the second volume of which was published in 1741, and a third in 1748, is a monument of superstition. The three volumes mark different phases in the evolution of one of the most extraordinary crazes recorded in history; they also indicate distinct stages in the advances of his mental disorder.[1] It would be unprofitable to stir the dead ashes of a theological controversy; but a short account of its "miracles" may be instructive as showing the height—or depth—of absurdity to which fanaticism may carry an educated and intelligent man. The first volume deals with cures said to have been wrought by prayer through the intercession of the Jansenist saint. The patient was laid on the tomb, and the process was somewhat analogous to that known as "incubation" (see Plate). The second brings us to a further stage, in which faith was supposed to work by convulsions, during which the disease was healed. In the last we reach pure hysteria and frenzy, convulsions being reinforced by what were called violent "aids" (*secours*) in which girls asked to be cured of pains in the stomach, or of nothing in particular, by blows with clubs and iron instruments, the application of great heat, to be invulnerable even to stabs with swords, and this was believed to be a manifestation of the grace of God working for the conversion of sinners. A few examples of cases falling into each of these categories may be given.



Fig. 3.—Philippe Sergent.



Fig. 4.—Philippe Sergent.

Cures by Prayer.

The first case recorded at length by Montgeron is that of Marie Anne Couronneau. We give the description as far as possible in the author's words, as this will help to give the reader a notion of the exaggerated style of his narrative. She was an unmarried woman, born at Saumur in 1663, the daughter of one of the richest merchants of the place, who unfortunately was infected with the poison of heresy. Providence in its mercy took her away from her parents in her childhood, and handed her over to charitable persons who had her brought up on the milk of truth and in the principles of the purest piety. But while she thus received grace she lost the benefits of fortune; she preferred, however, to live in poverty rather than to dwell in the tents of sinners. She preferred to be a servant in a Catholic country to being a rich woman among heretics, and always refused to go to her parents in England. She had thus gone on bearing the burden of life with courage till November 1st, 1730, when an attack of apoplexy took from her in one moment speech, consciousness, and strength. Bleeding, emetics, and two other medicines gave her a little relief. Her strength

returned, but not completely. Her speech was indistinct, but she could make herself understood. A week after returning from the Hôtel Dieu, where she had had her first attack, she was suddenly seized with a feeling of icy cold and numbness over the whole left side, so that she could hardly drag herself into a neighbouring house, where she had convulsions, and again lost the use of speech. With great difficulty she was taken back to her mistress. Emetics were once more given. She was bled from the arm and the foot, and several other remedies were given, which alleviated, without curing, the disease. The difficulty in speaking and walking were much greater than after the first attack. Some time after she got worse, becoming weaker every day. On December 19th, 1730, her speech being more embarrassed than usual, she was sent to the Hôtel-Dieu, where she had a sister a nun. As soon as she arrived at the hospital, Dr. Seron gave her an emetic and afterwards bled her from the throat, as well as from the arm and foot. These remedies had no other effect than to weaken her. They were therefore abandoned, and, as incurable cases were not kept in the hospital, on January 16th, 1731, an intimation was sent to her mistress to take her away. The nerves and muscles of the left leg were so relaxed that it hung much lower than the right, and it was impossible for her not only to lean on it, but to lift it, and, all her left side being paralysed, she could hardly do anything with her hand. It took three persons to carry her in a chair up the stairs of her mistress's house. She could only speak half words and indistinctly. Obliged to remain in bed or sitting in an armchair, it was not long before bedsores were added to her other troubles. Her anxiety to go to church made her ask by signs for crutches, but she soon found she could make no use of them without something to help her to move the paralysed side. She therefore had a foot sling made which she fastened on herself with braces supported on her two shoulders and hooked on to a belt. This not being enough, she attached to the sling a second bandage from the left leg passed round the right arm, and in this way, by pulling up the leg, she could move. In order to make this movement she was obliged to throw herself backwards and to make contortions and grimaces so awful as to frighten all who saw her (Fig. 1). In this way she was able to go to church, where she attracted general attention. In this deplorable state, on March 26th, 1731, she decided to go to St. Médard. Her mistress offered her a carriage, which she refused, thinking that her prayer would be more likely to be heard if she made the journey on foot.



Fig. 5.—MADEMOISELLE COIRIN.

This, considering her state, seemed impossible, but a lively and animated hope does not take obstacles into account. She therefore started at dawn of day with her apparatus. She was obliged to rest almost at every step to take breath, and reached the tomb only about 10 o'clock. For two hours she prayed, but instead of receiving the relief which she expected, she found herself more helpless than before. But she did not lose faith, and with great difficulty got home about 8 at night. Her right hand, of which she had been obliged to make incessant use to drag along her paralysed side, was so cramped that she lost use of it entirely for nearly three weeks, but, always ingenious, she had a third strap which she twisted round her paralysed limb, attaching the other end to the head of the right crutch. In this way she was able to bear the whole weight of her left leg on her right hand. This new expedient giving her more facility in walking, she soon made up her mind to go back to St. Médard. She did so in the following April, not so much to ask for a cure, but in perfect submission to the will of God. After this second visit, there was a little more action in her paralysed arm, but without any return of sensibility. She could speak a little better, but her left thigh and leg still remained without movement or sensibility, so that pins could be thrust into them without her noticing. She still required all her apparatus to walk. Her mistress fell ill on the evening of May 24th, 1731, of a malignant and very dangerous fever. Couronneau was very much attached to her mistress, and, scared by the danger in which she seemed to be, she went to the tomb to pray for her. M. Bailli, a physician of great reputation, and M. Boudou, senior surgeon to the Hôtel-Dieu, came every day to the mistress. There they saw always Couronneau at the foot of the bed. Out of pity they examined her, but judged her disease to be incurable. On June 13th, however, she set forth with her crutches, etc., and was laid on the tomb. There she prayed, not for herself but for her mistress. All at once, in the midst of the transports of her ardent prayer, she felt a tightening and movement in the heel of her paralysed leg. She thought at first that her straps had given way, and feared she would not be able to get home. She was taken off the tomb to make room for other sufferers and placed again on her crutches, but she had scarcely taken a few steps when she felt an extraordinary lightness in all her body, accompanied by quiverings all over the paralysed side. She noticed, too, that the foot had recovered its power; she raised her crutches on high, and so quickly did she walk that, according to herself, she could have



Fig. 6.—MADEMOISELLE COIRIN.

followed a coach, and in a moment she was at home in a great state of excitement. She was now strong and vigorous, and had become a new creature. She recovered her speech, her arm could be moved with ease and power; the hip, leg, and foot, which were like those of a corpse, were restored to a vigour much beyond her age. Impatient to show herself to her mistress, she ran upstairs, threw away her crutches and went to the bedside, where she told the great news (Fig. 2). Every one was immensely surprised, especially the two doctors who had seen her the day before, and who recognized in her the work of God. As they say in a certificate which is given, they saw her suddenly cured, speaking, walking, and working with facility. By the next day she ran from one end to the other of Paris to show herself to all who knew her, and among others to the Sisters of the Hôtel-Dieu, who knew all about her condition. From that day she enjoyed robust health, was more agile and vigorous than ever beyond her age, which was now 73. She was able to go about from morning to night visiting all the sick people she knew and carrying them on her shoulders to the tomb till the cemetery was closed.



Fig. 7.—Marie Jeanne Fourcroi.

What became of her sick mistress we are not told.

Another case was that of Phillipe Sergent, a wool carder, born at Mons in Hainault, and living at Dinan in the district of Liége. He got married on September 27th, 1727, and about the feast of St. Martin in the same year he was attacked by paralysis affecting the whole of the right arm. A physician of the town bled him, but this gave no relief, and dimmed his eyesight so that he became incapable of reading. Two days later he felt in the loins, the arms, and the thighs various convulsive movements. These tremblings increased during a week, and soon became almost continual. He felt cold all over his body. In February, 1730, he fell into a faint, in which he remained without consciousness from 6 o'clock in the morning until night. This, says Montgeron, was evidently an attack of apoplexy. After that attack the whole of his right side seemed dead. The thigh, the leg, and the arms became bluish. He lost all sensibility in the limbs, and although there was still some power of movement in the arms and hand, he was so weak that he could not put his hand to his mouth. The thigh and the leg were an inert weight of which he could make no use. In the month of March an "operator" undertook the case. He rubbed him with an oil which he called "philosophic," which diminished the trembling of the loins and of the thigh of the left side. With regard to the right side, he fell into an extreme wasting, especially of the thigh and leg. The empiric seeing him in that state left him, assuring him that only God could cure him. He went again to the doctor, who made him use a bath full of medicinal herbs. This did no good. In a few months the right thigh and leg became so thin as to be nothing but skin and bone. The "nerves" shrunk so much that the thigh and leg became some 3 in. shorter than the left ones. After this he noticed that he had no longer any movement in the knee, which remained always a little bent. The bones of the leg and of the thigh became ankylosed, and the foot seemed as if stuck to the end of the leg, the heel being raised, and the toes pointing downwards. In May, 1730, he was seated by the fire, and being overpowered by the sight of his own complaints, he took a burning ember, applied it to the calf of his right leg, looked on calmly while the skin and the flesh burnt, resolved, in his own words, to allow it to be completely consumed if the fire was not capable of restoring sensibility, and wishing thus to deliver himself from the afflicting sight and the useless weight of a limb which seemed to him dead. His wife, noticing the smell of burning flesh and seeing the smoke rising from his burning leg, rushed forward, tore away from him the instrument of his madness and reproached him. The doctor was consulted a third time, and recommended him to go and take the baths at Aix-la-Chapelle, giving him a certificate, dated June 19th, for admission to the hospital of that town. On the 22nd of the same month, M. Maréchal, curé of Dinan, gave him another, in which he testified that for a period of nine months he had been in a state of paralysis which no remedy could cure. On that day he had himself carried by two men to a boat, which conveyed him to Namur and thence to Liége, where he took a coach to Aix. There he took the baths during fifteen days, night and morning. The waters somewhat strengthened his loins, but produced no effect on the paralysis and withering of the right side, on the dimness of vision, or the almost continual tremor of the right side. Losing all hope of cure, he had himself taken back to Dinan, where he passed a year in the utmost poverty, subsisting on charity and such work as his wife could get to do. Then he went to Rheims in search of help. He arrived there with his wife and child, and was at first charitably received by a man who employed a number of workmen in carding wool. As the work could be done in a sitting position and required no great strength in the right hand, he hoped to be able to do it. He soon found, however, that his right arm became tired as soon as he made the smallest movement. Moreover his wife was



Fig. 8.—Marie Jeanne Fourcroi.

unable to earn enough for their living. He therefore had recourse to a lady who advised him to go to Paris, where he would easily gain admission to the Bicêtre, a refuge for the poor, and especially for paralysed persons unable to gain their living. He reached Paris on June 24th, 1731. After some delay he was admitted to the Bicêtre. A few days later an uncle came to see him, and told him of certain miracles worked at the tomb of Pâris; but he paid little attention to them, knowing nothing, as he said, of that saint. Nevertheless, on the 24th of the month, his wife having given him a detailed account of a miraculous cure of which she had been an eye-witness, he felt confidence awakening in his heart, and made up his mind to make a novena at the tomb. With the greatest difficulty he reached the tomb, supported on a stick, a crutch, and helped by his wife (see Fig. 3). It was not till July 10th, the third day, that it pleased God to manifest upon him the effects of His infinite goodness. On that day, between 8 and 9 o'clock in the morning, he had himself laid on the tomb, and suddenly felt sharp pains throughout the body, but principally in the thigh and right leg. At once those corpse-like limbs became agitated with extreme violence. The witnesses declared that the shrivelled and dried-up "nerves" of these withered limbs made a noise like the crack of a whip, so prodigious was their convulsive agitation. God, says the author, doubtless intended this in order to warn the spectators to be attentive to the marvel which He was beginning to work. At that moment the paralysis ceased, the ankylosis disappeared; the shrunken legs stretched, the dead and dried parts became reanimated, the blue limbs recovered their natural colour. The man raised his head, and the mist which had been continually before his eyes since November, 1729, was completely dissipated. Transported with joy and gratitude, he stood up straight on the tomb, and found himself so perfectly cured that all his limbs had from that moment whatever agility and force they had ever had. He took the first book that he saw in the hands of one of the spectators and intoned the Te Deum (Fig. 4). A thousand voices joined his; there was a cry from all sides of "A Miracle!" The man was able within five days to take up the work which he had had to drop at the beginning of his disease. The Lieutenant of Police is cited as one of the witnesses of the paralysis, while "the most furious enemy of miracles," Frère Coëffrel, acting priest of Saint Médard, after having examined the sick man at different times, gave an authentic certificate, while the Procurator-General, who had witnessed the cure, was so touched that he shed tears. His aunt, wearied by the continual crowds of people brought to her house by the news of the miracle, hired a room two steps below the level of the street. The wall everywhere sweated with damp, but Sergent took up his abode there notwithstanding the repugnance of his wife, who was afraid for herself, and five days after his cure he began work again. For nine months he felt not the slightest inconvenience. He had been six months living poorly by the work of his hands, when a person of good appearance came and asked him why he boasted that he had been cured on the tomb of M. de Pâris. Sergent replied that he only said so because the miracle was evident, and because nothing would prevent him from publishing it and giving glory to God. "But," said the visitor, "you seem to me very uncomfortable. You are here lodged in a kind of cave which resembles a dungeon; you have only a poor little bed and some straw chairs for all eternity. If you will trust me I will make your fortune. I will hand you 100 pistoles if you will sign this paper I present to you, in which you state that you have only said you were cured at the tomb of M. de Pâris because you had been induced to say so, but that in truth you were cured before you went and laid yourself on the tomb." Could irreligion and wickedness, exclaims the author, go further? He slyly adds that it was not credible that the man was a pupil of the Jesuits, a representative sent by the Archbishop of Sens (who set his face firmly against the miracles), or an emissary of the police. At any rate, the offer did not tempt Sergent. In April, 1732, he was warned that an order had been given for his imprisonment. He therefore fled, and wandered about, visiting Rheims, Dinan, Namur, Mons, and Liége; but nowhere could he find a permanent shelter. The print of the Divine bounty, says Montgeron, stamped on those animated limbs of this paralytic, was sufficient to make him proscribed in all regions under the sway of the Jesuits. "It seemed as though he bore on his brow a sign which made him recognised." At last he returned to Paris, and recorded in a public document the proofs which he had collected of his cure.



Fig. 3.—CATHERINE BIGOT.

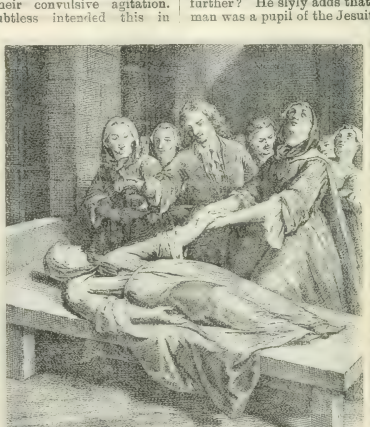


Fig. 10.—CATHERINE BIGOT.

A third case is that of Mademoiselle Coirin, who, in September, 1716, when she was 31 years of age, fell from horseback on her stomach and hurt herself considerably. Her father-in-law nevertheless obliged her to mount her horse again, but the animal having run away, she fell a second time on the left side of the stomach on a heap of stones. This caused her so much pain that she fainted. There appears to have been no proper treatment, and she concealed the fact that she felt pains in the stomach for

four days after her fall, hoping, as she said, that they would pass off. On the contrary, they increased daily, and in a few weeks she began to vomit her food, mixed with clotted and decomposed blood, the aspect of which made Dr. Moulant, physician, and M. Bordeaux, surgeon, of Paris, express the opinion that she had an abscess in the stomach. Thenceforward she vomited blood almost daily, and this made her often faint. Three months after the fall it was noticed while cloths were being put on her stomach that the left breast was extremely hard, swollen, and violet coloured. A surgeon of Nanterre examined the breast, and found that a cancer had formed stretching from the nipple upwards to the axilla. It was so hard that it had forced the arm backwards in such a way that the patient could not move the limb forward. Attempts were made to disperse the growth by means of poultices, but the only effect was to draw a considerable amount of blood from the nipple without affording any relief. The cancer, little by little, infected the mass of the blood by gross and corrosive salts, and caused obstructions even in the brain of the patient. In the beginning of 1718 the whole of the left side suddenly became completely paralysed; the arm, the leg, and the thigh were cold as death. Remedies were in vain. In 1719 the left nipple, which had been eroded all round by the cancer, fell out, leaving in its place a deep hole, from which there incessantly exhaled a cadaverous odour, and from which a reddish and putrid pus flowed continually. The doctors, at the sight of the ulcer, declared that she could not live much longer unless the breast were forthwith removed. To this the patient at once consented, but when the operation was about to be performed the mother became frightened, and as the doctors would not promise that the operation would cure her, she refused to allow it to be done. Just before the time of her cure her sufferings were aggravated by exhausting vomiting and diarrhœa; by dropsy of the lower part of the abdomen causing oppression; by retention of urine and a deep ulcer which caused her to feel the sharpest pain. She remained bedridden in this condition for many years (Fig. 5). At last she thought of invoking the intercession of Paris. She sent a virtuous woman of Nanterre, charging her to make a novena at his tomb, to touch a chemise with it, and to bring her back some earth from it. On the following day she said she had never felt so bad, but on the evening of the next day she had hardly put on the chemise which had touched the tomb than she felt almost on the instant the beneficent virtue conveyed by the garment. She suddenly regained her strength and was able to turn herself in bed. This exciting her hope, on the next day she applied the earth from the tomb to her cancer, and at once remarked with surprise that the deep hole from which there had flowed for twelve years a foul pus had begun to heal. The next night her limbs, which had been paralysed for so many years, suddenly became reanimated, and warmth and movement returned. She got up without assistance and put on her clothes and dressed her hair. At this moment her servant came into the room and was thunderstruck at seeing her mistress clothed and freely using her two hands (Fig. 6). From that moment every day witnessed new marvels. The news of the miracle soon spread. Those who had known the condition she was in could not believe the truth of it: her two brothers—one valet de chambre to the King, the other one of His Majesty's Body Guards—came to see her and were convinced, although the positions they occupied did not predispose them easily to believe in miracles worked by the intercession of Paris. She went on foot to her parish church, where she had not been for several years. She knelt, received communion, and going out of the church walked still more easily than when she went in. Persons, including surgeons, to whom she showed her breast recognized that the cancer had disappeared, and that God had been pleased to create a new nipple in the place of that which had fallen off twelve years before, and "that this nipple, although it had only just begun to grow, had already, notwithstanding its smallness, all the colours and qualities belonging to that part." The "enemy" made a last desperate effort to hide the truth, spreading on all sides the rumour that in August, 1733, a cancer had again attacked her breast, and that she had relapsed into paralysis. She therefore went to Paris, and put in the hands of a notary the proofs of the condition in which she had been for so many years, and of the completeness of the cure. At the same time she had her breast examined by a surgeon of the first reputation, who, although attached to the Court, did not hesitate to testify that she seemed to be in perfect health, that there was no trace of cancer, and that the breasts had each a nipple, normal in form, colour, and quality, there being no difference between the right and the left. This, says the author, proves that after the miracle the left nipple had acquired its natural size, although the lady was then 47.

Cures by Convulsions.

Of the cures by convulsions, only two instances need be given. In one case the patient was Marie Jeanne Fourcroi, the daughter of a grocer of Paris. She was born in 1706, and had been a mass of infirmity in her infancy. The deformity first showed itself at the age of 5. The following is her own account: "In 1711, being then aged 5, I fell into a languid state, all my body became entirely deformed and twisted. The spine of my back curved and took the form of an S, which made me extremely hunchbacked towards the right shoulder and above the left hip. These two parts of my body were much raised up, whilst on the contrary the left shoulder was pulled down and there was a great hollow about the right hip, the false ribs being retracted. I had all (*sic*) the clavicles displaced, and my head was placed much more on the left than on the right, so that my left shoulder was very short and the right was about double the length."

Many other illnesses afflicted her in succession: at the age of 10 great pain in the chest and stomach; she spat blood and vomited sometimes even faecal matter, and was sometimes several days without being able to swallow anything. These infirmities were always relieved for a time by the different remedies used, but the stomach and chest were always painful, and she remained almost without eating from 1716 to March 21st, 1732. In January, 1731, she had a severe continued fever with exacerbations. This reduced her so that she could hardly use her limbs. She tried to get up to make her bed, and, wishing to change its situation, she made a great effort to push it with her left foot, with the result that she dislocated it. The result was swelling and pain, increasing every day for fifteen months. On April 2nd, and again on the 9th and 15th, she was examined by a skilful demonstrator and by five famous surgeons, who certified that her condition was incurable (Fig. 7). She says herself that from the time of that accident she had not slept a single moment, her foot never having ceased to cause her pain day and night. She became so helpless that she had to be fed like a child. Things went on getting worse. The fever and pains of the stomach and chest still continued with the other diseases. She became dropsical, for which she was given a strong medicine which made her pass a large amount of water, but "which agitated too violently the acrid and caustic liquid which inundated her blood, and these irritated humours spread at once to the eyes." Her eyelids in a few days closed entirely, so that she could not raise them except with her fingers, but even then she could see nothing at all but light as through a thick mist. The surgeon gave her a lotion, but this made her worse. Having read the life of Paris she conceived the hope of being cured by his intercession. Before the end of the first day of her novena her eyes were suddenly and perfectly cured. The dropsy diminished considerably, the fever fell, the diseases of the chest and stomach were mitigated, the ankylosed foot, although still disabled and displaced, was less painful and she could support herself on the little toe. About the middle of December, 1731, she had herself taken to the tomb to return thanks. She was at first frightened by the screams and howls which she heard from those convulsed in the cemetery and was inclined to go away without going near the tomb. She remained, however, and in her own account she says that after about a quarter of an hour in prayer she all at once felt pains through all the body and movements which made those about her say that the convulsions were about to come on. She was frightened and went away, but she adds that she was punished for this by an increase in her dropsy and exacerbation of her fever, with occasional delirium. In less than two months her face, arms, and feet were reduced

to skin and bone: on the other hand, her belly, thighs, and legs became of a monstrous size. The swelling rose daily higher up towards the chest and embarrassed her respiration. She was bled altogether 150 times from the arm and 46 from the foot. These bleedings made her very weak, and after a time, she says, no more blood could be drawn, and only water came! Death appeared imminent, and she was given at midday a little wine in which earth from the tomb had been placed, and began a novena. "The prodigious effect produced instantly by the respectable dust which she had swallowed revealed the judgement of God." She was seized, she says, with great shivering, and soon after a great agitation in all her limbs, which made her throw her whole body into the air, and gave her a strength she had never had, so that it was with difficulty that several people could hold her back.

During these violent movements she said she lost consciousness. Instead of weakening her already weak body, these powerful convulsions were like a vivifying balsam which restored calm to her blood and gave her strength and health. She also had a great feeling of internal peace. The fever, suffocation, pain in the chest, ceased absolutely and never came back. At the same instant the dropsy diminished and almost entirely disappeared; strength and colour came back, and appetite such as she had never felt since her childhood. Only the ankylosis still remained uncured. About this time the then Provost of the Surgeons described the foot and the spinal curvature to be incurable. The author speaks of frightful calumnies against her because in 1733 she no longer seemed hunchbacked, at least when she was dressed. He seems a little inclined not to insist too much on this part of the miracle. Suddenly, while she was violently convulsed in the presence of several persons, the infirm foot became natural (Fig. 8). When her convulsions ceased she was as surprised as the other people to find her foot in its natural state. She walked and jumped about and sent for five of the surgeons, who found that everything was natural and could find no trace of deformity in the skin, bone, muscles, or tendons. Each of them drew up a separate report in which they testified that such a cure could only have been wrought by supernatural means. A famous physician came the day after the cure to see her. She took the opportunity of showing him her back. He drew up a report almost in the same terms as that of the surgeons, and after careful examination certified that the cure of the ankylosis was perfect. From that time she walked quite easily.

Another case was that of Catherine Bigot, who was known as the deaf-and-dumb woman of Versailles. She had been so deaf from her birth that she could not hear the report of a pistol fired close to her ears (Fig. 9). She was placed on the tomb on August 27th, 1731, at 7 o'clock in the morning. On the instant her face became pale as death; she fainted, and a moment afterwards was thrown into such strong convulsions that it was difficult to hold her. She showed by gestures that she suffered very severe pains in the head, the ears, and the throat; she wagged her head from side to side so quickly that her features were not recognizable. The woman who had brought her, amazed at a sight which had not yet become familiar, took her off the tomb, but she showed that she wished to be replaced thereon. No sooner was she there than the convulsive movements and pains began again; the suffering expressed on her face was so great that the bystanders feared that she would die (Fig. 10). In spite of herself, she was three times removed from the "sanctuary of benediction"; each time she showed by gestures her eagerness to be put back. This seemed all the more remarkable, as her deafness had prevented her hearing anything of the miracles wrought at the tomb, those around were therefore astonished to see her kiss it with every mark of respect, devotion, love, and confidence. On the morning of August 31st she suddenly gained her hearing and began to speak. She talked incessantly from morning till night, imitating all the sounds she heard as if she wished to make up for the years of enforced silence. All Paris came to see her, and many of the witnesses who testified to the miracle—persons of the highest respectability, including several clergy, magistrates, and Councillors of Parliament—are named by Montgeron. Medical evidence and that of people who had known her from birth are also given in detail.

REFERENCE.

[1] The titles of the volumes, each of which is in reality a separate treatise, are as follows:

La Vérité des Miracles Opérés par l'Intercession de M. de Pâris et autres Appellans. Démontrée contre M. l'Archevêque de Sens: Ouvrage Dédié au Roy. Par M. Carré de Montgeron, Conseiller au Parlement de Paris. Tome Premier. Nouvelle édition. Revue & augmentée par l'Auteur. A Cologne: Chez les Libraires de la Compagnie. M DCC XLV.

La Vérité des Miracles Opérés par l'Intercession de M. de Pâris et autres Appellans. Démontrée: Avec des observations sur Le Phénomène des Convulsions. Par M. Carré de Montgeron, Conseiller au Parlement de Paris. Tome Second. Nouvelle édition. Revue & considérablement augmentée par l'Auteur. A Cologne: Chez les Libraires de la Compagnie. M DCC XLVII.

La Vérité des Miracles Opérés par l'Intercession de M. de Pâris et autres Appellans. Démontrée: Avec des Observations sur le Phénomène des Convulsions. Par M. Carré de Montgeron, Conseiller au Parlement de Paris. Tome Troisième. A Cologne: Chez les Libraires de la Compagnie. M DCC XLVII.

They are illustrated with splendidly executed engravings, some of which are here reproduced.

(To be continued.)

THE OLYMPIA MOTOR SHOW.

(Continued from page 1482.)

GENERAL TREND OF DESIGN.

BEFORE proceeding to notice certain novelties not mentioned last week a further reference to the general trend of design, as exemplified in the show, will not be out of place.

Engines.

In engines only minor variations are to be found. The Aster Company exhibits a four-cylinder engine made in one casting, and so compact that it is almost difficult to believe that it has four cylinders. This engine has its valves and valve stems completely enclosed—an arrangement which tends to silence, and is now not uncommon. The Knight engine, with its sliding sleeves replacing the ordinary valves, is seen on the Daimler and the Minerva stands; and there are two examples of engines the inlet and exhaust valves of which take the form of pistons working in small cylinders; these also are more silent in action than the ordinary mushroom valves. The "Valveless" two-stroke engine has undergone only slight changes in minor details, and this is true also of the Dolphin two-stroke engine, but no other makers appear to have adopted this type of engine. Up to the present time the two-stroke engine, that is to say, an engine which has an explosion on each stroke, appears to have found more favour for motor boats than for cars. No example of an engine with rotary valves, of which a good deal has been heard, was noticed on any of the stands.

The Clutch.

The old leather-faced cone clutch has by no means been displaced, but is still to be found on many of the finest cars, and is really very satisfactory in use, though a good many have adopted some form of multiple metal disc clutch.

Ignition.

With respect to ignition the frequency with which a high tension magneto is the sole ignition is quite remarkable, as is also the rarity of two absolutely independent ignitions by accumulator and by magneto. This is to be regretted, as, notwithstanding the immense improvement in the reliability of the high tension magneto, the so-called dual ignitions, in which the accumulators make use of some parts of the magneto, do not offer the same security against failure. It is quite possible to have an ignition failure with this type, in which both ignitions are disabled, so that it is impossible to get home.

Carburetters.

The infinite variety in carburetters shows that although on the whole modern carburetters are fairly efficient, nothing like finality in their design has been reached.

Several of the multiple jet type were shown, extra jets coming into play as the call for petrol becomes greater. In the Scott-Robinson carburetter there is only one jet, but its orifice is varied by the ascent or descent of a flattened needle which enters it, and is raised or depressed according to the air suction at the moment. Another interesting jet adaptable to any carburetter was the

De Beers, shown by the Petrol Economizer Company. The top of this is domed, with the hole in the summit of the dome: inside this is a loosely-fitting piston, the sides of which have deep spiral grooves. The piston can rise or fall a short distance under the influence of the rush of petrol, and the issuing petrol is given a whirling motion in the dome. The practical effect is that it issues from the hole in a spread-out spray, which facilitates the complete vaporization of the petrol, apt to issue from the usual simple hole in a stream rather than in a spray: it is claimed that by this device the petrol feed is regulated automatically, so as to give a good mixture at all engine speeds.

Transmission.

Chain drives are rapidly disappearing now that it has been found that even for high-powered cars the cardan shaft system is quite adequate.

The worm drive, as applied to the differential in lieu of the usual bevel pinion, formerly almost peculiar to the Dennis car, has gained several adherents. There is no doubt that it is more silent than the bevel-pinion drive, especially after a little wear.

The Humphriss gear, described last year, has, at all events, demonstrated that its system of a pinion-carrying knobs, which engage in spherical depressions round a plate, is capable of much work without showing appreciable wear, for a gear which had run very many thousand miles was exhibited, and was almost as good as new. This system of change speed gearing has been somewhat slow in making its way, but it will not be surprising if it prove of importance in the future.

With regard to change speed gears, the various modifications of epicyclic gear have not gained ground, and some form of Panhard sliding gear with the "gate" change is to be found on the vast majority of cars. The Delaunay-Belleville has not adopted the gate change, but retains one, more or less peculiar to itself, in which the driver in some sense feels his way into the several gears without the use of a notched quadrant to determine the positions.

We may recur for a moment to the hydraulic transmission exhibited by the Motor Mercantile Association in order to give some additional details. The box, full of liquid, in which the fan or paddle-wheel driven by the engine shaft revolves, is of aluminium. It will be remembered that the interior of the box is webbed, that the vanes of the paddles have only a small clearance from the webs, and that when the water is driven round by the paddles it strikes on the web and causes the box, which is connected with the cardan shaft behind it, to revolve. By altering the inclination of the vanes the amount of effect they produce upon the water can be varied, with a consequent variation of speed in the rotation of the box. It should, however, have been stated last week that as the vanes approach their maximum position the box becomes locked to the driving spindle so that a direct drive is attained, the whole apparatus rotating solidly together. An emergency slow speed gear is provided in addition. It is claimed that this method of hydraulic transmission provides very smooth starting and infinite variation in speeds within its extreme limits, and of course does away with noise from the gearing. As the box must be rather large and contains a good deal of liquid there is no great difference in weight between it and an ordinary gear box.

Brakes.

In brakes there is not much novelty except that front wheel brakes have been fitted to a good many different makes of car; the advantage which they possess is that application of brakes to the front wheels on a greasy road does not produce that tendency to side-slip which the sudden application of brakes to a back wheel is so apt to cause. It seems likely that their use, now that the mechanical difficulties which stood in their way have been overcome by Messrs. Liversidge, will become more general.

Suspension.

In the suspension of cars there are some noticeable points.

The Lanchester has the central point of support of its springs pivoted instead of being, as is usual, fixed, while the Amans pneumatic apparatus, to which reference was made last week, is in effect a means of damping the excessive action of the springs by adding an air cushion, and can be applied to any existing car.

The Cowey pneumatic suspension, adopted on a Crossley car, is quite different, inasmuch as it entirely replaces the springs. There are four inverted vertical cylinders with air-tight pistons; the weight of the car is transmitted through the piston rods, the space above the pistons being occupied by air under pressure. Thus the car rests upon four cushions of compressed air supplied to an independent reservoir by an air pump. By an ingenious valve the air pressure in the cylinders is always adapted to the load, so that when additional people enter the car the air pressure is automatically increased. As it is very essential that the oscillations of the car should be confined to the vertical plane extra stays are provided.

Both the Cowey and the Amans suspensions are intended to permit the use of solid tyres. The Cowey suspension does give a complete ease of motion and freedom from jars, though, as at present adapted, it is said that up and down oscillation once started never ceases, and that riders have been made sea sick. There should, however, be little difficulty in damping these oscillations. Whether the Amans suspension is equally efficacious we have had no opportunity to ascertain; but, if it be, it is far easier of application to existing cars. There can be no doubt, of course, that if solid tyres can be used without discomfort and without detrimental effects upon the machinery, a very great saving in running costs will be effected.

Ignition.

The efficiency and reliability of the Bosch and of the Simms magnetos are recognized, but there are several others which present good special features. The Fuller magneto has an excellent and novel form of make and break; all its parts are exceedingly accessible, and can be taken to pieces with the utmost ease. The armature produces a low tension current only, and to transform the armature current there is a separate coil with both high and low tension windings, which is packed away beneath the arch of the horseshoe magnets. As this coil is stationary it has no need of the revolving contacts usual in high tension magnetos; it has spring contacts which make themselves when it is placed in position, and this transformer coil can be removed in a moment, and replaced by another should it fail—no small advantage seeing that it is in the high tension coil that magnetos generally fail when they do fail. In last year's model the condenser was a separate unit, but it is now incorporated with the coil—a more doubtful advantage, as the condensor may alone fail. To facilitate starting, an accumulator or current can be sent through the coil windings, the necessary rapidity of make and break being secured by the addition to the switch of a rotating handle. On the same stand was exhibited an interesting electric geyser for obtaining hot water in a few seconds. The principle on which this acts is not very clear. The heating is attributed to electrolytic action on the water, but it is difficult to see how this should produce the heat; that electrolytic action was active was evidenced by the issuing jet becoming at once turbid through the inclusion of gas bubbles, and the escaping hydrogen could be ignited in a series of tiny explosions if a lighted match were held close to the jet. The current consumption is large—some 15 ampères—but this is unimportant, as the water is heated to near boiling almost instantaneously. It seems more probable that the heat is due to resistance to the passage of the current, and that the decomposition of some of the water is only incidental.

The Thomson-Bennet magneto has two features. In most magnetos the advance or retardation of the spark is obtained at the cost of its being brought to occur at positions of the armature away from that of maximum current, but in this device there is a contrivance for altering the relation of the armature to its driving dogs, so that the break always occurs at maximum position. There is also a contrivance for giving the armature a sharp jerk round through one firing position, so as to render starting easy without the labour of rapidly revolving the whole engine in order to get a good spark from the magneto.

The E.I.C. Company exhibited the Hall magneto, an excellent piece of work, also adapted for alternative accumulator ignition and for ready starting. The Nieuport and the Nil Melior magnetos have also been improved in details.

The Lodge ignition appears in a simplified and much cheaper form: it will be remembered that the main feature of this is the further intensification of the high-tension current by passing it into a condenser, which is in effect a Leyden jar, and employing the sudden Leyden jar discharge for ignition.

Accumulators.

In accumulators the only novelty noticed was the Fors accumulator. In this both positive and negative plates are cylindrical and concentric, being separated from one another by a porous pot, within which the positive cylinder is placed. It is claimed for it that it cannot short-circuit by buckling of the plates; that it can be charged or discharged at any speed without damage; and that it will stand idle for any length of time without losing its charge. If these claims can be substantiated, it should be largely used, especially as this form of construction reduces size and weight.

TYRES.

A large number of tyres were exhibited, more or less on old lines, but a good many attempts to procure resiliency in solid tyres have been made.

One of the most interesting of these is the Lynton wheel. In this there is an inner wheel of pressed steel, which carries the inner flange of the rim and is fixed to the hub. The outer flange is carried by a second wheel which is loose upon the hub, and can move laterally to a small extent. Between the two flanges are packed in numerous separate blocks of rubber, which form the tread and hold the two flanges apart. It is claimed that lateral as well as vertical yield being thus allowed, full resiliency is attained though the blocks are solid.

Another solid tyre has lateral pits extending somewhat deeply into it, which permit it to yield under load, and there are several other devices shown for imparting resilience.

In the Challenge Reinforced Pneumatic the internal tube shares the work of the external cover in resisting the general strain of driving. In effect, it is a light auxiliary cover as well as an air chamber. The reinforcement consists in embedding in the rubber two layers of strong fabric which extends all the way round the front of the tube, ending at its base on each side. Here there is an interval occupied by a strip of ordinary rubber, and this supplies to the tube the elasticity necessary to permit of its expansion so as to fill the cover. The advantages of this tube are obvious. As for possible drawbacks, it might be expected that tyres fitted with these tubes would lack something in resilience, but from the tests conducted by the Automobile Club this would not appear to be the case. Though the idea is still comparatively novel, there is already a considerable body of evidence that tubes of this character will enable the motorist to use up outer covers which have become too weak for use with an ordinary inner tube. Though more expensive than the ordinary inner tube, the device seems likely to effect a saving in the long run.

The Stepney Wheel Company have a device for the same purpose which consists of a reinforced rubber band like an inner tube slit up along its inner circumference. This embraces the whole inner tube, which is placed inside it before inflation, and so is prevented from bulging into any weak place in the outer cover. This also is likely to effect some economy in using up old outer covers.

The chief features of the Torkington are the use of a very thick band of soft rubber embedded under an equally thick band of hard rubber. Between them runs a metal chain binding the two parts together and fixing them to the wheel. It is made in most of the standard sizes, but a special rim having a detachable side flange must be used on the wheel. It is reported to stand high speeds well, and has stood the test of ordinary work on several types of touring car. The Royal Automobile Club has now undertaken to test the tyre by running 4,000 miles on the road, and 100 miles at high speed on the Brooklands track.

LAMPS.

The Mangin mirror, which consists of a concave silvered mirror ground out of a solid thick plate of glass, has largely replaced metallic mirrors for the back of acetylene lamps, in which the metal mirrors were apt to lose their brightness in a short time. Self-contained lamps, in which the acetylene generator is not separate, but forms a part of the lamp, have apparently gained in popularity. Messrs. Lucas, Messrs. Ducellier, and Messrs. Powell and Hanmer show a fine selection of lamps; the last-named firm have a good selection at moderate prices, showing a side lamp and a tail lamp (for paraffin) of excellent construction and very cheap for what they are.

The Autoclipse lamp, shown by Messrs. Brown Bros., of Newman Street, provides two rays of light, one penetrating and the other diffused. The idea is to enable the driver to vary his light according to his surroundings, using the far-distance rays when travelling along country roads, but eliminating their dazzling glare when passing through towns or meeting traffic.

SPEEDOMETERS.

Speedometers are much cheaper than they used to be. Thus the Stewart, a centrifugal speedometer, can now be obtained for three guineas, and Messrs. Harvey exhibit the Frodsham speedometer, somewhat similar in design but of English make, for the same price. This last has for its flexible driving cable a series of small steel blocks with universal joint connexions, a strong form of construction much to be preferred to a spiral wire cable, which generally breaks after some use. The older makes have also been brought down in price by competition, and it is now worth every one's while to fit a speedometer. Not only is it useful as indicating the actual speed at which the car is travelling, but it gives early warning of lessened engine efficiency to the driver, who knows what his car usually does with a certain throttle opening and a certain advance of ignition, and this is of great use if the engine is, as it should be, always to be kept at its best.

CARS OF MODERATE HORSE POWER.

A distinguishing feature of the show is the large number of cars of low or moderate horse power. A word of warning as to cheap cars offered by little known makers may not be out of place. Although in the past the price asked for some cars has been unnecessarily high, and could easily have been reduced without the sacrifice of anything essential, yet the merest tiro in engineering work knows well that the difference in the time consumed in making a reasonably good easy fit, and making the best fit obtainable, say in a bearing, is very great indeed. When quite new the two bearings may not show much difference, but the fine fitting will be unaltered after a long period of wear, while the other will soon require attention. There is always a risk that in the endeavour to produce cheaply the ultimate refinements of the work may not receive the time and attention desirable.

A good many cars were described last week, only a few others, which on account of their price or for some other reason seem to call for note, will here be alluded to; it must not be concluded that omissions imply any inferiority.

Delahaye.

The Delahaye 9–11 h.p. appears to be a remarkably sound piece of work, with a very neat and efficient engine, the four cylinders of which are cast in one block; indeed, another maker has paid it the compliment of copying it with remarkable exactitude. The Delahaye is sold by Messrs. Hobson, with body, for about £275.

The Delaunay-Belleville.

The Delaunay-Belleville Company exhibits, in addition to its larger models, a 15 and a 10 h.p., both with six cylinders, and in this connexion it may be mentioned that six cylinders for lower powered cars have been adopted by several makers, although the Napier firm, who were pioneers in the six cylinder work, doubt whether much advantage is gained by the extra cylinders below about 30 h.p. The Delaunay-Belleville is distinguished by the great accessibility of all parts likely to require attention, including the carburetter jet; indeed, most things can be got at and replaced by the fingers without the use of tools, and the magneto can be detached, lifted right away for adjustment, and correctly replaced in a very few minutes.

De Dion.

The De Dion, as already stated, has several improvements, one of the most notable being a means of lateral adjustment to the driving pinion of the differential—a point at which wear is liable to show itself.

Iris.

The Iris—of which formerly only one large model, which attained to high reputation, was made—on this occasion exhibited a 15 h.p., which has the points of the larger model, including a large inspection plate on the differential.

Thames Cars.

The Thames car is the production of the Thames Ironworks, Ship Building, and Engineering Company, which some four years ago commenced motor construction, and within two years had to its credit the all-world record at Brooklands for 50, 100, and 150 miles. This was accomplished at the rate of seventy-five miles an hour by one of its six-cylinder touring cars taken out of stock and not prepared specially for the racing track. The company had five cars on view, of which three were priced at figures running from £160 to £235. The car at the lowest price was a single-cylinder 3 h.p., fitted up as a Victoria; two others, both 12 h.p. double-cylinder cars, were fitted, the one as a coupé and the other as a landaulette. The former is known as the Chirurgeon, and is specially designed for medical use. Its two cylinders are considered to secure for it adequate flexibility in traffic and sweetness in running without involving the increase in the maintenance and petrol consumption brought about by a multiplicity of cylinders. It is stated to be a good hill traveller, and its petrol consumption appears to be low. The first of its three speeds, when the engine is revolving at a normal rate, gives a rate of six miles per hour, the second twelve miles an hour, and the third twenty-five miles an hour. It is driven from the interior, and has a body of unusual construction presenting many advantages. In its ordinary condition it looks like a very neat coupé, but in the space of two or three minutes it can be converted into an ordinary open car. In building the under carriage special attention has been paid to limiting the likelihood of the car creating much dust. This firm, though young in the motor world, has such a long and high engineering reputation behind it that its products are entitled to special consideration.

Ford Motor Cars.

There are several special features about the Ford motor cars, which, so far as chassis are concerned, are of precisely the same model—namely, a 20 h.p. car with four cylinders. The price of the chassis alone is £180, and it was shown fitted up as a runabout, as a touring car, as a landaulette, and as a town car; the lowest price of a complete car was £190, and the highest price £275. Another feature is its unusual lightness, the car weighing only 1,200 lb. Lightness, it need scarcely be said, makes a considerable difference in wear of tyres and petrol consumption, and is due in this case to simplicity of design, elimination of unnecessary parts, and the free use of vanadium steel. The cylinders are cast in one block, the water-jacketed cylinder head being a separate unit, easily removed and replaced when desired for cleansing purposes. The fly-wheel is utilized as a rotor for the magneto generators, and likewise supports the transmission gears, this being one means employed to eliminate unnecessary weight. The transmission is of the Spur Planetary type, which is regarded as making stripped gears impossible. There are two speed gears, the higher, it is stated, making any speed from three to forty miles an hour obtainable by throttle control. The final drive is on the Ford triangular system. The remarkably low price at which these cars are sold is ascribed by the firm to its adoption of the "quantity production" system, its chassis output for the coming year being estimated at 25,000.

Sunbeam Cars.

The two models shown by the Sunbeam Motor Car Company seemed identical in all respects, except that one was a 12–16 h.p. car, and the other a 16–20 h.p. car, and that the latter can be obtained either with live axle or chain transmission at the purchaser's option. Both models can also be obtained with either short or long axle bases as desired. In all cases there are four cylinders cast in pairs, the valves being protected by easily detachable aluminium covers, which act at once as dust protectors and silencers. Lubrication is obtained by a gear-driven pump, which maintains a constant supply of oil filtered in the course of its circulation. The pressure can be varied to suit the requirements of running; uphill the full pressure—namely, 12 lb. per square inch—is available, while downhill and during town work it can be reduced to one-sixth, so as to ensure absence of smoking. Both models have Bosch dual ignition, and power is transmitted by a leather-faced cone clutch. There is direct drive on the top speed, and ball bearings are freely employed throughout. Moreover, there is a special device, a caliper which follows the shifting lever by which two out of the three gears are always locked, thus preventing more than one gear from being engaged at any one moment. When a chain drive is selected the chains run in the oil-bath chain cases, whose introduction by the firm did so much to increase its reputation. The price of the 12–16 h.p. car, fitted with an open body, is £350, of the 16–20 h.p. car, with an open body and chain drive, £475.

Napier Cars.

Among the Napier cars, for whose construction Mr. S. F. Edge is reponsible, the special feature this year was the Colonial car. Its chassis is in most respects identical with the 15 h.p. four-cylinder car of the firm, which is too well known to require description. The principal difference seems to be that a bevel instead of worm drive is used, and that the valves and the springs of the engine are enclosed by a plate to exclude dust and sand. Other modifications designed to fit the car for its special purpose are its wire detachable wheels with 95 mm. and 105 mm. tyres. The large size of the wheels secures for the car a total clearance of not less than 12 in. at any part. Another point is that the gearbox includes an unusually low first-speed gear to enable the car to climb out of a hole or ditch. The water-pipes are of large dimensions, and instead of dual ignition a separate magneto is carried. The body, however, is altogether of special construction, having been designed so as to make the user of the car self-dependent, whatever his distance from civilization. It provides room for everything likely to be required for camping, including guns, stores, table accommodation, spare wheels, reserve water, and a hood which is completely detachable, and when placed on the ground forms a large square tent. In spite of all this provision for touring work, there is plenty of passenger space, and the appearance of the car is by no means unsightly. When not required for its special purpose, the back part of the body is removable, and the car, which ordinarily is intended for five persons, can be converted into a two-seater. The car was designed, we understand, on the suggestion of a gentleman long resident in Rhodesia, and its price complete is £519.

Cadillac.

The claim made by motor manufacturers that their parts are interchangeable is not always borne out in practice, but in the case of the Cadillac cars its truth was established by an independent test conducted a year or two ago in this country. Several cars selected out of a large number were taken completely to pieces, the whole of the parts put in one pile, and new cars built up from the pieces, chosen haphazard, within the course of an hour or so; the cars being afterwards tested and found to work perfectly. The firm, which is one of the oldest established car-manufacturing undertakings, limits its output to two chassis models, a 10 h.p. one-cylinder and a 20 h.p. four-cylinder car. It constructs every part of its cars itself, and puts its hooded runabout on the market in this country at 220 guineas; the cost of the higher-powered car varies with the body construction, from 360 to 460 guineas. Of the reliability of the Cadillac runabout there is no doubt; we have known cars of this construction give satisfaction to their owners for periods as long as six or seven years. The higher priced car also has a good reputation. It has separate cylinders, Splitzdorf low-tension magneto, and an accumulator. The propeller shaft is encased, and though working through a universal joint in an oil bath, has an almost direct drive; the engine, gearbox, and back axle are each provided with three-point suspension. The suspension has been well thought out; front and rear axles have semi-elliptical springs, the rear ones being attached to a transverse by socket shackles.

The steering gear is adjustable, thus ensuring accurate driving without recourse to a factory when parts get worn.

Talbot.

Four of the well-known Talbot cars were shown by the Clement-Talbot Company, all alike possessing four cylinders, double ignition, with nominal horse power varying from 12 to 35. In addition there was shown the chassis of a six-cylinder car (which is a new development of the firm), of 20 h.p., the cylinedrs being cast in pairs. The lowest priced car—a side-entrance open vehicle, with four speeds and a reverse—was £375; and at the opposite extreme was a Limousine priced at £825. In all the cars, we understand, the ignition is on the Bosch dual system, the magneto being driven from the same cross-shaft which drives the pump. The price of the chassis of the six-cylinder 20 h.p. Talbot is £555. The change-speed gear-box is of large dimensions and without a division. The foot brake drum is exceedingly wide, and the pressure is applied by external shoes suspended from the top and drawn together at their lower end by a bell crank lever and cross-connecting rod, easily adjustable by a thumb-screw. The rear end of the chassis is suspended by a transverse spring fixed to two powerful side springs and to an extension of the frame itself. The general carburetter communicates with the cylinders by an aluminium pipe, and each cylinder has an inlet pipe of exactly the same length. In respect of complete Talbots, the one perhaps best fitted to the needs of medical men in urban and semi-urban districts is the £480 landaulette. Its power is greater than the nominal 12 h.p., and its four gears secure speed suitable alike to crowded streets and open country roads.

Naudin-Sizaire and Crossley.

France and England were equally represented by the exhibit of Messrs. C. Jarrott and Letts. Though considerably modified and improved this year, they are both well-known types, the French car being the Naudin-Sizaire, and the latter the Crossley, which is an all-British car. The French car, the product of a firm of high repute, is a 12 h.p. two-seater monobloc cylinder car, of comparatively simple but very effective design, sold at £215. The piston stroke has been somewhat lengthened to ensure smoother running, and the silencer has been nearly doubled in size. A higher degree of radiation has also been secured, and ball bearings introduced at all suitable points; the hand brakes have been made adjustable by self-locking finger nuts, and a direct drive is now secured on each speed. Of the Crossley cars three were shown fitted up, and one as a chassis. They all have four cylinders, those in the lower-powered cars being cast on the monobloc system, and in the 20 h.p. car in pairs. The 12-14 h.p. type was shown at the Exhibition for the first time, and was fitted with the Cowey pneumatic system described above. Fitted as a phaeton, with a long hood covering both the passengers at the back seat and those on the driving seat, the 12-14 h.p. car is a very graceful but yet workman-like vehicle. Its price complete, with lamps, high side doors, detachable wheels, tools, and some spare parts, is decidedly moderate—£385.

Metallurgique Cars.

Amongst the most attractive cars of comparatively moderate cost was the type shown by Warwick Wright and Company, and known as the Metallurgique, a Continental car with excellent body work. All the models shown had four-cylinder monobloc engines running in nominal horse power from 12 to 26. The first of these is sold fitted up as a hooded Victoria complete for the road at £395. The chassis itself costs £100 less, and of course can be fitted with a body according to the purchaser's special requirements. The makers pride themselves on the silence of this car during running, the economy of its upkeep, and its powers as a hill climber. The valves in the 1910 type are larger than they used to be, and are all operated by a single cam-shaft. The Bosch high-tension magneto is on the engine side opposite the valves, and thermo-syphon cooling is provided. A tell-tale on the dashboard secures supervision of the accurate working of the lubrication, and provision has been made for regulating the working of the engine while waiting outside houses or elsewhere. The price of the 18 h.p. Metallurgique fitted as a double phaeton is £505.

Humber Cars.

Of the Humber car there were shown six models (two chassis and four finished vehicles), comprising three types, an 8 h.p. two cylinder, a 12 h.p. four cylinder, and a 16 h.p. four cylinder. The former, fitted with a two-speed body, Bosch high tension magneto ignition and three speeds, is sold at £200. Since last year its petrol tank has been placed beneath the driving seat, so as to leave the rear portion of the body available for luggage. The 12 h.p. type, fitted as a five-seated open car, costs £285, while the 16 h.p., finished as a double phaeton with high doors to both back and front seats, costs £425. The engine dimensions of the 12 h.p. have been increased by 10 mm. The whole chassis is more substantially constructed. A honeycomb radiator has been fitted, the wheels have been raised from 760 mm. to 810 mm., and a four-speed gear box introduced. This car, as well as the higher powered one, did well during the Scottish and Irish trials last summer. All the cars are fitted with the Humber detachable wheels, with an automatic system of lubrication, introduced early this year with the new 16 h.p. car. The 8 h.p. car carries on its dashboard a tell tale glass dome, in which a continuous spurt of oil is visible so long as the engine is being properly oiled.

LOOKING BACK; OR, A GLANCE FROM EMPIRICISM TO EXPERIMENT—FROM SUPERSTITION TO RESEARCH.

Sir Henry Morris, Bart., ex-President of the Royal College of Surgeons of England, recently delivered an address to the Middlesex Hospital Medical Society, in which he said that it was by means of experiments which could be planned and controlled at the will of the explorer, and especially by experiments on living animals, that so many of the recent changes had been made in the views held in regard to the pathogenesis and diagnosis of disease, particularly of fevers and the infective diseases of wounds, as well as in methods of treatment. Hippocrates was the first to lead medicine in the right track. He employed experiment as well as observation, and thereby succeeded in freeing medicine from the fantastic speculations of the pre-Socratic philosophers.

Galen, notwithstanding the obstacles he raised by his mistaken and misleading worship of Aristotle, to the progress of medicine for a period of over 1,500 years, nevertheless asserted the importance of anatomy—though unfortunately he only knew anatomy through the dissection of animals and not of the human subject; and he was the parent of experimental physiology. Towards the middle of the seventeenth century, Descartes made great use of vivisection, and the recluses of Port Royal—some of the most learned philosophers and educationists of their time—resorted to dissection of living dogs and other animals to demonstrate the circulation of the blood, and were accused, probably as unjustifiably as the scientists of to-day, of being indifferent to the cries of their victims.

Sir Henry Morris then sketched the progress of experimental science through the seventeenth, eighteenth, and nineteenth centuries up to our own time. He went on to say that in the past one of the great obstacles to the advance of medicine was the tenacity of unproven hypothesis. By experimental methods of research the truth or falsity of hypotheses was tested, in many instances very quickly, before they were either accepted as explanations of symptoms, or put into practice in treatment. The wards and the *post-mortem* theatre also yielded products not a few and by no means unimportant or insignificant. The importance of developing the faculty of observing could not be exaggerated. At all times and in all places it could be exercised; whereas experimental research required special and often elaborate conditions and equipment.

The enormous strides made by scientific researches afforded reason to expect that the so-called systems of medicine associated with the names of Hoffmann, Brown, Cullen, and others, each of which was based upon the idea of finding an explanation for every form of disease, had vanished for all time. At the present time, however, quackery was rife in Germany in the form of the "Natural" treatment (*Naturheilkunde*), and in this country

and America in the form of Christian Science. The profession was much indebted to Mr. Stephen Paget for his instructive book and his recent addresses on Christian Science; but there was one aspect which he had not gone into, and it was to this aspect that he wished to call attention. The teaching and practice of Christian Science ignored all the physical reality of sickness, set aside all the recognized means of curative science, and relied entirely on an appeal to "*the source of life, for more life.*" Its method was to call on the Divine Spirit by means of concentrated thinking, and by thus drawing upon "Spiritual force" to remove an *idea of disease*—the disease itself being said to have no actual or real existence. In theory Christian Science healing differed from Faith healing in this: Faith healers did not doubt the reality of disease and suffering, but believed that the Spiritual and Divine force neutralized and counteracted them; whereas the Christian Scientists denied entirely the existence of a body, or of pain and sickness, and professed to call down the Divine influence to overcome a false idea—a misimpression. Like the saints of old, Mrs. Eddy and her followers claimed the true source of their cures to be the direct action of God. Such a claim, if not put forward in so many words, was *de facto* a claim to be able to work miracles. A miracle was defined as a plain and manifest exercise by the agency of man (including prayer and contemplation under the term agency), or by God at the call of man, of those powers which belonged only to the Creator and Lord of Nature.

The Christian Scientist could not get away from the fact that, on his own showing, he thus attempted to work miracles. But there was no difficulty in showing that Christian Science departs in four important particulars from the miracle working described in the New Testament.

The miracles of which there were authentic records were (1) those of the New Testament. (2) those of the Old Testament, and (3) the miracles of the early Christian Church. The miracles attributed to the Roman Emperor, Vespasian, were no doubt pure fabrications, and Mahomet's miracles read like sleight of hand and jugglery. The miracles of the New Testament were performed (*a*) by Christ himself, (*b*) by the Apostles, (*c*) by the Disciples.

The points of difference to which he referred were that the Christian Scientist (1) required faith or self-confidence in the patient; (2) attributed, therefore, insufficient importance to the faith or "mental concentration" of the healer himself or herself; (3) refused to employ any physical means of treatment; and (4) was unable to perform certain acts which, they were explicitly told, could be done by those who worked miracles under the Christian dispensation.

Many of the New Testament miracles were those of *healing*. The woman cured of an issue of blood, the leper cleansed of his leprosy, and the blind men restored to sight by mere touch, were performed by Christ himself on persons who were told their faith had made them whole. The widow's son, Jairus's daughter, and the son of "one of the multitude" seen after the Transfiguration were wrought by Christ through the faith of the parents of the afflicted. The centurion's servant was cured of the palsy through the faith of the centurion, which was said to have been greater than any which had been found even in Israel.

With regard to the first of the points of difference he had pointed out, Sir Henry Morris said that in neither of these four last-named cases was there any co-operation on the part of the individuals restored to health. In the performance of the miracles wrought upon them they were purely passive agents. Christian Science, on the other hand, required an effort of contemplation or mental concentration, of will power, or of faith on the part of the patient to be cured. It could not, however, appeal to the New Testament for support of this teaching, for, besides the instances of the substitution of the faith of another for that of the person who was the subject of the miracle, there were many others in which there was no such substitution. Neither the man blind from his birth, nor the nine lepers, nor the man with the legion of devils, were stated to have exhibited faith by prayer, or otherwise, before or during the accomplishment of the miracle. Nor did any other person do so on their behalf. In the case of the cripple of Lystra, St. Paul, "steadfastly beholding him and perceiving that he had faith to be healed," cured him. The cripple had heard Paul speak but he had made no appeal or sign or personal effort to be healed. St. Peter healed the lame man at the gate of the Temple, cured Æneas of Lydda of the palsy, and restored Dorcas, alias Tabitha of Joppa, to life; but there was no co-operation on the part of those treated. The miracles of Philip and Stephen testified apparently to the same fact, for being "full of faith and power" themselves, they "did great wonders and miracles among the people."

Thus, though Christian Scientists were able to refer in support of their own method of "absent treatment" to the single instance of the centurion's servant, there were many cases recorded in which there was no co-operation or participation in thought concentration on the part of the patients themselves. Was it not, therefore, effrontery on their part to ascribe their failures to the patients' defective capability of thinking, or deficient force of will, or want of faith?

With regard to the second point of difference, he said that in the cures which were wrought by the Apostles and Disciples, the faith of the active agent (that is, the Apostle or Disciple) was an essential factor for the healing. When an explanation was sought of the failure of the Disciples to cure the epileptic and lunatic boy, the reply was, their unbelief. On the other hand, the seventy Disciples who were sent, two and two, into every city and place, were believers. They returned from their journeyings with joy, proclaiming: "Even the devils are subject unto us through Thy name." Further, there was the reply to the Apostles about the grain of mustard seed and the sycamore tree, when they asked, "Increase our faith." Was not the correct argument from analogy, therefore, that when the Christian Scientists failed it was on account of their own unbelief—of their own lack of power?

Speaking of the third point of difference, Sir Henry Morris said the Christian Scientists could not justify by New Testament teaching their own rejection of every kind of physical aid in their treatment of the sick. In the case of the man blind from his birth, Christ made clay with his spittle, and after anointing the eyes of the blind man with the clay, sent him to wash in the pool of Siloam. Repeated stress was, in the narrative, laid on the clay and the washing. Again, they were told, "God wrought special miracles by the hand of Paul, so that from his body were brought unto the sick handkerchiefs or aprons, and the diseases departed from them, and the evil spirits went out of them."

With reference to the fourth point, Sir Henry Morris said that it had been held that the power of working miracles was transmitted to the Apostles and Disciples in such a manner that it came necessarily to an end on the death of the last of the Apostles. If they disputed this, were the Christian Scientists prepared to base their self-confidence as healers on the only passage in the Bible which it was said gave any support to the idea that miracles were in these days performed, and had been possible throughout all the ages of the Christian Church? The passage was: "And these signs shall follow them that believe. In My name shall they cast out devils; they shall speak with new tongues; they shall take up serpents; and if they drink any deadly thing it shall not hurt them; and they shall lay hands on the sick, and they shall recover."[1]

If the laying-on of hands was part of the healing, how did the Christian Scientists justify their attempts on patients at a distance? And why did they restrict themselves to the exercise of the healing power only, and disregard all the other endowments specified in the text? Did they speak with new tongues? Could they take up serpents or drink deadly things and yet remain unharmed? Would they take, say, concentrated laurel water instead of claret for dinner, or eat aconite root instead of horseradish with roast beef? Why did they not give demonstrations in their churches or temples of the impunity with which they could manipulate venomous snakes and serpents?

When St. Paul, after escaping drowning from shipwreck, was being kindly entertained by the inhabitants of Malta, a viper came out of a bundle of sticks and clung to his hand. The people at once supposed he was a murderer, and that vengeance had overtaken him in spite of his escape from the sea. But when he shook the beast off into the fire and suffered no harm the people changed their minds and thought he was a god. Why did not the Christian Scientists increase the evidences of their power,

[1] Mark, xvi, 17, 18.

and improve the estimation in which they were held, by showing in the manner of St. Paul how unmerited were the imputations of manslaughter against them?

It was foretold that sorcerers and false prophets would arise who would declare signs and wonders, insomuch that if it were possible they would deceive the very elect. Was Christian Science included in this anticipation?

When in 56 A.D. the seven sons of Sceva, the Jew of Ephesus, and other "vagabond Jews and exorcists" made trial of their power of healing, the evil spirit answered them by saying, "Jesus I know, and Paul I know, but who are ye?" And then the man in whom the evil spirit was, leaped on Sceva's sons and overcame them, and prevailed against them so that "they fled out of the house naked and wounded." There were not a few persons who, knowing the fatal consequences attending the practice of the Christian Scientists, would witness without disturbance to their bowels of compassion the advent of a spirit which would chastise those presumptuous persons as Sceva's sons were treated.

The Pharaoh of 2,300 years ago called together the wise men, the sorcerers and the magicians of Egypt, to practise their enchantments and to cast down every man his rod, and they became serpents. But the rod of Aaron swallowed up the rods of all of them. Would it be altogether a misfortune if modern science or public spirit, or both, like Aaron's rod, would swallow up all the disciples of Mrs. Eddy?

It was commanded in old time to forbid no man to do miracles in the name of the Master, nor would they quarrel with the Christian Scientists for trying their minds on miracles if they did no harm to others thereby. The repugnance of their presumption was because they misled the credulous, the ignorant, and the helpless into supposing that miracles would be wrought at their instigation, and thereby persuade, if they did not indeed enforce, their victims to neglect every physical means for their recovery. They were not concerned as medical men with the metaphysics of Christian Science. What they resented was the effect of their teaching and practice in cases of organic and infective diseases, and in severe surgical injuries. It was because of their meddling with medicine, not their muddling with metaphysics, that the profession, in the interest of the sufferers and in the interest also of the general public, opposed their false doctrine and cried out against their cruel and fatal practice.

The miracles of the Old Testament formed part of the Theocratic government of the Jews, and were wrought for the purpose of impressing an ignorant and semi-barbarous people with the idea of the power of the Deity. To us the striking feature about many of them was the thinness of their veil of the marvellous. As miracles they seemed beggared of the miraculous. They were, however, quite sufficient to terrify and excite the wonder of a semi-civilized race whose simple rudiments of learning made them as "children" in the condition of "slaves." For instance, Samuel called to the Deity for thunder and rain during wheat harvest so that the people might realize their wickedness; and the thunder and the rain came. This, Sir Henry Morris said, brought back to his thoughts a circumstance related in *She* or some other book by Rider Haggard. Some one, knowing that an eclipse of the sun was due on a particular date, saved himself from being put to death by publicly proclaiming its advent, and thus leading the natives to fear him as a god or a prophet. There were many nowadays who foretold, like Samuel, what the weather was going to be; such predictions were a part of the news supplied by the daily and weekly press. Besides, prayers were still offered in churches for sunshine or showers, and sometimes the rain or the fine weather, as the case might be, came as a *post hoc* if not as a *propter hoc*.

Then there was the cure of King Hezekiah, who was sick unto death "from the effects of a boil," but whose life was saved by his own tears and prayers and through Isaiah, who prescribed "a lump of figs" to be applied to the boil. No one in these days, however, would think it wonderful that a fig poultice should bring away the core of a ripe boil in three days.

There was little to venerate or respect in the miracles of the saints of the second, third, and fourth centuries. The miracle associated with the career of St. Ambrose in the fourth century looked like imposture. At a time when his influence was on the wane and required vigorous support St. Ambrose had a dream, which led to finding beneath the pavement of the church the remains of two martyrs. The common people crowded to see these venerable relics, and many who were sick were healed by touching the bones. St. Ambrose was in ecstasies over these miraculous cures, and preached eloquent sermons thereon. This was but a poor and vulgar imitation of the miracle of the man who, when about to be buried, was thrown into the sepulchre of Elisha, and came to life immediately his body touched the bones of the prophet.

The tactics of St. Ambrose reminded them of the miraculous cures which were worked on the fanatics at the tomb of the Jansenist Deacon, François de Pâris, in 1730; they also recalled the procession of the multitudes one had seen at Lourdes, and the filthy fragments of dressing, and the discarded sticks and crutches ostentatiously thrown into the hedgerows near the shrine of miraculous cures in the South of Ireland.

All the ecclesiastical miracles were highly improbable. They resembled fictitious legends invented by the imagination of impostors for acceptance by the credulous.

After speaking of a number of other superstitions, Sir Henry Morris said that, though the struggle between theology and science was probably over, and plague and pestilence, as well as earthquakes and famine, were now universally admitted to be the natural effects of other antecedent material events, research by experiment was at the present time being hotly resisted by a band of no doubt well-meaning persons, whose intentions were good, but whose methods were tortuous. This band having, by way of exciting prejudice, stigmatized experiments on animals with the name of vivisection—as though all instead of a mere fraction of a unit per cent. of them were cutting experiments—had, under the assumed banner of humanity, moved a great charitable fund for the benefit of the sick poor to exclude from its bounty any direct or indirect assistance to medical education or research; and had been the cause of the appointment of a Royal Commission on Vivisection, whose report they were at this moment eagerly awaiting, though without fear or misgiving as to the result.

One of the results of "looking back" was that they realized how phases of opinion and cycles of thought, as well as epidemics of disease, were prone to recur. It was possible for the oldest amongst them to recall periods at which mesmerism, hypotism, thought-reading, table-turning, and faith-healing had been temporarily in vogue, and then had passed away again out of favour or notice. Just now there was a phase of opinion—entertained, too, by some few honourable and distinguished men—that there was scope and reason for the exercise of "suggestion" as a remedial and curative agent; and it had been seriously put forward that the already vastly overburdened medical curriculum should be still further charged by the addition of "a sound psychological training," so that every medical practitioner should be able to employ "mental therapeutics" and to engage in "the scientific practice of suggestion."

Surely it behoved the leaders of medical thought and opinion to walk most warily in this direction. A committee to make a careful scientific investigation of the nature and subsequent history of the cases asserted to have been cured by Christian Science, by hypnotism, and at Lourdes might make a valuable contribution as to the questions involved; but he thought it would be highly undesirable to combine the practice of "suggestion" with the ordinary practice of the profession. Such a course seemed to offer encouragement to those outside the profession to make arrogant pretensions to curative powers; and might possibly lead to unfounded accusations and regrettable indiscretions even within the profession itself, especially if the character of the cases which were regarded as proper subjects for this treatment was remembered. Even if it should come to be decided that a set of persons should be properly trained to practise treatment by suggestion, he was not quite sure that the doctor should have more to do with the treatment than merely to examine and pronounce whether the case was suitable for its employment.

Sir Henry Morris concluded by repeating that all actions involved belief, and all successful action true belief, and that to arrive at true belief in medicine they must go through scientific scepticism to knowledge, through doubt to certainty, and replace empiricism by experiment and superstition by research.

British Medical Journal.

SATURDAY, NOVEMBER 27th, 1909.

THE GENERAL MEDICAL COUNCIL.

The ninetieth session of the General Medical Council was opened on Tuesday last by an address from the President, Sir Donald MacAlister, which is reproduced in full in the Supplement. It is difficult to forecast with any certainty the number of days over which this session will extend, but the programme does not seem very heavy.

It is the custom to deal with as many of the disciplinary cases brought to the notice of the Council as possible at the autumn session, and on the present occasion some such cases will be heard which have been sent up to the Council after preliminary examination by the Penal Cases Committee, which acts as a sort of grand jury, deciding whether there is or is not a *primâ facie* case for investigation. Suggestions have been made that it might be possible to shorten the time and diminish the expense attendant upon the hearing of these cases by delegating at least some part of the hearing to a body smaller than the whole Council, as is now done under statutory authority in dental cases. The Executive Committee has had this matter under consideration, but, as somewhat difficult legal questions arise in connexion with it, the question is not ripe for discussion. In dental cases the facts are ascertained by the Dental Committee, and the whole Council is only asked to decide upon the gravity of the facts found. Although it is sometimes a little difficult to judge of the gravity of the facts found without hearing all of the evidence, yet as this evidence is placed in print before every member of the Council, a great saving of time is effected, for the whole Council is relieved of the task of determining whether the facts alleged in the charge have been proved. The suggestion is that some similar course might be possible in medical cases, and the President expressed a hope that some such means might be discovered. But whereas the Dentists Act expressly prescribes this course, the Medical Acts do not, although they do not expressly forbid it, and herein lies the difficulty.

The discussion of two reports of the Education Committee—that presented a year ago, and the supplementary report on various proposals submitted to the committee referring to the curriculum in medicine presented in May—was commenced on Tuesday. The debate will be continued, and is likely to be prolonged, as it is understood that many members of the Council desire to speak on it. Owing to these circumstances we are unable to give a complete note of the debate in this issue, but it may be pointed out that the main recommendations of the Committee's report were, first, that the subjects of the curriculum should be arranged in two groups, the earlier group comprising the preliminary sciences and anatomy and physiology, and the later group embracing all the remaining subjects, exclusive of pharmacy; and secondly, that whatever time might be spent upon the earlier subjects, a period of two full academic years must be wholly devoted to the subjects of the final examination, and that another six months must be spent on these subjects, but that these months might form part of a year divided between the subjects of the two groups.

Dr. Mackay, the Chairman of the Education Committee, in moving the adoption of its recommendation, spoke of the plan as introducing a block to prevent the student from passing to the later subjects until the earlier had been completed. The alternative was to extend the curriculum to six years; and Dr. Mackay brought forward evidence to show that all the subjects of the medical curriculum could be taught within five years, leaving the fifth year, a period judged to be sufficiently long for the purpose, entirely for clinical work. Even after Dr. Mackay's explanation the exact effect of the recommendations was not entirely clear, and the text was afterwards modified; it is thought probable that the Council will adopt a resolution recommending simply that two and a half years must be given to the study of the final subjects, and that not less than two years should elapse between the date at which the student passes the examination in anatomy and physiology and that at which he presents himself for the final examination in medicine, surgery, and midwifery.

The President, in his address, referred to the changes which have taken place among the members of the Council. Dr. Dixon Mann, Professor of Forensic Medicine and Toxicology in the Victoria University of Manchester, who has succeeded Professor Young as the representative of that body, is the only actually new member, although Sir Christopher Nixon, who previously represented the Royal University of Ireland, appears in a new guise as representative of the new National University of Ireland. The President added that the number of the Council was likely soon to be further increased by the nomination of representatives of the Universities of Belfast and Bristol. The President took occasion to refer to the death of Sir William Thomson, a former member of the Council as the direct representative of Ireland and paid a graceful tribute to his manifold services to the profession and the State, observing that those who had been fellow members with him would long cherish the memory of his impressive bearing and helpful interest in the Council's work. The President paid a tribute also to the memory of Mr. S. G. Lushington, for five years legal adviser to the Council, who sank under a severe operation in the prime of life. Some of the penal cases heard recently have called for the exercise of tact, patience, and firmness in an unusual degree, qualities which Mr. Lushington displayed on every occasion. The practice of the Council has not been to make any formal appointment of a legal adviser but to instruct counsel from time to time, although in the case of Mr. Lushington and his predecessor, Mr. Muir Mackenzie, the instruction was repeated on each consecutive occasion. For the present session Mr. Bodkin, who has sometimes appeared before the Council in the different capacity of advocate, has been instructed to act as judicial assessor, and took up those duties on the first day of the session. Mr. Bodkin is not only a well-known lawyer, but also holds a public appointment somewhat similar to those held by Mr. Muir Mackenzie and by Mr. Lushington.

A fresh complication has, it appears, arisen with regard to reciprocity with Canada: it was hoped that the difficulty, due to the fact that the several provinces of the Dominion have not been able

to agree upon a common qualification, had been met by dealing separately with each, and reciprocity has actually been concluded with Nova Scotia and Quebec, while a similar proposition has been received from the province of Prince Edward's Island. It appears, however, that the provincial legislature of Quebec has recently made an alteration in the law which may adversely affect some of the qualifications recognized for registration in this country. The attention of the Lord President of the Council has been called to the matter, and inasmuch as the Privy Council is directly concerned in arranging reciprocity, it appears to lie with that body rather than with the Medical Council to take action in the matter.

As there is no hope that any progress with the Anaesthetics Bill can be made during this present session of Parliament, no action has been taken regarding it. The President has, however, given evidence before the Coroner's Committee of the Home Office, to which the bill had been referred for report. It is probable that, in compliance with a request from that Committee, the opinion of the Council may be given upon some of the points involved, and that if such an opinion is pronounced it will be communicated to the Coroner's Committee.

GREEK MEDICINE IN ROME.

THERE are many signs of the increasing interest that is now taken in the history of medicine. In proof of this we need only point to the foundation of chairs from which this subject is taught in several universities, and to the formation of societies for its study which have been founded in various countries; and the medical journals both here and abroad bear witness to the same fact. The lectures founded by the late Dr. FitzPatrick at the Royal College of Physicians of London are another step in this direction. So far the College has been particularly happy in the choice of lecturers. Dr. Payne, in his *English Medicine in Anglo-Saxon Times*, and his *Gilbertus Anglicus* and *Ricardus Anglicus*, and Dr. Norman Moore in his *History of Medicine in the British Isles*, have made valuable additions to our knowledge of the subjects with which they respectively dealt. In the lectures recently delivered by Sir Clifford Allbutt, one of which was published in the JOURNAL of last week, while the other appears in the present issue, the Regius Professor of Physic in the University of Cambridge goes farther back, and treats of the introduction of medical art into ancient Rome. The subject is a fascinating one in itself to those interested in the history of medicine, and Sir Clifford Allbutt treats it in a most attractive manner. His lectures show wide and accurate scholarship without a tinge of pedantry; everywhere his learning is "informed," as the scholastics would have said, with the special knowledge of the physician and the practical wisdom of the man of the world. Perhaps there is no drearier reading than the exposition of ancient medical theories as given by most medical historians. By his sympathetic insight into the working of the human mind, however, Sir Clifford Allbutt makes even the dry bones of obsolete and fantastic theories live again and become intelligible; and he sets them forth with the grace of a literary style in which lucidity, combined with a *curiosa felicitas* of expression and illustration, makes the reading of the Lectures a "feast of nectared sweets" to those who take an interest in the evolution of the medical profession.

Sir Clifford Allbutt gives a masterly sketch of the mental temper of the ancient Romans before they were touched by the influence of Greek thought. He describes them as "a people entrenched . . . in a folk-"lore and a folk medicine of their own, and worship-"ping a mob of pallid deities each, as elsewhere so "also in medicine, personating rather than creating "not only every chief system and function of the "body, but every stage of each. For each stage of "labour there was its peculiar deity." Every part of the body, each limb, and even the "harmless, un-"necessary navel has its divine warden." Even the itch had a goddess peculiar to itself. There was, of course, among so warlike a people a rough surgery: arrows were extracted and wounds treated. There was a law, said to date from the time of Numa, that if a pregnant woman died the child was to be extracted by any one who happened to be near. But it is evident that such operations—like hanging, which lies within the sphere of a modern sheriff—would necessarily tend to be relegated more and more to persons who had acquired some knowledge and dexterity by practice. To the head of each family fell the duty of treating his wife, his children, and his slaves in illness, and in this way there naturally grew up a folk medicine akin to that of our own ancestors, who handed recipes on to each other and treasured them for their descendants, as may be seen in the Paston and Verney letters and many similar records. Of this household medicine, as it existed in old Rome, we have an example in the treatise *De Re Rustica* of the elder Cato. His favourite remedy was the cabbage, which was doubtless often useful as an antiscorbutic, but which, to the *atrox animus* of the old Roman, was precious as enabling a man who dined out to eat and drink his fill without suffering any unpleasant consequences. The homely vegetable also cured constipation and dysentery, headache and kidney disease, strangury, pain in the liver, heart disease, colic, sleeplessness, gout, and consumption. As an external application, too, it was a panacea; it cured cancer, ulcers, gangrene, polypus, deafness, fractures, and dislocations. In fact, he says, *est ad omnes res salubre*. There is no quack medicine of the present day for which so wide a range of healing power is claimed as Cato attributed to cabbage. It seems, however, to have failed sometimes in reducing dislocations and healing fractures. Then recourse was had to a primitive form of mental healing. A green reed was broken in the middle, each part being held by a man in contact with the injured limb; meanwhile the patient sang the following words, *Daries. dardaries, astataries, Dissunapiter*, till the pieces of the reed united: these were then made into a ligature and applied to the limb. This cured the mischief, but every day for some time after the patient had to repeat the incantation already quoted or the following: *huat, hanat huat ista pista sista, domiabo dannaustra*; or *huat, haut haut ista sis tar sis ardannabon dunnaustra*. Whether these are remnants of Etruscan, as Sir Clifford Allbutt conjectures, or whether they are meaningless charms like many of those which were in common use in the Middle Ages, we do not know: but they are as intelligible as the revelations of Mrs. Eddy, and doubtless would have as much efficacy on a patient in the suitable frame of mind as the "treatments" of Christian Science.

Into this atmosphere of folk medicine, which was largely religion, Greek medicine was brought to Rome by Archagathos of Sparta about 219 B.C. He was welcomed by the citizens, who gave him the designation of *Vulnerarius*, and by the Senate, which gave

him a surgery and the citizenship of Rome. He seems to have had a salary from the State. But whether from the jealousy of the conservative section of the Roman public, or from the fatal effects of his surgery, or from the fact charged against him that he exacted fees for his services, his title of *Vulnerarius* was in time exchanged for the less flattering nickname of *Carnifex*.

Pliny, who, perhaps because he was a collector of old wives' cures hated medical art, says that the Romans had continued to do without doctors for six years. Sir Clifford Allbutt produces evidence to show that this statement is false. But it is true that the sterner spirits among the Romans such as Cato, who hated Greek philosophy, included medicine in their dislike. This appears clearly from what he wrote to his son; we quote the translation of Philemon Holland:

> "Concerning these greckes (sonne Marcus) I "will write in place and time conuenient, what "I have found out and knowne by them in Athens: "and namely, that it were good to looke into their "books, and reade them (as it were) by the way, "but in no wise to study upon them much and "learn them thoroughly. I have already giuen "the attempt, and intend to conuince and put "downe the wickedest race and most peruerse and "obstinat kind of them. And learne this of mee, "as from the mouth of a true Prophet, That "whensoeuer this greekish Nation shall bring "into Rome their Philosophie, they will corrupt "and marre all: but let them send once their "Physitians hither, you shall see a greater "wrecke and confusion thereby. For I assure "thee, they have complotted and sworne one to "another for to murder all Barbarians by means "of their Physicke. And euen to effect and bring "this about they will be fed also and take money; "to the end, that both we should trust them the "rather, and they also haue the better meanes to "worke the feat and dispatch folke with more "facility. As for vs, it pleaseth them vsually to "name us Barbarians; yea, and they giue vnto vs "more filthy termes than any others, and mis-call "vs Opiques. Well, remember thou once for all, "that I have giuen thee warning of their "Physitians, and forbidden thee to be acquainted "with them."

Cato foresaw that the introduction of Greek thought would undermine the Republic, as Tacitus and other later observers foresaw that Christianity would sap the foundations of the Empire. He may also have had something of the disbelief in rational medicine which so often goes with a certain kind of hardheadedness. But the Greeks prevailed, and more than a century before Christ we find the famous physician Asclepiades accepted as the leader of a recognized profession, and the honoured friend of Cicero, Atticus, and Mark Antony.

The character of Asclepiades has suffered from the calumnies of Pliny who lived after his day, and from the criticisms of Galen and others, including Greenhill and other modern historians of medicine, who were angry with him for daring to criticize Hippocrates. Sir Clifford Allbutt devotes a considerable part of his second lecture to a vindication of Asclepiades, whom he compares to Boerhaave He was the prototype of the successful physician of modern times—a man uniting charm of manner and general culture with clinical insight and a sound knowledge of the medical art as it was in his day. He was called a charlatan for no better reason than that he substituted for the coarse and drastic remedies which he found in use gentler means, such as regimen, baths, diet, and exercise. It is probable that in his therapeutic system he took the psychic factor into account, for it is known that he had made experimental researches and observations on diseases of the brain.

Space will not allow us to follow Sir Clifford Allbutt through the rest of his lectures: we can only say that they form a most valuable addition to the history of medicine. No thoughtful reader, however practical-minded he may be, can fail to derive instruction, as well as enjoyment, from their perusal.

THE HOUSING AND TOWN PLANNING BILL.

The long struggle over this bill is now drawing to a close, and the debate in the House of Lords, which we summarize elsewhere (p. 1571), shows how the two Houses of Parliament have at last settled their differences, and reached after many conferences a satisfactory solution. Mr. Burns is to be heartily congratulated on the skill and patience with which he has conducted the necessary negotiations, and his reward will be found in the satisfaction he will have in placing so useful a measure on the Statute Book.

When the Lords amended the bill they introduced vital changes as regards the acquisition of lands both for housing and town-planning, and they cut down the large powers proposed to be given to the Local Government Board as the supreme housing authority. The compulsory acquisition of land is always a difficult subject, and the Upper Chamber wished to substitute for the simple, speedy, and inexpensive method in the bill, which was that devised for and enacted in the Small Holdings Act, the more cumbrous and costly method adopted in the Port of London Act. Mr. Burns has succeeded in restoring to the bill the Small Holdings Act methods; but as regards housing in London or a borough or urban district land can only be taken compulsorily after an inquiry by an impartial person as to the suitability of the land and the general amenities connected with it. This inquiry, if it goes against the scheme of the Local Government Board, will compel those seeking to take the land to obtain Parliamentary sanction in the usual way. As such cases will be few in number, the concession was wisely made, and we believe that a great impulse will be given to rural housing and housing in most urban districts by the inexpensive and speedy method of acquiring land which will be available in the great majority of cases. All Housing Acts in the past have failed on account of the expense, and delay, and difficulty in obtaining land, and the new Act will remedy this cardinal defect. The appointment of the impartial person, who is to have all the powers of a Local Government Board inspector, although not in the employ of any Government department, is of course a diminution of the great power originally asked for by Mr. Burns; but it will be found, we have no doubt, to work well, and not add very greatly to the time and cost of the procedure. The Lords, most probably in recognition of this concession, gave up their demand to have housing questions settled by appeal to the county court. To have introduced this change into the bill would have crippled its usefulness and led, most probably, to great variations in practice in different localities. In public health

administration uniformity of practice is essential to success, and it is for this reason that a strong central directing authority, equipped with full scientific knowledge and armed with all necessary administrative powers, is necessary for progress.

The definition of a landlord as a person letting a house to a tenant for his own habitation was amended by leaving out the words "his own." We are still somewhat doubtful as to how this definition will work. The bill would have been better without it, as the Commons thought, for there may under this definition grow up some device by which a middle man may be developed in the housing business, who may be used to protect the real owner from the fulfilment of the obligations necessary for decent and healthy housing. The definition of the working classes which the Lords had introduced and which the Commons could not agree with, has by consent disappeared. This is an advantage, as the object of the measure is to secure healthy housing, and it would be a mistake o limit the action of a local authority by too strict a rule as to the persons to be housed. In the interest of the public at large the wholesomeness of the home should be the first consideration.

As regards town planning, the bill is practically restored to the original form sanctioned by the Commons, with the addition that before a town planning scheme is finally approved by the Local Government Board, notice shall be published in the *Gazette*, and in case of objection made by a responsible person or authority, the draft of the Order will have to be laid before each House of Parliament, so that if an address is presented to the Crown by either Lords or Commons against the scheme it may be stopped. The arrangement about the division of any increase in value of land caused by a scheme between the owner and the local authority equally, seems to us a fair compromise.

On those points which specially appeal to the medical profession as promoting efficiency in the health service, the two Houses have come to a satisfactory agreement. The duties of the county medical officer will be prescribed by the Local Government Board by a general order of that Board, and this order will be laid before Parliament, but the county council will be able to assign such other duties to him as it thinks fit. The information which the county medical officer can reasonably require from a district medical officer will be regulated by the prescribed duties. Lastly, the Security of Tenure subsection, which enacts that a county medical officer of health shall be removable by the county council with the consent of the Local Government Board, and not otherwise, is restored to the bill by the common consent of the two Houses. This is an important victory, won for the profession after a struggle. It sanctions a principle which we believe might with advantage be extended to all sanitary officers in the interests of efficient health administration.

HOSPITAL ABUSE IN SCOTLAND.

THAT hospital abuse exists to a large extent in London and some of the larger towns in England is well known, and that it has crept into Scotland is made manifest by the evidence contained in the Report of the Commissioners on the Poor Laws and Relief of Distress, extracts from which are published on page 1540. That spirit of independence which has been supposed for centuries to be a special gift of the Scottish people seems to be in a fair way of being weakened. The majority of the Commissioners find that people now look to the State to provide for their old parents, while their children are being pauperized by State intervention, providing free education and free feeding, not to mention medical inspection, with its far-reaching consequences in regard to the question of treatment of those pronounced defective. The Commissioners, in discussing the causes of this want of independence in the Scottish people, draw attention to the abuse of outdoor medical charities in large towns by persons well able to pay for treatment, and deplore the want of provident dispensaries or a public medical service on a provident basis; these organizations, in their opinion, have many advantages, providing for members and their families a form of insurance for medical aid by payment of a weekly sum, but at a cheaper rate than if they went to a private practitioner. But even if it be admitted for the sake of argument that the establishment of organizations of the kind might encourage providence amongst the working classes in large towns, we are entitled to ask how their extension to small towns will affect the already too small fees of the general practitioner. A remedy against hospital abuse, and, what is much more likely to happen, the sweating of medical men, is urgently needed. It is a question full of difficulties, and if there ever was a time when it is absolutely necessary for medical men to stand shoulder to shoulder it is the present. The British Medical Association is doing much, and can do more, for the welfare of the profession, but unless all members of the profession will join its ranks and unite in combating abuses which are daily growing up around them the work of committees and individuals will avail little. Unanimity and cohesion must be our watchwords.

THE ASYLUM OFFICERS' SUPERANNUATION BILL.

THE Lords' amendments to this Bill, which covered ten pages, were considered by the Commons late on Wednesday night. The task looked formidable, but the House was in good humour, and as the amendments extended the usefulness of the measure, they were favourably received. After the first three amendments, which were directed to classifying the officers and servants, and altering the period of service from fifteen to twenty years, and the qualifying ages from 50 to 55 had been accepted on the motion of Sir W. Collins, a difficulty arose on the question of privilege. The Lords had added "incapacity" as a qualification for receiving an allowance during its continuance. The Speaker pointed out that this involved extra charges, and that about one-third of the subsequent amendments were barred by the same fact, unless the House chose to waive its rights. The House agreed to do so, and then all went merrily and rapidly. The amendments were accepted without debate or question and the safety of the measure in its extended form assured. The bill soon to become an Act will prove a great boon to a deserving class of officials, who by the arduous and perilous nature of their work deserve consideration, and who will now be placed in a position more in harmony with the grave responsibilities which they undertake in the daily discharge of duty. Sir William Collins has conducted this measure with great tact and skill, and is to be congratulated on placing so useful a measure on the Statute Book.

THE BRITISH NATURAL HISTORY MUSEUM.

WE are glad to see that the question of the administration of the British Natural History Museum at South Kensington has been raised again. Perhaps

every one is not aware of the anomalous state of things which subjects the Director of this museum to the authority of the Principal Librarian of the British Museum at Bloomsbury. Successive occupiers of this latter position, whatever their eminence in literature and archaeology, cannot profess to possess any knowledge of the conditions necessary for the efficient management of a natural history collection, and it is suggested that the recent appointment of a new Principal Librarian and of a new Director of the Natural History Museum affords an opportunity for making these two officials independent in the discharge of their respective duties under the trustees of the British Museum, thus giving to the Natural History Museum complete autonomy and direct responsibility to those trustees. Mr. Adam Sedgwick, F.R.S., Professor of Zoology in the University of Cambridge, has stated that if this suggestion were adopted it would largely meet the views of the zoologists who memorialized the Prime Minister in 1907, and who were received by him in deputation in 1908. From a letter published in the *Times* by Sir Ray Lankester, until recently Director of the Natural History Museum, it would seem that the curious state of things which now exists came about more or less by accident. It appears that when Sir William Flower was appointed the first Director of the Natural History Museum, the then Principal Librarian, Sir Edward Bond, proposed to the trustees that the new Director should be an independent accounting officer, and have no relation with Bloomsbury except in so far as the trustees are the trustees of both institutions. It seems that though Sir William Flower did not desire this complete independence, yet as a matter of fact in all respects save formal passage of his accounts through the accountant's office at Bloomsbury, he was made free from any interference or participation in the discharge of his functions by the Principal Librarian. Shortly after Sir Ray Lankester was appointed Director in 1898 the trustees gave to the then Principal Librarian, Sir E. Maunde Thompson, the title and authority of Director of both museums, and obtained for him an increase in his salary from £1,200 to £1,500 a year. Since then the Director of the Natural History Department has never been allowed to meet the trustees except in the presence of the Principal Librarian. The new arrangement, as was to be expected, proved injurious to the work and progressive activity of the Natural History Museum, and, in view of the increasing importance of parasitology and entomology to medical science, we feel justified in calling attention to the matter, and in endorsing the opinion that if the trustees of the British Museum do not seek spontaneously to revise their regulations it will be necessary to apply to Parliament for legislation removing the Natural History Museum altogether from their trusteeship and placing it under the control of a new body of trustees consisting of persons possessing capacity for a responsibility of this nature. It will also, we fully agree, be necessary that there shall be a full assignment of authority and reasonable tenure of office to the men of science who are the real makers, guardians, and utilizers in the national interest of the Natural History Museum, who order its contents, who assist students, and who are the only advisers of all those departments of the Government which desire efficiency, and this, we may presume, includes, in theory at least, every department.

AN OUTSIDE VIEW OF THE DOCTOR.

In a recent number of the *Manchester Guardian* Mr. G. W. E. Russell, author of that delightful miscellany, *Collections and Recollections*, discourses on doctors. Lacking any other title to fame, he says, he has been heard to boast that he knows by personal experience more about doctors and doctoring than any other man of his age in England. He tells us that he is in his own person a monument of medical practice, and has not only seen, but felt, the rise and fall of several systems of medicine and surgery. Broadly speaking, he says, the doctors of the Fifties and Sixties were as Dickens drew them. "The famous "consultant, Dr. Parker Peps; the fashionable phy- "sician, Sir Tumley Snuffim; the general practitioner, "Mr. Pilkins; and the medical officer of the Anglo- "Bengalee Disinterested Loan and Life Insurance "Company, Dr. Jobling, were in the highest degree "representative and typical; but perhaps the doctor— "his name, unfortunately, has perished—who was "called to the bedside of Little Nell, and came with "a great bunch of seals dangling below a waistcoat of "'ribbed black satin,' is the most carefully finished "portrait. Such, exactly were the family physicians "of my youth. They always dressed in shiny black— "trousers, neckcloth, and all: they were invariably "bald, and had shaved upper lips and chins, and care- "fully-trimmed whiskers. They said 'Hah!' and "'Hum!' in tones of omniscience which would have "converted a Christian Scientist: and, when feeling "one's pulse, they produced the largest and most "audibly-ticking gold watches conceivable by the "horologist's art." The doctors, of the Fifties and Sixties, we are told, had "the courtly manners of the "old school" and adapted themselves, as one might say, to their environment by assuring religious people that "we are fearfully and wonderfully "made," and quoting Latin tags where the intellectual atmosphere was classical. They "exhibited" stimulants with great freedom and on slight provocation. Speaking of the transition of the old type of doctor to the new, Mr. Russell makes the extraordinary statement that the first time he ever fell into the hands of a moustached doctor was in 1877. Every one condemned the hirsute appendage as highly unprofessional, and the wearer found his way into a lunatic asylum, whereat the doctors of the old school were not surprised. Our own recollection of a period somewhat more remote is that the doctor was bearded like the pard, while the medical student was, like Bottom, marvellous hairy about the face. As to clothes, though the frock coat was almost *de rigueur* in the Seventies, we have known famous physicians who saw their patients in velvet jackets or similar easy attire. Mr. Russell implies that "the courtly "manner of the old school" went out *sensim sine sensu* in comparatively recent days. But long before the middle of the century Sir Henry Halford, the ell-backed baronet as he was called, who died in 1844, was ridiculed for making three profound bows to the inanimate body of Lord Liverpool, then Prime Minister, whom he found struck down by apoplexy. This was in 1827. The doctor's manners have become less ceremonious in harmony, with the general relaxation of etiquette that has taken place in society. Mr. Russell amusingly compares the roundabout way of approaching a case of the older school with the direct manner of coming to business of the present generation. He fixes the date of the reaction against alcoholic treatment at January 10th, 1872, when the heads of the medical profession published their opinion that "alcohol, in "whatever form, should be prescribed with as much "care as any powerful drug, and the directions for its "use should be so framed as not to be interpreted as "a sanction for excess." Years after that time, however, stimulants were lavishly given by physicians of the highest reputation. Mr. Russell thinks that quite lately he has discovered signs of a return to earlier practice. His doctor, when he happens to look in

about 9 p.m., submits without resistance to a glass or two of Château Margaux from his patient's bottle. He supposes this is altruism, and that the doctor drinks his portion of poison in order to prevent his patient from taking an overdose. It might be suggested that like the Christian Scientist in Mr. Benson's novel, who cures a laudanum drinker by taking an equal amount of the stuff, he is sharing the bottle to show the harmlessness of the draught.

A BONESETTER'S CURE.

It has often been pointed out that a large part of the bonesetter's art lies in his boldness in breaking down adhesions in cases where the educated surgeon would fear to break a bone. The bonesetter's maxim is that of Danton: *De l'audace, toujours de l'audace.* And, though his violent ways often do damage, he unquestionably sometimes succeeds where more timid methods fail. The following is an instructive example: Dr. Hirigoyen, in the *Journal de Médecine de Bordeaux*, relates that there dwelt at Arcachon, in a magnificent villa, a lady of "a certain age" afflicted with a dislocation of the shoulder of three or four years' standing. She was very timid and emotional, and had never been able while conscious to allow any effort to be made to replace the head of the humerus, and she would not allow herself to be anaesthetized. She went to Arcachon in the hope that the air would cure her infirmity. The local faculty having expressed some doubt as to the influence of climate on such a condition, she made up her mind to leave the place. Her gardener, learning this, said to her, "Madam, do not go "away. I know a very skilful man not far from here "who will assuredly cure you." She at once ordered the great man to be telegraphed for, and soon there came to her a native of the Landes, short, thin, ill-shaven, with large bushy beetling eyebrows over piercing and sly eyes, enormous hands, as hairy as those of a gorilla, a filthy cap and sabots that looked as if they were built on the model of Noah's Ark. On being introduced into the drawing-room, he said at once, "Madam, if you wish me to cure you I must be "alone with you. Chuck all these ——— servants "out." The Countess, though a little taken aback, obeyed him. The bonesetter then rose slowly from an armchair in which he had seated himself, locked all the doors of the room, and sat down in front of his patient. He looked at her steadily and seriously for a moment without saying anything; then all at once be bounded up, raised his immense fist, and made as though he would throw himself upon her. The Countess, half dead with fear, uttered a shriek, quickly raised her two arms to protect her face, and—reduced the dislocation!

SIMPLICITY IN SURGERY.

"Without erysipelas and suppuration surgeons would "be gods," said Velpeau; but M. Richelot, who quoted him the other day, was fain to add: "Erysipelas and "purulent infection have disappeared, yet I believe "that we remain men."[1] M. Richelot has a grievance. It weighs upon his soul that the divine simplicity of genius, when it had banished the incubus of surgery at the behest of Pasteur and Lister, seemed to desert the annals and practice of the art it should have glorified. The very means by which the surgeon of to-day keeps at bay infection is in danger of becoming the negation of all simplicity. The aseptic régime involves an intricate ceremonial that offers every day another and another chance for human error and mechanic fault to break guard. Diagnosis, if ever it were simple, is so no longer. The electrician, the radiographer, the haematologist, and seven others possess and dominate the clinician. Perfect simplicity in surgery, as in women's dress, is supremely difficult of attainment in both cases, and usually very costly; no one can tell in what exactly it consists. Simplicity of practice, says Richelot, is the outcome of sound judgement; and "simple ideas are the fruit of experience," and "the "happiest innovations evolve themselves"; and there is no antagonism, he declares, between progress and that clarity of ideas which leads to simple directness in treatment. The difficulty is to disentangle the progressive idea from the parasitic, to sift the wheat from the chaff. It is austere, even idle, to demand a sound basis for all surgery in physiology and pathology, when the pathology of to-day is no longer that of yesterday, and the new physiology belies its parentage. Perhaps this is the difficulty that has engendered a *chirurgic simpliste* to fall under the lash of Richelot. The "simplicist" has an explanation for all phenomena. For him the apparent is the obvious and the obvious contents him. He weighs a dead dog and finds it no different from the live; he weighs a dead body and it is lighter than the living man; so, he measures the soul. He observes that appendicitis is more frequent in man than in woman; bethinks him that the appendix lies upon the psoas; that the psoas is better developed in the male; so, is it not clear that the psoas plays the appendix tricks which teach it to become infected? Every one has his days of despondency, and it may indeed be that in looking back over twenty-five years of surgery, M. Richelot felt the promise of the earlier years had not been entirely fulfilled. He declares that he was not himself led away, like the "simplicists," into the vain belief that the discovery of a microbe was equivalent to the extinction of a disease. He foresaw that the matter was not so simple. It is, fortunate, perhaps, that same spirit of healthy scepticism still survives; and, though busybodies may run about after strange gods, and vaunt stranger doctrines, yet the great body of surgeons, who are now more and more one family the world over, preserve a singleness of aim and a sincerity of purpose which promise to triumph over a confusion of issues, inseparable from rapid expansion, and to keep the straight road in spite of many divagations by individuals. The springs of surgical conduct are themselves complex and progressive; the medium of craftsmanship is no less variable than life, yet the preservation of simplicity in principle and practice is an ideal never quite forgotten.

[1] *La Tribune Médicale*, October 25rd, 1909.

A GALLANT DEED.

The Royal Humane Society medal was presented on November 16th to Dr. Leonard William Oliver of Ropley, Hampshire, in recognition of the bravery which he displayed in connexion with an accident which occurred some time ago. It appears that two men who were cleaning out a large cesspit had got to within eighteen inches of the bottom, when a third man descended by a ladder, and was immediately overcome by the gases at the bottom. One of his comrades went down to assist him, but on reaching the bottom was himself overcome and fell. The third man, warned by the fate of his comrades, gave the alarm, and the most helpful person the villagers could think of was the doctor. He did not disappoint them, and after burning straw in the hope of getting rid of the gases he was himself prepared to descend when the police constable who had arrived interposed with the remark that the doctor would be of more use at the top. The policeman was then roped and went down to the bottom of the well, but,

finding the weight greater than he could lift, Dr. Oliver went to his assistance, and together they succeeded in getting the two unconscious men to the surface. One Dr. Oliver was able to resuscitate, but the other was already dead. We desire to congratulate Dr. Oliver, who is a member of the Winchester Division of the British Medical Association, on the recognition which his gallant conduct has received from the Royal Humane Society, and he will have been glad that a similar honour was conferred upon the police constable and the resuscitated man.

TREATMENT OF SLEEPING SICKNESS.

Dr. Hodges, P.M.O., Uganda, in a report on sleeping sickness camps from December, 1906, to November 30th, 1908,* recently issued by the Sleeping Sickness Bureau, discusses amongst other matters the results of treatment of sleeping sickness by atoxyl and other drugs. These remarks, based as they are on the histories of the large number of cases that have now passed through these camps, are valuable. He states that (1) the improvement which occurs in many cases has not been maintained in the great majority; that (2) the prolongation of life which results has been of no benefit to the community and of at least doubtful benefit to the patients themselves; (3) that where the measures taken for preventing contact of the sick with the fly are practically complete, as in the Victoria Nyanza epidemic area, the diminution of infectivity produced by atoxyl treatment is of little value; (4) that the number of early cases which have maintained their improvement has steadily decreased and the number of persons likely to be permanently cured is now inconsiderable; (5) that the results obtained from atoxyl and mercury do not at present seem any more likely to be permanent than those obtained from atoxyl alone; (6) that increased experience in the use of organic arsenical remedies, combined with their practically constant supply in a chemically pure condition, has not up to the present brought about any corresponding rate of improvement in statistics; but that (7) it remains true that better results have been obtained from treatment with organic arsenic, alone or combined with other drugs, than from any other method. The outlook, then, according to Dr. Hodges, is not very hopeful, and it will be necessary to persevere in trying to discover other drugs. It is stated in an appendix that cases of defect of vision or blindness following the use of atoxyl and allied drugs have occurred less and less frequently until at present they are quite exceptional. A report by Lieutenant Fraser on the breeding grounds of the *Glossina palpalis* indicates that they are much more extensive than has hitherto been supposed, and this of course must render any attempts at attacking the disease by the extermination of the fly a difficult task. Dr. Hodges believes that the segregation camps have up to the present justified their existence, and there seems no reason to doubt that this is true.

ILLUMINATING ENGINEERING SOCIETY.

Professor Silvanus Thompson, first President of the Illuminating Engineering Society, delivered the inaugural address, in the course of which he said that the main object of the society was to provide a neutral platform for the discussion of questions connected with illumination, affording a common meeting ground for illuminating engineers, and for the medical, architectural, and other interested professions. Professor Thompson sketched briefly the progress of the art of illumination, referring to the fact that in 1819 the authorities objected to the lighting of the House of Commons with gas. There had been a rapid development in the means of illumination, in the distribution of illuminants, and in the measurement of luminous values and photometry. Newton, he said, had placed England in the forefront as regards optics, but in his works there was not a line about the measurement of illumination. Two standards, he argued, needed to be established—an international unit of light and an international unit of illumination. The former was at last being settled, but there was still no common agreement as to the latter. The minimum illumination that could be considered satisfactory in schools was, he contended, 1½ candle-foot. It was useless merely to lay down a regulation that adequate illumination must be provided, for, though the eye could equate, it was quite incapable of appraising. He described various forms of photometers and various aspects of photometric work. He pointed out the common fallacy involved by the misapplication of the law of inverse squares, "so fatally and absolutely mis-"leading if applied to any other than a point source." He suggested various topics for discussion by the society, or by technical committees appointed by it, such as the determination of the geometric laws of radiation, and the specific lightness of various surfaces: there were, he said, many physiological problems, as, for example, what was the greatest brightness that the eye could tolerate; there was much requiring examination in connexion with the illumination of rooms, especially in view of the fact that insufficient illumination was the principal cause of myopia, and especially of progressive myopia. He urged the importance of providing suitable walls and ceilings in the schools, and of securing the presence of a certain amount of shadow.

"SECRET REMEDIES."

Notwithstanding the "conspiracy of silence" on the part of that large part of the public press which lives by quack advertisements, the book bearing this title issued by the British Medical Association, in which the results of a careful analysis of many of the preparations offered to a credulous public as specifics for this or that malady are stated in plain language, continues to command a large sale. We cannot affect to believe that this is a proof of increased enlightenment of the public mind as to the uselessness of these nostrums: we take it that what has opened the eyes of the man in the street to the wiles of the advertiser is the exposure of the way in which he is defrauded by having to pay extortionate prices for wares that could be bought for a small fraction of what he is charged. The population of these islands may, as Carlyle said, be mostly fools; but they are all open to the *argumentum ad crumenam*, and are ready to resent an attack on their pocket. The objection to secret remedies of all kinds is not only that they are generally useless and not infrequently injurious, but that they always cost immensely more than their intrinsic value. The net is spread in the sight of all gulls in the newspapers, and too many of them are caught in its meshes. We have done our best to warn them off, and we have the satisfaction of knowing that to a certain extent we are succeeding. Considerably over thirty thousand copies of the little book have been sold. Many of the purchasers are chemists who keep it on their

* Progress Report on the Uganda Sleeping Sickness Camps from December, 1906, to November 30th, 1908. By A. D. P. Hodges, M.D. Lond., F.M.O., Uganda. With an appendix on Breeding Grounds of *Glossina palpalis*. By Lieutenant A. D. Fraser, R.A.M.C., and Claude H. Marshall, M.R.C.S., L.R.C.P. London Sleeping Sickness Bureau, Royal Society, Burlington House, W. 1909.

counters. All honour to them for their help in protecting the public against fraud and imposture. We venture to suggest that doctors would do well to follow this example by keeping the booklet on the table in their consulting rooms. It would be more useful and more amusing to their patients than the back numbers of illustrated weeklies which are generally provided for their entertainment. In a letter just received the writer describes *Secret Remedies* as "a book which deserves the thanks and gratitude of all mankind." Well, mankind was described by one who thoroughly understood it as made up of "them as has brains and them as hasn't"; and he went on in a burst of frankness to declare that the latter were made to be the prey of the former. The nostrum vendor would doubtless divide mankind into those who make quack medicines and those who buy them. The great principle of the Manchester school of political economists used to be *Caveat emptor*. Our book supplies him with the means of taking care that he is not cheated into buying remedies the therapeutic virtue of which—when they have any—lies in their secrecy.

TUBERCULOSIS EXHIBITIONS.

The success of the tuberculosis exhibitions in Ireland and in Whitechapel has, as we stated recently, encouraged other districts to follow the examples thus set, and we are glad to be able to record this week a further extension of the movement. A tuberculosis exhibition for Chelsea, Fulham, and Westminster was opened at the Town Hall, King's Road, Chelsea, this week, and will remain open until Saturday, December 4th. It is arranged so as to show the extent of tuberculosis, its causation, the unhealthy dwellings in which it lurks, the way in which it is spread, and the way it is prevented and cured. There is a special section devoted to tuberculosis amongst children, containing special exhibits from hospitals for children, including the Children's Sanatorium for Early Cases of Consumption at Holt, Norfolk. At the opening ceremony, Dr. Louis Parkes, M.O.H., Chelsea, said that the exhibition, though full of interesting objects, might have been a great deal more interesting if the Government departments and municipalities had assisted. In Germany all the Government departments interested would have been well represented, but at Chelsea only the War Office appeared. Popular lectures are to be delivered each evening until the close of the exhibition. A similar exhibition will be held in Paddington from December 8th to December 17th, and we may add that Dr. Butler-Hogan, M.O.H. for Tottenham, has been able to arrange for Dr. R. W. Philip of Edinburgh to give a lecture on the prevention of consumption in the Tottenham Council chamber on December 15th.

EDINBURGH AND ST. ANDREWS.

At a recent meeting of the Conservative Association a letter was read from Sir John Batty Tuke stating that he did not intend again to offer himself as a candidate for the parliamentary representation of the Universities of Edinburgh and St. Andrews, and Sir Robert Finlay, K.C., Attorney-General under the last Conservative Government, was immediately adopted as the Conservative candidate at the approaching general election. This seat is one of the few upon which the medical profession has peculiar claims, inasmuch as a very large proportion of the constituency are graduates in medicine. It is often asserted, with what truth we cannot say, that the majority of the members of the medical profession are Conservative in politics, and there may be others who consider that university representation is an anomaly, but all will, we believe, agree that so long as it continues it should not be used as a counter in the game of party politicians. If, therefore, a suitable candidate belonging to the medical profession, and acquainted with its needs and aspirations, comes forward, we venture to think that his claims will deserve the careful consideration of the medical graduates of the two universities, apart altogether from the colour of his politics. It is true, we believe, that Sir Robert Finlay holds a medical degree from the University of Edinburgh, but he is a lawyer, and has not at any time shown the least interest in the profession to which at one time he nominally belonged; in fact, we do not think that we go too far when we say that his attitude towards the profession has been distinctly unfriendly. The position will, no doubt, be cleared within a short time, and meanwhile it seems undesirable that medical graduates should pledge themselves.

VOLUNTARY AID DETACHMENTS.

An address given by Sir Alfred Keogh, Director-General of the Army Medical Service, at a meeting of the council, presidents, and honorary secretaries of the county branches of the British Red Cross Society, held by permission of the King at St. James's Palace last month, has been published by the Society as a pamphlet. Sir Alfred Keogh explained the principles which had guided him in suggesting the formation of voluntary aid detachments in every county. We have already published at some length the general plan recommended, and the arguments by which its adoption has been commended to the country. The problem was to provide an organization for the relief of the sick and wounded in England and Wales in case of invasion, and in the scheme the nature of the work to be done was categorically defined. In his address last month Sir Alfred Keogh said that it was not necessary to suppose that the last word had been said upon the perfecting of the proposed organization; if there were no differences of opinion, there was ample room for such modifications as local requirements might render necessary, the county associations possessing ample powers to make such changes as the county organizers might desire. Opinion was, he said, unanimous that the individuals composing a voluntary aid detachment should possess a working knowledge of first aid and field nursing, and that only after they had gained such knowledge should they undertake the task of acquiring the special knowledge necessary for its adaptation to local circumstances and military needs. The Committee of the County Branch of the Red Cross Society would undertake the formation of a voluntary detachment, and the heads of the detachment would undertake the training of the unit and the development of local plans.

THE STUDY OF CHILDHOOD.

The Child-Study Society has enlisted the co-operation of Professor Karl Pearson and of the Galton Laboratory at University College in a scheme to make a scientific study of certain aspects of child-life. Professor Pearson has drawn up a schedule for studying the factors influencing the social life of the child, to be filled up by heads of families, or teachers intimate with families. It is addressed specially to the upper middle or professional classes, and the particulars to be given include those with regard to father, mother, and at least two children. The object of the inquiry is to discover the extent to which nature and nurture respectively contribute to the character of the child.

The schedule has separate sections for data as to to father and mother, and up to six children, and covers a very wide field, including the liking for indoor and outdoor games or occupations, the books the child likes to read or have read to it, its like or dislike of school, its disposition to lead or to follow, with, in addition, particulars as to general health. Parents who prefer that the actual name of their family should be withheld can fill up a copy of the schedule on that understanding, supplying their name solely to the secretary, who issues the copy with a key number. Copies can be obtained from the Secretary of the Child-Study Society, 90, Buckingham Palace Road, London, S.W., but it seems to be intended to appoint local secretaries.

THE Royal Commission on the Care and Control of the Feeble-minded recommended that there should be one central authority only for the general protection and supervision of mentally defective persons, and for the regulation of the provision made for their accommodation and maintenance, care, treatment, education, training, and control. We understand that the Lord Chancellor has resolved, as a first step in this direction, that the duties of the Lord Chancellor's Visitors in Lunacy shall be transferred to the Lunacy Commissioners, and that for this purpose the present Visitors shall be added to the board.

Medical Notes in Parliament.

The Housing and Town Planning Bill.

THE Housing and Town Planning Bill occupied the House of Lords for over three hours on November 19th.

Before considering the amendments made in the Commons to the Lords' amendments there was a general discussion, initiated by Lord Salisbury, on the concessions made by the Government, which he regarded as insufficient. The supreme position given to the Local Government Board, with which they disagreed in a large measure, remained. A concession had been granted as regards town planning by which a scheme had to be laid before Parliament for thirty days. After a general review of the new position arrived at he advised the acceptance of the compromise proposed. Lord Crewe followed, and Lord Cross and Lord Lansdowne also spoke in the general discussion, which closed with a speech from the Lord Chancellor, who defended the action of the Government in refusing an appeal in housing cases to a county court judge. The motion to consider the Commons' amendments was then agreed to.

Lord Beauchamp having moved that the Lords do not insist on their amendment to Clause 2 respecting the compulsory acquisition of land, Lord Onslow made a protest against the adoption of the plan embodied in the Small Holdings Act for the acquisition of land; but the motion not to insist was agreed to. On Clause 60 (acquisition of land comprised in a scheme) Lord Beauchamp moved an amendment providing that the compulsory purchase should be by the same procedure as that by which a local authority now purchases land in an urban district. This amendment was agreed to, and will have the effect of giving town planning schemes the simpler plan adopted for compulsory purchase in Clause 2. In the first and sixth schedules further amendments in the same direction were agreed to, by which in urban districts the compulsory purchase of land should only be exercised after an inquiry by an impartial person, and unless the Local Government Board agreed to the findings of the inquiry, the matter should be referred to the two Houses of Parliament.

On Clause 10 (power of Local Government Board on complaint to enforce powers), Lord Beauchamp moved that the Lords do not insist on their amendment requiring that an order under Part 3 of the principal Act should not take effect till a draft had lain on the table of both Houses of Parliament for thirty days, and that if either House presented an address against the draft no further proceedings should be taken thereon. He proposed, however, to move that the order, when made by the Local Government Board, should be laid before both Houses. The proposals of Lord Beauchamp were agreed to after a protest by Lord Middleton. A second amendment to Clause 10 made by the Lords was also dropped.

On Clause 13 (power of county councils to exercise powers of rural district council under Part 3), Lord Beauchamp moved that the Lords should not insist on their amendment, which provided that the expenses incurred should be defrayed not out of a county rate, but, if thought well after an inquiry, out of the district. The House of Commons held that this altered the incidence of rates, and was therefore beyond the competence of the Lords. Lord Lansdowne regarded it as an extreme and violent assertion of the House of Commons privilege. Lord Crewe defended the position taken up by the Commons, which was attacked by Lord Salisbury and the Duke of Northumberland. The motion to give up the Lords' amendment was agreed to.

On Clause 15 (keeping houses in repair) two amendments of the Lords were dropped, the second of which set up the county court as an appeal court instead of the Local Government Board. On this point there was an animated discussion, but the amendment was not insisted on, and a Government compromise to hold a local inquiry before dismissing an appeal was accepted.

The amendment which defined a landlord as a person who "lets to a tenant for his own habitation" was by consent modified by leaving out the words "his own." Clause 24, which had been struck out by the Lords, was restored.

On Clause 40, dealing with appeals to the Local Government Board, the Lords consented to withdraw their amendments, the Government inserting a provision for an appeal to the High Court on any question of law. The Lords' amendments as regards back-to-back houses and their definition of the "working classes" were not insisted on. The Lords' amendments to the clauses relating to town planning were not insisted on, but on Clause 57 an amendment by the Government was accepted providing that any question as to a contravention of a scheme should be referred to the Local Government Board, and in case of disagreement, be settled by the Board as arbitrators. On Clause 58 the betterment question was settled by the omission of the Lords' amendment and the insertion of the words "one-half" after "value" in the last line of the clause, so as to give half the increased value to the local authority and half to the landowner. The Commons' amendment as regards compensation was accepted—providing for settlement by a single arbitrator, unless both parties agreed to some other plan.

On Clause 68 (appointment of medical officers by county council) the following new subsection, inserted by the Commons, was agreed to:

> The duties of a medical officer of health of a county council shall be such duties as may be prescribed by general order of the Local Government Board and such other duties as may be assigned to him by the county council.

A further amendment, limiting the information which the medical officer may reasonably require from the medical officer of health of a district to the latter's "duties prescribed by the Local Government Board," was criticized as inadequate by Lord Belper, but the Government refused to concede more, and the amendment was agreed to. A new subsection was inserted, requiring that an Order prescribing the duties of medical officers of health should be laid before Parliament. Lord Beauchamp moved that the Lords do not insist on deleting the subsection providing that a medical officer of health should only be removed with the consent of the Local Government Board. The motion was agreed to.

The Lords' amendments to the schedules were then considered, and, by consent, not insisted on, and the bill has been returned to the House of Commons for final acceptance. It will come on for consideration late in this week.

THE REGULATIONS OF THE MIDWIVES BOARD.

REMUNERATION OF MEDICAL MEN SUMMONED BY MIDWIVES.

AT a meeting of the Branch Council of the General Medical Council for England held on Wednesday last a communication from the Privy Council was read transmitting for the information of the General Medical Council the amendments to the rules of the Central Midwives Board which have been made by that Board with regard to the occurrence of ophthalmia neonatorum and with regard to the conditions under which it is obligatory for a midwife to summon medical help. The amendments are as follows:

Ophthalmia Neonatorum.

Rule E., 14.—Substitute "must" for "should."

Rule 14 reads at present:

"As soon as the child's head is born, and, if possible, before the eyes are opened, its eyelids should be carefully cleansed."

Rule E., 19 (2).—Add new line at end: "Purulent discharge."

Rule 19 (2) (which relates to the conditions in which medical help must be sent for) reads at present:

"(2) In the case of a pregnant woman:
"(*a*) If the patient is a dwarf or deformed;
"(*b*) When there is loss of blood;
"(*c*) Where there is any abnormality or complication, such as:
"Excessive sickness;
"Puffiness of hands or face;
"Dangerous varicose veins."

Rule E. 19 (3).—After the words "complication such as" insert new line: "A purulent discharge."

This rule also refers to the conditions under which medical help must be sent for. The present rule reads as follows:

"(3) In the case of a woman in labour at or near term, when there is any abnormality or complication, such as—
"A malpresentation;
"Presentation other than the uncomplicated head or breech;
"Where no presentation can be made out;
"Where there is excessive bleeding;
"Where two hours after the birth of the child the placenta and membranes have not been completely expelled;
"In serious cases of rupture of the perinæum, or of other injuries of the soft parts."

The Branch Council resolved to inform the Lord President that it approved of the suggested additions to the rules, and further resolved to take the opportunity of conveying to the Lord President their opinion that in Rule E. 19 (3) the line reading "Presentation other than the uncomplicated head or breech" be amended by the omission of the words "or breech," on the ground that this particular presentation is one of special danger to the life of the child.

The PRESIDENT then read the recommendations of the Departmental Committee on the working of the Midwives Act with reference to the remuneration of medical men summoned on the advice of midwives. The recommendations were printed in the BRITISH MEDICAL JOURNAL of August 28th, 1909, p. 558, and it will be remembered that they were to the effect that a secure expectation of payment should be given to a medical practitioner summoned on the advice of a midwife in a case of emergency, that the Poor Law authority should be responsible for the payment, being empowered to charge the fee paid as relief on loan to the patient, and that a list of medical practitioners willing to respond to a midwife's call should be prepared and circulated in every area.

The Branch Council requested the President to inform the Lord President that it had learnt, with much satisfaction, of the recommendations of the Departmental Committee, and desired to urge upon his Lordship, and through him upon the Government, the importance of giving legislative effect to them as speedily as possible.

MR. S. NOY SCOTT, M.R.C.S., L.R.C.P., D.P.H., of Elmleigh, Plymstock, M.O.H. to the Plympton St. Mary Rural District, has been made a Justice of the Peace for the County of Devon.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

SCOTTISH ASSOCIATION OF MEDICAL WOMEN.

THE Scottish Association of Medical Women held its annual meeting in the Café, Edinburgh, on Saturday, November 13th, Dr. Elsie Inglis, President, in the chair. After the business of the year had been transacted by the Council and the balance-sheet submitted and approved, a conference of Scottish medical women was held upon the difficulties that have arisen in connexion with appointments under school boards and public health authorities. Mrs. Chalmers Watson, M.D., made a report on the work done by the Information Bureau of the association in co-operation with the Vigilance Committee of the Association of Registered Medical Women in London, with the view of getting school boards and public health authorities to give equal remuneration to men and women medical officers. Dr. Louisa Garrett Anderson, of London, then gave an account of similar work done in England, reminding those present that strength was to be found in union, and that it was a principle for all women to adopt that equal pay should be given for equal work, and that no disabilities should be imposed on account of sex. Eighteen posts had been dealt with in England where the salary offered to a woman for full-time work was less than that offered for the same work to a man; much valuable help had been given by the Medical Secretary and by the honorary secretaries of the local Branches and Divisions of the British Medical Association, who had caused warning notices against such posts to be inserted in the JOURNAL.

After Dr. Mercer Watson had spoken upon the economic aspect, pointing out that medical women must not regard themselves as philanthropists, but as wage-earners who had to keep salaries up to the local standard and refuse to undersell their colleagues, the local medical men, Dr. Mears spoke upon the ethical aspect of the subject; there was, she said, a strong temptation for doctors to give too much of their services for nothing; but although health must never be put on the same plane with money, definite work should command a definite salary, and skill and experience receive adequate remuneration. Dr. Inglis closed the discussion by commending the loyalty of the younger women who had refused to apply for these posts, and thereby enabled a strong stand to be taken for the benefit ultimately of medical men as well as of medical women. The following resolution was put to the meeting and carried unanimously:

That this conference upholds and entirely approves the findings of the British Medical Association on the question of the remuneration of school medical officers—namely, that the minimum salary for full-time work should be at the rate of £250 yearly, and that for equal work the remuneration for men and women should be the same.

INFECTIOUS DISEASES.

The Local Government Board for Scotland has just issued a Supplement to its Fourteenth Annual Report containing statistics of infectious disease notifications and of mortality.

The returns show that in 1908 the number of cases notified under the Act was 31,930, and that of these cases 20,996 were treated in hospital by the local authorities. It has to be borne in mind, however, that the above figures refer only to disease in respect of which notification is compulsory under the Act, and that they do not include diseases to which the Act has been voluntarily extended by the local authorities.

Small-pox.

Two cases of small-pox were notified in the counties; 80 cases were notified in the burghs.

Typhus.

Ten cases were notified in the counties and 44 cases in the burghs.

Diphtheria, Scarlet Fever, and Enteric Fever.

Cases notified in the counties during 1908: Diphtheria, 1,931; scarlet fever, 5,345; enteric fever, 804. Cases notified in the towns during 1908: Diphtheria, 4,279; scarlet fever, 12,858; enteric fever, 1,525.

Two tables have been prepared from these statements, the one showing for each landward and burghal area the population, acreage, number of births, and number of deaths (*a*) within certain age periods, and (*b*) from certain causes, under 5 years and 5 years and upwards: the other showing the number of persons per acre, birth-rate per 1,000 of estimated population, deaths under 1 year per 1,000 births, and death-rate per 1,000 of estimated population.

The birth-rate in Scotland (landward) in 1908 was 26.7, as against 26.2 in 1907; in Scotland (burghal) it was 27.7 in 1908, as against 27.5 in 1907. The birth-rate was higher in the burghal than in the landward areas of all the counties excepting in Ayr, Fife, Edinburgh, Kincardine, Lanark, Nairn, Peebles, Ross, Roxburgh, Selkirk, Stirling, Sutherland and Wigton.

The death-rate in Scotland (landward) in 1908 was 14.7; in 1907 it was 14.4. In Scotland (burghal) it was 16.6, as against 16.6 in 1907 per 1,000 of their estimated populations. The death-rate was higher in the burghal than in the landward areas of all counties except Argyll, Bute, and Fife. The infantile death-rate in Scotland under one year per 1,000 born was, in 1908: Landward, 103.3; burghal, 128.4. Over all Scotland the different rates per 1,000 of the population at census 1901 was for 1908: Birth-rate, 27.4; death-rate, 16.0; infantile mortality per 1,000 born, under one year 120.2.

Scottish Branch of British Red Cross Society.

The War Office has now sanctioned the scheme submitted by the Scottish Branch of the British Red Cross Society for the formation of voluntary aid detachments for service in the event of war. The proposals put forward by the Scottish Branch differ from the scheme for England and Wales which is now in course of organization. In Scotland the idea is to have a Territorial Red Cross Brigade under the control of the Executive Council. Three districts will be formed, each under a director, while the various counties will be grouped in these districts. The work connected with the general hospitals equipment, etc., will be left to the Territorial County Associations, and will not be taken up by the Red Cross Society as indicated in the War Office circular of May, 1908. The details of the scheme are at present in course of adjustment, the sanction of the War Office to the brigade proposal having just been given.

Royal Society of Edinburgh.

At a general statutory meeting of the Royal Society of Edinburgh, on Monday, November 22nd, it was reported that the Council had awarded the Gunning Victoria Jubilee Prize for the third quadrennial period 1904–8 to Professor George Chrystal, M.A., LL.D., for a series of papers on Seiches, including the Hydrodynamical Theory and Experimental Investigations of the Seiche Phenomena of certain Scottish Lakes; and the Makdougall-Brisbane Prize for the biennial period 1906–8 to D. T. Gwynne-Vaughan, M.A., F.L.S., for his papers (1) on the Fossil Osmundaceae, and (2) on the Origin of the Adaxially-curved Leaf-trace in the Filicales, communicated by him conjointly with Dr. R. Kidston, the committee having read a letter from Dr. Kidston explaining the conditions of their joint authorship. A paper on the Pharmacological Action of Harmaline, by James A. Gunn, M.A., M.D., was communicated by Sir Thomas R. Fraser.

Ireland.

[From Our Special Correspondents.]

Ulster Medical Society.

The annual dinner of this Society was held in the Medical Institute, Belfast, on November 18th. The President, Dr. J. J. Austin, occupied the chair, and upwards of seventy guests and Fellows sat down. After dinner the President gave the loyal toast of "The King," and next of "The Lord Lieutenant and Prosperity to Ireland." He alluded to the indefatigable labours of Lord and Lady Aberdeen to their furtherance of every cause calculated to promote the welfare of Ireland, and to their welcome visit to the recent annual meeting of the British Medical Association. Dr. Austin then referred to the signs of increased prosperity; Sir William Whitla replied, and endorsed the references of the President to Their Excellencies. Mr. R. J. Johnstone, in a characteristic speech, proposed "Our Guests," which was responded to by Dr. Moorhead, President of the Ulster Branch of the British Medical Association; Mr. J. C. Jones, M.A., Principal of the Royal Academical Institution; Mr. R. J. McMordie, M.A.; and Mr. Garratt. Sir John Byers next gave the toast of "The President," and referred to the high rank occupied by Dr. Austin in the profession, and to his recent valuable obstetrical contribution at the annual meeting in Belfast. In his reply Dr. Austin gave many interesting and amusing reminiscences of his student days in Belfast. He proposed the health of the Honorary Secretary (Mr. Howard Stevenson), and accorded him the society's thanks for his many labours as Secretary. Mr. Stevenson replied. During the evening recitations and songs were contributed by Messrs. Rae, McKee, Patterson, and Brennon.

Belfast Medical Students' Association.

The inaugural meeting of the association was held at the Students' Union, Queen's University, on November 19th. Dr. Dickie, the retiring president, introduced his successor, Mr. Crymble, who gave an opening address, Post-graduate Study, remarkable for its clearness and good judgement. He urged the advisability, if it were at all possible, of a year or so being spent in research work as a training for the future, and of residence in some foreign school. Many American doctors spent a session every few years in some large medical centre, and their example might be imitated by their English and Irish brethren. Dr. Gibson, of Edinburgh, then gave an address on University Ideals. A vote of thanks to Dr. Gibson, proposed by Mr. Holmes and seconded by Professor Lindsay, was cordially adopted, and Dr. Gibson replied.

Registrar-General for Ireland.

Sir William J. Thompson, M.D., has been appointed Registrar-General for Ireland in succession to Sir Robert E. Matheson, who will retire on December 1st. Sir W. J. Thompson, who was born in 1861, was educated at Trinity College, Dublin, where he graduated M.D. in 1895; he is Physician to the Jervis Street Hospital and Physician-in-Ordinary to the Lord Lieutenant. He is a member of the council of the Leinster Branch of the British Medical Association and Honorary Secretary of the Women's National Health Association of Ireland.

England and Wales.

[From Our Special Correspondents.]

BIRMINGHAM.

The Huxley Lecture.

The Huxley Lecture was endowed by a friend of the Birmingham University on similar lines to those of the Romanes Lecture at Oxford. The lecture is delivered annually in order that citizens of Birmingham may have the advantage of hearing from a distinguished investigator some recent results of his researches. This year the lecture will be delivered

on December 1st in the Mason College Building of the university by Professor Bateson, F.R.S., of Cambridge; his subject is "Mendelian Heredity."

COMPLIMENTARY DINNER TO PROFESSOR ROBINSON.

The Medical Faculty and Senate of the University of Birmingham, together with a few private friends, entertained Professor Robinson—who, until his appointment to Edinburgh, was Professor of Anatomy in Birmingham—to dinner on November 20th, in the University Club, Birmingham. The Principal of the University, Sir Oliver Lodge, presided over the company, which numbered forty-five, among whom were Professors Barling, Poynting, and Hughes, Deans of the Faculties of Medicine, Science, and Arts respectively, many of the other professors, and some prominent public men. Sir Oliver Lodge proposed the toast of "Our Guest" in the happiest of terms. He spoke of his skill as a teacher, his renown as an anatomist, and his sterling qualities as a man. Professor Barling also spoke and referred to the able assistance Professor Robinson had given him as Subdean during the five years of his tenure of office in the university. He eulogized his services to the school as a teacher, investigator, and administrator. Professor Robinson made an appropriate reply, speaking particularly of the progress which the Birmingham Medical School had already made, and of the promise it gave of still greater progress in the future. A most enjoyable evening was spent, and a right hearty send-off given to Professor Robinson.

THE SPREAD OF TUBERCULOSIS BY INDISCRIMINATE SPITTING.

Dr. J. Robertson, M.O.H. Birmingham, has submitted an important report to the Health Committee on the spread of tuberculosis by indiscriminate spitting. He points out that the sputum of persons suffering from phthisis is by far the greatest source of infection, and that for practical preventive purposes no other human source of infection need be seriously considered. By the compulsory notification of all cases of phthisis coming under the care of the board of guardians, and by the voluntary notification of private patients by medical men in Birmingham, probably 60 to 70 per cent. of all cases of advanced tuberculosis of the lungs are known to the health authorities. These patients are visited and advised as to how to dispose of the sputum, and warned with regard to the danger of indiscriminate spitting. This, however, only touches the fringe of the general distribution of infection by sputum, for on an average every person suffering from phthisis has probably been spitting out the living germs of tuberculosis for at least a year before notification. The result is that there is a considerable amount of living tuberculous infection strewn on footpaths and other public places and in the dwellings of the patients. One hundred sputa picked up from the streets of Birmingham by a labourer in the employ of the health department were examined by Dr. Higgins, and 7 per cent. of the spits examined showed the presence of the bacillus. The instruction given to the collector was to collect yellow-coloured spits and to use only one sterilized outfit for each sputum, so that there might be no contamination. In Liverpool 5 per cent. of the sputa thus examined were found by Dr. Annett to contain virulent tubercle bacilli. The tubercle bacilli are found to be alive in the majority of instances, and capable of resisting the influences of desiccation and exposure for varying periods up to several months. The sputa in the streets are spread by the boots of pedestrians and taken into houses and offices; the dresses of many women become contaminated, and it is probable that infection is occasionally carried in this way if skirts are brushed in the bedroom.

Dr. Robertson suggests that spitting in the streets should be forbidden by by-laws, except in the channels and street gullies. He thinks that any general attention drawn to this subject will probably cause the majority of persons who are now addicted to unnecessary spitting to abandon it altogether. Notices requesting persons not to spit indiscriminately have been attached to lamp-posts, in omnibuses, and tram-cars, and in public-houses, factories, workshops, and places of public resort. In Birmingham, what is known as the model by-law against spitting in public places has not been adopted. This by-law is as follows:

No person shall spit on the floor, side, or wall of any public carriage, or of any public hall, public waiting room, or place of public entertainment, whether admission thereto be obtained upon payment or not.

Any person offending against the foregoing by-law shall be liable to a penalty not exceeding £5.

Dr. Robertson does not recommend the adoption of this by-law as he does not think that it would have much more good result than is obtained by what has already been done in Birmingham. A short account is given of what is being done in certain American cities, and the following account of the Sanitary Code of New York is a typical example of it. Spitting is forbidden in public places, of which a long list is set out. The corporations or persons owning or having management or control of such places are made responsible for the posting of suitable notices against spitting and for calling attention to the provisions of the by-law. Violations of this by-law carries with it liability to pay a fine of 50 dols. Dr. Bensel, Sanitary Superintendent, writes under date June 1st, 1909:

This section of the code is enforced by the summary arrest of offenders wherever found, and has resulted in a remarkable decrease in the spitting habit. Enforcement of a law of this kind can be made effective only by the summary arrest and the immediate fining of offenders in the police courts.

It has not been the policy of the department up to the present time to publish the names and addresses of persons who have been arrested and fined, but I strongly believe that ultimately it will be considered advisable to adopt this means of informing the public of the consequences of violating the spitting ordinance.

This department has also caused signs to be placed in the stations and in the cars of the elevated railroads and subways, and in all public conveyances, calling attention to the fact that spitting is a misdemeanour, and that offenders are liable to arrest and punishment. These signs have been a great help in preventing spitting.

LONDON.

INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

THE Education Committee, in a report to the London County Council on November 23rd, stated that it had deliberated as to the usefulness of examining those children who were about to leave school, as required by the Board of Education in the 1909 code. Although treatment might be commenced while the child was at school there was no guarantee that it would be followed up afterwards. It appeared to the Committee, therefore, that the age at which the second examination prescribed by the Board should take place should be twelve years, in order that the children might be kept under observation, and if possible obtain treatment while at school. In this connexion the Committee had considered the possibility of some children about to leave school needing advice as to the kind of work best suited to them physically, and had instructed the head teachers to draw the attention of the school doctors to children who appeared to need such advice. The Council decided to ask the Board of Education to vary the code as suggested by the Committee. The report of the Education Committee on the result of the applications to hospitals in London with regard to the treatment of school children was only reached at a late stage of the meeting, and was consequently postponed after the chairman had stated that he was anxious that the matter should be settled at the next meeting of the Council.

FEEDING OF SCHOOL CHILDREN.

The London Education Committee was asked on November 24th to approve an additional estimate of £25,000 to meet the expenditure in respect of the provision of meals for necessitous children. It was stated that the number of children fed this winter showed a great increase as compared with last year. During

the week ended November 12th the number fed was 41,934 as compared with 22,430 in the corresponding week of 1908. The report led to some discussion. Mr. Whitaker Thompson inquired if sufficiently stringent inquiries were made in all cases, and pointed out that last winter it was the experience that the number of children fed increased in the months subsequent to November. The Rev. Stewart Headlam, as a member of the Care Committee, declared that the inquiries made were most stringent. Mr. Jay, an ex-chairman of the Care Committee, drew attention to the extent to which the provision of meals was supplementing out-relief given by the guardians. At present the parents received out-relief, but the Care Committee denied the adequacy of the amount and gave the children free meals. The Care Committee was pressing the Local Government Board to take this matter into consideration and to advise. The supplemental estimate was approved.

What becomes of London Children?

The report of the Education Committee showing the extent to which scholars leaving London elementary schools drift into unskilled labour (summarized in the British Medical Journal, November 13th, p. 1433) was considered by the London County Council on November 23rd. The Committee made no definite recommendations for giving effect to its conclusions (1) that the school age should be extended to 15 years, and (2) that compulsory part-time classes should be attended by young people up to the age of 18, but invited the Council to express the opinion that if new duties connected with education were entrusted to local authorities corresponding Government grants should be made. The majority, however, declined to go as far as this, and an amendment substituting the words, "the Council, while not expressing any opinion on the suggestions contained in the report," was carried. The Committee was also instructed to consider the desirability of conferring with the Board of Trade with a view to the establishment of employment agencies for children leaving school in conjunction with the new labour exchanges.

In another report the Education Committee dealt with a proposal of the Finance Committee that the provision of centres for teaching domestic economy to girls be restricted to ten a year. The Education Committee pointed out that at this rate it would take twenty-six years to meet present needs, and many thousands of children would be unable to receive instruction which would enable them to become efficient "home-makers." The Rev. Dr. Scott Lidgett warmly supported a proposal to increase the rate of provision to 20 per annum, urging that it afforded an opportunity of dealing with the cause of the malnutrition of children—namely, the ignorance of their mothers in matters of health, cleanliness, and the preparation of food. The Council, however, decided to restrict the rate of building to 10 centres per annum.

MANCHESTER AND DISTRICT.

The Milk Supply of Manchester.

It appears from a correspondent in the *Manchester Guardian* that certain statements in Professor Delépine's lecture on the milk supply of Manchester, alluded to in this column last week, have caused considerable resentment among the Cheshire farmers. These statements were to the effect that while about 16 per cent. of the farms supplying the city have at one time or another sent tuberculous milk, Cheshire was the worst in this respect. Professor Delépine gave percentages of farms sending tuberculous milk, which varied from about 10 per cent., for an area about Hellifield and Clitheroe, to over 29 per cent. for an area of Cheshire south of Manchester. The Secretary of the Cheshire Chamber of Agriculture says that though he is not in a position to challenge Professor Delépine's statements, and though it was the duty of the Manchester officials to keep a keen oversight on the supply, no good and possibly much harm would result from the publication of sensational reports. He believed that most of the rural councils of Cheshire carried out the provisions of the Dairies and Cowsheds Act in a praiseworthy manner, and thousands of pounds were annually being spent in improvements. Mr. R. Shepherd, who owns the largest herd of milking cows on any one farm in England, refused to believe that Cheshire was more affected than any other county, and expressed the opinion that cows were well housed and cared for in the majority of cases. He admitted that there was room for improvement, but thought that the Government would have to provide funds at a reasonable rate of interest to enable tenants to remodel their cowhouses where landlords refused. To combat tuberculosis effectually, national action must be taken and compensation paid as an imperial charge.

Professor Delépine has thought it well, in view of the irritation caused by some of his remarks among the Cheshire farmers, to write to the *Manchester Guardian* on November 24th explaining that he had not intended to make any indictment against Cheshire farmers specially. He had pointed out that there had been great improvement in the Cheshire farms during the last twelve years. In one district of Cheshire, for example, he had shown that between 1902 and 1909 the percentage of farms sending tuberculous milk had been reduced from 28 to 5.7 per cent., a much greater improvement than had occurred in many districts of other counties. He had not been criticizing the intentions of the farmers, but only some of the methods on which they often relied.

During the year 1908 the food and drug inspectors for Manchester took samples of milk supplied by 289 farmers. Of these, 173 reside in Cheshire, and 20 of them (11.56 per cent.) sent tuberculous milk; 32 live in Derbyshire, and 2 of them (6.25 per cent.) sent tuberculous milk; 39 live in Staffordshire, and 3 of them (7.7 per cent.) sent tuberculous milk; 3 live in Shropshire, and none sent tuberculous milk; 34 live in Lancashire, and 1 of them (2.94 per cent.) sent tuberculous milk; 8 live in Yorkshire, and 1 of them (12.5 per cent.) sent tuberculous milk. These figures, of course, confirm in the main Professor Delépine's statements, for though the percentage for Yorkshire is the highest, the small number of farmers makes it no fair comparison. It is interesting to learn from the annual report of the health of Manchester that the difficulties the farmers labour under in the matter of compensation for tuberculous cattle is fully appreciated. Mr. Baittlebank, Veterinary Surgeon to the Corporation, accepting what the farmers seem to acknowledge, that any scheme for payment of compensation without contribution was unjustifiable, drew up a scheme by which farms should be graded into three classes—Good, Fair, and Bad. Each farmer was to pay a definite sum yearly for each head of cattle to a compensation fund, the deficit to be found by Government. The good farms were to have a compensation limit of, say, £15 a cow; the fair farms of £10; and the bad farms of £7. All farmers would pay at the same rate, but as they effected improvements would be entitled to promotion to the class next above. He also suggested that when a farm obtained a certificate of absolute freedom from tuberculosis, it should be placed in a separate division and freed from liability for the poll tax; any subsequent risk would then be entirely with the farmer himself. Thus compensation in perpetuity would be avoided. It was further suggested that any such scheme should be compulsory and under legal restrictions.

WALES.

Housing and Alcoholism.

Sir Victor Horsley delivered an address to a meeting of medical men and students held in University College, Cardiff, under the presidency of Dr. Biddian, on November 15th. In the course of his address, which was illustrated by diagrams and tables, Sir Victor Horsley claimed that the enormous advance represented by a proper system of medical inspection

of school children, the teaching of school children how to observe the ordinary rules of health, and how to know really what temperance was, and the provision of definite machinery for carrying all this out, was really effected by the medical profession. He considered, therefore, that it had done, during the past six years, a very considerable work for the nation. Sir Victor proceeded to say that he did not believe the nation was rapidly deteriorating physically. It should be a question of statistics, but there were no statistics. Measurements of children on a sufficient scale were not now obtainable, but in future they would be obtainable. Mention was made of the work of the House of Commons Committee, which made diligent search into the cause of physical degeneration, and produced a report of immense value. The conclusion that the Committee formed by way of solution of the problem was that the unsatisfactory physical condition of the people was dependent primarily on two factors. One was the indifferent housing of the working classes, and the other the question of alcohol. The two things were interdependent. If a man was housed in a slum he would naturally go to the "pub." The best attempt that had yet been made to deal with the housing question—namely, by Mr. Burns's bill—had, in respect of its medical clauses, been mutilated by the House of Lords. He hoped very much that by the negotiations which were understood to be proceeding between the two Houses these clauses, which had the full support of the British Medical Association, would be reinserted, and that the House of Lords would be persuaded to withdraw from the position it had taken up. Turning then to the question of alcohol, Sir Victor said that personally he believed that every medical man—without using sentimental words—to be really patriotic, ought to be a total abstainer. It was not a purely medical question; it was a social question. They were citizens and they were ratepayers, and they had the right to look at it from the point of view of economic statistics. Members of the medical profession brought to the question a special knowledge of the lives of the people—a knowledge which was not acquired by any other profession. He did not suppose that even the members of the medical profession who drove about the streets all day long ever realized to what extent the nation was overwhelmed by the drink trade; he did not believe they had any idea of how many places there were in which alcohol was sold. It was perfectly idle to pretend that there were so many public-houses in order merely to meet the needs of the people. The poverty of the people was due to this parasitic growth on the community. Sir Victor Horsley quoted figures showing how the gross income of the nation increased by 50 per cent. every ten years. There was plenty of money in England, but it was not in the right pockets. He was glad that the expenditure upon whisky had come down about 30 per cent., but the nation still spent £180,000,000 every year on drink. In other words, it spent every year eight thousand times the amount that would guarantee the rebuilding of ten thousand houses for the working classes. The nation was crushed by its expenditure on alcohol, and the medical profession ought to do its best to put an end to such a state of things. It was a well-known fact that abstainers lived longer than non-abstainers, and the death-rate among publicans had gone up during the last five years, due to some drinking more whisky than beer. The statistics of friendly societies showed that, while abstainers claimed for 6.4 weeks' sickness, non-abstainers claimed 10.9. The moral was obvious: the selfish man who indulged himself in alcohol compelled the honest man—the abstainer—to pay for his medical attendance. These were facts which bore upon the physical health of the nation; they were facts which medical men ought to lay before the people. The use of alcohol was being discontinued in medical practice. Alcohol, he said, was not a food, and it was not a useful drug. He invited those present to join in the temperance work which was being done by the British Medical Temperance Association, under whose auspices the meeting was held.

A vote of thanks to Sir Victor Horsley was proposed by Dr. Herbert Vachell, and seconded by Dr. Maclean, and a similar compliment to Dr. Fiddian for presiding was passed, on the motion of Sir Victor Horsley, seconded by Dr. Crawford Treasure, the local honorary secretary.

A HOUSE FAMINE.

There is a great scarcity of dwellings at Brynamman, an industrial centre situate in the upper part of the Amman Valley. On the Black Mountain side of the town a number of families have erected shelters for themselves made of corrugated iron sheets, which are always available in districts where the tinplate industry flourishes, whilst on the Glamorgan side families are camping out, having pitched their tents on the common land. The recent severe weather has not, of course, been at all congenial to these people, but, as one of them remarked, "What is to be done?" Though the building trade is brisk at Garnant and Glanamman, there are scores of families in apartments, and the same conditions prevail at Ammanford. There is not a model lodging-house in the whole of the Amman Valley, and it is stated that no fewer than thirty of the tramping labouring class were found sleeping out at the brickworks and tinworks in the district. There is a great need for working men's cottages in the Amman Valley.

COLLIERY AMBULANCE CAR.

Mr. E. Evans Bevan, J.P., presided at a lecture on "Mining in Many Lands," given by the Director of Mining Instruction under the Glamorgan County Council, on November 18th, at Seven Sisters. In the course of his introductory address the Chairman stated that he was prepared to present to the workmen of his collieries an ambulance car, with suitable stretchers. He would also keep a horse specially for the use of the car, and one of the workmen would have such duties as would enable him to be always available to attend to the horse and car in case of accidents. All he required in return was that men should train themselves in the ambulance classes, so as to become efficient to render proper first aid and keep the car in good condition. The usual vote of thanks was passed.

Natal.

THE COOLIE QUESTION.

A REPORT on ankylostomiasis, drawn up at the request of his authority by Dr. Burton Nicol, Medical Superintendent of the Indian Immigration Trust Board, has been issued. From a prefatory note, signed by the Secretary of the Board, it would appear that the Government of Natal, recognizing the detriment to the public health likely to arise from prevalence of the disease in question, issued last year instructions that all coolies brought from India under indenture to work in the colony found infected with ankylostoma should be relieved thereof before landing. This regulation imposed upon the Board a heavy expense owing to the detention of coolies for considerable periods, and it therefore decided to send its own medical superintendent to India to inaugurate a system for treating the coolies before shipment, and to obtain materials for a report on the whole question. The result is the document under consideration, which is somewhat lengthy, and not too easy to follow in its argument. A great many opinions are quoted on the subject, conveying the impression that the presence of ankylostoma in the human subject is not regarded by their authors as a matter of importance, and throughout the whole compilation the reader is invited to believe that cases in which only a moderate number of worms are present and those in which they are present in the intestine in such number as to produce obvious ill-health are totally different things. In this connexion it is stated that in India the great majority of the whole native population is infected with

ankylostoma, but that it is not usual for health to be affected thereby, or for the subject of ankylostomiasis to be regarded as of any particular interest now in that country or anywhere else. It is also suggested that cases of profound anaemia and other undesirable consequences of ankylostoma infection only occur in countries where the general conditions are favourable to the independent life of the parasite, and it is stated that such conditions do not prevail anywhere in Natal. As for the prevalence of ankylostomiasis in that country, it is argued that any belief that the disease constitutes just cause for alarm is merely due to misstatements born of malice or ignorance. If ankylostomiasis were spreading, the most drastic measures, it is admitted, would be justifiable, but coolies have been imported for many years past, and there is no evidence that the disease is more prevalent than formerly, and the death-rate from it during the past five years has been only 0.33 per 1,000. Finally it is pointed out that there are other ways in which ankylostomiasis may be imported into Natal besides the coolie trade, and it is suggested that if the medical and other officers of the board are forced to pay so much attention to ankylostoma, other undesirable conditions in coolies may be overlooked.

The report is admittedly written for the information of laymen, and has been printed for circulation among those interested, in the hope of allaying the alarm aroused in Natal by what has been said as to the dangers of a general prevalence of ankylostomiasis within its borders through the importation of coolies from India. In this direction it will doubtless have a considerable effect, but all the statements are not likely to pass unchallenged. With regard to the comparative unimportance of many cases of ankylostoma infection so far as the individual is concerned, it is true that since the ankylostoma does not multiply within the human body an individual who only has a moderate number of these parasites in his intestines may not suffer severely thereby, but the same individual may nevertheless prove capable of infecting with severe ankylostoma infection a whole village, should such village be not provided with well-kept latrine accommodation which is habitually used. There is also considerable variety in the nature of the conditions in which the ankylostome is capable of flourishing outside the human body, and the report contains no serious attempt to prove that suitable conditions do not exist within the area of Natal. The argument derived from death-rates is scarcely convincing, for it would appear that it was not until 1904 that any death from ankylostomiasis was ever reported at all; and it is not every one who would regard a death-rate of 0.33 per 1,000 from a freshly-recorded and avoidable cause of death as insignificant. The report, in short, certainly does not offer any grounds for accepting its author's statement that the Government of Natal has disregarded medical authority in this matter, or that the regulations which it has laid down on the subject are unjustified. It may be that there are other doors open for ankylostomiasis besides that which lets in coolies, but the administration can scarcely be blamed for endeavouring to close the largest of them. The responsibility on the shoulders of the medical advisers of the local government is very heavy, and in dealing with the disease they should be left free to choose among plans theoretically available that one which seems to them best suited in the precise circumstances of the colony. Their liberty of action is the more imperative since the report of the Immigration Commission does not appear to make any suggestion likely to lead to any material alteration in the existing control and supervision of coolie labour.

THE new botanical laboratories at University College will be opened on Friday, December 17th, by Dr. D. H. Scott, F.R.S. The Vice-Chancellor (Professor M. J. M. Hill) will preside. Applications for tickets of admission should be made to the Secretary, University College, London, W.C.

Correspondence.

MEDICAL RELIEF IN THE HIGHLANDS AND ISLANDS OF SCOTLAND.

SIR,—As one of those "who drive in a comfortable carriage or motor car," and who has been intimately acquainted for forty years with the miserable conditions of medical relief in the Highlands, may I be allowed to say a few words on the subject?

In discussing this matter there are two distinct questions to be considered, undoubtedly closely interdependent, and yet different. One is that of public health, and the other the professional position of our brethren who do the ordinary work of doctors amidst the struggling population in our far-off northern islands and on our stormy sea coasts.

The picture drawn by the Poor Law Commission, and even that painted by local medical men, is more sombre by a great deal than the facts warrant. Take the island of Lewis, to which Drs. Macdonald and Ross in their remarks particularly refer, and assuming, as we are bound to do, that the bills of mortality are the ultimate test of the sanitary condition of any population, and what do we find? I have gone over the returns for the last twenty years, and they show that the death-rate in Lewis per annum amounted on an average to the figure of 16.875 per 1,000 living, which every statistician must allow to be evidence of a very fairly satisfactory state of public health.

I quite grant there is room for much improvement in the ordinary condition of things in the Lewis. But is not that the case, taking the country all over? I also allow that isolation hospitals might be of advantage in checking the spread of some infectious diseases. On the other hand, unless accompanied by compulsory notification of measles and whooping-cough, their effect would be but small in the total mortality from *all* infectious diseases—these two forms of zymotic complaints adding many more to the death-roll than all the other notifiable diseases put together.

Turning now to medical aid. Let me say, first, that the number of uncertified deaths is no sure evidence of the dearth of such assistance. I know one parish where no less than six doctors at least could be readily called in. Here, in most years, 50 per cent. of the whole deaths occur without a single medical man having been in attendance.

The truth is, there is something altogether rotten in the present system of providing for medical and surgical attendance in certain "congested" districts of the Highlands and islands of Scotland.

I have used the term "congested." It really implies that the ordinary system of rate support—and along with it taxation and representation—do not apply, not only not to the point we are discussing, but to the ordinary support of the poor, and, as the Government allows, to the education of the children there in general.

Parliament must step in with financial help, and, as a corollary, Parliament must have a hand in the control and management, just as it already insists upon securing in the case of education.

The great desiderata, as you, Sir, point out, are, first, a proper house for the doctor, and, secondly, a sufficient salary. It is a disgrace to our profession that men—I confess, mostly young men—are found ready to apply for such posts for so miserable a pittance as is too commonly offered. And if older men are found willing to undertake the work, how is it possible to hope that they are likely to be all that their employers expect? Hence, in some measure, it must be allowed, lies the cause for dissatisfaction with their services and their dismissal, to the scandalizing of every one concerned.—I am, etc.,

November 22nd. W. B.

A PUBLIC MEDICAL SERVICE FOR HAMPSTEAD.

SIR,—At a meeting of the local profession held on Saturday, November 20th, at the Central Library, Arkwright Road, under the auspices of the British Medical Association, and by the courtesy of the Libraries Committee of the Hampstead Borough Council, a public

medical service for Hampstead was successfully inaugurated by the adoption of rules and the enrolment of members.

The service is the outcome of an endeavour to co-ordinate upon a sound footing the contract medical work in the district, and to provide medical attendance and medicine for persons unable to pay the ordinary medical charges in the usual manner. The aim has been to organize a scheme which would be acceptable to the profession generally, with as little interference as possible with existing institutions, and to make it easy for clubs and provident dispensaries to affiliate themselves to the public medical service.

As this is a comprehensive scheme to put into medical hands the conduct and control of a variety of medical charity hitherto controlled by non-medical bodies, its progress will no doubt be watched with interest by medical men in all Divisions of the metropolis.

The work of organization has been very arduous, and the difficulties, as was to be expected, have been great, but not insurmountable by united effort. This preliminary statement will be followed by a more detailed account of the scheme, which might usefully and profitably be imitated by other metropolitan Divisions of the British Medical Association.—I am, etc.,

W. B. Parsons,
Honorary Secretary, Hampstead Division, British
London, N.W., Nov. 24th. Medical Association.

STRESS AND SHOCK AS CAUSES OF INSANITY.

Sir,—I was greatly interested in reading a statement made in the last issue of the British Medical Journal: "At one time 'moral causes,' including shock or fright, took first place in the returns made to the Board of Lunacy among the etiological factors; to-day many medical superintendents return hardly any cases under the head of 'mental stress.' . . ."

Only those who are actively engaged in asylum work know the difficulties with which one has to contend in obtaining satisfactory histories in cases of insanity. In pauper asylums a large percentage of patients are transferred directly from workhouses, where they are often friendless and unknown, and, beyond a few bald statements regarding age and occupation given by the relieving officer, one has no definite data on which to base a conclusion as to the causation of these patients' mental diseases. Again, one is often surprised, when interviewing a near relative of a patient, at the ignorance displayed concerning such patient's parents or relations. Though evidence of insanity may not be wilfully withheld, there is always an inherent reluctance in admitting it. In attempting to obtain a history of syphilis—as in many cases one naturally cannot rely on the statements of an insane patient—a relative will frequently deny any knowledge of such infection. To cite a case in point: Some time ago I interviewed the widow of a general paralytic, at whose autopsy I found well-marked syphilitic lesions. She had been compelled to give up her work as a schoolmistress, owing to loss of voice. Examination showed that she was suffering from syphilitic laryngitis, yet she could give me no idea when infection had taken place, and had attributed her hoarseness to a bad cold. All medical men know the type of patient who, when questioned as to previous illness, will wax eloquent, and give an exhaustive epitome of his past ailments and their attendant symptoms; but, when attempting to extract useful information regarding the causation of an attack of mental disease, one often meets with the greatest difficulties, and I am certain that if more accurate histories could be obtained it would be found that shock and mental stress play a much larger part in the causation of insanity than is usually suspected.

I have recently had under my observation two cases that can certainly be classified under these two headings. A platelayer, employed on the railway, was struck by an express train and hurled up the embankment. He was found lying unconscious, with a compound fracture of the forearm, and conveyed to the infirmary. Whilst in that institution he became miserable and depressed, was subsequently certified and sent to the asylum, where he made a rapid and complete recovery. The other case was that of a young electrical engineer employed at a colliery. Having finished work, he was about to start home, when, in the absence of his "chief," he was summoned to attend an electrical coal-cutter that had broken down. He worked for twenty-four hours continuously before the job was completed, and, having no one in authority to appeal to in his difficulties, he was kept at high mental pressure all this time. He eventually returned home after working nearly thirty-six hours without rest, and, though physically fatigued and mentally worn out, he could not sleep. In the course of a few days he developed auditory hallucinations, which necessitated his removal to the asylum, where he recovered satisfactorily in a few weeks.

In both these cases, though the most careful inquiry was made into the personal and family histories, there was nothing other than shock and mental stress to account for their mental breakdown.

If any one cares to study the painful details and histories of many cases of suicide that figure so largely in the daily press, one cannot get away from the fact that mental stress is a most important etiological factor in the causation of insanity, and must be acknowledged by all students of mental disease.—I am, etc.,

Guy R. East, M.B., D.P.H.,
Morpeth, Nov. 22nd. County Asylum.

THE INTESTINAL FUNCTION.

Sir,—As a general practitioner, I find the British Medical Journal very interesting, though it "takes one all his time" to keep up to it. I suppose there is no occupation of which it is more true that the worker must be a "perpetual student"; indeed, one of my acquaintances said to me, "We have to go to school again every week"! To me, at least, this is true: almost every number of the Journal brings fresh light or, at any rate, helpful and suggestive observations upon one or more subjects of special interest to one's self; often upon the very case in hand one is most needing such help for.

For instance, in a recent number (July 10th) we have the original observations of Dr. Stacey Wilson on the colon. These are of special interest, for they undertake to describe, for the first time that I have seen, the *feel* to the clinical examining hand of the normal and abnormal caecum and sigmoid flexure. In interpreting these observations, Dr. S. Wilson invokes an entirely new theory of muscle action—namely, that at least the unstriped muscular fibres of the bowel both *push* and *pull*, that they can lengthen as well as shorten! If this becomes a substantiated fact it will have far-reaching effects, and its recognition should greatly advance our efficiency as practitioners.

A question I should like to ask is: Does not the large intestine in mankind consist of two portions—diverse in function, in anatomical and physiological relations, and in disease? I have proposed the names Colon and Omegon, the former comprising the ascending, transverse, and descending portions; the latter the so-called sigmoid flexure and the rectum. It would be very helpful if clinicians would bear this in mind, and observe and record any distinctions that can be demonstrated between, for instance, the caecum and the sigmoid in the light of this new theory of perverted muscular action. When I was a student in the London Hospital "perityphlitis" was in vogue: twenty years ago appendicitis got its innings, and latterly we have been learning much about the sigmoid—its angulations, stricture, diverticula, prolapse, and "peri-diverticulitis." Meanwhile the physiologists have been defining the functions of the alimentary tract and its various divisions, and unravelling its complicate and hitherto undreamt-of movements, by experiments on animals, and by the *x* rays. But do we even yet realize as we might the ideal, normal rôle of the so-called "large intestine"? I think if we had a clearer idea of the *normal* we could better observe and differentiate the *abnormal*, and I therefore wish to refer to my description of the human alimentary canal as five retort-like portions, in series: (1) The mouth and gullet (*laimon*); function, deglutition. (2) The stomach—fundus *plus* antrum (*gastron*); function, "digestion," primary, of the meal—the gastric "mill." (3) "Small intestine" (*enteron*); function, the main digestion, absorption, etc.—the most vital part. (4) Part of the so-called

"large intestine" (*colon*), corresponding to the "proximal" *plus* the "intermediate colon" of the comparative physiologists; function, secondary digestion, especially of vegetables, further absorption of water, etc., excretion—and the newly discovered vital relations, bacterial and lactic acid effects, good and bad. (5) The sigmoid flexure and rectum (*omegon*), the "distal" and "terminal colon" of authors; function, defaecation; also further excretion, and occasionally absorption. This last division of the human alimentary canal being a unique possession of mankind, its mode of action and normal functions cannot be learnt by experiments on animals, and I therefore welcome the new observations as a help to the endeavour to discover the true ideal site and rhythm of this, the most neglected and probably incompletely "evoluted"—if one may use the word—part of the canal. When we have thus discovered the normal, we may hope to be able to deal scientifically with the prevention and cure of the far too prevalent evil, constipation—a cause contributory to ill health and a condition of many diseases the number of which is continually being added to.—I am, etc.,

Leeds, Nov. 19th. J. Tregelles Fox.

A NATURAL EXPERIMENT IN CARDIAC STRAIN.

Sir,—I am indebted to Dr. Theodore Fisher for his frank statement of disagreement with my paper on cardiac strain in boys. Unfortunately, we appear to differ on matters of fact rather than of opinion, and this being the case, it is difficult to perceive any common ground for argument. There are, nevertheless, certain points in his paper which tempt a reply, and I can, moreover, justify some of the facts he disputes by evidence not included in my paper.

Dr. Fisher finds the size of the heart difficult to determine in children: he complains that the right "auricle is covered by lung, and continually emptying itself," and he has shown on several occasions in the *post-mortem* room that "dullness to the right of the sternum appears to be a deceptive factor in examination of the heart." On all these points I beg to differ from him. I hold that the size of the heart, in so far as the deep dullness represents this, is *not* difficult to ascertain in children; the lungs are not voluminous, as in the adult, the chest wall is thin, and *light* percussion well carried through with a single finger should enable any one with normal hearing and tactile sensation to outline the heart on the chest wall. I am aware that percussion is so badly and carelessly performed by many that the necessary accuracy is not to be expected, but so skilled a clinician as Dr. Fisher certainly does not fall into this category. The contractions of the auricle mentioned by Dr. Fisher seem to me to offer no more practical obstacle to percussion than do passing telegraph poles to the view from a train window.

As for the results of *post-mortem* examination, on which he relies, it is by this very proof that I have acquired confidence in the accuracy of heart measurement in children by percussion. If the deep dullness is carefully mapped out by this means and knitting needles inserted along its borders *at right angles to the surface*, it is astonishing how exactly the heart's outline may be traced. Since the chest wall is rounded and the heart's borders deep in the chest, it is, of course, obvious that the actual heart is not so large as its surface area of percussion. This fact might lead one to think on viewing a heart in an opened thorax that from its small size it could not have given any dullness to the right of the sternum. If this is the reason for Dr. Fisher's views, he will find on inserting needles as described, *at right angles to the surface*, that the surface outline of the child's heart commonly extends 1½ in. to the right of the middle line. That the surface outline is larger than the actual heart hardly impairs the accuracy of this measurement in comparing heart with heart, or the same organ with itself under other conditions, such as those of strain. In conditions of pigeon-breast, to be sure, the discrepancy may be too great to permit comparison with children of normal chest build, and such cases should be passed over.

Dr. Fisher goes on to say that to him "the most certain sign of the presence of dilatation of slight degree in the heart of the child is the appearance of murmurs." Here again, I fear, we entirely disagree. In my experience, apical murmurs are not uncommon in later childhood, are nearly always cardio-pulmonary (best heard just outside the apex), and bear no relation to cardiac dilatation. Any cardiac excitement will bring them out, they are common where hypertrophy is present, and where constant, may be, I think, due to pleural adhesions. True insufficiency murmurs I have only encountered in conditions of advanced dilatation. Systolic basal murmurs I regard as of still less significance. A rough pulmonary murmur can generally be produced by deep and prolonged expiration, and is not infrequently audible at the end of natural expiration in the healthy. Dr. Fisher seems to show, while speaking of these murmurs, some inconsistency with his incredulity, previously expressed, as to cardiac dilatation in children. He says: "Apical and basic systolic murmurs, although very common in quite young children, always indicate, I believe, the presence of dilatation"—an admission, surely, that cardiac dilatation is very common in quite young children, though he appears to doubt its occurrence in older children under stress. My own experience is the contrary, though I am far from holding that the lesser degrees of enlargement discoverable to skilled observation are necessarily of any practical import. I can but deplore, however, Dr. Fisher's implied encouragement of such adventures as a 20-mile walk and 600-ft. climb for girls of elementary school age and physique. I do not believe that such unaccustomed exertions can lead to anything but harm, and I greatly regret that the public can quote medical authority in favour of the continuance of such harmful excess.—I am, etc.,

London, W., Nov. 16th. Clive Riviere.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

Sir,—I could only add new material to the discussion on this question by referring to the highly-disputable arguments and deductions from cardio-vascular records by which the theory of the auricular systolic rhythm of the crescendo murmur is supported, many of these records, in my opinion, proving the opposite to that for which they are used. This would require more space than could be afforded by the correspondence columns of the Journal, which have already been largely occupied with the discussion, though not more so than the importance of the question at issue warrants, when it is remembered that nearly all the modern teaching as to the interpretation of the cardio-vascular phenomena of mitral stenosis depends in great part on the indisputable truth of the auricular systolic rhythm of the crescendo murmur.

I should, however, like to point out that I have always looked upon the ordinary mitral diastolic murmur as being "formed by blood being driven through the stenosed orifice, under those forces which fill the ventricle and by the contracting auricle (when it is able to join in),[1] and that this is not a recent admission, as Dr. Taylor suggests. Sir John Broadbent, as I understand him, confuses rising pitch with increasing force in his explanation of the cansation of the former characteristic of the murmur. Dr. Samways discusses the question from a point of view which I do not feel competent to deal with. Although I fully appreciate the value of the criticisms on my work of Dr. Taylor and Sir John Broadbent, I think that I may claim to have shown that the auricular systolic rhythm of the crescendo murmur is highly disputable, and that there are some very strong arguments in favour of the early ventricular systolic, or presphygmic rhythm of the murmur. This means, of course, that any teaching based on the former theory must be received with due caution.

In conclusion, I should like to correct an error in my letter to the Journal of October 23rd by which I wrote "Dr. Roberts" for "Dr. Taylor." Having been brought up on textbooks by Dr. Frederick Roberts and Dr. Frederick Taylor, and always associating the two names, I carelessly wrote one name for the other and overlooked the mistake in proof.—I am, etc.,

Manchester, Nov. 21st. E. M. Brockbank.

[1] British Medical Journal, August 28th, 1909.

INTERMITTENT CLOSING OF CEREBRAL ARTERIES.

SIR,—Several letters have appeared expressing agreement with or acquiescence in the views contained in a post-graduate lecture on the above subject which was published in the BRITISH MEDICAL JOURNAL of October 16th, while in your issue of November 20th one letter has appeared from a writer holding other views. I thank your correspondents, and assure them I was interested in the points they dwelt upon. I have particularly to thank Sir Lauder Brunton for his courtesy in sending me a copy of the interesting pamphlet he referred to in his letter.

It may, I think, remove some misunderstandings if I state that the first paper I wrote on this subject was read at the Medico-Chirurgical Society of Edinburgh on May 1st, 1901, and was published in the *Transactions* of the Society and also in the *Lancet* of June 1st, 1901. Since then papers bearing upon the subject have appeared under my name in the BRITISH MEDICAL JOURNAL, the *Practitioner*, and the *Lancet*. At the end of 1907 Messrs. Green and Sons, Edinburgh, published my book on *Arterial Hypertonus, Sclerosis, and Blood Pressure*. In that book I discussed at greater length than was possible in a lecture, and gave examples of, varied cerebral manifestations which, I submitted, could only be satisfactorily explained on the hypothesis of local spasm of cerebral vessels. The strong support given to this hypothesis from observations made on retinal arteries is dealt with there, although Mr. Priestley Smith's observations are only indirectly referred to.

With regard to Dr. Parker's letter in the JOURNAL of November 20th, I would assure him that I have long been fully conversant with the views he represents and expresses in his letter. For the explanation of many clinical phenomena referable to the brain I consider them entirely unsatisfactory. Dr. Parker will find the subject dealt with at some length in the book referred to. The hypothesis continues to gain support not only from my own experience, but from the assurances I have had of the practical value of it when intelligently used as a guide to treatment.—I am, etc.,

Edinburgh, Nov. 20th. WILLIAM RUSSELL.

THE BLACK DEATH.

SIR,—I am much obliged to your reviewer for his courteous reply. Such a formidable army of recognized historians must be enough to frighten any one who was not possessed with a large amount of filial piety, and I must admit he has scored a point; but if he will allow me, I will try and prove that his last sentence in reply is not borne out by my father's writings. His contention was, I believe, that the question of labour and wages had a far greater influence in the formation of history than most students believed, and his conclusions stated in his books and reprinted lectures were come to from his unique collection of facts published in his *History of Prices and Agriculture in England*.

As your reviewer says, the references of the Black Death are scattered through his writings, and only deal with the economic effects that followed, may I ask him to give further study to my father's writings, and suggest that he might turn to p. 263 of the *Economic Interpretation of History*, where he will find that the Black Death "emancipated the serf and it demoralized the Church. It gave occasion to the teaching of Wiklif, and assured the Reformation." These incidents are more than economic ones.

Chapter VIII. in *Six Centuries of Work and Wages* (published 1884) will repay your reviewer's attention, where the emancipation of the serfs is more fully treated, and reference is made to the decline of morals and learning among the secular and regular clergy, both in this country and in Italy and France. "The Black Death formed an epoch" (p. 224) must refer to something more than the relationship between the employer and labourer.

It is, perhaps, not unnatural that a book that treats with the history of six centuries should have only scattered references to one great event, but the whole of one chapter out of twenty is devoted to the great famine of 1316 and the plague of 1348.

As a third reference, vol. i of the *History of Prices and Agriculture*, published in 1866, will show that my father was fully alive to the effects of the Black Death. One quotation is enough: "In England it forms an era in the history of personal and political freedom." Surely these are more than economic effects. And as a fourth may I ask your reviewer to turn to a small book, *The British Citizen*, published in 1885, Chapter XII, entitled, "The Events which Assisted the Serf."

It is not for me to cross swords with your reviewer on what does or what does not make history; whether social and economic advances have made England what it is; or whether wages and labour constitute the whole life of the people. Suffice it to say that the main effect of the Black Death was to destroy feudalism in this country, and created a class of owners of land from which the great middle class, the backbone of England, has sprung.

I will concede to your reviewer that his array of historians have overlooked the point in question, but I am afraid my filial piety still makes me believe that my father had anticipated Abbot Gasquet in recognizing that the Black Death was the "turning point of our national life."—I am, etc.,

Clifton, Bristol, Nov. 21st. BERTRAM M. H. ROGERS.

SIR,—It is, I fear, undeniable that historians, as a rule, have given but scant attention to the importance of the Black Death, as to its influence on the general evolution of the race. This has now been prominently brought forward in a comprehensive manner by Abbot Gasquet. At the same time, I think most of the separate factors of this influence have been discussed, not by writers on general history, but by those who have taken up special branches. Its effect upon the relations between capital and labour, it is true, were those chiefly insisted on by Professor Rogers, and afterwards by Brentano (Preliminary Essay on English Guilds), and C. Walford; but there have been other references which were not entirely confined to the economic aspects of the plague. Hecker, the author of *Epidemics of the Middle Ages* (published by the *Old* Sydenham Society), also wrote a separate monograph on the Black Death, in which he draws marked attention to the mental and moral effects of the epidemic on the nations of Europe; and although I cannot claim to have written a history, I have, more than a quarter of a century ago, in a paper on Pestilences: Their Influence on the Destiny of Nations,[1] devoted several pages to this very subject—namely, the tremendous effect of this particular outbreak on the religious life of this and other countries, and its importance as a factor in the Reformation of the Church, as well as its effect on European literature.—I am, etc.,

London, S.W., Nov. 19th. J. FOSTER PALMER.

*** It should have been stated that the first edition of Abbot Gasquet's book appeared in 1893.

COLDS AND THE HARDENING PROCESS.

SIR,—In your note (p. 1488) I fear that there are several statements which might induce your readers to believe that for delicate individuals and children the hardening process is not to be advised. In what I take to be an editorial comment you state "there is no reason why robust adults should not follow their beliefs and inclinations in this matter, but for adults who are not robust and for children the hardening process is not free from risk." Surely, the open-air treatment—a special application of the "hardening process"—is the most efficacious of all hygienic methods for the treatment of phthisical cases, and phthisical patients can hardly be described as robust. Further, in the treatment of children, and even of quite young infants, there is no procedure that gives such eminently satisfactory results in the prevention of chills, colds, bronchitis, and cold feet, as the systematic training of the heat-regulating and vasomotor mechanisms by carefully graduated exposure to variations in temperature. Infants, children, and non-robust individuals represent, in fact, the very classes which should be selected for treatment by the "hardening" method, the first two because they can be so easily educated and the latter because their want of robustness is often determined by their incapacity to accommodate themselves effectually to changes in temperature.

The hardening system is often condemned by medical men and others who have taken no opportunity to study

[1] *Transactions of the Royal Historical Society*. New series. Vol. i, pp. 247-252.

the inestimable benefits that can accrue when the educational regimen is applied in a rational and scientific manner.

The co-ordinated distribution of blood to the various organs or parts of the body, in accordance with the physiological requirements obtaining from moment to moment, is the combined duty of the vasomotor and heat regulating centres. These centres, though automatic in action, must be trained and educated: for instance, at the time of birth the infant is practically a cold-blooded animal; that is to say, its temperature falls and rises in a manner more or less parallel with that of the surroundings. But despite the haphazard experiences in temperature variation to which they are normally exposed, these centres soon attain to a fair degree of functional efficiency. If, however, the early lessons in thermic education are systematically applied, the efficiency of the mechanism is correspondingly increased. All who doubt this statement can easily convince themselves of the truth by trying the simple experiment of reducing the temperature of an infant's bath by one degree each day. At the end of a few weeks the stability of the vasomotor and heat regulating mechanisms will have improved in a very remarkable degree, as can be proved by the use of the clinical thermometer or by any other test that suggests itself to the experimenter.

To imagine, however, that exposure of one part of the body—say the legs or head—and envelopment of the rest in cotton-wool, or the sudden application of the cold bath, constitutes a hardening system, is a very unfair interpretation of a genuinely valuable mode of treatment. Any violent or sudden temperature stimulus must dislocate, at least temporarily, so delicate a nervous mechanism as the heat-regulating centres. The more violent the stimulus, or the more inefficient the centre, the greater will be the disturbance produced. I take it, when we speak of "chill," we mean nothing else than the temporary disorganization of the functions of the heat-regulating centres by the supermaximal stimulation of cold. We certainly ensure against such dislocation by the scientific application of the much-abused "hardening system."—I am, etc.

London, W., Nov. 19th. ERIC PRITCHARD.

AMBULANCE LECTURES AND VOLUNTARY AID DETACHMENTS.

SIR,—I have an invitation card and two pamphlets before me marked with the Red Cross. I received these on October 18th as a form of advertisement, since my name was not placed on the card of invitation. The two pamphlets (*a*) The British Red Cross Society, Medical Organization in Case of Invasion; (*b*) British Red Cross Society, Hampshire Branch, Voluntary Aid Detachments, Territorial Forces.

Being a member of the medical profession, a specialist, and, not least, the Vice-Chairman of the Winchester Division of the British Medical Association, I dislike this unethical way of soliciting my professional services. Already I have given my services voluntarily to the Royal Army Medical Corps, but I have no intention further of lecturing during the time of peace to the Territorial Army without compensation, that is, without a professional fee. I am not enamoured of the present military system, and will feel uncomfortable when the invasion occurs. Thus it is obvious I advocate conscription or some modification of it.

The remarks of the Representative of the Cleveland Division on ambulance lectures and voluntary aid detachments in the issue of November 6th, and also a criticism by another writer in the following week's publication, deserve the close attention of this great organization, the British Medical Association. The voice of this body of the profession is heard wherever British medicine is practised. Its backbone is solely the hard-worked, generous-hearted general practitioner. The British Empire would collapse without him, and in more ways than being dependent upon him for professional services.

All post-graduate work requires time and money, and if gentlemen in the R.A.M.C. and I.M.S. are allowed this, why should not the same be extended to the civil members of the profession? When we consider these days of stress and competition, with their attendant annoyances and discomforts, human nature will step in, since the law of self-preservation is at stake.

The exploitation of the profession of medicine by all sections of society is a growing evil in all its departments. The time has arrived for us to assume the defensive and make an appeal to our professional countrymen. If no bill of the State is at hand to protect us, then we must take guard. We must oppose the assaults of the charlatan, and complain to our government, the British Medical Association. It is time for us to demand a regular wage, and not accept, as we do, a half hearted coin of the realm in return for our skilled services. As a body of gentlemen we are as strong as the House of Lords; and, as an intelligent educated class, able to dispute by eloquence of speech the tongue of the House of Commons.

The State in this country systematically employs and engages members of the profession into the military service. It pays them a good wage and gives them a varied life, and at the end provides for their old age in the way of a pension. Compare this with the lot of the civil practitioner. The idea, then, of the military authorities seeking voluntary aid from the civil members of the profession is at once false and yet peculiar to military manners—sentimental. If the army medical officers are worthy of their pay, so, I contend, are civil medical officers in general. In a few words, every man is worthy of his hire. If army medical officers are not allowed to starve, why should their professional brethren on the civil side? It is a false, illogical, sentimental argument to expect the civil medical gentleman to give his services to the State for no pay, when, on the other hand, his military-clad professional brother is getting good pay for the same. I beg to support the discussion, and I feel sure I shall have followers in my Division.—I am, etc.,

THE VICE-PRESIDENT, THE WINCHESTER
November 17th. DIVISION.

THE POOR COUNTRY DOCTOR.

SIR,—Allow me to call attention to two matters that are of considerable importance to country practitioners. The dispensary doctor is the leading element in both. The first is the readiness with which dispensary men allow themselves to be used by the police authorities in the matter of sudden calls. At present if any police case turns up the dispensary man is sent for by the police authorities without any legal ticket whatever, and hurried off, it may be, in the middle of the night without fee or reward. The usual prompt attendance of the dispensary man is in the majority of cases inexcusable, for in such there is no prospect of any future gain. In a small percentage of cases there may be such expectation, but why should they go for nothing on the strength of future expectations? It is undignified and unprofessional, it is monstrous that the police authorities should be aided and abetted in carrying out their high-handed rule in this respect. Quite recently I am aware of their invading the grounds of a public institution provided with a doctor of its own and deposing the latter in favour of their own nominee. The friendly relations between the two medical gentlemen rendered public personal criticism impossible.

The other matter is the stark-naked ruin which not merely threatens but has laid the icy hand of Death on the incomes and status of the entire country medical element. Here the dispensary man, too, is the sinner by sending up all his well-to-do patients to homes and hospitals in Dublin, London, and other big places. There is a certain percentage of surgical cases whose rarity makes metropolitan hands necessary, but outside these the parties could be as well attended to in the country, and their being sent off is solely due to the most short-sighted of jealousies. "Dispensarian" deprives himself of his patient rather than bring in a local consultant. Would the dispensarii reflect on this, and if they do they will realize their folly.—I am, etc.,

November 16th. MEDICUS HIBERNICUS.

THE PROFESSION AND THE STATE.

SIR,—I, in common with about fifty other medical men, accepted the invitation to meet the direct representatives on the Medical Council at St. James's Vestry Hall last Monday. The usual failure to square the circle resulted, and again was demonstrated to a certainty the impossibility of a body like the Medical Council, whose interests are academic, being able intelligently and sympathetically

to comprehend the disabilities under which the general practitioner daily struggles. Our representatives had to hark back thirty years to find material on which to raise a discussion. We were asked to congratulate the Council on its success in preventing the spectacle sellers exhibiting a pseudo qualification after their names; but, Sir, the spectacle seller and eye tester still exists in multitudes of jewellers' shops now. The bone setter still flourishes abundantly, although the Council still will not allow him to flourish any letters after his name; and the herbalist is not yet extinct. Hospital reform is still untouched, and now that the out-patient department is patronized by Royalty it will no doubt soon become a fashionable lounge.

It is an established and incontrovertible fact that no body of men have ever had any moral force or political influence until they have welded themselves into a union with parliamentary representation; social laws are as true as the Darwinian hypotheses, and the sooner we recognize these facts the better.—I am, etc.,

London, S.W., Nov. 23rd. JOHN FLETCHER.

THE ROYAL COLLEGES AND THE UNIVERSITY OF LONDON.

SIR,—The three sections that follow give the working points, or an *Explanatory Rider*, to the resolution of the Fellows and Members of the Royal College of Surgeons of England for the junction of the Royal Colleges with the University of London (p. 1583).

1. The Royal Colleges should formulate a definite *policy*, place it before the Senate and the Royal Commission, so as to help to institute a complete medical faculty for London. And they should be prepared to apply for a charter for the union with the university.

2. The "*Part*" of the colleges, referred to in my resolution, was to uphold the first agreement with the university to reciprocate certain conjoint medical examinations under the University Act. It could give the respective titles of M.B., M.R.C.S., and M.B., B.S.; and with an extended examination or thesis for the M.D. The Fellowship class of F.M. or F.S., and the Honours class of M.D.Hons., could both be retained, at least at first. The matriculation, too, of both sides would have to be accepted in London for a provisional period. But after these provisional years had expired, the consolidated university regulations would have to be conformed to. Now, as the Act of Parliament and the clauses under which power is sought cannot possibly apply *only* to the Senate of the University, I do think, if any opposition be improbably encountered, that the Royal Colleges of Surgeons and Physicians may enforce it in a High Court action. The question of the retention of the presidents and councils as managerial officers might be asked for, and, being the historic councils to promote this Great Reform, they ought to remain, but after the transition the voting could be left to the votes of the university.

3. The junction of the Royal Colleges with the University of London, also referred to, was meant to emphasize the one essential point—to offer the whole of the Royal Colleges of Surgeons and Physicians to the University authorities with terms. Any further support and expenses would be defrayed by the University with a Governmental grant or subsidy, and which, so far, they alone have received whilst the collegiate members have not.

Late alternative schemes still continue to be launched. The worst mire of Pluto's Hades used to be allocated to such plagiarists, but in these rapid days all too many evade the old gentleman's attentions at the gate. The old idea to join only University and King's Colleges to the Royal Colleges and University, is altogether too late. They have already been quite capable of looking after their own junction, so that idea is supererogatory. Besides, all the hospital schools have an equal claim to be included as schools in the combined medical faculty; and they, therefore, are more identified with the claim of the Royal Colleges. Again, it is beneath serious notice to suppose that, as degrees are accessible elsewhere, therefore London students *must* seek them abroad. Foreign degrees amount to merely cramming, and are not registered in England. So the only course open—and the Senate of the University is perfectly able to evolve a plan—is to meet this absolutely necessary provision of a university course for the medical students of London, instead of forcing them abroad or to the provincial universities. The latest jumble by a patriarchal warden of the Society of Apothecaries for its few students relies on the sudden and phœnix-like structure of a universal Government university. Their sham university, like themselves, may perhaps remain one of the old landmarks, but, none the less, a fading institution, and unadapted, but, unlike the Royal Colleges of Surgeons and Physicians, on the other hand, who are for a substantial part in the reformed medical faculty in a combined University of London.—I am, etc.,

Bognor, Nov. 20th. H. ELLIOT-BLAKE.

LONDON HOSPITALS AND SCHOOL CHILDREN.

SIR,—Mr. E. Rowland Fothergill has written to me calling my attention to his letter to you of November 8th (BRITISH MEDICAL JOURNAL, November 13th, p. 1439), which I had not seen. In answer to the first portion of his letter, perhaps it would make the matter clear if I explained that the *modus operandi* of the London County Council in regard to the school children is as follows: After examination by the London County Council medical officer, if it is found that treatment is necessary either for eye, throat and ear, or skin diseases, the parents are notified; if, however, the parents neglect to provide such treatment either through their own private practitioner, or other sources, the London County Council make inquiries, and if they find the parents are unable to provide the necessary treatment, send such children on to the various hospitals with whom they have made arrangements for treatment. In the case of St. George's Hospital, and doubtless in the case of other hospitals as well—but I am unable to speak from actual knowledge—we have reserved the right to make any inquiries we may think fit for ourselves in the case of any children sent, and if it were found that the parents were in a position to pay, representations would immediately be made to the London County Council on the subject.

In regard to the second portion of his letter, if Mr. E. Rowland Fothergill will kindly give me the name and address of the patient to whom he refers, I will inquire into the matter and let him have an answer, but obviously I cannot trace the case without more particulars.

I much regret that such an expression as "Such instances occur almost every week" should be used. It is unsatisfactory to all concerned, and I would ask your correspondent to be more particular if he expects me to take notice of such statements. In all cases where it is known a patient has been attended by a private practitioner he is written to by the Almoner and asked with regard to the case before they are finally accepted for treatment. Obviously many conceal this fact from us, and if Mr. Fothergill was not written to he may be sure the fact was not known. The governors of St. George's Hospital have always done their best to prevent abuse of the institution, and were one of the very first to start an almoner department, and deserve, I think, something more definite than a statement of this kind, which is calculated to give an entirely wrong impression. —I am, etc.,

A. WILLIAM WEST,
Treasurer and Chairman of St. George's Hospital.

London, S.W., Nov. 24th.

Public Health
AND
POOR LAW MEDICAL SERVICES.

DISINFECTION OF CLOTHING.

M. O. H.—Upon a strictly literal interpretation of Section 120 of the Public Health Act, 1875, and of Section 6 of the Infectious Disease (Prevention) Act, 1890, a sanitary authority could no doubt require clothing, etc., which had been exposed to infection but had been subjected to disinfection, to be again disinfected, but it would be unreasonable for the authority to do so if the medical officer of health had certified that the clothing, etc., had been efficiently disinfected.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE annual meeting of the Fellows and Members of the Royal College of Surgeons of England was held on November 18th at the College, the chair being taken by the PRESIDENT (Mr. Butlin).

The PRESIDENT placed before the meeting the report of the Council for a period from August, 1908, to August, 1909,[1] and in the course of his remarks on it referred to the proposed combination of the College with the University of London to secure a degree in medicine for the average London medical student. The College, he said, would do all in its power for the benefit of students in the metropolis, and would give evidence before the Royal Commission on University Education in London which had been recently appointed. In regard to the admission of women to the Membership and Fellowship examinations, the necessary alterations had been made in the by-laws, and had been approved by the Home Secretary. The President also referred to the efforts made to secure payment to medical men called in by midwives in cases of emergency under the Midwives Act, and he expressed his opinion that the existing condition of things in that respect was a great hardship on medical men.

Dr. W. G. DICKINSON referred to the paragraph of the report in which the following words occurred: "The property of the College is not vested in the existing Members, but in the body corporate." He asked the President for a definition of the term "body corporate." Was it a "spook" or some sort of imaginary body to be alluded to when convenient?

The PRESIDENT replied that the "body corporate" was the past, present, and future Members of the College.

Dr. DICKINSON then asked if the proposed scheme with the London University had fallen through.

The PRESIDENT said that the scheme of the proposed combination with the University of London had not fallen through, but it appeared that the Senate of the University of London was not inclined to do anything in the matter while the present Royal Commission on University Education in London was sitting.

Mr. F. COLLINGWOOD asked for a statement as to whether the question of the Members of the College having a part in the administration of the College had ever been before the Council.

The PRESIDENT replied that the question had been before the Council on more than one occasion.

Mr. JOSEPH SMITH then moved:

> That this twenty-fifth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council, which as now constituted does not represent the whole corporation; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

He said that his motion had been before the meetings of the Fellows and Members for the last twenty-five years; it had been carried in most cases unanimously, and in other cases with a very small minority voting against it. The motion was supported, not only by the Members of the College, but also by a vast number of enlightened Fellows. It must be quite clear to the Council that the condition of things was such that it could not possibly continue. It was absolutely wrong that some 17,000 Members of the College should be ostracized in the manner that they were at present. The Council received the resolution of the Members year after year, and replied simply with a *non possumus*, giving no reasons whatever for their conduct. In the BRITISH MEDICAL JOURNAL a letter had recently appeared in which a clear and broad statement of the position was put forward by a writer who signed himself "Fiat Justicia Ruat Coelum." He trusted that that motto would guide the President of the College when he retired into the Council chamber and considered the motion that he (Mr. Smith) was putting before the meeting.

Mr. COLLINGWOOD, in seconding the motion, pointed out that medical students had been driven away from London to study for their medical degrees in provincial towns.

Dr. W. H. DAY asked where the College would be without its Members who provided the income. The time had come when the 17,000 educated men who were the Members of the College would be forced to appeal to Parliament or otherwise bring influence to bear to demand justice.

Dr. S. WILSON pointed out that if the Council granted seats to four of the Members of the College on the Council, then the disabilities and complaints of the Members could be brought to the notice of the Council.

Mr. H. ELLIOT-BLAKE spoke in support of the motion, and Mr. C. G. J. WILKINSON declared that the Members were neglected by the College, giving a sad description of the hard conditions of life in which a large number of the Members of the College were working.

Mr. S. W. OWEN pointed out the disability under which Members of the College laboured in courts of law when giving evidence, by reason of the fact that juries were continually being told that Members of the College were not doctors.

Mr. W. W. STOCKEN said that the membership question would settle itself by the gradual extinction of the College, unless something were done to stop medical students going to the provinces, where they could get a degree in medicine.

Dr. DICKINSON said that the question was not whether the Members would be represented or not on the Council, but it was when that representation should come into effect.

Mr. Joseph Smith's motion was then put to the meeting and carried *nem. con.*

Dr. A. S. MORTON then moved:

> That in fulfilment of the promise made by the President of the College, this meeting strongly urges the Council to impress upon the Government the necessity of amending the Midwives Act next session, in order that provision may be made to secure just remuneration for professional services rendered by medical men under this Act.

He said that unless the College had supported the Midwives Act it would not have become law. The members of the Council did not practise midwifery; if the members of the College had representation on the Council it would be able to learn the true condition of affairs.

Mr. DAY seconded the motion, and Mr. STOCKEN, in speaking in support of it, said that in his practice midwifery cases had dropped from 100 a year to 17 in consequence of the passing of the Midwives Act. The practitioners were called in to the difficult cases and received no payment.

Mr. COLLINGWOOD said that the responsibilities and the expenses of the general practitioner were increasing without any corresponding addition to his remuneration.

The PRESIDENT described his early experiences as an assistant in a country practice when he attended midwifery cases. He had been informed by the Chairman of the Central Midwives Board that now was the time for the College to send in representation to the Privy Council to say that the College approved of the recommendation in the report of the Departmental Committee on the working of the Midwives Act. The opportune moment had arrived for the Council to approach the Government to press forward the question of the payment of medical men called in by midwives under the Midwives Act; and he assured the meeting that it was fully recognized that it amounted to a misfortune all the whole country that medical men were not paid when called in by midwives. The President concluded by stating that he would bring the subject before the meeting of the Council in December.

The motion proposed by Dr. Morton was then put to the meeting and carried.

The following motion, proposed by Mr. H. ELLIOT-BLAKE and seconded by Mr. BRINDLEY JAMES, was carried:

> That the Council of the Royal College of Surgeons of England, through their Joint Committee of Delegates, and when it is found necessary, and in any agreement with the Royal College of Physicians of London, be asked to approve of and promote a new charter and Act of Parliament to incorporate the Royal Colleges of Surgeons of England and Physicians of London so as to form Royal Colleges or parts of the University of London.

[1] This report was noticed in the BRITISH MEDICAL JOURNAL of November 6th, p. 138.

UNIVERSITY OF CAMBRIDGE.

Professorship of Biology.

THE Council of the Senate will on Monday, January 17th, 1910, proceed to the election of a professor of biology in succession to Professor Bateson. Applications must be made to the Vice-Chancellor on or before January 10th, 1910.

A Laboratory for Experimental Psychology.

The special board for Moral Science has called the attention of the Senate in a report to the need of more adequate accommodation for the laboratory of experimental psychology. At present, the report states, this department is housed in a damp, dark, and ill-ventilated cottage at 16, Mill Lane, the property of the Syndics of the University Press, who allow the department to occupy it. It is estimated that a building adequate for the present needs of the department might be erected at a cost of £5,000, and equipped for £1,000 more. Provision for the cost of maintenance, estimated at £1,0000, is also necessary. Towards the amount required nearly £3,700 has been already promised or paid, but this includes an offer of £3,000 made on condition that the building is begun without delay.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

THIRD M.B., B.S. (*Honours*).—†E. M. A. Duvivier, Guy's Hospital; †G. Jefferson, Victoria University of Manchester; †G. H. Peall, Guy's Hospital; *†H. Platt (University medal), Victoria University of Manchester; †W. R. Thomas, Charing Cross Hospital; †E. F. G. Tucker, London Hospital; †J. W. J. Willcox, University of Bristol.

* Distinguished in medicine. † Distinguished in surgery.

THIRD M.B., B.S. (*Pass*). M. E. Ball, R. P. Bailard, Ella M. Barker, A. Bernstein, B. Biggar, Anne Borrow, H. L. Burton, H. D. Clementi-Smith, A. Davies, M. R. Dobson, R. C. V. Edsall, A. O. English, E. L. Fyffe, A. A. Greenwood, D. J. Harries, C. R. Hoskyn, W. S. Hughes, M. L. C. Irvine, W. B. Johnson, J. E. L. Johnston, R. H. J. Jolly, B. A. Lloyd, G. G. Lyttle, E. L. Mandel, E. W. Matthews, E. R. Morley, J. S. New, A. H. Penistan, W. J. Petty, C. J. Rogerson, F. C. Searle, C. W. Shepherd, G. R. Strong, J. B. Tackaberry, Margaret G. Thackrah, B.A., J. R. H. Turton, B. R. Vickers, Gladys M. J. Watts, H. O. West, R. T. Williams, E. W. Witney, C. I. Wright, S. Wyard.

THIRD M.B., B.S. (*Second Only*).—J. A. Atkinson, A. D. E. Bayliss, H. W. Catto, Ethel M. Connan, Nina G. Cotton, J. P. Elias, E. L. Elliott, W. M. Feldman, Dossibai R. C. Patell, W. L. Pink, A. H. Pollard, G. Price, S. I. Rabbinowitz, E. E. A. T. Rigg, H. D. Rollinson, R. H. Wilshaw.

THIRD M.B., B.S. (*Group II only*).—Mary H. Atherton, G. H. Chisnell, F. C. Connan, R. L. Crabb, J. R. B. Dobson, D. Green, A. R. Jones, D. Kennedy, J. S. H. Lewis, J. P. Little, Ethel M. Morgan, H. O'Meara, A. B. Porteous, G. F. R. Smith, T. Stanfield, N. Tattersall, G. O. Teichmann, W. Weir.

VICTORIA UNIVERSITY OF MANCHESTER.

MEETING OF UNIVERSITY COURT.

AT the last meeting of the Court, under the presidency of Vice-Chancellor Hopkinson, sympathetic reference was made to the late Alderman Thompson, and a resolution was passed expressing the Court's high sense of the great value of the long and devoted services of Dr. Thompson rendered to the Owens College and the University in the office of Treasurer for more than twenty years.

Report of Council.

Sir Frank Forbes Adam then presented the report of the Council for the past year. Allusion was first made to the way in which the work of the University had been hampered by want of space and accommodation and by deficiency of apparatus. The old difficulty was want of funds, and the Council had decided that among the many claims on it the most urgent was that of the chemical department. The new laboratories opened in October were well up to date and satisfactory in every way. The cost had been met by the munificence of Mr. Carnegie and other generous contributors, but still more was needed for equipment. The new engineering laboratories, opened last July, also wanted more equipment. Reference was then made to changes in the staff, including the retirement of Professor Boyd Dawkins and the appointment of Sir T. Holland in his place, and also the retirement of Professor Young, who had been succeeded in the Chair of Anatomy by Dr. Elliott Smith. Among the new developments was the establishment of a Chair of Cryptogamic Botany, a Department of Agriculture, a Lectureship in Experimental Psychology, tutorial classes for work people, courses for journalists, and classes for Bible students. Last year the total number of students was 1,419 and this year 1,518, an increase of 99. The university contingent of the Officers' Training Corps had increased from 111 to 175.

In supporting the report, Sir Wm. Mather said that already excellent original research had been done in the engineering department, for which accommodation was not possible before. The physical laboratory, established a few years ago under Professor Schuster, had also developed enormously. In the chemistry department there was no branch of chemistry that was not now provided for in proportion to the number of students.

Financial Report.

Mr. Broadfield, Treasurer, presented the financial report, which showed that the expenditure had increased from £67,399 to £73,120, but the receipts had increased at about the same rate, and the balance of income over expenditure was £21, against £42 last year. The total assets now amounted to £1,268,285, an increase on the year of £111,191, mainly accounted for by the inclusion of sums given by the late Mrs. Rylands, Professor Barker, Mr. G. Harrison, and Mr. Carnegie. Professor Barker's bequest was £25,000, and was left for the foundation of the chair of cryptogamic botany now occupied by Professor Lang. Professor Barker's success as a lecturer in the university was shown by a list of the brilliantly successful men that studied under him in mathematics, among these were Sir J. J. Thomson, Dr. Horace Lamb, Dr. A. Schuster, and the late Dr. John Hopkinson. The report was adopted.

Election of Governors and Members of the Council.

The following governors were reappointed: Sir H. Roscoe, and Messrs. T. G. Ashton, H. L. Behrens, H. J. Goldschmidt, and Walter Whitehead; while Mr. V. K. Armitage was elected in place of the late Alderman Thomson.

Mr. H. H. Smith-Carrington and Mr. A. C. Maberley were elected to fill vacancies as members of the Council, and the following were reappointed: Sir Frank F. Adam, Mr. H. L. Behrens, Mr. J. P. Cheetham, Sir Ed. Donner, Mr. Alfred Haworth, Alderman Goldschmidt, Mr. Ivau Levinstein, and Mr. Wm. Thorburn.

Honorary Degrees.

A resolution was unanimously adopted to confer the degree of D.Sc. on Professor Boyd Dawkins for the distinction he had achieved in research in prehistoric and Roman archaeology. It was also resolved to delegate the authorization of honorary degrees in future to the Council.

Evening Courses.

Dr. Schuster then presented a report of the Senate on the question of evening courses as qualifying for degrees, and he proposed:

That the Court is of opinion, having regard to the report of the Senate and the facts stated in the appendices, that it is not desirable at present to take steps for the institution of courses of study in the evening leading to degrees in arts, science, or technology.

He said there were great differences of opinion as to the advisability of instituting degrees for evening students, but leaving the abstract question as to whether it was desirable or not, the practical question to be considered was whether, balancing the advantages and disadvantages, the great expenditure necessary should be incurred. The Vice-Chancellor said that the Court was bound, in face of the facts, to agree with the Senate. The failure of other universities in any such scheme showed that Manchester would not be warranted in undertaking it at present. The case of commerce was quite different, for in this the practical work was done in offices of all kinds, in banks, and other places, and there was no difficulty in having evening classes. The university would also be willing to institute high-class instruction in any subject for which there was a demand. The resolution of Professor Schuster was unanimously carried.

Departments of Agriculture.

A resolution was also carried appointing an advisory committee on agriculture. To carry on this work the university had combined with the Cheshire County Council, and students would have six months' practical work on a farm alternating with six months' work in the university.

UNIVERSITY OF DUBLIN.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B., B.A.O. (*Medicine, Part II*).—*A. A. M'Connell, †B. H. Moore, P. H. Lemass, W. R. Watson, L. Trichard, E. B. Bate, R. E. Lee, J. D. Murphy, H. S. Metcalf, C. H. Denham, W. H. Hart.

FINAL M.B., CH.B., B.A.O. (*Surgery, Part II*).—*H. Müller, *J. W. Flood, Beatrice M. Hamilton, P. H. Lemass, A. A. M'Connell, R. E. Lee, J. E. N. Ryan.

* Passed on high marks.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been appointed in the subjects indicated:

SURGERY.—†B. T. Lang.
MEDICINE.—*S. Danziger, *C. J. Thompson, *T. A. F. Tyrrell.
FORENSIC MEDICINE.—S. Danziger, C. P. A. de L. Pereira, T. A. F. Tyrrell.
MIDWIFERY.—S. Danziger, W. H. Watson.

* Section I. † Section II.

The diploma of the Society has been granted to Mr. T. A. F. Tyrrell.

The Services.

ROYAL ARMY MEDICAL SERVICES.

EXAMINATION FOR COMMISSIONS.

AN examination for not less than five commissions in the Royal Army Medical Corps will be held on January 26th, 1910, and following days. Candidates who are over the regulated limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after October, 1899, that they could reckon towards retired pay and gratuity, if such deduction will bring them within the age limit. Further particulars will be found in the advertising columns, but it may here be stated that applications to compete should be made to the Secretary, War Office, London, S.W., not later than January 17th, 1910.

INDIAN MEDICAL SERVICES.

PAY OF OFFICERS.

"ANOTHER OFFICER" writes: In my note on the I.M.S., published at p. 1202 of the JOURNAL for October 16th, there is one mistake, doubtless due to my bad handwriting. The military pay of a major of twelve years' standing is Rs. 650, not Rs. 750, giving a total pay and allowances of Rs. 800. The point I wished to bring out was that, even with the additional pay of a gaol, the pay of the civil surgeon is no more than that of the regimental doctor, while his duties are far more onerous.

If we take two captains, each with seven years' service, one in charge of a regiment, the other a civil surgeon with the charge of a small gaol, their pay will be identical:

Regimental medical officer, 500 grade + 150 staff = Rs. 650.
Civil surgeon, 600 pay + 50 gaol = Rs. 650.

An Address

ON

MODERN UNIVERSITY IDEALS.

DELIVERED BEFORE THE BELFAST MEDICAL STUDENTS' ASSOCIATION, NOVEMBER 19TH, 1909.

BY

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If anything could enhance the pleasure arising from the cordial welcome extended to me it would be the thought that my visit is but an incident in the long line of intercourse, sometimes peaceful, at other times hostile, between the shores of Scotland and Ireland. Let me to-night assure you that this descent on your coast is on an errand of goodwill, and allow me also in the first place to direct your thoughts to the friendly and helpful influence reciprocally exerted by our two islands upon each other.

We need not inquire whether St Patrick was a native of Erin, carried off as a slave to that part of the adjacent island then known as Alban, or whether he was born on the banks of the Clyde and kidnapped by some marauders, who might well be typified by the red hand of Ulster. Suffice it to say that he returned to Ireland when about 60 years old, after a close association with St. Martin of Tours—sometimes said to be a near relation—and in the second quarter of the fifth century founded that most interesting period of early Western culture—the Celtic civilization. While the Goidels and Brythons in Alban and Britain were still in the darkness of Paganism—somewhat polished, no doubt, in the southern region by Italian influences—in Ireland a most remarkable development of learning and art was fostered by your patron saint and his followers. For two centuries this early Christian civilization went on, almost uninfluenced by external agencies. These tendencies would naturally have spread to the adjacent island in virtue of their inherent truth and beauty, but a powerful impetus was given by a circumstance which, even in a youthful community, might be regarded as startling. One of the members of a kingly house in Donegal, afterwards known ironically as the "dove" of the Church, in some difference of opinion with another disputant, put an end to the discussion in the most effectual way by terminating the existence of his opponent. As a necessary result, the surviving party to the discussion deemed it advisable to change his sphere of activity, and in the middle of the sixth century, he passed over to the region now known as Argyll. Perhaps we ought to deplore such an outbreak in a Christian community, but it is difficult to avoid a feeling of satisfaction that this feud occurred, for it brought the influence of St. Columba into the affairs of my native land. From Iona, there went out over the whole of the country, then beginning to receive the name of Scotland—from the Scots of Ulster, who had passed over in numbers into Argyll—teachers who gradually converted the inhabitants to Christianity.*

But this is far from all; the monks of Iona penetrated into the southern parts of the island, as well as the northern, and brought them under the sway of the Celtic Church. It is not too much to say that in addition to most of what is now Scotland, the three kingdoms of Northumbria, Mercia, and Essex, received Christianity at the hands of the followers of St. Columba before the advent of St. Augustine at the close of the sixth century. The memory of certain of the saintly men who achieved these triumphs is even to-day preserved in names to which some of the great English cathedrals are dedicated.

It is an agreeable duty to acknowledge that the early culture of Scotland, and of part of England, is due to the influence of an Irish Prince. During all the centuries which have elapsed since the dawn of Celtic civilization, there has been constant communication between the neighbouring countries, and, as might be expected, the intercourse between the North of Ireland and the adjacent island has been largely with the nearest shores. That ample aid in times of danger was constantly extended by the inhabitants to one another is shown in an amusing way by a somewhat contemptuous reference by Edmund Spenser in his interesting, although prejudiced, work, *A View of the Present State of Ireland*, apparently written before the death of Queen Elizabeth, but not published until the year when Charles I was crowned at Holyrood. In two or three parts of the conversation between the imaginary Eudoxus and Irenaeus, the latter, in the rôle of wise Mentor to inquiring Telemachus, speaks of the descent of "Scottes and Reddshankes," at whose hands the gentle Anglo-Normans received much evil.

ORIGIN OF UNIVERSITIES.

The origin of educational systems and the foundation of scholastic institutions must always be of supreme interest. It is more than probable that the ancient monastic establishments existed no less for the purpose of general education than of theological study. It is known that St. Patrick, in his quiet retreat at Armagh, formed a centre of learning and education, as well as a home of prayer and meditation. It is even more certain that your great countryman, St. Columba, in his cell on Iona—which beautiful name signifies "The Holy Island"—spent his energies almost as much in secular instruction as in theological training. For thirty-four years St. Columba laboured in such works, training men for the work of the missionary, and going himself from time to time either to establish or to encourage churches on the mainland. Thus Iona became, as it is put in the somewhat turgid language of Samuel Johnson, "that illustrious island, which was once the luminary of the Caledonian regions, whence savage clans and roving barbarians derived the benefits of knowledge and the blessings of religion."

We may assume that our most ancient universities took their origin in scenes similar to these. We must not inquire too closely whether it be true that an educational centre existed in Oxford during the reign of King Alfred. It is sufficient for us to know that centuries before the official foundation of University College by William of Durham, the banks of the Isis had been resorted to by generations of men in search of knowledge. Similarly the Abbot of Croyland established Gislebert and three other learned monks at Cottenham, whence they went across to Cambridge, and taught all comers in a barn hired for the purpose. In this way, for at least 150 years before the foundation of Peterhouse, a regular system of education was in existence in or near the spot now famous by reason of a great university.

There is a tradition that in consequence of a vision St. Rule embarked from Eastern shores with the bones of St. Andrew, sixteen holy monks, and three devout virgins, on an adventurous voyage. After a couple of years' cruising in the Mediterranean, through the Pillars of Hercules, and over the open Atlantic, the devoted band were shipwrecked at the spot formerly called Kilrymont, but in all time after known as St. Andrews. Here for centuries an educational centre existed, until in the beginning of the fifteenth century, on the initiative of Bishop Wardlaw, doubtless with the approval of James I. then, however, a captive in England, Benedict XIII granted a bull for the foundation of a university. In quite the same way, on the banks

* There can be no doubt of the accuracy of this statement, although other views have been held. The matter is thus put by Gibbon: It is *probable* that, in some remote period of antiquity, the fertile plains of Ulster received a colony of hungry Scots; and that the strangers of the North, who had dared to encounter the arms of the legions, spread their conquests over the savage and unwarlike natives of a solitary island. It is *certain* that, in the declining age of the Roman Empire, Caledonia, Ireland, and the Isle of Man, were inhabited by the Scots; and that the kindred tribes, who were often associated in military enterprise, were deeply affected by the various accidents of their mutual fortunes. They long cherished the lively tradition of their common name and origin; and the missionaries of the Isle of Saints, who diffused the light of Christianity over North Britain, established the vain opinion that their Irish countrymen were the natural, as well as spiritual, fathers of the Scottish race. The loose and obscure tradition has been preserved by the Venerable Bede, who scattered some rays of light over the darkness of the eighth century. On this slight foundation a huge superstructure of fable was gradually reared by the bards and the monks; two orders of men who equally abused the privilege of fiction. The Scottish nation, with mistaken pride, adopted their Irish genealogy: and the annals of a long line of imaginary kings have been adorned by the fancy of Boethius, and the classic elegance of Buchanan.

of Molindinar Burn, St. Kentigern had a cell, where, indeed, tradition tells us he received a visit from St. Columba himself. This spot became a centre of education, secular as well as sacred, the latter being typified by the most beautiful fane which Scotland possesses, the former by the foundation of the University of Glasgow, about forty years after that of St. Andrews. Bishop Turnbull, at the desire of King James II., obtained a bull for the purpose from Nicholas V. Although we have been put in possession of a doleful picture of the condition of matters in the north-east of Scotland, there is evidence that around the old cathedral church of Aberdeen there were not wanting the elements of study and teaching, and here during the same century which saw the foundation of her older sisters, a third university was founded. At the desire of Bishop Elphinstone, James IV requested a papal bull from Alexander VI for the erection of a university there. Thus before the close of the fifteenth century five universities had been founded within the British Isles.

It is to be feared that the university men of those times did not possess a very lofty reputation, for in an old Act of the Scots Parliament, passed during the century following the foundation of the three northern universities, there is the establishment of a regular "Ordour of Punishment" for sorners, beggars, and vagabonds. The Act, after specifying jugglers, gipsies, fortune tellers, idlers, minstrels, counterfeiters of licences, and professional shipwrecked mariners, goes on to mention "all the vagabond scholars of the University of St. Andrews, Glasgow, and Aberdeen, not licensed by the Rector and Dean of Faculty to ask alms." It is enacted and declared that "those shall be seized and punished as strong beggars and vagabonds." The only consolation left to us resides in the knowledge that a similar reproach affects other and even more ancient universities. If the Reeve's Tale is not a grotesque travesty of the wandering student of the fourteenth century, he must have been, if a more picturesque, at the same time a much less respectable member of society than the undergraduate of to-day. The university students, nevertheless, of these old days were not all of such a pattern. You doubtless remember the words of the poet:

> A Clerk there was of Oxenforde also,
> That unto logike hadde long ago.

Of this ancient type Chaucer adds:

> Souning in moral vertue was his speche;
> And gladly wolde he lerne, and gladly teche.

The origin of the newer universities in the United Kingdom has been in many ways different from that of those with which we have just been occupying ourselves. They have not been erected by ecclesiastical authority, but have arisen in consequence of the wants of particular localities; some communities have been of great antiquity, as in the case of London, others have been essentially modern, as in the instance of Birmingham. The oldest of these modern universities are those of Edinburgh and Dublin, founded within ten years of each other in the end of the sixteenth century, and both, therefore, the first-fruits of the Protestant spirit. Both of these institutions arose within highly-developed communities, in which Church and State were adequately represented, the former receiving its charter at the hands of King James VI, and the latter at those of Queen Elizabeth.*

Each of these universities was from the first empowered to teach every branch of knowledge, and although the one has had Presbyterian and the other Anglican tendencies, they have now for long heartily welcomed every creed as well as no creed amongst teachers and taught. The Faculty of Divinity in each university has, unfortunately, been restricted in each case to one particular sect. It is to be hoped that, before long, the Chairs in the Faculties of Divinity will deal with the philosophy and history of Theology, and that they will be open to men of every creed. To this subject you will perhaps allow me to return somewhat later.

THE UNIVERSITY OF BELFAST.

It is an additional satisfaction to me to have the opportunity of meeting you at the commencement of this term, inasmuch as you are on the threshold of a new era. Although a castle was built here in the twelfth century, it seems that for quite 400 years nothing more than a village existed in its vicinity. In the beginning of the seventeenth century Chichester rebuilt the castle, and founded the town of Belfast by means of a charter granted by King James I and VI. For 200 years more the town grew very slowly, and at the close of the eighteenth century the total population seems to have been only about 12,000 or 13,000. Before the end of the succeeding century the population had risen to nearly 400,000. Within 100 years, therefore, a little village had become a large town, possessing magnificent public buildings of every kind. As scholastic, and more particularly medical, development demands our attention to-night, let me briefly mention that in the middle of the seventeenth century a physician and an apothecary were appointed to look after the sick poor of Belfast. In 1774 the charitable society was founded, in order to supply medical relief to those standing in need of it. Eighteen years later this developed into the charitable dispensary. A year afterwards the maternity society was instituted, and in 1797 the fever hospital was founded. In 1817 a general hospital was built, containing 70 beds for general and 30 for fever patients. This hospital in 1875 became the Royal Hospital, and in 1903 it was opened, after rebuilding, as the Royal Victoria Hospital. During the third quarter of last century the Mater Infirmorum Hospital was opened, while special hospitals of every kind were also added to the equipment of the city. Ample provision has therefore been made during the growth of the city for meeting its medical requirements. Just in passing, let me refer to the gift of the Medical Institute, which Belfast owes to the munificence of one of the present professors.

As early as the year 1817, when the old hospital was opened, an arrangement was proposed for training medical students in practical medicine and surgery, and ten years afterwards the far-seeing James M'Donnell delivered the opening clinical lecture, which was the real foundation of medical education in Belfast. An academic college was instituted in 1810, and in 1835 a well-equipped Medical Faculty was added to it. In 1845 the Queen's College was founded by Act of Parliament, and was opened in 1849. The Queen's University of Ireland, to which the Queen's Colleges of Belfast, Cork, and Galway were affiliated, was erected in 1850, and for nearly thirty years it pursued its way, more or less peacefully. In consequence, however, of dissatisfaction in certain quarters, the Queen's University was swept away, and in 1879 the Royal University of Ireland arose out of its ruins. Again for thirty years the Royal University struggled on, but by last year's Act of Parliament it in turn was dissolved to make way for its successors. For many years, therefore, Belfast has been a centre of medical education. For sixty years it has been the home of the most prosperous of the Queen's Colleges. For the future it will be the seat of a university. Let me most warmly greet the Queen's University of Belfast as an independent body. You are now in possession of privileges and responsibilities which your own energy will turn to good account. Be assured that your entrance as an independent member of the comity of the universities is hailed by all with the highest satisfaction. We hope the new university will take a noble part in education, in discovery, in invention. There is ample room for us all, and it seems to me impossible that any place can be found for jealousy, or any other form of littleness, in the contemplation of your new position.

In this brief sketch of the origin of your university reference has been made to James M'Donnell. Among many great names which render your record illustrious, you will permit me to mention Henry MacCormac, the pioneer in the modern treatment of tuberculous conditions; Thomas Andrews, one of the most famous chemists of last century; and Alexander Gordon, one of the most distinguished surgeons of the past generation. There are some other great names, but as their owners are fortunately still with us, it would not become me to mention their names. It is a peculiar pleasure to know that the university here is linked to that of Edinburgh by Peter Guthrie Tait and Sir Wyville Thomson, while it is similarly bound to Glasgow through Lord Kelvin and James Thomson.

* It is not to be forgotten that in Dublin there had formerly been a university attached to the Cathedral Church of St. Patrick.

The new position which you now occupy may be regarded as the result of evolution rather than of revolution. The same wisdom which has actuated the rulers of Queen's College during two generations is seen in the arrangements and regulations of the new Queen's University. A careful perusal of these, kindly furnished by Professor Lindsay, has convinced me that the statutes have been enacted with wisdom and foresight. It would not become me to speak of the course of study in literature, philosophy, or law; in fact, our survey must on this occasion be confined to the Faculties of Medicine and of Science.

The courses mapped out are skilfully arranged from every point of view, and speak for the practical sagacity of those who have framed the curriculum. Each of the earlier subjects is obviously intended to be taught with a view to its direct bearing on daily medical life, and amongst the later subjects there is an obvious and practical thoroughness in the scope of the work which is prescribed. One most important regulation is that not more than one examination shall be taken up in the same term. Another even more important provision is that attendance on a course in any subject of the third examination shall not be recognized unless the student has previously passed all the subjects of the first medical examination, and that attendance on a course in any subject of the final examination shall not be recognized unless the student has passed all the subjects of the second medical examination. Would that we had such regulations in the University of Edinburgh! The enactment, that at least three years must be spent in the Queen's University of Belfast, is absolutely in accordance with the statutes of all the Scottish universities; the other two years of study, here as there, may be spent in any other recognized university or school. Lastly, in reviewing the regulations of the Queen's University, the provision accepting all the previous examinations of the Royal University which have been passed by the undergraduates of Belfast commends itself to the judgement of every wise man as being equally generous and just.

Let me wish every prosperity to the newly founded Queen's University. Its members will doubtless strive in generous rivalry with kindred institutions for the advancement of science and the improvement of instruction. Ulster men are scattered in every corner of the world, especially in our colonies; they are everywhere found to occupy positions in the first rank. May the fame of the university bring their sons and daughters to study in the house of their forefathers; may they be not only numerous, but what is far more important, may they be endowed with bright intellect and high character. Such a brilliant future seems to be assured, and you may be certain that every other seat of learning will rejoice in your success.

Multiplication of centres of teaching really means increased opportunity of learning, and therefore the foundation of new universities and colleges is to be heartily welcomed; the relations, however, existing between all these educational establishments must be based upon a spirit of fair play. Magnanimity of mind and generosity of character are the only safe foundations. Here in Ulster you are safe; the future is with you; you have the game in your hands. It is not so everywhere.

THE NATIONAL UNIVERSITY OF IRELAND.

The hopeful anticipations which have just been expressed are linked with one feeling of gloomy foreboding which leads me to touch upon a subject that can only be described as thorny. Nothing but a stern sense of duty would tempt me to approach it; yet it would be craven on my part to shirk the task before me. My desire for the good of your country must excuse me, if excuse be wanted. For more than thirty years Ireland and her people have been objects of my warm affection and sincere admiration. Many lovely regions in every province of the Emerald Isle are as familiar to me as the hills and vales of Bonnie Scotland, and they are almost as well beloved. Let me premise that it is not easy for any one, even after long and intimate acquaintance with any country, save that in which he has been born and bred, thoroughly to understand it. On one point it is difficult, even for a Scotsman—and this is saying a great deal—to feel as deeply as you do—that is, on theological subjects. My own position regarding such matters can best be explained in terms of a truthful story. One of the most charming prelates of the Roman Hierarchy in Scotland used to be a clergyman in a certain town on the Moray Firth. Amongst its inhabitants was a shoemaker of Radical politics and agnostic views; the latter, indeed, could be aptly denoted by the phrase, employed by George Eliot to describe the type, as "rinsings of Thomas Paine in ditch-water." The future prelate was the object of his particular animosity and special criticism. This advanced thinker on political and theological matters was in great form on Saturday evenings in the public-house, when he, with great gusto, used to demolish all his opponents. But the heat of disputation was apt to induce a need for lubrication, and very frequently his arguments became less convincing and his conclusions more uncertain as the evening went on. In fact, it was by no means uncommon for him to wind up by tottering as much in final debate as he staggered in subsequent progression. One lovely winter evening the good priest wended his way towards the parsonage after visiting a friend who lived some distance from the town. The tail of the Great Bear was beginning to droop, the Twins were high in the heavens, and Orion had risen so far as to show his belt above the horizon; the lustre of these glorious groups of far-off worlds, however, was outshone by the brilliance of the rising moon, then nearly at the full. Like every Highlander, the kindly clergyman loved the face of Nature, and as he went pondered the words of an ancient writer regarding "the sweet influences of the Pleiades," and "the bands of Orion." But his thoughts were arrested and his attention attracted by some tremulous attempts at melody, apparently emanating from the ditch by the wayside. Crossing thither, he looked into the depth, and in the bright moonlight saw the Radical cobbler. The recognition was mutual. The quavering dithyrambs ceased, the bacchanalian worshipper—for agnostic in all else, he gave practical adhesion to the power of Dionysus—stopped his vocal efforts. With a pawky smile, he ejaculated: "Losh me! it's the Scarlet Woman! Never mind, I'm aboon a prejudice; gie's yer hand."

My position in respect of prejudice and bigotry is that professed if not practised by the political shoemaker. It would, indeed, in a past age of Scottish history, have been termed that of the despised moderate. Such a type of mind finds it impossible to sympathize with the *odium theologicum*, with which indeed modern science has nothing in common. Believing unreservedly that no part of the education provided by the State, whether in school, college, or university, should be connected with any particular church, and hoping earnestly to see the day when all university chairs devoted to Theology will deal with creeds and religions from a philosophical and historical, instead of a dogmatic and sectarian point of view, it has been to myself a matter of deep regret that it has seemed necessary in this age to endow any educational institution on the basis of a church system. Dogmatic theology has no place in modern science. It must, however, be frankly recognized, although at the same time sincerely deplored, that if an overwhelming proportion of the inhabitants of any country demands an educational institution founded in accordance with sectarian ideas, it cannot be denied without injustice. The legislation carried out by the present Chief Secretary for Ireland has been based on such lines, and it is to be feared that it will still further emphasize the ecclesiastical differences of Ireland. He may, indeed, be regarded as a modern Cadmus, who has sown the teeth of the dragon in a particularly fertile soil. In the arrangements proposed for the University College of Dublin and the National University of Ireland there is good reason to fear for the future. Placed alongside of an ancient and illustrious university, distinguished in the past by such names—to mention but a few stars out of a brilliant galaxy—as Romney, Berkeley, Patten, Goldsmith, Moore, Burke, Swift, Sheridan, Graves, Stokes, Banks, Haughton, Salmon, and Cunningham, it has been the hope of all who wish well to the cause of Irish education that the new university should in a spirit of generous emulation set herself the patriotic task of seeking to rival Trinity College in achievement and reputation. Unfortunately the tendencies already shown by those who are guiding the fortunes of the new university are not those which we had hoped to see. Leaving at present out of consideration everything except the study of medicine, it

must be said that the National University is proposing to make a start that is not propitious. It has to be remembered that, besides the School of Physic of the University of Dublin and the Medical School of the National University, there is another School of Medicine—that of the Royal College of Surgeons in Ireland. This school is absolutely free from sectarianism; it has done good service to the State; it has contributed observations of value to modern science, and it has trained generations of conscientious medical practitioners. Its annals are adorned by the names of Adams, Apjohn, Bellingham, Butcher, Cheyne, Colles, Crampton, Cunningham, Hamilton, Jacob, McDonnell, Marsh, Porter, and the three Stokes, to mention but a few of the distinguished men who have been connected with it. It is not too much to say that Irishmen of every province have added laurels to its chaplet, and that men also from the eastern shore of St. George's Channel have been happy to act with them.

The Schools of Surgery of the Royal College of Surgeons in Ireland.

Will you bear with me for a few moments and allow me to seize this opportunity to plead for fair play to the Royal College of Surgeons? Throughout the whole of last century it, side by side in friendly rivalry with the School of Physic of Trinity College, kept alive the lamp of medical learning in Dublin. It has amassed a magnificent museum; it has, by voluntary effort, equipped its buildings in the most thorough way for the purposes of medical education; yet, in spite of all these exertions, it is to be feared that under present circumstances it is face to face with ruin, and may have to end its existence as a teaching body. Such a termination to its career would be a national disaster. In one respect the School of the Royal College commands our admiration. Ever since MacLiag attended Brian Boroimhe at the battle of Clontarf—half a century before the Norman Conquest—your country has not only sent out great soldiers, but also great military surgeons. In this connexion we owe the Medical School of the college a deep debt of gratitude. It has supplied the navy and the army with generations of zealous and successful officers, who have at once shown themselves to be possessed of the highest devotion to administrative duty, and have also exhibited such a spirit of intrepid gallantry as to extort the enthusiastic admiration of all. When we glance at the various members of the military medical services, we find that amongst those who have won the Victoria Cross the alumni of the Irish college hold the foremost place. This is but one instance of the many services which have been rendered to the country by the college. To all fair-minded men it must be obvious that something ought to be done to obviate any possibility of the extinction of such a public-spirited body. The college knows no politics, it owns no creed. It should, therefore, win the generous affection of all liberal-minded men. It is to be hoped that His Majesty's Government will reconsider the answer which they made to the representation placed before them on behalf of the college. In the recent address of the President the facts of the case were fully stated. He showed that the recent Act of Parliament had completed the endowment by the State of every medical school in Ireland except that of the College of Surgeons. Mr. Lentaigne further pointed out that the college had never raised its voice against the endowment of other schools, that with the growth of medical science education had grown to be so complicated as to be financially unprofitable, and that it was right for the State to endow schools of medicine. What the college protested against was the endowment of one school and the neglect of another. When the college approached the Government they felt confident of success, since the institution which they represented was one which for more than a hundred years had successfully laboured, in a manner absolutely unsectarian and unpolitical, for the progress of medical science. Mr. Lentaigne stated that the Prime Minister had paid a high tribute to the good work which had been done by the college, but that he had gone no further than to comfort them with the pious hope that the college would not suffer by the new competition. It is quite true that Mr. Asquith went on to say that if it were proved later that the college was really injured the Government might possibly, although he could not promise it, reconsider the question. Soft words butter no parsnips. It is to be feared that the kindly remarks of the Prime Minister will not carry much comfort to the hearts of those who wish well to the Irish college. We all hope in Scotland that the Government will change its mind; no doubt you in the north of Ireland share this hope.

There can be no possible objection to subsidies from the State. We are all glad of such grants; indeed, we welcome them. Our four Scottish universities have for long had aid from the Exchequer. Subsidies of this kind, however, can only be accepted with two reservations. They must not be used to crush out independent exertion—in other words, to submerge individualism in socialism. They must, further, be apportioned in a spirit of fairness amongst those who are deserving of them. It must be made clear to the Ministry that we are strong on this point.

But this pecuniary disability is unfortunately not the only adverse circumstance against which the college has to struggle. Instead of trusting to honest work and sound teaching—which are really, as they ought to be, the only legitimate foundations for a successful educational establishment—the adherents of the new National University have been invoking every influence in order to compel students of medicine to enter the new academic portal, and to shun the venerable gates of the Royal College of Surgeons. The terrors of the Church, the threats of Sinn Fein, have been let loose. The facts are notorious. These remarks are not intended to be either ecclesiastical or political in their meaning; all that is contended for is fair play to every one. If the new university will manfully and honestly strive to attract students by strenuous exertion in research and in teaching, it will speedily attract the respect and esteem of every man of science; but if, on the other hand, it is to persist in a course of conduct like that which it is unfortunately entering upon, it will receive, and will richly merit, the regretful contempt of every right-thinking man.

Modern University Ideals.

These remarks lead naturally to what it has been my intention to speak about—that is, modern university ideals. Looking broadly at the aims of our universities, we may assume that the principal object in view is to train the undergraduates to play a useful part in the daily drama of everyday life. How this can best be done is the practical question which lies before every one of us. Healthiness of body and soundness of mind are the first great requisites, and every means by which wholesomeness, bodily as well as mental, can be assured deserves the greatest consideration. Newman defines a university as "a place of *teaching* universal *knowledge*. This implies"—as he goes on to say—"that its object is, on the one hand, intellectual, not moral; and, on the other, that it is the diffusion and extension of knowledge rather than the advancement. If its object were scientific and philosophical discovery, I do not see why a university should have students; if religious training, I do not see how it can be the seat of literature and science." This conception of a university seems to me too narrow. All our modern universities are framed on broader lines. They not only diffuse knowledge but they advance it. They advance knowledge by scientific research, by philosophical investigation, by literary effort, by historical inquiry—by every means, in short, through which additions may be made to the sum of our knowledge. Thus the ideal of a university must be much wider than was dreamt of by the Cardinal when he penned these words.

Let us look upon the university in the first place from the point of view of administrators and teachers, with more or less power in our hands to shape its destinies. It is sometimes difficult, even when the spirit of change is abroad, and periods of transition are upon us, to modify old institutions. The suggestive and interesting address which Lord Rosebery gave in connexion with the Glasgow University Club in London, shows us that there is in some minds considerable dubiety as to the possibility of filling old bottles with new wine. It is probable that he exaggerates the difficulty, and nothing is more certain than that the old universities have been doing their best to assimilate new methods. But they are wise in this respect, that they insist upon broad general training as a necessary preliminary to more professional education.

In the weighty and eloquent words which the President of Harvard University addressed to us at his brilliant inauguration last month, he pointed out that the old type of college had a solidarity which enabled it to carry out its object well enough for its time, but that, with the enormous enlargement of the field of human knowledge, new subjects have had to be, and must yet be, admitted to the scheme of instruction; it therefore has become too much for any one student to follow, and this divergence in pursuit is apt to produce intellectual isolation and loss of social unity. As the aim of university education is not to produce hermits, each imprisoned in the cell of his own intellectual pursuits, but men of the world, able to take their places in the community and live in contact with their fellow-men, some system must be formed which, without sacrificing individual variation too much, or neglecting the pursuit of different scholarly interests, will produce intellectual and social cohesion. Mr. Lowell went on to express the view that an ideal college would contemplate the highest development of the individual student, the proper connexion of the college with the professional schools, and the relation of the students to one another.

It is indeed no aim of university life merely to produce narrow specialists; we all wish to see our graduates possessed of rounded intellect, of wide sympathy, of unfettered judgement. It is not too much to expect that a training in our universities should give freedom of thought and breadth of outlook, so that the alumni are fitted to take their places as good citizens. Holding such views, the wider the culture, the better the result. Some acquaintance with the great literatures of the past is absolutely essential. Nothing can ever rob classical learning of its high value in a scheme of training. Similarly, some knowledge of the laws of thought is a matter of the highest moment. There is no better corrective of the arrogant self-sufficiency of imperfectly trained scientific men than the acquisition of at least the elements of "divine philosophy." As students of natural science, under which term a medical education must rank, the forces of Nature require closest study, and the inquirer must be taught to lift the veil which hides the springs of life. He will learn by degrees that these agencies are not wholly mysterious, but that they are a chain of causes and effects with which close acquaintance must be made. How are we to arrange a course of study to meet such requirements? My own feeling is very strongly in favour of a thorough preliminary training, and it seems to me advisable, if it were possible, that the aspirant to medicine should take a degree either in Arts or in Science. There are, undoubtedly, difficulties in regard of time and money. In the wise regulations which have been framed in this university some of these difficulties are removed, at least in part. The third year required for graduation in arts may be devoted to biological subjects, and in that case is allowed to take the place of one of the years of medical study. Similar arrangements have been adopted for the degree in Science, and therefore a very thorough training may be ensured at the cost of not more than two extra years of residence.

It has always seemed to me that the systematic lecture holds far too high a place in the universities and schools of our country, and more particularly in Scotland. During my different visits to Canada and the United States it has been a matter of much satisfaction to find that in the great universities across the Atlantic, such as Montreal and Toronto on the one hand, Harvard and Hopkins on the other —all four with admirably-equipped medical schools—the systematic lecture holds a comparatively subsidiary place. So much is this the case, that when Professor Osler came to be the guest of the Royal Medical Society of Edinburgh, and kindly undertook to deliver the lecture, fondly termed "clinical," which had fallen in turn to me, he informed me afterwards that it was the first systematic lecture that he had ever given in his life.

The occasional stated lecture has, no doubt, at times its uses—for example, to provide a summary of work which has been done, or to shape the course which has to be followed. But to give a hundred or a hundred and fifty lectures on any subject in the medical course in this age of excellent books is an absurdity that should be abolished. We have no use for the lecture if it is simply like the "resurrection pie" of the frugal housewife. It must contain some new facts, or it must have some fresh method of presenting them, or it must have some of the personal experiences of the teacher, or it must be given with dramatic force. If it be the dull, lifeless address, to which all of us have had to listen, it is without excuse; a gramophone would do just as well—nay, often much better.

We are everywhere becoming more accustomed to the use of demonstrations instead of old-fashioned lectures—demonstrations to small groups of students, in which each can see close at hand the subject of study; exhibitions of all kinds of specimens; employment of lantern slides to show objects which are not at hand—such measures, along with question and answer, will inevitably take the place more and more of older methods of teaching.

Again, and even more useful, is practical work, in which each individual student is not only taught to see objects, but how to prepare objects to be seen, how to employ every kind of instrument, and thus to use eye, and ear, and hand.

Above everything, clinical work in the wards and laboratories of the hospital is of paramount importance. There was a time when a great part of the life of a student was spent in "walking the hospital," as the phrase went. This gradually became overshadowed by the influence of the didactic lecture. But time brings its revenges, and it is satisfactory to know that the pendulum is swinging back again, so that the hospital is once more obtaining its fair share of attention. It is no use going about the hospital simply to loaf, and a thoroughly organized method of instruction must be carried out. In the first place, the number of students attached to each ward must not be too great. It has been my fate at times to have as many as one hundred and twenty clerks attached to my clinic, in which the official number of patients is forty. Each one of these clerks had at most one-third of a patient. With every arrangement for subdividing such a group into juniors and seniors, with the assistance of a zealous assistant-physician, an enthusiastic clinical tutor, and a couple of devoted house-physicians, we yet felt that we were overwhelmed by numbers. It is undoubtedly necessary for thoroughness of teaching that the number of patients and of teachers should bear some kind of relation to the number of students.

Another point to be referred to from this point of view is the necessity of seeing that the undergraduates have sufficient time for reading and thinking. Under present circumstances there is so much pressure throughout the day that the unfortunate undergraduate is only able to have a quiet hour or two after all sensible people have retired for the night. This is not as it should be, and a little time for useful idling must be secured. The student will do his work very much better if he is not driven like a slave in the old cotton-fields under the lash of the overseer. A return to study will always be easier after a pause from labour.

One last important point is that those responsible for the superintendence of the undergraduates should show an interest in their recreations. All forms of athletics are to be commended, and it appears to me that the undergraduate will be immensely helped if teacher and taught can mingle in connexion with sport. There are undoubtedly some difficulties, chiefly owing to the multiplicity of engagements that have to be fulfilled by the middle-aged teacher. These, however, are not insuperable. You cannot expect a grey-haired man of 50 to take a hand in the "scrum"; even less to act as "half-back"; but a friendly golf match between teachers and taught will bring all into greater harmony.

We have, in the last place, to consider the university from your point of view as undergraduates and the influence which you can exert upon its development. The academic influences by which you are surrounded undoubtedly modify the course of your lives in a manner which is usually momentous. On the other hand, each one of you has more or less influence upon your fellow-students, and, let me add, upon your teachers also. There is nothing so stimulating to a good teacher as to have good pupils; they act and react upon one another in such a manner as to produce the highest results.

The first matter which is incumbent upon all of you is to find some definite object. Stevenson says in the

Amateur Emigrant: "An aim in life is the only fortune worth the finding." Each one of you must at times sit down seriously and think over the intentions, if you have any with which you have come to the university. The qualifying clause, "if you have any," is not of the nature of a sneer. It so happens that a very large number of men are sent to the university in order to make up their minds what their life-work is to be, and therefore it often happens that amongst the undergraduates a considerable proportion are found not to have any very definite views as to their future. Let us, therefore, take it that each one of you is of a mind to do the best in order to be fitted for the duties of life. The first piece of advice which any of us will venture to give you is to work hard. It is one of the ghastly portents of this age that men are demanding that no one should be allowed to work more than eight hours a day, an eye being kept on the clock every minute of the time. That kind of thing, in no matter what sphere of life, will certainly, if persisted in, wreck this country. It means a fatal descent from the strong tendencies of individual independence to a weak refuge in socialistic dependence. Try to picture for yourselves the successful professional man or business man, reaching any position of eminence on an eight hours day! No! we have all, with one exception, to make up our minds that if we really wish to arrive, it can only be by unremitting and self-sacrificing labour. If any of you desire to see how this aspect of academic life struck one of the most strenuous men of last century, let me recommend you to read Thomas Carlyle's letter to a medical student. It is but a type of what all the great men have reiterated. "Work while it is the day" is no less true in this age than it was nineteen hundred years ago, and let me urge you, furthermore, to remember that the present is the only time in which you will be able to work at all.

> Life holds not an hour that is better to live in: The past is a tale that is told,
> The future a sun-flecked shadow, alive and asleep, with a blessing in store.

But, let me add, the blessing in store is only won by those who seek for it. You must not, however, go away thinking that it is my intention to commend simple plodding. Far from it. We often do a great amount of work when we are apparently doing nothing but idling. It is most helpful for us all to sit down quietly to think, but the point is that unless the mind is well stored with information the thoughts are apt to be of the most flimsy description.

The most of us would like, as far as possible, to ease you of some of the burdens which you have to bear, some of which we frankly think are unnecessary. As some aspects of this subject have already been laid before you, it is unnecessary to add more upon the relative time to be devoted to the different branches of your work. You will, however, allow me to say once more that in my opinion a quite exaggerated amount of importance is given to the place of lectures in the curriculum. It may not be quite so bad here as it is in the Scottish universities. There every one of us is struck by the fact that hundreds of men will patiently sit and take down the words which fall from their systematic teachers' lips, as if they were jewels of priceless value, while it is difficult to induce them to come to a demonstration, and still more difficult to lead them to take a part in real practical work. In respect of your own work, let me strongly recommend you to do as much in the laboratory and in the ward as you can obtain time for, and suffer me further to advise the habit of reading widely.

One important factor in the life of the undergraduate is to be found in the friendships which are formed at college. There is something lovely and touching in school and college friendship. In the classical story, *Tom Brown's School Days*, as also in the interesting tale, *The Hill*, the influence of youthful friendship is beautifully drawn. The ennobling influence exerted by friends of high character cannot be overestimated, and it is fortunate that in school and college there is such a factor as hero-worship. "In this world there is one godlike thing," says Carlyle, "the essence of all that was or ever will be of godlike in this world: the veneration done to Human Worth by the hearts of men. Hero-worship, in the souls of the heroic, of the clear and wise—it is the perpetual presence of Heaven in our poor Earth: when it is not there, Heaven is veiled from us; and all is under Heaven's ban and interdict, and there is no worship, or worth-ship, or worth or blessedness in the Earth any more!"

One last subject must briefly occupy our attention—it is recreation. Celsus tells us that it is a sacred duty for every man to spend some time in taking care of his own health. A remark has been made in passing upon the necessity of idling, but idling must be done with wisdom; in other words, it is necessary to relieve the monotony of work by some change. It is to be hoped that each one of you has got a hobby, be it in the walks of literature, in the fields of science, or the domains of philosophy. Time was when the undergraduate distinguished himself as a collector of such subjects of "bigotry and virtue" as door-knockers from private houses and golden effigies employed by tradesmen as ensigns of their wares. Trophies such as these, recalling the times of Bob Sawyer and Ben Allen, are fortunately no longer in such demand as they used to be, and our undergraduates are more likely to make scientific collections than to form a museum of trade symbols. It is unnecessary for me to speak to you of the pleasures of different athletic pastimes. It is probable that every one of you is keenly alive to their delights. You will suffer me to express the view that it is far better that every one should engage personally in such pastimes than to be one of twenty thousand spectators watching a football match as if it were a gladiatorial show. In conclusion, permit me to express the hope that in your work and in your play, in your public relations, as in your private friendships, you will always play the game. In this alone is it possible to find real happiness. All of us, professors and teachers, as well as the grateful guest now addressing you, earnestly desire that your days in the Queen's University may be so full of peace and joy as to leave when the time comes for you to depart from these halls, recollections so fragrant that each of you may be enabled to echo the words of your great national poet:

> Long, long be my heart with such memories fill'd!
> Like the vase in which roses have once been distill'd—
> You may break, you may ruin the vase, if you will,
> But the scent of the roses will hang round it still.

The FitzPatrick Lectures

ON

GREEK MEDICINE IN ROME.*

BY

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PRAYER for the old Roman arose in no sense of sin; as Cicero frankly says, it was not to make him good, but for material benefits, for a bargain with the proper deity—"si deus, si dea . . .," as Cato would commence not only medical operations but even the felling of a tree—for help, health, or wealth. In the hard transactions of Roman religious contracts the mystic elements of Greek and Hellenistic religion had not then any acceptance. Fortune, says Mr. Warde Fowler, was the favourite goddess of old Rome, and he aptly shows that *sacrum* with the Roman meant no matter of feeling but of law and rite; the gods were placated and taken into the community as a kind of citizens.†

Furthermore, to comprehend this matter we must appreciate the unit with which, during its integrity, Roman honour, prowess, and gratitude were built up; this unit was the household, a body animated and governed by the husband and wife, who in early times were

* This lecture, which is intermediate between the two published in the JOURNAL of November 20th and 27th, was not delivered at the Royal College of Physicians.

† For much concerning Roman manners I have, of course, to acknowledge our common debt to Marquardt.

married sacramentally and indissolubly by *confarreatio*,* or wedding cake, eaten with the Deo Domus. This custom was a public rite as well as an initiation into the *sacra domus*.† Herein the Etruscan and the northern traditions were similar.‡ But, though the wife within her sphere was in honour, the authority of the paterfamilias was supreme, originally even to life and death.§ The Roman children, somewhat after the manner of the English, received little intellectual but a good moral education—namely, to be manly, silent, modest, obedient, sober, and devoted to the State and the gods, ideals which were indeed identical. As with our youngsters, however, the pampering effects of wealth, luxury, and idleness soon began to undermine this discipline.

Now, among his other functions, the paterfamilias was medical officer of health and physician to his household, which included his slaves and his cattle. Veterinary medicine, as we gather from Cato to Columella, and to Vindicianus, had a considerable part in Roman economy; and I regret that my present limits forbid me to make use of its interesting lights upon the subject. As medical officer of health the paterfamilias had to fence out not only his adversary, or chance marauders, but also those hostile spirits whose arrows were sickness and pestilence. Upon him, under the auspices of Mars, the god of boundaries, lay the responsibility for the precise formulas by which they were to be repelled, and the safety of family, cattle, and crops within his consecrated precincts secured. Even Cato sought to ward off a certain calamity by a processional sacrifice. And if, after all, disease got in, or in any case when his wife lay with child, or a slave broke his leg, this practical man expected his diseases and his traditions together to provide him with the right weapons to fight the disease, the pain, or the injury. These means, though in part incantations, yet included the aid of simple operations, and of certain drugs, mostly herbal. Up to the time of Cato the folk method was theurgy *plus* the drug; then the drugs, escaping gradually from the theurgy, ultimately attained the marvellous compound virtues of the galenicals and mithridatics which, at a later date, were scarcely less supernatural.

Of natural products those which were notable for oddity of feature, or peculiarity of taste or odour, readily found their way into the pouches of the healers; and as in the earlier days we are contemplating there were not yet pharmacists, perhaps not even professed cullers of simples, these specific products were gathered or procured from the merchants by the paterfamilias, and placed in the store closet or Penates, which holy shrine thus held the guarantees of the well-being of the family and estate. The Penates, then, were in part the material of folk medicine in every household, and the paterfamilias was its high priest.

We need not suppose the materia medica to have been a very meagre collection. Self-contained, austere, and rustic as was the older Roman, it has always appeared to me that Marquardt and other civil historians have laid too little stress on his trading capacity. Much of the vast wealth of the Empire was no doubt acquired as spoils, and Ostia, like Marseilles, was out of the line of tolls which enriched Sheba, Jerusalem, Tyre, Mycenae, Corinth, Venice, and other keepers of the gates of traffic; yet even before the Punic wars, and long before the possession of Alexandria, Rome was the centre of no inconsiderable commerce. The site of Rome, like that of Athens, combined the advantages of inland security with those of a seaport not too far away. Moreover, the recent excavations on the lower Tiber have disclosed two ports; the newer port of Ostia built, in the security of a command of the sea, farther from the guardian city, was a splendid mercantile town of stately warehouses and tabernae, and of rich dwellings containing precious works of Hellenic art. This Ostia was constructed under Claudius lower down the river when the old harbour had silted up. But the nearer Ostia, founded by Ancus Martius before Rome had command of the sea, was the ancient and by no means inconsiderable emporium of Republican Rome; and of its turnover the spice and drug traffic was no insignificant part. The greater the perils and the hardships of transit the more portable the articles of merchandise; and in early Rome, before the destruction of Carthage and the suppression of piracy, a large part of the trade would consist of the spices, incense, and the rare unguents, such as styrax, myrrh, spikenard, or opobalsamum, in precious boxes under seal and signature (epangelia), which in early and mediaeval times were so universally in demand as, with gold, gems, ivory, silks, etc., to kindle the adventure and paint the romance of the merchants of olden days. In great houses, in guilds, in monasteries, these medicinal Penates were handed down to later times; and interpreted for domestic and charitable uses by such books as *Le Manuel des Dames, formules de médicaments . . . remèdes aux pauvres*, etc.: Bonham's *The Chyrurgion's Closet et Antidotaire*, etc. In the old Yorkshire homes of my childhood there lingered still the locked cupboards containing the quaint jars and hieroglyphic boxes aromatic of pepper, allspice, cinnamon, conserves, and strong waters; and charged also with the less attractive redolences of only too familiar drugs and draughts. Our grandmothers and aunts, who, like Diana of Poitiers, were well versed in domestic medicine, made and administered our potions and powders, and those of the more grateful poor. For we children liked better to search their pockets for the pretty silver grater with the rattling nutmeg hidden in the head of it, for the arabesque and antiseptic vinaigrette, and in the depths for the few corns of cloves so warm to our teeth. Pardon my garrulity—of memories running back upon these Penates, and to the marvellous legends of the spices guarded by winged serpents, and by ants in size somewhat less than dogs, but rather bigger than foxes, which had been gathered for our child's story books, and their queer woodcuts, from the innocent pages of the Father of History. Of these exotic trucks, pepper especially counted for much in Roman trade, as it did in mediaeval times. I had been wont to suppose that the pepper was to preserve and give sapidity to the staler meats of winter; but Mr. W. H. S. Jones has pointed out that no doubt it was also used extensively as an antidote to the malaria. On the importation of the malaria, then—whensoever after the flourishing of the rich cities of Magna Graecia this may have been—that of pepper must have increased in some correspondingly enormous proportions.

But old Roman folk-medicine did not consist by any means in simples and in spices only; it consisted no less in customs, rites, and magic, some engendered of the natural brood of mankind, such, perhaps, as the primaeval creed of the great Earth Mother, or the custom in folk-medicine of laying out the sick in the highways for the aid of some passing traveller; some imported from the East, as by the Etruscans, by the opening out of the East in the Persian wars,§ by the campaigns of Alexander, who carried a magician with him as well as the *Iliad*, and by the avenues of commerce. From the Oxus, from Mesopotamia, from India and Sheba and the Persian Gulf, possibly even from the tin islands of the Far East, by the Caspian and Black Sea to Sinope and the Balkans, or by the old caravan track still extant from Byzantium to Ragusa; or by the Royal Road through the Cilician Gates and Pieria to Ephesus; or, again, through the lesser desert to Hebron, Jerusalem, Tyre, Nauplia, Mycenae, and Corinth, there had been for centuries untold a perennial stream of ideas as well as of merchandise. The wide and various wanderings of the old Greek philosophers and historians, and their harvests of learning and experience, were not likely to be forgotten; for, in days when manuscript was rare and meagre, memory was retentive. We are finding in the Middle East heaps of clay tablets in Assyrian script, but in their matter recording traditions of magic, astrology, and

* Although for various reasons, good and bad, confarreatio became less frequent and divorce more frequent; and, as with the women in all wealthy societies, extravagance in dress, luxury, and morals increased. Yet even then women ranked much higher in Rome than ever in Greece. I may observe in passing that the idea that in sexual honour there should be one law for man and woman alike is as old as Plautus (Mercator iv, 6), and that it was approved by so shrewd a man of the world as Montaigne.

† This honourable place of woman in a people of Oriental stem is very remarkable. But in the British Museum the passer-by may see at a glance the Etruscan wife, sitting at a table with her lord, equal in sepulchral honours, etc.

‡ This dominion of the household has persisted among the Latin peoples to this day; it is said that at one moment the old Marquis de Mirabeau had every member of his family under lock and key. Another side of the matter is that the love of home has never, it is said, been more intimately expressed, even by English poets, than in poetry or prose by Romans—as, for instance, in the Eclogues; one may note especially the charm of the old country home on the Mincio.

§ Pliny's story is that Xerxes brought with him a magus called Sothanes, whose influence penetrated widely in Southern Europe: "qui velut semina artis portentorae insparsit."

demonology, probably even of Sumerio-Accadian origin. In the light of our modern knowledge of the wide and frequent diplomatic intercourse brought to light in the records of ancient Egypt, it is not to be supposed that these hoary ideas did not reach and affect the Western peoples, in degrees of more or less, as their respective avidities might be. On the other hand, however, I think that the recent discoveries in Egypt, in India, and even in China,* may tempt us to attribute too much of Western culture to Oriental origins and ideals. The general truth is that, Christianity apart, Oriental thought has been sterile and, for us, vain. It has often coloured but it has never formed Western thought, scarcely even in Venice. The Moslems of Spain, brilliant ambassadors of culture as they were, made no great contributions to the sum of knowledge.

One of the most pregnant conditions of the diffusion of culture was by the immemorial consecration, for security of market and travel, of certain central marts and places of congregation, such as Dodona, Delphi, Delos, Ammon, Mecca (long before Islam), and, in less awful sanctity, Hebron, Zion, Tadmor; international refuges, each under the ward of a great god, or of an ancient and wise king, such as Melchizedek or Solomon, and often, as at Dodona or Delphi, the seat of an articulate organ of Divine messages to mankind. Homely as the primaeval Romans were, we may be sure that the voices of the Oriental merchants, sages, and soothsayers penetrated even to that secluded nest of its mighty brood, already nursed in the augury and haruspicy of the Etruscans, a divination which, however, in nature and character appears to me rather as a kind of natural research than of witchcraft. That in his early ages man should be attracted more by rare incidents than by common sequences is not surprising. A chicken born with three legs was a sign from the hidden powers of Nature; the Roman Senate was summoned for its interpretation, as the Royal Society congregates to muse upon radium. The augurs were a college of scientific experts; and deflections in the flight of birds or in the currents of occult life in the entrails were phenomena significant of the working of larger causes in which man was deeply concerned. The people who best could read these signs must therefore prevail. Unfortunately the Roman, like other augurs, learned to love authority more than prophecy; and Méniere surmises these priests were adepts in anatomical tricks, such as of bleeding from carotid or jugular vessel as they chose.

> Nec cruor emicuit solitus, sed vulnere largo
> Diffusum rutilo nigrum pro sanguine virus.
> LUCAN: *Pharsalia*, i, 614-15.

The study of religion and superstition is far too vast for this occasion, albeit its influence upon folk medicine was too considerable to be dismissed without a word. Theurgic methods in the infancy of human societies can hardly be called superstitions; they belong to that provisional framework of custom by which early societies are integrated and bonded together; and, if in Rome theurgic and other rituals have had a longer reign, we must remember that the mission of Rome has been one of integration, subordination, and rigid consolidation, not of revelation. In its classical place in Livy (vii, 2–3) we read of a great holy feast to gods during a severe pestilence in the sixth century—eight days of it, to Apollo, Latona, Diana, Hercules, Mercury, Neptune, with religious drama and dances. When this failed, the curious, apparently Etruscan rite† of driving a nail into the temple of Jupiter would be performed. The curse of Rome, the malignant pestilences, often no doubt the plague itself imported by traders, or perhaps the first invasions of malarious disease upon a people not yet even partially immunized, or again the commoner infections envenomed by foul conditions of life (though in the reign of Tullus Hostilius, and earlier, the conditions of a scanty, hardy, outdoor population cannot have been very foul), broke upon blow and time after time, smote and devastated Rome, sometimes "killing without illness," many times destroying both men and cattle, or blighting even trees and crops also, they drove the people into gloomy terrors during which these public rites, horrible as some of them were—such as the well-known immolation of 120 women—at any rate saved them from despair.

Down to the time of Cato, the application of natural, and the invocation of supernatural means lent, each to the other, supplementary and material aid. In the gathering of simples some peculiarity of form, colour, odour, or other strangeness of feature or outlandishness of habitat gave it, as I shall note presently under signatures, a hold on the attention; yet in the culling of the herb, or the brewing of the potions, were also to be regarded the mystic influences of the seasons of the year; of saints' days, such as the Eve of St. John; of the new birth of spring or the decay of autumn; of the influences of the hours of the sun, of the phases of the moon and of other heavenly bodies and constellations; of heat and cold, dryness and moisture; of the congruities of numbers, of precatory patter, and so forth.‡

Of supernatural or magical observances the more specific were "binding and loosing," the virtue of laying on of hands, the potency of names, lustrations, holy wells, dreams and their interpretation, temple incubation with its corresponding donaria, and the fantastic notions of signatures and symbolisms, of sympathy and analogy, of talismans; all of these observances entered deeply into early Roman as into other folk medicine of those and of later times. Remnants of them survive amongst ourselves, especially in the conservative functions of our churches, and beside the sick bed of helpless man, where the grosser kinds of mysticism still endure and even flourish. It were well indeed if we could say that from the practices of modern medicine they were wholly banished. No wonder, then, that magical and occult ideas and practices entered into the very framework of Latin medicine, not in the crude times of the Republic only, but, in rising and falling tide, in the earlier Empire, the later Empire also, and during the ages we call "dark." The demonology of Roman folk-medicine carried its pedigree back far beyond Endor, has propagated its kind through the Middle Ages, and in the "morbid entities" of our own nosologists has still its pale survival.

That amid these oracular, ceremonial, mystical, exorcistic, and occult agencies of magic and practice the priest had a chief place, as the necessary mediator and interpreter, was (as I have shown, p. 1453) a far stronger motive with the Roman than with the Greek people. It has been pointed out from the Coan and Cnidian Sentences how early in Greece were the indications of the detachment of professional from folk and theurgic medicine; and negatively that in all the various books of the Hippocratic Canon temple medicine has barely an allusion. To this independence I shall refer again presently. In Greece the theurgic invocations of Apollo Paeon, of Chiron, of Aesculapius, seem soon to have become, as in the Oath, rather of the drapery than of the body of medicine. "Church was one thing, common sense was another, and he wanted nobody to tell him what common sense was"; is there not a flickering light of human kinship between Hippocrates and Mr. Tulliver? Even in Celsus the shapely adolescent form of scientific medicine, if then becoming more acceptable to the newer and cultivated Roman, was notwithstanding in temper wholly Greek; to the Latins it owed nothing. But in Rome, during the Republic at any rate, theurgic, or hierurgic, or incantatory craft was of the body of it; drugs and operations were but auxiliaries. To understand Roman medicine aright, therefore, I must touch, however briefly, on some of the chief of the miraculous observances to which I have referred.

Binding and loosing, a kind of magical enthralment, or a throwing of function in and out of gear, had obviously its direct medical application to childbed; and also to maladies of the kinds of hypnotism and hysteria. The very ancient goddess Carna was primarily the warden of lock and key, and thus became the goddess of the lying-in chamber; then of the strength of the stomach, and so on. As the method, from early ages, as recorded

* In the reign of Trajan a Chinese general reached the Caspian and tried to open up some intercourse with the Romans. Pliny the Elder recognized (N. H. vii. 19) the function of trade in the diffusion of ideas.

† This observance (primarily an almanac?) but the links are obscure) is traced to the Volsiniens, and to the Etruscan goddess Nortia (vide *Mitth. Gesch. Med.*, 1904, p. 269). I do not think the alleged secondary link with the virtues of the nails of the Cross has been verified.

‡ That to the selection of herbs early man was guided, as Heeser suggests, by some instinct seems improbable; though no doubt he was aided by some rough empiricism.

§ Vide *Odyss.*, xix, 457.

|| In these paragraphs I am indebted to the various essays of the late Professor Hugo Magnus, especially those which appeared in the *Abhandlungen z. Gesch. d. Medizin*, and to the well-known treatises of Deuticke and Weinreich.

in cuneiform script,* down to its attenuated survival in modern rituals, was intimately connected with the laying on of hands, or the sign of the hand, it is difficult to consider the two methods separately. For instance, in childbed loosing was often done, or signified, by a laying on of the hands of the healer, or by a gesture of the hand, so that in Greek χειρ and δυναμις became equivalent; furthermore, in many legends, as in modern hypnotism, it is not easy to perceive whether the manual act were one of a stream of virtue from the healer to the patient, or a manumission, or a protective gesture; or, indeed, as in not a few cases, medically operative. For example, in childbirth the hand of a god may be laid upon the abdomen, so that from it the solvent virtue may flow into the womb; or the act may be only symbolic, as in the idol of a goddess of fecundity found at Cnossus—I take this instance as carrying us back to the Pelasgian people—in which the elevated right hand is widely opened: the left, for the left hand had even then its sinister potency, being closed. The Eileithyiae are often represented, upon the so-called Etruscan vases, with the right hand thus raised and opened. To close the fingers would arrest the birth. These daughters of Juno or Hera were, however, always beneficent goddesses, both for marriage (Hera Eileithyia or Υπερχείρια) and childbirth. But they are often shown as more than guardians; not only blessing by symbolic gesture, but also laying the potent hand upon the body, or even performing some efficient act. They appear thus on some Etruscan mirrors; and in later times we read in Ovid of Leto's childbed (*Met.*, x, 410).

> Constitit ad rancos mitis Lucina dolentis
> admovitque manus et *verba puerpera* dixit.

Now Soranus said that the pangs of childbirth are mitigated by the laying on of a warm hand. But this very ancient hand magic was by no means confined to midwifery. Chiron, Hygeia, and Apollo had the attribute of ἠπιόχειρος, which passed on in later tradition to the hand of the Mother of God—χειρ της παναγίας. For instance, the Dioscuri, Asclepius, Serapis, Cosmas, and Damian, thus saved from sickness, as also from storm at sea;† and still the modern Italian mother takes her sick child to the little circular church of "San Toto," at the foot of the Palatine, where, perhaps, at this very temple, the old Roman mother used to invoke the Great Twin Brethren. Such gestures were used also for maleficent purposes (mala manus), especially, as I have said, if delivered with the left hand; of this side of belief we find abundant evidence in sources so different as Petronius and the Acta Sanctorum. Asclepius would thus use his magical powers, generally during incubation. In an Epidauric inscription so late as the fourth century A.D. he is said to have laid his hand upon the body of a sterile suppliant, who gave thanks for the son she came thereby to bear. By raising the eyelids with his fingers he restored a blind man to sight; and in another patient by stroking the hand he dissolved (a Dupuytren's contraction ?). And, as I have said, by means more specific than gesture this god of Medicine often showed his good-will: to one he holds out a potion, another he anoints with a salve; or he performs an ablution, even with a sponge ("nescio a quo deorum spongea corpora sua perfergeri": Val. Max., ii, 4, 5); or with his miraculous hand he does swiftly an operation which the mortal physician achieves far more laboriously (Weinreich). St. Eligius, patron of a street near my own house in Cambridge, cured a dumb woman by snipping the bridles of her tongue "cultellum etiam vel forcipem, in specie medici manu gestans" (see Vita St. Eligii: in Migne). Similar manipulations were still related of the mediaeval Saints, as by Gregory of Tours, by Cosmas and Damian, Cyrus and John, and others. Apparently concerning malaria, in an inscription of the earliest years of the Empire found in the Asclepieion of the island of the Tiber, the donor sets up his εὐχαριστήριον [Α]σκληπιῷ θε[ῷ] μεγίστω [σ]ὠτηρ[ι] εὐτε[ρ]γέτη· "ὄκνο[ν] σπληνὸς σωθεὶς ἀπὸ σὼν χρῶν."‡ How by these Epiphanies and miracles Julian, and many of the neoplatonists, endeavoured to identify or to connect Asclepius—known from ancient times as mild (ἤπιος = mitis)—with our Lord is well known.§ Proclus, in his Hymn to Athena, sings:

> "ναί λίτομαι, βασίλεια, καὶ ἁμῖν σὸν χεῖρι
> "παῦσον ὅλην κακότητα μελαινίων ὀδυνάων."

And, thus figuratively, potent medicines received the name of the "hands of the gods." Plutarch says, "Τὰς βασιλικὰς καὶ ἀλεξιφαρμακοὺς ἐκείνας δυνάμεις, ἃς θεῶν χεῖρας ὠνόμαζεν Ἐρασίστρατος."

Scribonius Largus also, in his Preface, says of Herophilus, "fertur dixisse medicamenta divinas manus esse," etc. Alexander of Tralles gives this title to an infallible remedy against stone of the kidney (A. v. T. ed., Puschmann, ii, 466); and Weinreich states that in the current *Pharmacopoeia Danica* is a "Guds Haands Plaster." How by the touch blindness may be cured, or inflicted we know not only from such familiar stories as of Teiresias and Elymas—sometimes with the aid of ashes or water from the altar, or of spittle, or of holy relics, or of clay, but we find the same procedures in inscriptions at Epidaurus, in the Asclepieion of the Tiber, and in the Asclepian temple attached to the baths of Diocletian. In the *Vita Hadriani* (quoted Weinreich) we read "Venit de Pannonia quidam vetus caecus ad febricitem Hadrianum, eumque contingit. Quo facto et ipse oculos recepit, et Hadrianum febris reliquit." Similar miracles are recorded of Vespasian, in the Serapis temple at Memphis, who may have believed as much or as little in his royal touch as Queen Anne did.* I may add, however, the story from Pliny (*Hist. Nat.*, vii, 20), how Pyrrhus, by the touch of his great toe (cujus tacta) "*lienosis* medebatur." Pliny (*Hist. Nat.*, xxviii, 43) speaks of the cure of epilepsy. "Si virgo dextro pollice attigat": and Alexander of Tralles of the ἱερικὸς βακτηλος (ii, 199. Ed. Puschmann). Thus the virtue of the hand might emanate from any limb, or from the garment or a relic; but the magical virtue of the thumb or the great toe was more than this. These parts, by the analogy of form so catching in early times, had a phallic significance. Under the name of thumbs of this saint or that the emblem, in wax, is, I believe, at this day commonly sold in the nearer East, especially in Italy on the feast days of SS. Cosmas and Damian, to sterile women, or as a votive offering. Sir William Hamilton at Isernia noted this practice also on St. Januarius's Day. St. Thomas Aquinas cured a blind man by the simple device of allowing the patient to kiss his foot, a prerogative shared with Popes and Emperors.†† It was by this pedigree that the royal touch came to us in England, and it is illustrated by certain ancient Gaulish and Spanish practices of royal touching for jaundice, plague, or insanity.

To the evil of the sinister hand I have referred; but I may remind you also of the perilous stroke of the god, or ghost, of which, among many instances, that on the hollow of Jacob's thigh is the best known. To such a blow the Arabs attributed the "divine disease"—epilepsy; and the legend of the Incubus belongs to the same line.

On the magic of *Names*—that to discover the name of a person is to obtain some power over him, or some intimate access to him, is an ancient notion scarcely yet extinct. Patients, by no means confined to the ranks of the hospital classes, feel that if they can get hold of the name of a disease, they thus penetrate nearer to its essence and obtain some greater measure of control over it. In Jacob's conflict it will be remembered that his supreme effort was to learn the name of his mysterious antagonist. This power of the name, too general a belief to need farther allusion in this place, was in full force in ancient Rome. Naming and Binding were often associated; even down to the later Middle Ages impotence and sterility were to be conveyed by tying a knot in a cord with incantations and naming the person.

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* Vide Oefele in Puschmann's Handbook.

† Vide Deubner, *Kosmas u. Damian*, Leipzig, 1907.

‡ Besnier, *L'Ile Tiberine dans l'antiquite*. Paris, 1902.

§ Vide Mau, *Die Religionsphilosophie Kaiser Julians*. Leipzig, 1908, quoted Weinreich.

‖ How ancient are the virtues of spittle, especially of fasting spittle, I need not stay to illustrate—for example:

> "Foot, foot, foot, is fast asleep,
> Thumb, thumb, thumb, in spittle we steep," etc.

* It was, I think, in the time of the Georges advertisements appeared postponing dates for the suppliants, as "the King wanted a holiday from healing."

** Italien wine, to indicate the malarious connotation.

†† Troels-Lund (loc. cit.) says the fingers of dead thieves stolen from the gallows were preserved in brandy for their healing virtues.

The magical virtues of *numbers* are too well known to require any long description in this place. In early stages of thinking numbers were confused with ideas and with causation; they gave to phenomena and to causation a sense of uniformity and progression. Moreover, they were verifiable, so that by them all things might surely be measured; and between measure and law the distinction was misty. Certainly in music and in astronomy numbers were of striking validity; and, if so, why not in the bodily courses, in physiology and disease. Times and State functions also appeared to bring about their own fulfilment, and this with a majestic procession which must have seemed to depend on some intrinsic potency.

Lustration in Rome, with its traditions to the present day, is a long story. Mr. Warde Fowler says the root idea of *lustrare* is *luere*—to get rid of something, primarily of hostile spirits. Certain events need certain piacula, and then—the trespass may be continued. It contained no sense of regeneration.

Incubation, or temple sleep, long prevalent in Rome, was too ancient a practice to be described in these lectures as distinctively Roman. On this practice in Greece I may refer to my portion of the article on Greek Medicine in the Cambridge *Companion to Greek Studies*. Dreams and their interpretation belong, of course, to the most ancient and universal of the beliefs of mankind. Yet, as I have said, to the lucid intelligence of Greece proper, and in particular to the Hippocratic schools, this ancient illusion was becoming less and less substantial. It is remarkable how little trace of magic there is even in Homer, medicinally speaking; Apollo's arrows and the expiation are another matter; this process, indeed, had in it a strong element of worldly justice. In the *Odyssey* (xix, 45) it is true the haemorrhage of the wounded hunter is stayed by "ἐπαοιδῇ." In Aristophanes (*Ploutos*, ii, 620–21 and 665 et seq.) we find these priests of the temple sharply satirized. For the first patient, a poor man afflicted with the *lippitudo*, so curiously common in Rome, the god roughly daubs on an unguent of biting severity (and doubtful efficacy?); while to the blind god Plutus he is far more complacent. With Panacea he wraps the head in a red* cloth, under which the snakes slip in and lick the eyes. Or, again, need I remind you of the well-known passage in *The Republic*, in which Socrates says that to regard dreams seriously is absurd, or even odious; that they are the confused and often ridiculous results of indigestion, and disappear when by temperance the soul, no longer obfuscated by gross vapours, is steady and calm. In the fourth book of the Coan treatise, Περὶ διαίτης, dreams are treated calmly as clinical phenomena.† And I might proceed to show how this lucid and positive Greek temper prevailed in Celsus, in Aretaeus, and even in Porphyry. In Rome, however, under the fair semblance of Hellenic culture, folklore, hierurgy, and the undercurrents of the hungering, bewildered souls of men swept on in a larger volume, gathering still grosser turbidities. In primaeval times dreams were a part of the only available theory of life; in Rome they had sunk into the muddy waters of superstition. Probably the Epidaurian cult reached Rome by direct communication; the not dissimilar rites of Isis (introduced by Augustus), Serapis, Osiris, were of later introduction. But incubation did not become a local and popular custom in Rome until the conveyance of the Aesculapian divinity, or his emblem, to the Tiber Island in 291 B.C., when, by the more national observances of haruspicy and piacula, the augurs had failed to stay the pestilence. But before this translation of the Aesculapian cult, Roman and other foreign suppliants had been wont to seek the god in Epidaurus; and in later history, as in Herondas, we read of its continuing vitality in Cos in 200 A.D., who describes the visit of two women thither, and gives some description of the artistic treasures of that temple. It is said there were eighty temples to Aesculapius in Greece. Incubation was practised, however, in many other temples besides those of Aesculapius; it persisted in some vigour through the Middle Ages, and to this day is practised in many shrines in the Aegean. A notable example is that of Henry II (1003–1024), who, being afflicted with the stone, attended for medical treatment at Monte Cassino. Now a Roman Emperor was an alarming and an imperative visitor; the monks therefore wisely entrusted the case to St. Bernard himself, who in a temple dream operated, successfully, if I remember right, upon the august sufferer.

Haeser thinks that the Aesculapian worship took no deep root in Rome. It is true that authors of the earlier time are rather silent about it, and little or nothing is said of any medical skill among the priests; Galen does not mention it even to attack it; but the same might be said of the attitude of modern physicians towards our own superstitions. The silence may have been—probably was in part—contempt or indifference. Its most flourishing time in Rome was probably that which immediately followed the new local foundation, before the Greek physicians flocked over to compete with their own god; nevertheless, in the time of the Spanish Emperors the shrine was much frequented, and not by the vulgar only. The temple had some privilege of asylum. If a master refused to treat a sick slave, and the slave, making his way to the island, was cured there, he became *ipso facto* legally free. Marcus Aurelius founded there a hospitium rather than a hospital, probably as an annexe to the sleeping portico,‡ and a large and, it is supposed, a valuable library and armamentarium were gathered there. The instruments suggest that some rational therapeutics were in use at the temple, but the records, or testimonials, were probably of no scientific value; indeed, the value of those of Epidaurus, though probably higher, has been much exaggerated.

The votive offerings (*donaria*) were not merely commemorative; they were often deposited in order that there should be no Divine mistake about the organ to be repaired. Thus, images of eyes, ears, and limbs, and of viscera, singly or in groups, the inwards probably copied from sacrificial animals, were offered, as they are offered still abundantly to this day.§ The peculiar golden offering of the Philistines recorded in the sixth chapter of the First Book of Samuel comes at once to our minds. In the Savile Collection in the Nottingham Museum is a terra-cotta from the Nemi temple of a woman with the breast laid open so as to exhibit its viscera. It is attributed to a period between 300–150 B.C. (No. 131 in the Wallis Catalogue). Effigies in terra-cotta of eyes, ears, and other limbs, are dug up in modern exploration by the bushel. The votive offering which has perhaps the most ancient, certainly the most curious, history is the effigy of the uterus. For times beyond date this viscus has been regarded as an animal endowed with independent life and motion, and as using them to range over the inwards. It was customary in Hippocratic times to use both abdominal palpation and vaginal inspection to ascertain its temporary habitat. This donarium, found not in Southern Europe only but also of northern provenance, as may be seen in the Nuremberg Museum and in not a few Roman Catholic churches of the north, was usually made of metal—of iron or lead; or perhaps I should say that those made of metal have not perished. In form it was various; usually a quadrupedal tortoise-like creature, but sometimes newt-like in shape, or even crocodilian.

In Roman times the dreams, according to Cicero and Posidonius (*De Divin.*, i, 30, 64), were of three classes: the first class, which the *animus* provided for itself, with no more than the cognizance of the gods; the second, due to the haunting of aerial spirits, in which were some "notable elements of truth" (insignitae notae veritatis); the third, and imperative, by which the gods spoke directly with men, the θεῖοι ὄνειροι of Hellenistic authors.‖ And here it may be observed that the chthonian deities were local—parochial, so to speak, and were to be sought each

* Red is a colour of ancient magic. Thus a red thread is a magic clew.

† The so-called Epistles of Hippocrates are, of course, apocryphal.

‡ The Aesculapian asylum, founded A.D. 154 on the Appian Way, was not a hospital, but what we should call an almshouse.

§ Vide Art. Donarium, by Homolle, in Daremberg and Saglio, *Dict. Ant. Gr. et Rom.*, 1892.

‖ The relative place of temple practice in the evolution of ancient medicine, and the proportions of miracle to professional and rational methods, are really unknown. This question I have dealt with elsewhere. M. Cavvadias, with whom I once incidentally discussed the subject, seems, or did seem to me, to lay too much stress—or more stress than medically instructed historians would be disposed to do—on the temple as the source of Greek medicine (vide Τὸ Ἱερὸν τοῦ Ἀσκληπιοῦ. Athens, 1900). To speak, as some modern historians speak, of Asclepius as only a great physician glorified, is mere guesswork. In Homer he is indeed spoken of as the father of Podalirius and Machaon, Paean being the god of Medicine; but at any rate in the Homeric hymns (say 500 B.C.) he was a god—θεὸν καὶ ἰητῆρα νοῦσων.

in his own abode; the Olympians, being more universal, could be sought and could appear anywhere. Thus the Epidaurian god would vouchsafe to appear to a dreamer in Rome; Marcus Aurelius seems to have been at Gaeta when the god in the dream prescribed for his haemoptysis and vertigo; and St. Gregory of Tours, if I remember aright, appeared to a certain calculous personage in a dream in St. Andrew's Church at Patras, when his stone promptly clinked into a glass vessel. Dreams were, of course, the vehicle of counsels and prophecies of all kinds, but it was in the incubations for healing of disease that they became especially popular; and thus under the earlier and later Empire, and indeed from early ages through Rome to mediaeval times, as we read in late Roman authors such as Aetius, and in Christian hagiology, dream medicine had a wide and enormous vogue in Europe. Although Christian bishops dethroned ancient gods for later saints, such as Cosmas and Damian or Cyrus and John, yet Aesculapius was one of the last of the gods to vanish, and under change of name the practice continued. In Rome, however, the practice (*ἐγκοίμησις*) gradually settled upon the lower and more ignorant classes of the people. Occasionally incubation was performed vicariously, even in ancient times, as related by Herodotus (viii, 134), by Strabo, and many later writers. To rarely favoured suppliants, indeed, Asclepius might extend relief even without the formality of *ἐγκλισις*. The physician made use of the dream in two ways: watching the patient in sleep, he sought clinical evidence of his malady, while also he partook more or less, no doubt, of the belief in the method as a means of medical aid. This aid might be given either directly, as we have seen, by the hand of Apollo or Asclepius, for at Epidaurus the cults of Apollo and Asclepius were united—or indirectly, by observance of certain divine commands. So strong was the tendency, especially in Rome, to categorical personifications that in many temples of Asclepius statues to Oneiros and to Hypnos Epidotes have been discovered, or are recorded by Pausanias.† Antoninus Pius, when in Epidauros he built a bath to Asclepius, built also a temple to the *θεοὶ ἐπιδώται*.

Some dreams were verified by earthly residues; leeches were found in the couch, or a fig, or a bandage, and the like. In later times these records became more and more stupendous, especially in the Christian hagiology. Deubner tells us of a severe operation performed by Cosmas and Damian upon so reluctant a patient that Damian had to hold him fast while Cosmas applied the knife. Weinreich narrates a less happy operation in which a certain saint put on a leg the wrong way, so that the toes pointed backwards.

In the Dream the god might appear personally in his "noble manly beauty," sometimes accompanied by his daughter Panacea, or in the shape of an attribute. Thus Asclepius might appear with a snake or as a snake:

> Vertar in hunc, sed major ero, tantusque videbor
> In quantum verti caelestia corpora debent.
> OVID: *Met.*, xv, 661.

It was in the form of a snake that, to avert a plague which had proved to be beyond human skill, after opening the Sybilline books and consulting the Delphic oracle, he, or some of him, was conveyed to the Tiber Island, with all the oracular precaution and processional pomp which in all times have accompanied the removal of a shrine, as in the travels of the ark of Moses, of Serapis, and so forth. "Ayειν ἐφ' ἅρματος was the formal phrase of it.‡ Thus, was the cult of Asclepius carried to Athens in 420 B.C. And it is no less well known how terrible a punishment might fall upon one so unlucky as to err in any point of the ritual; for although our concern is for the moment with the beneficence of the gods, yet in every degree, from mere aversion of the countenance to vengeance not only upon the sinner or scoffer but upon the hapless blunderer, their maleficence was as notorious.

The snake itself from the earliest times has been regarded as the symbol of healing, possibly from its "chthonic" (phallic, seminal, *ἀλεξίκακος*) associations (Weinreich); or as the emblem of eternity; or, according to a scholiast of Aristophanes, because of its quick sight (*δράκων = δέρκω ὅ ἐστι βλέπω: ὀξυδερκες γὰρ τοῦ ζῴου*). The chthonic nature of the snake is well attested by its association with waters and wells, as illustrated by Robertson Smith in the *Religion of the Semites*, and by Dr. Frazer in his *Pausanias*. Weinreich, however, is disposed to think that the association may have been more or less indirect, as waters of healing would be under the patronage of Asclepius and his snake. The mystical confusion between Asclepius as a snake or with snakes, a confusion or transition typical of all these early emblems, had its conveniences, as we read in the legend of the Tiber Island. The wily priests of Epidaurus, in consenting to part with the snake, "reserved" the question of a bestowal of the god himself, while in his turn the Roman ambassador maintained a contrary "reserve" towards the Roman people.

Into the large chapter of the healing properties of waters, baths, and *holy wells*, if I enter at all I must make a separate excursion; but as they played a very large part in Latin medicine, I must not fail to call them to your remembrance. In them chthonic gods naturally have their abodes; and to them, as to the temple shrines, votive offerings were made, and indeed are still made in the form of the pins, rags, small coin or shells, which many of us have seen in and around holy wells at this day.

Strong evidence not only of the persistence but also of the increasing influence of the Asclepian cult in Rome under the Empire is the development therein of new qualities, such as are to be noted on the testimony of no less a witness than Galen, who in a remarkable passage speaks of *ὁ πάτριος θέος Ἀσκληπιος* as the patron of song and drama which warm the blood; and also, for the like advantages of health, of military and other gymnastics, and of riding and hunting. Weinreich quotes an apt passage from Iamblichus, who speaks of the many such wholesome methods and inventions of the god. Ritter v. Rittershain (*Med. Wunderglaube u. d. Inkubation*) also speaks of the Asclepius of this period as "Vater der Heilgymnastik," and, whether by miracle or by the advance of the more rational methods of counsel or ordinance, we proceed from dreams, visions, and messages, to similar communications with persons awake, though still perhaps suppliants in the temple. As, however, there is no distinct line between the two forms, and no considerable difference of kind, I need not do more than point out this development of temple medicine. As we have seen by the quotation from Galen, this transition was a note of an underlying tendency to more rational and less superstitious habits and conceptions; although among the baser people the old folk methods were still flourishing abundantly. Mr. Jones, in his well-known studies of malaria in history, is disposed to think that as malaria became endemic the vogue of dream-oracles and other charms became exaggerated even among the cultured classes; nevertheless, Asclepius became in part more and more associated with higher culture; and although it is true that not only his soldiery, but also Marcus Aurelius himself, not only the plebs, but also the aristocracy, still sought the shrine of the Tiber Island or of Epidaurus; yet, for the more enlightened of his suppliants at any rate, the "lamata," both in feature and content, were becoming more rational. Besides the extant inscriptions, which betray a more trivial, and so a more individual, note with less of priestly editing, we have the evidences of the *ἱεροὶ λόγοι* of Aelius Aristeides, which, scattered through the literature of the age, have been studied by Wilamowitz¶ and other commentators; and in them Asclepius now appears less and less as the magician and "Wonder-Surgeon" of the old Iamata, more and more as an oracular adviser. It is notable, too, that fewer and fewer suppliants seek him for overt injuries, such as wounds by weapons, blindness, and so forth, and more of neurasthenical persons and those enervated or disordered by luxury and gluttony. Furthermore, in Apollo and Asclepius the qualities of *μάντις* and *ἰατρὸς* were becoming differentiated: as a like modification, both in the kinds of patient, of therapeutical virtues, and of cure, is to be observed in the histories of Gregory of Tours and other mediaeval wonder-workers. Thus,

Vid. Troels-Lund, *Gesundheit, v. allen Zeiten*, Leipzig, 1907.
† Vide, for example, Paus., ii, 10, 3.
‡ Many of the votive offerings in the Asclepieia were offered to Hypnos (and to Hygeia also).
§ Or *ἐφ' ἁμάξας*; vide Benson, *Class. Rev.*, vii, 385, who refers to Pausanias (ii, 10, 3).

De Mort., iii, 5, 708; Parthey quoted Weinreich.
¶ *Isyllos von Epidauros*, p. 115, etc.

even in the pre-Christian Empire we find less and less of the amazing operations and magical extempore restorations of earlier times. We learn, indeed, from Pausanias (x, 23, 13), at a later date, in the Isis temples, that cures began to be restricted to invited cases (*ὡς ἂν αὐτὴ προτιμήσασα ἢ "Ισις καλέσῃ*). Moreover, cures began to take time, and to be compassed by physical means, however grotesque. For instance, to one sufferer is prescribed *κόκκοι στρόβου*; to another a collyrium made of the blood of a white cock mixed with honey. Not only so, but with Hellenistic influences we find a very interesting advance in the sense of the effect of the *ψυχὴ* upon the *σῶμα*, so that again cures are wrought by the arts of music, the drama, and other psychic stimulants, as in the best Epidaurian period. Now, moreover, the notion of suffering as a purificatory discipline or atonement becomes perceptible. Some of the means of healing seem to have had their origin in old taboos; as in the prescription, apparently malicious, of swine's flesh for the sicknesses of Jews and Syrians:* and this not by Asclepius only, but also by Cosmas and Damian (Deubner, loc. cit.), Cyrus and John (Migne), and other magical healers who succeeded the god in his functions. Some modern commentators go farther, and read into certain of such legends meanings of an allegorical or suballegorical kind. It is but fair to the memory of the Christian saints to add that pagan legends of cures, too often of a loathsome kind, were largely carried to their discredit by the undercurrents of folklore. Weinreich explains the flocking of the sick to the shrines of Asclepius of Serapis, and of Isis, whose cults made their way into Rome by their healing attributes,† and those of Apollonius of Tyana in the reign of Titus, to a progressive decay of the medical profession; an opinion which, as concerning the age of Galen at any rate, seems to me to be imperfectly justified.

Even favourite animals for sickness or injury were brought before these temples, as many votive offerings in the Tiber temple of Asclepius testify (Besnier, loc. cit.). A similar broadening, both of medical and humane conceptions, marked also, as we gather from Philostratus, the miracles of Apollonius; and the animal stories of the Pythagorean tradition were thus propagated to the times of Cosmas and Damian, who cured all diseases, not in men only, *ἀλλὰ καὶ κτήνεσι* (Migne, in loc.). And thus we are tempted to recall St. Jerome with his lion which, in Carpaccio's picture, so innocently disconcerted the monks; and, again, the beautiful story of St. Francis and "brother-wolf." This sympathy with the animal creation (*ἄλογα ζῷα*, or *θεοφιλῆ ζῷα*), which we cannot attribute exclusively to the northern races of Europe) grew up under Stoic influence. Chrysippus extended *προνοία* (Divine providence) to all animals (Cic., *De Nat. Deorum*, ii, 64); and Weinreich says that the same tenderness for animals is to be found in Philo. Thus, before the Christian times, out of divine healing, and in the following of Chrysippus, arose a large "Providence (*προνοία*) literature," which was distinctly Stoical, as contrasted with Epicurean, and made its way into the current tracts of morality and edification. Now, Asclepius was eminently an embodiment of *προνοία*; though by degrees even in pre-Christian times the idea of Divine Providence was detaching itself from particular deities. In many temple cures, indeed, the Divine aid is made dependent upon recantation of Epicurean atheism and *ἀσέλγεια*, and burning of his books (vide Lucian, *Alex.*, c, 47). That such zeal should have inflamed that august incendiary, Gregory the Great, and some of his meaner successors, is one of the calamities of history.

Considerable as was the part of *Talismans* (*τελέσματα*), in which one may include magic pictures, idols, and emblems—such even as some of the sillier of our own women buy this day in Bond Street—yet I must not detain you on so familiar a part of the subject. In Southern Europe we still may see statues and pictures worshipped as benefactors, receiving votive offerings, or gilded or enamelled with gems, as in S. Antonio's temple at Padua, in Naples, and even more eminently in modern Greek churches. The conception of deity became in popular idea condensed from the abstract into the image; so that by his god the worshipper actually meant the image itself:

> "*κοίνον δὲ λόγον ἔχουσιν οἱ θεοὶ καὶ τὰ ἀγάλματα αὐτῶν.*"
>
> Artemidorus, *Oneir.*, quoted by Weinreich.

If we may believe Lucian, such effigies, if neglected, would at times, like the ivory Hippocrates which belonged to the physician Antigonus, make themselves extremely disagreeable; even so far as to take to what undergraduates call "ragging" expeditions. This angry image, when annoyed, not only walked the house of a night, banging the doors, but forgot himself so far as "to make hay" in the medicine chests. It is no matter for surprise, then, as we learn from Pausanias (for example, vi, 11) and from Lucian, that such potent effigies were especially trusted for the cure and warding off of fever; and thus, by the direction of oracles, or for expiation, statues were erected to stay or prevent epidemics.‡ Plutarch tells us that Sulla carried about a golden image of Apollo as a talisman. Even in Christian apologetics these wonders were not so much called into question as attributed to demons, the demiurges who, as Plato says, ministered to God in the creation of the world; and, 200 years after Christ, Apollo had still his suppliants against the plague. At this day, indeed, in the Tyrol small stamp-like pictures of the Madonna (*ἡ παναγία*—Bona Dea—Dea Mater) are sold in the streets, and, according to the severity of his case, the suppliant tears off and swallows the proper number of them. Again, in incubation, the god Asclepius, or Serapis for example, would appear frequently as a statue, or in a grotesquer shape, extending his aid *ὥσπερ κάθηται τῷ σχήματι* (Deubner). Marcus Aurelius thus invoked, and saw, Asclepius. Comparetti, in his interesting book on Virgil, compares his fame as a magician with the strange Byzantine prophet Apollonius of Tyana, with whom indeed in the Middle Ages his name is often coupled. In the *Golden Bough*, Dr. Fraser points out that Moses's Brazen Serpent was a talisman§; and often, on the ancient magical notion of "similia similibus," the very means of hurt becomes the means of healing; as the mouse was a talisman against plague, crabs against ulcers, verminous emblems against plagues of vermin, the yellow plover against jaundice, a spider necklace to extract spitefulness, and so forth. Many such instances and practices can be found in Pliny and in later, even medical, authors, such as Alexander of Tralles, who had a profound belief in the efficacy of magical recipes, amulets—even in the form of living animals, and other "*φυσικά*." Gold, as we have been learning anew in the *Ring of the Nibelungen*, is chthonic and magical; and was used therefore for rings and other emblems against diseases and misfortunes.

The doctrine of *Signatures* is too well known to need more than a passing allusion. As of Omens, that of Signatures was tentatively science, though of incredible *naïveté*. The *Geister der Pflanzen*,‖ it declares, are revealed by forms or marks. This plant—euphrasy, for instance—has the form of the eye; another resembles the ear, another the tongue, and each has its virtues corresponding to its sign. That plant, being like a snake, is accordingly poisonous; or again another, having the marks of a snake on its leaf, is an antidote to poison. In this, as in many other modes of fanciful symbolism, the clews are often lost; we cannot tell how or whence the notions originated, or if, indeed, they sprang independently from the fundamentally similar minds of several races in several places. As regards magical or critical *Numbers*, for instance, which, as every physician knows, have entered deeply into medical system and prognosis, very deeply even into Hippocratic medicine, whether among the Chaldeans, among the Jews of the Old Testament, among the Chinese, among the Pythagoreans, and in other peoples and schools, they originated independently, or were propagated by intercourse, no one can now say.

Analogy and Sympathy.—Analogy must predominate in man's reasoning before he is trained to search for affinities in deeper resemblances, and before he possesses a body of knowledge. Even in later times analogies come

* Vide, for example, Robertson Smith, *History of Semites*.
† As recorded by Tacitus (*Hist.*, iv, 81), Suetonius (Vesp. 7) and Cassius Dio (lxvi, 8).

‡ The association of Apollo (Smintheus = of the mouse) with plague is a very ancient belief (vide Homer, *Il.* A).
§ See also Robertson Smith, loc. cit.
‖ Schlander, *Aberglaube des Mittelalters*, Breslau, 1858.

only too readily to save us the trouble of hard thinking and trying. The doctrine of Signatures is an eminent case of the analogy conceit. Analogy was strictly an imperfect logic, whereas Sympathy, speaking as strictly, consisted in a mystic transfer of some virtue. Still in particular instances it is often difficult to distinguish the two ideas. When Lucretius argued from dust in the sunbeam to the atomic constitution of matter (ii. 113), or when Heraclitus, with infinite effect, assimilated the living principle to wine and its spirituous vapour, they argued by analogy. But the Greek, even in his errors, was preserved from extravagance by his sense of proportion. In our own times, if in the sphere of science we have learnt better, and not to apply the methods of one kind of problems to those of a different kind, yet in the sphere of the fine arts, for which our aptitudes are less, we fall continually into the errors of analogy: we impute to one art the conditions of another; we carry into sculpture the conditions of painting, into painting the conditions of history or romance, into music the conditions of epic poetry, and so forth.

Sympathy, the transference of a virtue from one agent to another, is a distinct idea. In Pliny, Virgil, Juvenal, we have abundant examples of this curious but popular notion in medicine, many taken no doubt from Cato's *Commentarium*. For instance, from early times down to the Middle Ages, the dreads of impotence and sterility were a nightmare, so that the means of averting or curing the evil were many; and when regarded in the light of the gravity and good faith of the performers, these cures by analogy had not the naked loathsomeness in which, even in authors so chastened as Virgil,[*] they appear to us. However, passing these by, as a respectable instance I will quote that of the swallow. This bird was supposed to be, of all animals, the acutest in vision, and its eyes to be either invulnerable or capable of regeneration after injury. Accordingly, by the witness of Graeco-Roman physicians, from Celsus (vi, 6) to Paul, and probably long afterwards, swallow's eyes roasted and pounded into a salve, or swallow's blood similarly prepared, were used as a sovran remedy by the oculists. Or again, as the blood was always regarded as the fountain of life, to drink the blood of a warrior, or still better to eat his raw heart, was to transfer his bravery therewith to the consumer. But, as human hearts were not often available, the heart of a savage beast, as of the lion, was regarded as not much less efficacious. I have read somewhere a quotation from the chronicler, Cedrenus, a Greek monk of the eleventh century, that the physician who dissected Cyril cut off and ate the holy episcopal liver. That in consequence his tongue sloughed off ended this story with a dramatic fitness. Of many more such examples I may mention this also, that the blood of a chamois was drunk to cure vertigo.[†] Thus a craving of decadent men for vicarious or transferable virtues led to hideous abuses—to the procuring of the blood of virgins of either sex, or of children, as in the infamous story of the medical sorcerer who, as it was rumoured in the chronicles of the time, sought to cure the nervous disease of Innocent VIII with the blood of three pure children.

Astrology, that most ancient of Asian mysteries,[‡] made no great way in Greece. In the Hippocratean treatise on Ancient Medicine it is vigorously denounced, but in the *De Aeris*, in respect of the behaviour of Arcturus and the setting of the Dogstar, it finds some little countenance. Indeed, in early Rome astrology seems to me to have been less prevalent than other false doctrines, superstitions, and sorceries. We have no doubt the well-known passage of Pliny before us, where he speaks of Crinas of Marseilles, who, besides ordinary medical means, observed the courses and positions of the heavenly bodies, ordering days and hours by almanacks and ephemerides, "as if he commanded all our destinies." The sober Aretaeus, in the latter part of the first century, supposed that the Pleiades produced tides in disease; and astrology made some farther advances under the Empire, acute diseases being referred to the Moon, and chronic to the Sun. In Sudhoff's opinion, Galen, in his tract on Critical Days,[§] gave astrology a great material hold; yet, speaking generally, I think Galen cannot be regarded as a propagator of this imposture. In the West the great outbreak of astrology, and of sorcery white and black, was deferred to the thirteenth and later centuries, when it was kindled or fanned by the Arabs and Frederick II, by Arnold of Villanova, and Peter of Abano. That in this later period, not the several limbs and viscera only, but even the hair of the head and the nails of the toes were under the punctilious rule of the stars, was independent of the tradition of Galen or of any others of the regular or irregular professors of Graeco-Roman medicine.

Around these gropings after knowledge, besides these deceptive practices of illusory methods which move our sympathy and prevent our rebuke, stealthily but in dark volume poured in the miasm of charlatanry. Theurgic medicine, as we have seen, was at least some protection against the charlatanry which captured the childlike methods of folklore only too readily: the populace is always too ready to gamble for the profits of service without its discipline and its price. Even in the best Hippocratic period we read of quacks collecting crowds and using vulgar deceits. In the Περὶ εὐσχημοσύνης and in the Παραγγελίαι by the side of earnest counsel to high-mindedness and intellectual sincerity—pleading even for those wicked men, the fickle folk who change their doctors, as ἄξιοι μὲν ἀμελὴς οὐ μέντοι γε κολάσιος—we read of the base and ignorant pretenders who cannot or will not comprehend such maxims, but, dressing gorgeously and blowing trumpets, plunder the rich, yet leaving them in evil case. And would this were all. If these things were done in Greece, in Rome not only was the art of medicine thus degraded in manners, but it was dragged into far deeper and fouler mire. Without assailing your ears with scandals of black intrigue and monstrous crime, it is but too certain that not the blatant quack only but even physicians of repute connived at and even conspired in the basest infamies. In the Rome of which we are speaking, there was no standard of qualification; in the words of Scribonius Largus, "Quisque volet faciat medicinam." Physicians, at any rate down to the Empire, were not a professional body, scarcely a specific group; they mixed, a motley gang, in a world of all shades and confusions—"*augur, saltuenobates, medicus, magus*." Good and bad, instructed and uninstructed, freemen and slaves, reputable and disreputable, straight and crooked, honest and profligate; some were loyal and gentle, others sycophantic, avaricious, and treacherous. Of such a crew it is impossible to strike an average. Galen said of them ironically that he who in the race for applause and gain wasted his time on learning was silly. Thus the public was bewildered, and in the eyes not of the satirists and gossips only medicine was brought into hatred or contempt. Satires and plays of public manners, overcharged as they may be, if not fairly lifelike lose their point; and we have only too much sober evidence of the complicity of the physicians in such practices as suppression of births, infanticide, and even murder of adults by poison, to regard the public gibes of Plautus as, even in that early time of Rome, calumnious. When Plautus puts into the mouth of the handmaid Astaphium, "Ne sibi persuaderes Ut abortioni operam daret, puerumque ut enecaret," the threat was presumably taken as a matter of course, though it is fair to add that it was made in respect of a midwife. And it cannot be said that these and such crimes, explicitly forbidden by Hippocrates, prevailed only in a semi-barbarous period of old Rome; with the corruptions of wealth and social profligacy they became more and more frequent and shameless. Before this audience I need but allude to the reprobate Eudemus, brought at last to torture and the gallows as he well deserved, fellow paramour of Livia with Sejanus, and poisoner of Drusus, whose death was one of the unluckiest mishaps of history; or to Vettius Valens, physician to the abject Claudius and parasite of Messalina, a wretch who also came to the bad end he merited; or to the greedy boaster but no less wicked and adulterous

[*] See *Georg.*, iii. 280: and Juvenal, vi, 133.

[†] The fear or use of blood, especially of the ox, as a poison (vide *Herodotus*, iii, 15)—is another and different notion which I cannot now discuss.

[‡] See Troels-Lund (loc. cit.).

[§] Zur Gesch. d. Lehre v. d. kritischen Tagen im Krankheitsverlaufe, *Wiener med. Woch.*, 1902. I would refer also to a paper on "L'influence religieuse de l'astrologie dans le monde antique," by Franz Courmont of Ghent read at the Oxford Congress of the History of Religions, 1908.

[‖] Wherein we are reminded of the charlatan doctors of the *Spectator* who rode in gilt coaches and dined off gold plate.

scoundrel, Stertinius Xenophon of Cos, who aided Messalina to poison Claudius; or, again, of a lesser order of turpitude—to the swaggering impostor, Thessalus, and his like. The huge fortunes left by these medical adventurers, fortunes estimated in scores of millions of sesterces, whatever these sums may mean to us, speak not only of the unscrupulous rapacity of the Greeklings who hied to Rome to shake the pagoda tree, but also of the ill-gotten spoils and bloating diseases of their patrons. In venality there was not much to choose, perhaps, between Vettius and his like and Crassus, "the great slum landlord." Yet while such evil men were flourishing, men of modest mien and honest, kindly nature, men, moreover, of skill and resource, if less notorious were by no means wanting; such men as Antonius Musa, to whom Galen testifies as the able physician of Augustus and the friend of Virgil,* Horace, and Mecenas; or such as Meges, of whom Celsus speaks as "the very wise," who was the best pupil of Themison, and the first to reduce a forward luxation of the knee,† and to describe carefully certain scrofulous conditions. Of the esteem and affection in which many such honourable and skilful physicians were held we have ample warrant in contemporary authors, as, for instance, in Cicero and Seneca. Seneca has left us a beautiful portrait of his own physician, of whom he gratefully says, "*pretium operae solvitur, animi debetur.*" Perhaps it was during the period of the Spanish emperors, if we may rely on Galen himself, Plutarch, Pliny the Younger, and Dion Cassius, that, superstitious as the period still was, physicians stood highest for probity, skill, and beneficence. By these authors many such men, to us now but *noninis umbrae*, are named with honour and affection.

In the midst of the swelter, towering above all, as great monuments rise above turbid and devouring floods, beacons for their own age and for all ages, stood, and yet stand, the great figures of Asclepiades and Galen, in fame unequal but in the gifts of Nature not unequal. Of these great men, and of Asclepiades especially, I spoke in Lecture II, published in the JOURNAL of November 27th.

ON SOME USES OF OPIUM.

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AMONGST the many new sedative remedies which in recent years have been introduced into the market, opium and its alkaloid, morphine, seem in danger of losing much of their traditional repute. As a hypnotic opium has been practically superseded by newer and more fashionable specifics; and as a general tranquillizer of nerve and muscle it has been forced far from the position it used once to hold as the very first in importance and usefulness of our therapeutical possessions.

For the relief of pain opium and morphine are no doubt still resorted to, but even in this capacity their claims are often set aside in favour of antipyrin, aspirin, and other recent analgesics. Unless pain be actually present opium is now but rarely prescribed. It is often forgotten that the drug has stimulating as well as sedative properties, and that as a general stimulant to the nerves, the brain, and all the organs of life its value even for this quality alone entitles it to a high place in the esteem of the practical physician. Opium and morphine are not quite the same in this respect. Of the two it is in the former that the quality is most active. Its stimulating effect is best brought out by the use of small doses given at convenient intervals, for in a full dose the sedative influence of the drug is so decided that any primary stimulating effect passes off too quickly to be noticeable. This stimulating action is well seen in cases of indolent ulcers of the skin and mucous membrane. Such sores which had resisted previous treatment will be found to show a surprising improvement after only a few doses of the remedy. The pale, unhealthy-looking surface becomes red and is soon covered with closely-set granulations, while its secretion changes from a thin serous fluid to healthy-looking pus.

This invigorating influence can be turned to account in the case of obstinate sores occurring in cachectic children. The ulcerative stomatitis which is so common amongst the ill-fed and badly-nourished children of the very poor often shows little disposition to heal, even when treatment is reinforced by a generous diet and healthy surroundings. When repair is thus at a standstill, a few drops (2 to 5) of laudanum given twice a day quickly induce a welcome change in the local conditions, and start an improvement which goes on smoothly to a cure. I have had lately under my care a case of gangrenous varicella in a child 12 months old. When the patient was admitted into the Shadwell Hospital the sloughs had just separated, leaving a number of clean-cut and very deep ulcers on the child's back. The sloughing process had gone completely through the skin and subcutaneous tissue to the muscular layer beneath them; and the sores had an angry, unhealthy look, and seemed little disposed to heal. An iodoform dressing was ordered, and 1 drop of laudanum was given every four hours. Three days later the appearance of the ulcers had quite changed; the unpromising look had passed away, and healthy granulations were beginning to show themselves at the bottom of the hollows. The opium was continued, and the sores were dressed with zinc lotion. On account of the depth of the pits they were able to fill up but slowly, but improvement went on without any break, and at the end of four weeks from her entrance the child was discharged from the hospital as cured.

Opium exerts its influence by means of the nervous system, through which it gives energy to the capillary circulation, and affects to some extent every organ of the body. There can be no doubt that the circulation is stimulated by the remedy. The feet become warmer, and the resistance of the body to the depressing influence of cold is very appreciably enhanced. This primary effect of the drug as a stimulant of the nervous system is a quality the value of which must not be forgotten. The nervous trepidation called "stage fright"—the ill-defined sinking apprehension which is familiar to the orator and the player, and is not unknown to the student as he prepares to face his examiner—may be forestalled and disarmed by a small dose, five or six drops, of laudanum taken half an hour or so before his trial is to begin. Again, the nervous tremblings and depression which may be induced by a shock, and are apt to follow a surgical operation, are amenable to the same influence. The above dose, repeated, if necessary, several times at intervals of half an hour, is usually soon followed by tranquillity and sleep. The same treatment will go far to relieve the distress of dying persons. Under the influence of a few drops of the tincture the painful uneasiness abates, and is succeeded by a period of restful calm, which may be maintained by judicious repetitions of the remedy until the close. Again, the profound mental depression which sometimes afflicts elderly people, making their lives a burden to themselves and to their relatives, may be alleviated by the same means. In this, as in the preceding cases, the drug acts as a stimulant, and something more; it quiets nervous irritability, while at the same time it gives a welcome spur to jaded nerves. There are few cases of nervous unrest in which opium given in these moderate, stimulating doses fails to relieve. Children who have been treated surgically for empyema and wear a drainage tube often suffer much uneasiness while the drainage process is going on. Under this treatment their restlessness is calmed, and they are enabled to bear the continued presence of the tube without showing any sign of discomfort. In all forms of illness in which the nervous system is irritable and perturbed the same treatment will be found of service.

When thus given with a view to stimulation the dose of the drug must be carefully limited, for too large a quantity would defeat our object; and it must be remembered that the susceptibility of the system to the remedy varies greatly in different cases—in adult life as well as in the child. It is wise, therefore, to begin with a very moderate dose, lest, unwittingly, we produce an effect the very opposite to that which we desire. The dose can be repeated at intervals of half an hour until the end we aim at is achieved. In the case of old people with thin-walled

* It has been recently argued that Musa was the Iapyx of Virgil.
† Professor Howard Marsh thinks what is meant in this passage is a forcing forwards of the tibia in relation to the lower end of the femur, a condition he has seen only twice.

dilated hearts this precaution ought to be observed with especial care; and it is advisable to strengthen the stimulating action of the remedy by the addition of 5 grains or so of ammonium carbonate and 20 drops of sulphuric ether.

Again, in the case of young children the same care should be taken to fit the dose to the susceptibility of the patient. In early life the system is well known to be curiously sensitive to the narcotic influence of the drug. But this sensitiveness must not be taken to imply that in infancy the remedy is a hazardous one, and ought, therefore, to be avoided. It is merely a question of dose, for in suitable cases the drug can always be given with advantage if the proper dose be ascertained. It is safe to calculate the dose for infants at $\frac{1}{4}$ minim of laudanum for every three months of life, and this quantity can be repeated every six hours. At the same time it is desirable to warn the nurse never to wake up the child for his medicine or to give it if there be any sign of drowsiness. With these precautions there is no risk of producing undesirable consequences by the remedy.

By the use of opium in very moderate doses we incur less risk of upsetting the stomach of the patient and giving rise to nausea. In some persons, however, quite small quantities will excite vomiting. Should this be so, the evil effect may often be averted by combining each dose of the sedative with a small quantity of capsicum in the proportion of $\frac{1}{2}$ grain of the powder or 5 to 10 drops of the tincture.

When opium is used for its sedative effect larger doses are required. The presence of pain renders the patient less responsive to the influence of the drug, so that care must be taken to prescribe a sufficient quantity to attain the end we have in view. In such cases some uncertainty is often felt as to how frequently it is safe to repeat the remedy, and how soon it may be returned to if the first quantity has proved insufficient. Dr. W. Griffin, who wrote in the first half of the last century, asserted that the full effects of a sedative dose of laudanum become visible within the space of half an hour, so that, if at the end of that time the pain is still unrelieved, the dose may be given again and again without danger, provided this interval between successive repetitions is maintained.

In the case of elderly people who suffer from bronchial catarrh with copious expectoration, the incessant cough makes sleep almost impossible, and the patient seems likely to be worn out by the continued disturbance and want of rest. It is of the highest importance to put an end to the harassing cough and limit this excessive secretion, but the medical attendant often hesitates to prescribe an opiate, lest by doing so he hinder expectoration, and cause a dangerous retention of mucus in the tubes. Whether or not this result is likely to follow a dose of the sedative depends upon the exact condition of the patient. If his breathing be easy, his skin clear, and his cough quite loose, we may give opium with every prospect of bringing relief; but if we notice any lividity of skin, blueness of the lips, oppression of the chest, or other sign of deficient aëration of the blood, opium would only do harm, and must not be allowed. It may be accepted as a rule that in all cases of pulmonary catarrh, until the cough is quite loose and secretion free, opiates are inadmissible in any but the most moderate dose, and only then when combined with antimonial or ipecacuanha wine, and other remedies which tend to promote free secretion from the bronchial mucous membrane.

When given in sedative doses and pushed boldly, opium used to be regarded as a powerful agent in the treatment of fevers and inflammatory conditions, especially those of the abdominal serous membrane. In the old days of antiphlogistic treatment it was the practice, in the first place, to reduce the violence of the complaint by repeated bleedings and the liberal use of mercurials, and then to administer opium in large and frequent doses either alone or in combination with tartarized antimony. The first part of this treatment has long and deservedly fallen into disuse. According to our modern notions, it is founded upon false conceptions of the nature of fevers and inflammations, and if it were ever of service in the treatment of these conditions, which one is strongly tempted to doubt has long since ceased to be regarded with anything but disfavour. But the treatment by opium in full doses stands upon a very different footing, and has much to recommend it. In the case of acute peritonitis—especially that variety which results from perforation of the bowel and extravasation into the peritoneal cavity—surgery, although often of service, has not made us independent of other methods of treatment, or less ready to welcome any help which may reach us from the use of drugs. In the case of peritonitis from perforation it was recognized even in old days that in the collapsed state of the patient bleeding and the lowering methods of treatment were out of the question. The physician therefore proceeded at once to the use of opium, relying upon its reputed influence in reducing inflammation, and hoping that by its power of moderating peristaltic movement it might further the organization and adhesion of effused lymph, and seal up the rift in the bowel. He was encouraged in this treatment by noticing the remarkable tolerance for the drug displayed by patients of all ages when suffering from abdominal inflammations, however great might be the prostration induced by the illness. Dr. Stokes, in an interesting and instructive paper which appeared in the first number of the *Dublin Medical Journal*, instanced the case of a boy of 12 who, although exhausted and collapsed, took with great benefit and without showing any sign of narcotism 4 minims of "black drop" every two hours. This dose is equivalent to 20 drops of our laudanum. As a result of this treatment the improvement was so decided that the boy seemed in a fair way to recovery. Unfortunately at this juncture an aperient was incautiously ordered to relieve constipation, and the action of the dose was followed by a return of the worst symptoms, which this time the remedy was unable to relieve. In all such cases aperients should be carefully avoided however great may be the temptation to have recourse to them. Recovery is dependent upon complete quiescence of the alimentary canal, and rashly to stimulate the contraction of the bowel is only too likely to give a fatal impulse to the disease, and render useless all our previous treatment.

In another case, to a man of middle age, Dr. Stokes gave 1 grain of opium every hour. The patient took 105 grains of the remedy without any narcotic effect and recovered completely. Dr. Stokes maintained that in cases in which the drug acted favourably no toxic consequences arose from its use, and looked upon any such untoward effect as a sign that the remedy had no beneficial influence and had better be avoided. The statements and observations of this distinguished physician have a more than historical interest even in the present day, when the drug treatment of perforative peritonitis has been abandoned in favour of laparotomy and free drainage of the abdominal cavity. In very many cases the change is no doubt greatly to the benefit of the patient, for no one can deny that surgical treatment has been the means of saving many lives which would otherwise have been lost. But all cases of perforative peritonitis are not suitable for operation, and even where this method can be adopted the mortality is high. I submit, therefore, that in all cases where surgical interference is inadvisable, and even in cases in which free drainage has been adopted, the opium treatment might usefully be resorted to, especially as so little susceptibility is shown to the narcotic action of the remedy. I have long been familiar with this tolerance for opium shown in cases of peritonitis even by the youngest infants, and am of opinion that advantage should be taken of it in all cases, for it must be pushed boldly if we are to obtain its full value from the use of the drug.

So far from opium being a remedy inadmissible for infants on account of the susceptibility of the system at this early age to the narcotic influence of the remedy, its value in the treatment of their complaints can hardly be exaggerated. For the relief of spasm its usefulness cannot be questioned. In cases of convulsions in children and also in spasmodic conditions of the larynx, the nervous seizures often yield at once to a small hypodermic injection of morphine. For a child of 12 months old $\frac{1}{30}$ grain of morphine may be used combined with $\frac{1}{100}$ grain of atropine, and the injection may be repeated in half an hour if by that time the spasm has not completely relaxed. The addition of atropine modifies the narcotic action of morphine without impairing its influence as an antispasmodic. Still, where the air passages alone are affected, it is seldom necessary to resort to morphine in the treatment

of spasm in young people, for in grindelia we have an antispasmodic which is superior to all other varieties of sedative in its influence over nervous contraction in those parts. Over general convulsions and spasm of the muscular system generally grindelia has little or no restraining influence, but in laryngismus and stridulous laryngitis its effect is prompt and decided, and in many cases of asthma we find a ready response to the sedative influence of the drug. The only objection to this treatment is the unpleasant taste of the remedy, but this may be covered to a considerable extent by a liberal flavouring with syrup of orange. The most convenient preparation is the liquid extract in doses of 10, 15, or 20 drops every three or four hours.

Opium is of great value in all cases of looseness of the bowels. Whenever it is desired to put a speedy stop to the purging a small proportion of laudanum should be included in the mixture, with the object of delaying peristaltic movement of the muscular coat of the intestine. In cases of colitis where the tenesmus is distressing and the stools contain much blood and mucus, the use of opium by the mouth may be supplemented with advantage by small rectal injections of tincture of opium (for a child 2 to 5 minims) with a few grains of powdered ipecacuanha in half an ounce of thin boiled starch. This injection may be repeated after each action of the bowels.

Again, in cases of cystitis combined with painful spasm of the neck of the bladder, opium is a useful local remedy. For an adult 3 to 5 grains may be combined with 10 grains of extract of hyoscyamus in a suppository to be used twice a day. The internal administration of the henbane alone is, however, a very satisfactory remedy for this complaint, and a dose of 3 grains given by the mouth every four hours rarely fails to relieve all the painful symptoms in the course of a day or two.

Opium is seldom given in these days to secure sleep unless pain be complained of, and not often then. There is much fashion in medical practice, and it is the custom at present to prescribe chloral, sulphonal, veronal, the bromides, and other modern but not necessarily harmless substitutes for the old-fashioned remedy now so unreasonably mispraised. These drugs, however, have dangers of their own, and cannot be continued for long together without a more considerable risk of harm to the patient than is to be feared from a course of the older and time-honoured sedative. When given as a hypnotic, and not with the object of relieving pain, opium should be taken two or three hours before bedtime, as it requires this interval to produce its sedative effect, and the dose should always be repeated for several nights in succession. In the delirium and sleeplessness of fevers the drug has a decidedly beneficial and calming influence, and in former times was always regarded as a remedy of the first importance, which could be given not only with safety but with singular advantage, provided the tongue and skin were moist and the pupils not contracted.

It is in cases in which the blood is imperfectly oxygenized—as happens whenever the patient is threatened with coma or apnoea—that opium and its constituents are likely to do harm; and this warning may be taken to apply to all other varieties of sedative. As Sir Thomas Watson used to insist, duskiness of the face or any, even the slightest, tinge of purple in the colouring of the lips should warn us that opium is a dangerous remedy and had better be avoided. On this account the use of opium in cases of acute pneumonia, although advocated by some high authorities, is, I cannot but think, not always unattended with risk. In cases of Bright's disease the remedy is not necessarily to be forbidden. On the contrary, it may be employed with advantage in uraemic convulsions or even in cases of uraemic dyspnoea, for the respiratory distress arises usually from cardio-vascular spasm affecting especially the branches of the pulmonary artery, and great relief is often found to follow the action of the sedative. If, however, the kidneys are unsound, the dose of the remedy should be moderate, for its action is more energetic in such cases than where there is nothing to hinder the free working of those organs. This rule applies particularly to cases in which the urine is scanty and high coloured. Should this symptom be noted, if the distress be not too urgent to admit of delay, it is advisable to increase the freedom of secretion by watery purgatives and alkaline diuretics, and when opium is prescribed to combine moderate quantities of the sedative with the same alkalis in liberal doses.

A fear is often expressed of establishing an "opium habit" if this form of sedative be used for long together; and to this fear may possibly be ascribed the neglect into which this invaluable drug is beginning to fall. But if proper care be taken the danger is surely a fanciful one. When the remedy ceases to be required it should be withdrawn as quickly as possible; and with the exercise of care there is little difficulty about leaving it off, even if the drug has been continued for a period of months. The assumed difficulty arises from the extreme irritability of the nervous system which follows the sudden omission of the usual sedative dose. This is sometimes distressing in the extreme, and many a victim to the drug, although profoundly anxious to free himself from its thraldom, has shrunk from provoking the suffering which he well knows the struggle for liberty will entail. This suffering may be avoided if the dose be gradually reduced until the quantity taken is very small. If then it be withheld altogether, the nervous unrest which ensues is moderate enough to be readily controllable by a few doses of tincture of gelsemium. I have in my mind the case of a professional man who had suffered from a severe attack of subacute sciatica. For many weeks the patient had been treated with hypodermic injections of morphine—using one-sixth of a grain after breakfast, the same quantity after a mid-day lunch, and one-third of a grain at bedtime. Only by such means could the painful spasms of the complaint be controlled sufficiently to enable the patient to pursue his professional duties. At length the attack came to an end. The dose of morphine was then gradually reduced day by day until it was brought down to one-twelfth of a grain at bedtime. It was then stopped altogether and the nervous unrest which followed, although very definite and harassing, yielded at once to a dose of twenty minims of the gelsemium tincture taken at bedtime. This was required on only two or three nights; the nerves then recovered their tone completely.

Young children who have been taking opium for some days for the relief of pain or spasm are as quick as adults to feel acutely the absence of the customary sedative. They show it, however, not by signs of irritability, but by symptoms of threatened collapse. The child lies back with sunken, half-closed eyes, a pallid face and clammy skin, and by his ghastly appearance may excite great alarm. The patient, however, is in no real danger, and only requires food and stimulant to throw off all signs of depression. The best fillip for this condition is a teacup of hot milk containing thirty to sixty drops of brandy.

In the case of morphinomaniacs who have undertaken to cure themselves of the habit and profess that they have done so, the patient's word, unfortunately, is not always to be trusted. If in such a case we are led to suspect that the cure is not as complete as it is asserted to be, Dr. Edward Smith used to advise an examination of the urine for the presence of morphine. He maintained that at the end of eight days from the beginning of abstinence the drug should have passed completely out of the system. If, then, its presence in the water could be detected after that time had elapsed, he took it as a certain sign that the use of the drug was being secretly continued.

WE have received from its author, Mr. Kingsley Fairbridge, a reprint of a speech at the Colonial Club at Oxford on October 19th, which led to the foundation forthwith of the Society for the Furtherance of Child Emigration to the Colonies. The resolution in favour of the formation of such society seems to have been signed by all the members present, including a majority of all Rhodes scholars. The scheme is to raise a sum of £500,000 for the purpose of establishing in Newfoundland a series of farm schools, officered by well-educated men and women. To these schools it is proposed to send children from Great Britain and Ireland who are no older than from 8 to 10 years and still malleable, and to keep them on the farms for about twelve years, submitting them meanwhile to a definite system of education. In anticipation of the foundation of the society, the Prime Minister of Newfoundland is understood to have undertaken that his Government would make a free grant of 50,000 acres of the best virgin land of the colony, together with certain annual grants. Donations may be sent to Mr. Kingsley Fairbridge, Exeter College, Oxford.

THE PITUITARY BODY

AND THE

THERAPEUTIC VALUE OF THE INFUNDIBULAR EXTRACT IN SHOCK, UTERINE ATONY, AND INTESTINAL PARESIS.*

BY

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Two years ago I had the honour of reading a paper[1] before the Liverpool Medical Institution on the calcium metabolism, with special reference to the ductless glands and the female genital organs; and I then indicated some of the lines on which our work was being carried out, and hinted at the results already obtained in regard to the pituitary body. An account of the experiments carried out by Dr. Hick and myself up to the end of July, 1908, was published in the BRITISH MEDICAL JOURNAL[2] early in this year; and although in these papers it was pointed out in what way clinical applications were possible, I have often been asked if we had got any results of practical value. It is for this reason that I now record some of the clinical results dependent on a small portion of that work—namely, the therapeutic value of the extract made from the infundibular portion of the pituitary body.

HISTORICAL.

During the first half of the last century, before the spirit of experimental inquiry in regard to medical problems became the rule rather than the exception, it was the common custom to relegate to the lumber room of scientific knowledge those portions of the human anatomy the functions of which were not apparent. Further, they were "dumped" in the corner reserved for "evolutionary" or "rudimentary" relics.

Now a little consideration, quite apart from experimental evident that we have no right to regard as rudimentary those portions of man's anatomy which present, when submitted to a very casual naked eye and microscopical examination, if not a higher and more complex formation than is seen in the lower animals, at least one that is of equal development. In connexion with the structure under discussion, I may point out that there is little, if any, development of the posterior portion of the pituitary body in elasmobranchs, whereas it is well developed in the higher mammals and in man.

It was not until 1894 that the wonderful properties of the extract made from the adrenals were described by Oliver and Schäfer.[3] In 1895 these workers investigated also the physiological effects produced by an extract made from the pituitary body, and certain other extracts, such as those made from the spleen and thyroid.[4] While adrenalin sprang into fame, the pituitary body, which undoubtedly deserves a nimbus of its own, remained with its light hidden beneath the very brains that should have recognized its virtues.

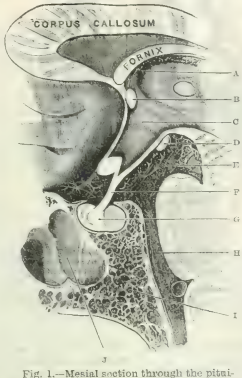


Fig. 1.—Mesial section through the pituitary region in the adult. A, Foramen of Monro. B, Anterior commissure. C, Ventricle III. D, Corpus mammillare. E, Subarachnoid tissue in cisterna basilis. F, Infundibulum. G, Pituitary body. H, Cisterna pontis. I, Basi-occipital. J, Sphenoidal sinus. (Cunningham.)

ANATOMY AND DEVELOPMENT.

The pituitary body situated at the base of the brain in the depression of the sphenoid bone, known as the sella turcica, is a small rounded organ, and consists of two parts—an anterior lobe (hypophysis), which is the larger, and more or less encloses the posterior (infundibular) lobe. This posterior lobe is connected with the outer aspect of the floor of the third ventricle by the stalk known as the infundibulum (Figs. 1 and 2).

Structurally the anterior lobe somewhat resembles the fetal thyroid, and consists of an irregular glandular organ composed of cubical or polygonal epithelial cells. These are separated by connective tissue richly supplied with blood vessels. The posterior lobe, which is divided from the anterior by the epithelial cells of the pars intermedia, is of a totally different composition, and consists of a ground-

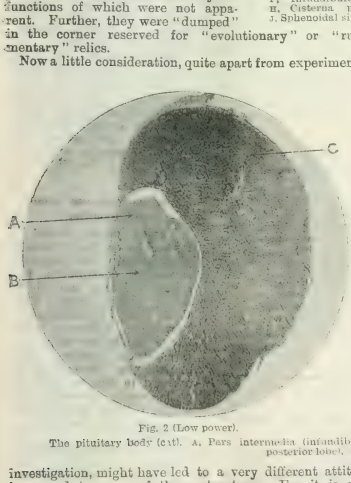


Fig. 2 (Low power).

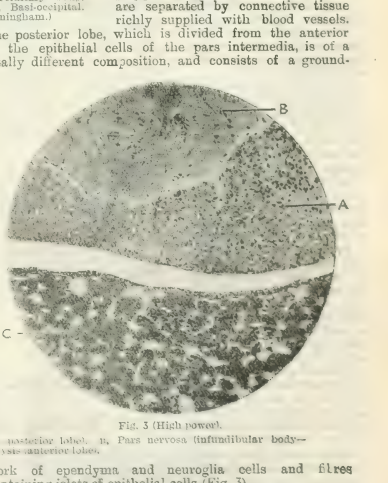


Fig. 3 (High power).

The pituitary body (cut). A, Pars intermedia (infundibular lobe—posterior lobe). B, Pars nervosa (infundibular body—posterior lobe). C, Hypophysis—anterior lobe.

investigation, might have led to a very different attitude in regard to some of these structures. For it is self-

work of ependyma and neuroglia cells and fibres containing islets of epithelial cells (Fig. 3).

The development in man is interesting and worthy

* Read before the Liverpool Medical Institution, November 4th, 1909.

of passing notice. The anterior lobe, whose structure so much resembles that of the thyroid gland, arises from the stomodæum. A hollow outgrowth (Rathke's pouch), lined with ectodermal cells, grows up from this space into the head (Fig. 4). This upgrowth, which forms a hollow vesicle, is gradually cut off from the stomodæum, and becomes isolated in close apposition with the base of the fore brain. The pars intermedia is derived from the same source.

In passing it may be mentioned that the thyroid gland is developed from an outgrowth from the primitive pharyngeal cavity, and its epithelial elements are, therefore, hypoblastic in origin.

The pars nervosa of the pituitary body is formed by a downgrowth from the floor of the third ventricle. This downgrowth expands at the extremity (posterior lobe) where it comes into relation with the anterior lobe, and remains connected with the brain by the hollow stalk which, as already stated, is known as the infundibulum. The infundibulum and posterior lobe should be called by the inclusive name "infundibular body." In some of the lower animals, such as the cat, a cavity may be seen in the posterior lobe directly connected with the third ventricle, and it must be understood that there are certain morphological peculiarities in different mammals.

P. T. Herring[6] has studied the histology, comparative anatomy, physiology, and development of the pituitary body.



Fig. 4.—Vertical section through head of rat embryo. Showing the formation of the two parts of the pituitary body (diagrammatic). TH, Thalamencephalon. P, Pineal body. PR, Cerebral hemisphere. N, Part of nasal cavity. MB, Mid-brain. HB, Hind-brain. Pt¹, Cerebral part of pituitary body. Pt², Buccal part of pituitary body. SG, Spinal ganglion. (Young and Robinson, Cunningham's *Textbook of Anatomy.*)

Physiology.

Until quite recently very little was known definitely upon this subject.

The physiological functions of a structure such as the infundibular body are studied in two ways:

1. By injecting an extract of it into another animal.

2. By noting the effects produced by the removal of the whole, or a portion, of the structure under investigation.

In regard to the second point, it has been shown by Paulesco,[6] Harvey Cushing,[7] and others that total removal of the pituitary body from animals inevitably leads to death. Further, it has been shown that the removal of the anterior lobe, or of a portion of it, leads to genital infantilism—a condition almost invariably associated with destructive pituitary disease.

There is still much to be learnt, however; and as Dr. Hick and I are at present engaged upon work in connexion with the correlation of the ovaries and other ductless glands, I do not propose to anticipate, but pass on to the first point mentioned above—namely, the results of injection of the extract. In 1895 Oliver and Schäfer[8] found that an extract made from the pituitary body—that is, from both the anterior and posterior lobes together—caused a rise in blood pressure, but they considered that the action was not so powerful as that of the adrenal extract, the properties of which they had previously discovered. Subsequently Howell[9] found that it was the extract of the posterior (infundibular) portion which possessed this property, and that an extract from the anterior portion (hypophysis) alone did not raise the blood pressure. This was subsequently confirmed by Schäfer and Vincent.[9] Schäfer and Magnus[10] also discovered that the extract of the infundibular body increased the flow of urine by reason of a selective (vaso-dilator) action on the vessels of the kidney.

All that came out of these important experiments was that an extract of the pituitary body was put upon the market, in the form of a compressed powder, as a diuretic. As far as I can learn it was little used, if at all.

Three years ago it occurred to me, while working on the physiology of the female genital organs, to try, among other things, the influence of the extract of the infundibular body on uterine contractions. I wrote to Messrs. Burroughs, Wellcome, and Co. for a supply, and they very courteously put me in communication with Mr. H. H. Dale, who made for me a large quantity for intravenous injection. At the same time he informed me that he had already found that the infundibular extract caused uterine contractions. So that, although we independently presumed this property, he was the first to test it. His experiment illustrating the fact was, however, buried in a paper on ergot,[11] and no suggestion was made to use it clinically. The effect of the infundibular extract upon the uterus is, of course, a more or less natural corollary to Oliver and Schäfer's experiments on the blood pressure.

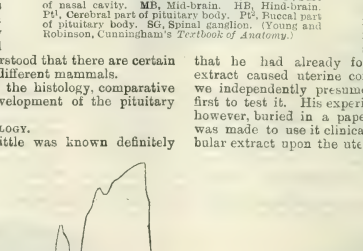


Fig. 5.—The effect of infundibular extract upon the blood pressure and pregnant uterus in the rabbit.

In the course of the numerous experiments carried out by Hick and myself, which have already been published,[2] we discovered a further property—namely, the action on intestinal muscle—which I shall mention directly.

Experimental and Clinical Results.

Having, then, satisfied myself as to the clinical possibilities of this preparation, after consultation in regard to dosage and other minor points with Mr. H. H. Dale, I asked Messrs. Burroughs, Wellcome, and Co. to supply me with the infundibular extract for clinical use. Except as a diuretic in the form of a compressed powder, to which I have alluded, no one appears to have used it previously.

I will mention in order some of the valuable properties of infundibular extract, and illustrate them from our experiments as well as by clinical records. There is no doubt, I think, that any one of these properties is sufficient to secure a permanent place in therapeutics for this much neglected portion of our anatomy.

1. *Infundibular Extract Raises the Blood Pressure.*

This property, as already pointed out, was first discovered by Oliver and Schäfer,[1] but they came to the conclusion that the infundibular extract was not so effective as adrenalin; this, however, is not the case. Infundibulin, if I may so call it, is remarkable in that it acts, as indeed other pressor substances sometimes do, in raising the blood pressure better when the animal or subject is in a condition of shock than in normal circumstances. Most of our own experiments were carried out on pithed rabbits, in whom the blood pressure falls to a very low level. I look upon this as a most valuable collateral addition to its action: this raising of blood pressure in conditions of shock to a greater degree than is possible in more normal circumstances. (Fig. 5.)

Further, infundibulin keeps the blood pressure raised for several hours. This fact, too, can hardly be overestimated. We know how fleeting is the effect of adrenalin, and how useless, therefore, it is in cases of shock. In this new preparation, however, we have just the agent we need for the treatment of this condition.

In the case of a patient under the care of my colleague, Mr. Jeans, the blood pressure was raised and kept up for twelve hours. I am indebted to him and to his house-surgeon, Mr. Tinsley, for supplying me with a record of the case. I have myself used infundibular extract in cases of shock on several occasions. A good instance was the following case:

F. S. I removed a large fibromyomatous uterus which was densely adherent to the bowel and was fixed in the pelvis by adhesions due to coexisting suppurative appendicitis. After the operation, which was one of extreme difficulty, the patient was put back to bed with no pulse to be felt at the wrist; infundibular extract had been given before she left the table, and continuous subcutaneous salines were administered when she reached her bed. She made an excellent recovery.

I must emphatically point out here that this drug must in no way supersede, nor take the place of, saline infusions. It is used to raise the blood pressure for the time being, and in this way to save the patient during the critical period of vasomotor breakdown, a condition which salines cannot affect. I do not think the case just mentioned would have recovered on salines alone. On saline infusions, however, rests the responsibility of maintaining any improvement produced.

While our papers on the experimental results which we had obtained were in the hands of the editor of the BRITISH MEDICAL JOURNAL, Lockhart Mummery and Symes[12] published some experiments on the blood pressure in reference to shock, and concluded in regard to the extract of the infundibular body that our present knowledge of its properties and dosage was too incomplete to make it advisable to use it upon the human subject. I think, however, that the results that my colleagues and I have obtained at the Royal Infirmary will dispose of that view.

2. *Infundibular Extract causes Powerful Contractions in the Pregnant, Puerperal, and Menstruating Uterus.*

I have already said that it is somewhat natural to infer such an action in view of the effect infundibular extract has upon the blood vessels; at the same time, I would point out that most pressor substances have selective actions—adrenalin, for instance, acts more specifically upon the blood vessels than upon the uterus. Consequently, we were very glad to find that infundibular extract had a very special action on uterine muscle. Fig. 5 illustrates this effect upon the pregnant uterus of a rabbit.

When, therefore, I proceeded to use the extract clinically, my anticipations were speedily realized, for not only are the contractions in the human uterus made more powerful, but they are more prolonged than are those produced by any other preparation, not excluding the extremely active preparations of ergot now on the market.

Not a large number of serious cases have presented themselves. In normal labour I have used it with the desired results, but it is in the serious cases that one naturally looks for assistance. In two cases of Caesarean section I have had the opportunity of observing the naked-eye effect of a single injection; it is immediate and convincing. The uterus contracts into a blanched "ball," and only relaxes subsequently to a moderate degree. Subinvolution of the uterus, due to defective contraction and retraction, is one of the dangers subsequent to a Caesarean section, especially if performed before the onset of labour; in such circumstances secretions and blood clots may be retained and become infected—a state of affairs favoured by any contraction of the pelvis which may be present, for this condition leads to the sagging forward of a subinvoluted organ.

Then, too, there are those cases of sudden and serious haemorrhage which may occur before, during, or after labour. I supplied some infundibular extract to Dr. Hendry, the late obstetric assistant, with the request that he would give it an impartial trial. I cannot do better than append his report:

I used infundibular extract in two cases, and Dr. G. F. R. Smith used it in one other. In regard to the latter, which was a case of *post-partum* haemorrhage, Dr. Smith said to me on his return, "What do they need anything better than ergot for? the lot I injected acted like a charm." I knew, however, that there was no ergot in the bag, so I asked him to show me the box he got it from, whereupon he produced the infundibular extract.

In another case of *post-partum* haemorrhage, when I used it in conjunction with massage through abdominal walls, bleeding stopped in about three or four minutes.

The following are brief notes of the third case—one of placenta praevia—in which this preparation was used:

C. S., aged 29, 4-para. Her second and third deliveries were complicated by adherent placentae and membranes. In the present pregnancy bleeding began during the eighth month.

A severe haemorrhage—five pints of blood clot were recovered from the "chamber"—occurred on July 23rd, 1908. On my arrival the active bleeding had ceased, but the uterus was quite flaccid and no pains were occurring. The os uteri admitted three fingers, and the placenta was felt to be overlapping the uterine orifice, and extending 1 in. beyond the cervical margin.

The membranes were ruptured, version performed, a leg brought down, and infundibular extract injected. Two pints of saline solution were also infused intravenously. Pains came on about thirty minutes later without further haemorrhage. A second dose of the extract was then given, and the patient, whose condition had considerably improved, was removed to hospital. A dead child was born spontaneously three and three-quarter hours after the pains had recommenced—that is, four and a quarter hours after the first injection. Subsequent contractions and retraction were good, and the patient made an excellent, but slow, recovery.

There is little doubt that this preparation acts on the atonic uterus as well as, if not better than, it does upon the contracting organ, just as it does upon the blood vessels in conditions of shock.

I am inclined to think, therefore, that in the future we shall rely on infundibular extract to produce contractions of the uterus in many serious obstetric complications and difficulties, although I should, perhaps, add that in my opinion it ought but rarely to be given before delivery. I have for some time carried it in my obstetric bag, and would not willingly be without it.

3. *Infundibular Extract Acts upon the Intestinal Muscle.*

During our experiments on pithed rabbits we observed that violent peristaltic movements were generally set up in the intestines. On more than one occasion this led to

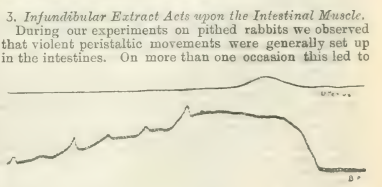


Fig. 6.—The effect of infundibular extract upon the intestine—as shown by rises in the blood pressure during defaecation and intestinal movements in the rabbit.

the expulsion of faeces. Fig. 6 gives a very good illustration of the effect upon the blood pressure of these intestinal movements; and it shows how violent they must have been to cause such rises in the general blood pressure

[1] "Shock" is, of course, essentially a condition due to lowered blood pressure.

With our eyes always open to the possibility of practical and clinical results, it at once occurred to us that specific results upon paralysed and distended intestine might be obtained.

It requires no pen picture of mine to remind surgeons whose duty it is to invade the peritoneal cavity of the terrible battles that are often waged against this dangerous and obstinate complication; nor obstetricians who have encountered the difficulties of pseudo-ileus after Cæsarean section, or even after normal parturition. Most of us can recall vividly each case we have met with, for they are often indelibly impressed on our minds by the hopeless position in which we have been placed. I know there are some surgeons who will say that, if only these cases were treated early enough with calomel and turpentine enemata, there should be no difficulty. While that is, of course, sound and absolutely correct as advice, most of us know that the sequel is not always encouraging. Besides—in gynaecological work especially—an enema cannot always be safely given, owing to lacerations of or perforations in the rectum.

I would invite those, therefore, who cannot effect relief in any other way—if they be too sceptical to use it earlier—to give a trial to infundibular extract. I have now used this extract for intestinal paresis in a fair number of cases—fortunately with modern methods this complication is not so common as it used to be—and I have never known it to fail.

Again, let me point out that, as with the blood vessels and uterus, infundibular extract appears to act more definitely when there is considerable atony and paresis than in normal circumstances. Indeed, when the patient is not distended, and when peristalsis is normally present, an effect is not always observable; I do not say it is not present, but the result is not so obvious. This is no reason, however, why the extract should not be given early. It should be given as soon as the patient is becoming distended.

I do not propose to record my own cases, for independent evidence is of more value; but, as I have already said, I have personally never known it to fail. It is interesting also to note that in some of those cases in which I have given it to combat shock or collapse after a serious operation, flatus has been passed per rectum during the first twelve hours—a happy state of affairs which all will agree hardly ever occurs in ordinary circumstances. It happened in the case of shock I have already referred to.

I am much indebted to several of my surgical colleagues at the Royal Infirmary for having sufficient faith in my representations to test the extract in some serious cases of paralytic distension. As I think that the evidence of unbiassed observers will probably be more convincing than my own, I append a few illustrative cases as recorded for me by their house-surgeons.

Mr. A. M. Roberts has sent me the following account of a very serious private case under the care of Mr. Paul.

T. S., aged 33.

July 1st, 1909. The patient had a very severe attack of vomiting and pain. He was then fairly well for a month, but very constipated, and had to take pills and glycerine enules.

July 30th. The bowels were well moved.

July 31st. No motion.

August 1st. Very slight motion.

August 2nd. No motion, although he had taken pills and used an enule. Some pain towards evening and a severe attack of retching. One ounce of castor oil given. This and a second dose were at once returned.

August 3rd. Admitted to the Royal Infirmary. Immediate operation—ileo-sigmoidostomy—was performed, an obstruction having been found in the transverse colon. Calomel (gr. ½) was given every two hours with no result; also glycerine by the rectum was equally ineffectual.

August 4th. Same treatment, with no result.

August 5th. Morphine (gr. ¼) and calomel (gr. 6) were given, with no result. Subcutaneous saline infusions were also administered. The patient was vomiting continually, was distended, and in great pain.

Second Operation: Right lumbar colotomy; more calomel given, with no result.

August 6th. Absolute obstruction had now existed for five days. The patient was very bad. Vomiting was continuous, and he was in great pain from flatulence and distension. Calomel, aqua menth. pip. and cajeput oil and various other drugs were tried, with no relief. Towards midnight an injection of infundibular extract was given into the muscles of the forearm. Within four or five minutes a great quantity of flatus was passed by the colotomy wound, with instant relief. In an hour a second injection was given, and again within five minutes a liquid motion was passed by the colotomy wound.

August 7th. The bowels acted slightly, naturally, through the colotomy wound. Vomiting was much less. Towards evening the patient got distended again, and was in great pain. Another injection of infundibular extract was given, which produced, in less than five minutes, a profuse motion, and the passage of flatus both by the rectum and by the colotomy wound. There was instant relief.

August 8th. Much less vomiting. In the evening the flatulence returned, when a fourth injection of the infundibular extract was given, with a result similar to those already recorded.

August 9th and onwards. From this date the patient has improved steadily, and the bowels have given no further trouble.

Other Effects Noticed.—The pulse tension went up considerably for a few minutes after each injection, and the frequency was also raised 20 or 30 beats per minute. The patient became somewhat blanched and decidedly exhausted. The blanching lasted for two or three hours.

I have given this graphic report verbatim, but I would like to point out in regard to the last paragraph that no actual observations were taken, otherwise such conflicting statements as "the pulse tension went up considerably *for a few minutes*" while "the blanching lasted *for two or three hours*" would not have been made. Also the increased frequency of the pulse is mentioned but no note made of the subsequent slowing. Further, that a dying patient was "exhausted" appears to me to be a somewhat delicate inference!

I have only to add that the patient, a gentleman of great ability and occupying a high position in his profession, was convinced that he would have died without the infundibular extract—a belief that was, I think, shared by Mr. Paul. Not only was the relief following the passage of flatus great, but also the feeling of well-being and security that followed the first injection was, he said, past belief. Hearing that I had been concerned in what had been of so much assistance to him he sent for me to tell me this, and he added, "they say the 'stuff' made them nervous as I was so blanched, but all I can say is it made me feel jolly well, although I thought I was dying five minutes before"—a statement somewhat contradictory to the statement that the patient was "decidedly exhausted."

Mr. Tinsley has given me the following report of two cases under the care of Mr. Jeans:

CASE I.

August 23rd, 1909. K. W., aged 11. Admitted for acute appendicitis. Immediate operation; free fluid and pus evacuated. Fowler's position adopted, together with rectal salines, one pint every two hours. Subsequently continuous saline infusions into the thighs. Pulse rate 132; respirations 32.

Next morning the patient was slightly better. Pulse rate 116; respirations 24. Later in the day the patient became worse; the pulse rate rose to 160, and the respirations to 40. On the following day the patient was very ill and becoming much distended. Infundibular extract was administered at 5.15 p.m.; an evacuation of the bowels occurred in ten minutes.

Next morning the patient died suddenly. *Post-mortem* examination revealed pneumonia of the base of both lungs.

Effect of the infundibular extract on the blood pressure: The blood pressure rose steadily for twelve hours, and only subsided five hours before death. The temperature and pulse also continued to rise; not necessarily as the result of the extract, but more probably owing to the onset of pneumonia.

CASE II.

September 7th, 1909. J. D., aged 23. Admitted for appendicitis, with general peritonitis. Immediate operation. Free fluid in the peritoneal cavity. Fowler's position adopted, with rectal salines (1 pint every two hours). Temperature 99° F.; pulse-rate 160. General condition bad. Next day the patient was a little better. On September 9th there was some flatulence, but no great degree of distension.

Oil of cloves and physostigmine (⅛ gr.) were tried without effect. Infundibular extract was given at night; there was no immediate effect on the bowels, but the pulse rate dropped from 120 to 80 in six hours. Next morning the bowels acted well after an enema. The pulse rate was then 100, and the patient better.

On September 14th a residual abscess was found and opened, but patient died on the 16th.

In regard to this case, which I did not have the opportunity of seeing, it will have been noticed that there was no *immediate* effect on the bowels, as in the other cases. On discussing the matter with Mr. Tinsley, he agreed that there was no real intestinal paresis present; and indeed the bowels acted a few hours later. This bears out what I have already stated, that the worse the condition of atony, within limits of course, the greater and the more immediate the effect of the infundibular extract.

These are just three typical cases out of many in which similar results have been obtained. And as I know there

are other surgeons present to-night who, having heard of the value of the extract in our hands, have given it a trial, I shall be much interested in hearing further evidence in regard to it.*

I myself venture to think that in infundibular extract we have at last found a reliable agent for the treatment of paralytic distension of the bowel. If after an extended trial this prove to be the case, every surgeon's anxieties will be considerably lessened, to say nothing of the lives that will be saved. I have not as yet tried infundibular extract in post-operative acute gastric distension, but I should not be at all surprised to find that it would prove to be of real value in this very serious, if somewhat rare, condition.

4. *Collateral Effects.*

I now come to some collateral effects produced by the infundibular extract which are extremely important; and it is just these additional effects which put this preparation so far ahead of adrenalin, apart from its greater efficiency and more prolonged action on the involuntary muscle fibres, already discussed. I refer to its special action on the heart and kidneys. This extract, after a short initial increase in the frequency, slows the heart and causes more powerful contractions. This effect is still produced, though to a less degree, with the patient under the influence of atropine, which is the therapeutic equivalent to severance of the vagi. In similar circumstances adrenalin causes acceleration.

Again, while adrenalin causes a diminution in the secretion of the urine, infundibular extract has, as already mentioned, a marked diuretic effect which is of very great post-operative value.

Finally, I may say for the benefit of rhinologists, laryngologists, and oculists, that infundibular extract may prove to be even more effective than adrenalin in producing local anaemia. I do not wish to speak positively upon this point, having only conducted one or two experiments; but they seem to support this view.

I have no time to touch on the preserves of the general physician. I am sure, however, that before long there are many who will use it in asthma and many other conditions.

MODE OF ACTION, AND NATURE AND ORIGIN OF THE ACTIVE PRINCIPLE.

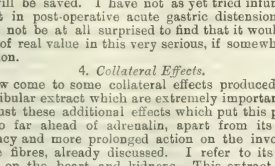
Without going too deeply into the subject, I may, perhaps, be allowed to say a few words as to the manner in which infundibular extract acts. There is little doubt that its chief effect is peripheral, for if we place a rabbit's isolated and active uterus in Ringer's solution the organ contracts violently on the addition of a small quantity of the extract.† I do not think that we have any evidence to show that infundibular extract acts on the "pressor centres"; but this is quite possible, and, if so, must be of special value in an exhausted or paretic condition of these controlling structures.

Probably it will not be long before the active principle is isolated, for much good work has been done on the subject of "pressor bases"[‡] in the last few months. It may, therefore, not be without interest to recount, very briefly, the present position in regard to these compounds.

In 1906 Abelous[13] showed that a rise in the blood pressure was produced when the extracts made from putrid meat were injected into the blood stream. This year Barger and Walpole[14] published a paper in which they described the identification of the "pressor bases" concerned. These observers found that they were amines, namely, phenylethylamine, p. hydroxyphenylethylamine, and isoamylamine. There are one or two practical points arising from these chemical investigations. First, Rosenheim[15] was able to show that the active principle of the placental extract of Dixon and Taylor,[16] which was thought by them to be the cause of the normal uterine contractions in labour, was produced by incipient putrefaction in the placentae used, and contained the amines already mentioned.

Next, Barger and Dale,[17] a few months ago, showed that the pressor properties of ergot are also due to these same bodies. Further, it is well known that these amines bear a distinct relationship to adrenalin in regard to their structural formulae.

The following structural formulae are given by Dixon and Dale[18]:



It is important to bear these facts in mind, for there is in them a definite promise that in the near future the chemist will be able to synthesize the active principle of the infundibular body.

At present, however, we have to rely on an anatomical structure to provide us with it. So that it is interesting to know—or, perhaps, I should say conjecture—by what elements in the infundibular body the active principle is produced. In Fig. 3, representing a high-power view of the pituitary body, we see that in the infundibular portion, in addition to the nervous elements, there are islets of epithelial cells, as I have already described. It is probably these epithelial cells, and those of the pars intermedia, that are responsible for the pressor base; for it has already been shown by Osborne and Vincent[19] that extracts made from ordinary nervous tissue—whether of grey and white matter mixed, or each separately—rarely have any effect on the blood pressure; but that if there be any, it is a depressor one.

Lastly, one word as to the preparation that I have used and its administration. Messrs. Burroughs, Wellcome, and Co. have just put the extract of the infundibular body on the market in "vaperole" flasks. Each flask contains 1 c.cm., which is the ordinary dose for an adult. The activity of the preparation is not destroyed by boiling, so that before being sent out each flask and its contents are sterilized in that way. The injections should be given intramuscularly to avoid superficial sloughing from the local vaso constriction. The dose may be repeated with one hour's interval. After a few doses a short refractory period is established; but as to how long this lasts we have at present no accurate knowledge.

I hope, in conclusion, that I have not emphasized the properties of the infundibular extract too strongly; I have endeavoured not to do so, for I feel that there is no need, since this preparation is quite capable of producing its own effects in a sufficiently dramatic manner.

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DR. GOYDER, of Bradford, has been nominated for election as president of the Society of Medical Phonographers for the ensuing year. Sir William Gowers, retiring president, and Professor Sims Woodhead are nominated as vice-presidents. The December number of the *Phonographic Record*, edited by Dr. F. H. Spooner, contains a note in shorthand by the president-elect founded on the paper entitled "An Experiment in the Treatment of Epilepsy," published in the BRITISH MEDICAL JOURNAL last January. The honorary secretary of the society is Dr. Gruner, Pathological Department, General Infirmary, Leeds, who will supply full information as to the society. The annual subscription to members of the profession is 7s. 6d., and to students of medicine 5s.

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* In the discussion that followed about a dozen other cases were recorded—one being a case of intestinal atony in splenic anaemia.

† I am indebted to Miss Sowton for performing this experiment for me.

‡ "Pressor bases" are those organic compounds which cause a rise in the blood pressure when injected into the blood stream.

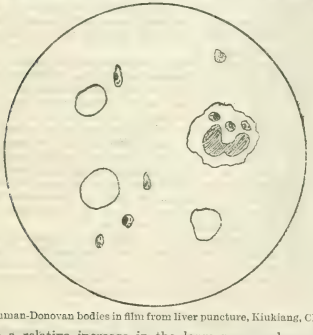
KALA-AZAR IN THE FAR EAST.

By P. W. BASSETT-SMITH,
FLEET SURGEON, R.N., ROYAL NAVAL HOSPITAL, HASLAR.

DURING the past few years our knowledge of the relationship of the peculiar organisms known as the Leishman-Donovan bodies to the many undifferentiated fevers has largely increased.

The chief endemic centre of kala-azar was at first believed to be restricted to the north-eastern part of India, where these forms of fever were fully studied by Leishman, Rogers, Patton, and others. The geographical range has been considerably enlarged by further investigations, and it has been demonstrated by C. Nicholle that in children suffering from a prolonged febrile disease in North Africa analogous organisms are commonly found, produce similar intense blood changes, with enormous enlargement of the spleen and liver, and give rise to a high mortality.[1]

In May, 1908, I brought forward a case of a naval patient[2] who had apparently contracted the disease while on the China station. This man had visited Shanghai, Tientsin, and Hankow. Shortly after arriving in England he began to feel ill; he suffered later from vomiting, anorexia, anaemia, loss of flesh, and irregular fever. He was sent to Haslar Hospital as a case of malarial cachexia. On admittance he was in the third stage of kala-azar, the spleen filled up half the abdomen, the liver was large; the blood count was—red 3,800,000, white 2,000,



Leishman-Donovan bodies in film from liver puncture, Kiukiang, China.

with a relative increase in the large mononuclear cells. The organisms were demonstrated in the fluid drawn off from the liver. Under treatment by atoxyl he improved greatly, being free from fever and gaining weight and strength; later he was well enough to return to Australia, but there the symptoms returned and ended fatally.

I have lately received a blood film from Surgeon G. B. Scott, R.N., taken from a case at Kiukiang, in the Yangtse Valley; this film is swarming with Leishman-Donovan bodies. The patient was a boy at the Convent, coming from a village about twenty miles from Kiukiang; in this place cases with large spleens and livers are common, and many die from a similar disease to that found in this boy. His symptoms were irregular fever, great anaemia, and very marked enlargement of the spleen and liver. Acting with Dr. Lambert, the resident medical officer, the liver was punctured, and from the fluid drawn off the films were made.

It is evident, therefore, that in the upper part of the Yangtse Valley we have another endemic centre of the peculiar disease known as kala-azar, that it is particularly common in young adults, and that it causes a high mortality. I have brought these facts forward as all information relating to the epidemiology of this disease is of importance in studying the condition as a whole, particularly when the evidence is supported by actual demonstration of the causative organism.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EFFLORESCENCE OF UREA IN URAEMIA.

NOTING Dr. Rolleston's statement that efflorescence of urea is a very rare phenomenon,[1] I may remark that a few years ago I attended a young man in the terminal stage of what was apparently a case of small white kidney without previous symptoms.

The patient died of uraemia, profuse diaphoresis occurring partly as result of spasms and partly as result of the therapeutic means used. After death the relatives called my attention to a profuse powdery scurf all over the body. I explained this to them as probably due to urea left by the perspiration after evaporation. Under the microscope the powder showed minute crystals scattered in the deposit, probably those of NaCl. After solution in alcohol, filtering, and evaporation on a glass slide, crystals of urea formed a copious deposit, and gave several of the ordinary micro-chemical reactions. I remarked at the time to the patient's relatives that although free elimination of urea by the sweat had been secured this did not obviate the fatal result, which seems in accordance with previous experience.

Edinburgh. JAMES CAMERON, M.D.

PLACENTA PRAEVIA IN GENERAL PRACTICE.

I WAS interested in the annotation on placenta praevia in general practice, published in the JOURNAL of September 18th, 1909, page 810, for it so happens that I have had as many as three cases during the present month, a fact which constitutes a record in one way, for I can only recollect having had 6 cases altogether during the twelve years I have been in practice.

Some points in connexion with these cases and the treatment adopted may be of interest, hence my reason for trespassing on your space to record them.

The first of these cases is interesting from the standpoint of what Nature will do. I was called to see the patient at 8 30 p.m. on September 8th, the history being that she had severe haemorrhage which came on suddenly in the early morning and then ceased, recurring once or twice during the day. When I was sent for, in the evening, I found the placenta presenting, the haemorrhage at that time not being severe, and the os being about the size of a shilling, and no pains. I gave the nurse instructions to watch the patient, and to let me know at once when pains came on, or if there was any haemorrhage. About 12 p.m. the child was born without any difficulty; the patient only having had two or three pains a message having been dispatched; but when my colleague, who went down instead of me, arrived, all was over, and mother and child doing well. It may be argued that this was not a severe case, and some may doubt that it was a case of placenta praevia; but I venture to say that if this case had been near a lying-in hospital where it could be admitted, means would have been resorted to for delivery, with possibly not such good results to mother and child.

The second case was one where there had been considerable haemorrhage, and on examination I found the placenta presenting, the os being about the size of rather more than a five-shilling piece, and the woman rather collapsed, as the haemorrhage was free. I immediately sent for my colleague, who gave an anaesthetic, and I was able to deliver with forceps. No further haemorrhage, but the patient was very collapsed; but with the usual treatment for shock and collapse, including saline injections per rectum, the patient gradually rallied, and is now progressing favourably, but has a little phlegmasia dolens, the loss of blood possibly having something to do with its causation.

The third case was one I saw on Friday, September 24th, at 8.30 p.m. Bleeding came on suddenly at 2 a.m., when the nurse was sent for. It then ceased, and came on again in the evening, when I was sent for, and on examination I found the os about the size of half a crown and very rigid, and haemorrhage fairly free. I watched the case closely, gradually dilating the cervix, and eventually delivered with forceps under an anaesthetic.

BRITISH MEDICAL JOURNAL, August 28th, p. 557.

Another case, about two years ago, I was able to deliver in the same way.

The remaining two cases were complicated by transverse presentation, and the treatment adopted was internal version. All the mothers did well.

I am, therefore, inclined to favour the view of dilating and delivering with forceps as soon as possible; but, if haemorrhage were very severe and dilatation likely to be delayed, I would not hesitate to adopt the combined method of version as treatment. But to adopt any form of treatment such as mentioned in your annotation, as advocated by Krönig and Sellheim, appears to me quite unnecessary, and would only add a still further complication to an already dangerous condition.—I am, etc.,

ARTHUR T. JONES, M.R.C.S., L.R.C.P.Lond.

Mountain Ash.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

LADY DUFFERIN HOSPITAL, PATIALA, INDIA.

CASE OF LITHOPAEDION REMOVED BY OPERATION.

(Reported by M. S. BALFOUR, M.B., C.M.)

A HINDU woman, aged 32, was admitted on May 17th complaining of an abdominal tumour.

History.

She had had one child, born five years before. Three years ago she noticed enlargement of the abdomen, and considered herself again pregnant. She had suppression of menses, milk in the breast, and thought she felt fetal movements. After nine months these symptoms disappeared, the menses recommenced, and the abdomen, she stated, became smaller until it reached its present size.

Condition on Admission.

A tumour filled the lower half of the abdomen, reaching on the left side to the level of 1½ in. above the umbilicus, and on the right side level with the umbilicus. The tumour was freely movable, intensely hard, and on vaginal examination was felt to be unconnected with the uterus, which was of normal size. The right mass of the tumour was felt very readily in the right lateral fornix, and was noted as resembling a fetal head.

Operation.

The abdomen was opened in the middle line, between umbilicus and pubis. The tumour was readily lifted out of the abdomen, and was found to consist of a nearly calcified fetus, attached by a number of long adhesions chiefly to the omentum and anterior abdominal wall. Some of these contained fairly large vessels, which were clamped and cut. There were no remains of any placenta.

The patient made an excellent recovery.

The fetus was lying in the abdomen, with the head in the right vaginal fornix. The thighs were flexed on the abdomen and the legs on the thighs. The total length was 7in., of which 4 in. consisted of the head. The head was flattened from side to side, and the remains of the features could only be traced with difficulty. The arms were partially united to the chest and the feet to the legs. The whole fetus was stiff and hard, as if carved from a block of wood. The vessels in the adhesions were probably becoming obliterated, and might have been chipped off the fetus without tying.

AMONG the appointments to the Commission of the Peace for the County of Elgin recently made by the Lord Chancellor we note the names of Thomas Hood Wilson Alexander, M.D., of Elgin, Thomas Brander, M.D., of Lossiemouth, and John Taylor, M.D., of Elgin.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, November 22nd, 1909.

Dr. SAMUEL WEST, President, in the Chair.

Trigeminal Neuralgia.

MR. JONATHAN HUTCHINSON, in a paper on the operative treatment of epileptiform trigeminal neuralgia, speaking of the mortality of the operation, held that it was unfair to quote the early statistics, which gave a high percentage. The mortality had come down, in practical hands, to about 5 per cent. Of his 30 cases, all had recovered. If his modification of the operation was practised—namely, leaving the ophthalmic trunk intact—all danger to the eye was avoided. Out of the 30 cases, this modification was carried out successfully in 26. In the other 4, in which the eye and forehead had been left anaesthetic, some ocular complication had happened in all, but in only one had it proved serious. Mr. Hutchinson's first case dated twelve years ago, and even longer periods of cure had been observed. It was a matter of importance to avoid operation in patients obviously neurotic. Neurotic symptoms were as a rule absent in true epileptiform cases. The average age of the patients in his 30 cases was 52 years.

Dr. WILFRED HARRIS restricted his remarks on treatment for the most part to neuralgia of the fifth cranial nerve characterized by the definiteness of the pain area, corresponding roughly to the anatomical distribution of one or more branches of the nerve. The pain came on in severe spasms, varying in duration from half a minute to half an hour, and there might be intermissions of months, or of years, in which the patient was free from pain, otherwise the pain continued until operation of some kind, or death, brought relief. The sexes appeared to be about equally affected. Thus, of 265 cases, 144 were men, and 121 women. There seemed to be a definite predilection for the disease to attack the right side, which appeared to suffer more than twice as often as the left side. The character of the pain was sometimes exactly simulated by other forms of trifacial neuralgia, particularly dental neuralgia. True trigeminal neuralgia affecting the first or ophthalmic division of the nerve alone, was much less common than of the second or third divisions. The diagnosis of the site of the cause of the pain was important in estimating the probable results of any projected treatment. If the pain were referred along one or more branches of the nerve, and there was no trace of any anaesthesia or analgesia, then the site of the cause of the pain was peripheral, and search must be made for any source of peripheral irritation. During the last twelve months he had seen 29 cases of true trigeminal neuralgia, or tic douloureux, 24 of which he had treated by injections of 80 per cent. alcohol. Of the 24 cases which he had treated by alcohol injection, 20 appeared to be so far completely successful as regards entire disappearance of the pain. Two of the remaining 4 cases were partial failures.

Sir VICTOR HORSLEY said that for the 149 cases in patients of varying ages on whom he had operated for the removal of the Gasserian ganglion the death-rate was 7 per cent., but that only applied to patients over 50, for he had never lost a patient under the age of 50. One death was from accidental sepsis at University College Hospital; the others were due to the arterio-sclerosis from which these patients suffered. He considered that the so-called mortality and the so-called disadvantages of the operation were undoubtedly greatly exaggerated. He advocated the method of injecting alcohol with the view of avoiding the Gasserian operation, and he found that the best results from alcohol injections were obtained in cases where the affection was strictly localized to one division of the nerve. The general procedure was to recommend injection of alcohol first, and afterwards, if necessary, resort to the removal of the Gasserian ganglion.

Mr. C. A. BALLANCE referred to the effect produced by the intracranial division of the second and third divisions of the fifth nerve. If respite from pain for three years was secured by this procedure, he considered that it was a good operation, and in these circumstances better than

the removal of the Gasserian ganglion. He advised trying injection of alcohol before removing the ganglion.

Dr. L. G. GUTHRIE remarked that some of the patients with severe trigeminal neuralgia looked well, and did not seem to be affected by the disease except at the actual time of the spasm. He suggested that there might be a neurotic cause for the trouble.

Dr. T. G. STEWART said that probably some of the cases reported as still suffering from trigeminal neuralgia after removal of the Gasserian ganglion were examples of psychical cases.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, November 5th, 1909.

Mr. A. E. MAYLARD in the Chair.

THE following were among the exhibits: Mr. H. RUTHERFORD: Three specimens illustrative of *Gangrenous hernia*. (*a*) Richter's right femoral hernia in a single woman, aged 30. The symptoms were of three days' standing; there was little local pain, no diffuse swelling, and her general condition was remarkably good. After opening and clearing the sac, the abdomen was opened in the middle line, and 5 in. of bowel resected. When seen four months later the patient was in excellent health, and the scars firm. The specimen showed a diverticulum the size of a small filbert, with ragged perforation at its apex, and a thinned anaemic groove at its base. (*b*) Right inguinal hernia in a man aged 44; symptoms of about three days' standing, complicated by deep jaundice, enlarged liver, and very irregular and dilated heart. A small loop of bowel was resected through the herniotomy wound. The case did well for nearly a fortnight, when the temperature rose, and pain came on in the region of the gall bladder, jaundice again becoming more pronounced. On second operation the gall bladder on examination was found distended with pus, and drained, with relief of pain and diminution of jaundice. (*c*) Right obturator hernia in a woman aged 59. Symptoms of six days' standing, during which time the bowels had moved twice in response to enemata. The abdomen was opened in the middle line, and a distended loop found fixed down at the obturator opening. It was perforated at one part and the sac contained putrid material. The patient died in about eighteen hours. Dr. GEORGE A. ALLAN read notes on two cases of *Dextrocardia*. The first was in a patient suffering from mitral disease. The apex beat was situated in the sixth interspace 7 in. to the right of mid-sternum. Liver, stomach, and spleen were likewise transposed. After death the whole of the thoracic and abdominal organs were found transposed. The second case was that of a patient with left haemo pneumothorax, in whom the cardiac dullness and pulsation were found to be displaced to the right of the sternum. The patient recovered, and in six weeks the heart had regained its normal situation. The cause of the haemo-pneumothorax was not obvious. There had been no injury, and no evidence of phthisis or other pulmonary disease could be discovered. The condition came on suddenly when the patient was apparently in good health. Dr. W. K. HUNTER, blood films from a case of acute *Haemorrhagic leukaemia* in a woman, aged 22, who dated her illness from a bleeding from the gums four weeks previously. A fortnight later blood appeared in the urine and had persisted. There was no history of intestinal or subcutaneous bleeding. The points of special interest were (1) the haematuria, a rare symptom in leukaemia; (2) the preponderance of mononuclear cells in the blood count; they were neither typical large lymphocytes nor neutrophile marrow cells, a feature which made it doubtful whether the case should be classed as a lymphatic or a myelogenous leukaemia. A similar case had been reported by Fiessinger and Pierre-Louis Marie, in *La Tribune Médicale*, January 16th, 1909.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, November 10th, 1909.

Sir ALFRED KEOGH in the Chair.

Clinical Meeting.

THE following were among the exhibitors:—Captain C. C. CUMMING: A case of *Heat-stroke* invalided from India. After being unconscious thirty-six hours, the patient was found unable to speak distinctly or intelligibly or to walk or use his arms. At present there was no impairment of the general functions or of sensation. He spoke slowly but slurred his words. There was slight inco ordination in the limbs and inability to maintain his balance without some slight support. No loss of memory or brain power. Major HARRISON pointed out the resemblance of the case to disseminated sclerosis, with the difference that it showed steady improvement. The patient was unconscious of any impediment to his speech, even when speaking quite unintelligibly. Captain CUMMING: A case of *Splenic anaemia* in a patient, invalided, on account of enteric fever, in 1902. The enlargement dated from that period. Towards the end of that year he had an attack of haematemesis and syncope, the spleen being much enlarged. Similar attacks occurred in 1903, and again, after a long period of freedom, in 1907, and at the beginning of last year. At present the spleen was enlarged to within 1 in. of the umbilicus and tender in the axillary line. The red cells were reduced to 3 million and the haemoglobin to 50 per cent. Major SPENCER: A case of *Fracture of the cervical vertebrae*, unrecognized at the time of occurrence, and only revealed by a subsequent *x*-ray photograph ten days after the accident. There was then some rigidity in the cervical region, but no tenderness or deformity. There was still some rigidity of the neck and an area of impaired sensation on the posterior surface of the lower third of the forearm. Captain J. C. KENNEDY described a case of *Phagedaenic ulcer of the larynx*. The laryngeal symptoms were not well marked till within a few days of death. The previous history was one of high fever and enlargement of the liver and spleen. No parasites were present in the smears made from a liver puncture. A large bacillus was found invading the laryngeal tissues, but could not be identified or subcultured.

CHELSEA CLINICAL SOCIETY.

Tuesday, November 9th, 1909.

Mr. LEONARD A. BIDWELL, President, in the Chair.

Presidential Address.

MR. BIDWELL, in a presidential address dealing with the development of *Gastric surgery*, said that the first case on record occurred in 1602 at Brandenburg, when a knife was removed from the stomach of a sailor by Mathieu, probably after the formation of an abscess. In 1784 a penetrating wound of the stomach recovered without surgical treatment. The patient was at first given fluid food by the mouth, but rectal feeding was afterwards substituted. In 1808 a record of certain cases of ruptured gastric ulcer showed that they were all fatal, and that no operation was even thought of. The first definite operation on the stomach was performed by Sédillot in 1347, but no successful cases were recorded before 1875. Billroth experimented on animals in 1876, but the first operation for pylorectomy on the human subject was by Péan in 1879. Czerny successfully removed the pylorus in 1881. The decade 1880–90 was one of great progress: gastro enterostomy by Wölfler, resection of ulcer by Rydygier, dilatation after gastrotomy by Loreta, gastrectomy by O'Connor, gastro-enterotomy by Van Haecker, and pyloroplasty by Heincke and Mikulicz. In the next decade occurred the first successful case of operation for perforated ulcer. This was performed by Kreig in 1892. Doyen published accounts of several successful cases shortly after this, but even in 1899 the operation was, in this country, considered quite unjustifiable, notwithstanding the successful operations of Schlilker, Brigham, and Libke. It was not till the present decade that gastric surgery had become actually recognized and popular, but operations, whether for malignant disease or for simple ulcer, were now of everyday occurrence. Removal of the greater part of the stomach, too, in certain cases of malignant disease, was found to be quite a desirable operation, affording a hope of radical cure in about 30 per cent. of the cases. In cases where gastric ulcer had returned after operation, gastro-enterostomy was found to have very satisfactory results. In cases of rupture, operation was the more successful the earlier it was performed. The results of the removal of the entire stomach in certain cases had shown that this organ was not so necessary to digestion and life as was formerly supposed. Indeed, the rapid entry of food

into the intestines appeared to have been, in many cases, rather favourable to digestion than otherwise. It was possible, of course, that reaction might set in, that the importance of the stomach in relation to the act of digestion might be more highly esteemed, and surgeons become more averse than they were to gastric operations; but, in any case, the experience of the last twenty years had at least proved that the stomach was an organ well within the reach of modern surgery, and that the old-fashioned plan of depending on the appearance of the tongue as the sole guide to the condition of the stomach was partial, one-sided, and out of date.

ROYAL SOCIETY OF MEDICINE.

Medical Section.

Tuesday, November 23rd, 1909.

Dr. J. Mitchell Bruce, President, in the Chair.

Rôle of Fats in Gastric Disorders.

Dr. F. Craven Moore and Dr. R. L. Ferguson read a paper on the rôle of fats in the treatment of functional disorders of the stomach. Following on the demonstration by Pawlow and his co-workers that fats depressed the secretory activity of the stomach in the dog, a number of Continental observers established a similar effect on the secretory activity of the human stomach, and employed liquid neutral fats with beneficial results in the treatment of such morbid conditions of the stomach as were associated with excessive secretory activity. The systematic investigation of the secretory activity of the stomach in all cases of gastric disease having shown the frequency with which excessive secretion obtained, certain fats were employed therapeutically, and with such apparent benefit that it appeared desirable to investigate the effect of the administration of fat on the secretory activity of the stomach more extensively than had yet been done. Employing the Ewald test breakfast and estimating the free HCl, the total acidity, and the peptic activity of the stomach contents removed one hour after the ingestion of the meal, they had found in some 60 cases that the previous administration of 1 oz. of olive or almond oil invariably led to a marked reduction in the acid values and in the digestive power of the stomach contents. This effect, though constant, presented some interesting variations in different morbid conditions, and was greatest in cases of gastric and duodenal ulcer associated with hypersecretion. Clinically, it was found that the administration of such fats had a decidedly beneficial influence on the subjective discomfort of the patients and on their general nutrition, and particularly so in cases of pyloric and duodenal ulcer associated with hypersecretion and a tendency to pyloric spasm with acid regurgitation. In explanation of this effect of the administration of liquid neutral fats on the acid values and digestive power of the stomach contents, their observations, so far as they had proceeded, showed that the view that it depended on a regurgitation of duodenal contents was not of general application. Dr. A. F. Hertz had for two years been treating cases of ulcer of the stomach and duodenum by an exclusively oil diet for a day or two, with the result of complete removal of the pain. Even during haemorrhage it was of much more value than rectal feeding, which was known to be accompanied by the secretion of gastric juices. There had been in his patients almost no intolerance of the diet. Subsequently he had been giving a dose of oil before the ordinary meal, and as a general result the recurrence of symptoms of ulceration had appeared to have been prevented. Dr. R. Saundby had found that pain ordinarily disappeared in cases of gastric ulcer as soon as the patients were put to bed, but he had found the oil treatment very useful for the relief of hyperacidity. He preferred to give an emulsion of oil, and no difficulty in taking it was experienced by his patients. Dr. R. Hutchison was especially interested in the point of how oil prevented gastric secretion; he thought it must be a chemical process. He was a little sceptical as to the necessity of the oil method of treatment of hyperchlorhydria; other less unpleasant methods were efficacious. He also thought that rest in bed was sufficient to relieve gastric ulcer patients from pain. What the effect of an oil diet on pancreatic secretion was had to be considered. After remarks by Dr. R. L. Ferguson, Dr. Craven Moore replied.

Section of Diseases of Children.

Friday, November 26th, 1909.

Dr. Porter Parkinson in the Chair.

The following were among the exhibits: Dr. A. E. Garrod: A case of *Multiple peripheral neuritis* in a child aged 8. The child was quite healthy until March, 1909, when, after an attack of abdominal pain, she passed involuntarily a stool containing several ounces of blood. A similar attack occurred in May, and several others later. When admitted to hospital on September 16th, she was a well-nourished child; good mental condition; marked loss of power in both upper limbs from deltoid downwards, and double wrist drop; muscles of lower limbs weak, no tremor, sensation unimpaired, other systems normal. Electrical reaction showed muscles of all extremities with reaction of degeneration (except flexors and special muscles of thumb and little finger). Blood examination: Red corpuscles, 4,984,000; haemoglobin, 94 per cent.; white cells, 10,500. No cause for the condition was discoverable. Dr. G. A. Sutherland thought a positive diagnosis was not possible. Dr. E. L. Spriggs referred to two similar cases recently shown. Dr. Robert Hutchison: (1) A girl aged 9 with *Cirrhosis of the liver*. There had been swelling of the abdomen for one year; no previous illness of importance. Two stillbirths preceded this child. There were snuffles as a baby. The liver was enlarged and irregular and the spleen considerably enlarged. There was some ascites and a cirrhotic facies. A positive vasomotor reaction had been obtained. He ascribed the condition to syphilis. (2) A boy aged 13 weeks with *Unidactyly*. The small digit only was present on both hands and both feet. The child was otherwise normal. The child's father, two uncles, and an aunt were similarly affected, as also the grandfather and great uncle and a paternal cousin. Mr. O. L. Addison: A case of *Congenital enlargement of one limb* in a brother and sister aged 9 and 5 respectively. The boy's arm, shoulder, and hand were enlarged, and there was 1 in. increase in length. In the girl the left leg was 1½ in. longer than the right. The calf, relatively larger than the thigh, was hotter than the rest of the limb. Dr. R. C. Jewesbury: An infantile heart showing a *Nodular endocardium* from a child aged 4 months, who died from bronchopneumonia. No cardiac lesion was detected during life. *Post mortem*, a large number of wart like nodules were found, especially on the mitral and aortic valves, a few also on the other valves, and on the septum of the foramen ovale. Microscopic examination showed no signs of recent or previous inflammation. Dr. Spriggs regarded the nodules as hypertrophy of those usually seen in infants' hearts. Dr. J. D. Rolleston (for Dr. Carpenter): A specimen of compression of the trachea by the enlarged thymus. It was removed from a child, aged 10 months, who died after an illness of less than twenty-four hours. This began suddenly, with quick breathing and sickness. The temperature reached 103°, and the respiration-rate 80. During life there was recession of the intercostal spaces, and embarrassed breathing. The specimen showed a large thymus pressing on the trachea which was much narrowed from before backwards. The lungs showed evidence of death from asphyxia. The liver and spleen showed some fatty change, but the other organs were normal. The case was shown as positive evidence that an enlarged thymus may cause death. Mr. Lockhart Mummery read a paper on a case of strangulation of the small intestine by a band in a child aged 15 months. Obstruction developed suddenly. A tumour, thought to be an intussusception, was distinctly felt in the right side of the abdomen. The child had been operated upon for intussusception when 5 months old. Operation on the present occasion was performed within nine hours of the onset of symptoms, and the band divided. Recovery was uninterrupted

Reviews.

DISEASE IN CHILDHOOD.

THE third edition of the well-known work, *A Practical Treatise on Disease in Children*,[1] by Dr. EUSTACE SMITH, is assured of a ready welcome. The author holds a foremost place in the rank of authorities, and his writings have played an invaluable part in creating an interest in his special subject. In the third edition large portions of the book have been rewritten and rearranged, and much matter previously unnoticed has been introduced. Amongst other subjects introduced for the first time are those of congenital laryngeal stridor, traumatic birth paralysis of the arms, tics and habit spasms, congenital pyloric stenosis, post-nasal vegetations, and adrenal haemorrhage. The work, in fact, has been brought thoroughly up to date, and the text includes numerous references to the most recent writings of British and foreign authorities. Notwithstanding all the alterations and editions, the latest edition retains the best features of its predecessors. In it there is the same graphic picture of each complaint, told in short and happily-worded sentences. The author, indeed, is a master of style, and his book is easy and pleasant to read. If medical knowledge could be acquired from verbal description alone, no better work for that purpose could be desired on this special subject. The clinical cases introduced, too, are admirably adapted to illustrate and assist the text. To those acquainted with his former writings it will be unnecessary to state that treatment receives full and adequate attention. In this portion of his subject there is a wealth of detail that is scarcely to be found in other works, and in dealing with children it is this attention to details that makes for both success in treatment and the comfort of the patient. The busy practitioner, too, will find many suggestions here that may prove of service to him in times of difficulty. Any lengthy criticism of the third edition of such a work is unnecessary and uncalled for. The author's predilection for a varied diet in infancy, his partiality for more than one of the proprietary foods, his distrust of many kinds of fresh fruit for older children, are points upon which there may fairly be a difference of opinion. The author can, however, appeal to the results of a long experience in support of his methods, even when they are not in agreement with the findings of chemical analyses or the dictates of a present day physiology. To his advice to leave off mercurial treatment in cases of hereditary syphilis directly or soon after the symptoms disappear, from a fear of the drug causing a profound anaemia, more serious exception must, however, be taken. Such advice is contrary to that of all other authorities, and it is a common experience in such cases that a prolonged mercurial course, so far from causing anaemia, has a directly contrary effect. There are, of course, other statements to which we might hesitate readily to subscribe, but it is saying much for the merits of a book of this size that we can only note a solitary instance calling for strong adverse comment. All through his work the author shows a generous appreciation and acknowledgement of the work of others. The third edition deserves, and will no doubt command, success as great as its predecessors.

DR. BERNARD MYERS's book on *The Care of Children*[2] has a preface by Dr. G. F. STILL. With much of the latter's commendation of the work we are inclined to agree. The best part is the section dealing with the preparations for the forthcoming baby, and its treatment when newly born. Mothers and nurses will find in this section many suggestions that will prove of service. Infant feeding is dealt with in a comparatively short space, but the information contained is all that it is necessary for those for whom the book is designed. We cannot think, however, that the use of barley water is so harmful or so obsolete nowadays as the author imagines. There are many authorities of large experience who still consider it has considerable advantages over plain water as a diluent of cow's milk. It is true, as the author states, that it contains starch, but the amount of this substance is small, and probably not more than the limited powers of the saliva and pancreatic secretion of quite young infants can deal with. The instructions as to the diet and general care of children in later infancy, and from 2 to 12 years of age, are sensibly and plainly written. In a chapter on the Mental Education of Children Dr. Myers deals briefly with an important subject seldom mentioned in ordinary textbooks, and his advice can be commended. We would have thought, however, that the merits of the kindergarten system were so generally recognized as to render the author's description and warm approval of it unnecessary. In another chapter on the Ideal Nurseries we fail to find anything very novel beyond the suggestion that the day nursery should be at least 30 ft. long, by 20 ft. wide, and 15 ft. high, and the night slightly larger still, but rooms of such dimensions are seldom, as the author admits, available for the purposes suggested. A chapter on Illnesses and Accidents might be considerably improved by enlarging the section dealing with accidents, and omitting the greater part of that concerned with diseases. We quite fail to see what benefit the few elementary remarks the author has to make on such subjects as pleurisy, diphtheria, typhoid fever, deaf-mutism, idiocy, infantile paralysis, granular lids, hip disease, etc., could possibly be either to mothers or nurses. Writing on diphtheria, too, he states, "It begins with pains in the back and limbs, the temperature going up to 102° or so; convulsions may occur." We would consider such a statement dangerous if it should lead mothers and nurses to believe that the complaint did not often, or usually, begin with symptoms totally different to those mentioned. The little work needs careful revision, but in its present form it contains much information that should prove useful to those for whom it is intended.

The seventh volume of the Practical Medicine Series[3] for 1909, under the general editorial charge of Dr. Gustavus Head, is occupied with the subjects of *Pediatrics and Orthopedic Surgery*; the former being edited by Dr. ISAAC ABT with the collaboration of Dr. MAY MICHAEL, and the latter by Dr. JOHN RIDLON. In this country, in a similar work, the section on orthopaedics would doubtless have been included in the volume on surgery, but in America, possibly, the same distinction is not drawn between medicine and surgery that obtains here. The work is essentially a series of abstracts of papers on the specified subjects that have appeared in American, British, and foreign medical journals during the past year. On the whole the articles chosen for abstracting would seem to have been judiciously selected and the process of condensation carefully done. In one abstract dealing with Gabritchevsky's method of injecting dead streptococci as a prophylactic in scarlet fever the results are claimed as excelling all expectations, and if the figures given are substantiated by further trial the method would seem deserving of the closest attention at the hands of the profession. The work contains much information in a concise form, and should prove useful; and still more so in the last respect if it should lead the reader of the abstracts to consult the original articles themselves.

THE COMPARATIVE FREQUENCY OF DISEASES.

THE object which Dr. GRANT ANDREW had in view when preparing his book on the *Age, Sex, and Comparative Frequency in Disease*[4] was to afford practical information in a statistical form on the matters mentioned in the title of the volume. A collection of 42,063 cases, comprising almost every form of recognized disease, is arranged alphabetically, and statistical tables are set out showing the age incidence and, when necessary, the sex prevalence in each. The relative frequency of the more important

[1] *A Practical Treatise on Disease in Children.* By E. Smith, M.D. Third edition. Edinburgh and London: W. Green and Sons. 1909. (Roy. 8vo, pp. 857. 21s.)

[2] *The Care of Children, from Babyhood to Adolescence, for the Use of Mothers and Nurses.* By Bernard Myers, M.D., C.M., with a preface by George F. Still, M.D., F.R.C.P. London: Henry Kimpton. 1909. (Cr. 8vo, pp. 175. 1s. 6d.; cloth, 2s. 6d.)

[3] The Practical Medicine Series, 1909. Edited by Dr. G. P. Head. Vol. vii, *Pediatrics*. Edited by Dr. Isaac Abt and Dr. May Michael. *Orthopedic Surgery*. Edited by Dr. John Ridlon, with the collaboration of Dr. A. Steindler. Chicago: The Year Book Publishers. Glasgow: G. Gillies and Co. 1909. (Cr. 8vo, pp. 242. 5s.)

[4] *Age, Sex, and Comparative Frequency in Disease.* By Jas Grant Andrew, Bachelor of Medicine and Master of Surgery; Fellow of the Faculty of Physicians and Surgeons; Surgeon to the Victoria Infirmary, Glasgow. London: Bailliere, Tindall and Cox. 1909. (Demy 8vo, pp. 455. 10s. 6d.)

affections of most organs and their order of frequency are studied from the point of view of the aid they may give in diagnosis. The data thus arranged will, it is expected, be found useful from both a clinical and an actuarial point of view. It is a creditable and, indeed, in many respects, an important book. It will be found a useful and ready source of statistical information. The introductory chapter gives a concise and lucid review of the author's conclusions. The tables showing the relative number of cases of the different affections treated in the successive decades of life can be readily understood, and in many instances serve the practical purposes of elucidating general consideration as to different diseases of the same organ, and points of value in differential diagnosis. The author has carried out his self-imposed task in a most able manner, and it is important that there should be found men willing to undertake an investigation so laborious, for it is to be feared that inquiries of this kind cannot be expected to appeal very strongly to the average medical reader. It will be, however, a work of reference of no little use to writers, especially writers of textbooks.

It is very difficult to say what value should be attached, at the actual moment of making a diagnosis, to the relative frequency, under given circumstances, of age and environment as known to the physician or surgeon who has to advise a patient. No doubt knowledge of the kind does influence every one, consciously or unconsciously, and some more than others. Dr. Grant Andrew's book will serve a useful purpose if it encourages, as it ought, a more general application of the method of exclusion in diagnosis: it will, for instance, remind us of the relative frequency of the more common disorder of an organ which should be proved not to exist before a diagnosis of a rare disease is reached. In using the book, however, for this purpose, its limitations must be borne in mind. Being founded on the cases occurring within a limited range, it cannot have a universal application, and in some sections the number of cases to be dealt with is very small. But among the many sections which are based on abundant material and show proof of careful analysis, especial attention may be directed to those on the heart and arterial system, the brain, and the kidney. The bone affections also are treated at length, but the sections on cancer and sarcoma are rather disappointing. In neither of these subjects has the question of age incidence been fully worked out, and but scant reference is made to the diversified forms of malignant growth.

OPHTHALMOLOGY.

THE second edition of the second volume of CZERMAK'S well-known textbook of ophthalmic operations will be welcomed as a work of reference by all ophthalmic surgeons.[5] It has been brought up to date by ELSCHNIG, who, on the whole, has done his work well. Fuller details might have been given of extraction in the capsule, as practised by Smith, and of the methods of producing or attempting to produce the so-called filtration scar in the treatment of chronic glaucoma. Lagrange's procedure is dismissed in four lines, and Major Herbert fares even worse, only two lines being allotted to him. On the other hand, cyclodialysis—an operation which few surgeons would care to perform, and which histological examination has proved to be worthless—is discussed at length and is recommended as the best means of treating chronic glaucoma. On the whole, British ophthalmology receives the attention it deserves, and most recent work is referred to and discussed. We cannot, however, understand Elschnig's criticism of T. Henderson's theory of glaucoma. He says it does not account for the fact that a badly performed iridectomy is often successful, whereas the theory is the only one which does successfully explain why any incision into the iris can lower tension. The iris never heals; its tissues are opened up, and form new channels for drainage. The operations upon the globe are discussed in the second volume, the first 60 pages being devoted to a general consideration of incisions, their best position, how they heal, and their complications. Corneal operations come next in order, those involving the implantation of a flap of conjunctiva being especially well described. This method, which is very useful in covering loss of corneal substance, is somewhat neglected in England, although constantly practised by Kuhnt and others in Germany with the best results. Much of the book is given up to iridectomy and to the various methods of dealing with cataract. Czermak evidently thinks that extraction after a preliminary iridectomy is the safest method, but he advocates the usual combined operation, with the section in the corneo-scleral margin, as the best for most cases. When everything is very favourable the simple operation may be chosen. Czermak says this requires a large section, embracing half the cornea, but Elschnig thinks that the section need not be larger than that used in the combined method. Czermak's own operation for subconjunctival extraction of the cataractous lens is fully described. It is recommended by many German surgeons for cases in which septic infection is to be feared, or for patients whose mental condition is unsound. Elschnig, however, states that septic infection of the wound is just as frequent after subconjunctival as after ordinary extraction. The disadvantages of the method are obvious, the advantages problematical. Iridectomy for acute glaucoma should, he thinks, when possible, be done with the keratome, but if the anterior chamber be very shallow a Graefe knife may be necessary. In this advice the author agrees with most Continental and with many English provincial surgeons. In London, however, the Graefe knife seems to be usually chosen. The volume closes with an account of how to extract foreign bodies from the eye, and with a description of operations performed for detached retina. The illustrations have no artistic merit whatever; they are mere diagrams, but serve their purpose. On the whole the book, though of great value to the expert, is not as useful to a beginner as is Haab's much smaller work. The volume is comprehensive and thorough, but it is undoubtedly dull reading. It is written in easy, straightforward German.

The little volume on the ocular hygiene of infancy, by Dr. B. GINESTOUS,[6] deals with those eye diseases of childhood which are very common, and can be prevented or ameliorated by timely attention. It contains nothing new or striking, but the principles of modern prophylaxis and treatment are clearly enunciated and explained. In his introduction the author maintains that the State should care for the eyes of children, and adopt measures to prevent blindness; a blind child not only cannot earn its living, if brought up untrained, but it may become a charge upon the community, entailing a double loss of wealth. He points out that among the causes of infantile blindness acute purulent forms of conjunctivitis and corneal lesions are by far the most frequent, and the most easily prevented. While admitting that Credé procedure almost eliminates gonococcal blenorrhœa, he adds that in a certain proportion of cases it gives rise to a great deal of irritation, but fails to discuss the advantages of a moderately strong solution (20 per cent.) of protargol. The various types of infective conjunctivitis common to infants are shortly described, and a few pages are devoted to refraction and squint. The author regards squint as an inherent vice of the nervous system; he finds that in 37 per cent. of the cases the father is an alcoholic, and in 70 per cent. the mother is subject to hysteria or other neurosis. He rather believes in maternal impressions as a cause of congenital deformities, but does not attach much importance to consanguinity. No child, our author holds, should learn to read till he is 7. It is impossible to expect a serious treatise to be compressed into 111 pages of large print; the book is merely a sketch of what a large book might be, and is neither concise nor very practical. It is a little difficult to determine for what class of reader it is intended. A very serious blemish arises from the author's complete ignorance of all English literature. Had he read Nettleship's recent work upon retinitis pigmentosa, he must have included him among the authorities he quotes, and we might give many other instances of failure to notice an important English work.

[5] *Die Augenärztlichen Operationen.* Von Professor Czermak. Zweite Auflage. Herausgegeben von Dr. Anton Elschnig. II Band. Berlin und Wien: Urban und Schwarzenberg. 1908. (Sup. roy. 8vo, pp. 728. M. 25.)

[6] *Hygiène oculaire de la première enfance.* Par Dr. Etienne Ginestous. Paris: Vigot Frères. 1909. (Cr. 8vo, pp. 111. Fr. 2.)

The *Dictionary of Ophthalmic Terms* is a small book, written by Dr. E. MAGINNIS, of Kingstown, Ireland,[7] who states in the preface that "many of the terms will not be found in the ordinary medical dictionary." This we can quite believe, and we should be very surprised to find any ophthalmic surgeon using many of the terms or even knowing what they meant. Certainly the student need not imagine that more than about one-tenth of those given are in ordinary use. Many of the definitions are curious. Who, for instance, would dream of defining "*Aspergillus glaucus*" as "fungus from saccharine fruits which cause suppuration of the cornea"? We wonder how many ophthalmic surgeons use such terms as *Atretopsia*, *Bitot*, *Spots*, *Blepharo-chromidrosis*, *Caligo*, *Cavities Corecleisis*, *Corectomy*, *Dacryagogue*, or *Dysopia*. Few people if asked would define the word *Halo* as "a luminous circle seen by the patient about light in glaucoma." This reminds us of the boy who, when asked what stars were, answered that "they are the things you see when you get a punch in the eye"! There is a short supplement which gives brief directions for testing vision, and also a list of formulae. The book contains all the terms in common use and dozens which are never used at all. We are not greatly struck with its utility.

The tenth number of Professor WIDMARK'S[8] reports from the ophthalmic clinic of the Caroline Medico-Surgical Institute at Stockholm contains a record by von Knape of histological research upon cases of choked disc. Seventeen eyes, taken from patients with cerebral tumour, chronic nephritis, leukaemia, haemophilia, and orbital tumour, were hardened in Müller's fluid, stained by van Gieson's and other methods, cut in serial sections and examined. There are two main theories. One regards optic neuritis as an inflammatory process, the other holds that it is a mechanical result of pressure; hence we have the terms "papillitis" and "choked disc," each suggesting a different pathogenesis for the same condition. The author found definite signs of inflammation in his first eight cases—five of cerebral tumour, one of chronic nephritis, one of acute myelogenous leukaemia, and one of pernicious anaemia. In a case of vascular tumour of the orbit these signs were altogether wanting. He concludes, therefore, that optic neuritis may be an inflammatory process or a pressure phenomenon, and that hydrops of the vaginal sheath of the optic nerve is not a purely mechanical event, but that there is a vital element. He suggests that the primary cause is always a narrowing of the central vein of the retina caused by the oedematous sheath of the nerve pressing upon it. A. Troell describes two cases in which severe sympathetic ophthalmitis followed—in one case a hypopyon ulcer, in the other a perforating ulcer of the other eye. The histological examination of the excised eyes showed in each case those changes which Fuchs and others have found to be characteristic of the inflammation which excites a sympathetic cyclitis, and which are quite distinct from ordinary inflammation. He can only find records of ten similar cases. In both his own examples and in many others an operation had been performed. This, he thinks, is the etiological factor in causing the sympathetic inflammation. He recommends sodium salicylate as the most useful drug to use in sympathetic ophthalmitis. J. Widmark contributes a paper on the diminution of myopia among the Swedish school children. In 1870–80 at least 50 per cent. of the classical scholars were myopic, the proportion being considerably less in modern schools (*Gymnasia* and *Realschule*). This percentage has gradually diminished till now the figure is only about 20 per cent. The statistics apply to the upper forms. He ascribes the improvement to the increasing number of boys taking a modern education rather than a classical, and to the great attention now given to games. The Swedish schools are in this feature copying the English. Jacobaeus's paper on Mikulicz's disease, which is characterized by symmetrical swellings of the lacrymal and salivary glands, gives much useful information on this rare condition, and discusses the diagnosis beween it and chloroma and allied leukaemic conditions. Simon found that the Roentgen-ray treatment of these cases was successful: in at least one patient the swellings disappeared and did not return. Lindhahl, in a further paper on the agglutinating action of tears, confirms his previous work. The tears contain agglutinins, which appear to act in the same way as serum-agglutinins.

[7] *Dictionary of Ophthalmic Terms with Supplement*. By Edward Maginnis, M.D., D.P.H., Ophthalmic Surgeon, St. Michael's Hospital, Kingstown, etc. Bristol: John Wright and Sons, Ltd.; and London: Simpkin, Marshall, Hamilton, Kent and Co. 1909. (Imp. 32mo, pp. 67. 2s. 6d.)

[8] *Mitteilungen aus der Augenklinik des Carolinischen Medico-Chirurgischen Institutes zu Stockholm*. Herausgegeben von Dr. J. Widmark. Zehntes Heft, 1909. Jena: Verlag von Gustav Fischer. Price (about) M. 5.

ENVIRONMENT AND HEREDITY.

IN a lecture, bearing the somewhat cacophonous title of *The Relative Strength of Nurture and Nature*,[9] Miss E. M. ELDERTON summarizes the evidence accumulated by workers in the Galton Eugenics Laboratory with reference to the shares of hereditary and environmental factors in the genesis of mental and physical conditions. Miss Elderton finds no significant association between parental intemperance and the health of their children, the coefficients of correlation being negligibly small. The author remarks: "Here, again, we see that drink has practically no influence on general health and intelligence of boys and girls, and the little influence it has is in favour of the children of drinking parents—they are healthier and more intelligent." In no case examined does the factor of environment compare in numerical magnitude (as measured by the coefficient of correlation) with that of heredity. But Miss Elderton utters a warning against drawing hasty conclusions. At the beginning of the lecture, after discussing the process by which it is believed correct results may be obtained, she writes: "We admit to the full that even then we may not have avoided all danger of pitfalls, that we may have overlooked possible factors, and that spurious correlation may have arisen from all sorts of disregarded selective processes. The prudent statistician will always advance his conclusions with a word of caution; he will simply state that they are those which reasonably follow from the data provided." These remarks are eminently judicious, and we could wish that all writers on eugenics might bear them constantly in mind. While all sanitarians will welcome further applications of the statistical method to public health problems, they will deprecate attempts to ground far-reaching conclusions upon material of extreme complexity—a complexity which can hardly be realized by laymen, however acute or laborious they may be. As Miss Elderton recognizes, further work in this field is urgently needed, and will doubtless be forthcoming.

[9] *The Relative Strength of Nurture and Nature*. By Ethel M. Elderton. Eugenics Laboratory Lecture Series. III. London: Dulau and Co. 1909. (Demy 8vo, pp. 40. 1s.)

NOTES ON BOOKS.

The History Sheet, or Case Paper System[10] is the title of a small book of 167 pages, published by Messrs. P. S. King and Son. It contains articles by Mr. Henry F. Aveling, Clerk to the Paddington Guardians; Miss Mary E. E. James, a guardian of Bethnal Green; Miss W. L. Brodie Hall, guardian of the Eastbourne Union; Mr. R. Clift Horner, guardian of the Eccleshall Baerlow Union, and the late Dr. Milson Rhodes, alderman of the County Palatine of Lancaster. Its object is to show the advantage in Poor Law administration of what is known as the "Case Paper System," which is already in use in various unions throughout the country. This system endeavours to tabulate on a separate sheet the history of every applicant for Poor Law relief. The sheets are docketed, and preserved, so that they may be readily consulted in any subsequent appeal for relief by the same applicant. The various writers point out clearly the great value of such a record in properly organizing Poor Law relief work, and how useful a check it may be in preventing imposition on the public. The Majority Commissioners have specially recommended the system, but the Minority do not notice it, for such a system could only work under a Destitution Authority. If the whole of the class needing Poor Law assistance were to be broken up, and distributed among various bodies, according to their requirements, such a record would lose its value.

WHITE AND HUMPHREY'S *Pharmacopedia*,[11] a second edition of which has recently appeared, is a commentary

[10] *The History Sheet, or Case Paper System*. London: P. S. King and Son. 1909. (Cr. 8vo, pp. 179. 2s.)

[11] *Pharmacopedia*. By Edmund White, B.Sc Lond., F.I.C., and John Humphrey. Second edition. London: Simpkin, Marshall and Co. 1909. (Roy. 8vo, pp. 702, 46 plates. 12s. 6d.)

on the *British Pharmacopoeia* intended for the use of students and of practising pharmacists. It is, of course, essential that pharmaceutical, and to a less extent medical, students should be thoroughly familiar with the contents of the *Pharmacopoeia*, but that work is not, and should not be, written as a students' textbook or cumbered with the explanations necessary for its full comprehension; consequently students who attempt to learn the *Pharmacopoeia* without sufficient explanation by a teacher of the reasons for particular requirements, and of the chemistry and pharmacognosy involved, are very likely to content themselves with merely memorizing the more important matters contained in it. The present work is exactly what is required in order that such memorizing may be replaced by the intelligent study of the official book. The authors have been very successful in realizing the student's point of view and amplifying and discussing the official monographs in such a way that all the facts become rationally connected to the student's general body of knowledge. Much of the information is of a nature to be useful to others besides students; as examples, may be mentioned the monograph on pepsin, in which the differences of the commercial varieties from one another and from the pure enzyme are made clear, or the explanations of the chemical nature of synthetic remedies, such as antipyrin and sulphonal. Another section of the book consists of an atlas of materia medica, containing drawings of typical specimens of most drugs, with brief descriptions. In the present edition some of the monographs have been rewritten and the whole subjected to a general revision, but the differences from the former edition are not very great.

In the preface to his volume on *Self Help for Nervous Women*,[12] Dr. JOHN K. MITCHELL, of Philadelphia, states that "the book is not intended for doctors." It consists of a revised and elaborated reprint of a series of articles which the author contributed to *Harper's Bazar* in 1901. The homely style in which it is written is suited only for those whose interest in nervous affections is of domestic importance, and it is frankly addressed "chiefly to women because they form the larger number of sufferers from functional nervous disease." The advice which the author offers to his readers is, in its way, useful, and amounts to a homily on the virtues of self-control and a plea for the cultivation of a wider and less self-centred life on the part of those who have either acquired or inherited nervous systems which are unstable and feeble. The woman—and there are many such—who makes her own life miserable and exhausts the patience of all her friends and relatives is well portrayed in the following description:

> This is the woman who, with or without special demands for sympathy or consideration, "takes it out" of every one near, seeming to absorb strength and vitality from those about her to their detriment, yet not to her gain. She is always a problem in herself, be she young or old, agreeable or disagreeable, attractive or the reverse, her qualities seem to have no share in the effect. An ordinary quarter hour's visit to her leaves you exhausted, squeezed dry. She uses up nurses like a machine grinding material. One sees charming people of this sort—intellectual, cultivated, with lively sympathies of their own—who are perfectly unable to appreciate their peculiar influence upon others, and, in spite of agreeable conversation, quick comprehension, and active intelligence, one looks forward with dread to the necessary visit.

Every physician is familiar with this type of woman, and will derive a certain satisfaction from Dr. Mitchell's forcible appellation—"Vampire Patient." There is nothing new in the book, but it contains advice that, if old and even threadbare, is worth listening to. The class of women to whom it is addressed will lighten the burden of their own lives and promote the happiness or those to whom they belong if they will take to heart and endeavour to put into practice the friendly counsels which the author, in familiar and apt language, offers for their guidance.

TWO GARDEN BOOKS.

The *Monthly Gleanings in a Scottish Garden*[13] are very much what they would be in an ordinary English or Welsh garden—always interesting and welcome. The *Gleanings* under consideration contain also some poetry, botany, and bird-lore—with a little theology. For the most part the photographs scattered through the volume are good; each month has its photographic illustration. In their proper months roses and strawberries are discussed, nor are the butterflies forgotten. So, with one thing and another, this little book of large print is spun out to nearly 200 pleasant pages.

[12] The Simple Life Series. *Self Help for Nervous Women. Familiar Talks on Economy in Nervous Expenditure* By John K. Mitchell, M.D., Fellow of the College of Physicians of Philadelphia, etc. London: William Heinemann. 1909. (Cr. 8vo, pp. 202. 2s. 6d.)

[13] *Monthly Gleanings in a Scottish Garden*. By L. H. Soutar. London: Fisher Unwin. 1909. (Cr. 8vo, pp. 192. 6s.)

Like the authoress of the preceding volume, Mr. LLOYD, in *The Months of the Year*,[14] takes us month by month through the garden, but he does not keep us in the garden. He does not, however, take us out of it before he has introduced us to the robin redbreast. No self-respecting writer on gardens would ever do that. But when he gets us outside it is with him almost a case of "go as you please." So he talks about umbrellas, cock-fighting, university boat-races, lawn tennis, falconry, hunting, golf, Lord Mayor's day, and a crowd of other things, as the time of year, or the bent of his mind, suggests. The photographs with which he illustrates his text are excellent, and amongst them one may be specially mentioned with approval, that of a London fog, taken one mid-day from the steps of St. Paul's Cathedral. There is plenty to interest a reader—never mind who he is or what are his tastes—in Mr. Lloyd's book of 300 pages. And if a reader takes it up on a Sunday, when, from persistent wet—or any other reason—he is disinclined to go to church, he may find in it little bits of sermon quite pleasantly delivered, and by no means out of harmony with their surroundings.

[14] *The Months of the Year*. By the Rev. Pemberton Lloyd. London: W. H. and L. Collingridge. 1909. (Demy 8vo, pp. 307; 42 illustrations. 5s.)

SANITARY APPLIANCES.

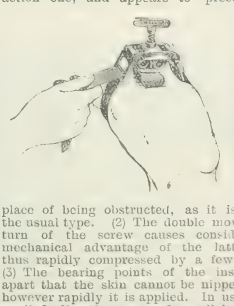
Covered Milk Reservoir.

THE milk vessel and cream distributor shown by Dr. T. Barrett Heggs, medical officer of health of Sittingbourne, at a recent meeting of the Canterbury and Faversham Division, is in the form of a bucket provided with a tap and a tight lid. Attached to the lid is a stirrer for mixing. The handle by which the stirrer is actuated projects through the lid, and it is stated that a few turns are sufficient to distribute the cream evenly throughout the milk; some investigations made by Dr. Heggs appear to show that this claim is justified, for even after standing over three hours the amount of fat in milk drawn from the tap was 93 per cent. of the original standard. The vessel is ventilated and easily cleaned, and is made with an ice-water cooling jacket if required. It seems to be particularly well adapted for shop use, as any quantity of milk can be withdrawn without uncovering the vessel. The appliance is the invention of the sanitary inspector of the Milton Regis Urban District.

MEDICAL AND SURGICAL APPLIANCES.

Double-action Alar Tourniquet.

THE following is a description of a double-action alar tourniquet designed by Major N. P. O'Gorman-Lalor, I.M.S.: This tourniquet, as its name implies, is a double-action one, and appears to present several distinct advantages over similar instruments in previous use. (1) The motion of screwing down the pad on the wounded vessel at the same time raises two metal wings at either side of the instrument. The action results in diminished pressure upon the limb, and the return venous circulation is encouraged, in place of being obstructed, as it is by instruments of the usual type. (2) The double movement which every turn of the screw causes considerably increases the mechanical advantage of the latter. The vessel is thus rapidly compressed by a few turns of the screw. (3) The bearing points of the instrument are so far apart that the skin cannot be nipped up between them, however rapidly it is applied. In use the pad should be applied directly over and parallel to the course of the vessel, and the tape should be well tightened around the limb before the instrument is screwed down. The instrument is made by John Weiss and Son, Limited, Oxford Street, W.



DR. W. J. HENSON (Wedmore) writes to state that the illustration of the Amater feeding bottle described in the JOURNAL of November 20th, p. 1475, was printed upside down.



The London Hospital: Main Front Buildings.

SEVENTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association

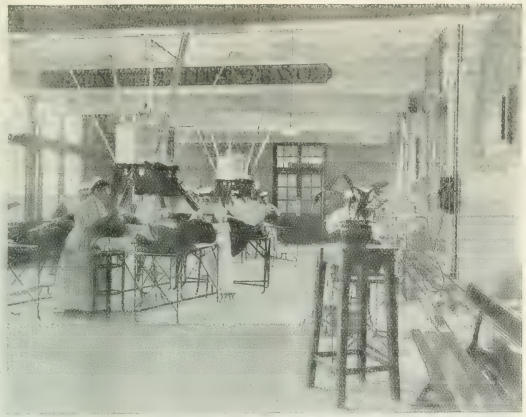
LONDON, JULY, 1910.

EACH of the hospitals of which we write in this article has, during the past fourteen years or so, been treated structurally in somewhat the same manner; important new buildings have been added, while the old buildings have been greatly altered and improved in order to meet modern requirements. The medical school attached to each of them affords a complete training to the student in both the preliminary and the purely professional subjects.

The London Hospital and Medical School.

This hospital, containing 922 beds, is situated immediately opposite the Whitechapel station of the Metropolitan and District Railways. Since 1897 it has been very much altered and improved. Many of the buildings are absolutely new, and those which are not new have been altered to such a degree that they may be regarded as new. Passing beneath the porch, the old chapel over which has been removed to make way for a clinical theatre with adjacent rooms for patients and staff, we enter the large front block of buildings. The most important alterations in this block are to be found in the addition of two floors, the lower of which, the present third floor, contains what the House Committee, in their annual report for 1905, were justified in believing to be "the most completely equipped operating suite in the world." The suite comprises five operating theatres, three anaesthetic rooms, instrument and sterilizing rooms, and several other apartments for the surgeons and dressers. The air before entering the theatres is filtered by an apparatus in the basement of the block. Both of the wings which run backwards from the main block have been enlarged by the addition of another floor. In the west wing this story consists of the four splendid Hebrew wards, while in the east wing it forms the new kitchen, in which 1,200 dinners can with ease be cooked daily. In the wings extending east and west of the main building extensive alterations have been made to provide ample accommodation for the treatment of gynaecological and obstetric cases, including two separate operating theatres, one in each wing. There are also a number of rooms for those who are engaged in teaching and learning midwifery and the diseases of women. Running backwards from the east wing is the Pathological Institute, opened by Sir Henry Roscoe in 1901. Here we find an admirable *post-mortem* room, with lecture rooms, laboratory, a mortuary chapel, and a freezing chamber cooled by the waste brine from the ice-making plant which is adjoining. Leaving the institute, and proceeding still away from the main block, we pass two buildings, mostly new, for the nursing staff, and cross Oxford Street to the Eva Lückes Nurses' Home, named after the Matron of the Hospital and opened in 1905, which contains every arrangement that can conduce to the comfort of 260 nurses. Adjoining it is a building of which the second and third floors are devoted to the teaching of nurses, while the basement and two lower floors contain the hospital laundry. To the west of this building, separated from it by a garden, is a new self-contained isolation block for septic and infectious cases, which is cut off from the other hospital buildings by Oxford Street. Leaving this block we proceed down the street and cross Turner Street to the new out-patient department. This fine building was opened by the King and Queen in 1903. In the basement are stores and a pharmaceutical laboratory. Recently a Tyrnauer's apparatus of hot-air baths for the treatment of rheumatism, chronic arthritis, and kindred disorders, has been installed here. On the ground floor is a spacious waiting hall capable of seating 1,200 patients. At each end of the hall are suites of rooms in which patients are examined and treated by the physicians and surgeons, while on one side is the dispensary and on the other the vestibule. On the first floor are departments for throat and ear cases, diseases of women and diseases of the teeth, while on the second floor are the ophthalmic, electric, and phototherapeutic departments. The installation of this department is most comprehensive, and, we believe, the finest in London. With two large Finsen lamps, four Finsen-Reyn

lamps, and one Quartz Mercury Vapour lamp, a dozen patients can be treated at one time. The machinery for generating the electricity for this department is on the roof. The out-patient department is connected with the main hospital buildings by a subway. The cost of all these extensive additions and improvements has been nearly £500,000.



Finsen Light Department, London Hospital.

The *Medical College* is situated opposite the out-patient block in Turner Street. There have not been quite such extensive changes in it as in the hospital. But it has been much enlarged by the addition of chemical, physiological, bacteriological, and other laboratories; and at the present time a new chemical theatre is in course of erection, and the portion of the college which is occupied by the Students' Club is being extended. We have already mentioned the new Pathological Institute, on the other side of the hospital. An endowment fund for the London Hospital Medical College has recently been established.

GUY'S HOSPITAL AND MEDICAL SCHOOL.

Guy's Hospital, in St. Thomas's Street, in the Borough, is close to the London Bridge Stations of the South-Eastern and Chatham and the City and South London railways. It contains accommodation for 620 patients. To the visitor who enters by the front gates in St. Thomas's Street no very marked external changes are to be pointed out until he has traversed the colonnade (having paused, perchance, to notice the memorial to the Guy's men who gave their lives for their country in the South African war) and has descended the short flight of steps to the roadway in front of the medical buildings (Hunt's House). Then, before him and on the right, will be seen several large and recently erected blocks.



Willis Library and Physiological Department, Guy's Hospital Medical School.

Formerly this road communicated through large gates with the outside road at the back of the hospital, but it has now been encroached upon by the west wing of the new out-patient department—an excellent

building, which runs across the southern extremity of Hunt's House, extending into Great Maze Pond. The ground floor of the new block has been incorporated with the old, but renovated, out-patient department in Hunt's House; and on this floor is now provided accommodation for medical and surgical out-patients, the casualty department, and the resident surgical officer and dressers. In the first, second, and top floors are lodged respectively the departments for diseases of the teeth, the throat and ear, and the eye. This block is the most recent of the additions to the hospital; it was opened during the past summer, and cost £25,000.

Opposite Hunt's House, on the other side of an open space (known as "the Park"), is situated the "Henriette Raphael" Nurses' Home, founded by the late Mr. H. L. Raphael in memory of his wife. It cost nearly £68 600, exclusive of the site and furniture, and towards this sum the founder and his sons contributed over £25,000. It was opened by the Prince of Wales in 1902. It is claimed for it, and we think justly, that it is the most complete institution of its kind in London. There is accommodation for 227 persons, and there are 213 separate bedrooms. One of its features is a swimming bath 50 ft. in length, with twenty dressing boxes. A subway connects the home with the hospital buildings.



A Bay of the Gordon Museum, Guy's Hospital Medical School

Of great interest to those engaged in hospital administration are the new buildings, behind the Nurses' Home, for the Laundry and the Central Power and Heating Installation. They were opened in 1900, and £27,380 were expended upon them. The central installation comprises boilers, dynamos, accumulators, air compressor, pumps, etc. From this building electricity for light and power, and water, hot and cold, hard and soft, are distributed throughout the hospital.

We have said that in the outside of the old buildings very little alteration has been made, but the interior has everywhere been so completely renovated that, to all intents and purposes, the wards are those of a new hospital. Moreover, to the surgical buildings five new operating theatres, with accessory rooms, have been added, and each medical ward has also been supplied with an operating room for cases requiring urgent surgical treatment. In 1904 the upper story of the old surgical block was remodelled and fitted up as an actinotherapeutic department, while, in the lower portion of the building, there is a new isolation ward, which consists of a series of rooms, fitted up with the latest improvements, for the treatment of cases of infectious disease arising in the hospital. Further alterations are in progress. It is proposed to erect three new operating theatres, and the rooms in the front of the hospital, until recently used for casualties, are now being adapted for the purpose of an enlarged electrical, light, and massage department.

The structural changes in the Medical School have been most extensive. In 1897 a large lecture theatre, and several class rooms and laboratories for physiology and histology, were erected. In 1902 a laboratory was fitted up for the Gordon Lecturer on Pathology, and in 1903 the Wills Library was presented to the School by the late Sir Frederick Wills. It is handsomely furnished with carved oak in the Corinthian style, and contains shelf space for 10,000 volumes.

In 1905 the Gordon Museum of Pathology was opened. It was the gift of Mr. Robert Gordon, a Governor of the hospital. This museum is the finest attached to any metropolitan medical school; it contains the unique collection of wax models which were made by Mr. Towne, concerning which we hope to say something in a future article. Adjoining the museum are lecture and class rooms. Most of the school buildings we have just been describing are opposite to Hunt's House, beyond the Nurses' Home. Altogether they cost about £28,000.

In the Dental School (and Guy's is the only general hospital in London which has a separate dental school) a spacious mechanical laboratory has been opened; and plans are under consideration for enlarging the whole dental school to nearly twice its present size.

(To be continued.)

WE are asked to remind intending competitors that the last day for receiving essays for the Hunterian Society's medal is December 31st, 1909. The competition is open to all registered general practitioners in the United Kingdom and the Channel Islands. The essay, which must deal with some subject within the province of medicine, surgery, or midwifery, must be unpublished and original, and based on the candidate's own observations, save for references to the literature on the subject. Further particulars can be obtained from Dr. W. Langdon Brown, Senior Honorary Secretary of the Society, at the London Institution, Finsbury Circus, E.C.

Nova et Vetera.

MODERN FAITH HEALING.

THE MIRACLES OF THE DEACON DE PARIS.

(Concluded from page 1566.)

CURES BY CONVULSIONS WITH VIOLENT "AIDS."

IN regard to this furthest development, Montgeron says that many convulsionists insist on getting "aids" so violent that they could not have borne them unless for a time their bodies had been endowed with qualities very superior to those within the range of nature. Such "qualities" only God can give, and Montgeron argues that if He produced in their bodies such marvellous qualities it must be concluded that the terrible "aids" which were necessary for the manifestation of this Divine prodigy belonged to the supernatural order, and were the means by which it pleased Him to make known His power and to diffuse His benefits. In his third volume he says that for a number of years the convulsionists had been inducing people to give them the most prodigious "aids"; stabbing with spikes and swords, and blows capable of killing them not only make no evil impression on their bodies but, what is still more marvellous, are an infallible remedy for all the pains they suffer. Often God has visibly operated under such blows cures in which His infinite power was plainly manifested. It appears from Montgeron's own testimony that not a few even among the Jansenists did not approve of these methods. The *anti-secouristes*, as they were called, thought these things were the work of the devil; but Montgeron argues that it is the work of God if a feeble body receives thousands of blows with a club, and, instead of being smashed, gets relief therefrom. One gathers that there was a hint of Sadism in connexion with these "aids." This Montgeron indignantly denies, saying that the pleasure was not bodily but spiritual, like unto that felt by the martyrs, and awakening in the spectators the desire to expose themselves to everything for the truth. He speaks of these "enormous aids" curing limbs distorted since infancy, making deformed bones straight, lengthening bones that were too short, flattening out humps, reducing swollen hips to their natural size and shape, and even forming legs and feet after the age of 50! After this it is a small thing to be told that absolutely hopeless diseases were cured in the same way. Some examples may be given. He cites Madeleine Durand as testifying that she was cured of a cancer in the mouth. In her deposition, if it may be so called, she states that in February, 1728, when she was 7½ years of age, a swelling showed itself on the right cheek; the eye on the same side was closed by the swelling during three weeks. The inflammation was subdued by means of bleeding, but a small livid tumour remained on the upper gum; this steadily increased in size and became more and more painful. Her condition was made much worse in 1732 by the falling of a piece of wood cased in iron on the affected cheek. Notwithstanding bleeding and other treatment, the swelling increased till at the end of 1732 it was as large as a hen's egg, and extended not only along the upper jaw, which was prodigiously swollen, but upwards towards the temple and below the ear. The tumour, in her own words, drew the skin of the face towards the right side, so that the corner of the mouth was pulled up towards the eye. It was called a cancer, and protruded from her mouth, so that she could only feed herself with the tube of a baby's bottle (see Fig. 11). There was a constant discharge of blood so foul that she could hardly "bear herself." Later a second small growth developed on the lower jaw, and smaller ones like hazel-nuts grew under the skin below the ears and round the neck. Similar growths of largish size formed all over her head. She was very weak and could get little or no sleep for pain. The surgeons whom she consulted said they could do nothing for her. In April, 1733, her mother took her to Paris, where she made a novena in the Church of St. Médard. On May 6th she felt her limbs becoming stiff and lost consciousness for some time. On recovering she felt stronger, and her pains had diminished. On May 24th, which was Whit Sunday, when her convulsions ceased, she was delighted to find that the end of her cancer was smaller and seemed to have been cut without hurting her; during the next two days the tumour diminished still more. It went on diminishing. She recovered her health and became so fat that every month she noticed that her clothes were too short. At the beginning of 1734 she was completely cured and returned to Orleans, her native place, where all who had known her in her previous state marvelled exceedingly. The incurable nature of the disease is certified by a number of surgeons, including Petit and Le Dran, and the cure is testified to by a number of witnesses. Among the certificates is one by M. de Montagni (see Fig. 12), Councillor of the Great Chamber of Parliament, who testified that Madeleine Durand having cut off a portion of her cancer and the blood flowing in abundance



FIG. 11.—MADELEINE DURAND.



FIG. 12.—MADELEINE DURAND.

she stopped it all at once with a few drops of water and the wound ceased even to ooze as if it was covered with a new skin. He says that she used to cut it herself with scissors from time to time. She did this in his presence and that of a number of other persons. The water came from the well of the Abbe de Paris. He cites the testimony of Le Dran who was present. He saw her again in 1734, the first time he had seen her being in June, 1733.

Another case is that of Jeanne Moler, a girl of 22 to 23, who in 1734 and 1735 suffered from pains in the stomach. These were cured in the following manner: The girl leant against a wall and a very powerful man took a fire-iron weighing 25 to 30 lb. and struck her with it on the pit of the stomach several times with his whole strength. Sometimes he gave her a hundred and more blows. Montgeron himself seems to have experimented first on the girl and then on a wall. After he had struck the girl sixty times, he attacked the wall, on which he made a hole at the twenty-fifth blow. He says that he began by giving her light blows, but she asked him to give her heavier ones, and herself chose a tall powerful man who was among the spectators to be the operator. So terrible were the blows that they shook the wall on which she was leaning. The one hundred blows were given after Montgeron's sixty, which she counted as nothing; she thanked the big man effusively, at the same time reproaching Montgeron with his weakness, want of faith, and pretended timidity. The instrument seemed to penetrate through to the back. When she got the heaviest blows she cried, "Oh, what good this does me! Courage, brother; hit harder if you can!" Another "aid" consisted in the placing upon her as she lay on the ground of a board which entirely covered her. On this stood as many men as could find room on it; there were sometimes more than twenty of them. Another time, the woman lying on her back, a man took a stone weighing 21 lb. and struck her with it several times on the breast as hard as he could. Montgeron says he often saw two large keys being driven into the pit of the stomach immediately below the sternum; they were thrust from below upwards with such violence that the false ribs bent under them. They remained hidden in the body for some time, and on being withdrawn left a hollow large enough to take the whole fist. All this did not cause the slightest suffering, but inexpressible satisfaction. It was the patient's most ordinary remedy for pains of the stomach to which she was subject.



Fig. 13.—Gabrielle Moler: The Crowbar.

Another case was that of Gabrielle Moler, the young sister of Jeanne. She received "aids" when she was 12, 13, and 14 years old. She is said to have been very pious from infancy. Her piety increased after convulsions, and she went through "prodigious penances." Her "aids" are certified to by twenty-one witnesses, among them Lord Edmund Drummon "of Perth," many magistrates, officers of the King's Household and the army, and several ecclesiastics. She often during the most violent "aids" fell into ecstasy; a quarto volume, says Montgeron, would hardly be enough to contain full account of the "aids." Apparently she had pains in the stomach like her sister. To cure them four bars of iron as thick as the little finger and a foot and a half in length with a blunt point were used. Lying on the ground on her back, four persons pushed these bars with all their strength into the pit of her stomach, the points sinking in to a depth of three inches and penetrating the clothes. She had made expressly for the purpose four spades with sharp edges, which she herself placed immediately under one of her breasts over the clothes and the other above, while the two others were on each side. The breast being thus enclosed by four instruments with cutting edges, four bystanders pushed these with all their strength but without penetrating to the skin. After these operators had exhausted their strength, Gabrielle would often have the operation performed on the other breast. No mark was left, but it was said by women who examined her that the breast was at that time as hard as a stone. Then lying on her back she would place the edge of the spade on her larynx, against which one of the bystanders pushed it with all his might; the only impression was so agreeable and beneficial that she



Fig. 14.—Gabrielle Moler: The Weight.

had the operation done often many times. She would lie on her back and have herself struck violently on the pit of the stomach with an iron bar weighing 48 lb. and more than 3 ft. in length. The blows were so violent as to make the furniture, the windows, and the floors shake. This "aid" pleased her so much that she would have it repeated several times at short intervals, receiving as many as ninety blows. Another instrument used was an iron crowbar, 2½ ft. long, ending in a point. (See Fig. 13.) Her dress and camisole were torn by the point, but it was remarked with admiration that her chemise was not torn. This was doubtless "because God wished to spare this extremely modest girl the mortification she would have suffered if men had seen her skin." Lying on her back she would have blows struck on her chest and stomach with a stone weighing 60 lb. Sometimes she turned face downwards, and had the stone let fall many times on her back between the shoulders and her waist. She also had the stone let fall on the back of her head (see Fig. 14) so that her face seemed to be flattened into the floor and her nose driven into her head. She had herself struck repeatedly on the stomach, the back, and the head while in a kneeling position (see Fig. 15). These things are certified to by Poncet, who was afterwards the leader among *Anti-scuriostes*. She would place herself on her knees close to a great fire and have her face thrust into it sometimes 600 times on end. Her cap was burned, but not her hair. Gabrielle has the distinction of being the first to use what was called the "aid of the swords." In 1736 she chose the strongest and sharpest sword among those of the spectators; then, with her back against the wall, she placed the point on her stomach and asked the man with the strongest wrist to push with all his strength. The sword was bent, but the girl cried out, "Push still harder!" She did the same thing with her neck, and herself pushed the point of the sword into her mouth to a depth of 6 in. (see Fig. 16). She would put the point against her eyes and under her tongue, but without wounding herself. The testimony of numerous witnesses is cited by Montgeron to these things. Other convulsionists fenced together, thrusting at whatever parts was nearest, and fighting apparently with the greatest violence, one of them representing the people of Israel, another the Gentiles They would seem to stab each other with extraordinary violence, but without wounding each other.



FIG. 15.—GABRIELLE MOLER: THE CLUB.

Here we have got to the stage of the wildest hysteria expressing itself in fraud so gross that only men whose imaginations were excited to the pitch of frenzy could have been deceived. But we need not deny the genuineness of some of the miracles. It is evident from the style in which they are recorded that the descriptions are greatly exaggerated, and in most of them may be noted that perverse delight in suffering and the craving for sympathy which are characteristics of the neurotic temperament. That "paralysed" limbs and hysterical contractures can be cured by mental emotion is well known. The healing of Mlle. Coirin's "cancer" is fully discussed by Charcot in his little essay, *La Foi qui guérit*. He points out that the ulcer, supposed to be cancerous, was a sore of neurotic origin analogous to the stigmata recorded as having been seen in some of the saints. The case, he says, presents the phenomena of hysterical oedema, which, when it reaches a certain degree of intensity, leads to gangrene of the skin and ulcerations similar to those described. He refers to a paper entitled "Neurotic Tumours of the Breast," read by Dr. Fowler before the New York Neurological Society on January 7th, 1890, and published in the *Medical Record* of February 15th, 1890, p. 179. In that paper eight cases of tumours of the breast, some of them larger than a hen's egg, are described. Several of the patients had been recommended by celebrated surgeons to have the breast removed. Dr. Fowler, struck by the fact that all the women were hysterical, subjected them to a treatment in which the psychical element was predominant, with the result that after a longer or shorter time the tumours disappeared. If these patients had been to a celebrated shrine they



FIG. 16.—GABRIELLE MOLER: THE SWORD.

would certainly have been held to be cases of miraculous cure. Charcot says that the psychical influence was supplied in the case of Mlle. Coirin by the application of the chemise which had touched the tomb of the holy Deacon. Under the influence of this the oedema disappeared, the local nutrition of the tissues was favourably modified, and the ulcer healed. That this effect was natural is shown by the fact that it took a fortnight for the healing to be complete.

To sum up, we may say that the cases of paralysis and ulcers recorded by Montgeron were cured by faith healing. As for the rest of the wonders recorded in this book, they may be dismissed as illustrations of human credulity, raised to its highest power by theological bias. The will to believe, inspired and stimulated by a definite motive, will make a man believe anything.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

Charity and the Poor Law: Overlapping of Charities.

Part VI of the Majority Report of the Commissioners deals with the history of charity in relation to Poor Law relief in Scotland, and, although this is a subject which has not any direct bearing on the work of the private practitioner, still it affects him indirectly, inasmuch as by the indiscriminate granting of charity—in many cases to persons not in any way entitled to it—more persons participate in its benefits and tend to become dependent on the exertion of others for the support of themselves and their families. And, as medical practitioners all over the country know, they are often the victims and have to give their services to many without any hope of fee or reward.

History of Charity in Relation to Poor Law Relief.

The Commissioners state that the history of charity in relation of Poor Law relief in Scotland is of peculiar interest as illustrating the process by which the two methods of assistance came to be differentiated. In England the separation took place so long ago that its details and motives became obscured; in Scotland it is so recent as to be practically a contemporary social development. Indeed, it is not even yet complete. In some places charitable funds are still applied by Poor Law authorities to relieve Poor Law cases, while there are still four parishes which have no legal assessment for the relief of these poor.

Believing that a short account of how the poor were cared for in Scotland prior to the introduction of Poor Law relief would interest readers of the Journal, the following statement from the Majority Report relative to charity and Poor Law relief is given:

> The reason why for so long there was no clear line drawn between the two is to be found in the important part played by the National Church, which was on the one hand the collector of voluntary alms, and on the other the recognized legal guardian of the poor. In 1597 an Act of Parliament placed the execution of the Poor Laws in the hands of the Kirk Sessions, and endowed them with the power to stent [that is, tax] the inhabitants of the parish for the relief of the poor. If the Kirk Sessions had exercised their powers history would have followed the same course as in England, and Poor Law relief would have been at once separated from voluntary charity. But there is nothing more remarkable in social history than the steady resistance opposed by the people of Scotland to a compulsory assessment through more than two centuries of legislation. The initiative was left with the Kirk Sessions, and as the feelings of the Church, expressed in various reports of the General Assembly, was that the principle of a compulsory assessment was altogether pernicious, and likely to lead to a great increase of idleness, improvidence, and dissipation, the introduction of the assessment was naturally very gradual.

Professor Smart, who in an appendix to the report gives an account of the history of the Scots Poor Laws prior to 1845, says:

> The main reliance was on church collections, mortifications, and other funds; very seldom on the taxes which the authorities had been allowed to levy since 1579. According to the report of 1818, those funds consisted chiefly of fines exacted for the forms of immorality of which the Kirk Session took cognisance; of fees paid, by immemorial custom, at marriages and baptisms; of the sums drawn for the use of a hearse or a mort cloth belonging to them; and of the interest of legacies bequeathed to their charge. These, with half the church door collections, which went for the relief of occasional cases of want or distress, were under the exclusive administration of the Kirk Session, the heritors having no part.
>
> Prior to 1700, the number of parishes assessed was 3 out of the 700, and these were in counties contiguous to England; before 1740, probably not more than 8, and that in spite of the earnestness evinced by the legislature to establish a compulsory provision in Scotland. Between 1700 and 1800, 93 parishes were added; in 1818, there were 166, and the sum collected came to £43,517. The rule acted on was that an assessment was not to be laid on any parish so long as hopes could reasonably be entertained of a sufficiency of funds for the maintenance of the poor therein being voluntarily contributed, i.e., the tax was counted an auxiliary.

The Majority Report then states:

> No doubt the collections must sometimes have fallen short of what was sufficient; in that case it would sometimes happen that the heritors would rather assess themselves than submit to the introduction of the compulsory assessment. But they were the less likely to fail because it was a recognised duty on the part of rich and poor alike to contribute regularly. Dr. Chalmers (a well-known Scottish divine), in giving evidence before the Select Committee on the Irish Poor (1830) says: "It is nearly the universal practice of the peasantry in Scotland to contribute a little to the collections on Sundays." Where givers were backward the elders had their own way of stimulating them; "in some instances the collection is made more effective by its being received within doors, the elders carrying about what they call a ladle, and making pointed and personal application with it to each individual before the dismissal of the congregation."

Many of our readers will still remember the use of the ladle in some of the parishes of Scotland, as its abolition, as a means of taking the collection, is but of recent date.

The Majority Report then continues:

> The decisive step which ultimately led to the breaking down of the voluntary system was the creation in 1845 of parochial boards for administering the Poor Law in place of the Kirk Sessions.
>
> But even then the compulsory system was not imposed upon the people, those parishes which still resisted the assessment were left in the hands of the Kirk Session, and it was only gradually that the new system was adopted. . . . The fact that the change was voluntary shows that the creation of parochial boards really expressed a great and growing change in public opinion upon this question; and perhaps a change also in the feeling of responsibility on the part of the Church towards the poor.

There were, however, strong opponents to the institution of assessment, foremost amongst whom was Dr. Chalmers. He held the Poor Law which depended upon compulsory assessment in detestation; in the first place as tempting the people away from their natural duties and responsibilities; and, secondly, as treating men harshly in order to restrain their demands. The second evil was a natural outcome of the first, and he held that the only remedy was to rely on the kindliness of private charity when it became necessary to supplement the efforts of the people themselves. But eventually, in spite of the efforts of Dr. Chalmers and a few others, the Church gradually withdrew from its position of guardian of the legal poor, and left the way open for the compulsory assessment administered by a special Poor Law authority.

Not only so, but it has also withdrawn to a marked extent from its previous responsibility for the non-legal poor those who had been maintained from their more private funds. This change is shown in the history of church door collections subsequent to the Poor Law Act of 1845. The Procurator of the Church of Scotland, in giving evidence, stated that prior to the Poor Law Act of 1845, one-half of the ordinary church door collections was to be administered by the Kirk Sessions and Heritors jointly for the aid of the poor upon the roll, while the other half was at the disposal of the Kirk Sessions alone for certain purposes connected with the church services, and for the assistance of the occasional poor. The following statement showing the amount of church collections and the

amount of such expended on the relief of poor and other purposes respectively is interesting:

	Total Receipts.	Expenditure. Relief of Poor.	Other Purposes.
1847 ...	... £17,096 ...	... £8,583	£6,827
1870 ...	... 23,442 ...	... 11,000	12,027
1880 ...	... 33,816 ...	... 8,780	24,302
1890 ...	... 39,541 ...	... 7,963	31,028
1900 ...	... 47,215 ...	... 6,557	40,654
1906 ...	... 50,653 ...	... 5,905	44,595

These figures show that while in 1847 more than half of the ordinary church collections were spent on the relief of the poor, it has been gradually diminishing until, in 1909, little more than one-ninth part is devoted to that purpose. Striking as this change has been, it must not be inferred that the church has lost its interest in the poor. The method has changed, and this has been to some extent beneficial. The "social work" of the church has developed largely. Some four or five years ago the Church of Scotland initiated a central scheme for social work, shelters, labour homes and colonies, prison aid, etc., and on these schemes the church spends a large amount annually. Other schemes for improving the condition of the poor have been established, such as a hospital, home for female inebriates, orphanage, and a large temperance mission and the training of women nurses for work as parish sisters. The amount of money spent by the Church of Scotland on these schemes in 1907 was £7,373 15s. 9d. Other churches are interested in this "social work," and keen interest is taken in the welfare of the poor.

Overlapping of Charities.

All these organizations working for the alleviation of the poor raises the question as to whether there is not a waste of effort, and at the same time of charitable means, through the want of some central means of administration.

The Commissioners have collected a large amount of evidence on the subject, more especially relating to Edinburgh, which they state is a place of great activity in charitable matters.

Beginning their inquiry with the church charities, the Commissioners say that there are 170 churches of different denominations in Edinburgh, concerning the relief funds of all save three of which information was given to the special investigators. As a result of this inquiry they found that

the total income for the relief of the poor from offertories, subscriptions, etc., not including offertories for hospitals or other charities was £5,232, and from endowments £678, making the considerable total of £5,910. This figure includes £523 raised by six churches for nurses.

With regard to the overlapping of church charities, the Commissioners say they have received conflicting evidence. It is perhaps natural, they remark, that those more immediately connected with the churches should take the most hopeful view. They have strong reason to think that in the towns there is much serious demoralization due to the absence of co-operation and mutual knowledge amongst the various agencies, many of whom are connected with the churches.

In county districts it is possible that overlapping seldom goes beyond supplementing the Poor Law relief.

Quoting what the special investigators say regarding Edinburgh:

A weak point in the administration of these funds is the absence of co-operation between the various churches and missions, with the result that the same people are often helped by more than one agency. Such a system, or rather a lack of system, must inevitably have a bad effect upon the character of the poor and encourage them to attach themselves to more than one church. A minister told us of a case of a woman who was a full member of his church and in receipt of regular help from the funds, who, to his surprise, was claimed as a member by the minister of another church. Another informant, with long and intimate acquaintance with charitable work in Edinburgh, assured us that competition existed between some of the churches, and relief was used as a means of attracting adherents. With a view to minimizing this evil it has recently been decided in a poor district of the city to hold the mothers' meetings at the same day and the same hour.

As evidence of overlapping in Glasgow, a witness told them how, when applications were invited from churches and missions for a certain charity, the same names were found to be on different lists; 782 names were sent in twice, 79 were sent in three times, 44 were sent in four times, and 1 was sent in six times.

The same want of organization and consequent waste of effort applies to visiting. One witness says:

The number of Christian workers in Glasgow is unlimited, and I question very much if there is a single tenement in the lowest district of Glasgow unvisited by a Christian worker of some kind. Of course the visiting at present is utterly chaotic, and the visitors know neither what to look for nor what to do. . . . Some years ago we started a Christian Social Union. At one of the meetings Mr. Motion [the Inspector of Poor for Glasgow Parish Council], who is a member, suggested that the best thing we could do would be to take up a typical low district in Glasgow, and see what we could make of it. He mapped out a district, and we sent down a deputation to see what was being done there. We found that the place was practically riddled with missions—and that is a place where my friends in Barlinnie Prison come from. It is a very poor and low district. I give that instance to show that it was not because there were no workers and the parish was left to itself. There was a great deal of visiting going on there, and much money was spent.

Much the same evidence was found in the Report on the Physical Condition of School Children in Edinburgh, which was handed in by Mrs. George Kerr.

In addition to the churches there are, at any rate in the towns, many other agencies distributing relief. In Edinburgh there are 18 charitable agencies which give money help apart from the church charities and those for the assistance of school children. These 18 agencies have a gross income of £5,968, of which about £4,000 is applied in small weekly allowances, for the most part to sick persons or their dependants. There are 12 other agencies for distributing relief in kind, with an income of £2,993. There are at least 9 agencies for the relief of school children, which supplied 145,000 meals in the course of the year. There are pension charities with a gross aggregate income of £42,374, distributing 2,281 pensions. There are many other charities in Edinburgh, but it is chiefly in these that overlapping is likely to occur.

Evidence to the same effect is adduced from Glasgow. There is in Scotland no authority corresponding to the Charity Commission in England, and there is therefore no means of obtaining a complete return of all the charitable trusts, endowments, and mortifications for the benefit of the poor.

Turning to the use to which these endowed charities are put, and their effect on the recipients, the Edinburgh investigators report that they found:

There are practically no endowed charities which distribute large sums of money in indiscriminate doles at certain seasons of the year—a harmful practice, which we found to be very common in most of the places which we visited in England.

On the other hand, they found that

The charities applicable for the payment of pensions to poor persons who by reason of age or infirmity are unable to maintain themselves are of very great importance, the gross yearly income of such charities amounting in the aggregate to no less than £42,374.

The investigators were impressed by the large use made of various thrift agencies in Edinburgh. Membership of friendly societies is low as compared with towns of similar conditions in England, being only 6·2 of the population, as against 18·6 and 10·8 in Norwich and York. On the other hand, they remark that, as far as it is possible to judge from the few places they visited, that the co-operative societies and trustee savings banks are made more use of in Scotland than in England. An amount of £4,258,327 held by these thrift agencies in Edinburgh seem to them very remarkable.

Thrift and Medical Charity.

Two points are noted in this connexion:

The first is that the very large amount of savings would seem to indicate that the abject poverty revealed—e.g., in the Report on School Children—is confined to a small section of the community, and might be greatly reduced if churches, charities, and Poor Law would combine in a consistent and determined effort. The second is that the low membership of friendly societies amongst a thrifty people can hardly fail to be connected with the large medical charities in Edinburgh. There is practically no attempt on the part of the inhabitants to provide medical aid for themselves on a provident basis.

The investigators calculated that 28 per cent., or between 1 in 3 and 1 in 4 of the population, receive free or virtually free medical treatment in the year.

If the in-patients be included, eliminating those who do not reside in Edinburgh, as well as those in paying wards, the percentage is 30·3. What is more remarkable is, that Edinburgh is largely a residential city, and the population is of such a description that it would not be expected that a very considerable percentage would apply for free medical aid.

Overlapping between Charity and the Poor Law.

The Commissioners state that with the voluntary charities there is seldom any attempt to avoid overlapping with the Poor Law. The same is true of the endowed charities to a considerable extent. In order to ascertain to what extent overlapping prevailed, the investigators submitted lists of some of the charities to the assistant inspectors of poor, with the result that they discovered that thirty-six of these on the permanent roll were receiving regular charitable help of which they had no previous knowledge. Summing up the results of their survey so far as it has gone, the Commissioners say they

> have seen that there are very large charitable resources, both of money and of personal service, available in Scotland. These are no doubt unequally distributed, especially as between town and country. But everywhere there is the nucleus of effective charity in the strong religious feeling of the people, and the powerful church organizations in which this feeling finds expression. In many places the churches are doing excellent work, in the administration both of their private funds and of the endowed charities; and this is specially true when they are assisting, more or less privately, those members of their own congregations whom they desire to preserve from the Poor Law. But it has also become evident that there are serious defects connected with their work when they pass beyond this field. In the towns there is much competition—possibly unconscious, but none the less mischievous—between the churches and church agencies, and the more unworthy of the poor take advantage of this to draw relief from various at once. This is and must be a grave source of moral deterioration just when a strengthening influence is most needed. There is also, with few exceptions, a complete absence of co-operation with the Poor Law, with the result that parish allowances are diminished in view of possible aid from charity, while no distinction is maintained between persons of high character and the ordinary pauper. It is seldom, if ever, realized that, when charity is applied to supplement Poor Law relief in providing the necessaries of life, it merely relieves the ratepayer of his duty without improving the position of the recipient, while, in the long run, not even the ratepayer benefits, owing to the increased number of paupers.

The same absence of co-operation and consequent overlapping is observed in most of the secular and voluntary charities, resulting in the same deplorable waste of effort, and even, it is to be feared, in the actual demoralization of the particular districts in which they operate.

With the endowed charities, again, the process is too often repeated; sometimes, as in the cases of the dole charities, in an aggravated form. On the other hand, when devoted to a good purpose, such as the giving of pensions, they may do excellent work in preserving the more respectable poor from depending upon the Poor Law. But even here defects of administration and absence of co-operation often minimize their usefulness; while there is reason to think that an unduly large proportion of the income derived from them is expended on the salaries of officials or goes to relieve the rates.

RECOMMENDATIONS.

The Majority Report recommends, in regard to the organization of voluntary aid:

1. *Establishment of Voluntary Aid Councils and Committees.*

That in the area of each Public Assistance Authority—that is, in each county, or in each burgh with over 7,000 inhabitants—there should be formed a Voluntary Aid Council, consisting in part of trustees of endowed charities, of members of registered voluntary charities as defined below, of some members of the Public Assistance Authority, and of such persons as ministers of religion, members of Kirk Sessions, members of friendly societies and trade associations, and of other persons, being co-opted members, as may be settled in schemes to be approved by the Local Government Board.

2. *Functions of Voluntary Aid Councils.*

That the duties of the Voluntary Aid Councils should be for the most part not executive but supervisory. The executive work should be assigned to the Voluntary Aid Committees. The Voluntary Aid Council should supervise the operations of these committees generally, and should, as far as possible, maintain the same principles of help and relief throughout the county or burgh, as the case may be. They should collect funds for distribution to Voluntary Aid Committees, and they should allocate funds to poor districts.

3. *Functions of the Voluntary Aid Committee.*

That the Voluntary Aid Committee should aid (1) persons in distress whose cases do not appear to be suitable for treatment by the Public Assistance Committee or parish council, and (2) applicants for public assistance whose cases have been referred to the committee by the Public Assistance Committee or parish council.

4. *Executive Charities Commission.*

That, for a limited period, an Executive Charities Commission should be appointed on the lines of the Educational Endowments Commission, with power to revise the terms of charitable bequests and to frame schemes for their administration.

5. *Local Government Board.*

That, on the expiry of the Commission, its powers and duties should be transferred to the Local Government Board. That the Board should be empowered to supervise the administration of endowed charities and to register voluntary charities or societies which hold any property in land or houses by purchase or on lease.

The Commissioners mention that, as it may be difficult to carry out these proposals in their entirety in certain rural districts, and especially in some parts of the Highlands and islands, the Board should have power to modify them where necessary.

MINORITY REPORT.

The Minority Report does not enter into the question of dealing with voluntary charities and their administration at any great length. They, however, state:

> But we wish emphatically to record our dissent from the recommendations of the Majority Report with regard to what is therein termed a Voluntary Aid Council and Voluntary Aid Committees. We entirely object to the proposed establishment, under official auspices, of a non-elective Voluntary Aid Council, and a network of Voluntary Aid Committees in every burgh and county, to serve, not as a supplement to the work of the town or county council or local education authority, but as a substitute for this work. . . . We regard the setting up all over Scotland of a new and additional relief agency not only as generally impracticable, but, even where it may be practicable, as in itself demoralizing and wasteful. We see no reason to suppose that the existing organized charities, or the various churches or benevolent individuals, are likely to be willing to subordinate their own efforts in charitable work, or even to communicate their intentions, to what will necessarily be (seeing that its principal function is to dispense relief) a rival charitable agency any more than they have so far been willing to do this for the Charity Organization Society.

While dissenting from the findings and recommendations of the Majority Report, the Minority do not formulate any scheme to deal with the evident overlapping of charities.

THE UTILITY OF VIVISECTION.

A PUBLIC debate on the utility of vivisection took place at Chiswick Town Hall on November 23rd. The protagonists were Dr. W. R. Hadwen and Mr. H. W. Armit, M.R.C.S., and the meeting, which was held under the auspices of the Bedford Park and Chiswick Antivivisectionist Society, was presided over by Mr. H. S. SCHULTESS YOUNG, M.A., barrister. The hall was well filled, and it was evident that a large proportion of those present had antivivisectionist sympathies. Both speakers were greeted cordially, but Mr. Armit was subjected to occasional interruption, chiefly by ladies. Each debater made three speeches.

Mr. ARMIT opened the discussion by affirming that the whole history of medicine showed that the experimental method of learning was the one by which knowledge was acquired. Thoughout the world the professors at the universities taught physiology, together with that portion of medicine which was dependent upon physiology, as well as surgery and bacteriology, entirely on the basis of

experimental research. The medical man who had been through his studies at the hospital, and had spent five years in learning physiology and anatomy, was guilty of an ungracious act to his Alma Mater and his profession if he claimed that no useful purpose had been served by experiments on animals. He went on to point out that only by means of animal experiments had the topography of the brain been mapped out with any certainty, and the discovery made that certain portions of the brain had the distinct function of governing certain movements of the body. As a concrete instance, he mentioned a case—that of a boy of 8, admitted to the hospital with partial blindness, inability to stand, and frequent convulsions. The surgeon interpreted all the clinical facts of the case in the light of physiology—that is, in the knowledge acquired by experiments on animals—with the result that he was able to remove a tumour together with a cyst from the hind brain, and the boy four years afterwards was absolutely well. Mr. Armit then turned to a question which bulked large during the evening—that of Malta fever. He briefly described what infection really meant, the growth of the bacterium in the body, and the manner in which infection was governed by the resisting powers of the individual. Malta fever was caused by a specific micro-organism —the *Micrococcus melitensis*. Sir David Bruce discovered the germ, and proved that it was the cause of Malta fever. He succeeded in obtaining it from cases of Malta fever, making a pure culture, introducing the pure culture into the body of a small animal, and infecting it with the fever. He (Mr. Armit) could amplify Bruce's proof. So far as his knowledge went, there had been no case of Malta fever in this country through the ordinary channels of infection, yet when Professor Macfadyen was working in his laboratory with the *Micrococcus melitensis*, and an accident occurred by which he and his assistant, Thompson, became inoculated, both of them showed distinct symptoms of Malta fever, with the result that Macfadyen died, while Thompson, whose general health was better and who had greater powers of resistance, recovered, after a severe illness. His (Mr. Armit's) opponent had been to Malta to pick a hole in Bruce's conclusions. Bruce found, when Malta fever was raging in the garrison at Malta, that improved sanitation and a reform of the water supply did no good at all, and ultimately, as a result of the Commission which was appointed, it was found that the little germ causing Malta fever was not carried through water, air, or dust, but through the milk of goats. Out of a military population of some 6,000, about 600—he spoke from memory—were infected every year from goat's milk. An order was then issued banning the milk from the use of the garrison, and the incidence of the disease immediately fell, and was now down almost to zero. That was the result of animal experiment. About 10 per cent. of the goats on the island carried the infection, though the animals themselves were immune. Dr. Hadwen regarded Malta fever and simple continued fever as identical. Simple continued fever was not due to *Micrococcus melitensis*; Malta fever, on the other hand, must be due to *Micrococcus melitensis*, otherwise Macfadyen would not have died. Furthermore, his opponent in that evening's debate thought that Malta fever was a filth disease. Whatever the term "filth disease" might convey to some minds, it conveyed little or nothing to his (the speaker's). The idea of filth, as such, being the cause of Malta fever was absurd.

Dr. HADWEN opened the debate on his side by sounding the moral note. [Mr. Armit had confined himself rigorously within the limitations of the debate suggested by the word "utility."] If there had been progress in brain surgery and in the study of Malta fever through animal experimentation, said Dr. Hadwen, it had only been obtained "in a welter of blood and agony." The sufferings endured by sensible and sentient creatures were such that he would be ashamed to shock the sensibilities of his audience by describing them. Although vivisection had been carried on, more or less, for the last three thousand years, it was only of recent date that it had come so prominently into medical use, and now to experiment on a dog or other small animal was regarded as an essential part of almost all medical investigation. His opponent had stated that it was solely due to these experiments that they had been able to arrive at a knowledge of the centres of the brain. On this point he (Dr. Hadwen) quoted no less an authority than Dr. Samuel West, professor of medicine at St. Bartholomew's Hospital, who, in his presidential address a month ago before the Medical Society of London, said that he supposed no physiologist would deny the debt that physiology owed to clinical medicine, and, further, that the localization of the functions in the brain was largely based upon the observations of clinical observers. A great deal of our knowledge of the functions of the spinal cord, added Dr. West, was due to the patient observation of clinical facts and their association with the results of *post-mortem* examinations. Dr. Hadwen quoted others to similar effect, including Mr. Stephen Paget (*Experiments on Animals*, page 72). If, for example, the speech centre of the brain could be found by careful clinical experience and *post-mortem* examination, and without experiments on animals, why could one not discover coarser and less delicate centres without recourse to such experiments? Coming to the question of Malta fever, Dr. Hadwen said that Valetta, the chief town of Malta, where the greater number of the inhabitants lived, was on a promontory running out into the Mediterranean, and was almost encircled by the great harbour. The harbours of Malta had for centuries been the depository for all the sewage of the island. No ironclad could turn its length without churning up a quantity of sewage emitting a terrible stench. But since extensive drainage work had been carried out in the harbour the health of the sailors had been greatly improved. The increase of health in the navy had corresponded to the progress made in the work of cleansing the harbour. Mr. Armit had definitely stated that the *Micrococcus melitensis* was the cause of Malta fever, mainly on the ground that if certain germs were injected into an animal's body certain symptoms made their appearance. But he (Dr. Hadwen) considered that Sir David Bruce had failed to make out his case. Bruce stated before the Royal Commission that he based the discovery of the *Micrococcus melitensis* as the cause of Malta fever wholly and solely upon Koch's postulates; but it had been proved that only one of those postulates, the second, would hold water—for example, the micrococcus could be cultivated in beef broth. Furthermore, he wished to break a lance with Mr. Armit respecting his assertion that the incidence of the fever fell immediately after the ban was placed upon the goat's milk. The milk was stopped on July 1st, 1906. Now, whilst there were 700 cases of Malta fever on the island in 1905, there were only 120 cases during the first six months in 1906. Yet it was not until after that remarkable reduction that the embargo was placed upon the milk. This showed conclusively that other causes were at work. He (Dr. Hadwen) had been told during his visit to the island of the terrible condition of St. Elmo's Barracks. In the words of one Maltese authority, a mass of humanity was crowded into a veritable ditch. About 2,000 soldiers were lodged there. Twenty years ago, before his mind became obsessed with the germ theory, Bruce himself declared that, if different quarters were only built for the soldiers, Malta fever could be reduced. At the end of 1905, when Malta fever broke out severely in this "veritable ditch," they removed these soldiers to new barracks upon the hillside, and as soon as the men were taken from the low-lying shores of the Mediterranean, where there was practically no tide, and from the vicinity of the moat, which was nothing more than a mass of stinking sewage, Malta fever was strikingly reduced. Only 83 men were left in the barracks at the end of 1905, instead of 2,000, and it was natural to suppose that the decline in the fever returns for the first six months of 1906 was due, partly at all events, to that cause.

Mr. ARMIT, rising to reply, returned immediately to the question of Malta fever. Dr. Hadwen, during his visit to the island, had, by his own confession, gained his knowledge from "a few soldiers' wives and a head nurse," and one piece of information he obtained was to the effect that on the island there was a "veritable ditch." What really happened was this: the officers, although better quartered, were far more affected than the men during the whole time. Sir David Bruce made his experiments, and as soon as he found the *Micrococcus melitensis* in the goat's milk, a number of officers stopped drinking the milk and prevailed upon the men to a certain extent to do likewise.

This was in the early part of 1906, and before the order was actually promulgated on July 1st. During the whole of 1906 there were 161 cases; in 1907, 11; and in 1908, 5. There was a drop, starting, to some extent, before the order, but very marked after the order, until the returns came down almost to *nil*. The Government order was coincident with the stoppage of the fever. With regard to Koch's postulates, he could show his opponent, at the Lister Institute any day, the pure culture of *Micrococcus melitensis*, freed from all body-tissue constituents, and from association with all other germs. This, introduced into an animal's body, would reproduce the disease. He maintained that the first, second, and third of Koch's postulates were absolutely proved in the case of his friend Macfadyen. The fourth postulate was abandoned by Koch himself, who found that he had made a mistake. This last, therefore, should not be called a postulate: it was merely a suggestion. On these grounds he claimed that the case of Macfadyen alone, apart from the important findings of Bruce, proved conclusively that Malta fever was due to this micro-organism. In dealing with brain surgery, Mr. Armit described as astounding Dr. Hadwen's statement that for 3,000 years animal experimentation had been going on. Any history would tell them that, from the second century of the Christian era down to the beginning of the nineteenth, there was practically no vivisection at all, and that was the reason why medicine stagnated during that period. He passed over Dr. Hadwen's quotations because they related merely to opinions and not to facts. It was facts that were wanted supremely in a matter of this kind, and it was a fact that the centres of the brain and their connexion with particular movements had been found out absolutely by means of experiments on animals. Clinical experimentation had but little to do with it. As a matter of fact, the speech centre was now the only centre in the brain respecting which their knowledge was indefinite. Dr. Hadwen had mentioned the name of Hughlings Jackson (in quoting Dr. West) as having based his work on clinical experience. Jackson was really one of the pioneers of the experimental method of localizing the brain centres. He made a most interesting series of observations upon that foundation, and discovered that certain forms of epilepsy were due to certain forms of localized disease. In conclusion, he (Mr. Armit), without wishing to confuse the issue of the night's debate by irrelevancy, held that it was moral in the highest sense of the word to endeavour to relieve pain and suffering, and animal experimentation had undoubtedly led to that result, not only in the case of man, but in that of animals as well, for veterinary medicine had largely benefited by vivisection.

Dr. HADWEN, in his first reply, put forward the assertion that brain surgery was of very little use except in cases of accident where there was a definite lesion, such as a depression, which required no animal experiments to discover, and could, indeed, be seen by the naked eye. With regard to his authority for his statements on Malta fever, he referred his opponent to his recent articles in the *Contemporary Review*. He believed that one of the reasons why the officers suffered more than the men was because of their comparative lack of robustness; they were of different calibre from the rank and file. The statement that the officers' abstinence from milk accounted for the reduction was nothing more than a guess. There were no statistics to prove it. Moreover, if the goat's milk were the cause of the fever, how was it that the civil population of Malta, who had been drinking the milk all the time, suffered twenty-nine times less than the army, and that the naval population suffered five times less? The navy had officers as well as the military. Why did this difference exist between the two branches of the service? Surely it showed that there must have been some other factor at work, and he maintained that that factor was the insanitary condition of the army quarters compared with the healthier situation of the naval men. He did not attach very much weight to the argument that a tube containing the *Micrococcus melitensis* broken in a laboratory in London and inoculating a person had produced Malta fever. It was only possible to have these germs living in a putrid fluid, and Bruce told the Royal Commission that if the fluid were to be filtered and all the germs taken away, a morbid fluid of that description would still produce septicaemia. The Editor of the *Lancet* declared in a leading article on March 20th of the present year that "it must be acknowledged that these postulates are complied with very rarely indeed, if ever," and the same authority went on to say that the question naturally arose whether these so-called causal organisms were really causal or merely secondary. They lived in an age, continued Dr. Hadwen, when germs were supposed to be the origin of everything. In his opinion, in spite of this talk about the germ theory —"which, by the evidence of the Editor of the *Lancet* himself, was now practically exploded "—within the next ten years people would come to regard germs, not as causes of disease, but as the best friends of man—Nature's scavengers to split up morbid matter into its primal constituents, so that there might be thorough oxidation and reversion of that material to its original elemental principles. The finding of germs in connexion with a disease did not prove that the germs had caused it.

In his final reply Mr. ARMIT said that the whole question arose as to whether the filtrate of a broth culture could produce symptoms of poisoning. If the germ were grown in a fluid of which the constituent was known and was afterwards filtered off, there remained a certain amount of poison produced by the germ itself. The disease thus brought about would be a poisoning—not a septicaemia, as Dr. Hadwen erroneously stated. With regard to Koch's postulates, Sir David Bruce proved his case up to the hilt so far as three of the postulates were concerned, and the fourth, which was not really a postulate, he left alone. He had not gone into the question of Dr. Hadwen's articles in the *Contemporary Review*, as they seemed to him to argue around the point. Either the disease was due to the germ or it was not. If it was not, how did Macfadyen die? The point about the civil population of Malta was easily answered. A resident people acquired, in process of time, a certain amount of immunity; and as to the naval men, doubtless on the boats they did not have the opportunity of drinking the milk so regularly as their comrades in the barracks. Malta fever was not so highly infective that the taking in of a single germ or of many germs would necessarily produce it. Dr. Hadwen was of opinion that simple continued fever—a very loose term—was identical with Malta fever, and quoted statistics. But the disease was not notifiable, therefore the statistics were valueless. With regard to brain surgery, he denied that clinical and *post-mortem* examinations had been the means of discovering brain localization. As a whole, he claimed that if physiology were deprived of its fundament from the vivisectionist's laboratory, medicine would be in the same stagnant position that it was 200 years ago. Thus closed the case for vivisection.

Dr. HADWEN had the last word, repeating his advocacy of clinical and *post-mortem* study, in preference to experimental research. He obtained his figures with regard to simple continued fever at Malta from the general medical officer of health on that island. With regard to the germ theory, he quoted extensively from Watson Cheyne and others to show that germs could flourish in wounds which were absolutely aseptic, and that suppurating wounds might exist without any germs whatever.

The meeting closed with the customary votes of thanks.

NURSES' REGISTRATION.

In an article published on February 13th, 1909, an account was given of the history up to date of the movement in favour of obtaining a legal status for those engaged in the occupation of sick nurse. Since then the position, so far as legislative procedures are concerned, remains practically unchanged. The bill introduced by Lord Ampthill in the House of Lords, and passed by that body after considerable discussion in 1908, was introduced into the House of Commons as soon as it assembled this year by Mr. Ferguson. Shortly after a second bill was brought in by Mr. Findlay, and finally a third bill by Mr. Cleland. The latter had reference only to Scotland, the others to England, Wales, and Ireland, as well as Scotland. None of them, however, came under the consideration of the House, and in May the Prime Minister declined to offer any special facilities for the introduction of the Ampthill-Ferguson bill, on the

ground, among others, that there did not seem unanimity on the question. The deputation to which this reply was given included Sir William Macewen of Glasgow, who, speaking of the existence of a separate bill for Scotland, stated that the support it received from nurses in that country was due to widespread misapprehension of the clauses of the bill which applied equally to the four countries. This had not been seen by Scottish nurses, and they were misled by erroneous statements current regarding it.

Following this a conference at the House of Commons was held between representatives of associations in England, Scotland, and Ireland anxious to see registration brought into force. It was agreed that existing measures should be dropped, and a new bill representative of the common wish introduced next session. Lord Ampthill undertook to act as chairman of a committee of representatives to be appointed by the various associations to draft the bill in question, but the split made evident by the introduction of a separate bill for Scotland has not been closed. Up to the end of last year the Ampthill-Ferguson bill, though admittedly a compromise, seemed to satisfy the leading advocates of nurses' registration in all three countries, but in January there were rumours of discontent in some quarters. In February this found voice in Glasgow at a meeting which brought into existence the Association for the Promotion of the Registration of Nurses in Scotland, with Lord Inverclyde as president, and a second outcome was the introduction of the separate bill for Scotland by Mr. Cleland. This association does not, however, represent the views of all Scotland, so a still further result has been the foundation of a second society—the Scottish Nurses' Association, with Sir William Macewen as president, which is understood to be opposed to the Cleland bill and to favour the principles represented by the Ampthill-Ferguson bill.

Meanwhile a somewhat heated controversy has been going on as to the merits of the two bills, the arguments used being of such a kind as to make it obvious that there is a great deal of misunderstanding as to the degree in which the principles embodied in the bills are opposed, and as to what any of them propose to do. Presumably many of the controversialists have only seen *ex parte* statements instead of the bills themselves. A summary, therefore, of the more important parts of the measures upon the basis of which it is hoped a common agreement may be attained, is here given. For this purpose only the Ampthill-Ferguson bill and the Scottish bill need be considered.

All parties are equally agreed that registration is imperative in the interests of nurses and the public, that the registration should be in the hands of an official body under Government control, that the expense thrown upon nurses should be as low as possible, and that a single bill applying equally to all parts of the United Kingdom is preferable to separate registration for each of its divisions.

Titles and Registers.

Under the Ampthill-Ferguson bill there would be a common register and a single title, "Registered Nurse," though the names of nurses who had received general training and of those who had specialized in mental nursing would be kept in separate lists. Under the Cleland bill three different titles would be created: "Registered Nurse," "Registered Fever Nurse," and "Registered Mental Nurse." Both bills would make the unauthorized assumption of titles implying that a person is a legally recognized nurse a punishable offence, but do not otherwise interfere with the practice of nursing by untrained or not registered persons.

Constitution of the Registration Council.

Under both bills the council consists of sixteen persons, but otherwise differs markedly in constitution, a point which may be considered in two ways—first, as regards the primary status of the members of council; secondly, as regards their functions as representatives.

Primary Status.

As regards primary status, the council of the Ampthill-Ferguson bill would be made up of three persons not necessarily either medical men or nurses, seven persons necessarily nurses, and six persons necessarily medical men. Under the Cleland bill there would be seven persons not necessarily medical men or nurses, seven persons necessarily nurses, and two persons necessarily medical men.

Representation.

Persons Necessarily Nurses.—Under the Ampthill-Ferguson bill the seven persons necessarily nurses would all be representative of registered nurses, four being elected by nurses whose official address for the time being was either in England or Wales, one by nurses whose official address for the time being was in Scotland, one by nurses whose official address for the time being was in Ireland, and one (who must be a past or present matron of a public hospital for the insane) by those in the mental nurses list. Under the Cleland bill, two of the seven nurses would represent general hospitals (of which they must be matrons), three would be elected by "registered nurses," one by "registered mental nurses," and one by "registered fever nurses"—in each case irrespective of place of residence.

Persons Necessarily Medical Men.—Under the Ampthill-Ferguson bill the six councillors necessarily medical men would represent—one the Local Government Board, one the General Medical Council, and one the Medico-Psychological Association of Great Britain and Ireland; the other three would be members of the British Medical Association resident in England and Wales, Ireland, and Scotland respectively. Under the Cleland bill the two councillors necessarily medical men would represent general hospitals, of which they must be "medical superintendents," and they would be selected by the Secretary for Scotland.

Possible Laymen.—Under the Ampthill-Ferguson bill the three persons not necessarily either medical men or nurses would represent the Privy Council, and one of them would be a woman. Under the Cleland bill, of the seven not necessarily either medical men or nurses, two would represent the Secretary for Scotland, and must be laymen, and the others would represent respectively the Local Government Board, the General Board of Lunacy, the Universities of Edinburgh and St. Andrews, the Universities of Glasgow and Aberdeen, and the corporate bodies forming the Conjoint Board in Scotland.

Duties of the Council.

The duties of the council in each case would include regulating the admission of nurses to the Register, the taking of proceedings against persons guilty of offences under the Act, and general disciplinary measures, including, in the case of the Ampthill-Ferguson bill, restriction of the practice of registered nurses within their due limits. On some other points the duties vary. Similarly the council under both bills would regulate courses of training and appoint inspectors, decide when and where examinations for admission to the Register should be held, and regulate them, but they differ in that the council under the Ampthill-Ferguson bill would also appoint examiners and arrange their remuneration. In respect of these two latter points, nothing is said in the Cleland bill, but on the other hand, the council under this bill would have to supervise as well as to regulate the training courses.

Admission to the Register.

The provisions for the admission to the Register of persons claiming to be so admitted within three years of the date at which the Act came into operation only materially differ in that the Ampthill-Ferguson bill would make special provision for those who have received training in various Government institutions as distinct from ordinary hospitals, while the Cleland bill would limit admission to those holding certificates from institutions approved by the council, or who in addition to having been in bona fide practice as a nurse, produce evidence of training which it regards as satisfactory in the circumstances.

In respect of admission to the Register when it has been in existence for three years there are more distinct differences. Under the Ampthill-Ferguson bill all candidates would be required (1) to produce evidence of adequate training at an institution approved for this purpose by the council; and (2) either to pass an examination prescribed by the council, or to produce a certificate of having passed some examination accepted by the council

in lieu of its own test. It is to be noted in this connexion that any institution conducted under the authority of the Local Government Board, and recommended by it, as also naval and military hospitals, would be deemed approved institutions for the purpose of the Act, and that any other institution aggrieved by a refusal of the council to recognize it as a training school would have the right to appeal to the Privy Council.

Under the Cleland bill right to registration would be constituted by the production of evidence satisfactory to the council that the candidate was of good character, and had been trained in accordance with the rules framed under the bill in the wards of an institution approved by the council; but no provision is made for appeal by any institution if not approved.

FEES.

Under both bills a fee of £2 2s. would be paid for registration, and an annual fee of 2s. 6d. in the case of the Ampthill-Ferguson bill and 1s. under the Cleland bill. Examination fees are not mentioned in the Cleland bill, but the Ampthill-Ferguson bill would provide that they should not exceed £3 3s. In neither bill is the meaning of the phrase "fever nurse" defined; nor, indeed, in the Ampthill-Ferguson bill is the term used at all, but possibly the interests of women who have received some training in a fever hospital, or some, but incomplete, training in general nursing in some other fashion, are those covered by the penultimate clause in the Ampthill-Ferguson bill. This would make it possible for the council, within four years of the date at which the Act came into operation, to ask authority from the Privy Council to establish a register of associate-nurses, or persons having a lower standard of training than that required for registered nurses, such persons not to be allowed to use the word "registered" except in conjunction with the word "associate," and not to have any vote at an election of a direct representative.

LITERARY NOTES.

THE introductory address delivered by Dr. H. D. Rolleston at the opening of the session at St. George's Hospital has been reprinted in pamphlet form. It is entitled *St. George's and the Progress of Physic*, and contains much interesting matter, felicitously expressed. Dr. Rolleston records the influence of St. George's men on the advance of medicine in the strict sense. One of the most distinguished physicians of the hospital was Matthew Baillie, who held office from 1787 to 1800. In 1793 he published the first book in the English language devoted solely to morbid anatomy. This was entitled *The Morbid Anatomy of Some of the Most Important Parts of the Human Body*, and went through five editions up to 1818. It was translated into French, German, and Italian. Baillie, says Dr. Rolleston, first recognized cirrhosis of the liver, though not under that name, which was invented by Laennec in 1819, as a disease distinct from "scirrhous" tumours; he spoke of it as "common tubercle" of the liver. Baillie also first pointed out that "polypi of the heart" were really blood clots, and he drew a distinction between cysts and hydatids of the kidney. The work was later supplemented by an *Atlas of Morbid Anatomy* (1799-1802) illustrated from Baillie's private collection of morbid specimens, which he subsequently presented to the Royal College of Physicians of London in 1819. His practice had become so large by the time he was forty that he resigned his position at the hospital. Dr. Rolleston has culled some interesting particulars from the obituary oration on Baillie delivered at the College of Physicians by Sir Henry Halford which throw light on medical practice as it was at the end of the eighteenth and the beginning of the nineteenth centuries. Sir Henry Halford says:

> Before his (Baillie's) time, it was not usual for a physician to do much more than prescribe remedies for the malady, and to encourage the patient by such arguments as might present themselves to humane and cultivated minds.

It would appear also that physical, as apart from visual, examination of the patient, was neglected. Sir Henry Halford says of Baillie:

> He appeared to lay a great stress upon the information which he might derive from the external examination of the patient, and to be much influenced in the formation of his opinion of the nature of the complaint by this practice. He had originally adopted this habit from the peculiar turn of his early studies, and assuredly such a method, not indiscriminately but judiciously employed, as he employed it, is a valuable auxiliary to the other ordinary means used by a physician of obtaining the knowledge of a disease submitted to him. But it is equally true that, notwithstanding its air of mechanical precision, such examination is not to be depended upon beyond a certain point. . . . One of the inevitable consequences of such a system is frequent disappointment in foretelling the issue of the malady—that most important of all points to the reputation of a physician; and though such a mode of investigation might prove eminently successful in the skilful hands of Dr. Baillie, it must be allowed to be an example of dangerous tendency to those who have not had his means of acquiring knowledge, nor enjoyed the advantages of his great experience, nor have learnt, by the previous steps of education and good discipline, to reason and judge correctly.

It is one of the ironies of the fate of great men that, as in the case of Wellington boots, broughams, etc., Baillie's name is perhaps best known by the pilula digitalis co., commonly called Baillie's pill. Another famous physician of St. George's was Thomas Young, to whom perhaps may be applied what was said of Brougham, that if he had known medicine he would have known everything. Dr. Rolleston, however, says that it must not be assumed that Young neglected medicine; he had an extensive knowledge of its literature, and invented a classification of diseases on the lines laid down by Linnaeus in the natural sciences. In 1815 Young published a *Practical and Historical Treatise on Consumptive Diseases*, and he seems to have meditated the compilation of a system of practical physic. Young's observations on consumption have some practical value, as they were made partly on himself. He was not popular as a physician, and was little followed in the wards by the students, who regarded him as a great philosopher, but a bad physician. Edward Jenner was a student of St. George's; it may be well to recall that his fame does not rest wholly on his introduction of vaccination; he discovered that angina pectoris depends on disease of the coronary arteries, the observation being made on no less a person than his friend and teacher John Hunter. Want of space will not allow us to follow Dr. Rolleston through the rest of his record of the achievements of St. George's men; we can only say that in regard to the elucidation of many diseases it is a valuable footnote to medical history.

A Polish museum of the history of medicine has been established in the University of Cracow. It contains objects of medico-historical interest—books, diplomas, prescriptions, samples of ancient drugs, photographs, plans of hospitals, etc. It is intended to excite interest among the students of the university in the history of their art.

We have received the first number of the *Mendel Journal*, which is published by Messrs. Taylor, Garnett, Evans, and Co., Limited, of Fleet Street. The object of the new periodical is to present Mendelism to "a wider public by men who believe in its truth, who foresee its future, and who recognize their responsibilities in the work they do." Another object is "to gather for the Science of Genetics a harvest rich in facts relating to human pedigrees and the inheritance of normal characters as well as of peculiarities." An appeal is made to all who are acquainted with families in which peculiarities and markedly contrasted normal characters have run from one generation to another to send details to the editor. Such contributions will be treated in the strictest confidence; they need not necessarily be published, and will not be published without the consent of all who are concerned, and then only in a form approved by them. While it is clear that medical men have many unique opportunities for acquiring knowledge of pedigrees of this kind, it is hoped that contributions from laymen will also be forthcoming. The journal, which is excellently printed, contains a number of articles, among which may be mentioned as of special interest to medical men the following: Inheritance of Suicidal Mania; Pedigree of Tuberculosis; Pedigree of Skin Colour in Human Hybrids; A Case of Segregation of White Skin in a Quadroon Fraternity. Mr. C. C. Hurst writes on Mendelism and Sex.

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SATURDAY, DECEMBER 4TH, 1909.

THE APPORTIONMENT OF THE FIVE YEARS.

ALTHOUGH its Education Committee has for some time past been presenting to the General Medical Council a series of valuable reports giving precise information upon many points in medical education otherwise mere matters of surmise, they have not been as fully discussed by the Council as their importance appeared to merit. The final report issued last May summed up the results of the earlier reports, and ended with only a single recommendation, the object of which was to secure that an adequate share of the curriculum should be given to the study of the subjects of the final examination, which were thought often to be starved out by the encroachments of other subjects which should have been completed earlier in the student's career. The recommendation, as we have already ventured to hint, was cumbrous and likely to be difficult of application, although its aim was admirable; to this aspect of the matter we need not recur, as the recommendation finally adopted after the discussion is simple, and is not open to objections of the nature indicated. A little disappointment was felt and expressed that the chairman in his opening remarks should have asked that the discussion should be limited to the matter of the recommendation which dealt with one only of the several questions submitted to the committee, and that one which many would regard as not the most important. The proposed limitation soon proved to be impracticable, indeed Principal Yule Mackay himself, perhaps unconsciously, in his own remarks included much that was not closely relevant to this single issue. It did not in fact lend itself to entirely separate treatment, and succeeding speakers made wider digressions into such subjects, for instance, as the question of the adequacy of a period of five years for all the subjects of a modern curriculum, and the proper place for the preliminary scientific subjects.

In the course of the discussion Sir Thomas Fraser argued that after all the student could only be taught how to learn, and was not to be regarded, when turned out "qualified," as by any means a finished product—a proposition which might have commanded more approval had he not gone on to make the somewhat startling proposition that too much stress should therefore not be laid upon the final subjects. This is subversive of the fundamental idea of qualification, and it was suggested by Dr. Little that the speaker's view might be influenced by his association with a school at which the numbers of the students were very large in proportion to the clinical material available, and was at all events not applicable to schools where other conditions prevailed. It was asserted, for instance, that at the Irish schools the physical and chemical methods of diagnosis were taught at a very early period of the student's career, whilst later very ample opportunities of clinical study were afforded to each and all.

It will be remembered that the statistics collected by the committee showed that only some 34 per cent. of all students qualified within five and a half years, the remaining 66 per cent. taking six years or more, and that the average of the whole was well over six years, although a material proportion of the students at certain schools succeeded in qualifying within the five years. Principal Mackay stated in answer to a question that the proposed new rule would only affect 3 or 4 per cent. of all students: and this statement had perhaps a damping effect, because many members felt that if so small a percentage was affected the alteration was hardly worth the time expended upon its discussion, especially as there was a consensus of opinion as to its general desirability. The estimate, however, was challenged, and it was asserted that, according to the tables given, a much larger number would in fact be affected.

The discussion turned partly upon the question whether it was desirable to introduce any sort of "block" into the student's career—that is to say, whether at any point, and if so, at what point, it should be laid down that time for a particular group of studies should not be allowed to count until the examination in the previous set of studies had been passed. Though some difference of opinion upon the desirability of any form of block was discovered, no alternative scheme was suggested by which full time for the study of the final subjects could be secured, and the principle of a block was accepted. After a division on the point whether two and a half years—that is, the half of the curriculum period—or only two years should be allocated to final subjects, a recommendation was adopted that a period of two years after passing the examination in anatomy and physiology should be required by the licensing bodies before admission to the final examination.

This is the only recommendation which the Council actually made: but inasmuch as several other questions relating to the curriculum had been addressed to the committee, and these had not been fully discussed, it was felt that the treatment the subject had received was incomplete, and on the motion of Sir Henry Morris a fresh reference was made to the committee, which was invited to consider the proper place for the preliminary scientific subjects, and was asked to prepare a draft scheme for the arrangement of the subjects within a period of five years, so that the Council might have before it a suggestion for a minimum course.

The appropriate time for the discussion by the Council of these issues will obviously not come until after the committee has reported, but an instructive fact was mentioned in introducing the motion. It is well known that the two English Royal Colleges allow chemistry, physics, and biology to be studied at secondary schools selected as having adequate facilities. It has been found that students who have availed themselves of this permission are, to the extent of from 6 to 8 per cent., actually more successful in passing the examination than those who have taken those studies at medical schools. This practical result throws doubt upon a tolerably recent conclusion of the committee to the effect that adequate facilities do not at present exist in a sufficient number of secondary schools for a change in this direction to be contemplated.

Somewhat closely linked with these considerations was the motion of Dr. Saundby requesting the Examination Committee to report upon the question whether it is desirable to allow students to pass in the several subjects of the final examination in instalments. The adoption of this reference seems to imply that

some at least of the members of the Council think that this should not be permitted. If it is, and if advantage is taken of the permission, it is evident that the five-year period must *ipso facto* be exceeded, and it was suggested that it is not fair to parents to call the curriculum one of five years, when in fact, ignoring the case of exceptionally brilliant students, it is always exceeded.

We may congratulate the Council upon having taken a step in advance in securing that the final subjects shall not be starved by the earlier, but additions to the curriculum are constantly being made and nothing is ever subtracted from it, so that the question of lightening it requires careful consideration. It is to be regretted that the course taken by the University of London, and strongly supported by Sir William Whitla in his address to the British Medical Association at Belfast, which has the effect of lightening the curriculum by causing the teaching of the whole of the preliminary and intermediate subjects to be directed with an eye to their ultimate application, has not, so far, received the attention, or at all events the spoken attention, of the Council, though this question may appropriately be discussed in connexion with the further report the committee has now been instructed to make.

VOLUNTARY AID DETACHMENTS.

WE referred last week to an address given by Sir A. Keogh to the British Red Cross Society on the relation of that society to home defence, and as it seems from several communications which we have received that there are many who do not appreciate the relative position of the various authorities to be associated in the relief of the sick and wounded in case of the outbreak of war, the following remarks may be useful. The Territorial Force has its complete organization at the front, its regimental medical officers and trained bearers; they meet the bearer division of the field ambulance, and this division is responsible for the conveyance of the sick and wounded to the field hospitals. At the base the Territorial Force has its general hospitals so far equipped and trained in peace as to form a complete nucleus capable of expansion when required. But there are two gaps. The first is that the conveyance of sick and wounded along the lines of communication between the field hospital and the general hospital is not provided for, and the second that the working personnel of the general hospitals themselves would have to be increased on mobilization; it is these two gaps that the county associations have been called upon to fill by the organization of Voluntary Aid Detachments. In this task they are being assisted by the Red Cross Society and the ambulance department of the Order of St. John of Jerusalem.

The Territorial Army and the Red Cross Society are both established on a county basis and each county is asked to provide Voluntary Aid Detachments. The mode of provision is in the hands of the county associations, but it is officially suggested that the Territorial County Association should make use of the organization of the county branches of the Red Cross Society.

The Voluntary Aid Detachments would be required to provide the establishments for the removal of the sick and wounded, that is to say, the clearing hospitals, rest stations, evacuating stations, and ambulance trains or other means of conveyance, and supplementary personnel required for general hospitals and convalescent homes would be furnished from this source. There is plenty of work for men and women, the latter being employed chiefly in forming railway rest stations, in preparing and serving refreshment to the sick and wounded during the process of evacuation by railway, in taking temporary charge at the evacuating stations of severe cases unable to continue their journey, for duty in ambulance trains, or for nursing or cooking in the clearing hospitals. Briefly, the training required is, for both sexes, first aid, elementary nursing, and sanitary duties; for men, stretcher exercises, clerical duties, and what is termed training for carpenters and mechanics—that is to say, some practice in improvising and constructing splints, stretchers, bedsteads and appliances, fitting up vehicles for the carriage of the sick; and for women, training in cookery, care of clothing and bedding, and disinfection of the same.

The Red Cross Society lays it down that only those who possess both first aid and field nursing certificates of the St. John Ambulance Association shall be permitted to join a Voluntary Aid Detachment, so that as a preliminary the County Association must arrange for the usual courses of instruction by the teachers of the St. John Ambulance Association to be given to persons who wish to enlist in the detachments in various parts of the county. The contention of some of our correspondents that there is no reason why medical men should be called upon to give this instruction without remuneration appears to be well grounded. We believe that a proposal of the kind has only been made in a few instances, and though there may be exceptional cases in which it can be justified, yet, as a general rule, medical men should not be expected to give such instruction gratuitously. When a man or woman has qualified for enrolment in a Voluntary Aid Detachment by obtaining the two certificates mentioned, any further instruction required will be on a somewhat different footing. It is true that when a unit of the Territorial Force is called up for special training, all ranks, including the medical officers, are paid at army rates for their services during the period of training, but the Voluntary Aid Detachments will not be called up for any definite periods of training; in fact, a detachment would probably only be called upon to assemble some two or three times in the course of a year, in order that the commandant may be satisfied that it would be ready when called upon. The commandant of each detachment, whether men's or women's, would be a medical man or woman, and this officer would be immediately responsible that all members of the detachment knew their duties; but many members of the detachment—including as it would medical men, pharmacists, sanitary officials, nurses, and cooks—would not require any definite extra instruction in their special duties. The task of keeping a Voluntary Aid Detachment efficient would therefore be much less arduous than that of keeping a unit of the Territorial Force efficient.

In time of peace the Voluntary Aid Detachments will be immediately under the County Director, who is appointed by the local (county) branch of the Red Cross Society; he will be responsible for the efficiency of the detachments, and will be controlled by the committee of the county branch of the Red Cross Society, which in turn will be responsible to the County (Territorial) Association. On mobilization

the detachments would be handed over to the administrative medical officer of the field army concerned. An officer to be called the "Director of Clearing Hospitals," who would be preferably a retired officer of the Royal Army Medical Corps or of any regular army service, would be appointed to each division of the Territorial Force, and to him would be allotted so many Voluntary Aid Detachments as were found necessary to meet the requirements at the moment.

PROPOSED LEGISLATION ON ANAESTHESIA.

AMONG the matters dealt with by the General Medical Council at its recent meeting, a report of which appears in this week's SUPPLEMENT, was the proposed legislation on anaesthesia. In the JOURNAL of January 2nd, 1909, p. 45, a summary was given of the opinions on this subject which found expression in a debate at the Medico-Legal Society,[1] and of a Bill to regulate the administration of general anaesthesia which was submitted by the Privy Council to the General Medical Council. The chief provisions of that Bill were the following: "(1) That no one but a registered medical practitioner should administer, or cause to be administered, any drug or substance with the object of producing unconsciousness during any medical or surgical operation, act or procedure, or during childbirth, under a penalty not exceeding £10, and, in the case of a second or subsequent conviction, to a penalty not exceeding £20, unless the person was acting under the immediate direction and supervision of a legally qualified medical practitioner, or if he had reasonable grounds for believing that delay in obtaining the services of a qualified medical practitioner would have endangered life. (2) That all examining bodies recognized by the General Medical Council should require that all candidates for final examinations should have received thorough instruction in anaesthetics, and should have personally administered anaesthetics under the supervision of their teachers."

The Council, at its meeting in November, 1908, approved the principle embodied in the first clause, but objected to the second. At its recent meeting the Council had before it the report of its Anaesthetics Committee on the Bill introduced into the House of Commons on June 22nd by the late Dr. Cooper. The text of that Bill was published in the SUPPLEMENT of July 10th, 1909, p. 61; it was backed by Sir Walter Foster, Sir William Collins, Sir John Benn, Mr. Acland Allen, Mr. Barnes, Dr. Rutherford, Mr. Bertram Straus, and Mr. Carr-Gomm. The report of the Committee, which was adopted by the Council, was in favour of restricting the administration of anaesthetics during medical, surgical, obstetrical, and dental operations to duly qualified surgeons, but of permitting certain specified anaesthetics, described as such, to be used by duly qualified dentists during dental operations. It was suggested that the schedule of specified substances should be added to from time to time, as new anaesthetics might be discovered, as is done in regard to the poison schedule of the Pharmacy Act. For the public safety it was held to be desirable that the anaesthetic should be administered by a qualified person other than the operator so that his mind should not be diverted from the condition of the patient. A clause in the Bill which provides that "any registered medical practitioner who gives a certificate of death in the case of a person dying while under the influence of an anaesthetic, shall be liable, on summary conviction, to a penalty not exceeding five pounds," was objected to as creating, without any necessity, a new offence of a highly penal character. The object which the clause seemed to be intended to secure was to obtain correct death registration statistics, but this could be secured by a system of notification such as was in force in the case of infectious diseases. It was recommended that for the present it should be left to the Licensing Bodies to determine the precise form of evidence of adequate practical instruction in the administration of anaesthetics which should be required, and a recommendation was added to the effect that due provision should be made for the practical instruction of dental students in the administration of anaesthetics.

The General Medical Council, therefore, does not think fresh legislation on the administration of anaesthetics desirable. It seems to think that "recommendations" which it may see fit to make from time to time to the Licensing Bodies, are sufficient to meet the needs of the case. We would respectfully point out, however, that "recommendations" made on other matters by the Council have sometimes been treated with more or less polite indifference by certain licensing bodies; and it is at least conceivable that the same thing might happen again. The public safety is the chief consideration to be kept in view, and it must be confessed that the frequent reports of death under anaesthesia published in the newspapers must tend to undermine public confidence either in the anaesthetics used or in the administrators. We do not think the Council has shown the appreciation of the importance of the question or the sense of its responsibility alike to the public and to the profession that might have been expected, and it seems clear that a more comprehensive inquiry into the whole subject is needed than the relatively narrow reference submitted to the Anaesthetics Committee of the General Medical Council. Certain aspects of the subject will be considered by the Departmental Committee on Coroner's Law, before which evidence on behalf of the British Medical Association will be given in the course of the present month. The report of this Committee will no doubt throw some light on the questions at issue. If it should prove that the subject has not been adequately handled there, it will become necessary to seek a fuller inquiry.

[1] See *Transactions of the Medico-Legal Society*, vol. v, 1908; and BRITISH MEDICAL JOURNAL, 1908, vol. i, p. 747.

DEMONSTRATION MEETINGS.

THE Newcastle Division of the North of England Branch has recently organized a series of monthly winter scientific demonstrations to which not only other members of the Branch, but all medical practitioners in the area received invitations. A complete syllabus of the whole of the meetings was sent out in advance, in order that all wishing to attend might have previous knowledge of all the subjects of the demonstrations. Each meeting takes the form of six clinical demonstrations, limited to half an hour each. An effort has been made to render the subjects and material of the demonstrations as practical and varied as possible, and to some extent they assume the character of a post-graduate course. Between seventy and eighty medical men from many parts of Northumberland and Durham attended the first meeting, which was held in the Royal Victoria Infirmary on November 19th, and it was generally felt that the first

trial (at any rate in this district) of such a series of demonstrations under the auspices of the British Medical Association had been a great success. Sir Thomas Oliver demonstrated some cases of splenomedullary leukaemia, and gave a summary, illustrated by drawings, of the clinical and pathological aspects of the disease. Mr. Rutherford Morison gave a demonstration on diseases of bone, especially dwelling on the symptoms and diagnosis of the acute infective types. Patients and a number of pathological specimens illustrative of his remarks were shown. Dr. McCracken and Dr. Ruxton conjointly gave a full account of their own and other workers' observations in regard to Mongolian imbecility; and several children of various ages suffering from this condition afforded a practical illustration of its clinical features. Mr. W. G. Richardson demonstrated patients suffering from carcinoma of the breast, and exhibited specimens illustrating the more radical methods of operating. He entered at some length into the manner by which the disease spreads and the consequent necessity for an early wide removal of all the infected area. Mr. Percival gave a demonstration on some of the more common forms of eye injuries, illustrated by patients and specimens, and dealt especially with many practical questions in regard to diagnosis and treatment. Dr. Bolam showed several cases of xeroderma in different stages, and after dealing with the etiology and pathology of the condition detailed the lines on which treatment should be conducted. These demonstrations will be continued at monthly intervals during the winter session, and are, if not a wholly new departure, at least a most interesting development of an idea which has led to the holding by the Edinburgh Branch, and by the Newcastle Division itself, of special clinical or scientific meetings, at which demonstrations clinical, pathological, and bacteriological, have been the chief feature.

THE ANNUAL MEETING IN LONDON, 1910.

AT the annual meeting of the British Medical Association in London next year, over which Mr. Butlin, F.R.C.S., will preside, the Address in Medicine will be delivered by Dr. Mitchell Bruce, consulting physician to Charing Cross Hospital and the Brompton Hospital for Consumption, and the Address in Surgery by Mr. Gilbert Barling, surgeon to the General Hospital, Birmingham, and Dean of the Medical Faculty of the University. Very satisfactory progress has been made in the organization of the Sections, which, as already announced, will be twenty-one in number.

THE SCHOOL OF THE COLLEGE OF SURGEONS IN IRELAND.

IN the course of his address to the Belfast Medical Students' Association, which is published elsewhere in this issue (p. 1593), Dr. Gibson gave utterance to his opinion, which will not fail to carry conviction owing to any lack of force in its expression, that the Medical School of the Royal College of Surgeons in Ireland has, during the recent reorganization of higher education in Ireland, experienced at the hands of the Government a want of sympathy which amounts to practical injustice. Into the case, if such there be, which the college may have against the new National University, we do not propose to enter. We hope that the statements made by the President of the college, and now echoed by Dr. Gibson, may misinterpret the motives by which those who are guiding the National University are actuated. We can only regard it as most satisfactory that in Ireland the principle of State assistance to medical educational colleges should have been recognized. That it is necessary for the State to assist institutions for higher education, in the teaching of science, has again and again been insisted upon by those most competent to speak, and illustrated by references to the example of Germany. More than six years ago Sir Victor Horsley, in an address in the Medical Faculty of the University of Birmingham, showed that this principle applied equally to the medical as to other scientific faculties. He quoted Sir E. Ray Lankester's epigrammatic statement that the growth of science in the present day is to be measured rather by geometrical than arithmetical progression, and showed that in the matter of laboratory accommodation alone the minimum demands of the present day were very far in excess of those of even a generation ago. He scouted the idea that an efficient medical school could be maintained out of the fees of the students; such fees, he said, were in reality but a slender contribution to the maintenance of the necessary provision, and he added that it was unjust to expect parents or guardians of a medical student to bear the heavy expense of a professional education. Neither could the benevolence of the pious founder or the generous subscriber be expected to fill the gap, and he argued that therefore, and for the further reason that the State controlled and required the services of the medical profession, it was right that the State should be called upon to make an adequate financial contribution towards the erection and maintenance of suitable buildings, and the provision of an adequate teaching staff. Now the school of the Royal College of Surgeons of Ireland has won for itself a high reputation during the last century, and has supplied many distinguished men for the service of the public and of the State. During the last generation, and especially within very recent times, by hook or by crook and at serious sacrifice, the college has spent money in the effort to maintain the highest possible standard of efficiency in the school; but the contest is an unequal one, and we venture to think that the prayer of the memorial to the Chief Secretary which has just been presented by the President, Mr. Lentaigne, on behalf of the Royal College of Surgeons in Ireland, ought to receive Mr. Birrell's early and most favourable consideration.

DUKE KARL THEODOR OF BAVARIA.

BY the death of His Royal Highness Duke Karl Theodor of Bavaria, the head of the ducal line of the house of Wittelsbach, brother of the ill-fated Empress Elizabeth of Austria, father of the future Queens of Bavaria and of the Belgians, the profession has lost a member who, besides being a prince of rank, was what the French call a "prince of science." After serving in the army he devoted himself to the study of medicine. He entered himself as a student at the University of Munich, and in due course took his degree. He then settled down at Schloss Tegernsee in the Bavarian Alps, and practised daily in the local hospital, where he treated all the eye cases. Later he opened a private eye hospital in Nymphenburg Street, at Munich. He is said to have performed some 500 cataract operations. He was the author of works entitled "Contributions to the Anatomy and Pathology of the Vitreous Body" and "Contributions to a Pathological Anatomy of the Eye in Kidney Diseases." His Royal Highness was 70 years of age.

EXEMPTIONS AT EXAMINATIONS.

TWO cases which illustrate the inconveniences which may arise in connexion with the granting of exemptions at final examinations to candidates who have passed a certain subject, or have reached a certain stage

in the curriculum of other licensing bodies, were considered by the General Medical Council during its recent session. It appears that at an examination last year the Apothecaries' Hall, Ireland, exempted a candidate at its final examination who produced evidence that he had passed an examination in midwifery elsewhere. The Secretary of the Hall had previously applied to the Registrar of the General Medical Council to know whether there was any rule of the General Medical Council which prohibited a licensing body examining a candidate in one or more subjects in the final examination, he having passed the remaining subjects elsewhere. The reply was to the effect that there was no rule of the Council on the subject, but that all exemptions must be reported to it. The matter, however, is governed not by a rule of the Council but by Section 3 of the Medical Act, 1886, and it appears that as long ago as May, 1903, the Examination Committee of the General Medical Council made a report upon a case in which a candidate had been exempted from a part of the final examination of the Apothecaries' Hall, Ireland, held in July, 1902. The report stated that the candidate in question had, some eighteen years earlier, passed the examinations of the Royal College of Surgeons of England with the exception of those in medicine and midwifery. The Council's inspector of the examination at the Apothecaries' Hall of Ireland reported that this candidate passed creditably in these two subjects, and he thus became entitled to the diploma of the Hall. When commenting in 1903 upon this incident the Committee said, "This recognition of a final subject passed before a different licensing body is quite irregular, in view of the opinion expressed by the Council's legal adviser, that 'the examination must be one examination, in the sense that one medical authority or combination of authorities must conduct the whole examination of the candidate—that is, that he must be examined in all three subjects by one medical authority or combination of authorities.'" When Dr. D. C. McVail, chairman of the Examination Committee, drew attention last week to the fresh infraction of the Act by the Apothecaries' Hall of Ireland, the defence made by Dr. Adye-Curran, the representative of the Apothecaries' Hall, was practically to the effect that the body he represented knew nothing about the incident which Dr. McVail "had fished out from the annals of the past," that is to say, from the proceedings of the Council in May, 1903.[1] On that occasion, also, the then representative of the Apothecaries' Hall pleaded ignorance. The Council has now passed a resolution regretting that a procedure should again have been adopted by the Apothecaries' Hall in Ireland, which, in the opinion of legal counsel, was illegal, and a further resolution resolving to draw the attention of the Apothecaries' Hall of Ireland to the opinion given by the Council's legal adviser. The Council no doubt feels a special responsibility with regard to the examinations of the Apothecaries' Hall of Ireland, since it appoints the surgical examiners, and receives reports from them, but it has now further resolved to call the attention of all the licensing bodies to the legal opinion referred to. The other case has to do with the *Dentists Register*. An applicant possessing certain diplomas from Colonial bodies asked to be registered on the strength of them. No question of reciprocity arose, inasmuch as the Dentists Act differs from the Medical Acts, since it merely requires the Council, before registering a name, to ascertain that the regulations of the licensing bodies concerned afford sufficient guarantee of the possession of the requisite knowledge and skill. The Dental Committee of the Council therefore, was bound to make inquiries with regard to the conditions under which the diplomas submitted were obtained, whereupon it was discovered that the applicant had obtained, first from one body and then another, exemptions so numerous that the evidence as to education and curriculum was confusing and unsatisfactory. It appears that the applicant in the first place obtained a diploma in a British dominion after a modified examination instituted for those in a state of pupilage when an Act for the regulation of the practice of dentistry was passed. He then entered University X in another British dominion; the regulations of University X were, in the matter of examinations, elastic, for any person legally qualified in any portion of the British Empire was admitted to its final examination without other attendance of any sort at all. University X became amalgamated with University Y in the same dominion, and a period of grace was allowed to students of University X for the completion of any curriculum in force at that university, and upon its completion they were to be admitted to examination by university Y, and, if successful, to receive its degree. That was what happened in the case of the applicant. Such a curious train of circumstances is not likely to arise again, but its occurrence is proof that the General Medical Council is fully justified in carefully criticizing the claims for exemption in subjects of the final examinations for a dental diploma also.

[1] See also BRITISH MEDICAL JOURNAL, 1903, vol. i, p. 1282; and SUPPLEMENT, 1903, pp. lvii and lxxxix.

CHARITY AND THE POOR LAW IN SCOTLAND.

At p. 1628 will be found a summary of that part of the Majority Report of the Poor Law Commission dealing with the relations between charity and the Poor Law. The extracts made from the report prove that there is much waste both in money and energy amongst the charitable institutions and agencies in Scotland, and that some legislative interference is necessary both for the welfare of those for whose benefit these charities are intended and for the proper maintenance of the charities themselves. It was brought out in the evidence that large sums of money are available for the relief of poverty independently of the Poor Law. In Edinburgh alone the amount available for distribution from charitable funds amounts to £289,000; other towns in Scotland are largely provided for. Were these funds managed in a thoroughly business manner much relief might be afforded to deserving and worthy people. It has been abundantly proved, however, that instead of being spent for the relief of deserving poor, the tendency has been to demoralize the people; this is attributed to the want of co-operation and mutual knowledge amongst the agencies, many of which are connected with the churches. In many cases recipients were getting money from several funds without those who were responsible for the management of these charities being aware of the fact. To remedy this want of co-operation and overlapping the Majority recommend the establishment of voluntary aid councils and committees to manage the funds and dispense the charities. But something more is required to place all these charities on a sound basis. The Government should appoint a commission to deal with the endowments on much the same lines as that appointed to deal with education some years ago.

NURSES' REGISTRATION.

In another part of this issue is published an analysis of the two bills, laid before the House of Commons at the beginning of last session, which, it is hoped, will form the basis of an agreement between the two sections of those interested in the nursing movement with respect to a new bill to be introduced next

session. It seems fairly obvious that the separation between these two parties owes much of its width and apparent importance to misunderstanding in the rank and file of the position which will be created by the passage of one bill or the other. Harking back to certain questions of principle on which some of our correspondents have dwelt, it may be pointed out that, so far as the constitution of the governing councils is concerned, the Ampthill-Ferguson bill would give a preponderating influence on the council to those most directly interested in the sound management of the profession of nursing—namely, the nurses themselves, and the medcal men, as whose assistants trained nurses act. The Cleland (or Scottish) bill, on the other hand, would place most of the voting power in the hands of representatives of training schools and of universities and other like bodies, which in their corporate capacity have no necessary connexion with nursing, while the medical profession as such would not be represented at all. In regard to admission to the Register, the Ampthill-Ferguson bill would establish a system under which the primary requirements of a nursing curriculum would be laid down, and only those admitted to the Register who had conformed therewith and had passed either the Nursing Council's own examination or some other examination which it accepted as an equivalent. The Cleland bill, on the other hand, would impose examinations only on candidates trained at schools which the Nurses' Board did not deem sufficiently large to hold their own examinations; all other nurses it would admit to the Register on the strength of certificates of their having been trained at various approved training schools. Both bills would give specific recognition and representation to mental nurses, and the Cleland bill would treat fever nurses on the same lines. The Ampthill-Ferguson bill, without using the term "fever nurses," would necessarily involve the acceptance of certificates of training from institutions supported by the rates and recommended by the Local Government Board. The fees would be slightly higher under the Ampthill-Ferguson bill. The Cleland bill applies only to Scottish nurses, but would make their title of Registered Nurses legal both in England and Scotland. The Ampthill-Ferguson bill, on the other hand, applies to all four countries—England and Wales, Scotland and Ireland.

A TUBERCULOSIS "PREVENTORIUM."

A FEW months ago a cottage at Lakewood, New Jersey, at one time occupied by Mr. Grover Cleveland, formerly President of the United States, was fitted up as an institution to which was given the name of a tuberculosis "preventorium" for children. We hasten to say that we are in no way responsible for this addition to medical terminology, which we find in the *Boston Medical and Surgical Journal*, from which the following facts are taken. Since July last the cottage has been used for the reception of children of the New York tenements who have become infected with tuberculosis, and the disease is treated in its earliest stages. Ninety-two children, ranging from 4 to 14 years of age, have been sent to the cottage from thirteen clinics or hospitals, and the physicians in charge at Lakewood have reported that all have shown marked improvement. On November 9th a conference was held at the residence of Mr. Henry Phipps, in New York, at which it was decided to make the institution permanent and to enlarge its scope. Mr. Marcus M. Marks, the President, stated that it had been founded to cope with the alarming condition revealed by the discovery of 23,325 cases of tuberculosis among children in New York City in 1908, and Dr. Herman M. Biggs's estimate that there are 40,000 children in the tenements infected with the disease, most of whom could be saved by proper treatment. It was announced that Mr. Nathan Strauss, who made the gift of the Cleveland cottage, had given the greatest part of the stock of the Lakewood Hotel, valued at £100,000, the proceeds to be applied to the running expenses of the "preventorium." Miss Dorothy Whitney, daughter of the late Secretary, William C. Whitney, has given £20,000 for the establishment of a department in practical instruction in carpentering, basket-making, and other branches of industry, and other charitable persons have contributed. It is the aim of the trustees to increase the capacity of the institution to 400 beds. For this purpose they hope to secure an endowment of £200,000, the interest on which will pay 40 per cent. of the running expenses. In addition, £12,000 a year will be needed, and this it is proposed to raise by subscriptions and membership fees. Dr. Alfred F. Hess is in active charge of the medical work, the consulting physicians being Drs. A. Jacobi, H. M. Biggs, and S. S. Goldwater.

VACCINATION IN WORKHOUSES.

THE question of the vaccination of children born in workhouses has been the matter of considerable discussion during the past few months. The National Antivaccination League has addressed a circular to boards of guardians on the subject, and has endeavoured to stir up strife by means of questions on the subject in the House of Commons. There appears to be some misconception as to the duties and powers of workhouse medical officers. The law on the point is explicit and plain. Subsection 5 of Section 1 of the Vaccination Act, 1898, expressly provides for the parents of children born in lying-in hospitals, infirmaries, or similar institutions, the same rights as regards exemption as apply to all other parents. This subsection was inserted when the bill was passing through Committee. It carries out a recommendation of the Royal Commission. The report (Par. 441) states that "in some workhouse infirmaries and lying-in hospitals it has been the practice to vaccinate children within a few days of their birth. Although under favourable conditions vaccination may be successfully carried out at that early age, we think the practice is to be deprecated unless there be at the same time obvious danger of small-pox contagion." The vaccination contract of the medical officer of a workhouse provides that, in the case of every child resident in the workhouse who has reached the age of *two* months without having been vaccinated the medical officer shall offer to vaccinate the child, and if his offer is accepted will thereupon vaccinate the child, unless the state of the health of the child necessitates postponement. There is nothing in the contract which in any way compels an acceptance of the offer, and it was pointed out in a correspondence which passed between the Local Government Board and Mr. Channing, M.P., that it was quite open to the parent to decline the offer, and that there is no intention to force it upon him. It is well known that the parents of children born in workhouses, and the children also, frequently leave the workhouse before the child attains the age of 4 months. For this reason it was thought desirable that the medical officer should offer to vaccinate children in the workhouse at an earlier age than 4 months, the age at which the public vaccinator offers to vaccinate children outside the workhouse; hence the provision in the contract under Art. 207 (5) of the General Consolidated Order for the offer to be made by the workhouse medical officer when the age of 2 months is reached. In the case of orphans or

deserted children, or those of whom the guardians have entire control, there can be no doubt that the guardians can order vaccination or revaccination. Apart altogether from the fact that medical officers should act entirely in accordance with the law, there are several important considerations tending to make it inadvisable to vaccinate children born in workhouses within a very short period from their birth. On November 15th we reported an answer given in the House of Commons by the President of the Local Government Board, in which the view taken by the Board was stated to be that the vaccination of a child in a workhouse before the age of 2 months was to be deprecated, unless there was at the time obvious danger of small-pox contagion, or unless the parent specially requested the operation. The antivaccinators appear to think that a considerable amount of compulsion takes place in workhouses, and that vaccination is extensively practised in these institutions without the consent of parents. They have failed to establish either of these allegations.

THE ROYAL SOCIETY.

THE report of the council presented to the anniversary meeting of the Royal Society on November 30th, in giving an account of the many subjects that have engaged attention during the past year, mentioned that the inquiry into the condition known as glass-workers' cataract, instituted at the request of the Government, had been pursued by the conference appointed by the society, but had been hindered by the refusal of certain glass manufacturers to allow their works to be visited. The investigation of the action of drugs upon trypanosomes had been continued under the direction of a subcommittee, and the inquiry into sleeping sickness in Uganda had been actively pursued by the Royal Society's Commission, under the direction of Colonel Sir David Bruce. Sir Archibald Geikie was re-elected treasurer, and Professor J. Rose Bradford one of the secretaries, and Dr. W. H. Gaskell and Dr. C. J. Martin were among those elected to the council. At the anniversary dinner held on the same evening, the President, in acknowledging the toast of "The Royal Society," proposed by Mr. Butcher, M.P. for the University of Cambridge, said that though the Royal Society was supposed to be a wealthy body, and had, in fact, a considerable sum of money to administer every year, the largest part of its revenue was derived from funds held in trust for certain ends, and not available for the general purposes of the society. The Fellows had not failed to give generous aid, but the growing demands of modern science were so heavy that the free income at the disposal of the society was sometimes barely sufficient, and some parts of the organization were crippled for want of funds. He referred to each recipient of the society's medals, and in mentioning that one of the medals had been assigned to Major Ronald Ross, said that his name was known all over the world for the importance of his researches into the life-history of malarial organisms, and for his success in pointing out the methods by which malaria might be combated. The President concluded by proposing the toasts of "The Medallists," to which Sir James Dewar and Major Ronald Ross responded.

THE APPOINTMENT OF REGISTRAR-GENERAL FOR IRELAND.

THE retirement from office of Sir Robert Matheson, the present Registrar-General for Ireland, took place on December 1st, in accordance with the civil service rule which fixes an age limit. The announcement that the position had been already filled by the Lord Lieutenant of Ireland was received with considerable surprise and not a little wonder by the medical profession in Dublin. The new Registrar-General is Sir William J. Thompson, Physician to the Lord Lieutenant, and senior physician to Jervis Street Hospital, Dublin. Sir William Thompson, beginning life in general practice, has worked himself into a distinguished position in his profession. He has taken a leading part in assisting Lady Aberdeen in her noble endeavour to wipe out tuberculosis in Ireland. He had become a consulting physician whose opinion was valued by many, and it is therefore considered all the more puzzling that he should have accepted the position of Registrar-General for Ireland, for which he has not had any opportunity of showing that he possesses any special fitness. The serious part, however, in connexion with the appointment is that the public services of another member of the medical profession, Dr. Ninian Falkiner, have not been recognized. On the death of the late Dr. T. W. Grimshaw, C.B., in January, 1900, the position which he had occupied as Registrar-General for Ireland was filled by the elevation of the Secretary, Mr. Robert Matheson, B.L., who was Dr. Grimshaw's immediate subordinate, and had received a legal training. At the same time a new appointment was made in connexion with the office—namely, that of Medical Superintendent of Statistics. Dr. Ninian Falkiner was given the position, which he has filled with the greatest credit for close upon ten years. No more industrious or conscientious public servant could be found than Dr. Falkiner. During his term of office he has introduced many useful changes designed to secure greater accuracy in the statistical medical records. It is to be regretted that for any reasons the services of an honourable and distinguished public servant should fail to be recognized by promotion to a position which he can in all fairness claim to have deserved. Furthermore, it is only within the past few months that a solicitor (who had no previous training in the office) was appointed to the post of Secretary to the Registrar-General, so that with a new Registrar-General and a new Secretary the only important official in the office who is familiar with the work is Dr. Ninian Falkiner.

SCOUTING QUINSEY.

THE objects with which the organization of the Boy Scouts has been established—to teach them self-reliance, self-control, and to train them to act with coolness and wisdom in an emergency—are so admirable that it seems churlish to find fault, but it is really a duty to call attention to the fact that the section of Sir Robert Baden-Powell's book on *Scouting for Boys*[1] dealing with first-aid, stands badly in need of revision. We have from time to time in books on popular medicine and surgery come across some extremely odd advice, but the oddest is certainly that which we find in this book under the head of "quinsey." Quinsey is apparently, in the first place, understood in its ordinary sense of tonsillitis, but is then, without any excuse, extended to conditions which can only be due to some acute disorder of the windpipe. We are told that if the swelling of the tonsils becomes so great that the patient cannot breathe, the throat becomes completely blocked up, and that there are then three courses open to the boy scout. One is to "Get a tube of some sort, such as that of a bicycle pump, or a pea-shooter, a pencil case with the end opened, etc., and push it into the throat, so as to keep

[1] London: C. Arthur Pearson, Limited. 1909. 1s.

a passage open for air to get into the lungs." If this advice be extensively carried out we can imagine that laryngologists will in the future have ample opportunity of gaining experience in the extraction of foreign bodies from the larynx or oesophagus, unless indeed the boy scout immediately proceeds to the third alternative, which is to cut a hole in "the neck in the hollow just above the hard breast-bone into the hard windpipe" with a penknife wrapped with rag, so that only the tip is exposed, and then to "push a tube into the hole thus made," in which case we expect that the whole business would end in a coroner's inquest. It is true that Sir Robert Baden-Powell adds that these methods are only a last resource if no doctor could be got, but a boy's imagination works quickly and boy scouts are trained to be prompt. There is other advice about first-aid which might be improved, but no other statements quite so strange as those to which we have referred occur.

THE INTERNATIONAL MEDICAL CONGRESS IN LONDON, 1913.

THE seventeenth International Congress of Medicine is, as has already been announced, to be held in London in 1913. The National Committee for Great Britain and Ireland, which made arrangements for the British members who attended the congress this year in Budapest, was formally dissolved at a meeting held in London last week under the chairmanship of Dr. Pavy, and immediately reconstituted as the General Committee to organize the meeting of the Congress in London. After Professor Osler had moved an instruction to the committee to see that the British Colonies were adequately represented, it was decided that the first meeting of the General Committee should be held in February next, and that Dr. Clive Riviere and Mr. D'Arcy Power, who were honorary secretaries of the National Committee, should act in the same capacity for the General Committee. The Permanent Committee appointed by the Congress at Budapest, consisting of the presidents, secretaries, and some members of the various international committees, of which Dr. Pavy is the president, will have its offices at The Hague. The honorary secretaries of the General Committee for the Congress of 1913 will be glad to receive the names of those who are interested in the Congress as soon as possible. Communications may be addressed to 10A, Chandos Street, Cavendish Square, London, W.

THE new hall and museum of the Royal College of Surgeons of Edinburgh will be opened by the Earl of Rosebery on December 15th; the President and Fellows will give a conversazione on the evening of that day.

WE have to record with deep regret the death, on November 29th, after a long illness, of Mr. R. Marcus Gunn, Senior Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and Ophthalmic Surgeon to the National Hospital for the Paralysed and Epileptic.

WE see it stated in the *Daily News* that Mr. A. J. Ram, K.C., a member of the Royal Commission on Vivisection, has been appointed Chairman of the Commission in the place of the late Viscount Selby. We do not know whether the Commission has finished its work, but it has had plenty of time to do so, and we are sure that every one interested in the matter would be glad to learn that there is a prospect of the publication of the report at a fairly early date.

Medical Notes in Parliament.

The Oaths Act, which became law last week, was considered for the last time in the House of Commons on November 24th, when the Lords' amendments were accepted without comment. These amendments provided that the witness should hold in his uplifted hand the New Testament, or, in the case of a Jew, the Old Testament, and to say or repeat the words of the oath. In the case of a person who is neither a Christian or a Jew the oath can be administered in any way that is now lawful. When this amendment was inserted in the House of Lords it was pointed out that the insertion of the words, "I swear by Almighty God that," etc., were a great improvement in the form of oath. It was suggested that the concluding words might be omitted, but after a discussion it was resolved to retain the words at the end, "So help me God." So passes, it may be hoped, the antiquated and insanitary form of kissing the book.

Vaccination.—Mr. Lupton asked the President of the Local Government Board whether he was aware that a healthy young woman named Rose Sandall, residing with her mother at 28, New Queen Street, Bedminster, Bristol, was constrained by her employers, Messrs. Mardon and Sons, of Bristol, to be vaccinated in February last; was he aware that the vaccination was not successful in the medical sense of the word, but resulted in the formation of proud flesh at the place of insertion, sores in the foot, and general illness and emaciation, disabling her from working; if he was aware that she had died, and that a *post-mortem* examination had revealed symptoms of cancer; and, since it was known that in some cases vaccination produced cancer, whether he would take steps to ensure full inquiry by persons in no way responsible for the production of the vaccine used in this case into the nature and origin of this vaccine. Mr. Burns replied that his attention had not been called to the circumstances referred to in the question. He was, however, now causing inquiry to be made into the matter. Mr. Lupton then asked for an impartial committee to inquire into the nature of the stuff now sent out as lymph, but received no reply.

Vaccination and Variolous Lymph.—Last week Mr. Lupton asked the President of the Local Government Board if he was aware that Dr. Monckton Copeman, Medical Inspector to the Local Government Board, at the meeting of the Public Vaccinators' Association held in Liverpool on October 29th, 1909, declared that the reason why vaccination was a really effective protection against small-pox was because it was really derived from that disease itself; and whether he would take steps to prevent the use of variolous lymph, having regard to Section 32 of the Vaccination Act, 1867, which prohibited the production in any person of the disease of small-pox by inoculation with variolous matter, or by the wilful exposure of that person not only to variolous matter, but to any matter, article, or thing impregnated with variolous matter. Mr. Burns replied that he understood that on the occasion referred to Dr. Monckton Copeman made a statement to the effect mentioned. Most of the lymph used in cases of primary vaccination in this country was supplied from the Government lymph establishment. That lymph was not variolous—that is, it was not obtained directly from human small-pox; it did not produce, nor was it used to produce, small-pox; and, as he had pointed out in reply to previous questions, persons using it did not come within Section 32 of the Vaccination Act, 1867. There was no reason to doubt that the same observations applied to other lymph in use in this country.

Death from Generalized Vaccinia.—Mr. Maddison asked the President of the Local Government Board whether his attention had been called to the death of Mona Stevenson, aged 2 months, of 14, Humphrey Street, Burnley; whether the cause of death was generalized vaccinia; whether an inquest or other inquiry was held, if so, with what result; at what age was the

child vaccinated; whether the operation was performed by the public vaccinator, with what lymph, and whence obtained; and what precautions or regulations, if any, he proposed to adopt or prescribe with a view to prevent similar untoward and fatal results of vaccination. Mr. Burns replied that his attention had not previously been called to this matter, but he was now making inquiry with regard to it.

Territorial Force (Vaccination).—Mr. John Ward asked the Secretary of State for War whether the exemption of the Territorial Force from compulsory vaccination had had any effects detrimental to the health of the men; and, if not, whether he would issue orders to respect the conscience in this matter of recruits to both branches of His Majesty's forces. Mr. Acland replied that no statistics were available at the War Office to enable him to reply to the first part of the question. As regards the second part of the question, there was no intention of waiving the regulations regarding vaccination in the regular forces.

Royal Army Medical Corps.—Lord Balcarres asked whether steps were being taken to ensure that officers of the Royal Army Medical Corps serving in Ireland should this year receive the full leave to which they were entitled by the regulations. Mr. Haldane said that under normal conditions it would now be possible to give every Royal Army Medical Corps officer serving in Ireland throughout the year full leave, provided that he was willing to take it when the exigencies of the Service permitted.

Territorial Force (Medical Officers).—Sir H. Craik asked the Secretary for War whether there was a senior Territorial medical officer in London suitable to take command of No. 1 London General Hospital. Mr. Haldane replied that this General Hospital was formed by the staff of St. Bartholomew's Hospital. The senior physician asked that Colonel Harrison, a distinguished medical officer who had been in the Grenadier Guards, should be appointed administrator, and he was accordingly gazetted on November 2nd.

Indian Medical Service.—Mr. Hazleton asked the Under Secretary for India what was the percentage of Indians amongst the officers of the Indian Medical Service; what was the total cost for the upkeep of this service; what was the charge on the Indian Treasury for recruiting the higher grades of the medical service of India in this country, and sending the successful candidates to India; what was the number of officers who were on leave every year, and the cost of the extra number taken into the service during their absence owing to Indian assistant surgeons not being allowed to take their places; and when he proposed to open the higher grades to qualified and capable Indians. The Master of Elibank replied that the percentage of Indians—that is, pure Asiatics—among the officers of the Indian Medical Service was rather more than five. The total cost of the officers of this service on the active list, including both those in military and in civil employ, was approximately £570,500 a year. The charge for recruiting those officers, both European and Asiatic (both being recruited in England) was about £12,260 a year, which included the pay of the officers while under training in England. The average number on leave might be taken as 123. The vacancies so arising were filled from the establishment, and not by extra appointments. The higher grades were already open to qualified and capable Indians.

Hemel Hempstead Union (Death of Patient).—Mr. Talbot asked the President of the Local Government Board whether his attention had been called to the recent death of a patient in the infirmary of the Hemel Hempstead Union, which formed the subject of an inquiry before the coroner; whether he proposed to take any action with regard to the management of that workhouse, especially as regards the treatment of the sick poor; and whether he could hold out any expectation of the issue of a general order to ensure the appointment of trained nurses in all workhouse infirmaries. Mr. Burns answered that his attention had been called to the case referred to. He deeply regretted the occurrence, and he had fully informed himself with regard to the circumstances connected with it. He was giving consideration to the management of the sick wards of the workhouse in question, and he was in communication with the guardians on the subject. With regard to the last part of the question, he might point out that, under the Orders at present in force, provision was made for the appointment of one or more nurses of experience in every workhouse.

Malta Fever and Goat's Milk.—Mr. Lupton asked the Secretary for War whether sanitary improvements, in the way of drainage and cleansing of the harbour, had been effected in Malta; if a large portion of the garrison had been removed from the low-lying barracks at St. Elmo to new barracks on the hill; if the cases of fever in the garrison had been reduced to a small proportion of their former number; if he would now remove the prohibition of the use of goat's milk by the garrison, it having been conclusively proved by Dr. Walter Hadwen that there was no connexion between goat's milk and fever; and if, considering that the production of goat's milk was the chief farming industry of the island, he would remove a prohibition which was the cause of so much loss to the islanders. Mr. Haldane said that during recent years improvements had been steadily carried out in relation to the drainage of the barbours in Malta. In 1906 a considerable number of the troops were transferred from St. Elmo to the new barracks. The Mediterranean Fever Commission, however, obtained no evidence connecting the condition of the harbours with the prevalence of Mediterranean fever amongst the troops. Since the prohibition of the use of goat's milk in barracks and hospitals Mediterranean fever had practically disappeared from amongst the troops. The evidence given in the reports of the Royal Society's Mediterranean Fever Commission connecting goat's milk and Mediterranean fever was so strong, and the improvement in the health of the troops since the use of goat's milk had been given up was so marked, that no responsible Minister who did not wish to be regarded as weak and incompetent would venture to remove the prohibition of the use of goat's milk by the garrison.

Meat Inspection.—Mr. Bowerman asked the President of the Local Government Board if he could state the standard of inspection of meat adopted by the various municipalities throughout the country; the nature of the qualifications held by inspectors of meat, and the number of carcasses confiscated for disease during the three years ending December 31st, 1908. Mr. Burns answered that the inspectors appointed by sanitary authorities were empowered by the Public Health Acts to seize meat which was diseased, unsound, unwholesome, or unfit for human consumption. There was no general code of instructions in regard to meat inspection, but the Local Government Board had from time to time urged on local authorities the importance of uniform and efficient inspection. The inspectors referred to held various qualifications. A considerable and increasing number of them possessed the certificate granted by the Royal Sanitary Institute after examination in meat inspection, and this subject also formed part of the requirements of the Sanitary Inspectors' Examination Board, which sanitary inspectors in London were required to satisfy. In some of the largest towns meat inspection was undertaken or superintended by officers with veterinary qualifications. He had no information as to the number of carcasses seized by inspectors of the sanitary authorities in the period referred to in the last part of the question.

The House of Commons met again on Wednesday last, and adjourned immediately after questions till Thursday, when the Prime Minister's resolution in answer to the action of the House of Lords in declining to pass the Finance Bill will be debated. It is expected that the proceedings on the resolution will be finished on Thursday night, and that on Friday Parliament will be prorogued till an early date in January.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE question of the provision of medical treatment for London school children was advanced another stage on November 30th, when the London County Council accepted the proposals of the Education Committee reported in the BRITISH MEDICAL JOURNAL, November 6th, p. 1374.

The committee asked the Council (*a*) to approve arrangements with eight hospitals for the treatment of 16,000 children, and (*b*) the acceptance of the offer of the Committee of the Charing Cross Hospital to provide *x*-ray treatment of ringworm for twenty-five children, the Council to contribute £35 in respect of the cost of apparatus. The committee reported, without comment, the receipt of the resolution passed by the British Medical Association at Belfast declaring the proposed arrangements to be unsound in principle and unjust to the medical profession.

The following amendments had been put on the paper:

By Mr. Bray: That the waiting room and other accommodation is to be satisfactory to the Council, and that the hours of treatment such as to be convenient to working-class parents.

By the Rev. Stewart Headlam: That in view of the great distances many thousands of children, especially from South London, will be required to travel to the hospitals, the great loss of time which the poorest parents will suffer in the long waiting in the out-patients' departments, and the difficulty of ensuring adequate treatment in such departments owing to the thousands of other patients awaiting attention, the Council directs the Education Committee to prepare a definite scheme for the establishment of school clinics, so that the children can be treated in their own localities.

At the suggestion of the Chairman the debate took place on the whole question, the amendments being moved subsequently without discussion. The debate lasted for three hours.

Mr. Cyril Jackson, Chairman of the Committee, summarized the history of the proceedings of the Council with regard to the medical treatment of school children,[1] and claimed that it was evident from the report now before the Council that it was possible to deal with all cases needing treatment in existing institutions. ("Hear, hear," and "No, no.") The number of hospitals with whom arrangements were now being completed was twelve (including four institutions whose offers were accepted in July), and he hoped at a later date to submit the offers of other important hospitals. Treatment was to be given at two centres in Hampstead. The system of using the hospitals was capable of almost indefinite expansion—for instance, Moorfields Eye Hospital, where 3,000 cases were arranged for, had offered to take 12,000 cases. It was suggested that in certain parts of London there might be difficulties; it was true there were more hospitals in North than in South London, and in one or two places—notably Woolwich and Norwood—the committee had not been quite successful. There, however, they were communicating with the local practitioners, and hoped soon to submit arrangements with them. The Council owed a great deal to the education officer (Mr. Blair) for his work in carrying on the negotiations with hospitals. The treaties with the various institutions had not been easy, owing to much misunderstanding which had crept into the minds of the medical profession as to what the Council intended. Now that the proposals were becoming understood more and more hospitals were coming forward. Certain hospitals had applied and had been refused by the committee, because there were not sufficient children to send to them. The assistance of those hospitals might be required later, but he did not think so. In conclusion Mr. Jackson declared his confidence that the treatment of London school children would be adequately dealt with in the way suggested. He was glad that it was so, for he was certain that the best plan was to place the children under the magnificent existing hospitals with their skilled staffs. It would be impossible to obtain anything like the same quality of men in smaller institutions.

Mr. Bray led the opposition to the committee's proposals. He regretted a serious omission in the scheme to which the chairman had not referred—the fact that dental cases were not to be treated. Only last week the Education Committee decided to postpone for a further six months the consideration of this part of medical treatment. The army and navy authorities had urged them to do something for the children's teeth so that they could get recruits, and medical men told them many diseases originated from septic teeth. The Council could set up twelve clinics in convenient situations and treat every year 131,000 children for £20,000, or establish twenty-four clinics for £26,000. They had it on the authority of the Council's medical officer—Dr. Kerr—that the cost would be 4s. a head.

Mr. Jackson: That is not correct.

Mr. Bray challenged the Chairman of the Committee to circulate the report of the medical officer to which he referred. The Council was going to pay the hospitals on an average 5s. a head, but he doubted if it would get value for the extra money. The agreements to be entered into with the hospitals provided that the hours of attendance must be convenient to the hospital; the assistants were to be appointed by the hospitals without consulting the Council, which would pay; the Council would have no representation on the hospital boards, and bound itself not to interfere with the work of the institutions. Had the out-patient departments of the great hospitals been famous for their efficiency? Out-patients in hospitals were treated in a way which would not be tolerated if the service was on other than a voluntary basis, and the children of London were to be handed over to them. Efficient treatment could not result. It might be said that the scheme would effect a saving as compared with clinics, because some of the hospitals would treat free. But was it likely that they would continue to do so when they could get help from the rates with a promise that the Council would not interfere in any way? Already the London Hospital, which originally offered free treatment, had asked for grants. The Education Committee calculated that many children would go to the hospitals without being sent by the Council. If clinics were established this might occur and result in a saving to the rates; but did anybody imagine that any hospital would allow two classes of children to attend—one class for whom they received 5s. a head and the other for whom they received nothing? Under the proposed scheme the Council would have to pay for the maximum number of cases and pay 25 per cent. more than the amount for which its own adviser said it could do the work itself. Further, the hospitals were not conveniently situated, and in some districts it would cost 1s. 6d. for the parent to take a child three times to the nearest hospital. In necessitous cases the Council would have to pay this money, and in all cases where the cost of treatment was sought to be recovered, allowance would have to be made as between people who lived at the doors of a hospital and those who lived in remote suburbs.

Mr. Jay declined to take seriously the figures quoted by Mr. Bray, and asserted that the Council had no reliable estimate of the cost of clinics. In his view there was little difference in the cost of the two methods of treatment. Under the proposed arrangements the hospitals would know exactly how many children to expect, and would make preparation accordingly. No doubt the cost to the parents of taking their children to the hospitals would be considered when the cost was sought to be recovered, and in some cases the Council would pay travelling expenses.

Mr. Jephson welcomed the proposals, though he did not think they were sufficient. He believed a system

[1] BRITISH MEDICAL JOURNAL, December 26th, 1908, p. 1869; April 3rd, 1909, p. 897; April 10th, p. 914; and July 17th, p. 155.

involving the use partly of hospitals and partly of clinics would be required, and that neither alone would solve the problem. By omitting treatment of teeth the Council had failed at present to deal with the most important part of medical treatment.

Mr. Cohen paid a tribute to the capacity of the management of the London hospitals, and expressed the opinion that clinics would be more expensive than had been suggested.

The Rev. Stewart Headlam, turning aside from the question of mere financial expediency, made a speech which obviously surprised the Council, in the course of which he said he wished he could kindle the Christian imagination of Mr. Buxton (the Chairman of the Estimate Committee) and get him to go back to the Gospels and remember that the work of the Gospels was against disease, and for health. The Divine orders were that we were to do the same work as Christ did. If the Finance Committee would only set themselves to imagine what would be the result to London in one generation if the children's ailments were attended to they would be eager and enthusiastic to spend whatever money was necessary to make the rising generation healthy. To this great Council had been entrusted the duty of helping to this extent to bring about the kingdom of heaven upon earth. Mr. Headlam reminded the Council that, in dealing with medical treatment on the present lines, it was disregarding the report of its own Special Committee, consisting of medical men and other experts and the Council's representatives. It was a committee whose constitution was entirely in the hands of the majority on the Council, and yet it reported in favour of clinics. So eminent an authority as Sir Victor Horsley had vigorously maintained clinics against hospitals; the British Medical Association had done the same, and so had the *Times* newspaper. Even the Council admitted that clinics would have to be established where the hospitals were not available.

The Rev. Dr. Scott Lidgett was somewhat sceptical as to the suggestion that the negotiations with the hospitals had been delicate and difficult. The hospitals had got just what they wanted, and the Council on its side had made no conditions. He joined with Mr. Cohen in admiration of the work of the hospitals and in his desire to secure co-operation between voluntary and public bodies. Indeed, he believed that as time went on they would be brought into closer relations. But there should be give and take on both sides. He feared that the Council was entering into unsuitable arrangements which, as more and more disease was brought to light, would break down utterly. Many of the hospitals stipulated that they would only deal with a wholly inadequate number of cases. Whole districts were left untouched by this scheme, and considerable hardship would be imposed on parents who would have to take their children long distances for treatment. He did not want to speak lightly of the out-patient departments of the hospitals, but in them young and inexperienced men would see the children. The Council could make its own arrangements at certainly no greater cost than under the proposed scheme, and call to its service higher medical skill than the children would receive in the hospitals. (Cries of "Oh!") Did members suppose that Sir Victor Horsley, Sir Thomas Barlow, and other distinguished heads of the profession would be at the disposal of the children? While general instruction was given by these authorities, the bulk of the work would be carried out by those who had the minimum qualification for operating on their fellow creatures.

Mr. Ernest Gray declared that any party on the Council which declared for clinics and the treatment of all the children's ailments would suffer defeat at the polls. Clinics would have to be staffed by young practitioners at low salaries to render them as cheap as the hospitals.

Mr. Jackson, replying on the debate, urged that the hospitals might be trusted to make adequate arrangements for treatment, and quoted in support a letter from the Royal London Ophthalmic Hospital, which stated that a new refraction department was being established in which the children would be treated separately from the other patients, and that arrangements were being made to render the children's visits as short as possible. He also claimed that the provision already submitted to the Council represented more than the twelve clinics Mr. Headlam thought to be necessary, whilst Mr. Bray's suggestion of two dozen clinics could easily be surpassed. As to the cost of clinics, it was difficult to obtain information, but the education officer, who had made inquiries at Cambridge, was told there that the cost was 7s. 2d. per head, and that the proportion of children suffering from decayed teeth was 76 per cent. The committee was inquiring into the subject of the treatment of teeth, but felt that at present the Council should limit itself to dealing with ailments more directly the result of school work.

On a division, Mr. Bray's amendment was rejected by 44 votes to 20, and Mr. Headlam's by 53 votes to 34. Dr. Beaton moved a further amendment instructing the committee to report forthwith as to providing dental treatment, but this was also lost, and the recommendations of the committee were then approved.

Municipal Epileptic Colony.

The London County Council on November 30th considered a report by the Asylums Committee on the administration of the epileptic colony at Epsom and a proposal to add to the buildings at an estimated cost of £12,760. The committee stated that the colony, which was opened in 1903, at present accommodated 273 male and 60 female patients, who were all epileptics but also certified lunatics, the colony being a county asylum, established under the Lunacy Act of 1890. All the colonists, however, were selected with a view to their physical fitness to share in the labour (chiefly agricultural) carried on as part of the treatment. It was also considered whether the applicant for admission was capable of being trusted with a measure of personal liberty within the colony grounds to an extent not possible in an ordinary asylum. This liberty was a valued privilege at the colony. Originally the patients were always selected from those who had been admitted in the first instance to some other asylum, but recently patients stated to be epileptic in the application for admission had been sent directly to the colony, and had been kept there for a time to ascertain whether they were fit for the special conditions of colony life. This practice, however, had only been possible to a limited extent, because of the lack of proper reception accommodation at the colony. If the main features of the institution as a working colony were to be retained, the committee was satisfied that provision must now be made for the reception of all acute recent male epileptic patients, from amongst whom suitable workers could be selected for retention, unsuitable cases being drafted elsewhere. For this purpose a suitable admission villa must be built to accommodate 50 patients, and this extension on the male side would necessitate an increase in the number of chronic female epileptic workers (at present only 60), in order that the increased domestic and laundry work might be coped with. Fifteen additional attendants would also be required, involving an extension of the staff block.

The committee recommended the provision of a central bathroom, on the ground that it would allow the head attendant or other responsible senior officer always to be present when bathing was going on. This was a matter of much importance, as by this means bruises would be observed, and a check placed on any possible ill-treatment of patients. At present the supervision was difficult because bathing took place simultaneously at each villa. It was proposed to instal spray baths instead of slipper baths in order to bring about economy in the cost of coal. The total cost, which worked out at £151 a bed for 188 additional patients, has been accepted by the Finance Committee as reasonable.

The recommendations of the Committee were approved.

BIRMINGHAM.

DINNER OF THE MEDICAL SCHOOL.

THE annual dinner of the Medical School of the University of Birmingham was held at the Grand Hotel on November 25th. The president was Professor J. T. J. Morrison, and the company numbered nearly one hundred. After the toast of "The King" had been duly honoured that of "The Medical School" was proposed by Mr. Charters J. Symonds, senior surgeon to Guy's Hospital, and was responded to by Professor Gilbert Barling, Dean of the Medical Faculty, and by Professor Jordan Lloyd, Professor of Surgery. Professor Barling spoke about the changes which had occurred in the staff of the medical school, during the past year, lamenting the death by accident of Professor Arthur Foxwell, and the loss of Professor Arthur Robinson and Dr. Miller by their appointment to posts in other universities. The toast of "The Guests" was proposed by Dr. Kauffmann, senior physician to the Queen's Hospital, and responded to by Sir James Barr and Professor Peter Thompson, the newly appointed Professor of Anatomy at the University. Between the toasts pianoforte solos were given by Dr. B. A. Lloyd, and songs by Dr. Walsh and Dr. Aitken. The dinner was one of the most enjoyable that has been held. The honorary secretaries, Messrs. S. W. Assinder and C. E. Sult, are to be congratulated upon the excellent results of their efforts, which entailed the expenditure of a considerable amount of time and energy.

ROYAL ARMY MEDICAL CORPS, TERRITORIAL FORCE.

The Birmingham Units of the Royal Army Medical Corps, Territorial Force, under the command of Colonel W. P. Whitcombe, A.M.O., South Midland Division, held a church parade at the Cathedral Church, Birmingham, on November 28th. Over 300 men attended, and fell in at the General Hospital, where they were inspected by Brigadier-General Raitt, C.B., commanding the South Midland Division. The Right Hon. the Lord Mayor of Birmingham attended the service. The units present were 1st South Midland Mounted Field Ambulance, commanded by Major W. H. Stephen, M.B.; 1st South Midland Field Ambulance, commanded by Major C. H. Howkins; 2nd South Midland Field Ambulance, commanded by Lieutenant-Colonel C. T. Griffiths; and 1st Southern General Hospital, commanded by Major J. E. H. Sawyer, M.D. After the service the units marched to the head quarters of the 5th and 6th Battalions of the Royal Warwickshire Regiment, where the parade was dismissed.

WEST YORKSHIRE.

THE SCHOOL MEDICAL OFFICER AS CERTIFYING FACTORY SURGEON.

A CLAUSE in a bill promoted by the Bradford Corporation last year seeking to legalize the appointment of the school medical officer as a certifying factory surgeon was strongly objected to by the medical profession in the district. The bill was defeated at a town meeting, and was, therefore, not proceeded with. This year it was revived with the same clause. The Executive Committee of the Bradford Division of the British Medical Association forwarded a protest against the clause to the City Council, and, after a somewhat acrimonious discussion at a meeting held on November 15th, it was withdrawn, as it had not received the necessary number of votes. It is satisfactory that this project has been nipped in the bud. To any one who knows how laudably the certifying surgeons have carried out their duties—often under difficult circumstances—the contention raised in the City Council that the medical examination was of the most cursory description, and frequently a "bogus" examination, must seem manifestly absurd.

BARBERS AND TINEA SYCOSIS.

An interesting case in regard to liability for the contraction of sycosis was raised in the Huddersfield County Court on November 19th. The plaintiff's case was that on Good Friday he was shaved by the defendant, and on the following day a rash appeared on his right cheek. He received medical attendance for a long period, and the condition was diagnosed as barber's rash. His contention was that the utensils used by the defendant, or the towel with which his face was dried, were the sources from which his infection proceeded. The medical evidence was conflicting, two doctors maintaining that the condition was tinea sycosis, and three others that it was a simple sycosis not due to infection by the tinea. The judge held that it was not proved that the plaintiff had contracted the disease at the defendant's shop, for whom he consequently gave judgement with costs.

THE DIMINISHING BIRTH-RATE.

At a recent meeting of the Ripon Diocesan Conference, the Bishop of Ripon dealt again with the diminishing birth-rate. It was, he said, the stronger, the sturdier, the better men who refused to have families. The dwindling population of England meant that we would become less and less a Power of first rank in the world. Those who were increasing the most rapidly were not those who were profitable as citizens. The unfit and the diseased were increasing rapidly, while the best classes were not increasing. If a man, from physical or moral deficiency, was not likely to be a useful father of a family, it was, he said, far better that he should not be so. Most medical men will agree that the feeding, clothing, and medical treatment of children physically unfit, although of great advantage to the individuals, only perpetuates the evil, and some will go so far as to maintain that as the State is taking over the responsibility for these physical weaklings, a time is coming when the natural corollary to this humanitarian treatment will have to be seriously considered—ante-nuptial medical examination. If the infant from birth is to be looked after by the State, it naturally follows that the State, it is argued, is responsible that its conception should take place under the most favourable circumstances, and that, though the weaklings existing must be looked after, if they are reared by the State to maturity it should not allow them to marry unless their physical condition is such as to render it likely that their progeny will have at least an average hope of a healthy and useful life.

MANCHESTER AND DISTRICT.

DISTRICT NURSES AND MEDICAL MEN.

IN an address on district nursing before the Manchester Fabian Society, Dr. F. S. Fletcher, Honorary Medical Officer to the Bradford District Nurses' Home, Manchester, said that there were about sixty nurses connected with the various nursing homes in the Manchester district, and that ten of these were attached to the Bradford home. The nurses were required to undergo three years' training after the age of 23; in order to obtain the Queen Alexandra medal a further six months' training was needed in a recognized home, during which time six reports as to health and character were made. At the end of that time they had to sit for an examination, and, if successful, were required to sign a contract for a further three years' nursing. Any doctor who thought his patient could not afford to pay for a nurse was at liberty to apply to the nearest home, and a nurse was sent at once free of charge. Dr. Fletcher showed that the nurses relieved the doctor of much of the rougher work, and then made the surprising statement that he had estimated that the nurses reduced the number of visits the doctor would otherwise have to make from twenty to about five, which meant a great financial saving to the patients. It is not easy to see how such an estimate can be made, even approximately, and Dr. Fletcher can hardly have perceived the full import of his remark. If the nurse is not altogether as good as the doctor, then the doctor is open to the charge of substituting inferior services for his own, in order to save himself trouble. While if the nurse is as good as

the doctor for fifteen out of twenty visits, then boards of guardians and the public generally will very soon grasp at the idea. In the case of district medical officers the guardians will be apt to ask, Why should they pay three doctors if one doctor and one or two nurses are quite as good; or why should they pay a proper salary to a doctor for the best attention he can give, if he pushes off some of the work on to a nurse? In the case of private practitioners the suggestion will seriously aggravate the trouble that is occurring in some parts of the country, happily not in connexion with the Manchester and Salford Sick Poor Nurses' Association. Cases are not unknown where nursing associations are sending out nurses to patients on whom no medical man is in attendance, on the plea that the nurses can quite well manage simple cases of illness, giving simple remedies and only sending for a doctor when required, which often means when there is fear that a death certificate may be required. Of course, Dr. Fletcher would not sanction such proceedings, but his suggestion, which has had wide publicity in the press, that the district nurses "reduced the number of visits a doctor would otherwise have to pay from twenty to about five," has been interpreted as meaning, what probably was never intended, that a doctor could quite well substitute a nurse for himself in three out of every four visits.

THE HOSPITAL FOR INCURABLES.

The report presented to the annual meeting of the Hospital for Incurables, over which the Lord Mayor of Manchester presided, stated that there were 120 patients in the homes at present—71 men and women at the Mauldeth Home and 49 women at Walmersley, near Bury. In addition there were 12 pensioners, and 2 elected candidates were receiving grants until there was room for them in the home. At the present time 20 patients had been found on thorough investigation to be suitable for admission, but from want of accommodation only 9 were to be received. The annual income from all sources amounted to £5,892 and the expenditure had been £6,702, showing a deficiency of over £900, the annual subscriptions having been lower during the last year than for any time during the past twenty-six years.

LANCASHIRE.

THE ROCHDALE MILK SUPPLY.

ONE of the first questions to engage the attention of Dr. A. G. Anderson after his appointment as medical officer of health for the county borough of Rochdale appears to have been the conditions under which the milk trade of the town is conducted. As the result of investigations which he has made he has recently presented to the Health Committee a very exhaustive report, in which he deals at some length with the local circumstances, and also touches upon wider and more general aspects, such as the relation which a milk supply bears to health and disease, the significance of dirt in milk, and the nature and source of bacteria which are to be found in it; while a short account is given of the powers possessed by sanitary authorities with respect to the control of milk supplies in this country.

It is a matter of some surprise to find that in a town of the industrial character of Rochdale, with a population approaching 100,000, and covering an area of only a little over 4,000 acres, there should be as many as 75 dairy farms containing over 1,200 cows. Very elaborate details are given in the report of each of the 137 cowsheds on these farms, and 30 are classified as good, 39 as fair, and 68 as bad. The conditions of those described as bad include lack of means for ventilation and for lighting, door of soft bricks with no channel for draining, overcrowding, no water supply near, a dung pit almost adjoining the shed, and the building constructed entirely of wood with the inside walls roughened.

Among the suggestions made by Dr. Anderson is the establishment by the Corporation of a "model" dairy farm in connexion with a milk depôt for the sale of milk specially prepared for infants. He considers that such a farm would not only supply children with pure milk, but it would educate public opinion, and, more important still, it would be "an inspiration and stimulus to many farmers and dairymen, who may care to learn the science of their business; while, as a corollary, it would follow that those who will not learn must gradually succumb for lack of customers."

WALES.

THE PRESIDENT OF THE SOUTH WALES MINERS' FEDERATION ON THE BRITISH MEDICAL ASSOCIATION.

THOSE members of the British Medical Association, and of the profession outside the Association, who are in the habit of bewailing or denouncing, according to their temperament, the ineffectiveness of the Association for the maintenance of the interests of the profession may perhaps take some comfort from the following report, appearing in the *Western Mail* (Cardiff) of November 30th, of proceedings at a district meeting of the South Wales Miners' Federation:

The doctors' question was again under consideration for some time, a resolution being moved that, "In consequence of the unsatisfactory state of the present doctors' system, we desire the district to take steps with the object of carrying into effect the result of the ballot that was taken some time ago; failing this course, that the matter be raised and decided upon when the next general agreement is made." It was explained that in some places an agreement had been come to between the doctor and the workmen, whereunder the former, in cases of dispute, would be subject to six, or even three, months' notice.

Mr. W. Abraham remarked that the Medical Association was was "one of the most powerful organizations in the land, and one of the most autocratic in existence anywhere," and he was afraid that the Legislature would have to intervene before the question could be effectively dealt with. In practice the Medical Association indeed were "almighty," and seemed to have every part of the country in its own hands. He agreed with the suggestion that the matter should be dealt with in a general way in the new agreement, and that an understanding should be come to as between the Mining Association and the Miners' Federation, so that the employers and the workmen might be brought into agreement in the matter. He was afraid that no finality could soon be effected, though an arrangement might be arrived at whereby the workmen could secure the co-operation of the employers.

The resolution was ultimately carried.

The receipts for the day totalled £1,673 4s. 3d.

The suggestion, in the first part of this report, of a reorganization of the system of employment of colliery surgeons in the district in question will no doubt receive the due consideration of the North Glamorgan Division and South Wales Branch and of the profession generally in that district.

We are more immediately concerned with the speech reported to have been made by Mr. Abraham, M.P., as a testimony to the value of the work of the Association for the medical profession, and as evidence of the peculiar attitude of some trade union leaders towards medical organization. It must be gratifying to the South Wales Branch and to the Central Council and the Medico-Political Committee of the Association that their combined efforts during the past five or six years with reference to colliery disputes in the South Wales area have created in the mind of so shrewd an observer as Mabon such a lively impression of the efficiency of the Association for protecting the profession in such matters. Concurrently we must express amazement that, apparently, it has not crossed the mind of this veteran trade-union leader that the conditions of employment of doctors would afford suitable matter for direct negotiations with the British Medical Association. He thinks of conference between the Mining Association and the Miners' Federation; he thinks of legislation; he thinks of anything except conference with the representative Association of the medical profession.

We can, perhaps, faintly imagine what view the Miners' Federation would take of any attempt by coal-owners and landed proprietors in South Wales or elsewhere to settle any question affecting the employment of miners by negotiations between themselves, and by application to Parliament, without any attempt to consult the Miners' Federation. Could he not realize that this would be a parallel instance to his proposal that questions of employment of colliery surgeons should be settled by negotiations between their

employers, whether miners or coal owners, and application to Parliament without any attempt to negotiate with the British Medical Association?

While glad to accept, so far as modesty will permit, the tribute of Mr. Abraham to the power of the Association, we take leave to deprecate his reference to its "autocracy." Such an epithet is entirely out of place in reference to a body which has always shown itself so ready for amicable negotiations, as a means of adjustment of disputes, as the British Medical Association. If the miners in South Wales had shown less disposition to hold the Association at arm's length they might not suffer from such misapprehensions and sense of difficulty as are exhibited in the speech before us.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE TUBERCULOSIS PREVENTION ACT.

A MEMORANDUM, issued by the Local Government Board of Ireland, on the objects of the Tuberculosis Prevention (Ireland) Act, 1908* is a very lucid and useful explanation of the intentions of the framers of the Act, and the means by which these intentions are to be attained.

It is evident that whilst seeking to safeguard the community against risks caused by ignorance on the part of those affected with consumption, the utmost consideration has been given to the personal interests of the unfortunate sufferers. Though it is held that notification of all cases of the disease is desirable and necessary as a preliminary to any definite prophylactic action by a sanitary authority, the Act only requires that cases of "open" tuberculosis, that is, cases in which it can be demonstrated that infective matter is being given off by the affected individual, shall be subject to notification. Even such cases need not be notified unless the individual is housed or working under conditions which are dangerous to others. The conditions of danger are thus defined—that the person suffering (1) habitually sleeps or works in the same room as any other person not so suffering; or (2) is employed or engaged in handling, preparing, or distributing milk, meat, or any other article of human food intended for sale to the public. Further, even when these conditions are present, the physician in attendance may, when he desires to take the full responsibility of seeing that precautionary measures are carried out, request the medical officer of health not to intervene or direct an inspection by the officers of the sanitary authority. These provisos have been subjected to some criticism, and the memorandum explains that it is hoped by these means to spare patients any unnecessary intrusion. It is also directed that in all cases care must be taken to safeguard the sufferers from unnecessary publicity, and secrecy is to be enjoined on all officers who may have custody of the forms of notification or knowledge of their contents. The spirit of the memorandum explaining how the Act is to be carried out is that notification is to be made the means of aiding the sufferer, and those who live with him, by advice and instruction so to live that he may give himself the best chance of recovery, and those who associate with him the greatest protection from contracting the disease. This spirit is evidenced in the directions contained in the memorandum explaining its objects. We could wish, however, that such a necessary, and at the same time considerate, Act could have been made obligatory instead of permissive, since there is always the possibility that a sanitary authority of a district where such an Act is most required may fail to seek permission to put it into force. Good as the Act is, its success must depend largely upon the way in which its provisions are carried out, and it is much to be hoped that all who have to carry out the Act will carefully read this memorandum and imbibe the spirit which has prompted its wording.

* London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. Price 2d.

UNIVERSITY COLLEGE, CORK.

A correspondent writes: It is most interesting to record that the number of entries for this session at University College, Cork, are 200 per cent. greater than the average for the past fifteen years, and the numbers are likely to increase still more in the course of the next few years. This influx has taken place mainly into the Arts side of the college; the medical entry, always a most successful school in Cork, maintains its numbers as usual. The engineering school took first place in Ireland this past year, so that the future outlook of the old Queen's College, Cork, is a distinctly bright one. At present the Academic Council is busy rearranging the courses of studies for the different faculties, which have to be submitted to the Senate of the National University. As this latter body is composed of an overwhelming majority of Dublin representatives, it is necessary that the different faculties should be on the watch that their decisions as to the arrangements of the courses for Cork are not upset; consequently many pilgrimages have to be made to Dublin for the present, and altogether the President and the professors are having an extremely busy time. The one depressing feature of the Cork college is the totally inadequate sums granted for building purposes. £14,000 is all that is allotted for that purpose, almost the whole of which will be necessary for the new chemical laboratory. Belfast got £60,000 for building purposes alone, and only a few years ago Government presented Belfast with a new chemical laboratory. It is most essential that Belfast should get £60,000, as no doubt every penny of it was needed, but Cork could have utilized a like amount, and feels crippled with its small grant. Indeed, so much has it felt the inadequacy of the building grant, that the City University Committee, as well as the governing body of the college, passed resolutions requesting the Irish Parliamentary Party to bring before Parliament the necessity for increasing the amount. Mr. Birrell, however, at present refuses to listen to any further increase for either Cork or Galway, the latter centre being even still more meagrely dealt with.

IRISH ASSOCIATION OF MEDICAL WOMEN.

At the recent annual meeting of the Irish Association of Registered Medical Women, Dr. Katherine Maguire, President, in the chair, it was decided to enlarge the scope of the operations of the society by establishing an information bureau.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

QUINCENTENARY OF ST. ANDREWS UNIVERSITY.

THE first meeting of the General Committee charged with the arrangements for a fitting celebration of the five hundredth anniversary of St. Andrews University was held on November 27th, when officials and subcommittees were appointed. It was resolved that the President should be the Chancellor, Lord Balfour of Burleigh; that there should be as Vice-Presidents the Vice-Chancellor, Sir James Donaldson; the Lord Rector, Lord Avebury; the former Lord Rectors—the Right Hon. A. J. Balfour, Lord Reay, the Right Hon. James Stuart, M.P., and Mr. Andrew Carnegie of Skibo, as well as a large number of other gentlemen.

The meeting then took into consideration the date of the celebration, and, on the motion of Professor Herkless, it was agreed that it should take place in September, 1911, in view of the fact that Bishop Wardlaw had recognized the existence of a University of St. Andrews in 1411.

The question of a permanent memorial of the celebration was then considered. Mr. Gibson, President S.R.C., expressed the view that this should take the form of a new Students' Union. On the motion of the Chairman, Vice-Chancellor Principal Sir James Donaldson, it was resolved to refer this, and all other proposals on the point, to the Conveners' Committee.

Special Correspondence.

PARIS.

M. Metchnikoff on Infantile Diarrhœa.—The Points of Election of Tetanus Toxin.—A Woman Externe.—Death of Dr. Jean Binot, of the Pasteur Institute.

At the last meeting of the Académie de Médecine M. Metchnikoff related the nature and results of his researches on infantile diarrhœa, which he was led to study in the course of his researches on the part played by intestinal microbes in premature old age. During the first ten months of the present year there had died in Paris from diarrhœa and enteritis no less than 1,210 infants under 1 year, 229 being breast-fed; the total was lower than the average, as the summer was cool. Infantile diarrhœa had been variously ascribed to the *coli* bacillus, streptococci, *Bacillus pyocyaneus*, *proteus*, and others, and many investigators had declared that the majority of cases were not of bacterial origin at all, but were due to food intoxications, or even to sunstroke. M. Metchnikoff had hoped to make experiments on young monkeys at the breast, but had not yet been able to obtain any; the best results he had obtained were with quite young chimpanzees.

1. The smallest chimpanzee, weight 3 kilog., fed on bananas, and in good health, swallowed a small quantity of the green stools of a girl, aged 6 months, suffering from acute gastro-enteritis. The following day the chimpanzee began to suffer from a very watery diarrhœa which lasted nearly four weeks: the stools were of the same character as in the child, and showed abundant polynuclear leucocytes. Both the child and the animal recovered.

2. A second young chimpanzee, weight 4 kilog. 800 grams, swallowed a small quantity of faecal matter of the first chimpanzee. On the following day diarrhœa appeared, which lasted for ten days.

3. Two other older chimpanzees, one smaller than the other, were given a small quantity of faecal matter from the same infant. Next day the smaller chimpanzee developed diarrhœa, which lasted eight days. The fourth chimpanzee remained normal for ten days, and then had diarrhœa which only lasted for one day.

The three first chimpanzees experimented on were undoubtedly affected by the diarrhœa of the infant, and these experiments proved the infectious nature of infantile diarrhœa. The food could not be accused, and the experiments, being performed in September last, when the temperature was moderate, the summer heat could not be considered as a likely cause. M. Metchnikoff was struck by the constant and abundant presence of *Bacillus proteus* in the stools of infants suffering from diarrhœa. It was present in 36 out of 40 children examined. He then experimented with rabbits at the breast and two young chimpanzees, giving them pure cultures of *B. proteus* isolated from the stools of children and of one of the chimpanzees mentioned previously. The little rabbits and both chimpanzees were very sensitive to the infection, which took the form of a dry cholera, and was fatal, *B. proteus* being found in the stools and in the blood from the heart. He then tried to discover how children became infected with this microbe; *B. proteus* was rarely found in cow's milk, only once in ten samples bought in different Paris creameries, and, moreover, diarrhœa occurred in a number of breast-fed infants. The cause was, therefore, not in the cow's milk; the infection was communicated by the persons who cared for the infants. M. Metchnikoff found the *B. proteus* frequently in the stools of healthy adults during August, September, and October, although the stools of the same persons had been previously examined during the cold weather with negative results. *B. proteus* was found in large quantities in the faecal matter of many animals—cow, horse, dog, and cat—on the surface of meat, and on the outside of cheeses—Camembert, Brie, and Pont l'Evêque; but especially on vegetable foods, especially on salads, radishes, and on grapes. M. Metchnikoff considered that during the hot weather flies transported the microbes from the dejecta of animals on to the food they prefer, especially cheese and grapes, which, being consumed without disinfection, introduced the microbes in quantity into the intestines of persons who, being in constant contact with the infants, contaminated them. To prevent infection of infants, the hands and breast of the parent should be well washed with soap, and adults should dip their grapes and vegetables for a few seconds in boiling water and pass a flame over the cheese, as *B. proteus* was easily destroyed since it did not form spores. The cleaning of the streets and destruction of flies would also be valuable prophylactic measures.

At a recent meeting of the Société Médicale des Hôpitaux MM. Jean Troisier and Georges Roux communicated their experimental research on the points of election of the tetanus toxin, using the method employed by MM. Guillain and Laroche for the diphtheria toxin, as described in the BRITISH MEDICAL JOURNAL of November 6th, 1909, p. 1379. At the *post-mortem* examination of a child who died of tetanus they removed various fragments of the nervous system, which were diluted in physiological serum before being injected into guinea-pigs; the injections were made either beneath the dura mater or in the leg. Injection of the emulsion made with a fragment of the floor of the fourth ventricle comprising the masticator nuclei was followed by a typical experimental tetanus, an observation which explained the predominance of contracture in this disease in the sphere of the trigeminal. Inoculations made with fragments of the white bundles from the bulb, of spinal marrow and different nerves, gave no results.

At the recent competitive examination for the post of externe in the Paris hospitals the first place was taken by Mdlle. Romme. This is the first time this honour has been won by a woman medical student. Among the 311 successful candidates 22 were women.

Old students who have followed the courses of bacteriology at the Pasteur Institute will hear with regret of the death after a short illness of Dr. Jean Binot, who was head of the pathological anatomy department, and who was responsible for keeping up the strains of all the microbes, of which the collection at the institute is one of the most complete in existence. The funeral took place on Sunday, November 28th, at the church of Saint-Sulpice.

Correspondence.

AMBULANCE LECTURES AND THE VOLUNTARY AID SCHEME.

SIR,—I have recently received a request to give two courses of ambulance lectures (five lectures in each course), one for men and one for women, in connexion with a scheme originated at the War Office to create voluntary aid detachments in association with the county Territorial Force. I am at the same time informed that many medical men are giving their services free for these lectures—presumably on patriotic grounds—and it is evident I am expected to do likewise.

I strongly object to do so. It has always been customary to pay a guinea a lecture to medical men when giving courses in connexion with the St. John Ambulance Association. It appears, then, we are expected to present the War Office with services the usual market value of which is represented by the round sum of £10 10s. Non-medical supporters of the scheme are asked to subscribe £1 1s. a year, or, if they prefer it, to guarantee £5 in the event of an invasion by a foreign Power. Needless to say, the patriotic layman chooses the latter alternative. Patriotism is to be commended, but surely there should be some sense of proportion exercised in connexion with it. Why should the hard-working medical practitioner be expected to give £10 10s. while the wealthy merchant or country squire is asked for a guarantee of £5?

I think it is most unfortunate that any of the profession, under a mistaken sense of duty, should have committed themselves to a course of action which is likely to have injurious effects in the future. They are creating a very bad precedent. The more we give the more we shall be expected to give. We are imposed upon by friendly societies, boards of guardians, county councils, insurance companies, and now we may add the War Office to the list; and we shall continue to suffer, and deserve to suffer, at their hands until we combine together and insist on proper remuneration for our services.

Some definite scale of fees ought to be laid down by the General Medical Council for services rendered to any public body, friendly society, or insurance company, and any underselling on the part of the profession ought

to be considered unprofessional conduct and penalized accordingly.

All of us have plenty of opportunities of exercising a charitable spirit in our dealings with the poor. No profession does as much work for no pay as ours. It seems quite unnecessary and prejudicial to our interests to extend this charity to Government departments.—I am, etc.,

Stowmarket, Nov. 25th. S. HILLIER.

SIR,—May I be permitted to say a word in reply to the letter under the above heading signed by the Vice-Chairman of the Winchester Division of the British Medical Association, which appeared (full of very mixed metaphors) in the JOURNAL of November 27th (p. 1581). His complaints appear to be that he has been asked to assist in the British Red Cross movement, and that the military authorities seek voluntary aid from the civil members of the medical profession.

He suggests that no "civil medical gentleman" should give gratuitous medical service to the State while his "military-clad professional brother" is getting pay for the same work. In Great Britain all regular soldiers are paid, yet plenty of civilians are forthcoming to volunteer for every kind of military work from every class and grade of society throughout the land, but the Vice-Chairman thinks that, because the doctors in the Royal Army Medical Corps are paid, no civil doctor is to volunteer to help his country!

I trust, sir, that few take so low a view of the profession of medicine, thus contrasted with the whole manhood of England, as does the Vice-Chairman of the Winchester Division.

The military authorities have called on every Englishman to take part in the defence of his country, and every class, profession, and trade have responded, except some doctors and some chemists—the doctors because they want money, the chemists because they want rank. The Vice-President says he has already voluntarily given his services to the R.A.M.C., so he ought to know something about Territorial defence. Yet, to put it very mildly, he is entirely wrong in all his facts.

Territorial medical officers *are* paid. When training they receive the full pay and allowances of their rank, which are higher than those of other branches of the service. Thus a man can get his fifteen days in camp free of expense, and when he gets a few years' service, have enough besides to pay his locumtenent during his absence. He also receives, in common with his combatant brethren of the Territorial Force, an allowance to pay for his uniform in joining the R.A.M.C. (T.), as well as allowances for attending lectures and so forth. So the Vice-Chairman's principal contention falls to the ground. Then the Vice-Chairman thinks that the British Red Cross Society and the Territorial Force are the same thing. Let me assure him that they are not. The former, though helped and favoured by the military authorities, is a purely civil society, which hopes to provide assistance to the army (regular and territorial) in case of invasion. It is open to all medical men to work for it, either gratuitously or not, from patriotic or other motives, just as they have done for St. John Ambulance Association in the past. If they require payment, they must look to receive "the half-hearted coin"—whatever that may be—from the Red Cross or the Order of St. John, not from the military authorities, as the Vice-Chairman seems to think.

I know not in what capacity your correspondent has given his services to the R.A.M.C. in time of war, but it would be well for him to acquaint himself with facts before trying to do what damage he can to the cause in time of peace. We know what happens if the blind lead the blind.—I am, etc.,

Colchester, Nov. 27th. E. C. FREEMAN, M.D., Major, R.A.M.C. (Ret.).

THE TERRITORIAL NURSING SERVICE.

SIR,—I have a small cottage hospital, built and supported by my husband and myself, of which an account and illustrations appeared in your JOURNAL some two or three years ago. In that account you were kind enough to describe it as one of the best of its kind in Great Britain.

I have recently been asked to allow my nurses to join the County Territorial Nursing Corps, a request which I have refused. I am told that I had better not let it be known in the county that I have refused, as I shall be considered disloyal. I understand that if my nurses join the corps, in time of war they would be called out to serve in some temporary hospital in the county, leaving my hospital—which is fitted in a thoroughly up-to-date manner, with operating theatre, etc.—to be closed.

I have four nurses, who are fully occupied, and when there is any great pressure of work I have to employ an extra one from a London hospital.

In time of war the hospital would certainly be available for either officers or men if the authorities cared to send them there, and it seems to me folly to close even a small hospital which is in thorough working order at a time when hospital accommodation is sure to be limited.

I should, however, greatly value your opinion on the subject, as, except for my nurses themselves, who had no wish to join, my views do not seem to be shared by others.

There are so many nurses either on the private staff of hospitals or else working on their own account, that it seems to me that it is from them that the Territorial Nursing Corps should recruit its nurses.—I am, etc.,

November 30th. HALFA.

*** We are not in a position to give an authoritative answer, but we feel sure that a proper interpretation of the scheme for the Territorial Nursing Service would not involve denuding any hospital in working order of its nurses. There may be some local misunderstanding, and we would advise our correspondent to obtain definite information as to the size and situation of the "temporary hospital in the county."

A STATE UNIVERSITY OF MEDICINE AND SURGERY.

SIR,—I must thank you for so fully reporting my remarks and suggestions on the establishment of a State university embodying all diploma-granting bodies in the three divisions of the kingdom as a one-portal to the profession at the Lord Mayor's Day dinner at the Apothecaries' Hall. On that occasion the President of the College of Physicians said that he thought that a State University of Medicine was impossible as there could not be a university with only one faculty.

I think that point need not cause much anxiety, for if a charter were granted to a State university (with teaching powers where advantageous), it certainly would not remain long with only one faculty. There are other professions besides our own requiring State supervision, and there are many subjects of State importance which may be classed among arts and sciences on which the welfare of the nation materially depends, and which must ere long be stimulated by university encouragement.

But what are the chances of success of the plan which the two Royal Colleges are endeavouring to promote and which their representatives will propose when witnesses before the Royal Commission? Essentially it is that the University of London should accept the examinations and the somewhat altered education required by the diploma-granting bodies and grant to their examinees the degree of M.B. London.

Now the Faculty have again and again refused to sanction any lowering of the standard of the degree and will do so yet again. The Senate will not act without their consent, and there remains only the hope that the Royal Commission will recommend Parliament to compel the degradation of the standard of the degree. Will they do so? The colleges put forward no other alternative except what I cannot but think an undesirable one—the possibility of combining with some other existing university.

As Sir Douglas Powell said truly enough, the profession has been agitating for thirty or forty years to bring about an arrangement that would make a degree accessible to the London students. Should this Royal Commission prove a failure we may look forward to another thirty or forty years' agitation, which will probably be sufficient to bring about the decease of the diploma-granting bodies and medical schools of London. If a feasible scheme can be put before the Royal Commission, it is more

than probable that they will accept and recommend it.—I am, etc.,

Ashampstead, Nov. 24th. A. T. NORTON.

P.S.—I need not comment upon the letter of Mr. Elliot-Blake of Bognor more than to say that his "working points" or explanatory "rider" are on a par with the English of the motion he proposed at the meeting of the Fellows and Members at the College of Surgeons (p. 1583), and that gratuitous rudeness is not an additional strength to an argument, but an exhibition of the vulgarity of the author.

THE JUBILEE OF THE DENTAL CHARTER.

SIR,—The dental surgeons have shown themselves desirous of commemorating the jubilee of their charter, and the Royal College of Surgeons of England, as the first examining body to grant diplomas in dental surgery, has endeavoured to show its interest in this branch of the profession, first, by accepting the trust of the Odontological Museum, which is now accommodated in a room adjacent to the Hunterian Collection; and secondly, by entertaining the leading members of the profession at a dinner within the precincts of the College. I would venture to suggest that this movement might well be directed towards a more permanent memorial of the jubilee of the Dental Charter by establishing a research scholarship and demonstratorship in connexion with the Dental Museum.

There are already two small endowed prizes, the Tomes and Cartwright prizes, administered by the College, the one awarded every third and the other every fifth year; but the dental profession is deserving of something of a much wider scope than these for the stimulation of research and for the higher teaching of its scientific branches.

My own view favours a more ambitious scheme than anything in the form of a mere prize, whether awarded after examination or conferred in recognition of original work completed. I would ask for the modest sum of £10,000 to endow a Research and Teaching Demonstratorship in connexion with the Dental Museum. In this way not only would a scientific worker be secured, but he would, by his demonstrations attract the students from the various dental hospitals to study in the Dental Museum. Such a sum could, I am sure, be easily collected from among the dental surgeons alone; but if they were to impress upon their patients the necessity of endowing dental research there need be no hesitation in raising the sum I have suggested to £50,000, whereby not only research and teaching demonstratorships might be established but travelling scholarships might be founded which would be of great advantage in keeping English dentistry in touch with that of foreign countries.

It is some twenty-five years since I first began to advocate the bringing of the dental surgeons back within the pale of the profession, and giving them the same opportunities as ophthalmic, aural, and other specialists. One could scarcely have anticipated so encouraging a development as has occurred within so short a period. The dental surgeons have not been slow of late to seize the occasions for better recognition; and by placing the Odontological Society under the aegis of the Royal Society of Medicine and by handing over their superb museum to the care of the Royal College of Surgeons, they have shown their desire to be associated with the general body of the medical profession. Now, I think the time has come for the further development of the scientific side of the branch, in which direction several members have already gained great eminence.

Should my suggestion find favour with the dental section of our profession, I should be pleased to co-operate with any interested in this project; but it must be distinctly understood that I write quite unofficially, though I have little doubt that the Council of the Royal College of Surgeons would give its consent to the administration of such a research demonstratorship as that proposed, if the money were forthcoming for its endowment.—I am, etc.,

London, W., Nov. 27th. R. CLEMENT LUCAS.

THE ROYAL COLLEGES AND THE UNIVERSITY OF LONDON.

SIR,—There appears to be a serious attempt on the part of the colleges to join the university. This should be done in such a way as to silence the wearisome cry of "a degree for London students." A degree is not a licence to practise, which should be accessible to all but the most indolent students at the end of the present five years' curriculum. A graduate is one who has passed up certain steps or degrees in education, and should be ticketed accordingly, by a university examining board.

Surely colleges are meant for teaching, and the present institutions in Lincoln's Inn Fields and Pall Mall do not fulfil this purpose. Probably they will do this if they allow the university still to occupy its proper place.

The matriculation examination should be made rather less difficult; having passed this, as well as the senior Oxford examination, I would suggest that the standard of the latter should be the lowest to enable a student to enter the medical profession.

There should be a licence degree (not to be called M.B., M.R.C.S.), for men would pass the conjoint but never reach the present M.B. standard. This should be the third class degree. The M.B. would remain the second class degree, reserving the highest place for the Master in Surgery and the Doctor in Medicine. These places should still be for the best students only, and to lay them open to the average man is to degrade the university. The largest city in the world should still be able to confer the best degrees.—I am, etc.,

Castle Cary, Nov. 30th. CAREY COOMBS, Sen.

THE MENTAL SYMPTOMS IN AORTIC ANEURYSMS.

SIR,—Professor Osler's Schorstein Lecture in the BRITISH MEDICAL JOURNAL of November 27th (p. 1509) gives due credit to the British army medical officers as early and successful workers on the subject of the relations between syphilis and aneurysm. And it was at Netley many years ago that I found and studied the best material bearing on that part of the subject. But I write to mention the evidence coming from part of the later clinical material from precisely the same general sources as those on which was based the work done on the subject of syphilis and aneurysm by the Netley School of Military Medicine. I refer to the mental changes so often coming with the large and deadly aneurysms of the aorta.

The cases concerned here were all military patients, invalided from the army, and were suffering from aortic aneurysms supervening on syphilis of the artery; had been patients at Netley, and in the mental hospital there for observation; thence transferred to London they came under my close observation.

The following is a short summary of the mental changes in question, and is practically an abridgement of experience which was more fully stated in my article in *Brain*, the journal of the Neurological Society of the United Kingdom, vol. xii, 1889, p. 117, on Aortic Aneurysm and Insanity. Only cases verified by careful necropsy were included in that article.

In some cases of *thoracic* aortic aneurysm there is either the production of mental disorder or distinct modification of the previous mental state. These effects are chiefly due to one or more of several factors, varying according to the position, size, and relations of the aneurysm, and the preceding mental and physical state of the patient in different cases.

One factor consists of the morbid afferent impressions coming from the altered vessel itself and the usually pulsatile expansile tumour it now forms.

Another factor is the circulatory disorder induced by aortic aneurysm of thorax or abdomen, both the general disorder of circulation and that of the head more particularly. When the aneurysmal sac remains patent, not merely is there the diversion and tumultuous rush into the sac of a large share of the blood stream, thus interfering with calm and equable supply to brain and other parts, but also the aneurysm in many cases presses on blood vessels: if it presses on an artery, checking or stopping more or less the arterial supply to some parts—for example, the brain—and, as a correlative result, making that to other parts correspondingly fuller and more active; if it presses on a vein, damming back the blood stream in the latter and tending to produce passive congestion in the region it should drain, as well as coagulation in the vein itself. To this may be added compression

of the lymphatic vessels and its results. The aneurysmal compression is important and may affect some of the blood or lymph channels, nerves, or nerve ganglia in the thorax, relating specially to the vegetative or visceral life, chiefly the vagus and its branches, the phrenic and the sympathetic. The important symptoms, whether irritative or inhibitory, which may thus arise—be they vasomotor, cardiac, pulmonary, respiratory, gastric, or hepatic—only require bare mention.

A third group comprises structures such as the vertebral thoracic bones and muscles and nerve fibres to and from trunk or limbs. The painful or spasmodic or paralytic conditions arising from compression of these may be the source of morbid material for mentation and assist in the production or modification of mental disorder.

When with aneurysms of the thoracic aorta mental symptoms appear to arise indirectly, as already stated, they are usually of the following general characters: Extraordinary illusions, hallucinations, and delusions of persecutory and hypochondriacal nature. They may be delusions of being annoyed and tormented, or as to bodily injuries, which may vary extremely in particulars, and often are most minutely described and attributed, each to some very special and peculiarly distinct action or operation on this or that part of the patient's frame, as, for example, by animals imagined to have gained access thereto; or delusions as to hostile occult influences working against the patient, culminating in assertions as to the particular effects of imaginary galvanic batteries, "mesmerism," and so on, associated, perhaps, with vivid hallucinations, especially of hearing. These persecutions and injuries, entirely imaginary, are usually by the patient attributed to influences originating from outside—for example, to invasion by animals, and more often to the acts of hostile persons whom he has formerly met or known, and who have followed him to the place, where he is now, and is at their mercy. Against these persons he demands police or magisterial protection; and that condign punishment shall fall on these tormentors; although delusions of ill-treatment by those around him, his fellow-patients or nurses, may coexist with, or replace, the former ones, and may lead to acts of violence—or, rarely, even homicidal attempts. Present in some cases; systemization of the delusions is in others, feeble, or incomplete, or absent.

The emotional state is usually a mixture of depression and irritability. There may be a gloomy, sombre, taciturn, or a sullen morose state; or one of anguish, distress, anxiety, and free complaint as to annoyances, damages, physical and mental persecutions; with desire to seek redress, and expostulation against detention within reach of the imaginary foe.

In eight of my cases of thoracic aneurysms of the aorta; necropsy completed the record of the cases.

In three other cases the cause of death was abdominal aorta aneurysm predominantly. But these three cases were complicated by the effects of *severe heart disease* and *its* mental effects; and by implication of the *thoracic portion of the aorta* in *aneurysmal dilatation* also; but to a less severe degree than the abdominal portion.—I am, etc.,

London, Nov. 30th. W. JULIUS MICKLE, M.D., F.R.C.P.

THE STRUCTURE OF THE PANCREAS.

SIR,—In a letter on "The Structure of the Pancreas," published in the JOURNAL of November 6th, Professor Swale Vincent has been good enough to comment on a paper read by us before the British Medical Association at Belfast, and published in the JOURNAL of September 11th. We regret that Professor Vincent should think that we ignored the work of Mrs. Thompson and himself. As a matter of fact, we were familiar with all his papers, with the exception of that on the elasmobranch pancreas to which our own paper had special reference. The *Transactions of the Royal Society of Canada* are not to be obtained at the libraries of the Royal Colleges, and we are therefore greatly indebted to Professor Vincent for having since sent us a copy of his paper.

Further, as he supposes, our paper was of the nature of a preliminary communication, and was written rather as an aid to the demonstration of our specimens than as a complete account of the subject and its literature. We are glad to find that our work agrees in the main with that of Professor Vincent and Mrs. Thompson. We, however, have not been able to convince ourselves of the existence of "bathycrome" tissue, and we understand from Professor Vincent's latest paper that he himself is in doubt about it, and thinks that it may be an artefact produced by the process of fixation. If this tissue does not exist, it seems rather unnecessary to talk of "leptochrome" tissue instead of using the more familiar term islet.

Professor Vincent, in further criticizing our paper, says that whereas there is overwhelming evidence in favour of a structural continuity between islets and acini, it is as yet too early to express an opinion on the question of a functional relationship. Surely if, as Professor Vincent himself has shown, islets and acini are converted the one into the other by starvation and feeding, *that* is evidence of a functional continuity between the two tissues.

In conclusion, we might perhaps call the attention of Professor Vincent to a paper by us entitled "The Pancreatic Juice and Glycosuria,"[1] in which further evidence is adduced on the question of the relation between the external and internal secretions of the pancreas.—We are, etc.,

J. STRICKLAND GOODALL.
HERBERT G. EARLE.

Physiological Department, Middlesex Hospital Medical School, Nov. 30th.

LONDON HOSPITALS AND SCHOOL CHILDREN.

SIR,—In the JOURNAL of November 6th the Chairman of St. George's Hospital, quite unasked, informed the medical profession that two clauses in his agreement with the London County Council were of great importance. These are (1) that the London County Council will make inquiries to prevent abuse, and (2) that his hospital will do likewise.

In a letter appearing in your issue of November 13th I asked the Chairman to inform the medical profession what forms of inquiry these were that he evidently considers satisfactory and on which he relies to prevent abuse.

In a communication appearing in your issue of November 27th he replies (1) that the London County Council "makes inquiries, and if they find," etc.; and again (2), with regard to St. George's Hospital, that "we reserve the right to make any inquiry we may think fit," etc.

To say to the medical profession that all is well at his hospital, and when urged to take us into his confidence and explain in detail the reasons for his conclusions, for Mr. West to reply in the same phraseology is, to say the least, hardly convincing.

Will Mr. A. William West be good enough to lay before the medical profession *in full detail* the procedure by which these inquiries are carried out, and so allow us to judge for ourselves as to their sufficiency? The points as between myself and St. George's Hospital, although of interest, are not at the present moment so important. Full proofs of the latest case of abuse of that hospital's out-patient department that I know of have been sent to Mr. West. I made a mistake in saying that the mother said that the child had been attending for eight weeks; it should have been eight months. I omitted to add that, under the advice of the out-patient doctor, the mother and daughter had incurred the expenses attached to six weeks' residence in boarding houses at the seaside in order to help the cure. Surely a general practitioner should be capable of tackling a case of menorrhagia; and the "sick poor" are hardly those to be expected to be able to take rooms at the seaside at their own expense.—I am, etc.,

London, S.W., Nov. 27th. E. ROWLAND FOTHERGILL.

***In the letter which appeared in the JOURNAL of November 6th, Mr. West's name was incorrectly printed "A. William Wise."

[1] BRITISH MEDICAL JOURNAL, August, 1908.

DURING the present season Messrs. Yeoward Brothers, Stanley Street, Liverpool, will issue special return tickets by their steamers to Portugal and the Canary Islands on preferential terms to members of the medical staffs of medical institutions. The steamers sail from Liverpool weekly, but special tours are made by certain steamers usually every alternate week.

Medico-Legal.

WORKMEN'S COMPENSATION.

Incapacity due to Former Employment.

A DIFFICULT point may arise in relation to compensation if it be shown that the incapacity is partly due to what happened to the man in his former employment. In a recent Scottish case the pursuer claimed in respect of injury to his knee. The sheriff found that pursuer about two years ago, whilst in the employment of Messrs. Meehan and Son, sustained a wrench to his knee. On several occasions since, his knee had given way while he was raising his body from the ground. On December 4th the pursuer was in the employment of defenders, and in rising from a kneeling position he again felt the same kind of pain. On being taken to the infirmary it was found that the internal cartilage of the right knee was torn. The rupture of the knee cartilage on December 4th, 1908, was the result of the strain experienced two years ago, when pursuer was in other employment than that of the defenders. The sheriff found that the pursuer had failed to prove that he was injured by accident arising out of and in the course of employment with defenders, and refused the application.

Miners' Nystagmus.

This complaint has already formed the subject of claims in many cases, and it appears that liability may have to be shared by several different employers. A claim was heard at Pontypridd on September 23rd in which no less than four companies were involved. According to the Act the liability is retrospective for twelve months where a person has been employed at work likely to give rise to this complaint. In the present instance plaintiff had been employed at four different collieries, the owners of all of which were parties to the action. As the result of the disease the wages of the applicant had fallen 15s. a week, as he had to work on the surface instead of underground, and accept light employment. The facts were not disputed, but the difficulty was to determine which company was liable. Medical testimony was given that the disease was progressive, and might have been in existence in a patient for some years before permanent discomfort was brought about, but so long as he worked underground the disorder would become more pronounced. Dr. Tribe, in evidence, said that the process of development had been going on for quite twelve months, if not longer. Dr. Arthur Jones stated that in July plaintiff sought his advice, and he was quite convinced that it would be injurious to him to continue working as a collier. In the result the judge awarded compensation, dividing it between the collieries in proportion to the time the man had worked there.

FEES FOR MEDICAL EXAMINATIONS.

DR. A. T. BRAND (Driffield, E. Yorks.) writes: It does not appear to be generally known that the fees for all medical examinations of workmen who have sustained injuries for which they claim compensation from their employers, must be paid by the employer, and not by the workman. This applies both to the initial examination and certificate which are necessary to enable the employer to claim in turn from any insurance company with which he may have contracted to relieve him of the responsibilities placed upon him by the Act, and also to all subsequent examinations and certificates which may be required from time to time, until the claim shall have been settled.

My experience is that the employer generally endeavours to evade payment of the fees, and to put the liability for them upon the workman, on the ground that it is the injured man who benefits, forgetting, or not realizing, that it is he himself who benefits under the certificate, since he could not have his claim entertained or paid by the insurance company without them. The injured man is nowise concerned as to the source of his pay so long as he receives it, and all that he has to do is to be willing to submit himself to medical examination when called upon to do so, either by the employer or by the insurance company on his behalf. The injured man neither seeks nor desires a special medical examination; but any medical treatment he may receive has to be paid for by himself, and not by his employer.

The Act clearly places the liability for payment of the fees for all medical examinations upon the employer, as stated in Paragraphs 4 and 14 of Section 1 of the First Schedule of the Act. Dr. Brand adds that he thinks medical examiners and others will find the handbook published by Andrews and Co., 173, Old Street, London, E.C., which contains both the Act itself and a digest of it, useful for reference. The price is 1d.

ASSISTANTS IN COLLIERY PRACTICES.

SIGNET asks whether a surgeon to a body of colliers who is bound by agreement not to undertake private practice in the district can require his assistants to sign a bond not to practise in the neighbourhood, and whether should such a bond be signed it would be legally binding.

*** It is usual for the signing of such a bond to be a condition of the employment of an assistant. If the assistant signs the bond he is then bound by the terms of it.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—G. H. K. Macalister, Joh.

M.B.—L. Reynolds, Trin.; R. Cox, Gonv. and Cai.; W. G. Parkinson, Emm.

UNIVERSITY OF WALES.

Degree Day.

THE annual congregation for admission to degrees was held at Cardiff on November 26th, in the Drapers Company's library of the new buildings in Cathays Park, and the students turned out in great force and in high glee to applaud their successful fellow-workers. The Lord Mayor and the members of the Corporation of the City of Cardiff had an ovation as they took their seats. Sir Isambard Owen, Senior Deputy Chancellor of the University, presided, with the Vice-Chancellor, Principal Griffiths, and Mr. Charles Morgan representing the Guild of Graduates. There were also present: Sir John Williams, Bart., K.C.V.O., General Sir James Hills-Johnes, Principal Roberts, Principal Sir Harry Reichel, Mr. Angus, the Registrar and representatives of the Senate and Council, and also Sir Alfred Thomas, M.P., and Mr. Llewelyn Williams, M.P. Professor A. A. Read was chief marshal. The graduates were presented by the Principal of the college to which they belonged, and the Vice-Chancellor conferred the degrees, the Senior Deputy Chancellor completing the ceremony with the time-honoured Latin benediction. Thirteen received the B.A. with first-class honours, 13 with second, and 41 with third, while 60 received the B.A. without honours, and 3 received the degree *in absentia*, 1 with first-class and 2 with second-class honours; 7 received the degree of B.Sc. with first-class honours, 4 with second-class, and 2 with third, while 32 received the degree without honours. There was only 1 LL.B., while 5 persons received the B.D., 16 the M.A., and 3 the M.Sc. Four honorary degrees were conferred—that of M.A. on Mr. John Ballinger, Librarian of the National Library of Wales, and the Rev. Evan Rees (Dyfed), the Archdruid; that of D.Litt. on Professor Kuno Meyer, Ph.D., Professor of German and Reader in Celtic in Liverpool University; and that of LL.D. on the Solicitor-General, Sir S. T. Evans, K.C., M.P.

UNIVERSITY OF BOMBAY.

The Calendar.

THE *Calendar* of the university for the academic year 1909–10 has been published in two volumes, of which the first gives in some 900 pages a very full account of the constitution, regulations, and membership of the university. The second volume includes in 340 pages reprints of all papers set in all the faculties during the recently concluded year. The list of graduates in the medical faculty shows a steady increase from year to year, and the accounts of endowments and prizes occupy nearly 130 pages.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Admission to the Fellowship.

THE Council of the Royal College of Surgeons in Ireland adopted on November 18th new regulations for admission to the Fellowship which give final effect to an intention expressed some two years ago to abolish any inalities in the way of examination to qualified candidates of a certain standing. Under the new regulations all candidates alike will have to pass two examinations; the first, dealing with anatomy, physiology, and histology, is conducted partly in writing and partly viva voce and includes practical work; the second deals with surgery, surgical anatomy, and physiology. This examination also is partly written and partly viva voce, and includes clinical work and the performance of operations. At each examination the candidate must pass in all subjects at one time. Further particulars can be obtained from the registrar at the college.

Fellowship Examination.

The following candidates have been approved at the examination indicated:

FIRST FELLOWSHIP.—A. Chance, O. J. O'Hanlon, H. J. Smyly.

FINAL FELLOWSHIP.—D. Adams, Sheffield; W. V. Coppinger, Captain, I.M.S.; M. G. Dobbyn, Bristol; J. R. Dordi, Bombay; M. W. Falkner, Captain, R.A.M.C.; J. K. Freyer, New South Wales; C. Greer, Melbourne; H. W. A. Kay, Pretoria; Miss K. F. Lynn, Miss Pauline J. McKee, Hillsborough; J. F. Moore, Belfast; C. E. Murphy, Dover; T. North, London; T. T. O'Farrell, Dublin; H. R. C. Rutherford, Ballinasloe; W. S. Sharpe, Major, R.A.M.C.; C. Sullivan, Rathangan, co. Kildare; W. R. Wilson, Penzance.

THE London County Council, finding that it had no statutory powers, and having regard to the special circumstances of London and to the numerous interests concerned, has resolved to ask the Local Government Board to appoint a departmental committee to inquire into the questions of the establishment of public slaughter-houses in London and of food inspection generally.

Obituary.

RICHARD THEODORE STACK, M.D., F.R.C.S.I.,

CONSULTING SURGEON TO THE DENTAL HOSPITAL OF IRELAND, DUBLIN.

We have to record the death at his house at Stillorgan, near Dublin, of Dr. R. T. Stack, whose career is a striking example of the way in which the cruel blows of fortune may be overcome by pluck and perseverance. Dr. Stack, who was born in 1849 and graduated M.D. Dub. in 1874, had a most brilliant career as a student; he began by obtaining a classical scholarship, he then obtained a medical scholarship and many prizes, took the first place in the university medical examinations, and obtained first the medical and then the surgical travelling prizes, which enabled him to visit foreign schools, and to reside for some time in Vienna. On his return to Dublin he was attached to the Richmond Hospital, and appointed Demonstrator of Anatomy in the University Medical School. His hearing, however, soon became so defective that he had to give up the hope of practising either medicine or surgery, and determined to take up dentistry. He joined the dental school of the Harvard University, and took the degree of D.M.D. there in 1877. In the following year he became F.R.C.S.I., and commenced practice as a dentist in Dublin. At that time dentistry was, we are told, at a very low ebb in Dublin, but Dr. Stack's tireless energy and enthusiasm commanded the generous support of his medical and surgical brethren and enabled him to transform the position of the art. He was the founder of the first dental hospital and school in Ireland: he was also dental surgeon to the Adelaide Hospital. The appreciation in which Dr. Stack was held by his colleagues is shown by the fact that they presented to him his portrait, which now hangs in the committee room of the Dental Hospital. Some eleven years ago he suffered an attack which deprived him of the use of his right arm and greatly interfered with his powers of speech. Dr. Stack attracted to himself hosts of friends, and was one of the band of distinguished Irishmen who met at the house of the late Lord Justice Fitzgibbon. He was, when a younger man, a keen fisherman, and knew, as few have ever known, the haunts of salmon and trout in the neighbourhood of Mullaghmore, where also his acts of charity and constant interest in the people made his name idolized.

ALFRED BARRATT, M.R.C.S.,

ALDERMAN OF THE CITY OF BIRMINGHAM.

We regret to record the death of Alderman Alfred Barratt, who died at the age of 81 at his residence, Calthorpe Road, Edgbaston, Birmingham. Mr. Barratt was a native of Birmingham, and like his brother, the late Mr. O. W. Barratt, of Holloway Head, who died a few months back, was trained for the medical profession at Queen's College, Birmingham. He was admitted L.S.A. in 1855, and became L.R.C.P.Edin. in 1860, and M.R.C.S.Eng. in the same year. For about thirty years he practised in Great Hampton Street, Birmingham, where he was exceedingly popular, but nearly twenty years ago he disposed of his practice and went to live in Edgbaston. He took a considerable part in the public work of the city, and in 1870 he stood in the Liberal interest for the representation of Hampton Ward, afterwards St. George's Ward, in the Town Council, and defeated the late Mr. W. M. Ellis, the Conservative candidate. Mr. Barratt did excellent work on the Borough Inspection Committee and the Sewage Committee, of which he was for a time the Chairman. He served on many other important committees in which his professional knowledge made him specially useful. For fifteen years he worked as a Councillor, and in 1885 he was advanced to the dignity of an Alderman. In addition to his work as a member of the City Council, he performed equally useful service for nearly twenty years on the Birmingham Board of Guardians, of which he was Chairman in 1885. He retired from the Board in 1894, but remained a member of the Board of Overseers until his death.

Alderman Barratt was a widower, his wife, formerly a Miss Lowe, dying in 1894. The funeral took place at the Crematorium on November 19th.

THOMAS GRAHAM, M.D.,

CONSULTING SURGEON TO THE PAISLEY INFIRMARY.

By the death of Dr. Thomas Graham, who passed away quietly in his sleep on November 18th, Paisley loses one of its best known citizens and its oldest medical practitioner. He was born at Lismahagow in 1836, and was thus in his 74th year. He spent his whole life in Paisley, where he began his career as a druggist, but eventually made up his mind to study medicine. Entering Glasgow University, he graduated M.D. in 1860, taking the L.F.P.S.G. in the same year. During his attendance at the Glasgow University classes, on account of the want of suitable travelling facilities, he walked to the city in the mornings and back to Paisley, after attending classes at the Botanic Gardens. Practising in Paisley for over fifty years, he was able to conduct a large practice with much vigour until a few years ago, when an attack of pneumonia prematurely aged him. He held many appointments in Paisley, and was Honorary Consulting Surgeon to the Paisley Infirmary, Medical Officer to the Poorhouse and Asylum.

Dr. Graham was held in much respect by his professional brethren. Cultured and courteous, he was the life of a social gathering; he was a great admirer of Burns, and was in the habit of reciting many of his poems. His son is in the profession and settled in South Africa after the Boer war, to whom and his widow and four daughters the sympathy of Dr. Graham's many friends is extended.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Rear Admiral Christopher James Claborne, M.D., of the United States Navy, aged 70; Dr. George E. Post, for many years head of the Medical College of Beirut, and author of works in various languages on botany, zoology, physiology, surgery, medicine, and the Bible, aged 71; Dr. Alois Monti, Professor of Children's Diseases in the University of Vienna, who founded, in conjunction with Professor Babinski, the *Archiv für Kinderheilkunde*, and author of numerous contributions to the literature of his speciality aged 70; Dr. Wehmer, of Berlin, a leading hygienist and Medical Councillor in the Chief Police Bureau, aged 54; Dr. Axel Otto Lindfors, Professor of Obstetrics and Gynaecology in the University of Upsala; and Dr. Mayet, sometime Professor of Pathology in the University of Lyons.

Public Health AND POOR LAW MEDICAL SERVICES.

RETURN OF CONTRIBUTIONS PAID TOWARDS SUPERANNUATION.

HORNBEAM, who is 39 years of age, and has been district medical officer for the past five and a half years, but is now obliged to retire from practice, owing to a complete breakdown in health, asks whether under such circumstances he can claim a return of his contributions already paid towards superannuation?

*** By Clause 8 of the Superannuation Act any officer who has *not* become entitled to superannuation under the Act, but who loses his office or employment from *any cause beyond his own control* other than voluntary resignation, is entitled to receive out of the common fund of the union a sum equal in amount to all his contributions towards superannuation. The sanction of the Local Government Board is not required.

VACCINATION IN WORKHOUSES.

T. P. asks: (*a*) Has the medical officer in a workhouse the right or power to vaccinate a child in the workhouse without receiving the consent of the parents? (*b*) Could the parent or parents object under the conscientious objection clause when the children are supported by the rates?

*** (*a*) No. (*b*) The parent has the right to obtain exemption in the manner provided for by the law. The Vaccination Act, 1898, Section I, Subsection V, enacts that: "Notwithstanding any regulation of any lying-in hospital or infirmary or other similar institution, the parent of any child born in any institution shall not be compelled under such regulation or otherwise to cause or permit the child to be vaccinated at any time earlier than the expiration of six months from its birth." Under the provisions of the Vaccination Act, 1907, this subsection remains in force.

Medical News.

THE Bradshaw Lecture will be delivered at the Royal College of Surgeons by Mr. F. Richardson Cross at 5 p.m. on Friday, December 10th. The subject is the Brain Structures Concerned in Vision and the Visual Field.

AT a meeting of the Cottage Benefit Nursing Association, to be held at Denison House, Vauxhall Bridge Road, Victoria, S.W., on Tuesday next, at 3.30 p.m., the Hon. Sydney Holland will open a discussion on State registration of nurses.

IN connexion with the Twenty-fifth Congress of the Royal Sanitary Institute which is to be held in Brighton in September next, an exhibition of sanitary apparatus and appliances, and articles for domestic use and economy, will be held in the Royal Pavilion.

THE annual lecture under the Richard Middlemore Post-Graduate Lectures Endowment will be given at the Birmingham and Midland Eye Hospital by Mr. H. Eales, senior surgeon to the hospital, on December 21st, at 5 p.m.; the subject of the lecture will be myopia.

THE next course of post-graduate lectures arranged by the Berlin Dozenten-Vereinigung will begin on February 28th and terminate on March 26th, 1910. Particulars can be obtained on application to Herr Melzer at the Langenbeckhaus, Berlin.

AT a sessional meeting of the Royal Sanitary Institute to be held at the Parkes Museum, 90, Buckingham Palace Road, S.W., on Wednesday next, at 8 p.m., a discussion on the collection and disposal of refuse will be opened by Mr. J. S. Brodie, M.Inst.C.E.

REFERENCE was made in a recent issue of the JOURNAL to a report that the Nobel Prize in Medicine was to be awarded this year to M. Roux. It is now stated, on what seems to be good authority, that the prize will be given to Professor Theodor Kocher, the distinguished surgeon of Bern.

THE annual gathering of the Glasgow units of the Royal Army Medical Corps, which on this occasion will take the form of a concert and distribution of prizes, in place of the dance which has been given during the past two seasons, will be held in St. Andrew's Halls, Glasgow, on the evening of December 15th. The units are the Lowland Mounted Brigade Field Ambulance, the 1st and 2nd Lowland Field Ambulances, and the 3rd and 4th General Hospitals. Colonel Sir Geo. T. Beatson, K.C.B., M.D., V.D., administrative medical officer of the division, will preside.

THE Secretary of the London Post-Graduate Association, which admits ticket holders to the practice of certain general and special hospitals in London, informs us that special classes for post-graduate students only are now being held at University College Hospital, Westminster Hospital, the Brompton Hospital for Consumption and Diseases of the Chest, the Hospital for Sick Children, the London School of Tropical Medicine, the Medical Graduates' College and Polyclinic, the National Hospital for the Paralyzed and Epileptic, and the Royal London Ophthalmic Hospital (Moorfields). Additional fees are charged by the hospitals; further particulars can be obtained by writing to the secretary of the association, 20, Hanover Square, W.

AT a meeting of the Governors of Middlesex Hospital on November 25th, the chairman, Lord Cheylesmore, stated that Mr. E. T. Hall had been chosen to prepare plans and superintend the erection of the new cancer buildings of the Cancer Institute to be built out of Mr. H. I. Barnato's bequest of a quarter of a million, on a site abutting on the hospital premises, a long lease having been granted by Mr. Charles Berners, a member of the board, on very moderate terms. A sum of £5,000 had been received from the executors of Lady Goldsmid; a portion was to be devoted to the endowment of two beds, one in the general wards, the other in the cancer wards, in memory of the testatrix, and the residue was to be applied to the general purposes of the cancer fund, or on behalf of the investigation department, as the board might determine.

AN exhibition of china and earthenware manufactured and glazed without lead was open for three days at Caxton Hall last week. It was of the same type as that held at Church House, Westminster, three years ago, but on a much larger scale. The exhibits included pottery of every kind, from the humble pie dish up to highly ornamental vases. The exhibition proved conclusively that in the production of china utensils and other household ware lead is not a necessity, and that those who dispense with its use can fully hold their own, so far as excellence and attractiveness of ware are concerned, with other manufacturers. It is to be hoped, therefore, that the public will commence to ask for leadless glaze at china shops, and thus help to eliminate a source of disease in the pottery districts. At present such china appears to be slightly more expensive than that of ordinary type, but the difference is not very great and will doubtless disappear so soon as a strong demand for china of this kind arises.

THE autumn dinner of the Irish Medical Schools' and Graduates' Association took place at the Hotel Cecil on November 24th, its president, Dr. Mouillot, of Harrogate, being in the chair. The company, which, as usual, included many ladies, was a large one, some two hundred members and guests being present. The toast to the latter was given by Dr. McManus, who coupled with it the name of Lord MacDonnell, and incidentally claimed for Irishmen that whatever else their critics might say about them, they at least had the virtue of hospitality. They were always ready to welcome the new, and speed the parting, guest to the last penny of their own income, and failing that to spend the last penny of the income of some other person. In his response Lord MacDonnell spoke of his early days as a student at Queen's College, Galway. After taking his degree in arts he had hesitated for some time between medicine and the Indian Civil Service, but at length the *vis a tergo* of the dissecting room and the *vis a fronte* represented by the mystic East decided him against medicine. In his later official life in India he had been brought into close relations with the medical profession, and had received from the chief medical and sanitary officers of the province which he was then ruling the most valuable assistance and support. During the course of the evening there was a pleasant interlude in the form of the presentation by T. Hobbs Crampton of an illuminated address in acknowledgement of his great services for many years in the office of Metropolitan Secretary of the Association, which he is now vacating. The toast to "Our Defenders" was acknowledged by Sir Alfred Keogh, who is president-elect of the Association.

AT a meeting of the Army and Navy Male Nurses' Co-operation (47B, Welbeck Street, W.) held at the Grafton Galleries on November 29th, and attended by Princess Louise, a report read by Sir W. H. Allchin, in the absence of the president, Sir Frederick Treves, stated that 300 cases had been nursed during the year, and that the staff now numbered 33 and would, it was expected, be increased to 50 during the present winter session. The executive looked forward to a time when the association would have 100 nurses in full employment and would be entirely self-supporting. The number of beds in the residential home had been increased from four to nine. Sir William Allchin added that during the past twenty-five years, although much had been done to improve the status and efficiency of the female nurse, the facilities which she enjoyed had been denied to the male, whose opportunity for training was confined to the magnificent hospitals belonging to the army and navy. The co-operation represented an endeavour to retain the professional services of these men on their retirement into civil life, and the public might be assured that the executive committee was fully awake to the necessity of insisting upon the absolute fitness and certificated capability of the men whom it employed. The fees received during the first year of the co-operation's work amounted to £500; they totalled to £1,800 during the second year. For two or three years longer, however, it would be necessary to ask for some support from the public. The Duke of Argyll praised the efforts to augment the ranks of competent nurses and to enlarge the sphere of duty of retired army and navy men. Colonel Sir Edward Ward, K.C.B., Permanent Under-Secretary of the War Office, in moving a vote of thanks to the Princess, assured the co-operation of the sympathy of Mr. Haldane and all his colleagues in that department of the service. A kindred feeling at the Admiralty also was vouched for by Dr. J. Porter, C.B., Medical Director-General, who seconded the motion. He believed the training the navy nurse underwent was superior to any other. Undesirables were weeded out at the commencement; thorough instruction was given in the theory and practice of every department of sick-berth attendance, and, after passing an examination at Plymouth or Chatham, the men were drafted out to sea, where they imbibed the spirit of the navy and all that it involved. It became their second nature to be scrupulously clean, punctual, orderly, and obedient to orders—in fact, to possess all the characteristics of the best of the handy men. At about 40 years of age these men were passed into civil life, and Miss Ethel McCaul, the founder of the co-operation, was doing a splendid service in ensuring that some of them, at all events, remained in touch with their profession.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London. W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

R. McK. asks how to prevent the inflammation of the skin that follows the use of Southey's tubes.

INCOME TAX.

M.D. writes that he has been compelled to pay income tax for three years past on an amount in excess of his income, and asks what legal remedy he has; also whether he is required to furnish particulars of his receipts and full details of expenses at the assessor's request when he appeals against the assessment for the current year.

*** Unless the practice is a new one, set up since April 5th, 1906, there is now no legal remedy against the over-assessments made for years prior to 1909-10. In support of our correspondent's appeal for this year he will have to furnish the particulars of his gross receipts and the amount of his expenditure under the various heads of expense, as required by the assessor or surveyor. If, however, he is unable to do so, it will be open to him to appeal personally before the Commissioners and produce to them the best evidence of the extent of his profits that he is able to advance.

ANSWERS.

IMBECILE CHILD.

X.Y.Z.—If an imbecile child of the poorer class be unmanageable at home, and especially if dangerous to itself or others, the attention of the district relieving officer should be called to the case, and it will be his duty to report it to the board of guardians, which has power to send it to an asylum or other appropriate institution, exacting from the parents such a contribution towards its maintenance as they can afford. The same procedure applies to *imbecile* school children, the education authority having only power to deal with children certified as *mentally defective* (not *imbecile*) under the Act of 1899. In only a few public lunatic asylums is special provision made for imbecile children, but they are admissible as "idiots or persons of unsound mind." Admission to voluntary institutions, such as Earlswood, is through election by subscribers.

LETTERS, NOTES, ETC.

DR. JOHN FLETCHER (Fulham) desires to state that an interview published in the *Daily Mirror* of November 24th does not correctly express his views, and that an unauthorized use of his name was made.

GRATUITOUS MEDICAL TREATMENT OF RATE-MAINTAINED PATIENTS.

WE observe that the city of Chester has issued an advertisement inviting applications for the position of honorary consulting surgeon to the Chester Isolation Hospital. This is, we presume, a hospital supported by the rates, and we would call attention to the fact that the Representative Meeting held in Sheffield in 1908 recorded its opinion that the services of the profession should not be given gratuitously to patients who are maintained by public funds.

HUMOURS OF CHEAP INSURANCE.

DESUNT CAETERA writes: A short time ago I was asked by letter to undertake the medical examination of a patient of mine with a view to an insurance on his life. The proposal form was long and complicated, and involved technical details and cross-examination concerning all possible relatives down to the third generation. In addition I was asked to sign, on a separate form, a declaration to the effect that I was a duly registered practitioner, residing and practising in the town of ——. Remuneration for the same was fixed at 10s. 6d. In reply, I stated that my fee for such an examination would be 1 guinea. I did not make that examination. Sequel: About a week subsequently the patient called at my house late in the evening, in great agony, saying that "he could not pass his water." I found that he was suffering from stricture of the urethra, and I could not get even a fine stricture catheter into his bladder. I told him that it was as well the matter of his examination for the insurance company was still in abeyance, as I should have been obliged to reject him. His reply was: "Oh, that doesn't matter. I went down to the company's doctor at —— to-day, and I was passed as a first-class life. This attack came on in the train while I was on my way home."

EUCALYPTUS OIL.

DR. T. REUELL ATKINSON writes: On November 24th I received an urgent summons to a boy, aged 6 years, whose father had, by mistake, given the boy a tablespoonful of eucalyptus oil instead of his medicine. On my arrival I found the child apparently none the worse, except that he was inclined to drowsiness. The dose of eucalyptus oil is given as from half a drop to three drops for an adult. The child, who was suffering from influenza, with albuminuria as a complication, has been seen several times by me since the oil was taken, and appears to have got on better than usual; the oil has certainly done him no harm. The albumen has disappeared from the urine, and now (November 28th) the lad is practically well. Has eucalyptus any medicinal action, and, if so, why confine its use to such minute doses? Has it any poisonous action? Apparently not. The mother of the child tells me that their foreman's wife is accustomed to administer teaspoonful doses to her children of eucalyptus oil when they catch cold.

*** There seems to be a good deal of difference of opinion as to the proper dose of eucalyptus oil. The dose given in the *British Pharmacopoeia* is that mentioned by our correspondent, ½ to 3 minims; in Martindale and Westcott's *Extra Pharmacopoeia* there is an emulsion 1 in 40, the dose of which is said to be 1 to 4 drachms, quantities which would contain from 1½ to 6 minims; and in the last edition of the *United States Dispensatory* the dose is said to be from 10 to 15 minims. Several cases published in the BRITISH MEDICAL JOURNAL in 1906 show that large doses are capable of producing somewhat alarming symptoms; the most prominent appear to be immediate or early vomiting, followed by unconsciousness, laboured or stertorous breathing—sometimes with marked cyanosis, and contracted pupils. In one of the cases, that related by Dr. E. C. Myott,[1] the patient was an adult and had taken 6 drachms; in another case, that recorded by Dr. Joseph Benjamin, of Ahmedabad,[2] the patient was a boy, aged 8, who had taken 6 drachms; in the third case, that recorded by Dr. Orr,[3] the patient was a boy aged 2 years and 9 months, who had taken two drachms; in all cases recovery was rapid.

[1] BRITISH MEDICAL JOURNAL, vol. i, 1906, p. 558.
[2] Ibid., p. 1020.
[3] Ibid., p. 1085.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

An Address
ON
MISTAKES IN DIAGNOSIS AND THEIR AVOIDANCE.

DELIVERED BEFORE THE GUILDFORD DIVISION OF THE BRITISH MEDICAL ASSOCIATION.

BY R. P. ROWLANDS, M.S., F.R.C.S.,
ASSISTANT SURGEON TO GUY'S HOSPITAL.

I WISH to thank you for the honour you have done me by asking me to read a paper before you. I do not come professing to tell you anything new, but to start a friendly discussion upon a subject that must appeal to all—"the making of mistakes and how to avoid some of them."

To err is human, and medical men are human, despite the people's high and flattering expectations. We all make mistakes, but do we always learn from them, or do we soothe ourselves by saying, "I should make the same mistake again to-morrow in a similar case"? He who believes this nonsense builds for himself a fool's paradise, and he deserves to grow no wiser. Surely we can learn how we fail and profit by our fails. We have either failed to collect or to consider judiciously all the available evidence, or we have not thought of all the possibilities, but we have allowed ourselves to be prejudiced in favour of what appears to be the obvious.

Accurate diagnosis is a jewel of price to be sought by every available means, for it is the secret of reasonable and successful treatment and of intelligent prognosis. It is only obtained as a reward of labour. Nowhere are Carlyle's words on labour more applicable than to the medical man's arduous search for accuracy in diagnosis:

"Hast thou valued patience, courage, openness to light, or readiness to own thy mistakes. In wrestling with the dim brute powers of fact thou wilt continually learn."

"Is there not in thine inmost heart a spirit of active method giving thee no rest till thou unfold it?"

How should a diagnosis be made? It must be based upon *facts*, and, for the proper collection of these, *orderly methods* and *accuracy of observation* are essential. But even facts are of little value without the *knowledge* and *understanding* that are necessary to interpret them aright. I propose to deal with these steps in order, and to illustrate my remarks by mentioning a few of my own mistakes, and some others.

The collection of facts is often a laborious business, demanding great patience and perseverance. It is particularly difficult to get a good history from some patients, who frequently forget to mention the most important things, because they naturally do not understand their significance. It is not always easy to obtain an accurate account of existing symptoms; for instance, a patient may be incapable of localizing an abdominal pain. The patient's account, if complete and carefully checked by cross-examination, is of the greatest value, and is usually very suggestive, indicating the lines along which the examinations are likely to be especially profitable. Yet, for one reason or another, material historical facts sometimes remain unknown until it is too late. A forearm was amputated for supposed sarcoma with spontaneous fractures of the radius and ulna. It was presented to a museum, where upon dissection the disease proved to be ununited fracture with considerable callus due to want of rest. It was found afterwards that the patient had sustained the fracture in a domestic quarrel. An *x*-ray examination or even an exploration would have settled the diagnosis and saved the limb.

ORDERLY METHODS.

Systematic methods of examination are of great importance, and it is only by adopting them that most dreadful catastrophes such as diabetic and uraemic coma, following operations of convenience, can be avoided. Think of a young man going into diabetic coma after the removal of a varicocele when the examination of the urine which should precede all operations would have prevented the operation. The well-known association of diabetes and boils and carbuncles should always be borne in mind. A doctor opened a carbuncle upon the forehead of a diabetic child. An anaesthetic was given and coma supervened. The parents thought that the brain must have been wounded at the operation. A systematic examination should surely prevent gastro-jejunostomy for the vomiting of early phthisis, and the gastric crises of locomotor ataxy, yet this operation has been performed for these conditions. The same operation was nearly performed for uraemic vomiting, but the uraemic blindness brought in the ophthalmic surgeon, who saved the situation. When I was house-surgeon I sent in for operation for strangulated femoral hernia a woman who had been constipated and vomiting for three days, and had a tender, hard, irreducible swelling at the saphenous opening. The surgeon agreed, but the sister pointed out that there was early erysipelas at the ankle; the temperature was raised also.

A man, who was thought to have had influenza ten days earlier, was sent to me for cystoscopy. He walked into my consulting room. Upon systematic examination I discovered an appendicular abscess in the pelvis; the appendix was gangrenous.

So-called specialists are very apt to confine their examinations to their own especial regions, and to attribute all symptoms to diseases of these regions. A specialist upon nervous disease overlooked hip disease in a child for months, thinking the wasting of the thigh to be due to infantile paralysis. Similarly, gynaecologists often overlook subacute appendicitis, and call it ovaritis. There are others who cannot get their minds off gout, duodenal ulcer, or chronic constipation.

We sometimes fail to make a correct diagnosis because we omit to use certain methods of examination, especially some of the newer ones, which we may not appreciate at their true value or find too troublesome. Often there are difficulties of place and circumstance; it is one thing to make a diagnosis in a well equipped hospital and quite another to attempt one in a remote country cottage without modern conveniences. It is important to be open to receive information from every available source.

What a number of mistakes and incomplete diagnoses arise from not using the Roentgen rays! Think of the fractures and dislocations that have been overlooked, and the compensations that have been claimed and awarded. A young man was out shooting buck in Siam, and was accidentally shot by his companion. There were two holes, one on each side of the crest of the tibia, and it was therefore thought that the bullet had passed through the leg, and no *x*-ray examination was made, although the patient travelled far to an apparatus. After a great deal of misery the bullet was shown to be in the central canal of the tibia, and was removed a year later.

A number of movable kidneys have been fixed, when stones are the real cause of the pain. It should be a rule in all urinary cases to examine with the *x* rays before any operation is performed. All the urinary organs should be examined. Some time ago I had to remove a disorganized calculous kidney a year after an exploration for movable kidney had been made, but the kidney had not been found, and the movable tumour was said to have been the liver.

Stones were removed from the kidney of a man who soon afterwards died of uraemia. Many stones were then discovered in the opposite kidney. The *x*-ray examination had been limited to one side. Moreover the average total urea excretion had not been estimated in this case, so that an entirely wrong estimate had been made of the danger of the operation. Numberless mistakes have been made because the cystoscope, sigmoidoscope, laryngoscope, and ophthalmoscope have not been used at the right time.

ACCURACY OF OBSERVATION.

The power of observation is to some extent inborn, and sometimes amounts to genius, but it is partly the result of habit and education. It is one of the most valuable acquisitions for a medical man, and one that his daily work fosters. There is little doubt that a country life in childhood, and the study of the exact sciences tend to cultivate it. Without it even *systematic methods* of examination are useless. It should be our constant endeavour to become more and more accurate. A number of mistakes are made over fluctuation. An old man had a large swelling

in the left pectoral region, thought to be a sarcoma of the ribs, but deep fluctuation proved it to be a chronic abscess. Another had a swelling over the hip, which was needlessly incised, because fluctuation had been tested across instead of along the course of the muscle fibres.

It is sometimes difficult to say whether a swelling is translucent or not, and mistakes are common from using a too powerful light. An old lady with a swelling over the front of the shoulder was said to have a Morrant Baker's cyst due to osteo-arthritis of the joint. But on examination with a more reasonable light, the swelling was not translucent. Moreover the opposite shoulder also creaked. Her husband, who was an inventor with time on his hands, had ransacked the British Museum for information about Morrant Baker's cyst and its treatment, only to be referred back to his studies with special reference to lipoma. At the operation the fatty tumour was found to arise from the subsynovial tissue about the bicipital groove. This is the fourth case of the kind that I have seen, and the same mistake had been made by different observers over all of them. In using various difficult methods of examination, such as cystoscopy, beginners are apt to make a good many mistakes. A little blood clot has been mistaken for a vesical growth, and strictures of the rectum, urethra, and œsophagus have been wrongly diagnosed, because of the folding of mucous membrane and pressure of the advancing instruments in wrong directions.

These valuable methods need a certain amount of judgement in their application, and it is well to remember the late Dr. Moxon's wise hint that a microscopic examination is not the best way of telling the difference between a turnip and a swede.

Similarly, sigmoidoscopy is not the most suitable way of discovering internal piles, bleeding from which has led to the needless suspicion of growth in the lower part of the large intestine, out of the reach of the finger.

It is rarely wise to accept the results of the observations of others; it is safer to confirm them whenever possible. I was asked to operate upon a boy of about 7 years of age for intestinal obstruction. The distension of the abdomen and the bulging of the flanks were so enormous as to make it almost certain that the obstruction was low in the large intestine. Volvulus of the sigmoid colon was the only thing that could explain the extreme distension, but the boy was not nearly bad enough for this, nor did the history support it. The subcutaneous abdominal veins were greatly dilated. It was said that the rectum was normal, but on careful bimanual examination I discovered a softish enterolith which acted as a ball-valve at the upper part of the rectum. Upon pushing this back, a great amount of liquid faeces and gas escaped. It was then possible to break up the faecal mass, and to remove it in pieces. The boy was able to go home after three days, and was saved from a needless laparotomy.

Many mistakes are made in the examination of the urinary organs of women. It is too often forgotten that it is necessary to exclude a vaginal source of pathological products. Pus was repeatedly discovered in the urine of a young lady, and was associated with frequency of micturition and pain along the right ureter. The *x*-ray report was negative; therefore an exploration was suggested for tuberculosis of the right kidney. Later a catheter specimen was found to be normal, and a cystoscopic examination and segregation showed that both kidneys were normal; therefore I explored the abdomen, and discovered the cause of the symptoms to be cystic disease of the right ovary, whose capsule was very thick as a result of suppurative appendicitis. For want of careful examination of the back spinal caries is often overlooked for months and treated as stomach ache. Without *a wide knowledge* it is impossible to be correct, and to keep himself up to date in this respect is one of the constant difficulties of a medical man. The busier he gets in his practice, the less time he has to devote to improving his mind. Strange as it may appear, there are many members of the profession who have not yet even heard of Dr. Hertz's ingenious method of examining the stomach and intestines with bismuth and the *x* rays. During the last year I have come across two patients with disease of the stomach, with extreme wasting, in which the diagnosis of malignant disease had been made and a hopeless prognosis given. The bismuth method proved them to be suffering from hour-glass contraction of the stomach. One of these Dr. Hertz kindly examined for me, and I successfully performed gastro-gastrostomy. The other one I examined by the bismuth method myself, and I have only operated on her this week. In this case there was pyloric obstruction as well, therefore Finney's operation had to be performed at the same time. The pyloric pouch was seen to be dilated on the screen, and pyloric stenosis was diagnosed. No amount of knowledge will avail without a proper understanding of the significance of the facts discovered, and without an imagination capable of suggesting all the possible solutions, and a judgement capable of deciding upon the most probable. It sometimes requires a very comprehensive mind to keep conscious of all the facts and possibilities of a difficult case, and in such cases it is always a wise plan to write down the most important points and things to be considered. One of the most helpful principles in diagnosis is that of exclusion of the improbable from the list of possible, and thus to select the most probable. Beyond this we often cannot go. It is very important to consider all the available evidence, and to decide which facts are material. In spite of our efforts there are many cases in which we are unable to arrive at a definite diagnosis. This is especially true in certain urgent abdominal conditions. In many of these an absolute diagnosis is often not essential. What is really important is to be able to decide without delay whether an exploration is, or is not, advisable. If we wait until we have made an absolute diagnosis we will lose a great many lives. The same is true of many subacute and chronic abdominal diseases. It is especially true of early malignant diseases of the stomach and intestine.

Lightning diagnosis, although it may be very fascinating and brilliantly successful in some cases, is bound to lead to error in many others. It is always wise to put it to the test of a cooler judgement soundly based upon all the available facts. The following is a glaring example of a mistake arising out of excessive hurry. A child was seen sucking a curling pin, and a little while afterwards was found crying, and the pin was missing. The mother thought that the child had swallowed it, and hurried him off to the cottage hospital. There the abdomen was opened and the stomach examined, but the pin was not found. Three days later the pin was discovered in the patient's cot at home. Fortunately the child recovered. As a contrast, a triumph of more careful methods may be mentioned. An elderly woman was considered by two physicians and a surgeon to be suffering from malignant disease, probably affecting the gall bladder. She was very ill, sallow, and wasted. The shape of the swelling suggested to me that of the lower pole of the kidney and its distended pelvis, but the urine was said to be normal. Upon microscopic examination, however, pus cells were found in a centrifugalized deposit. Cystoscopic examination showed slight chronic cystitis, and no urine could be seen issuing from the right ureter. Segregation confirmed this. Pyonephrosis was therefore diagnosed. Radiography did not discover any stone, and the tuberculin tests were negative. Therefore some form of valvular obstruction was considered to be the most probable cause. At the operation the upper part of the ureter and the pelvis were folded like a concertina by old periureteral adhesions, and the junction of the ureter and the pelvis was valvular. The kidney was hopelessly disorganized, and was successfully removed. At one spot in front the kidney had perforated and had become adherent to the parietal muscles just below the liver. The resulting induration had previously been regarded as evidence of spreading malignant disease.

At a sale on behalf of the Children's Union of the Waifs and Strays Society, opened on December 6th by Princess Christian, it was stated that the society now has 20,000 members and supports five homes for crippled children. They are situated in Surrey, Yorkshire, and Lancashire.

At the forty-seventh annual meeting of the Surgical Aid Society, on December 6th, it was stated that the income of the society had increased from £28,498 to £30,498, a growth of nearly 24 per cent., which was all the more satisfactory in view of the general financial depression which had prevailed during the year. The number of surgical appliances supplied by the society also showed some increase, numbering some 40,000, as compared with little over 39,000 in the previous twelve months.

THE PHYSICAL SIGNS OF INCIPIENT PULMONARY TUBERCULOSIS

AND ITS TREATMENT BY CONTINUOUS ANTISEPTIC INHALATIONS.

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THE object of this paper is to advocate an unusual method of treatment in the early, and especially in the earliest, stage of pulmonary tuberculosis. Incidentally it will be necessary to describe the earliest physical signs of a tuberculous infection of the lungs, which are inadequately and incorrectly described in the textbooks.

The treatment most in favour at the present time for cases of pulmonary tuberculosis consists of absolute rest while pyrexia is present, abundance of fresh air, abundance of nutriment, and graduated exercise under medical supervision when pyrexia has ceased. It is certain that these measures have aided in the recovery of many. They place the patient under the most favourable circumstances for fighting his battle with the invading bacilli. But there is one obvious defect: they do not include any organized attack on the bacilli themselves. They place the patient under favourable circumstances, but they leave him to fight alone. Attempts have, indeed, been made to give actual assistance by the injection of tuberculin. But this treatment is by no means devoid of risk. If used at all, it can only be slowly, in carefully regulated minimal doses, and under constant observation of the opsonic index. It is very questionable whether such injections are ever justifiable in the early stage of pulmonary tuberculosis, for the opsonic index is then constantly varying in consequence of the autoinoculation produced by the local disease.

Attempts to combat the tuberculous infection by means of antiseptic substances, such as creosote or iodoform given by the mouth, have attained very little success, and these drugs may produce gastro-intestinal irritation. The idea of administering antiseptic drugs by the air passages suggested itself to physicians thirty years ago. In 1877 Sir William Roberts claimed good results in phthisical cases from the use of antiseptic inhalation by means of a "respirator-inhaler," which covered the mouth only, and which he directed to be "worn for fifteen, thirty, or sixty minutes several times a day." Dr. Coghill also employed a similar apparatus, and laid stress on the necessity that the patient should practise inspiration by the mouth and expiration by the nose. "Each inhalation should last from fifteen to twenty minutes, and may be with advantage frequently repeated." The formula which he recommended in 1881 was: ℞ Tinct. iodi aetherealis 5ij, acidi carbolici 5ij, creosoti vel thymoli 5j, sp. vini rect. ad 5j; and he also said that "where cough is urgent or breathing embarrassed chloroform or sulphuric ether may be added at discretion." The quantity of the solution to be used was "10 to 20 drops twice a day at least," and he left the frequency of use largely to the decision of the patient himself. He adds: "A great many of my patients have of their own accord come to use the respirator almost continuously day and night, from their experience of its good effects."

Dr. Burney Yeo, in a lecture delivered in King's College Hospital in 1882, advocated a new and simple oro-nasal inhaler constructed of perforated zinc, and for use therewith he advised a mixture of "creosote, carbolic acid, eucalyptol, or turpentine, with equal parts of spirits of chloroform." He pointed out that such an inhaler is extremely cheap, that it is light and comfortable to wear, that patients find no difficulty in sleeping with it on, and that cough is rapidly relieved. He preferred a mixture of equal parts of creosote and spirit of chloroform, though he sometimes employed carbolic acid or eucalyptol, and occasionally iodine. He found turpentine useful in cases of haemorrhage. He advocated "continuous or almost continuous inhalation." He stated that many cases under his care had improved remarkably by using this inhaler, and he gave the particulars of one very striking case. But he does not claim that by the use of this method it is possible definitely to arrest the disease in its early stage.

Dr. Hassall, in his treatise on *The Inhalation Treatment of Diseases of the Organs of Respiration, including Consumption*, published in 1885, endeavoured to prove that oro-nasal inhalers, and especially Dr. Yeo's, were practically useless; that a very small amount of the carbalic acid or other antiseptic used really found its way into the lungs; and that the only effective method was to place the patient in a chamber filled with antiseptic vapour. His objections, however, were founded on theory and on calculation, not on observation of clinical results. His inhalation chamber is practically impossible in most instances, but his criticism seems to have been accepted by the profession, and to have produced a scepticism which resulted in an almost complete disuse of the method. Yet that excellent clinical observer, Dr. Wilson Fox, wrote: "The antiseptic effect has been doubted by Hassall, but there can be no question that inhalations practised in this manner, with creosote, thymol, eucalyptus, iodoform, iodine, or terebene, tend to diminish cough and expectoration, and that in some cases marked improvement in the patient's state occurs during their use, even in very advanced stages."

If a treatment by inhalation of antiseptics is to be really effective, three conditions are essential:

1. It must be continuous and constantly in operation during the whole of the twenty-four hours, except at meal times.

2. The inhaler employed must be light and capable of being worn both in the daytime and during sleep; it must not hinder respiration, and it should be cheap.

3. The solution employed should be as strong as possible, and it may with advantage be composed of a combination of several volatile antiseptic substances.

During the last four years I have treated all my cases of early pulmonary tuberculosis by this method, and the results have been so remarkable that I desire to bring them before the profession, in the hope that the method may be generally used. The inhaler employed has been the simple oro-nasal cage of perforated zinc advocated by Dr. Burney Yeo. It is worn over the nose and mouth, and is kept in place by elastic bands behind the ears; it contains a piece of sponge or felt on which the solution is dropped. The only precaution necessary is to take care that the edges of the inhaler, which rest on the skin, are not wetted, lest the skin should be stained or made sore. The antiseptic solution which I have employed has been: ℞ Acidi carbolici 5ij, creosoti 5ij, tinct. iodi 5j, spir. aetheris 5j, spir. chloroformi 5ij. Of this solution, 6 to 8 drops are poured on the felt of the inhaler every hour during the daytime, and two or three times during the night if the patient is awake. The odour of the solution is not unpleasant, and patients appear to derive great benefit from its use. Cough is rapidly relieved without any sedative or expectorant medicines, and sputum, if any, is more easily expectorated and is lessened in quantity. The use of this solution has no irritating tendency, nor does it cause haemoptysis. If haemorrhage should occur, it might be well to remember Dr. Yeo's suggestion and to add turpentine to the solution. The absolutely continuous use of the inhaler (except at meal-times) must be rigidly required, and it is very desirable to keep the patient at rest in bed for a week at least, the windows of his bedroom being widely open. During the second week he may be allowed to rise for an hour or two daily, but the continuous use of the inhaler is essential. When the temperature is normal, after the first ten days or so, he may be allowed to omit the inhaler for an hour every morning and to take a walk in the open air. Gradually the periods of exercise may be increased and the number of hours during which the inhaler is used may be very gradually diminished.

Two other points claim attention from the outset. The first is the condition of the teeth, gums, and throat. After every meal the mouth should be rinsed with sanitas fluid and water in equal parts. As soon as possible decayed stumps of teeth should be extracted and carious teeth filled or removed. If the tonsils or fauces are unhealthy, they may be sprayed with a solution of perchloride of mercury of the strength of 1 in 2,000. If there is any nasal obstruction it is advisable to spray the nostrils thoroughly two or three times daily with ℞ Cocain gr. iv, ol. eucalypti ʒss, parolein ʒj, by means of a paroleinspray apparatus. If the patient is a smoker, it is

necessary that he should give up the use of tobacco at once and permanently.

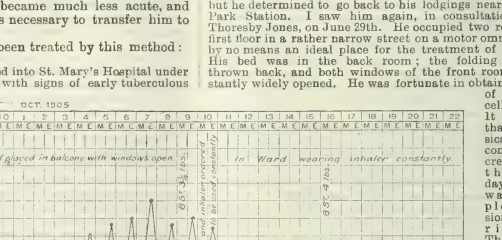
The second point which claims attention is the question of nutriment. It is essential to administer a sufficiency of easily-digested and nutritious food. I insist on every patient taking four times daily, in addition to his ordinary meals, a half-pint of (scalded) milk to which from a dessertspoonful to a tablespoonful of "malted milk" has been added.

Before relating the 30 cases of incipient or early pulmonary tuberculosis which I have treated by continuous antiseptic inhalation I insert a temperature chart taken from a case of advanced phthisis in which the employment of this method caused an immediate reduction of the hectic temperature, with arrest of sweating and slight gain in weight.

W. C., aged 32, was admitted into St. Mary's Hospital during my autumn holiday in 1905. When I resumed charge of the wards in October I found his bed placed on a sheltered balcony, with open windows to allow continuous fresh air as fully as possible. Removal from this to a hospital ward, with the use of continuous antiseptic inhalation, produced the striking effect shown by the chart. The course of the disease became much less acute, and finally so chronic that it was necessary to transfer him to an infirmary.

The following cases have been treated by this method:

1. I. B., aged 19, was admitted into St. Mary's Hospital under my care on March 8th, 1907, with signs of early tuberculous affection of both upper and lower apices of both lungs and evidence of fluid effusion into the left pleura. There was persistent pyrexia, the temperature being between 101° and 102° F.; twice in the first week it fell to 99° F., and once rose to 103° F. The antiseptic measures I have mentioned were begun at once, and she wore the inhaler day and night. There was no sputum. The pulse-rate varied from 84 to 100, the respiration-rate from 28 to 36. On March 17th 33 oz. of clear fluid were aspirated from the left pleural cavity; this fluid was found to be sterile. On March 18th her weight was found to be 8st. 10½ lb. The antiseptic measures were continued. During the second week her temperature varied from 99° to 101° F.; it first fell to normal on March 23rd. It was a little irregular from March 25th to March 27th, and again from April 2nd to April 7th, but after this it remained persistently normal. On March 27th her weight was only 8st. 5½ lb., showing a loss of 5 lb. in nine days. From March 27th to April 6th she had diarrhœa, so that I feared she might have tuberculosis of the intestine, and her weight fell to 7st. 13 lb.—a total loss of 11¼ lb. But the inhaler had been worn persistently day and night from the first, and now came the turn of the tide. After April 7th, the temperature remained normal, and she began to improve rapidly. On April 10th her weight was 7st. 13½ lb.; on April 18th, 8st. 6½ lb.; on April 25th, 8st. 11¼ lb.; on May 1st, 9st. 2½ lb.; on May 6th, when she was discharged, 9st. 5¼ lb.—a gain of 20¼ in twenty-six days. The difference in her appearance was extraordinary. One would hardly have known her to be the same patient.



2. Mr. S., a medical student, was under my care in St. Mary's Hospital for several weeks in the summer of 1906. He had pyrexia, cough, and marked signs (with crepitant sounds) at all four apices. On two separate occasions the sputum was found to contain large numbers of tubercle bacilli. His opsonic index was found to vary from 0.9 to 1.2. He was kept at rest in bed, an icebag was applied over the affected areas of lung, and the antiseptic measures described above were employed at once, the inhaler being worn night and day from the first. His temperature soon fell to normal, his physical signs improved, and before he left the hospital he had gained 2 lb. in weight. Though the first and second examinations of his sputum showed large numbers of bacilli, on the third examination they were rather difficult to find. He now spent several weeks at Llandrindod Wells, wearing his inhaler most conscientiously, living as far as possible in the open air, and taking plenty of milk. When he returned to London in October he had gained 20 lb. in weight. His sputum was very scanty, but it still contained a very small number of bacilli. His improvement was so marked that I decided that it was unnecessary for him to go to Davos for the winter, as he was willing to do, and that he might gradually resume work. This he did cautiously, and with excellent success. His weight continued to increase, and on March 30th, 1907, it was 11 st. 1½ lb.—a total gain since his illness of 30 lb. At this date he was still using the inhaler about an hour daily; he had recently passed safely through an attack of influenza. This gentleman still continues in excellent health, looks extremely well, and has done hard work and gained distinction in his hospital classes.

3. Mr. E., aged 34, was seen by me in consultation with Mr. Jessett, F.R.C.S., and Dr. English on June 17th, 1907. Five weeks previously Mr. Jessett had removed a chain of caseous tuberculous glands from the right cervical region. The wound healed by the first intention, but two days after the operation the temperature rose gradually and became of hectic type. The pyrexial period lasted seventeen days. For six days the temperature was nearly normal. This was followed by another pyrexial period of ten days; it was now again normal. The pyrexia was accompanied by increasing dyspnœa, he was expectorating thick mucoid sputum, and some night sweats were present. No tubercle bacilli could be found in the sputum, but the physical signs were quite typical of a tuberculous infection of both lungs. The patient was at this time in a nursing home in South London, but he determined to go back to his lodgings near Westbourne Park Station. I saw him again, in consultation with Dr. Thoresby Jones, on June 29th. He occupied two rooms on the first floor in a rather narrow street on a motor omnibus route—by no means an ideal place for the treatment of such a case. His bed was in the back room, the folding doors were thrown back, and both windows of the front room were constantly widely opened. He was fortunate in obtaining the help of a most excellent nurse. It was found that the physical signs had considerably increased during the twelve days, and there was now a pleural effusion on the right side. This fluid was drawn off and proved to be sterile. After the aspiration the side was strapped and an icebag applied. A Yeo's inhaler was worn constantly day and night, in accordance with the method already described, and he was fed almost exclusively on milk and malted milk. The sputum increased rapidly in amount, and became muco-purulent, the temperature continued at 102° F., and there was discomfort about the thorax. An icebag was applied over this region, and two others over the lung. The very copious and purulent sputum was examined bacteriologically, and was found to be full of streptococci. This fact, indicating a streptococcal infection of a tuberculous lung, seemed to me to render the prognosis almost hopeless. On July 11th a very violent paroxysm of coughing occurred, lasting five or six hours, when he brought up much purulent material and some blood. The temperature rose to 103° F., and the pulse to 130 for a short time, but this soon subsided, and he seemed better. He was assiduously nursed and carefully fed, and his appetite began to improve. The inhaler was worn persistently. From June 26th to July 4th the temperature was from 100° to 102.3° F.; from July 4th to July 10th, 99.5° to 101.8° F.; from July 10th to July 14th, 99° to 100° F.; and on July 14th it became normal permanently. On July 23rd he was still improving, and was obviously gaining flesh; sputum much less, but still copious and muco-purulent: one or two slighter paroxysms of coughing. There was now resonance in the right axilla (where the fluid had been), but an area of dullness existed at the right anterior base and the right posterior base, with some bronchial breathing and moist sounds—clearly a basic cavity. On August 16th he had sufficiently recovered to come to my house, and I found that there were still signs, though less marked, of a cavity at the right base. He looked decidedly stouter. His weight was found to be 11 st. 10½ lb., his weight in health having been 12 st. 6 lb. He was sent into the country, and persisted in the use of his inhaler. After this his recovery was uninterrupted, and he resumed his work. I examined him again on April 28th, 1909, after an interval of a year and eight months. All the old dull areas could be detected, but there was no bronchial breathing, no prolonged expiration, and no crepitant sound—in short, no

sign of activity. His weight had increased to 15 st. 6 lb.—an increase of no less than 52 lb.! He looked so well that I hardly recognized him at first sight. He had done full work for more than eighteen months, from 9 a.m. to 7 p.m. each day, in an ill-ventilated shop, and had enjoyed a summer holiday in France.

These three cases give sufficient proof of the curative influence of continuous antiseptic inhalation in a tuberculous, and even in a streptococcal, invasion of the lungs. They justify the hope that if this treatment can be adopted in the earliest stage of a pulmonary tuberculosis, we may be able definitely and completely to arrest the disease. If we are to have any prospect of abolishing pulmonary phthisis—one of the greatest scourges of the human race—we must attack it long before any bacilli can be found in the expectoration. In the great majority of cases of pulmonary tuberculosis, definite and characteristic physical signs are present for weeks or months before the patient begins to expectorate. To wait for tubercle bacilli in the sputum before diagnosing pulmonary tuberculosis is like delaying the diagnosis of cancer until the glands are involved. It is therefore essential to acquire accurate ideas as to the exact localization in the lung of an incipient pulmonary tuberculosis and as to the physical signs which are caused by it. For a statement of the current teaching on this subject I turn to the latest authoritative monograph, the article on Tuberculosis of the Lung in *Green's Encyclopaedia and Dictionary of Medicine and Surgery*, vol. vi, published two years ago. In this article, written by a physician of wide experience, there is a section on page 35, under the title Physical Signs of Incipient Tuberculosis, which states that "The early determination of pulmonary tuberculosis by physical signs affords scope for great refinement of methods. In proportion to the earliness of the process the physical signs are slighter; they are, consequently, apt to be missed. Reliable skill can only be obtained after prolonged and careful practice. *Auscultation* affords the more delicate tests. The auscultatory phenomena include slight modifications of the normal respiratory murmur—for example, enfeeblement, harshness, interrupted or cogwheel or jerky respiration, prolonged expiration, blowing expiration (broncho-vesicular). When the respiration is actually bronchial, the process is something more than incipient merely. . . . *Percussion* yields results of importance even at early stages. All portions of the lung must be examined. Corresponding portions must be compared with care; more especially, the two apices must be tested comparatively in respect of percussion sound and extent of resonant area."

This statement as to the earliest physical signs in an incipient pulmonary tuberculosis, and similar statements in the textbooks, seem to me both erroneous and very inadequate—erroneous in assigning greater importance to auscultation than to percussion, and quite inadequate in the information given as to the regions of the thoracic wall where we may expect to find the earliest changes. Yet it is now nearly twenty years since Dr. Kingston Fowler pointed out that tuberculosis of the lungs begins, in an overwhelming majority of cases, at certain definite localities in the lung, and that the disease progresses by well-defined routes. This statement was founded on Dr. Fowler's experiences of autopsies at the Brompton Hospital. It has found its way into some of the textbooks, and is recognized as conveying true information of pathological fact; but it has produced little or no modification of the descriptions of the clinical picture of the disease. Dr. Fowler showed that the earliest lesion occurs not at the very summit of the lung, but at a spot about 1 in. to 1½ in. below the summit, in the lung as seen in the *post-mortem* room. This will correspond to a greater distance, probably quite 2 in., in the expanded air-containing lung. From this site the process may extend either backwards towards the suprascapular fossa, or downwards and outwards into the second intercostal space. Clinically this can quite easily be recognized by careful percussion. The earliest physical signs (dullness and lessened air-entry) may usually be first detected in the innermost part of the first intercostal space on one or both sides, extending from one to three finger-breadths from the sternum, and possibly also in the second space at about one finger-breadth from the sternum. Posteriorly they may be detected quite close to the uppermost dorsal vertebrae on either side, a region which normally is quite resonant. Dr. Fowler also pointed out that less commonly the site of the earliest lesion was situated more externally, and this also is recognized clinically by dullness in the outermost part of the first, and sometimes of the second, intercostal spaces; posteriorly it can be detected in the outer part of the suprascapular fossa, occasionally also in the upper axilla. This area of dullness often exists along with that first described, while the mid-clavicular region remains much more resonant.

In the lower lobe also a similar tuberculous focus is apt to be developed at a very early stage, with, or very soon after, the focus in the upper lobe. Dr. Fowler stated that in the lower lobe also the situation of this early lesion is about 1 in. to 1½ in. below the summit of the lower lobe, and that it is apt to spread downwards and outwards along the lower edge of the interlobar fissure. He described the position at the back of the chest where this lesion was to be looked for. Clinically it is quite easy to verify these facts if careful percussion is practised over the inner extremity of the spine of the scapula and the adjoining region.

These areas at the four apices are the most frequent and characteristic, but occasionally small areas of dullness may be found in front in the right middle lobe, and in the antero-lateral region of the anterior base of the left lung; posteriorly, at the posterior scapular edge, at the scapular angle, or near the posterior base of the lung. The existence of dullness and lessened air-entry at these various localities is quite easy to detect. All that is required for their discovery is care, patience, a correct method of percussion, and a little practice. Anyone who is willing to take a little trouble can satisfy himself of the accuracy of what I have stated. Over these dull areas auscultation often reveals nothing but a defective air-entry, though very slight crepitant sounds may be present; such sounds may or may not be removed by a cough. At a slightly later stage the inspiration may be a little harsh or interrupted; the expiration slightly prolonged. When bronchial breathing, bronchophony, and distinctly audible whisper are present, there is either consolidation around a bronchial tube or a definite cavity.

I may point out the similarity of the earliest physical signs in pulmonary tuberculosis to the earliest physical signs in pneumonia. On the first day of a pneumonia, before any sharp crepitation or any bronchial breathing is developed, it is often possible to detect by careful percussion a small area of diminished resonance or actual dullness, over which the only auscultatory sign is deficiency of air-entry. In both tuberculosis and pneumonia the similar phenomena are due to a similar cause, a local microbic invasion and a local arrest of pulmonary function.

The typical localization of these areas of dullness and lessened air-entry at the four apices is, in itself, almost proof of a tuberculous infection of the lung, but in young subjects they may be simulated (though not often exactly) by simple collapse, and occasionally by bronchopneumonia or by enlarged bronchial glands. They are not necessarily proof of an *active* tuberculous lesion; they may be the abiding result of a former lesion which has recovered or become quiescent. Local crepitant sounds over these dull areas, pyrexia, hacking cough, haemoptysis, or local tenderness, would indicate an active lesion. These physical signs are the earliest obtainable evidence of the existence of pulmonary tuberculosis. They are long antecedent to the appearance of any sputum, and therefore to any possibility of microscopical examination. They are also quite distinct long before any evidence can be obtained by the use of Roentgen rays; the statements which have been made to the contrary are founded on inaccurate percussion. But a variability of the opsonic index may exist along with the earliest pulmonary signs: of this I have twice had proof. A worker in the bacteriological laboratory was found to have a varying opsonic index to tubercle, though he felt quite well. He came to me and requested me to examine his lungs. I found minimal areas in the characteristic positions, measuring from a half to one finger-breadth—that is, 1 to 2 cm. He did not practise inhalations, but went to a sanatorium, where two months later he had a pyrexial attack lasting a week, and a few tubercle bacilli were found in his (very scanty) sputum. He remained in the sanatorium four months, and gained 8 lb. in weight. I examined him again on his return, and found all the dull areas distinctly larger but quiescent, and he seemed to be in good health. The second case is the converse of the

first. A patient who had had a brief attack of pleurisy on the left side, and who quickly recovered, was found to have minimal characteristic areas in the left lung only. There was also slight enlargement of cervical glands. An investigation of the opsonic index to tubercle was suggested and carried out; it was found to be varying. The variability fortunately lasted only a few days.

The dull areas of pulmonary tuberculosis differ much in size. They may be detected when they measure only half a fingerbreadth, or 1 cm., but they often measure about two fingerbreadths. In a severe case they may reach three fingerbreadths, and as much as four in the latest stages of the illness. The auscultatory signs will be determined by the amount of implication and destruction of the pulmonary structure. The possibility of accurate measurement by percussion makes it easy to construct a rough diagram showing the localization of these areas, and the number of fingerbreadths in each can be recorded by figures. Thus, the condition at one visit can be compared with that found at a subsequent visit. The areas may be found to be smaller when the case is improving, and larger if the disease has progressed. I find these records quite trustworthy, and of the greatest assistance in helping to determine whether improvement or deterioration has occurred.

I now add a brief description of 27 other cases of incipient or early pulmonary tuberculosis treated by the method of continuous antiseptic inhalation:

4. Mr. M., aged 33, seen with Dr. Mowll, of Surbiton, July 3rd, 1905. After a sharp attack of influenza he was found to have signs of tubercle at all four apices. Loss of weight 7 lb. Recovered under constant use of inhaler, and gained weight, 14 lb. Went back to work, and in December, 1906, was examined for life insurance and accepted as a "first-class life." But in January, 1907, he had a fresh attack, chiefly in the left lung. He was again kept at home for a fortnight, and used his inhaler persistently; again regained the weight lost, and resumed his occupation, which involves both mental and physical strain. He has remained quite well and is fully equal to his duties.

5. D. B., aged nearly 13, the son of a medical man, had been sent home from boarding school because ill. Tall, but 2½ lb. under average weight for age. Short cough. Signs (November, 1906) at all four apices. Under continuous antiseptic inhalation his cough vanished in a few days; he gained 6 lb. in weight in five weeks, and looked better than for two years. Advised still to use the inhaler three hours daily. He continued to improve; a year later he had gained 14 lb., and a year later still an additional 5 lb. (November, 1909. Dr. B. writes: "My son Douglas keeps well, loses no time at school, enjoys the games, and writes home for large cakes to be sent."

6. Miss V., a hospital sister. Signs in left lung only at first, later at all four apices and one lower area. Loss of weight, 7 lb. No sputum. Weight gained in first three weeks of treatment, 3½ lb.; in the next month, 5 lb.; total gain, 8½ lb. Recovered completely, and for eighteen months has fulfilled her arduous duties with conspicuous ability and success.

7. Miss M., M.B.Lond. Signs at all four apices. Weight lost, 4½ lb. No sputum. Weight gained in first three weeks of treatment, 2½ lb.; during the next month, 12½ lb.; subsequent gain, 15 lb.; total gain, 30 lb. (Her weight rose from 114 lb. to 144 lb.) She has been quite well for two years, and is now doing school inspection work six hours daily for five days a week; is giving ambulance lectures, and has private practice.

8. Miss M., aged 28. Signs in left lung only at first, afterwards at all four apices and four lower areas. No sputum. Had lost weight. During first three weeks of treatment lost 2 lb., and afterwards regained it; during the next month gained another pound. She then felt much better, and her cough had disappeared. I have heard from her recently that she is still well.

9. Admiral X., aged 50, seen in consultation with Dr. G. A. Simmons, of Westminster, April 11th, 1907. Eight months previously a little pleurisy on left side; four months ago another attack on right side, with a little haemoptysis. Yesterday again pain in side and slight haemoptysis. Signs of tubercle in right lung only. Under continuous antiseptic inhalation he rapidly recovered, and in June, 1908, was "in excellent health," and doing important public work.

10. Mrs. R., aged 38. Signs at all four apices, and a small cavity at left lower apex; sputum mucoid; no tubercle bacilli found. Weight gained in first three weeks of treatment 4 lb., and during the next month, 8 lb.; total weight gained, 12 lb. Cough and sputum much less; looks much better. I have not heard from her during the last two years.

11. K. S., aged 17, housemaid. Signs at all four apices; subsequently developed a small cavity at right apex; no sputum. Her weight was not taken until after six weeks' treatment, it was then 97 lb.; she gained 6 lb. Recovered and remained well for six months, then caught fresh cold from a wetting, and developed a few fresh signs, but two months later she was "much better."

12. Mr. C., aged 25, brought by Dr. G. A. Simmons, of Westminster. Four years previously, after an attack of influenza, was ill for three weeks with pyrexia of hectic type. Recovered slowly, and after this had cough each winter, and some sputum with occasional streaks of blood. Loss of weight, 7 lb. Frequent short cough. Tubercle bacilli not found in sputum. Signs at all four apices and two lower areas. Under continuous antiseptic inhalation his cough ceased in a week, and his first remark on his second visit was: "I can't think where my cough has gone to!" Gain of weight in first three weeks of treatment, 2½ lb.; during the next month, 4½ lb.; subsequent gain, 2½ lb.; total, 9½ lb. He spent some months of the winter of 1907-8 at a high altitude station in the Rhone Valley, under the observation of Dr. Tidey, of Montreux, using his inhaler six hours daily and at night, and returned to England in excellent health. I have recently heard from him that he has gained 7 lb. in weight since I last saw him.

13. Mr. P., aged 36, sent by Dr. Wilson, of Boston. Signs at all four apices and four lower areas. Sputum scanty. Tubercle bacilli not found. Has lost 2 lb. in weight during the last three weeks. Under inhalation treatment he gained 5 lb. in four weeks. He continued to improve, and six months later was quite well, except for some chronic nasal obstruction. He has remained well.

14. H. C., aged 19, brought by Dr. Hickley, of South Lambeth Road. Slight haemoptysis two years ago, with signs at right apex. Two more attacks of slight haemoptysis recently. Signs at all four apices and five lower areas. Under inhalation treatment he gained 1 lb. in the first three weeks. He used his inhaler for some months, and a year after his first visit to me, Dr. Hickley reported that he had been "quite well for some time." I have recently heard that he continues well.

15. K. P., aged 15, sent by Dr. Brooks, of Felixstowe, under whose care he had been for a month on account of pleurisy at the right base. His illness began two months ago. He had improved in general condition, having gained 7 lb., but the physical signs were stationary. A sister of his father's had died of phthisis after an illness of only ten weeks. His weight when he came to me on September 18th, 1908, was 9 st. 7 lb.; he showed signs of tubercle at all four apices and five lower areas, including two large ones at the right base, but apparently no pleural effusion. The treatment by continuous antiseptic inhalation was adopted at once, under the supervision of Dr. Balgarnie and Dr. Adams, of Hartley Wintney, Winchfield, Hampshire, and a very thorough open-air treatment was at the same time carried out by them, the boy living in an open shelter in the father's garden. Sputum very scanty. Twelve days later Dr. Balgarnie wrote that the cough was almost gone, and that he had gained 7 lb. in weight. In another month he gained 10 lb. more, and subsequently 3 lb.: total gain, 20 lb. In December, 1908, he looked fairly well, and had remained so for a long time. His weight was then 10 st. 13 lb. In November, 1909, Dr. Balgarnie writes that he had recently examined the boy's chest very carefully, and could find no evidence of any disease of the lungs; he considered him cured.

16. J. H., aged 20, a patient of Dr. Mitchell, of Shirebrook, Mansfield. He had no cough, but had suffered from repeated attacks of tonsillitis. Four years previously he had suffered from pleurisy; he had lost 3 lb. in weight; he had signs at all four apices and four lower areas, the largest being at the right lateral base—doubtless the remains of the former pleurisy. No sputum. Under the antiseptic treatment by inhalation and sprays to throat and nose he rapidly improved, gaining 3½ lb. in weight. He returned to his work as a mining engineer, and he continued well. It is doubtful whether some of his dull areas were not of old standing, the legacy of his attack four years previously, but they appeared to diminish slightly while he was under treatment.

17. A. W., aged 26, marine engineer; sent by Dr. Beaumont, of East Ham. He had had cough for four months, and had been taken ill on shipboard. He was admitted into hospital at Sydney, Australia, and remained there ten weeks. He had been back in England for one week. He showed signs at all four apices and five lower areas, with a cavity at the right apex; he looked very ill, and had lost more than 3 lb. in weight. Under treatment by antiseptic inhalation he rapidly improved, and when I next saw him, four months later, he had gained 15½ lb. in weight. Three months later still there had been a further gain of 3 lb.: total gain, 18½ lb. He looked quite a different man, and had very slight cough in the morning only. There were still signs of a cavity at the right apex. I have heard no more of him.

18. C. G., aged 40, had suffered from occasional slight attacks of haemoptysis since 28 years of age, with slight cough. When he came to me on February 14th, 1909, he had had a "cold" for five weeks, followed by an attack of haemoptysis more severe than ever before. He showed signs at all four apices and two lower areas, with possibly a small cavity at his right apex. After a week in bed, with continuous antiseptic inhalation, he returned to his work. He was able to wear the inhaler in his office hours, and also at night. During the first three weeks of treatment he gained 3½ lb.; during the next month, 3 lb., and subsequently 2 lb.: total gain, 8½ lb. His friends, he stated, "never saw him look so well." After giving up the inhalations he had a small extension of physical signs in the right second space, and lost 1 lb., but a return to the treatment soon arrested this. He is now in excellent health and doing full work.

19. Miss T., aged 18, sent by Dr. Wilson, of Boston. Cough for three months, but no sputum. Signs at all four apices and two lower areas. Under treatment by continuous antiseptic inhalation the cough soon disappeared, and she gained 2½ lb. in weight. I heard last month that she was very well "and growing quite fat."

20. Miss H., aged 22, sent by Dr. Leeson, of Twickenham. Signs at first only in left lung posteriorly, but afterwards at all four apices and two lower areas. She had lost 2½ lb. in the last three weeks. Under treatment by continuous antiseptic inhalation there was steady improvement; the cough rapidly diminished, and she told me that "life was now worth living." She gained 2 lb. in the first three weeks; 1½ lb. during the next month, 2½ lb. subsequently; total gain, 6 lb. Is still using the inhaler, and is "wonderfully better" and very active.

21. Mr. B., aged 36, sent by Dr. Grove, of St. Ives, Hunts. His illness began eight months previously, with catarrh and haemoptysis. Dr. Grove found signs of tubercle at the right apex, but no bacilli in the sputum. Cough worse for four months. Had lost 4 lb. Dr. Grove found tubercle bacilli for the first time the day before the patient came to me. There had been phthisis in his mother's family, and his father died of rheumatic fever. The patient had had pains in his knees, and was found to have a moderately dilated heart, a systolic apex murmur, and a short presystolic. He had signs of tubercle in his lungs at all four apices and two lower areas. After two weeks' rest in bed and continuous use of the inhaler he was able to return to his office, wearing the inhaler while at his work, and attended after 5th January to continue the treatment. During the first three weeks he lost 1 lb.; but in the next month gained 4½ lb., and subsequently 14½ lb., a total gain of 18½ lb. He is now doing full work without fatigue, and gradually lessening his use of the inhaler. He feels very well.

22. Mr. P., aged 36, sent by Case 5. Cough for four months. Felt ill and unequal to his work for one month. Signs at all four apices and four lower areas; no sputum. After a week's rest in bed with continuous antiseptic inhalation he returned to his work, and was able to wear his inhaler for several hours daily, and had to do so only when he stooped within a week. Gain of weight in first three weeks, 4 lb.; during the next month 5 lb.; total gain, 9 lb. During July he had to work twelve hours a day, and he lost ground a little; but he persevered with the inhalations, and by September had quite recovered. He was doing his full work without fatigue, and had had no cough for three months.

23. Mr. H., aged 32, also sent by Case 3. Illness began four months previously, and he lost weight rapidly. He also suffered from hydrocele, which was tapped several times. Temporary improvement occurred, but he went to Germany for a week and experienced "shocking weather." Came back feeling ill. Showed signs at all four apices and two lower areas, with a cavity at his right apex. Evening temperature 99.8° F.; sputum scanty, but containing numerous tubercle bacilli. A week after his first visit to me he had a haemorrhage from the nose, and his temperature rose to 103° F. I saw him again six days later at his own home, in consultation with Dr. Rudd of Acton. The temperature had fallen to 101° F. I found a quite new dull area above the left nipple, with sharp crepitant sounds, and the former physical signs were unchanged. Evidently the disease was progressing rapidly; but under persistent antiseptic inhalation he improved more than we had dared to hope, the temperature fell to normal, and remained normal. He kept his bed for five weeks. There was no more haemoptysis, and the cough became much less. He gained steadily in weight, and had gained 5 lb. in the eight weeks in spite of his severe attack. The physical signs were more advanced, and in addition to the cavity at his right apex there were signs of excavation in three other situations. He was gaining strength, and was walking about two miles daily; cough not troublesome, still some sputum. He was advised to go to Bournemouth, and to wear his inhaler six hours daily and at night. I have not heard from him again, but I have heard indirectly that he is purposing to emigrate to South Africa, and that he has grown so much stouter that he has been compelled to have his clothes enlarged.

24. Miss M. R., aged 13, the daughter of a medical man (deceased), had suffered from a "tuberculous finger" at 6 months of age; it was opened surgically, and healed slowly. For about a year she had had cough and some pain in her side. Sputum scanty, and did not contain bacilli. Signs at all four apices and four lower areas. Under the use of continuous antiseptic inhalation her cough ceased in a week, and in six weeks she gained 14 lb. in weight. I saw her again five months later, and found a further increase of 11 lb.; total gain, 25 lb. She looked and felt extremely well.

25. Mr. A., aged 37, brought by Dr. Higgens, of Hornsey Road. Cough five weeks; loss of weight, 7 lb. Signs at all four apices and four lower areas, with a cavity at the right apex. No sputum. Under treatment by antiseptic inhalation he improved steadily. Gain of weight in the first three weeks, 5½ lb.; during the next month, 5 lb.; subsequently, 7 lb.; total, 17½ lb. His employers having generously allowed him a complete holiday, he was able to use the inhaler during nearly the whole of the twenty-four hours for the period of five months. When last examined, on August 4th, he was perfectly well, the cavity having become obliterated. Since then he has gained 2½ lb., and for three months has done his full work without fatigue.

26. Rev. W. W., aged 42, a patient of Dr. Wilkin, of Newmarket. Ill eight weeks; loss of weight, 4 lb. Haemoptysis ten days ago. Two brothers had died from phthisis, aged 38 and 48. Signs at all four apices and three lower areas. Under treatment by continuous antiseptic inhalation he gained 9 lb. in the first three weeks, and 11 lb. during the following month. He improved rapidly, and when examined on October 15th there were no active signs in his lungs, and he had gained 6 lb. more: total gain, 26 lb. Was doing full clerical duty without fatigue.

27. Miss S., aged 34, sent by Dr. Havell, of Felixstowe. Aching pain in her right chest, with sense of constriction and some dyspnoea for nine months previously; worse during the last six weeks. Very slight haemoptysis. Signs at all four apices and two lower areas, with a cavity at the right apex. No sputum. Under antiseptic inhalation, continuous so far as her duties would allow, she has slowly and steadily improved. She has gained 3½ lb. in weight, her cavity has slowly decreased, there has been no cough for some time, and only occasionally any pain. She is doing her full share of work without fatigue.

28. C. H., aged 9, the ill-developed and half-starved child of very poor parents, living over a stable, was found on April 30th, 1909, to have signs of tubercle at the apex of the right lung and at the upper apex of the left. His weight was only 3 st. 6½ lb., or 12 lb. below the average weight for his age. He had enlarged cervical glands and many carious teeth. My colleague, Dr. Willcox, kindly admitted him into St. Mary's Hospital, and treated him by continuous antiseptic inhalation. The carious teeth were extracted. He improved rapidly. When I examined him again on July 5th he had gained 3½ lb. in weight, the dull areas were smaller, and the signs of active lesion had subsided. But his conditions of life are most unfavourable. On October 5th his weight was still 3 st. 10 lb., as in July; his cough had returned, and I found evidence of fresh implication of the left lung, the right lung being no more involved. Dr. Willcox kindly again admitted him into hospital, and he has once more improved and again gained weight. But one cannot but fear that the domestic conditions will prove too hard for him.

29. Mr. N., aged 28, sent by Dr. Wilson, of Boston, May 7th, 1909. Cough for six weeks; loss of weight, 2½ lb. His sister, aged 25, died from phthisis after an illness of two years. Signs in all four apices and two lower areas, with some evidences of cavitation at the right apex. Gain of weight after three weeks of continuous antiseptic inhalation, 7 lb. A month later, after a stay at Margate, where he did not feel well, he was found to have lost 3 lb. The physical signs were stationary, but he had brought up no blood. This was due to shedding grums and some very foul teeth. These teeth were extracted, and he again improved. On October 15th he was found to have gained 14 lb. since his first visit; there was no sign of activity in his dull areas of lung. He felt and looked very well, and was doing his full work without fatigue. He was dismissed as cured, but advised to wear his inhaler for two hours daily during the next three months.

30. Mr. R., aged 30, seen at his home in East Ham, with Dr. McKetrick, July 27th, 1909. Cough for two months; haemoptysis, lasting several days, two weeks ago. Sputum mucoid. Extensive signs of tubercle in both lungs, at all four apices, and five other areas, with some signs of cavity at the right upper apex and moist crackles at the left lower. I formed a very unfavourable opinion of his prospects. We at once instituted treatment by continuous antiseptic inhalation. On October 16th Dr. McKetrick wrote to me that "Mr. R. is now in Devonshire, putting on flesh rapidly, and his lung condition has improved very much."

U.S., November 30th, 1909.—Mr. R. wore his inhaler day and night persistently for a month. For two weeks he lived in the open air at Lyme Regis. He has gained twelve pounds in weight, has hardly any cough and almost no expectoration, and has been able to climb the Dorset hills. There is still a cavity at his right apex with slight local tenderness and slight occasional local pain, but there is hardly any crepitant sound, and all his dull areas are much smaller. He feels well and hopes to resume work in January.

This is, I think, a complete list of all the cases of incipient or early pulmonary tuberculosis which I have treated by continuous antiseptic inhalation, and in which I have been able to watch the progress or to ascertain the result. Every one of these 30 cases has shown marked improvement. This is surely a most encouraging fact. I consider 22 out of the 30 as certainly cured. In 15 of them the cure has stood the test of time, for they have all remained well and in active work for a whole year. These are Cases 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15, and 16. To these may probably be added Case 1. Eight other cases, Nos. 18, 19, 21, 22, 24, 25, 26, and 29, are apparently quite well, but they have not yet stood the test of time. Five cases—Nos. 10, 11, 17, 20, and 27—I look upon as nearly cured. Only 3 cases remain about which one feels any doubt as to the favourable issue; they are Nos. 23, 28, and 30, and all these 3 cases have improved very considerably.

In the later stages of pulmonary tuberculosis the treatment by antiseptic inhalation will sometimes relieve cough and diminish expectoration, but it cannot be expected to cure. Let no one make trial of this method in advanced phthisis and then report that he "has obtained negative results." Of course he will obtain negative results. When the whole house is burning the most strenuous efforts of the fire brigade may be powerless, yet at its beginning the fire might have been extinguished by a mere pailful of water. If we are to succeed in arresting pulmonary tuberculosis we must attack it in its earliest stage. At present cases are too often allowed to drift into a serious

and even into an irremediable condition simply because the practitioner has not learned how to diagnose an early tuberculous infection by means of careful percussion. Yet this possibility is within the reach of all if a correct method be adopted. And here let me lay stress on the necessity for a complete relaxation of the patient's muscles. For the front of the chest, the patient must lie on his back on a comfortable couch and be placed completely at his ease. With the patient standing or sitting up it is impossible to ascertain the facts correctly, and some of the published pictures illustrating the "method of percussion," with the patient erect, are excellent examples of "how *not* to do it!" For the posterior aspect of the thorax, the patient should be sitting with his back to the physician; he should place his hands on the anterior aspect of the opposite shoulders, and should bend gently forwards.

In this paper I have endeavoured to maintain two propositions. The first is that the detection of pulmonary tuberculosis before any bacilli appear in the sputum is within the reach of any medical practitioner who is willing to take a little trouble. The second is that pulmonary tuberculosis detected at this stage can always be arrested by treatment by continuous antiseptic inhalation. It may be that some exception to both these statements may be found, but if these two propositions can be established, or if they are even approximately true, it is not too much to say that the practical extinction of the disease known as pulmonary phthisis is within our grasp. Since the essential point is a careful percussion, we may say that the secret of success is very literally *in our own hands*. I believe that within three or four years an enormous reduction of the mortality might be effected.

SEVERE PERSISTENT HAEMOPTYSIS

CHECKED BY INTRAVENOUS INJECTION OF NORMAL SERUM AFTER OTHER MEANS HAD FAILED: SUBSEQUENT COMPLICATIONS: RECOVERY.

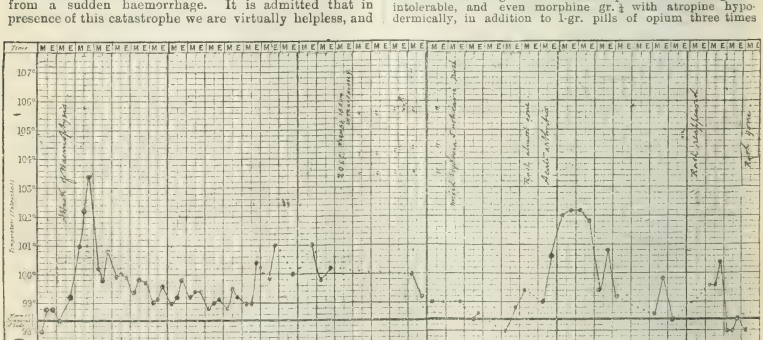
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ONE of the most mortifying experiences which can befall a physician after piloting a case of pulmonary tuberculosis to an apparently satisfactory recovery is to lose his patient from a sudden haemorrhage. It is admitted that in presence of this catastrophe we are virtually helpless, and in the multitude of treatments advised, that meeting with anything like general acceptance is smart purgation, sedatives hypodermically, and the local application of ice. The method employed in the case to be described, and only as a last resort, seems therefore to justify a short note.

It is unnecessary to detail the insidious onset of pulmonary tuberculosis in a man of 43, its sudden outburst coincidentally with an attack of pneumonia, or its steady passage to a widely disseminated infection with bilateral pleurisy, cavity formation at one apex, and constant pyrexia. Suffice it to say that after a long fight the fever abated, the lungs dried up, and tubercle disappeared from the sputum (microscopically). The treatment adopted was intravenous injections of an ethereal solution of iodoform diluted with from 20 to 30 per cent. of liquid paraffin (a 15 per cent. solution of lecithin in ether being occasionally substituted for the paraffin). All treatment had been discontinued for about eight months, and the patient appeared quite well and had returned to work. The haemorrhage broke out on June 21st, 1909, as he was sitting down to supper. The following remedies were tried:

(*a*) Complete rest in bed in a cool room semi-recumbent.
(*b*) Not allowed to speak.
(*c*) Icebag over cavity.
(*d*) Cold packs to abdomen and hot bottle to feet.
(*e*) Three grains of calomel followed by ℥j of castor oil.
(*f*) Morphine and atropine hypodermically.
(*g*) Inhalations of nitrite of amyl.
(*h*) Hypodermics of ergotinine.
(*i*) Calcium chloride in large doses orally.
(*j*) Calcium chloride in large doses (enemas).
(*k*) Suprarenal gland.
(*l*) Ten c.cm. of normal serum by the mouth thrice a day.

In spite of these, the haemorrhage went on in increasing amount, and having continued uninterruptedly for sixteen days he was blanched and in a state of great prostration. After immersing his hand in a ewer of hot water and applying a handkerchief tightly round his forearm, I managed to distend the radial vein at the wrist sufficiently to introduce a needle and injected 20 c.cm. of normal serum. The result was gratifying. Bleeding seemed to stop almost at once, as any further expectorations were dark and evidently the remains of the blood already effused. These soon became mixed with muco-pus and in a few days all traces of blood had disappeared. The injections of 20 c.cm. were administered every day for six days and apart from their styptic effect seemed to benefit the patient in every way. But our troubles were by no means ended. An acute attack of "serum disease" supervened. On the sixth day of the intravenous injection of normal serum a slight rash appeared on the cheek and soon invaded the whole body, appearing, disappearing, and reappearing in a most tantalizing way. In character it was a mixture of erythema and urticaria. There was also a rash on the buccal mucous membrane and fauces, great swelling in the pharynx, and from his altered voice and breathing evidently some oedema of the glottis. The sterno-mastoids were swollen and hard. He could not move his head, swallowing was exceedingly painful, and his efforts to clear his throat of the glairy mucus exactly simulated a quinsy at its height. His jaws became locked, so that nothing could be done locally to relieve his distress, and but for the comfort that the bleeding had stopped there was little to congratulate oneself upon. The itching was intolerable, and even morphine gr. ¼ with atropine hypodermically, in addition to 1-gr. pills of opium three times a day, failed to secure restful sleep. Hyoscine gr. $\frac{1}{150}$ hypodermically induced great cerebral excitement but no sleep. Veronal in 5 and 7½ gr. doses in conjunction with sodium salicylate and sulphonal in 10-gr. doses were also tried as hypnotics, but the only result was delirious nights and abject misery in the mornings. After veronal and sulphonal he



complained of a feeling of a tight band round his head and that his self-control was gone. He felt demoralized, and begged that no further efforts should be made to help him to get sleep. After this a cup of hot tea during the night gave a little sleep, and as the irritation gradually subsided he passed better nights. Locally camphor in hard paraffin succeeded better than soda fomentations or lead and opium, but it is evident from this account that treatment did little, if anything, to relieve any of his symptoms. The throat gradually got better and the rash was not followed by desquamation. The day following the disappearance of the rash he had an attack of acute arthritis affecting the temporo-maxillary and wrist joints, and to a slight extent the ankles, with pains in the muscles of the forearms, back, and neck. This was greatly relieved by 10-gr. doses of salicine thrice a day. He was free from pain on the eighth day. On July 25th the rash reappeared and persisted for four days. The chart is not very complete, but there are a sufficient number of observations recorded to indicate the course of the illness.

It is alleged, first, that the previous exhibition of calcium salts will prevent the appearance of serum rashes, and, secondly, that they are less likely to recur if the second dose of serum is administered within a few days of the first. Now for many weeks prior to his haemorrhage my patient had been taking calcium to counteract a tendency to constipation, and after its onset he got large doses orally and also by enema; also during his haemorrhage he took 30 c.cm. and sometimes 40 c.cm. orally in the day for sixteen days. Again, after the intravenous injections were begun they were continued daily for six days. From this it is evident that neither the previous administration of calcium salts nor the quick repetition of the serum dose can be depended upon to obviate these unpleasant complications. It is also worthy of note that normal serum administered by the mouth may fail absolutely to arrest pulmonary haemorrhage and yet succeed at once if injected intravenously. If it is asked why, having stanched the bleeding with the first intravenous injection of serum, I persisted in them for five days, I can only plead the desire to make sure in a desperate strait and the benefit the patient seemed to derive from them otherwise. He is now rapidly recovering from his anaemia, and the little sputum he has does not show tubercle microscopically (August 25th). In spite of this unpleasant experience, I would not hesitate to inject normal serum again to arrest haemoptysis, but on the next occasion I shall not waste time giving it by the mouth. I hope others may be induced to try it and publish their results, for the value of a reliable styptic in bleeding from the lungs cannot be over-estimated.

A PERSONAL INVESTIGATION INTO THE DIETETIC THEORIES OF AMERICA.*

By ALEXANDER BRYCE, M.D.Glasg., D.P.H.Camb.,
BIRMINGHAM.

An endeavour to reconcile the divergent and apparently hostile dietetic theories which have reached us from America having proved futile in the privacy of my study, in the early part of this year I undertook an investigation on the spot. It was my earnest hope that I might be able to discover a *via media* which, although not capable of fully explaining the differences of opinion, would at least provide a satisfactory working rule in practical dietetics.

Battle Creek Sanitarium.

With this end in view, I decided to commence my research at the Battle Creek Sanitarium in Michigan, a large institution where vegetarianism, or at least flesh abstinence, is practised. My reason for selecting this establishment for breaking ground on the subject was not because I was a vegetarian, or in any way committed to its doctrines or practice, but because its superintendent, Dr. J. H. Kellogg, cordially invited me to make full use of the excellent research laboratories attached to the institution, whilst I was at the same time able to make observations on the patients and guests in the establishment. I was, therefore, entered as a patient under the care of Dr. C. E. Stewart, and instructed to sit for three days at the test-meal table in the dining room, where a skilled attendant assisted me to select my viands in accordance with prescription.

In common with several others, I had an early rise next morning in order to consume the non-appetizing *Zwieback* used in the test meal for obtaining the stomach contents and a sample of the saliva. The urine was carefully collected for twenty-four hours and a sample of the faeces obtained. Once a week the weight, blood count, and blood pressure were recorded. Although I was unfortunate enough to be compelled to succumb on the second day of this severe ordeal, I was astonished to find that out of the 500 patients, most of whom had been living on the usual American diet of three meals a day, supplemented in many cases by large potations of alcohol and excessive indulgence in tobacco, an incredibly small number appeared to have any objections to or be affected in a deleterious manner by the great change. My own sufferings revived the most vivid recollections of two previous attempts to become a vegetarian, and I mentally decided that if I made a fourth attempt I would at least do so in a deliberate and cautious manner.

With my preconceived notions of a sufficiency of protein, meaning thereby the 100 to 125 grams of Voit and Atwater, I found the greatest difficulty in selecting my food from the unaccustomed viands on the daily menu, for which I was unable to summon up the slightest appetite. I do not know whether the efforts of my table companions to make their respective items fit into the caloric values prescribed by their medical attendants was in any way contributory to the result, but it did not improve it. I ought to say that the menu was constructed on a novel principle, each article of food being served in what was called—after Professor Irving Fisher—a "portion" or part of a portion (one "portion" representing 100 calories), and having its constituent protein, fat, and carbohydrates tabulated in calories. Breakfast, about 8 a.m., was supposed to consist of about 800 calories; dinner, 1.30 p.m., 1,000 or thereby; and supper, at 6 p.m., the balance of 2,400 calories. In addition to being fleshless, the diet was of the variety termed "low protein," and was constructed as nearly as possible of 10 per cent. protein, 30 per cent. fat, and 60 per cent. carbohydrate. It was likewise purin-free, and no beverage except milk, a variety of curdled milk called "yogurt," apple juice, grape juice, water, and a sample of the scorched cereal preparations to resemble coffee, was allowed.

According to Dr. Kellogg, the essential feature of the diet was that it was antitoxic, by which he meant that it contained no substance nor any ingredient likely to be converted into a toxin in the alimentary canal, and so produce autointoxication. He subscribes to the doctrine that no protein is stored up in the system, and hence every particle beyond 60 or at the most 70 grams a day is broken down in the colon by the proteolytic anaerobic bacteria, forming indol, skatol, phenol, leucin, tyrosin, muscarin, cadaverin, etc.

I do not doubt that when this diet can be digested and assimilated, which is probably the general rule, the results of its adoption are excellent, at least temporarily. I was told that only a very small proportion of the patients adhered to it when they left the institution, but that the larger number went home determined to live more hygienic lives on a smaller supply of meat. As was to be expected, I heard of quite a number who had broken down under the system, and of these I had personal acquaintance with four. Probably with greater caution in the transference from one system to another, these might be prevented. I am bound to add that whilst the nurses and doctors appeared to have a fair amount of vigour, they did not look at all like the healthy type of person we are accustomed to in England, but it must be remembered that it was from amongst them that the men were selected who demonstrated their superiority in the endurance trials against the selected meat-eating Yale athletes.

Bureau of Chemistry, Washington.

The pleasure of my visit to the Bureau of Chemistry in the Department of Agriculture at Washington, D.C., was marred by the fact that its president, Dr. Harvey Wiley, had just departed for London to attend the seventh International Congress of Applied Chemistry. This in no way interfered with the work which I was permitted to do in the laboratories, which are on the eve of being transferred to a capacious new home. Dr. Wiley has been kind enough to forward me a short

* A paper read before the Birmingham Branch of the British Medical Association.

statement of his experience in dietetics. He believes diet is an important factor in the production and cure of disease, and the most preposterous dicta he has ever heard concerning diet have not come from teachers of dietetics and cooking, but from physicians themselves. In his opinion, in the progress of medical education the near future will see the professorship of dietetics in a medical school advanced to the same rank as that of medicine, and he even asserts that the practice of medicine in the future will be largely a practice of dietetics. He thinks the human animal selects his food naturally, and that the proportion of protein to other constituents which we find in naturally-selected dietaries is about right. He neither favours a very high nor a very low protein ration, but moderation in all things. He does not believe that the low protein theory is at the present time either established or disproved by scientific data, and he asks whether it may not be possible that excessive mastication—that is, converting the meal into a mere mechanical exercise—may not in the end threaten the human family with great dangers of insufficient nutrition.

BOSTON AND HARVARD.

My visit to Boston was less prompted by the idea of inspecting the medical school than by the certainty of an interview with Dr. Francis G. Benedict, who has been commissioned by the Carnegie Institute of Washington to build and equip a laboratory entirely devoted to the study of nutrition. How well he has succeeded is evidenced by the fact that already he has installed two of the finest calorimeters in the world, which are in daily use, and that he is looking forward to the time when, at no distant date, he may possess three more. His work for many years to come is to be confined to the study of the production of energy in man and the lower animals. It is from this point of view that he may be looked upon as the most able opponent of Chittenden's low protein theory. His views are much the same as those of Dr. Wiley, although he is essentially an advocate of a high protein ration. He is much inclined to doubt Chittenden's results, and wishes to see the tests repeated under his own personal supervision. He believes that it is quite possible to live on a low protein diet, but not that a sufficient supply of energy can be manufactured without a very much larger supply of food than is maintained by either Kellogg or Chittenden. He states that it is only necessary to know the daily energy output to determine the energy requirement, for the energy output is practically the energy requirement. He finds that a man of average size weighing 66 kg. and at rest within the calorimeter, has an energy requirement for twenty-four hours of not far from 2,270 calories. Naturally the average individual outside the calorimeter, pursuing his ordinary course of life but not engaged in any occupation, would actually require more than this, because with the greater liberty to move about, the movements of the body would call for the utilization of more energy. It is interesting to know that he subjected Mr. Horace Fletcher, who was the first man upon whom Professor Chittenden experimented, to a calorimetric test. From his study of Mr. Fletcher's diet, Professor Chittenden came to the conclusion that Mr. Fletcher was able to hold his own with 1,700 calories of energy. During this period he was undergoing an unusual amount of muscular exercise with the Yale University crew, and yet on a small quantity of food not only was nitrogen equilibrium maintained but his body weight also remained practically unchanged. During the three days of the residence in the respiration calorimeter his average output of energy was 1,896 calories, whereas the amount of energy actually derived from the food averaged only 1,357 calories. To make good this discrepancy, therefore, Mr. Fletcher was compelled to draw upon his body material for 541 calories, and the data of the experiment from which the gain or loss of body material is determined show that he actually lost body material sufficient to supply this amount of energy. Dr. Benedict, therefore, concludes that during the Yale experiment Fletcher's energy output could hardly have been less than 3,000 calories. The 1,300 calories representing the difference between the intake of energy as estimated in the food and the probable output during the excessive muscular exercise, could be accounted for by the combustion of 150 grams, or about ⅓ lb. of body fat. In the course of the short experiment of six or seven days there may easily have been a loss of 1 or 2 lb. of body fat, compensated by a gain of 1 or 2 lb. of water in the body, so that the body weight would remain unchanged. Fat and water constantly replace each other in the tissues. With an excess of carbohydrate in the diet the tendency of the body is to retain water in the tissues, whereas when fats largely predominate the tendency of the body is to lose water. In unpublished experiments upon other low protein advocates Dr. Benedict came to the conclusion that they took food of 40 per cent. more caloric value than they believed.

I found Professor Folin rather inclined to be conservative in the expression of his views. He believed that the average man can adapt himself to any form of diet, one with a low protein content for preference. He considers that all forms of protein are equally well absorbed, but that flesh contains something besides the protein, which gives it a more stimulating character than vegetable protein. He is satisfied that it is possible for autointoxication to arise in people who take an excess of carbohydrates or fats, and that there are people who can tolerate a larger quantity of proteins with a minimum of carbohydrates and fats rather than a smaller quantity of proteins with a maximum of carbohydrates and fats. But he considers that much work remains to be done on the subject. Professor Folin's observation that the same quantity of kreatinin was always present in the urine of people living on a flesh free diet undoubtedly paved the way for the formulation of his brilliant theory of protein metabolism. Stated briefly, this is as follows: The food proteins are tissue builders solely by reason of their nitrogen content. The muscle tissues of a normal man—unlike those of carnivorous animals—do not increase when the protein of the diet is increased. Instead thereof, all the nitrogen of any excess of protein is eliminated at once, and hence cannot be required to build new tissues, which have a limit to their growth. In other words, when nitrogen equilibrium is established, the body does not store up the surplus nitrogen in the food, but excretes it as rapidly as possible. The reason is that there are two forms of protein metabolism—that carried on in the tissues, or endogenous, and that conducted among the circulating proteins in the blood, or exogenous. Only a small amount of protein—namely, that necessary for the endogenous metabolism—is needed. The greater part of the protein furnished by a standard diet like Voit's—that is, that part representing the exogenous metabolism—is not needed, at any rate so far as its nitrogen is concerned, but by a process of hydrolysis is split up into urea, which is rapidly excreted, and a non-nitrogenous or carbonaceous portion, which is doubtless utilized by the economy in the same manner as the other ternary bodies. These, we know, are by a process of oxidation decomposed with the evolution of heat, which can be converted into mechanical energy.

YALE.

I was pleased to discover that Professor Chittenden is as much admired for his personal qualities as for his capacity in research, and he spares no pains in assisting every eager worker with whom he comes in contact. I am specially indebted to him for many hours of interesting conversation on the subject of diet and metabolism. His own views on the question of diet may be crystallized into the statement that he believes in a low protein mixed diet for the following reasons: (1) Because no nitrogen can be stored in the tissues; (2) because excess of protein tends to disseminate toxins throughout the body; (3) because energy is dissipated in excreting the surplus protein; (4) because there is no necessity to indulge in muscular exertion to aid in working off surplus protein, and hence energy is saved; (5) because a combination of animal and vegetable proteins is essential for the requirements of the body.

With regard to his famous experiment which compelled him to adopt these views, he said that his reason for undertaking it was that he was not satisfied that the observation made by Voit and Atwater into the dietetic habits of the people had established the true physiological nutritive requirements of the body. His aim was to demonstrate the true nutritive requirements of the body as contrasted with dietetic habits, and he required that during the experiment the four following points be considered: (1) That nitrogen equilibrium be maintained;

(2) that physiological equilibrium—that is, the body weight—be maintained; (3) that physiological efficiency be maintained: (4) that the ability to resist disease be not decreased. He discussed with me in detail the various criticisms of his theory, especially with regard to the following three points: (1) The fact that the body weight was maintained by a retention of water in the tissues in place of fat which was destroyed; this, he said, might explain physiological equilibrium for a few weeks but certainly not for 225 days. (2) He combats the view that a diet rich in protein is likely to increase the resistance to disease. Dr. Reid Hunt, of Washington, fed two groups of dogs on a high and low protein diet respectively. The same poison was then administered to each group, and it was found that the low protein dogs could withstand a three times greater dose than the others, hence proving that they had a greater resistance to morbific influence. (3) With regard to the statement that the Japanese navy had found that a high protein diet was accompanied by a diminution in the number of cases of beri-beri, he contended that it did not necessarily follow that the increase of protein was the cause. He thought that it was much more likely that other elements were introduced into the food capable of accounting for the disappearance of the disease. Protein pure and simple is unlikely to be utilized as a food in the body. It is much more likely that it requires to become a salt of lime, potash, or soda before it can be available for dietetic purposes. He thinks the mineral salts introduced with the protein prevented beri-beri, much in the same way that lemon juice prevents the appearance of scurvy.

His able coadjutor Professor Mendel, who occupies the chair of Biological Chemistry, informed me that he considered that the great experiment had at least established the protein minimum requirements of the body. As he personally was rather a hearty eater, the only way he could adopt a low protein diet was by becoming a vegetarian, and this he did for the full 225 days. After the experiment he returned to a mixed diet with less protein than formerly, because he believes that this is the one best fitted to subserve the proper nutritive requirements of the body.

Dr. W. G. Anderson, who is Director of the Yale Gymnasium, informed me that on account of increasing fatigue and loss of endurance he dropped his high protein diet at the time of the great experiment and adopted a low protein one, with the result that he is now in the best of health and condition. His chest capacity had increased by 2 in., and his muscles, which I had the privilege of feeling, were as hard as iron bands.

Professor Irving Fisher was kind enough to inform me that on account of a serious breakdown in health he was advised to adopt a system of overfeeding. Although by this means he was about to rout the disease which threatened to overwhelm him, he experienced a great lack of energy, and had no capacity for endurance. Since, however, he had adopted the low protein mixed diet, his production of energy and capacity for endurance left nothing to be desired. He certainly looked the picture of health.

THE THREE CLASSES OF FOOD REFORMERS.

In reviewing the whole situation, one can hardly escape the conclusion that, after all the experimentation, we are not much further forward than we were. The doctrine of moderation in all things has been promulgated for many centuries, but it is not preached to-day with any more fervour than in the past. The three chief sections of dietetic reformers are: (1) Flesh abstainers, (2) purin-free feeders, (3) low-protein feeders. I am well aware, of course, that there are endless subdivisions of these classes on such minor points as salt-free food, yeast-free food, and so on, but these are non-essential points of difference of no great moment. Nor am I forgetting the system founded upon the theory of hyperpyraemia, but I think its author does not insist upon its adoption as a diet in health so much as a treatment in disease. When we endeavour to reconcile these various sects, we find the effort almost hopeless, as they all claim great advantages for their dietetic methods, but are at variance on the main principles. At first sight it might appear as if Classes 1 and 2 were similar, if not indeed identical, as they both agree in being fleshless and in the main purin-free, but they are at daggers drawn on the question of the amount of protein, Class 1 insisting on 6 grains per lb. weight of the body, whereas Class 2 declares that without at least 9 grains per lb. weight of the body breakdown is sure to occur sooner or later. A minor point of difference in these two sections is that Class 1 derives its protein from legumes, nuts, and cereals, whereas Class 2 depends chiefly on cheese and other milk products. The purin-free devotee declares that there are excessive quantities of purins in legumes, and even nuts are not free from them, whereas the flesh abstainer stigmatizes cheese as a product of putrefaction, and if he ever uses it does so in its perfectly fresh state. It is quite conceivable that if legumes and nuts, or even cheese, were to disagree with any individual digestion, a much larger quantity of endogenous purin would be excreted, due to the greater breakdown of tissue cells.

The flesh abstainer, who in the great majority of instances has selected his dietary from humanitarian motives or religious scruples, is compelled to make up his caloric total by an increase of carbohydrates and fats, especially the former. To prevent the gastric discomfort which so frequently attends upon such diet he dextrinizes the cereals and specially prepares the nuts, and by this means doubtless provides the peptogens, of which he deprives himself when he eschews purins.

In a paper read before this Branch last year on the Limitations of a Purin-free Diet,[1] I gave the results of a fairly extensive experience in the application of that diet. It appeared to be tolerated for twelve months or thereabouts in the majority of cases, and then anaemia and dyspepsia supervened with disastrous consequences. The opinion I formed then was that the deprivation of the peptogens in the purins and the unaccustomed proteins in the cheese, etc., were chiefly responsible for the trouble. It is quite likely that the increased starchy content of the food had something to do with the matter, and possibly dextrinizing might be of great assistance. The flesh abstainer, however, declares that the chief reason is the excessive quantity of protein contained in the diet, and, as on this point he agrees with the third class of dietetic reformer, I should like to mention some of the advantages claimed for a low protein, fleshless diet, and for this purpose will make extracts from a paper read by Dr. J. H. Kellogg before the International Congress on Tuberculosis at Washington last year on "Diet as a means of increasing vital resistance in tuberculosis, with special reference to the protein ration."

THE ADVANTAGES OF A LOW PROTEIN DIET.

From thirty years' observation on thousands of patients and attendants in Battle Creek Sanitarium, he contends that the following obvious advantages are rapidly brought about: (1) Clearing the skin, the disappearance of skin eruptions, sallowness, etc., and rapid improvement in colour and texture of the skin; (2) improvement in the blood count and in the haemoglobin, 12 per cent. in the former, and 15 per cent. in the latter; (3) a notable fall in blood pressure, from an average of 181 mm. Hg to 158 in a fortnight's time. As no pressure-lowering drugs were administered, he attributed this fall to the suppression of pressure-raising toxins produced in the alimentary canal, and the better elimination of tissue wastes.

Professor Zuntz of Berlin informed him that protein requires a much greater expenditure of energy in its digestion and utilization than the other food principles. The energy required for the digestion of fats is only 2½ per cent. of the total energy represented, whereas that required for starch was 10 per cent., and that for protein was 16 per cent. The burden thrown upon the liver and kidneys by excreting the excessive quantities of urea and uric acid on a high protein meat diet is at least four times greater than that on a low protein, fleshless one, and there is a marked diminution of the alkalinity of the blood. This results in deficient oxidation of protein and accumulation of waste products in the blood and tissues. These are of a highly complex character, taxing the kidneys, liver, adrenals, thyroids, and other organs, whereas the metabolism of fats and carbohydrates simply produces CO_2 and H_2O, which are easily eliminated without harm.

He conducted many experiments and made many analyses of excreta showing that intestinal putrefaction is directly proportional to the amount of protein in the dietary, as much as twenty times the amount of indol in

the faeces and indican in the urine being produced by low protein flesh less feeders who were put on a high protein meat diet. At the same time they displayed symptoms due to this increase of protein, such as headache, loss of appetite, loss of energy, and general malaise. A striking table is quoted showing the amount of indol produced in equal quantities of various foodstuffs (25 grams) mixed with 10 grams of human faeces, and incubated for three days. The figures were an average of 8·54 mg. of indol for meats, 1·045 for milk products, 0·181 for vegetable foods, whilst cereals were 310 times less toxic on this method of examination than mutton, which, strange to say, was the most toxic flesh food.

Beisacher has shown that the removal of the thyroid gland of a dog is quickly followed by death if the animal is fed upon a meat diet, while life is prolonged indefinitely and the animal enjoys good health when fed upon a diet of bread and milk. Blum and Kishi hold that the function of the thyroid gland is to neutralize the poisons derived from the putrefaction of albumen in the intestine.

In the ingenious Eck fistula experiment an anastomosis is made between the portal vein and the vena cava, a ligature being applied to the portal vein close to the liver, thus cutting out the liver from the portal circuit. A dog thus prepared fed upon meat dies in three days; when fed upon bread and milk the animal lives in excellent health for an indefinite length of time. Pawlow has shown that the urotoxic coefficient of such a dog is trebled after tying the portal vein, showing that the liver has three times more work to do on a high protein flesh diet than on a low protein flesh less diet.

Hirschfield has shown that with a diet of 70 grams of albumen a healthy kidney eliminates 10.1 grams of nitrogen, a diseased kidney 9·3 grams. When the albumen ration is increased to 130 grams the healthy kidney eliminates 14.5 grams, and the diseased kidney only 11.7 grams, and this disproportion increases the longer the high protein diet is maintained.

Flesh foods contain on an average 200,000,000 putrefactive bacteria in every gram, so that it is appalling to think of the number one swallows in the course of a day. It is comforting to think that Nature has provided the body with many defences against this terrible risk of poisoning: the most important, of course, being in the hydrochloric acid of the gastric juice, and the maintenance of the effective digestive capacity in the stomach and small intestine. We can see, therefore, how it is wise in old age, when the acidity of the gastric juice is diminished, to lower the flesh ration. The mucous membrane of the intestine next exercises a protective function, not only in its epithelial cells and leucocytes, but also in the outflow of mucus which hinders the absorption of the poisons by preventing their contact with the living tissues.

The liver and thyroid gland, as we have seen, and probably other antitoxic glands, are likewise on the lookout for any poisons which may escape the toils of the gastric juice and intestinal mucous membrane, so that the healthy man is fairly capable of dealing with the poisons contained in a flesh diet, a fact of which we have abundant evidence every day of our life.

Most of these facts are already familiar to those who have read Combes's treatise on "Autointoxication," and it is recognized that there are at least four efficient reasons why autointoxication does not exist in healthy people, even although all the local conditions may be present in the alimentary canal. Where, however, hypochlorhydria is present, or the colon is catarrhal, or the liver and the thyroid and other glands are defective in their activity, the toxins are admitted into the blood and exert their malign influence on the body.

Conclusions.

An attempt to reconcile the doctrines of these three sects will apparently meet with little success.

The low protein feeders admit flesh into their dietary, have not the slightest objection to purins in soups or xanthins in tea, coffee, etc., and lay no special stress upon the observance of other laws of health, such as the necessity for exercise, abstention from tobacco, etc.

The purin-free feeders expunge all purins and xanthins from their diet list, insist upon at least 50 per cent. more protein, and one would be disposed to infer from reading the published treatise of its author that these are the only practices essential to perfect health.

The flesh abstainers agree with the low protein advocates in the smallness of their protein content and with the purin-free feeders in their objection to purins and xanthins, but, in addition to this, expunge every possible toxin from their diet list, and place the greatest emphasis on the performance of every known law of health. Their chief apostle, Dr. Kellogg, preaches the necessity of three evacuations of the bowel each day, and for this purpose consumes at each meal liberal quantities of agar-agar in compressed tablet form.

The one thing upon which they all agree is in the diminished amount of food, and so we come back to the fundamental doctrine of moderation in all things, which has not only been taught from time immemorial, but is actually practised by all sensible men at the present time. It is quite possible that the sedentary man may err in eating a little too much animal food, but this is practically forced upon him by his habit of taking too little exercise. But the average man will be very much surprised if he will sit down and carefully estimate the caloric value of his day's food. He will most likely find that it is very much below the 40 calories per kilo, amounting to over 2,500 calories per day, allowed by von Noorden, to say nothing of the 3,000, 4,000, and even 5,000 calories mentioned by some other authorities. I have frequently estimated the caloric value of my own diet, and have sometimes been depressed because I could not get it to exceed 1,800 calories. I have been much comforted, however, to discover in a little book by Max Einhorn on diet and nutrition that his own average was 1,650, or 32 heat units per kilo, and this was on a mixed diet which, he informed me, he was profoundly convinced was the only rational dietary for a healthy man. Probably most men conform more closely to the low protein diet than they are willing to admit. The healthy man can live on any system of diet by attention to moderation and regularity, but the unhealthy man must look to the dietetic expert to guide him in the selection of the best system or kinds of food to suit his case.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, 1908, vol. ii. p. 1527.

THE TREATMENT OF CHLOROSIS.*

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CHLOROSIS is a very common ailment, and, generally speaking, one that is readily and fairly quickly cured. Each of us probably has his favourites among the twenty or so pharmacopoeial preparations of iron, and it only occasionally happens that one comes across cases that resist one or other of them. Nor are we usually neglectful of the auxiliary methods of treatment, the regulation of the bowels to prevent intestinal toxaemia, the prescription of fresh air, and, above all, of proper food, since its occurrence seems to be so frequently bound up with improper diet. We do not, perhaps, often carry out the line of treatment suggested by my friend Dr. Eustace Smith,[1] who relates the cure of a case of chlorosis by means of small doses of zinc sulphate, which, by frequently clearing out the stomach, and by preventing the fermentative changes which had been going on in the alimentary canal, removed what he took to be the underlying cause of the disease, though there is another way of looking at his case which I shall refer to later.

But it does occasionally happen that cases come or are sent to us, in whom all the ordinary measures have been employed and found wanting, and on whom all the new, so-called "organic" preparations of iron which the skill of German chemists has evolved, and the enthusiastic if somewhat commercial advocacy of German physicians has pressed upon the profession, have been tried with little or no success.

It is particularly in these cases that the routine treatment which I shall describe is likely to prove of value, though even in the less stubborn cases it is of service since it shortens a good deal the time required for recovery.

* A communication to the Association of Physicians of Great Britain and Ireland, Dublin, June, 1909.

The method is based upon the researches of Haldane and Lorrain Smith, who have shown by their carbon monoxide method that in chlorosis, although the percentage of haemoglobin in the blood is so much diminished, the total amount of haemoglobin in the body is fully up to the normal: that is to say the anaemia is only relative, being due not to a deficiency of haemoglobin but to an excess of plasma. Theoretically, therefore, it should be possible, if we can only diminish the fluid portion of the blood, to cure chlorosis without the use of iron. What one has to aim at, therefore, is a reduction in the fluids of the body, and the prevention of reaccumulation, and there are a variety of means which may be employed to this end.

The removal of water by the bowel has long been recognized as a valuable line of treatment in chlorosis, so that a small dose of magnesium or sodium sulphate usefully forms a part of any mixture employed. The secretion of urine should be encouraged: citrate of caffein or diuretin may be employed, or theocin sodium acetate, which I have found the most reliable diuretic, in doses of 5 grains four times in the day. Whichever of them is used, it is well to give at the same time 5 minims of tinct. digitalis, since they may all prove ineffective unless the blood pressure in the renal glomeruli is properly maintained. Here, again, it is of interest to note that the empirical use of digitalis in the treatment of chlorosis has long been recognized. Loss of fluid by the skin may be encouraged by the use of jaborandi in some form, or by hot baths, vapour baths, or hot packs. I have never, however, found it necessary to resort to these measures, though in Germany, where hydrotherapy is more in vogue, some physicians lay great stress upon their use in chlorosis.

There is one other mode of removing fluid from the body which I have not so far made use of. That is the treatment, already alluded to, by small doses of zinc sulphate, by which repeated emesis was produced. Although Dr. Eustace Smith attributed the success of this line of treatment in his case to removal of fermenting food remains from the stomach, I am of opinion that the withdrawal of fluid from the body in this way played a part, if not the main part, in the case.

Not only, however, must this elimination of water by the bowel, by the kidney, or by the skin be encouraged, but the intake of water must be limited at the same time. In some of the cases in which I have asked the question, the patients have told me that they drank unusually large quantities of fluids, though in others I have failed to get this history. It is important to impress upon them the necessity of drinking less than they have been in the habit of doing; at the same time, I recommend them to take as little salt with their food as possible. The power of salt to retain fluid in the body is well recognized, and in persons whose kidneys are defective an excess of salt may lead to the appearance of oedema, and deprivation may lead to its disappearance. Indeed, it has struck me as a possible explanation of the origin of chlorosis, which is still wrapped in mystery, that the kidneys might be functionally incapable of secreting urine containing more than a certain proportion of salts, such as is well known to be the case in chronic interstitial nephritis, with resulting retention of salts and retention of fluids to keep the salts in solution. In this connexion I would refer to certain oedemas in young children. It is not uncommon to get sudden oedema, with pale, swollen face and puffy eyelids and swelling of the dorsa of hands and feet, which at once suggests acute nephritis. Examination of the urine, however, fails to reveal evidence of any organic kidney trouble; there is a complete absence of albumen and casts, and the condition appears to be due to a wholly functional inability of the kidney to excrete the normal percentage of sodium chloride, with consequent retention in the tissues and accompanying oedema. The rapidity with which the oedema disappears on a salt-free diet is startling, and fully bears out the suggested etiology of the condition. I have in prospect some experiments to determine the power of the kidneys in cases of chlorosis to get rid of excessive intake of salt, but so far, from my observations on the specific gravity of the urine in these cases, I do not get much support for my suggestion; it is not so constantly low as it should be if the explanation were correct. On the other hand, some observations of Moraczewski[2] though incomplete in certain ways, led him to conclude that the excretion of chlorides in the urine was sensibly diminished in cases of chlorosis.

I have had the patients weighed from time to time, and as they improved by the elimination of their excess of fluid their weight steadily fell. In one case the nurse whose duty it was to weigh the patient was seriously perturbed at the steady loss of weight, since in her previous experience the result to be looked for in successful treatment was a gain in weight.

Theoretically, as I have said, the disease should be amenable on those lines without the use of iron, but in the few cases in which I have followed this course without iron the improvement, though present, has been very slow, to increase rapidly on the addition of iron to the treatment. Practical considerations, therefore, must be allowed to outweigh pure theory. I have tried it now on a considerable number of cases with, on the whole, very gratifying results, particularly in those cases in which the excess of fluid in the body appeared most evident, in which the face, and in fact all the loose tissues of the body generally, had a distinctly "puffy" appearance.

References.
[1] British Medical Journal, 1908, ii, p. 1154.
[2] *Virchow's Archiv*, cxlv, p. 458, 1895.

CASE OF TETANUS TREATED WITH CARBOLIC INJECTIONS: RECOVERY.

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The following case of recovery from tetanus may be of interest, since, in the absence of antitetanic serum, injections of carbolic acid proved of undoubted value.

A boy, aged 13, was first visited on June 22nd, 1909. His parents stated it to be then the third or fourth day of illness since the onset of spasms and difficulty in opening his mouth, and about the twentieth day from the date of injury. The seat of infection was a small cut on the left middle finger on the dorsal surface of the proximal interphalangeal joint. No attempt had been made to protect or clean the wound, and septic synovitis had resulted. His condition on examination was typical. His whole body, the arms excepted, was in a state of continuous rigidity; opisthotonos was marked and trismus severe. Paroxysms of increased rigidity occurred once in every thirty or forty minutes, sometimes oftener. In the intervals between the spasms his jaws could be separated for nearly ½ in. The temperature and pulse were normal, but he was pale and exhausted from lack of food and sleep. He was at once given an egg beaten up with brandy, and his finger washed and treated with caustic carbolic. Amputation being refused, the wound was opened as freely as possible. He was then given a mixed draught of potassium bromide and chloral hydrate, 15 grains of each, morning and evening, the dose being increased later to 20 grains. His parents were instructed to feed him as liberally as possible. After his strength had been recruited by sleep it was soon found that there was no lack of appetite, which was in fact exceptionally keen. He was fed chiefly upon a diet of raw eggs and a Chinese gruel made of egg and flour. Aperients were administered frequently to keep the bowels freely open, and according to the usual routine in our practice he was treated for *Ascaris lumbricoides*. On one occasion eight worms were passed in his stools, but the condition is so universal here that it bears no special significance in his case.

As his parents were convinced that there was no hope of recovery, and the Chinese all prefer to die at home, they refused to allow him to be brought into the hospital, and as they had not the smallest control over him and were helpless in administering the medicine themselves, it was necessary to visit him twice daily for that purpose. These visits were continued for fifteen days. During the first three days of treatment there was a slight improvement in his general condition, owing chiefly to the nourishment and sleep obtained, but no abatement of the symptoms. As the days went on these seemed to be increasing in intensity, and on the eighth day it was decided, as a last hope, to try injections of carbolic acid, no antitoxin being available in these remote regions.

The first injection (1 c.cm. of a 4 per cent. solution) was given on the evening of June 30th, and from that time onwards repeated twice daily, more frequent injections being impossible at his own home. At first there was a distinct improvement in his condition, the spasms were less severe, and the intervals between them considerably prolonged, trismus being markedly relaxed, but on July 3rd there was a relapse. The boy, according to Chinese habit, had been lying quite uncovered on his bed, and must have contracted a chill. His temperature rose slightly, the voice became very hoarse, and coryza troublesome. He was irritable and refused both food and medicine. The paroxysms became again more frequent, and so severe and prolonged that asphyxia was threatened, and the pain caused beads of perspiration to appear on his brow. The parents, fearing the end

was near, had fastened a piece of red rag outside the door and scattered black beans upon the threshold, in accordance with Chinese superstition, to keep demons from entering to claim his soul. These proceedings are never resorted to until all hope is gone, the Chinese being seldom at fault in their prognosis on these occasions. He was given quinine and Dover's powder, and, as it was impossible to visit him more frequently, the amount of injection was increased to 2 c.cm., and the bromide and chloral discontinued. The next day his condition was greatly improved, and progress was from that day forward maintained uninterruptedly.

On July 9th, owing to severe illness amongst ourselves, it became impossible to continue the home visits, and the parents at last consented to his admission into the hospital. Upon admission, although he seemed in much pain, his condition was satisfactory, and he had borne the journey well. A more systematic course of the hypodermic injections was instituted at once, my colleague, Dr. Francis Cunningham, undertaking their administration. On the first two days after admission five injections were given, the dose being 1 c.cm. of a 5 per cent. solution, and after that four injections each day. No bromide or chloral was given. Every night for the first seven days after admission grain of morphine c. atropine was added to the last injection of carbolic acid to ensure a sound sleep, for no injections could be given at night, owing to our insufficiency of staff. The morphine was then reduced gradually until the patient was able to sleep without it. The improvement was satisfactorily maintained, and on July 31st the patient got off his bed himself and walked a few steps alone. His condition seeming so favourable, and being a difficult subject for the injections, they were discontinued, the boy having received 105 injections in all. No toxic signs were observed at any time, but small, punched-out sores appeared at two or three of the hypodermic punctures. After discontinuing the injections he was given a daily dose of grey powder. The rigidity of his legs diminished by degrees, but persisted longer in the right leg than in the left, contraction of the tendo Achillis causing him for a time to walk on tiptoe; but this eventually relaxed also, and for the last two months he has been in full enjoyment of his normal health and strength.

This case from the very first presented several favourable features. The late onset of the disease (about the fifteenth day), the seat of the injury on one of the fingers, and the trifling nature of the traumatism itself, all pointed to a hopeful prognosis. The patient, moreover, was at a vigorous age, his appetite was good throughout, his pulse slow and steady, and temperature normal, except for a temporary rise on one occasion. Then, too, the Chinese temperament was probably a favourable factor, for being so much accustomed to all sorts of sounds and disturbances, the paroxysms were not so easily, if at all, excited by external stimuli as would be the case with a European subject.

As it was impossible to procure the antitoxin it was considered useless to give injections of magnesium sulphate, and owing to the extremely filthy condition of the patient's bed and home surroundings, spinal injections were abstained from altogether. The progress at first seemed so favourable that it was reasonably hoped that recovery would occur naturally, and it was only after the lapse of seven days, when the symptoms began to increase in severity and the paroxysms in intensity, and his life was despaired of, that recourse was had to the treatment by hypodermic injections of carbolic acid. There is no doubt that the effect of the injections was decidedly beneficial, as shown by the marked diminution in frequency and intensity of the paroxysms which followed immediately upon commencing the treatment, but it was not until it became possible to give the injections sufficiently often that a marked and permanent change for the better took place. One week after his admission the spasms had completely disappeared and his jaws could be separated widely and naturally, and mastication of food became possible. There remained only the rigidity of neck and limbs, and this diminished sensibly from day to day during a period of rapid convalescence. The Chinese, to whom the disease is a common, and, alas! too fatal one, regard his recovery as a miraculous manifestation of the agency of the devil! It is my intention, when again called upon to treat a case of tetanus, to begin the carbolic injections from the very first, though I do not think it can ever be necessary to administer enormous quantities or repeat the injection very frequently when a smaller dose can be found to suffice.

UNDER the auspices of the Ligue de Prophylaxie Sanitaire, the first hospital for skin and venereal diseases has recently been established at Cairo. The funds were provided by the State. The director of the hospital is Dr. N. Z. Joannides, a pupil of Professor Neisser.

CONGENITAL BLENORRHOEA OF THE LACRYMAL SAC.

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THE subject of blenorrhoea of the lacrymal sac in the newly born has not received the attention it deserves. It is due to catarrh of the mucous membrane of the sac, which, owing to obstruction somewhere in the nasal duct, most probably where it opens into the inferior meatus of the nose, results in accumulation of muco-pus or pus in the lacrymal passages above the stricture; this leads to distension of the sac, which discharges its contents through the lacrymal puncta into the conjunctival sac when pressure is made over the region of the lacrymal sac. In the textbooks little is said about the pathology, and not much more about the treatment. Two decidedly different lines of treatment are, however, usually followed by ophthalmic surgeons: the one based largely on the results of the treatment and experience in individual cases, the other based in a great measure on the results of embryological findings. The first is the expression treatment, which may be briefly described as consisting of frequent emptyings of the sac by pressing that structure against the lacrymal bone, coupled with the employment of zinc chloride or other astringent drops to the conjunctiva afterwards; the second method consists in slitting up the canaliculus and passage of a probe down the nasal duct into the inferior meatus of the nose.

During the last eighteen months I have met two cases of blenorrhoea of the lacrymal sac in babies so placed socially that it was possible to have the expression treatment well carried out and to keep the cases under careful and even exact observation. The results have tended to strengthen the view I had previously held, that, given the circumstances, which are generally to be found in a good home, the expression treatment is, ordinarily speaking, quite sufficient to cure absolutely the great majority of cases.

As regards the literature on the subject, a careful search unearthed only two papers, to which I would recommend anyone who is interested in the subject: the first is by Mr. Donald Gunn, published in the *Ophthalmic Review*, February, 1900; the second and more recent by Mr. Stephen Mayou in the *Reports of Moorfields Hospital*, 1908. Mr. Gunn, whose article is entitled "Lacrymal Obstruction in the Young," publishes an account of seven cases of this condition, in which, if I read him aright, he ascribes the condition to obstruction of the lower end of the nasal duct, where it opens into the inferior meatus of the nose, and the consequent distension of the passages by the accumulation of epithelial waste, which should have been removed in due course if no such obstruction had existed; the dilatation of the passage he surmised from the large amount of pus and proved actually by the use of the probe. Mr. Mayou does not quite agree with this view, as he considers that the discharge accumulates in the sac itself, which is capable of much distension into the orbit without producing much outward and visible sign. In six of the cases seen by Mr. Gunn he slit the canaliculus and passed a probe; he found dilatation of the nasal duct with obstruction at the lower end in all the cases, and they were promptly cured by this slight operation; the expression treatment was not systematically tried.

Mr. Mayou's conclusions, the result of examination of the heads of several fœtuses, are as follows:

(*a*) That throughout development the lower end of the lacrymal duct is extremely small, and remains so at birth, being partially occluded by the inferior turbinate bone.
(*b*) That the duct is filled with débris, both the sac and canaliculi.
(*c*) That at birth the duct is either not patent or only partially so.

Mr. Mayou is apparently a believer in the passage of the probe.

I would submit to those who deal largely with the newly born, and have occasion to see conjunctivitis in its many phases, that they should constantly keep in mind the possibility of lacrymal obstruction as a probable cause, more especially if the attacks of conjunctivitis are

recurrent, as they frequently are, the condition clearing up under treatment, and recurring in a week or ten days. Pressure over the lacrymal sac, which is the simplest of procedures, will clear up the diagnosis almost to a certainty; should pus or muco-pus regurgitate through the puncta, the expression treatment should be at once instituted. This is easily carried out by a careful nurse or mother; the sac is evacuated five or six times a day, and a few drops of zinc chloride lotion applied to the eye by means of a dropper. In one case I found, in addition to the above, a few drops of 1 per cent. protargol twice a day help very markedly when the secretion was inclined to be purulent; this can be discarded as soon as the secretion becomes more mucoid. The parents can be assured that the case will gradually clear up, and they will not be slow to appreciate the fact that their offspring will get well without the use of chloroform and the knife.

It might not be inappropriate to say, before giving my cases in brief, that there is in the minds of some medical men, who are in general practice and therefore have not always opportunities of extensive study of eye disease, a little confusion as to pathological conditions which the terms "dacryocystitis" and "blenorrhœa of the lacrymal sac" represent. Briefly, blenorrhœa of the lacrymal sac is a catarrhal condition of the mucous membrane of the sac; this may vary from mucoid to purulent. If, however, through the action of pyogenic micro-organisms or their toxins, the epithelium lining the sac becomes destroyed at any point, invasion of the surrounding tissues results in the formation of a phlegmon or abscess, and this is dacryocystitis. Dacryocystitis may result from bone disease in the neighbourhood apart from blenorrhœa of the sac; blenorrhœa, however, is the common cause of dacryocystitis.

CASE I.—Margaret ——, aged about 3 weeks, the daughter of a medical man, had had several attacks of muco-purulent catarrh, with the usual watery eye, even in the interval of freedom from conjunctivitis; repeated expression failed to elicit any discharge from the puncta; still, however, the expression was intermittently practised—that is to say, when the attacks of conjunctivitis occurred. Zinc chloride and boric lotions were used for several months, and silver nitrate gr. ij ad ʒj painted on the everted conjunctiva when thought necessary. When the child was about 5 months old all symptoms disappeared; she is now 18 months old, and presents no symptoms of former trouble.

CASE II.—George ——, the son of another medical colleague, was about 10 days old, and was a typical case, much muco-purulent discharge being readily expressed from the puncta: frequent expression was instituted, the mother taking upon herself the duty, and so well was the procedure carried out that the baby never developed any conjunctivitis; zinc chloride drops were used after the expression and protargol 1 per cent. only when there was any sign of purulent matter in the discharge. This child was quite well at the age of 16 months, the obstruction disappearing along with the cessation of matter on expression of the sac.

The first case was a mild one, but was nevertheless a true case. Singularly enough the baby's brother had the same condition at birth; this child had no pus from the puncta, but had obvious signs (wateriness) of obstruction to the flow of tears; happening to be taken for a holiday to the south, he suddenly developed a marked and typical blenorrhœa, so much so that the surgeon to whom he was taken recommended and performed the slitting-up of the canaliculus and passing the probe.

A HOSPITAL, including a dispensary and laboratory, has recently been opened in New York under the auspices of the Neurological Institute. Among the trustees of the institute are a number of prominent citizens, and on its medical staff are Dr. Joseph Collins, Dr. Joseph Fraenkel, Dr. Pearce Bailey, and Dr. Smith Ely Jelliffe. The building, according to the *Medical Record*, is fully equipped with appliances for the use of hydrotherapeutic, electrical, and other special forms of treatment. In the prospectus is the following passage, to which we invite special attention: "Physicians are invited to send patients suffering from nervous, mental, and allied diseases to the dispensary for diagnosis and for treatment, or for admission to the wards. Patients bringing letters from their physicians requesting diagnosis or suggestions in regard to treatment will be referred to their physicians." Within the scope of the work of the hospital are included formal courses of instruction in neurology.

A CASE OF PERFORATING WOUND OF THE EYE: OPERATION: RECOVERY.

BY CHARLES KILLICK, M.D., F.R.C.S.,
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THE history of the case about to be described is a remarkable instance of the recovery, with good vision, of a severely injured eyeball. I am often called upon to deal with gravely wounded eyes, and my experience has been that they are nearly always lost. Within a few hours of the accident inflammation sets in, sometimes purulent, but more often not; the vitreous soon becomes crowded with opacities; sight is destroyed; there is frequently great pain, and the usual termination is enucleation. Wounds involving the ciliary region or accompanied by great loss of vitreous are especially dangerous. The history of the case under notice is as follows:

On August 20th last, at about 6 p.m., I received a telegram from Dr. Temperley Gray of Lenham, requesting my assistance at the scene of a motor accident at Harrietsham. I arrived there about 7.30. The patient, a lady, was suffering from a perforating wound of the right eye, caused by a splinter of glass from the broken window of her landaulette, which had collided with another motor. She had been taken after the accident into a cottage. The wound in the eye began below and somewhat to the outer side of the cornea, proceeding tangentially to it across the eyeball in a slightly upward direction as far as the inner corneal margin; at this point it turned downwards and inwards, at an angle of about 145 degrees, across the ciliary region, to terminate in the neighbourhood of the lacrymal caruncle. The total length was about half an inch. The iris had prolapsed throughout the whole of the subcorneal incision, but from the point where the wound changed its direction perforation of the globe was incomplete, only the sclerotic and choroid coats having been divided, so that no prolapse of the ciliary body or loss of vitreous had occurred; moreover, the lens appeared to be intact.

In addition to the ocular injury there was also an incised wound in the right lower lid, about ¾ in. long, running parallel to the margin; the upper lid was obliquely divided just external to the upper punctum lacrimale; there was a linear abrasion on the bridge of the nose, and a small jagged laceration of the left temple. Careful search revealed no fragment of glass, either in the various wounds or in the conjunctival sac.

From the nature of the injury, it appeared that any attempt to save the eye would probably end in failure, but I tried to do the best I could under the circumstances. The first and most important step was to excise the prolapsed iris. This had to be done under conditions which did not favour an operation of such a delicate nature, but was fortunately successfully performed. The eye was then temporarily bandaged, and the patient transported to hospital, where she arrived at 10 p.m., being taken at once into the operating theatre. Sutures were placed in the wounds in lids and temple, and a conjunctival flap was dissected up and placed over that extending over the ciliary region. Both eyes were then bandaged, atropine having first been dropped into the injured eye.

The first night was passed without pain, and the patient slept well. On the fourth day after operation, as no pain was complained of, the eye was inspected and found to be going on perfectly well; probably one of the conjunctival stitches had cut out and was irritating the eye. This was the only incident calling for notice, recovery being absolutely uneventful and unaccompanied by inflammation. The patient was allowed up thirteen days after the accident (September 2nd); a week later dark glasses were substituted for the dressings, and she was discharged on September 13th, after twenty-three days in hospital, with a perfectly healed eye, possessing practically normal vision.

Several factors contributed towards the successful result. In the first place, the injury, although extremely severe, had most fortunately left lens, ciliary body, and vitreous intact. Again, the fact that the patient was brought under treatment and an operation performed within two hours of the accident was of the utmost importance. I think, too, that the placing of a conjunctival flap over the inner end of the wound materially aided the healing process and ought never to be omitted in such cases.

Two more points should be mentioned. First, the behaviour of the patient, which was admirable both during the operations and throughout the whole period of after-treatment; had she been at all restless inflammation would probably have ensued, resulting in the loss of the eye. And secondly, the great pains and care taken by the nurse undoubtedly assisted towards the happy termination.

CHRONIC DISEASE OF THE COLLICULUS SEMINALIS.

By ARNOLD EDWARDS, M.D.,
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AFFECTIONS of this the most important area of the posterior urethra are frequently the origin of profound genito-urinary neuroses. That such disease should give rise to hysterical and neurotic manifestations and disturbances of the urinary and sexual functions is not to be wondered at when one considers the relationship of the colliculus seminalis—otherwise known as the verumontanum, the caput gallinaginis, and the crista urethrae—to the ejaculatory ducts, the prostatic openings, and especially to the utriculus masculinus, which is the analogue of the female uterus. The colliculus seminalis, moreover, plays an important part in the mechanism of ejaculation. With erection of the corpora cavernosa the caput gallinaginis swells also: the mouths of the ejaculatory ducts are thereby directed forwards towards the membranous portion, and at the same time the bladder is closed behind. By this process the urethra, which ordinarily serves as a canal for the discharge of urine, is devoted to the use of the sexual system. That the bladder is shut off by the swollen verumontanum appears clear from the fact that it is difficult to void urine when the penis is fully erect, attempts at micturition causing a partial subsidence of the erection; again, urination cannot immediately succeed ejaculation. Also the pain felt in the perineum during ejaculation in cases of tight stricture shows that the passage backwards towards the bladder is closed to the semen. Another point in connexion with the neuroses of the verumontanum which to my mind is also of importance is the knowledge that the nerve supply of this part is in health greater than that of the rest of the urethra. This is proved clinically by the fact that the verumontanum is normally the most sensitive spot recognized by the patient during the passage of an acorn headed bougie down the canal.

A lesion of the colliculus seminalis may persist as the sole sequel of a gonorrhoea, but may also be brought about by sexual excess, frequent masturbation, and particularly by artifices to prolong the sexual act or to prevent pregnancy, such as digital compression of the urethra, constriction at the peno-scrotal juncture by a rubber band, or a species of mental coercion by means of which the orgasm is arrested just before ejaculation. Much more frequently, however, one finds abnormalities of the verumontanum associated with gonorrhoeal inflammation of other parts of the posterior urethra, or of the prostate and its ducts, or the vesiculae seminales and the ejaculatory ducts, or of the epididymes. Yet, in cases where one or more of these were involved, I have sometimes observed that after all prostatitis, vesiculitis, or epididymitis had yielded to treatment, the caput gallinaginis still presented an abnormal appearance, such as a soft infiltration, and gave rise to symptoms. Even when there is a co-existing inflammation of that acknowledged sensitive and nervous organ the prostate, I nevertheless think that the verumontanum is responsible for the greater part of the neuroses produced by the two combined lesions.

The features of a diseased colliculus seminalis can be readily investigated with the aid of various endoscopes. My usual instrument consists of an appropriately curved urethroscopic tube of the size of No. 25 French, with a capacious window on the under aspect of the curve which, when the obturator is removed, allows even an enlarged colliculus to completely enter the fenestrum without dragging on the sides of the delicate structure. With the passage of the ordinary straight urethroscopic tube, bleeding, slight as a rule, but occasionally severe, invariably results and requires persistent and careful swabbing away in order that the view be unobscured. Further, with the straight tube, instead of the complete verumontanum being exposed, only a portion of it is seen, huddled up as it were, at the extremity of the tube. The previously mentioned curved tube, made for me some years ago by M. Gentile, of Paris, and arranged to work with the Valentine lamp, answers very well for preliminary examination and appreciation of the coloration of the part, and, moreover, it is excellent for purposes of treatment. For the study, however, of the more minute details, I find Goldschmidt's irrigation urethroscope invaluable. Just as in the anterior urethra the inflation of the canal with air by stretching the lax and folded mucosa allows much finer investigations than the ordinary Valentine instrument can afford, so in the posterior urethra, where, of course, the aid of air is practically impossible, Goldschmidt in his apparatus—which is really a urethroscope on the principle of the cystoscope—has recourse to a flowing stream of water to open out and distend that part of the canal. The stream of water at the same time serves to wash away any bleeding and keep the lamp cool. Until the water is turned on and allowed to flow by gentle hydrostatic pressure, the picture presented is altogether indistinct, but as the fluid enters the most minute points are beautifully displayed. The marked anaemia of the parts produced by the water pressure and the fact that the appliance is only of diagnostic value are the disadvantages of Goldschmidt's urethroscope, but the alternate use of the two instruments I have described affords every scope for full investigation and treatment of the colliculus seminalis.

Viewed urethroscopically, the dimensions, aspect, and even the situation of the normal caput gallinaginis are far from constant, and considerable experience is required in deciding between the healthy and diseased appearances. The part is, on an average, about the size of a split pea, but its dimensions are generally in proportion to the size of the urethra and the development of the penis. In shape it usually takes the form of a semiglobular protuberance, and has a yellowish rose colour. Using Goldschmidt's instrument, one can clearly see towards the anterior extremity and on the sides of the verumontanum the orifices of the prostatic ducts. These are small punctiform depressions, often smaller than the lacunae of Morgagni, and are easily overlooked with the other urethroscopes. The openings of the ejaculatory ducts are much larger, but even these I find difficult to make out with my curved tube and the Valentine source of light. The aperture leading into the utriculus masculinus, however, can be seen as a fine slit on the anterior declivity of the verumontanum when the part is examined with either instrument.

Pathologically, one finds that chronic disease of the colliculus seminalis is, like chronic urethritis generally, characterized by the formation and evolution of a small-celled infiltration which tends to become transformed into fibrous tissue. According to their stage, these infiltrations are classified into soft and hard varieties. When the verumontanum is the seat of soft infiltration, it swells, becomes dull red and cyanotic; its surface loses its smooth aspect, being, as it were, wrinkled by the formation of folds. Often it has a vivid red and pitted appearance, and resembles somewhat an over-ripe raspberry. Sometimes with Goldschmidt's instrument attenuated polypoid excrescences can be seen springing from the verumontanum and waving about in the stream of water. The orifice of the utriculus is gaping and inflamed, and the openings of the prostatic and ejaculatory ducts appear red, swollen, and surrounded by a prominent border and occasionally muco-pus can be seen to exude from these openings. When the small-celled infiltration of the colliculus has undergone a fibrous transformation its mucous surface seems "dried out," as if it had lost its polish and brilliancy, and has a greyish-rose or greyish-yellow colour. Viewed with Goldschmidt's urethroscope, the epithelium often appears to be desquamating. Later the verumontanum is found flattened, pale and withered, or bent and twisted almost out of recognition. The openings of the glandular ducts are small and contracted, or even closed and surrounded by a red areola which contrasts markedly with the general pallor of the neighbouring tissue.

The infiltrative changes in the verumontanum I have described must nearly always be ascribed to gonorrhoea, but personally I am quite convinced that chronic inflammatory processes can also follow gross venereal excesses, excessive masturbation, and a frequent practice of such sexual artifices as I have previously referred to. The long-standing hyperaemia thereby induced becomes localized in the colliculus seminalis, and a catarrhal condition with small-celled infiltration gradually establishes itself in this region, and involves in its progress the prostatic and ejaculatory ducts.

The symptoms evoked by the above pathological changes vary according to the stage of the disease and the individuality of the patient. Provided the inflammatory process is strictly limited to the mucosa, the symptoms are often trivial, or even absent; but if it extends more deeply into the substance of the colliculus seminalis, marked nervous disturbances are practically certain to ensue in a predisposed subject. Although one occasionally meets with cases presenting neurasthenic features where other parts of the genito-urinary apparatus are diseased, these cases are relatively few, and never assume as severe a type as when the lesion is located in the verumontanum. Deep chronic disease of the colliculus seminalis is characterized by those symptoms which we call "sexual neurasthenia"—that is, the spermatorrhœa of micturition and defæcation; prostatorrhœa, if the prostatic ducts are involved; pain on ejaculation, if the ejaculatory ducts are implicated; precipitate ejaculations, poor erections and frequent nocturnal emissions, complete impotency, relative or true sterility, together with a train of nervous phenomena and general physical and moral depression. Every practitioner knows of the intense mental agony and despair of these wretched sufferers, but, I fear, pays little or no attention to the pathology and treatment of the cause. The indifference, and even repugnance, of the profession towards these sexual neuroses is inexplicable, as no function of the body is more ultimately associated with the welfare and happiness of the human race than that of the sexual organs. By our neglect of a plain duty to humanity we drive patients into the toils of the charlatans; and, once the sufferer has been in the hands of a quack, he is, as a rule, rendered much more insusceptible to scientific treatment.

Internal remedies are of little or no value in the treatment of chronic disease of the verumontanum, and are at the best mere adjuncts to mechanical and local methods. The only two drugs from which I have obtained help have been potassium bromide in large doses and the fluid extract of salix nigra. If the colliculus seminalis be in a state of soft infiltration, with implication of the ejaculatory and prostatic ducts, every effort must be made to arrest its progress before the more sclerotic, and consequently more incurable, stages are reached. The most satisfactory way of aiding the absorption of the infiltrated area is by carefully painting the verumontanum with a fine camel-hair brush loaded with the medicament through the curved endoscope. With these applications one must proceed cautiously, and I usually commence with the ordinary tincture of iodine (*B.P.*) at intervals of a week. If insufficient progress follows this mild preparation, a 5 per cent. solution of copper sulphate is substituted; this again not proving effective, silver nitrate in 5, 10, or even 20 per cent. solutions may be employed, but the reaction must be carefully watched and allowed to subside before a further application is made. The solid salt I never, even under electric illumination, employ for "touching up" the verumontanum, for I am convinced that its indiscriminate and haphazard use, in the form of the *porte caustique*, has been responsible in the past for much sterility by causing occlusion of the ejaculatory ducts. In very obstinate cases the electric cautery may be employed, and if there are distinct polypoidal excrescences of the verumontanum these are best removed by a series of very circumspect touchings with a very fine cautery point. With any of the above applications, but especially the galvano-cautery, used recklessly, prostatitis, vesiculitis, or epididymitis may ensue; and I once saw, in the practice of a foreign colleague, a prostatic abscess follow too deliberate a burning of the verumontanum. If this area shows marked sclerosis the paintings will be useless, and the best results will be obtained by systematic stretchings with Kollmann's posterior urethral dilator followed by intravesical irrigations of silver nitrate solutions of the strength of 1 in 4,000. The constant current applied directly to the verumontanum by means of an appropriate urethral electrode has proved useful in my hands in some rather advanced stages; 2 to 5 milliampères administered for five minutes is sufficient for each sitting. Even when the verumontanum has regained its normal appearance, as demonstrated by the urethroscope, occasionally some of the neurotic symptoms persist; then Winternitz's cooling sound is often effective. Finally, in cases where the prostate and vesiculæ seminales are also involved, systematic massage of these organs, with irrigation of the whole urethra, is indicated.

THE USE OF PURE ANIMAL WOOL IN MEDICAL AND SURGICAL WORK.

By NORMAN PORRITT, M.R.C.S.,
CONSULTING SURGEON, HUDDERSFIELD INFIRMARY.

My attention was drawn to the advantages of animal wool in June, 1906, when I was called to a child suffering from pneumonia. The father was a wool-stapler, and, on hearing that a Gamgee jacket had been ordered for his child, he brought to my notice a sample of very fine silk-like wool, and asked me to try it in place of the Gamgee tissue. I did so, and having used it on many occasions since, I feel that its advantages over the material in common use deserve wider recognition.

For cotton-wool is not wool but cotton, a purely vegetable fibre, the unadulterated product of the cotton tree; and whatever its advantages for swabs, sponges, and as a covering for deeper dressings, it is, where conservation of heat and retention of warmth is the object, inferior to animal wool. In cold weather instinctively we clothe ourselves in woollen garments, and even in summer or in hot climates find flannel more comfortable than cotton. For whilst cotton garments will not retain warmth in the cold seasons, they prevent the escape of the watery vapour from the skin in hot weather. The cricketer or athlete who sets about his work clad in cotton would soon be encased in wet, cold, clinging garments, uncomfortable whilst he exerted himself, and chilly when he rested after his exercise. To put on a Gamgee jacket is to imitate a cricketer or athlete who clothes himself in cotton. The application and removal of a Gamgee jacket are the work of the nurse, the ordering of it is all that comes within the province of the doctor. If the doctor could see a Gamgee jacket removed from the chest of a perspiring patient, who is perhaps taking diaphoretic medicine, he would find the inner surface of the jacket a wet, sopping mess. The cotton Gamgee prevents the transudation of vaporous perspiration, but animal wool allows the more ready escape of vaporous perspiration, whilst the comfort of the patient is infinitely greater.

In surgical cases, in patients about to undergo major operations, abdominal or otherwise, animal wool finds useful employment. Any means of diminishing the shock of operations, and especially of the prolonged abdominal operations which the achievements of modern surgery have rendered possible, claims recognition. And although after the operation hot-water bottles outside and hot saline solution inside the patient promote the return of vitality and warmth, their use savours of shutting the stable door when the steed has gone, or, to be more precise, of putting into a body heat which ought not to have been allowed to escape from it. It is much more difficult to get warmth into a cold or chilled living body than to maintain the heat already there by warm wraps and non-conducting materials. We must remember also that in prolonged operations the long anæsthesia lowers bodily temperature, and this should spur us to omit no precaution, however trivial, which will conserve the bodily heat of the mutilated patient. Operating tables with hot-water beds, to minimize shock, have been devised, but I have no experience of them, and I make bold to say that the use of animal wool goes far to make them unnecessary. The usual practice is to envelop the patient in a Gamgee jacket or suit, but animal wool is a heat retainer with which cotton Gamgee cannot compare, and when the lowering effects of the anæsthetic and the operation cause cold, clammy perspiration to exude, Gamgee tissue retains it and then becomes something of a refrigerator.

In every abdominal or serious operation I envelop the patient in animal wool. I can only give impressions, but it has appeared to lessen appreciably the degree of shock or collapse one expects after severe operations. "I have noticed," writes Dr. Dauber, Gynæcologist to the Hospital for Women, Soho,[1] "that patients are often subjected to too cold an atmosphere before entering the operating

room; warmth, and a continuous high degree of it, is essential from the moment the patient leaves his or her bed until returned to it. . . . If warmth before operation is essential, it is doubly so afterwards," Dr. Dauber continues. "Patients are often sent through draughty corridors, placed in cold lifts, put in wards with open windows, when 'shocked,' cold, and clammy from the operating theatre. It is not always the ether that is the cause of the subsequent bronchitis, though the ether usually gets the blame."

In other cases of shock, as in burns and bad smashes, as well as where there is deficient vitality, as in premature babies and feeble old folks, the wool should prove useful. As a jacket in pulmonary affections; as a wrapping for the joints and a shield for the precordial region in acute rheumatism; as a heat retainer in Raynaud's disease and any form of threatened gangrene, and as a warm covering for serious cases or delicate patients in the journey to or from the hospital or the nursing home, it may be advantageously employed. It is best applied warm. The warmth is grateful to the patient, and any lingering damp is driven out of the wool.

The wool is softer and of finer texture than woolly cotton. It is prepared by a process which eliminates all foreign vegetable or other matter likely to irritate. It may be applied in a single layer about half the thickness of Gamgee tissue and bandaged on; or it may be used as tissue between layers of gauze. For operation cases I have found a suit of flannel lined with the wool more satisfactory and comfortable than either the wool alone or the tissue form.

The suit is a great protection if worn for the first few critical days after the operation, and, if kept clean, it is, when sterilized, ready for another case. If dried before the fire on being removed from the sterilizer, it can be safely sterilized in the steam apparatus used for dressings. Some patients find it so comfortable that they ask to be allowed to wear it when the immediate need for it has passed away. The wool cannot be used as a dressing. It is more expensive than woolly cotton, but as it is not necessary to use so thick a layer the difference in cost is not so great as appears at first sight. In private work the slight extra cost is not worth a moment's thought; whilst in hospital, if made up into garments with flannel foundation secured by buttons or tapes, the material can be used several times at a less cost than the more perishable Gamgee tissue. I have only to add that Messrs. Down Bros. stock the wool, to which they have given the name of "thermo-laine" (heat wool).

REFERENCE.

1 BRITISH MEDICAL JOURNAL, September 28th, 1907.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SECONDARY PAROTITIS.

Two cases of secondary parotitis have lately occurred in my practice which are, I think, worthy of note, as articles on this subject have been published in the JOURNAL of May 29th, p. 1295, and July 3rd, p. 18.

CASE I.—A woman, aged 82, a victim of heart disease, with systolic mitral murmur and albuminuria, had also a scirrhous nodule in the right breast, which was enlarging slowly. Her general condition, however, rendered her not a suitable case for operative interference. The incisor teeth of the lower jaw were encrusted with tartar, and the gums infected with pyorrhoea. Her appetite for her age was good. She complained of pain in both the right parotid and submaxillary salivary glands, which were enlarged and tender. There was no evident dryness of the mouth. The swellings soon subsided after mouth washes of Condy's fluid.

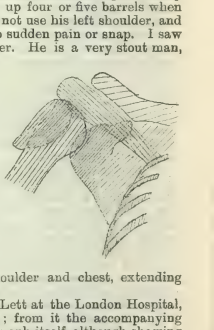
CASE II.—An old woman, aged 89, was dying of her third attack of cerebral haemorrhage. During the illness of ten days I noted, five days before death, a swelling of the left parotid gland. This was evidently painful, as the patient, although semi-conscious from increasing cardiac and respiratory exhaustion, frequently would pass her hand over this region. She was taking nourishment fairly well; her mouth was dry, and tongue glazed and cracked. She had several foul stumps in the lower jaw. The nurse was directed to keep these as clean as possible with boric solution, and the swelling had completely subsided at the time of her death five days later.

Both these cases appear to me to be directly traceable to oral sepsis, the infection travelling along the salivary ducts. I think all these cases of secondary parotitis are due to the same cause, in spite of any routine of antiseptic mouth-washes that may have been employed. The fact that this condition frequently occurs in cases of gastric ulcer with haematemesis, or during treatment by oral starvation, I regard as coincidental only, for the condition will frequently be found in any disease which renders the mouth foul and dry and checks the regular flow of saliva.

Chichester. ARTHUR R. RENDLE, M.D.Brux.

FRACTURE OF THE TUBEROSITY OF THE HUMERUS BY MUSCULAR VIOLENCE.

F. C., aged 41, a brewer's labourer, on June 4th was engaged in pushing 36-gallon beer barrels up a trolley on to a dray. He had sent up four or five barrels when he suddenly found he could not use his left shoulder, and had to give up. He felt no sudden pain or snap. I saw him about half an hour later. He is a very stout man, and was not easy to examine. I felt a curious, very coarse crepitus, like bone crepitus, as I manipulated his shoulder, but on rotating from the elbow I could distinctly feel the head of the humerus rotate in its socket; the clavicle and scapula seemed to be uninjured. Three days later, when he came again, the arm having been slung meanwhile, there was a great deal of blood effusion about the shoulder and chest, extending to the middle line in front.



I sent him to Mr. Hugh Lett at the London Hospital, who had a radiograph taken; from it the accompanying diagram was made, the radiograph itself, although showing the condition clearly, not being strong enough to allow of reproduction. It shows the greater tuberosity of the humerus torn off by the supra-spinatus and infra-spinatus muscles. I have not seen a similar case myself, and should be interested to know if others have come across any. In the days before radiography I do not suppose such a condition could have been accurately diagnosed.

London, E.C. A. P. GIBBONS.

GASTRITIS AND ENTERITIS TREATED WITH CALCIUM PERMANGANATE.

THE connexion between these two diseases is very close, and very often both are present at the same time.

If the trouble is high up in the alimentary canal, we find nausea and vomiting are the chief symptoms, while if the lesion is lower down, diarrhoea is the characteristic feature.

The etiology of both is practically identical, and in most cases the treatment follows the same lines. The origin of both in most cases seems to be due to the ingestion of irritating and indigestible particles of food, or of some organic or inorganic poison, and the first stage in treatment consists in stopping the supply of that part of the dietary that is the offending cause.

The drug that has been favoured mostly has been bismuth, but in many cases this seems to fail, especially if the enteritis be marked. In these cases I have obtained much better results from calcium permanganate in doses of ½ grain with plenty of water. The following cases may be interesting:

1. A lady, aged 65, had been suffering for a few months from nausea and vomiting, together with great epigastric tenderness, which did not yield to bismuth prescriptions; after a few doses of calcium permanganate the trouble eased off considerably, and in ten days she was quite free from the stomach symptoms though, of course, very weak.

2. A lady, aged 38, had for two weeks suffered from dyspepsia and colitis, as well as some menorrhagia. I ordered her the permanganate, and within a week she was well on the way to recovery.

3. A commercial traveller, aged 44, who had been living somewhat well, complained of severe epigastric pain especially after meals, small and light though they had become; a few doses, to use his own words, "acted like magic," and freed him from his trouble.

4. A chemist, aged 38, complained of inability to eat, on account of a "lump" at the "pit of the stomach," and an occasional feeling of sickness, which symptoms he had tried to remove by bismuth and blue pill, but with no success. He reluctantly agreed to try a ½-grain dose of the permanganate, when in spite of his incredulity the lump disappeared in two days.

5. A man, aged 42, had suffered off and on for two years from what undoubtedly was an enteritis, or colitis, causing numerous loose mucous stools which did not yield to bismuth. Six doses of the permanganate always stops the attack, and in some instances fewer doses have the desired effect.

The good results obtained in these subacute or chronic cases are not to be seen in acute cases, at least not to the same extent, and I have often noticed that the calcium salts do not act very well when the temperature is raised.

G. ARBOUR STEPHENS, M.B., B.S., B.Sc.(Lond.).

Swansea.

Reports

OF

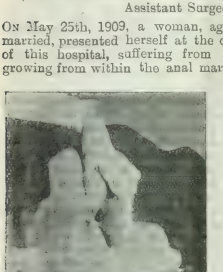
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

COLONIAL HOSPITAL, GIBRALTAR.

PEDUNCULATED ANAL TUMOUR.

(Under the care of L. D. PARSONS, M.B., Ch.B.Edin., Assistant Surgeon.)

ON May 25th, 1909, a woman, aged 41 years, Spanish, married, presented herself at the out-patient department of this hospital, suffering from a pedunculated tumour growing from within the anal margin posteriorly and to the left side. She stated that she noticed a small lump there about two years ago, after childbirth; it appeared to her to be a pile. The tumour gradually grew until it attained its present dimensions, and was a great source of worry to her from its size, weight, and the dragging pain that it caused if unsupported. She wore an improvised sling, by which she suspended the mass between her thighs. The tumour presented a smooth surface superiorly, and had the appearance of exposed mucous membrane. The inferior surface was a trifle less smooth and irregularly corrugated. There were two patches of ulceration. The pedicle by which the tumour was attached measured 2 in.



On May 26th I removed the tumour as close to the attachment at the anal margin as possible, by passing a double silk ligature and tying the pedicle and then snipping the pedicle with a pair of scissors. The haemorrhage was practically *nil* and the pain very little. No anaesthetic was used; a morphine suppository of gr. ½ was inserted and a boracic dressing applied. The tumour weighed 8 oz., measured 11 in. in its widest circumference, and 9½ in. through the pedicle. On section the tumour presented a pale, fibrous look. There were several large vessels entering through the pedicle. Microscopically the tumour consisted of fibrous tissue, with very few cellular elements.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

YORKSHIRE BRANCH.

Halifax, Wednesday, November 17th, 1909.

Dr. GODFREY, Scarborough, in the Chair.

Operations for Cancer of the Breast.—Mr. PRIESTLEY LEECH read a paper, admirably illustrated by a large number of lantern slides, on the results of 100 operations for carcinoma mammae. The paper will be published. The PRESIDENT offered his thanks to Mr. Leech for his admirable and illustrative paper. The question of the treatment of inoperable cancer was often a very difficult one. It was frequently desirable to operate for the relief of the distressing symptoms, even if permanent cure could not be anticipated. Dr. PYE-SMITH (Sheffield) congratulated Dr. Leech on his paper. The most important point in the question of cancer was undoubtedly early diagnosis. One often considered the results of operation for cancer to be more satisfactory than they were shown to be after the careful examination of statistics. Still, Dr. Leech's results were excellent. Dr. METCALFE (Bradford) was much interested in the remarks made by Dr. Leech on the treatment of inoperable cancers by *x* rays. He could bear out what was said as to the marked improvement in many inoperable cancer cases after *x*-ray treatment. But he wished to go further, and suggested that immediately after operation for malignant growths the parts should be *x*-rayed through suitable filters. *X* rays had undoubtedly a selective influence on pathological cells, and he believed where these were few in number and scattered, as after extensively carried out operations they would be, the danger of recurrence would be much diminished. Dr. EDDISON (Leeds) thought there was much less waiting before operation now than formerly. Operation could not be performed too soon. What were considered inoperable cancer cases were often hideous in appearance and in their consequences to the patients, and he considered it a good thing to remove them—even to have a clean wound, and to obtain some comfort for the patient. He thought it a pity to call any case inoperable. He believed the use of radium to be of very doubtful utility. Dr. HELLIER (Leeds) wished to ask Mr. Leech as to the appearances shown in the parts after cleaning up the axilla. Dr. LEECH, in reply, thanked the members for their kind remarks. He did not think *x* rays were of much use except in the treatment of ulcerating surfaces. Unless the skin was very much infiltrated he operated. He would be glad to show Dr. Hellier some of his cases.

Early Diagnosis of Tabes.—Dr. EURICH (Bradford) said that as there was very little time left he would not be able to read his paper, but would confine himself to making "some remarks on the early diagnosis of tabes." He related 4 cases observed by him in all of which the three cardinal symptoms of the disease were wanting—namely, absence of knee-jerks, Argyll Robertson's phenomenon, and lightning pains. He laid stress upon the value of the segmental sensory changes on the trunk, especially anaesthesia and hyperaesthesia, and of the absence of the tendo Achillis reflex. The subsequent course of three of the cases corroborated the original diagnosis, but the fourth case was of too recent date. In conclusion, he pointed out the value of early diagnosis, not only as regards treatment, but also in the matters of insurance, of employment, and of compensation. Dr. TREVELYAN (Leeds) corroborated in large measure what Dr. Eurich had said. He emphasized the great importance of early diagnosis, and paid much attention to the reflexes on both sides. The tendo Achillis reflex was a very important one. Bladder troubles were frequently an early diagnostic sign.

Cases and Specimens.—The following cases and specimens were shown: Dr. ROBERTSON (Doncaster): A knee case. Dr. WRIGHT (Halifax): Myxoedema and spina bifida. Dr. HUNT (Halifax): Case of traumatic meningeal haemorrhage. Dr. LODGE (Halifax): Sarcoma of frontal bone; case of laryngostomy; carcinoma of larynx. Dr. LEECH (Halifax): Tuberculous myositis; broad ligament cyst; sarcoma of mesentery. Dr. WISHART (Halifax): Multiple sarcomata.

Reports of Societies.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Thursday, November 11th, 1909.

Dr. E. H. DAVIS in the Chair.

Discussion on Empyema.

DR. JAMES DRUMMOND, in opening a discussion on empyema, said the condition was an accident or sequela, arising in the course of, or in consequence of, some other pre-existing morbid process. It was to this period, before the empyema had declared itself, while the case was still under the observation of the general practitioner, that he confined his observations. Once empyema was established, the case was no longer a medical one, and the sooner it was dealt with by the surgeon the better. Pneumonia had been the precursor in nearly all the cases of empyema the onset of which he had observed, and probably, more or less, pneumonia was an invariable precursor in nearly all empyemas of zymotic origin. Next in importance he placed septic conditions of the lungs and abdominal viscera. Before the days of immediate operation for appendicitis he had seen empyema develop in at least two cases, which had gone on to suppuration of the appendix. In quite a number of cases there was no history of a previous illness. The medical man was consulted because a child was not "thriving"; there might be no temperature, cough, dyspnœa, or other prominent symptom beyond emaciation, but, on examination of the chest, dullness over one or both bases might be found, leading one to suspect the presence of fluid, and on aspiration pus might be detected. In respect of diagnosis, the nearest approach to infallibility lay in the prompt and frequent use of the aspirating syringe and microscope, but in one case where the empyema was due to hydatid even this failed him. He had never seen the slightest bad effect from the use of the needle. If there was not time to sterilize the skin of the patient, the site of the puncture should be previously painted over with lin. iodi. He had found this efficient and satisfactory. If pus was found, the case should be handed over to the surgeon at once. Professor HUTCHENS, speaking of the bacteria found in the pus of empyemata, pointed out that in many cases the organisms were well-known inhabitants of the alimentary canal. In a recent case the organism found appeared to be identical with that described by Dr. Carmalt Jones in connexion with bronchial asthma.[1] Dr. DAVID DRUMMOND said that for the last twenty-two years he had regarded the association of pneumonia and empyema as more than accidental. If the temperature rose after the crisis of pneumonia, his rule was to aspirate on the tenth day, inserting the needle where the dullness was greatest and the vocal fremitus least. The signs of simple and purulent effusions were the same, but if the dullness diminished at the end of one week the case was not one of empyema. Mr. A. E. MORISON said that the greatest use of the aspirator (including the exploring syringe), was to discover (1) the presence and (2) the position of pus. Its use in localized empyema was essential as a guide to operation. As many of the localized empyemata occur in the lung fissures and between the lobes, the position of these fissures must be borne in mind. On both sides a line drawn from the spine of the second dorsal vertebra downwards and forwards to the junction of the sixth costal cartilage and rib marked the position of the sulcus separating the upper from the lower lobe. All above and in front of this line was upper, all below and behind it lower, lobe. On the right side the position of the second fissure was marked by a line extending from the middle of the first to the juncture of the fourth costal cartilage with the sternum. Many of the empyemata which emptied by coughing through a bronchus were localized between the lobes of the lung and difficult to find. A successful exploration could occasionally be made by imprisoning the pus. The patient was directed to empty his chest by coughing as far as possible before retiring to bed. A dose of morphine was then administered and further coughing forbidden. The aspirator was tried in the morning when the cavity was full. When such an empyema had been discovered, the proper treatment was to drain it through the most direct route. A second use of the aspirator was to tide over a temporary difficulty. A third was that suggested by Murphy of Chicago. After emptying the chest he injected through the needle a glycerine formalin solution. His published results were very remarkable. Mr. T. G. OUSTON did not approve of local anæsthesia for opening empyemata in children, owing to the certainty of the child struggling during the operation. Chloroform had given him every satisfaction, but it was not advisable to obtain full surgical anæsthesia: he was convinced that a minimum of anæsthetic was a very important factor. During its induction the patient should lie on the affected side, as a child's chest wall was so compressible that the purulent collection left it with only one lung available for respiration. Mr. CLAY said that in the old days the secondary danger of chloroform, acetone poisoning, was called septicæmia, and urged the use of ether as an anæsthetic. The position of the opening made should depend on the situation of the pus. He thought that an atypical pneumonia was often due to the *Bacillus coli communis*, which fact was not sufficiently recognized. His rule was to insert an exploring needle should the temperature rise without cause after the crisis of a case of pneumonia. Dr. R. S. PEART remarked that no mention had been made of the dull line in the chest, the level of which altered with the position of the patient. If pus was present there was not so much movement, owing to adhesions. Dr. PARKIN had seen two cases of empyema associated with malignancy. In one the resection of rib showed the deposits of sarcoma. In the other case there was great haemorrhage at the time of operation; the patient died suddenly a few days later, and a *post-mortem* examination revealed a malignant lung. In another case the empyema was secondary to a liver abscess. Dr. ANGUS MARTIN mentioned Mr. Rutherford Morison's method of previously making children intoxicated with alcohol to minimize the amount of chloroform used for anæsthesia. Dr. BEATTIE said general anæsthesia was a bar to successful needling, as the vocal fremitus could not be obtained. He did not think there was any change of level of fluid, as the pleural cavity was a closed bottle; but if the fluids present were of a different specific gravity the level would then alter with changes of posture Mr. TURNER said that from a surgical point of view empyema was really a medical disease, for if the cases were only got sufficiently early the technical difficulties were not great, and the results were uniformly good. With very recent empyema, and especially in children, drainage through an intercostal space was usually sufficient; but if the condition was of any standing, and therefore likely to necessitate prolonged drainage, or if in any case the ribs were close together, it was far better to excise a portion, as difficulties quite often arose subsequently. He was glad to hear Mr. Morison emphasize the importance of getting the tube out early, and he could endorse very strongly what the same speaker had said about the necessity of passing a director into the sinus every day until it was perfectly evident that the cavity was obliterated from within. No case of empyema ought to be allowed to pass out of the control of the medical attendant until the cavity was completely obliterated either by expansion of the lung or by some other method. Beck of Chicago found that by injecting sinuses in various parts of the body with a paste made of 33 parts of bismuth and 67 parts of vaseline even very chronic sinuses could be readily got to heal, and by extending this process to the chest it was found that cases of very chronic empyema had been cured, some of the results being truly remarkable.

[1] BRITISH MEDICAL JOURNAL, October 9th, p. 1040

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Friday, November 19th, 1909.

Dr. J. W. MARTIN, President, in the Chair.

Meeting at Sheffield.

DR. DONALD (Manchester) read notes of a case of Wertheim's operation, which was followed by uræmia. Only 4 oz of urine were passed on the first two days, and none at all on the third; on the fourth and fifth 62 and 120 oz.

respectively were passed, and the patient appeared to be making good progress. On the sixth day coma set in, and death occurred a few days later. At the necropsy the right kidney was found to be the seat of old cystic disease, and to contain but little secreting tissue, whilst the left ureter had been constricted by a ligature. The left kidney was engorged, but appeared to have been healthy before the operation. Dr. H. Barnes (Liverpool) recorded a case in which he had removed a pyosalpinx on account of pelvic pain of a month's duration, from a patient two months advanced in a second pregnancy. Three weeks had since elapsed without evidence of disturbance of the pregnancy. Mr. P. E. Barber (Sheffield) recorded a case in which he had performed total abdominal hysterectomy for *Placenta praevia centralis*. The patient, a 4-gravida, had been losing for a week before admission to hospital. Vaginal examination caused profuse haemorrhage, which necessitated plugging the cervix and vagina. She was blanched, and apparently moribund; the pulse-rate was 140. The uterus, containing a dead full-time child, was removed, two pints of saline being at the same time infused intravenously. The patient made a good recovery. The following specimens were shown:—Dr. Lloyd Roberts (Manchester): A uterus removed for *Malignant disease of the corpus*. It was found to contain a fibroid polypus, which was invaded at its base by glandular carcinoma arising from the neighbouring endometrium. The apex of the polypus was quite free from malignant disease. Dr. J. E. Gemmell (Liverpool): A *Sarcoma of the mesentery*, which clinically had simulated an ovarian cyst with long pedicle. Dr. W. E. Fothergill thought the microscopical appearances were those of a peritheliona. Mr. R. Favell (Sheffield): A round-cell *Sarcoma of the vagina*, occurring in a single woman of 25. The hard, nodular growth was easily enucleated and removed with its covering of vaginal wall. Mr. P. E. Barber: (1) A full-time *Ectopic gestation sac*, which had been successfully removed from a multipara, aged 34. Soon after the commencement of the period of nine months' amenorrhœa, she had experienced a sudden attack of right-sided pelvic pain, with a feeling of faintness; this was not accompanied by external haemorrhage. The fetal movements, which had been very violent and painful, had ceased six weeks before admission. There was no history of spurious labour pains. The sutures of the softened fetal head could be easily felt through the thin abdominal wall, and the state of affairs was readily diagnosed. The sac, which was largely extraperitoneal, was removed entire, with the body of the uterus, to which it was intimately united. The left appendages were normal. The right could not be found, either at the operation, or on later examination of the specimen. The right round ligament ran into the sac. The placenta, greatly thickened by blood clot, was attached to the back of the uterus and the tissues of the base of the broad ligament. (2) A uterus with a right *Tuberculous pyosalpinx* and a left tuberculous tubo ovarian swelling. A nodule of caseating material enlarged the right angle of the uterus, around the interstitial portion of the tube. The parietal and visceral peritoneum was studded with tubercles. Sir William Sinclair showed long *Sea-tangle tents* suitable for the induction of labour. They were 6 or 7 in. long. Similar ones had already been used, with good results, in several cases.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 17th, 1909.

Mr. Adam Fulton, President, in the Chair.

Mr. Fulton, in a presidential address dealing with *Medical ethics*, pointed out that the present tendency to create numerous State and municipal medical appointments was becoming a source of danger to the medical profession. In many instances the remuneration was quite inadequate, and the work done unduly encroached on that of the general practitioner. To guard against these dangers the medical men should endeavour to become a thoroughly united body. At present there were too many petty jealousies between general practitioners themselves, between general practitioners and hospital staffs, and between general practitioners and the numerous types of consultants which had lately arisen; a clearer recognition of etiquette would in itself do much to lessen friction. It was also very much to be desired that medical men should meet more frequently on a social footing, and thus learn to appreciate one another's good points. Many existing differences would then disappear at once.

At a further meeting on December 1st, Dr. Jacob described a case of *Delayed chloroform poisoning* in a child aged 12 years. The patient suddenly became maniacal thirty-six hours after the administration of chloroform, the symptoms very closely simulating those of acute septic meningitis. A lumbar puncture revealed increased cerebro-spinal pressure, but no other abnormality. The liver, examined after death, showed areas of fatty necrosis. Mr. A. R. Andersen, in a paper on the treatment of *Uterine cancer*, laid down the rule that a case might be regarded as "a cure" when no recurrence had taken place after five years. The majority of cases of uterine cancer could be cured if operated upon sufficiently early. The prospects of cure were better than in breast cancer. The operation of choice was abdominal hysterectomy. All cases in which the disease was confined to the cervix, the uterus movable, and the broad ligaments free, should be operated upon. But in his hospital practice only one in every eight cases was thus favourable. Cases in which the rectum and bladder were involved were clearly inoperable. By far the larger number of cases were at a dubious stage. In a series of twenty such cases upon which he operated in 1897 and the four succeeding years, he had a mortality of 30 per cent. which induced him to advise against operating in these doubtful cases. But Wertheim's encouraging figures in 1905 induced him to follow his lead, and since then the results had been very satisfactory. In view of the immense importance of early recognition of "uterine" cancer, vaginal examination should be practised more frequently by medical men.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Friday, November 26th, 1909.

Dr. J. B. Hellier, President, in the Chair.

Mr. L. A. Rowden, in a paper on *X-ray diagnosis of renal calculus*, insisted on the importance of making the diagnosis from a screen examination and not from the plate. If the plate alone was relied on many calculi might be overlooked. The area of illumination should be cut down to its smallest possible limits so as to lessen the general fogging produced by the secondary radiations. Out of a series of 400 examinations made by him, 92 cases were operated upon and in over 95 per cent. of these the diagnosis was found to be correct. Dr. A. H. Bampton, in a paper on the medical aspect of complete *Suppression of urine*, narrated a case where there was complete suppression for ten days. Up to the eighth day the brain remained unclouded and breathing and pulse not accelerated; temperature was subnormal and there was no gastro-intestinal disturbance. The patient died unconscious, but without convulsions, on the eleventh day. On autopsy the bladder was found empty and there was no mechanical obstruction in the urinary tract. The kidneys showed interstitial nephritis. Similar cases had been reported by Sir Dyce Duckworth and Dr. Osler. The following were among the exhibits: Mr. B. G. A. Moynihan: An *Enlarged prostate*, weighing 24½ oz., removed in June. The patient had suffered for nine months from symptoms of prostatic obstruction. A large tumour was palpable above the pubes. The prostate was removed by the suprapubic route. The wound was slow in healing, but was closed in seven weeks. Dr. A. Sharp: Two cases illustrating the tertiary manifestations of *Syphilis of the larynx*. One showed a diffuse infiltration involving the ventricular bands and interarytenoid regions, and causing troublesome dyspnœa and loss of voice. The other case showed a typical tertiary ulcer, the remains of a disintegrating gumma, involving the true and false cords of the left side. It was pointed out that potassium iodide was much more efficient in circumscribed than in diffuse infiltrations, and that in the latter mercurial inunction together with iodide gave the best results. Mr. H. Collinson: A circular tin disc, 1 in. in diameter, removed from the larynx of a child, aged 6. The child was

admitted late at night when skiagraphy was impossible. A high tracheotomy was performed, and the foreign body was found to be tightly impacted below the glottis. Mr. A. L. Whitehead: A case of *Mastoid disease* with labyrinthine suppuration; vertigo and nystagmus were present before operation. The vertigo had now passed off, but some typical labyrinthine nystagmus persisted. Mr. W. Thompson: A *Sloughing testis* following influenza. Dr. E. F. Trevelyan: A case of *Pachyderma laryngis* in early pulmonary phthisis.

HARVEIAN SOCIETY.

Monday, November 15th, 1909.

Dr. C. Buttar, President, in the Chair.

The Nature of Angina Pectoris.

Dr. Alexander Morison, in a paper on the nature and treatment of angina pectoris, remarked that if the term was used so as to apply to all forms of cardiac pain the condition was not rare, but if limited to classical cases, mostly without valvular disease, the remark of Stokes of Dublin that he had never seen a case was readily comprehensible. The speaker himself would define angina pectoris as a painful affection of the heart as a whole, dependent upon disorganization of some anatomical character or disorder in the physiological function of one or more of the factors in cardiac action, and associated in some cases with a fear of impending death. The character and situation of the conditions which originated angina varied. The heart, though endowed with low sensibility to handling and other modes of external irritation in normal circumstances, might in the presence of lesion of its internal surfaces or severe stimulation of its nervous endowment, by compression or otherwise, reveal evidences of sensibility as well marked as that of other viscera in analogous circumstances. He argued that even the commencement of referred pain in a peripheral area such as the arm, in no way invalidated belief in intra-aortic or intracardial nerves being also the seat and site of referred pain. The majority of cases of so-called vasomotor angina with valvular disease tended to subside without accident, but non-valvular cases might rapidly terminate fatally, and required, not merely the use of nitrites, but also of morphine, atropin and general anaesthesia for relief and to arrest death. In conclusion, he showed a patient upon whom thoracotomy had been performed with benefit for cardiac pain. Sir Clifford Allbutt considered the cause of uncomplicated cases to be disease of the aorta above the valves; the distribution of the radiating pain depended largely on the part of the aorta affected. There was a pain arising from the heart itself, and situated in the precordial area, which was quite distinct in character from the pain of a typical angina attack. Sir Richard Douglas Powell held that typical angina was due to atheroma and thrombosis of the coronary arteries. He would not class as "angina" mere aortic pain following exertion. A rise of arterial blood pressure was an important factor in the causation of angina pectoris; he had seen cases in which development of mitral regurgitation brought about relief from anginal attacks. Sir Lauder Brunton compared the pain of angina to the contraction of a distended bladder. It was due in some cases to increase of arterial blood pressure; in others spasm of the coronary arteries was an important factor. Patients with anginal symptoms should have their exercise carefully regulated and rest after meals. Dr. James Mackenzie said that in any case of apparent angina the distribution of the pain should be carefully investigated. In most cases there was great exhaustion of heart muscle. Dr. Lees said that many of the attacks of so-called angina pectoris were not really typical. A very important confirmatory physical sign was a dilated aorta. Excessive indulgence in tobacco smoking was a very important factor in the causation of angina pectoris. Dr. Colbeck thought that any satisfactory theory in explanation of the condition must be one which would account for the fear of impending death. Sir John Broadbent thought that most attacks were due to a spasm of the vessels induced by cold and exertion. Dr. Bezly Thorne regarded heart distension as the true cause of angina pectoris. In any alleged case he looked for tender areas at the apex beat, over the third left costal cartilage, and over the lower part of the sternum, and he advocated the imposition of blisters at these spots. Dr. Ewart considered that the influence of respiration on angina pectoris was not sufficiently taken into account. It was possible that spasm of the diaphragm might in certain cases account for some of the pain present.

Reviews.

DISEASES OF THE RECTUM.

We must apologize to our readers for not having noticed before this the appearance of Sir Charles Ball's book on *The Rectum, its Diseases and Developmental Defects*,[1] for it is, in fact, a new work. In his first publication, which appeared in 1887, the author offered some explanation for adding to the literature of the diseases of the lower bowel in stating that improvements in wound treatment had produced such important changes in surgery, that in all branches views had had to be modified. Since 1887 technique has been further developed to such an extent that it is no matter for surprise that Sir Charles Ball has chosen not to revise the previous work but to write a new book. In respect of the wealth of experience from which its author writes, and of the number and value of its illustrations, it stands apart among British publications on the rectum. The illustrations cover the anatomy of the lower bowel, the pathological anatomy, macroscopic and microscopic, of its diseases, and operative technique; in the last respect they are perhaps most successful, but it is difficult to draw any distinction, as the merits of all are high.

Normal anatomy occupies the first chapter, and the newer methods of formalin hardening prove their usefulness in the many striking figures which accompany the text.

The three following chapters treat of developmental defects; the view is expressed that if there is no evidence in a case of imperforate rectum that the bowel is near the perineum, colotomy is the right treatment, a later abdominopelvic operation being done to restore the natural channel if the infant survives.

On the question of the diagnosis of rectal disease the author maintains that it is by the sense of touch rather than by sight that disease of the interior of the rectum is best recognized, and places little reliance on special specula designed for the examination of the higher part of this portion of the bowel. Infective diseases, ulceration, fistula, stricture, fissure, and prolapse, each occupy a chapter. In the treatment of fistula Sir Charles Ball strongly recommends immediate closure of the wound by suture, a treatment which he has found almost invariably successful of recent years. In discussing the treatment of prolapse he speaks favourably of colopexy in suitable cases. Chapters on haemorrhoids and benign tumours precede that on cancer. In the latter the most interesting pages are those in which a new method of perineal excision of the rectum is described, with the particular design of preserving sphincteric control. Other methods, sacral, vaginal, and abdominal, are discussed. The author says, regarding the abdominal method:

> I am convinced that it is possible to bring the divided colon down to, and fix it to, the anus in a large proportion of cases without any wound whatever of the anal canal or pelvic diaphragm, and so obtain a perfect sphincteric control.

The final five chapters treat of foreign bodies, injuries, neuroses, pruritus ani, and diverticula. They contain recommendations on details of treatment which are of great practical value. This remark, indeed, applies to the whole. The fruits of a ripe experience such as the author's are a valuable possession; he has displayed them in this volume in a manner which compels gratitude and admiration, and we are not surprised to hear that a reprint of the volume has already been called for.

[1] Oxford Medical Publications. *The Rectum: Its Diseases and Developmental Defects.* By Sir Charles B. Ball. London: Henry Frowde, and Hodder and Stoughton. 1908. (Cr. 4to, pp. 346; 5 plates, 131 figures. 30s.)

NORMAL AND PATHOLOGICAL HISTOLOGY OF THE BLOOD.

THE first volume of the second edition of the work on anaemia, by EHRLICH, LAZARUS, and NAEGELI,[2] is concerned with the normal and pathological histology of the blood, and will be welcomed by all interested in haematology, for during the ten years or more since the appearance of the first edition, not only has much work been done in the various directions suggested by investigations carried out at the Frankfort Institute, of which Professor Ehrlich is the director, but modifications and corrections have had to be made in some of the deductions which this distinguished worker had drawn. The volume opens with an interesting preface by Ehrlich, in the course of which he says that the groundwork of the volume is in no way altered, and that, though many stones have been removed from the edifice which he had raised in the first edition, it has been enriched by new work. In spite of the cogent criticisms to which it has been subjected, his belief in the doctrine that all anaemic conditions must be referred ultimately to alteration of function of the bone marrow remains as yet unaltered. On the other hand, his theory of the dualistic origin of the white corpuscles appears to have more or less certainly triumphed over that which sought to show that all white corpuscles are derived from one class of cell. Ehrlich considers that the observation made by Kollmann on lower types of animals (crab), that the granules of white corpuscles disappear with starvation, affords a new insight into the significance of these bodies; and the hope is expressed that the efforts of physiological chemists will be directed towards solving the riddle of their composition. To Dr. Lazarus has fallen the task of editing the sections dealing with the clinical examination of the blood, the histology of the red corpuscles, of the blood platelets and of haemoconia; and to Dr. Naegeli the histology of the white corpuscles in health and in disease, their seat of origin, the significance of their granules, the morphology of the three main types of granulocytes, and, finally, the section dealing with the two forms of leucocythaemia as defined by Professor Ehrlich, the lymphatic and the myeloid. No one at all familiar with the problems of haematology would expect a detailed critical review of this volume; it is replete with facts derived largely from elaborate inquiries carried out by Professor Ehrlich and his pupils which cannot be summarized, but it should be said that in the discussoin of the results the points of view of workers who do not agree are fairly stated. We are glad to welcome the credit given to the methods of estimating the total blood in the body by the carbon-monoxide process advocated by Drs. Haldane and Lorrain Smith, which has led to a correction of the estimate of the relative weight of the blood in the body from 1 to 13 to 1 to 20.5; and to the work of Biernacki, which would appear to have proved that the total iron in the body in chlorosis and some other forms of anaemia may be not merely normal but greater than normal. Reference is also made to the recent important work of Friedenthal, tending to show that the histological reactions of the blood and serum hitherto referred to alkalinity are much more readily explained by ferment action; alkalinity when artificially increased to but a slight extent checks this action. The methods of "illumination of a dark field," sometimes called ultramicroscopic, are also commended for the observation of haemolysis and in the minute study of blood platelets as advised by Pappenheim. The beautifully executed coloured plates show, what the text also reveals, that the introduction of Giemsa's stain has greatly advanced our knowledge of the minute structure of the various forms of corpuscles, red and white. Much attention is paid to the punctiform granulations observable in red corpuscles. Dr. Lazarus reiterates the view, originally expressed by Ehrlich, that the presence of megalocytes is of great importance in the diagnosis of pernicious anaemia, a hypothesis which we have shown in a former review Dr. Hunter has attacked with so much force and effect. The basophilic character originally ascribed by Ehrlich to the granules visible in the protoplasm of lymphocytes is now shown to be due to an error: the appearance upon which the opinion was founded is now found to be merely due to the condensation of the protoplasmic reticulum which stains with basic dyes. Schridde's method of distinguishing lymphocytes from the large mononuclear cells and from immature myelocytes (called now by Dr. Naegeli "myeloblasts") is said to yield clear and trustworthy results. It consists in the detection of fuchsinophile granules in the protoplasm of lymphocytes; a further valuable means of distinguishing these cells is said to be the demonstration of what are spoken of as azarophile granules, though Pappenheim has shown that they are not specific for lymphocytes, since they do not always exist in these cells, and occur also in the thrombocytes of the frog and in certain cancer cells. In more than one place reference is made to the fact that Schridde's method of staining can be used not only for blood films, but for sections of tissues like the marrow, spleen, etc., and it has thus become possible to trace the actual seat of origin of the various white cells met with in the blood stream, so that workers need no longer fear the charge of being mere "peripheral haematologists." One further point which is brought out clearly in the papers of this volume is that the granules present in any one leucocyte are uniformly basophilic, neutrophilic, or acidophilic, apparent exceptions being due to the unequal staining of granules which are not equally ripe. Finally, we may call attention to the newer work which has shown that myelocytes can, even in the adult, arise from tissue other than the marrow, for there is reason to believe Schridde's contention that they can arise from cells of the vessel walls which are capable of undergoing a metaplasic—or, to use Schridde's own term, a heteroplasic—transformation not only into myelocytes, but into myeloblasts and erythroblasts. The acceptance of this conclusion practically amounts to a renunciation of the view elsewhere expressed in the volume that all granulocytes arise in the marrow; it is, however, contended that probably such an origin is the exception, and that even when it does take place it can have little bearing on the vexed problem of the origin of white cells in the adult human being. The acknowledgement of the possible origin of such cells from tissue other than the marrow is the one example we have detected of the contradiction which is an almost inevitable result of composite authorship. The volume will certainly for some years to come be the standard work of reference on haematological methods.

The Blood in Health and Disease has been written by Dr. R. J. M. BUCHANAN,[3] and in the hope that it may prove useful to medical students and practitioners who may be desirous of including haematology in their clinical studies and practice. The busy practitioner who wishes to understand rather than practise the methods of modern haematology will find this book of great interest, and its handy size will combine with the excellence of its illustrations to gain for it a good reception. Its defects, which are serious in many respects, are due to attempting to give too much in too short a space. In the first sections, devoted to technique, the reader is liable to be confused by the multiplicity of methods, which are described with little assistance in regard to the selection of technique. If many of these methods had been relegated to the obscurity which they deserve and the resulting space used for the elaboration of the best, the book would have been improved. Not nearly enough attention is paid to the various small faults in technique which so often lead to serious error. No man requires to know fourteen methods of determining the coagulation time. Why give ten prescriptions for diluting fluids to be used in the enumeration of platelets? The eighty-line description of Wright's opsonic technique can only serve to deceive the uninitiated by its apparent simplicity. Staining methods are mentioned in large numbers but with very little detail. Many of them are merely variants on the methylene blue and eosin stains. Two novel modern stains—namely, Pappenheim's and Schridde's—are not mentioned, although they have been much used in recent work on the morphology of the lymphocytes, a subject

[2] *Die Anaemie.* 1. Abth., 1 Teil, *Normale u. d. pathologische Histologie des Blutes.* Second edition. By Dr. P. Ehrlich, Dr. A. Lazarus, and Dr. O. Naegeli. Vienna and Liepzig: A. Hölder. 1909. (Sup. roy. 8vo. pp. 161; 5 illustrations in the text and 5 coloured plates. M.5.20.)

[3] The Oxford Medical Publications. *The Blood in Health and Disease.* By R. J. M. Buchanan, M.D., F.R.C.P. London: H. Frowde and Hodder and Stoughton. 1909. (Demy 8vo, pp. 354; 31 figures and 2 coloured plates. 12s. 6d.)

to which the author devotes a good deal of space. The descriptions of the cytology of both normal and pathological blood are excellent, and, together with the very faithful reproductions of the author's own drawings, make the book well worth having. The various diseases of the blood are briefly described and adequately illustrated, the description of chloroma being particularly good, as it is illustrated by films of the marrow as well as of the blood. The description of Hodgkin's disease is inadequate, no mention being made of the recent advances in the study of the pathology of this disease. Sternberg's leukosarcomatosis is not mentioned, but has probably been intentionally omitted, as the question is far from being settled. We think that an account of the functions of the blood cells with regard to inflammation and repair would have added to the value of the book for the purposes of the student, and could have been included instead of some rather indigestible details in the last two chapters on the blood in a variety of diseases. We have devoted most of our space to criticism of the faults which we have mentioned because we think the book will command a ready sale and soon require a new edition, when it can be so much improved as to become a standard elementary manual.

OBSTETRICS.

PROFESSOR GACHE, of Buenos Aires, has published in French a collection of essays[1] on different subjects connected with pregnancy and parturition. The statistical, or, to speak more correctly, the numerical, method has a great attraction for him. He gives us essays on the fecundity of women in 66 countries; on rickets in America; on pregnancy and labour in girls under 16, and on labour in elderly primiparae. These essays are each of them collections of statements bearing on their respective subjects made by persons who have taken the trouble to put their experience into exact figures, and whose records are therefore of more value than those set down in indefinite phraseology. Dr. Gache has not made as much use of his material as he might, for he is evidently not acquainted with the greatest work on his favourite subject that has ever been written—namely, the *Fecundity, Fertility, and Sterility*, of Matthews Duncan. The other essays in this volume concern various matters of practice, and have this valuable feature, that they are expressions of individual opinion. Dr. Gache is a voice, and not an echo. We cannot always agree with him. At the present time, he says, there is "universal accord" against ergot of rye. We doubt the universality of the accord. We hold ergot to be a most valuable drug if used in proper cases and at the proper time. The misfortunes that Dr. Gache holds up as warnings against the drug are warnings, if rightly interpreted, not against the drug, but against the use of the drug in wrong cases. The disasters which have followed its use in cases in which it was contraindicated are so many proofs of its power and value in suitable conditions. Dr. Gache is a strong advocate of Bossi's dilator: he says it is an instrument of great value; that it is indispensable in cases of urgency; that it meets special indications that no other dilator is capable of satisfying; that its use is easy, its result certain—in fifteen minutes it determines complete dilatation. It is very well to possess this power; but we should have liked better information as to the cases in which it is an advantage to the patient to be delivered in fifteen minutes. The chief indication Dr. Gache specifies is eclampsia; and there is considerable difference about the practice of hurrying delivery in eclampsia. In the article on puerperal eclampsia in Sir Clifford Allbutt's *System of Medicine* a considerable mass of evidence is adduced to show that the progress of eclampsia is not influenced by emptying the uterus. We are, it may be, timid, but we cannot divest our minds of some fear that emptying the uterus in a quarter of an hour may not be quite so safe as the more gradual process by which Nature effects this object. The treatment of rupture of the uterus which Dr. Gache approves is complete hysterectomy. He attributes the initiative in this application of surgery to Dr. Krajewski, a Polish surgeon, who practised it in 1890. It was discussed in the Obstetrical and Gynaecological Section of the Royal Society of Medicine at a meeting in the session just over, the basis of discussion being a paper by Dr. Eden, who advocated this treatment. We have said enough to show that the book is worth perusal by every teacher of obstetrics. The weakest part is the last essay, on coition during pregnancy. We regard this as valueless. It is a collection of opinions from various writers, not one of whom has made any attempt at scientific study of the subject. In the present state of feeling on such matters, its study by scientific methods is impossible. This being so, a sensible doctor will refrain from giving any advice on the point, unless the patient clearly expresses a wish to be reinforced in a particular direction by medical authority. Being without value, this section would better have been omitted.

The fourth edition of an elementary book does not call for very detailed notice. In noticing the former editions of Dr. JARDINE'S *Midwifery for Nurses*[2] we have remarked that the author tells the nurses who may study his book more, rather than less, of what they ought to know. It is of vital importance that the nurse should know how to prevent septic infection. It is not equally important that she should be clear as to the nature of sapraemia. If it were, we think many obstetric teachers would demur to the statement that sapraemia causes pelvic cellulitis and abscess, inflammation of the tubes, and peritonitis. Most of them, we think, would say that in such cases there is much more than sapraemia.

From one point of view we can give Dr. LIEPMANN'S volume of lectures on practical obstetrics unqualified praise.[3] The illustrations are excellent. There are 212 broad, bold outline sketches, each one of which tells its tale simply and clearly. We know of no book on the subject better illustrated. But for the implication of omniscience involved in the phrase, we should have said "no book on any medical subject." The plan of the book is unusual. It consists of a series of lectures. Each lecture comprises, first a brief summary of the bald facts of the case, and the reason of its selection for comment; then a condensed statement of some features in the case put in the form of replies to questions put to or by pupils, we do not quite understand which—and to our mind the work would not be spoiled by the omission of these sections; then a lecture of the usual kind, in which the subject illustrated by the case is discussed. Dr. Liepmann is a grateful pupil of Professor Bumm, to whose encouragement he attributes the publication of his book. It is entirely didactic. No authorities are quoted in support of the advice given. This we regret. In Lecture XII, which is on eclampsia, we are told that six years of experimental research have brought the author to the conviction that the placenta is the source of the poison which causes eclampsia, and that the removal of this source of poison as quickly as possible—that is, as rapid delivery as possible—is the best treatment. We should like to have been able to refer to the record of these experiments, but the author tells us not where we may find them; and he does not seem quite clear in applying his principle, for one of his excellent diagrams represents a case of contraction of the pelvis of such degree that there are people in this conservative country who would advise Caesarean section even if the mother were quite healthy. But our author mentions, as alternatives, we presume, to be discussed, the classical Caesarean section, extraperitoneal Caesarean section, hebosteotomy, dilatation with a bag, followed by perforation and "prophylactic" turning, followed by perforation of the aftercoming head. In such a case as this we do not quite understand what "prophylactic" means. But if we accept our author's opinion that the best treatment of eclampsia is to deliver as quickly as possible, can there be a doubt that this indication is fulfilled by Caesarean section better than by any other mode of treatment, and that slow dilatation by a bag or by the half breech are, on this hypothesis,

[1] *Travaux d'obstétrique.* Par le Docteur Samuel Gache, Professeur agrégé à la Faculté de Médecine de Buenos-Aires, etc. Paris: G. Steinheil. 1909. (Demy 4to, pp. 418. Fr.15.)

[2] *Practical Textbook of Midwifery for Nurses.* By Robert Jardine, M.D., etc., Professor of Midwifery in St. Mungo's College, Glasgow, etc., with 49 illustrations. Fourth Edition. London: Henry Kimpton. 1909. (Crown 8vo, pp. 320, illustrations 49, 5s.)

[3] *Das Geburtshilfliche Seminar. Praktische Geburtshilfe in achtzehn Vorlesungen mit 212 Konturzeichnungen für Aerzte und Studierende.* Von Dr. Wilhelm Liepmann, Privat dozent für Geburtshilfe und Gynäkologie, etc. Berlin: A. Hirschwald. 1910. (Imp. 8vo, pp. 255. M.10.)

sheer waste of time? We are not sure whether, notwithstanding the author's six years of experimental research, his knowledge is quite up to date, for he gives a table of the results of the "eclamptic poison" in which there is no mention of the liver. We thought it had long been recognized that in eclampsia there were morbid changes in the liver as well as the kidneys. Indeed, in a recent paper by a Montreal worker eclampsia is defined as a disease of the liver, with concurrent changes in the kidneys. Still, the number and the beauty of the pictures will induce people to look through this work.

NOTES ON BOOKS.

THERE has just been added to the Tudor and Stuart Library, one of the new enterprises of the Clarendon Press, an edition of *Browne's Religio Medici and Digby's Observations*,[1] printed from copies lent by Professor Osler. The text of the *Religio* follows that of the first authentic edition of 1643, page for page and line for line. To preserve identity of reference the errors of pagination (pp. 171 and 172 are duplicated) and section numbering have been left undisturbed. The text has been corrected from the *Errata* page of the original; a few obvious misprints, not there noticed, have also been removed. The book is printed with the types given to the university by Dr. Fell in 1660; linen rag paper has been used, and the volume is bound in stamped paper, imitating the binding of the Tudor period, in two styles, blue and white. If all this is not sufficient to stimulate every reader to obtain a copy, we may add that the type in itself, apart from its association, is very beautiful, extremely clear and very easy to read. Dr. Fell may therefore be held to have purged his faults, and no longer to be an object of dislike.

Merck's Annual Report, 1908,[2] consists, like its predecessors, of a summary of papers published during the year in the chief medical journals of the world dealing with the uses of new remedies and new applications of old ones. The growth of the employment of animal remedies is reflected in the fact that over 100 pages are devoted to organo-therapy. In the section on other drugs, a large number of the newest artificial remedies and vegetable principles are referred to, along with old-established drugs such as digitalin, male fern, and even castor oil. Full references to original papers make the compilation very useful. Medical men can obtain copies gratis by writing to Mr. E. Merck, 16, Jewry Street, London, E.C.

[1] *Browne's Religio Medici and Digby's Observations.* The Tudor and Stuart Library. London: H. Frowde; Oxford: The Clarendon Press. 1909. (Post 8vo, pp. 44. 3s.)

[2] *Merck's Annual Report, 1908.* Vol. xxii. London and Darmstadt: E. Merck. 1909. (Demy 8vo, pp. 348. Free to medical men on application. 1s. 6d.)

THE RELATIONS OF THE LAITY AND THE MEDICAL PROFESSION.

By Mrs. Hodgkinson,
Editor of the *British Health Review*.

In stating the lay view of the relation of the medical profession to the public, there is no need to apologize for erroneous opinions, for mistakes are often highly instructive, and candour offers an opportunity for criticism and enlightenment likely to be extremely useful to all concerned.

Therefore, without further preamble, I will put a few of the considerations affecting the lay mind before an audience which seldom hears them frankly stated. Those of us who give any thought to the matter are far from satisfied with things as they are, and, if it be retorted that such persons are in a small minority, I reply that it is a growing one. It has already considerably leavened public opinion, and will leaven it still more thoroughly in the near future. That ideas are accepted entirely subversive of the old attitude towards disease and its treatment is a symptom that the more far-sighted of the profession will not ignore, especially as those by whom they are accepted are the thinkers and readers. The unreasoning part of the public—equally dissatisfied—betakes itself to the patent medicines so admirably analysed and expounded in a recent publication of the British Medical Association; and, in view of the sums thus spent, no one will, I think, contend that this is an inconsiderable body. The former section of the public is acquainted with the line which research is taking in many important matters, and, keenly conscious of what it considers the limitations of the profession, is convinced that the best hope lies in the recognition by profession and public of the fact that their relations—like everything that is living and healthy—must be progressive; and must, therefore, be subject to the law of change.

"Conscious as we are of one another's shortcomings" let us, then, review the situation.

The average man is brought up in complete ignorance of the laws of health or the natural needs of his body. He grows into certain habits, powerful for good or ill in their effect, without the least guidance as to the pitfalls in his way. The medical profession, a body of immense social and legal weight in the country, has made no organized protest against the absence of sound training in our schools in this matter. It has not even protected the heritage of health into which the children of the nation are born, for here again it has made no corporate representation on such subjects as clinics attached to the national schools, the marriage of the criminal, feeble-minded or insane, and those tainted with such diseases as poison life at its source. And there are other instances of failure in public duty. No Government, no public could have disregarded such protests; but they were not made, and the timidity of this policy has met its reward in the fact that it is laymen and women who have pushed forward the discussion and in some cases the active amelioration of such crying evils. It is they who are arousing the general conscience, and the result is a loss of prestige and influence to the medical profession which for many reasons is to be deplored. In certain stages of history ecclesiastical authorities too have refused their rightful position as leaders of reform, and the tide of vital affairs has ebbed and left them stranded. An example and a warning not to be neglected.

There is, indeed, a growing cynicism about the doctor's attitude towards reform. It is said that his interest begins and ends with disease, for that is his living, and that the road to health is one we must open for ourselves.

This view is really not unnatural. The antagonism between the interests of doctor and patient has furnished stuff for a library of epigrams; but the thinking laity believes the time is approaching for more revolutionary methods, and that there are measures, now denounced as Socialistic, which would reconcile these conflicting interests and secure the doctor's pecuniary position on the health and not on the disease of the community. Without casting any slur on the honour of the profession, it must be admitted that human nature is very human, and that if a man's living is based on the prevalence of illness his interests—nay more, his time—will not permit any very exhaustive study of prophylaxis. A wrong attitude to the communal welfare is thus perpetuated.

We have a conviction also that in treating symptoms as though they were causes a grave mistake is made, and yet this appears to us to be the line taken in our treatment both by physicians and surgeons. Say a tumour appears—a visit to the surgeon follows, and an operation, rightly or wrongly, is the next step. But the tumour was but a symptom. Of what was it a symptom? The almost miraculous surgical skill of the present day may be too dearly bought if it diverts attention from the physical state which preceded the tumour, and will produce myriads more. We are not even given experimental guidance. No one says "Try certain diets, reverse certain habits. Notify me, and let us watch the results together." Even apart from the possible physical benefit, the feeling of co-operation, the sense that he had a share allotted him in the investigation, would often be half a cure in itself for the patient.

The same with the physician. Pericdic headaches may be the symptom. Again of what? Caffeine or some other pain-killer is ordered. Enough if the suffering is scotched. No radical search into the habits of life is organized. The indications are not scrutinized; the patient is not watched, nor is any courage shown in tempting and strengthening him to review the circumstances himself and make such new departures as may be worth testing.

We complain also that the time and care vouchsafed us by consultants are grossly inadequate in many cases. You are shown into the great man's room, and are lucky if you

get half an hour of perfunctory question and unenlightening reply. What is the use at this time of day (when some scientific certitude in examination is possible) of paying a visit of this duration, unassisted by exact methods? What the patient gets may be worth the money, but it is more by good luck than good management if it is. Compare with these antediluvian ways (the means for diagnosis employed on entering Dr. Kellogg's Battle Creek Sanitarium. Something might be known of a man's physical status and capital when he has been through this mill. These (so to speak) drawing-room methods should be discarded in favour of a really searching examination, including blood count, test meals, and many other means which I have not space to enumerate. It is doubtless often easy for a man of experience to diagnose the class of tumour or whatever it may be. What he wants to know more of is the man and the conditions that produced the symptoms. Very little can be discovered with methods less strenuous, and much of the old-time awe and respect for the consulting room are therefore vanishing.

The medical mind may be misled into believing they survive, because courtesy and a wholesome ceremony with the man in whose hand your life may lie conspire to draw a veil over the resentment and distrust so often felt. But if we follow one half of Princess Lieven's recommendation of the conduct due to our physician: "*Obéissance la plus servile*," it is not unaccompanied by her witty aside—"*méfiance la plus absolue*." As a matter of fact, the public is wearying of empiricism.

"I have been to three physicians," I heard a lady exclaim with energy. "Every one of them gave me a different diagnosis. Not one examined me properly; not one inquired fully into my habits or gave me a word of sensible advice as to changing them; and not one of them appeared himself to be in such health as gave me the slightest reason to think he could be a very successful guide to others."

She was, perhaps, a hasty woman. Her expectations were possibly keyed too high, but it was certainly discouraging. She eventually cured herself by dropping starchy foods and restricting her allowance of meat to one very small daily portion. A simple remedy—but she had to discover it for herself.

I can imagine my readers snuffing the air and saying, "Aha! diet! Now we see the cloven hoof. Here is the food faddist unveiled."

Well, gentlemen of the Old Guard, if it be food faddism to believe that the profession—bolding as it does our interests in trust—has blindly and almost unpardonably neglected the study of dietetics in health and disease, then I and many others are food fad lists unashamed. We ourselves read books where opinions on these subjects are discussed and in terms that every educated person can apprehend. Some are written by medical men, some by the laity. We make our experiments. We come on personal or vicarious errands to your consulting rooms, and there we find men who neither know nor care what we are driving at; who either snub us or receive our advances with the blandness of ignorance, as guiltless of any *practical* knowledge of the work of Chittenden, Pawlow, Haig, Fisher, Kellogg, Ioteyko, Tissier, and many more, as the reserved and decorous persons who open their hall doors to us. The physician who takes up the study of practical dietetics with an unprejudiced mind, collecting information where it can be found, has a golden future before him, and one of almost unlimited interest and usefulness. We complain also of the morbid dread of responsibility into which excessive specialization forces its devotees. This bears very hardly upon us. The physician sends you post-haste to the surgeon. He dares not, apparently, wait, test, experiment. A year or two ago, on the first blush of appendicitis (if I may be poetical on a grisly subject) motors and aeroplanes were not swift enough to convey you to the operating table. Appendices fell round us like leaves in Vallombrosa, and singular indeed in good fortune was the mortal who preserved his own intact. Yet it appears from later experience that patience and a waiting game, with a suitable diet as an adjuvant (is not this the word?), will spare many an appendix to the world it adorns, and that it may even be better on the whole to leave the human economy (when at all possible) as Nature constructed it. We suffered in purse and person because the physician, under the influence of a panic, would not take the responsibility of delay. The surgeon is equally hasty. There are many surgical situations which could be alleviated by medical means. But he, too, will not delay. The knife cuts the Gordian knot, which in many cases could as well, if not better, be patiently untied. All this reacts on the public. We see that the physician distrusts himself and that the surgeon distrusts him. What is the natural result? Half of us spend our time reclining on that couch of Little-Ease, the operating table, and in that resort of dubious joy and indubitable expense, the nursing home. But we do not *prefer* this. We only do it because our physicians seem to know no better way. They must not throw away our interests with their own.

Extreme specialization bears very hardly upon those of us who are poor in spirit and in purse. I tender a very small instance:

A patient, having weathered through an intestinal operation, was tortured with facial neuralgia. In quaver ing tones he mentioned the matter to the surgeon, and was blandly repulsed. "My dear sir, I know no more about neuralgia than you do. You must call in a physician if you want advice."

But he could not, poor man, for the operation and the nursing home had absorbed all his small means, and he therefore endured the neuralgia as best he could until he left the house, and, hastening to the nearest chemist, provided himself with the best advertised bottle available. It wrought an almost immediate cure and, for aught I know, considerable future damage.

Far be it from me to suggest that the surgeon should have pretended a knowledge he did not possess. We are quite satisfied with the amount of this kind of pretension now at our disposal. No, some means should be devised by which the surgeon and physician co-operate in these cases, arranging the financial boundaries between the high contracting parties, and thus ensuring to the patient the benefit of the right and left hands of the profession. I have seen many cases where it appeared that this would be a desirable arrangement. But the patient was bled white in more senses than one. He could not afford the luxury. If specialists are as ignorant as they affect to be of all outside their own domain, then, considering their very handsome fees, the planet should be attended by a satellite whose fee is a part of that agreed. But need the specialist be quite so ignorant? Is it not partially a pose? or idleness? or hedging? or self-interest? I ask in great humility. We cannot be made to see that it is reasonable that the heart, for instance, can be viewed as a separate entity, and treated apart from the neuralgias and other algias which attend its disorganization. We are unable to detach these organs, willingly as we would do so, and being unable it appears reasonable to us that we should be treated as a whole, and that those who undertake the heart or the lungs should know something of the man whose general condition is the *fons et origo* of the defaulting heart.

This brings me to the question of fees.

(To be continued.)

THE Honorary Membership of the Italian Society of Obstetrics and Gynaecology has been conferred on Dr. H. Macnaughton-Jones, formerly University Professor of Obstetrics and Gynaecology in the Queen's University, Ireland.

DR. HEARSEY, Principal Medical Officer, in his most recent note on sleeping sickness in the Nyasaland Protectorate, states that two fresh cases of the disease have been found there, while three others have been notified from North-Western Rhodesia as emanating from it. With the three previously reported, the total number brought under notice up to the present is now eight. The histories of the cases are interesting, the extreme rapidity with which one died recalling the clinical pictures of many of the cases in Uganda seen during the earlier days of the epidemic in that territory. Unfortunately another European has contracted the disease, and this indicates that probably the infection is more widespread throughout the protectorate than is generally supposed. There would seem to be four definitely infected areas now: (1) Lake Tanganyika; (2) Lake Mweru; (3) the Luapala river; and (4) the neighbourhood of Chilanyama and the Loangwa river at that point. Dr. Hearsey has received no information regarding North-Eastern Rhodesia since the publication of his last memorandum, and it will be interesting to learn whether any cases have been detected there also.

THE JUBILEE OF THE DENTAL CHARTER. ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE charter enabling the Royal College of Surgeons of England to give licences in dental surgery was granted on September 8th, 1859, and the jubilee of this event was celebrated by a dinner given by the President and Council in the library of the college on December 2nd. On the same occasion the odontological collection consisting of preparations made by John Hunter and the collection formed by the Odontological Society were for the first time opened to inspection in the room specially prepared to receive them. Mr. Butlin, President of the College, was in the chair, and among the guests were a large number of representative members of the dental profession.

After the loyal toasts had been duly honoured, the President proposed the toast of the dental profession in the following allocution:

ADDRESS BY THE PRESIDENT.

GENTLEMEN,—When it came to the knowledge of the Council of this college that fifty years had elapsed since the Dental Charter was granted to the college, it seemed to the members of the Council fit that so important an event should be celebrated. After consideration they came to the conclusion that this might best be done by offering a dinner to the members of the dental profession in the precincts of the college. We should have liked to have entertained all our licentiates of dental surgery, but our space is limited, and we were obliged to confine our invitation to what may be called the representatives of the profession of dentistry. Our idea seems to have commended itself to you, for we have the pleasure of welcoming here a large number of distinguished members of your profession. I wish you, in the name of the Council, a hearty welcome, and I only regret that the time which has passed since the events which led to the granting of the Dental Charter is so long that we have no one here to-night who took such a share in those events as would have entitled him to tell us of them from his own personal recollection. In the absence of any such person, I have tried to make myself acquainted with the history of the movement; for I felt sure that those who do know something of it, and those who are as ignorant of it as I was myself, would like to be instructed or reminded of what actually took place.

At a recent meeting of our Council Sir Henry Morris said that the condition of dentistry fifty years ago was "chaotic," and I am sure he did not use too strong an expression. For a study of the literature of the time has taught me that dentistry was practised by all manner of persons. For instance, the chemists and druggists often associated the practice of dentistry with their ordinary business. And Clause LV of the Medical Act of 1858 places chemists, druggists, and dentists in the same category. Mr. Walter Brindley, of Sheffield, writes in 1857 (*British Journal of Dental Science*, i, 223): "For instance, in the last *Directory* for the town of Sheffield there is a certain practitioner . . . put down as 'brass-turner and dentist.'" Mr. Robinson, the President of the College of Dentists in 1858 (*British Journal of Dental Science*, ii, 17), said: "I recollect seeing some time ago in Regent Street a sign over a door to this effect: 'Mr. So-and-So, Dentist and Chiropodist.' I should certainly be very cautious in going into a house of that kind unless I had seen the man wash his hands, for I certainly should not like him to examine my mouth after operating upon some dirty person's toes." And Mr. Donaldson Mackenzie writes to the same journal in 1859 (iii, 151) to tell how, in his travels about England, he had studied the position of dentists, and "found one sexton, one or two delectable specimens of our present system of education, who could not sign their own name, and one doing a tolerable practice who could neither write nor read."

In truth, a man might serve a dentist one day in the capacity of servant or mechanic, and might set up as a rival to his master on the following day, provided he were clever enough to persuade the public of his capability. And he was free to advertise himself to what extent he chose. Even, then, however, they did things better in that respect in France. For I have come across a delightful specimen of the art (in a letter from Cosmos in the *British Journal of Dental Science*, iii, 47), which runs as follows: "Grande Maison de Dentition. Mons. et Mad. de S. announce that they set teeth with diamond pivots and stop teeth with emeralds." And they further remind the public that "it is useless to speak much of their new mode of extraction, as the process is entirely by steam, and is consequently the most efficacious of any system practised by other dentists."

No wonder that such ill conditions as these moved eighteen gentlemen practising dentistry in the year 1855 to meet and consider what could be done to ameliorate them. Their consideration resulted in the composition of a Memorial to the President and Council of this College, which was sent up to the college in December of the year 1855, and was presented to the Council at its meeting in January, 1856. I have no doubt it was discussed, although I do not find any account of the discussion in our minutes. But it was referred to a committee of six members of the Council, with Mr. Green as their chairman. I wondered why there should have been so long an interval between the reception of the Memorial and the granting of the Charter, and not unnaturally thought there must have been some opposition at the Council Board. And I believe the Memorialists must have thought so, too; for, in February, 1857, they addressed a letter to the college asking whether anything, and if so, what, was being done. Mr. Edmund Belfour, the Secretary, replied to the effect that the legal advisers of the college had been consulted and had given it as their opinion that it was not competent for the college, under its present Charter, to do what the Memorialists had suggested. It would, therefore, be necessary to apply for a special Charter, and the Council could not do that while legislative measures were before Parliament, because they were in conference with and pledged to other medical corporations in respect to these measures.

In the course of the next year these legislative measures produced the Medical Act of 1858, in which Clause XLVIII provided that "It shall, notwithstanding anything herein contained, be lawful for Her Majesty, by Charter, to grant to the Royal College of Surgeons of England Power to institute and hold examinations for the purpose of testing the Fitness of Persons to practise as Dentists who may be desirous of being so examined, and to grant Certificates of such Fitness." The earliest possible advantage was taken of this clause, and the Dental Charter was obtained in September, 1859, just fifty years and a few months ago. The first Board of Examiners—Mr. Lawrence, Mr. Green, Mr. Arnott, for the surgeons; Mr. Thomas Bell, Mr. John Tomes, and Mr. Arnold Rogers for the dentists—was soon afterwards appointed, and in the following year (1860) the first examinations were held. In that year no fewer than 111 candidates took the diploma—a remarkable proof of the earnestness of the leaders of the dental profession, for some of those who passed the examination were qualified in medicine and surgery, and some had been leading men in their profession years before the granting of the Charter.[1]

Such is the official account of the transaction, and I would now like you to hear the human side of it. With the exception of the long delay in obtaining the Dental Charter there might seem nothing of interest in relation to the movement. In the Minutes of the Council and in

[1] I have had the Memorial printed with the eighteen names attached to it, that each one of our guests may possess a copy of it if he pleases. It will be seen that two motives are expressed in the Memorial, the condition of dentistry in England, and the better position of dentistry in America. During the last twenty or more years, I have often heard the superiority of American dentists vaunted by rich persons in London, and I regarded this as a fashion or modern times, like the determination of such persons to consult foreign specialists in preference to their own specialists. I had no idea that American dentistry had really begun to surpass English dentistry before the granting of the Charter. At the present time, there is no reason to believe that American dentistry is superior to English dentistry, or that the best English dentists are inferior to the most skilful American dentists. But in 1855 there can be no doubt that America was far ahead of England in the education and position of dentists.

The number of those who took the licence in the first year is the more remarkable when it is remembered that the total number of dentists practising in England at that time was estimated at from 1,200 to 1,500. The Dental Act, which made qualification as necessary to a dentist as it is to a medical man, was not passed until 1878.

the official letters there is no trace of a hostile spirit.* But, it was far otherwise outside the college walls. For, no sooner did a number of the rank and file of the dental profession know of the Memorial than a meeting was called, speeches were made against the proposal, the independence of the dental profession was affirmed, and an association was formed to which the high-sounding title of College of Dentists was applied. The Memorialists, on their part, were not content with what they had already done. They also took counsel with their friends, and, without delay, established the Odontological Society of London, which at this moment forms the Odontological Section of the Royal Society of Medicine. Thus there was on the one side the Odontological Society with the policy of combination with the College of Surgeons; on the other side, the College of Dentists and independence. I think the College of Dentists had, perhaps, the larger number of members, but the society had the very pick of the profession. Its meetings were, from the first, characterized by high scientific value, and although surgeons occasionally read papers at them, the society contained so many men of ability—many of them qualified in medicine and surgery, and more than one of them a F.R.S.—that there was no need of outside help. The College of Dentists, on the other hand, could scarcely boast of one man of high position or distinguished ability among its ranks. But, nothing daunted, it called in outside aid, established courses of lectures, and actually obtained the services of Hulme, Benjamin Ward Richardson (a host in himself), Erichsen, and Spencer Wells. With the rise and growth of the two parties, there soon arose, also, two organs of the press, the *British Journal of Dental Science*, which took the part of the Odontological Society and combination with the college, and the *Dental Review*, which took that of the College of Dentists and independence. They went at it hammer and tongs, and a fine din there was. Every month, when the journals appeared, the sparks flew: and although no bones were, so far as I know, broken, there were furious attacks on reputations, and you may be quite sure that our college was not left out in the cold.†

The long period of apparent inaction on the part of the college afforded, as you may suppose, ample opportunity to the shafts of the enemy. The college never intended to do anything or to grant the petition of the Memorialists: it held them in ridicule: the Council were far too proud to be mixed up with the dentists. Such was the burden of the opposition orators and of the *Dental Review*. The grant of the Charter must, therefore, I think, have fallen heavily upon them. I have no doubt that some of the members of the College of Dentists consulted the *Review* as to the course they were to take; for that journal, in its issue of October, 1859, advises: "Do nothing." . . . "Then the hybrid Charter will do nothing." "The College of Surgeons will find their work much too warm to be pleasant," etc. But it soon became apparent that the combination party and the surgeons were in deadly earnest, and that the hybrid Charter would do a great deal. Nevertheless, the College of Dentists and the opposition still kept up their tail, and the College of Dentists seemed to me, as I read the articles and communications in the *Dental Review*, to be going quite strong when, to my astonishment, an extraordinary event occurred. For, on May 4th, 1863, the Odontological Society of London raised its head, opened its mouth, and swallowed the College of Dentists whole, so that no man saw it more. The only effect which this miraculous performance seems to have produced upon the society was that it swelled considerably from accession to its membership, and that it changed the form of its tail, for it became from that time the Odontological Society of Great Britain. I can tell you there was great jubilation that evening. The rooms of the society were filled. Mr. Arnold Rogers was there, in spite of illness. Mr. Imrie, the President of the College of Dentists, was there, but not able to make a speech on account of an "affection of his throat," and so his speech was delegated to Mr. Samuel Rymer, who had fought the battle valiantly for independence, but had also been largely instrumental in conducting the negotiations between the society and the College of Dentists to a successful issue. There were congratulations and a great shaking of hands, and that night and in that fashion the opposition came to an end. I confess I was quite sorry when the proud College of Dentists wound up its affairs. I had come to have a secret liking for it, and particularly for that gallant fighter, Mr. Samuel Rymer, who died only last year, as our obituary list is witness. Looking back upon the fight, it is interesting and sometimes amusing, but I am sure it was very bitter at the time, and the party for combination must have often felt aggrieved at the tactics of the opposition and the manner of their attack. From the political point of view, I can have no doubt that the effect of the opposition was very valuable. It acted as a useful stimulus, and, without doubt, had no little influence in keeping up the spirit of the Memorialists and their party during the long years of waiting and inaction.

When I had learnt all these things I naturally wondered what effect the granting of the Charter had produced on dentistry. I expected to find great developments in the course of the next few years. Somewhat to my surprise, I found what seemed to me to prove that the effects had preceded the cause. What I should have expected to happen in the course of the next five or ten years, happened in the five years between 1855 and 1860, or nearly within that period. The two great dental hospitals were founded. Two schools of dentistry were established. The Westminster General Dispensary also made arrangements for the teaching of dental students. The dental journals which I have quoted made their first appearance; and I think what must be called the first scientific treatise on dentistry was published from the pen of Mr. John Tomes. In fact, the agitation which led to the granting of the Charter and the establishment of the diploma was so strong, that it produced these great results in addition to the Charter. Nor were the provinces behind in this respect. The Dental Dispensary was founded in Birmingham even earlier in the year 1858 than the dental hospitals in London. Liverpool had its dental hospital in 1860, and, where Liverpool stepped, you may be sure Manchester was not far behind.

There was another foundation during that period. The Odontological Society was scarcely established when its members began to collect the material for a museum. I cannot associate any name or names with the museum at its origin, but I feel sure that no one here will feel aggrieved if I attach the name of one of our guests to the later development of the collection. I believe all those who know will admit that Mr. J. F. Colyer has had as much as, perhaps more than, any other person, to do with making the collection one of the finest, if not the very finest, collections which the world can show. As you all know, it used to be lodged in the rooms of the Royal Society of Medicine in Hanover Square, but it was very little used there, not nearly so much as it deserved.

I need not enter into the history of the negotiations which culminated in its transference to our care on terms of a like kind to those on which we hold the Hunterian Museum. It suffices to say that we have gladly accepted the responsibility of guarding the collection, and that we have prepared for it a large room in the basement, and have had a staircase constructed to convey visitors directly to it. I hope you will presently visit the odontological collection, for, although it is not yet

* The only sign of hostility I find is contained in the last paragraph of Mr. Hunt's letter: "At the same time, the Council entertained a strong opinion that the surgical qualification for the proposed examination of practitioners of dental surgery should be the same as that required for the membership of the College." Whether this point was really pressed at the meetings of the Council, there is no evidence to tell, but it certainly does not appear in the further negotiations.

† Mr. William Perkins accused Mr. John Tomes of having written an article containing "scurrilous statements." But, unable to substantiate the charge, he was reduced to saying that at any rate he believed that Mr. Tomes was the editor of the journal in which the article had appeared.

Of the College of Surgeons, the *Dental Review* says, in the year 1859 (i. 208): "This feeling of independence, so natural to every man on this island, would be almost sufficient to stop the progress of the movement now being tried of making the dental profession the humble vassal of the London College of Surgeons—a college which has sold itself to money-making, which has been governed by with such unreasoning zeal that its members and surgery in general is looked on with universal dislike, and which lives not on its deeds but on its possessions, viz., a fair library, a large block of stone-work, and a museum collected by the industry of John Hunter."

After the establishment of the examination for the dental diploma, the *Review* expresses itself thus: "A few more years, indeed, of this false policy of the selfish, grasping, usurping rule, and the College of Surgeons will, in the nature of things, stand with shame-subdued face, and cold, crowning mien, the wreck of fortune, and the laughing stock of its enemies. We shall see if this timely warning, however, are not its enemies. Vol. ii, 206.

ready for study, the energy of our Conservator, Dr. Keith, and the attention of our Secretary, Mr. Forrest Cowell, have made it ready for your inspection to-night. The access to the staircase is through the doorway behind the statue of John Hunter, and I would have you pay attention to the statue as you pass it by. The members of the Odontological Society have every cause to be interested in it, for, just fifty years ago, a number of the members of that society clubbed together, and sent a cheque to Mr. South for £50 towards the erection of the statue.

All the matters I have referred to are of interest, but they did not quite satisfy my mind. I wanted to know whether any change had taken place in the science of dentistry itself. Fifty years ago the advocates of independence based their policy on what they believed to be the actual position of dentistry. "We are clearly, by policy and by practice, a body distinct from Medicine. We are kindred to it, but not of it." So said the *Dental Review* (i, 20, 1859); and the same year the *Medical Times and Gazette* wrote (December, 1859): "That Dentists may possibly be better for a surgical examination we do not deny; but dentistry is essentially a mechanical art, with which surgeons are not conversant." In order to see whether such views still hold good, I made some study of the earlier and later volumes of the *Odontological Transactions*, and found that, although some of the earlier volumes contained papers of wide interest in connexion with the teeth, these were for the most part the work of surgeons, that the later volumes contain many more communications of this kind, and that they are for the most part furnished by dental surgeons. Such are papers on the Anatomy of the Teeth and its Practical Application; on Odontomes; on the Bacteriology of Pyorrhœa, and on its Relation to Constitutional Conditions, and on the Vaccine Treatment of Pyorrhœa; on the Relationship between Dental and Other Diseases—to tuberculosis, for instance; on Diseases of the Teeth in Horses. Some of the papers are certainly by surgeons—for instance, the paper of Mr. Owen on Tooth Disease in Children; and Mr. Godlee has contributed much to our knowledge of the bearings of pyorrhœa alveolaris. But most of the papers of this stamp are by persons practising dentistry. I then studied such treatises on dentistry as our library contains, such as Sir John Tomes's book, which is now edited by Charles Tomes and Nowell, that of Smale and Colyer, and Henry Sewell's book, now edited by England and Sefton Sewell. The authors are nearly all personal friends of mine, and I wanted to see how they had acquitted themselves. Nor was I disappointed. The early chapters of these books are occupied with such matters as anatomy and development, irregularities and abnormalities of the teeth, caries and diseases limited to the teeth, to stopping and extraction of the teeth. But the later chapters deal with matters far outside the immediate limits of the teeth—with gingivitis and stomatitis; with tumours of the gums and jaws; with affections of the antrum and accessory sinuses; with neuralgia (as apart from odontalgia) and affections of the nervous system which depend on conditions of the teeth; with affections of the nose, the eye and ear, which are associated with the teeth; with such general diseases as gout, tubercle, syphilis, as they affect the teeth or are affected by conditions of the teeth; with oral sepsis and the bacteriology of the mouth, etc. In fact there is no difference in the general treatment of the subject between the textbooks on dentistry and those on ophthalmology, otology, laryngology, and the like. Or, if there be a difference, it is rather that the subject is treated on broader lines in the textbooks on dentistry.

From the point of view of an outsider, the teeth seem to me as important in their relation to the health of the individual and of the community as the eye and ear. The early decay of the teeth, and the conditions on which it depends in these degenerate times, are matters of national importance. The presence of a dental surgeon is of more value to an army in the field than the presence of almost any other specialist.*

In truth, a great change has come over dentistry. It is no longer "the mechanical art of dentistry"; it is the art and science of odontology.† And this change has been effected in the course of fifty years, by two generations of men. Seeing this change, I asked myself, What are they going to do with it? And I ask you, Gentlemen, What are *you* going to do with it? You have made odontology one of the great specialities of medicine, and yet the most of you stand outside medicine; in such a manner that I cannot help perceiving that the present position of odontology is a standing menace to medicine, for it presents the remarkable spectacle of a large number of men practising a speciality in medicine who are not qualified in medicine.

I speak advisedly when I use these words. And I will give you a reason for them. During the last year in which I was Dean of the Faculty of Medicine of the University of London a proposition was brought before the Faculty to establish degrees in dentistry. It came, as I think, from the Board of Dentistry, and was presented in two forms—the establishment of degrees which should only be given to the holders of M.B., B.S., and of a degree of Bachelor of Dentistry, to be given to persons who had not qualified in medicine. I presided over the meeting of the Faculty at which the question was discussed. The second proposition was supported by the surgeons rather than by the dentists, and was attacked by the dental members of the Faculty. The proposition to establish degrees in dentistry was rejected by 16 votes to 13. Shortly afterwards I became a member of the Senate of the University, and I had not been there long before this proposal to establish degrees in dentistry was sent up to the Senate, recommended by the Academic Council. It was nearly passed through the Senate, but was deferred on my motion. Later, it was referred to the Committee of Medical Members of the Senate. If my memory serves me true, nine of us were present at that meeting of the committee. Eight of the nine voted in favour of the degrees, and my vote alone prevented a unanimous recommendation to the Senate. Before the question again came before the Senate I had gained to my view two or three of the medical members, and had been supported by the opinion of some of the leading practitioners of odontology in London. So that, when the final discussion took place in the Senate, it ended in a resolution, moved by Sir William Collins and seconded by Mr. Butlin: "That the next business be proceeded with." I was even more shocked at the arguments which were brought forward in favour of these degrees than I was by the proposal itself. Some of them were weak; others of them were wicked. Of the weak arguments, I need only mention that which averred that the operations of dentistry are so delicate and difficult that they must be learned and practised from a very early age. The answer is: What of the operations on the eye? And what of the men who qualify in medicine and surgery before they take up odontology? Are they bunglers in manipulation? Assuredly not, for among them may be found some of the most brilliant practical men. Of the wicked arguments, again I need only mention one. It was that which represented to the Senate that other universities had already established degrees in dentistry for persons who were not qualified in medicine, that still other universities contemplated establishing them, and that the London University must either follow suit or a large number of dental students would be lost to London. An excellent argument against the multiplication and rivalry of universities, but not an argument in favour of establishing university degrees of an inferior class.

No, Gentlemen, I am afraid the present position of odontology can only be justified on one of two grounds: that every young man who wishes to practise one of the "ologies" should be permitted to do so without qualifying in medicine and surgery; or—but I am sure you will not accept this—that odontology stands on an inferior plane to all the other great "ologies" of medicine. If it, 46, in favour of this course, but "the question naturally arises, where can we obtain a staff of competent dentists, if called for?" etc. In those days the soldier had still "to bite the cartridge."

† It must be thirty years ago when Mr. Thomas Arnold Rogers came to me in Queen Anne Street and suggested that I should give a series of demonstrations or lectures on subjects connected with the teeth, but having a wide range, as he wanted to encourage the younger generation of dental surgeons to view their work from a less narrow point. I was sorry that my engagements did not permit me to accept his kind invitation.

* Mr. Arnold Rogers, F.R.C.S., in his Presidential Address before the Odontological Society in February, 1898, said: "I believe, further, that the day is close at hand when dental surgeons will be brought into requisition in the army, or else that men specially qualified to treat dental diseases will be appointed to battalions." There had already appeared an article in the *British Journal of Dental Science*,

you will have neither the one nor the other of these two alternatives, I would suggest, in the interest of odontology, in the interest of medicine in its widest sense, and, last but not least, in your own interest, that you should do all that lies in your power to take the next great step forward, and place your speciality on the same lines as, and in equal position to, the other great specialities of medicine.

Though the President's speech was long, he kept the attention of his audience completely, and many of his points were warmly applauded. Mr. WILLIAM HERN, President of the Odontological Section of the Royal Society of Medicine, which continues the Odontological Society, in responding to the toast, said that there was no doubt at all that the power obtained by the Royal College of Surgeons of England to grant a Licence in Dental Surgery had greatly assisted those who a few years later sought, and eventually obtained, the Dentists Act, which formed what had previously been an unorganized body into a definite profession. A brief inspection of the museum showed that in its new home it would provide great facilities for teaching purposes. The toast was also acknowledged by Mr. H. R. F. BROOKS, President of the British Dental Association, who said that the institution of the Licence in Dental Surgery and the passing of the Dentists Act which followed on it had educated the laity and the State to appreciate the importance of dentistry, and had paved the way for a greater appreciation of the importance of the care of the teeth in childhood. It had also systematized the education of dentists, and had stimulated the growth of ethical ideas among members of the dental profession, promoting the good of the profession and of the humanity it attempted to serve.

The toast of "The Royal College of Surgeons" was proposed by Mr. CHARLES S. TOMES, F.R.S., who said that after the very full account the President had given of the origin of the movement which resulted in the college obtaining the Charter enabling it to grant a diploma in dental surgery, it would be unnecessary for him to go into the history of the matter. It was only, however, by looking back to the condition of the profession of dentistry before the grant of the Charter that the great change brought about by it could be realized. Before that there was, in fact, no organized profession; this fact was illustrated by the way in which his own father became a dental surgeon. He had been house-surgeon to the Middlesex Hospital for nearly two years; while holding that office he had had to do a good many extractions, and had devised the forceps afterwards so generally used, and he had also worked at the histology of the teeth but with no intention of practising dentistry. For family reasons it suddenly became important that he should earn his own living, but though he had held the responsible position mentioned he had not obtained a medical or surgical diploma. He was strongly advised by some of the most distinguished of his teachers to take up dentistry, and was able to do so at once, for there was no diploma in dental surgery in existence, and no State regulation of dentistry. The institution of the diploma had not only rendered possible the organization of the dental profession, but had greatly stimulated the study of the science of odontology. He coupled the toast with the name of Mr. Butlin, who in a very brief reply, said that the views he expressed in the later part of his speech earlier in the evening were founded on the arguments placed before him by the dentists themselves when a few years ago the proposal to institute a degree had been before the Senate of the University of London.

THE ODONTOLOGICAL COLLECTION.

We are indebted to Professor Arthur Keith, M.D., F.R.C.S. Conservator of the College, for the following description of the odontological collection:

The Odontological Collection, whose history was related by the President in the speech reported above, was open for inspection, and was visited by a large number of those who had attended the dinner. It is one of the most important additions ever made to the museum of the college, an addition which constitutes the most extensive and valuable odontological collection in the world. The occasion might, indeed, be regarded as the jubilee of the odontological collection, as well of the Dental Charter. It may interest our readers to know something of its extent as now exhibited for examination and study in the museum of the college.

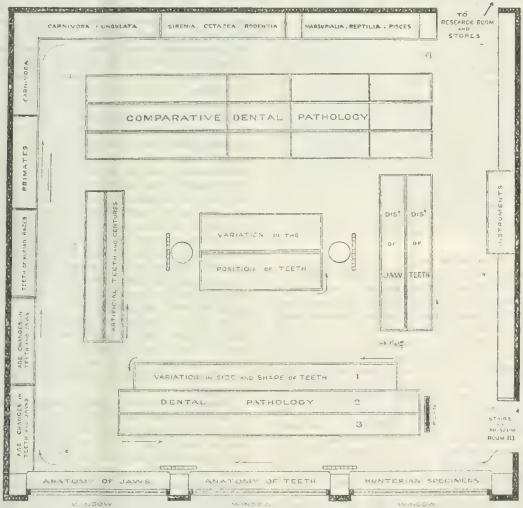
Of the 5,000 specimens now there, over 4,000 belonged to the museum formed by the Odontological Society of Great Britain, and it is with the history of this part of the new collection we propose to deal first.

As is well known, the Odontological Society came into being in 1856, under the name of the Odontological Society of London. It consisted at first of a small group of dentists of good standing, who petitioned the Royal College of Surgeons to undertake the examining and licensing of dentists, who, when they had accomplished their primary object, banded themselves as a permanent society, to discover, propagate, and diffuse all such forms of knowledge as might be applied to the improvement of the art and science of dentistry. Amongst the original members of the society were men imbued with that scientific and altruistic spirit which marks the great scientists of the mid-Victorian period—men like Samuel Cartwright, F.R.S., the first President of the Society, and like John Tomes, F.R.S.—men willing and able to follow in the footsteps of the founder of scientific and dental surgery—John Hunter. It may be said without any degree of exaggeration that this society set out to form the best odontological museum in the world without knowing it. Like Topsy—it simply grew. In the *Transactions* for 1857—the second year of the society's existence—we find that scientific communications frequently took the form of instructive preparations shown by members at their meetings. Members of the society were quick to realize that such exhibits proved most valuable and permanent records of freshly-observed facts, and were as worthy of preservation and perpetuation as the practical and scientific communications published in their *Transactions*. Thus it became the habit for members to leave their exhibits as well as their papers with the secretary of the society, and being a busy society with a collecting instinct, the number of specimens grew apace, so that in 1860 the term "museum" begins to be employed for their collection.

A curator was found to be necessary, and although not the first, Mr. Charles Tomes, F.R.S., may be counted the pioneer curator. In 1882, Mr. Tomes, then a young man and walking in the footsteps of his father—who presented many of the preparations now to be seen in the collection of to-day—compiled the first descriptive catalogue, which was duly printed and published for the society. The specimens then numbered 800; they illustrated every form of scientific and mechanical activity manifested by the members of the society. The anatomy, eruption, and fixation of the human teeth were represented; so were the multitudinous forms of dental irregularity and dental pathology. Examples of early artificial teeth, of dentures, of cunning and finished dental mechanisms and instruments which had served their day and generation, were safely housed and preserved for us of a later generation—records of evolution in dental technique, appliances which would have otherwise lapsed into oblivion. At this early date in the society's history (1872) the study of the comparative anatomy and comparative pathology of the teeth was being actively pursued, and the beginnings of these collections were laid, which have become so great in later times. In 1884 a second edition of the catalogue was prepared and published when Mr. S. J. Hutchinson was curator, the greater part of the labour falling on Messrs. W. and H. Weiss. The collection then numbered over 2,000 specimens. Some twenty years later the present honorary curator, Mr. J. F. Colyer, prepared a new edition of the catalogue; the labour involved was very great, for the number of specimens amounted then to over 4,000, many of them having been prepared and added by Mr. Colyer. In his time the comparative side of the museum—especially the pathological series—had expanded very greatly.

Then came 1907, with the formation of the Royal Society of Medicine and the affiliation with it of the Odontological Society of Great Britain as the Odontological Section of the Society. The Museum had overgrown the accommodation at the disposal of the society; it had reached a size and an importance far beyond the scope of an upper room in Hanover Square. The men who had

fostered and developed the collection saw by 1908 that its further growth and fuller appreciation demanded a new home where the collection might be accessible to all engaged in advancing the knowledge of the art and science of dentistry. The Council of the Odontological Section made overtures, through the Royal Society of Medicine, to the Council of the Royal College of Surgeons of England. Sir Henry Morris, Bart., was then president of the College, and Mr. Butlin chairman of its Museum Committee. The overtures made by the dentists met with a sympathetic reception. Negotiations were entered into, with the result that the collection, which had been gathered by fifty years of labour, expenditure, and generosity on the part of the members of the society, was handed over to the Royal College of Surgeons as a trust. The college undertook to house the collection, to maintain it, and to increase it by the addition of their own collection of specimens representing the anatomy and pathology of human teeth. To the Odontological Section of the Royal Society of Medicine was given the right of nominating five trustees to inspect the collection and advise with the Museum Committee as regards its welfare. This is a most wise provision, for it secures for the collection a maintenance of that close connexion with the dentists which in the past has given to it growth and prosperity. The Odontological Section has also the power to nominate an honorary curator to assist the conservator of the museum with the cataloguing and arrangement of dental specimens, and special privileges of access to the collection and workroom are given to members of the Odontological Section who wish to pursue special studies or investigation in connexion with the collection.



Plan of Arrangement of the Specimens of Odontology.

In order to secure a room large enough to accommodate this extensive collection the Council of the college found it necessary to effect very considerable structural alterations in the museum at an expenditure of over £600. As soon as negotiations were completed, in June of the present year, alterations and preparations were carried out in the college museum according to plans designed by Mr. E. C. Frere, A.R.I.B.A. By the middle of October the new premises were far enough advanced to allow the collection to be placed in its new home. The incorporation of the college specimens demanded a considerable alteration in the arrangement which had prevailed in the cramped museum in Hanover Square.

As now shown in a commodious room, with store and workrooms adjoining, the collection contains over 5,000 specimens, one-fifth of which represents preparations added from the college museum. The history of this part also deserves a passing notice, but before entering on that matter, it may be well to state here that the specimens derived from the Odontological Section of the Royal Society of Medicine, those from the college collection, and those which will be added in the future, are to be distinguished by special marks placed on the specimens.

Turning for a moment to the specimens added by the college, it is unnecessary to remind readers of the BRITISH MEDICAL JOURNAL that the founder of the museum was also the founder of scientific dental surgery, and that his earliest great work was one *On the Natural History of the Human Teeth*, published first in 1771. Thanks to the watchfulness and care taken by conservators of the college museum, all the specimens used by Hunter to illustrate that work, most of which were made by his own hands at an early period in his career, have come down to us intact and in excellent condition. Hunter's own specimens, as may be seen from the annexed plan, meets the visitor as he enters the new odontological room. They occupy the window case at the door and serve as a preface or introduction to the whole collection. We said the specimens were in good condition; so they are, all except the teeth from the madder-fed pigs. Unfortunately the madder-stained layers, by which Hunter showed the manner in which the dentine grew, have lost their colour. That could not have been prevented owing to the unstable nature of the dye. The excellent series by which he demonstrated the formation and growth of the dental sockets, the preparations he made to show the time and manner of the eruption of the teeth and growth of the jaws are as fresh and complete as on the day in which they were made. The specimens of teeth he transplanted in the mouths of some of his patients, and which served their purpose for some years before they dropped out, are there to show the degree of absorption of their roots. Here, too, may be mentioned an original drawing by Rowlandson, made a few years after Hunter's great work on the teeth was published, representing in his free and semi-caricaturish style the operation of transplantation, as seen in the consulting room of a dentist of that date. This drawing hangs near by with other pictures belonging to the original collection of the Odontological Society. Another remarkable series by Hunter illustrates his method of showing the various structural elements of teeth by charring them. The enamel becomes white and the dentine black under the influence of fire. The method is especially successful in showing the complicated enamel pattern in teeth such as those of the horse.

The second window case on the visitor's left (see plan) illustrates the development and structure of teeth by preparations derived from the college museum. Many of these were made by Hunter. Some were made by his pupils, one, showing the dentition of a child, having been made by Mr. William Lynn (afterwards President of the college) when a pupil of Hunter. Sir Everard Home, Hunter's brother-in-law, has also specimens in this case

to show the neatness of his handiwork. The specimens prepared by Nasmyth to demonstrate the enamel membrane, which still passes under his name, are also shown in this case.

The third window case is devoted to the anatomy of the jaws and mechanism of mastication. The series of specimens prepared by Mr. Caplin to illustrate his paper on the Anatomy of the Antrum are also shown in this window case. These preparations are the concrete illustrations of his often-quoted paper in the *Transactions of the Odontological Society*. Indeed, many of the exhibits are the subject matter of papers published in the *Transactions*.

So far the exhibits mentioned in the present—which, by the way, is merely a provisional—arrangement of the room are those derived from the college collection. Before proceeding to draw attention to the contents of other cases it is convenient to mention here the very large and valuable addition made by the pathological specimens added from the college collection. These have been slowly accumulated during the past hundred years, and illustrate the commoner as well as rarer forms of dental anomaly and of disease.

The general arrangement of the collection may be gathered from the annexed plan. It is proposed here merely to direct attention to some of the more important sections. First and foremost are the two wall cases which illustrate all the changes which are to be seen in the human jaws and teeth during the period of formation and eruption. This subject is represented by nearly 200 specimens obtained from all periods of life between the seventh month of fetal development and the twenty-fifth year of life. A case, which we hope will soon require expansion, is devoted to the exhibition of the dentitions and jaws of prehistoric races, and of the less civilized modern races. The plan also shows the large space given to the representation of the sections illustrating the comparative anatomy and the pathology of the teeth. A survey will convince the visitor how richly these sections deserve the space allotted to them.

Perhaps the most remarkable feature of the collection is the wealth of examples of dental irregularities—abnormal forms of crown and fang, of implantation, of eruption, of crowding, and of number. Truly Nature suffers many mishaps in the formation and production of human teeth. A dentist has to be prepared to meet all kinds of developmental vagaries. Only those who have seen this collection could guess how many. In specimens of odontomata, and especially in specimens of tartar formation and deposit—some of which reach an uncredited size—the collection is extremely rich. A number of bone dentures and of artificial teeth are exhibited to demonstrate the fact that caries attacks dead as well as living structures. As can be readily understood, caries of the teeth, diseases of the periodontal members, gumboils, and necrosis of the jaw following diseases of the teeth, have very full representations. Malformations and tumours of the jaw are given accommodation in two large cases.

The various forms of artificial teeth and of dentures are shown in historical sequence, so that the visitor may see the extraordinary activity and ingenuity that has been manifested by generations of dentists before the more perfect modern means and patterns were evolved. It is not too much to say that some of the old specimens here shown attain a high degree of artistic merit, some are priceless in that they could not be replaced, and all are valuable. The instruments used for the extraction of teeth are also arranged in historical sequence; some, perhaps, are clumsy and strong enough to be used by Samson-dentists in a population of giants; others are delicate and ingenious. Dentists have been free in their donations to this section, yet there still remain some blanks to be filled in.

The collection here so briefly described may be truly described as national in character. It is open for study and for research to all engaged in furthering the means of maintaining the teeth of the nation in health, and of treating them when diseased. The leading dentists, surgeons, and anatomists have, in the course of the last 150 years, built it up by their collective efforts and patriotism. The Royal College of Surgeons of England has now housed it and undertaken its maintenance and its expansion—a very considerable financial burden.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.

At a special general meeting of the members of the London and Counties Medical Protection Society, held on November 24th, 1909, at 31, Craven Street, Strand, Dr. G. A. Heron, the Chairman, moved a resolution approving the action of the council in arranging for an insurance of the members of the society against any damages or costs up to several thousand pounds which might be awarded at any time against any member in any proceedings which the society might undertake on behalf of its members, pursuant to Article 16 of the articles of association of the society, and for that purpose to raise the subscription to a sum not exceeding £1 per annum. Dr. Heron said that the council desired to secure a form of assurance which should cover the risks of a member of the society as to costs and damages given against him in any trial at law in which his case was undertaken by the society and in which he was unsuccessful, or which was settled either in or out of court. More than one proposal for the covering of these risks by assurance was being or would be considered by the council. The council would strictly guard the right to conduct a trial at law in the way thought proper. To that end the council would keep in its own hands the right to defend and to refuse or cease to defend, to settle and to decline to settle, in or out of court, any case submitted by a member. In short, the assurance, if and when it was completed, would leave the members of the society exactly where they now stood with regard to the council of the society, but each member would have the comfort of knowing that he had a material sum assured to him with which costs and damages given against him in an unsuccessful action at law would be met. The sum to which each member would be entitled to look from his assurance against costs and damages given against him in an unsuccessful action at law would amount to at least £2,000 in any one year; but the actual amount must be left to the council for final settlement. The council was bound in a matter of that kind to take possibilities into account, and therefore asked the members to pay 10s. a year each for that assurance in addition to their subscription of 10s. a year to the society, so making the annual liability to the society 20s.

Dr. Major Greenwood opposed the proposal because he did not think that it would be a good thing for medical men to feel that in any case, if there were an adverse verdict against him, he would not have to pay damages. Anything of that kind would certainly tend to increase litigation.

After the Chairman had explained in detail that the privileges of members would remain as before, and that by the proposed assurance members would be further indemnified against any costs of the other side, and any damages up to £2 000 which might be awarded against them, if actions undertaken for them by the society were unsuccessful, the resolution was put to the meeting and carried.

The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on November 19th, Dr. de Havilland Hall in the chair. The committee passed a resolution expressing to Mrs. Clutton, widow of the late H. H. Clutton, F.R.C.S., for many years one of the treasurers of the society, their sense of the loss they have sustained by his death and their sympathy with her in her bereavement. A long list of sickness claims was presented. These were for the most part light cases of short duration, but a few seemed likely to last at least through the winter, and in some instances to become additions to the list of permanently incapacitated members. Although the claims have been numerous, the general financial results of the year's working have been very satisfactory. The number of new entrants has been far above the average; and as no agents are employed and the society allows no commission or any other payment for the introduction of new members, the growth in numbers shows that the advantages offered by the society are becoming better known and more appreciated. Every year shows a considerable addition to the invested funds, which now amount to over £230,000, and to the income of the society, which now exceeds £27,000 per annum. Prospectuses and all particulars can be obtained on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

In previous articles on the report of the Commissioners reference was made to the different forms of medical relief, the overlapping of charities, and the functions of charity and the Poor Law. It will, perhaps, be of some interest to give a summary of the existing provisions of the Poor Law, and of the recommendations of the Majority and Minority Reports showing the manner in which they propose to deal with the subject.

HISTORY OF POOR LAW ADMINISTRATION.

As at present administered the Poor Law of Scotland is based upon the Poor Law Act of 1845 which was the result of a Commission appointed in 1843. Previous to the passing of the Act of 1845, the area of administration was the parish, the imposition of a poor rate was not obligatory, in a great majority of parishes no rate was levied, and there was no supervision by a central department; the duty of administering relief was in the hands of (1) in Parliamentary burghs, the magistrates, in (2) landward parishes, that is, districts outside burghs, the Kirk Sessions and heritors (that is, landowners), and (3) in partly landward and partly burghal parishes, the Kirk Sessions, heritors, and magistrates. In England, prior to the passing of the Poor Law Act, Poor Law administration relieved the able-bodied poor. In Scotland the able-bodied poor were not relieved by the Poor Law. The Commissioners appointed in 1843, therefore, were not required to recommend a means for the reduction of pauperism, such as obtained in England under the name of the "workhouse test." What they had to consider in Scotland was how to secure that all persons legally entitled to relief should receive it, and that, when it was given, it should be adequate to the needs of the individual. That the then existing machinery for the relief of the poor in Scotland was defective was abundantly proved by the Commissioners of 1843. They found in almost every parish visited by them that those responsible for the care of the poor showed an anxiety "to make it appear that the poor were comfortably provided for." The Commissioners reported that so inveterate was the self-satisfaction of the relief authorities, that an indispensable preliminary to any reform was that the administration of the Poor Law should be brought under the review of an enlightened public opinion. This inquiry resulted in the passing of the Poor Law Amendment (Scotland) Act of 1845.

The Board of Supervision and the Local Government Board.

Chief among the methods suggested by the Commission was the establishment of an unpaid Board of Supervision in Edinburgh. To this board the local Poor Law authority in each parish were required to furnish at least twice in the year information as to the condition of the poor under their charge, and this information was to be submitted to the Secretary of State in an annual report to the board. This board continued to exist until 1894, when its functions were transferred to the Local Government Board for Scotland. The establishment of the Local Government Board introduced two important changes: (1) The direct representation of the Board in Parliament, the Secretary of State becoming its President; and (2) the appointment of three paid members devoting their whole time to the work of the department, one of these members being a registered medical practitioner who is also a holder of a Diploma in Public Health or has been for not less than five years medical officer of a county or burgh.

An important power which the Scottish Local Government Board exercises over Poor Law administration is that of inquiry and report. The Board is empowered to inquire into the administration of the Poor Law in any parish, and has full powers to summon witnesses and examine them on oath, and to call for books and papers. The Board may authorize one of its members to make a special inquiry on its behalf, but usually the inquiries are undertaken by a commissioner specially appointed for the purpose, and are chiefly conducted by officers of the Board, whose status corresponds with that of the general inspectors under the English Board. These officers, of whom there are four, are designated general superintendents of the poor. For carrying out such an inquiry, a general superintendent is endowed with all the powers of a Special Commissioner. One of the duties of the general superintendents is to take every opportunity of explaining to the poor and the people generally their right to apply to the Sheriff if they are refused relief, and to the Board if they consider the relief granted to them to be inadequate. But, along with this power of interference to ensure the adequate relief of individuals, the general superintendents discharge a valuable function in scrutinizing the roll of the poor in each parish, for the purpose of calling attention to those persons who are not proper objects of relief, or of outdoor relief. The right of the Board to determine, on the appeal of an individual pauper, whether the relief granted is adequate, gives them a far-reaching influence on administration.

Another power in the hands of the Board is control over their inspectors of poor. Neither the appointment nor the salary of an inspector requires the approval of the Board, but it has the power to dismiss an inspector who fails, or neglects, or refuses to perform his duties, or who is unfit or incompetent to discharge them.

The Board may similarly dismiss the medical officer of a poorhouse, and also the medical officer of a parish which participates in the medical relief grant. The Board's power to dismiss the medical officer of a parish is obtained through the conditions attached to participation in the medical relief grant, and under them also no alteration may be made in the salary of a medical officer without the consent of the Board being first obtained.

It will thus be seen that the whole administration of the Poor Law relief in Scotland is practically in the hands of the Local Government Board, which, with the help of its superintendents, sees that it is properly carried out.

PROPOSED FUTURE RELATIONS OF LOCAL GOVERNMENT BOARD TO PUBLIC ASSISTANCE.

The Majority Report proposes certain alterations in connexion with the administration of the Poor Law.

The Commissioners state:

> We have now to consider what should in future be the relation between the Local Government Board and the administration of the Poor Law, or, as we propose to call it, Public Assistance. If the Board are to continue, as we think they must continue, to be the central authority, charged with the supervision of the local administration of public assistance and responsible to Parliament for that administration, greater powers must be conferred upon them. At present their powers are unduly limited to supervision and restraint. These powers do not appear to us to be excessive; on the contrary, as we shall hereafter show, they might with advantage be strengthened. Moreover, in the interests of good administration, we think it very desirable that in future the Board should assume a more direct position of initiative and guidance in matters of principle. By this means the Board would be better able to educate local opinion in the best methods of administration, and thereby maintain a higher standard of efficiency. . . . To enable the Board to assume this position, we consider it essential that their *status* should be raised, and that the salaries of the members and chief officers should be adequate to the increased responsibility which we propose to place upon them.

These, then, are the lines on which the Majority Report propose to reconstitute Poor Law administration in Scotland.

To sum up, they recommend in connexion with the central authority that:

1. That the Local Government Board should assume a more direct position of initiative and guidance in matters of principle affecting the administration of the Poor Law, or, as we propose to call it, Public Assistance.

2. That the *status* of the Board should be raised, and that the salaries of the members and chief officers should be adequate to the increased responsibility which it is proposed to place upon them.

3. That the number of general superintendents of poor should be increased, or, preferably, that assistant superintendents should be appointed; that definite qualifications for the post of assistant should be prescribed and tested, as far as possible, by examination; and that, in future, no person should be appointed general superintendent of poor who has not served for a probationary period as an assistant superintendent.

4. That the general superintendents should from time to time attend meetings of Public Assistance bodies and their committees.

5. That the Board's power to decide appeals against inadequate relief should be extended so as to enable them to determine the amount of relief that should be paid.

6. That the payment of all local taxation grants in aid of Public Assistance should be dependent on the fulfilment of conditions which would have as their object the securing of a higher standard of efficiency in administration. We are in favour of the "block-grant" system as being most suitable in this respect, and we think that the amount should be increased to some such sum as half the cost of relief.

7. That the Board's control over the appointment, qualification, and remuneration of officers engaged locally in the work of public assistance should be extended.

8. That as regards the provision of institutions the Board should have power:

(*a*) To insist on the erection or improvement of an institution.
(*b*) To require local bodies to combine when necessary.
(*c*) To authorize the compulsory purchase of land.
(*d*) To sanction loans.
(*e*) To check unnecessary and extravagant expenditure.
(*f*) To license the several parts of an institution for occupation by a given number of inmates.

9. That the Board should have power to unite small parishes in order to secure greater economy and efficiency in administration.

10. That the Board should be empowered to issue orders laying down the general principles on which public assistance should be administered; and to approve rules for the detailed regulation of the methods of assistance adopted in conformity with such principles.

11. That the auditors should be whole-time officers; that they should be civil servants; that persons appointed to the post of auditor should be required to possess definite qualifications, to be tested by examination or otherwise; and that the same rule should apply to the three countries as regards part of the cost of audit being borne by Imperial funds.

12. That the Board should be empowered to hold an "extraordinary" or special audit of the accounts of a local body whenever the circumstances seem to demand it.

13. That the annual report of the Board, dealing with public assistance, should be printed and presented to Parliament in a volume separate from the rest of the report of the Board.

Areas of Administration.

At present there are 874 parishes in Scotland, varying considerably in size, in population, and in valuation.

For the purpose of administration the Majority propose amalgamating the smaller parishes; this they consider would tend to greater efficiency, and would enable the authorities to obtain a higher class of official, specially trained, and able to devote his whole time to his work. As regards the larger burghs, they consider that the Poor Law area should be that of the burgh. The difficulty would be to define what size of burgh is appropriate for administration purposes; some burghs are so small that nothing would be gained by a general adoption of the burgh area as against that of the parish. In many cases the parish area is more extensive and more populous than that of the burgh which lies within it. The Majority, then, consider it would be expedient to draw a line between (*a*) those burghs which are large enough for the purposes and requirements of the administration of Poor Law or public assistance, and (*b*) those which are not.

They therefore recommend:

As regards burghs with a population of 7,000 and upwards:

(*a*) That the area of the burgh should be the administrative area for purposes of public assistance.

(*b*) That, according as may be determined by a special boundary commission, the landward or rural portion of parishes containing such burghs, or parts of such burghs, shown to be either

(I) Made into such separate parishes (the cases requiring such treatment being probably very few); or
(II) Added to the adjoining parish or parishes; or
(III) Added to the burgh or burghs to which the area of the burghal part of the parish has been assimilated.

(*c*) That power should be given to the burgh to combine with another burgh or burghs, or with a county, for the purpose of providing institutions for particular classes of poor persons, and that, where necessary, the Local Government Board should have power to compel a burgh thus to combine or to require such persons to be boarded in the institutions of another authority.

As regards counties (exclusive of burghs with a population of 7,000 and upwards):

(*a*) That the existing poorhouse combinations should be abolished, and that for the purpose of providing the necessary institutions the administrative area should be the area of the county.

(*b*) That power should be given to a county to combine with another county or counties, or with a burgh or burghs, for the purpose of providing institutions for particular classes of poor persons, and that, when necessary, the Local Government Board should have power to compel a county thus to combine, or to require such persons to be boarded in the institution of another authority.

(*c*) That for the purposes of outdoor relief the parish area should be retained, but that small parishes should be united, with a view to more efficient and economical administration.

(*d*) That the Local Government Board should be entrusted with compulsory power to unite small parishes for the administration of public assistance otherwise than in an institution.

(*e*) That in uniting small parishes the ultimate aim should be to assimilate the public assistance area with the area of the county district.

The Local Authorities.

At present Poor Law relief is administered by parish councils. The Majority recommend the formation of Public Assistance Authorities.

As regards burghs with a population of 7,000 and upwards:

That the authority charged with the administration of public assistance within the burgh should be a statutory committee of the town council, called the Burgh Public Assistance Authority, appointed by the town council, and composed, one half of town councillors and one half of persons of experience in the administration of public assistance or other cognate work. The authority should include two or more women. The Local Government Board should determine the number of members to be appointed in each case; one-third of the members should retire annually.

As regards counties exclusive of burghs with a population of 7,000 and upwards:

That there should be a county Public Assistance Authority to deal with questions of public assistance affecting the county as a whole, and particularly to provide and supervise the county institutions for the maintenance of the various classes of poor persons, or to combine with other Public Assistance Authorities for that purpose; the cost of providing and equipping these institutions to be a charge on the county, including burghs with a population of less than 7,000.

That the county Public Assistance Authority should be a statutory committee of the county council appointed by them, and composed one-half of county councillors and one-half of persons of experience in the administration of public assistance or other cognate work. The number of members should be determined by the Local Government Board; one-third of the members should retire annually. The authority should include two or more women.

That parish councils should be retained for purposes of public assistance in all landward districts and in burghs with a population of less than 7,000, the parish being subject to extension or readjustment as proposed elsewhere.

Officers of the Local Authority.

The Majority recommend, with regard to the appointment of officers:

That the inspector of poor should be designated "inspector of public assistance": that he should be a whole-time officer, and, *ex officio*, clerk to the Public Assistance Authority or parish council as the case may be.

That, in addition to existing powers of dismissal, where a local body and the Local Government Board concur in the opinion that the retention of an inspector of public assistance is, on general grounds, detrimental to administration, the local body should have power to terminate his appointment after proper notice.

The other officers are appointed under the same statutory powers and hold office under the same conditions as the inspectors.

Qualifications for Relief.

The Majority recommend:

That disability to earn a livelihood should no longer be one of the qualifications for poor relief.

That any person should be eligible for public assistance who is "necessitous."

They describe the term "necessitous" as a subject for relief as a person who is,

for the time being, without material resources (1) directly available, and (2) appropriate for satisfying his physical needs, (*a*) whether actually existing, or (*b*) likely to arise immediately. By physical needs in this definition are meant such needs as must be satisfied (1) in order to maintain life, or (2) in order to obviate, mitigate, or remove causes endangering life, or likely to endanger life or impair health or bodily fitness for self support.

Indoor Relief.

The Majority recommend:

That general poorhouses should be abolished, and that institutional assistance should be given in separate institutions appropriate to the various classes for whom such assistance may be necessary.

That the treatment should, so far as possible, be curative and reformative, and that, in every institution, each case should be

periodically reconsidered by a responsible committee, in order to see whether the treatment is producing the desired result or should be changed.

Outdoor Relief.

The Majority of the Commissioners, after reviewing the evidence brought before them, report:

In our judgement, the Scottish system of outdoor relief suffers from lack of uniformity in the application of principles of administration; that, in spite of great improvements effected since 1845, the allowances granted to the outdoor poor are frequently inadequate to their needs; that the visitation and inspection of the outdoor poor is in some parishes perfunctory, and in the majority of parishes insufficient; that the object of the visit of inspection is often merely to ascertain the economic circumstances of the poor person and without any idea of friendly help or assistance; that the want of women inspectors to discharge the duty of visiting the female outdoor poor is apparent and serious; that a grant of outdoor relief is often made without due regard to surrounding conditions, and in practice frequently has the result of fostering dirt, disease, and immorality; that the outdoor allowances are frequently paid at too long intervals; that the system of paying the allowances at the offices of the parish council, or at a pay station, is objectionable; that there is a great lack of co-operation between the Poor Law and charitable workers in the treatment of poor persons who are in receipt of both outdoor relief and charity; that the practice of giving outdoor relief to supplement the earnings of poor persons who are unable to work for a complete subsistence has had little appreciable effect on the labour market; that it is neither expedient or practicable to abolish the power to grant outdoor relief in Scotland; and that, if the Poor Law authorities and their officers were imbued with a higher conception of their duty towards the outdoor poor, and were intent on the fulfilment, much improvement to the advantage of the poor persons themselves and to the benefit of the community at large might be effected in the administration of outdoor relief.

Accordingly, and to this end, the Majority submit the following recommendations:

(A) The principles on which outdoor relief, or, as we propose to call it, home assistance, should in future be administered, are as follows:

1. Home assistance should be given only after thorough inquiry, except in cases of sudden and urgent necessity.
2. When all sources of income are taken into account, the assistance, without being excessive, should be adequate to meet the needs of those to whom it is given.
3. The persons so assisted should be subject to frequent supervision, such supervision including in its purview the conditions, moral and sanitary, under which the recipients is living.
4. It should be a condition of home assistance that the recipients are living in decent, clean, and well-kept houses.
5. Every case of home assistance to widows should have special and individual attention.
6. Home assistance should not, except in special cases, be granted to any woman deserted by her husband during the first twelve months after desertion.
7. Home assistance should not, except in special cases, be granted to any woman with an illegitimate child.
8. Where home assistance takes the form of a money allowance, such allowance should be paid at the home of the poor person, and the interval between payments should be short.
9. There should be systematic co-operation between the burgh Public Assistance Authorities, the parish councils, and recognized voluntary aid committees in the care and treatment of cases of distress, such co-operation taking the form of (*a*) interchange of information, (*b*) division of cases for purposes of relief, and (*c*) visitation of all permanent or prolonged cases by voluntary agencies.

(B) For carrying out the above principles, the following steps should be taken:

1. The Local Government Board should be empowered to prescribe the conditions under which home assistance is to be administered.
2. The general superintendents of poor should periodically inspect cases in receipt of home assistance.
3. With a view to adequate local inquiry and supervision:
   (I) The case paper system should be everywhere adopted.
   (II) The number of assistant inspectors of poor should be increased.
   (III) A certain proportion of the assistant inspectors should be women.
   (IV) Voluntary agencies should be utilized as far as possible for the personal care and visitation of individual cases.
4. The practice of paying outdoor allowances at the offices of the parish council or at a pay station should be abolished.
5. With a view to securing that home assistance is given only to persons living under good moral and sanitary conditions, full inquiry should be made].

Exemption from Payment of Rates.

Under the Poor Law Act, 1845 (Section 42), the parish council—the rating authority as regards parish rates—are empowered to exempt from the payment of rates, either wholly or partly, "any persons or class of persons on the ground of inability to pay." This practice obtains to a much greater extent than in England, and in many cases the privilege is abused, many persons being exempted who are in a position to pay.

The Majority Report recommends:

That, except as regards outdoor paupers, who obviously cannot pay rates, each application for exemption from payment of rates on the ground of poverty should be considered on its merits, after careful inquiry into the circumstances of the applicant, and dealt with by the authority empowered to grant the exemption.

The Aged.

The original principle of the Scottish Poor Law was to relieve those who, on account of age or infirmity, were partially or wholly disabled, so as to be incapable of working and earning for themselves a sufficient maintenance. The two Acts of 1574 and 1579 provided that, both in burghal and landward parishes, a roll of the aged poor and impotent persons who were either natives or had lived there for seven years, should be drawn up every year.

The Act of 1845 enabled parochial authorities, either singly or in combination, to erect poorhouses, if they saw fit, for the accommodation of, *inter alia*, "the aged and other friendless and impotent poor."

The Majority Report recommends:

1. That the aged poor, so far as they are unsuited for or cannot properly receive home assistance, should be accommodated in institutions specially set apart for them; and that they should be subdivided into classes, as far as practicable, with reference both to their physical condition and to their moral character.

2. That for the accommodation of the respectable aged poor in institutions the system of parish homes should be promoted and extended, both on the ground of increased happiness to the poor themselves and economy to the ratepayers; that such homes should be put upon a statutory footing, and be subject to systematic supervision and control by the Local Government Board.

As regards home assistance:

1. That care should be taken to see that the allowances are adequate, and not placing the recipients in a better position than those of their class who do not receive assistance.

2. That the aged recipients of home assistance should be periodically visited; and that the services of voluntary visitors should be enlisted to supplement the work of the officers of the Public Assistance Authorities and parish councils.

As regards compulsory removal:

That, in certain cases, power of compulsory removal to and detention in an institution should be given to the Public Assistance Authorities and parish councils subject to suitable safeguards, which we shall afterwards define.

Children.

By the law of Scotland, no able-bodied man is entitled to relief for his children living in family with him. Girls reach the age of puberty at 12 and boys at 14, but whether they then become forisfamiliated or not depends on their ability to earn their own living.

The recommendations of the Majority Report regarding the care of children are as follows:

1. Whilst strongly approving the boarding-out system and advocating its extension as far as possible, we feel that, in all its developments, it requires very careful regulation by the Local Government Board, e.g.:

   (*a*) The children should, as far as possible, be boarded with strangers rather than relatives.
   (*b*) The children should not be boarded with paupers or in homes in which a lunatic is boarded.
   (*c*) The suitability of the proposed foster parents to whom the children are to be entrusted, and the condition of the home and its environments, should be carefully inquired into by the Public Assistance Authority or parish council before any agreement is made to hand over the children.
   (*d*) The home should be in the country rather than in a town district.
   (*e*) Care should be taken not to board out too many children in one district or in one home.
   (*f*) There should be supervision of boarded-out children, thorough and constant, both lay and medical.

2. It is essential that the Local Government Board should appoint one or more lady inspectors of boarded-out children.

3. Power should be obtained to board out children, when necessary or expedient, beyond the limits of Scotland, and such power might include provision for the emigration of suitable children to the colonies; the responsibility of the Public Assistance Authorities and parish councils to continue for a stated period thereafter.

4. Effective steps should be taken by the Local Government Board to secure that the maintenance of children in the general poorhouse be no longer recognized as suitable or legitimate treatment of them.

5. The Public Assistance Authorities shall provide small institutions or homes wholly separated and isolated from the poorhouses, to which all children hitherto kept in the poorhouse, except the infants and the sick, should be sent before being boarded out or otherwise dealt with.

6. Care should be taken that any child suffering from an ailment which renders it unfit to be removed from an institution, or requiring medical treatment, which would not, presumably, be provided by the parents outside, should not be discharged along with its parents, but should be retained until certified as fit for removal.

7. The Public Assistance Authorities and parish councils should have power to adopt children of undesirable parents, and, where necessary, to retain the supervision of such children up to the age of 21, parental responsibility and liability for maintenance being always most strictly enforced.

8. Public Assistance Authorities and parish councils should keep a systematic record of their boarded-out children, and should take steps to remain in touch with them for some years after they cease to be chargeable.

9. Voluntary agencies should be induced to co-operate in the after-care of children who have ceased to receive public assistance, and should report to the Public Assistance Authority or parish council, such reports being officially preserved.

10. Public Assistance Authorities and parish councils should, as far as possible, endeavour to co-operate with voluntary agencies which provide homes for boys when they first obtain employment or are learning a trade.

11. There should be closer supervision of the condition of the children of parents who are in receipt of outdoor relief; in order to secure that the housing conditions and surroundings are healthy and sanitary, the Public Assistance Authority or parish council should be in constant co-operation with the sanitary authority; and the Local Government Board should be empowered by refusal of grant or otherwise to enforce the observance of an administrative rule with regard to these matters.

12. Parents, and particularly widows, should receive friendly advice and assistance in starting their children in life.

13. The assistance of voluntary agencies should as far as possible be enlisted for the supervision and after-care of children in receipt of outdoor relief.

14. Medical supervision of all children in receipt of outdoor relief should be generally secured.

15. All voluntary charitable institutions receiving children for whom the Public Assistance Authorities or parish councils are responsible should be open to inspection by the officers of the Local Government Board, and should be officially certified.

16. Consideration should be given to the question whether all voluntary charitable institutions dealing with children should not be registered, and subject to the same supervision, and be required to co-operate with the public authority.

Unmarried Mothers.

Regarding the provision for the assistance to be given to unmarried mothers, the Majority Report recommends:

1. That institutional assistance only, save in cases of emergency, should be given to those about to be, or who have already become, mothers of illegitimate children, and that this rule should be rigidly enforced.

2. That a clear distinction should be drawn between the cases (1) of young women who apply for relief in respect of their first confinements, (2) of women who are of weak intellect, and (3) of women who repeatedly enter the poorhouse to be confined, and are presumably lost to a sense of shame.

3. That cases of fresh confinement should be dealt with in institutions apart from the poorhouse, preferably in charitable institutions: and that voluntary workers should watch over the mothers on their first return to the world.

4. That those mothers who can be certified as feeble-minded should be subject to complete control of the lines laid down by the Royal Commission on the Care and Control of the Feeble-Minded.

5. That the hardened woman who repeatedly becomes chargeable on account of illegitimate children should be liable to compulsory detention for such period and subject to such conditions as the court may direct.

6. That all cases of unmarried mothers, and particularly cases of first confinement, should receive the special care and attention of the women members of burgh Public Assistance Authorities, parish councils, and voluntary aid committees.

7. That a Departmental Committee should be appointed to inquire into the working of the present law dealing with the subject of recovery against the putative father of an illegitimate child.

The Able bodied and Unemployed.

Under the old Poor Law Acts there is a clear distinction drawn between the "impotent" and those able to work. The "impotent" were to be relieved; no relief was to be afforded to those able to work. A number of Acts, however, provided for the able-bodied being set to work, such enactments, all more or less penal in character, having as their object the suppression of vagrancy.

The Act of 1845 declared that an able-bodied man out of employment had no legal "right to demand relief" under the Poor Law. But while this "right" was thus denied, a discretionary power to "grant" relief was conferred on the parochial authorities by the Board of Supervision, as advised by the Lord Advocate. That this discretion was "unrestricted," and the board, unlike the English board, had no power to prescribe conditions under which such relief might be granted. Instances are frequent where the parochial boards were compelled to give relief to the unemployed.

Charitable funds have been at all times available for the relief of the able-bodied and the unemployed since 1845. Up to 1878, when the Board of Supervision took the matter in hand, they appear to have been distributed under no common rule. In 1878 the board issued a minute recommending a number of simple rules for the administration of benevolent funds for the unemployed.

The principles laid down in the minute were as follows:

Strict inquiry into applications, to be conducted as far as possible by the Poor Law officers: no assistance to beggars, or to persons on strike, or to persons in receipt of relief from Poor Law or from charity; no assistance without a labour test, which should take the form of work in the applicant's own, or in some other, occupation of which he is capable; if this could not be done, an "artificial test" to be adopted, such as stone breaking, sand crushing, wood splitting, oakum teasing, and other simple occupations; In applying a labour test the remunerative nature of the employment to be the last thing to be considered; No assistance to be given from the Fund in money, but solely in rations, coal, etc.: Where there was a family the rations to be given to them personally.

These rules seem to have worked satisfactorily. In all centres where the population is large there are various societies and associations whose aim is to deal with the able-bodied, and they are so recognized by the Poor Law and municipal authorities.

Municipal authorities have for many years done much for the public relief of distress due to unemployment. These funds are generally managed by a committee of the town council. Funds are generally taken out of the common good fund, and sometimes out of the burgh rates. Relief works of various kinds are provided, and supervised by the municipal authority.

The granting of such assistance to workmen does not disqualify them under the Act as it does in England.

(To be continued.)

LITERARY NOTES.

THE abstract of an address recently delivered by Sir Henry Morris to the Middlesex Hospital Medical Society, which appeared in the JOURNAL of November 27th, contains the following sentence: "Further, there was the reply to the Apostles about the grain of mustard seed and the sycamore tree, when they asked, 'Increase our faith.'" The word "sycamore" should have been printed "*sycamine*." Sir Henry Morris informs us that sycamine is the black mulberry of Palestine, and is sometimes believed to be identical with sycomore—a species of fig—an evergreen of great size, from which the Egyptians made and still make household furniture. Sycamore is a species of maple, which has no connexion with the sycamine referred to in the New Testament. It is mentioned once only by St. Luke as συκάμινος. In A. Kyriades's *Modern Greek-English Dictionary* (Williams and Norgate, 1909) we find the word συκαμινέα translated as sycamine tree.

The first session of the Seventeenth International Congress of Americanists will be held in Buenos Aires, Argentine Republic, from May 16th to 21st, 1910. A second session will take place in Mexico in September of the same year. A Commission of Organization has been formed, the President of which is Dr. José Nicolas Matienzo, Dean of the Faculty of Philosophy and Letters in the National University. Communications, which may be either oral or written, may be made in English, French, German, Italian, Portuguese, or Spanish. The conference will deal with questions relating to the ethnology,

archaeology, and history of the New World, and a detailed programme will be published before the end of the present year. For further information application should be made to the General Secretary of the Committee of Organization, Dr. Lehmann-Nitsche, Calle Viamonte 430, Buenos Aires.

Old books professing to teach people how to behave properly in Society afford many quaint glimpses into the manners and customs of the past, and the following advice to doctors throws an interesting sidelight on mediaeval treatment and the sort of bedside manner then required of a medical man. The lines have been taken from Thomasin von Zirclaria's *The Italian Guest; or, How the Knight of Winsbeke taught his son, and the Lady of Winsbeke her daughter*, a treatise on manners and good breeding, written for Germans and in German by an Italian in the early days of the thirteenth century. The verse quoted below is headed simply "Medical Practice," and appears to contain the whole duty of the physician towards his patient as understood by the author and his contemporaries:

Ein arzât der wol erzen kan,
Der erzent dicke einn siechen man
Mit durst, mit hunger und mit prant.
Er bint in ûf zwo einer want,
Er snidet und stichet in vil bart.
Eim andern roufet er einem bart
Und sin hâr, wan er wil
Daz er niht enslâf ze vil.

This is rendered into English by Mr. Eugene Oswald in his *Account of the Italian Guest . . . the German Cato, and Tannhaeuser's Courtly Breeding* (p. 134):

A physician who can cure well,
He cures vigorously a sick man
With thirst, with hunger and with burning.
He ties him up against a wall,
He cuts and pricks him a very great deal.
He tears another's beard
And hair when he desires
Him not to sleep too much.

Apart from the odd idea of a bedside manner here revealed, the treatment of the doctor seems somewhat strenuous to us in these degenerate days. Even the suffragettes who adopt the policy of the hunger strike, and who tie or chain themselves to railings and statues, have not yet, we believe, tried the actual cautery on themselves. Nor, for reasons for which brutal man cannot be held accountable, do they tear their beards. But they may sometimes have avenged themselves for the injustice of Nature by pulling policemen's whiskers.

The history of Tyburn might almost be regarded as a summary of the history of England. This may sound exaggerated, but the reader of Mr. Alfred Marks's most interesting and instructive book, *Tyburn Tree: its History and Annals* (published by Brown, Langham and Co.), realizes its truth with something of a shock as he sees how closely the story of the public gallows is interwoven with the story of the English nation, and how, owing to the ferocity of English laws, Tyburn Tree has played a prominent part in almost every important event in the history of Great Britain. Mercy and humanity were not the distinguishing characteristics of the "good old days"; the scaffold was the inevitable end of all who were unfortunate enough to come into conflict with the State; and therefore we find Tyburn figuring in every episode of English history from the Middle Ages down to the Jacobite rising of '45. Mr. Marks has given a full account of "the chief of English Acedamas" throughout the 600 years of its active existence, and he has managed to invest the hideous story with interest and even romance. According to him, Tyburn was the place of public execution from the middle of the twelfth century onwards. The actual site of the gallows was for long uncertain, but now there can be no doubt that the triple tree stood at the corner of Edgware Road, not far from the Marble Arch and on the spot afterwards occupied by the toll-house of Tyburn turnpike. On this spot died some 50,000 people—men, women, and even children, of every rank, profession, and creed, and for every sort of crime. Here died Wallace, the first to suffer the full penalty for high treason; Mortimer, the lover of Edward II's queen; the impostor Perkin Warbeck; Catholic priests and reforming ministers, Cavaliers and Roundheads, gentlemen of the road like the famous Claude Duval, and starving men who had stolen a few pence, political prisoners and old women suspected of witchcraft, together with a nameless crowd of thieves, murderers, forgers, and coiners. It was at Tyburn that the dead bodies of Cromwell, Ireton, and Bradshaw were hung in chains to celebrate the return of the Stuarts, and at the same place less than a hundred years later the Jacobite prisoners paid the price of their loyalty with their lives. The last execution at Tyburn took place on November 7th, 1783. The gallows were then transferred to Newgate, amidst general disapproval, for this innovation involved the suppression of one of the principal sights of London, the procession of the condemned prisoners from the prison to the scaffold. Even the humane Samuel Johnson objected to the change, though the scenes at public executions were a disgrace to a civilized community, and what was intended originally to terrify the spectators from crime had become a pretext for hideous orgies of drunkenness and disorder. The "drop" or modern method of hanging which kills immediately by dislocating the neck, had been introduced about twenty years previously. Walpole mentions it as a novel feature in the execution of the mad Earl Ferrers in 1760. Hitherto death had been caused by strangulation, which was a lengthy process; and Mr. Marks seems to think that the "drop" was not adopted from humanitarian motives, but because it meant certain death. The old method of hanging offered the condemned man a loophole of escape if his friends were able to cut down the body as soon as possible after the execution, and there had been so many cases in which the prisoner left for dead upon the scaffold had been restored to life, that towards the middle of the eighteenth century there seemed to be urgent need for "a means of bringing to naught these ingenious attempts to rob the State of its due." Cases of resuscitation from hanging are recorded from time to time in the history of Tyburn. The earliest and most remarkable of all took place in 1264, during the reign of Henry III when Ivetta de Balsham was hanged at 3 o'clock one afternoon, and was taken down alive at sunrise the following morning. It is a relief to learn that the poor woman was pardoned after her twelve hours' agony. Later, these revivals became more frequent, and were, in fact, often connived at by the hangman himself. The famous highwayman, Jack Sheppard, when all other means of escape failed, hoped to elude justice by being cut down from the gallows soon after execution, as did also Johnson's friend, Dr. Dodd. In both cases the plan failed. In the latter,

The body was conveyed to the house of an undertaker in Goodge Street, where a hot bath was in readiness. Under the direction of Pott, a celebrated surgeon of the day, every effort was made to restore animation, but in vain; the crowd was so enormous that there had been great delay in the transport of the body, and this was fatal.

Others, however, were more fortunate than these unhappy men. A woman, called Anne Greene, executed at Oxford in 1650, hung

by the neck for the space of almost half an hour, some of her friends in the meantime thumping her on the breast, others hanging with all their weight upon her legs, sometimes lifting her up, and then pulling her doune again with a sudden jerk, thereby the sooner to dispatch her out of her pain; insomuch that the Under-sheriff fearing lest thereby they should break the rope forbad them to do so any longer.

The corpse showed signs of life when taken to the dissecting-room, whereupon an over-anxious bystander promptly "stamped several times on her breast and stomach with all the force he could"! Nevertheless, the unfortunate woman was rescued by the Professor of Anatomy, Dr. (afterwards Sir William) Petty, and another physician, who bled her and put her to bed with another woman. In a couple of hours she was able to speak, got up four or five days later, and in a month's time was well enough to return home, "taking her coffin with her." This incident is recorded in Lord Edmond Fitzmaurice's *Life of Sir William Petty*, where it is said that Anne Greene lived to marry and have children. Another woman, Margaret Dickenson, who was hanged at Edinburgh in 1728, horrified her funeral cortège by sitting up in her coffin. Luckily for her, one man had the presence of mind to open a vein; she was put to bed, and returned home on foot the following day. The case of John Smith is interesting inasmuch as we have his own account of his sensations on returning to life. He was hanged for burglary at Tyburn in 1705,

and after he had hung about seven minutes a reprieve came, so that he was cut down, and immediately left blood and put into a warm bed, which, with other applications, brought him to himself again with much adoe.

On his recovery he said that

when first turned off he felt excessive pain, but that it almost immediately ceased. The last circumstance he recollected was like an irregular and glimmering light before his eyes: the pain he felt in hanging was infinitely surpassed when his blood was recovering its normal course of circulation.

There is a certain pathos in the account of another sufferer, hanged at Tyburn in 1740, who recollected nothing of his experiences, but, being brought back to life on the dissecting-table at Surgeons' Hall, said that he had dreamed of "Paradise, where an Angel told him his sins were forgiven." The pardon of his earthly judges took the form of transportation for life on his recovery. It is natural that the doctors should have taken a keen interest in these and similar cases, and during the first half of the eighteenth century the Faculty busied itself in studying the question of resuscitation. A surgeon called Chovet,

having by frequent experiments on Dogs, discovered that opening the Windpipe, would prevent the fatal consequences of the halter, undertook Mr. Gordon, and made an Incision in his Windpipe: the Effect of which was, that when Gordon stopt his Mouth, Nostrils, and Ears for some Time, Air enough came thro' the Cavity to continue Life. When he was hanged he was perceived to be alive after all the rest were dead: and when he had hung 5 quarters of an Hour, being carried to a House in Tyburn Road, he opened his Mouth several Times and groaned, and a vein being open'd he bled freely. 'Twas thought, if he had been cut down 5 minutes sooner, he might have recover'd.

A more successful experiment was made in 1767 by a Cork surgeon upon a man executed in that city. The body had hung for twenty-eight minutes, when it was cut down and carried by the mob

to a place appointed, where he was, after five or six hours, actually recovered by a surgeon who made the incision in his windpipe called bronchotomy. The poor fellow had since received his pardon, and a genteel collection has been made for him.

The story of Tyburn is, for the most part, one long list of sickening barbarities. The only bright spot amidst the gloom which enshrouds it is the heroic courage shown by the martyrs, who could pray for the butchers who were mangling them, and by men such as Dr. Cameron, the last of the Jacobite prisoners, who "met death, not so much with fortitude, which implies, in a way, an effort, as with perfect equanimity." Nor do the horrors of Tyburn diminish with the march of progress. It is a curious and dreadful fact that the further the nation advanced in civilization, the more barbarous became its laws, till the eighteenth century surpassed the Dark Ages in cruelty, and the age which produced John Howard, the philanthropist, witnessed the offences punishable by death to over 200 in number, saw a woman hanged for trying to steal a small piece of muslin in order to obtain money for her starving babes, and a child of 14 sentenced to be burnt for hiding, at her master's bidding, a few whitewashed farthings. Well might the tender-hearted Romilly agitate for the reform of our penal code; and it is significant of the temper of the age and its utter indifference to human suffering that his opponents included not only rival politicians, but archbishops and bishops, men whose very profession should have inspired them with compassion. Mr. Marks's own words form a fitting conclusion:

"Let us not forget the thousands of martyrs . . . ***** . . . to ferocious laws, not seldom put in force against the innocent, the martyrs to cruel injustice, to iniquitous social conditions. Thousands have had the life choked out of them at Tyburn on whom pity might well have dropped a pardoning tear: to whom compassion might well have stretched out a helping hand." And again: "The story of Tyburn is one of the strangest, surely one also of the saddest, in the history of the people."

In *La Clinique* of November 19th Dr. G. Cornu quotes the following account of a radical cure of hernia about 1740. He takes it from the book of Arnaud, whom he describes as the chief authority on hernia of the time, and who himself took it from the Ottoman history of Demetrius of Cantimir, Prince of Moldavia. That author says:

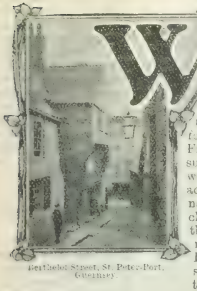
The Albanians undertake the cure of ruptures in all sorts of cases, whatever be the age of the patient. Their method is rough but nevertheless successful. During my stay at Constantinople I made proof of it on the person of my secretary, a man advanced in years whom I had treated for that condition in my palace. An agreement having been made as to the price of the cure, they tied the patient with bands from the chest to the feet on a large plank. Then they made an incision in the lower part of the belly with a sort of razor or bistoury. The hypodermium (peritoneum) having been opened, they drew out the internal substance under the skin, about as much as would cover a man's hand, and pushed up in the place of the space thus left the intestine which had descended into the scrotum. Then the hypodermium was stitched with coarse thread, which was held in place by a knot to keep it from slipping, and the edges of the wound which hung down on both sides were cut with the same razor. The wound was rubbed with lard and cauterized with a red hot iron. Before putting on the appurtenances they raised the legs of the patient, who was more dead than alive, somewhat high, and let fall into the wound the white of nine fresh eggs. If within an hour or two this liquid begins to "work" and bubble is a certain sign of cure. On the other hand, they draw an unfavourable augury if after three hours nothing of the kind takes place. They look upon this as the effect of the age or weakness of the patient, which puts him beyond the reach of the virtue of the remedy, and indeed it seldom happens that more than one or two out of a hundred on which they operate die. After two or three days the infusion of white of egg is repeated. During all that time the patient is kept stretched on his back without giving any sign of life or feeling. The doctors did not allow him to take anything, saying that it was enough to wet his tongue frequently with a little bit of water. On the fourth day they found the patient bound as he was on the floor, and forthwith he came to himself, and with a weak voice complained of the pain he felt. They gave him a spoonful or two of tepid water to sustain him, and during the three following days they allowed him bread, and they specially enjoined that his stomach should not be loaded, and that he should not be given meat. On the seventh day he was unbound and placed more comfortably in a bed, but for fear lest he should move or turn on his side, two of the doctors kept him always in sight, and every day the infusion already described was renewed. From the ninth to the twelfth day the quantity of white of egg was reduced to six, and as soon as they were applied to the wound one could see a bubbling more considerable than before. On the fifteenth day the white of one egg could scarcely be introduced. Nevertheless, if the infusion was not stopped as long as there was space to introduce a certain quantity and the least bubbling was perceived. This sign having ceased to manifest itself, they covered the wound with a plaster made of pitch, oil, and other ingredients. The patient was then allowed to move his leg and to lie on his side. Every morning before the patient took any nourishment the doctors pulled on the end of the thread with which the wound had been stitched, in order to see if it was time to leave it without ligature. This depends on the strength of the patient. In some cases forty, in other thirty, days are sufficient. There are some even in which the thread can be taken away on the twentieth day. Then with the help of a second plaster the cure is complete.

"There," says the Prince of Moldavia—and the modern reader will doubtless agree with him—"is a very surprising operation of which I have been an eye witness." Those who read the accounts of the tortures of heretics and criminals in olden times might find it difficult to choose whether they would have preferred to be done to death by the surgeon or the executioner.

Some time ago a proposal to establish an official medical journal for the Canadian Medical Association was placed in the hands of a standing committee, known as the Finance Committee, under the chairmanship of Dr. John T. Fotheringham of Toronto, formerly one of the editors of the *Canada Lancet*, with instructions to establish a journal as soon as financial conditions warranted such an undertaking. With this end in view (says the *Canadian Practitioner and Review*), it was deemed advisable to seek incorporation. A committee, with Dr. Shillington of Ottawa as chairman, was appointed for the purpose, and, as a result of its work, the Association was incorporated by Act of Parliament last session. The next step was to increase the annual subscription from 2 to 5 dollars. In these circumstances the fact that the attendance this year was the largest in the history of the Association was very satisfactory to the Finance Committee. It was clearly evident that nearly all the members at the meeting held in Winnipeg wished to see a journal established as soon as possible. Canada, adds our contemporary, is growing in many ways and in various directions. The members wish the Association to become bigger and broader in every sense. They wish to discuss from year to year subjects of national importance, and they want an official organ. It is stated that the official publication will be quite different from the present medical journals, and will not enter into competition with them.

THE CHANNEL ISLANDS.

ESPECIALLY IN WINTER AND SPRING.



Les Undes Street, St. Peter-Port, Guernsey.

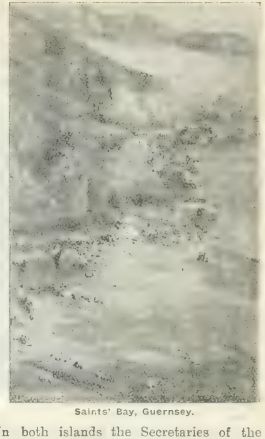
WINTER in nearly all parts of England is a trying season to all and singular who have any weak point in their constitution, and many people who can ill afford the time and money required for travelling to Southern France or Italy in search of sunshine and milder winters will be interested in an account of a substitute nearer home. We do not claim complete equality for the substitute, but there is no doubt that the Channel Islands offer in winter and spring to the inhabitants of the major part of Great Britain a considerable change for the better. The length of the journey from London to Guernsey, the nearest island, is about ten hours in winter, eight and a half hours by the daylight service in summer. The open-sea crossing is about four hours from either Weymouth or Southampton, which, after all, is only half an hour longer than that between Newhaven and Dieppe. Communication with Sark and Alderney is by small interinsular steamers running only from Guernsey. The English mail boats run on to Jersey from Guernsey every morning, and in summer every evening also. Small steamers ply regularly from Plymouth, London, and Bristol; as well as from both Guernsey and Jersey direct to Cherbourg, Granville, St. Malo, and other ports in Normandy and Brittany.

The main islands of the group are Jersey (population 55,000), Guernsey (45,000), Alderney (2,000), and Sark (600). Guernsey, the first port of call, lies thirty miles nearer England than Jersey, a point of importance to bad sailors, for the thirty miles between Guernsey and Jersey are often the worst bit of the whole crossing. This article is not a guide-book, nor will it compare, except in the most general way, the attractions of the different islands. The largest of them is not so large that one can ever get more than three miles from the sea, but the visitor is not tied in them, as in many English seaside places, to a mile or two of beach. The whole coastline of the islands is within walking reach, and the variety is astonishing. Of them all the sea is the main feature. The bold cliffs and bays of Guernsey, the crags and caves of Sark, the lovely bays and sandy stretches of Jersey, and the rocks of Alderney, are what chiefly dwell in memory.

English is universally spoken. In the country districts of all the islands the old Norman *patois* lingers. It is not French; it is the unaltered Norman language of 500 years ago. Modern French has driven it out of Normandy itself.

Accommodation is easy to find in Jersey and Guernsey. Hotel prices run from 6s. 6d. to 8s. 6d. a day in the winter season for visitors who stay two or three weeks. Boarding house charges are from 5s. or 6s. a day upwards. Apartments are let at about 10s. a room. In both islands the Secretaries of the Advertising Committees supply information on all such questions. In Alderney accommodation is even cheaper; the island is bare, bleak, and bracing. Sark has become the happy playground of regular visitors who come to the same houses year after year. Accommodation in it is scarce, and it is far too lonely and difficult of access in winter to be recommended. House rents in the towns of St. Heliers, Jersey, and St. Peter-Port, Guernsey, are closely up to English averages, but in the country bargains can often be got. Servants are hard to find, however, outside of the towns. Provisions are imported from England, and are sold at English prices. Wine and spirits, though not as cheap as they used to be, are still one-third lower in price than in England. Tobacco is less than half English prices; a really good after-dinner cigar costs 2d.

Those who settle in the islands pay no taxes for the first three years of residence; after that they pay the same as others. Local taxation is higher than it ought to be. The absurd system of levying it on capital and personal property allows too many to escape altogether. In Jersey and Guernsey municipal sanitation is fairly good. Modern bathrooms, etc., as in the country parts of England, are scarce except in newer houses. Jersey's water supply is good and ample; that of Guernsey good but not ample. It is, indeed, a burning question (if water



Saints' Bay, Guernsey.

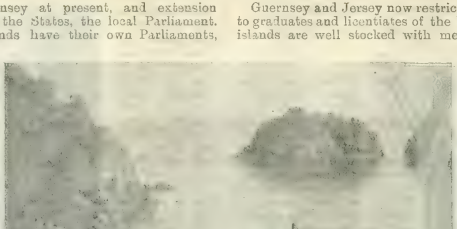


Harbour, St. Peter-Port, Guernsey.



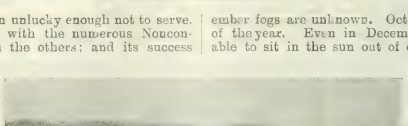
Rocquaine Bay, Guernsey.

can be such) in Guernsey at present, and extension schemes are now before the States, the local Parliament. For the Channel Islands have their own Parliaments, their own laws, their own system of universal service. The Channel Islander firmly believes that his native land is worth defending, and every male resident between 18 and 40 is liable to serve a short training every year. The establishments are kept at a fixed figure, and the vacancies are filled by ballot. But the service is so popular that, in Guernsey at any rate, there have been for many years at least three volunteers for each vacancy, and the ballot has been used only to decide who shall be the men unlucky enough not to serve. The service is as popular with the numerous Nonconformist population as with the others; and its success might well be an object lesson to their unpatriotic brethren in England. Royalty is represented by a Lieutenant-Governor, whose levées are informal and well-attended functions. The Bailiff is the Chief Civil Magistrate and President of the local Parliament. The procedure of the States and Royal Courts shows many interesting relics of the old feudal days, though it is perhaps not ideally responsive to the push of modern progressive notions.

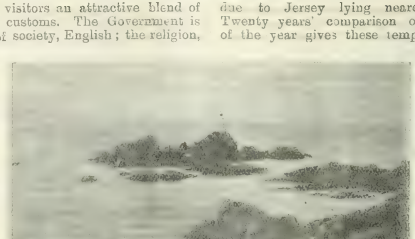


New South Quay, Alderney.

Socially, therefore, the Channel Islands offer to visitors an attractive blend of English and Continental customs. The Government is Old Norman; the habits of society, English; the religion, Sabbatarian to an extreme. The laws are printed in French, but have usually to be translated for popular use. Society is unostentatious; there are few rich residents, and entertaining is on a modest scale. Clubs, theatres, and amusements are run to suit moderate incomes. Education, for both boys and girls, is cheap and very good. There are facilities for almost every outdoor sport—tennis, cricket, fishing, yachting, and croquet. Golf in both Jersey and Guernsey is really good: the Vardons, the Gaudins, Ray, and Renouf are all Jersey men. Lending and reference libraries of exceptional merit exist; and very good theatre companies cross regularly. The local amateur dramatic talent in Guernsey is astonishingly good.



St. Catherine's Bay, Jersey.



Corbière Lighthouse, Jersey.

Guernsey and Jersey now restrict their medical practice to graduates and licentiates of the United Kingdom. Both islands are well stocked with medical men. In Guernsey the Association is very strong, only three out of some twenty-six practitioners standing out. In Jersey the old-established Jersey Medical Society divides the allegiance of the profession with the British Medical Association, but of late the latter seems to be gaining ground.

Climate in Winter and Spring

It is the rarest thing for any really cold weather to occur in the Channel Islands before the end of December. November is generally a month of fairly still days with more or less blue sky; November fogs are unknown. October is the wettest month of the year. Even in December it is quite usual to be able to sit in the sun out of doors right up till Christmas Day. A snowstorm is a rarity, and a white landscape a thing to be remembered. A cold snap of three to five days corresponds to one of ten to fifteen days in England, and its temperature ranges from 30° to 40° F. against the English range of 22° to 34° F. The averages of sixty-three years show that in Guernsey the thermometer falls below the freezing-point on only two days in each year, in Jersey on three days in each year, the difference being due to Jersey lying nearer to the French coast. Twenty years' comparison of the first twelve weeks of the year gives these temperatures

	Between
Guernsey ...	46 and 42°
English South Coast towns	43° ,, 39°
Greenwich ...	42° ,, 37°

While the winters are warmer than the neighbouring parts of France and England, the sea breezes passing over the islands keep the nights deliciously cool even in the hottest spells in summer. The sea around the Channel Islands is several degrees warmer in winter than on the south coast of England. Bathing begins earlier and is carried on later. There exist no regulations as to bathing outside of the towns; in the country bays mixed bathing is the rule.

The following tables are taken from records supplied by Dr. H. Draper Bishop, the M.O.H. of Guernsey. We have been unable to incorporate Jersey figures, as our application

to the M.O.H. of Jersey unfortunately coincided with his annual holiday, and his reply arrived too late. The differences, however, are quite unimportant.

I.—*Mean Shade Temperature (66 Years' Average).*

Jan. ...	43.2	April ...	47.3	July ...	60.0	Oct. ...	53.4
Feb. ...	43.6	May ...	51.5	Aug. ...	60.2	Nov. ...	48.3
March.	45.8	June ...	56.1	Sept. ...	58.3	Dec. ...	44.9

Mean for first quarter 43.3
" second quarter 51.6
" third quarter 59.5
" fourth quarter 48.8

II.—*Daily Range (66 Years).*

Jan. ...	7.1	April ...	9.7	July ...	11.7	Oct. ...	8.8
Feb. ...	6.3	May ...	10.7	Aug. ...	10.9	Nov. ...	6.6
March.	8.8	June ...	11.1	Sept. ...	9.4	Dec. ...	7.5

Mean for the whole year 9.1

III.—*Rainfall.*

Jan. ...	3.76	April ...	2.34	July ...	2.14	Oct. ...	4.85
Feb. ...	2.62	May ...	2.15	Aug. ...	2.42	Nov. ...	4.39
March.	2.50	June ...	2.0	Sept. ...	3.07	Dec. ...	4.10

Average for 66 years ... ... 36.32 in.

This corresponds to the West Central Division of England. The next table shows how much of this total rainfall occurs during the night, so that it interferes but little with sunshine.

IV.—*Sunshine (15 Years' Averages).*

	1909.		1909.
January ...	57.7	62.0	July ... 277.6	227.5
February	82.7	115.8	August ... 243.5	272.4
March ...	147.8	115.5	September 187.9	171.5
April ...	194.0	218.0	October ... 116.2	100.4
May ...	244.4	339.5	November 70.1	—
June ...	249.0	231.7	December 45.6	—

Average of 15 years ... ... 1,916 hours.
Highest on record, 1899 ... ... 2,214 "
Lowest on record, 1894 ... ... 1,724 "
1909 to November 20th ... ... 1,917 "

TABLE V.—*Prevailing Winds: 1908 Only.*

	S.	S.W.	W.	N.W.	N.	N.E.	E.	S.E.	Calm.	
Days...	45	57	66	55	25	42	4	46	26	= 366

TABLE VI.—*Incidence of Coldest Winds During Coldest Months.*

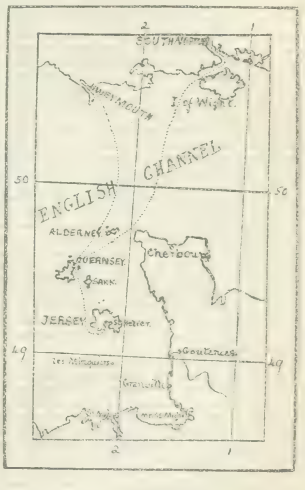
1908.	N.	N.E.	E.
January	1.5	6.0	1.0
February	3.5	0.0	0.0
March	1.5	3.0	0.0
April	4.5	5.5	0.0
October	0.5	3.0	1.5
November	1.5	4.5	2.0
December	1.5	0.5	0.0

HEALTH STATISTICS.

Out of 591 deaths in Guernsey in 1908, no less than 223 were those of persons 66 years of age and over. The following table shows the death-rates of Guernsey and Jersey last year:

	Guernsey.	Jersey.
1908 death-rate	15.5	15.4
" " (town)	22.0	17.6
" " (country)	13.2	—

From the equable nature of the climate, and especially from the sunshine, tuberculous, renal, and bronchitic cases do well in the islands, which also offer advantages to that large class of neurasthenics who seek a suitable climate wherein to recuperate exhausted energies. Infectious diseases assume a mild type; influenza is certainly less of a scourge than in England. Vaccination is universal, there being no conscience clause. Enteric fever is rare in Guernsey—about 8 cases a year for several years, and several of those imported from France or England—but in Jersey its incidence is considerably higher. The difference is due partly to Jersey's greater communication with France, but partly also to Guernsey possessing a modern and ideally-equipped isolation hospital. This reproach will, however, soon be removed from Jersey. Disinfection of rooms that have been occupied by phthisical patients is compulsory by law.



Milk.

The Channel Islands breed of cattle—Jerseys, Guernseys, and Alderneys—is distinct from any other in the world. It is carefully kept pure from mixture with other strains, no live cattle being allowed to land except for slaughter. In Jersey cattle tuberculosis is unknown; in Guernsey it was also until a well-known herd came back infected from an English cattle show. The drastic measures adopted have, it is believed, stamped out the disease. At any rate, out of the last 639 animals exported to America only 3 reacted to the tuberculin test. The milk yielded by the Channel Islands cows is the richest in the world. The average analyses of 65 samples tested in Jersey in 1908 were:

Butter fat	...	... 5.2 per cent.
Other milk solids	...	... 9.0 "
Total milk solids		... 14.2 "

The value of a milk so rich in fat and solids and so free from suspicion of tubercle is self-evident.

The Advantages of the Climate.

Finally, let us say that probably no better climate exists in the world for children and for old people, the equableness of it and the mildness of the winter suiting equally well the two extremes of life. We hope we have avoided the reproach of excessive praise. The sea voyage—good though the boats are—the wind, the confined area of a small

island; these are definite disadvantages. But there must be something to say for a climate, only 80 miles from England, where the sun shines 1,916 hours every year, where magnolias and Mediterranean heaths bloom in the open air, where the shrubberies are white and red with glorious camellias in January and February, and where people border their garden paths with dracaena palms, instead of with laurels and rhododendrons.

Nova et Vetera.

PARASITOLOGY AMONGST THE ANCIENTS.

READERS of classical literature are familiar with the Greek word οἶστρος, which denotes a biting insect and is generally translated "gad-fly," though it is also used to designate a goad or spur, and, more metaphorically, is a synonym for a sharp, stabbing paroxysm of grief, pain, and other violent emotions or acute sensation. M. Moulé, in a very interesting article,[1] has collected and discussed some of the references in the old writers to the insect known by this name. It is commonly mentioned as a parasite which attacks cattle, and one of the earliest allusions to it is to be found in Homer's *Odyssey*, Book xxii, line 300, in the vivid scene where the returned Odysseus slaughters Penelope's suitors. At the sight of the revengeful hero armed with his bow, the terrified courtiers "stampede like a herd of cattle tormented in the spring-time, when the days are long, by a multi-coloured gad-fly." Aeschylus, also, in two of his tragedies alludes to the οἶστρος and the μύωψ, terms which he apparently considers synonymous. In the Prometheus Vinctus frequent mention is made of the persecution by a gad-fly of the maiden Io, who had been metamorphosed by Zeus into a cow; and in the Suppliants the chorus relate of the transformed Io that the goddess Hera "inflicted upon her the biting fly (μύωψ) which renders cattle furious and is termed 'οἶστρος' by the dwellers near the Nile." Sophocles, again, refers in the Electra to ancient Argos as "consecrated to the gad-fly bitten daughter of Inacus."

Aristotle, who approaches the subject in a scientific spirit, though his notions of parasitology naturally seem crude and confused to the modern scientist, says that "some animals in small number live at first in the water, but afterwards change their shape in order to live in the open; such is the gnat (ἴμπις) or river fly, which gives rise to the gad-fly (οἶστρος)." He made the additional observation that gad-flies (οἰστροὶ) and similar large flies (μύωπες) pierce the skin of both man and beasts and draw blood, and he regarded their stinging apparatus as comparable to the trunk of an elephant. M. Moulé also cites many passages from later Greek literature in which allusion is made to the infuriating effect of the gad-fly upon cattle.

Various opinions have been offered as to the identification of the insect which the Greeks called οἶστρος. The Romans called it *asilus*, as we know from Virgil. In his *Georgics*, Book III, line 147, he says of this insect, which frequents the forests of Alburnus:

> Cui nomen asilo
> Romanum est, oestrum Graii vertere vocantes:
> Asper, acerba sonans: quo tota exterrita sylvis
> Diffugiunt armenta. . . .

This statement is confirmed by Seneca, who writes: "Hunc, quem Graeci *oestron* vocant, pecora peragentem et totis saltibus dissipantem, asilum nostri vocabant." But in modern times *tabanus* has been substituted for *asilus* as the correct translation of οἶστρος. This more recent designation for the Greek "gad-fly" is probably correct, though in the absence of any precise description of zoological characteristics it is difficult to speak with certainty. It is, however, known that the insect in question was two-winged, that it was large, a powerful blood-sucker, capable of piercing the skin of both man and beast, and that it was especially obnoxious as a pest to cattle.

These facts, M. Moulé remarks, enable us to approximate to its scientific classification. The *Asilidae* may be excluded, notwithstanding the old Roman usage of the word, *asilus*, because the *Asilidae* usually attack other insects and it is not proved that they bite cattle. Amongst the blood-sucking insects which bite quadrupeds, M. Moulé brings forward for consideration the *Hippoboscidae*, *Glossinae*, *Pangoniae*, *Haematopotae*, *Chrysops*, and the gad-flies. He at once excludes the *Pangoniae* and *Glossinae* as being exotic, although he observes that *Glossina morsitans*, the tsetse-fly, closely corresponds in its characteristics to the Greek and Latin descriptions of the οἶστρος. The *Hippoboscidae* may also be left out of account, as they rarely attack quadrupeds other than horses.

There are thus left three types to select from, all belonging the family of *Tabanidae*, and possessing closely-allied characters—*Haematopota*, *Chrysops*, and *Tabanus*, or the gad-fly. He gives the preference to *Tabanus*, varieties of which are found all over the world, and in particular to *Tabanus autumnalis*, which bears a very close zoological resemblance to the οἶστρος. It is common for *Tabanus autumnalis*, like most gad-flies, to inhabit wooded localities—a fact which was noted by the ancients. Its larvae live in the water. Aristotle makes out that the οἶστρος is developed from small animalcules which one sees on the surface of river water. In that respect he is right, but he is obviously in error when he states that the gad-fly is derived from an insect which appears from his description to be *Culex pipiens*.

An objection which has been raised against the identification of *Tabanus* with οἶστρος is that Homer says the insect attacks cattle in the spring-time, whereas autumn is the more usual season for cattle to be persecuted by these pests; but M. Moulé points out that the poet's words are somewhat vague, as they include the expression, "When the days are long," and therefore he does not consider that much weight can be attached to this apparent discrepancy. It is impossible to make out any precise distinction between οἶστρος and μύωψ, as the two words are often used as synonymous. If there be a distinction, the author suggests that the latter may be identical with *Chrysops caecutiens*. The confusion between οἶστρος and *asilus* may be accounted for by the fact that the *Asilidae* are often found swarming round cattle at the same time as gad-flies, the latter insects being pursued by the former.

In addition to the usage which has been discussed, the word οἶστρος was sometimes employed in quite different senses. M. Moulé quotes from Pliny, Columella, and Palladius, three Latin authors, who all speak of the *Oestrus* as an insect pest which troubles bees. They state that at the extremities of the honeycomb there sometimes appear bees of larger size than the others; the former harass the ordinary inhabitants of the hive and put them to flight. This noxious species, says Pliny, is called *Oestrus*. (Oestrus vocatur hoc malum.) Columella and Palladius have recorded similar observations, and state that the Greek authors who gave the name οἶστρος to these objectionable insects recommend that they should be killed. From the descriptions of these authors it is not clear, says M. Moulé, whether the so-called οἶστροι are the drones or the queen bees. The ancients did not understand the function of the queen, and apparently were not aware that it is the custom of the workers to extirpate the drones after the queen has been fertilized.

Another very peculiar and quite different usage of the word οἶστρος occurs in Aristotle. He states that both the tunny-fish and the sword-fish are tormented by οἶστροι about the time when the Dog Star rises. At this period both these fishes "harbour, in the region of their fins, this species of larva which is called οἶστρος; it bears a resemblance to a scorpion, and is about the size of a spider." Apparently some crustacean parasite is referred to, but M. Moulé cannot find sufficient data for its precise identification. The fish in question may be the *Thynnus mediterraneus* and the *Xiphias gladius*.

There is also an obscure allusion in Aristotle to a bird which he terms οἶστρος, and classes amongst other birds which are characterized by their habit of feeding on the larvae of insects. The suggestion is offered that this bird may be the *Buphaga africana*, which seizes the larvae of *Hypoderma bovis* developed under the skin of cattle; but there is no evidence that the ancients were acquainted with this insect or with its habits.

[1] *Archives de Parasitologie*, Tome xiii. (1909), p. 251.

British Medical Journal.

SATURDAY, DECEMBER 11TH, 1909.

JUBILEE OF THE FIRST DENTAL DIPLOMA.

ON December 13th, 1855, a memorial signed by eighteen of the leading men then engaged in the practice of dentistry in London was presented to the Council of the Royal College of Surgeons of England praying that an examination in the department of dental surgery should be instituted by the college, and expressing the opinion that the time had come "when it is imperative that some educational course should be instituted, and that an acquaintance with the general principles of surgery, anatomy and physiology, and an intimate knowledge of such parts of those subjects as relate to the region of the mouth, are absolutely essential to the duly qualified practitioner." Although the Council did not see its way immediately to take action, it moved shortly after the Medical Act of 1857 had been passed, and on September 8th, 1859, a charter was granted enabling the college to institute the Licence in Dental Surgery. It was this event which was celebrated last week by a dinner in the college library, and by the opening of the Odontological Collection now in the custody of the college, and formed by combining the John Hunter's collection with that gathered together by the labours of many members of the Odontological Society, now the Odontological Section of the Royal Society of Medicine.

The lapse of fifty years, though no long period in the history of a great corporation, is long enough, measured in the lives of men, to have removed from the scene every one of those who stood high in the counsels of the college at that time, and all but one of those who signed the memorial asking for the establishment of a dental diploma. And so, in the absence of any of those who could speak from their own knowledge, and tell more of the events than is to be found upon official records, the President, Mr. Butlin, devoted no little time and pains to acquainting himself with the contents of the journals of the time, and was able to present to his hearers a graphic picture, which will, we have no doubt, interest readers as it interested those who heard it. Very naturally he was impressed by the chaotic condition of dentistry prior to 1858, when all sorts and conditions of men could and did practise it, and he quoted an amusing advertisement in which a Frenchman and his wife announced that they filled teeth with emeralds and extracted them by steam. After many conferences and much preliminary work, of which little remains on record, though it is well known to those who have succeeded to its fruits, the memorial to which we have referred was sent to the college. The memorialists, in arguing for the necessity of a dental diploma, were not likely to paint things any better than they were, and on one point the terms may give rise to an incorrect impression—namely, as to the position of dentistry in England and America. It was quite true that in America there were a large number of good dentists; quite true also that they had established organized schools before that had been accomplished in this country; but in the practice of the dentist's art the best English practitioners were not one whit behind, whilst a comparison of the dental literature of the two countries is not unfavourable to this country. Owing to certain legal difficulties, it was found that a new charter was necessary to enable the college to examine in dental surgery, but in the first year after it was obtained no fewer than 111 candidates obtained the diploma, of whom some were already in possession of medical qualifications, and many others held a high position in their profession.

But the dissensions which had arisen in the earlier stages were not yet dead. There was one party numerically strong, though lacking the influence of their opponents, which thought that dentists should be autonomous, should grant their own diplomas, and should avoid connexion with the medical profession and its licensing bodies; they founded a College of Dentists, which survived for six years and was eventually merged in the Odontological Society, which had been founded by the other party. The controversy was not conducted without heat, and there remains in print the pronouncement that the College of Surgeons "has sold itself to money-making schemes and despotic government," and that "in a few years . . . the College of Surgeons will . . . stand with shame-subdued face, and cold, creeping mien, the wreck of fortune and the laughing-stock of its enemies," amongst whom the writer magnanimously said he was not to be counted. It says much for the good sense and loyalty of the College of Dentists' party that when the hatchet was buried and fusion had taken place they worked cordially with their former opponents, and many of them took a prominent part in the public life of the profession thereafter.

Those who now revive the old controversy, and advocate the separation of dentistry from medicine, would do well to study this history of the past, and take its lessons to heart, for dentists had and have much to gain by close association with a body having the prestige of the Royal College.

So soon as the charter was obtained it became necessary to consider what the curriculum should be. While it was felt, especially by those who held medical qualifications, that the gain to them in their everyday work through a knowledge of medicine was incalculable, yet it was considered that while some knowledge of medicine was essential, and a full and complete medical education not too much, it would be impracticable to impose this condition on the rank and file of the dental profession. So much time must be devoted to the acquirement of special knowledge that this condition would have made the dentist's education longer and more expensive than that of the medical man. A curriculum, equal in length to the medical curriculum of that day, was sketched out, in which the student up to a certain point did the same work as his medical brother, but did not go on so far, whilst in addition he attended the instruction of a special school. That the curriculum was wisely devised is evidenced by the fact that it has sufficed with only slight alterations to meet the calls of increasing knowledge for fifty years, and still stands unchanged in its main features.

Mr. Butlin appears to hold that the time has arrived, or will soon arrive, when this partial medical education will no longer suffice, and expressed the opinion that a large number of persons practising a speciality of medicine without holding a medical qualification is a standing menace. However much it may seem desirable that full medical qualification should be taken, there are factors which seem to render the

realization of this ideal remote. No one who is unacquainted with the conditions of dental practice in the provinces can quite realize the extent of unqualified competition of the most unscrupulous kind, and so long as the inherent weakness of the Medical and Dental Acts fails adequately to stop unqualified practice, it is hardly possible to require more than is at present required for dental qualification. The fear that the dental licentiate will assume the functions of a second grade of medical practitioner—a fear that finds expression not for the first time—has not been realized, unless, indeed, the suggestion of legalizing the administration of certain anaesthetics by qualified dentists be so regarded.

Mr. Butlin avowed his strenuous and successful opposition to the proposal that the University of London should follow the lead of the younger universities in establishing a dental degree without prior, or coincident, full medical qualification. There is much to be said for his view if such a degree is to be regarded as a higher degree and not as a minimum qualification, but it might be objected that the view is not perhaps quite consistent with the modern belief that the medical curriculum should be lightened by directing all teaching in preliminary subjects very strictly to their ultimate application. The University of London itself has already adopted this idea and put it into practice—an example which has been followed by the new University of Belfast, and will, it is said, be followed also by Bristol. It might be urged that medical teaching for the dentist should be thus directed, and that this would be consistent with covering the whole ground of medicine. There is much to be said on both sides of the question, and this is not the place for its full discussion.

WIT AND WISDOM FROM "VANITY FAIR."

ELSEWHERE will be found a full report of the case of Adams *v. Vanity Fair* and others. The case is one of great interest to the medical profession; but, owing to circumstances into which we need not enter here, we refrain from commenting upon it at present. The delay is of no importance, as the report speaks for itself. In the meantime, however, it may help our readers to form a judgement as to the significance of the verdict if we give them some examples showing the attitude of *Vanity Fair* towards the medical profession.

We do not suppose that there are many people of such holy simplicity as to attach any importance to what is said by writers in that periodical. Yet things may have a value altogether different from their intrinsic worth, and it would be unwise to follow the example of the fowl in the fable who contemptuously kicked aside the jewel she had scratched up in the dust heap. We happen to have a small collection of gems gathered in like manner from contributions to *Vanity Fair*. They are signed "Ernest Pomeroy." That gentleman bears, we have no doubt, the white lily of a blameless life; moreover, he is by courtesy known and styled as "Honourable." His notions of honour—apart from courtesy — are shown by his answers in cross-examination, and nothing further need be said on the subject. But his temper of mind in regard to the medical profession is probably not so well known, except to the select few who happen to be aware of his existence; therefore we think a few samples of the gems which he offers to strollers through Vanity Fair may be useful in helping our readers to understand the mental character of the purveyor. As Sir Toby Belch says, why are such things bid?

In an article entitled, "Should we call doctors dear?" published on January 6th, 1909, Mr. Pomeroy says: "With female doctors I have known it done, and in some cases 'Puss.' But with the male fee-hunter I prefer the good old nickname of 'Sawbones.' On the other hand, why call him anything, or at all? you will do far better without him." He goes on to deliver himself of some illuminating remarks on the training of the "modern Sawbones," and on vivisection, bacteriology, serumtherapy, and inoculation. This brings him to vaccination, as to which he says that "Herbert Spencer has pointed out that a person suffering from small-pox gets rid of various other disaffections in the pustules that form, and to bottle up all of these to repass the output into us again is far too monstrous an infliction to be accepted without protest." Accordingly, Mr. Pomeroy protests; but does he not protest too much? If small-pox rids us of "disaffections," surely the right thing to do, on his own showing, is to spread the disease as widely as possible. He would probably accept this inference if he really believes what he says when he declares that "vaccination produces more evil results, including death, than small-pox itself." Mr. Pomeroy knows nothing of small-pox, or he would not write this rubbish. It is one of the cankers of a calm world and a long peace that men forget the horrors of war, and do not appreciate the benefits of its cessation.

In *Vanity Fair* of January 13th, 1909, Mr. Pomeroy gives us his opinion on medical etiquette. As coming from so "honourable" an authority, it should be valuable. But it is only characteristic. After expressing his belief that medical etiquette is connected with the devil and all his angels, he goes on to say: "The whole question needs scrutiny, for only the other day a member of the profession told me that the motives of the medical fraternity were, at all events among themselves, held to exceed in purity even those of the clergy. Thus, on paper, no doctor will actively attempt to take a patient from another even if he can save the patient's life, and to say that he did so save a life is held among fee-hunters to be a libel. I am not surprised. It accounts for many deaths. Then to state that one doctor in introducing custom to another reaps any mundane reward, or secures any percentage of the fees, is also held to be libellous by unduly susceptible persons. And they sue you too. But how are the public to know this? For such a practice is common in all other professions. If you bring custom to any firm, it is quite usual to receive a percentage. And I cannot see how anyone can be expected to guess that the motives of the fee-hunting sawboneses are ultra-mundane and exceed in purity even those of our men of God. I should never have dreamt it. In fact, my own opinion of doctors is that they share with solicitors a lower ethical standard than is found in any other body of men, excepting, perhaps, 'comrades.'" What the esoteric meaning of the last remark may be we have no idea, but it is comic to find Mr. Pomeroy speaking respectfully of the "men of God," with whom, as may be seen in his evidence, he devoutly thanks heaven that he has not had much to do! Mr. Pomeroy also says: "But to me the most astounding impudence of the fully-licensed practitioner is this: In countless cases the doctor proper is found useless, and a resort is made to unlicensed practitioners, called quacks by their

licensed brothers. Sometimes the so-called quack saves the patient. But if the so-called quack fails, and the patient dies, then the fully-licensed fee-hunters turn up at the inquest and state that with proper medical attention the life might have been saved. The quack is then charged with man-slaughter. More Medical Etiquette! Yet the motives of the quack are right enough, and he has the advantage of not having had his mind vitiated in the bacteriological and vivisectional folly inoculated in the medical schools. So much for the medicine men. I think I have written enough to prove what I offered to prove, viz., that the etiquette of medical men is all nonsense, and that its ultimate portion should be everlasting fire." Mr. Pomeroy is entitled to his touching faith in quacks; but if doctors are so useless, what becomes of his complaint that medical etiquette has been the cause of many deaths, because "no doctor will actively attempt to take a patient from another even if he can save the patient's life"? The "honourable" gentleman is evidently incapable of understanding the motives that actuate members of an honourable profession.

As might be expected, Mr. Pomeroy is an anti-vivisectionist, and an advocate of faith-healing; he professes to see in the King's recovery from the attack of typhoid fever which so nearly blighted the nation's hopes "a very noteworthy testimony to the value of prayer." It is true he hedges by saying afterwards that he is not quite sure that he believes in faith-healing himself absolutely; "but at any rate, faith does no harm, while doctors do." If he is not quite sure that faith-healing is sufficient by itself, how can he be sure that too much faith does not do harm by leading to neglect of ordinary precautions, to say nothing of skilled treatment?

But it is useless to argue on such matters with Mr. Pomeroy, for he either does not understand them, or is blinded by prejudice. It does not concern us to inquire whether he is a clumsy *poseur* or a particularly virulent fanatic. We only wish to show what manner of man he is. "The style is the man," and no comment could add to the effect of Mr. Pomeroy's self-revelation.

The shafts, poisoned though they are, of so feeble a critic, pass by us like the idle wind. If he wishes to hurt us, let him glorify us; for as Johnson said, praise from such a fellow is vituperation.

SCHOOL CLOSURE.

SEVERAL times during the past twenty years there has been issued from the medical department of the Local Government Board a memorandum indicating the circumstances under which the closing of a public elementary school on account of infectious disease or the exclusion of particular scholars may be required. The last was dated January, 1908, and bore the signature of Dr. Franklin Parsons, Assistant Medical Officer of the Board. The Board of Education has taken the opportunity offered by the appointment of school medical officers to revise the articles in the code of regulations for public elementary schools which refer to the exclusion of individual children or to the closure of an entire school or department. Under the altered circumstances it has been deemed necessary to issue a revised and enlarged edition of the memorandum referred to, and in its preparation the Chief Medical Officer of the Board of Education has quite appropriately co-operated. The new code makes little alteration in the method of compulsory closure. This can still be carried out by resolution of a sanitary authority, or by any two members of the authority on the advice of the medical officer of health, although the school managers can no longer appeal against an order to close from either of these sources. Under former codes a school could be closed voluntarily, or children could be excluded from school attendance under "medical authority," but the present code requires that this voluntary closing or exclusion shall be under the advice, or with the approval, of the school medical officer. To enable this official to comply with this requirement, it is suggested that whenever a medical officer of health recommends a teacher to exclude a child from school attendance he shall at the same time send an appropriate certificate to the school medical officer, who will then be able to give the formal authorization required by the code. In the large towns the positions of medical officer of health and school medical officer are, with few exceptions, held by the same person, so that the necessity for this dual certification will not arise. In the rural districts, however, it is likely that the suggestion, if insisted upon, will add very materially to the clerical labours of medical officers of health. The amount of office work which falls to the lot of these officials is already very great, and, even where the district is large and populous and the appointment a whole-time one, it is quite the exception for any clerical assistance to be provided by the appointing authority. If the requirements of the memorandum are to be fulfilled, the medical officers of health of these districts will be so fully occupied with work which would be much better performed by a trained clerk that their legitimate and more responsible duties will have to be neglected. In many parts of the country school managers seem to consider that a school should be closed upon the appearance of a single case of infectious disease, and pressure is often brought to bear upon the medical officer of health to authorize this procedure. In this connexion it is satisfactory to find that Dr. Newsholme and Dr. Newman, in their memorandum, endorse the opinion given in previous memorandums by Sir Richard Thorne, Sir William Power, and Dr. Franklin Parsons, that "closure should be advised by the medical officer of health only in circumstances involving imminent risk of an epidemic, and not then as a matter of routine, nor unless there be a clear prospect of preventing the spread of infection such as cannot be expected from less comprehensive action." Closure by a medical officer of health can only be justified when he is convinced that the school is a centre of infection, and when he has exhausted all other means at his disposal for discovering that centre. At its best complete closure is but a clumsy weapon to use.

"SECRET REMEDIES."

IN an article published on October 16th, p. 1174, it was stated that advertisements of the volume entitled *Secret Remedies*,[1] tendered to the *Daily Express*, *Daily Chronicle*, *Star*, *Graphic*, and *News of the World*, had been refused. Many will learn with regret that to this list must now be added the *Daily News*, founded by Charles Dickens, the champion of the poor and the denouncer of shams. Another addition is the *Christian Herald*, and some may be surprised to find a periodical, ostensibly

[1] Published by the British Medical Association, 429, Strand, W.C. 1s.; post free 1s. 3d.

published for the dissemination of Christian truth, so shy of helping to spread chemical truth. This surprise will perhaps not be shared by any one who has made even a casual study of some of these publications, for the advertising columns of many of them are swollen with nostrum-mongers' claims and testimonials. The claims will certainly not bear a moment's impartial examination, and as to the testimonials, some curiosity may legitimately be felt. We are all familiar with the common form, as the lawyers would say, of these documents. The giver, after consulting many doctors and visiting many hospitals, had found life intolerable or death close at hand, when he or she was lucky enough to read an advertisement recommending somebody's pill, or blood purifier, or ointment; and the story is often illustrated by a picture of the giver "before" and "after." It would be rash to assume that all these testimonials are genuine, but it would be equally rash to assume that the givers of them all receive any consideration in return. The craze for seeing one's name in print is a common foible of latter-day humanity, and *Truth*, in a recent issue, related a curious instance. A motor cyclist, we read, who had been attempting to lower a world's record, wrote to the proprietors of a certain ointment that he had been thrown from his machine, sustaining injuries which, though medically treated, grew worse, until he was persuaded to give the remedy advertised by the persons he addressed a trial. He enclosed a testimonial, and offered to sell the copyright of his photograph for publication. The firm in question declined this tempting offer; but a little later advertisements began, it is stated, to appear containing a testimonial from the same cyclist, telling the same story, but attributing his marvellous recovery to another remedy. His offer to sell the copyright of a photograph, however, had not been entertained by this second firm, which obtained a photograph of him from a professional source, paying the professional charge, and giving the motor cyclist nothing. In commenting upon this our contemporary says: "In this case the few shillings profit which the testimonialist might have made out of the sale of his photograph could hardly be considered sufficient inducement to tempt a record breaker to give a bogus testimonial. Gain clearly was not his object, and I can only put it down to an inordinate desire to keep himself before the eye of the public." *Secret Remedies*, in spite of the fact that it is boycotted by some newspapers, continues to command an extensive sale, and another large issue has recently been put in hand. The volume, as our readers are aware, contains the results of the chemical examination by an analyst of a large number of the nostrums and secret remedies, so-called patent medicines, which are extensively advertised in various ways. The sums which certain newspapers receive from this source must be an important part of their revenue, and the refusal to accept an advertisement of a book which tells the truth about many of the nostrums most extensively advertised would appear to be dictated by a prudent desire not to offend the dispensers of drugs and pounds. But it does not show the boasted independence of the British press in a very bright light, or if the light be bright, it discovers a rather ugly picture.

RESEARCH DEFENCE SOCIETY.

WE think it well to call special attention to a public meeting of the Brighton and Sussex Branch of this Society, which is to be held at Brighton in the Royal Pavilion on Monday next, December 13th, at 3 p.m. The speakers will include Lord Cromer, President of the Society, and Sir Arthur Conan Doyle, M.D., President of the Brighton and Sussex Branch. The patrons of this branch are the Duke of Devonshire and Lord Leconfield, and the branch has already a large number of members. The society has received the approval and active help of the medical profession, and we take this opportunity of expressing the hope that it will continue to receive in increasing measure the support of all persons interested in the advancement of medical science, which means the increase of the well-being and efficiency of the individual and the race. The society has done much to create a reasonable and well-informed opinion all over the country as to the value and the necessity of experiments on animals, and as to the conditions and the objects of the experiments made at the present time in Great Britain and Ireland under the provisions of the Act: but a great deal still remains to be done. Till the Research Defence Society undertook the task of educating the public mind on this subject the fanatics on the other side had it all their own way on public platforms. That it is already beginning to influence opinion is shown by the action taken by the Battersea Borough Council as to the "Brown Dog" which it has found an embarrassing gift. Again, at a meeting of the Hull and District Antivivisection Society held on December 1st, as reported in the *Eastern Morning News* of December 2nd, Canon Nolloth, who presided, opened his remarks by the confession that the antivivisection agitation was not universally popular, and that it was one of those causes with which some people were afraid to associate their names. This is a significant admission, in view of the enormous advantage which a lavish use of "platform facts" and rhetorical appeals to sentiment gives to speakers who attack a position that can only be defended by plain statements of fact and expositions difficult to make intelligible to an ordinary audience.

INSANITY IN LONDON.

THE recently issued twentieth annual report of the Asylums Committee of the London County Council[1] contains some elaborate statistics relating to insanity in London, some of which are specially interesting in throwing useful light upon the important problem of the alleged general increase of insanity. This report shows that on January 1st last the number of the insane chargeable to the London rates was 26,848, showing an increase of 678 upon the number at the commencement of the preceding year. Of this number 19,716 were inmates of the various asylums and institutions under the direct control of the London County Council, 6,763 were in institutions provided by the Metropolitan Asylums Board, and only 369 were either located in workhouses or were residing with relatives or friends in receipt of outdoor relief. The increase during last year in the number of the certified insane in the various metropolitan institutions was in great measure the result of increased accommodation provided at Colney Hatch, Cane Hill, and Manor Asylums: and the number of metropolitan insane not resident in asylums showed a further decline from the numbers in recent years. As no less than 98 per cent. of the certified metropolitan insane were, at the beginning of this year, housed in asylums or special institutions, it may be assumed that the provision of accommodation for the County of London has now fairly overtaken the demand. The figures quoted above imply that on January 1st last the proportion of the London population certified and registered as insane was equal to 5.44 per 1,000, whereas the mean proportion in the whole of England and Wales at the same

[1] BRITISH MEDICAL JOURNAL, October 30th, 1909, p. 1306.

date did not exceed 3.60 per 1,000, according to the last report of the Lunacy Commissioners. With reference to the continued increase in the number and proportion to population of the certified insane, not only in London but in England and Wales generally, the effect of accumulation resulting from the constant decline in the death-rate of the insane in asylums, and in the rate of cases discharged on recovery, must not be overlooked. The report of the London Asylums Committee contains a table showing that the combined ratio of recoveries and deaths among the mean number of resident inmates of the metropolitan asylums and institutions averaged 21.3 per cent. during the four years 1890–93, and has since steadily declined to 15.3 per cent. in the last three years 1906–08. This marked decline in the ratio of recoveries and deaths implies that if the ratio of discharges (including deaths) had been as high during last year as was the mean ratio during the four years 1890–93, the number of the certified insane remaining in the metropolitan institutions at the end of the year would have been fewer by more than 1,500 than was the case under the influence of the decreased rates of recovery and death that actually prevailed during last year. Accumulation, therefore, due to this decrease in the recovery-rate and death-rate far more than accounted for the reported increase in the number of inmates of the metropolitan asylums during last year, so that this reported increase affords no conclusive proof of any recent real increase of occurring insanity within the county of London.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE new buildings of the College of Physicians of Philadelphia, in which its great library is to be housed under conditions affording every facility for its profitable use, were described in an illustrated article in the BRITISH MEDICAL JOURNAL of October 16th, p. 1161. The opening ceremony took place last month, when a meeting under the chairmanship of Dr. James Tyson, President of the College, was held in the Weir Mitchell Hall, which occupies almost the entire front of the second story. An address was given by Dr. John S. Billings, the delegate of the New York Public Library and the Carnegie Institution, who congratulated the college on its new buildings, and the public library of Philadelphia on the fact that it would in future have at hand a complete and well-ordered medical library to which persons interested in the study of the subjects of sex and heredity might be referred. Dr. Charles L. Dana spoke as the representative of the Academy of Medicine of New York, Dr. R. H. Fitz for the Boston Medical Library, and Dr. William S. Thayer for the Medico-Chirurgical Faculty of Maryland. Dr. Robert Fletcher had been nominated as the delegate from the library of the Surgeon-General's Office at Washington, but being prevented by illness from attending, sent a short address consisting of a description of a rare reprint of the *Tabellae* of Vesalius, recently presented to the Surgeon-General's library by Sir John Stirling, through the good offices of Dr. William Osler. Dr. Frederick P. Henry, honorary librarian of the College of Physicians of Philadelphia, then gave an historical sketch of the college and enlarged upon the library and the museum. It was next announced that the college had elected seven Associate Fellows from the medical profession outside Philadelphia; they were Dr. A. B. Macallum, professor of physiology in the University of Toronto: Dr. Oliver F. Wadsworth, professor of ophthalmology in Harvard University: Dr. Edward G. Janeway and Dr. Charles L. Dana, of New York: Dr. Frank Billings, of Chicago: Dr. G. W. Crile, of Cleveland; and Dr. Franklin P. Mall, of Johns Hopkins University. It was announced that congratulatory telegrams had been received from the Royal College of Surgeons of England and of Edinburgh, and Dr. William Osler. A dedicatory address was then read by the President, Dr. James Tyson, after which the benediction was given by the Bishop of Pennsylvania. In the evening a banquet, attended by 500 members and guests of the college, was held, and Dr. Weir Mitchell made an interesting speech in response to the toast, "The Old College and the New." Medicine, he said, was the noblest and most revolutionary of all professions, for ever changing and changing, ever for the better. "We try, condemn, and decapitate the thought king of to-day, and enthrone the better thought king of to-morrow." After outlining the history of the college, he said that the new building was destined to witness great things. It would endure to see the end of many diseases of which men now thought with anticipatory dread, and it would endure to witness the passing away of much quackery. The next speaker was Mr. Andrew Carnegie, who had given 100,000 dollars towards the completion of the building. He said that he was satisfied that by giving 75,000,000 dollars for the foundation of 2,000 libraries he had expended his surplus wealth in the best way. Dr. W. W. Keen then described the contents of the library and extolled the men who had contributed to its stores.

THE SOLDIER'S KIT.

THE Committee on the physiological effects of food, training, and clothing on the soldier has issued a fourth report dealing with clothing and equipment. Under ordinary conditions, when appearances need not be considered, a man adapts his clothing to the work to be done and to the weather, but the clothes of the soldier on active service must be a compromise between light uniform for work in hot weather and heavier clothing to resist inclement weather. The committee has pointed to an important method of adjustment, that the coat and shirt may be widely opened during work and hot weather, and has insisted that instruction to do this must be given by the commanding officers, for it has "evidence that it is not sufficient to leave the initiative to the company commanders or to the men themselves." This throwing open of the jacket could not be efficiently carried out with the old style of equipment, owing to the belt which clasped the waist, and the bandolier, water bottle, and haversack straps which crossed the chest. The new equipment, known as the Mills-Burrowes pattern, is so adjusted that even in full marching order the belt can be unbuckled, while the water bottle and haversack have no body straps, and all ammunition is carried in the belt and the side-straps, which are arranged as braces. When the jacket is unbuttoned and the belt is unclasped marching can be performed with ease, for the weight of the pack behind is balanced by that of the ammunition in front. The result of this is that, although the new equipment weighs 2 lb. more in drill order, and ½ lb. more than the old in full marching order, it is worn with greater ease. Evaporation of moisture proceeds more rapidly owing to the exposure of the shirt and skin, and a much smaller quantity of moisture is retained in the clothes. With the old equipment a similar beneficial result could be obtained only by taking off the jacket. In one case, with the old equipment, after a march of seven miles on a hot day the shirt was so wet that it had gained 14 oz. in weight, and moisture could be wrung out from the part covered by the overcoat pad. The belt and straps of the old equipment not only prevented the jacket being opened, but produced a resistance to the respiratory movements. The

bandolier with its ammunition weighed 4.13 lb., and this weight had to be raised during each breath, while the constriction of the belt impeded the free return of blood to the heart. The new equipment is free from all these defects, for the belt can be loosened or unclasped on the march, the weight in front balancing the weight behind, and being borne by the shoulders. During a short halt it is impossible for the men in full marching order to throw off the old, but they can the new equipment, and as easily resume it. The weight of the full equipment is excessive for young recruits during route marches or manœuvres. The Committee insists on progressive training, and the load for recruits should at first be lightened. "With progressive training, there is no reason to fear that the weight of the full equipment would injure men, especially if the precautions were taken to cool the body on hot days by opening the belt, jacket, and shirt, and to take off the equipment during any halt of definite duration." The Committee finds that the shirt and boots are good; the jacket, too, is good, but a tendency to make the collar too high and tight must be discouraged. The trowsers are good, but the Committee has leanings towards the greater freedom of the short trowsers worn by scouts, or to kilts. As to the Territorials the Committee insists on practice in marching before going into camp, and on the importance of opening coat and shirt during marching. For town workers practice is particularly required to prevent foot soreness which is a frequent cause of inefficiency and falling out. Neglect to provide suitable socks and changes of socks is partly the cause of this. A light slouch hat would be much more serviceable for Territorials than the present field service cap, for numbers of them last summer suffered from sunburn and blisters on the neck. One of the members of the Committee, Dr. Pembrey, joined the men picked for the tests, and marched himself in the different equipments. The Committee expresses its warm appreciation of the services of its Secretary, Captain L. E. L. Parker, R.A.M.C., and of the researches conducted by him.

BOTANICAL LABORATORIES. UNIVERSITY COLLEGE, LONDON.

THE new botanical laboratories at University College, London, will be opened on Friday next, December 17th, by Dr. D. H. Scott, F.R.S., late Honorary Keeper, Jodrell Laboratory, Royal Gardens, Kew. The chair will be taken by the Vice-Chancellor of the University of London at 4 p.m. The new buildings consist of some twelve rooms on the uppermost floor of the north wing. The lighting arrangements have had special study, and the lecture theatre and other important rooms of the suite have a northward aspect. The rooms include a herbarium and a special apartment for ecology. The relationship of plants to their surroundings is to be studied here, and among the objects of interest in the room are relief models illustrating the elevation taking place in the soil due to plant action. The room is filled with botanical maps, water-colours, and photographs, as well as specimens. The situation of the rooms has enabled the designers of the laboratories to sandwich in a small glass-roofed greenhouse for exotic plants. A library, a room specially equipped for photomicrographic work, and a room for chemical and physiological experiment have also been provided. This last represents, perhaps, the greatest boon that the new laboratories offer to the department, for up to the present it has not been possible to provide a separate room for the chemical work of the students in botany. In the laboratory proper the advanced and the elementary students have separate compartments. The advanced laboratory, equipped with all necessary apparatus, accommodates about thirty students. The elementary room is of about the same size, but it has accommodation for forty or more. The lecture theatre has desk accommodation for about one hundred. Not only do the professorial staff give lectures, but the students also lecture before their fellows and before the staff and show diagrams of their own preparations, after which there is discussion. Among other smaller rooms is one for botanical odds and ends and raw material; one for the attendant; a photographic dark room, which appeared to be, if anything, too large; a room for original research, as well as private rooms for the professor and assistant professor. The new laboratories will certainly make for the greater efficiency of an important department, which has hitherto suffered from being scattered in different parts of the great college—"between attic and cellar," as Assistant Professor T. G. Hill described it.

THE BOMBAY MEDICAL CONGRESS, 1909.

THE medical congress which assembled in Bombay in February last was the second gathering of its kind in India, the first having met in Calcutta in 1905. Both meetings were interesting and successful, and it is satisfactory to note that in point of social and scientific value the later congress was in advance of its predecessor. The undertaking was initiated by the Governor of Bombay, His Excellency Sir George Sydenham Clarke, R.E., G.C.M.G., G.C.I.E., F.R.S., who held the office of President, delivered a most admirable presidential address, setting forth clearly and concisely the chief advances in scientific knowledge which have revolutionized medicine and surgery during the last half century, and give promise of greater achievements in the future. The arrangements for the business of the congress were most successfully carried out by a series of local committees, and the amount of work done in a few days was, owing to good organization, very substantial and creditable. The subjects discussed were, as might be expected, almost exclusively tropical, and in each section interesting papers were read which gave rise to important discussions, as has already been reported in our columns.[1] The members of the congress numbered 1,268, and of these very nearly one-half were natives of India. The public services were well represented, and private practitioners attended in force. Scientific municipal workers took a prominent part in the business, and medical missionaries, lady doctors, visitors, and delegates were also present. Communications were also received and read from distinguished men of other countries who were unable to be present in person. The *Transactions* of the congress have recently been published. They constitute a portly volume of 632 quarto pages. Papers are printed *in extenso*, and condensed reports of discussions are given. The volume is edited by Lieutenant-Colonel William Ernest Jennings, M.D., D.P.H., I.M.S., who acted most efficiently as general secretary of the congress. He prefaces the work with a most instructive summary of the salient topics discussed in the sections, and the conclusions established regarding the principal subjects of discussion. This preface provides an excellent *index raisonné* of the contents of the volume. It is arranged according to diseases, and is most helpful as a key to the large mass of detail presented in the record. The printing has been well executed by the *Times of India* Press, and many excellent plates and illustrations are reproduced. The

[1] BRITISH MEDICAL JOURNAL, vol. i, 1909, pp. 746, 810.

impression left by a perusal of the *magnum opus* is that a very large amount of careful and conscientious research has been accomplished in India during recent years, and that, under the generous encouragement of Government, a great number of able and enthusiastic workers are striving hard to solve the many problems bearing on the public health, on the solution of which the welfare of Indian peoples so vitally depends. These *Transactions* represent well the present state of knowledge regarding malaria, plague, cholera, dysentery, enteric fever, tropical and hill diarrhoea, kala-azar, sleeping sickness, beri-beri, and many other maladies which cause so much suffering and death in tropical countries. Nor were the important subjects of tropical surgery and sanitation neglected. A well-arranged and sumptuously-housed exhibition of medical, surgical, and sanitary appliances added interest to the meeting, and afforded material for a series of demonstrations and conversaziones, to some of which the general public were admitted. To the student of tropical medicine this volume is invaluable, and its contents cannot fail to stimulate investigation regarding many matters of moment which still remain obscure, and the elucidation of which will, it is to be hoped, furnish material for a third congress which at some future time—not too far off—will, no doubt, assemble in some other large Indian city. Financially, thanks to the liberality of public bodies and private individuals, the congress was equally successful, a balance of nearly 12,000 rupees remaining after the payment of all expenses, including the printing of the *Transactions*. This sum is to form the nucleus of a fund to be known as the "Miss Clarke Memorial Nursing Fund," which will be held in trust by the Bombay Branch of the Countess of Dufferin's Fund, the interest being devoted to the support of nursing in the Bombay Presidency.

STATE REGISTRATION OF NURSES.

A DISCUSSION on the State registration of nurses announced to take place at the meeting of the Cottage Benefit Nursing Association, practically resolved itself, as will be seen from a report elsewhere, into a monologue by Mr. Sydney Holland who, however, did not make any very new points. The personal character and natural capacity of a nurse are certainly of immense importance, but so are the same qualities in an attorney, a dentist, or a plumber. They can be gauged only by personal experience of the individual, and are valueless in technical connexions unless backed by corresponding technical knowledge. A medical man can readily gauge the personal qualities of a nurse, but he should not be expected to conduct a private inquiry into the training of every nurse sent to him by an agency or found by him at a patient's house. Indeed, Mr. Holland himself admits that some ready means of gaining an assurance in this respect is a necessity, but argues that a directory would fulfil the purpose. He seems, however, to forget that nobody can be expected to keep track of all the institutions which deem themselves entitled to "train" nurses, quite apart from bodies which give certificates of nursing knowledge to persons who have had no real hospital experience whatever. Even a person with special knowledge of such matters might easily be misled by a directory. On a recent occasion, for instance, an unexpected death from shock after an operation at a home, and a casual remark thereon by the nurse who had been in charge, created a suspicion that she had no real knowledge of her work. It was set at rest by her stating that she had been fully trained at the —— hospital, a place with a very imposing name which seemed to be familiar. It was only some months afterwards that the inquirer discovered that there were two places of not very dissimilar title, the place mentioned being merely a small six-bed institution which "trained" nurses for about a year. Nothing but the imposition of a definite curriculum and a register of qualified nurses will put a stop to this kind of thing, and it is because the medical profession recognizes this that resolutions in favour of nurses' registration have been adopted by the British Medical Association.

WATER IN SWIMMING BATHS.

No town at the present day can pretend to be properly equipped unless it includes among its public institutions a swimming bath. The advantages to the community of having facilities for bathing and for acquiring the art of swimming are very great, but there may be certain disadvantages. The most prominent of the latter is the fouling of the water after it has been used by several scores of persons, many of whom maybe have entered the bath in anything but a cleanly condition. The ideal swimming bath would have a stream of water constantly flowing through it, but such a course for financial reasons is impossible of attainment in many districts. This drawback to the healthful use of the swimming bath has long been recognized, and in recent years attempts have been made to provide a remedy. In the metropolitan Borough of Poplar the medical officer of health, Dr. F. W. Alexander, has for more than a year been adding to the water in the five swimming baths in the borough the electrolytic fluid which has been manufactured for several years past by the Poplar council, and used by them for disinfecting purposes. It appears to have been the custom to change the water in the Poplar baths twice weekly, but within twenty-four hours of the time when fresh water had been put in the bottom of the bath became slimy, and there was a feeling of stickiness about the body after bathing, while the water itself assumed a darkish tint. Dr. Alexander states that after applying the electrolytic fluid in the proportion of 1 in 1,000 there is a very marked improvement in the condition of the water, and the bathers declare that it feels fresher and more invigorating. Chemical and bacteriological examination of the water before and after the addition of the fluid reveal a considerable alteration in the purity of the water. The results of further experience of this method of purifying the water of swimming baths will be awaited with interest.

THE COMING GENERAL ELECTION.

THE following list of members of the medical profession who intend to offer themselves as candidates at the coming general election is probably incomplete, and we should be much obliged to correspondents who will assist us in completing it. The sitting members who seek re-election are: The Right Hon. Sir Walter Foster (L.), Ilkeston: Dr. V. H. Rutherford (L.), Brentford: Sir William J. Collins (L.), St. Pancras West; Dr. A. R. Rainy (L.), Kilmarnock District; and Sir G. H. Pollard (L.), Eccles, who, we understand, practises as a barrister. Among the new candidates are: Dr. R. O. Moon (R.), Marylebone East; Dr. Christopher Addison (L.), Hoxton; Dr. F. E. Fremantle (C.), Rotherhithe; Dr. J. E. Molson (U.), Bethnal Green; Dr. Alfred Hillier (U.), Hertfordshire North or Hitchin; Dr. Permewan of Liverpool (L.), Bootle; Dr. T. Eastham (U.), Hyde; Dr. G. Coates (U.), Lichfield; Dr. W. A. Chapple (L.), Stirlingshire; and Dr. H. S. Lunn (L.), Boston, who is, we believe, exclusively engaged in the business of a travel agency.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Prorogation of Parliament.—Both Houses finished their business last week. The Lords, after the debate on the Finance Bill was concluded on Tuesday, met on Wednesday and passed the Development Bill after accepting the amendments made by the Commons to their amendments. A resolution protesting against their action being considered a precedent was passed after a division. The Small Dwelling Houses (Scotland) Bill was withdrawn by the Government after the Lords had refused to accept an amendment made by the Commons. In the Commons on Wednesday the House was adjourned after questions, and on Thursday the adjournment took place about 5.30, after the debate on the resolution of the Prime Minister respecting the action of the Lords in refusing to pass into law the Finance Bill. On Friday both Houses met, and the Commons were summoned to the Lords to hear the Royal Assent given to bills by the Commissioners and to listen to the King's Speech and the Proclamation by which Parliament was prorogued to January 15th. It was generally understood that before that date—namely, on January 8th—the Parliament of 1906 would be dissolved.

Colour Blindness (Marine Tests).—Sir William Collins asked the President of the Board of Trade what tests for the detection of colour blindness were employed in the Marine Department of the Board; whether a considerable number of persons rejected as colour blind by the wool test had on appeal been passed as normal sighted; and whether any oculist or medical man was included among the officers conducting these tests. Mr. Churchill replied that candidates who entered for the Board of Trade sight tests now underwent an improved form of Holmgren wool test. Candidates who failed and appealed, or whose cases were referred for final decision, underwent a special spectroscopic examination. During the three years ending December 31st, 1908, 19,262 candidates were examined, and 184 rejected. Of the latter number only 48 appealed, and of these 21 were allowed to pass, either on the ground that their colour vision was normal or that the defect, which the wool test had discovered, was not liable to cause danger at sea. No oculist or medical man was included among the officers conducting these tests, but the Board was advised throughout by the first authority on colour vision in this country.

Old Age Pensions and Lunacy.—Mr. Verney asked the Home Secretary whether a private patient in a lunatic asylum, maintained there entirely by his relations without any charge upon public funds, forfeited thereby his old age pension for which he was duly qualified; and, if so, whether the Government would bring in fresh legislation to remove this disqualification. Mr. Burns, who replied, said that the answer to the first part of the question was in the affirmative. Section 3 (1) (*c*) of the Old Age Pensions Act, 1908, provided that a person shall be disqualified for receiving or continuing to receive an old age pension under the Act while detained in any asylum within the meaning of the Lunacy Act, 1890. He would bring the suggestion for legislation made in the latter part of the question under the notice of the Chancellor of the Exchequer. The matter was one for him.

Health of School Children.—Sir William Collins asked the President of the Board of Education whether he would consider the desirability of instituting an inquiry, either by Royal Commission or Departmental Committee, into the numerous questions which had arisen, directly or indirectly, out of the methods whereby local education authorities were endeavouring to give effect to the powers contained in Section 13 (*b*) of the Education (Administrative Provisions) Act, 1907, for attending to the health of the children. Mr. Runciman said he thought it was desirable to postpone a reply to the question pending the issue of the First Report of the Medical Department of the Board, which was in an advanced state of preparation.

Infant Mortality in England and Wales.—Mr. James Stuart asked the number of deaths in England and Wales of infants under 1 year per 1,000 births in each of the years 1904 to 1908, and in the first nine months of each of these years and of the present year, distinguishing London, the 76 great towns, and the 142 smaller towns from the rest of the country. Mr. Burns replied that the following tables gave the information asked for:

I.—*Infant Mortality in each of the Years 1904 to 1908.*

	Deaths under 1 Year to 1,000 Births in the Years—				
	1904.	1905.	1906.	1907.	1908.
England and Wales	145	128	132	118	121
76 great towns, including London ...	160	140	145	127	129
London	145	130	131	116	113
142 smaller towns	154	132*	138	122	124
England and Wales, less the 218 towns	125	113†	116	106	110

II.—*Infant Mortality in the First Nine Months of each of the Years 1904 to 1909.*

	Deaths under 1 Year to 1,000 Births in the First Three-quarters of each of the Years—					
	1904.	1905.	1906.	1907.	1908.	1909.
England and Wales	149	131	135	113	115	106
76 great towns, including London ...	165	142	148	118	123	114
London	149	129	133	110	110	104
142 smaller towns	157	136‡	140	118	117	107
England and Wales, less the 218 towns	127	116§	117	104	105	97§

* 141 small towns. † Less 217 towns. ‡ 143 small towns. § Less 219 towns.

Insanitation and Absence of Medical Relief in Lewis.—Mr. Watt asked the Lord Advocate whether the Secretary for Scotland was aware that on page 153, paragraph 31, of the recently issued Report of the Poor Law Commission (Scotland) it was stated that the want of proper hospital provision and means of isolation treatment had caused infectious disease in the island of Lewis to become endemic; and, seeing that the manner in which tuberculosis was becoming general all over the island was attributed to the inadequacy of medical relief, would he state what action he proposed to take in the matter. Mr. Watt also asked the Lord Advocate whether the attention of the Secretary for Scotland had been called to the evidence of the late Dr. Macdonald, of Stornoway, referred to on page 153 of the Report of the Poor Law Commission (Scotland), in which he pointed out that for an area extending 72 miles to the south of the Butt of Lewis, with a population of nearly 13,000, contained in some 40 townships in the parishes of Barvas and Uig, there were only two medical men, whose work was rendered doubly tedious owing to their frequently being obliged to visit the townships on foot from the main roads, many places being accessible by footpath only; that

although typhus and typhoid fever were of frequent occurrence, there was not a single place from end to end of the district in which a case of infectious trouble could be isolated or treated; and, seeing that a similar state of matters prevailed in the parish of Lochs, where there was only one medical man to attend to a population of 6,000 scattered over a wide area, would the Lord Advocate state whether he would consider the expediency of meeting the difficulty by adopting Dr. Macdonald's suggestion and provide additional medical officers, as well as hospital accommodation for the treatment and isolation of infectious diseases. Mr. Ure, in reply to these two questions, said that he had to inform his hon. friend that the Secretary for Scotland was aware of the statements contained in the Report of the Poor Law Commission, which would receive the careful consideration of the Local Government Board. Mr. Morton asked the Lord Advocate whether the Secretary for Scotland was aware that the recently issued report of the Poor Law Commission (Scotland) called attention to the evidence of Dr. Ross, Poor Law medical officer and local medical officer of health for the parish of Barvas, island of Lewis, condemning the conditions under which the people lived in the parish of Barvas; if he was aware that the committee added that these conditions, as described by Dr. Ross, were corroborated by Dr. Dittmar, medical inspector for the Local Government Board for Scotland, and by Mr. Millar, one of the Board's general superintendents, and that members of the committee, having themselves visited the outer islands, had found these conditions to prevail, not only in the parish of Barvas, but also in other parishes; and, seeing that local authorities were unable to cope with the difficulty for lack of means, would he consider the expediency of approaching the Treasury with a view to secure a grant such as would admit of these townships being placed in a suitable sanitary condition, especially bearing in mind that the committee stated that they were convinced that the problem in the Outer Hebrides was largely a public health problem, and that without outside pecuniary assistance it was scarcely possible that any adequate measures could be taken to improve the existing conditions. Mr. Ure replied that he was aware that the report of the Royal Commission on the Poor Laws contained paragraphs in the sense indicated. As he had already indicated, the subject was receiving the earnest consideration of the Government.

Patent Medicines (Label of Ingredients).—Mr. Seaverns asked the Home Secretary whether he was now in a position to state whether he was prepared to appoint a Select Committee to consider the propriety of issuing regulations making it compulsory on all manufacturers of medicines liable to patent medicine duty to print on the label on the bottle or other vessel in which it was sold the full ingredients of such bottles or vessels as well as the diseases they purport to cure. Mr. Gladstone said that he could not at present add anything to what he had said in answer to a question on September 15th, that he was disposed to think the matter might be one of sufficient importance for an inquiry by a Select Committee next session.

Dispensing Poisons.—Mr. Winfrey asked the Home Secretary whether, seeing that the existing Pharmacy Acts did not cover the dispensing of medicines in public institutions, and consequently there was no legislative restriction to prevent unqualified persons from acting as dispensers, he would, in the interests of public safety, consider the advisability of introducing legislation to provide that the dispensing of poisons should be subject to the same restriction as their sale and placed under the control of registered pharmacists. Mr. Gladstone replied that it was probable that in a large number of cases the authorities of the public institutions referred to make use of dispensers who held certificates of competence under the Apothecaries Act, 1815. He understood from the Privy Council Office that, so far as the information available went, no allegations had been made that the persons so employed were unfit to discharge the duties with which they were entrusted, and there did not appear to be any urgent case for further legislation on the subject.

Carbon-Monoxide Gas Poisoning.—Mr. George Roberts asked the Home Secretary if his attention had been directed to the recent case in which a workman was found dead and another unconscious at the Winnington (Northwich) Chemical Works; whether these men had been overcome by carbon-monoxide gas; and, if so, whether he would further consider the advisability of scheduling affection by this gas as a dangerous disease under the Workmen's Compensation Act. Mr. Gladstone replied that he had obtained a report with regard to the circumstances of this case, from which it appeared that the men were suddenly overcome by carbon-monoxide gas while clearing out a cylinder in a tower used for washing residual gases. The case, therefore, appeared to be one, not of disease, but of accident, to which the provisions of the Workmen's Compensation Act were already applicable. It was announced at the inquest, on behalf of the employers, that full compensation would be paid.

Assistant Surgeons (India).—Dr. Rutherford asked the Under Secretary for India whether his attention had been called to a notification in the *United Provinces Gazette*, over the signature of the officiating Inspector-General of Civil Hospitals, *re* public competitive examinations to be held in December for the post of assistant surgeon, that only Europeans and Eurasians were eligible; and whether, in view of the proclamations of Queen Victoria and King Edward VII. the Secretary of State had refused his sanction. The Master of Elibank said that the assistant surgeons referred to in the notification were required for duty in station hospitals with British troops, and for this reason the appointments had always been confined to Europeans or Eurasians. For corresponding appointments with native troops only natives of India were eligible. The question whether any revision of the constitution of the Indian Subordinate Medical Department or of the scope of its employment was advisable, had been referred to the Government of India in accordance with the statement made in reply to a question on September 24th last.

Sleeping Sickness in Nyasaland.—Mr. Rees asked whether an authenticated case of sleeping sickness occurred in the native hospital of the Church of Scotland Mission in Nyasaland last September, and whether the existence of other cases was suspected. Colonel Seely answered that two natives suffering from sleeping sickness were admitted to the Blantyre Mission Hospital on June 8th and August 14th respectively. The first patient died in July, and the second, who came from Portuguese territory, died in September. The natives of Nyasaland were being systematically examined for sleeping sickness. Up to September 30th four cases had been discovered, but there was no reason to suppose that infected persons were numerous in the Protectorate.

Plague in Mauritius.—Mr. Remnant asked the Secretary for War whether he had any information as to the outbreak of bubonic plague in Mauritius: and, if so, whether he would give orders to prevent the landing of the troops—the 7th Fusiliers—who were now on their way there from the Cape. Mr. Haldane replied that he had only received notice of the question about ten minutes previously. He had no personal knowledge, but he would make inquiry. He had, however, no doubt that the army medical authorities were fully alive to the necessity of taking precautions.

STATE REGISTRATION OF NURSES.

At a half yearly general council meeting of the Cottage Benefit Nursing Association held on Tuesday last, a discussion took place on the State Registration of Nurses.

It was opened by the Hon. SYDNEY HOLLAND, who asked the meeting to believe that he was as desirous as any friends of the proposals which had been put forward for legislation, that nothing should be done to lower the standard of nursing in the country. It was proposed, he said, that a council should be formed to arrange what hospitals should be entitled to train nurses for registration, to work out the curriculum of the training, and to set up an examining body. The advantage claimed for this system was the assurance it would offer to the public that a registered person was fit and competent to undertake nursing duty. To use the words of Lady Helen Munro-Ferguson, "The continuance of the nurse's name on the register would be a guarantee of her professional fitness and general fitness for employment." Certainly, if registration would not answer this elementary purpose it would be of no use whatever, and the contention of the supporters of the measure sounded plausible enough, but he did not believe that it would touch the evils involved in the large number of unqualified women who at present wore nurses' uniforms. All that registration would do would be to prevent a woman who was not on the register calling herself a registered nurse. He admitted the evils arising out of the present state of affairs, but it was useless, if not dangerous, to apply a false remedy. With regard to the claim that by means of registration any person might be sure of getting the services of a good nurse, he said that the test of fitness to be applied was an examination. He thought that too much was made of examinations for nurses. There were things far more important in the making of a nurse than mere ability to answer the questions of an examiner. He knew some who had succeeded in examinations and were quite unsatisfactory in practical nursing. More important than the passing of an examination were the qualities of heart and mind. The nurse could never be satisfactorily tested by an examination alone, nor certified as really competent by people who knew nothing about her. Moreover, the examination was bound to be easy, and would have to cover so wide a field and be applied to so large a number of women of widely differing capacities that the result could hardly be satisfactory. Another objection had to be faced in the practical certainty that if nurses got hold of an idea that the one thing necessary for them was to pass an examination, they would ask themselves why they need go to hospitals like the London, where the training was very thorough and of a high standard. Registration would not even necessarily secure a good nurse either to the doctor or to the public. The doctor ought to know something about the nurse whom he engaged, ought to have seen her in attendance at other cases, or, failing these, he ought to go to some hospital or recognized association for sending out nurses. So far as the doctor was concerned, registration would not constitute a sufficient guarantee of competence. As to the public, only the rich were affected. The poor would have the services of the Queen's Jubilee nurses or the nurses of the Cottage Benefit Association, or, if they entered an institution, the trained nurses of the hospitals, and the Poor Law infirmaries. Could not the rich take at least as much trouble in engaging a nurse as engaging a servant? The effect of registration would be to lull the public into a false sense of security. A man would feel that he need not inquire into the character or technical qualifications of the nurse whom he was engaging—she was registered, and that was enough. In engaging a nurse people should go to a hospital or association that had a reputation to keep up. Those who were in charge of such institutions understood the suitability of particular nurses for particular cases. In engaging a registered nurse the assurance would be that, perhaps ten years before, the woman had passed an easy examination, and had left a hospital with a good character. The treatment of the sick was constantly changing. What guarantee was there that the registered nurse would keep abreast of the times? A woman who had not been sent to nurse a surgical case for several years would have grown rusty. It was undeniable that the want of opportunity for nurses in private work and the absence of effective discipline and control brought about a certain amount of deterioration in private nursing. As to the argument that medical practitioners and midwives were registered and that therefore nurses should be registered also, Mr. Holland said that technical efficiency was the first thing expected of the doctor and of the midwife also, but in the case of the nurse the character was at least of equal importance. The remedy for the present state of affairs was something on the lines of an official directory of nurses, as suggested in the bill of which Lord Balfour of Burleigh was the sponsor. A statement of the exact circumstances of the training of each nurse would stimulate a wholesome habit of inquiry on the part of the public. He criticized the Ampthill Ferguson bill, asserting that the composition of the council proposed was radically defective, inasmuch as there was no provision for a matron of a single training school other than a lunatic asylum. The election of the representative nurses also, he thought, would be unsatisfactory. A great number of hospital authorities, including the Central Hospitals Council, as well as 244 matrons and 1,352 nurses, signed the document opposing the bill. He thought that it was unlikely to go through the House of Lords again, and still more unlikely ever to pass through the House of Commons, because there would always be a number of men in that Chamber who understood practical nursing questions.

THE COUNTESS OF ANCASTER, who occupied the Chair, condemned the proposals of the bill, but thought that Mr. Holland had rather obscured the hospital training and experience that would be necessary for a registered nurse, in addition to passing the examination.

Miss B. M. BROADWOOD, director of the Cottage Benefit Nursing Association, suggested that every nurse and midwife should be obliged to pay a small sum for a yearly licence—say, 1s. for nurses and 2s. 6d. for midwives—the licence to be backed by at least two medical men who were acquainted with her, and one other person. This would be a guarantee that the nurse had been qualified during the past year, and presumptive evidence of her character and capability for the ensuing year.

Before the discussion the formal business of the Association was transacted, and a statement of the work made by Miss BROADWOOD. She reported that the work of sending women to be trained had increased and developed very greatly within a recent period. Formerly the preparation of the candidates was more or less uniform, but now the great demand for midwives had compelled the Association always to have a certain number of women undergoing that training.

Dr. HICK, of New Romney, read an interesting paper on the provident basis for nursing associations, giving many details of the system successfully employed in his own district.

As the outcome of a conference, held under the auspices of the American Academy of Medicine, on the Prevention of Infant Mortality, held at Yale University on November 11th and 12th, an American Association for the Study and Prevention of Infant Mortality was formally constituted on November 13th. The President is Dr. J. H. Mason Knox, jun., of the Johns Hopkins Medical School; the first Vice-President, Professor C. E. A. Winslow, Biologist in Chief of the Laboratory Research, Massachusetts Institute of Technology, Boston; the second Vice-President, Mr. Homer Folks, Secretary of the New State Charities Organization; Secretary, Dr. Henry I. Bowditch of Harvard. Among the members of the Executive Committee are Dr. J. S. Neff, Director of Public Health and Charities, Philadelphia, and Dr. John S. Fulton, Secretary-General of the International Congress on Hygiene and Demography, Washington. On the Board of Directors are Dr. Charles Richmond Henderson, Professor of Sociology, University of Chicago; Dr. Thomas Morgan Rotch of Harvard; Professor Irving Fisher of Yale, President of the Committee of One Hundred on National Health of the American Association for the Advancement of Science; and Dr. Thomas, Health Commissioner of New York City. The meeting of the Society will be held at Baltimore in the autumn of 1910. Dr. Charles Richmond Henderson was nominated President for 1910–11.

Scotland.

[From Our Special Correspondents.]

The late Professor D. J. Cunningham.

A meeting has been summoned by circular letter signed by Sir William Turner, Principal of the University of Edinburgh, Dr. W. Allan Jamieson, President of the Royal College of Physicians of Edinburgh, and Mr. J. M. Cotterill, President of the Royal College of Surgeons of Edinburgh, in the Court Room of the university, on Wednesday next at 4 p.m. The circular letter states that: "The services rendered by the late Professor D. J. Cunningham, not only to the university, but to the entire Medical School of Edinburgh, as well as to modern science in general, were so great that it appears most fitting to institute some memorial of his life and work."

Glasgow Infirmaries Joint Management.

At the annual meeting of the Victoria Infirmary the Lord Provost said that a good deal of overlapping occurred in the work of the charitable institutions in Glasgow, and expressed the opinion that it might conduce to economy of administration and neutralize this overlapping if some scheme of amalgamation or co-ordination of management were introduced. He also threw out the suggestion that with regard to the three infirmaries, the Royal, Western, and Victoria, each with independent boards at present, some scheme of joint management might not be impracticable. They were all rendering the same service, dealing with the same problems, appealing to the same constituencies, and with systems of management essentially the same. While there was no competition or friction, and from the point of view of equipment or skill the administration could not be improved upon, he thought a combination of forces and co-ordination of effort would present a much stronger case to the public for a common fund than was at present possible.

Prevention of Consumption.

The annual report of the Glasgow Branch of the National Association for the Prevention of Consumption details what has been done to spread information on the subject by lectures and distribution of literature. The work of the dispensary is also dealt with; it was found that only 39 per cent. of cases were suitable for Bellfield Sanatorium, while 53 per cent. were unsuitable owing to the disease being too far advanced. The Council expresses regret that as a voluntary association it has, owing to the magnitude of the task, been able to do little for such cases.

Glasgow and Notification of Phthisis.

At a special meeting of the Corporation of Glasgow on December 2nd, a resolution was passed making the Notification Act apply to "tuberculosis of the lung or tuberculous phthisis" for a period of three years. One of the councillors objected to the labelling of an individual in this fashion as an injustice, unless they made provision for his treatment, which meant building sanatoriums. The cost of the notification is calculated at about £1,400.

Edinburgh Post-Graduate Course.

The Edinburgh Post-Graduate Autumn Course was this year even more successful than its predecessors, no less than 90 graduates attending, as compared with 66 in 1908. The programme for the autumn of 1910, which is practically completed, is very similar to that of the present year, although a new feature will be the introduction of a four weeks' course of internal medicine during the month of August by the assistant physicians of the Royal Infirmary and some of the junior lecturers of the school. The arrangements are as follows: Three courses will be held during the autumn of 1910, a general course, a surgical course, and a course of internal medicine. The two former will run simultaneously during September, while the latter will extend throughout the month of August. The general course, which will be divided into two separate fortnights, will commence on Monday, September 4th, and conclude on Saturday, September 30th. Among the subjects included under this course are medical anatomy, the medical and surgical affections of children, the medical inspection of school children, dermatology, clinics upon diseases of the eye, infectious diseases, and upon medicine, surgery, and neurology, and demonstrations upon morbid anatomy. The fee for the course will be five guineas, or three guineas for either fortnight. In addition to the subjects above mentioned the following classes, the attendance upon which is necessarily limited, are open to those who have entered for either the general or surgical course upon payment of an additional fee of one guinea in each instance: Bacteriology, diseases of the blood, diseases of the ear, nose, and throat; errors of refraction, gynaecology, histological methods employed in medical diagnosis, ophthalmoscopy, *x* ray, electrical, and radium work. A series of special lectures, a number of which will deal with the progress of medicine in its various departments during the preceding ten years, has also been arranged. These lectures are open to all graduates attending either the general or surgical course, as well as to local practitioners. One lecture of this series will be delivered daily. The surgical course will also commence on September 4th. It will include classes upon surgical anatomy, surgical pathology, histological methods applied to surgery and operative surgery, in addition to specially arranged daily surgical clinics. So far as possible the same department of regional surgery will be dealt with simultaneously in the various classes, while the subject matter of the daily clinics and ward visits will, whenever possible, be arranged to correspond. Graduates entering for the surgical course may attend alternatively any of the classes included under the general course. The entries for the course will be limited to twenty-five, and the fee will be ten guineas.

The course on internal medicine will commence on Monday, August 1st, and occupy four weeks. The course will comprise classes upon medical applied anatomy, haematology, bacteriology, the examination of the heart, the examination of the nervous system, the examination of urine and digestive products, and the examination of sick children, in addition to series of clinics upon diseases of the heart, lungs, blood and ductless glands, nervous system, stomach and kidneys, general diseases and abdomen. The entries for the course will be limited to twenty-five, and the fee will be ten guineas.

Ireland.

[From Our Special Correspondents.]

Health of Belfast.

At the monthly meeting of the Belfast City Council on December 1st, the Medical Officer of Health reported that 102 cases of tuberculosis of the lung had been notified during the previous three weeks, pursuant to the Tuberculosis Prevention (Ireland) Act, 1908. Part I of which had been adopted by the Council. As this was the first monthly meeting after the time fixed for the commencement of notification, many of the cases were chronic, and the numbers would be smaller in future.

At the same meeting it was decided to approach the Local Government Board to obtain a loan of £35,000 to carry out various improvement works and sanitary measures, such as removing the mussel beds from the foreshores of the lough; also for a loan of £90,000 to clear insanitary areas under the Housing Acts. It was expected that a revenue covering the cost would be procured in the latter case. Much work would thus be provided for the unemployed during the winter.

Dispensary Doctors and Consultations.

Some of the guardians of the Monaghan Union have peculiar ideas about medical matters. Not long since

the board passed a resolution that any of their medical officers requiring medical assistance in a dispensary case should call in no one but a medical officer of the union. Dr. Elliott had the temerity to break through this order, and having a bad case near the town of Clones he called in a Clones doctor to assist him; when the bill came in there was some very tall talk about his presumption in setting at naught the order of his masters, and he was called on to furnish an explanation. This he gave in an admirable letter, asking the guardians "Whether, supposing I am attending a case a couple of miles from Clones or Ballybay, situate in other unions, and ten miles from Monaghan, am I to say to the husband of my patient, 'Start to Monaghan and get a doctor; if you hurry you may have him here in five or six hours; your wife will be dead long before that, and we could get assistance and save her life close at hand, but the Monaghan guardians have arranged, because you are a poor man, moreover because the medical man near at hand does not pay rates in the Monaghan Union, your wife is so to die.'"

To the credit of the majority of the Monaghan board they approved the action of Dr. Elliott, and gave notice to rescind the objectionable order, but not before one guardian had proposed that, though the board should let the matter pass for the present, the letter should be kept in remembrance against him; while another said Dr. Elliott wanted to be the great "I am," and "monarch of all I survey." Truly the lot of the Irish dispensary doctor is hard. Had Dr. Elliott acted upon the ridiculous order of the guardians he would have been severely and properly censured by the Local Government Board if the patient had died; but having done the right thing, some of these persons, as long as they are members of the board, will have their knives in him, to continue the metaphor of one member, who said that Dr. Elliott in his letter "jags as far as he can."

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

THE MANCHESTER ROYAL INFIRMARY AND MEDICAL WOMEN.

LAST January the Chairman of the Governors of the Manchester Royal Infirmary assured a deputation of medical women that the board was in full sympathy with their request that the resident appointments at the infirmary should be thrown open to medical women, as the medical board had twice recommended it, but that owing to lack of accommodation in the new building it was impossible to acquiesce at present. Some correspondence followed in the Manchester press, including a strongly worded letter from Judge Parry, and the chairman explained that the board had not fully considered the general subject and that no conclusion had been arrived at owing to the difficulty of providing accommodation. A special committee was appointed to consider the matter in all its aspects, and the committee's report was presented to the board last week. There was a full attendance, and the chairman, Sir William Cobbett, said the report as first drawn up had been amended by the House Committee, and had subsequently received the unanimous approval of the special committee. The adoption of the report was proposed by the chairman, seconded by the Dean of Manchester (Bishop Welldon), and carried. The report is as follows:

Report of the Committee on the Appointment of Medical Women to Resident Posts at the Infirmary.

1. These appointments have been pressed upon the Board of Management upon two grounds. (1) That female students at medical school pay the same fees as male students; and, therefore, ought, after qualifying, to have the same privileges, and all the opportunities afforded to men of perfecting themselves in their profession. (2) That resident posts should be thrown open to public competition, in which medical women should be eligible equally with men.

2. It is to be observed that although female students pay the same fees as male students they are aware when they enter upon their studentship of the privileges which the medical school and the infirmary offer, and they ought not to expect to enjoy privileges no prospect of which has been held out to them. That it is desirable that female students should, after qualifying, have every opportunity of perfecting themselves in the practice of their profession is undeniable, but it is a matter for grave consideration whether these opportunities can be extended by appointing them to resident posts with due regard to the interests of the infirmary.

3. The subject cannot, however, be disposed of, even if it were desirable so to dispose of it, by the admission of the female students of our medical school who have qualified to the candidature for resident posts. In the last nine years—that is, from 1901 to September, 1909, both inclusive—the number of female students registered at the infirmary is 17 (an average of less than 2 per annum), of whom 10 have qualified, 1 has not persevered, and 6 are still in attendance. In the year 1909, 38 male students and 2 female students qualified. There are now in attendance at the infirmary 179 male students and 6 female students. (We omit from these figures dental students.) It could seldom happen, therefore, that the board would be in a position to make an appointment from among the qualified female students of our own medical school.

4. We therefore proceed to consider the desirability of admitting medical women generally to compete for resident posts.

(*a*) There are at present 453 patients in the infirmary, of whom 249 are men and 204 women—that is, a proportion of 11 25 men to 1 woman. There are 18 resident posts, and there will ultimately be 20.

(*b*) It is impossible to foresee to what extent these posts may be filled by medical women if they are admitted to compete for them, but it is abundantly clear that if they are admitted to compete the board must provide accommodation of substantial extent to meet the contingency of the appointment of several women. The bedroom and sitting-room accommodation will require to be so arranged as to be separated from similar accommodation for men residents, and separate messing and common rooms will be required. It will be necessary to appoint a lady assistant medical officer to take direct and immediate supervision of the women residents, and for her also proper accommodation must be provided. The accommodation required cannot be provided in the existing building, and we are satisfied for the foregoing reasons that if medical women are admitted to compete for resident medical posts the board must be prepared to make substantial structural additions to the existing buildings at considerable expense and to rearrange the existing staff and its duties. These additions to staff and building would be a serious expense to the infirmary both on revenue and capital accounts.

(*c*) So far as we have been able to ascertain, no male patients and very few female patients prefer to be medically attended by a woman, and we cannot learn that there is amongst the patients any desire for a change.

(*d*) We are of opinion that medical women ought not to have charge of male wards. In the surgical wards there are things to be done for men which a woman cannot practically do, and in both medical and surgical wards there are things to be asked and told which a woman cannot ask and would not be told. A medical woman is, therefore, not so useful an officer in a general hospital as a medical man.

(*e*) We do not find that medical women have in general been appointed to resident posts in general hospitals. In the United Kingdom there are only two general hospitals with medical schools attached in which such appointments have been made, and one of these is the Royal Free Hospital, London, one of the main objects of which is the employment of medical women.

5. We have arrived at the conclusion that it is undesirable to appoint medical women to resident posts in the infirmary upon the following grounds:

That in a general hospital the services of medical women are not, upon the whole, as valuable and beneficial as those of men.

That such appointments would entail substantial building addition, and additions to and a rearrangement of the staff, involving considerable expense, and that the board would not be justified in incurring such expenses for the purpose of an experimental change which we are of opinion would not be of advantage to the institution.

It will be seen from the report that in addition to the reasons given to the deputation in January, which referred only to the want of accommodation, the board now goes much further and argues against the general suitability of women for resident posts in a general hospital. It is impossible to say what the effect on the medical school will be so far as its attractiveness to women medical students is concerned, but it is quite certain that the report will not be allowed to pass without severe criticism. The *Manchester*

Guardian has already had a stringent leading article saying that the report "shows a prejudice which has no justification in reason, and will be strongly and justly resented," and that the committee "had either exaggerated the difficulty of accommodation to support a prejudice that it does not like to avow openly, or else had called in a prejudice to reinforce the difficulty of finding rooms"; and further, that "the unanimity of the governors does not mend matters, but only enlarges the scandal."

CANCER RESEARCH AT THE ROYAL INFIRMARY.

At the same meeting of the board of governors of the Royal Infirmary it was announced that a sum of £100 with a further promise of £50 was available through Dr. Brockbank, to encourage the bedside study of cancer. It was suggested that the fund should be used to defray partly or wholly the cost of the study of cancer in the wards and clinical laboratories of the infirmary, and, if sufficient funds should be forthcoming, to appoint a special director to superintend workers in the subject, who should be at liberty to carry out part of their research in other hospitals. The opinion was expressed that no experiments on patients should be allowed, and that a sum of £150 a year might be sufficient to cover the cost of three or four workers without salaries but that it was premature to appoint a paid director. The board would expect that special voluntary contributions would be sought independently of the general funds of the infirmary. A disused ward on the surgical side might be fitted up at a cost of £50. A special committee was appointed to consider the matter.

THE MANCHESTER BOARD OF GUARDIANS AND THE POOR LAW COMMISSION.

The Chairman of the Manchester Board of Guardians last week read a report on the recent conference of the Poor Law Unions Association, where the principal subject under discussion was the Report of the Poor Law Commission. The president of the conference had drawn attention to the onesidedness of the Commission, evidence having been accepted against boards of guardians without cross-examination, and the president said that the report was the work of theorists and not practical administrators. As Dr. Downes had said, the present boards would be able to do everything possible to improve the Poor Law if the power were granted to them, and a recent report of the Local Government Board showed that during the last fifty years, while the number of paupers had gone down from 50 to nearly 20 per 1,000 of population, the workhouses were now no longer looked on with the dread of former times. The workhouse hospitals, too, could now hold their own with the best hospitals of the country, and it was the same with the special Poor Law schools, while the increase in cost really represented increased efficiency. The Minority Report, he thought, was utterly impracticable, while the Majority Report, with its suggestion to substitute for guardians a body composed of county councillors with co-opted members, would never seriously be taken up. The conference had passed a resolution suggesting the establishment of district committees to take steps to defeat those parts of the reports which advocated the abolition of boards of guardians. He drew special attention to the activity of Mrs. Sidney Webb in endeavouring, by holding meetings all over the country, to get support for the Minority Report, and he thought that no time should be lost in getting the district committees to work. They would have a far better chance now than if they waited till the opinion of the country was formed.

THE CHRISTIE HOSPITAL.

The report presented to the annual meeting of the Christie Hospital (Cancer Pavilion and Home), over which the Lord Mayor presided, stated that the number of cases treated during the year had been 110 in-patients and 68 out-patients, a total of 178, against 153 in 1907. The contributions from patients and their friends amounted to £168, all of which consisted of voluntary payments. Of the 136 new cases, 74 were inhabitants of Manchester; the youngest patient was 18 and the oldest 77, the average age being 50.8 years. The pressure on the beds for females had been so great during the year that a ward kitchen had been converted into an operation ward. Of the new cases, 9 were already recurrent after operation when first admitted. During the year the hospital had provided a permanent home for 63 advanced cases which were beyond hope of cure, and were taken in simply to alleviate suffering during the remainder of life. All of these died sooner or later in the hospital, and the high death-rate on this account could not be compared with the death-rate in general hospitals, where incurable patients were generally discharged after a limited period of treatment. Professor Wild spoke of the value of co-ordinating the results of cases at different hospitals, and welcomed the establishment of a new fund for cancer research at the Royal Infirmary. At the cancer hospital the opportunity of seeing the early stages of the disease was not afforded, for only when it was advanced did patients come there. The investigations made at the hospital were mainly as to the course and nature of the disease, and little could be done to inquire into the causes. As to treatment, during the past seventeen years between twenty and thirty different methods had been tried, but unfortunately none of them had borne out the enthusiastic claims of their discoverers. The treatment by pepsins or ferments had had no success, and was now quite dead. The staff had been willing to test all sorts of treatment, provided that no harm could be done to the patients and that there was any reasonable ground for expecting success, but the principal part of the work had been to alleviate suffering.

Mr. G. A. Wright, one of the honorary surgeons, laid emphasis on the necessity for cases applying in the early stages when cure might be possible. One difficulty, however, was that so many patients would go to quacks instead of qualified doctors. He knew one quack living not far away who had had a woman going to him for cancer who had only a harmless wart on the tongue, and he let her go about with a bottle with a red label—"cancer lotion," for application to the tongue. It was stated that the financial position of the hospital was satisfactory—a most unusual statement to be made about any Manchester hospital.

THE HOSPITAL SUNDAY FUND.

The annual report of the Manchester and Salford Hospital Sunday Fund showed that the receipts for last year amounted to £3,607, which is about £51 more than in the previous year, while the amount distributed was £3,400, an increase of £100. The Lord Mayor said he was thoroughly dissatisfied with the result, as the amount collected for the various charities, with their increasing number of beds, was far too small. He intended to do all he could to make the fund more effective. The expenses of collecting amounted to £232, which he thought might be reduced. He wished to avoid the necessity of the hospitals depending on the rates, for, though he did not wish to criticize municipal work, he thought that charitable institutions could be carried on more economically and more sympathetically by voluntary workers. The Mayor of Salford agreed that the amount collected was ridiculously small for Manchester and Salford. The Dean of Manchester thought that the time of the year—February—chosen for the collections was not the best. The one thing that would give him pleasure, if ever the hospitals came on the rates, was that those citizens who now escaped responsibility would no longer escape. The Rev. D. Dorrity said he was one of the growing class who thought that the State should be responsible for the support of hospitals, and that opinion was responsible for the small sums collected. He did not suppose the hospitals would be better managed than at present, but they would be better placed financially. It was resolved that the institutions to benefit by the fund should be the same as last year, and an enlarged committee was appointed.

THE MANCHESTER EAR HOSPITAL.

At the annual meeting of the Manchester Ear Hospital it was announced that the new hospital in Grosvenor Square would be ready for occupation next March. It will have 24 beds, which is twice as many as there are in the present hospital in John Street, and the equipment will be much superior. The cost of the new hospital is estimated at about £6,700, of which £2,100 is still required. The annual report showed that the number of out-patients treated during the year was 3,844, which is about the same as last year, though the visits they paid to the hospital were 17,395, an increase of 1,278. The in-patients numbered 382, against 359 last year. All the district round Manchester contributed patients, while some came from as far away as Gateshead and Burton. There had been a deficit on the year's working of £151, making a total of £2,600, which had had to be taken from capital. The hospital was conducted most economically, as the cost per patient averaged only 6s., and worked out on the number of attendances was only 1s. a head.

A complaint was made by Councillor Allison, as representative of the Manchester and Salford Co-operative Society, that some of their members had been charged fees for attendance. The Chairman said that no charges were made to any one. Dr. Milligan also emphatically stated that it never had been the policy of the hospital to charge fees, though, of course, contributions were accepted from patients who desired to give something. The object of the hospital was primarily to relieve the necessitous poor. In reply to a question, Dr. Milligan said that since the medical inspection of school children had come into force the ears of school children had been examined, as well as their eyes and teeth. This medical inspection was giving all the hospitals far more work to do, and the difficulty of coping with the children's cases was becoming serious. He was afraid the hospitals were abused on account of this inspection. A number of children were packed off to the Ear Hospital to be treated free, quite regardless of the ability of their parents to pay for treatment, and some hospitals had been compelled to refuse to accept more than a certain percentage of the children sent to them.

THE LANGHO INEBRIATES HOMES.

At a meeting of the Lancashire Inebriates Acts Board, Alderman Travis-Clegg was re-elected chairman and Mr. T. Burke vice-chairman. The chairman said that the criticisms passed on the homes during the year had somewhat increased the difficulties the board had to encounter, but he thought it had now established the economy of its administration. The charge to the constituent authorities had been reduced from 7s. to 5s. 3d. a week per patient. The total accommodation of 185 included the punishment cells and the infirmary beds, and there were now 157 patients from Lancashire alone: the House Committee had recommended that accomodation for an extra 24 should be provided at once. Recently, however, the London County Council had made application for the committee to take 120 women from the London area; it was proposed to charge 7s. a week each, to be increased if the Government grant of 10s. 6d. were reduced. The agreement would be for 120 women for six years, and if the London County Council accepted the offer extra accommodation for 142 patients could be provided by altering each of the six blocks of building at a cost of from £700 to £800 a block; the charge would in the six years repay the board both for the capital outlay and the maintenance. Many of the Lancashire authorities were not taking advantage of the facilities for which they would have to pay, and the committee hoped that the example of London would stimulate them. No inmate was ever discharged as cured, but only because the term of committal had expired, and the value of the treatment could not be judged by the percentage of relapses. There was no doubt that the committing authorities were finding that it was more economical to send these unfortunate women to the reformatory for three years, where they would be properly controlled, given useful employment, and removed from their usual haunts, than to give them short terms of imprisonment. Since last May the industrial earnings of the inmates amounted to £544. It was resolved to alter one block of buildings at once, and, subject to a satisfactory agreement with the London County Council, to enlarge the other blocks also.

LONDON.

THE MEDICAL STAFF OF THE EDUCATION COMMITTEE.

On the agenda of the Education Committee of the London County Council on December 8th appeared a report by the General Purposes Subcommittee recommending the appointment of an additional assistant medical officer (education) at a commencing salary of £500 a year, rising by annual increments of £50 to £700 a year. The subcommittee stated that when Dr. Kerr was appointed by the London School Board his duties were to supervise the medical work generally, conduct correspondence, examine male candidates for employment, visit schools where outbreaks of infectious disease occurred, conduct inquiries, and give advice. It was possible to carry out these duties in 1902, but there had been a rapid expansion since, and it was now quite impossible for Dr. Kerr effectively to supervise the work without further assistance. The staff requiring superintendence numbered in 1902: medical, 3; nursing, 1: clerical, 4. In 1909 the corresponding figures were 68, 54, and 28. Even these figures did not adequately represent the actual increase in the scope of the work. Various schemes had been developed since 1902, and were now in full working order, and in all departments the amount of detail was far greater. The Council now undertook the cleansing (heads, bodies and clothes) of the children, and examined their vision; it had established a laboratory for the bacteriological control of diphtheria: it exercised control of ringworm diagnosis; undertook inquiries into measles and scarlet fever, and with regard to blindness, deafness, aphasia, etc.; the medical examination of all scholarship candidates and the inspection of students in training colleges, pupil teachers and the scholars of secondary and trade schools. The medical officer had to supervise all this work and many other matters too numerous to mention, and it was now almost impossible for him to master many recent developments, his whole time being occupied by the work already undertaken. The work of care committees, the feeding of children, questions of physical exercises and teaching of hygiene, all required more thorough organization, but the medical officer could not undertake it without further assistance. The subcommittee thought the superintendence of the outside medical staff was almost one officer's work, and that the doctors and nurses should be seen at work not only in the statutory medical inspection, but also in their other duties in connexion with cleansing, special schools, etc. The intimate relation in which the medical side of the Council's work had been brought recently with the sanitary work of the borough councils had necessitated a great amount of personal visiting and conferences with the medical officers of health of the various boroughs. The only full-time assistant medical officer was appointed in 1903, prior to the passing of the Education (Administrative Provisions) and Children Acts. The consideration of the report was postponed.

BIRMINGHAM.

HEALTH VISITORS.

A GOOD account of the work of the lady health visitors of Birmingham has been given in *The City Aid Review* by Dr. Robertson, the Medical Officer of Health. He states that the first health visitors were appointed in Birmingham in 1899, and that their number has been gradually increased, until now the city is divided into fifteen districts, each worked by

one health visitor, the whole being supervised by a lady superintendent. The first part of their work has to do with the feeding and rearing of young infants and children. The visits are welcomed by the people, and all over the city the health visitors are looked upon as friends and not as inquisitive inspectors. The necessary information as to where a baby is born is obtained by means of the Notification of Births Act. The rate of infant mortality in Birmingham is declining to a small extent, and this is probably largely due to the work of the health visitors. In one of the poorest districts in the city a special experiment is being tried of instructing mothers by frequent visits. A woman doctor is employed who makes the first visit, and any necessary subsequent visits, while all the ordinary subsequent visits are made by the health visitors. Without any inducement other than their desire for the babies' welfare the mothers go willingly to a centre to show them, to have them weighed, and to get any advice about their ailments. In the second group of duties the health visitors do a good work in advising the treatment of children who are sent to school in a verminous condition, or suffering from scabies, impetigo, or ringworm. The necessary information is sent to the school teachers. When diseases such as measles, whooping-cough, chicken-pox, and mumps are prevalent, the health visitors can do a good deal by visiting in the affected districts, and giving instructions as to how best to prevent the spread of these diseases and what to do if they should occur. The third division of the work is that relating to the systematic house-to-house inspection in the poorest districts of the city. Each room in the houses visited is inspected from cellar to attic. Very seldom, if ever, does the tenant demur to these inspections, a fact which proves that the health visitors show discretion. In a very large number of houses the regular visits by health visitors have produced most excellent results. Many cases of nuisances arising from structural defects are found out, and notices are sent to the proper department to deal with them. A large number of cases of poverty, of ragged and bootless children, and of children requiring special treatment, are met with, and each is advised as to the proper charity or the proper hospital to apply to, or is sent to the family doctor. Two special inspectors are employed to visit cases of consumption. During the winter months lectures are given by the health visitors at mothers' meetings and girls' clubs when desired. Between 40,000 and 50,000 visits are paid annually, and it is found that approximately 2,000 houses are in a more or less dirty condition, and 400 or 500 instances of cellars filled with filth are discovered. Between 2,000 and 3,000 instances occur every year of storing bedroom slops for long periods in bedrooms. In a large number of instances, often reaching over 4,000 a year, it is found that bedroom windows are not opened and the chimneys are stopped up. The existence of overcrowding in bedrooms and in dwellings is also ascertained by the visits of the health visitors. During 1908 no less than 7,720 infants were found to be unsuitably fed, and advice was given in every case. A large number of recommendations are made annually that medical advice be sought, and in a number of other ways really good work is being done by the visits of the lady health visitors.

India.

MEDICAL REGISTRATION.

THE following inquiry was addressed on August 4th, 1909, to the Honorary Secretary of the Grant College Medical Society, Bombay.

I have the honour, by direction of the Surgeon-General, to request you to be so good as to favour him at an early date with the views of the Grant Medical College Society on (1) the question of the necessity or advisability of passing a Medical Registration Act for the Bombay Presidency, or in alternative, for the whole of India to registration and the protection of legitimate degrees and diplomas; (2) the scope of such legislation; (3) the extent of its application; (4) the question of who should be admitted to registration if a register be instituted; (5) the constitution of the body to whom the care of the register should be entrusted and its powers; and (6) any other points which may appear to bear upon the question generally.

Captain W. M. HOUSTON, M.B., I.M.S.,
Personal Assistant to the Surgeon-General
with the Government of Bombay.

The following reply, adopted by the society at its meeting on October 27th, 1909, was sent to the Surgeon-General on the following day by Drs. A. D. Mody and K. M. Dubash, Honorary Secretaries of the Grant College Medical Society.

We have the honour, by direction of the Grant College Medical Society, to send the following replies to the queries contained in your letter No. B-6488 of 1909, dated Poona, 4th August, 1909:—

1. It is necessary as well as desirable that a Medical Registration Act be passed for the whole of India, including Burmah, for registration and protection of legitimate medical Degrees granted by the Indian Universities, and of such Diplomas as are recognizable by the General Medical Council of Great Britain and Ireland.

2. The scope of the legislation to be similar to that of the Registration Act of Great Britain and Ireland, such as,

(*a*) Full recognition of medical, lunacy, and death certificates by Courts of law and public bodies, and under factory and other Acts.

(*b*) Power to sue in courts for medical attendance, and other medical charges to be exclusively confined to Registered practitioners.

3. The Act should be applicable to the whole of India, including Burmah, and also to such countries as would reciprocate with us, but if it is not feasible to apply it to the whole of India, it may be made applicable to Bombay Presidency at least.

4. The act should apply to persons passing medical degrees of the Indian Universities, and the holders of such degrees and diplomas as are recognizable by the General Medical Council of Great Britain and Ireland.

5. There should be a General Medical Council for the whole of India, including Burmah, constituted solely of Registered Medical men as follows:

(*a*) Three members nominated by Government.
(*b*) One representative of each University in India.
(*c*) Two members, each elected by the Registered Medical practitioners, residing within Calcutta, Madras and Bombay University Circles.
(*d*) One each elected by the Registered Medical practitioners residing in the Punjab and Allahabad University Circles.
(*e*) One member elected by the Registered Medical practitioners residing in Burmah.
(*f*) Branch Councils may be created for each Presidency or Province consisting of those members of the General Medical Council who belong to that particular Presidency or Province.

6. The powers of the Indian Medical Council should be such as those possessed by the General Medical Council of Great Britain and Ireland, with such modifications as would be necessitated by the peculiar circumstances existing in this country.

PLAGUE IN THE UNITED PROVINCES.

A special report, prepared by the Inspector-General of Civil Hospitals, Colonel R. D. Murray, I.M.S., records a decided and satisfactory decrease of plague in the United Provinces. The report deals with two periods—one of six months ending June 30th, 1908, and one of twelve months ending June 30th, 1909. The plague year has very properly been altered from the calendar to the epidemic. In the former period 19,146 deaths occurred, and in the latter 13,814. The disease almost disappeared after June, 1908, until a recrudescence commenced in November of that year. The maximum number of cases occurred in March in both years: in 1908 it was 6,825, and in 1909 it was 4,321. The disease disappeared after June, 1909, and special efforts are being made to prevent or minimize recurrence. A special staff for prevention and inoculation has been employed but has been greatly reduced. The measures resorted to for combating the disease were mainly evacuation, inoculation, and rat destruction, disinfection being employed to some extent. In the first period 153,308 inoculations were done, and in the second 153,902. The people seem to accept inoculation more readily, and several illustrations are given indicating the benefit in terms of reduced incidence and case mortality conferred by the measure. Some statistics to the same effect are quoted from papers read at the Bombay Medical Congress.

Correspondence.

THE 1910 MEETING—FOREIGN VISITORS.

SIR,—At an international congress some years back I found myself in a Pullman carriage with several Frenchmen and two Germans. Amongst the various subjects we discussed was that of the languages in which the papers were read. We all agreed that if a man spoke in his own language (whether English, French, German, or Italian) he could be followed more or less well by the majority of those present, but that a foreigner speaking in the language of the country he was in was, with very few exceptions, unintelligible both to his compatriots and to those whose language he was endeavouring to speak. One Frenchman told me that there was only one English doctor who could make a decent speech in French, while another suggested that the men who attended foreign "domestic" meetings could as a rule be divided into two classes—bores who had exhausted the patience of their own compatriots, and those who vaunted their own wares—mostly unpleasant waters!

Of recent years we have had an increasing number of foreigners present at our Annual Meetings, and as by some rule, written or unwritten, they have to speak in English, it is exceedingly difficult to follow them, and much valuable time is wasted. I would suggest that if selected foreigners are to be present at the 1910 meeting, their papers should be put into understandable English by secretaries of Sections and read by them. The reply should also be read by a secretary. Personally, I think that the meetings of the British Medical Association should be purely "domestic" (the word is not mine but seems suitable), and that few, if any, foreigners should be present. At the International Medical Congress in three years' time, we shall, I hope, royally entertain a large number.—I am, etc.,

December 3rd. A. T. W.

THE ASSOCIATION AND THE PROFESSION.

SIR,—A great strategist once said that he thought he had noticed that the Lord was usually found fighting on the side of big battalions. I think he was correct in his observations, and therefore I am anxious to see the ranks of the British Medical Association increased from 21,000 to 31,000 at least, as soon as possible; for I recognize conflicts in front of us—conflicts the results of which will have a very disastrous effect upon medical practice if we are worsted.

This is a golden moment for entering upon a plan of campaign to effect this increase of membership; the weeks before the end of the year is *the* time for recruiting; if we wait until the non-members have agreed to subscribe for other medical journals they are lost to us for another year. Again, it is a golden moment because a General Parliamentary Election is imminent, previous to which we ought to approach candidates by deputation in every constituency, with a *précis* of the Medical Acts Amendment Bill, etc., in our hands—not forgetting, by the way, to remind all such candidates that, in passing the Midwives Act, the Legislature has already subscribed to the principle that His Majesty's lieges should be treated only by trained, examined, and registered practitioners, and that all others attempting to practise should be penalized by the State. The fact that the general meeting of the Association is to be held in London next year also makes the present a particularly favourable period for opening a campaign.

I would suggest that every member vows to obtain one or more new members; this, in my experience, is best done by personal interview, but should be done *now*. The Council sends out copies of the JOURNAL periodically to non-members. This is good; but spade work is needed also. I find the personal appeal—preferably with a form for application for membership in the pocket—leads to direct results, especially if the following points be emphasized:

The Association already numbers over 21,000 members. Its possibilities in the future as a medico-political machine; its organ, the BRITISH MEDICAL JOURNAL, is edited and issued in the interests of its members, and is *not* found on the tables of public libraries; its contents include "an Epitome of Current Medical Literature," "Warning Notices," etc.; the issue to the public of the work *Secret Remedies*—which, I trust, is now on the waiting-room table of every member—might also be referred to.

I am induced to send this appeal because I am sure all is not well with the profession of medicine, and I regard its future as gloomy. Believing still in the proverb, "Heaven helps those who help themselves," I say let us make this Association the solid mass of the profession, and then we shall have irresistible weight in approaching the Legislature or other public bodies, to the advancement of our interests and the defence of our rights. Once more, spade work! Do it now!—I am, etc.,

November 30th. F.R.C.S.

PRESCRIBER AND DISPENSER.

SIR,—Although the strange resolution passed on November 2nd, at the meeting of the Chelsea Division, concerning editorial articles in the JOURNAL is to come before the Representative Meeting, and will, no doubt, be discussed there, it seems to me a matter that merits a little wider discussion by individual members of the Association.

In moving his resolution Dr. Williams is reported (SUPPLEMENT, November 20th, p. 325) to have "called attention to instances in which editorial articles and comments in the JOURNAL had been inimical to the interests of the majority of the profession." Having made this assertion, Dr. Williams instanced one article, which, he said, "disapproved of medical men dispensing their own medicine," and expressed his belief that this view was not shared by the majority of the Association.

Whether or not Dr. Williams is right in holding this belief is a matter which could only be finally settled by taking a plebiscite of the profession. But the only recent article at all answering his description is one entitled "Prescriber and Dispenser," on p. 488 of the issue of August 21st. I find that this is primarily an article dealing with a paper read at a meeting of the Pharmaceutical Society by Mr. Donald McEwan, and is largely a reply to certain friendly strictures made on the profession by that gentleman. The writer, however, does begin by expressing a belief totally opposed to that of Dr. Williams. "If the members of the profession were polled," he says, "we have little doubt that a large majority would be in favour of release from the troublesome burden and the inevitable commercialism of dispensing." Lower down some of the evils of dispensing are pointed out; the fact that medical men are driven into the position of accepting these evils is lamented, and combination is suggested as the only remedy. There is not a word of condemnation of those medical men who do dispense. Curiously enough the correspondence column of the next issue contains two letters strongly endorsing the views expressed in the article, and one of your correspondents, Dr. B. G. Morison, even remarks that "there are not many medical men who will not endorse your statements." My own experience of over thirteen years' practice in Lancashire convinces me that a large majority of my colleagues in the North of England would be thankful to escape the drudgery of dispensing, and from what to many seems the loss of professional status involved in it, if only some system could be evolved which would not involve too heavy a pecuniary loss.—I am, etc.,

Leigh, Nov. 27th. FRED. E. WYNNE, M.B.

PROPOSED LEGISLATION ON ANAESTHETICS.

SIR,—The leading article on the above subject in your issue of December 4th says: "The General Medical Council, therefore, does not think fresh legislation on the administration of anaesthetics desirable." Surely this is an error, for "Conclusion 4" of the report of the Anaesthetics Committee, which report was adopted by the Council, distinctly states that it is desirable in the public interest that the administration of anaesthetics should be restricted by law. This pronouncement of the Council, which is the most important they have yet made on the subject, is one for which we have anxiously been waiting, and one which will be received with satisfaction not only by the whole profession but by the public. Though there are many who hoped that the Council might have proposed reforms of a somewhat wider scope, the medical

profession will, I think, agree that should their present proposals meet with the approval of the Departmental Committee now sitting, and should an Anaesthetics Act embodying them be passed, a very great step will have been achieved, and one which will have the effect of reducing the risks of anaesthetics and of restoring public confidence. In order that the views of the General Medical Council upon this important matter may thoroughly be grasped it is necessary to read the report of their Anaesthetics Committee as a whole,[1] and if this be done your readers will, I think, obtain a different impression to that conveyed by the leading article to which I have referred.—I am, etc.,

London, W., Dec. 6th. FREDERIC HEWITT.

AMBULANCE LECTURES AND VOLUNTARY AID DETACHMENTS.

SIR,—The letter of S. Hillier and the editorial remarks on scouting quinsey in your last issue are not entirely unconnected. To take the ambulance lectures first: I think your correspondent is perfectly right in his objection to giving courses of ambulance lectures for the War Office free of charge. It is not uncommon to find people ready to show their charity or their patriotism at some one else's expense. As one of the earliest lecturers on first aid and nursing for the St. John Ambulance Association, I always, on principle, accepted one guinea a lecture, which, I may add, was always cheerfully paid. Our charity may be bestowed in other ways more in accordance with our inclinations and our knowledge of where it is needed most.

As regards the Boy Scouts, it must be regretted that such mischievous directions should have been mixed up with their otherwise excellent rules, and I feel sure that Sir Robert Baden-Powell would be the first to erase them, his one idea being to raise up among the young people of this country a body at once disciplined, honourable, useful, and patriotic. No nobler or more practical scheme has ever been inaugurated for bringing back the British people to a true sense of citizenship and nationhood; but is not the intrusion of absurd and useless rules of treatment common to the teaching of first aid and nursing lectures all over the country? Is it realized that nine out of ten of those who attend these lectures approach the subject for the first time, and are totally ignorant of Latin? Why, then, burthen their puzzled brains with scientific terms which either get jumbled up in their memories or, happily, forgotten? A thorough knowledge of a few simple and practical expedients would be of infinitely more value, and, I may add, more available in case of emergency, if not mixed up with the detail which is now too often demanded (and therefore produced to order) by the examiners in these subjects.

To protect a broken bone one does not require a full knowledge of the skeleton; to stop serious bleeding one does not need to know the names of all the main arteries in the body, or of the valves of the heart. A little knowledge—or, as I would rather interpret it, imperfect knowledge—of many things is a dangerous thing, while a thorough and practical acquaintance with a few simple expedients may save many lives. Words, and especially scientific terms, slip easily out of the memory of the ordinary man, while a practical illustration of what can be done in drowning, serious bleeding from artery or vein, choking, fits of various kinds, broken bone, and many other emergencies which common sense will suggest, live in the memory, and are immediately available, when needed, without the assistance of a notebook.—I am, etc.,

December 4th. M.B.OXON.

SIR,—The original letter of November 6th by the Representative of the Cleveland Division on the above subject has been so far discussed to my satisfaction in the columns of November 13th, 27th, and December 4th as to seem to require no answer to the letter of the "R.A.M.C. Major (Ret.)" in the issue of December 4th, except to say that civil and military manners differ.—I am, etc.,

December 4th. THE VICE-PRESIDENT, THE WINCHESTER DIVISION.

[1] See SUPPLEMENT, December 4th, 1909, p. 360.

A PORTABLE OXYGEN GENERATOR AND INHALER.

SIR,—In producing a portable and practical oxygen generator Dr. Leonard Hill has conferred a great boon upon anaesthetists, and I for one hasten to thank him for it.

In the theatres of hospitals and the best class nursing homes oxygen in cylinders is, of course, always provided ready for immediate use, but in many nursing homes, and in all private houses, it is conspicuous by its absence. I have for years at odd times pondered over the possibility of generating it for myself, but have had neither the time nor scientific knowledge necessary to think out a practical scheme. For a time I carried oxygen in a gas cylinder, but found this too heavy for convenience. Now, in Dr. L. Hill's apparatus comes the very thing I have wanted, and, curiously, this use for it does not seem to have occurred to him.

Dr. Hill will confer a further favour if he can assure us that the heat developed will not be a source of danger in the presence of ether vapour, as an anaesthetist might well be too busily engaged to superintend the cooling of the bag. I presume I may take it for granted that the apparatus could be fitted to an ordinary face-piece for administration to an unconscious patient.—I am, etc.,

London, W., Nov. 25th. G. A. H. BARTON.

INTERMITTENT CLOSING OF CEREBRAL ARTERIES.

SIR,—The recent discussion on the subject of temporary contraction of cerebral arteries interested me considerably as it seemed to account for some hitherto very obscure cases.

I was reminded of it a few days ago by a visit from a patient I had not seen for a couple of years. On her first visit in 1907, she stated that about a fortnight previously she had been suddenly seized with clonic spasm on the right side with "numbness." The mouth on that occasion only was drawn to one side. This attack and several subsequent ones passed off quickly and she felt no ill effects. Up to the time I saw her she had had several similar seizures. Careful examination failed to discover any cause. On her recent visit she stated that these attacks had continued during the two years, but were becoming more frequent and were always immediately preceded by profuse sweating for a few moments. Now in this case there is, first, relaxation of the systemic arterioles, and immediately after, as I think, contraction of the cerebral arterioles on the left side. On questioning her I found the sense of heat and sweating was chiefly felt to the right side.

I have seen, as I am sure most other practitioners have, these transient cases of hemiplegia where no cause could be traced unless that vague term "neurasthenia" can by called one. The temporary character of these attacks, and the fact that they leave no permanent traces, seems to me to exclude any organic cerebral lesion, and, so far as I can judge, contraction of the cerebral vessels is a reasonable hypothesis. Why it should be localized is probably as inexplicable as "dead fingers."—I am, etc.,

Cootehill, co. Cavan, Nov. 29th. T. H. MOORHEAD.

THE ORIGIN OF CANCER.

SIR,—Dr. Newbigging's letter (BRITISH MEDICAL JOURNAL, November 13th, p. 1441) is entirely in accordance with my theory, although he says that his views are diametrically opposed to mine. It is not acids generally that I blame, but sulphurous and sulphuric acids in particular. If I am right, the beneficial effects which Dr. Newbigging claims for acetic acid are quite intelligible, since the two are in this respect antagonistic. It is, indeed, to me rather a disquieting fact that SO_2 is now introduced into nearly all wines and preserved fruits simply because it has been found to counteract acetic acid fermentation.

When I am writing, will you allow me to quote a passage from De Bary, which I think may throw an entirely new light on the parasitic theory of cancer, and clear up what are, after all, the only objections to it—namely, that so few actual parasites have been found, that the cancer cell seems itself to be the parasite, and that the heterotype mitosis, which is apparently characteristic of reproductive and germ cells, is also a feature in the multiplication of the

cells of malignant tumours. The Saprolegniae, one of the groups of fungi which live on dead organic matter, are themselves attacked by a parasite known as *Rozella*, the swarm spores of which bore their way into the growing tubes of the fungus. When a spore has effected an entrance in this way it remains visible for a short time in the protoplasm of the tube, and then can no longer be distinguished. It loses its individuality and is lost in the protoplasm of the tube, which at once swells out and divides by transverse walls formed in the same way as in the delimitation of sporangia in normal Saprolegniae. On these surprising effects De Bary makes the following comment:

> If no later investigations bring to light facts at variance with those here given, and this, according to Fischer's statements, is not probable, but cannot, however, be considered to be impossible, the above case is an instance of a parasite surrendering its individuality, so far as that can be recognized morphologically, after its entrance into the host; it becomes changed into a part of its host, and *the two can no longer be distinguished from one another by our present means of investigation. The parasite also communicates new properties to the host*, which is some two hundred times its size, and through them *the host develops into its own parasite*. This transmutation of the host by the parasitic spore which has coalesced with it, though peculiar, is yet *analogous with the fertilizing effect of the spermatozoid on the oosphere* of organisms which in the sexual sense are highly differentiated from one another.—*Comparative Morphology and Biology of the Fungi, Mycetozoa, and Bacteria*, page 395.

The italics are mine, but I think that no one familiar with the cytology of cancer who carefully weighs the italicized words can fail to be impressed with their importance. Here we have a parasite so behaving towards its host that its protoplasm is lost in that of its host, and that the cells of the host become its own parasite. Could anything more closely resemble the conditions of the cancer cell?

It must also be borne in mind that this parasite *Rozella* is closely akin to *Plasmodiophora brassicae*, which causes tumours in plants, and to another known as *Woronina*, the morphology and course of development of all of which are so strange that De Bary himself hesitates whether to class them among the myxomycetes as plants or among the mycetozoa or protozoa as animals. We have also the striking fact that Wade and Ford Robertson detected in carcinomatous tumours organisms morphologically identical with *Plasmodiophora brassicae*, and, as pointed out in my *Theory*, that organism has been proved by the Board of Agriculture to be fostered and encouraged by sulphuric acid manures.

In my little book I have given several instances of what seemed to me a close connexion between sulphurous and sulphuric acids and cancer. Since issuing it I have come across another which is certainly curious. In the new edition of Bryant and Buck's *Surgery* it is stated that scrotal cancer nowadays is found among workers in guano as well as among chimney-sweeps and coal-tar workers. This seems inexplicable until one realizes that the richest deposits of guanos have been largely worked out, and that the stores now largely drawn upon are in many cases compact and rocky in texture, and require now to be disintegrated and treated with sulphuric acid (*Encyclopaedia of Agriculture*, vol. ii, p. 287).

I can only say that if these acids have no connexion with cancer I have stumbled across an extraordinary series of coincidences.

Although I at one time accepted the germ-cell theory, some years of work on the deductive method have convinced me that cancer is due to a parasite of the nature to which I have referred. If this be so, it will certainly ultimately be amenable to treatment. Even as things are, rodent ulcer is curable by the ultra-violet rays. This in itself is strongly suggestive, since amoeboid protozoa react vigorously in red light, whose protoplasmic movements almost cease in rays from the violet end of the spectrum.—I am, etc,

Edinburgh, Nov. 29th. C. E. GREEN.

TUBERCULOSIS IN CHILDREN AND SCHOOL INSPECTION.

SIR,—I read with pleasure the report on the Tuberculosis Congress at Oxford, published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of November 20th. I was much interested in the papers which dealt with tuberculosis in children with special reference to school inspection. In this connexion I should like to make some remarks regarding pulmonary tuberculosis and the medical inspection of school children.

In the first place, it may be taken as undoubtedly true that school life plays a part in the increased incidence of tuberculosis in children. In the second place, it is now more generally recognized that chronic tuberculosis of the lungs is more common in children than was formerly supposed. In proof of this witness the *post-mortem* records of children who have died from other causes, but in whom there is evidence of old-standing or healed tuberculous lesions. In view of the fact that acute tuberculosis of the lungs is a dangerous and fatal disease in children, it stands to reason that healed lesions have in all probability resulted from chronic or subacute conditions.

It is fully believed in certain quarters that the medical inspection of school children will afford an excellent means for the early recognition of chronic pulmonary tuberculosis, but I venture to doubt if this new development will at present fulfil anticipations. In my opinion, chronic pulmonary phthisis in children is one of the most difficult diseases to diagnose, and I fail to see how, in the course of a few minutes' examination, it is possible to come to a definite diagnosis. The conflicting evidence in the reports of medical inspectors lends some support to this conclusion. We find that in one district the incidence is stated as 15.4 per cent, while in other districts the figures given are less than 1 per cent. No doubt the incidence will vary in different localities, but for the present the statistics submitted by medical inspectors are not comparable. There is no standard on which the diagnosis can be based, and the figures merely reflect the personal opinions of the medical officers of the respective districts. Until some definite standard is adopted, and until medical inspectors come into line, it is not possible for any reliable and comparable figures to be obtained.

It may be pointed out that there is no one symptom which is pathognomonic, and that there is no single physical sign on which one can definitely base the diagnosis. Even Grancher's phenomenon, which is essentially asymmetry of inspiration, is not infallible, and cannot be considered in any sense as applicable to every case, nor do I think that the association of dullness on percussion, bronchial breathing, and intermittent crepitations is diagnostic of pulmonary phthisis in the child. It is only after weeks, perhaps months, of careful observation that an approximation to the truth can be arrived at.

I would suggest that all cases in which suspicious symptoms are evident or suspicious physical signs detected should be referred to the family practitioner for further examination and observation. Many of these children, who can best be described as "physiologically delicate," are prone to, and may under adverse circumstances develop, pulmonary tuberculosis, and I believe that if we had the means of directly inspecting the lungs, we should find in some a chronic tuberculous focus. My contention is that the medical inspector with the ordinary means of diagnosis at his disposal, based on symptoms and physical signs, cannot with certainty diagnose chronic tuberculosis of the lungs in every case in which it exists. If in the future school clinics are established, and if certain diagnostic aids can then be made use of, more conclusive evidence may be obtained. At the present time I maintain that the means of diagnosis are inadequate, and, further, that a child will be included among, or excluded from, the tuberculous according to the standard adopted by the medical examiner.

These children, who are the subjects of chronic pulmonary tuberculosis, or who are merely "physiologically delicate," are not, indeed, dangerous to others, but they are physically defective, and are, therefore, not able to compete on equal terms with their more fortunate companions who are in good health. They require most careful medical supervision, and this supervision can be best carried out at the hands of the family medical attendant, or, in necessary cases, by the medical staff of the local hospital. The benefits accruing to medical inspection will fall short of expectations unless there be pleasant relations between the medical inspectors and the practitioners in the district; and in the problem of the future of the tuberculous child, or the child who is

supposed to be phthisical, this cordial co-operation is of the utmost importance.—I am, etc.,

Edinburgh, Nov. 30th. J. ALLAN, M.D., D.P.H.

COLOUR BLINDNESS.

SIR,—With reference to the correspondence that has taken place on colour blindness, it seems to me that the crux of the whole matter is this: That it is not generally recognized that there is such a thing as being colour blind at a distance only.

I know a family of seven—four women, three men. The colour vision of the women is normal. The three men are what I call "distant colour blind for red"—that is, they are unable to distinguish red from green at a distance, but have no difficulty in doing so near to. One of them had to leave the merchant service because of it, although he had passed the examination in colours; and it was not till some time afterwards that he accidentally discovered that he was colour blind at a distance—I am, etc.,

Upton-on-Severn, Nov. 23th. C. P. BURD.

INHERITANCE IN PHTHISIS AND INSANITY.

SIR,—In your sympathetic article of November 20th on my memoir dealing with the inheritance of phthisis you raise a question of great interest. In the memoir I divided my sample population into two groups: (1) A group consisting of well-to-do persons and prosperous poor individuals; (2) a group belonging to the very poor and destitute classes. The statistical reduction of the data thus distributed in a four-fold table gave a correlation coefficient of 0·02, which led to my conclusion that the association between poverty and all the environmental conditions it involves and phthisis is insignificant—at any rate for the population covered by the criminal classes. Now you very justly observe that the particular grouping of my data may have obscured one very important environmental effect of poverty upon phthisis—the effect of overcrowding. You suggest that if instead of combining the well-to-do and prosperous poor into one class I had drawn the line of cleavage between the well-to-do and all the poor grouped together, some effect upon the occurrence of phthisis due to overcrowding might possibly have emerged. Now this suggestion is so very feasible that, while regretting I did not deal with it in my memoir, I should like to publish the result of this new arrangement of the data without further delay. The data, distributed in accordance with your suggestion, are given in the following table:

Class Correlation in Phthisis: Incomplete Family Histories.

Class.	Tuberculous.	Not Tuberculous.	Total.
Overcrowded poor	192	4,543	4,735
Well-to-do	43	628	671
Total	235	5,171	5,406

Which gives a coefficient of —0.12 as the intensity of association between overcrowding and phthisis. That is to say, upon the evidence of my data the association between overcrowding and phthisis is on the side of immunity from that disease. However, in view of the large probable error due to random sampling with so few data, and of the fact that the family histories of the well-to-do individuals are more complete—their average age being higher—I would not lay much stress upon the significance of this correlation. But, whether significant or not, I do not see that this correlation is necessarily opposed to Dr. Newsholme's view that overcrowding has an important bearing on the prevalence of phthisis. Within one broad class, such as the overcrowded poor, there may be many gradations in the prevalence of phthisis, and these gradations may be associated with varying densities of population. Such intra-class differences, if they exist, would of course not be revealed by my data.

Nor do I think that, if existent, these intra-class differences would essentially contradict the inter-class conclusion my data do reveal, which is that, between the two broad classes compared, the badly-housed poor are, if anything, more immune to phthisis than the well-to-do who are healthily housed. Now, the only reasonable interpretation of an association between poverty and immunity from an infectious disease is that hygienic conditions of life favour the survival of the physically unfit. Overcrowding, while it leads to an increased incidence of phthisis amongst individuals with a given inherited grade of diathesis, leads also to a higher mortality amongst such individuals. Fewer of these individuals becoming parents, the average grade of diathesis transmitted to the next generation is proportionally lowered. That is to say—amongst the poor—increased liability to infection by phthisis is counteracted, perhaps more than counteracted, by a reduced inherited tendency to be infected.—I am, etc.,

CHARLES GORING.

Biometric Laboratory, University College, London, W.C., Dec. 3rd.

SAMPLE TESTIMONIALS.

SIR,—The question of the origin of testimonials from medical men and nurses, which are so largely used to capture the public eye by vendors of quack medicines and proprietary articles, has often excited my curiosity, and I have often been on the point of accepting the invitation so commonly given to call and inspect the originals.

An advertisement which appeared in the *Nursing Mirror* of November 27th, however, sheds a considerable amount of light on the manner in which these testimonials are obtained, at least from nurses.

The advertisement relates to a nurses' competition promoted by the proprietors of "Oxo," offering £50 in prizes to nurses for the best testimonials extolling the virtues of "Oxo." Samples of testimonials are given, presumably for imitation. These, of course, contain the usual stories of patient at last ebb, given up by the doctors, etc. "Oxo" administered, and, hey presto! marvellous recovery.

By the majority of nurses this, I have no doubt, will be treated with the same contempt as a similar competition for doctors would be treated, but I need scarcely point out the insidious character of the appeal to those nurses whose standard of ethics is not high, or whose discretion is not great.

It would be well, therefore, for doctors, and particularly heads of institutions, to remember the existence of this competition, for to be forewarned is to be forearmed.—I am, etc.,

Birmingham, Dec. 8th. M.D., D.P.H.

THE PROFESSION AND THE STATE.

SIR,—I think that the heading should be "The State and the Profession," as the State has so much to say, and the profession so little. The State, we know, has no conscience, and I think that we should place ourselves in the same happy condition. The State laments over its crippled and abnormally developed offspring, and appoints medical men to lay bare these abnormalities, and then leaves our hospital staffs to deal with them, of course without fee or reward, and not even thanks.

Dr. Fletcher hits the right nail on the head when he points out that if our voice as a profession is to be heard we must have professional unity and adequate parliamentary representation. This we might easily obtain if we were less individually selfish, and regarded questions as affecting the profession as a whole rather than ourselves as individuals. If we were united we should have no trouble at all in getting our fees when called to help midwives.

In the treatment of school children we should say we, as members of hospital staffs, refuse to treat these children, and the Government would be compelled to formulate a scheme acceptable to the profession. All our difficulties arise from self-seeking. Shall I offend So-and-so? Will my attitude interfere with my personal prospects? Shall I be regarded as a hard-hearted doctor? Questions such as these control our attitude. Whereas the questions we should ask ourselves are these: Am I upholding the dignity and rights of my profession? Am I improving the status of my profession? Am I teaching the poor man or his guardian—the State—the duty of

thrift and the pleasure of independence? We hate parasites, and yet we are creating the most loathsome class of parasites—the human parasite.—I am, etc.,

Bedford, Nov. 30th. S. J. ROSS.

A NATURAL EXPERIMENT IN CARDIAC STRAIN.

SIR,—Others with myself may have felt some inclination to write to express dissent from the views expounded by Dr. Theodore Fisher; and I am glad that the able pen of Dr. Clive Riviere has written nearly all that I wished to write. As one whose duty it is to demonstrate the methods of percussion to students, I hold strongly to the opinion that it is possible to map out the deep dullness in such a way that one gains a fair judgment as to the size and shape of the heart and of its several cavities: and that this estimate is with very little practice remarkably correct from an anatomical point of view, even when the attempt is made by a comparatively new student who has had but little instruction as to the methods of procedure.

With regard to deep cardiac dullness in children (and I think I am fortified by Dr. Clive Riviere's opinion) in spite of the constant movements of the heart, the mean area of deep dullness may be ascertained as well for children as for adults. Errors, if any, owing to the movements of the heart, should be surely less in children than in adults, as the heart in them is relatively larger. It is a little regrettable that most of the textbooks are not sufficiently explicit about the extent of the deep dullness both in adults and children.

I have noticed that not a few percussors fail entirely to map out the outlines of the heart to the right of the sternum. Sometimes I notice the result shows a confusion between the right border of the superficial dullness and the right border of the deep dullness. It will be within the experience of many that anyone who can find the limits of the healthy dullness perceives very readily, for instance, the change in the deep dullness to the left of the sternum in a case of *unsuspected* dextrocardia.

I am accustomed to teach students to map out and to measure the deep cardiac dullness, to attach great importance to its shape, and to endeavour to make a diagnosis therefrom, this diagnosis being made before they appeal to what is usually the final arbiter—the sounds.

I think that Dr. Clive Riviere and many others will agree that it is as possible to estimate the size of an average heart, and of its several chambers, in a child or an adult, as it is to measure the size of the chest—that, indeed, the deep cardiac dullness can be mapped out *with a very near approach to anatomical accuracy.*—I am, etc., yours faithfully,

Cambridge, Dec. 6th. E. LLOYD JONES.

NURSES' REGISTRATION.

SIR,—With reference to the article on Nurses' Registration on page 1632, Sir William Macewen is referred to as voicing the views of Scotland on this matter. It would be interesting were Sir William or the writer of the article to state by what authority Sir William speaks for Scotland in this matter. I should also like to ask how many matrons of large general hospitals in Scotland belong to his association.

I hope that some of these matrons, who are better qualified than he is, surely, to speak of the nurses of Scotland, will explain how far the views in your article really express the views of Scottish nurses.—I am, etc.,

Edinburgh, Dec. 7th. R. MCKENZIE JOHNSTON.

The article did not profess to do more than briefly trace the origin and analyse the provisions of the two bills. It was distinctly stated that two associations existed in Scotland to promote legislation as to nurses' registration, and that Sir William Macewen was president of one of them. This statement seems logically to preclude the assumption that we supposed that Sir William voiced the views of Scotland, meaning by that the whole of Scotland.

THE Queen's Hospital for Children, Hackney, has received from the Duke of Newcastle a new x-ray apparatus to replace the installation furnished by the same donor some ten years ago.

Medical News.

THE *Times* states that the Columbia University, New York, will receive a sum, estimated at 300,000 dols., for the investigation of cancer, under the will of the late Mr. George Crocker, the son of a Californian financier. Mr. Crocker and his wife both died of cancer.

THE Army Council has approved of the appointments of the undermentioned gentlemen as members of the Army Medical Advisory Board being renewed for a period of three years: Dr. J. Rose Bradford, F.R.S., Sir C. Cameron, Kt., C.B., Dr. L. C. Parkes, Dr. M. S. Pembrey, Sir F. Treves, Bt., G.C.V.O., C.B.

THE lecture on "The Prevention of Tuberculosis: the Larger Outlook," will be given by Dr. R. W. Philip, of Edinburgh, at the Municipal Buildings, Tottenham, N., on Monday, December 13th, and not December 15th as previously announced. Admission will be by tickets, which can be obtained from the Medical Officer of Health, Tottenham.

AMONG the course of lectures to be given at the Royal Institution before Easter is a course of six by Dr. F. W. Mott, F.R.S., Fullerian Professor of Physiology, on the emotions and their expression, and three by Professor Silvanus P. Thompson on illumination, natural and artificial. The Friday evening meetings will commence on January 21st, when Professor Sir James Dewar will deliver a discourse on light reactions at low temperatures.

THE exhibition organized by the National Association for the Prevention of Consumption, which proved so successful in Whitechapel some months ago, is now at Paddington for a short time. It will be displayed in the Congregational Hall until December 16th, from 12 to 9.30 p.m., and was opened by H.R.H. Princess Marie Louise of Schleswig-Holstein on December 8th, the Princess being supported by the Countess of Aberdeen, the Mayor of Paddington, and others. The object of the exhibition is to instruct the people—and especially the poorer classes—in the cause, mode of propagation, possibility of prevention and cure of consumption, with a view of bringing home to their minds the extent of the loss occasioned by the disease and the possibilities of diminishing this. On each afternoon and evening there will be given popular lectures bearing on the subject of tuberculosis and its prevention, and voluntary helpers will be on duty in the exhibition to explain to the visitors the meaning of the exhibits. Admission is free.

ON December 8th the Battersea Borough Council spent much time in considering a recommendation from its Highways Committee "That the solicitor be instructed to negotiate for the removal of the Brown Dog Memorial and for its return to the donors." A deputation of Progressive ex-councillors and of antivivisectionists attended and prayed that the memorial should not be removed. They went so far as to intimate that they would agree to an alteration of the inscription, but would not undertake to consent to such an alteration as would satisfy University College. The plea for the retention of the memorial was based partly on its alleged "educational value" and partly on the circumstance that certain of the people of Battersea looked upon it as their own and had given the council no "mandate" to interfere with it. There was a strong disposition on the part of councillors to accept the suggestion that the inscription should be altered, and this in spite of the fact that Mr. Astill, the leader of the Reform party, called attention to the statement of the Commissioner of Police that the memorial cost £700 a year to protect. Such a memorial, said Mr. Astill, was a nuisance, and ought to be removed. Dr. McManus moved that the recommendation of the committee should be referred back, with a view to an arrangement being made whereby the offensive inscription might be removed and a truthful one put in its place. This was seconded by Dr. Richards. Dr. McManus said he objected only to the inscription. The motives of those with whom it originated were beneath the contempt of the profession. The council adopted his proposal.

The Services.

TERRITORIAL FORCE.

S.—A medical man aged 39 is not too old to become a medical officer of the Territorial Force. Application should be made to the A.M.O. of the Division he wishes to serve in.

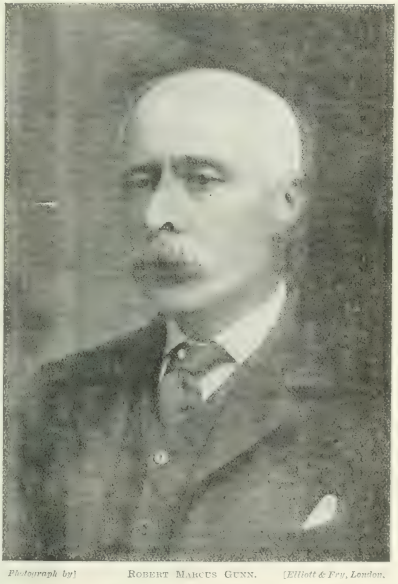
Obituary.

ROBERT MARCUS GUNN, M.A., M.B.EDIN., F.R.C.S.ENG.,

SENIOR SURGEON, ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS).

ROBERT MARCUS GUNN, whose death we had with the deepest regret to announce last week, was the youngest and last survivor of two sons and two daughters: he was born of an old Norse stock at Dunnet, Sutherlandshire, in 1850, and died in his 60th year on November 29th, after a painful and distressing illness of many months' duration. He leaves a widow and two daughters. He had influenza several times, and it is doubtful if he ever recovered his full vigour after the first attack. He was educated as a boy at the late Mr. Thomas Fraser's school at Golspie, and afterwards at St. Andrews and Edinburgh University, where he graduated with distinction, M.A. (1871) and M.B. and C.M. (1873). Amongst his teachers were Syme and Lister, and on the ophthalmic side Walker and Argyll Robertson. He seems to have taught himself the "direct" method of ophthalmoscopic examination at this period with a De Wecker's ophthalmoscope.

He went to the Moorfields Hospital in 1873, and attended especially Mr. Couper's practice. In 1874 he worked at the comparative anatomy of the eye under Professor Schäfer at University College, and in the summer both of that year and of 1875 took vacation charge of the Perth District Asylum, Murthly, one of his objects being to examine the fundus oculi in a large number of lunatics with reference to Clifford Allbutt's then recent work. Gunn found his lunatics as free from eye changes and defects as any similar sample of normal persons. He liked the asylum work, and got on well with the inmates, having no fear, and often going amongst them alone as if they were ordinary people; only once was he set upon, by a melancholic old woman who resented being spoken to, and, without warning, attacked him, but was promptly pulled off by another inmate who came to his rescue.



Photograph by] ROBERT MARCUS GUNN. *[Elliott & Fry, London.*

From December, 1874, to June, 1875, he studied under Jaeger at Vienna. He was much attracted by Jaeger's personality; he appears to have been a favourite pupil, and had a great admiration for his teacher. Jaeger insisted on all members of his class using his own form of ophthalmoscope, an improved model of the original Helmholtz. On returning to London Gunn again worked under Mr. Couper at Moorfields until August, 1876, when he was appointed Junior House-Surgeon, becoming Senior in December, and retaining that office for two years (November, 1879). He was an extremely efficient House-Surgeon, and several marked improvements in the nursing, in-patient note-taking, care of instruments, and results of operations for cataract, during his term were in part due to his initiative. He was, like Mr. Couper, a strong believer in Listerism.

In December, 1879, he started on a voyage to Australia, choosing that country because he wanted specimens of eyes from some of its peculiar fauna. His work on the comparative anatomy of the eye, which had already attracted Bowman's notice, was published in part in the *Journal of Anatomy and Physiology* for 1877 and 1884 and elsewhere in 1888, and he also assisted in working up the zoological material from the *Challenger* expedition; but his Arris and Gale Lectures at the Royal College of Surgeons were never published.

He took the diploma of the F.R.C.S. in 1882, and was elected Assistant Surgeon to the Moorfields Hospital in August, 1883, and Surgeon in November, 1888. About 1883 he was appointed Ophthalmic Surgeon to the Hospital for Sick Children, and in 1886 Ophthalmic Surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square; some years later he was for a time Assistant Ophthalmic Surgeon to University College Hospital—the only hospital with a medical school to which he was ever attached. There had been other less important hospital staff appointments in the earlier years.

In 1893 he acted as Vice-President of the Section of Ophthalmology of the British Medical Association when it met in Edinburgh. In 1906 he presided over the same Section when it met in Toronto, and later delivered before the American Academy of Ophthalmology an address on certain affections of the optic nerve, in which he argued that the initial œdema of the disc in papillitis from cerebral tumour, the origin of which has been so much disputed, was due to pressure by the fluid of the distended intersheath space upon the small veins of the pial sheath which are the principal channels for the escape of blood from the papilla. In 1907 he delivered an interesting address on the value of the ophthalmic symptoms in general diagnosis and prognosis (BRITISH MEDICAL JOURNAL, 1907, vol. i, p. 1353), and had arranged to take part in one of the discussions at the Belfast meeting of the British Medical Association, but when the time came he was too ill to appear.

At the time of his illness Mr. Gunn was Senior Surgeon to the Moorfields Hospital, Ophthalmic Surgeon to the National Hospital for the Paralysed and Epileptic, President of the Ophthalmological Society, and a Visitor for the King's Hospital Fund. Apart from his daily hospital and private practice, Mr. Gunn's ophthalmic interests lay to a large extent in the physiology and pathology of the retina, optic nerve, and visual functions. Of his later work he would probably have liked best to be associated with his classical paper on the ophthalmoscopic evidence of retinal arterial sclerosis as a sign of similar changes in the arteries of the brain and other organs. (*Transactions of the Ophthalmological Society*, xviii, 1898.) He had also convinced himself of the bad life prospect of persons with albuminuric retinitis some time before Miley's well-known paper on this subject was undertaken (*Transactions of the Ophthalmological Society*, viii, 1888); thus, in discussing

before the Ophthalmological Society the differences between diabetic and renal retinitis he (*Transactions*, vi, p. 334, 1886) had used these words: "In my experience it is most exceptional to see an old case of albuminuric retinitis; this latter affection seems to occur at a late stage of the general disease, so that death supervenes before the retinal changes have existed very long." He first learnt this by discovering that patients with this retinitis who attended for demonstration usually died before the time came round for the following year's course.

In speaking of unpublished work, it may be mentioned that Gunn was one of the first, if not the first, to insist on the importance of studying fine changes in the cornea and iris by the aid of the strongest available simple microscope, and that he has the credit of causing the introduction at Moorfields of the now commonly used high pocket magnifier.

When in Vienna he had been much impressed by the systematic teaching of ophthalmology, and soon after his attainment of staff rank at Moorfields his efforts led to the establishment of regular courses of instruction in ophthalmoscopy. Other courses have since been added, and the present flourishing School of Ophthalmology at the hospital is the result.

He was an operator of no mean skill. He invariably extracted cataracts after a preliminary iridectomy done several weeks previously, and always held that this was the safest operation. He had a high idea of the responsibility which lay upon the surgeon, and this he carried to the extent of seldom allowing any one else to perform the operations for which he himself was responsible. He was a skilful all-round ophthalmic surgeon, but it was universally felt that it was as an ophthalmoscopist he shone with the highest brilliancy.

Although not a copious writer, Mr. Gunn published a considerable number of papers and observations, besides those already mentioned. The following are the most important of them: Retinal Reflexes. Sympathetic Inflammation (*Royal London Ophthalmic Hospital Reports*, xi, 1887). Light Percipient Organs, etc. (ibid., xii). Peculiar Dots in the Retina (now generally known as "Gunn's dots") (*Transactions of the Ophthalmological Society*, iii). Amblyopia from Bisulphide of Carbon (ibid., vi). Nystagmus. Toxic Amblyopia (ibid., vii). Growth of Lens Fibres. Foveal Reflex in Myopia (ibid., viii and xv). Retinal Arterial Sclerosis (ibid., xii, xviii, and xxiv). Pemphigus of Conjunctiva (ibid., xiii, xv, xvi). (?) Haemorrhage into Optic Sheath (ibid., xvi). Retinitis Circinata (ibid., xvii). Bowman Lecture on Visual Sensations (ibid., xx). Presidential Address (ibid., xxviii). Keratitis Nodosa (ibid., xxii and xxix). Family Optic Atrophy (ibid., xxvii). Two Lectures on Congenital Malformations of the Eye (*Ophthalmic Review*, viii, 1889). Haemorrhagic Disease of Retina with Obliteration of Veins, Plate II (*Helmholtz Festschrift*, 1891).

Gunn was a very highly skilled ophthalmoscopist, his observations being seldom questioned by his colleagues, and always taken as final by his pupils. It was his conviction of the importance of cultivating the direct method that led him to take a somewhat discouraging attitude towards retinoscopy as likely to lead to neglect of the search for slight changes at the fundus.

He was endowed with marked intellectual gifts, and was an exceedingly keen and accurate observer; his mental grasp prompt, clear, and strong; his judgement careful and well balanced, whilst his matter-of-fact simplicity was qualified by a ready sense of humour. Fond of reading, and having a good memory, he had the gift of rapidly extracting and retaining what he wanted from a book: and here it is worth notice that his father and father's brothers, though occupied in farming pursuits, managed to get university education under very difficult circumstances. It is on record that these lads walked from their isolated northern home a hundred miles to Aberdeen in order to attend the university, and this not once, but every term till they had completed the courses.

Of Marcus Gunn's character we can say that he was courageous and pure in body and mind, modest to a degree, but clear and strong in his convictions, sweet of temper, and if sometimes intolerant never aggressive, ready to see the better side, and scrupulous in giving credit wherever due, but sensitive and quick to resent, without respect of persons, anything he thought an infringement of dignity. He had no desire for wealth, as such, and valued it even for what it brings less than many. His influence, alike with colleagues, students, and patients, depended on their conviction that he was true and loyal always, was never satisfied with slipshod examination or half knowledge, and although himself guileless, was no mean judge of character and motives in others.

From boyhood he was devoted to outdoor pursuits, especially shooting, botany, marine zoology and geology, and for many years past he had spent the bulk of his holidays in collecting fossils, chiefly from the Jurassic and Old Red Sandstone systems, from Scotland to Dorsetshire. He had always looked forward with great pleasure to classifying and describing the collections himself after retiring from practice; but when he knew this could not be he was much gratified to find that the Geological Department of the British Museum was desirous of acquiring a large number of his more valuable specimens, and these were actually made over during his lifetime.

His invariable considerateness for others was never seen to better advantage than in his last illness, during which he never, however physically distressed, forgot for a moment his habitual courtesy and cordiality to all around him.

One of his old colleagues writes:

By the death of R. Marcus Gunn at the comparatively early age of 59, his profession and his friends have sustained a grievous loss. To those who, like the writer,

have had the privilege of a long association with Marcus Gunn, as colleagues on the staff of the Moorfields Eye Hospital or elsewhere, his death comes as a deep and permanent sorrow.

Gunn's reputation in the ophthalmic world is so well established that any testimony thereupon would be superfluous. He was universally recognized as one of the most able and experienced of ophthalmologists, and his opinion was very highly valued by his professional brethren.

Gunn's standards in life were all high. His professional work was characterized by great accuracy and thoroughness. He was a highly skilled clinical observer, and as an ophthalmoscopist he had very few equals.

As a colleague, whether in hospital or in private work, he was almost ideal—kind, generous, and scrupulously fair. He was gifted with a judicial mind, and by reason of this, and of his rigid honesty, he made an excellent chairman of committee or other meetings. His wide knowledge of ophthalmology, added to these qualities, rendered him an admirable and successful president of societies, such as the Ophthalmological Society and the Ophthalmological Section of the British Medical Association.

Gunn was a very good teacher—clear, decisive, and not too dogmatic; he took a keen interest in teaching, more especially in teaching ophthalmoscopy. There are many old students of Moorfields Hospital who gratefully remember the instruction given to them by Gunn in the "ophthalmoscope class."

Although of a retiring disposition, Gunn was a man of strong character and decided views, and always had the courage of his opinions. By reason of his transparent honesty and singleness of purpose he gained the respect of all, even of those opposed to him in opinion or action. Those who knew him intimately recognized that his was a character to love and admire. He has left behind him many friends for whom his place can never be filled.

J. B. L.

THE death is announced at Torquay of Deputy Inspector-General THOMAS SECOMBE, M.D., one of the oldest surgeons on the retired list of the Royal Navy; he was in his 91st year. He was educated at the University of Edinburgh, and entered the Royal Navy as Surgeon, February 6th, 1845; he became Staff Surgeon, February 25th, 1853; Fleet Surgeon, October 10th, 1867; and Deputy Inspector-General on retirement, November 14th, 1860. During the Kaffir war in 1851 he was Surgeon to the native levies, and was present at most of the skirmishes, receiving a medal. In 1852 he had charge of the field hospital at the capture of Rangoon, and took part in many boat expeditions in its river, for which he was mentioned in dispatches and promoted, and awarded the Burmese medal.

DEPUTY SURGEON-GENERAL JAMES EDWARD SCOTT, M.B., late of the Army Medical Department, died at Dublin on November 7th, aged 84. He entered the Army Medical Service as an Assistant Surgeon, June 11th, 1847; became Surgeon, February 9th, 1855; Surgeon-Major, June 15th, 1867; and Honorary Deputy Surgeon-General, on retirement, December 6th, 1873. He served with the Rifle Brigade in the Kaffir war of 1852-3, including the expedition beyond the Kei in August, 1852, and the final clearing of the Waterkloof, receiving the medal. He embarked with the Rifle Brigade and served throughout the Eastern campaign of 1854-5 (from March, 1855, as Surgeon of the 41st Regiment). He was granted a medal with four clasps, the fifth class of the Order of the Medjidie, and the Turkish medal.

CHARLES ROBERT BELL KEETLEY, F.R.C.S.ENG.,

SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

IT is with sincere regret that we learn of the death of Mr. C. B. Keetley, for many years Senior Surgeon to the West London Hospital, who died suddenly at Brighton on December 4th from heart failure, aged 61.

Mr. Keetley was born at Grimsby on September 13th, 1848; he was the son of Mr. Robert Keetley, shipbuilder of that town, and was educated at Browne's School, Grimsby; thence he proceeded to the Hull Infirmary, and afterwards entered as a student at St. Bartholomew's Hospital. He won the gold medals in anatomy and materia medica at the University of London, and after receiving the diplomas of M.R.C.S. and L.R.C.P. in 1873 was appointed House-Surgeon in 1875 to the Queen's Hospital, Birmingham. Subsequently he engaged for a short time in private practice at Bungay in Suffolk, and then returned to his Alma Mater, where he held for a short time the post of an Assistant Demonstrator of Anatomy, and took the diploma of F.R.C.S. (1876). Of good physique and splendid muscular development, he was during his student days a keen athlete, and was well known as a good football player, oarsman, and boxer. It is more than probable that at this period he injured his heart, for the existence of the cardiac defect to which he ultimately succumbed was known to him for many years, although his most intimate friends were unaware of it. He was one of the first to recognize the value of Lister's antiseptic methods, the practice of which he introduced at the West London Hospital. He carried out its detail with so much success that at one time some of the larger London hospitals insisted upon men, candidates for the appointment of house surgeon, visiting the West London Hospital in order to perfect themselves in the technique.



CHARLES ROBERT BELL KEETLEY.
[*Photograph by Mora, Limited, Brighton and Southsea.*]

Amongst the many appointments he held were, in addition to that of Senior Surgeon to the West London Hospital, those of Consulting Surgeon to Cray Valley Cottage Hospital, the Brentford Hospital, and the Cottage Hospital at Fleet, Hants. He was the founder of the West London Medico-Chirurgical Society and also of the Lincolnshire London Society, and had served the office of President of both. He was a Fellow of the Medical Society of London and of the Royal Society of Medicine, a corresponding member of the American Orthopaedic Society, a member of the Harveian Society, and Vice-President of the Balneological and Climatological Society. He was for many years a regular attendant at the medical societies in London, often taking part in their discussions.

He was the author of *An Index of Surgery*, which was widely read by students preparing for examination, as well as by practitioners, and of which the fourth edition appeared in 1887. He wrote also *The Students' Guide to the Medical Profession* (second edition, 1885); *Orthopaedic Surgery* (1900); and *Complicated Fractures* (1902). He was for some years co-editor of the *Annals of Surgery*. He was a voluminous writer, and contributed many valuable papers to the medical journals, chiefly upon orthopaedic, abdominal, and plastic surgery. Nothing seemed too difficult for him in general surgery, and in orthopaedic and plastic surgery he attained brilliant results. His Harveian lecture in 1904 dealt with the last-named subject. In 1907 he was appointed to deliver the Cavendish lecture, and he chose for his subject the conservative surgery of the appendix vermiformis. At the Royal Society of Medicine he read a paper upon appendicostomy, having introduced the practice of that operation to this country.

When Keetley joined the West London Hospital it was

a small place with some forty beds, and two operating afternoons a week amply sufficed. Mainly owing to Keetley's initiative, determination, and ability, the institution has grown rapidly. To mention one of his efforts on its behalf, the successful bazaar of 1896, which brought in upwards of £3,000, was organized by him. He was a most regular attendant at the meetings of the Board of Management, generally joining freely in the discussions; nor did he neglect the meetings of the Medical Council.

From the time that he was appointed Assistant Surgeon to within a week of his death Keetley may be said to have devoted the greater part of his working day to the West London Hospital, the interests of which were paramount with him. His skill and success in difficult cases often brought patients from great distances to the hospital, and his kind and sympathetic manner greatly endeared him to all.

He initiated (Dr. H. W. Chambers afterwards acting as Secretary) the Army Medical Civilian Reserve, the first unit of which went through a course at the West London Post-Graduate College. The scheme was subsequently merged in the Territorial Force; Keetley, together with Dr. Fowler, Mr. R. J. Godlee, and Sir Thomas Barlow, was appointed a Lieutenant-Colonel, available on mobilization in the Third London (General Hospital) Territorial Force.

He became a Mason in later life, having been initiated in the Rahere Lodge, and he was a joining member of the Cavendish Lodge. When present at the meetings of either he always had a hearty welcome, and often delighted the brethren with his post-prandial oratory for which he was so very popular. He was also a member of the Savage Club.

He married Anna, the daughter of the late Mr. Henry Holmes Long, H.E.I.C.S., whom he leaves, with a large circle of friends, to deplore his loss.

Mr. SWINFORD EDWARDS writes: As a personal friend and colleague of thirty years' standing, Keetley's sudden decease comes as a great blow to me, and, indeed, to all my colleagues on the staff of the West London Hospital, an institution to which he devoted the greater part of his energies. I believe that I am right in stating that Keetley sacrificed his life to what he considered his duties to that hospital. In spite of warnings by those who had attended him for a cardiac trouble in the early summer, he insisted in carrying on his work not only by day, but actually in doing his own emergency work at night, and this at the age of 61. Keetley loved the hospital, and was often known to neglect his own private interests that he might devote more time to his hospital patients.

I should say that Keetley's chief characteristic were his honesty, single-mindedness, and generosity. He was a man of great energy, dogged determination, and much resourcefulness in operations. Initiative was another of his strong points, as witness the founding by him of the West London Medical and Chirurgical Society, which is one of the largest and best attended societies in London; the Ladies' Association in connexion with the hospital; and the Lincolnshire Society, which, I believe, largely owes its being to his exertions. The same may also be said of the West London Post-graduate College, which has proved such a success.

Had it not been for the infirmity of deafness and his lack of business habits, Keetley, owing to his genius and great powers of intellect, would no doubt have risen to greater heights and to a more lucrative practice than he actually attained. He was a recognized authority on orthopaedics, and the results of many of his cases of plastic surgery were brilliant. His recent work on appendicostomy and on the preservation of the appendix have attracted much notice both in the medical and lay papers.

We of the West London shall miss him as a real friend to whom we could turn for advice and help in any difficulty, and we shall always remember him in his lighter moments for his very humorous and witty after-dinner speeches, and for his great talent as a pen-and-ink caricaturist.

Dr. NEVILLE HART (Bournemouth) writes: As one who has worked with the late Charles Keetley as his house-surgeon, I have a feeling of irreparable loss, shared, I know, by all who had any intimacy with him. There are two maxims on which he was always very insistent, which are fittingly reiterated here, in a medical journal. The first was that of the importance of concentrating oneself on the matter in hand. For instance, when operating, he was always careful that he and his house-surgeon should speak as little as possible, not only from the well worn reasons connected with sepsis, but also that his thoughts should not be diverted from the matter in hand; and he was particularly intolerant if any extraneous subject was introduced to his notice at such a time. The other was that of the importance of always exercising common sense in conjunction with one's technical knowledge. You will no doubt enumerate his professional achievements and writings. I will only refer to his advocacy of the operation of appendicostomy for many conditions for which it is not usually practised, and above all for certain cases of intractable chronic constipation. I have followed many of the cases he has reported, and, indeed, was his assistant the first time he did it for this condition, and think that this advocacy was based on a most cogent framework of facts.

We much regret to announce the death of Mr. MARK FARRANT, of Exeter, who passed away on November 29th after a long illness, aged 38. He received his medical education at the Westminster Hospital, and obtained the diploma of L.R.C.P. and M.R.C.S. in 1893. Shortly afterwards he joined his uncle in practice at St. Thomas, Exeter, where he speedily won the affection of all with whom he came in contact by his kindness, thoughtfulness, and tact. He was appointed Medical Officer of Health to the St. Thomas Rural District Council in 1896, and took the D.P.H. (R.C.P.S. Lond.) in 1901. He also held appointments under the St. Thomas Guardians and Devon County Council. He had many interests outside his profession, being a keen naturalist, Expert to the Devon Beekeepers' Association, and a well-known amateur gardener. He was an ardent politician, sometime President of the Conservative party in St. Thomas, and founder of the St. Thomas Conservative Club. In all these pursuits he engaged with that characteristic thoroughness which ensured success. It only remains for us to offer his relatives and numerous friends our heartfelt sympathy.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Pierre Merlou, Minister Plenipotentiary of France in Peru, and sometime Minister of Finance; Dr. Arturo Marini, Lecturer on Obstetrics and Gynaecology in the Medical Faculty of Genoa; Dr. S. F. Bubnoff, Professor of Hygiene in the Medical Faculty of Moscow, aged 55; Professor Antonio Ripamonti, Physician to the Ospedale Maggiore of Milan, and Lecturer on Neuropathology; Dr. Max Jordan, Extraordinary Professor of Surgery in the University of Heidelberg, aged 45; and Dr. A. W. Nalanson, Lecturer on Ophthalmology in the University of Moscow, aged 47.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examination indicated:

D.P.H., PART I.—C. V. Aserappa, M. N. Balsara, H. M. Crake J. Fortune, S. K. N. Kabrili, J. B. Mama, W. S. Stalker, L. R. Tosswill, W. F. J. Whitlock.

PART II.—J. Fortune, J. C. Keir, W. S. Stalker, L. R. Tosswill.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on November 17th.

Panel of Lecturers in Physiology.

The following were added to the panel of lecturers in physiology: Mr. W. B. Hardy, M.A., F.R.S., Professor A. F. Stanley Kent, M.A., Dr. V. H. Veley, D.Sc., M.A., F.R.S., and Professor Swale Vincent, M.D., D.Sc.

Chemistry at the Matriculation Examination.

A new syllabus in chemistry to apply in and after January, 1911, was adopted. Candidates will be required to give evidence by their answers that they have seen experiments illustrative of all the subjects included in the syllabus, and that they have themselves performed a variety of simple qualitative and quantitative experiments. The questions set will have regard to the conditions under which the subject may best be experimentally taught in schools.

King's College and King's College Medical School.

On October 18th His Majesty in Council approved the statutes and regulations of the King's College Transfer Commissioners.

The Medical School of King's College Hospital, which was by the King's College (London) Transfer Act separated from King's College, has been admitted as an independent body to the status of a school of the university in the Faculty of Medicine.

Dr. David Waterston has been appointed Professor of Anatomy in succession to Professor Peter Thompson. Dr. G. C. Low has been elected Lecturer in Parasitology and Medical Entomology. Professor W. D. Halliburton has been elected Dean of the Faculty of Science, Medical Division.

Physiological Laboratory.

Sir Lauder Brunton, Bart., M.D., F.R.S., has been elected Chairman of the Physiological Laboratory Committee.

Appointment of Representatives.

Professor H. R. Kenwood and Professor W. J. R. Simpson, C.M.G., have been appointed representatives of the university at the third International Congress for School Hygiene, to be held in Paris in August, 1910. Dr. J. L. Sawers has been appointed a member of the Margate Local Higher Education Subcommittee, and Dr. F. R. Walters a member of the Governing Body of the Farnham Girls' Grammar School.

UNIVERSITY OF DURHAM.

College of Medicine Representatives on Senate.

AT a meeting of the Council on December 1st Professor Sir George Hare Philipson, M.D., the President of the College, and Mr. John Ernest Gibson, M.A., were unanimously elected as the two representatives of the Council of the College to act on the Senate as constituted under the University of Durham Act, 1908.

At a subsequent meeting of the Academic Board of the college Dr. David Drummond and Professor Robert Howden were unanimously elected as the two representatives of that Board on the Senate.

UNIVERSITY OF LIVERPOOL.

New Lectureships.

THREE new lectureships have been instituted by the Council on the recommendation of the Senate and of the Faculty of Medicine:

1. A lectureship in orthopaedic surgery, to which Mr. Robert Jones, Ch.M.Liv., F.R.C.S.Edin., was appointed.
2. A lectureship in physiology, to which the present Assistant Lecturer and Demonstrator, Dr. H. E. Roaf, was appointed.
3. A lectureship in pharmacology, to which Mr. Owen T. Williams, M.B.Lond., M.R.C.P., was appointed.

The lecturer in orthopaedics will deliver a course of lecture demonstrations during the summer term which will be open to graduates and undergraduates alike.

The lecturer in physiology will take special charge of the chemical physiology department.

The lecturer in pharmacology was temporary lecturer in the subject during the last two sessions: he will supervise pharmacological research, and will hold a class in practical pharmacology, which is in the third year of the curriculum for the degree.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

The Weber-Parkes Prize and Medals.

THE next award under this foundation will be made in 1912, and the adjudicators have selected as the subject of the essay for that occasion, "The influence of mixed and secondary infections upon pulmonary tuberculosis in man, and the measures, preventive and curative, for dealing with them."

All essays, together with any preparations made in illustration of them, must be transmitted to the Registrar of the College during the last week of May, 1912, in accordance with the regulations relating thereto, copies of which will be forwarded from the college on application. The award will be made at some time previous to October 18th in that year, on which day the prize and medals will be presented to the winners.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The Fellowship.

IN recording the new regulations for admission to the Fellowship at page 1665 of the issue for December 4th, the word "physiology" was misprinted for pathology in respect of the final examination. The subjects of that examination are surgery, including surgical anatomy, and pathology. It may be added that in future no special examination will be granted in any circumstances, and that all applications for admission to either the primary or final examination must be lodged, together with certificates and receipts for fees, at least seven days before the preappointed date of examination. It is intended that examinations shall be held three times yearly, the commencing dates of the primary examination being the first Monday in March, the third Monday in July, and the third Monday in November. The final examination will commence on the following Monday in each case.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Lectures on the Evolution of the Brain.

THREE lectures on Some Problems Relating to the Evolution of Brain will be delivered on Monday, Wednesday, and Friday, December 13th, 15th, and 17th, at 5 o'clock each day, by Professor Grafton Elliot Smith, F.R.S., Arris and Gale Lecturer. The first lecture, which will be mainly historical, will deal with the foundations of the subject of these lectures laid in the museum by its conservators: the great work of Richard Owen on the structure of the brain in the marsupialia; the destructive criticism of his successor in the conservatorship and its influence in retarding the growth of a true knowledge of cerebral morphology; the influence of Huxley and the effects of the controversy aroused by the publication of Darwin's *Origin of Species*. The fundamental importance of the correct interpretation of the conditions found in the marsupialia and monotremata demonstrated by Osborn, on Flower's suggestion, in his application of Flower's teaching to the vertebrata in general: the recent rehabilitation of Owen's work leading to the reversal of Osborn's generalization is the foundation upon which the true story of the evolution of the cerebrum is being built up. In the second lecture, the subject of which is the nature and origin of the neopallium, Professor Elliot Smith will discuss certain features of the brain in the marsupialia and monotremata; the disposition of the hippocampal formation, and the changes it undergoes in the eutherian mammalia; explanation of current misconceptions of the arrangement of the olfactory paths; the condition of the cerebral hemispheres in reptilia, amphibia, and dipnoi; certain discrepancies in the views of Ramon y Cajal, Edinger, Giuseppe Levi, and Ariëns-Kappers; the early neopallium; repudiation of the term "archipallium" wrongly attributed to the lecturer. The subject of the third lecture will be the evolution of the neopallium. The lecturer will deal with its local specializations in structure and function; the origin and significance of cerebral sulci; the problems still awaiting solution, and the present trend of research.

Medico-Legal.

ADAMS v. *VANITY FAIR* AND OTHERS.

IN the King's Bench Division on Thursday, December 2nd, Mr. Justice Grantham and a special jury commenced the trial of an action brought by Miss Martha Adams, M.B., D.P.H., against *Vanity Fair* (Limited), Southwood Smith and Co. (Limited), W. H. Macdonell, Frank Harris, and Ernest Pomeroy, claiming damages for libel. At an early stage of the hearing it transpired that the proceedings had been stayed against all but the last-named defendant, Ernest Pomeroy.

Mr. McCall, K.C., and Mr. J. A. Watson instructed by Messrs. Greenwood and Greenwood) represented the plaintiff, and Mr. Rawlinson, K.C., M.P., and Mr. D. C. Bartley (instructed by Mr. J. A. Collins) appeared for the defendant.

Mr. McCall, in opening the case for the plaintiff, said the action was brought to recover damages for libel. It was an action which raised questions of very considerable public interest, and it raised one question of vital importance to the young lady he represented, because the libel, as he read it and as he invited the jury to read it, contained as cruel and as odious an imputation upon her as any writer could convey against any medical man. Miss Adams was a qualified medical practitioner holding a diploma of the University of Glasgow, and she held a diploma without which it was almost impossible for a medical man to act in a capacity which the plaintiff was holding—namely, as an officer of health; she held the Health Diploma of the University of Ireland. Having acquired those degrees on June 1st, 1908, the plaintiff applied for and was

appointed the medical inspector of schools in the district of Twickenham. Counsel had no doubt that the jury would understand the position. They would remember when the Act of Parliament was passed abolishing School Boards and transferring schools to the control of what was called the Education Committee of the Local Authority, a number of Departmental Orders were issued throwing upon the educational authority, so constituted, the duty of not merely attending to the education of the children but attending to their health in such a way as to secure that they should have, as far as possible, trained minds and healthy bodies, and also that they should be so inspected and treated that the children were not likely either to suffer from illness themselves, or to convey infectious diseases to others. That was the kind of duty to which Miss Adams was appointed on June 1st, 1908. She was appointed upon terms which were afterwards embodied in a contract, the contract being dated September 1st, and under that agreement she had to discharge the various duties counsel had mentioned, and which were set out in the schedule which was attached to the contract. The jury were concerned in the case with what the plaintiff did in the discharge of the duty imposed upon her by the contract, which embodied a memorandum issued by the Board of Education, and which referred to the section of the Act of Parliament, the Administrative Provisions Education Act, 1907. In substance, Section 13 of that Act provided that the local education authority (in the particular case the Education Authority of Twickenham) was to make bonafide provide for the medical inspection of children before their admission to a public elementary school and on such other occasions as might be necessary. The memorandum set out the way in which those duties should be discharged—namely, by a medical officer whose duty it was to report any defects, and report was required, also to advise that disease should be prevented as far as possible, cured where it could not be prevented, and contagion and infection stopped. That was set out in paragraph 5 of the Memorandum. In pursuance of her duties, to which the plaintiff gave up all her attention and all the skill she had acquired in her medical training, she on one occasion—on August 27th—visited certain schools called the St. Stephen's Schools. She was provided with a number of forms and a register and on that register she was to make the necessary notes of the children she examined, and those forms were to enable her to give notice to the proper authority—the medical officers of health, or anyone else whose duty it would be to see to any disease that existed or was suspected, and in the same way, if she found that the sanitary arrangements of the school were not adequate, it would have been her duty to call the attention of the clerk of the district council or the sanitary officer to such defects. Armed with her registers and her forms she went, accompanied by a nurse, to the St. Stephen's School on August 27th, where she found that the girls who had not been vaccinated in a case an exemption certificate had been obtained, and in the other case the young girl was unvaccinated and no exemption certificate had been obtained. Upon that the plaintiff, hearing of these facts, gave notice. A point would be made by the defendant that the notice should have been sent first of all to the clerk of the district council, or that it should have been sent to the medical officer. It may be it should have been, but what she did in the honest discharge of her duty was to send the notice to the vaccination officer—and duly it would be, of course, to convey it to the medical officer of health, who would deal with it as he thought proper. It was no part of Miss Adams's duty to vaccinate the children, or even to say that they should be vaccinated. Her duty was to inspect and to prevent, if possible, but to leave to someone else the duty to prevent or cure to others—the medical officer of health or some other authority. It was known, of course, by every one familiar with courts of law, or who read the newspapers, the amount of strong feeling that existed upon the subject of vaccination, and vaccination and anti-vaccination had attached to their respective causes, as other highly discussed policies had, fanatics on both sides. Mr. Pomeroy, the defendant, judging by what was to be read, was a fanatic of the antivaccination order, and like most fanatics he readily transferred the language which might properly denounce the cause which he thought to be wrong to the persons on the other side who, as conscientious as, perhaps, himself, adopted the other side; and there was no good ground or good reason for terms such as he was about to read to the jury being applied to any one who took the opposite view to him. Miss Adams was simply discharging, under her contract, a duty which the Legislature had thrown upon the local authority, and discharging it to the best of her ability. As soon as the facts counsel had mentioned came to be known, the defendant, who had taken a prominent part in the discussion about vaccination, jumped at the opportunity of attacking the cause of vaccination, attacking the medical men who believed in and practised vaccination, and attacking in unmeasured terms the lady who was only doing her duty in reporting what she did report. In *Vanity Fair*, the well-known periodical, published on October 7th, there appeared the article of which counsel hoped the jury would say, before the case has gone very far, Miss Adams had just reason to complain of. Mr. Pomeroy, the defendant, admitted the alleged libel was written by him. It was headed "The Tyranny of Vaccination." "The crew on the Kosteven Education Committee have distinguished themselves in compulsory culture persecutions, but for compulsory cow-pox persecutions St. Margaret's, Twickenham, leads the way. The *Morning Leader* for September 29th reports" Whether the defendant himself wrote the article in the *Morning Leader* counsel did not know, but in *Vanity Fair* it was adopted and given circulation to among the body of readers. The article in the *Morning Leader* was in the following terms:

"A new method of enforcing the vaccination of children has been adopted at St. Stephen's School at St. Margaret's, Twickenham. On September 3rd last a lady doctor, Dr. Martha Adams, visited the school, attended by a nurse, to conduct the inspection of the little girls under the Act passed last year. When Dr. Martha discovered the presence of unvaccinated children she pointed out to the mothers that she would be obliged to report the fact to the vaccination officer. The local vaccination officer apparently has received the names of those children who were found to be unvaccinated, and already some parents have given way and had their children vaccinated. Mr. Hazard, of Newry Road, St. Margaret's, has received two notices, one requiring vaccination and the other a form for him to send to the public vaccinator to attend to vaccinate, and the nurse who attended the doctor at the inspection has also called at his house to know if the child has been vaccinated yet or not. The little girl, who is now 7 years old and in perfect health, will not be vaccinated. The father will take care not to allow this, even if it means the payment of probably from 30s. to £2 for a fine and costs at the police court. The prospect this action of the lady doctor opens up is most alarming. Thousands of parents are in the same position as Mr. Hazard, for it will be remembered that in a large number of districts it was impossible to get exemption at all under the Act of 1898. Men went to court as many as six times before they secured exemption certificates, and numbers gave up after the third or fourth time."

There the quotation ended, and then came Mr. Pomeroy's comment and statement of facts. He said:

"To my mind a more villainous misuse and abuse of power has never been perpetrated even in the medical profession, which is peculiarly prolific in devices of this kind."

What was the device which was meant? The defendant went on to say:

"It must be remembered that whenever a doctor has been on the bench, which, fortunately, is not an invariable rule, a conscientious objection to vaccination has been impossible to obtain."

Then the defendant described two cases which were not in point. Then he said:

"But why are the medicos so prediced? Because of the vaccination fees. They get from 5s. to 7s. 6d. a case in cash, and they also count on the child successfully inoculated as being a source of income to them for some months after, if not till death. They indirectly admit how valuable are these fees."

The writer, Mr. Pomeroy, knew (or if he did not know, he was culpably negligent), that the plaintiff had no interest in the vaccination fees to the extent of one farthing. He knew the plaintiff could derive no legitimate profit from vaccination, however many, or however few the children might be. Perhaps it might have passed through his mind, when writing the article, that some one would think of Miss Adams in the capacity of medical inspector of schools. She is paid by a salary," and to correct any such impression that the defendant was only referring to medical men in general, he went on to quote from a meeting of the Poor Law Medical Officers' Association.

Mr. Rawlinson: Will you read the quotation?

Mr. Marshall: Gladly.

"At the annual meeting of the Poor Law Medical Officers' Association, recently held at Hull, Dr. Major Greenwood (London) is reported to have said that there was little doubt that many Poor Law appointments throughout the country would be resigned tomorrow were it not for the vaccination fees."

Whether there were some local authorities who paid their medical officers such miserable salaries that they could not afford to live if it were not for the vaccination fees, he (counsel) did not know. But if it were so, all the more shame for the local authorities. But upon that, and with the view, as he suggested he had already mentioned, the defendant went on to say:

"Exactly. Freedom there spells bankruptcy to half the doctors in England. How many of the children reported to the vaccination man by Dr. Martha were subsequently infected by her?"

The defendant knew perfectly well, when writing that, that it was not part of the plaintiff's duty to vaccinate children. The defendant, however, did not stop there.

"At how much per head? Or if by some other doctor, what percentage of the fees did she obtain?"

It was almost an insult to intelligent men to ask them to realize what that imputation conveyed! Dr. Martha Adams would be unworthy of her position in the profession to which she belonged, and would be rightly excluded from it if there were a word of truth in that vile suggestion. If it could be shown—and the defendant had had the courage to plead that the charge was true—that Miss Adams had a percentage of the fees, and had that secret interest in making a report that children required vaccination, and she made her personal advantage control her conduct in making the report, then he submitted it was clear the plaintiff ought not to have been allowed to remain for a day a member of the honourable profession to which she belonged. Counsel on the other side said the truth of the matter was not pleaded. The defendant, like most fanatics, had the courage of his convictions, or at any rate, had sufficient of that kind of courage which enabled a

man to attack a woman. In the interrogatories delivered to the plaintiff in the case, the defendant put the following question:

Did you receive any, and if so what, remuneration, commission, or other payment in respect of the vaccination of any of such children vaccinated subsequent to your inspection?

When the defendant directed his counsel to put that interrogatory, what attitude was he to take up? It was:

"You did get these commissions. You did receive this unjust and corrupt payment, and I am going to prove it, and in order to prove it I ask you to say on your oath whether it was true."

The plaintiff had said on her oath that it was not true. She would say on her oath in the witness box to the jury and his lordship that it was not true. But the defendant instructed his counsel to say that in face of the libel and in the face of the interrogatory, he never meant to accuse the plaintiff of discreditable and corrupt conduct. The jury might perhaps in the course of the case have the opportunity of seeing the defendant in the witness box, and perhaps he would tell them how he came to write the libel, how he came to ask the interrogatory, and how, at the same time, he instructed his counsel to say he never meant it.

The libel proceeded:

"The extraordinary thing is that the cow-pox brigade have really given up the original brand of cow-pox; they now perform an absolutely illegal act."

Then he went on to describe certain deviations, as he alleged, from the procedure recommended by the celebrated Jenner. Counsel was reading the libel because it was an attack on the medical profession generally and on the plaintiff as a member of the profession, who was the easiest to attack at the moment the article was written. The defendant went on to say:

"Now, if Dr. Martha's action is to be passed over unchallenged, we little know what we may not be in for. Many medicine men wish to inoculate their victims, *inter alia*, for diphtheria, enteric, and tuberculosis. Once they secure their inoculations as compulsory, then, by means of medical inspection, those of us who escape at birth will be brought to book later on, and soon there will not be a single person in England whose blood has not been polluted by the disease spreaders and corpse makers sometimes called doctors. Fee hunters is what they are, and until they can get compulsory fees they never feel safe."

The man who could write that about the medical profession—to which every one was so much indebted, as the jury and counsel knew—was a man capable of writing anything. The medical profession, as a profession, could take care of itself, but the plaintiff complained—and, as the jury would be invited to find, complained—that when she was held up as a specimen of the profession which was to be described in language like he had read, she was entitled to come into a court of law and say: "If I am guilty of any part of what is charged against me here, I am unworthy of remaining for a day a member of the medical profession."

If the libel was wholly untrue, as counsel for the plaintiff's behalf submitted it was, then the jury were there for the purpose of deciding, not merely that it was an unjustifiable and undeserved libel, but what damages the plaintiff would be entitled to. How much did they think she ought to have to enable the plaintiff to say that those associated with her in the profession, and to those in whose service she was—to the public service that to some extent she represented—"I have had my case heard. I have had my libeller before a jury, and the jury have said I am entitled to such damages as they think will vindicate my character from an unjust and cruel attack."

Perhaps they would see whether the defendant was willing to say: "I made this charge, and, as I say in my interrogatories, that charge is true."

The plaintiff, Miss Martha Adams, in answer to Mr. McCall, said she held the Diploma of Medicine of the University of Glasgow, and the Diploma of Public Health of the University of Ireland. She had qualified in July, 1901; and in June, 1908, she was appointed by the Urban District Council of Twickenham Medical Inspector of Schools in that district, and her appointment was subsequently confirmed by a contract, with a schedule of her duties. Upon entering on her duties she was provided with a register, cards of inspection, and certain forms. Her duties were to inspect children in schools, to record any cases that required medical or sanitary attention, and to send notice to the proper authority.

In the ordinary discharge of her duties, she went, on August 27th, 1908, accompanied by a nurse, to St. Stephen's School, St. Margaret's, Twickenham, where she found twelve unvaccinated children. In one case an exemption certificate had been obtained, but not in the second case. The witness spoke to the mother of the child in the latter case, telling her it was advisable to have the child vaccinated, and handing her a form for the medical officer. Nothing was said about sending a notice to the medical officer or any one else. Both cases were treated in the same way as plaintiff had dealt with other cases, and no exception was made. The form referred to was as follows:—

> "Medical Inspection under Section 13 of the Education Act, 1907. Letter to Medical Adviser, Twickenham Local Education Authority, ..., 1909. Dear Sir, or Madam, I have examined ..... of ..... School, and I find he or she is ..... I have therefore advised the parents to seek your advice.—Yours, faithfully, M. Adams, Lady Medical Inspector of Schools."

Continuing, the plaintiff said she inserted the word "unvaccinated" in the form. The following month she sent a list of unvaccinated children to Mr. Field, the vaccination officer, and she had no further communication with the mother of the child or the medical officer of health respecting the child. Subsequently the plaintiff was instructed to send such notices as were given in such cases to the clerk of the urban district authority, who sent them on to the medical officer of health.

Have you, since you held this position, vaccinated a single child?—No, I have never vaccinated a child in Twickenham.

Or even directed that a child should be vaccinated?—No.

In further answers the plaintiff said there was an officer in Twickenham who held the position of public vaccinator. At that time the plaintiff did not know him, and had never spoken to him. She had seen the article of which she complained. She had had nothing to do with vaccination or directing vaccination in Twickenham. There was no ground for suggesting, in the case in question, or in any case, that she had any object to serve except the conscientious discharge of her duties as visiting medical officer. Apart from salary she had no fees for examining or reporting upon children. With regard to the passage in the alleged libel, "How many of the children reported to the vaccination man by Dr. Martha were subsequently infected by her?" she understood it to mean that she had vaccinated children, using lymph which carried with it injurious or poisonous matter.

Mr. McCall: Is there the slightest truth in the suggestion that you ever obtained a percentage from the vaccinating officer, or ever applied for any such percentage or commission?—Not the slightest.

You know the rules of your profession well?—Yes.

And you know the views entertained by the British Medical Association about receiving commissions?—Yes.

Would a doctor guilty of any such conduct as that be allowed to remain on the *Register* an hour?—No.

Plaintiff also denied the truth of the allegation in the interrogatory read by Mr. McCall in opening the case, and showed she was paid entirely by salary and had no interest whatever in fees.

The Judge: I notice the article winds up: "What a damnable law! To men who can think, vaccinated people are dirt beds of disease and a danger to the community." I daresay a judge may be a danger to the community, but I did not know I was. (Laughter.)

Cross-examined by Mr. Rawlinson, the plaintiff said she was appointed in 1908 and was still receiving the same remuneration, and had not suffered pecuniarily by the publication of the libel. She admitted that in the official circulars nothing was said about vaccination, and that Circular No. 522 said:

> "All entries of the results of inspection in each individual case must be regarded as confidential."

In the particular case she had reported, as a matter of fact, in writing, the fact that the child was not vaccinated and was not exempt. As to the local vaccination officer, the plaintiff had seen in the BRITISH MEDICAL JOURNAL that that was the subject of a question in the House of Commons addressed by Mr. Lupton to Mr. Runciman, as follows:

> "(Mr. Lupton:) I beg to ask the President of the Board of Education if his attention has been called to the action of Dr. Adams, Medical Inspector of the St. Stephen's Schools, St. Margaret's, Twickenham, who examined children for vaccination marks, and reported the unvaccinated ones to the vaccination officer. If his attention has been called to the action of the school nurse calling upon parents with regard to the vaccination of the children. If he proposes to take any action to prevent repetition of this conduct."

The answer of the President of the Board of Education was as follows:

> "My attention has been called to the matter, and I have made inquiry into the circumstance of the case, which has been receiving my consideration. The Board has never suggested to local Education Authorities that they should, as part of the work of medical inspection under the Act of 1907, inquire whether the school children have or have not been vaccinated. If inquiries are made on this point by any local Education Authority, the information obtained should be regarded as strictly confidential between the local Education Authority and the parents of the children concerned, and, as confidential, ought not to be communicated to the vaccination officer or the public vaccinator. I may add that I strongly deprecate any attempt on the part of the local authorities to use the machinery of medical inspection for the purpose of enforcing vaccination. Such action is likely to discredit medical inspection in the eyes of many parents who would be otherwise glad to take advantage of it."

Mr. Rawlinson: Did you hear of that also from your council?—Yes, I heard of it from Dr. Newman. He said it was simply a matter of diplomacy—that if the parents were deterred from coming it would not be wise to pursue the thing. He said as a matter of policy it had better not be done in view of the parents taking offence at it, but as long as the thing was carried out in a nice friendly spirit there was no harm.

What was a matter of diplomacy?—It was a matter of policy with regard to my children and the parents attending the inspection.

Dr. Newman had communicated the answer as well?—He simply came down about the case.

And he referred to this?—Yes.

You do not suggest that that answer of Mr. Runciman was not a genuine answer?—Well, it was genuine, but the whole thing was meant not to interfere with the parents coming.

The Judge: Have you never heard of a diplomatic answer given in the House, Mr. Rawlinson? (Laughter.)

Mr. McCall: I think Mr. Rawlinson has the facts upside down. Dr. Newman came down before Mr. Runciman's answer was given, so that he could not have read the answer very well, even in Twickenham. (Renewed laughter.)

In further cross-examination the plaintiff agreed that persons holding views against vaccination had a right to comment upon her having done a thing contrary to the intention and desire of the Government in communicating with the public vaccinator.

The Judge: I thought it was the duty of the vaccinating officer to inquire of the mother or parents of every child whether it had not been vaccinated. I cannot see what harm there is in any one in the position of the plaintiff communicating to the vaccination officer the fact that some one is not vaccinated when it is that officer's duty to ask the parents of the child why it has not been vaccinated.

Mr. Rawlinson: The objection is this: This medical inspection in a sense is compulsory, and any information obtained in that way should be, as Mr. Runciman says, absolutely confidential.

The Judge: Yes; but that refers, I should have thought, to anything which it is not desirable to publish, such as a certain disease which the child may be suffering from.

Mr. Rawlinson: It is far more than that. The question was asked in respect of this particular case, and the answer deals with the report.

The Judge: All I can say is, I do not agree with Mr. Runciman where he talks of enforcing vaccination; it is nothing of the kind, because the vaccination officer cannot force them to be vaccinated. I do not think he was justified in saying it.

Mr. McCall: What your Lordship has said with regard to the duty of the vaccination officer is quite right. That is completely provided for by the Vaccination Order issued by the Local Government Board under the Vaccination Act of 1898.

Cross-examination continued: The plaintiff's duties were quite different from inquiries by the vaccination officer, and with regard to special diseases, the information obtained was as secret as that obtained by any doctor. Since the answer given in the House, and since the Board of Education had communicated with the Twickenham Local Board, she had not reported any case to the public vaccinator, the reason being, to some extent, because of instructions from head quarters, and she had given up the course of proceedings she adopted in September, 1908. Dealing with the case of the child in question, plaintiff saw for herself that it was not vaccinated, but did not remember asking the mother if she had an exemption. It was a matter of regret to her to write out the ticket and explain that the child should be vaccinated. There was no coercion in the matter.

The Judge: If the parents had not an exemption certificate, were they not liable to be fined?

Mr. McCall: Yes.

The Judge: Then I should have thought the plaintiff was doing a kindly thing to a mother who had an unvaccinated child, and had not an exemption certificate, in saying, "You should get exemption or have the child vaccinated."

Mr. Rawlinson: At any rate, it was not part of your duty to do that?

The Witness: No, it was not my special duty.

Continuing, the plaintiff said she had not considered the fact that exemption could not be obtained for a child after four months. In acting as she had there was no coercion, and she was simply doing her duty. It was part of her duty to see whether the child had been vaccinated, but not to inquire whether it was exempted. She might possibly have asked the mother if she had an exemption order, and remembered that the mother had no objection to vaccination. She did not know the father was an antivaccinator until the matter appeared in the *Star*. It was quite likely she inquired if the parents could pay for vaccination, and said if not the public vaccinator would do it; that was a matter of routine. Following upon that the nurse called on the parents, and the witness sent her report to the vaccination officer.

Questioned with regard to the alleged libel, the plaintiff said that was applicable to her profession, and as her name was mentioned it must apply to her. She felt it very much, and mentioned to her friends that she was described as a "corpse maker." If in private practice she attended an unvaccinated child, she would, with the parents' consent, vaccinate the child, but would not otherwise interfere. In the case in question she was carrying out a statutory duty. She did not agree that the "infected" in the alleged libel meant vaccinated.

Re-examined, the plaintiff said if the article were true she would be dismissed at once, and she would be dealt with by the disciplinary authorities of her profession. Notwithstanding what was said in the House of Commons, she had not received any complaint from the Board of Education.

Dr. Alfred George Bateman, M.B., member of the Medico-Legal Society, member of the Central Ethical Committee of the British Medical Association, and general secretary of the Medical Defence Union, said he had had experience in ethical matters relating to the medical profession extending over twenty-one years. Infamous conduct was defined by the Act of Parliament, under a section of which any medical practitioner, whether male or female, might be removed from the *Register* for certain offences, if they had been found guilty in any court of justice of any felony or misdemeanour, or if, after due inquiry by the General Medical Council, they were found guilty of infamous conduct in a professional respect. If anyone were guilty of what appeared in the alleged libel, he would be liable to be brought before the Council.

If it were true that the plaintiff had an arrangement to share fees, would that be conduct of an infamous character?—There would be no question about it whatever.

Cross-examined: Strong language was not only used by antivaccinators with regard to the medical profession, but by others as well; the medical profession was none the worse for that. Sometimes the medical journals used strong words with regard to antivaccinators, but they were addressed to medical men. There was no question that hard blows were given on either side.

Would such a passage as "Once they secure their inoculations as compulsory, then by means of medical inspection, those of us who escape at birth will be brought to book later on, and soon there will not be a single person in England whose blood has not been polluted by the disease spreaders and corpse makers, sometimes called doctors," do the medical profession any harm?—I should think it would seriously reflect upon the writer as to his sanity. (Laughter).

Re-examined: The plaintiff in the inspection was undoubtedly discharging a statutory duty.

At this stage the case was adjourned till the following day.

Second Day.

Dr. William Frederick Macdonogh, in answer to Mr. McCall, said he had been medical officer for vaccination purposes in the Twickenham District for twenty-one or twenty-two years. After the month of August, 1908, he had never seen the plaintiff or had any conversation with her. Apart from the Education Act of 1907, the vaccination officer reported to him from time to time cases where it was necessary to vaccinate children. The plaintiff had shown witness a copy of *Vanity Fair* containing the alleged libel. There was no truth in the suggestion that the witness suggested to the plaintiff, or the plaintiff to the witness, that she should share the vaccination fees. He had never shared any vaccination fees with her, or given her any commission or percentage upon them. It would have been a most wrong thing for the witness to do that—as wrong as it would be for the plaintiff to accept it.

In cross-examination by Mr. Rawlinson, the witness said he was also the medical officer for Twickenham, and also public vaccinator for the district. He had nothing to do with the particular case in question, which came from the Isleworth district. It was not true that vaccination officers had in certain cases as much as 5s. or 7s. 6d. for a case, but public vaccinators might. The witness made a public vaccinator's fee 3s. 6d. It depended upon the distance or mileage that had to be travelled. In witness's district the fees were down to the minimum, but he did not know what had occurred outside that district. The fees had been reduced two or three years ago, and the minimum was 2s. 6d. if the population was under a certain number, and 2s. 6d. if under a greater number. From 1867 to 1898 vaccination was compulsory; but the result of the Royal Commission on Vaccination was that from 1898 exemption could be obtained upon appearance before magistrates and stating a conscientious objection. That state of things continued in existence until the end of 1907. He had heard of exemptions being refused, but a great many were obtained very easily.

The Judge interposed with the remark that he had been present when applications were made for exemption, and the principal thing was to know whether the exemption was conscientious. When a person came in and said he had a conscientious objection and burst out laughing it was difficult to believe him.

Cross-examination continued: The parent, before 1907, had to satisfy two magistrates, or a stipendiary magistrate, that he had a conscientious objection. The witness did not agree, however, that the difficulty of getting exemption was the cause of the law being altered. The father, to get exemption, had to go the the magistrate before the child was four months old. Between 1898 and 1907, parents, beyond receiving notice that children must be vaccinated, were never pressed to have them vaccinated. In his district there were no convictions for non-vaccination in that period, and with regard to the country at large, he had never read of such a case. The witness agreed, however, that the law was such that a parent could be summoned and fined even at the present time. He did not think there was a large number of people who conscientiously believed that vaccination was harmful. People did not apply for certificates for the sake of exemption, but for the fun of interviewing the magistrate.

Mr. Rawlinson sought to cross-examine the witness with regard to the Minority Report of the Royal Commission on Vaccination, but the judge ruled that such evidence was not relevant to the issue.

Re-examined by Mr. McCall, the witness said he vaccinated only for the Twickenham District, and had vaccinated fifty children between October, 1908, and the present time, reported upon by the plaintiff.

Mr. J. Smith Whitaker, registered medical practitioner, Medical Secretary of the British Medical Association for the past seven years, and also Secretary to the Central Ethical Committee of that body, said it was the duty of the Committee to consider any cases of alleged professional misconduct. He had read the article in *Vanity Fair* which was brought before the Central Ethical Committee. If certain of the statements in the article were true, it would be his Committee's duty to bring the matter to the notice of the General Medical Council.

Cross-examined: The witness was shown the article in *Vanity Fair* by some one on behalf of Dr. Adams or her solicitors. It was possible he was shown it for the purpose of the action, but he could not say the purpose for which it was shown to him, and he was not told. He understood it was in order that the Central Ethical Committee might consider the nature of the complaint and state its opinion thereon.

Questioned on the quotation in the alleged libel, "At the annual meeting of the Poor Law Medical Officers' Association, recently held at Hull, Dr. Major Greenwood (London) is reported to have said that there was little doubt that many Poor Law appointments throughout the country would be resigned to-morrow were it not for the vaccination fees," and as to whether it was not a common complaint in the medical profession that Poor Law officers were underpaid, the witness agreed they were underpaid, but he should not have thought many Poor Law doctors would resign their appointments if it were not for the vaccination fees. The fees would, however, make a considerable difference in a medical man's income.

Mr. Hilton Jason Saunders, examined by Mr. McCall, said he had been for many years clerk to the Twickenham Urban District Council, which was the local education authority for Twickenham. As clerk and adviser of the local education authority, he had made himself familiar with the provisions of the Education Act, 1907, which came into force in August of that year. Section 15 of the Act made the provision as to medical inspection of schools, and the Act also provided that the Board of Education should issue instructions and directions to the local authority. In pursuance of those provisions a circular was issued, the terms of which had been read to the jury the previous day. There were other circulars in addition. Circular 582 was sent soon after issue in January, 1908, by the Board of Education. The circular said the Board desired that considerable latitude should be left to each educational authority, and it provided a form constituting the minimum efficient medical inspection. He had issued to the plaintiff, as medical officer, a form on a card, to be filled up. Appearing in the form under "Personal history" there were various illnesses given. Then followed "Other illnesses," and finally "Vaccination marks" with a space left for either "Present" or "Absent" to be inserted. That was the card which was filled up in the case of Ivy Hazard, the particular case in question. The remark with regard to vaccination was "Absent" and that was recorded on the card. Circular 582 gave a schedule of defects and item 24 was "Other disease or defects." In pursuance of that the witness's education authority put in the word "Vaccination." Having been approved by the authority, the employers of the plaintiff, the form was issued to the plaintiff to be filled up. It was filled up in the case of Ivy Hazard. The plaintiff had sent an intimation to the vaccination officer, but the form was kept in the office because, if need be, the witness had to send what was on that form to any other school in another district. It rarely did happen that in the course of business upon the form was simply to record the incidence with regard to any particular child. Without carrying it further, this would be futile. For instance, a doctor might find a child whose eyes required attention. Naturally it was necessary to refer to the card and to the register. Upon the form the doctor would state to the committee with regard to that child that the child's eyes required attention, and it was referred to the committee, and the committee determined what course should be taken. It was no part of the duty of the plaintiff to carry out such particular treatment as was carried out by a medical practitioner, not necessarily the medical officer. Whatever was done was done upon the direction of the local education authority. Before the form was adopted every member of the Education Committee had Circular 582. The local authority instructed the witness to get from the various Local Government publishers the forms which they were printing. The witness obtained forms from about seven, and those forms were submitted to the committee, and it was after consideration of various forms that the witness's local Education Committee determined upon the form already referred to.

Cross-examined by Mr. Rawlinson, the witness said that par. 7 of Circular 582 required that all entries of the results of inspection in each particular case must be recorded as confidential. That was in leaded type. The schedule set out a large number of illnesses which were to be filled in if they existed. Item 24 was for disease or defect. In the form which was issued by the Government there was no mention of vaccination from beginning to end. After the schedule was received from the Government the witness's committee's form was based upon the schedule but containing the words "vaccination marks." That was still done. The doctor returned the answers to the form and that was entered in the record, and if the child left the school it was sent, if need be, to another school. The witness did not agree that that was all the plaintiff had to do. If she found any particular defect, such as a question of eyes, she attended before the committee and explained that in her examination she had found such and such a condition, and advised further steps to be taken. As far as reporting was concerned, of course witness agreed that was the extent of plaintiff's duty. While it had been proved that after plaintiff had made the report to the office, she sent a list of children who had not been vaccinated, notifying those who had not got exemptions to either the public vaccinator or vaccination officer, witness was not prepared to admit that that was not part of plaintiff's duty. The plaintiff had no instructions to the contrary. It would have been a more formal and proper matter if it had come through the witness's office. It was not laid down that the witness had to make such a report to the vaccination officer. No duties were laid down at all, but only certain suggestions were made. Witness remembered the questions answered in the House by Mr. Runciman. The Government sent down and made inquiries, but the question had not been answered then. Dr. Newman saw the witness. The witness read the answer in the House, but had not received any directions consequent upon that, and he had not heard from the Board of Education or any one else.

Do you agree with the sentiments expressed in the answer?—No, I disagree.

Your local education authority disagree with the Government, perhaps?—They have not expressed any opinion.

Cross-examination continued: The witness explained the matter to his committee, and they passed a resolution that in future anything appertaining to the medical inspection of schools should pass through his hands alone. They did not curtail anything with regard to the medical inspection, and he had not had an instruction that anything which came into his office was to be treated as confidential.

Do you really tell the jury now, in the face of the answers in the House of Commons, and the comments upon this, that, if you get information from your medical officer, Dr. Adams, you do not regard it as confidential between your local education committee and the parent?—You cannot keep it strictly confidential. It is a matter of impossibility to do it.

If you found out from Dr. Adams that there was a child unvaccinated, for whose parents he had not got an exemption certificate, would you inform the public vaccinator or not?—I have not given that matter a thought.

I ask you to give it a thought?—I am not instructed at the present time upon it.

I am asking you now. This has been going on since October, 1908. If you get a report from Dr. Adams that a child in your district is unvaccinated and has not got exemption, do you, or do you not, report that to the vaccination officer?—At the present time we have not done so.

Why not?—I am waiting to get the instructions of the committee. If I get the instruction of the committee to do it I shall do it.

So far, the committee, although they have been sitting since October, 1908, and the question was put in the House and the answer given in October, have not made up their minds upon what course they are going to pursue?—That is so.

Are they waiting for the result of this action?—I have not put it before them.

Are they waiting for the result of this action to see whether it is safe to do it?—I do not think so.

Why have you not reported cases since if it was not that you knew it was illegal to do so. Cases must have come to you pretty frequently since September, 1908, of unvaccinated children whose parents had not got exemption. If you thought it was illegal to do it to report it to the vaccination officer, why have you not done it?—I have not any instructions from my committee so to do. In my opinion I ought to get instructions before I make any communication at all.

Why have you not got instructions?—This Act is a very (if I may use the term) young Act. It behoves the local authorities to proceed cautiously. There are a great many matters with regard to this Act which have never been before the local authorities before or published before. Therefore, we can only go step by step. We have not taken this step which you are now putting with me, and we have not taken steps in other things which I have mentioned.

But this is a very important step?—But no more important than others.

But it is a very important one?—It may be.

For the last fifteen months you have taken no steps upon it?—No.

From the point of view of people forced to vaccination it is a vital step?—I do not think so.

You know it is the only way in which the public vaccinator can get that information?—I do not agree.

He has no power of inspection?—With due respect, you are confusing the two officers.

The medical officer of health or the public vaccinator?—No, you are still confounding the two officers.

I am pulling both in this case. Is there any possible way in which it would have been discovered that the child had not been vaccinated except by inspection by Dr. Adams?—Yes. It is the duty of the superintending vaccinating officer of the board of guardians to go round. So soon as the child is registered notice is given to the officer that such and such a child is registered. He immediately goes round and sees whether the child has been vaccinated, and, therefore, it is quite possible for an officer to find out; but when a child leaves the district the difficulty arises.

Cross-examination continued: The witness did not know Ivy Hazard was not born in the district, but did not agree there was no means of finding out whether she had not been vaccinated. The officer might go round from house to house finding out whether there were children of tender age living there, and he could then go to the register of births and find out the district in which they were born, and ultimately ascertain whether they had been vaccinated.

In re-examination, witness said it was part of his duty to bring the reports of the inspecting medical officer before the Education Committee in order that the committee might take such steps as they thought right.

This concluded the case for the plaintiff.

Mr. Rawlinson, in opening the case, said that although he had to present the unpopular side to the jury he was sure they would try the case fairly. Mr. Pomeroy was a gentleman of some position who had devoted a large amount of time and money to the question of antivaccination. He had written the article in question without the slightest idea of injuring Dr. Adams, whom he did not know, in any way, but for the purpose of discussing strongly and forcibly a matter of the gravest public interest, which was, according to his view, a matter of vital interest to those with whom he was associated, and on behalf of whom he had worked for many years. The defendant had nothing to be ashamed of in his past life. He was the eldest son of Lord Harberton, and had devoted his life to philanthropic efforts and to the vaccination question. Counsel dealt with the state of the law between 1898 and 1907, pointing out the difficulty of obtaining exemption from vaccination. It was during that period that Ivy Hazard, whose case had given rise to the discussion, was born. In her case no exemption certificate had been obtained. The defendant shared the views of those who drew up the Minority Report of the Vaccination Commission, and held the view, shared by many eminent men in the country, that vaccination was distinctly dangerous and ought not to be compulsory. There was a distinct divergence between the two schools of thought with regard to inoculation. One school thought inoculation to be absolutely against small-pox, diphtheria, tuberculosis, and so on; but others, like Mr. Pomeroy, took the view, which was perfectly tenable, and a fair view to take, that by injecting what was called contaminated lymph into the human person, poison was being put into the body, thereby altering the state of the blood; and once the human blood was contaminated great harm might be done to the individual. People who held the view that it was dangerous and improper to vaccinate were perfectly entitled to hold that view and to express it. That being so, those who were prepared to devote time and money to assisting the organisations for wholesale vaccination were bound to keep their eyes very widely opened for any attempt to make the existing law in favour of wholesale vaccination more stringent than it was. The law had been weakened, and those in favour of vaccination were trying to strengthen the law. Those against it were equally keen to see the law was not enforced more harshly than it was at the present time, and they wanted the law made even laxer than it was. Counsel pointed out that the particular child in question was not born in Twickenham, but her father had moved there to avoid a summons for vaccination, and he had considered it perfect safety, so far as he was concerned, for some years. Then came the Education Act of 1907, which provided for the medical inspection of children attending school. The Act was created for the purpose of improving the physical condition of children, and under the Act the child was examined by a medical inspector. There was not one word about vaccination in the Act of Parliament or in the circulars which the Board of Education sent out. Not only was the result of any inspection to be treated as confidential, but there was a printed form for diseases to be reported upon. The fair inference from the circulars was that the Act of 1907 had nothing to do with vaccination and was not intended to have anything to do with it. He (counsel) ventured to suggest that the Twickenham Education Authority had quite improperly included vaccination as one of the things their medical inspector was to report upon. But, further than that, the plaintiff, when she found an unvaccinated child at the school, asked whether it had been exempted, and, when she found that it had not, she sent in the name of the child, Ivy Hazard, with the names of twenty-three other children to the parish of vaccinator of the district, thereby giving information, which it was not part of her duty to do, to the public vaccinator of the district, and information which he could not possibly have got by other means and which ought to have been confidential information so far as the local education authority was concerned. The result was that the child's father had notice served upon him, and the vaccination officer called in the ordinary way. Thereupon the father complained, the matter was taken up, and an article appeared in the *Morning Leader*. The defendant did not write the article, but he had, considering it was a matter of great public interest, he wrote the article complained of. The importance of the issue raised by what was a seemingly small matter was tremendous. The inspection was compulsory. Was it right that information gained under such circumstances should be communicated to the vaccination officer? He (counsel) had possibly spoken with some heat, but what must have been the feeling of those who had devoted time and money to the defence of those who objected to vaccination when they heard of what had occurred. Could any greater abuse of the powers conferred by the Act be imagined than the action of the plaintiff at that particular time? Ultimately a question was raised in the House of Commons and the jury were aware of what an impartial authority the ought of the action of the Twickenham Education Authority. The result had been that ever since October, 1908, the matter had hung in the balance and the local authority had not reported anybody to the public vaccinator since then. The local authority clearly wanted to be able to report to the vaccination officer because otherwise they would not have included vaccination to be reported upon by the medical inspector, which under the Act they had no power to do. The authority was evidently waiting for the result of the case to see whether they dare report in future to the vaccination officer.

Dealing with the alleged libel counsel said it was unquestionably couched in strong language, but he submitted Mr. Pomeroy was fully entitled to put strong language before the public, having regard to his point of view. In conclusion, Mr. Rawlinson reviewed the article at length, and invited the jury to say that the defendant had not exceeded the limits of fair comment.

The Hon. Ernest Arthur George Pomeroy, the defendant, in giving evidence, said he had for many years taken an interest in the question of vaccination and antivaccination. He had studied various books and reports that had been issued on the question of vaccination, and had written articles from the antivaccinationist's point of view once or twice. He had also pecuniarily and otherwise assisted persons to get exemptions from vaccination where it was possible, and had been with them to Court on such occasions. He had had his attention drawn to the article in the *Morning Leader*. He had never heard of the plaintiff, Dr. Adams, before. He formed an opinion of her actions as set out in the article in the *Morning Leader*, which was all he knew on the subject at all. He inquired of the Hazards as to the accuracy of the article in the *Morning Leader*, and wrote to Mr. Hazard to find out exactly what had happened. He did that some time before he wrote the article complained of in *Vanity Fair*. He had contributed from time to time to *Vanity Fair* on various subjects; but beyond that he had no interest in the paper. From the information he had gleaned from documents and papers he had found it was absolutely impossible to get exemption in many districts, and in other districts it was a matter of extreme difficulty, although not impossible. He was prepared to give definite instances from reported cases.

Did you take in the *Vaccination Inquirer* in which such cases are reported?—Yes.

Examination continued: The words, "To my mind a more villainous misuse and abuse of power has never been perpetrated, even in the medical profession, which is equally prolific in devices of this kind," represented the opinion he formed in regard to the matter as detailed in the *Morning Leader*, taken in conjunction with other actions of medical people. He had other bases for the remark, apart from the article in the *Morning Leader*, and if it were necessary he could give instances and foundation for the remarks which he made. He had not any personal animosity or feeling against Dr. Adams when he wrote the article. It was what the plaintiff had done that annoyed him. He was writing against the general danger of vaccination, and the general danger of unduly enforcing vaccination, having regard to the action of the plaintiff, under the new Act of 1907. That was the only object with which he wrote the article, and on behalf of the poorer parents who were unable to protect themselves. With regard to the expressions "disease spreaders" and "corpse tinkers," and other epithets, he was prepared to give instances showing the foundation he had for using them. He had read the Minority Report of the Vaccination Committee before he wrote the article, and held a strong view that vaccination itself was dangerous because it affected a person with a syphilitic complaint.

Cross-examined by Mr. McCall:

Do you come here to-day to say this article is justified?—Yes, that is my view.

Now let me call your attention for the first time, apparently, to the material question here. Up to the date of publication on October 7th, 1908, had you any ground for believing Miss Adams was doing otherwise than conscientiously discharging her duty to her employers?—No; I knew nothing about Miss Adams.

Then the answer is, No. If you thought this lady was merely conscientiously discharging her duty, how came you to say and to write that: "A more villainous misuse and abuse of power has never been perpetrated, even in the medical profession"?—Because I think she vastly exceeded her duty.

I asked you whether you thought she was conscientiously discharging her duty, and you said Yes. The words that you wrote were, not "exceeding her duty," but "villainous misuse and abuse of power." Do you justify that?—I certainly justify it. I think she abused her position in a particular way.

Do you say now that it was true to say of this lady that "a more villainous misuse and abuse of power has never been perpetrated in the medical profession"?—I think with regard to the act the lady committed, Yes.

Do you say that that is true, Yes or No?—Put in that form I say Yes.

The Judge: That it was a villainous misuse?—I do.

Even in the medical profession. You say some very nasty things about them?—Yes, even in the medical profession.

Mr. McCall: Do you seriously tell the jury that that was a justifiable phrase to use in regard to a lady whom you believed to be conscientiously discharging her duties? Will you please tell me, Yes or No?—It is hard to answer exactly Yes or No to a question of that sort.

I have no doubt it is, and that is the reason I put the question? —I do not believe I am bound to answer the question Yes or No. I believe I can make a slight round to it.

If you tell the jury you would rather not answer Yes or No to it, I will leave it.—Will you put the question again so that I can consider it.

Do you say now that it was true to write these words of a lady who you thought was acting conscientiously in discharging her duties to her employers?—I do not think I did say she was conscientiously discharging her duties.

You told us you thought she was a short time ago?—Not with reference to that particular matter. I did not think so.

Do, please, recall what you said less than two minutes ago.—I have done.

Up till October 7th had you any reason to believe that this lady was doing otherwise than conscientiously discharging her duty to her employer? You said No?—Previous to that date I had never heard of the lady or her employers until the article came before me. I cannot give you any opinion about the lady.

Do you act upon the ordinary principle of believing even ladies to be honest until the contrary is proved?—I think I can say so. Yes.

And as you had no reason to suspect Miss Adams, you believed her to be honest at the time that you wrote the article?—Yes.

How, then, came you to charge her with villainous misuse and abuse of her power?—Because I thought what she did was a villainous misuse and abuse of her power simply.

Then you say that that portion of this libel is true?—Yes.

The Judge: That a person who acts conscientiously is guilty of villainy!

Mr. Rawlinson: The people who burnt the early Christian martyrs were referred to as villains, I think, but they were acting conscientiously. (Laughter.)

Mr. McCall: I do not know whether my friend Mr. Rawlinson intended it, but he puts you in the same class as the people who burnt the early Christians. Do you accept that? (Renewed laughter.) Do you accept the parallel, or is it only a Parliamentary expression? (Further laughter.) A little lower down in the article you say: "Freedom spells bankruptcy to half the doctors in England." Do you believe that?—Yes, I do, without tying myself down to the actual figure of half. I believe it would to a large number.

Do you mean that freedom, meaning freedom from vaccination, spells bankruptcy to half the doctors of England?—I do, in the main. It is rather widely stated, but I believe it in the main.

Rather widely stated! Is that a phrase to cover an inaccuracy?—"Half" is used in a very wide sense. If you go to the Varsity match and say half are Oxford and half are Cambridge you do not tie yourself down to a definite figure.

Does the same apply to bankruptcy? When you say "bankruptcy," do you only mean the inconvenience?—I thought you were referring to numbers.

I am referring to half going bankrupt?—"Half," I say, is a wide term.

You say "bankruptcy"?—I think they would have to choose another profession. They could not continue as doctors unless there were vaccinations.

Then, in spite of that latitude, this statement, in your view, is true?—Yes, in a general way.

The Judge: It also says: "They can also count on the child successfully inoculated as being a source of income to them for some months after, if not till death." What is the meaning of that?—I mean you are inoculated with vaccine. I regard as a syphilitic complaint, which may come out almost at once afterwards, in which case the doctor comes and charges so much; or it may lie dormant for a long time, and may not come out for twenty or thirty years.

After he dies?—No; before he dies.

It may or may not?—Yes.

You say they count upon it as a source of income?—They count upon it without its being a certainty.

Mr. McCall: You know now that Miss Adams was employed by the Education Committee, and was paid by salary and by salary alone?—I have been informed so in this court.

Well, you know it now?—At this moment I know it.

When you wrote this article, you say of the lady whom you believed to be conscientiously discharging her duties: "How many of the children reported to the vaccination man by Dr. Martha were subsequently infected by her?" Were you so ignorant of the circumstances that you thought she vaccinated the children herself?—Yes; I asked. I did not know whether she did or not. I asked the question.

I do not care whether you asked the question. I am asking you, Were you so ignorant of the circumstances that you thought she vaccinated the children herself?—I told you I was not sure. I did not think one way or the other. I was not sure whether she did or not.

Good gracious! Do you mean that you did not know, when you wrote the phrase that she had infected them, whether she vaccinated them?

Mr. Rawlinson: No. It is: "How many of the children reported to the vaccination man by Dr. Martha were subsequently infected by her?"—It is a question.

Mr. McCall: Yes. "Infected by her" refers to vaccination by her?—Yes.

And you did not know, when you wrote that sentence, whether it was part of her duty to vaccinate or not?—Certainly not.

Now you go on—whether this is similar ignorance you will tell us—to say, "And at so much per head"? That is, what fees she got?—Certainly.

"Or, if by some other doctor, what percentage of the fees did she obtain?" Do you justify that now?—I justify it this way: If there is a new medical officer, as Miss Adams was, appointed in the district, and she vaccinates the children, she would get some of the fees that in the ordinary course of events the public vaccinator would get.

Do you mean the public vaccinator would share his fees with her?—That is not exactly what I am saying. I say this: When a new inspector is appointed, if Miss Adams did vaccinate some children, the public vaccinator would get less in the ordinary course of events. They are all employed by the Twickenham District, and it seemed to me quite possible they would have some arrangement, and I see nothing wrong in suggesting they had some arrangement.

What! That the education medical officer, the inspecting officer, should have some arrangement with the vaccination officer that they should share the fees?—I see nothing wrong in it.

The Judge: You see nothing wrong in it?—Nothing wrong at all, and I asked the question. The public vaccinators get so much per head for vaccinating. If a new man or woman comes and does vaccinating, do you suppose that the public vaccinators are to have nothing for that? I supposed there was some sort of arrangement. I only asked. I did not know. I see nothing wrong in making such an arrangement.

Was it because you saw nothing wrong in it that you charged her with it?—I asked the question for information as a ratepayer to find out exactly what they did do.

You asked the question in a public newspaper to find out, as a ratepayer, what they were doing?—Yes.

Is that one of your methods of controversy?—It is one of my methods of finding out a thing to ask the question in a public paper.

Is it one of your methods of finding out to ask a question in a public newspaper with regard to a fact which you are ignorant of?—Yes; I deny it was libellous.

Did you think it was a compliment?—I think it was a fair question, and I should not object to it if it were asked me if I were in a similar situation.

Just as you have said that is a fair method of controversy, let me put this to you: You have been in a few libel actions before, have you not?—I have been in one.

Have you written, so late as July, 1908, a letter to a clergyman, Mr. Farrows?—I think it is very probable.

You remember?—Yes.

Do you remember being asked about it in a trial which took place on December 17th last year?—Yes; I remember it very well, because they had no right to put the letter in. I unfortunately defended myself, which is the reason I lost the case.

Is it a specimen of your controversy, what you say to a clergyman?—Have you any right to put this in?

After a discussion as to the desirability of the question, the judge allowed it.

Mr. McCall: Is this a sample of your style, Mr. Pomeroy? In writing to a clergyman, do you say: "Thank heaven, I have not had much to do with men in God, for your practices are beyond me altogether. You are at liberty to quote what I say, but not to kick my letters about. Do you see? Damn you!" Is that your letter?—That letter was written under great provocation. It has nothing to do with this case, and I do not think it ought to be read.

Is that letter a fair specimen of your style?—No, it is not; it does not resemble my style at all.

Is it your belief that in a vaccination controversy you are justified in saying what is not true?—No; I am not justified in saying what is not true.

Are you justified in keeping back the truth?—I should say under certain circumstances I should be justified in keeping back the truth.

Did you write a letter to a paper called the *Morning Leader*, the same paper from which you quote, in which you say: "It is a well-known principle of ethics that the truth should not be told to him who has no right to know it. For the sake of his child a parent should be prepared to lie, and even go through a course if necessary"—that is not vaccination; that is lying, there—"so as to do it successfully. The excessively cautious can search their child with a penknife first, and call it a successful vaccination." Is that your belief?—That is my belief in the case I am talking about there, certainly.

"It is a great mistake to suppose there is any merit in being truthful always"?—I certainly hold that, and most lawyers do, too. (Laughter.)

I do not know for what class of lawyers you speak. I am asking you now to speak for yourself, and I am sure my friend Mr. Rawlinson will disclaim the soft impeachment which you have put upon him. (Renewed laughter.) Let me read the rest of the sentence: "The truth is wasted on burglars, bullies, and bigots"?—So it is.

"It generally needs some manipulation"?—I agree.

"And should not be spoken boldly and baldly to all comers on all occasions." Is that the belief you entertained when you wrote this article of October 7th?—It does not apply to an article of that sort.

Is that the belief you entertained when you wrote this article of October 7th?—No.

Had you ceased to believe it?—It was not in my head at the time, so that I cannot give you a definite answer.

Is that the belief you have entertained since you wrote the letter, or have you altered your belief?—I held that belief as regards certain things, but you cannot tie me down to a thing on every possible occasion.

Do you hold that belief in regard to vaccinators?—(After a pause) Yes; on occasions, I do.

I appreciate it is a poser. Is this one of the occasions on which you do?—No.

Why not?—This is the reason I wrote that letter: It was with respect to parents who cannot get employment unless they are asked whether their child is vaccinated, and they may lose employment if they do not say it is.

There is not a word about employment in this article?—I thought there was. Very well, as regards the conscientious

objection there may be. I think there they are entitled to use some little inaccuracies or even go further if they cannot get it in any other way, and they have a perfect right not to vaccinate their child. Lying is wrong; but if you cannot get what you have a right to in any other way, I think there are occasions when you must do it.

There is no association, is there, between antivaccination in England, and what, for want of a better word the historians call Jesuitry?—I do not follow.

Now let us see the spirit in which you wrote the last sentence? —What are you quoting from?

From the libel. What I have already quoted from is from the libel, except the letter. This is what the libel says—you are speaking of the doctors generally, in a paragraph which is headed, "Dr. Martha's action." You say there: "The disease spreaders, and corpse makers, sometimes called doctors." Is that your belief?—That is in rough words my belief of doctors: that they are disease spreaders. They inoculate you with a disease which you would never have got, such as a syphilitic complaint called vaccination. They put it in you like antitoxin for diphtheria. They give you that. They also inoculated whole troops of soldiers going to South Africa for enteric fever. They gave him some disease and ruined him in many cases. If that is not a disease spreader, what is it?

"Fee hunters is what they are"?—That is exactly it.

Do you mean they do this not because they believe in vaccination but because they are looking for fees?—Some may believe or not, but they are all looking for fees. That is a common point with all doctors.

"Fee hunters is what they are." Do you mean that it is for the sake of the fees that they practise vaccination?—Yes, poor fellows! They have to live. I do not blame them.

That is what you do mean?—Yes, that is my view.

And until they can get compulsory fees, they never feel safe? —Certainly not. If they can get them compulsorily they are safe, naturally.

Just read that with the sentence to which my lord called your attention a moment ago. They are not merely fee hunters in your opinion, but they inoculate because they can count on it as a source of income for months after, if not till death. Is that your view?—I do not think you read it quite accurately.

I will read the sentence. "Fee hunters is what they are: . . . they get from 5s. to 7s. 6d. a case"?

Mr. Rawlinson: That is a totally different part of the libel. You are reading it as one consecutive sentence.

Mr. McCall: It is about the doctors that you say they are fee hunters?—Yes.

It is about medical men that you are writing?—Yes.

Is it also about medical men that you write in the first column, "But why are the medicos so prejudiced"—that is, prejudiced in favour of vaccination, is it not?—Yes.

And you say, "Because of the vaccination fees." Are you charging medical men with practising a system in which they do not believe for the sake of the fees?—I do not know what they believe. I know they want the fees. That is the point. What they believe I do not know, because I have not asked them.

Why, then, did you put the word "prejudiced." "Why are the medicos so prejudiced? Because of the vaccination fees."—Yes, the fees assist them in their belief largely.

Do you mean the fees cause the prejudice?—That is what I mean.

Did you understand that you intended to convey to the readers of this paper that the medical men who practised vaccination were honest or not?—I think it is honest; it is honest to get a fee.

Do you think it honest to be prejudiced by the fee?—Yes, I think so.

Do you seriously say that?—Yes, I think a fee makes a great difference to every one.

Do you think it is honest for the doctor who practises vaccination to be prejudiced by the fee he gets?—I think it perfectly honest.

Fortunately for some of us notions of honesty differ. "They get 5s. to 7s. 6d. a case in cash, and they can also count on the child successfully inoculated as being a source of income for some months after, if not till death." Was that intended to characterize an honest opinion or dishonest prejudice?—Do you ask is it an honest opinion or dishonest prejudice?

What was intended to characterize an honest opinion or dishonest prejudice?—I think I must leave it to you.

You would rather not answer?—I would rather leave it to you. I do not think you can expect me to know all this.

You have heard now the directions given by the Education Committee of Twickenham to Miss Adams and the forms with which she was supplied?—Yes, for the first time. I knew nothing about it.

That may be a reason for not knowing until you know the facts. You have heard them now?—Quite so.

And you have no reason to disbelieve them?—No.

Mr. Rawlinson: Having heard them and having no reason to disbelieve them, are they, in your opinion, in accordance with the powers of that Education Committee or not, or the intention and spirit of it?—I think it is a gross abuse.

Mr. McCall: In the course of the proceedings in this action in the month of May last, did you or your advisers put this interrogatory to the plaintiff: "Did you receive any, and if so what, remuneration, commission, or other payment in respect of the vaccination of any of such children vaccinated subsequently to your inspection?"—No. You read that yesterday. It is the first I heard of it. I knew nothing about it at all.

When I read it out yesterday did you ask your solicitor whether it had been put in the course of these proceedings?—I do not think I did. It is the first I heard of it.

Did you ask your solicitor whether that interrogatory had been put by him in the course of these proceedings? Is your solicitor in court?—Yes.

Have you read the interrogatory?—Yes.

Was that put by your solicitor in the course of this action?—It must have been.

Mr. McCall: I put that in.

In re-examination by Mr. Rawlinson the witness said he had nothing to do with the interrogatory being put, and when he heard it in court that was the first he heard of it. He left the conduct of the action in the hands of his solicitor.

My friend asked whether that is an expression of honest opinion or dishonest prejudice. I suppose there is such a thing as honest prejudice?—Yes.

Counsel read at length the letter written by the witness to the *Morning Leader*, headed Compulsory Falsehoods, and the witness said it was written in reference to the matters he was dealing with at the time. The letter written to Mr. Farrars was a private letter written under great provocation, and had no connexion with the case. He had known the person to whom it was written for some little time, and witness considered he had behaved most disgracefully to him. He had only had one action for libel brought against him, and that had nothing to do with vaccination, but was an action brought by a solicitor in respect of something the witness had said or written about him. With regard to his saying that doctors were "disease spreaders" and "corpse makers," the Majority report of the Royal Commission on Vaccination said: "It is not open to doubt that there have been cases in which injury and death have resulted from vaccination." In his opinion that statement was perfectly established, and he referred to that when he spoke of "disease spreaders" and "corpse makers," and also to the Registrar-General's return with regard to the deaths of vaccinated people from small-pox. In three consecutive years the percentage of such deaths was 93, 93, and 94. His views on the matter were quite honest, and rightly or wrongly they were shared by a large number of other people. In writing the article he had no other motive than to discuss what he considered was an exceedingly important matter of public interest, except that he had, perhaps, been mixed up with poorer parents slightly in the matter, to whom he had given a great deal of time in relation to the matter.

In discussing and criticizing the action of doctors, had you any intention of doing them harm or only dealing with what you thought were defects in the way the profession were acting? —That is so.

Mr. Hazard, the father of the child Ivy Hazard, of St. Margaret's, Twickenham, said the child was born at Kennington. He objected to vaccination because in his opinion it was deleterious to children to be vaccinated, and in consequence of that he had had none of his children vaccinated. He had moved to Twickenham to avoid vaccination, and until the information was given in regard to his child no one could find out whether it was vaccinated or not. Subsequent to the inspection he had received a notice from the vaccination officer, who had called when no one was at home in the "visiting sense."

Mrs. Hazard deposed to the fact that she was present at the inspection of her child, when the lady doctor, ascertaining that it was unvaccinated, inquired whether the mother had an exemption certificate. The answer was, No. The witness had told the plaintiff that the child's father was very much against vaccination. Subsequently the parents received two notices, of which they took no notice.

Mr. Rawlinson addressed the jury on behalf of the defendant and Mr. McCall on behalf of the plaintiff.

The Judge, in summing up, said the question was of considerable importance to the parties in the case. It was of considerable importance to the plaintiff, because she and her advisers considered that she had been grossly maligned. It was also of considerable importance to the defendant, because he was a gentleman holding strong views concerning vaccination, and he thought himself justified in going about the country expounding those views and, of course, of other people. It had been claimed that, having those strong views, he was justified in libelling other people and taking away the character of other people. If that were the law, he (the Judge) was afraid the courts would have nothing to do but to try actions of libel and slander. If people were allowed to go away with the impression that because they had strong views they were entitled to make grave accusations, and could do it with impunity, a great many of them would find their hands full. They had heard a very interesting and amusing speech from counsel for the defendant, but one could not help feeling sometimes that there was truth in the old adage that evil communications corrupt good manners. It was suggested that it was justifiable to suppress the truth and tell lies. They read things which went on in a "certain place" and were told that people had the right to make statements which were known to be quite untrue. In that court they had a special instance of a person who had a strong opinion with regard to vaccination saying that he was justified in telling parents to get a knife and prick a child's arm and say it had been vaccinated. It was claimed that it was justifiable to tell lies and to tell parents to tell lies. It was quite impossible that any such suggestion should have been meant in a moral or legal aspect in the case. The stronger a person's view was, if it were founded on fact and real statements, the less was it necessary to say that which was untrue and misled

people. Therefore, if there was any foundation for the defendant's statements, there was every reason why he should be honest about it; and, if he were honest about it, he would convince other people that he was right. But if he based the whole of his argument on falsehood and lying and accusing people and thanking God he had nothing to do with men of God and went about in that way, of course no one would believe him. No one damaged a cause more than any one who acted in that way, and the defendant wound up the charge which he made against the plaintiff in the case by saying, "What a damnable law!" To men who can think, vaccinated people are dirt beds of disease and a danger to the community." The court was pretty full that day, and he (the judge) thought that the chances were that nineteen out of every twenty people in the court had been vaccinated, but he did not think those who had been vaccinated would agree with what was said by the defendant in the case that those people, and the jury and he himself, and every body else who had been vaccinated, were dirt beds of disease and a danger to the community. That was the spirit in which the defendant had made the charge against the plaintiff. With regard to what he had said about the plaintiff, it was said it meant nothing, but was merely expressing a strong view. He (the judge) had been asked to say whether there was a matter of public interest concerned. Undoubtedly there were people who had a strong feeling against vaccination. No one denied that and it was unfortunate, but it was a matter of public interest. The important point of the question was, was the artice a fair comment upon a matter of public interest? Because it was somewhat important, when a thing was of public interest, that the public should be fed. Otherwise people were misled when they were interested in a case, and when persons were interested from the point of view of the defendant—he (the judge) did not object to the views at all which the defendant was entitled to hold, and he assumed there were other people who held those views—the danger was that in a charge like the present, holding those views, they would go away and repeat the story. They would not know the character of the defendant, or that he said it was just to tell lies and deceive other people. They would not know that, and they would believe when they read the article that it was true of the plaintiff. That was where the danger came in, and that was why it was so important for juries to signify their views of such a thing, even although they believed with the defendant, as some of them might, that his views were correct. But that was a very different thing from a jury satisfying themselves, in satisfying him, from taking away the character of a person who did not agree with him. That was the position in the case. Now, what had he said of the lady? The language he had used was somewhat striking. "The crew on the Kesteven Education Committee have distinguished themselves by the way they culture persecutions, but for compulsory cow-pox persecutions, St. Margarets, Twickenham, leads the way." Then the defendant went on to refer to what the plaintiff did in the case in question, and said, "To my mind a more villainous misuse and abuse of power has never been perpetrated even in the medical profession, which is particularly prolific in devices of this kind." That had nothing to do with the defendant's charges against the doctors of the country. Some people thought a great deal of obligation was owing to doctors. If he (the judge) remembered rightly the doctors who never failed to say how very few people realized what the poor people of the country owed to doctors. The quantity of gratuitous advice the doctors gave, and the little payment they got, were almost inconceivable unless statistics were gone into, and it was hardly credible how much time doctors gave on behalf of their poorer patients. He felt strongly when such broadcast charges were made as had been made in the present case. The defendant went on to say that doctors got vaccination fees. "They get 5s. to 7s. 6d. a case in cash, and they can also count on the other considerably procuring as being a source of income to them for some months after, if not till death. . . . Freedom there spells bankruptcy to half the doctors in England. How many of the children reported to the vaccination man by Dr. Martins were subsequently infected by her?" The defendant had endeavoured to take the trouble to find out whether the plaintiff vaccinated or not. "And at how much per head? Or, if by some other doctor, what percentage of the fees did she obtain?" Could anything more libellous be imagined than that? The jury had seen the plaintiff in the box subjected to cross-examination by counsel, who put everything to her which would benefit his own client. However painful it was for him to put the questions, it was his duty to put them, and he did it, but he asked no questions which would justify the charges. That being so, there was not the slightest foundation for them. The plaintiff said in effect she was not interested in it, and she only did what she believed to be her duty to the body who employed her—namely, the Education Authority of Twickenham—and was really carrying out the orders of the Education Authority in following up the answer to the question as to whether there were vaccination marks. He (the judge) thought it was very desirable that it should be done. Whether the plaintiff was wise in telling the vaccination officer might be another matter; but she did it with the best of motives, and certainly there was nothing to justify any of the observations made about her sharing the fees. The defendant seemed to rely upon a particular paper and seemed to be in correspondence with the *Morning Leader*. The following was what he said about the press. "What astonishes me is the conspiracy of silence maintained generally by the press on cow-pox. Although in the *Morning Leader*, the deaths and other effects of vaccination are never reported." The meaning of that was that none of the papers would take up Mr. Pomeroy's case but the *Morning Leader*, and that was why he quoted from the *Morning Leader*. What he had to do with the paper the learned judge did not know, and it was unnecessary to go into it, but, according to the defendant, the *Morning Leader* was the one organ of the antivaccinationists. In conclusion, his Lordship asked the jury to say whether they considered the article was fair comment. Even taking it from the point of view of a person who was an antivaccinator, was it fair comment or not upon a person who was only carrying on her duty as a medical inspector? Was it fair comment to accuse her of doing what she did for the sake of the fees, or sharing the fees with another doctor? There was not a little of evidence as to that. If it were fair comment, the verdict would be for the defendant. If it were not fair comment, the verdict would be for the plaintiff for such sum as would enable her to be justified in the eyes of the public and would enable her to hold up her head in an honourable profession and prevent not only attacks against her, but other people in the future.

The jury retired, and after an absence of a quarter of an hour returned a verdict for the plaintiff for 1d.

Mr. Rawlinson asked, having regard to the lines on which the case had been fought and the verdict of the jury, that each side should bear their own costs, as the verdict seemed to show that the action ought not to have been brought.

The Judge said that no one who followed the case could think that. He added that he could not make any order.

The Foreman of the Jury: The jury want the verdict to cover costs. (Laughter).

A PLEA OF HYPNOTIC SUGGESTION.

At the Westminster Police Court on December 3rd, a young lady, proved to have stolen goods from one of the large stores, was discharged under recognizances on the ground that the thefts were committed under the influence of hypnotic suggestion. Counsel, addressing the court on her behalf, said that she was of a highly respectable Swiss origin, and had been six years in this country as a teacher of languages. For five of those years she had been in one employment as governess. The charge came as a great surprise and shock to her employers, who were ready to receive her again in the same position. The defendant was of timid disposition, and possessed a temperament prone to the influence of a stronger mind. Strange as it might appear, she had committed these thefts consequent on the suggestive influence of a more powerful will, the influence of a woman sometimes with her, and at all times prevailing over her. Among the witnesses was Dr. Archibald Jackson, who said that he had been attending the defendant for nervous disorders for the past three years. She was the sort of person likely to act under the influence of a stronger mind and to be amenable to suggestion.

THE DEATH PENALTY.

As the outcome of a discussion begun at the Medical Congress held at Budapest last autumn, an international inquiry has been set on foot as to the death penalty. A circular containing the following questions is being sent round to members of the medical profession:

1. Do you approve of the death penalty from the medical point of view, and in particular do you think that the responsibility of the criminal can in all cases be determined with certainty?
2. Do you know of cases in which a *post mortem* examination has revealed the existence of gross lesions in the brain of the executed criminal?
3. Give other reasons for or against the death penalty from the medical point of view.
4. Should a doctor attend at an execution in order to verify the death of the condemned person?
5. Do you approve of the proposal which has been made that the next International Medical Congress should record its opinion against the death penalty and against the propriety of a doctor witnessing the execution?
6. Other remarks.

Replies should be addressed to Herr Mikolajski, Swiadeckich-strasse 6, Lvow, Austria.

MEDICAL PRACTITIONERS AND UNCERTIFIED MIDWIVES.

W. Q. R. states that among his poorer patients it is very common for a pregnant woman to engage him to come to her at her confinement, if sent for, she having engaged a midwife to attend her, and only wanting a doctor in the case of any difficulty arising. He adds that it is common knowledge that many of these midwives are unregistered, and he wishes to know whether, after the registration of all practising midwives has become legally compulsory, as will shortly be the case, he may safely accept such an engagement, if he knows that the midwife engaged by his patient is not on the *Register*.

. The provision to which our correspondent refers is that contained in Section 1 (2) of the Midwives Act, 1902, which is as follows: "From and after the first day of April one thousand nine hundred and ten, no woman shall habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under this Act; any woman so acting without being

certified under this Act shall be liable on summary conviction to a fine not exceeding ten pounds, providing this section shall not apply to legally qualified practitioners, or to any one rendering assistance in a case of emergency." After the appointed day it seems to us that any medical practitioner assisting an uncertified midwife in carrying on independent practice would be liable to be accused before the General Medical Council of an offence analogous to the offence of covering an unregistered practitioner. In accepting any such contract as is implied in such an engagement as that described by our correspondent, it would be wise for the doctor to stipulate that he will only attend if the patient is attended by a legally certified midwife. This does not mean that a practitioner called to a woman in labour must decline to attend because she is in the hands of an uncertified midwife, but he must do nothing to encourage an infringement of the law.

ENGAGEMENT OF LOCUMTENENT.

ASTHMA writes, that being taken ill, he telegraphed on a Saturday to a provincial agent for a locumtenent to be sent at once. He received no reply till Monday, but at 11.30 a.m. came the following telegram: "Must I send locum to-day?" He thereupon telegraphed, "Yes, if you can send one at once." At 1.30 came another telegram, "Dr. A. is on his way." At 4 p.m. another, "Dr. A. has failed us, but Dr. B. is coming to-night." "Asthma" then replied, "Say definitely what time Dr. B. will arrive." To this no answer came. "Dr. B. on his way, will arrive at 5.30 p.m." Dr. B. did not arrive by 9 p.m., so in order not to lose the last post, "Asthma" wrote to another agent to send a locumtenent. In the meanwhile Dr. B. arrived about midnight, and not being able to get into the house got a bed in the neighbourhood, but presented himself the next morning. Our correspondent then told him he had engaged another locumtenent, as he had not come at the time promised. A bill for 1½ guineas has since been presented. Ought this to be paid?

*** Whether the telegrams quoted gave rise to a valid contract, binding our correspondent to pay Dr. B.'s expenses, could only be decided in a court of law. If Dr. B. had started, as asserted in the last telegram from the agent, and should have arrived at 5.30 p.m., but was unable to keep his engagement on account of circumstances not under his control, he would have an equitable claim to his expenses.

FEES FOR MEDICAL EXAMINATION.

DR. A. GEORGE BATEMAN, General Secretary, Medical Defence Union (4, Trafalgar Square, W.C.), writes: Dr. A. T. Brand has rightly called the attention of the profession to the fact that medical examination of workmen alleged to have been injured and who claim compensation must be paid for by the employer against whom the claim is made. It is, however, necessary to note that the medical examination is only to be paid for by the employer *if he desires such examination to be made* and where he himself *provides the medical examiner*. I accentuate these points as I am often asked whether the certificate of and examination made by the personal medical attendant of the patient is not a liability on the part of the employer, and such claims are sought to be made against the employer. That such claims are not justified under the Act can be shown at once on reference to the two clauses named in Dr. Brand's letter. They are, of course, only a liability against the employer if he directs such examination to be made, and if he instructs the personal medical attendant to carry out such examination and to make a report or send in certificate. There must be an employment of the medical attendant by the employer in order to constitute a liability for the fees in question. He can, and generally does, employ other than the medical attendant. The patient alone is responsible for medical attendance and for any certificate not called for by the employer. A failure to understand these points has often been the cause of friction.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

THE OBLIGATIONS OF AN ASSISTANT.

C. C.—The assistant is within his legal right in remaining in his house so long as it may be convenient to him, and no objection can be raised provided he does not infringe his obligation not to practise. Assuming that the assistant does nothing directly or indirectly to interfere with his late principal's practice or patients, and that the sole ground of complaint is that he continues for the present to reside in the house of which he is the tenant, he does not appear to be infringing any ethical principle.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

M.D. asks for suggestions as to the cure of constipation in an infant three months old—fed on the breast.

CARCINOMA writes: Would any of your readers who have had experience of the treatment of cancer by injections of potassium bichromate solution be good enough to give particulars of their methods, and say whether it is really of service instead of the orthodox treatment by operation? Also to give instances of cases when the growth has been removed by sloughing, and as to whether the enlarged glands have gone down, and as to whether any recurrence has taken place in other parts of the body?

TUBERCULOSIS OF THE URO-GENITARY TRACT.

M.R.C.S. asks to be referred to publications on tuberculosis of the uro-genitary tract apart from Mr. Hurry Fenwick's volume dealing with the subject.

*** We know of no monograph on the subject other than the one mentioned. It is fairly fully treated in vol. vi of Keen's *Surgery*. The following papers published during the past four years may be of assistance to our correspondent:—Pardoe, "The Treatment of Tuberculosis of the Urinary System by Tuberculin," *Lancet*, 1905, vol. ii, p. 1766; and *Medico-Chirurgical Transactions*, 1906, vol. lxxxix, p. 85. Lucas, "Castration for Tuberculous Disease of the Testis," *Medical Press and Circular*, 1906, vol. lxxxi, p. 14. R. T. Howard, "Tuberculosis of the Testis in Children," *British Journal of Children's Diseases*, 1907, vol. iv, p. 181. Swan, "Nephrectomy and Ureterectomy for Tuberculous Disease," *Clinical Journal*, 1908, vol. xxxii, p. 367.

ANSWERS.

IS SEPTICAEMIA AFTER A STING AN ACCIDENT?

CASTLEVILLE.—There can be little doubt that septicaemia following the bite of a fly is an accident in the ordinary acceptation of the term, just as a similar result of the bite of a dog would be, but whether it is sufficient ground to sustain an action at law is very doubtful. First, there is the difficulty that *post hoc* is not necessarily *propter hoc*. The septicaemia followed the bite of the fly, but may not have been caused by it. Further, if the contention is pushed too far, all infections conveyed by flies (for example, malaria, sleeping sickness) might be made the grounds of accident claims, and is not probable that a court of law would admit this. We do not know of any legal decision which quite fits the case related, and much depends upon the wording of the policy; as a rule, accident policies contain some clause intended to define "accidents," and this clause would probably guide the decision of a judge.

VITAL STATISTICS OF FOREIGN COUNTRIES.

S.B.W.—The Registrar-General's Annual Report (Tables 59 to 88 in last—seventieth—report) gives figures relating to births, deaths, and infantile mortality in a large number of foreign countries.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *Poste Restante* letters addressed either in initials or numbers.

ON INDICATIONS FOR IMMEDIATELY OPENING THE ABDOMEN IN ACUTE CASES.*

BY

W. G. SPENCER, M.S., F.R.C.S.,

SURGEON TO THE WESTMINSTER HOSPITAL.

I PROPOSE to consider this subject especially from the point of view of country practice. It is one of those questions which is most prominent at the present time, for the all-sufficient reason that upon it turns in many cases the life or death of the patient.

If any one should ask why such cases come now so frequently into question, I have no doubt as to the answer—it is simply this, that in former days they were overlooked. In such cases a name was given as the diagnosis, either a general term, or the case was labelled on account of some symptom to which attention was chiefly drawn. It was sought to relieve the patient's symptoms, and the disease was left to chance. If indeed such a case were submitted to a *post-mortem* examination, the record did not distinguish cause from effect, so that no emphasis was laid upon what might have been done at an early stage of the affection. Of this explanation, that the cases to be referred to were formerly overlooked, one might occupy the rest of the paper in recounting instances. I recall an excursus in Dr. Matthews Duncan's lectures on midwifery when he came to tell us that the fetal heart was first heard about 1820. He put his finger on the tip of his nose, and with more Scots brogue than usual declared to the theatre full of students that there were things in front of our noses which we could not then see.

A preliminary point which I propose to consider in a brief manner is the adaptability of modern surgery, as applied to abdominal cases, for practice in private houses and small hospitals.

The most advanced type of modern surgery is carried on in magnificently equipped institutions at a lavish expenditure both as regards foundation and maintenance. So marked is this the case that the London hospitals can no longer claim to represent the most advanced ideals. In former days they depended largely upon endowments, property held as capital after the death of donors, and only the interest expended. Of late years property received from the same class of donors has been treated as income. But the State has come to demand more and more from the same sources as have hitherto maintained the hospitals. And the London hospitals are apparently approaching a change when they must come under the State and the municipality: then the proverb will apply that he who pays the piper may claim to call the tune.

But if the larger ideals as to surgical installations come to be deemed essential, a serious bar to the proposition that abdominal surgery can be well carried out in private houses and hospitals with limited supplies will be formed. Of course there is ample reason for a large expenditure on modern requirements in a great hospital crowded with all sorts of cases. The most costly suggestions of modern bacteriology can be justified when one case follows close upon another into the operating theatre day after day.

But when one sets out to examine narrowly all details so as to pick out the essentials of modern surgery, we ought to read over again Lord Lister's instructions, for it will then be found that the methods of Listerian surgery adapt themselves to the exigencies of private and small hospital practice. And I may quote as the most recent authority on this point the lectures recently published by M. Lucas-Championnière.†

Whether a surgeon is studying how to furnish a small hospital on limited supplies, or whether he is trying to include in a bag all the things indispensable at an abdominal operation, the Listerian methods, with small additions, will form an efficient protection against germ infection. A surgical practice based on Lord Lister's latest instructions has amply proved itself to be safe and successful anywhere and always. The ideals which are set forth in some new and magnificent hospitals, if they came to be regarded as universally essential, would put an end to all surgery except in the largest hospitals and costliest nursing homes.

ABDOMINAL CONDITIONS REQUIRING IMMEDIATE OPERATION.

Passing on to the various conditions for which an immediate operation is required in abdominal cases, I will note a few points for each which, in my experience, have come to appear important.

Hernia.

First as to external hernia, and the possibility of a small irreducible femoral or umbilical hernia being missed, I have known men, keenly alive to the early recognition of surgical cases, yet who, in the rush of work, have taken the patient's complaint of occasional vomiting as a symptom to be treated without, at the moment, making an examination. The patient has omitted to complain of the hernia owing to its being an old-standing one and painless, so that when I came to operate there was advanced strangulation. More than one house-surgeon has reported the admission of an acute abdominal case without examining the hernial rings.

Practically it is always advisable to operate upon an irreducible femoral or umbilical hernia, and to do so immediately that it occasions vomiting, however slight. Pain and tenderness are further signs, but both may be absent until strangulation is far advanced.

The inguinal hernia which should be operated upon at once is that which comes down suddenly in a strong man and causes marked pain. There is the further reason for operating that the hernia may be cured. I would discountenance any palliative measure, whether taxis or the hot bath. In a child, unless late of course, the application of an ice poultice almost invariably leads to the reduction of the hernia, and the question of operation may be postponed. In an old man with an inguinal hernia of long standing, which has become irreducible, a hot bath should be given, with all watchfulness against faintness, after which a moderate application of taxis is indicated. But if taxis is not speedily successful an incision should be made without any further delay.

Appendicitis.

One is sorry to read that some physicians still maintain the confusion over the name "appendicitis" by using it in a double sense. There is the disease which the surgeon means by "appendicitis." We read that at Budapest physicians spoke of the medical treatment of appendicitis. If they were referring to what the surgeon calls appendicitis, then their treatment being of the harmless kind their cases were left to chance. If the cases were not what the surgeons call appendicitis, the proper general term in the absence of any further definition should be that of "colic."

A surgeon means by "appendicitis" a disease which begins by a retention somewhere in the lumen of the appendix, favoured by which the organisms in the retained material grow outwards through the wall of the appendix with all possible variations as to virulence and rapidity. When this inflammation reaches the peritoneal coat of the appendix the symptoms of appendicitis show themselves for the first time, so that the *symptoms* of appendicitis are those of infective peritonitis, it may be merely the peritoneum covering the appendix, or the peritoneum in the immediate neighbourhood, or wider still.

There is no medical treatment which can possibly have any influence upon the course of the disease. The communication with the caecum has been shut off from the beginning; the communication with the circulation is simply through a small artery: the only conceivable medical treatment would be an antitoxin, and that could hardly reach such a secluded spot, even if one had an antitoxin of the kind which would neutralize the toxins.

Appendicitis is the most frequent of surgical affections, and, like other surgeons, my experience runs into hundreds of cases. I am wholly in favour of operating as soon as the diagnosis is made, and of always removing the appendix. The mortality is then less than 5 per cent., some of which is made up by cases which present no signs until it is too late.

* A paper read at the meeting of the West Somerset Branch of the British Medical Association at the Taunton and Somerset Hospital on November 2nd, 1909.

† Reviewed in the BRITISH MEDICAL JOURNAL, 1909, vol. i, p. 793.

The first sign of the disease, acute pain with vomiting, does not mark the commencement of appendicitis, but its result—peritonitis. This pain may be referred elsewhere than to the appendix region, when we must diagnose the case as one of acute infective peritonitis, for which an exploratory operation is desirable. That it is the appendix which is involved is for the moment only a presumption. This we shall the more readily make in the region of the appendix, if by percussion we can note an impaired resonance, either over the ileo caecal region or towards the ascending colon. This impairment of resonance indicates septic oedema, which spreads out in the subperitoneal tissues from the appendix, along with effusion into the peritoneal cavity. If the appendix is hanging over into the pelvis, then the impaired resonance is lower down, or one can only reach and feel the oedema and peritoneal effusion *per rectum*. In such an acute case the diagnosis of appendicitis is presumptive—the pain is too acute and general for us to feel the actual appendix. We must be keenly alive to the first signs of infective peritonitis. If we inspect the abdomen, and there is no sign of peristalsis when the abdomen is exposed, we may conclude that we have not to deal with colic. If we observe peristalsis, we have not to do with peritonitis, but with colic or some form of intestinal obstruction.

We should in abdominal cases pay no primary attention to the patient's temperature. The pulse will certainly be affected, but we must not wait if other signs are present. The pulse will slowly rise to a rate above 100, and have the peritoneal characteristics. But it does not make this rise in some cases until late. Even in an acute attack the pulse may be slower than 80 for a time, probably owing to primary shock.

Where the pain is not very acute and general, we can usually get localizing signs: sometimes it is the patient himself who refers it to McBurney's spot, or the neighbourhood. More surely the surgeon learns to feel the inflamed appendix through the abdominal wall, and the patient confirms the surgeon's sense of touch by complaining of a particular tenderness.

Although I have followed consistently the plan of operating at once, I cannot recall that I have made an error by operating in acute cases. If I have not found appendicitis, I have exposed some other condition, of which I could mention a long list, all in some way amenable to surgical treatment.

Really the operations on the appendix which may perhaps be exposed to criticism are those done when the patient has had recurring attacks of some sort, but without a thickened or painful appendix being distinguishable. Then one may find the appendix kinked, and perhaps an infection of the wall of the appendix can only be demonstrated on microscopical examination. But there remain a few cases in which the operation has been done on account of obscure symptoms, in which the appendix neither appeared kinked, nor could any marked change be found on microscopical examination. I suppose such exceptions may have been instances of appendicular colic in the true sense of the term, not appendicitis, but a form of enterospasm.

Returning to acute cases, I would especially emphasize the necessity of being beforehand in the case of boys and girls, or the most heart-breaking calamity may occur. One very painful spot, with a little impaired resonance around, in a schoolboy who has vomited once and looks ill, are about all the signs you may meet with of acute gangrene of the appendix. Even suppose one should operate unnecessarily in a case, it is by a set determination to operate early that many lives are saved; to any caviller one should repeat the American saying, "The real life-saving operation is the operation within the first twenty-four hours of the first attack."

Gastro-duodenal Ulceration and Perforation.

When one passes to the second group of acute abdominal cases—those in connexion with gastric and duodenal ulceration—a surgeon cannot express such dogmatic opinions as about appendicitis, because he has not sufficient experience of early cases, whether of dyspepsia or of ulceration. I have seen with physicians a number of patients with acute haematemesis, and in all we have agreed that the patient should be treated medically; of these cases all have recovered from that attack except one; of those that have recovered some have then declined gastro-jejunostomy, others have had gastro-jejunostomy performed, when I have been confirmed in the view that I could have done nothing by immediate interference. The patient who died was seen by me in consultation several times during the month she lived, but there was never the slightest chance for an operation. The haemorrhage stopped, but she gradually sank with what must have been a deep ulceration. Two cases died after gastro-jejunostomy, the haemorrhage had kept on recurring in small amount, and at last the physician in each case recommended operation as a last resource. The operation was done quickly, and neither patient seemed any worse for it, but the haemorrhage returned in about three or four days, and death followed.

As regards the cases of acute perforation, if there has been a distinct history of gastric trouble, a sudden attack of acute pain in the epigastrium with more or less collapse, and if one can assure oneself that there is commencing peritonitis, there is no occasion to wait. In a case in which these special points are vague, the one important thing is that the patient should have nothing by the mouth. It is a grievous drawback to open the epigastrium, and for food and brandy to pour out. If the patient is put to bed, given rectal saline infusion and nutrient enemata, but no morphine, one can then watch for the appearance of definite indications. The steady rise of the pulse, the localization of pain in the epigastrium, the commencement of distension of the epigastrium by gas—these signs will appear in a few hours. Owing doubtless to the antiseptic properties of the hydrochloric acid in the gastric juice the infective peritonitis is not so virulent as in appendicitis, so that a perforation, especially behind, may slowly develop a subdiaphragmatic abscess and give more time for making a diagnosis. The most urgent operation, such as that for perforation of a duodenal ulcer, is usually plainly indicated by the acute localized peritoneal pain due to the duodenal contents coming in contact with healthy peritoneum.

Gangrene of the Gall Bladder.

An immediate operation is required in the case of acute gangrene of the gall bladder, or the patient will die. In the cases I have seen there has been a distinct history of biliary trouble, and an enlarged gall bladder may have been felt beforehand. The attack is that of acute infective peritonitis below the ninth rib on the right side causing pain, rigidity, impaired resonance and soon brawny induration of the abdominal wall. The temperature is likely to begin with a rise, even a rigor, but, as in other cases of gangrenous inflammation, the later tendency of the temperature is to fall. Moreover, if there is jaundice, and according to the extent of the jaundice, the pulse may be kept from increasing in rate until later than would accord with the amount of infective inflammation.

In the cases I have seen the local indications for operation were evident. If there is delay, there is a double chance against the patient, not only from the infective peritonitis, but also from the extension of the infective inflammation to the branches of the portal and hepatic vein and the inferior vena cava, and along the hepatic ducts into the liver. I have removed the gall bladder and gall stones and plugged the wound with gauze, and the cases have done well.

Acute Pancreatic Abscess.

A dangerous but rarer condition is that of acute pancreatic haemorrhage and abscess, which may resemble either a duodenal perforation or gangrene of the gall bladder. If found, the only thing to do is to plug with gauze and end the operation as quickly as one can, for the cases are most fatal.

Pelvic Cases in Women.

Of the acute pelvic cases in women in which an immediate operation is necessary, perhaps the easiest to diagnose is a twisted ovarian cyst, because of the acute symptoms and the existence of the cystic swelling. Also there is no difficulty in deciding to operate for suppuration supervening upon an ovarian dermoid, salpingitis, or haematocele. As regards extrauterine fetation, fortunately the necessity for an immediate operation is exceptional. The case would now generally be recognizable after the

early rupture into the layers of the broad ligament, and be operated upon in the interval, before there is danger of further rupture. When rupture into the peritoneal cavity does occur, the signs which have been described by Lawson Tait and Cullingworth appear—acute abdominal tenderness and rigidity, increasing anaemia, and the collection of free fluid in the peritoneal cavity. If the surgeon operates early in the case of a primary rupture into the peritoneum, he quickly clamps the bleeding point and goes on to infuse saline fluid, and the case may be expected to recover rapidly. When there is a late rupture into the peritoneal cavity, the surgeon is in terrible difficulties. I had to operate a while ago on such a case; she had come a good distance to the hospital: the history was clear enough, also the signs, and she was acutely anaemic. I found blood-clot widespread, and mixed up with intestines, to which the placenta adhered. I could only clear out the fetus, and part of the clot and membranes, then plug the sac with gauze. She soon died.

I may mention two rarer sorts of cases which I have had to operate upon, because in neither, for more than one reason, may any history be forthcoming.

The first group are due to streptococcal infection, in connexion, one has to presume, with attempts at artificial abortion. There is, of course, a history in cases of regular labour and miscarriage. What is evident is an acute infective pelvic peritonitis, great pain and tenderness, with impaired resonance over the hypogastrium. By the vagina and rectum one can make out some uterine enlargement; the incision through the lower part of the linea semilunaris on either side will open up a parametric abscess, if there is one, without entering the peritoneal cavity. This I have had to do several times; or the peritoneum is opened up, and there is exposed a collection of turbid fluid around the enlarged suppurating or semi-gangrenous uterus. In one case I passed a tube from the hypogastrium through the rotten uterus out by the vagina. I think the patient might have lived, so far as the local condition was concerned, but she developed pericarditis and died. The case was in a private house, and the practitioner only knew part of the history. In a similar case, which died in hospital, the marks of infected punctures were found on the cervix uteri. In a third case, which lived, gauze was packed round the infected uterus.

The other set of cases in which one may get no history is that of acute gonorrhoeal pelvic peritonitis in girls and married women. I have operated on the supposition that the cases were appendicular, and have found the tubes inflamed and pus escaping, the appendix being free, or, it may be, also involved. One seeks to confirm the diagnosis by examining for gonococci. Beforehand, by rectal examination one finds evidences of pelvic peritonitis, but there is no circumscribed swelling as in the cases of tubal and ovarian suppuration.

The cases above referred to all have this in common, that the sign for immediate operation is marked by the onset of acute infective peritonitis at some one point in the peritoneal cavity.

Intestinal Obstruction.

The other great group of cases have as the common sign intestinal obstruction.

The most difficult of all the abdominal cases with which the surgeon has to deal are those in which the symptoms of intestinal obstruction are followed by the signs of general infective peritonitis. But such a case need not be discussed with regard to the question of immediate operation. That goes without saying; it is the prognosis which is so bad. Is the case then hopeless, and operation contra-indicated? No, unless the patient is beginning to die. Rapid operating, emptying the intestines, sponging out the peritoneum, accompanied and followed by continuous saline infusion, have led of late to wonderful recoveries from a formerly hopeless condition. The chief aim in all cases of intestinal obstruction is to operate before the infective peritonitis has supervened upon the obstruction.

Intussusception is common among weak, ill-fed children. Fortunately surgeons now see the children early when the tumour can usually be detected, although as to this there may be some obscurity with the tumour in the hepatic region. But with the evidence of the acute onset and a feeling of the tumour, one should not think of waiting for further signs, such as blood and mucus in the rectum. The one chance of success is to operate at once; as the abdomen gets distended the tumour is less easily felt, and the increased peristalsis of the bowel is less evident, but we now find blood and mucus in the rectum. Students are apt to catch at some minor point because it is new, and they mention the lack of fullness in the caecal region, after all a negative point, and very easily obliterated by the tympanites. The most dangerous type of intussusception is that which occurs in the course of Henoch's purpura; the case being under treatment for purpura, intussusception may not be noticed. In one upon which I operated for my colleague, Dr. Hall, although early and readily reduced, the case died. Fortunately most cases of intussusception, if they can be operated upon within a few hours of the onset, will get well.

In most of the cases of intestinal obstruction we can make a guess at the cause, and should operate before the acute stage of distension. It is most important to explore, for by so doing we can remove the disease and cure the patient. Even although we find some irremovable cancer, there are opportunities of anastomosis or of appendicostomy which may save the patient from an artificial anus. Thus in a recent case there was an abscess around an irremovable sigmoid cancer which had caused an attack of partial obstruction; an appendicostomy has sufficed to prevent another attack of obstruction.

When the bowels are already distended the one essential to success is to empty them by siphoning off the contents. But if there is delay until, in addition to the distension, there is already peritonitis, the muscular wall of the bowel may not recover even although the gut has been emptied.

The case of intestinal obstruction which gets put off too long is the patient who only vomits occasionally and perhaps has only foul borborygmi. His abdomen shows coils of intestines partially distended with marked peristalsis; such a case if left too long will be seized with collapse and sudden tympanites, and then operation will be too late.

Abdominal Injuries.

I have had no experience of importance with accidents. No English surgeon has had any number of cases of abdominal wounds from pistol bullets. We must rely upon the experience of American surgeons. Every case of pistol bullet wound must be explored at once, the track followed up, the damage repaired, and then a drain must be inserted.

In cases of abdominal contusions the first thing to do is to treat the patient for the shock, give nothing by the mouth, no morphine, and to examine and watch most closely for special indications. Mr. Rock Carling and also Mr. J. Berry have had successful cases of rupture of the jejunum close to the duodenum, the cardinal sign being the acute and localized pain, which, starting at the time of the accident, increases in severity. This points to an immediate operation.

Then there are the special signs of rupture of the various organs which may present themselves as the case is closely watched.

Caesarean Section.

When I think of other reasons for immediately operating in abdominal cases such as may be met with I feel disposed to praise Caesarean section, for within my limited experience it seems to me a straightforward abdominal operation in which one can be confident of success if it be done like other abdominal operations, early, before the mother is in any way infected or the child injured. One thinks that perhaps the babies in lying-in hospitals may sometimes seem to students rather superfluities. But in private practice the outlook is very different, for many of the women may have but one chance in their lives of being a mother. That is the aspect which weighs so heavily for early Caesarean section and so unfavourably against the alternative courses.

Caesarean section will come more and more into practice by anyone who can do other abdominal operations, and not only for pelvic obstruction. Dr. Griffiths has adopted it successfully for placenta praevia, and although I have never seen a case of placenta praevia, the difficulties and dangers of acute haemorrhage are well known. I recall that when your president's brother was my house-surgeon an experienced practitioner noted

at once that a woman, to whom he was called at the first commencement of labour, had a small male type of pelvis, and he sent her up to me at the hospital forthwith. I operated at once; she made a recovery, as aseptic abdominal cases do. She has frequently been up to the ward with her child; she has not been again pregnant, and so may be one of the women alluded to above, who have but one opportunity.

Renal Obstruction and Suppression of Urine.

If we may include renal among abdominal cases, then suppression, or threatened suppression, of urine will form the chief indication for immediate operation when we can find evidence that the cause is obstructive. An *x*-ray examination may show calculi on both sides, or even slight distension of the kidney and pelvis. In the absence of an *x*-ray examination, one must rely upon the history of the case and upon palpation. But, if there is any suspicion, in face of suppression, that the cause is an obstructive one which will not yield to medical treatment, early nephrotomy should be done. If done early, one may do it on one side first, and wait before cutting into the opposite kidney.

ON THE USES OF CATGUT IN SURGERY:

WITH SPECIAL REFERENCE TO IODINE CATGUT AND IODINE-FORMALIN CATGUT.

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CONSIDERING the advances that have been made of recent years in the preparation of catgut by improved and simplified methods, it is strange that such diversity of opinion should still exist amongst surgeons of repute regarding its safety and general applicability for surgical purposes. At the present time operating surgeons adopt one of the following attitudes regarding its use:

1. There may be some who never employ it.
2. There are those who employ it to a very limited extent, and chiefly in infected wounds.
3. There are others who, either owing to some unfavourable experience or to the reports of tetanus and other disasters in the practice of other surgeons, use it with a feeling of uncertainty and anxiety.
4. Finally, there are those who use it freely in all cases where such a material is suitable.

As a striking example of such diversity in practice I may mention that during a recent visit to the United States I found that in the Mayos' Clinic at Rochester, Minn., iodine catgut was extensively employed for ligatures and buried sutures, to the complete exclusion of other materials, save where some more resisting substance is necessary—for example, chromicized gut is used for hernia operations and for the inner row of gastro-intestinal sutures, the external row consisting of iron-dyed Irish linen. The iodine catgut used is sterilized by Willard Bartlett's method,[1] which consists in heating it in liquid petrolatum previous to its being placed in a 1 per cent. solution of iodine crystals in Columbian spirits. This preliminary sterilization is somewhat troublesome and quite unnecessary for the preparation of iodine catgut, as I shall presently point out. The use of catgut so prepared has, however, given the greatest satisfaction; it has been used by the brothers Mayo and their assistants in over 5,000 operations with most satisfactory results, and has been adopted by Murphy, Deaver, and others.

In the surgical clinic of Johns Hopkins Hospital, on the other hand, I found that catgut is used to only a very limited extent, iron-dyed silk, freshly boiled, being extensively employed for ligatures and buried sutures. Dr. Finny informed me that he avoided the use of catgut as far as possible, owing to the trouble to which it frequently gave rise, notwithstanding its most careful preparation by various methods; the process which still found most favour there being the difficult and cumbersome cumol method.

It is my belief that so long as surgeons continue to employ a *simple aseptic catgut*, no matter what the process of sterilization employed, so long must they expect to have trouble and anxiety with their operation wounds. I have elsewhere[2] taken considerable pains to point out the objections to the use of *plain sterile catgut*, and insisted on having it impregnated with some reliable antiseptic. This is one of those exceptional instances in which antisepsis as opposed to simple asepsis possesses a distinct advantage.

Ewald found that catgut has the power of exciting suppuration, even when it is perfectly sterile; this property he attributed to an unknown toxic substance. The experiments of Klemm led him to believe that though catgut may be sterile, it affords a suitable soil for the cultivation of micro-organisms. Apart, however, from infection, as I have pointed out, "it appears that catgut sometimes possesses *chemotactic* properties which lead to the formation in the tissues of sterile pus,"[3] or, at least, a fluid which differs only from true pus in the absence of pyogenic micro-organisms.

During the past few years several cases of post-operative tetanus have been reported, and in some at least of the cases catgut has been held responsible, and, I believe, not unjustly, though I do not know what kind of catgut was used. What I desire specially to point out is that, even assuming the catgut to be sterile but devoid of antiseptic properties, I think it not only possible, but highly probable, that if placed in a favourable situation in the peritoneal cavity, owing to its chemical properties it might attract to it micro organisms from the intestinal canal such as *B. coli*, *B. enteritidis*, or possibly some organism which, though not identical with the *B. tetani*, may be capable of developing a tetanic toxin.

Now, if catgut be not alone sterile, but also impregnated with some germicidal substance which protects it from infection, this could not occur. It is not enough that the gut is incorporated with one or another antiseptic; the antiseptic itself must possess certain qualities to be ideal. It must be strongly antiseptic, preferably germicidal, so that it not only protects the gut from infection but also sterilizes its track; it must be able to penetrate the gut throughout, without injuring its physical properties; be non-toxic and non-irritant; not interfere with timely absorption and must make the catgut antiseptic throughout its entire active life.

So far, the substance which has given for this purpose most general satisfaction is iodine, which, though powerfully germicidal as well as antiseptic, does not, when brought into contact with the deeper tissues in solutions of moderate strength, seem to exert any injurious influence. Nor have I ever seen or heard of a case of iodism from the free use of catgut impregnated with it, which shows that it is not rapidly absorbed.

Iodized Catgut.

The method of preparing iodized catgut which first gained it popularity was that of Claudius, which consisted in immersing the gut in a 1 per cent. watery solution of iodine and potassium iodide for at least eight days. It was said that the catgut might be kept in this solution for a considerable time without deteriorating in quality. This I soon found to be a fallacy, and at the same time satisfied myself that loss of tensile strength was not due to the evaporation of the iodine, as suggested by Mr. A. S. Barling,[4] but to the chemical action of the water on the fibrous tissue. This softening by simple maceration will be found to take place in fibrous tissue when it is immersed for any considerable time in distilled water, in the absence of all putrefactive changes and even in the presence of some antiseptics, but will not occur in the presence of various hardening agents—and more especially alcohol, which has the further advantage that it does not produce brittleness.

It was owing to the recognition of this action of watery solutions of iodine on catgut that I was led to use different methods for its preservation, three of which are described in my work on *Modern Surgical Technique* as being satisfactory—namely:

(1) The addition to the aqueous iodine solution of an equal quantity of alcohol; (2) the addition to it of an equal quantity of 5 per cent. phenol solution, which, by combining with the iodine, removes most of the colour, but gives an antiseptic catgut that will keep admirably; (3) transferring the catgut to a spirituous preserving solution of mercuric biniodide, having previously washed it with phenol solution to remove excess of iodine from its surface.

I continued to employ the first of the above methods for some months, but as I could not see the advantage of soaking the catgut for eight days in a watery solution before adding any alcohol, and as I was satisfied that it softened the gut, this method of preparation quickly gave way to simple immersion of the catgut in equal parts of Claudius's solution and duty free spirit, in which I found it would keep indefinitely without loss of strength or pliability.

I may point out that I had adopted this method of preparation previous to the appearance of the article by Dr. J. Scott Riddell in the BRITISH MEDICAL JOURNAL, April 6th, 1907, on "Iodine spirit catgut," or to my knowledge of its having been suggested by Salkindsohn. Personally I do not consider that the "iodine spirit catgut" prepared by his method contains a sufficient amount of iodine, as the solution, which is made by adding one part of tincture of iodine to fifteen parts of proof (50 per cent.) alcohol, contains only 0.15 per cent. iodine, the strength of the tincture being 2.5 per cent. Moreover the use of iodine tincture and proof spirit is quite unnecessary, and the fact that both are subject to duty adds considerably to the cost of preparation. Anyone who requires only a small amount of iodine catgut for private operations may prepare it with a mixture of equal parts of tincture of iodine and distilled water. This gives 1.25 per cent. iodine to 45 per cent. alcohol.

For practical purposes a mixture of equal parts of Claudius's 1 per cent. watery solution and duty-free spirit will answer, and, as I have mentioned, was for a considerable time used in the hospitals to which I am attached; but this 0.5 per cent. solution does not yield the dark-brown or nearly black catgut which is by Claudius and others considered desirable, and for hospital purposes I now advise the following:

Make a 10 per cent. iodine stock solution by rubbing up the requisite quantity of iodine with twice its weight of potassium or sodium iodide and sufficient distilled water.

Take of this 10 per cent. iodine stock solution	...	...	...	1 part.
Of distilled water	...	...	...	3 parts.
Of duty-free spirit	...	...	...	6 parts.

This gives a 1 per cent. solution of iodine in 54 per cent. alcohol (approximately).

The catgut is placed in this for at least eight days. It may then be placed in jars, and just covered with a solution containing one half the amount of iodine. It will keep in this indefinitely, and is only taken out a short time before it is required for use, so as to allow some of the alcohol to evaporate.

Those who prefer a dry iodine catgut, as advised by Moschcowitz, can readily obtain it by placing it after preparation for a short time in full strength 90 per cent. alcoholic solution, removing, placing on a sterile dish under a glass bell-jar, and allowing it to dry spontaneously. I cannot see that dry catgut possesses any advantages, as that prepared in the solution recommended is easily manipulated, and does not swell during use from the absorption of moisture from the tissues, as is certain to happen with the dry, which is also said to become brittle, and must lose some of its iodine by evaporation.

Iodine-Formalin Catgut.

When I learnt that Boeckman had shown that the action of formalin on catgut makes its surface *waterproof*, so that boiling water does not penetrate the gut, and that, as a consequence, the interior of the ligature is only exposed to a dry heat of 212° F., which does not sterilize,[5] I came to the conclusion that it was not safe to use formalin catgut prepared in the ordinary way. It occurred to me that it might be possible first of all to iodize the catgut and then to harden its outer layers by immersion in formalin. I tried this over two years ago, and the experiment proved so successful that I have since then been using "iodine-formalin" catgut wherever delayed absorption was desirable, with most satisfactory results.

The method of preparation is as follows:

1. The gut is prepared with an alcoholic solution of iodine in the manner already described.
2. At the end of eight days it is taken from the iodine solution with sterile forceps, placed in a sterile glass jar, and washed with either a weak solution of carbolic acid or with running sterile water to remove the alcohol and iodine from the outer layers, so as to permit more freedom for the action of the formalin.
3. It is placed in a 3 per cent. formalin solution for from twenty-four to forty-eight hours according to the thickness of the gut.
4. It is washed in running water for a few hours to remove the formalin.
5. It is now placed in 50 per cent. alcohol containing 0.5 per cent. iodine and 5 per cent. glycerine, this latter rendering the gut more pliable.

In this solution it may be kept indefinitely, being taken from it only shortly before required for use to allow the alcohol to evaporate.

When preparing either "iodine" or "iodine-formalin" gut, the finer qualities are wound on my fluted glass spools, which permit free access of the fluid. The coarser qualities of gut are cut into lengths of about 2½ ft.; each of these is made into a small coil about 1½ in. in diameter, one free end being twisted a few times around the coil to keep it from opening. The coils are then strung on a thread and suspended in the solution during preparation, but are allowed to rest on the bottom when placed in the final preserving solution.

Catgut prepared in this way possesses the combined advantages of iodine and formalin gut without any of the disadvantages of formalin gut prepared in the ordinary manner.

In the BRITISH MEDICAL JOURNAL, October 2nd, 1909, Mr. F. J. Steward, of Guy's Hospital, published some notes on "formalin-iodine" catgut without apparently being aware of the fact that the use of catgut prepared first with formalin and then with iodine, by the method of Claudius, was advocated in 1904 by W. J. Stone.[6] Now, is it not probable that as formalin renders the outer layers of catgut impermeable to boiling water, so also will it render them impermeable to any iodine solution, and that, consequently, resistant pathogenic micro-organisms included in the original manufacture of the raw gut may escape destruction?

The Uses of Catgut.

Owing to its being an absorbable substance, catgut should be employed for surgical purposes whenever and wherever an absorbable material will answer the required purpose, and a little reflection will show that this applies to almost all cases in which ligatures or buried sutures are used.

In infected wounds or in parts that are liable to become infected an absorbable ligature or suture is the only safe material to use, unless a non-absorbent substance, such as metallic wire, be employed, which cannot itself become infected. For example, if a suture such as silk, which though presumably sterile at the time of its being placed in the tissues, subsequently becomes infected with pyogenic organisms, it will keep up continued suppuration in the part so long as it is permitted to remain there. I have come across some cases operated on by others for movable kidney in which silk had been used for the nephropexy, and in which, owing to its becoming infected, suppurating sinuses persisted for over twelve months, but were quickly cured by removal of the infected sutures.

When the desired result can be attained in a short time it is preferable that the ligature should undergo rapid absorption, as further retention of the material in the tissues can serve no useful purpose. Hence in such cases plain iodine catgut should be selected. This applies to all ligatures for blood vessels and pedicles, for the suturing of soft parts to obliterate dead spaces where there is not much tension, and for securing the temporary retention of a drainage tube, as in cholecystotomy, etc.

On the other hand, where the action of the suture is desired for a considerable period, it is necessary to use some material that will resist absorption. This indication can be completely fulfilled by the use of iodine-formalin catgut, which will remain unabsorbed and retain its strength for from two to several weeks, according to its thickness. My own experience and observations agree with those of Mr. Steward, and show that a suture of No. 3 iodine-formalin catgut will remain unabsorbed in the abdominal parietes without much loss of tensile strength for over four weeks, while No. 1 will last, under similar conditions, for at least two weeks. We are therefore justified in using this material for the suturing of nerves, tendons, fasciae, muscular strata, the cure of

hernia, and even for uniting fragments of bone, more especially fractured patella.

For operations on the stomach and intestines, I think it is advisable that an absorbable suture should be used next the lumen, as no one can foretell the ultimate fate of non-absorbable thread which is partially in contact with the digestive juices and partially embedded in the coats of the stomach or intestines. Unhardened catgut is unsuitable, as it is quickly dissolved, so that most surgeons employ either formalin or chromicized catgut. The formalin-iodine catgut is particularly suitable and reliable for the purpose. For the outer layer of intestinal suture, which soon becomes embedded in plastic lymph, it is customary to use a non-absorbable material, and it seems a matter of indifference whether silk, linen thread, or the celluloid-coated thread of Pagenstecher is selected.

Where a suture is required that will undergo slow absorption, chromicized catgut is usually recommended. For reasons that I have already explained, I would not feel safe in using a plain chromicized gut, and it has been shown by Mr. Charles H. Christal [1] and others that catgut prepared with chromic acid, and even subsequently with sulphurous acid, is not necessarily sterile. This difficulty can be got over by its subsequent treatment with a solution of thymol in spirit, as suggested by Mr. Christal, or by treating sulpho-chromic catgut with iodine, as employed in the Leeds Infirmary, and probably many other places. I have had such complete satisfaction with the combined formalin-iodine catgut, that I have had no temptation to employ any form of chromicized gut since I commenced using the former. The sizes of catgut used may vary with the wish of the operator. For ordinary ligatures I use iodine catgut No. 0 for the smaller vessels, No. 1 for the larger, and No. 3 or 4 for pedicles. For suturing the abdominal parietes, I select No. 1 iodine-formalin gut for the inner or transperitoneal suture, and No. 3 for the aponeurotic or muscular layers. It is not necessary, as a rule, to use coarser sizes, and when additional strength is required a double suture will answer. To have too many sizes only leads to confusion.

General Conclusions.

1. The use of simple aseptic catgut is unsafe, no matter how it is prepared.

2. Iodine catgut may be safely used in all cases in which a quickly absorbable suture or ligature will answer.

3. The use of iodine-formalin catgut is indicated when slower absorption of the suture material is desired, and if prepared in the manner indicated it may be used in all those instances in which it has been customary to use chromicized or sulpho-chromic catgut.

4. The operating surgeon should be personally responsible for the manner in which any catgut he uses is prepared.

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[1] *Journ. Amer. Med. Assoc.*, April 21st, 1906. [2] Pearson. *Modern Surgical Technique.* [3] Op. cit. [4] BRITISH MEDICAL JOURNAL, August 27th, 1904. [5] *Manual of Operative Surgery*, Binney, 1906. [6] *Medical Record*, November 12th, 1904. [7] *Lancet*, July 10th, 1909.

THE

REMOVAL OF FOREIGN BODIES FROM THE OESOPHAGUS BY MEANS OF BRUNING'S DIRECT OESOPHAGOSCOPE.

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THE following two cases, which recently occurred in two consecutive weeks in the ear, nose, and throat department of the Great Northern Central Hospital, show the importance of direct oesophagoscopy both for the purposes of examination and the location and removal of foreign bodies in the oesophagus. This method is a perfectly simple one in the ordinary adult patient, and the various manipulations can be easily carried out after a little practice.

Case I.

A woman, aged 42, came to the out-patient department on Tuesday, June 8th, 1909. She stated that three days previously she had swallowed a large piece of unmasticated mutton, and that it had "stuck in her chest." She came up to the hospital on the same evening and was seen by one of the house-surgeons, who passed an oesophageal bougie but could detect nothing abnormal. She had been able to swallow fluids only since her visit, and stated that the act of swallowing caused her considerable pain.

Unfortunately I did not have an *x*-ray photograph taken of the case, as I was under the impression that the dysphagia probably resulted from some slight abrasion produced by the passage of the oesophageal bougie, and also owing to the fact that the woman expressly stated that she was quite sure that the trouble was due to a piece of meat and not a bone. I decided to pass Bruning's oesophagoscope and make an examination. The patient's pharynx and epiglottis were anaesthetized with a ten per cent. solution of cocaine; she was placed on a low stool, the body being kept straight and the head thrown far back and steadied in this position by an assistant. Bruning's oesophagoscope was then passed down as far as it would go and the extension tube introduced. To my surprise I found at a distance of 34 cm. from the upper incisor teeth, in the region where the oesophagus is constricted in its passage through the diaphragm, a piece of bone fixed transversely. At the positions where the ends of the bone were embedded in the oesophagus, the walls looked sloughy and the whole of the surrounding area was markedly congested and oedematous. The bone was firmly fixed in this position, and I found that it would be impossible to remove it with forceps without doing extensive damage to the oesophageal mucous membrane. I therefore passed a sharp hook, manipulating it behind and under the bone, which was steadied against the end of the oesophagoscope tube, and cut it across; the pieces then came away quite easily from the wall.

The woman was kept in for a few days under observation and then discharged. She came up a fortnight afterwards, saying that she had experienced no further discomfort since the removal, and that she could now swallow her food normally.

Case II.

A female child aged 1 year and 10 months was brought by her mother to the out-patient department on Tuesday, June 15th, 1909, with the following history: Four days

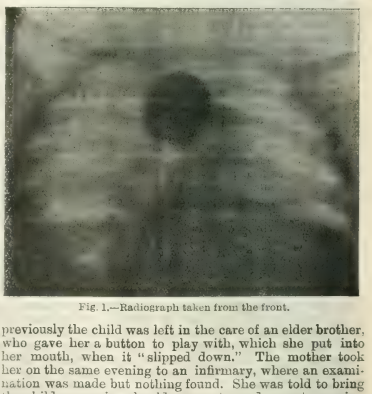


Fig. 1.—Radiograph taken from the front.

previously the child was left in the care of an elder brother, who gave her a button to play with, which she put into her mouth, when it "slipped down." The mother took her on the same evening to an infirmary, where an examination was made but nothing found. She was told to bring the child up again, should any untoward symptom arise. The mother states that she kept the infant as quiet as possible; but found that she was unable to swallow anything except a little fluid. On Monday evening, on finding that it was impossible to get any fluid down at all, the mother brought the child to the Great Northern Central Hospital, where she was seen by one of the house-surgeons, who examined her in the *x*-ray room with a screen. He found a definite shadow of the button in the intrathoracic portion of the oesophagus, and attempted to remove this

foreign body with a coin-catcher; but failed owing to the fact that he was unable to get the instrument past it.

I saw the child on the following day and decided to try and remove the button with a Bruning's oesophagoscope and forceps. Dr. Norman, anaesthetist to the hospital, administered chloroform; and whilst under the anaesthetic I examined the child with an x-ray screen, whilst Dr. Knox, medical officer in charge of the x-ray department, took the two radiographs here depicted. It will be seen in radiograph No. 1, taken from the front, that the button is lying in the oesophagus behind the sternal ends of the second and third ribs, with its flat surfaces looking antero-posteriorly; this is also well shown in radiograph No. 2, taken from the side. The child was then placed on



Fig. 2.—Radiograph taken from the side.

a table, lying in the dorsal position, with her head well over the edge and supported by an assistant. I experienced some slight difficulty in passing the oesophagoscope in a child so young; the neck was very short, and it was not at all easy to get the mouth, pharynx, and oesophagus into a straight line. This difficulty was, however, soon overcome, and I was enabled to get the smallest but one of Bruning's tubes down. At a distance of 15 cm. from the upper incisors I was able to get a view of the upper edge of the button, surrounded by inflamed and oedematous mucous membrane, which was gripping it tightly. I next passed through the oesophagoscope a Bruning's forceps, the nipping ends of which had backward serrations, and with a little manipulation was able to get a good grip of the button, which I then removed together with the tube. Photograph No. 3 shows the exact size of the button. The child subsequently did perfectly well.

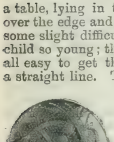


Fig. 3.—Showing exact size of button removed from the child's oesophagus.

I think that it is probable that both these cases would have ended fatally had it not been for this direct method. In the case of the infant, the size of the button and the amount of oedema rendered any attempt at getting any instrument such as a coin-catcher past the obstructing body an impossibility.

THE Permanent Bureau of the International Medical Congress which was constituted at Budapest, and has, as already announced, chosen The Hague as its head quarters, has elected Professor Wenckebach, of Groningen, general secretary. It has recently been announced that the Dutch Government has stated that it is prepared to defray the expenses of the establishment of the bureau. Most nations have elected their representatives. Dr. Pavy is the president, the vice-presidents being Professors Waldeyer of Berlin, Müller of Budapest, Maraghano of Genoa, and Dr. Blondel of Paris. Professor Lucas Championnière, President of the International Medical Press Association, is also a member of the bureau.

DISLOCATION OF A CERVICAL VERTEBRA: OPERATION: RECOVERY.

By FLEET SURGEON HILL, M.V.O.,
H.M.S. "DREADNOUGHT."

ON December 10th, 1907, W. H. W., a stoker from one of the cruisers, was brought to the Royal Naval Hospital, Malta, with a history of having received a severe injury to his neck when playing football that afternoon. As he was "heading" the ball he was charged, with the result that he turned a somersault and fell on his neck and shoulders. He did not lose consciousness.

On admission at 6 p.m. he was conscious but suffering from shock, and complained of severe pain in the back of his neck and inability to move his right leg. There was a large extravasation of blood over the lower cervical and upper dorsal vertebrae, with swelling, but no apparent deformity. The neck was held rigid, and any attempt to move it caused extreme pain. He could move his arms, but the grasp of the hands was very feeble, that of the right being scarcely perceptible. The right leg was completely paralysed. There was great loss of power in the left leg, but some slight movement. Breathing was entirely diaphragmatic; there was no expansion movement of chest wall. Sensation was present, but retarded. Priapism was present, and there was complete retention of urine, but no sense of distension, although a large quantity of urine was drawn off by catheter.

The next day, December 11th, his condition remained much the same. Breathing was entirely diaphragmatic; there was some twitching in the hands and complete loss of grasp in the right hand and diminished grasp in the left. There was very slight power of movement in the left leg and complete loss in the right. Priapism was constant; the urine was drawn off; the bowels were not open; the pain and tenderness in the neck were about the same.

On December 12th there was no marked change. Operation was suggested, but the patient was unwilling to undergo the risk. Next day the temperature was 97.4°, the pulse 68, and the respiration 20. A motion was passed unconsciously. Both legs were now completely paralysed.

On December 14th he passed two motions under him unconsciously; a necrotic bedsore was commencing over the sacrum in spite of his having been kept on a water bed and every precaution taken; the other conditions remained the same. He consented to an operation.

The diagnosis arrived at was fracture of a vertebra, with pressure on the cord by a fragment of bone and by blood. It was decided to cut down over the area of extravasated blood and explore.

Operation.

Owing to the paralysis of the chest wall, a general anaesthetic was looked on as an extra danger, and it was thought advisable to see how far local anaesthesia would carry us through the operation. The skin over the neck, shoulders, and back, having been thoroughly cleansed, Staff Surgeon Richards injected the tissues of the neck from the cervical to the second dorsal vertebra with a solution of eucaine and adrenalin in saline solution. The injection was made endermically, hypodermically, and into the muscles. After half an hour had elapsed the patient was taken to the operating room, and placed on the table in the semi-prone position on the right side. An incision was made over the spinous processes, from the second dorsal to the fifth cervical vertebra. It was found that there was a large extravassation of blood, and that the spine of the first dorsal vertebra was fractured at its base. The muscles were cleared from the spines and laminae of the seventh cervical and first and second dorsal vertebrae. By this time the patient complained so much of his cramped position, although he had experienced no pain from the operation, that Staff Surgeon Whitcombe administered chloroform, which was well taken.

The spine of the seventh cervical and the stump of the first dorsal were removed and the laminae cut away. The membranes of the cord looked normal and were opened. Only clear serous fluid escaped, no blood. The cord was not pulsating. A probe passed down the cord met no obstruction, but when passed upwards was obstructed at a point 1½ in. higher up. On passing the finger deeply into the wound above the seventh cervical vertebra the sixth cervical was found dislocated forwards and firmly impacted. With some difficulty the tip of the finger was insinuated under the tip of the spinous process, and steady traction was made by an assistant with one hand under the chin and the other behind the occiput, when the displaced vertebra shot back into place with a sharp report. The cord was noticed to pulsate soon afterwards.

The wound in the membranes was closed by fine catgut sutures, the muscles brought together by stouter catgut, and the skin wound sutured with silkworm gut.

History of Recovery.

The patient's condition when returned to bed was satisfactory; he had borne the anaesthetic well, and on recovering from its effects stated he had lost the pain in his neck. The priapism had disappeared, and a few hours later he expressed a wish to have his urine drawn off, although up to then he had had no consciousness of his bladder being full or not.

The next morning, December 15th, the temperature was 98.2°, the pulse 68, and the respiration 22. No improvement in the movements was noticed; the bedsore was about the size of the palm of the hand, and evidently a large amount of necrosis had occurred. During the course of the next two days the frequent movement necessitated in dressing the bedsore caused the sutures in the neck wound to give way, and a large amount of cerebro-spinal fluid escaped into the dressings, but this gradually diminished day by day, and the wound slowly granulated, and was firmly healed by March 26th.

The course of the bedsore was slow in the extreme, and even when discharged from the hospital for passage to England in June, a small sinus still remained unhealed.

To trace the recovery of the various parts it will be best to describe the improvements separately.

Temperature.

There was a good reaction after the operation, from 96° in the morning to 99.2° in the evening. There was again some collapse on the fourth day and the temperature dropped to 96°, and in the evening was only 97°. From this time, except for occasional rises due to constipation, it showed an evening rise to about 100°, with a morning fall until the end of February, when it was practically normal.

Genito-urinary System.

Priapism, which had been so constant up to the time of operation, did not recur afterwards. Retention of urine lasted for a week, when he passed urine voluntarily, but cystitis ensued, and the bladder had to be washed out for five weeks. There was a heavy deposit of pus, but the reaction remained acid. Although he could pass urine voluntarily, he had only slight control for some months, but eventually recovered it.

Intestines.

The bowels were obstinately constipated, and croton oil was occasionally necessary. At times the faeces had to be removed digitally. This continued until April, when the abdominal muscles regained more power and the bowels acted naturally.

Sensation.

Marked hyperaesthesia was present over the right leg, with some exaggeration of knee-jerks and plantar reflexes, but sensation remained intact. Except for the cramps mentioned below, the only pain complained of was severe headache for about ten days after the operation.

Movements.

Four days after the operation the thighs moved together in adduction, and from this time the movements of the legs increased slowly, the left, which was originally less completely paralysed, regaining complete movement much more quickly than the right. This recovery of power was accompanied by the most acutely painful cramps.

The movements of the arms were strong, but the grasp of both hands remained feeble, with marked atrophy of the interossei; this lasted for four months, and his grasp was far below normal on his discharge after six months.

No decided improvement in the intercostal muscles was noted until February 2nd—the fifty-first day—and the return of power in these muscles was accompanied by severe neuralgic pains corresponding to the cramps in the legs. The movements of head and neck were perfect a very few days after the operation.

He was first allowed up his feet on March 27th, when he was able with considerable help to walk to an armchair. The right leg was kept closely adducted to the left, and no free movement was made with it. From this time, with daily massage, steady improvement was noticed.

On leaving hospital for England on June 2nd, six months after his accident, his condition was as follows:

With the exception of a certain amount of hyperaesthesia, sensation was normal. He had complete control over his bladder and rectum. He could walk short distances (about 30 yards) with the help of one stick, but there remained some uncertainty in the movements of the right leg. The interossei of both hands were atrophied and the grasp poor, but with difficulty he could write a few sentences. Respiration was natural, the temperature normal, the pulse 72.

He was invalided from the service in July, 1908. In his last letter to me in August, 1909, he described himself as much stronger, and able to walk fairly well, but stated that he was weak in the right leg and small of the back. His hands were quite well again.

The question of operative interference in cases of injury to the spine is a very important one. During the past two years I have had three cases in addition to that here recorded, and in none of these was any operation attempted. The first was a fracture dislocation in the dorso-lumbar region, and this patient was alive eighteen months afterwards. He was in a workhouse infirmary, paralysed from the waist downwards, leading a catheter life and passing his motions under him.

The second case was one of fracture dislocation in the mid-dorsal region; he died of exhaustion in about four months.

The third case was a fracture dislocation of the fourth and fifth dorsal vertebrae. He died suddenly on the fifth day. At the autopsy it was found that a sharp-pointed fragment of the body of the fifth dorsal vertebra had penetrated the posterior mediastinum and caused a severe haemorrhage, as a result of which the man had died.

The encouraging results from the operation in the case recorded makes one think that the operation, if only exploratory, might be performed more often.

Certainly in this case it ought to have been done much earlier, the bedsore would have been saved and probably the cord would have recovered its functions more quickly.

I am sure the operation was greatly facilitated by the use of the local anaesthesia in the preliminary stages, it reduced the risks of a prolonged anaesthesia in a case where respiration was much embarrassed.

Although the operation wound was opened by the movements and the spinal cord must have been in danger, no sepsis occurred and the wound granulated, so that this risk can be avoided. When one considers what a life the patient will lead if left alone, with the unconscious passage of faeces and constant catheterism, it is surely a duty to make at least an exploratory incision and to see the extent of the damage.

While recommending operative interference, it should be remembered that it can only be done where ample nursing facilities are available, as in a hospital or a nursing home. The onerous after-treatment would be well-nigh impossible in a private house.

NOTES ON DIVER'S PARALYSIS.

BY

GRAHAM BLICK, M.D.DURH., M.R.C.S., L.R.C.P.LOND.,

LATE DISTRICT MEDICAL OFFICER, BROOME, WESTERN AUSTRALIA.

FROM 1900 to 1908 I have had medical charge of probably the largest pearling centre in the world, including in its population upwards of 400 professional divers who are daily engaged gathering pearl shell at depths varying from 7 to 20 fathoms. I have myself seen a diver bring up shell from a depth of 25 fathoms (150 ft.), but this was an exceptional feat. This means that these men are working under pressure, roughly, from 20 to 50 lb. per square inch above normal, the shifts varying in length inversely as the depth of working. In the lesser depth a diver will remain down one, two, or more hours, in the greater generally under half an hour. The ordinary rubber diving dress with metal helmet is the apparatus used, air being supplied by three barrelled pumps worked by hand wheels. The divers are of various nationality—whites, Japanese, Filipinos, Malays, etc., the majority being Japanese, the whites being the least numerous. They work from small schooners of 10 to 14 tons, and range over many hundreds of miles off one of the most forlorn and desolate coasts in the world. Consequently, when an accident happens they may be several days' sail from port, and so have not the advantages of their colleagues the "caisson" workers, with their decompressing and recompressing chambers and immediate medical attention. Hence, many severe and often fatal cases of diver's paralysis occur.

For eight years I have impressed on these men and their employers the fact that they can with very little extra time and trouble obtain all the safety conferred by the decompressing chamber by a slow and gradual return to the surface, and when this course has been followed few, if any, cases of paralysis have occurred.

Since 1900, not counting the slighter cases characterized by the men themselves as "rheumatics," I have had upwards of 200 cases of diver's palsy; 60 of the patients were dead before a doctor could be reached and I made *post-mortem* examinations. Among the 140 odd who reached me alive I have had to deal with all degrees of paralysis, from slight paralysis of legs and inability to pass urine (always present) up to total paraplegia and loss of sensation. Clinically, the salient features of the paralysis are its bilateral distribution and the constant loss of the power of micturition. The legs are attacked before the arms and recover later. Sensory nerves seem to suffer much less than motor, but I am bound to add that many cases had to be examined through an interpreter, and it is difficult in any case to get correct replies on such a matter

from coolies. Out of these 140 cases 11 died, 8 from septicaemia consequent on sloughing and cystitis, and 3 from supervening meningitis. The rest, after a longer or shorter time, recovered, most of them completely, about 10 per cent. being permanently affected with slight paresis, generally of the anterior muscles of the legs.

I have had patients who have been twice, thrice, or even oftener paralysed, and who have more or less completely recovered. I have never seen extensive secondary degeneration of the cord follow, though one would expect this from the lesions found in the cord *post mortem*.

The treatment after the establishment of paralysis is that of all organic nervous disease—one can only wait on Nature's efforts, though in this disease Nature is kinder than usual. General hygiene, massage, and electricity, all are useful to some extent, and, of course, any complications which arise must be treated. I have been often astonished at the way apparently hopeless paraplegics have recovered in the course of many months.

The most troublesome cases were those complicated by cystitis and deep sloughing. The former complication is very frequently set up by imperfectly cleaned catheters used by the diver's friends, often for several days, while making for port. The paralysis of micturition is so well known among the men themselves that no diver would consider his outfit complete without a soft catheter. The sloughing is also the result in many cases of the treatment applied as first aid by the patient's friends, and is especially common among the Japanese, whose unbounded faith in very hot baths too often leads to parboiling and damage to the enervated tissues, forming the starting point of frightful sloughing, which often defies all efforts of nursing to restrain. I have seen the sacrum, portions of the ilium, and the capsule of hip-joint absolutely denuded, and several of the deaths in my cases resulted from this condition. A few very bad cases, however, made wonderful recoveries. One case, a Filipino diver, was admitted to hospital with total paraplegia and sloughing over the buttocks, which extended till the right hip-joint, most of the sacrum, and the posterior portion of the crest of the ilium could plainly be seen; yet after more than twelve months in hospital and several plastic operations he made a fair recovery, and was able to return to the Philippines.

Owing to the distance from port at which these boats work, I have never been able to see a case in the earliest period of attack. The general history is that the diver has worked longer and deeper than usual, and then has hurried to the surface. He has felt quite well below, and gets aboard as usual. Often he has had the dress removed and even sat down to his meal before symptoms appear. Then he suddenly drops, sometimes "as it shot," or he may remark he is not feeling well, and the symptoms come on more gradually. He may or may not lose consciousness. Some rapidly fatal cases have occurred without initial loss of consciousness, and it is practically never lost in slight attacks. Death may occur within an hour or not until after a day or two.

Clinical experience directs attention to the spinal cord in this disease, and my sixty autopsies have amply corroborated the inference that here is to be found the greatest mischief. I have never found the classical "bubble of nitrogen" in the hearts of my cases; indeed, I honestly confess I doubt my ability to recognize a bubble of nitrogen. I have, however, often fancied that during the rapid putrefaction of these bodies there has been a larger evolvement of gases and greater distension of the tissues than is the case with other bodies after equally sudden death. I have only once found an infarct in the lungs, and only twice clots in the heart, and then to no great extent; and in these cases beri-beri, with its often insidious onset and clotting in the heart, has always to be remembered. Beri-beri used to be the greatest scourge known to the pearling fleets, but segregation and sanitation have greatly diminished its ravages. Almost invariably the heart, lungs, and large veins are engorged with dark liquid blood. So marked is this that on one occasion a medical man present at one autopsy frankly told me he would, from the thoracic examination alone, have been quite content to certify asphyxia; yet, on exposing the spinal cord, the characteristic "teased" appearance and minute haemorrhages were present, together with free blood, in the dural canal.

In my experience the following appearances are typical of diver's paralysis on *post mortem* examination of a rapidly fatal case. The thoracic viscera and large veins of the neck are engorged with dark liquid blood. There is nothing noteworthy in the abdomen. There is more or less venous engorgement in the meninges of the brain, markedly increasing towards the base, especially round the medulla. Section of the brain is generally negative; sometimes the blood points seem rather larger than usual. I have only once found a haemorrhage in the brain; it was about the size of a horse-bean, and situated in the left internal capsule, and was accompanied by another haemorrhage practically severing the spinal cord opposite the body of the fifth cervical vertebra. The most characteristic signs are found on exposing the spinal cord. The dural cavity contains blood or blood-stained fluid, the meninges of the cord are congested with blood, and the congestion appears to be most intense in the cervical region, say the portion corresponding to bodies of the fourth to the sixth cervical vertebrae. This portion of the cord appears to me to be the diver's calx Achillis. It is here that the characteristic "teasing" is most apparent. I call it teasing for want of a better word to explain the appearance in the section of cord; it looks as if one had stippled the face of the section with a fine knife or needle, a semi-disintegrated appearance. With this condition is nearly always associated haemorrhage of greater or less extent, also most marked in the above portion of the cord; indeed I have never found an effusion of any size except in this part; here they may range in size from mere points of blood to. as I have seen in nine cases, large haemorrhages practically cutting the cord in two, and forming clots filling the meningeal tube for over 1½ in. I had neither time nor appliances for microscopic pathology, which in such a hot climate would need exceptional apparatus, and, I may add, exceptional skill, to obtain good results. In this respect, however, I hope my omission will soon be rectified by more competent pathologists, for I have reason to believe steps are being taken to get a specimen cord for examination.

When I first met with this disease I was greatly handicapped by the want of literature on the subject—in fact, all I had was comprised in one page of Osler's *Medicine*. Consequently I was presented with a pathological problem which I had to unravel as best I could, and was often sorely puzzled. For instance, I noticed that though the divers started work about March there were practically no cases of paralysis before September, and from thence to the end of the working season, about the end of November, cases came in almost daily. All sorts of theories are current among the men themselves accounting for this well-known fact—for example, working further out in deeper water, that the water itself "gets heavier" at this end of the season, etc.

The mystery was elucidated by the discovery in one autopsy of signs of scurvy. There was the simple explanation of the prevalence of the disease among men who live for months on small boats, eating salted and tinned foods, and also of its infrequent occurrence till the blood vessels have been somewhat weakened, as we know happens in scurvy. Acting on this knowledge I preached an anti-scurvy crusade, and noted that in fleets where my advice was taken and extra vegetables and other anticorbutic precautions used there was a very considerable reduction in the number of cases of paralysis.

The points which have particularly impressed me in dealing with diver's paralysis are:

(*a*) Signs of asphyxia are nearly always present; it would appear from this that in the rapidly fatal cases death is usually due to affection of the breathing centres.

(*b*) In roughly 2 per cent. of the cases in which death was not immediate meningitis set in about a week after paralysis. In this respect, however, considering the damage done to the central nervous mechanism, the only wonder is that it is not a more frequent occurrence.

(*c*) The question arises as to the cause of the congestion found in the meninges on *post-mortem* examination of fatal cases. Is it due to over-expansion of vessels by gases suddenly released from pressure, or is it simply part and parcel of the condition of asphyxia? From concomitant appearances in the thorax, it would appear that the latter is the true explanation, yet when one considers the blood or blood-stained cerebro spinal fluid, one is forced to think

of the former as being equally applicable. Probably both factors are often present.

(*d*) The paralysis of the bladder and loss of the power of micturition are constant, and occur in cases so slight that it is practically the only symptom calling for attention. I have had patients walk up to hospital for catheterization. Why this centre should be attacked so early and constantly is a problem I have failed to solve, more especially as the lumbar enlargement of the cord does not show nearly so much damage as higher up.

(*e*) The apparent point of selection for the most striking lesions of this disease is in the cervical portion of the spinal cord. The part of the cord where all the large haemorrhages were found without exception could be covered by three cervical vertebrae. Even in the cases in which apparently the disintegration of the nervous substance was the chief lesion, and no large blood effusions occurred, this portion of the cord showed the curious teased appearance more plainly than any other. Why such is the case is a problem for anatomists and physiologists. I can only make two modest suggestions: First, the comparatively large size and great mobility of the spinal canal at this point. Secondly—and this is a mere bow drawn at a venture—this portion of the cord is movable in the metal helmet of the diver, the rest being covered by the rubber dress closely pressed to the body by the water pressure. Theoretically, there should be nothing to choose from the pressure point of view. Is there anything in the movement? It must be remembered that a diver's dress at a great depth precludes bending the back beyond a very slight degree.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF TETANUS.

On October 15th I was called to see a married woman aged 20, who was suffering from inability to open her mouth. She had been married over fifteen months, and had had one child, in February, 1909. On my arrival she was up, and apparently not suffering to any alarming extent. After careful inquiry and examination I was obliged to abandon any history of accident, as she was positive that she had not within the last month hurt herself in any way. Her mother-in-law, however, told me that ten days previously she had what was considered to be a miscarriage; she had missed two periods, and the discharge occurred on the date of the third period. She had, however, quite got over this, and the day before my visit I had seen her out walking. There was no vaginal discharge, nor any sign of injury. Her jaws could be separated slightly. All her teeth were very carious, and the smell from the mouth was most unpleasant. I thought possibly this trismus was due to irritation from the teeth, and the fact that the wisdom teeth were uncut favoured this opinion. There was pain in the back from the nape downwards. The pulse 100, and the temperature 100°. I prescribed an antiseptic mouthwash and sedative medicine.

The following day the patient was suffering all the torments of acute tetanus, fully conscious, and bathed in profuse perspiration: the spasms increased, and the temperature rose. Pleurosthotonos was very marked. Between the clonic exacerbations the legs were rigidly extended, the arms were close to the side, the forearms flexed with wrists extended and fingers flexed, the thumbs protruding between the first and second fingers. She died at 4 p.m. on October 17th, three days after the first onset. I was unable to use antitetanic serum, as it arrived too late.

Tetanus was only too easy to diagnose, but the path of infection was less easy to discover. There were two possible routes—the genital tract or the mouth. The first I do not think likely, for there was no discharge or evidence of injury. I believe the entrance of the germ was through the mouth, for these reasons: Having known this young woman for some time, I was aware of the state of her teeth, and also that she used a pin or splinter to clear out the cavities and crevices after eating. In this way probably the bacillus was introduced, and, being of an anaërobic nature, throve amidst the many aërobic micro-organisms which infested the tooth cavities and gums.

Pensilva, Cornwall. JOS. WM. GILL, M.D., D.P.H.

THE DIAGNOSIS OF DIPHTHERIA.

THE following two cases may be interesting, both to the bacteriologist and the general practitioner:

On October 24th I was called to see a boy, aged 4, who had been sick and feverish through the night. The attack evidently came on suddenly with vomiting. His temperature at the time of examination was 100.4° F. and the pulse 110; the tongue was coated and he was slightly flushed. The history suggested a gastro-intestinal attack. I made inquiries as to sore throat, but did not make an examination, as he said his throat did not hurt him, and there were no glands to be felt. On the following morning I found the temperature still 100° F., though the boy looked better. He still denied having a sore throat, but on examining it I found a characteristic yellowish-white slough on the right tonsil and two or three small discrete patches on the left tonsil. The remainder of the fauces was clear but congested. I administered 3,500 units of antitoxin about noon and took a swab of the throat. I then learnt that his brother, aged 10, had slept with him on the night of October 23rd, and as he was going to school, I took a swab of his throat also, although he was apparently in perfect health. At about 7 p.m. the same evening the younger child's temperature was 101.6° F., but the membrane seemed somewhat less. Next morning the temperature was normal and the throat almost clear.

The bacteriological report was negative in the case of the younger boy and positive in the case of the elder. Thinking that there might possibly have been some mistake, or that the swab was not properly applied, I took another of the younger boy on October 26th, but this too proved to be negative. On October 27th a swab was taken from the elder boy and it was still positive. No antiseptic had been used in either case, and there was no other known case from which the elder boy might have been infected. I have perfect confidence in the bacteriologist.

The question naturally arises whether the younger boy was suffering from a genuine attack of diphtheria, and if not, what was the source of infection in the elder.

G. E. LLOYD, M.B., B.S.Durh.

Corbridge, Northumberland.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ESSEX COUNTY HOSPITAL.

LARGE RAPIDLY-GROWING FIBROMYOMA OF THE UTERUS: HYSTERECTOMY: RECOVERY.

(Under the care of ED. CHICHESTER, M.B.Lond., Honorary Surgeon to the Hospital.)

MRS. B. was admitted on account of a large abdominal swelling which she had noticed for two years. It caused her much difficulty in getting about, together with dyspnoea, and occasional attacks of pain. She was 47 years old, had been married twenty-eight years, and had one child aged 11 years. She stated that menstruation had always been regular, and perfectly normal. She never lost more than an ordinary amount.

Nothing abnormal was found in the chest. The whole abdomen seemed occupied by a large solid tumour, reaching from the costal arch to the pelvis, where it seemed to be fixed, and whence I thought it arose. Although elastic, the growth did not seem to be fluid anywhere, no sense of fluctuation or thrill being obtainable.

There seemed to be no ascites. On vaginal examination, the uterus seemed to merge into the growth, which bulged into the fornices, but whether it enveloped the body of the uterus or formed part of it was uncertain. A soft mucous polypus about 2 or 3 in. in length hung down from the cervix, and was removed a day or two later. The sound, which was only passed with difficulty, entered to the extent of 2½ in. I considered the growth was either a solid ovarian tumour or a rapidly growing fibroid. The dyspnœa was quite marked, and as it was obvious that death would ensue if nothing was done, I determined to operate.

On November 5th, 1908, Dr. Day giving the anæsthetic, and Dr. Clowes assisting me, I opened the abdomen in the middle line, the incision reaching from a point 1 or 2 in. below the costal margin to near the pubes. The tumour was found to be mostly solid, though there was a cyst nearly as large as a cocoanut at its upper end. It was freely movable, though covered in places by shaggy lymph, obviously the result of local attacks of peritonitis, which had caused the occasional attacks of pain. The growth did not spring from the ovaries or broad ligaments, but from the uterus itself, and was evidently a soft fibroid. The huge mass was now carefully turned out of the abdomen, and the broad ligaments ligatured bit by bit between a double row of stout interlocking silk ligatures, some very large vessels being secured in doing so. The broad ligaments were divided between these ligatures as I proceeded, first on one side and then on the other, till I reached about the level of the internal os. The tumour, which had to be very carefully handled at this time by Dr. Clowes, as it was both heavy and slippery, was now attached by a pedicle as thick as a man's wrist, which I transfixed and ligatured in two places with very thick silk, and divided. It was no small relief to get rid of the mass, as a slip might easily have resulted in a tear of one of the large vessels running into it, with fatal results. Some of the veins which stood out markedly were as large as the common femoral. A second ligature was passed round the stump, and the peritoneum sutured over it, the edges of the abdominal wound being then brought together.

The patient's pulse remained very fairly good till the end of the operation, and everything went well during the rest of the day and the following night, but she did not seem so well in the morning after, and she became rapidly worse as the day went on. Her pulse rose from 96 to 130, and became very weak and bad. I thought she had either hæmorrhage going on or commencing peritonitis, and during the afternoon I opened up the wound, and found the pelvis filled with blood clot, which had a distinct though slight odour. I turned out the clots and wiped out the pelvis, but found no bleeding points, so I packed the peltic cavity with cyanide gauze, and closed all but the lower part of the abdominal wound again. The patient's condition seemed pretty well desperate at the end of this second operation, which I performed hurriedly; she began, however, to improve within a few hours, and gradually recovered without any further untoward symptoms, though the gauze, which was gradually withdrawn, became septic, and the resulting sinus took some little time to heal.

The tumour was found to weigh two ounces less than 18 lb., but, when first placed in a basin, so much blood ran out of it as to very nearly float it; if this had been taken into consideration, the total weight must have been pretty well 20 lb. Dr. Curl, Physician to the Essex County Hospital, kindly made sections of a piece of the upper end of the growth, and reports that the section shows a fibrous capsule beneath which is found a layer where there are more fibrous tissue cells, and less fully developed fibrous tissue, and beneath this again a layer where there are more cells still, with many blood vessels, extravasated blood, and dilated lymphatics. He considers from the appearances that the growth is a fibromyoma, though in the part cut there were no actual muscle fibres seen.

There seem two points of interest about this case—namely, (1) that the patient, though living near a large town, had never before consulted a doctor about her condition; and (2) the great advantage of very closely watching such a case after operation, and opening up the wound directly things begin really to go wrong. I feel quite certain that if this patient had been left till the following day the result would have been fatal.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

OXFORD AND READING BRANCH: OXFORD DIVISION.

Oxford, December 8th, 1909.

Dr. CAUDWELL, Woodstock, in the Chair.

Dermatitis Exfoliativa.

Dr. COLLIER, on behalf of Dr. HEBB, who was absent, showed a case of dermatitis exfoliativa.

Cow-pox.

Dr. CRUIKSHANK showed a case of cow-pox. The patient, a farmer aged 38, complained of irritation and swelling of the right lower eyelid on November 12th; two days later examination showed a small hard papule with much swelling and infiltration of areolar tissue of eyelid. On inquiry he said some of his cows had "breakings out on their teats." The papule increased in size, its surface being flattened and of dark red colour. On November 16th he complained of general malaise, headache, and pains in the limbs: the papule was slightly umbilicated, slatish-grey in colour. No exudation of lymph. Œdema of eyelid extended over the cheek to the chin, and back to the angle of the jaw. Sclerotic and conjunctiva much injected. On November 18th the swelling had subsided considerably. The centre of the vesicle was depressed, and was of a dried burnished appearance; surrounding skin desquamating. The scab gradually became black and polished, lying in a deep concavity. Photographs taken were exhibited, and the patient, with scab still adhering, was shown. Cultivations were being made by Dr. Gibson. Dr. Cruikshank cited similar cases from the writings of Dr. Jenner and Professor Crookshank; one of the latter's cases in 1887 was of striking resemblance to the case now exhibited, being on the right cheek. The hands of milkers were naturally most commonly affected.

Intestinal Obstruction Caused by Intussusception.

Mr. DODDS-PARKER read notes of a case of intestinal obstruction caused by an intussusception at the ileo-cæcal valve, the appendix being also invaginated into itself. The patient, a woman aged 43, had suffered from colicky pains and diarrhœa (after aperients) for a few days before admission; this was followed by constipation and distension. There was stercoraceous vomiting on admission, and a pulse of 120. Laparotomy was performed, and an intussusception of the bowel at the ileo-cæcal valve as far as the hepatic flexure was found, and reduced. A hard mass was then found in the cæcum, and this was the appendix invaginated into itself. On reducing this, a hard thickened ridge round the base of the appendix appeared, and as this presented a malignant aspect Mr. Dodds-Parker removed the appendix together with the lower margin of the cæcum. Dr. Gibson, however, had made an examination of the growth, and declared it to be inflammatory and not malignant. A round worm was found in the rectum at the operation, and three more had passed per anum and one by the mouth. Hence the probability that a worm penetrating the appendix had set up inflammation and the inflamed appendix had acted as a polyp, causing invagination and obstruction. The patient was doing well. In the discussion that followed, Professor OSLER remarked on the recorded cases of penetration of the Eustachian tube by round worms.

Cerebro-spinal Fever.

Dr. R. E. YELF recorded two cases of cerebro-spinal fever—a boy aged 9, and his mother, who was infected while nursing him for five days, and died on the tenth day of her illness. Her symptoms were mainly acute delirium, high temperature (103° to 105° F.), and rigidity of the neck muscles; she became totally blind before death. The cerebro-spinal fluid was examined after death for tubercle bacilli at Bristol, no search being made, by a misunderstanding, for diplococci. These, however, were found by Dr. Gibson of Oxford; the cultures were unsuccessful, as is not infrequently the case, unless the

specimen is fresh. The boy had a protracted illness, with pain and retraction of the neck and intermittent vomiting. Kernig's sign was present. He lay for weeks in this condition, a state of trance once persisting for twenty-four hours. Six weeks after this he had convulsions. Deafness occurred after the first week, and persisted after recovery. He was greatly emaciated, but eventually recovered after iron tonics, with good mental capacities, but an unsteady gait.

Arterio-sclerosis.

Professor OSLER delivered an address on arterio-sclerosis. Though there were sixty-two theories of its causation, he thought the three main factors were time, tension, and toxins. As to the first, atheroma of the aorta was not in all cases senile; it was exceptional to find no patches of arterial degeneration in any body *post mortem*, and even children might show some slight foci of fatty degeneration. It might be a purely senile change, but the influence of heredity was marked, and arteries designed to wear till 70 might go to pieces at 40. It depended on the nature of the rubber tubing; or, again, the rubber might be good, but was subjected to bad usage. This brought him to the second factor—tension. It was the pace of the machine that counted, and vessels were not made for constant stress. There were two main types of stress: (1) The tension of life, when the candle was burnt at both ends. He instanced the New York Stock Exchange man, who lived hard, smoking, eating, and drinking freely; at 40 there were knocks at the door, and creditors appeared in the shape of dyspnœa, angina, etc. (2) The second type was muscular tension, due to over-exertion. The liability of cavalrymen to popliteal aneurysm was noted, and right-handed workers were found to be more prone to arterial degeneration in the right arm than in the left. In the experiment of the rabbit suspended head downwards for a few minutes daily, at the end of 140 days there was marked arterio-sclerosis of the vessels of the upper part of the body. Toxins, the third factor, were divided into endogenous and exogenous, and of these the former were the most important. These were the waste products, the clinkers or ashes, which irritated the endothelium and kept up a high tension. Too much food was eaten, as if we were stoking our engines to draw the Edinburgh express, and then put them in the station yard or to draw trucks. Quakers, temperate in drink, were not so in food, and were specially liable to arterio-sclerosis. The theories of intestinal intoxication, as promulgated by Metchnikoff and earlier by Glisson, had led to the lactic acid and sour milk treatment. Of the exogenous toxins, those of the specific fevers were the most important and could cause degeneration even in children. He had not dwelt on the subject of syphilis. Alcohol, tea, coffee, and tobacco were other types of exogenous toxins. For those with tendencies towards arterio-sclerosis the guiding motto was: "Nothing too much"—the life of the tortoise, not that of the hare. Success was largely a matter of survivorship. The address was followed by a beautiful series of lantern slides.

Reports of Societies.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, November 26th, 1909.

Professor MUIR, President, in the Chair.

DR. JAS. H. NICOLL, in a paper on the treatment of *Senile hypertrophy of the prostate*, said that the present revolt against prostatectomy was based largely on the idea that while the operation removed the obstruction to the outflow of urine, it not infrequently left the patient with urinary incontinence. Such a result was one due to faulty methods of operating—those involving removal of, or serious damage to, the sphincter vesicæ and prostatic urethra. The method he advocated was to combine the suprapubic and perineal routes, and preserve both the prostatic urethra and sphincter vesicæ. This, if not "total," it was at any rate efficient prostatectomy. DR. LEONARD FINDLAY, in a paper on *Infant feeding*, said that researches by Meyer of Berlin tended to show that differences in the whey of cow and human milk were more important than differences in the curd. Both healthy and sick children fed with a mixture of human whey and cow curd throve excellently, while children fed with a mixture of cow whey and human curd became ill. Schlossmann's suggestion that the child absorbed a heterologous albumen had not been supported by experimental proof. Various observations made it probable that the good effect of diluting cow's milk resulted not from diminishing the amount of proteid but from reducing the proportion of the inorganic salts; but, besides this, human milk probably contained some beneficial organic substance which Flaundler suggested to be identical with haemolytic complement. Researches by Moro showed that in breast-fed children and in artifically-fed children who throve well, much complement was present, whereas in the blood of children suffering from alimentary disturbance there was little. The speaker, along with two other workers, reinvestigated the subject during last summer in the clinic of Professor Finkelstein in Berlin, and as the result of observations made on over 100 infants under 1 year old concluded that the amount of complement varied, not with the mode of feeding or condition of the child, but directly with its age, the complement value rising from *nil* during the first month to 11 per cent. in the second month, and 88 per cent. between the sixth and twelfth months. This possibly explained why the difficulty of rearing children artificially diminished as age advanced.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, December 2nd, 1909.

Mr. T. H. BICKERTON, President, in the Chair.

THIS was a clinical evening, the following being among the exhibits:—DR. R. J. M. BUCHANAN: (1) A case of splenic anæmia in a woman with a history dating back twenty years; (2) a woman showing functional clonic spasm of the tongue. DR. NATHAN RAW: Six patients showing cuti-reaction with human and bovine tuberculin. Mr. F. T. PAUL: A patient whose cæcum had been excised for carcinoma nine years previously. DR. K. GROSSMANN: A case of *Argyria* of both conjunctivæ, due to excessive use of protargol. Mr. HUGH E. JONES: A case in which nystagmus remained after aural vertigo had been cured by operation. DR. N. PERCY MARSH, in a paper on modern methods of infant feeding, pointed out the importance of enzymes in nutrition and the consequent desirability of avoiding their destruction by the employment of sterilization. He recommended pasteurization at 155° F. for the destruction of bacteria, and described Freeman's apparatus, which he used for that purpose. He strongly advocated the percentage method of feeding, especially in those cases of malnutrition in which the assimilative capacity of the infant had been impaired by previous improper methods.

At a pathological meeting on December 9th the exhibits included the following:—Mr. R. J. HAMILTON showed two orbital tumours removed by *Krönlein's operation*. The first was a fibro-sarcoma which surrounded the outer two-thirds of the optic nerve; the second an endothelioma springing from the suture between the great wing of the sphenoid and orbital plate of the frontal bone. DR. STOFFORD TAYLOR and DR. MACKENNA: (1) Section of *Tuberculosis cutis*, which clinically suggested blastomycetic dermatitis. Cultures and the microscope proved it to be tuberculosis. (2) The *Spirochæta pallida* revealed by the Leitz dark ground illuminator. The organisms were present in large number, and their movements could be easily studied. DR. BRADSHAW and ERNEST GLYNN: A case of *Latent cancer* of the œsophagus. It was situated at the bifurcation of the trachea, infiltrating both bronchi; the left lung was emphysematous, the right lung collapsed. DR. ERNEST GLYNN: A specimen of fatty infiltration of the heart with atheroma of coronary arteries from a patient who died suddenly. Mr. MONSARRAT read a note on *Hypernephroma of the kidney* in a man aged 27 years, who had suffered on two occasions from right renal colic associated with haematuria. At operation a tumour was found embedded in the cortex, largely encapsuled, but at one part fungating into the renal pelvis. The tumour was composed mainly of the usual tissue, but in parts showed the histology of a cuboidal celled carcinoma.

SOUTH-WEST LONDON MEDICAL SOCIETY.

Wednesday, December 8th, 1909.

Dr. L. S. McMANUS, President, in the Chair.

DR. F. M. SANDWITH, in a paper on *Malaria*, and speaking of the form in which quinine should be exhibited, said the old quinine sulphate should be discarded altogether, owing to its insolubility, bulk, and its needing an acid to keep it in solution. The latter was more likely to damage digestion than the quinine itself. Quinine bisulphate was much more soluble and less bulky, was a very useful salt, and not more expensive. The best preparation (though much the most expensive) was the bihydrochloride of quinine both for oral use and intramuscular injection. This salt was soluble in its own quantity of water. The time to give quinine was also important. It was best to give it when the sweating stage began, as then it came into contact with the young forms of the parasites, and so had greater destructive powers. Another point for observance was the continuation of the quinine treatment for at least one month in mild cases and several months in more severe cases. The dosage should be never less than gr. v and never more than gr. xxx in the twenty-four hours. Smaller doses were insufficient to destroy the parasite; larger were likely to poison the patient without producing any better effect. The best way to give this maximum dose was in three two hourly doses of gr. x in the morning. If given intramuscularly, gr. viii should be administered each night. There was no substitute for quinine. The patient who could not stand the ordinary doses must be educated up to them by very small hourly doses (say, gr. j) rapidly increased to the requisite quantity. Among the precautions which might be suggested was the application of citronella oil to parts exposed to mosquito bites between sunrise and bedtime. Blackwater fever was certainly a form of malaria. It might be brought on by quinine itself and by such drugs as antipyrin in people who had suffered previously from malaria or blackwater fever, as in the lecturer's own experience.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, December 8th, 1909.

Lieutenant-Colonel W. G. MACPHERSON, C.M.G., in the Chair.

FLEET SURGEON F. H. A. CLAYTON, M.D., in a paper on *Seven-day fever of Eastern Ports*, pointed out that in the navy Bombay was its principal source. In the Naval Defence Flotilla permanently stationed at Bombay outbreaks seemed to occur at almost any time of year, and were apparently chiefly dependent on the supply of susceptible individuals. In the smaller ships docked for a considerable time outbreaks always coincided with docking, and the possibility of its occurrence seemed to vary with the length of time in dock and the number of white men on board. The larger ships harbouring for considerable periods, but only docking for a few days, were generally immune. The facts suggested convection by blood-sucking flies, probably the *Culex fatigans*. Towards the end of some outbreaks cases occurred resembling dengue fever, as one outbreak in particular when the ship moved assumed many of the chief characteristics of that disease. Probably the disease was in reality a sporadic form of dengue, its epidemic extension being promoted by certain unrecognized factors.

ROYAL SOCIETY OF MEDICINE.

SECTIONS OF SURGERY AND MEDICINE.

Tuesday, December 14th, 1909.

Mr. G. H. MAKINS in the Chair.

Duodenal Ulcer.

THIS was a conjoint meeting of the Sections of Surgery and Medicine for the purpose of discussing the diagnosis and treatment of duodenal ulcer. The debate was opened by Mr. MOYNIHAN, who said that the usual age for manifestation was between 25 and 45; but the symptoms might appear in early life, and continue with intervals till advanced age. Epigastric pain began two to four hours after a meal, and increased in intensity until the next meal was taken. At first the pain occurred only after the heaviest meal of the day, but soon was felt after every meal, and tended to wake the patient about 2 o'clock in the morning. Food or bicarbonate of soda always relieved it. Vomiting was infrequent and the appetite was unimpaired. Periodicity of the attacks was characteristic; they were more common in the winter, and might be precipitated by cold, worry, or overwork. Gastric distension appeared at a late stage. Haemorrhage and perforation were complications which ought to be prevented by early recognition and treatment. At the same time there were cases in which haemorrhage was practically the first sign, or there might be an onset with copious vomiting; on the other hand, the only complaint might be of "acidity." Anamnesis was a much more important factor in diagnosis than physical signs. As a generalization it might be stated that a diagnosis of "hyperchlorhydria" spelt duodenal ulcer. In a first or second attack medical treatment of a careful and protracted character might be efficient, but the treatment of chronic ulcer was surgical. Operative measures included excision of the ulcer, resection of the affected part of the duodenum, and gastro-enterostomy. The author's invariable practice now was to infold the ulcer, obliterating the lumen of the pylorus, and to unite the jejunum without loop to the stomach. Mr. COLLINSON gave a short summary of Mr. Moynihan's cases. The list included 188 cases up to November of this year. Amongst them there were four deaths. Haemorrhage had occurred in 35 per cent. In 47 there were both duodenal and gastric ulcers. In the early cases there were three examples of tetany from stenosis-dilatation. Eleven were operated on for perforation. In the last five years 116 consecutive cases had been operated upon without a death. Following the patients up to date, it could be said that only 18 were not cured. Sir LAUDER BRUNTON said that it was not so much in the winter season as in spring and autumn that indiscretion in the matter of changing weight of clothing was common and contributed to the precipitation of attacks. He had made many unsuccessful attempts to produce ulcers of the stomach and intestines, in animals, by cutting off the blood supply temporarily. Whilst the time relation to food in the onset of symptoms was an indication that the lesion was in the duodenum, it afforded no criterion as to its nature. Administration of the mixed carbonates of soda, lime, and magnesium was a very useful diagnostic measure. If the symptoms were not relieved thereby, the existence of ulceration was very doubtful. He had found a difficulty in certain cases in discriminating between gall stones and duodenal ulcer. In first attacks rest in bed, warmth, and careful diet were the right line to take, but recurrence of the symptoms in spite of medical measures was the signal for surgical intervention. Mr. EVE agreed that operation ought not to be delayed beyond the second attack. Gastro-enterostomy was a satisfactory method, but not necessarily curative unless the pylorus was obliterated. Excision of the ulcer was inappropriate since the ulcers were often multiple. Mr. Moynihan had not brought forward any symptom on which complete reliance could be placed. Ulcers were by no means always easy to see on opening the abdomen; too much stress had been laid on changes in the peritoneum as indicative of underlying ulcer. In this connexion he wished to emphasize the importance of digital examination of the gastric and duodenal mucosa; it was a harmless procedure, and perhaps the only one that could certainly eliminate, or prove the existence of, ulceration in some cases. While the symptoms were definite as a rule, there were also very definite exceptions, of which he gave illustrative cases. Of 30 consecutive cases diagnosed by physicians of repute, he had himself operated on 21, and proved the absence of ulceration in no less than 12. Dr. HALE WHITE said that in the figures of Perry and Shaw there were only 70 duodenal ulcers in 17,000 necropsies: but of 3,800 autopsies at Guy's in the last seven years 38 showed ulceration. The reason for this increase was to be found in the much greater frequency with which perforated cases were sent up to hospital. Of the last 12,000 medical cases 33 were diagnosed as duodenal ulcer, whilst among 1,000 seen outside there were no less than 24. Of the 33, 17 were fatal; of the 24, only 1. Probably this discrepancy rose from the fact that the symptoms were often not of such severity as to necessitate admission

as in patients. It was probable, however, that more people now suffered from this lesion than twenty years ago. The only addition he could make to the picture given by Mr. Moynihan was the constancy of local tenderness with slight rigidity of the right rectus. This feature, he thought, made the possibility of confusion with certain instances of biliary lithiasis quite intelligible. Speaking of subphrenic abscess as a complication, he said that the presence of gas was an important point in the differential diagnosis from subphrenic abscess of appendix origin. Mr. WATERHOUSE referred to the difference noticeable in the incidence of gastric and duodenal ulcer in hospital and private practice. He had found duodenal ulcers always palpable, even if not always demonstrable, on inspection. Whilst nine-tenths of his cases had occurred between 30 and 45, he had had cases under 5 years, and the occurrence in tender years should not be overlooked. Multiplicity of the ulcers figured in at least 25 per cent. of cases, so that excision was not a suitable method of treatment. He had experienced great difficulty in deciding whether gastric or duodenal ulceration was the cause of the symptoms in some instances; when this was so it often turned out that both were present. He had noted radiation of the pain, and was impressed with the importance of local tenderness and slight rigidity. When there was no melaena there was often occult blood in the stools. Hyperacidity was not found in his cases. He was glad to notice that the two eminent physicians who had spoken recognized the necessity for handing over these patients to the surgeon after a second attack. Gastro-enterostomy was the one and only treatment, and was all-sufficient. Further debate was adjourned.

Reviews.

POPULAR TROPICAL MEDICINE.

Mosquito or Man? a new book by Sir RUBERT BOYCE, F.R.S.,[1] is well worth reading. It is really a history of the recent advances in tropical medicine, especially in reference to mosquito and other insect-carried diseases, and contains also what has been done in regard to the destruction and suppression of these pests. It is divided into two parts, the second dealing with sleeping sickness, ankylostomiasis, Malta fever, and some other diseases not specially associated with insects, and has an appendix in which are (1) ordinances, regulations, and by-laws relating to stagnant water, mosquito larvae, yellow fever, rats, etc.; (2) tropical expeditions and Commissions of the Royal Society, the Colonial Office, and the Schools of Tropical Medicine of London and Liverpool. Being written in an unconventional style and printed in good-sized type it a pleasure to read, but it contains much that is not only interesting but distinctly instructive. The campaign against mosquitos inaugurated some ten years ago by Professor Ross, and so energetically followed up by the Americans in Cuba, and now at Colon and Panama, has spread so extensively, and such a large literature has sprung up, that it is almost impossible for the ordinary busy man to keep in touch with it. Professor Boyce has realized this, and having had the good fortune to have served on several antimosquito expeditions himself, he has put this knowledge, together with that acquired from the literature, into the form of a book which puts it within the reach of all.

The history of this whole subject is remarkable. When we consider the death-rates set forward in the book, when we remember, to give only one example, that 35,952 deaths from yellow fever occurred in Havana between the years 1853 and 1900, and that at the present time the disease which has caused this enormous mortality has been entirely suppressed, it is not too much to say that it is the finest thing that has ever happened in preventive medicine, and that we are lucky to have lived at such a time and to have witnessed such a revolution. The West Indian Islands, this book tells us, are now moving to follow this splendid example; but there seems to be a certain tardiness present in many of them—in Jamaica, for example, according to Dr. Prout's report. New scientific truths take time to oust the old traditions and fancies, and probably until the present generation dies out there will still be some disbelievers, though recent results have been so striking that even they may be converted. Another point brought out in the book is the value of the literature of the past.

Too often workers begin to work and then publish their results, believing these to be new, while in reality the observations have been made before and recorded in print. It is something like the old-fashioned physician in *The Doctor's Dilemma*, who, on hearing of the new method of treatment by inoculation, said, "Why, my grandfather practised it years ago." Some splendid examples of the acumen of the physicians of the past in suspecting the part mosquitos play in the spread of disease are given by Sir Rubert Boyce, noticeable amongst these being Beaupertuny, Blair, King, and others. If the literature of the past as regards other diseases was as closely culled, valuable observations and suggestive theories would be found. Summaries of some of the other diseases spread by insects are also, as already mentioned, incorporated in the book. The great value of the work is that it is very simply written: technicalities and technical language are conspicuous by their absence, and the text will be as clear to the man in the street as to doctors and others of the scientific world.

[1] *Mosquito or Man? The Conquest of the Tropical World.* By Sir Rubert Boyce, M.D., F.R.S., late Professor of Pathology, University of Liverpool; Dean of the Liverpool School of Tropical Medicine, etc. London: John Murray. 1909. (Med. 8vo, pp. 283, figs. 44. 10s. 6d.)

INORGANIC POISONS.

IF we may take the volume before us as a fair specimen of Professor DITTRICH'S handbook of medical practice,[2] it should occupy a high place in current medical literature. The preface by Professor VON JAKSCH states in a few lines that he has contributed only the articles on phosphorus poisoning and chronic manganese poisoning, and that all the rest is written by Dr. ERBEN, the assistant in his clinic. The scale of the work may be judged by the fact that this volume contains 458 pages, and deals only with the inorganic poisons. In the general introduction poisons and poisoning are defined and classified as suicidal, homicidal, industrial, medicinal, dietetic, and endogenous or autotoxic, while some consideration is given to general diagnosis and its difficulties, the importance of obtaining an accurate history and of knowing the circumstances of each case, the proof of the existence of the poison and the course and consequences of poisoning. In connexion with the general prognosis of poisoning perhaps more might be made of the undoubted fact that a comparatively small number of those who take poison die from its effects; the statistics of a large hospital show that out of a total number of 26 cases of poisoning admitted during the year 1907 only 1 was fatal. There is a short practical chapter on poisoning from the point of view of medical jurisprudence put in the form of a series of questions which the practitioner called to such a case must attempt to answer. The special part begins with the poisonous gases and we are reminded that the amount of sulphuretted hydrogen in mineral waters may be sufficient to cause loss of appetite, gastric disturbance, diarrhoea, slowing of the pulse and respiration, palpitation and difficulty of breathing. The danger of the emission of phosphuretted hydrogen from ferro-silicon is noted, but nothing is said of arseniuretted hydrogen also given off by this substance under the same conditions. A solution of potassium bichromate used for staining wood for cheap furniture is often the source of accidental poisoning, being taken in mistake for beer or tea; 15 gr. is said to be the minimum fatal dose, but recovery has taken place even after so much as ½ oz.; death may occur as late as three weeks from the date of the poison being swallowed, in consequence of pulmonary or renal complications.

Under silicon reference is made to the use of powdered glass to give a glittering appearance to certain confectionery, and to the trouble which has been caused by it in certain

[2] *Handbuch der aerztlichen Sachverständigen-Tätigkeit.* Herausgegeben von Professor Dr. Paul Dittrich, Prag. Siebenter band, erster teil: Vergiftungen, klinischer teil, erste hälfte: Allgemeines. Anorganische Gifte, von Dr. Franz Erben. Mit Vorwort und zwei Beiträgen von Prof. Dr. R. v. Jaksch. Wien und Leipzig: Wilhelm Braumüller. 1909. (Sup. roy. 8vo, pp. 474. M.12=Kr.14.70.)

cases. In some parts of Germany an infusion of the *Equisetum limosum* is used popularly as a diuretic; it contains much silicic acid and has been known to cause haemoglobinuria. In Sweden, Finland and East Prussia phosphorous obtained from matches is, it is said, commonly used as an abortifacient; it seems to be effective in comparatively small doses (gr. ½) but even these may cause serious symptoms, although the smallest that has proved fatal is gr. ¾. It is worth remembering that jaundice after phosphorous poisoning is not always of fatal significance. Some interesting historical information is given on the criminal use of arsenic as a poison. The aqua tofana was a solution of arsenic in aqua cymbalariae (ivy-leaved toadflax.) It is believed to have been invented by Teofania di Adamo, who was executed about 1635 at Palermo, but was employed by Giulia Tofana, who gave her name to it; she came from Palermo to Rome, and died there in 1651, leaving the secret to a friend, Girolama Spara, who also migrated from Palermo to Rome, where she was hanged in 1659. A third Tofana was executed in Naples in 1730, after having committed 600 murders! The practice of arsenic eating, the existence of which has been discredited, is here described, and a case is quoted of the director of an arsenic factory, who had acquired the habit and took as much as 20 grains of coarse powdered arsenic daily. Wishing to give it up, he abruptly broke off the habit, with the consequence that he was seized with severe gastric pain and diarrhoea, followed by collapse and death! Arsenic eaters are met with in several parts of Germany, in Russia, and in the United States, where they are known as "dippers." Buchner is quoted as authority for the statement that in certain girls' schools arsenic is given regularly in the food under medical supervision, in order to improve the complexion and the hair and to cause plumpness!

The section on arsenic may be taken as an example of the thorough and complete way in which each subject is discussed in this volume, and if all the volumes prove equal to this, the work will be of the utmost value.

MODERN PROBLEMS IN PSYCHIATRY.

PROFESSOR LUGARO has for long been known in this country as one of the most distinguished members of a brilliant group of Italian writers on psychiatry and its allied departments of medicine. Therefore, as Dr. Clouston well says in his able "foreword," all workers in science are placed under a heavy obligation to those who undertake the drudgery of translating a good foreign scientific book, such as Professor Lugaro's *Modern Problems in Psychiatry*[1] into the English language. Their task, no small one owing to the wide perspectives of the author, the translators have admirably performed. In his general introduction Professor Lugaro refers to the fact that the study of mental diseases touches upon and embraces all the most intricate problems of biology and medicine, besides containing many others which belong to it exclusively. Psychiatry in its practical aspect enters also into so many social and economic relations that its adequate and comprehensive treatment necessitates in the writer an unusual combination of qualities and great breadth of view. The reader cannot go very far into Professor Lugaro's work without becoming convinced that its author possesses every requisite. A master of his own subject, conversant with philosophical and metaphysical teaching yet thoroughly imbued with the results and methods of modern science, Professor Lugaro's work is at once clear and subtle in its reasoning, forcible and incisive in expression, and always original in its mode of regard.

The author treats of his subject under six heads—psychological problems, anatomical problems, problems in pathogenesis, etiological problems, nosological problems, and practical problems. Without forestalling the reading of a book which will doubtless appeal to a wide circle, it may be said in general that Professor Lugaro is ultra-modern in his views of insanity—that is, that he wishes to sweep away the last vestige of the "mistaken opinion," as he terms it, that insanity is due especially to causes of a psychic nature, and instead throughout this work seeks to base it entirely upon organic processes and events. The main theme of his discourse is contained in the two chapters on pathogenesis and etiology, in which he collates, as far as possible, the data of psycho-pathology with those of normal and pathological anatomy. Popular ideas, more or less reflected in scientific opinions, he maintains, have gone too far in two opposite directions—on the one hand, as we have said above, by attaching too much importance to so-called psychic causes, and on the other by exaggerating the value of the internal or constitutional factors. On this latter point Professor Lugaro will find many to disagree with him. If we include, he says, when speaking of inherited anomalies, not only the patient's organization but that of his ancestors, the anomaly (or internal factor) is simply the result of the marked effects produced by an external cause which acted on it directly or through the organism of the progenitor during development. "Degeneration, looked at from this point of view, is a disease of the stock, and may be recovered from by the inverse process of regeneration." Professor Lugaro's views on this matter are the outcome of his adherence to the inheritability of acquired characters. "In every instance, therefore," he says in his concluding remarks under this head, "be it a single individual or an entire stock which is affected, the inquiry into the cause of the mental disease must attempt to reconstruct the whole complex series of steps which lead back from the symptoms to the primary cause, the external agent."

The chapters which lead up to these two contain a critical examination of the different metaphysical doctrines of materialistic, idealistic and relative monism and of dualism and scepticism, all of which, in the author's haste to escape what he terms "the vicious circle of metaphysical doctrines," are rejected in favour of a naive "primitive realism." Also, both in the opening chapters in maintaining the principle of psycho-physical parallelism and in the concluding chapter with reference to criminal conduct and insanity, there is a good deal of argument about determinism and indeterminism. Concerning this the author's reasoning is almost too ingenious, in places approaching the sophistical, the word "determinism," for example, being used with an unduly wide connotation when to do so is useful to the argument.

In the section on anatomical problems, excellent accounts are given of the neurone doctrine, of which the author is a fervent supporter; of chemo-tropism and neuro-tropism; of Cajal's "Law of Avalanche" and its psychological applications; and of the organic processes which underlie consciousness and affective processes. In the concluding chapters on nosology and practical considerations the author puts in application the various conclusions at which he arrived in the two cerebral chapters of the book. It would take us too far to give an account of these. It may only be briefly said here that he deprecates a symptomatological classification. As clinical entities he admits only certain forms of idiocy, cretinism, alcoholism, general paralysis, and senile dementia. This classification follows naturally from his views regarding the causation and pathogenesis of insanity, in particular with reference to the importance of external factors. In similar fashion his exposition of the relation between crime and mental diseases is narrowed by his strict adherence to the views he has enunciated in the foregoing chapters, which lead him not only to deny the right of entry of anthropological characters into the collation of the factors of insanity, in particular the doctrine of atavism, but to scout—rather too contemptuously, we think—the teaching of the Italian school of criminal anthropologists.

In the foregoing we have sketched the outlines of a book which is full of information, which continually awakens the reader's interest—often by arousing his opposition—and into which nothing is introduced which is not essential to the argument as a whole. We have only one word of mild protest. In places there occur sentences so long and so involved that after repeated reading we have been compelled to give them up, and be content merely with to quote the words of the translators—"a concrete intuitive concept of a solution."

[1] *Modern Problems in Psychiatry.* By Ernesto Lugaro, Professor Extraordinary of Neuropathology and Psychiatry in the University of Modena. Translated by David Orr, M.D., and R. G. Rows, M.D., with a foreword by T. S. Clouston, M.D., LL.D. Manchester and London: Sherratt and Hughes, University Press. 1909. (Roy. 8vo, pp. 385, 7s. 6d.)

NOTES ON BOOKS.

THE London doctor has his moments of leisure: *neque semper arcum tendit Apollo*. A walk from a suburban station does him good, and in these days he may avail himself of the motor car or bicycle. He should, however, first read Mr. WALTER JERROLD'S little book, *Highways and Byways in Middlesex*.[1] It reminds the jaded Londoner that sweet rural scenery lies within a few miles of his doorstep. Mr. Hugh Thomson supplies beautiful little drawings of rustic corners—brooks with bridges, lanes, trees, distant spires, and "high streets" curving through villages. The work is eminently suited for the confirmed walker who cares neither for golf nor for pulling flowers to pieces, nor for sticking pins through butterflies. He may spend all his journey on the refreshing of his eyes by the sight of the country, or he may reflect when Mr. Jerrold reminds him that some great man was born in a house in the village on the road, and that, if he cares to turn off the road he will come to a house where some other great man died. The glories of deserted Hampton Court, the spoiling of the Thames Valley by the boisterous youth of the British metropolis, and the restful calm of the villages and fields to the north towards and beyond Hounslow, will force upon him reflections wholesome and refreshing, useful above all in turning his attention for awhile from the cares of practice, politics, and the other ills of life. There is much worth seeing off the northern and north western roads which traverse the little home county, and we advise the young doctor to see it all before it is spoiled by eligible suburban residences, as some of it will infallibly be spoilt within a very few years, and much more before this generation has passed away. Those that are older will do well to remember what is so near to them, and to spend a spring afternoon or a summer Sabbath in fields near the Buckinghamshire or Hertfordshire border. Before making an excursion of that kind, however, they could not do better than to glance at *Highways and Byways*, which will suggest to them how to take a really "good walk," profitable to mind and body.

In the fiftieth volume of the archives of disease in children[2] the three editors, Drs. BAGINSKY, MONTI, and SCHLOSSMANN, professors respectively in the University of Berlin, and Vienna, and of the Academy of Medicine of Düsseldorf, supply some thirty papers. They all deal with medicine as distinct from surgery, and a certain number are of the laboratory as distinct from the bedside order. In the initial paper Dr. Baginsky discusses in some ten or twelve pages the contents of the volume, endeavouring to bring out their most important points, addressing himself more particularly to senior students and post-graduates. The next six or seven papers represent work done in the Kaiserin Friedrich Hospital for Children at Berlin, the rest of the volume being made up by contributions from a considerable variety of sources. Thus Solaro, of the University of Naples, deals with enlargement of the spleen in typhoid fever; Triotsky, of Cracow in Russia, with the dosage of arsenic at various age periods; Arnheim, of the bacteriological department of the Berlin Institute of Pathology, relates an investigation into the etiology of whooping-cough; Herbert Koch, of Vienna, discusses the development of immune bodies in the blood of children; Stamm, of Berlin, the head sequence observed in sleeping children; and Combey, of Paris, deals with chronic appendicitis in infants. The volume, therefore, represents not the views of one school on one subject, but views on a multiplicity of subjects from schools in various parts of Europe.

The new edition of the *Medical Directory*[3] published at the end of last week in its familiar red cover, contains some fifty pages more than its immediate predecessor, but seems no heavier, and promises to prove at least as useful. The form in which the numerical summary of its contents is given has been modified and greatly improved, a mere glance now showing the alterations in number and distribution of the medical profession as represented by the owners of names figuring in its pages. Last year the total increase shown was the lowest for several years, namely, 289, but this year the figure of increase has jumped up to somewhat above the average, namely 566. In other words, the total number of names in the medical portion of the *Directory* is now 40,558. In respect of distribution, the medical population of London, which last year showed a drop of over a hundred, seems stationary, standing at 6,427 in this year's *Directory* as against 6,428 in the *Directory* for 1909. The total number of names in the Services section also shows practically no variation, but in all other sections there is an increase. Thus the number of medical men in practice abroad has jumped up from 5,009 to 5,188, while Ireland, in which the medical population has for some years been almost stationary, shows an increase from 2,657 to 2,723. In Scotland there has been a small annual increase for many years past, and this year the number has risen from 3,845 to 3,947; in Wales, the increase is smaller, the number this year being 1,403, as against 1,394 in the year 1909. The largest increase of all is in the provinces, where the figure has risen from 17,356 to 17,568. An improvement in this year's edition is to be found in the section devoted to London hospitals, the fashion in which institutions are now classified, making it easier to find any particular hospital desired. There is also a new section giving short information as to the principal British spas and climatic health resorts, which has been compiled for the publishers by Mr. Norman Hay Forbes. The usual section dealing with Royal Commissions whose work in any wise affects medicine is included, but nothing is said therein as to the Commission which is to decide the fate of the University of London. On the other hand, information is given as to the Poor Law Commission and the Whisky Commission. A useful addition to the book would be a list of coroners, showing the boroughs or districts for which they are responsible.

Lewis's *Medical Ledger and Day Book* has been designed to meet the requirements of the busy practitioner who wants a simple and compact system of book-keeping.[4] It is really a combination of day book and ledger. The first part is ruled for the daily entries of a complete month like an ordinary monthly visiting book, but with additional columns for totals of amounts due, payments made, date of payments and memoranda. The second half of the the book is a ledger with alphabetical arrangement of pages and columns for monthly and yearly totals, the whole cash account for each patient for the whole year going on a single line across the double page. Possibly some practitioners would prefer more space for each patient in the ledger part. A separate rough day book will, of course, be necessary for entering up visits, consultations, and prescriptions as they are made. Each item for each day will then have to be assessed in value, and the amount entered in the day book portion of the *Medical Ledger*. The book can be commenced at any date and is intended to last a year, though in many cases it would be available for a longer period. It is rather a pity that the pages are not numbered for cross references. The volume is strongly bound and can be fitted with a lock and key if desired. It certainly reduces the labour of book-keeping very considerably.

We have received from Messrs. J. Wright and Sons, Bristol, a copy of their *Physicians' Surgeons' and Consultants' Visiting List for 1910*, which in many respects is an improvement on previous years. The list is issued in two forms, Form A with fixed dates and Form B without fixed dates, for the convenience of those who like to use a list right through without any waste or to commence it at other times of the year than January. Form A is issued in six varieties, for 40 up to 240 patients a month. The objects aimed at are, first, to give the greatest amount of accommodation in the least space, and secondly to economize time, as it is only necessary to write patients' names once a month instead of weekly. In addition to pages for obstetric engagements, nurses, and other addresses, vaccination engagements, etc., it contains a consultants' record, in which consultants may see at a glance the date and hour of their appointments, with the name of patient and medical man in attendance. A useful point is that at the end of each month's list there are several pages for cash receipts and payments. To assist the eye in rapid reference the dates are printed at the bottom as well as at the top of the pages, and each alternate line is in red. In addition to the actual pages of the list, there are 14 pages of useful tables in frequent request, and as there are no advertisements, the whole book is as small and compact as possible. The paper is especially good, thin but not too transparent, and the cover is leather bound. The price varies from 5s. for the edition for 40 patients to 7s. for that for 240 patients per month.

[1] *Highways and Byways in Middlesex*. By Walter Jerrold; with illustrations by Hugh Thomson. London: Macmillan and Co., Ltd. 1909. (Post 8vo, pp. 418, and map. 6s.)

[2] *Archiv für Kinderheilkunde*. Herausgegeben von Dr. A. Baginsky, Dr. A. Monti, und Dr. A. Schlossmann. Stuttgart: Verlag von Ferdinand Enke. 1909. (Roy. 8vo, pp. 484.)

[3] *The Medical Directory, 1910*. Sixty-sixth annual issue. London: J. and A. Churchill. 14s. net.

[4] *Medical Ledger and Day Book*. London: H. K. Lewis. (Demy 4to. 6s.)

The new edition of *Herbert Fry's Guide to the London Charities*[5] is the forty-sixth annual issue of a compact handbook to which we have frequently drawn attention. It gives in alphabetical order a list of all charities either established in, or working from, the metropolis, together with the names of their principal officials, their annual income, the date of their foundation, their address, and the special object which each institution or association endeavours to fulfil. It commences, as usual, this year with a preface which reviews briefly the principal events of the year from the point of view of charitable undertakings. Attention is drawn to the fact that St. Bartholomew's Hospital has at length had to make an appeal to the public for contributions towards ordinary maintenance, and to the grave effect which the increase in legacy and estate duties is likely to have on charitable institutions. The volume is certainly a very handy reference book on the subjects to which it is devoted, and its price brings it within the reach of all those who have either money to bestow or patients and other persons for whom they desire to find accommodation. Included is an appendix in which various bodies describe their more special needs of the moment in their own words.

[5] *Herbert Fry's Royal Guide to the London Charities.* Edited by John Lane. London: Chatto and Windus. 1910. (Cr. 8vo., pp. 379. Price, 1s. 6d.)

MEDICINAL AND DIETETIC ARTICLES.

"Paco" Diastase Malt Extract.

WE have examined a sample of Malt Extract submitted by Messrs. Paine and Co., Ltd. (St. Neots), who are placing it on the market under the somewhat lengthy name, "John Bull" Malt Extract, "Paco" Diastase brand. Our analysis gave the following results:

Total solids	...	...	...	76.9 per cent.
Protein...	...	...	...	7.44 ,,
Reducing sugars, calculated as maltose	...	...	...	71.9 ,,
Diastatic value by "Codex" test				1755

The superiority of malt extract over other forms of soluble carbohydrate depends partly on the greater assimilability of maltose, but probably more on the presence of soluble protein, while its digestive power depends on the diastase. The figures show that this extract contains a high proportion of protein, and possesses a remarkably high power of digesting starch. The flavour is good, and the extract will prove a useful article of diet.



Pituitary Extract.

We have received from Messrs. Burroughs, Wellcome, and Co. (Snow Hill Buildings, E.C.), some specimens of pituitary (infundibular) extract put up in small phials called "vaporole containers." Each contains 1 c.cm. of 20 per cent. extract, representing 0.2 gram of fresh infundibular extract. The action and therapeutic use of this substance has recently been described by Dr. Blair Bell in our columns (December 4th, 1909, p. 1609). We may add that other hypodermic injections put up in vaporole phials are cocaine hydrochloride 0.01 gram in 1 c.cm., and morphine hydrochloride 0.01 gram in 1 c.cm.

MEDICAL AND SURGICAL APPLIANCES.

A New Inhaler.

WE have received from Messrs. Macphersons, 80, Farringdon Street, E.C., a specimen of a new inhaler of a very simple but ingenious construction. It is a tall vessel of thin light porcelain, with a handle at each side and in shape somewhat like a truncated 12-pounder shell. The upper part is cut away so as to fit closely to any ordinary face when nose, mouth, and cheek are inserted in the orifice, and just above the water line are a series of holes which let in air. In this way the patient inhales air heavily charged with vapour of the right temperature, such temperature being secured by pouring in the proportions of cold and boiling water indicated by a scale burnt in on the front of the vessel. The scale provides for vapour of the temperatures of 80° F., 110° F., and 140° F., and on the opposite side of the vessel clearly phrased general rules for the use of inhalers are printed. This appliance is certainly taking, as being cleanly, very easily used, and quite inexpensive. Capsules containing various drugs suitable for use with the inhaler are supplied.

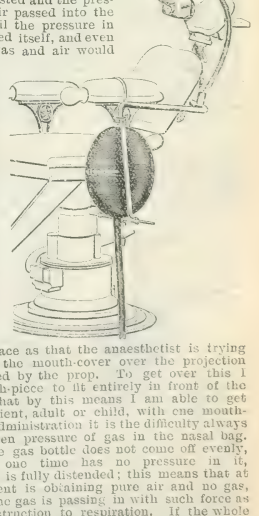
A Binaural Stethoscope.

Messrs. Allen and Hanburys, 48, Wigmore Street, W., have shown us a binaural stethoscope, the novelty in which is that the two ear-pieces are held together by a C spring, which passes round the back of the head. The instrument is undoubtedly comparatively very light and, as claimed, inexpensive (7s. 6d.). The only objection which occurs to us is that the spring may not fit everybody comfortably.

A Combined Ordinary and Nasal Apparatus for Administering Nitrous Oxide.

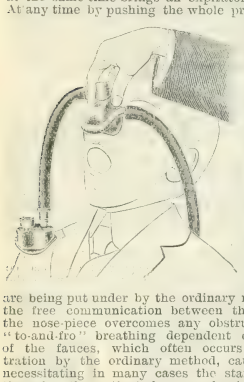
Mr. F. Trewby, M.R.C.S., Assistant Anaesthetist to St. Bartholomew's Hospital and House-Anaesthetist to the Royal Dental Hospital, writes: To obtain satisfactory results from nitrous oxide administered by the nose it is essential that the apparatus used should give rise to the least obstruction to breathing, that the gas be administered at a gentle pressure during the continuation, and that the person administering the gas should be able to shut off gas and give air at a moment's notice. With these points in view, I have had the following apparatus constructed.

Description of Apparatus.—Mr. Coleman's excellent nose-piece has been followed in respect of the absence of rubber pads and the delivery of gas directly up the nostrils. I have made use of the idea of having an air inlet and at the same time being able to shut off any force of gas, and have put this mechanism on the nose-piece itself. This is a great improvement on an ordinary air inlet, as, if it were necessary to give air, and there was much pressure in the nasal bag, not only was the gas wasted and the pressure lost, but no air passed into the patient's lungs until the pressure in the bag had expended itself, and even then a mixture of gas and air would be drawn in. I have connected the mouth-cover with the nose-piece by a wide piece of rubber tubing, and in this simple way prevented the occurrence of "false action" of the ordinary mouth-cover, and also combined the advantages of the ordinary face-piece methods with those of the nasal apparatus without any disadvantages. The reason why the ordinary mouth-cover does not fit accurately is not so much variation in the shape of the face as that the anaesthetist is trying to fit the sides of the mouth-cover over the projection in the cheek caused by the prop. To get over this I designed my mouth-piece to fit entirely in front of the prop, and I find that by this means I am able to get a fit in every patient, adult or child, with one mouth-cover. In nasal administration it is the difficulty always to maintain an even pressure of gas in the nasal bag. Occasionally if the gas bottle does not come off evenly, the gas bag at one time has no pressure in it, while at another it is fully distended; this means that at one time the patient is obtaining pure air and no gas, while at another the gas is passing in with such force as to give rise to obstruction to respiration. If the whole attention is given to the nasal bag a fairly even pressure can be kept, but the whole attention should be given to the patient. It is not always possible or convenient to use the hand to control the nasal bag, and to overcome this difficulty I have had a simple apparatus made with which gas can be given at a slight pressure. It consists of two bands of metal, fixed at the upper part of the bag by a ring; below they are connected by a slight spring, so



that, even if the bag is half empty, the gas is coming off at a slight pressure.

Mode of Use.—The nose-piece with the mouth-cover attached is first adjusted, then the mouth-cover with the rubber tubing attached is bent up and placed over the mouth; the patient is then got under in the ordinary way. In the continuation, when the patient is sufficiently under, the rubber tubing with the mouth-cover attached is swung to the left; this cuts off the gas to the mouth-cover, and at the same time brings an expiratory valve into action. At any time by pushing the whole projection downwards



the pressure of gas to the nose-piece can be shut off and air given.

The advantages I claim for the apparatus are: (1) That it obviates the discomfort to the patient which occasionally arises in the nasal administration, from the fact that many people who are partial mouth breathers are unable to breathe freely through the nose, thus causing them to feel suffocated while they are being put under by the ordinary nose-piece. (2) That the free communication between the mouth-cover and the nose-piece overcomes any obstruction due to nasal "to-and-fro" breathing dependent on the construction of the fauces, which often occurs in nasal administration by the ordinary method, causing cyanosis, and necessitating in many cases the starting of the operation when the patient shows asphyxial signs, rather than the signs of nitrous oxide anaesthesia. (3) That it converts the administration into as simple a procedure as giving gas by the ordinary face-piece method; in every case one is able to get a fair start, and have the patient deeply under gas with the least amount of cyanosis. (4) That it obviates any necessity of carrying about a nasal apparatus. (5) That if there should be any nasal obstruction, which in practice rarely occurs, it gives rise to no trouble during the induction of nitrous oxide anaesthesia.

The Hercules Meat Press.

The annexed block shows in section the "Hercules" Meat Juice Press, which is estimated to secure four or five times more juice from a given quantity of fresh meat than any other press; the importance of this fact is that it greatly reduces the cost of obtaining meat juice, about 4 oz. being obtainable for considerably less than 1s. The machine is constructed to deal with 3½ oz. of raw meat at a time, the special point in its construction being the use made of a series of corrugated discs. On each of these is placed a thin slice of raw meat, and when full the machine is hung at an angle to a wall. The screw is then turned, and owing to the equality of the distribution of the pressure, all available liquid matter is promptly released from the fibres of the meat, and flows out in a stream from the vessel at the lowest level of the machine. As it slackens a further turn can be given to the screw. The press can be obtained in two makes; in both of them all parts which come into contact with the meat are nickel plated. The appliance is certainly a marked improvement on its predecessors, since it affords a ready means of obtaining perfectly fresh meat juice without waste of material.



Lysol.

In the notice of the new lysol bottle published on November 27th, p. 1539, it should have been stated that the bottle has been specially made for presentation to physicians, and will be sent on receipt of professional card by Messrs. Chas. Zimmermann and Co., 9 and 10, St Mary-at-Hill, London, E.C.

THE ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

REPORT ON SCOTLAND.

THE ABLE-BODIED AND UNEMPLOYED.

General Principles of Reform.

THE Majority, with a view to securing a proper reorganization of the methods of assisting the able-bodied, lay down the following general principles:

(*a*) The responsibility for the due and effective relief of all necessitous persons at the public expense should be in the hands of one, and only one, authority in each area.

(*b*) There should be close co-operation between the various agencies dealing with persons out of employment.

(*c*) Careful discrimination should be made in the treatment of the different classes applying for assistance.

One Authority Dealing with Public Assistance.

The Report continues:

As regards the first of these principles, we are of opinion that the one responsible authority should be the Public Assistance Authority in burghs with a population of 7,000 and upwards, and elsewhere should be the Parish Council. To these authorities would be entrusted not only the administration of the Poor Law, but also the functions of Distress Committees under the Unemployed Workmen Act. . . .

While, however, we recommend that the Public Assistance Authority or Parish Council should have power to relieve any necessitous case that may apply, we hope that under a properly organized system it will not always be necessary for that authority or council to do so, as it will be able to refer certain cases to a charitable agency for more appropriate treatment. Moreover, we anticipate that when our proposed preventive measures—such as insurance against unemployment and labour exchanges—are in full working order, there will be less destitution among workmen than at present, and fewer cases will therefore be under the necessity of applying for public assistance.

Co-operation between Agencies.

As regards the principle of co-operation, the Majority propose that there should be the following permanent organizations for dealing with those whom preventive measures fail to reach:

1. A Voluntary Aid Council (or its committee).
2. A Public Assistance Authority (or its committee) in burghs with a population of 7,000 and upwards, and the parish council in the rest of the country.

To these will be added, as recommended in the English report:

1. An organization for insurance against unemployment.
2. A labour exchange, managed by the Board of Trade, with the help of a local committee.

For the effective assistance of distress, the Majority Report suggests that the following principles should be adopted:

(*a*) A first application for assistance, or an application for temporary help due to non-recurrent causes, should, generally speaking, be made to the Voluntary Aid Committee.

(*b*) Chronic distress or destitution should be dealt with by the Public Assistance Authority, or committee, or Parish Council, as the case may be.

Discrimination in Treatment of Different Classes.

The necessitous unemployed are divided into three classes:

1. Those who require temporary maintenance with work. (This class would include the best characters and the most hopeful cases.)

2. Those who require for a longer period maintenance with work and training. (This class would include those who require prolonged treatment for the purpose of training or restoring to physical efficiency.)

3. Those who require detention and discipline. (This class would include those unwilling to work and those whose character and behaviour are such that no employer will engage them.)

Methods of Assistance.

It is recommended that the methods of assistance available for the treatment of the necessitous unemployed should be:

1. Home assistance on condition of daily work in an industrial or agricultural institution, a colony, or otherwise, as may be decided within regulations laid down by the Local Government Board for Scotland. . . .

2. Partial home assistance—that is, home assistance for the family of an applicant, the applicant himself being maintained in an institution and given work.

3. Institutional assistance—that is, continuous maintenance in an industrial or agricultural institution or colony without detention, except in so far as the applicant binds himself by a written agreement to stay for a definite period.

4. Continuous maintenance under compulsory detention in a colony established and managed under the Scottish Office.

5. Emigration.

The Majority are of opinion that:

Public Assistance Authorities can never deal effectively and hopefully with the better class of workman applying for assistance until more drastic measures are taken with the "ins and outs," the "work-shy," and the "loafer." These cases should, we think, be handed over to another authority to be dealt with, and we propose that they should be committed to a Detention Colony under the Scottish Office for any period between six months and three years.

VAGRANTS.

With regard to vagrants, the Majority Report states:

The evils of vagrancy in Scotland are of long standing. . . . Referring to the subject, the Poor Law Commissioners of 1844 said, "Begging is often a profession, and frequently a very lucrative one; and will never be altogether abandoned until people are induced to refrain from indiscriminate charity." . . . These statements might unhappily be repeated to-day, and with the same accuracy as in 1844.

Vagrancy Statistics.—A census of vagrants is taken in Scotland by the police in June and December. The summer census is invariably the higher. In June, 1905, the number of vagrants and migratory poor in Scotland was found to be 9,557, including 1,688 children under 14; the average annual number for the previous seventeen years being 9,128.

In considering the question of vagrancy in Scotland, it must be borne in mind that neither able-bodied men and their dependants, nor able-bodied women, if unencumbered with dependants, are entitled to relief, and also that the casual ward is unknown. In these two respects the problem is very different from that which has to be faced in England. This difference does not make the solution of the question easier.

The evil is great and universally admitted. The main difficulty is that in Scotland the vagrant falls between two stools—between the Poor Law on the one hand, which has no casual ward, and the police on the other, who have nothing but the cells. There remain only the shelters and the common lodging houses, which are for the most part without official inspection or supervision.

Recommendations.

In dealing with vagrants the Majority recommend:

1. That the genuine unemployed workman who is in search of work—for whose benefit labour exchanges are being instituted—should, if necessitous, be entitled to receive public assistance.

2. That vagrants and "ins and outs" who have repeatedly become chargeable to the Public Assistance Authorities or Parish Councils during a recent period should be liable to be sent to a detention colony.

3. That the observance of the rules of the Local Government Board prohibiting inspectors of poor from making a money payment to tramps should be insisted on.

4. That the provision of the Burgh Police Act relating to vagrancy should be adopted in counties.

5. That the existing statutory provisions relating to vagrancy contained in the Burgh Police Act, 1892, any local burgh Act, the Prevention of Crimes Act, 1871, the Trespass Act, 1865, and the Local Government Act, 1889, should be strictly administered and enforced.

6. That the police should keep a complete record of all vagrants convicted of any offence under the above Acts, and take any further steps necessary to preserve their identification.

7. That the police should establish a more rigorous control over all existing night shelters; and that persons using such shelters, or applying to the police for help, should be classified either as persons legitimately in search of work, and therefore proper objects for public assistance, or as vagrants to be dealt with under the Acts above enumerated.

DETENTION OR CONTINUOUS TREATMENT OF CERTAIN CLASSES.

Chapter V of the Majority Report deals with the question of "detention," or, as they prefer to call it, continuous treatment, for certain classes of cases, and they make the following recommendations:

Aged and Bedridden Persons.

A Public Assistance Authority or a Parish Council, as the case may be, should be entitled to apply for an order for continuous treatment to a sheriff, magistrate, or justice, who should be empowered to grant it, if satisfied that the following conditions have been fulfilled:

1. A medical certificate that the condition of the home or the state of the person concerned is such as to make continuous treatment in an institution essential to his health or safety.

2. Sufficient proof that neither such persons nor their relatives or friends are able and willing to provide the requisite continuous treatment.

Children.

The procedure for removing from parental control children of "ins and outs" and of undesirable parents should continue to be regulated by the Custody of Children Act, 1891, and the Children Act, 1908. The provisions of the Poor Law Act, 1899, should, however, be applied to Scotland, and the period of control over such children should be extended to the age of 21.

The retention of children in an institution on the ground that they are unfit to be removed, or that they require medical treatment which would not presumably be provided by the parents outside, should depend on a medical certificate, subject to an appeal on the part of the parents to a sheriff, magistrate, or justice; where, however, a child is suffering from a contagious or communicable disease an order for continuous treatment should be obtainable on a medical certificate to the effect that the child is likely to communicate the disease to others.

Feeble-minded Persons.

Feeble-minded persons should be subject to continuous treatment on the lines laid down by the Royal Commission on the Care and Control of the Feeble-minded.

PERSONS REQUIRING CONTINUOUS TREATMENT AND CARE OWING TO INDULGENCE IN VICE OR PERNICIOUS HABITS.

Unmarried mothers who are not certified as feeble-minded, but who repeatedly become chargeable on account of illegitimate children, should be liable to an order by a sheriff, magistrate, or justice for a period of continuous treatment, and after recovery from confinement they should be sent to some suitable institution for a fixed period under reformatory influence.

The conduct which would entail the committal of persons of vicious or idle habits to a detention colony under the Scottish Office for any period between six months and three years we would define as wilful and persistent repetition, within a given period, of any of the following offences, namely:

(*a*) Wilful refusal or neglect of persons to maintain themselves or their families (although such persons are wholly or in part able to do so), the result of such refusal or neglect being that the persons or their families have become chargeable to the Public Assistance Authority or Parish Council, as the case may be.

(*b*) Wilful refusal, on the part of a person receiving assistance, to perform the work or to observe the regulations duly prescribed in regard to such assistance.

(*c*) Wilful refusal to comply with the conditions laid down by the Public Assistance Authority or Parish Council, upon which assistance can be obtained, with the result that the applicant's family thereby become chargeable.

(*d*) Giving way to gambling, drink, or idleness, with the result that a person or his family thereby become chargeable.

MINORITY REPORT.

The Able-bodied Unemployed.

The Minority state that:

In no department are the present arrangements in Scotland more inadequate and inept than in their dealings with the able-bodied man in distress. . . . The Scottish Poor Law, as interpreted by the judges, does not allow of any public assistance whatsoever being given to an able-bodied man in health, or to his dependants, however dire may be his needs or theirs. Thus, the Scottish system leaves the able-bodied man who cannot find employment at wages, or obtain alms from private charity, simply the alternative of theft or starvation.

The Minority

Dissent entirely from the recommendation of the Majority Report that the policy of the Unemployed Workmen Act of 1905 should be reversed, and that the unemployed workmen of Scotland should be relegated to the Poor Law, to be dealt with parish by parish, or burgh by burgh, by the so-called Public Assistance Authority, and the suggested Voluntary Aid Committee. . . . In our judgement [that is, the Minority] the problem of unemployment . . . ought to be administered by a separate authority.

The Minority Report continues:

We propose, therefore, in Scotland as in England, to relieve the local authorities of all responsibility for dealing with the

unemployed, or with any able-bodied men in health (including vagrants). We hold . . . that unemployment can be dealt with effectually only by a national authority. . . . What is needed, however, in our judgement, is the establishment of a Government department charged not merely with organizing a complete system of labour exchanges, but also with making use of the information thereby obtained.

The plan recommended is practically the same as that laid down in the Minority Report for England and Wales.

The Care of Children.

The Minority recommend that the whole provision of school age should be entrusted to the Local Education Authority—

The Establishment of a Common Register for all Forms of Public Assistance and of a Public Registrar.

The Minority state

That this scheme of deliberately breaking up the Poor Law, and of transferring each of its services to a specialized and preventive authority, has the incidental advantage that it brings into prominence the pressing need for a Common Register of all forms of Public Assistance, and makes indispensable the appointment of some such officer as a Registrar of Public Assistance.

They go into detail with regard to the working of this proposed scheme.

The whole of the recommendations of the Minority for breaking up the Poor Law will be found at p. 1418 of the JOURNAL for November 13th.

EUGENICS AND THE POOR LAW.

A MEETING was held under the auspices of the Eugenics Education Society on December 15th, when Mr. SIDNEY WEBB, LL.B., delivered an address on eugenics and the Poor Law, with special reference to the Minority Report of the Poor Law Commission.

Mr. WEBB said that the present Poor Law, which was costing the United Kingdom nearly twenty millions a year, was almost entirely anti-eugenic in its tendencies. In its provision for feeble-minded maternity, and in the opportunities which the general mixed workhouse afforded for acquaintanceship between the sexes, the Poor Law had undesirable results from the eugenic point of view. Moreover, the principle was involved in the very nature of the Poor Law that there must be destitution before it could operate, and those who were not destitute or would not apply for relief could not be reached. The doles given by boards of guardians in the shape of outdoor relief also served to extend the area, speaking eugenically, of a feeble-minded species. But none of these things were peculiar to the present Poor Law; they were counts in the indictment against any Poor Law, and for that reason he did not suppose that an eugenist would support the Majority Report, which set Humpty Dumpty on the wall again. A system for the relief of the destitute which could not intervene until there was destitution, and must cease its intervention as soon as destitution ceased, was contrary to sound eugenic principles. Some eugenists, continued Mr. Webb, drew the inference that it would be best to have no intervention at all. But *laissez faire*, from the eugenic point of view, was the worst of all policies, because it surrendered the idea of intelligent, purposeful selection. The first consequence of withdrawing public provision would be an outburst of private charity of the most sentimental order, which would be beyond the power of any Government to suppress. Supposing, however, that it could be suppressed, and that everything could be left to the extreme rigour of the "state of nature" and the struggle for existence, this, eugenically, would be the most unfortunate condition of all. He maintained that the blind struggle for existence did not even improve the average quality of the surviving community. Any improvement that might result from the elimination of the unfit was neutralized by the impairment of the survivors. For example, the effect of the Franco-Prussian war, although it might be true that the war eliminated some of the unfit, was to lower the physique of the French people, shorten the average height, reduce the average weight, impair the general efficiency. It must be remembered, when considering any policy of *laissez faire*, that Nature was not intelligent and purposeful, as the eugenist understood it. It knew nothing of the standards of civilized men. If left alone, it neither bred from what were considered to be the best stocks nor eliminated from the struggle those the eugenist considered should be eliminated. Every biologist knew that the lowest parasite was as much a product of natural selection as the highest man. They were faced by the stern fact that the Caucasian race might go under in the struggle for existence, unless it could manipulate the environment so as to prevent this tendency to elimination, and to make the conditions such that the highest race and the highest types of that race should survive. This manipulation of the environment involved collective regulation, and a very highly-developed social machinery. The eugenist could not consistently be an individualist; he must interfere, and interfere perpetually. The first duty of eugenists in England, Mr. Webb maintained, was to bring about a drastic revolution in the existing Poor Law. It was a darkening of counsel to suggest, as some were doing, that the Minority Report had anything in common with the Majority on its constructive side. The Minority Report was drawn on strictly eugenic lines, and contained no recommendation contrary to the best eugenic principles. It was based on the policy of

(*a*) Deliberately altering the social environment so as to render impossible (or at least more difficult) the present prolific life below the national minimum, or the continuance at large of persons unable or unwilling to come up to that standard of life;

(*b*) The "searching" out of every person in default, irrespective of his destitution or his application for relief;

(*c*) The medical and other inspection of all infants, school children, sick persons, mentally-defective persons, and all who are "unemployed," or who otherwise need public help so as to discover the unfit, as well as to remedy their defects;

(*d*) Segregation, permanent or temporary, of many now at large;

(*e*) Enforcement of the responsibilities of parenthood at a high standard, and hence discouragement of marriage among those unable or unwilling to fulfil them; and

(*f*) Taking care that no one sincerely desirous of fulfilling his social responsibilities shall by lack of opportunity be prevented from doing so.

At the present time hundreds of thousands of infants were allowed to die through carelessness, apathy, ignorance, or worse, and with a little precaution on the parents' part these cases escaped the coroner. The Poor Law did nothing to search out that neglected childhood. No Poor Law could. He was making no complaint against existing boards of guardians. It was the essence of a Poor Law to do nothing until destitution had occurred. The old Poor Law, in Mr. Balfour's emphatic expression, should be "scrapped," and replaced, not by a new edition of the same thing, but by an intelligently purposeful eugenic policy, which would so alter the social environment as to make those who survived coincide increasingly with those whom we believed to be above the national minimum.

A number of questions were put to Mr. Webb at the close of his lecture, but most of them related to the economic aspect of the problem. Asked what the Minority proposed to do with people who could not support themselves, he replied that to classify such people immediately was out of the question. The Minority proposed that there should be a lengthy process of trial. If the labour exchange could not find a man work he would have to go into training, and if after repeated trials he was still economically unproductive, he would be taken from the labour market and committed to a detention colony. But regard would be had to the nature and cause of his failing, and every circumstance of his case would be patiently considered.

THE THERMAL BATHS OF THE ISLAND OF NEVIS, B.W.I.

By J. NUMA RAT, M.R.C.S.Eng.,
District Medical Officer and Health Officer.

I DESIRE to bring to the notice of the profession the existence of the thermal baths of Nevis, B.W.I. These baths were once well known and extensively patronized, while accommodation can be had at the hotel which was built in connexion with them; but, as one of the results of the commercial depression in these parts, the hotel was abandoned and the baths could be no longer utilized.

The hotel, which is a large and commodious building, at a stone's throw from the baths, is now being repaired, and it is expected that it will be ready to be occupied by the end of the year. The terms, I understand, will be 12s. 6d. a day for board and lodging, and one use of the baths daily, and two-thirds of the above for a valet or maid. The hotel contains a drawing-room, a dining-room, and five bedrooms. An excellent feature in connexion with it is the open-air space, which consists of two verandahs, one attached to the drawing-room and the other to the dining-room, and the two wide battlements, one at each end of the building. The hotel is on high ground, at five minutes' walk from the town. The coolest part of the island, which is about 800 ft. above the sea level, is only four miles away from it.

The rainfall in the immediate district shows an average of 52.32 in., distributed thus: January, 5.96; February, 4.72; March, 4.87; April, 3.39; May, 9.90; June, 7.90; July, 5.67; August, 7.84; September, 11.77; October, 10.93; November, 18.70; December, 8.30. The temperature ranges from 78° to 84° in the day, and from 75° to 80° at night. From December to April the climate is perfect, the temperature in one year averaging as follows: Maximum 81.12°, minimum 70.75° during those months.

The following is Dr. Thresh's report, dated November 26th, 1908, on a sample of water from the bath spring: "The water closely resembles that from the Wildbad thermal springs of Würtemberg, which are extensively used for chronic rheumatism and gout. There is no constituent which would render this water deleterious for drinking purposes. It is free from any signs of pollution. Used in steam boilers, a certain amount of fur would be produced; but this could be avoided by the use of a little crude caustic soda or soda ash. The soda would have to be introduced into the boiler from time to time with the water."

Physical Examination.

Turbidity: Clear and bright; slight sediment of sand.
Colour: Slight yellowish-green.
Odour: None.

Chemical Examination.

Determinations.	Results in Grains per Gallon.	Results in Parts per 100,000
Total solid matter dried at 180° C....	44.1	63.0
Chlorine	5.7	8.2
Equivalent to chlorides (60 per cent. Cl) ...	9.5	13.6
Nitric nitrogen	0.37	0.54
Equivalent to nitrates (17 per cent. N) ...	2.2	3.2
Nitrites	Absent	Absent
Hardness: Permanent 8.4, temporary 9.8 ...	18.2	26.0
Lead, copper, zinc, iron	Absent	Absent
Free ammonia	0.0004	0.0006
Organic ammonia	0.0014	0.0020
Oxygen absorbed at 98° F. in three hours ...	0.0189	0.0270

Saline Constituents, Expressed in Parts per 100,000.

Ca 5.6	Mg 4.5	K 1.4	Na 10.0	CO_3 22.6	SO_4 4.1	Cl 8.2	NO_3 2.4	SiO_2 4.7	Probable Combinations.	
5.6	—	—	—	8.4	—	—	—	—	Calcium carbonate ...	14.0
—	4.5	—	—	11.2	—	—	—	—	Magnesium carbonate ...	15.7
—	—	—	2.45	3.2	—	—	—	—	Sodium carbonate ...	5.65
—	—	1.4	—	—	1.7	—	—	—	Potassium sulphate ...	3.1
—	—	—	1.15	—	2.4	—	—	—	Sodium sulphate	3.55
—	—	—	5.35	—	—	8.2	—	—	Sodium chloride	13.55
—	—	—	0.9	—	—	—	2.4	—	Sodium nitrate	3.3
—	—	—	0.15	—	—	—	—	4.7	Silica with trace of sodium silicate	4.85
Total solid constituents dried at 180° C. = 63.0.										63.7

LUNACY IN VICTORIA IN 1908.

In his annual report for the year 1908, Dr. W. Ernest Jones, Inspector-General of the Insane for Victoria, refers to the fact that this State has a higher ratio of insanity to population than any other Australian State. At the end of 1908 the proportion was 1 to every 248.8 of the population at large. The principal reason for this, Dr. Jones says, is the fact that Victoria is the most settled of all the States. In consequence, the female and male populations are about equal, and the proportion of old persons is relatively high. In Western Australia, for example, where there is a small proportion of females to males, and the average age is relatively low, the insane ratio in 1907 was only 1 in 424. In Western Australia, however, the ratio of insanity is increasing as it becomes more settled. Thus in 1902 its ratio was only 1 in 598. Another and lesser reason for the high insanity ratio of Victoria mentioned by Dr. Jones is that recent legislation has brought a much larger number of patients within the ken of the lunacy department. As proving that the increase is more apparent than real, Dr. Jones supplies figures which show that the number of first admissions to asylums in Victoria has undergone an actual decrease—from 691 in 1902 to 652 in 1908 — notwithstanding a considerable growth in the general population.

State Mental Hospitals.

On January 1st, 1908, there were 4,961 on the books of the hospitals, and at the end of the year there were 5,014. The total number treated during the year was 5,721, and the average number daily resident 4,645. During the year 739 were admitted, of whom 652 were first and 87 not-first admissions. Although greater than those of the previous year, the number of admissions was still considerably below the average of the last ten years. As to nationality, 435 were natives of Victoria, 80 of other Australian states, 80 were of English, 58 of Irish, and 22 of Scottish birth, the remainder being natives of many other countries.

In 299 the attacks were first attacks within three, and in 76 more within twelve months of admission; in 146 not-first attacks within twelve months: in 77 the attacks were of more than twelve months' duration; 68 were congenital cases, and in 73 the duration was unknown. They were classified according to the forms of mental disorder into: Mania of all kinds, 111; melancholia of all kinds, 96; delusional insanity, 120; senile and secondary dementia, 155; primary dementia, 64; general paralysis, 53; insanity with epilepsy, 27; acute delirium, 5; insanity with gross brain lesion, 2; stupor, 3; and congenital or infantile defect, 80. As will be seen from the above list a large proportion of the admissions were of unfavourable types of disease, a fact commented upon by Dr. Jones when he says that it would certainly appear only too clearly that the type and class of patients received are changing for the worse.

With regard to probable causation, alcohol was assigned in 65, or 8.7 per cent.; venereal disease in 5, and fevers in 5; critical periods in 90; pregnancy and lactation in 14; privation and starvation in 17; sunstroke in 13; bodily diseases in 62; bodily trauma in 25, and mental stress in 134. Hereditary influences were ascertained in 74, and congenital defect in 78. During the year 197 were discharged as recovered, giving a recovery-rate on the admissions of 26.65 per cent., as compared with the average since 1891 of 36.18 per cent.: 92 as relieved, and 15 as not improved. During the year 379 died, giving a death-rate on the average numbers resident of 8.16 per cent. The deaths were due in 92 to cerebro-spinal diseases, including 46 deaths from general paralysis; 170 from chest diseases, with 30 from pulmonary consumption; 68 from abdominal diseases; 48 from general diseases, including 25 deaths from senile decay, and 1 death from accident. The small number of deaths from general paralysis and the small proportion to the total deaths of those due to tuberculosis—less than 8 per cent.—are noteworthy. Typhoid fever was responsible for 6 deaths, but at the time of writing his report Dr. Jones says that the epidemic appeared to be at an end.

Tent Life with Rest in Bed.

During the first outbreak of typhoid fever at Kew Asylum an ordinary canvas tent was used for the treatment of the cases. Later, commodious tents holding ten to twelve beds were erected and employed for the treatment of special physical ailments and also for the open-air treatment of mental cases, with very satisfactory results. The tents are built of wooden framing and covered with stout canvas, painted white. The windows are sliding shutters of wood and canvas, and the intervals in the windows and in the double roofs are filled in by fly-proof wire shutters, whilst double doors of canvas and fly-proof wire are also provided. A light but deep canvas verandah surrounds each tent, and underneath it are comfortable seats. The floor of the tent is of wood, covered with linoleum. Each tent costs about £120, and if the cost of adjuncts such as scullieries, etc., are included, the cost of the accommodation works out at about £15 a bed.

Boarding-out.

From the asylums, during the year, 56 patients were boarded out with the Bendigo Benevolent Asylum. With private persons, usually in the immediate vicinity of each asylum, 33 patients were boarded out, and Dr. Jones says it is probable that this number will shortly be augmented. The patients are visited quarterly by one of the departmental medical officers, as well as by the Inspector-General.

Cost.

The total expenditure of the department for 1908 was £156,041 5s. 4d. The average weekly cost per patient was 12s. 0¾d., or, deducting collections, 10s. 4¼d.

Private Licensed Houses.

There are five private licensed houses in Victoria. Each of these is visited daily by a medical man, and in each a strong nursing staff is maintained. For the patients, averaging about 80, usually resident in these houses, 45 to 48 nurses are engaged as well as 20 others, whose duties are domestic. During 1908, 86 patients were admitted, of whom 75 were first admissions. During the year 19 were discharged recovered and 27 as relieved. There were 13 deaths, all from natural causes and calling for no special comment.

Receiving Houses and Wards.

On January 1st, 1908, there were 25 cases in the receiving wards, and on the last day of the year the same number. During the year 400 were admitted, of whom 385 were first admissions. Of the total number, 66 were cases of mania, 83 of melancholia, 67 of delusional insanity, 32 of general paralysis, 29 of primary dementia, 22 of alcoholism, 13 of acute delirium, 24 of epileptic insanity, and 15 of congenital defect, the remainder belonging in small groups to other less frequent types. During the year 157 were discharged as recovered, 7 as relieved, 8 as not improved, 109 were committed to hospitals for the insane, 116 were transferred to hospitals for the insane, and 3 died.

LITERARY NOTES.

To the November number of the *Bulletin of the Johns Hopkins Hospital*, Baltimore, Professor Frank Baker, of Georgetown University, Washington, contributes an historical study of the two Sylviuses. The first—Jacobus Sylvius or Jacques Dubois—is chiefly known as having been a teacher of Andreas Vesalius, whom he violently attacked for his audacity in correcting some obvious errors of Galen. He is generally also credited with having given his name to several parts of the brain—the Sylvian fissure, artery, and aqueduct, and the fifth ventricle. Sometimes it is stated that he discovered the Eustachian valve of the heart and the *caro quadrata Sylvii* (the flexor accessorius muscle of the foot), and that he was the first to use the injection of vessels for anatomical demonstration. Struck by the fact that Vesalius, his pupil and prosector, was ignorant of most of these discoveries, Professor Baker examined the works of Jacobus Sylvius, and satisfied himself that the statements are wholly or partially wrong. He has found that "the modern world, while exalting the discoveries of this man beyond what they deserve, has also done scant justice to his real merits." First of all, as to the discoveries with which he is credited, Professor Baker says:

> No mention of the fissure of Sylvius occurs in the works of Jacobus Sylvius, nor in those of any previous or contemporary author. No particular mention is made of the Sylvian artery (middle cerebral artery). While he describes a passage from the third to the fourth ventricle, this was mentioned previously by Galen, Oribasius, Berengarius, and Vesalius. He nowhere calls it an aqueduct, and there is some slight doubt whether the passage he mentions is really what we now call the aqueduct of Sylvius. He probably never saw the fifth ventricle, though, like Vesalius before him, he describes the septum lucidum in an imperfect manner. He does describe a fold on the wall of the heart at the entrance of the inferior vena cava, so that we may not improperly assign to him instead of to Eustachius the discovery of the Eustachian valve. He describes a *mobs carnea*, not a *caro quadrata*, as existing on the sole of the foot, in the situation of the flexor accessorius, but in this he only followed Oribasius, who mentions the muscles attached to the long flexor of the toes.

The injection of blood vessels is mentioned by Berengarius more than thirty years before the time of Sylvius. As for the man himself, Jacques Dubois was born at the village of Louvilly, near Amiens; hence when, after the fashion of his day, he Latinized his name, he called himself Jacobus Sylvius Ambianus. He entered the College of Tournay at Paris, where he mastered Latin, Greek, and Hebrew. He also excelled in mathematics, and devised machines for transportation by water. Becoming interested in the structure of the human body after perusing the works of Hippocrates and Galen, he used every opportunity of examining bodies which chance put in his way. He was too poor to take a degree, but he taught till the number of his pupils excited the jealousy of the Faculty, which issued an interdict. He therefore betook himself to Montpellier, where, after a further course of study, he proceeded to the Bachelor of Medicine in 1531. Returning to Paris, he reopened his classes, and had among his pupils, in addition to Vesalius, Servetus, Gesnerus, Vulpinus, and others whose names became famous in the history of anatomy. He knew the value of human dissection, and impressed this upon his pupils. He had a house in a suburb, in the garden of which he grew medicinal plants, which he used for teaching purposes. This, Professor Baker points out, was before the establishment of botanical gardens. Sylvius has thus been grossly misrepresented not only by Vesalius but by modern writers, for he was before all practical in his teaching. It is not likely that such a man as Vesalius would have remained with him for three years if it were true, as Sir William Turner says, that "a human body was never seen in this theatre." It may be pointed out incidentally that on this subject of human dissection there has been, and still is, much misconception. It was practised long before the time of Vesalius. As Professor Baker says "the generally received opinion that Vesalius sprang like Minerva from the head of Jove, armed cap-à-pie and broke the record of all previous ages by dissecting the human body for the first time, does not bear critical examination." Sylvius followed Galen, it is true, but he cleared up many of his obscurities, and in particular he named many of the muscles and vessels. To him we owe the names "platysma," "deltoid," "diaphragm," "intercostal and abdominal muscles," and the "jugular," "subclavian," "phrenic," "axillary," "renal," "spermatic," "pudic," "femoral," "popliteal," "gastro-epiploic," "superior and inferior mesenteric," and many other vessels. He did not name the nerves in this way, and Professor Baker thinks it is probably owing to this that to-day they are generally designated by numbers instead of by their special characteristics. Sylvius, who had experienced the truth of Johnson's bitter line:

> Slow rises worth by poverty depress't,

was undoubtedly jealous of Vesalius, who leaped at a bound into celebrity. The falling off of his classes moved him to write a refutation of the calumnies of "vesanus" (an atrocious pun on the name of his rival), and, like most angry men, he wrote nonsense. He died poor in pocket and bankrupt in reputation at the age of 77, with cruel jests by former pupils for his epitaph. Of the other Sylvius, Franciscus de le Boë, we shall have something to say later.

An International Institute of Bibliography has been founded in Germany. It is proposed to issue, commencing with the New Year, a central journal dealing with the whole range of medical literature. In connexion with the institute there will also be an information bureau where questions on medical and scientific literature will be answered. The institute is a part of the International Institute of Social Bibliography, which is subvented by Imperial funds, and is also connected with the International Institute of Technical Bibliography. The editor of the central journal, which is to be published by the Institute of Bibliography, is Professor Abderhalden of Berlin. Associated with him as directors are Drs. H. Beck and A. Ludwig. The address of the office of the institute is 17, Spichernstrasse, Berlin.

In Mr. Ralph Nevill's recently published book, *The Merry Past*, there is the following amusing story:

Complete ignorance of the ways of the world is not seldom an appanage of sentimentalism. Mr. George Love, of the Royal Society for the Prevention of Cruelty to Animals, told a meeting in the early part of the present year that an old lady had written protesting against the horribly cruel practice of scratching horses before a race. One poor animal, she had read with grief, had even been "scratched" on the very day of the race. There is no limit to the absurdities of our national faddism, which is constantly seeking to exert its enervating influence, and to dragoon the population at large into an existence of doleful flaccidity.

This is a new form of "torture" which has escaped the notice of Mr. Coleridge. We suggest that he should introduce into his bill a clause providing that horses must be "scratched" only under anæsthetics.

INTERNATIONAL HOME EDUCATION CONGRESS.

THIS Congress took its origin from the Home Education League, founded in 1899, with the co-operation of the Belgian Government, with the object of bringing about a closer association between parents and teachers in the study and application of educational methods. The Belgian society, acting in association with similar bodies in other countries, organized an International Congress at Liége in 1905 to discuss the relationship of home life to education. Twenty Governments were represented among the 1,200 members assembled. The second congress was held under the patronage of the King of Italy at Milan in 1906. The third congress is to be held in connexion with the Brussels Exhibition, August 21st to 25th, 1910. The President of the British Committee is the Marquess of Londonderry, and among the Vice-Presidents are Mr. Runciman, President, and Mr. Charles Trevelyan, Parliamentary Secretary of the Board of Education; Mrs. Sophie Bryant, D.Sc., Dr. James Kerr, Canon Lyttelton, and Mrs. Scharlieb M.D. The Honorary Secretary is Miss Emily E. Kyle, to whom all communications should be addressed at Highbury Hill High School, Highbury, N.

Sections.

The work of the Congress is divided among five sections dealing respectively with the study of childhood; home education; abnormal children; various subjects bearing on infancy, and literature.

The following is the programme of the first section:

Study of the nature, the defects, and the tendencies of children. Recent observations, methods, practical conclusions. Measurements, tests, methods, results. Value of various methods for determining mental fatigue. Subjects which tire the pupils least. Length of lessons, order in which the subjects should be taught. Limitation of sedentary habits in the school and at home at various ages. Initiation of the teaching staff into the rudiments of experimental psychology. The usefulness of associations of parents for the study of childhood. Fear in children (general inquiry, primary causes). Child suicides (causes and remedies, inquiries and statistics, examination of several cases). Hereditary evils. Ways of counteracting their bad effects.

The work of the second section is subdivided as follows:

A. *General Question.*—The need of popularizing the idea of education in the family by organizing parents' associations, circulating pamphlets, etc. The games, recreations, and amusements of children which have an educational value. Educating books. Prepared lists of the best picture books for children of 3 to 7 years; the best illustrated books for children from 7 to 12 years; idem from 12 to 16 years: idem from 16 to 20 years. How the family can contribute to the civic education of young children. How the family can assist in spreading ideas of peace. How by education the family can contribute to the increase of wealth. The need of studying living languages. Methods. Study in the home of a child's natural aptitudes and their development, with a view to choosing a career. Health and beauty in clothing. Health, comfort, and beauty in the house and the furniture. The country family. Rural education. Return to the land. Advantages of country life. B. *Education before the School Age.*—The feeding of infants. Practical advice. The clothing of infants. Education of the intelligence of young children. First habits to be implied. Games which develop powers. Instructive occupations for children. The development of habits of observation. Development of initiative and responsibility. Arrangement of the child's room, or the family room, from the point of view of the child's education. Servants, nurses, governesses. Training schools. Certificates of capability. C. *Education during School Age.*—At what age should a child be sent to school? Cases in which parents should apply the principles of Froebel at home. Cases in which the teaching of Froebel is justifiable at school. Views of parents with regard to Froebel schools. Unavoidable shortcomings in school education. How to remedy these in the home. Views of parents with regard to the curriculum in girls' schools. Importance of teaching the rudiments of child-culture, health, domestic economy, and other things necessary for practical life. In cases where boarding schools are necessary for young girls how they should be managed that they may reproduce the home as nearly as possible. Ideas regarding the training of teachers of both sexes. Times of examinations and holidays prevalent in different parts of the same country. Medical opinions sought. How to devote more time in schools to the systematic training of character. Manual work. Education in aesthetics. D. *Education after School Age.*—Supplementary education to be given to young girls to fit them to become wives and mothers. Preparation of those who are betrothed, for married life. Advice as to the prevention of quarrels, for strengthening moral union, and assuring happiness in the family. Supplementary education of young men from the social point of view. Aesthetic culture. Home handicrafts for boys. Their hygienic and moral purpose. The frequenting of educative clubs. Travel, excursions, guides to follow. Education as administration. International exchange of children with a view to their learning languages and customs.

The programme of the third section includes:

Classification; statistics. Educative methods. Organization of special establishments for abnormal children, undisciplined children, invalid children, epileptics. Preparation of a special teaching staff for these schools. Co-operation between doctors and teachers. How far and in what way is it possible to co-operate at home in the education of an abnormal child before, at, and after school age. Co-operation of State in the education of abnormal children.

In the fourth section the following subjects are proposed for discussion:

Holiday work, work in the open air, school colonies. Associations to fight tuberculosis. Associations to fight alcoholism. Associations for the protection of children cruelly treated, deserted, illegitimate, etc. Associations for the protection of infants. Babies' outfits, the milk supply, crèches, medical advice for babies. Children's benefit societies. Child life insurance, etc. Children's courts.

With regard to the fifth section it is stated that the library of the International Committee of Education, 1, rue de Musée, Brussels, will receive with pleasure all documents bearing on education (three copies of each). The object of the Congress is to bring about a closer association of home and school influences in education. The subscription is 8s. 6d. The ticket admits the holder to the exhibition during the days of the Congress, and entitles him to a copy of the full reports of the papers read (more than 200 in number) and the discussions. A large number of the papers will be printed in English.

FRÄULEIN MARGARITE GENERSICH, daughter of the Professor of Pathological Anatomy in the University of Budapest, has been appointed to the staff of the public hospital for eye diseases at Hodmezovasarhely. This is said to be the first appointment of the kind that has been made in Hungary.

IT is intended that in the new buildings of the New York Post-graduate Medical School a full equipment of wards and laboratories for the teaching of tropical medicine shall be established. The department is being conducted with the co-operation of the United States Army, Navy, and Health Services, which detail officers from their respective medical corps to assist in the conduct of the laboratory and clinical courses.

British Medical Journal.

SATURDAY, DECEMBER 25TH, 1909.

FRIENDLY SOCIETIES.

THE reports of the Chief Registrar of Friendly Societies for the year ending December 31st, 1908, have just been issued, and some idea of the enormous extent of the operations of the various societies coming under the Chief Registrar may be obtained from them. The ordinary friendly societies have nearly three and a half million members, and funds amounting to over nineteen millions sterling. Societies with branches have two and three-quarter million members, and funds over twenty-five millions sterling. Collecting friendly societies have nine million members and nearly ten millions in funds. Co-operative societies have two and a half million members, and funds over fifty-six million pounds. The Post Office Savings Bank has ten and a half million depositors, and deposits of over one hundred and seventy-eight million pounds. There are 652 trades unions with 1,970,000 members and funds amounting to £6,400,000. Altogether the societies coming under the Registrar have 33,800,000 members, and funds amounting to over £439,000,000.

It is interesting to note the many directions in which attempts are being made to encourage some sort of insurance against sickness, old age, invalidity, accident, or unemployment, not only by the societies themselves but by various acts of legislation, each perhaps small in itself but amounting in the aggregate to a considerable total. Systems are being established gradually which will tend to crystallize and become permanent. The report gives no precise figures for the medical benefit sections of the societies, but it is evident that these sections are growing rapidly and will become more and more formidable competitors with any system of provident dispensaries that may be established under the control of medical men. Among the various legislative enactments made during the year 1908 which are mentioned as affecting the Chief Registrar's office is the Old Age Pensions Act, which came into operation last January. It contains a provision that a person shall not be disqualified from receiving a pension if he had continuously for ten years up to the age of 60 made proper provision against old age, sickness, infirmity, or unemployment by means of payments to friendly, provident, or other societies or to trades unions.

The Departmental Committee appointed by the Postmaster-General to consider the life insurance system of the Post Office has recommended that insurance through the Post Office should be encouraged, that the maximum amount allowed to be insured should be raised to £300, which is the maximum amount of compensation for death from accident under the Workmen's Compensation Act and of insurance under the Friendly Societies Act, and that greater publicity should be given, especially among the working classes, to the convenience and cheapness with which life insurance can be effected though the Post Office.

During the year ninety-six new friendly societies were registered, including an unusually large proportion of collecting friendly societies—that is, societies receiving contributions by means of collectors at a greater distance than ten miles from the registered office, and conducting their business by a house to house system of canvassers. Probably the large number of new societies of this category registered is owing to a desire to obtain legal recognition before the passing into law of the Assurance Companies Bill, which was before Parliament this year. There are now altogether fifty-five collecting friendly societies, with a membership of about nine million persons and a total income of £3,944,000, the membership having increased during the year by nearly three-quarters of a million. The amount expended in management of these societies is about 40 per cent. of the total income. The members pay on an average about 8s. 4d. a year, and of each £1 of income, about 7s. 10d. is applied to benefits to members, mostly in sums at death and annuities and very little for sickness, 8s. 1d. goes to management and 3s. 11d. to the accumulated funds. The management expenditure of ordinary friendly societies is only 10 per cent. of the total income, but in spite of the high cost for management of the collecting societies, it is plain from the number of persons joining them that the members are ready to pay for the services of the collectors calling at their homes to receive the small weekly contributions, and, having regard to the services given, most of the societies are considered to manage their business with efficiency and economy.

Under the Industrial and Provident Societies Act there are now 149 societies established for the purpose of providing small holdings and allotments for their members. There are also 23 agricultural credit societies and 118 land purchase societies whose primary object is the purchase of land and its development into building sites.

It appears that few of the ordinary friendly societies have availed themselves of the privilege they now have to obtain by a special registration the power to assist members out of employment; and where power has been obtained it has only been used to a limited extent. A few of the larger societies pay "travelling relief," that is, a small sum barely enough to enable a member to travel from one town to another in search of work.

Among the important provisions of the Friendly Societies Act of 1908 are that the age of admission is reduced from one year to birth in order to put friendly societies on the same footing as the industrial assurance companies, and that the limit of benefit is extended from £200 to £300 as the gross sum payable at death, the extension covering the limits of liability under the Workmen's Compensation Act.

The 96 new friendly societies registered during the year may be classified as follows: 45 dividing societies, 7 collecting societies, 6 juvenile societies, 4 medical societies, 3 superannuation schemes, 2 female societies, and 29 various.

It is specially noted that while in the year 1885, 67 per cent. of the friendly societies had their meetings on licensed premises, in 1908 only 46 per cent. met on such premises.

The schemes registered during the year under the Workmen's Compensation Act are interesting. They numbered 49, of which 47 were schemes adopted by mutual consent of workmen and employers connected with the Bristol Channel ports. The contributions are from the workmen 1s. 1d. a quarter and from

the employers not less than 12s. 6d. per £100 gross wages paid during the preceding twelve months to the men engaged. The benefits provided by the schemes over and above those of the Act itself are: Pay for the first week in any case, £1 a week for twenty-six weeks, and special provision for loss of arms, legs, or eyes. Under at least some of the schemes there are the further benefits of free medical attendance, old age allowance, and the question of misconduct cannot be raised in any case. In every instance the contribution from the employers is much larger than that from the workmen. Of schemes in active operation under the Workmen's Compensation Act the workmen contributed £14,843—an average of 4s. 6d. a year each—and the employers £32,730. The amounts actually paid during incapacity seem to have been about 15 per cent. above the maximum payable under the Act itself.

Of the 32 trades unions registered during the year, 3 were unions of employers. In the United Kingdom there were 652 trades unions, with a total membership of 1,973,560, a total income of £2,936,095, total expenditure £2,379,937, and total funds £6,424,176. The average gross income per member was £1 9s. 9d. Three unions have over 100,000 members—namely, the Amalgamated Society of Engineers, 110,084, with an income £424,000; the Durham Miners' Association, 105,612, with an income of £139,000; and the South Wales Miners' Federation, 135,765, with an income of £60,900. The Amalgamated Carpenters and Joiners, though it has only 68,700 members, has an income of £198,892. The management expenses of the trades unions average 19.7 per cent. of the total revenue while the benefits are mostly out-of-work pay, sickness pay, and superannuation.

There are 19 railway savings banks in England and Scotland, with a total amount due to their 65,712 depositors of £6,117,025—an average of just over £93 a head.

An appendix gives an account of the position of friendly and other similar societies in the British Dominions and in France. It is stated that in New South Wales the sums paid for sick pay and medical benefits are very considerable. The amount paid during 1907 to provide for medical attendance and medicine was £110,895, representing an average cost of 19s. 10d. a head of mean membership; this is considered to be "a striking evidence of the immense value to the community of the societies constituting the agencies for such medical assistance." In addition, sick pay amounted to £1 1s. 5d. a member, so that the total paid in sick pay and medical treatment for each member on the books averaged £2 1s. 3d. By the Subventions to Friendly Societies Act, which has recently become law in that country, any friendly society fulfilling certain conditions may receive from the Government subventions enabling it to provide for sick pay for illness lasting over a year, for the sickness of old age, and for the provision of medical attendance and medicine for aged members free of any cost, after the age of 65 for males and 60 for females.

In France the adult friendly societies at the end of 1906 had a total membership of 3,258,520, an increase of 350,000 in the year. During the year the sick pay amounted to £385,924, medical fees £189,959, and pharmaceutical expenses £224,389. In addition there are the school friendly societies which provide sick pay and medical aid and contribute to the common superannuation fund and towards old age pensions. These school societies have 696,465 benefit members, comprising 405,813 boys and 290,652 girls. Subventions allocated during 1906 to friendly societies by the State amounted to £327,543, and by the Departments and Communes to £44,406, making a total of £371,949.

THE CARRIER PROBLEM.

A PAPER in which Dr. M. H. Vincent, Professor of Medicine at the French Military Medical School, Val-de-Grâce, opened a discussion on the subject of carriers of pathogenic microbes in the army at the International Congress at Budapest, has recently been published in full,[1] and his observations are worthy of the attention of civil practitioners also. After expressing the opinion that the latency of bacterial affection has long been proved to exist in the case of the microbes of suppuration, of pneumonia, of tuberculosis, and of diphtheria, he goes on to maintain that it has now been proved to occur also in typhoid and paratyphoid fevers, in bacillary and amœbic dysentery, in cerebro-spinal meningitis, and in cholera, and that it probably occurs also in the eruptive fevers, and in mumps. He also holds that it has been established that the carrier may be either a person who has suffered from the disease and recovered, or a person who, without suffering from the disease, has become a carrier by having been in contact with actual cases.

He deals first with the typhoid carrier and points out that one of the most serious difficulties is that, after the carrier has been discovered, there is very often no means of completely eliminating the infective germs from his body. When the carrier is serving in the army his comrades may be protected by sending him away on prolonged leave of absence; but that is only transferring the danger to another place, and the man's relatives, or other persons with whom he takes up his residence, are very likely to suffer. This seems to be the view taken by our own military medical service to the scandal of Mr. Lupton and other self-constituted champions of liberty to disseminate disease. Professor Vincent admits some good may be done by advising these dangerous persons as to their condition, before sending them home, and by giving them strict instructions about the disposal and disinfection of their excreta, the efficient cleansing of underclothing, and the careful washing of their hands after defaecation and micturition: but there is reason to fear that such advice is very imperfectly carried out, especially in the case of ignorant and sceptical young men who are not under medical supervision and are not subjected to any restraint other than that of their own conscience.

Professor Vincent, therefore, proceeds to inquire whether it is necessary, or even desirable, to cause the typhoid carrier who is serving in the army to return to civilian life. With the important exception of men serving in the kitchen or in the canteen, he thinks that the opportunity for the transmission of the disease by carriers is much less frequent in the army in time of peace than it is in civil life. Circumstances favourable to such transmission mainly arise from carelessness about the disposal of excreta; and in the army these matters can be more rigidly supervised than is possible in civil life. He therefore proposes to deal with the carrier danger in the army by attention to three precautions. In the first place, he would require the medical officer of the unit, at all times and in all places, to treat the faecal matter and the urine of soldiers as though they

[1] *Archives de médecine et de pharmacie militaires*, November, 1909.

contained the typhoid bacillus, submitting the latrines to systematic, thorough, and constant disinfection. In the second place, he would not allow any man who has had typhoid fever, even at a remote date, or any man found by bacteriological examination to be a carrier of typhoid or paratyphoid bacilli to be employed in the kitchens or canteens, or on work connected with the apparatus for the purification of drinking water; and in the third place he would instruct such persons to avoid soiling their hands when defaecating, or, in certain circumstances, when micturating; he would order them, on pain of punishment, to wash their hands after each defaecation, and he would treat those whose urine contained the typhoid bacillus with urotropine. These rules can, he admits, only be enforced under the ordinary conditions of life in barracks; during manœuvres, or in time of war, precise observance of them would often be impossible, and the risks of transmitting the disease would consequently be much greater.

In bacillary dysentery contamination of food with faecal material is the great danger to be guarded against, and Professor Vincent consequently advises that, as in typhoid fever, persons excreting the specific bacillus should be carefully excluded from all work connected with the preparation of food or the purification of drinking water, and that the stools should be disinfected in order to prevent the spread of the disease by flies. The bacillus of dysentery may persist for three or four weeks in the intestine of persons who have been cured of the disease, and it may occur also in healthy persons who have not manifested the slightest symptom of the disease; but Professor Vincent has shown that, unlike typhoid and paratyphoid bacilli, the dysentery bacillus does not persist in the gall bladder either in man or in experimentally inoculated animals. Bile, moreover, is an unfavourable medium for cultivating the bacillus *in vitro*. These facts, he suggests, may explain why this bacillus does not persist so long in the excreta of carriers as the typhoid bacillus.

With regard to amœbic dysentery, Professor Vincent has found that the *Entamœba histolytica* may persist for six months, a year, or even several years, in the intestine of those who have contracted the disease in the colonies, and, moreover, that persons who have never had dysentery may play the part of carriers, as living and virulent parasites may exist in their intestine. He has been able to trace a case in which the contagion arose from a cook who was a chronic carrier of the infective amœbae. As a rapid means of destroying the amœbae in the large intestine and its walls, Professor Vincent recommends lavage with a solution of sodium hypochlorite (10 or 12 in 1,000), a litre being injected slowly at each administration, and retained for at least an hour; to facilitate this, some laudanum may be added to the solution. After the second or third satisfactorily administered injection, all the amœbae will have disappeared.

In discussing the spread of cerebro-spinal meningitis, Professor Vincent states that healthy carriers of the meningococcus play a much more important part in disseminating it than those actually suffering from the disease, because the latter very soon have to take to bed, where they are in contact with relatively few people. It appears that the meningococcus does not persist for long in the naso-pharynx during convalescence, but that in healthy carriers it may survive for a period ranging from a week to three months, six months, or even longer. Owing to the seriousness of the danger arising from the healthy carrier, the regulation in the French army is that such persons, where a garrison is infected, shall be isolated from the rest of the troops and not liberated until two successive bacteriological examinations, at eight days' interval, have shown that the meningococcus has disappeared from the naso-pharynx; in some instances this period of detention was extended to two months. Attempts to get rid of the meningococcus by the application of disinfectants have not always given satisfactory results. To obtain success it is necessary to disinfect simultaneously the nose, the posterior nares, the pharynx, and the mouth, that is, all the sites which may harbour the meningococcus; and by following this principle Professor Vincent has been able to bring about the disappearance of the micro-organism, from carriers of long standing, in as short a time as four days. They were caused to inhale by the nose, five times a day, a mixture of iodine 10 grams, guaiacol 2 grams, thymic acid 0.25 gram, in 200 grams alcohol 65 per cent. The vessel containing this mixture is placed in warm water to promote the evolution of the antiseptic vapours. The inhalation must be performed slowly, and must last two or three minutes. In conjunction with this treatment, an antiseptic gargle should be used frequently, and the pharynx and tonsils painted twice a day with a solution of iodine in glycerine.

In his military experience M. Vincent finds that diphtheria carriers are particularly troublesome. "From the military point of view, when cultures demonstrate the existence of the genuine diphtheria bacillus (a matter which demands the careful performance of numerous bacteriological tests), the treatment of these carriers is very embarrassing." The bacilli may persist for several weeks or even months; indeed cases have been recorded in which they have remained for years. And the number of healthy carriers may be very considerable. "In certain military epidemics observed in France," says M. Vincent, "from 15 to 20 per cent. of the men in the same regiment have been found to be healthy carriers of the diphtheria bacillus." He recommends the same method of treatment as in dealing with the carriers of the meningococcus, though in the case of the diphtheria bacillus complete elimination by disinfection is much less easily attained. How to do so is, he considers, a subject which offers an important field for future bacteriological research.

THE EDINBURGH COLLEGE OF SURGEONS.

LORD ROSEBERY, like Lord Lansdowne, who is descended from Sir William Petty, Physician-General to the Forces in Ireland under Cromwell, has a medical ancestry. To this fact he referred in the speech which he delivered at the annual dinner of the Royal College of Surgeons of Edinburgh, a report of which will be found elsewhere. He is descended from Archibald Primrose whose elder brother, Gilbert "Prymross," was President of the College in 1581–82 and again in 1602, and was Surgeon to James VI. His son Duncan was one of the surgeons to the Kings of Scotland. Gilbert's grandson, James Primrose, whom for some reason Lord Rosebery did not mention, has left more record of himself than either of the other medical Primroses. He was born about 1580, graduated M.D. at Montpellier in 1617, and was the author of a number of writings, the most famous of which was entitled, *De Vulgi in Medicina Erroribus*, which was translated by Dr. Robert Wittie into

English and published in London in 1651 under the title of *Popular Errours: Or the Errours of the People in Physick.* In connexion with the opening of its new hall and museum, a brief account of the history of the college may not be out of place here. It was founded in 1505, in the reign of James IV. who was contemporary with Henry VII of England. The founders of the college were enlightened men who recognized the need of instruction in the principles of the healing art. Accordingly they applied for a charter whereby they became the "craft" or "incorporation of surgeon barbers." The "supplication" was granted, and "confirmed, ratified, and approved" by the "Seal of Cause" of the Provost, Baillies, and Council of the Burgh, July 1st, 1505. A Royal Charter was granted to the new corporation by King James IV in March, 1506. That the founders thoroughly understood what was required is shown by the terms of their petition. Among other things they urge: "That no maner of persoun occupie nor use any poyntis of oure saidis craftis of Surregerie or barbour craft within this burgh bott give be first frieman and burges of the samyn and that he be worthy and expert in all the poyntis belang and the saidis craftis deligentlie and avysitlie examinit and admittit be the maisteris of the said craft for the honorabill seruyng of oure Soveraine Lord his liegis and nychtbouris of this burgh. And als that everie man that is to be maid frieman and maister amagis was be examit and previt in their poyntis following. That is to say that he knaw anotomea nature and complexioun of every member in manis bodie. And in lykeways he knau all the vaynis of the samyn thatt he may mak flewbothomea in dew tyme. And als thatt he knau in quhilk member the signe hes domination for the tyme for every man aught to knaw the nature and substance of every thing that he wirkis or ellis he is negligent." For the purposes of anatomical instruction they went on to ask that they might "have anis in the yeir ane condamnit man efter he be deid to mak antomea of quhairthrou we may haif experience. Ilk ane to instruct utheris. . . ." Provision was also made for the protection of His Majesty's lieges against quacks. In 1567 the members of the college were exempted by Mary Queen of Scots from serving on juries, or as combatants in war, or keeping watch and ward within the city. In 1613 its charter, as conferred by James IV, was reconfirmed by James VI. In 1657 the Town Council instituted a "brotherhood" of apothecaries, which in 1695 was annexed to the surgeons, while by a decision of the Court of Session dated February, 1722, the surgeons succeeded in procuring a severance of their connexion with the barbers. In 1778 the college obtained a new charter from George III, by which it gained the title of "The Royal College of Surgeons of the City of Edinburgh." It was not till 1851 that, under a new charter, the government of the college was entirely separated from the Town Council's jurisdiction. Its name was then again altered to "The Royal College of Surgeons of Edinburgh." What an influence the college had on medical education in Scotland was shown by Dr. McKenzie Johnston in a paper published in the BRITISH MEDICAL JOURNAL of July 22nd, 1905. He says that the Medical Faculty of the University of Edinburgh, which did not come into existence till 1728, was the offspring of the college. A theatre for anatomical demonstrations was built in 1697, and for several years various Fellows gave demonstrations in it, until in 1705 it was decided to appoint Robert Elliot "our professor of anatomy." In the same year he applied to the town for encouragement, and was in consequence appointed Professor of Anatomy at an annual salary of £15. In 1720 this chair became vacant, and the college records bear that "the hall calling being persuaded of the sufficiency of Alex Monro, one of their number, did unanimously recommend him . . . to be Professor of Anatomy in the University." In 1729 the infirmary was started in a small house in which patients received the ministrations of the surgeons. This was the beginning of the Royal Infirmary. It is unnecessary to carry the history of the college further; an outline of it will be found in an account by Dr. John Smith which appeared in the JOURNAL of March 11th, 1905, and the paper by Dr. McKenzie Johnstone already referred to. It need only be added that it is the oldest surgical corporation in the United Kingdom; that it has rendered the most important services to medical education; and that it has numbered, and still numbers, among its members many of the foremost of British surgeons. It is an ancient institution which has always striven to move with the times. Not only the Athens of the North but the whole nation has every reason to be proud of the Royal College of Surgeons of Edinburgh.

THE CHARLES GRAHAM RESEARCH FUND.

DR. CHARLES GRAHAM, who has bequeathed the residue of his estate to the University of London, to found at the School of Advanced Medical Studies of University College Hospital a Charles Graham Medical Research Fund, was some thirty years ago or more assistant to Professor A. W. Williamson, the distinguished philosophical chemist who held the chair of chemistry in University College for many years. Dr. Graham was, we believe, a relative of Thomas Graham, the eminent chemist, who was professor of that subject in University College from 1837 until his appointment to be Master of the Mint in 1855. Charles Graham, who held the degree of D.Sc., was appointed Professor of Chemical Technology in University College in 1878, and on his resignation of that office in 1889 was made Emeritus Professor of the subject. The residue which will accrue to the university will, it is believed, amount to about £35,000, and the objects to which the fund is to be devoted are laid down in the testator's will. They are to aid by grants of money in the expenses incurred in any approved research conducted by any teacher or student of the school for advanced medical studies of University College Hospital, to encourage such researches by promising assistance at their inception, and by awarding a gold medal to a teacher or student who has carried out a research of sufficient merit or usefulness. The research must in all cases be one aiming at or resulting in knowledge conducive to the prevention, cure, or alleviation of human disease and suffering. Further, the Senate of the university is empowered, in order to enable any young man to continue his pathological researches while at the same time securing his services to the School of Advanced Medical Studies as a teacher under the direction of the professor of pathology, to establish a Graham Scholarship in pathology, on conditions analogous to the existing Sharpey Scholarship in physiology. The income to be devoted to this purpose is not to exceed £200 a year. The Senate is given power, in consultation with the committee of the School of Advanced Medical Studies, to make regulations for the administration of the Charles Graham Medical Research Fund, and to vary such regulations from time to time as they may think desirable for the better carrying out of the purpose with which the fund is established, of aiding researches conducted in the School of Advanced Medical Studies of University College Hospital, and having for their

object the prevention, cure, or alleviation of human disease and suffering. The year is thus ending with very unusual good fortune for London in respect of endowment of medical research. Last week we gave particulars of the fellowships established by the munificence of the Beit family, which will allow of the appointment of some thirty Beit Fellows holding their appointments at £250 a year for three years. It will be noted that there is a material and highly important difference in the regulations for the two funds. The holders of the Beit Fellowships will of necessity devote the whole of their time to the work in virtue of which the fellowship is granted: while the Graham scholar must be, and the recipients of grants from the Graham Fund may be, teachers.

A DOCTOR'S LIFE IN THE EAST END.

In a recent number of the *Charity Organisation Review* Mrs. Lactitia H. Andrew-Bird, L.R.C.P.I., gives an interesting account of the life and work of a doctor in the East End of London, where she has practised for nearly a generation. Competition is very keen. There are, she says, generally ten or sixteen medical men within ten minutes' walk of each other, in addition to numerous hospitals and the dispensaries connected with missions. Forty patients a day seen in the surgery and fifteen on the visiting list make up an average day's work. The doctor's professional premises consist of a waiting-room, a consulting-room, and a dispensary—or, as they were described by a girl of the locality, "the waiting-room, expensary, and insulting room." There has been less midwifery of late years since the registration and inspection of midwives. Practically all operative surgery is done in the hospitals, where also accidents are treated; the general practitioner confines himself to opening whitlows, abscesses, and the like. Many of the long-standing illnesses which form the bulk of a country doctor's practice also go to the hospitals. Speaking of the burden that even a short illness brings on a poor home where there is neither the time nor the convenience necessary for nursing an invalid, Mrs. Andrew-Bird says she often wishes that some of the neurotic invalids who find even the simplest duties of life an intolerable burden, could go the daily visiting round with a doctor in a poor district. It would be a good object lesson in what can be done and borne by people to whom all thought of self is impossible. They would see women at the wash-tub up to within an hour or two of their confinement, hurrying to get all straight before the compulsory fortnight's rest. They might see a woman who does the work of caretaker with dropsy of both legs and body, caused by extensive heart disease; while there are women with ulcerated legs who work a box mangle from early in the morning to late at night. Mrs. Andrew-Bird has no doubt that the women in the East End are braver and more unselfish in illness than their better-placed sisters. They expect no sympathy, but face whatever they have to go through, never thinking of themselves, but of those dependent on them. Turning to a lighter side of her subject, Mrs. Andrew-Bird gives some good specimens of the distortion of medical terms heard in the East End. Thus, we have "pewnonia" for pneumonia, "brontitus" for bronchitis, and so forth. But more interesting is the popular terminology coined at the people's own word-mint. Thus, "morns and grorns" is the accepted substitute for "moans and groans"; "humble noises in the ears" needs no explanation, but "feverish and eatable" (irritable) is rather more mysterious. "Blight" is the general term for ophthalmia. A curious point is raised by Mrs. Andrew-Bird when she says, "What a 'she abscess' is I have hitherto failed to discover; but with every abscess comes the anxious query, 'Is it a she abscess, doctor?' I have never seen a 'she abscess' so I am always able to reassure the patient by unhesitatingly asserting that the one in question does not belong to that variety." East End folk are always satisfied with a diagnosis of "a complication of diseases"; the patients are probably somewhat proud of this comprehensive label, which is also, it must be admitted, convenient to the doctor. An interesting point mentioned by Dr. Andrew-Bird is that the women of the East End have a marvellously low mortality in childbed. This is all the more remarkable since, in an ordinary case of confinement in the East End, no precaution is taken by the patient herself against septic infection. The woman wears her dirty clothes, including the skirt which has been trailing along the streets, all through labour; and when the child is born her husband's overcoat and any skirts and jackets that are not in use are thrown over the bedclothes to keep her warm. Yet in one medical man's practice only 18 deaths occurred in 5,000 consecutive cases. Among the influences which have brought salutary changes in the last twenty-six years, Dr. Andrew-Bird mentions the work of the Jubilee or Queen's Nurses; the introduction of trained midwives, and their supervision by inspectors; the Infant Life Protection Society, which sends round educated women to talk to young mothers about their health, and advise them about the feeding and management of their babies; the strict and wider notification of infectious diseases, and the recently introduced system of notification of births to the medical officer of health. Mrs. Andrew-Bird ends with the reflection, which may give pause to over-enthusiastic social reformers: "Never have the poor people had so much done for them, but I fear that their power of taking responsibility becomes less every year."

MOTHERHOOD IN CHINA.

Though "race suicide" is slowly but surely sapping the strength of so-called civilized races, there is one people whose civilization goes back to times when we were woad-painted savages, in which the precept to increase and multiply is honoured in the observance. In China men do not limit their families, nor do women look upon motherhood as a misfortune if not a disgeace. The Chinaman, according to Dr. J. J. Matignon, who knows him well, having been for many years physician to the French Legation at Peking, and made a special study of the people, looks upon paternity as one of the three greatest pieces of good fortune that can befall him, the other two being wealth and the office of mandarin. Filial piety, which extends as far back as ancestors can be traced, is one of the strongest feelings in the Celestial breast. Confucius taught that the greatest offence against filial piety that could be committed was not to beget offspring. This teaching still dominates the Chinese mind. It is curious that the Chinese desire for progeny springs from the same root as "race suicide"—selfishness. Restrictionists, if we may be allowed to use the word, wish to escape the trouble, expense, and responsibility of children; on the other hand, the Chinaman wishes to have children—which in his case means sons—that he may leave some one to honour his memory when he has been transferred to another world. Unless he has a son to venerate him here below, he fears that his soul may mingle in the motley crowd of the spirits of those who, having left no descendants, wander about aimlessly among the living. For the Chinese woman, motherhood is a

moral and social duty, which brings its reward by connecting her with the ancestors who watch over the destinies of the family. By motherhood a woman may attain the supreme honour of becoming an ancestor. As long as she gives only girls to her lord she is, from a social point of view, of little importance, and the title by which she is adorned corresponds to "Miss." But when, in the words of Macbeth, she brings forth men children, she reaches the dignity of mother of a family, and is addressed by a title corresponding to "Madame." The desire of the Chinese woman for sons leads her to visit sacred shrines, to make novenas, to pass long hours in fervent prayer, and to make offerings in the temple to a goddess who is represented as holding in her arms a number of baby boys; from these pregnant women break off the penis in the hope that this may ensure a male child. Barrenness is regarded as a punishment of Heaven, and according to Chinese law, is a ground for divorce. A woman who has only girls is made to feel her inferiority in the family by her husband, but especially by her mother-in-law. The husband seeks to make up for his disappointment by taking one or more concubines who under the name of "little wives" hold a recognized place in the household. If one of them fulfils his hopes, the boy is treated as the child of the wife, calling his real mother "aunt." This gives the lawful wife all the privileges of motherhood; hence she puts up with the concubine who, however, on her introduction into the household has to crawl on all fours between her legs in token of vassalage. A Chinaman is blessed in having his quiver full because the more children he has, the safer he feels about his comfort in the other world; while the more prolific a wife is, the greater is the consideration she enjoys in the family. Hence the depopulation question is unknown in China. An interesting point is that by an unwritten law the Chinese mother must suckle her child. The wet nurse is rare in China, and artificial feeding is unknown; Dr. Matignon thinks this may possibly be due to the notion that if a child's first food were the milk of a cow or goat this would establish a kinship between it and the animal from which it derived its nourishment. One result of the objection to artificial feeding is that, if the mother dies, the child is almost sure to follow her to the grave. Women nurse their children three years. If during that period pregnancy should occur, abortion is practised as a matter of course. The walls of Chinese towns are plastered with advertisements of pills which are vaunted as certain to get rid of an inopportune embryo. Although, theoretically, nurslings are supposed to remain at the breast three years, they often continue to draw sustenance from their mother much longer. Dr. Matignon has often seen children of five or six run after people in the street begging, go back to their mother, take a suck at her pipe, and then open her clothes, and try a similar procedure on her breast. On the question of infanticide, Dr. Matignon, while admitting that it exists in China, denies that it is so common as has been stated. It is sometimes the fruit of superstition. In certain provinces, if the first child is a girl, she is killed by way of giving a hint to the evil genius of the house to mend his ways. Again, children are sometimes put ouside when all the resources of the healing art have been exhausted that they may not die in the house, which is believed to bring bad luck. Infanticide is not practised on male children, who are in every way a more valuable asset than girls. If, notwithstanding all his efforts, a Chinaman cannot procure male issue, he has recourse to adoption. Generally it is a relative who in every sense takes the place of a son, is registered as such in the family tree, and continues the line of succession. Chinese genealogical records often go back as far as 3,000 years.

MENDELIAN HEREDITY.

In an address before the Farmers' Club on December 6th, Mr. T. B. Wood, Professor of Agriculture in the University of Cambridge, dealt at some length with the subject of Mendelian heredity. Apart from practical success in dealing with wheat and in breeding poultry, evidence had been obtained which showed, the lecturer claimed, that the laws of Mendel held good for horses, sheep, cattle, and pigs in respect of characteristics such as horns and colour. At present no investigations into the inheritance of other characteristics had been made, so it was impossible to say whether it was Mendelian or not. Nevertheless, since Mendelian laws had been proved true in respect of the points investigated, it was reasonable to suppose that they would hold equally good when other points were examined likewise. As for colour in horses, Hurst, by analysing *Weatherby's Stud Book*, showed that true chestnut stallions mated with chestnut mares always produced chestnut stock, and that certain true bay stallions when mated with chestnut mares always produced bay foals. From this he concluded that bay was a dominant and chestnut a recessive colour. If it were supposed that some bay stallions must be mongrels in point of colour, it might be anticipated that when mated with chestnut mares they would breed bay and chestnut alternately, and this was found actually to be the case when certain bay stallions known to have both bay and chestnut in their immediate ancestry were examined in respect of their progeny. By analyses of a corresponding kind Wilson had shown that Highland cattle inherited their colour according to Mendelian laws; while Spillman, of the American Department of Agriculture, had found that the polled condition was a dominant in cattle, and a certain colour a dominant in pigs. The lecturer's own experiments had shown that in sheep, horns and face colour were inherited on Mendelian lines, and that by breeding on those lines the white face of a Dorset sheep could be transferred to the Suffolk; and pure-breeding animals, possessing the desired characteristics of each parent, could be picked out in the second generation. Nevertheless, in view of the difficulties and disappointments of such work, he would not recommend that Mendelian breeding should at present be taken up by practical agriculturalists.

A NEW SPECIALITY.

Specialism goes on multiplying itself by fissiparous division, and the most conservative physicians are driven by the very growth of their own reputation in particular provinces of the medical art slowly and, it may be, reluctantly, into a more or less narrow speciality. The first question of a suffering patient is, Who is the best man for the liver, the stomach, the lungs, the nerves, or what not? The same state of things is seen in surgery. One surgeon is, whether he likes it or not, constituted by public repute a specialist on joints, on the abdomen, on the brain. All this is outside the sphere of open and avowed specialism—diseases of the eye, of the throat, of the ear, diseases of women, genito-urinary diseases of men, and so forth. The tendency is towards a constant narrowing of each consultant's field of practice, and there seems to be a prospect that the whole body will in time be parcelled out into allotments, each sacred to a special kind of practitioner. But not only the body is to be thus divided among doctors; the spirit which already has its general healers, is also to be portioned out

among specialists. In a recent number of the *Province médicale* there is a prospectus of a heart-healer who asks for the insertion of his prospectus, offering in exchange half the fee of such consultations as it may bring to him. The prospectus is introduced by the alluring headlines: "No more moral sufferings! No more neurasthenia! Discovery of happiness! A physician of the heart!" The discoverer of happiness proceeds to point out that while there are three thousand doctors in Paris and fifteen thousand in the provinces of France who treat bodily ailments, among them being many specialists, there is no one to prescribe remedies for moral sufferings, beside which our fleshly ills are of small account. He has taken upon himself this mission; his fees are fairly moderate, and no charge is made to indigent sufferers. *Mens sana in corpore sano* might be taken as a motto by the new specialist who undertakes to minister to minds diseased, kindly leaving the body to the doctors. He can be consulted by personal interview or by letter. His arrangements are very businesslike, and he gives a specimen of the kind of document that should be sent him. After the name and address, space is provided for the description of moral sufferings for which relief is sought. As examples are given the loss of one dear to the sufferer; the pangs of despised love; matrimonial troubles; divorce cases; commercial or financial troubles; bad investments; discouragement; a "heart bowed down"; and so on. Truly one who could cure all these troubles would not only give happiness to afflicted souls, but would go far towards removing many sources of bodily disease.

SEA-SICKNESS.

THE question of how to treat sea-sickness is a hardy annual, but often as it has been published, no entirely satisfactory reply has been received. There is probably no condition to which the well worn aphorism, "prevention is better than cure," more wholly applies. Without pretending to speak as experts, we may say that the traveller or possible patient should be advised to take, at a date which will allow an interval of one clear day before starting, a mild aperient, such as cascara, and after this has acted to begin taking a bromide mixture. Dr. Bastian was, we believe, one of the first, some thirty years ago or more, to call attention to the efficacy of bromides, and the practice has been followed with success by many old sufferers. If once successful it gives a degree of confidence for the future which is very comforting, and probably has no small effect in ensuring the desired result. One of the best prescriptions probably consists of dilute hydrobromic acid (mxv to mxx) and sodium bromide; the acid has a disagreeable sour taste which must be covered by some flavouring ingredient. Martindale makes up a mixture on these lines which he calls "Bon voyage"; a dose should be taken every three hours for about twenty-four hours before starting, and for the first day or two of the voyage. Subsequently the dose may be repeated when there is a threatened recurrence. The late Professor Charteris, of Glasgow, had a great belief in a mixture consisting of 30 grains each of chloralamid and potassium bromide in an ounce of water flavoured with liquorice. Some time ago two correspondents spoke well of validol, a solution of menthol in menthol valerianate, containing about 30 per cent. of the former, 10 to 15 drops on sugar, in water, or in wine, to be given every three hours. A correspondent who wrote in the JOURNAL of June 1st, 1907, said that for some years it had been used with success on the steamers of the German Lloyd Company. Some people find great comfort from a broad abdominal belt firmly applied. The late Dr. Grailly Hewitt believed, and produced some experimental evidence in favour of his contention, that the initial stage of sea-sickness was dizziness due to cerebral confusion produced by the sight of the unwonted movement of objects around the voyager, and that on short voyages sea-sickness might be staved off by keeping the eyes closed or fixing them upon some distant object. There is no doubt a large psychical element in many cases, and people who make up their minds before they go on board that they are going to be sea-sick are very difficult to treat. On the other hand, instances are not very rare in which persons of ruder mental fibre are awakened by a rebellious stomach, which immediately expels its contents. Such incidents appear to throw doubt on the validity of Dr. Grailly Hewitt's theory, although its application is undoubtedly sometimes attended with good results.

A SCHOOL DENTAL CLINIC FOR LONDON.

EARLY in the new year there will be inaugurated in South London a clinic for the treatment of the teeth of the children attending the adjacent County Council schools. For some time past an inspection and charting of the teeth of the children attending the Marlborough Street School, Southwark, has been in progress, and instruction has been given to parents and children as to the importance of dental hygiene. It is to be hoped, therefore, that the children may be induced to visit the clinic, where their teeth will be attended to free of charge; the district, we are informed, is an extremely poor one. The only other school dental clinic at present existing in this country is the one at Cambridge, which, like this Southwark institution, owes its foundation to a private benefactor. It is to be hoped that before long the London County Council may see its way to establish similar institutions, in view of the serious condition of the teeth of the London school population, as shown annually in Dr. Kerr's reports.

THE DEATH OF THE HON. A. GORDON.

As both the Earl and Countess of Aberdeen are honorary members of the Association, it will not, we hope, be thought impertinent if the BRITISH MEDICAL JOURNAL expresses its sympathy with Their Excellencies in the terrible bereavement they have recently suffered by the death of a most promising son. The philanthropic work of Lady Aberdeen has been spread over so wide a field and has been so fruitful of good, that we are sure the profession, whose chief aim is to promote the same objects, will join in offering its meed of condolence to the sorrowing parents of the Hon. Archibald Gordon, whose life was cut short just as a bright prospect of personal happiness and a larger sphere of usefulness were opening before him. After the motor accident which led to his death he was taken to the Hampshire County Hospital, Winchester. He was operated on immediately by Dr. Godwin, and there seemed to be every hope of his recovery when the black shadow that follows the footsteps of the most skilful surgery overtook him. One poor grain of comfort Lord and Lady Aberdeen have in their affliction, and that is the fact that nowhere could their son have been better treated and tended than in the Hampshire County Hospital, the medical staff and nursing establishment of which are as good as aught to be found in the whole country. We understand that the Winchester Division, of which, we believe, all the medical officers of the hospital are members, have sent a letter of sympathy to Lord and Lady Aberdeen. It was a graceful act, and one which we have no doubt will be warmly appreciated by Their Excellencies.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE NEW BUILDINGS OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE annual dinner of the Royal College of Surgeons of Edinburgh on Tuesday, December 14th, 1909, had a special significance. It marked the inauguration of the reconstructed hall and museum of the college. One hundred and forty sat down to dinner. The president was Mr. J. M. Cotterill, who had on his left the Earl of Rosebery, who performed the opening ceremony. The medical, legal, clerical, and military professions were amply represented.

Lieutenant-General Sir Bruce Hamilton, the new commander of the forces in Scotland, replied to the toast of "The Imperial Forces" given from the chair.

Lord Rosebery's Speech.

Lord Rosebery gave the toast of "The College." He said that he was only qualified for his present position, and was only summoned by reason of the fact that a forebear of his, Gilbert Primross, was the first recorded Fellow of the Royal College of Surgeons of Edinburgh, and was President of the College in 1581–2 and again in 1602. He died at Westminster on April 8th, 1616. He was Surgeon to King James VI. Lord Rosebery showed the mortar which his forebear "employed in impounding the gruesome drugs which he administered to the unfortunate population." It bore the legend, "Gilbert Primross, Chirurgeon, 1569." Gilbert was one of the corps deputed to join the volunteers, in 1558, to defend the city of Edinburgh against their old enemies the English. The mortar must have been lost in the exercise of his volunteering proclivities or duties on the Borders in action. It was in after years found and deposited in the town museum of Hawick, the authorities of which handed it on to Lord Rosebery, for which he owed them a lifelong obligation. Gilbert Prymross and his contemporaries were barber-surgeons. They united two useful and murderous occupations. They were at the present moment united in Italy. You will find, he said, over the barbers' shops in Italy very graphic and distasteful portraitures of an arm spouting blood under the auspices of the barber: we cannot but remember that my ancestor and your surgical ancestors in those days combined these two useful professions. Indeed, at last it became very difficult to dissociate the barber from the surgeons. When the surgeons became a more illustrious profession the barbers held on to their coat tails, and if I read the history of the association accurately, the barbers had to be bribed off from their too close connexion with the surgeons by getting a monopoly which had always been possessed by the barber of manufacturing *aqua vitae* for the population of Scotland. What *aqua vitae* is it is not my province at this moment to investigate, but I presume it was a popular drink, which has procured so abiding a fame for our Scottish distillers. Well, I come down from my ancestors of learned professions, and it wrings my heart to think that they should have come and have ended in so unworthy a descendant as myself. They all belonged to the learned professions. I, at any rate, have no profession of learning. I have never had a profession. I was once embarked in the trade of politics. No one could call that a profession, because it thrives upon professions. And it is here that I am approximating to my point. The trade of politics is constantly assimilating itself to the profession of surgery. It always is cutting off some diseased limb which it is necessary to sever from the body politic, and which sometimes, after constant attempts to sever it, survives in renewed vigour. But the instruments of political surgery are very different from those of medical surgery. They do not use the knife or the scalpel or those skilful instruments which make our hearts shudder within us. They use the chopper and the pickaxe, and they pursue an independent career of independent surgical investigation, without the slightest regard to the arteries or nerves which they may affect. We are celebrating the new buildings, the new developments of a society which numbers more than four centuries. It was in 1505 that you received your first charter. It was distinctly limited, if I remember rightly, to those who could both read and write. I trust that that provision is now unnecessary. But what interests me, and all who are interested in the history of their country, is this, that these institutions, these great institutions, with which the fame of Scotland is indissolubly linked—the universities, the College of Surgeons, and other learned bodies of that kind—came into existence in a time of storm and stress. Their travail was the rudest in the world. They were produced at a time when we could hardly keep our national existence together. Nine years after the reception of your charter there was the crowning disaster and anguish of Flodden. I wonder if we here in this hall can realize what that meant—a complete upset of all Scottish national hopes and aspirations, the death of their King on the field surrounded by his choicest chiefs. And when I think of Flodden, I always comfort myself with the thought that in all the Sedans and catastrophes of history there is nothing more sublime than the proclamation issued by the magistrates of Edinburgh the day after it got the news of Flodden. You remember that proclamation. It was sharp. It was pregnant. It was eloquent. It was noble. It was courageous. And if we have to write on the page of our history the disastrous record of Flodden, we can balance it on the credit side by the record of what was the attitude of our citizens at that time. The day of Flodden had passed. It was, I think, September 11th. On the 12th the news had got abroad in Edinburgh. The magistrates issued a proclamation. It was short and it was simple. It said that rumours had got abroad in the city of something that had happened to the King and the army at Flodden. They were not yet authenticated; but, in the meantime, they summoned every able-bodied citizen by toll of bell and by tuck of drum to come forward to the defence of the city, and in the meantime, they said, women must not be allowed to wail or to weep in the streets. They must go to the churches and pray for their King, for their army, and for their countrymen who were in the army. And that was all that the magistrates of the city had to say when they knew of the crowning disaster of Flodden. Is there anything nobler in the history of any city or any country than that proclamation on that disaster?

Mr. President, I quite admit that that incident has little to do with the College of Surgeons, except that it shows the conditions under which the College of Surgeons was brought into being and under which it throve. For a long time you yourselves had your combats. You fought with your physicians and you fought with your apothecaries, and you bound yourself up in an unholy alliance with the apothecaries and defeated the physicians. And then in later years you had the shadow of that great crime which is known by the name of Burke and Hare—without any exception, in my judgement, the most interesting, the most horrible, and the most ghastly of crimes which we know of in the whole history of criminal legislation. The College of Surgeons was then the subject of much unjust unpopularity, but it has survived that, and it will survive many other such gusts. I only mention it in passing as part of the history of surgery in Edinburgh—as noted by an ignorant layman like myself. Surgery is a formidable profession. We ought to be more grateful to it than to any other, because it has so hard an apprenticeship, and it requires so special a combination of qualities to success. There are many of us laymen here who could not bear to see an operation, and who could hardly conceive it possible that there should be a man so courageous and so skilful as to attempt one. May we not say of the surgeon as of the poet, that he is *nascitur non fit*. When he is found, he is a man who has some special avocation given him by Providence to perform his all-important profession. There is a beautiful saying about the surgeon which, I suppose, is familiar to all professional men here, but which some of us laymen do not know so well—that

a great surgeon requires the hand of a lady and the heart of a lion. That surely is true—the hand of a lady and the heart of a lion. It is to the hands and the hearts of that description that we outside persons, possible patients, persons who have been interested in other patients, owe so deep a debt of gratitude. Can we be sufficiently grateful for the kind cruelty, the merciful mercilessness which guides the hand of the surgeon and often saves a life? It is difficult for us who are not surgeons to express in adequate terms our gratitude to you. We cannot, because, in fact, we are afraid. An interview with a surgeon is one degree more formidable—perhaps ten degrees more formidable—than an interview with a dentist. If you are to remove our ills, you remove them by operations which we cannot but dread. But when we recover we owe you a debt of gratitude which it is impossible to express. In the field, in the navy, in the army—ay, and in the homes of all of us—we owe a debt of gratitude to the surgeon which none of us can adequately express. There is one surgeon to whom the whole universe owes a debt of gratitude. He is a Fellow of the College of Surgeons of Edinburgh. I think it was Joshua Reynolds who said in his last address at the Royal Academy that he should wish to leave his chair by uttering the name of Michael Angelo. I should ask you to allow me to propose this toast and to open this hall—two tasks which I have to combine—by giving you the name of Lord Lister.

Admission to the Honorary Fellowship.

The President replied. Thereafter Lord Rosebery was made an Honorary Fellow of the College, signed the roll, and was duly clothed in the gown of the College. His Lordship returned thanks.

The Vice-President gave the toast of "The City of Edinburgh," and the Lord Provost replied. The Lord Justice Clerk gave "The Houses of Parliament," and Lord Rosebery responded. Mr. George Berry gave the toast of "The Scottish Universities and Our Sister Corporations." Principal Sir Donald MacAlister, and Mr. Lentaigne, President of the Royal College of Surgeons in Ireland, replied. Professor F. M. Caird gave "The Chairman," which closed the evening.

Reception.

On Thursday evening, December 16th, the College gave a reception from 9.30 till 11.30 p.m., which was largely attended.

THE GILBERT PRYMROSS MORTAR.

Lord Rosebery has very kindly lent for exhibition for a few days at the Hall of the Royal College of Surgeons of Edinburgh the mortar which he brought to the banquet on Tuesday night, of his ancestor Gilbert Prymross, the first President of the College of Surgeons. The dates of entry of the first sixteen Fellows of the College are unknown, but all were on the roll in 1581, when the earliest minute records their names, Gilbert Prymross being the first. He held the chair in 1581–1582 and again in 1602, and died at Westminster, April 18th, 1616, at the age of 80. His monument in Greyfriars Churchyard, Edinburgh, bears that, "To the end of his life he was Chief Chirurgeon to the King, and died adorned with testimonies of public sorrow from Prince and People."

Great Gilbert Prymross shut his mortal eyes,
Full fraught with honours as with length of days.

On June 10th, 1558, the Incorporation of Barber-Surgeons sent twenty-five of their number to join a corps then raised "for the defence of the toune" against "our auld inemyes of Ingland." It was probably on that occasion that Gilbert Prymross lost his brass mortar on the Borders. It was found a considerable number of years ago by a farmer near Hawick, and by him presented to the Hawick Archaeological Society, who in turn presented it to Lord Rosebery.

GLASGOW UNITS ROYAL ARMY MEDICAL CORPS TERRITORIALS.

The annual gathering and presentation of prizes in connexion with the Glasgow units of the Royal Army Medical Corps Territorials was held on December 15th, Colonel Sir George T. Beatson presiding. After the prizes had been distributed Colonel Beatson made a statement regarding the position of the corps. The full establishment of the units of the Lowland Division was 764 officers, non-commissioned officers, and men, and the total enrolled strength was 739, or a percentage of 97. Last year 695 members attended camp, or a percentage of about 90. In the formation and organization of the new units in connexion with the Territorial Army there had been many difficulties and extra work, and thanks were merited by the officers and men for their cordial help and co-operation, and also to the medical men and nurses in Glasgow and Edinburgh, who had come forward and given assistance which enabled him to say that the three general hospitals in connexion with the Lowland Division were now complete in their medical and surgical staff, in their nursing staff, and in their general arrangements, so that if the need arose these hospitals would be ready for duty within twenty-four hours. They had attained a remarkable degree of efficiency.

RED CROSS ORGANIZATION.

Details of the new Territorial Red Cross Brigade, which has been sanctioned by the War Office and will be raised and equipped by the Scottish Branch of the British Red Cross Society, have now been issued from the head quarters in Glasgow to all the local secretaries in towns and counties. The rules of the local branches have been altered to meet the new conditions, under which, in place of being latent, the branches will be actively engaged during peace. Members and associates will be enrolled, and lectures, demonstrations, etc., undertaken to foster an interest in Red Cross work. Scotland will be divided into three districts:

(*a*) *Northern*, to include the counties of Inverness, Perth, Forfar, Kincardine, Aberdeen, Banff, Elgin, Nairn, Ross and Cromarty, Sutherland, Caithness, and the islands.

(*b*) *Eastern*, to include Roxburgh, Selkirk, Peebles, Berwick, Haddington, Edinburgh, Linlithgow, Kinross, Clackmannan, and Fife.

(*c*) *Western*, including Argyll, Bute, Dumbarton, Stirling, Renfrew, Lanark, Ayr, Dumfries, Kirkcudbright, and Wigtown.

Each district will have a district director, and the voluntary aid detachments from all three districts will be grouped into the Scottish Territorial Red Cross Brigade. Over the brigade will be a brigade director, and he will be responsible to the Scottish Red Cross Branch Executive. This in turn will be responsible to the military authorities for the efficiency of the brigade. The county committees already formed will probably be increased, and will be responsible only for the expenses of their county director and the training of the voluntary aid detachments. The sources of income will be the subscriptions received for membership and honorary membership. The Red Cross Executive will be responsible for the other working expenses of the brigade. Sir George Beatson, K.C.B., who has taken the leading part in the new organization, has resigned the chairmanship of St. Andrew's Ambulance Association, which he has held for the past ten years, in order to devote his energies to this development of Red Cross work. He delivered a lecture giving full details of the scheme at Perth early in the month, and the Perth County Committee has since been increased and work begun. It may be stated that each County Committee will be expected to raise voluntary aid detachments of sixty-two males or twenty-six females, and that the preliminary training of these will be undertaken by St. Andrew's Ambulance Association, while the special training will be done by the Red Cross Society. Each county will have a county director to be responsible for the efficiency of the detachments raised in the county, and there will be no limit to the number of detachments so to be raised.

PROPOSED MEMORIAL TO THE LATE PROFESSOR CUNNINGHAM.

At a meeting held in the court-room of the University of Edinburgh on December 15th, Principal Sir William Turner presiding, the question of some appropriate memorial of the life and work of the late Professor D. J. Cunningham was discussed. The

Chairman paid a high tribute to his successor in the Chair of Anatomy, and the President of the Royal College of Surgeons of Edinburgh (Mr. J. M. Cotterill) moved: "That some form of memorial be obtained to commemorate the services to the university and to medical education of the late Professor Cunningham." Professor Crum Brown seconded. Professor Lodge moved that a committee be appointed to take measures to carry out the objects of the resolution, and Professor Arthur Thomson, Oxford, seconded. Professor Harvey Littlejohn said that Trinity College, Dublin, where Professor Cunningham had taught anatomy for twenty years, had decided to put up a medallion and to institute a medal for anatomy. It had been thought that the memorial should be a joint one, and the Dublin promoters offered the artist's drawings and dies for the use of Edinburgh. Dr. George A. Gibson explained the negotiations with Dublin, and said it seemed very desirable that Edinburgh should adopt the same course as Dublin. A large committee was appointed to consider the whole matter and report to a subsequent meeting.

Professor Spence's Museum.

The court of the University of Edinburgh at a recent meeting resolved to purchase the museum which belonged to the late Professor Spence, at present in the department of surgery.

Glasgow Archaeological Society.

Captain H. Lyons, F.R.S., recently gave to the members of this society a most interesting lecture on Lower Nubia, dealing with the survey made on behalf of the Egyptian Government. Referring to the anatomical information collected, he said that great additions had been made to the history of disease by records obtained extending over fifty centuries. In bodies packed in salt and laid in the dry soil in the fourth and fifth centuries the internal organs, as well as muscle, skin, and hair, had been preserved. Gout and even appendicitis were recognized among the ailments that afflicted these early Nubians; and while tuberculosis was rarely proved to have existed, rheumatic gout was remarkably common. In communal graves holding from 15 to 20 bodies valuable opportunities of studying anatomical resemblances in families had been afforded. Among the ninety-two cemeteries found and surveyed were remains dating from 4000 B.C. The lecture was illustrated with numerous lantern slides, and was thoroughly enjoyed by a large audience.

Epidemic Disease in Glasgow.

While the epidemics of scarlet fever and diphtheria which have been prevalent for some months in Glasgow are now on the wane, cases of measles still continue to increase in number, last week showing an increase of 227. This gives a total of 2818 cases under supervision, as compared with 2591 in the previous week. The distribution of the disease is general throughout the city.

An Assured Future for Sidlaw Sanatorium.

The tribulations of a slightly endowed charity descended in full measure on the Sidlaw Sanatorium, and after its hopes of municipalization were wrecked in the municipal storms of last year the outlook became gloomier day by day. Faced by the impossibility of meeting a weekly deficit of £10 the directors had given notice to their patients and to their servants of the approaching closure of the institution. This week the whole scene has changed. Mr. J. K. Caird, LL.D., has given a donation of £10,000 to the Dundee Royal Infirmary to enable it to take over the sanatorium. The continuance of the sanatorium on a charitable basis is thus assured, and a further step has been taken to the co-ordination of the medical charities of Dundee under the Royal Infirmary. The only outstanding institutions of any magnitude are the Royal Asylum and the Royal Victoria Hospital for Incurables. Mr. Caird has already been a generous benefactor of the infirmary, having built the maternity hospital and a pavilion for the treatment of cancer, and only last week was announced his donation of £2,400 towards the reconstruction of the out-patient department.

Ireland.

[From Our Special Correspondents.]

Arbitrary Treatment of a Medical Officer.

In our last issue we commented on the refusal of the Rathdown Board of Guardians to pay the fees of a substitute for Dr. Eccles, one of their medical officers, who had been called upon at short notice to give evidence at the winter assizes in Dublin. The refusal was based on a slight and almost unavoidable error on the part of Dr. Eccles in personally nominating his substitute, instead of requesting the relieving officer to do so. We are pleased now to note that at a later meeting of the same board of guardians an explanatory letter from Dr. Eccles was received, and, after a motion that the explanation should be accepted as satisfactory had been unanimously passed, it was decided to pay the substitute. Dr. Eccles pointed out that owing to the unexpected and sudden nature of the summons he was compelled to act as he did, or else to leave his district without a doctor for a whole day—a course of action which would have rendered him liable to censure. This explanation shows that the view of the matter which we have already expressed was correct, and in consequence we feel that the guardians, although to some extent exonerated by their subsequent action, would have acted at first in a more dignified manner by reserving their decision until they had been informed concerning all the circumstances of the case. Instead of this, they at once flew to the conclusion that their medical officer was lacking in respect towards them, and they have now demonstrated that what was really wanting was respect and confidence on their part towards their medical officer.

Arising out of this incident the question of payment of substitutes in general was raised by one of the guardians, who pointed out that when a dispensary medical officer was in attendance at court he was paid by the Crown, and was at the same time drawing his salary from the rates, although not performing his duties, and although the ratepayers were paying a substitute for him. The speaker stated that he did not object to medical officers getting paid both by the Crown and the ratepayers, but thought that in such circumstances the ratepayers should be relieved of paying the substitute, and he expressed a hope that Irish guardians throughout the country would press the question on the Government. There is little doubt that such a relief would only be afforded at the expense of the doctor, and we may, therefore, point out that a similar question has already been raised at Carrickmacross, and that the Local Government Board has replied that the Crown fees in such cases are intended to compensate the doctor for his trouble, and are not, in their opinion, sufficient to provide for a substitute for his public duties.

Dublin Pasteurized Milk Dépôt.

We have received an advance copy of the first report of the Dublin dépôt for the supply of pasteurized milk. This dépôt, largely through the generosity of Mr. Nathan Straus of New York, was established by the Women's National Health Association about a year ago in the neighbourhood of Arbour Hill, Dublin, in the midst of a district of artisans' dwellings, and throughout the year has been supplying daily from 20 to 25 gallons of milk to the poor of Dublin. Humanized milk is also supplied, either in accordance with a doctor's written prescription or according to a group

of standard formulae which have been selected, to assist infants from birth up to nine months old. The process of pasteurization occupies from thirty to forty minutes, according to the size of the can or bottle containing the milk; the milk is then cooled during a period of two hours in a special receptacle, where the containers are subjected to the play of fine jets of water. All the humanized milk is supplied in bottles containing a single feed and ready for immediate use, and the returned bottles are carefully cleaned. During the first year 128 infants were supplied, but of these 52 received the milk for such a short time that no conclusion concerning its value can be drawn from these cases. Of the remaining 76 babies, 67 were improved, 9 were not benefited, and 3 out of the 9 died. Many of the 67 were in a state of more or less severe malnutrition when the treatment was begun. The report does not state whether any further medical treatment was employed in any of the cases. The compilers of the report point out that up to the present they have not been able to obtain sufficient data upon which to found any conclusions, but believe that, apart from the actual supply of milk, the dépôt is doing good work by calling the attention of mothers to the importance of regularity and cleanliness in feeding.

Limerick Workhouse Medical Officers.

We note that at the last meeting of the Limerick guardians it was agreed, on the motion of the Mayor, that the salaries of the visiting medical officers should be increased by quinquennial sums of £12 10s. from the initial salary of £75 to the maximum of £125 a year. The motion was only carried by the narrow majority of 36 to 34.

England and Wales.

[From Our Special Correspondents.]

MANCHESTER AND DISTRICT.

The Manchester Royal Infirmary and Medical Women.

It is very evident that the decision of the board of management of the Manchester Royal Infirmary not to admit medical women to the resident posts at the infirmary will not be allowed to stand without the most determined opposition. A large number of letters in favour of admission continue to be published, and it is somewhat significant that there is practically no support for the board in the press. A committee has been formed consisting of representatives of the Manchester Association of the Federation of University Women, the Manchester Association of Registered Medical Women, the National Union of Women Workers, the Women's Local Government Association, the Women's Trade Union Council, the Women's Co-operative Guild, and a number of influential Manchester men and women. The honorary secretary points out that the decision of the board of management is in direct opposition to reports twice received from the medical board, and that the "damaging indictment of women doctors, if it does not at once evoke protest from the public, is bound to have a most serious effect on the work of women in the medical profession"; and, further, that it is beyond question that "the medical school in Manchester will suffer as regards its women students, particularly in view of the more liberal action of the medical schools in other places." The committee proposes to elicit and organize public opinion, and any persons who are willing to join the committee, or in any way to associate themselves with its activities, are requested to communicate with the honorary secretary, Mrs. Chapman, Burnage Lodge, Levenshulme.

The Midwives Act in Salford.

Some weeks ago the Manchester Corporation, on the advice of the Midwives Supervising Committee, sent a circular letter to other local supervising authorities: it was published in the British Medical Journal for November 6th, and contained two recommendations. These have recently been considered by the Health Committee of the Salford Corporation. The first recommendation was that the Municipal Corporations Association should be represented on the Central Midwives Board, and with this the Salford Health Committee agreed. The second recommendation was that the fees to medical practitioners called in under the Midwives Act should, as far as practicable, be paid by local supervising authorities and not by boards of guardians. This was in accordance with the views of the British Medical Association laid before the Departmental Committee on the working of the Act, though the Departmental Committee decided in favour of the boards of guardians as the authority to be responsible for the fees. The Salford Health Committee agrees with the Departmental Committee, "being of opinion that the Poor Law authority is the proper one for the payment of these fees." Salford is thus once more opposed to Manchester—not at all an unusual thing. The position in Salford is now that the Corporation refuses to do anything at all in the way of paying these fees, and thrusts the responsibility on the guardians. The guardians in turn make a hollow pretence of promising fees, but hedge the payment round with such conditions that in reality they only pay for paupers, which they would have to do in any case. Patients just above the pauper stage, able to pay a midwife but quite unable to pay a doctor in addition, may fare as they like as far as the Salford Corporation and the Salford guardians are concerned.

The Manchester and Salford Sick Poor Nursing Institution.

There was a large attendance of friends and helpers of the Manchester and Salford Sick Poor and Private Nursing Institution at its annual meeting held recently under the chairmanship of the Lord Mayor of Manchester. Sir F. Forbes Adam, president of the institution, drew special attention to the urgent need of funds and said that, unless the resources were increased, in a short time nurses would have to be withdrawn from places where they were at present working, and it would, perhaps, also be necessary to go so far as to lessen the number of districts. Dr. Helme, honorary secretary, in presenting the forty-fourth annual report, said that the nursing staff numbered 72, that during the past year 9,821 patients had been attended in their own homes and 250,631 visits paid. The only unsatisfactory feature which the committee had to report was in relation to the financial position. At the present time the finances were in such a critical state that there was danger that the activity of the institution would be crippled. The permanent increase in the annual income needed to maintain the existing rate of expenditure was not less than £700. "It would be difficult," it was said, "to find any channel through which charity can be more usefully directed than the maintenance of this institution, which, without regard to creed or sect, brings solace and relief to the suffering poor in times of sickness and distress." It was announced that since the report was written a generous subscriber had given £500 as a donation, and a further donation of £50 was also announced.

The excellence of the work of the district nurses in Manchester and Salford is beyond doubt, but there are not wanting some grounds for fear that their readiness to assist is frequently abused by persons who are well able to pay for their assistance. The superiority of the district nurses over the ordinary untrained women who try to gain a scanty living by "going out nursing" is so marked that the middle classes are often eager to have the district nurse, though they are not so eager to pay even a trifle to the institution for her help. The writer of this note is quite convinced from his own knowledge that a very considerable sum of money is lost to the institution every year because the responsibility for payment is not more plainly put before patients who can quite well afford to pay

something for the visits of the district nurse. The matter is extremely difficult to deal with, and probably some medical men could render more help in this direction than they do at present.

LONDON.

New Botanical Laboratories, University College.

THE new botanical laboratories at University College, London, which were described in the BRITISH MEDICAL JOURNAL of December 11th, page 1704, were opened on December 17th. A distinguished company of guests included Lieutenant-Colonel Prain, C.I.E., F.R.S. (director of the Royal Botanical Gardens, Kew); Professor F. E. Beddard (prosector of the Zoological Society); the Professors of Botany in the Universities of Durham, Manchester, and Wales (Aberystwith); and the Hope Professor of Zoology in the University of Oxford. These and many others were received in the Flaxman Gallery by Professor M. J. M. Hill (the Vice-Chancellor), Lord Reay (Chairman of the College Committee), the Principal, the Provost, and the Deans of the College Faculties. The formal proceedings took place in the new botanical lecture room, under the presidency of the Vice-Chancellor, who called upon Dr. D. H. Scott, F.R.S., late Honorary Keeper, Jodrell Laboratory, Royal Gardens, Kew, to declare the laboratories open.

Dr. Scott briefly sketched the history of the botanical department at University College, where, he said, botany had always been recognized as an independent science, coequal with her sisters. The first to be elected to the professorial chair—although he never occupied it—was Sir William Hooker, in 1826, but the first active occupant was John Lindley, whose term of office extended from 1829 to 1860. He was succeeded by Daniel Oliver, under whose tenure laboratory courses were started and the teaching placed upon a firm basis. The speaker said that he wondered whether many people outside the trained ranks of the specialists realized what was included in the subject of botany. Not very long ago, according to popular ideas, botany meant merely the collection, drying, and naming of plants. In considering the many branches of the science first place should be given to systematic botany. There had been a tendency to neglect this special study in favour of the study of a few plants which were taken as types, but in the teaching of today the importance of a wide knowledge of plants—systematic botany—was beginning to be fairly recognized. Systematic botany was the peculiar glory of English workers—he need only mention the Hookers, father and son, and Daniel Oliver—and it would be a pity if it were again to fall into neglect. Comparative anatomy also was a characteristic study of the modern English school, and this, with systematic botany and morphology, had greatly subserved the study of evolution. The search for the relationships of plants had now been identified with the work of tracing their descent, and it was from this point of view that the investigation into the anatomy of plants on the part of the English school had been directed. The modern study of fossil botany, again, had reacted in an advantageous way upon recent anatomy, and had given it a more comparative, evolutionary character than before. Then there was geographical botany, which attracted Darwin so much, and received such stimulus a few years ago from Professor Schimper's book. Physiology in its relation to plants came next, and it was in this respect that the science of botany came nearest to the domains of chemistry and physics. He did not believe for a moment that the functions of the plant would ever be explained by the laws of chemistry and physics as they were at present understood, but the plant, like other living things, employed chemical and physical processes in constructing and working its machinery. Other branches were ecology, a blend of geographical botany, field botany, and physiology: cytology, and here it might be remarked that whether one took the section of a worm or a seaweed or a lily, the minute changes of the cell were on the same lines in all; and, finally, genetics, the study of variation and heredity. He imagined that this last was the subject by which the botanical work of the present age would be remembered, although its story was still in the early chapters, and the impetus given to its pursuit by Darwin was only now beginning to be really felt. He had still left unmentioned the innumerable applications of the science to practical life, to medicine, to agriculture, and to other sciences, such as ethnology. If it were possible to narrow the lessons of this far-reaching science down to one, it would be this: That all living things were akin: that plants were our cousins, but not our poor relations; that they did not form a kingdom subordinate and inferior to that of the animals, but, rather, an allied power, or, to change the figure, a collateral branch of the same stock. The animal characteristics of locomotion, for instance, extended half-way through the plant kingdom, as high up as the ferns. It was not a true conception to think that the highest plants approached the lowest animals: the truth was that the lowest plants and the lowest animals converged until we reached those strange forms which might be included in either kingdom.

Lord Reay, in moving a vote of thanks to Dr. Scott, foreshadowed the opening of new chemical laboratories at University College more worthy of the intellectual distinction of the Professor of Chemistry, Sir William Ramsay. The motion was seconded by Dr. F. W. Oliver, Quain Professor of Botany, who, speaking of the adjective "luxurious," which had been applied to the new laboratories by Dr. Scott, said that a botanist who was well acquainted with Continental laboratories had commented upon the Spartan severity of those in the "Elysian groves of Gower Street." In Germany and Holland, when they had occasion to erect botanical departments, the walls and tables were decorated with carvings, the ceilings ornamented, and the windows filled with effigies of the saints. In England they were more utilitarian, but even in England, so far as botany was concerned, they were still in the irresponsible days of youth, taking up the subject as though they were in an intellectual playground and could choose what pleased them best. Botany would have to take its part in bearing the burden of the universe, as chemistry had already done, and in the future he saw growing out of the department, certainly a faculty, perhaps even something in the nature of a botanical university. He concluded by handing to Mrs. Scott, in the name of the department, a gold pendant as a souvenir of the occasion.

BIRMINGHAM.

Hospital Sunday Fund.

AFTER deducting expenses the Birmingham Hospital Sunday Fund had, as the result of the annual collection, £3,790 in hand. It was distributed as follows: General Hospital, £1,356; Queen's Hospital, £1,294; General Dispensary, £181; Children's Hospital, £175; Eye Hospital, £227; Women's Hospital, £138; Deaf and Dumb Institution, £129; Blind Institution, £143; Homoeopathic Hospital, £145; Orthopaedic Hospital, £140; Birmingham Sanatorium, £129; Lying-in Charity, £139; Skin and Urinary Hospital, £106; Ear and Throat Hospital, £59; Dental Hospital, £14; District Nursing Society, £90; Moseley Convalescent Home, £80; Jaffray Hospital, £26. The amount collected was about £160 less than last year, and the fund is now about £1,000 behind what it was four or five years ago. The result of this year's collection, however, is very gratifying considering the depressed state of trade in the city and neighbourhood.

The First Southern General Hospital, R.A.M.C.(T.F.).

The first annual supper of the First Southern General Hospital was held in Birmingham on December 18th, and was presided over by Lieutenant-

Colonel Jordan Lloyd, senior officer of the hospital, the vice-chair being taken by Major J. E. H. Sawyer, the registrar. The guests included General H. A. Raitt, C.B., Colonel W. P. Whitcombe, Major J. Robertson, Major C. H. Howkins, Major W. H. Stephen, Captain Stephens, and most of the other officers of the First South Midland Mounted Brigade Field Ambulances, and of the First and Second South Midland Field Ambulances. Many of the officers of the hospital whose services will be available on mobilization were present—namely, Lieutenant-Colonels Gilbert Barling and F. Marsh, Majors Haslam and Kauffmann, and Captains A. Lucas, L. P. Gamgee, J. G. Emanuel, W. Billington, F. V. Milward, W. H. Wynn, J. M. Young, W. J. Clarke, and W. J. McCardie. Prizes were distributed to the non-commissioned officers and privates for general knowledge of corps work. The toast of "The First Southern General Hospital" was given by General H. A. Raitt, who in a most excellent speech referred to the patriotism of medical men in joining the Territorial Force. If this country were invaded the amount of sickness among the general population would increase, and in consequence those medical men who left their practices to serve their country would run a risk of not being able to get their practices together again upon their return. On the other hand, during war there would probably be a complete cessation of all trade in the country for the time being, and therefore those men of the other professions and those in trade who were serving in the Territorial Army would not run so great a risk of losing the means of getting their livelihood upon their return. Lieutenant-Colonel Jordan Lloyd, in replying to the toast, spoke of the progress that the First Southern General Hospital had made during the year. The personnel was complete: there were 43 men of the Royal Army Medical Corps Territorial Force being trained, 90 experienced Sisters and nurses had been enrolled, and the mobilization scheme of the hospital had been prepared. The toast of "The Visitors" was proposed by Lieutenant-Colonel Gilbert Barling, and responded to by Colonel W. P. Whitcombe, the Administrative Medical Officer of the South Midland Division. Musical and other items were rendered during the evening.

WALES.

COTTAGE HOSPITAL AT ABERBARGOED.

THE new cottage hospital at Aberbargoed was opened on December 10th by Viscount Tredegar, in the presence of Mr. Joseph Shaw, chairman of the Powell Dyffryn Company, and a large gathering. The ceremony was of the briefest character. The building has been erected, equipped, and furnished by the Powell Dyffryn Steam Colliery Company, Limited, for the use of their workmen in the Rhymney Valley. It will doubtless be the means of saving the injured much suffering, as at the present time they have in serious cases to be carried by rail to Cardiff Infirmary. The site commands an extensive and pleasant view of the Rhymney Valley in a southerly direction. The building has been designed to accommodate fourteen beds—two large wards with five beds in each, and two double-bedded wards. Besides these wards upon the ground floor there is a surgeons' room with receiving room adjoining (entered from the vestibule), operating room, matron's room, nurses' room, and staff dining room, with kitchen and offices. Upon the first floor are six bedrooms, with bath-room, etc. In the basement are provided a large ambulance room, x-ray room, and heating chamber, and upon the far side of the site are the laundry, mortuary, and *post-mortem* rooms. The cost of the building, furniture, and fittings has been about £6,000.

GLAMORGAN WATER SUPPLY.

The subcommittee of the Glamorgan Sanitary Committee, appointed to consider the annual report of the medical officer (Dr. Williams), concludes that, so far as the water supply is concerned, the prospects of the inhabitants in many localities of the county are most gloomy. The committee is of opinion that nothing could alter matters except a large and comprehensive scheme for taking water from areas to the north of the coal measures. The committee noted that fourteen small-pox hospitals had been provided, but that a few more were required. Much activity had been shown in improving the houses and environments of the working classes, but the provision of sanatoriums for the poorer consumptives had not received the attention it deserved. It was reported that the number of houses and domestic buildings was rapidly increasing at Porthcawl. During the current year plans for ninety-six houses, a chapel, and a concert pavilion had been deposited. Many new streets were in course of construction. The resident population was annually increasing, owing doubtless to the place being sheltered from north and east winds by the neighbouring hills, and also on account of the balmy westerly breezes of the Atlantic. The town was being more frequented as a winter health and holiday resort, and Dr. Williams said he was pleased with the progress Porthcawl had made in sanitary matters.

Special Correspondence.

BUDAPEST.

Alcoholism in Women.—Doctors and Sick Clubs.

TEN or twenty years ago Hungary was one of the countries where women did not indulge in the habit of drinking. However, times have changed, and Western civilization has imported, together with its undeniable blessings, its scourges, too, chief among them being the drinking habit of women. It must be admitted that Western civilization is not solely accountable for this. The comparative improvement in the social position of women, the extension of their bread-earning capacity, their growing independence, town life instead of country life, have all contributed to the spread of the evil, which has attained such proportions that the Minister of Internal Affairs some time ago appointed a committee to study its proximate causes, and to devise some means of checking it. The result of the investigations has shown that in Hungary women of the better classes are quite free from alcoholism, whereas it is fearfully common among the peasantry. This is due, says Nagyiványi Fekete in his report, to the fact that peasants, and chiefly agricultural labourers, generally take their wives with them into the field where they are working; there they work and eat together and share their bottle of brandy (diluted corn spirit). Other women, who do not help their husbands in work, drink because their neighbours or mothers do so. They were given brandy as soothing medicine when they were in the cradle. When they grow up they drink—against the heat in summer and against the cold in winter, on Sundays, at dancing occasions, at weddings, at christenings, at funerals, at vintage festivals—in fact, they drink very often. The example is given by the rich farmers, who used to celebrate weddings by feasts lasting two or three weeks, during which they ate and drank continuously, together with their wives and children. A not unimportant factor is the innkeeper, who tempts his customers with coloured liqueurs. Factory life is the cause of much drinking among female workers. In the intervals of work they go to the nearest bar, where they consume their meagre dinner, afterwards taking a long draught of brandy, which, according to their notion, is "indispensable for hard work owing to its strength giving capacity." After working hours, on their way home to their overcrowded, foul-smelling lodgings, they like to go to public-houses, where they stay until midnight, drinking slowly but steadily. The drinking habit is most prominent among the Slav, Ruthen, and Roumanian women. The consequences of alcoholism in these women is most clearly shown by the great mortality of their children, mothers being incapable of lactation on account of anæmia and general debility. The State has tried to check drinking by raising the taxes on spirits, so that within the last twenty years the price of a litre of corn brandy has actually been

doubled. This, however, has proved useless. A new proposal, which will shortly be carried into effect, is that the State shall gradually buy up the distilling licences, and thus decrease the production of spirits.

Since the Workmen's Insurance Act (July, 1907) came into force the numbers of the sick club members, owing to the compulsory insurance of industrial employees against sickness, has doubled. Nevertheless, the medical officers have scarcely been increased by 10 per cent. Thus they work twice as much as before without getting any compensation for the increased work. This has led to continual friction between clubs and doctors. The latter have also another complaint. This is that the members of the clubs behave so disrespectfully to the doctors that a man of ordinary self-respect cannot bear the position. The members have claimed that the doctor shall declare them ill whenever they would like a week's rest, or when they are out of work, because incapacity to work means to them a sum ranging from 10s. to 30s. a week. Some demand to be sent to expensive thermal baths or health resorts, under the pretext of an illness which does not exist, merely for the pleasure of having a nice holiday. And when the doctor refuses to comply with these requests he is abused. Lately, a man even threatened to shoot his doctor if he refused him what he asked. The members look upon the doctors merely as a means of getting money from the clubs. The mutual confidence between doctors and members, which is necessary for treatment, has entirely died out, so that even the most conscientious and industrious doctor is looked upon by members as a machine existing for their benefit. Owing to the fact that this treatment of doctors has become general throughout the whole country, the Association of Club Doctors has sent a memorandum to the Minister of Commerce, who has control over the sick clubs, asking him to qualify them legislatively as public officials. This means that violence or bad language or libel against them would be regarded as an offence against a magistrate, for which proceedings can be taken in the law courts.

Correspondence.

DIET DURING SEVERE EXERCISE.

SIR,—I have been interested in reading Report CXVIII of the Science Committee (BRITISH MEDICAL JOURNAL, November 27th, 1909, p. 1526) on a twenty-four hour walking race, and especially in the recommendation that competitors in such races should take little or no solid food during the race, but "much more fluid than seems at present to be the custom," in order to assist elimination and to compensate dehydration, for the loss of weight noted (6 to 12½ lb.) must have been largely due to loss of water.

My experience as an old Alpine climber has led me to very similar conclusions. In the training stage, short days, with frequent halts and small meals, are what is wanted. But when once good "condition" is attained very long expeditions can be undertaken on very little food; but, as one of my companions (a past honorary secretary of the Alpine Club) has put it, "the more you drink the better you go."

The experience on which these observations are based extends over a period of thirty years, during the latter half of which some of the longest expeditions in the Alps have been made, with experienced companions but without native guides—conditions which involve much greater expenditure of energy than when the way is found, the steps are cut, and the sacks are carried for you. Our longest expedition lasted twenty-seven hours, including only three hours of halts. The distance covered was about thirty miles, and the height made nearly 11,000 ft. Very little food was eaten, and six hours' walking was easily borne next day, after six hours of sleep and two very light meals.

Good water can generally be found in mountain valleys, and above the snow line an aluminium cooking kit will soon provide it. There is one addition to it which I believe to be most valuable—sugar. Carbohydrate food is deprecated in the report, but the objections urged do not, I think, apply to sugar in solution. Our custom is to use this rapidly available food freely, and the sweet fluid is rendered very palatable by adding lemon juice, or some portable lemon essence. I am convinced that, under the conditions we are considering, water is absorbed by the digestive mucosa almost as if thrown upon a block of sandstone, and I believe that melted sugar is assimilated with extraordinary rapidity.—I am, etc.,

Tunbridge Wells, Dec. 16th. CLAUDE WILSON, M.D.

PROPOSED LEGISLATION ON ANAESTHETICS.

SIR,—I am sorry that I must again trespass upon your space to make a few remarks concerning Dr. J. H. Joyce's letter in your issue of December 18th, p. 1782. Whilst it is regrettable that there is even one member of our profession who takes exception to the proposals of the General Medical Council to limit the dangerous practice of single-handed anaesthetizing and operating, whether in general surgical, or in dental practice, it is refreshing to find in Dr. Joyce someone who does not shrink from coming out "into the open" to defend this practice. I cannot help thinking, however, that Dr. Joyce has somewhat failed to appreciate the evidence which has been adduced to show that the exercise of this "dual function" has been on many occasions an important factor in fatal anaesthesia. Thus in a certain series of twelve fatalities which occurred in connexion with the use of general anaesthetics for dental operations by practitioners having no medical qualifications, no less than eleven took place when the operator had himself administered the anaesthetic. Whilst it is highly probable that had these practitioners possessed medical qualifications many and perhaps most of these lives would not have been lost, one cannot, with such a fact before one, shut one's eyes to the circumstances under which practically all these twelve patients died. The dental profession has already expressed itself as opposed to single-handed anaesthetizing and operating, and it is to be hoped that medical men will support the General Medical Council in its efforts to reduce the risks of anaesthesia.

That Dr. Joyce has not made himself fully acquainted with the stages through which this question passed, prior to the report of the Anaesthetics Committee of the General Medical Council, is, I think, clear, for he seems to be under the erroneous impression that one of the proposed reforms is the calling in of special anaesthetists. Nothing of the kind has ever been proposed. Indeed, not only at the meeting of the British Dental Association at Birmingham in the early part of the year, but at that of the Medical Society of London last month, I drew special attention to the fact that it was the better education and equipment in anaesthetics of the rank and file of the profession, and not the extension of specialism, that was the object in view. Experience has convinced me that the administration of any general anaesthetic for a surgical operation, even of a momentary character, is one man's work. To attempt to anaesthetize a patient and then to operate is to subject the patient to risks not only from the anaesthetic, but from the surgical side. It is true that the attendance of a second medical man would add somewhat to the patient's pecuniary obligations, but surely when the advantages of the better system are understood by the public this slight additional expense will, in the great majority of cases, readily be met. Moreover, in such very transient operations as those mentioned by Dr. Joyce, surely local anaesthesia might suffice, and thus render the presence of another practitioner unnecessary. Our first clear duty, it seems to me, is to think of the safety of the public. Light or moderate anaesthesia, the form of anaesthesia which is generally secured for so-called trifling operations—a term open to severe criticism—is just that form of anaesthesia which is liable to be complicated by respiratory difficulties; and however skilful a man may be, as surgeon or anaesthetist or as both, he can never perform the dual function without subjecting his patient to risks dependent upon a division of his attention. Moreover, it frequently happens that a so-called trifling operation resolves itself into one of some difficulty. The abscess turns out to be a fatty tumour; the tonsil is found to be adherent to the pharyngeal wall; the sebaceous cyst is exceptionally adherent; or the sinus leads into a cavity which should be explored. How would Dr. Joyce or those who support single-handed anaesthetizing and operating

act on such occasions? Even the most experienced surgeons are occasionally wrong in their diagnoses.

The fact is that the time has arrived for the introduction of certain urgently needed reforms in connexion with the use of anaesthetics. In the public interests the risks of general anaesthesia must be minimized by all means in our power. If, as I submit, and have elsewhere shown, there is a risk in single-handed work, it should be made illegal, save in certain exceptional circumstances. We are fortunate, in this country, in being well abreast of the times in general anaesthesia. Considering the scale upon which general anaesthetics are given, our records are probably second to none, a fact which undoubtedly helps to explain the difficulty which spinal analgesia seems to be experiencing in obtaining a firm foothold in British surgery. But we must not rest upon our oars. If we can satisfy ourselves that the risks of general anaesthesia can still further be reduced so that the benefits of unconsciousness during surgical operations may safely be extended, it is our plain duty to take such steps as will secure the ends in view. One of these steps is now before us in the recommendations of the General Medical Council, and I sincerely hope that the medical profession will see its way unhesitatingly to support these recommendations in their entirety. Should legislation take place strictly upon the lines laid down in these recommendations, I am convinced that three great benefits would follow. In the first place, the public would be better protected than they are at present against the risks of anaesthesia; in the second place, the members of the medical profession would have fresh fields of work opened up to them; and in the third place, the dental profession would find their practices increased by reason of the limitations which would be imposed upon quack dentistry.—I am, etc.,

London, W., Dec. 20th. FREDERIC HEWITT.

FORCIBLE FEEDING.

SIR,—The profession will appreciate fully your leading article in the JOURNAL of December 18th, in which it is so clearly shown that the direct and sole responsibility for the disgusting and cowardly treatment of his political opponents rests upon the Home Secretary.

At the same time the general question of the medical details of Mr. Gladstone's methods ought to receive a fuller hearing than they were given in the Law Courts.

I have been permitted to mention a few facts in the case of four of these ladies who were under my care after leaving the gaol which will show that forced feeding under the present circumstances is by no means so harmless a process as the witnesses for the defence in the case of *Leigh v.* Gladstone would have us believe.

The first patient I saw was Miss Laura Ainsworth, who was sentenced to fourteen days' imprisonment, during which time she lost 10 lb. in weight, no doubt largely owing to the strike, but also to the insufficient quantity of nutriment she was given afterwards. Her voice was weak and husky, and the examination of the throat showed pharyngitis. This patient could not be fed by the nasal tube on account of the bony formation of the nares, the doctors failing in their attempt to force the tube through. She was therefore fed by the feeding cup, being held down, and her nostrils kept closed, so that she was compelled to swallow liquid nourishment in this position. She was also on seven occasions fed by the stomach tube through the mouth. As anyone knows who has tried it, as I have, this is an extremely painful process, as well as an alarming one to the patient. The pressure on the larynx causes a sensation as of imminently impending death from suffocation, while the irritation of the pharynx causes reflexly a tumultuous action of the stomach, which endeavours by vomiting to get rid of the foreign body. The shock is considerable, and to people with weak hearts a distinct danger. On account of the size of the tube the process is certainly more painful than nasal feeding, and in my opinion it is not justifiable to resort to it in these cases. Miss Ainsworth had not a sore throat on admission, she had when she came out, and I believe the irritation of the tube was the cause of it.

The next patient, Miss Hilda Burkitt, was very weak when she left the prison, having three times attempted the hunger strike. Her temperature was 97.2°, her pulse 52, and her weight 8 st. 4 lb. She did not know her weight on admission. On movement her heart was markedly irregular. On one occasion, after fasting forty-six hours, a pint of food, she believes milk and egg, was poured into the stomach, after which she suffered with acute indigestion.

Mrs. Leigh, the plaintiff in the action, was sent out of prison after six weeks' confinement, having been sentenced to three months. She was very weak in body, pale, and cold. Her temperature was 96.4°, her pulse 48; she was retching and vomiting. Her weight was only 6 st. 6 lb., her normal weight being 7 st. 12 lb. The loss of 20 per cent. of body weight in so small a person would alone justify the medical officers in advising the remission of the sentence. I cannot accept Dr. Helby's view that it was her hunger strike that caused the vomiting, as after the first few occasions the food mostly stayed down until about a week before she was sent out. I think it was due to pharyngeal irritation through the tube. She also had some stomatitis at the back of the upper incisor teeth, one of which was carious.

The last patient I had was Miss Selina Martin (or Edwards). She suffered from dyspepsia, which was much worse since she had been in gaol, but she had not been free from it before. I thought it desirable in her case to obtain the opinion of a nasal specialist, and called in Dr. Lamb. We found that there was a considerable abrasion of the mucous membrane on the front of the inferior turbinated bone of the right nostril, the nostril through which she had last been fed.

So that out of these four patients who had had the forcible feeding two suffered with indigestion, one with persistent vomiting and retching, one with sore throat, and one with an abrasion of the nose. And yet Dr. Craig never heard of an injury!

It is most satisfactory to know that none of these ladies complained of the treatment they had received at the hands of the medical officers. They all agreed that it had been as careful and humane as possible, so that these injuries must be inseparable from the system, and are deserving of the most careful consideration if it is to be continued in future.

It seems to me that the most satisfactory and humane system of feeding is by the feeding cup, holding the nostrils, and compelling the patients to swallow in that manner. That if the tube is used it should be the nasal tube, and then only if the nares have been thoroughly examined to see if they admit of an easy passage.

In conclusion, Sir, whatever may be thought of the wisdom of these ladies' motives and actions, it is impossible not to admire their courage and devotion. To abstain for three days and three nights from food, and even from water, as all these ladies did, and would have done longer, argues one of two things—either a hitherto unsuspected power of endurance in the female frame, or that the cause they fight for has behind it such a moral force that its success is certain and cannot be long delayed.—I am, etc.,

Birmingham, Dec. 18th. E. D. KIRBY, M.D.

PRISON DOCTORS AND THE HOME OFFICE.

SIR,—With reference to your leading article on Prison Doctors and the Home Office in your issue of December 18th, permit me to say that in the cases of forcible feeding of suffragettes no particular line of treatment was ever ordered by the Home Secretary; but the usual practice of feeding prisoners, both male and female, who wilfully starve themselves, was, for a while, suspended by his authority, this suspension being automatically removed when it was decided, at a later date, to continue no longer the lenient alternative of releasing such prisoners instead of feeding them.

I can assure you that the medical officers of prisons are always wholly free to act on their own responsibility on all medical matters, and that they always act, in the not very infrequent cases of forcible feeding, without any reference to superior authority, and merely record the event in their journals.—I am, etc.,

Prison Commission, Whitehall, S.W., Dec. 18th. H. B. DONKIN.

CONTINUOUS INHALATION IN PULMONARY TUBERCULOSIS.

SIR,—In the paper on the physical signs of incipient pulmonary tuberculosis and its treatment by continuous antiseptic inhalations, published in the JOURNAL of

December 11th, I stated that in only 3 cases out of the 30 narrated any doubt remained as to the final result; these were Cases XXIII, XXVIII, and XXX. May I now add that in all these 3 cases the doubt has been replaced by a practical certainty of cure?

I examined No. 30 again on November 30th, and was able to report his great improvement in a postscript to my paper.

No. 28 was examined on December 7th; he had gained ½ lb. in weight, had no cough, and no evidence of active disease in his lungs. Arrangements have been made for him to live in the country for six months.

No. 23 was seen on December 16th. He had gained 14 lb. in weight since I last saw him on May 8th; he has no cough and hardly any expectoration, his temperature has been normal or subnormal for the last three months. He can now walk from six to ten miles a day without fatigue. He still has a small cavity at his right apex, but the three other cavities have become obliterated, and there is very little morbid sound to be detected on auscultation. All his dull areas are smaller, and nearly all are quiescent. This patient has been under the care of Dr. J. R. Morton of Bournemouth. He wore his inhaler persistently for five months, till the end of July. During July, August, and September he received weekly injections of tuberculin.

The change in his appearance was described by one of his friends as a "transformation," and the word is not too strong. He hopes before long to be able to resume his work. To prevent any possible misunderstanding, it seems necessary to say that this case is the only one of the 30 who received any tuberculin injections, and that in this case they were not given by my advice.

May I also rectify an omission by stating that my paper was read before the Therapeutical Section of the Royal Society of Medicine on November 2nd, 1909, and that it will be published also in the forthcoming volume of their *Proceedings*?—I am, etc.

London, W., Dec. 21st. DAVID B. LEES.

SIR,—Those who adopt this method will often be rewarded by the rapid disappearance of the physical signs of active disease.

Even in advanced cases, in which little is to be hoped from any treatment, relief from distressing symptoms may be obtained. Continuous inhalation does not interfere with any other therapeutic measures, and patients will generally be found to acquiesce in it readily from the first, or to overcome speedily any initial reluctance.—I am, etc.,

London, N., Dec. 20th. O. E. HIGGENS.

SIR,—I can corroborate all that Dr. Lees has said from my own experience. Combined with the sanatorium treatment I have been using inhalations for the last ten years in many cases of consumption with much success. Their beneficial effect is best seen in early cases of both pulmonary and laryngeal tuberculosis. As Dr. Lees has rightly said, the secret of success depends upon the inhaler being used continuously for several hours a day, and with perseverance for several weeks. I have devised an inhaler (made by Oppenheimer's, London), pyramidal in shape, flexible and light, and made of perforated zinc. It is somewhat similar in shape to that of Dr. Yeo's, but much larger, fuller, and nickel-plated. It is curved to fit the chin, and has leaden clasps to take in a layer of cotton-wool. As an inhalant I use a mixture containing formalin in 2½ per cent. strength, as in the following formula: Formalin (40 per cent.), mxv; chloroform, ʒss; menthol, gr. v; ol. pini, mv; spt. vin. rect., ad ʒiv (10 drops to be sprinkled about every half to an hour). The strength can be increased to 5 or even 10 per cent. if necessary. If the medical profession would give a more extended trial to the inhalation treatment in consumption they would be amply rewarded with success.—I am, etc.,

Mendip Hills Sanatorium, Wilts, Dec. 20th. C. MUTHU.

THE TREATMENT OF SHOCK AND COLLAPSE: THE THERAPEUTIC VALUE OF INFUNDIBULAR EXTRACT.

SIR,—I have read with very great interest Dr. W. Blair Bell's paper in the JOURNAL of December 4th, on the question of the therapeutic value of an extract derived from the posterior lobe or pars nervosa of the pituitary body. The properties found to be possessed by this extract are of the very first importance to everybody who has to deal with cases of shock, collapse, or, as is often the case, the two combined in varying proportions. In particular is the question one of interest to those who are concerned with obstetrical work, where a patient can so rapidly go to pieces as the result of operative interference in conjunction with pre-existing fatigue and more or less blood loss. In such cases the intravenous infusion of a weak solution of infundibulin should be of the greatest value, followed, particularly in cases of blood loss, by the necessary quantity of filtered saline solution to restore the radial pulse.

We have not yet tried infundibulin, though we intend to do so when the opportunity next presents itself. Up to this we have employed an extremely weak solution of adrenalin in normal saline freshly made from Parke Davis's preparation, and allowed to flow very slowly into a vein. This method of delivering adrenalin intravenously over a period of from half an hour to one hour we have found in a number of cases quite reliable in maintaining the pulse tension at a satisfactory level and tiding the patient over her danger of death from collapse or shock, as the case may be. We, however, make it a point, as far as possible, not to tax the heart unnecessarily, and this we believe to be of considerable practical importance, as real danger may arise from the unscientific use of adrenalin, and even more so infundibulin; for the action of adrenalin, even if it seem to be over-vigorous, rapidly passes off, but that of infundibulin, owing to its much more prolonged character, might whip to death a vaso-motor centre or heart which had shared in the depression resulting from the shock before anything could be done to counteract its effect. I recall one case in which five of Parke Davis's suprarenal tablets dissolved in a watchglassful of water were added to a quarter of a pint of saline and allowed to enter a vein.

The patient was very badly collapsed and seemed on the point of dying—in fact, the only vessel in which pulsation could readily be followed was the abdominal aorta above the level of the fundus of a very imperfectly contracting uterus. The effect of the adrenalin was almost instantaneous, and at first very alarming, as the heart action became very irregular—indeed, a sort of delirium cordis was established; this condition, however, passed away after a few anxious minutes, and, as more saline free from adrenalin entered the veins, the radial pulse became restored, and the heart's action, though rapid, lost most of its irregularity. At the same time the uterus, which had remained quite flaccid since the operative removal of its full time contents, passed into a state of extremely firm contraction; and when this had passed away it continued to contract in proper fashion at short intervals.

This is the only case we have had in which the uterus could be said to have been caused to contract by adrenalin, and here the dose was undoubtedly too great. The correct quantity is, of course, largely a question of experience and careful study of the effect of the drug. As long as the radial pulse has improved so that it is readily felt and counted, the medical attendant should for the time rest content.

The property of causing intestinal contractions is full of interest, but I am glad to say that, although we have encountered cases of post-operative bowel paresis of varying degree, particularly after extensive hysterectomies by Wertheim's method, and the worst cases of which have resisted all the ordinary means devised to stimulate the bowel to activity, we have never been quite stranded, for eserine salicylate administered hypodermically has never failed us. The knowledge that eserine possesses this property is, of course, not new; in some places it is employed regularly, both as a prophylactic against paresis and as a curative agent. In those cases of acute post-operative gastric distension due to the same cause eserine yields equally good results. Here, again, a warning is necessary, as we believe we have seen one case in which too large an injection led to the partial giving way of a lateral anastomosis performed nearly a week earlier for intestinal obstruction, and followed by profound paresis; fortunately in this case the extruded bowel contents reached the surface through the line of incision in the anterior abdominal wall. This danger would also hold for the injudicious use of infundibulin. In veterinary work eserine has been in use for many years, and has earned a well-deserved reputation in cases of abdominal distension due to intestinal paresis; in fact, many a valuable horse's life has been saved by the hypodermic administration of 2 grains of eserine sulphate. So reliable is its action that, where such a dose repeated if necessary at the end of an hour fails to bring about the expulsion of bowel contents, gaseous or otherwise, the veterinary

surgeon feels justified in taking the gravest possible view of the case, and regarding the distension and symptoms as being due probably to some obstruction which surgical means alone can overcome.

The dose we start with is $\frac{1}{30}$ grain of eserine salicylate together with strych. sulph. $\frac{1}{30}$ grain, and digitalin $\frac{1}{75}$ grain, which can be repeated at the end of an hour if necessary. The more marked the bowel atony the better the action of eserine.—I am, etc.,

VICTOR J. MCALLISTER, M.B., B.Ch., B.A.O., R.U.I.,
Assistant Master, Coombe Hospital.

Coombe Hospital, Dublin, Dec. 5th.

THE RELATIONS OF THE LAITY AND THE MEDICAL PROFESSION.

SIR,—We as a profession should be eternally grateful to you for supplying us with a humorous article, unconsciously humorous it may be, but still we appreciate it. The opening sentence is hopeful, and, yet as we read on, sorely disappointing. I do not wonder that your worthy contributor approaches it trembling. I fear that the question of fees is not a sore point with the laity, as too often, unless pressed by our legal colleagues, they pay nothing. It is to be feared that there are not many right-minded people nowadays who hate to plead poverty. Now comes the solemn truth. If patients were guided by their ordinary medical advisers in the choice of a consultant they would know exactly what fee would be demanded. It would be rather interesting to know your contributor's opinion of the actual monetary value of the services of a surgeon who by performing an operation saves the life of his patient. What a waste of valuable space the lamentation of your correspondent over the £500 a year man is. Many a struggling country practitioner has to live on a smaller income than this—bring up a family and support local charities. Poor man, he has yet to learn the art of posing as a pauper. I do not think that even our "shining lights" are ever "billed" on newspaper placards. If they were, your correspondent would understand the practical utility of medical ethics.

Your correspondent thinks that the laity should be the final arbiter when any definite medical or surgical treatment has to be decided for ourselves or friends. A mistaken idea. If a medical man advise a certain treatment the patient should carry it out. The medical man is, or should be, the final arbiter. There we arrive at the typical case. Four physicians are consulted (why four I know not, as this is a typical case!) *In medio tutissimus ibis* is the course adopted by the patient. The mixture was successful. The patient meets with gratifying success. Was this success not worth the fees paid? If not, was it worth while to waste the time of the physicians? The less said about American methods in medical spheres the better.

Now we arrive at State payment of the profession. I sincerely hope that this may never come. We as a profession know the State only too well, and, having experienced her methods, we can *de profundo corde* cry—*Vale! æternumque vale!* I may add that medical men are students ever, and very few of them rest on their oars in the matter of reading, but all are anxious and capable and do keep abreast of modern ideas and advances in science.

Now comes a rosy paragraph for the future of the *Public Health Review*. Well! well! I lay down my pen, and hope that Mrs. Hodgkinson's ideals may never be realized in my time; and I cordially thank her for sparing us further expressions of her views. I hasten to procure a copy of the *Public Health Review*, which, I am sure, must be a most interesting paper.—I am, etc.,

December 19th. AUDI ALTERAM PARTEM.

SIR,—The interesting remarks of Mrs. Hodgkinson contain a deal of common sense. The question of fees will be always a vexed one, as it is the medical man only who can assess his value, *not the public*, who do their best to obtain his services for as little as possible, and obtain advice gratis at hospital when they can, advice which Mrs. Hodgkinson must admit should (if the patient have the means) be paid for. A good many of the profession will, I imagine, fail to understand why it should not be a test of what is best and greatest to be a successful teacher of the laity *in matters which concerns them* (italics mine). The question is, How much of the instruction so given concerns them? Advice can be had for a penny by taking a weekly newspaper, and no doubt the advice when acted upon defrauds many a struggling practitioner of his fee. A little learning of any subject is a dangerous thing. The laity cannot diagnose their complaints; if they could, the unfortunate profession would be worse off than ever. The instance given by MRS. Hodgkinson proves what I state—easy to "pool the advice" after consultation with four specialists. The medical man who writes to enlighten the public, keeps fees from his *confreres* if his enlightenment is worth buying, and, as a rule, fails altogether.—I am, etc.,

London, W., Dec. 21st. ALEX. DUKE, F.R.C.P.I.

THE REPORTS OF THE POOR LAW COMMISSIONERS.

SIR,—I am obliged to you for inserting my letter of December 8th in your issue of December 18th, and also for your comments thereon.

My object in writing was to point out that the Minority Commissioners provided for the "case paper" system and also for the overlapping of charities. It goes without saying that a different "case paper" would be required for the present Poor Law system, for the scheme of the Majority Commissioners and for the scheme of the Minority Commissioners. The Minority Report appears to be exceptionally well adapted for the use of the "case paper," because all the information with regard to each family would be in the hands of one person—namely, the Registrar of Public Assistance.

As regards the overlapping of charities, there does not seem to be much to choose between the two reports. The prevention of overlapping would largely depend upon the willingness of the charities to come under the Voluntary Aid Committee in the one case or to register with the Registrar of Public Assistance in the other case.—I am, etc.,

Sheffield, Dec. 20th. H. SCURFIELD.

PART-TIME MEDICAL OFFICERS OF HEALTH.

SIR,—I notice in the SUPPLEMENT of the JOURNAL of November 13th that the Council of the Association has authorized its Public Health Committee to redraft their Public Health Officers Bill in such a way that part-time medical officers of health would be excluded from the provision of security of tenure of office which hitherto has been sought to be obtained for all medical officers of health. This action may possibly be a sequence of the pious resolution passed by the Association at Belfast this year, which affirmed the desirability of medical officers of health confining themselves to the duties of their office. But where is the justice of excluding men who already hold appointments, and who in the terms of the resolution are expressly excluded from its operation?

I do not know how long ago the bill was drafted, nor when the members of the Council expect it to be passed into law; but if it is thought that a step by the Association which seeks to bar about one thousand members of the profession from protection in the discharge of their duties is justice, then the unity of the profession which has been preached so long seems further than ever. Under the circumstances, it seems to me to be a necessity to form an association of part-time medical officers of health on the same lines as the Poor Law Medical Officers' Association, and possibly other similar bodies may spring up from a sense of self-preservation when other interests are threatened.

It is instructive to notice the reason given for the passing of the original resolution, and for this purpose the preamble of the resolution may be quoted; it commenced with the words "That in the interests of public health," etc.; but I for my part can hardly believe that the Association as a body believes that the men who, after all, are the pioneers of the Public Health Service, are not fully competent to perform the duties they now discharge. Do not their mortality and zymotic statistics bear favourable comparison with their whole time brethren? Have they not, and are they not doing yeoman service in ameliorating, in spite of difficulties, the many insanitary conditions in the country?

Unfortunately what the Association is trying to do is to take away from the practitioner a pleasant kind of work, where the pay bears very favourable comparison to any other kind of contract work, without being able so to increase his emoluments in other directions as to compensate for the loss of revenue derived from these appointments.

The extinction of part-time men will, it is true (if ever effected), mean the creation of a smaller number of whole-time officials. But let it not be forgotten that they will be wholly dependent for their salaries on the local councils who employ them, and this in spite of the Local Government Board. Of course, these local bodies will go to the cheapest market for their labour; and they will obtain it at a lower rate than at present, because they will deal with a class of men who are wholly dependent on one kind of work.

In conclusion, let me remind your readers that the Association is not increasing of late years in the same ratio as it did in the past. Is a policy of this kind, which engenders a feeling of injustice in a large number of practitioners, likely still further to increase its strength?

—I am, etc.,

London, S.W., Nov. 17th. DAVID A. BELILIOS.

FEEDING OF SCHOOL CHILDREN AND FREE MEDICAL ATTENDANCE.

SIR,—I cannot help thinking the facts detailed in the BRITISH MEDICAL JOURNAL of December 18th, p. 1775, under the heading of "Feeding of School Children," are well deserving of attention by the profession and the ratepayers generally. It appears that out of £62,265 expended on school meals, under the Provision of Meals Act, in the County of London, no more than £26 has been recovered, in spite of there being every legal facility for recovering the cost of these meals from parents able to pay. As a school manager in my district I was a witness to the remarkable increase of necessitous children on the adoption of the above Act, and observed that the number of applicants for these free meals multiplied enormously in the space of only a few weeks. There could be no doubt that this was not caused by any increased distress locally, and I can only regard it as being due to temptation put before poor parents to share in doles, which they saw many of their neighbours, apparently in no better position than themselves, did not scruple to take advantage of. When the food was supplied by charity, they scorned to avail themselves of it, but when it was at the public expense, they not unnaturally thought it a right they were entitled to claim of the State. In my opinion, this provision of free meals has a greater pauperizing effect on the poorer classes than the relief admiaistered by the present much-abused Poor Law system, and affords a striking warning against the recommendation of the Minority Commissioners to grant free medical relief to practically all "poor" applicants. The recovery of £26 out of a total of £62,000 throws a flood of light on the suggestion of those commissioners that an adequate recovery of the cost of such relief might be made from improper applicants, and proves conclusively that the deterrent effect of the possibility of such recovery is practically *nil*.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor Law Medical Officers' Association of England and Wales.

London, E.C., Dec. 18th.

AN EARLY ORDINANCE AGAINST SPITTING.

SIR,—An early by-law prohibiting expectoration in public places is recorded in Book XVI of the *Annals* of Tacitus, chapter iv. The chapter in question describes the appearance of Nero on the public stage as a competitor in singing and elocution for the prizes to be awarded to the best performers. Having recited his poem, the auditory, delighted with the grotesque performance of their Emperor, called upon him for a specimen of all his accomplishments ("ut omnia studia sua publicaret"). He thereupon stepped on to the stage, conforming to all the rules for the guitar-player, namely: "That though tired he should not sit down, that he should not wipe the sweat from his brow save by a fold of the cloak he wore, and that no excrement from the mouth or nose should be seen (Ne fessus residerct, ne sudorem nisi ea, quam indutui gerebat, veste detergeret: ut nulla oris, aut narium excrementa viserentur)."—I am, etc.,

Montreux, Nov. 29th. STUART TIDEY, M.D.

Medico-Legal.

DEATH DURING OPERATION.

AT an inquest in Gibraltar on December 7th on the body of a man aged 18, the evidence given was to the effect that the deceased when being prepared for operation had at first taken chloroform well and naturally, but before anaesthesia was sufficiently profound respiration became intermittent and the face pale. Administration was then stopped until both became normal, after which the desired incision was made. Forthwith respiration and the heart's action both ceased, and neither could be restored despite efforts, including cold affusion, injection with strychnine, and artificial respiration, carried on for an hour. The jury returned a verdict of death from surgical shock while under the influence of chloroform.

WORKMEN'S COMPENSATION.

Fees for Medical Examination.

COLONIAL writes: I quite see the trend of Dr. Brand's views regarding the question of these certificates. Certain insurance companies issue a form to be filled up by the medical attendant. There is usually a note at the foot that "any fee charged is to be paid by the workman." Now, as Dr. Brand says, it is the employer—that is, the insurance company—who requires the certificate, not the workman. The Act simply says that the workman must give notice of the accident. There is no mention of obtaining a medical certificate. So that, if his compensation is not forthcoming, the law could be set in motion without a certificate; and I should think that a county court judge would consider it unreasonable for the workman to produce a medical certificate. The law has made provision for the employer's protection, and he can send his own doctor to advise as to the bona fides of the case. These certificates are issued and obtained for us to save medical referees' fees. My custom is to fill up the form, stating that the period of disablement is indefinite. At no time do I protect the insurance company, which must look after itself. When eventually it sends in its usual referee, I leave the matter in his hands. As a rule, by this time the man is ready for work, and I agree. I consider that this is the only way that we can punish those insurance companies mean enough to issue such certificates. On the other hand, I do not agree with Dr. Brand that it is "not of the slightest moment whether the examiner is the workman's usual attendant or is a surgeon sent specially by the insurance company." There is a type of medical man described by insurance companies as the "convenient doctor," who will swear anything in a court of law in a compensation case. I have had experience of such. I should say that insurance companies lose thousands annually through having no proper supervision of accident cases. I am informed by the representative of a large insurance company that over 90 per cent. of their cases came in for the full fourteen days and over. I am surgeon to a firm employing over 5,000 men. This firm prefers to carry its own risks, and therefore insure by having a special fund for the purpose. The firm employs me to attend all accidents, for which I am paid by them. Only 40 per cent. of the accidents came in for the full fourteen days and over. If the firm had insured it would have been a loser, but by insuring itself and paying me to look after their cases it makes a handsome profit on the transaction.

GIFTS TO LOCUMTENENTS.

"PRINCIPAL" complains that the observations on this subject published in the JOURNAL of October 23rd, page 1261, are "somewhat obscure." He states that after stating that the professional rule that an assistant or locumtenent must not receive a money present from his principal's patients, there should be the qualification, "without the principal's knowledge and consent." "Principal" gives many excellent reasons for this rule, with all of which we cordially agree. The payment made by the employer to the locumtenent is inclusive, and *all* services given to his patients, whether "special" or not, are equally included in the locumtenent's duties. If it were otherwise, as our correspondent remarks, "we should soon be involved in confusion." Our correspondent objects to the statement that the locumtenent might, in the case of a *bona fide* money present, be legally entitled to retain it, that there is no adequate reason to support it. If it be admitted that the locumtenant is the agent of his employer, and that the right to make the exact delivery of all moneys paid on his behalf, it does not follow that the rule must apply where the present to the former is in addition to the fees properly due to the latter and where the intention of the patient is to give a present to the locumtenent with full knowledge that the doctor's account will not be affected by the present. Under such circumstances, however, the locumtenent is bound, as our correspondent rightly contends, to inform his employer of the matter, and if he does not his motives are very likely to be misconstrued, and he must not be surprised if he is accused of dishonourable conduct.

ACCIDENTS AND CLUBS.

A CLUB DOCTOR.—As our correspondent appears to think that the services rendered in the accident case mentioned come within the meaning of the terms of his contract with the club members, we do not see how the claim can be enforced.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

"M.B.M.A."

In reply to a correspondent who sends us a cutting from an Irish newspaper, we have to say that we entertain no doubt that the Association would disapprove of the initials M.B.M.A., meaning "member of the British Medical Association," being printed in a manner suggesting that they represent a degree or diploma. If it is considered desirable to pursue the matter, we presume that either the council of the Branch or the Central Ethical Committee would take notice of the incident.

OPTICIANS AND SIGHT TESTING.

We are informed that an optician in Croydon has been advertising to the effect that his testing is done in co-operation with a well-known London and Croydon oculist. Mr. Reginald A. Morrell, who practises in Croydon as an oculist and also has an office in London, desires it to be understood that he has not at any time had dealings with the optician in question, but has done his best to stop such advertisements.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Degrees.

The following degrees were conferred on December 17th:

B.M., B.Ch.—D. C. Dobell, Christ Church. H. G. Butterfield, Wadham College. G. J. Z. Jessel, University College, and S. F. Moore, Trinity College.

The name of Mr. A. F. Taylor, Trinity College, should have been included among the successful candidates at the examination in Pathology.

Appointment.

Professor Francis Gotch, M.A., D.Sc., Fellow of Magdalen College, has been appointed a member of the committee for electing honorary medical officers to the Radcliffe Infirmary.

UNIVERSITY OF CAMBRIDGE.

Appointments.

The following have been appointed examiners for 1910:

State Medicine.—Dr. Allmington, Dr. Graham-Smith, Dr. A. Newsholme, J. Niven, M.B., J. E. Purvis, M.A.

Tropical Medicine and Hygiene.—Dr. J. W. W. Stephens, Sir W. B. Leishman, Sir Patrick Manson.

Degrees.

The following degrees have been conferred:

M.D.—C. H. Rippmann, King's; J. B. Banister, Jes.

D.Sc.—C. S. Myers, Gonv. and Cai.

M.B.—A. H. Halstead, Jes.; E. V. Oulton, Christ's.

B.C.—E. V. Oulton, Christ's.

The following candidates have been approved at the examinations indicated:

First M.B., B.C. (*Part II, Physics*).—J. C. Andrews, Joh.; L. W. Batten, Sid. Suss.; A. Bolton, Cai.; D. Burnside, Cla.; A. O. Courtis, Pemb.; C. D. Day, Down.; H. S. Evans, Trin.; G. L. Ferguson, Jes.; H. Gardiner-Hill, Pemb.; H. L. Garson, Cla.; E. A. Gibb, Emm.; C. Gledhill, Cai.; H. A. C. Goodwin, Jes.; C. Grantham-Hill, Cai.; E. T. Halnan, Trin.; J. B. Hunter, Joh.; R. W. F. Jackson, Cla.; C. E. Kindersley, Magd.; E. A. Leak, Trin.; K. Masson, King's; R. G. D. Murray, Christ's; D. F. A. Neilson, Trin.; W. D. Newcomb, Trin.; S. D. Nurse, Joh.; A. V. O'Keefe, Sid. Suss.; W. Radle, Joh.; G. B. Sellwood, Emm.; E. W. L. Sharp, Emm.; W. G. Thompson, Down.; G. S. Trower, King's; W. L. Willcll, Jes.

First M.B., B.Ch. (*Part III, Elementary Biology*).—J. C. Andrews, Joh.; K. B. Bellwood, Pemb.; J. L. Davies, Emm.; H. S. Davies, Trin.; H. A. Dodgson, Jes.; H. Hoon, Emm.; W. B. Loveless, Pemb.; R. D. Marett-Tims, Cai.; E. W. Mason, Joh.; H. L. Milsom, Trin.; E. G. D. Murray, Christ's; H. R. Pollock, Trin.; E. J. Selby, Down.; T. H. Somervell, Cai.; G. S. Trower, King's; C. C. de Whitworth, Trin.; W. R. Wilson, Emm.; F. B. Winfield, Down.

Third M.B., B.Ch. (*Part I, General Pathology and Pharmacology*).—R. C. Adlwood, Cai.; G. V. Bakewell, Cla.; T. E. Banister, Christ's; D. C. Bluett, Emm.; H. T. H. Butt, Christ's; J. W. H. Chun, Trin.; E. B. Clayton, Cai.; H. F. Conyn, King's; H. J. Counsell, Cai.; C. H. Crawshaw, Christ's; H. J. M. Curselle, Cai.; J. Ellison, Down.; G. V. Fiddian, Down.; D. J. Freyer, Trin.; A. W. Gaye, Cai.; A. C. Gemmell, Trin.; J. B. Hance, Christ's; G. G. Johnstone, King's; R. F. Jones, Joh.; G. L. Keyes, Pemb.; J. C. Markland, Cai.; R. W. Meller, Trin.; H. Mills-Morton, Pemb.; F. C. Newman, Down.; A. B. Paul, Christ's; M. N. Pernn, Pemb.; C. Raymond, Cai.; E. Rayner, Pemb.; H. S. Reed, Trin.; E. D. W. Reid, Christ's; H. B. Richmond, King's; F. H. Robbins, Pemb.; L. T. Rutherford, Cla.; I. Singh, Pemb.; F. B. Smith, King's; W. F. Thompson, Pemb.; J. R. Waddy, Pemb.; F. W. Watkyn-Thomas, Trin.; H. B. Weir, Trin.; H. F. Wilson, Christ's; J. Winterbotham, King's; C. Worster-Drought, Down.

M.C.—A. S. B. Bankart, Trin.; C. W. Greene, Emm.; J. P. Hedley, King's.

UNIVERSITY OF EDINBURGH.

The following were among the degrees conferred at a Graduation Ceremony on Friday, December 17th:

M.D.—G. C. Anderson, J. H. M'Kee.

M.B., Ch.B.—D. C. Adam, J. R. Adam, D. Aiken, R. J. Allsopp, M. S. J. Rogg, Eveline R. Benjamin, C. A. Bignold, M.A., W. Bissett, M.A., B.Sc., P. de Bruijn, P. Chalmers, F. H. Chauvin, J. Davie, I. D. Dickson, F. Dillon, J. W. C. Dreyer, J. C. Drysdale, W. Dunlop, T. Fraser, E. L. Galletly, T. J. Gilmore, W. T. Graham, C. Grant, R. W. Greatorex, T. E. Guthrie, R. Hamilton, R. W. Hauman, J. B. Haycraft, J. Henderson, A. Huckett, J. H. Jones, R. R. Kerr, C. G. Kunzel, H. Lipetz, H. A. V. Loots (second-class honours), W. H. Lowe, A. J. M'Connell, J. Mackail, M.A., D. Mackinnon, A. H. G. Mackintosh, S. E. Malherbe, A. M'K. Minford, R. MacV. Nicholson, W. Nisbet, H. R. Paterson, H. A. Philip, J. A. Pienaar, B.A., J. P. du Plessis, Ella F. Pringle, Agatha M. Robinson, C. S. Sandeman, Jessie A. Scott, John M'G. Scott, J. D. Skinner, M.B. Smith, W. Stevenson, F. V. Williams.

B.Sc. in Public Health.—S. T. Champtaloup, A. Ashkenny.

On the same occasion Diplomas in Tropical Medicine and Hygiene were handed to:

J. A. Anderson (Captain, R.A.M.C.), E. T. R. Branch, G. H. Stewart (Captain, I.M.S.).

The following candidates have been approved at the examinations indicated:

First Professional (*Botany*).—M. H. Alikhan, S. Arnott, S. K. Basu, B. B. Benison, W. Bird, H. Boyle, Gladys Carleton, S. C. Chatterjee, P. A. B. Clark, M. K. Cooper, J. W. Darling, D. J. Daulby, T. M. Davie, Estibella Edmiston, G. F. Goode, A. W. Gunn, F. W. Hird, J. H. G. Hunter, L. F. E. Jeffcoat, R. W. B. Jones, Margretta J. Keers, F. W. J. Keet, J. L. C. Lagois, L. Lappin, S. J. A. Laubscher, P. G. Laurie, R. M. MacLaren, D. M'Vicker, D. J. Max, A. H. Murch, Inez E. M. Pender, V. A. Rankin, A. R. Ross, C. Sand, A. F. Sinclair, J. H. Smith, W. P. Stanforth, P. du Toit, J. M. Verster, J. H. Ward, G. Williams, C. B. Woolward.

First Professional (*Zoology*).—W. B. Anderson, S. Arnott, W. Bird, A. B. Brook, A. Cameron, Gladys Carleton, S. C. Chatterjee, P. A. B. Clark, Georgina E. Davidson, T. M. Davie, R. D. Falconer, F. G. Foster, D. A. R. Hadden, E. S. Hawkes, C. S. R. Hill, B. W. J. Keet, J. L. C. Lagois, J. I. Lawson, D. M'Vicker, J. T. H. Madill, A. O. Marshall, J. G. Nel, D. Pollinger, P. V. Ramanamurty, K. G. Rao, B.A., J. E. Reid, C. Sand, J. A. N. Scott, C. H. K. Smith, P. A. Strasheim, P. du Toit, H. Tren, J. M. Verster, J. B. Young.

First Professional (*Chemistry*).—W. B. Anderson, I. J. Balkin, S. S. Basu, W. A. Brooks, A. B. Brook, J. Cook, G. Cronshaw, A. G. K. Edwards, E. S. Hawkes, K. Husain, Margretta J. Keers, S. J. A. Laubscher, J. R. S. Mackay, A. C. Mann, A. H. Murch, A. A. P. Nosseir, P. E. O'Donovan, C. Price, J. A. Stewart, W. St. Clair Thwaites, J. Z. Truter, H. O. Washbourn, E. L. White.

Final M.B., Ch.B.—D. C. Adam, J. R. Adam, D. Aiken, R. J. Allsopp, M. S. J. Rogg, Eveline R. Benjamin, C. A. Bignold, M.A., W. Bissett, M.A., B.Sc., P. de Bruijn, P. Chalmers, P. H. Chauvin, J. Davie, I. D. Dickson, F. Dillon, J. W. C. Dreyer, J. C. Drysdale, W. Dunlop, T. Fraser, E. L. Galletly, T. J. Gilmore, W. T. Graham, C. Grant, R. W. Greatorex, T. E. Guthrie, R. Hamilton, R. W. Hauman, J. B. Haycraft, J. Henderson, A. E. Huckett, J. H. Jones, R. R. Kerr, C. C. Kunzel, H. Lipetz, H. A. V. Loots, W. H. Lowe, A. J. M'Connell, J. Mackail, M.A., D. Mackinnon, A. H. G. Mackintosh, S. E. Malherbe, A. M. Minford, R. M. Nicholson, W. J. Nisbet, H. Paterson, H. R. A. Philip, J. A. Pienaar, B.A., J. P. du Plessis, Ella F. Pringle, A. M. Robinson, C. S. Sandeman, Jessie A. Scott, J. M'G. Scott, J. D. Skinner, M. B. Smith, B.Sc., W. Stevenson, E. V. Williams.

UNIVERSITY OF SHEFFIELD.

Appointments.

The following appointments are announced: To be Lecturer in Operative Surgery, Mr. Graham Simpson, F.R.C.S.Eng. To be representatives on the Executive Committee of the Modern University Congress, Mr. George Franklin, Pro-Chancellor, and Sir Charles Eliot, Vice-Chancellor.

VICTORIA UNIVERSITY OF MANCHESTER.

The following candidates have been approved at the examinations indicated:

Second M.B., Ch.B.—R. B. Berry, †C. T. G. Bird, *A. G. Bryce, L. T. Challenor, †G. C. Dixon, G. Fildes, C. L. Graham, G. Jackson, T. P. Kilner, J. A. Lees, F. H. Midgley, L. W. Sparrow, C. F. White, A. G. Wilson, †W. H. Wood.

* Distinguished in Physiology. † Anatomy only.

Third M.B., Ch.B.—*General Pathology and Morbid Anatomy*: K. D. Bean, C. E. Butterworth, N. Duggan, Jane C. Miller, M. Moritz, L. Moss, W. H. Parkinson, J. Rothwell, W. Stirling, J. S. E. Stopford, *G. K. Thompson, W. Warburton.

Pharmacology, Therapeutics, and Hygiene: O. R. Allison, C. B. Davies, E. R. Eatock, W. H. Kauntze, T. W. Martin, N. Matthews, L. Moss, H. G. Peake, S. B. Radley, G. E. Sawdon, C. H. Stallard, J. P. Stallard.

* Distinguished in Pathology.

UNIVERSITY OF LIVERPOOL.

The following candidates for the Diploma in Tropical Medicine have been approved:

E. R. Armstrong, G. Beatty, C. L. Chevallier, W. H. Fleming, H. M. Hanschell, S. A. Heney, F. A. Innes, A. F. Jackson, S. M. Kaka, A. A. D. McCabe-Dallas, K. B. Shroff, Violet A. Turkbud, F. Yeu.

Medical News.

THE finance report of the Metropolitan Hospital Saturday Fund for the year 1909 shows that the total receipts have been £20,442 as against £20,413 last year.

THE St. John's Hospital for Diseases of the Skin has received a donation of £500 for the naming of a ward to be called the "Annie Zunz" ward.

THE Samaritan Hospital, Glasgow, has benefited by the fancy dress ball held in Glasgow lately to the amount of £1,534 18s. 3d. The committee also gave a great deal of pleasure to those who subscribed to the funds in this way, and many other institutions might adopt the same method of adding to their funds.

IN the list of gentlemen recently appointed Justices of the Peace for the county of Banff, we notice the names of the following members of the medical profession: Dr. George Black, of Tomintoul; Dr. William R. Duguid, jun. of Buckie; Dr. John S. Findlay, of Glenlivet; and Dr Alfred D. Vardon, of Gardenstown.

IN recognition of the services rendered by him in the reform of medical education in Hungary, and of the active interest taken by him in the International Medical Congress held last year at Budapest, the Medical Faculty of the University of that city has conferred on Count Albert Apponyi, the Minister of Education, the honorary degree of Doctor of Medicine.

THE Metropolitan Hospital, Kingsland Road, was formally reopened by the Lord Mayor on December 20th on completion of the various structural alterations and improvements, which have necessitated the closing of the wards during the last few months. The total expenditure has been some £12,500, of which about one-fifth still remains to be collected.

A DINNER in commemoration of the seventieth birthday of Dr. Ford Anderson, who is President of the Metropolitan Counties Branch, will be given by the Hampstead Division at the Great Central Hotel, Marylebone, on January 21st, 1910. All members of the Association will be welcomed. Tickets (10s. 6d.) may be obtained from the Honorary Secretary of the Dinner Committee, Miss Mina Dobbie, M.D., 172, Haverstock Hill, N.W.

THE Japan-British Exhibition which is in preparation for 1910 at the White City is to include a public health and sanitation section dealing with schools, prisons, barracks, camps, building materials, dairy appliances, apparatus for water supply, heating, ventilation and lighting, clothing, general domestic appliances, and means of developing physique. The London committee of management includes Professor H. E. Kenwood and Colonel J. Lane Notter, and subcommittees are to be formed in many of the great industrial and mercantile centres in Great Britain and Ireland.

AT the annual meeting of the constituents of the Metropolitan Hospital Sunday Fund on December 17th it was stated that, despite the exceptional depression prevailing during the year, the total accruing to the Fund from collections in places of worship had fallen off by only £1,000. Moreover, a considerable proportion of that diminution was probably due to the death of two or three distinguished clergymen whose eloquence in previous years had been of great service. The number of churches which had taken part in the collection last Hospital Sunday was the largest on record, namely, 2,070. The amount available from all sources for distribution was £70,000. Notable among generous supporters of the fund who had died were Dr. Ludwig Mond and Mr. John Mackrell.

THE annual distribution of the prizes offered by the Paris Académie de Médecine took place recently. The François Joseph Audiffred prize, scrip of the value of £960, for the discovery of a remedy for tuberculosis, was not awarded, but £80 was given by way of encouragement to Dr. G. Moussu, Professor at the Alfort Veterinary School, and M. Ch. Mantoux of Cannel for their researches on the intradermal reaction to tuberculin in animals: and £20 to Dr. L. Rénon, *agrégé* professor of the Paris Faculty for his book on the practical treatment of pulmonary tuberculosis. The Barbier prize (£880) for the discovery of a cure for hydrophobia, cancer, epilepsy, scrofula, typhus, cholera, or other diseases hitherto regarded as mostly incurable, was divided between Drs. G. Levaditi and J. Roché of Paris for their work on syphilis; and Professor P. Coyne and B. Auché of Bordeaux for their memoir on polyvalent serum in bacillary dysentery. The Théodore Herpin prize of £120 for the best work on epilepsy and nervous diseases was bestowed on Drs. P. Lejeune and J. Lhermitte of Paris, for their monograph on the myopathy of old people. The Itard prize (£96) for the best work on practical medicine or therapeutics was awarded to Dr. L. Rénnon of Paris for his practical lectures on diseases of the heart and lungs. The Laborie prize (£208) for the greatest advance in surgery was given to Dr. P. Redard of Paris for his work on orthopaedics. The Marie Chevallier prize (£240) for the best work on tuberculosis was awarded to Dr. H. Gongeret of Paris for his essay on non-follicular bacillosis. The Tarnier prize (£270) for the best work in French on gynaecology was awarded to Dr. J. L. Faure, *agrégé* professor in the Paris Faculty, for his work on hysterectomy. The Ernest Godard prize (£40) for the best work on external pathology was given to Drs. Louis Wickham and Degrais of Paris for their book on radium-therapy. We have not found the name of any foreigner in the list, though many of the prizes are open to all competitors without restriction of nationality.

Obituary.

WE have to record the death by his own hand of Dr. HENRY ROSCOE, who until recently was Assistant Medical Officer and Deputy Medical Superintendent of the Staffordshire County Asylum at Cheddleton. He was a student of Owens College, Manchester, and became M.R.C.S., L.R.C.P. in 1894, and D.P.H., Victoria University, in 1906. Before taking up his asylum appointment he had been in practice for some time in Matabeleland, and had also served as House-Surgeon of Ancoats Hospital and as Resident Medical Officer of Crumpsall Infirmary. Just before his death he had been successful in his application for appointment as House Governor and Secretary of the North Staffordshire Infirmary.

WE regret to announce the death of a well-known medical practitioner in the North of Scotland, Dr. KENNEDY, of Tain, which occurred on December 9th. Dr. Kennedy studied at Aberdeen University, where he graduated M.B. in 1860. He took the degree of M.D. ten years later, and was also L.R.C.S.Edin. He spent nearly the whole of his professional life in Tain, where he was greatly respected by his fellow townsmen. He held various public appointments in the district. He was an ex-President of the Northern Counties Branch of the British Medical Association, and always took a keen interest in its doings. He has left a widow, two sons, and a daughter, one of the sons being a member of the medical profession.

DEPUTY INSPECTOR-GENERAL FREDERICK WILLIAM BLAKE, M.D., Royal Navy retired list, died recently at Kensington, at the advanced age of 95. He entered the service as Surgeon, April 15th, 1846; became Staff Surgeon, January 26th, 1855; Fleet Surgeon, November 2nd, 1870; and Deputy Inspector-General on retirement, May 1st, 1879. Dr. Blake was educated in London, became a member of the Royal College of Surgeons in 1845, and Doctor of Medicine of Aberdeen University in 1857. He was Assistant Surgeon of the *Leander* during the Russian war in the Black Sea in 1854, and had received the Crimean and Turkish medals. He was awarded the Greenwich Hospital Pension in 1901.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Juan Manuel Mariani y Larrion Physician to the Beneficencia General and to the Hospital de la Princesa, Madrid, member of the Spanish Royal Academy of Medicine, and Grand Cross of the Civil Order of Alfonso XII; Dr. Adolf Klein, a leading practitioner of Vienna and founder of the Sick Fund for Medical Men; Dr. Ludwig Schweiger, Assistant in the Neurological Institute of Vienna and author of a number of writings on the nervous system; Dr. Johann Hermann Baas, the well-known historian of medicine, aged 71; Dr. Heinrich Adler, for many years editor of the *Wiener medizinische Wochenschrift*, aged 60; Professor Th. Saemisch, founder and for many years director of the Eye Clinic at Bonn, aged 76; and Dr. N. P. Schierbeck, Lecturer on Hygiene in the University of Copenhagen.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

S. F. L. asks for advice in the treatment of a case of facial paralysis, rheumatic variety, of four months' standing in which local counter irritation, galvanic electricity, potassium iodide internally have so far failed to cause any improvement.

WORRY would like to know of some medical method of curing or allaying an excessive production of sweat in the armpits. The sweating is worse in cold weather and in the mornings. He has tried atropine ointment (*B.P.*) and formalin soap and dusting powder.

THE OERTEL TREATMENT.

CAPTAIN (R.A.M.C.) asks where a lady patient suffering from heart disease could obtain treatment by the modified hill climbing method of Oertel at a reasonable cost as she has very small means.

PROTEUS VULGARIS AND PENICILLIUM BREVICAULE.

A. R. B. asks for information regarding the following subjects: (1) Cases of fatal poisoning with marked gastro-intestinal symptoms and cardiac failure due to the action of the *Bacillus proteus vulgaris.* (2) Reference to the mould *Penicillium brevicaule* and its property of detecting the presence of arsenic in media on which it is grown.

*** We are unable to give satisfactory answers to these questions. As to (1), Sternberg's *Textbook of Bacteriology* (London: J. and A. Churchill, 1896) discusses *Proteus vulgaris* in cholera infantum on p. 487. As to (2), on p. 560 of vol. 1 of Kolle and Wassermann's *Handbuch der pathogenen Mikroorganismen* (Jena: Gustav Fischer, 1903) there is this sentence: "Für den biologischen Arseniknachweis wird *Penicillium brevicaule* Gossio verwendet, der bei höheren Temperaturen gut gedeiht."

ANSWERS.

LOCAL ANAESTHESIA IN DENTISTRY.

J. C. C.—It is conceivable that a needle might be inserted between the alveolus and the root of a tooth, but such a tooth would usually be dead and so loose that no anaesthetic for its removal could be necessary. The proper way to produce anaesthesia for dental extractions is to insert the needle into the edge of the gum just far enough to cover the opening in its point, pressing the piston down at first very gently. The liquid will then force the blood out of the gum and turn it white. As the parts whiten the force must be somewhat increased. When the whiteness has spread sufficiently the swollen surface should be gently rubbed with the finger (the needle being still kept in place) to distribute the fluid and drive it deeper into the tissues. Usually two such injections on the outer or buccal side of the tooth, one on its inner side and one each before and behind, are ample. Finally, the gum should be pressed between the thumb and the finger. It is well to clean the gum in the neighbourhood of the tooth to be extracted with carbolic solution before making the injection, and to encourage bleeding after extraction by rinsing the mouth with hot water, and, if insufficiently free, pricking the gum. The object is to give vent to the anaesthetic liquid and restore the circulation in the gum in the hope of avoiding the inflammatory slough which sometimes follows the use of local anaesthetics.

APPLIANCES FOR THE DEAF.

P. M.—The appliances for the deaf manufactured by the Acoustic Patents, Limited, have been under investigation on behalf of the JOURNAL for some little time past. The investigation is not yet complete, but so far as it has gone justifies the conclusion that if the case in point is one in which the deafness is due not to labyrinthine disease, but to acquired abnormality in the tympanum, middle ear, or ossicles, some one or other form of the appliances made by the company is likely to prove of assistance. The instruments seem to vary considerably in their power of enabling any given patient to follow a conversation, different combinations of receiver and ear piece having different effects in different patients in respect of clearness of perception of the voice. For this reason, it is better that the patient should make a personal visit to one or other of the firm's agencies, and try a large number of combinations in succession. Advantage might also be taken of the firm's readiness to allow a fortnight's trial. A certain amount of practice in using the instruments seems necessary, as at first the more musical sounds, like those of the human voice, tend to be obscured by ordinary noises.

LETTERS, NOTES, ETC.

THE CANADIAN MEDICAL ASSOCIATION.

THE forty-third annual meeting of the Canadian Medical Association will be held at Toronto on June 1st, 2nd, 3rd, and 4th, 1910, and the general secretary, Dr. George Elliott, 203, Beverley Street, Toronto, would be glad to have the names of any British medical men who may propose to attend the annual meeting of the American Medical Association in St. Louis, U.S.A., June 7th to 10th.

UNLOOKED-FOR DANGERS OF HIGH-FREQUENCY TREATMENT.

MR. D. DE VOS HUGO, M.B. (Worcester, South Africa), writes: A few days ago a lady patient, while undergoing treatment on the autocondensation couch, held out her handkerchief for me to pour some eau de cologne thereon, with the result that, as I complied, the intermediate sparking between our hands immediately set alight the spirit. The handkerchief was destroyed, but fortunately no other damage was done beyond a blister on my hand. I should of course have known this. Possibly there may be others equally remiss, who would take warning by my unrehearsed snapdragon experience.

TREATMENT FOR ENDOMETRITIS.

DR. ALEXANDER DUKE (London) writes: In the JOURNAL for October 9th in a report of a discussion on the treatment of endometritis, Dr. Tweedy is reported to have said: "I should like to hear the opinion of those who have practised Bier's treatment for endometritis." So should I, as it is the first time I have ever heard of Bier's suction idea being applied in gynaecology, and I am under the impression (subject to correction, of course) that I was the first to apply Bier's principle to the cervix uteri, with the view of removing abnormal secretions, and also for dry and wet cupping of that part. The sustained suction (in some cases) might also help the Fallopian tubes to empty themselves in cases of accumulation there. That a slight suction *upwards* by the uterus itself does exist there is no doubt, so that suction *downwards* by my simple exhausting syringe might be found useful on this ground alone.

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The Bradshaw Lecture

ON THE

BRAIN STRUCTURES CONCERNED IN VISION AND THE VISUAL FIELD.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON FRIDAY, DECEMBER 10TH, 1909.

BY

F. RICHARDSON CROSS, M.B., F.R.C.S.,

CONSULTING OPHTHALMIC SURGEON, BRISTOL ROYAL INFIRMARY; SURGEON, BRISTOL EYE HOSPITAL.

Comparative Anatomy.

In the lower vertebrata a simple brain is formed by enlargement of the anterior end of the spinal cord, and by the widening and division of its central canal to form ventricles. Upon this primitive brain swellings are developed in connexion with the sense of sight and smell. The sense of smell seems first of early importance, probably for selection between nutritious and poisonous foods, or a means of safety.

In *fishes* we find the visual organs well developed, and varying in importance with the necessity in the species for more or less perfect sight, optic lobes and tracts, an optic chiasma and infundibulum, a third, fourth, and lateral ventricles, and corpora geniculata underneath the optic thalamus. These often vary conversely in importance with the olfactory region, which is enlarged when smell is the more needed function. In all fish the optic nerves cross quite separately, one above the other, from one eye to the opposite optic lobe, or one nerve may pass through a slit in the opposite one.

Amphibians.

In amphibians the brain is usually of low type, but rather large. In the proteus, which is practically blind, the optic nerve lobes are scarcely recognizable, but in the frog they are large, and form the broadest part of the brain.

Reptilia.

In the reptilia the brain is long and narrow, but it has become much increased in size, and is well differentiated, and we get a very definite cerebral cortex. The three mantles of the brain exist as found in mammals:

1. The basal pallium, or pyriform:
2. The marginal pallium, or hippocampal; and
3. The neopallium, or higher cortex (brain proper).

Birds.

The brain in birds is broad and highly developed, enlarged chiefly by the size of the corpora striata. All the structures upon which sight depends are very well developed. The thalamus and optic lobes are highly organized, and there are even present small temporal and occipital lobes. In birds the optic chiasma is single and complete, and crosses over the infundibulum. The bundles of fibres from each optic nerve interlace and alternate, but those of each nerve completely decussate to the opposite side. The optic tracts pass round the optic thalami, and show well-developed geniculate bodies.

In birds of prey, where rapid co-ordination between the seeing and capturing of their prey is essential, the optic lobes are very strongly developed. Vision is, as a rule, panoramic—one eye for each side. (The fowl sees his food one eye at a time.) In the owls and hawks, whose eyes look forward and who undoubtedly possess a considerable field of binocular vision to enable them to catch their living prey, probably no fibres from the optic nerve pass direct without decussation. Their vision is binocular but not stereoscopic, for which direct as well as decussating fibres are required.

Marsupials.

In the marsupials the brain becomes still more highly organized. On the mesial surface of the hemispheres there appears a sulcus which runs horizontally behind and parallel with the hippocampal. This is the calcarine or splenial, about which the cortical substratum for vision is placed; it is one of the earliest, best defined, and most constant fissures of the brain, and it can already be shown to form the calcar avis in the ventricle. A genual and a rostral sulcus also show on the mesial surface of the hemisphere, although no corpus callosum as yet exists.

Insectivora.

When we reach the placental mammals a corpus callosum becomes developed and completes the three great commissures with the anterior and the hippocampal.

In the colugo (insectivora) the sulci of the brain become more marked. The most definite is a deep calcarine sulcus running horizontally forward almost the whole length of the mesial surface of the hemisphere; there are also very large anterior quadrigeminal bodies.

Rodents.

In the many families of rodents there is a peculiar absence of sulci, especially on the mesial aspect of the brain, and the calcarine fissure is rarely seen. The squirrel requires very accurate sight, and he has large optic nerves and very well developed anterior quadrigeminal bodies. The rabbit and the hare probably possess a very acute sense of hearing. They live to avoid being captured. Their eyes are placed so much on the side of the head that each carries an enormous range over its field of vision, and they can see laterally and behind almost as well as in front. This wide panoramic vision cannot well be associated with any great binocular effort; nearly all the optic nerve fibres decussate.

Carnivora.

In the carnivora the brain proper is highly developed: it passes forward over the olfactory bulb, and backward over the cerebellum. There is a very high degree of binocular vision.

In the *fruit eaters* the eyes are at the side of the head, and they possess only a limited convergence. But in the *Felidae* and others the eyes are set forward, and the pupil is very active. These animals require good distant vision, often when the light is dull, and they also need very reliable closer sight, and a most perfect co-ordination of the eyes with the fore limb by which they catch their prey. In the optic chiasma there are considerable direct as well as decussating fibres. There is a deep calcarine sulcus which with the intercalary shuts off a posterior lobe from the rest of the brain. In some species there appear secondary fissures running out of the calcarine, or even a definite retrocalcarine.

Ungulates.

The ungulata are large animals, and they need a large brain, but the mesial area is very simple. There is no high specialization in the calcarine fissure; it is large, and placed behind the splenium. It joins the intercalary, and this the genual, showing a complex splenial, or a form of cingular arc. The eyes are usually placed on the side of the head, and separated by the forehead or nose. There is a wide area of periscopic sight, but they only have a limited amount of convergence and binocular vision. In the horse about one-sixth of the fibres decussate.

In periscopic vision each eye is responsible for the field on its own side, and as this is represented on the opposite side of the brain all the optic nerve fibres must decussate. When the eyes tend to converge and give slight binocular vision, a part of the nasal side of each field is overlapped. The superimposed parts have crossed to the opposite side of the middle line. The extreme nasal side of the right field is now concerned with the left field of vision, and the fibres that represent this must go to its opposite side of the brain.

As the eyes turn more forward, more and more of the nasal fields overlap, and more and more direct fibres are required. In perfect stereoscopic vision, both visual axes must be turned towards the object looked at. The whole nasal field is carried across the middle line; we thus have an almost complete overlapping of the two fields, and what is more important, overlapping of the objects seen by the maculae.

The Macula.

The acuity of the macula depends on the delicate association of each cone (7,000 or 8,000 in number) with bipolar nerves and ganglion relay centres. Probably both halves of each macular bundle of nerve fibres pass along the decussating and direct portions of both optic tracts, and are widely distributed over the visual cortex of both cerebral

hemispheres. Or if there is a localized macular area, it is especially well supplied with blood, and has a great resisting and recuperative power.

Lindsay Johnson says that a true macula is only found in man and the true monkeys. It would perhaps be more accurate to say with him, that parallel vision with complete convergence is only found in animals that have a macula lutea.

Monkeys.

In the monkeys the calcarine sulcus becomes the centre of further developments. In the aye-aye and lemurs it is somewhat vertical, but in the tamarin, one of the anthropoid apes, and the marmoset, a long single sulcus is prolonged horizontally far back into an elongated occipital lobe, which measures nearly half of the brain. In the squirrel monkey (*Cebidae*), almost half the hemisphere lies behind the splenium. In this large occipital lobe the calcarine sulcus terminates in a wide-shaped bifurcation, and several other compensatory calcarine sulci are developed. The collateral runs forward on its ventral side and from its dorsal runs up a parieto occipital sulcus close behind the intraparietal.

In the macacus we have the higher organization of the old-world monkeys. The smell organs are well seen, but diminishing. The long bifid retrocalcarine, the callosal and the parieto-occipital, with the intraparietal sulci, are well developed, and the general conformation of the brain, especially in the occipital lobe, closely resembles that seen in man.

The Visual Path in Man.

The optic chiasma has very important relations with the third ventricle and with the structures adjoining it; and lesions involving this ventricle would be likely to cause visual symptoms.

The lamina cinerea, the very vascular "anterior perforated space," and the tuber cinereum, are important relations of the optic chiasma and bitemporal defects of the visual fields might be expected to arise from many directions. In some cases of primary optic atrophy I have seen a narrowing of the nasal fields which I have taken to be due to some error in the anterior perforated space.

Acromegaly seems undoubtedly to depend on a diseased condition of the pituitary body, and the close relationship of the latter with the chiasma accounts for the early onset of bitemporal hemianopsia. The condition due to implication of the chiasma may, however, be very marked without any symptoms of acromegaly, and therefore presumably without implication of the pituitary body.

The fibres in the chiasma are decussating, direct, and intercerebral. Special "interretinal" fibres probably do not exist. The "intercerebral" are not found in the optic nerve; they join together the median geniculate bodies as the commissure of Gudden, and are probably concerned with the sense of hearing.

In all vertebrata below mammals, and some mammals, the optic fibres are said all to decussate in the chiasma. In the higher mammals and in man the decussation is incomplete. A certain portion of fibres passes direct from the temporal side of the retina to the same side of the brain.

The greater degree of binocular vision, the larger the bundle of direct fibres. In man the decussating fibres are about three-fifths of the whole, the other two-fifths pass directly to the same side of the brain.

The chiasma is connected with the brain by the optic tracts. They wind round the cerebral peduncles, each dividing into a mesial and lateral root. The mesial root is small; it contains the intercerebral fibres of the chiasma, and it ends in the mesial geniculate body, the brachium inferius and the lower colliculus of the corpora quadrigemina—all these are concerned with hearing.

The fibres from the retinæ all run along the large lateral root of the optic tracts. The right tract carries the direct fibres from the temporal side of the right retina, and the decussating fibres from the nasal side of the left retina; and the left tract takes the fibres from the left lateral sides of each retina. So that the fields of vision are represented by the tract on the opposite side of the brain, just as they are when all the fibres decussate.

About 80 per cent of the retinal fibres pass through the lateral geniculate body; the other 20 per cent. go to the nucleus of the pulvinar of the optic thalamus. A few pass to the superior colliculus of the corpora quadrigemina; the connexion is made through the brachium superius which runs under the pulvinar; these fibres are afferent tracts for the pupil reflexes from the retina. The brachium also carries corticifugal fibres from the occipital lobes, and the optic radiations to the corpora quadrigemina and thence to the oculo-motor nerves.

The geniculate fibres are directly associated with vision. Those that pass through the pulvinar (which is closely allied in structure, and probably in function, to the geniculate body) do not go with the others to the calcarine area; they have no doubt some special function connected with sight, but they pass independently to other centres; some of them probably go to the neighbourhood of the angular gyrus.

Degeneration of the pulvinar, if the geniculate bodies are intact, does not produce hemianopsia.

The upper half of the external geniculate body seems to correspond with the upper quadrant of the retina.

The axis processes from the optic tracts and lateral geniculate bodies traverse the posterior end of the internal capsule at the junction of its superior and inferior laminæ behind the lenticular body, and then pass directly backward as the optic radiations towards the occipital lobe. They run along the outer wall, roof, and floor of the posterior horn of the lateral ventricle, and end in the nervous felt work of the occipital cortex along the calcarine fissure.

The occipito-thalamic radiations consist chiefly of "corticipetal fibres" for sight, but corticifugal fibres also pass along them to the superior brachium and quadrigeminal colliculus, and thence to the oculo-motor nerves. By Campbell these corticifugal fibres are thought to be the axones of Meynert giant cells in the occipital cortex.

If the visual region of the occipital cortex is removed on one side the lateral geniculate body of the same side undergoes atrophy, particularly in the cells. The pulvinar does not seem much altered.

If the eyes are extirpated the tract undergoes atrophy in the grey matter between the cells, but the cells themselves are not affected.

Lesions of the retina cause degeneration in the intercellular grey matter of the geniculate body, which is mainly composed of ramifications of the retinal fibres.

The visual path has its anterior neurons running from the retinal elements to arborize in the cells of the external geniculate bodies, and from them the posterior neurons run on to the nerve cells in the occipital cortex in and around the calcarine fissure. It is, therefore, not the retinal fibres but the fibres of the external geniculate body that are projected upon the occipital lobe.

Development.

In the third month the "hemisphere vesicle" becomes indented, forming three primary fissures—the choroidal, the Sylvian, and the hippocampal. The hippocampal begins near the frontal pole, and extends back until it bends outwards, downwards, forwards, and inwards, into the middle horn of the lateral ventricle forming the hippocampus; at its posterior part it gives off behind two branches the calcarine and the occipito-parietal, of which the latter is only temporary, while the former is permanent and produces the calcar avis. During the sixth month, among other secondary sulci the permanent occipito-parietal is formed; and also the collateral fissure, the only true secondary fissure which forms the eminentia collateralis.

The Visual Cortex.

The calcarine fissure, which in man commences a short distance behind and below the splenium, was first well described by Cunningham. It consists of an anterior part or "stem," the "true calcarine fissure," which protrudes into the posterior horn of the lateral ventricle as the calcar avis. The fissure as it passes backwards appears to bifurcate into the posterior or "retrocalcarine," and the occipito-parietal fissures; really, however, the latter is separated by the annectant cuneal gyrus, and the former by the deep anterior annectant cuneo-lingual gyrus. The posterior calcarine itself also seems to bifurcate behind into an upper and lower vertical fissure, the "fissura extrema" or "terminalis," but it is really separated from them by the posterior annectant cuneo-lingual gyrus.

If sections are made through the cortex of the occipital lobe, there is seen running across the calcarine fissures

and parallel to the grey matter which covers the surface of the lobe, a well-marked easily seen white line. The line is due to the presence of a special plexus of nerve fibre, running in the cortex and traceable for a considerable distance within its deeper surface. This is known as the line of Gennari.

Elliot Smith has most carefully described its distributions; it stops abruptly and can be readily traced and the area over which it passes can be easily identified. It runs in the grey substance of the occipital lobe following the sulci and convolutions, and by means of its presence the area concerned in vision can be accurately mapped out. Though it appears as a line in sections of the brain, it is really of course a layer of special tissue, which forms part of the thickness of the cerebral grey matter, and lies half-way between the surface and the underlying white matter of the brain. At the retrocalcarine fissure it is seen to line the hollow and both sides of the sulcus, and it reaches upward on the cuneal gyrus, and downward on the lingual gyrus, as far as the two small sulci which run nearly parallel to the retrocalcarine, namely, the "sulcus limitans superior" above, and the "sulcus limitans inferior" below; these meet together in the pole of the occipital lobe, and bound the area striata at that part. It is only prolonged a little to the posterior lateral surface of the hemisphere around the tip of the occipital lobe. Here it is strictly bounded by the sulcus lunatus, which is itself free of the striate tissue. The area of cortex which it involves is called by Elliot Smith the "area striata." This is the "visuo-sensory" area of Bolton, Campbell, and others. The "primordial visual area" of Flechsig.

The structures concerned have been most carefully examined by Campbell, who finds that the special lamination included in the line of Gennari shows its largest dimensions at the forked termination of the posterior calcarine fissure which it surrounds, just reaching the pole of the occipital lobe, and as the length of one or other limb of the fork may be greater or less the extent of the striate tissue will also increase or diminish, not only in length, but in breadth and substance. It spreads forward, bounding the retrocalcarine above and below, involving the cuneo-lingual gyri at either end of that fissure. It spreads definitely below, occupying the lingual gyrus, and it passes forward half-way along the lower border of the true calcarine fissure. Above it is well marked at the back of the cuneus, but anteriorly at the angle where the occipito-parietal sulcus leaves the calcarine it has gradually ceased to exist, and it is not found in the cuneal portion of the annectant gyrus at that part. The occipito-parietal sulcus is quite free of it, so is the gyrus fornicatus. There is no striate tissue along the upper margin of the calcarine proper. Both Campbell and Elliot Smith insist that it is only found along the lower margin. On the other hand the retrocalcarine is extensively and completely surrounded by the stria Gennari both in man and the anthropoid apes. Elliot Smith proposes to call it the medial intrastriate sulcus.

Visuo-Sensory Area.

On microscopic examination special arrangement is found in the visuo-sensory area. The line of Gennari is seen to be composed of a dense network of fibres of fine calibre mingled with some larger fibres which run horizontally and obliquely. There is marked consolidation in the line of Gennari, below it a pale stained area, with the termination of the optic fibres. The external layers of large pyramids are replaced by a layer of curious large triangular or quadrilateral shaped stellate cells, practically distinctive of this region, and found chiefly along the calcarine fissure; they have strong processes of considerable length, which pass horizontally, some of them run obliquely in the fibre plexus.

In the deeper parts of the cortex the internal layer of large pyramids is modified by the presence of a layer of pyramidal cells, the solitary cells of Meynert, another important distinctive feature of the calcarine cortex.

Visuo-Psychic Area.

Outside the visuo-sensory area is a border about 2 cm. in width—the visuo-psychic area. It covers the cuneus above, but not the occipito-parietal fissure nor the upper edge of the true calcarine, though it occupies its lower border almost in its whole length. It passes over the back part of the collateral fissure and round the occipital lobe, rejoining the cuneus above. The gyrus fornicatus does not seem to be a part of the substratum of vision.

The visuo-psychic region shows peculiarities in the histological structure: fine fibres are numerous, but they are not collected together as in the line of Gennari, nor is there the pallid zone underlying it.

The external layer of large pyramids reappears, and none of the peculiar stellate cells remain; but, on the other hand, some of the pyramids are much enlarged into giant cells, with several roots below and one very long drawn-out process above. These cells are the most characteristic elements of the layer. The large cells of Meynert are not found. The very great number both of cells and of fine fibres in this area suggests a high degree of functional activity, and through it are probably transferred the impulses received from the parts around the calcarine to further districts in the brain where the higher attributes of sight are located.

Dr. Mott, in his interesting Bowman Lecture on the progressive development of the visual cortex, shows how the width and complication in structure of the cortex gradually increases as we ascend the animal series and how the special cells become more necessary. Thus, in the hedgehog, in addition to polymorph and small stellate cells are found occasional large pyramids. In the rabbit there is a line of Gennari, large stellate cells, and branching pyramids. Ungulates have a well-marked line of Gennari and numerous solitary cells of Meynert. In the cat there are numerous cells of Meynert, but the most striking feature is the depth of the pyramidal layer; these pyramids are also well developed in the cervical region of the cord, and Mott suggests that they lie along the volitional path of the executive faculty which is exercised through the fore limb and with the help of binocular vision. The depth of the pyramidal layer increases after birth. Dr. Mott considers that the progressive development of the pyramidal layer in the visual cortex of mammals is associated with an increase in the perfection of binocular vision.

Flechsig has shown by preparations of the fetal brain how the development of different parts of the visual area takes place. He considers that as there are many degrees of functions, so the nerve fibres develop as they are required—the sensory found at birth, the motor found soon after birth, and the associated, which gradually develop.

Thus, at birth only a portion of the fibres in the optico-thalamic radiations have acquired their myelin investment. All those that have done so come from the lateral geniculate bodies, and they go direct to the calcarine fissure. Those fibres that come from the pulvinar appear to be medullated later in life and to pass outside the immediate limits of the calcarine area. Medullation of the fibres in the cortical areas occurs at different times. Thus an infant very soon sees light, but does not show that it sees an object held in front of it for some weeks, while it takes him as many months to turn his eyes to follow an object held at his side, or to stretch out his hand to get it.

It is obvious that the highly co-ordinated work that depends on sight is constantly needing the development of new cells and of association fibres throughout life, and they are far more easily acquired in early life.

The visuo-sensory area along the calcarine fissure is the primary station in each hemisphere for the reception of impressions coming from the retina through the geniculate bodies, around it is the visuo-psychic area to which these impressions are transferred, it occupies the rest of the surface of the occipital lobe, its functions are to elaborate and to interpret. If part of the visual psychic area is primarily diseased, there is likely to be a partial hemianopsia complicated by slight peculiarities of vision more or less indefinite, some difficulty in memory of words, some form of letter, word, or mind blindness.

When the fibres that go to the temporal region are affected, there may be word deafness, or loss of power of the musical faculty, to recall names, or to read aloud. The psychic cells are associated with the psychic motor, where the impressions or information gained by sight are transferred for purposes of thought, speech, or action, and these with the emissive motor, by which speech and writing are affected; the centres for these latter acts lie

adjoining those for the simple movement of the lips and hand. The various parts of the visual cortex are connected by short association fibres almost infinite in their distributions.

Adjoining the occipital lobe and continuous with its lateral portion is the angular gyrus, which appears to be a higher visual centre of some importance, probably developed mainly in the left hemisphere. The angular gyrus might be readily associated with the primary visual areas by means of fibres running through the occipital lobe, or with the pulvinar or elsewhere by association fibres.

The central sulcus of each hemisphere separates the motor area (frontal) in front from the sensory area (parietal) behind. The intraparietal sulcus runs upward almost parallel behind the central (inferior and superior post-central); it then turns horizontally backwards parallel to the upper margin of the hemisphere, and terminates in the occipital lobe behind. It separates the post-central region of common sensation and the superior parietal occipital gyri from the supramarginal and angular gyri; these two latter are probably the centres for the recognition of higher, more elaborate forms of sensation and of sight and hearing.

In cases of visual hallucination[1] the angular gyrus is perhaps usually but not always affected. The supramarginal may be the seat of mischief, or the posterior parietal lobule. A case of scar after injury over the region of the angular gyrus on the right side was associated with epileptiform attacks on the left side, preceded with bright red flashes of light and succeeded by visual hallucinations. Mr. Gould trephined with cure.

In a case of Macewen's, in which injury to the side of the head had produced melancholy and homicidal impulses, there was no damage to the outer part of the skull excepting a slight depression behind the angular process of the frontal, which could not account for the symptoms; no motor phenomena were present. It was discovered that directly after the accident, and for some time since, the patient had suffered from psychical blindness. The skull was trephined over the angular gyrus, and a portion of the lateral table was found pressing upon the posterior portion of the supramarginal convolution, a corner of it embedded in the brain. This was removed, with relief to his mental condition.

More distant regions are connected with visual areas by long association fibres, some of which are arranged in well-defined bundles.

The perpendicular fasciculus connects the superior occipital and parietal gyri above with the inferior occipital and fusiform below and with the temporal.

The superior longitudinal fasciculus joins the frontal lobe with the occipital, and, Mott believes, through the large pyramidal cells of the visuo-psychic area.

The inferior longitudinal runs along the outer wall of the posterior and inferior horns of the lateral ventricle, and probably connects sight with hearing, though the fibres may be for projection rather than for association, and connecting the occipital cortex with the optic thalamus. Many fibres connect the neighbourhood of the calcarine with the angular or marginal gyri, and interference with these fibres might produce typical abnormalities in sight.

The fasciculus occipito-frontalis runs below the corpus callosum external to the lateral ventricle, and connects the convex surface of the occipital lobe with many parts of the frontal. The splenium is the commissure of the occipital lobes, and connects one visual area with the opposite occipital cortex.

The occipito-thalamic radiation contains two sets of fibres. The centripetal run towards the occipital cortex to produce vision; and impulses are transferred by the centrifugal from the cortex to the lower parts of the brain to assist the sight by causing movements of the eyes.

Visual Reflexes.

The pupil reflex passes through the lower centres, corpora quadrigemina and third nerve; it is quite unconscious and does not reach the cortex of the brain. But pupil movements are also controlled by impulses centrifugal from the visual cortex through the brachium superius and the quadrigemina.

Many of the simpler and most constant movements that occur in association with sight are automatic, practically reflex, such as involuntary movements starting from the occipital lobes, as in blinking of the eyes, looking towards a sudden light, or to moving objects. Wide movements of the head and limbs are constantly necessary—such as avoidance of obstacles—and become visual reflexes of varying complexity. For them associated fibres run from the visual cortex to the motor centres from which the movements emanate; some of these tracts are in such constant co-operation that the associated movements become a kind of compound reflex action gradually evolved by constant use.

Eye movements intimately associated with the most complex mental activities are most of them involuntary and unconscious; consciousness is alone concerned with the result affected—sleight of hand, billiards, etc.

The visual centres are undoubtedly reached by other afferent impulses than through the eyeball and retina alone. Pupil action and accommodation and muscle sense produced by movements of the eyes in any direction, or in convergence, cause simple impulses towards the brain. Visual judgements also largely depend on impressions from the sense of touch, and as almost every movement of the body is guided by sight, the associations around sight are very wide indeed.

When the sight is lost from defects in the eyeball or optic nerve, almost all other impulses from hearing, touch, muscle balance, etc., are effectual in stimulating a healthy visual cortex, and they become increased in influence to the help of faulty sight. But defect in the visual brain is a much more serious matter, and if the sensory area is damaged by disease, some part of the psychic area is likely to be affected with it.

We cannot overrate our obligations to Ferrier for his early experimental research work on the brain and for drawing attention to the importance of the angular gyrus and of the neighbourhood of the occipital lobe in visual processes, nor to Schäfer, Horsley, and others.

Bolton examined in serial sections the occipital lobe in five cases of old-standing blindness and in one case of anophthalmos. In all he found changes in the cortical area throughout the line of Gennari with marked atrophy of the fibres and of the cells, especially of the large stellate cells. The line was much diminished in thickness, but not absent (perhaps from the presence of fibres running from the occipital lobe through the splenium to the opposite of the brain).

A very important paper published by Dr. Turnbull in *Brain*, 1904, on "Bilateral Loss of Post-central Cortex," described with great detail a case of bilateral cystic degeneration of the occipital lobes and of the neighbouring cortical areas on both sides of the brain, and the consequent absence or deterioration of the optic radiations and optic tracts with the structures associated with them in the sense of sight.

The patient died at 24 years of age, from severe burns, in the London Hospital, January, 1903, under Mr. Moullin. As a baby she was noticed not to follow anything with her eyes; she simply stared straight ahead with them. They were fine eyes, and did not squint. She was taken to Moorfields, and found to be quite blind. The notes then made were, unfortunately, not available after her death.

She was very peculiar and of uncertain temper. Her power of hearing, taste, and smell were very good. She could speak with a limited degree of intelligence. Her powers of locomotion and her common sensations were very imperfect. She never showed signs of seeing anything, never examined anything with her eyes, never watched objects moving about the room.

After death the brain was removed and most carefully investigated. About the posterior third of each hemisphere was found to form a cyst with thinned walls. The cavity included the posterior horn of the lateral ventricle and part of the middle horn. The cortex involved was that of the occipital lobes (excepting a small portion of the lingual lobule), the cuneus and nearly all the precuneus, most of the parietal cortex, and the angular gyrus. The proper structure of the wide area of the visual cortex and its surroundings was completely destroyed.

The posterior part of the corpus callosum was much reduced in size, and the splenium was represented by a mere cord.

The splenium is the commissure for the occipital lobes, and sends into each a large mass of fibres known as the forceps major, while the tapetum spreads from it over the lateral ventricle. Déjerine had shown that fibres pass in the splenium from the posterior portion of the median surface of the hemispheres, from the occipital pole, from the cuneus, the lingual and fusiform convolutions; and

Ferrier also found that fibres pass from the lateral surfaces, the external occipital convolutions, and from the angular gyrus to the splenium.)

There was no trace of the fibres of the optic radiation, and the retrolentiform portion of the internal capsule from which they pass was extremely atrophied or almost absent. The optic chiasma in front was small and flattened out by pressure from the distended dropsical third ventricle.

The optic nerves and tracts were small. (The small middle root of the optic tract was present; it passes to the medial geniculate body, and by the brachium inferius to the inferior colliculus of the corpora quadrigemina, and is concerned in hearing.)

The lateral root of the optic tract was very small, and the lateral geniculate body through which most of the fibres pass was very much atrophied; no fibres could be traced into it from the retina nor from the brain. The other 20 per cent. fibres of the lateral root were much better defined; it passed upwards to the pulvinar, and to the superior quadrigeminal body. The pulvinar was only very slightly deficient behind, otherwise the optic thalamus seemed well developed, as were also the quadrigeminal bodies, though somewhat compressed. Though concerned in vision these parts are not directly associated with the visual area in conveying impulses for the primary sensation of sight.

Evidence from Post-mortem Examinations.

A very large number of cases of varying types of hemianopsia have been investigated, but the deductions drawn between the faulty area of vision involved and the precise locality of the disease found in the occipital lobe after death are not by any means conclusive or uniform.

Many forms of pathological mischief have caused the changes in the brain tissues. Haemorrhage, gumma, tubercle, softening from embolism or thrombosis, abscess, tumour, etc.

The secondary area involved around the actual lesion is in many of them very wide and irregular, and even when thrombosis or embolism of the calcarine artery or its branches have taken place, the district affected is more or less wide in extent, and changes are produced, not only in parts of the visual cortex, but in the underlying fibres of the optic radiations and in the neighbouring tissues.

A lesion involving the occipito-thalamic radiation anywhere between the passage of the optic fibres from the retrolenticular portion of the internal capsule, or from the lateral geniculate body to the centres in the visual cortex, would produce a hemianopsia varying in degree and permanence according to the position of the fibres involved and the nature of the lesion.

Several cases have been published where the mischief has been limited to some part of the optic radiation, without implication of the cortex. The radiation fibres, without being the primary seat of lesion, may become affected from without, and a hemianopsia may result by their secondary implications where no part of the visual cortex or tracts is itself affected. But in cases of uncomplicated hemianopsia some primary damage on the mesial aspect of the occipital lobe in the neighbourhood of the calcarine fissure has usually taken place.

Sequin[12] collected 40 cases of hemianopsia in which autopsies had been made, and 5 traumatic cases which showed circumscribed lesions in the occipital lobe, cuneus, and neighbourhood; all had hemianopsia, with other symptoms of various detail according to complications. He estimated that the visual cortex centre was on the mesial aspect near the site of the hippocampal fissure.

Dr. Merrell in 1884 published the case of a man aged 57. The fundi and optic discs were normal; central vision good, for his age; perfect reaction of the pupils. But there was hemianopsia of the left side, complete in the lower quadrants and in the periphery of the quadrants above. He was nervous and irritable, otherwise the definite defect was a weakness of memory for names. In 1886 he died, and there was found a well localized atrophy of the cerebral convolutions on the mesial surface, involving the lower half of the cuneus, bounded below by the calcarine fissure and in front by the occipito-parietal. The white matter underneath the damaged cortex was softened to a depth of about one-third of an inch. No other part of the brain or visual tract was found to be defective.

Henschen insists that the primary half-vision centre is along the lips and depth of the calcarine fissure, especially of its anterior two-thirds. He considers that the upper and lower quadrants in the visual field (lower and upper parts of the retina) are associated with the structures that occupy the ventral and dorsal areas respectively of the calcarine fissure. The dorsal part of the visual cortex, the cuneal lobe, and dorsal portions of the optic radiations are concerned with the lower quadrants of the field of vision, while the upper quadrants of the visual field are associated with the lingual and fusiform lobes, and the ventral boundary of the calcarine fissure and the optic radiations associated with them.

In a case of complete hemianopsia under his care there was found in the opposite occipital lobe softening produced by thrombosis. It was confined to the cortex along the calcarine fissure, lying deep in it, and giving rise to slight secondary degeneration of the optic fibres beneath.

Wilbrand states that the lower lip of the calcarine corresponds with the upper quadrants of the visual fields.

Hun's Case (Amer. Jour. Med. Sci., January, 1887).

A man, aged 57, was suddenly seized with slight cerebral symptoms. The fields of vision showed a complete left lower quadrant bilateral hemianopsia, the upper left quadrant being also slightly narrowed at the periphery, the charts of vision did not alter for nearly two years. . . . Then he died. There was found on the mesial surface of the occipital lobe a localized atrophy involving the lower third of the cuneus, bounded below by the calcarine fissure, and in front by the parieto-occipital.

In other cases such definite division cannot be made out. A thoroughly reliable case of quadrantic hemianopsia was published by Drs. Beevor and Collier.[2]

A patient, aged 55, was under their observation for nearly two years during which his illness lasted. Careful perimetric observations were repeatedly taken, and a most thorough examination and exhaustive report was made of the brain structures after death. His only general symptoms were numbing of the left hand and arm, severe recurring occipital headache and faulty eyesight, and at long intervals two or three fits. The optic discs were pallid, and there was some sclerosis of the retinal arteries.

His central vision was $\frac{6}{9}$ in either eye; he was completely blind in the upper left quadrant of both visual fields, with some general narrowing of the fields. For two months or so before he died his health failed rapidly and his sight got worse.

There was found occlusion of the right posterior calcarine artery, with destruction of the visual cortex involving the whole depth of the calcarine fissure, together with the right lingual lobe and the fusiform lobe below it.

The optic radiation was not involved in the necrosis. So far we should expect the defect that was actually found in the visual field.

But there was in addition damage to the lower third of the cuneal gyrus and the adjoining retrocalcarine tissues; this latter area, as Henschen's view is correct, should have caused defect in the lower quadrants of the visual field, which in this case were only slightly implicated. Mott, on examining the sections, found a patch of healthy striate cortex along the upper lip of the calcarine and in the adjoining surface of the cuneus which he thought accounted for the retention of vision in the lower fields.

Again, by far the greater part of the disease lay in and around the lingual lobe, but the defective field area is not confined to the upper quadrants; it shows definite narrowing of the lower fields as well. Besides, it would seem possible that the upper part of the cortical lesion came later in the disease, after the patient was too ill for further perimetric testing, and when possibly the lower quadrant had become defective from the cuneal disease above. The cortex lining the calcarine fissure was necrotic, and yet the hemianopsia was not complete. Can the calcarine, then, be looked upon as the primary half-vision centre? For there was not complete hemianopsia in this case. We must admit the importance of considering, not only the amount of mischief done in the cortex, but also the extent to which the radiation fibres are affected. For, as the author suggests, there may be considerable overlapping in the cortical supply of the various parts of the retina, and considerable power of compensation for local damage in the cortex limiting the lesion.

It seems to me probable that the centre for complete hamianopsia lies more anteriorly in the optic radiation near the calcarine proper, rather than in the post-calcarine, which was the sulcus here implicated, or else that the optic radiations must be involved when the hemianopsia is complete; and I suggest that the further forward towards the splenium the mischief is the greater the number of fibres likely to be involved and the wider the hemianopsia, while the more posterior the lesion the more numerous the

subdivisions of the artery, and the more localized the area of faulty blood supply is likely to be and the smaller the defect in the field.

Many cases are not so well defined as these, but a quadrant defect more or less complete in the fields of vision is not infrequent. The defect may be only slight and partial, or it may approach towards a complete hemianopsia by implication of the adjoining vertical quadrant, or it may be irregular.

It must be admitted that the sense of sight is an extremely complicated physiological process, especially in man, while the lesions made by pathological changes are very rarely sufficiently localized to provide for a fine subdivision of physiological values of the different portions of the visual area. But we have ample data from *post-mortem* examinations to be certain on general lines that the visual field is primarily represented on the mesial surface of the occipital lobe along the calcarine fissure. Moreover, it is probable that the area of cortex above and below the fissure respectively represent the lower and upper quadrants of the field.

In Foster's case of bilateral hemianopsia there was symmetrical damage of the mesial surface of both occipital lobes, and fibres internal to and below the lateral ventricle, including the inferior longitudinal bundle, were destroyed. The apex of the cuneus and hinder end of the calcarine were left intact. In this case the central macular vision was maintained.

An important means for localizing intracranial mischief is the use of the perimeter to ascertain the condition of the visual field and its defects.

It is certain that hemianopsia may occur without being necessarily an early symptom of further brain trouble. I have seen a number of patients who with more or less defect in the visual fields have been able to do useful work apparently without discomfort, and who have remained without any other evidence of disease for many years.

The common cause in localized cases is, I expect, embolism of some twig of the calcarine artery. The onset is usually sudden, the patient has slight brain disturbance for some days, and then recovers. The obstructed area undergoes atrophy and causes the patient no discomfort except his loss of localized visual area.

But hemianopsia may be a part of a spreading lesion, the first symptom of a thrombosis which will lead to a progressive softening, or of a commencing tumour, which causes pressure upon some part of the visual cortex or radiations, or upon the optic tract. Increase in the size of the morbid growth will probably cause increased defect in the visual field, as well as more vascularization or swelling in the optic nerve.

Trephining, made safe by antiseptics, may be necessary in primary injuries, for fracture, abscesses, haemorrhage, and discharging cortical areas in epilepsy. Cysts may be relieved and old gummata removed. Cases of tumour will die if not interfered with, and though some may be malignant and too deep for removal, still others may be on the surface and more easy than might be expected, while, on the other hand, necropsy may show that operation would have saved the patient.

For the study of the blood supply to the brain structures concerned in vision, I would refer to the splendid work of Dr. Beevor.

A simple summary may here be given. The optic chiasma and nerves are supplied by the posterior communicating and the anterior cerebral arteries. The anterior choroidal artery, which ends in the choroidal plexus of the lateral ventricle, supplies the optic tract, the posterior portion of the internal capsule, especially its retrolenticular fibres, and the origin of the optic radiations. The chief artery for supply, however, is the posterior cerebral; it assists in forming the choroidal plexus, it supplies the corpora geniculata, the corpora quadrigemina, the pulvinar, the fornix and the splenium, with the anterior portion of the optic radiations, though not quite up to their origin.

The mesial surface of the occipital lobe is entirely supplied by the posterior cerebral, which terminates in two branches, the occipito-parietal and the calcarine; they go to the lingual and cuneate gyri, the fusiform and gyrus quadratus, the pole of the occipital lobe and other parts of the visual cortex. The outer surface of the occipital lobe with the angular and supramarginal gyri are supplied by the middle cerebral. There is a very free anastomosis between these vessels, so that a faulty circulation due to embolism of one artery should be readily restored by means of the other.

The posterior part of the radiations are supplied according to their proximity to the cerebral cortex, the dorsal and outer layers by the middle cerebral artery, the inner and ventral layers by the posterior cerebral.

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SOME OBSERVATIONS ON PREPARATIONS OF LACTIC ACID BACILLI AND THE PRODUCTION OF SOURED MILK.

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THE administration of lactic acid bacilli promises to find a permanent place in therapeutics, and I have thought that the results of some experimental work voluntarily undertaken for the benefit of medical practitioners with whom I come in personal contact might not be without interest to others.

For a starting point I selected four "brands" of lactic acid bacilli (two English and two Continental) which appeared to find most favour; I also obtained a milk culture. These were all simultaneously incubated at 105° F. for ten hours and afterwards allowed to remain for twelve hours, when the following results were recorded, one tablet having been added to each half pint of milk, which had previously been boiled for a few minutes, then allowed to stand for thirty minutes and the layer of fat removed.

Sample.	Physical Characters after Incubation.	Production of Acid calculated as Lactic Acid B.P.
		Per Cent.
1. English tablet ...	No curd; slight sour taste	0.42
2. Continental tablet	No curd; slight sour taste	0.24
3. Continental tablet	Slight curd; not "soured"	0.07
4. English tablet ...	Moderately good curd; bitter taste	0.12
5. Milk culture ...	Firm curd, with refreshing acidulous taste (curdling appeared in four hours)	2.34

The tablets were first powdered and triturated with a small quantity of sterilized water, when Nos. 1 and 2 were found to possess an acid reaction, and Nos. 3 and 4 were neutral. The milk culture (No. 5) was strongly acid.

From the product obtained by means of the milk culture some tablets were prepared by carefully drying the curd, mixed with its own weight of milk sugar, at a temperature not exceeding 100° F.; the tablets thus prepared were excellent pharmaceutical specimens, producing a satisfactory curd and in lactic acid content comparing favourably with the tablets previously examined.

YIELD OF LACTIC ACID.

Attempts were made to extend the period of incubation, but the results, from a dietetic point, were not satisfactory, especially when starting with the small quantity of bacterial substance contained in one tablet; after twenty-four or thirty-six hours there was great liability for butyric fermentation to set in, and the milk became less palatable; but by taking a larger amount of material, as was possible in the case of a culture, a high lactic acid content was soon reached and secondary fermentation did not occur.

Culture Tested Daily for Acidity.

After one day's incubation ...	2.28 per cent.	lactic acid,	*B. P.*
,, two days' ,, ...	2.58 ,,	,,	,,
,, three ,, ...	3.48 ,,	,,	,,
,, four ,, ...	4.56 ,,	,,	,,
,, five ,, ...	4.56 ,,	,,	,,

It was assumed that acid production, or bacterial activity, terminated as a result of the lactose (milk sugar) contained in the milk having all become converted into lactic acid. To ascertain if the addition of lactose would accelerate acid production, two cultures were made, (*a*) containing two tablets in 100 c.cm. of milk, (*b*) containing two tablets in 100 c.cm. of milk, with the addition of 4 grams of lactose; after seven days' incubation at 100° F., the amount of lactic acid produced in (*a*) and (*b*) was found to be identical—namely, 3·12 per cent. in each sample. It therefore appears that the addition of milk sugar was unnecessary.

Another question was, Does the curd or the whey contain the greater proportion of acid? A sample of soured milk was examined, in which no separation of casein had occurred; it was afterwards heated in a flask or a water bath for a few minutes, until coagulation had taken place, for a sufficient quantity of whey to be obtained, and the estimation of the acid in both instances was found to correspond exactly.

EFFECT OF TEMPERATURE.

With a view of ascertaining the optimum temperature for the lactic acid organism, a sample of milk treated with the bacillus of Massol was divided into three parts, and the following results were obtained in the same length of time:

Temperature.		Amount of Lactic Acid *B.P.*
80–90° F.	...	1.44 per cent.
90–100° F.	...	1.68 ,,
100–110° F.	...	2.28 ,,

These results were practically confirmed by tests with the tablets which I had prepared; one tablet in half a pint of milk gave—

Incubated below—		Lactic Acid *B.P.*
100° F.	...	0.12 per cent.
105° F.	...	0.26 ,,
110° F.	...	0.72 ,,

I consider the disappointments which have been expressed in the preparation of sour milk are due (1) to employing insufficient bacterial substance, (2) to inefficient temperature. Some popular forms of apparatus on the market are heated by means of a night-light, and the temperature produced with night-lights from the same box has been found to vary 15° F. To obtain the best results a moist culture is recommended and cultivating for at least four hours between 105° and 110° F., the growth of adventitious organisms is thereby inhibited, and an amount of lactic acid quickly produced to retard their subsequent development.

NOTE.—It was found that the milk heated for ten hours at 105° F. gave a reaction to phenolphthalein, which corresponded to 0.048 of lactic acid *B.P.*, and this amount has been deducted in the results above recorded.

AN international Medico-Psychological and Psycho-Therapeutical Association was recently founded at Salzburg on the initiative of Professor Forel, Dr. Oskar Vogt, and Dr. L. Frank, and other well-known neurologists. The president is Professor Raymond, of Paris; the vice-presidents, Professor Forel and Dr. Oskar Vogt, of Berlin.

THE Royal Dental Hospital of London being burdened with a mortgage of £42,086 appeals for donations and subscriptions to maintain the hospital in its present state of efficiency, for which a sum of £3,000 a year is required, in addition to £2,759, a compulsory yearly payment for the redemption of the mortgage. The number of operations performed in 1908 were 109,659, and of these anæsthetic cases numbered 50,050. The secretary is Mr. J. Francis Pink.

LEUCOPLAKIC VULVITIS AND ITS RELATION TO KRAUROSIS VULVAE AND CARCINOMA VULVAE.

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THE occurrence in the tongue of a peculiar type of inflammation, leading on to a leucoplakic condition of the mucous membrane and terminating in carcinoma, has long been known.

It was first described in 1869 in the *Transactions of the Clinical Society* by John Whittaker Hulke, the Council of the Royal Medical and Chirurgical Society having refused to publish his paper some four years previously. Sir Henry Morris described the second case, and also was the first to call attention to the frequency with which a similar type of inflammation preceded carcinoma of the vulva, and operated upon several patients with the combined disease. Both of these eminent surgeons were acting members of the Middlesex Hospital surgical staff, a matter of great interest to the authors of this paper.

It is remarkable that a clinical observation of such importance should have attracted so little attention, especially by gynaecologists, and that the only two English writers who have subsequently drawn attention to the subject, namely Bland-Sutton and Butlin, should both be general surgeons.

The relation borne by leucoplakic vulvitis to carcinoma is closer than that of any other pathological lesion with the exception of the entirely modern *x*-ray dermatitis. In 1885 Breisky drew the attention of gynaecologists to a disease which he named "kraurosis vulvae." His description led to much confusion, for whilst he undoubtedly described a till then unrecognized condition, subsequent writers on the subject down to the present time, as can be seen from the textbooks, appear to have confused the conditions of leucoplakic vulvitis and kraurosis vulvae, and to have considered them different phases of one and the same disease.

In this paper, then, we shall proceed to show that leucoplakic vulvitis and kraurosis vulvae are two distinct diseases, and we shall then pass on to consider the relation borne by the former to carcinoma of the vulva.

LEUCOPLAKIC VULVITIS.

Definition.

Leucoplakic vulvitis is to be defined as a chronic inflammatory condition of unknown origin characterized in its early stages by marked hyperaemia and cellular activity, and in its later phases by marked epithelial hypertrophy and a thickened, sclerosed, and retracted condition of the subepithelial tissue.

Distribution.

Its distribution varies with its severity and time of incidence. In a well-marked case the whole of the vulva may be implicated with the exception of the vestibule and orifice of the urethra, which are never affected; and not only may the labia majora, minora, anterior and posterior commissures and the clitoris suffer, but the disease may even spread laterally to the folds of the thighs and posteriorly over the perineum and skin surrounding the anus

Signs.

Clinically, leucoplakic vulvitis may be divided into four stages, according to the macroscopical features which it presents. In the first stage the parts affected have a reddened, swollen, and excoriated appearance, and their surface is dry.

In the second stage, whilst the labia minora decrease in size and may even become mere ridges, there is a subepithelial thickening, so that the parts can be said to have undergone "retraction with thickening." The colour of the affected area now changes from red to white of a

semi-opaque character. This opacity becomes intensified in patches at first and later on over the whole of the diseased surface: from the white appearance resulting the disease obtained its name of leucoplakia of the vulva.

In the third stage, where the disease is most marked, cracks and ulcers may make their appearance, the ulcers giving rise to a slight discharge, and bleed sometimes when touched. At this stage carcinoma quite commonly becomes engrafted on some portion of the diseased area, and as a rule it commences in the ulcer or fissure. If the patient escapes the incidence of carcinoma a fourth and final stage supervenes, in which the vulval surface is smooth, shiny, and white, and the labia minora and clitoris practically disappear, owing to the contraction of the subepithelial tissues, and the disease becomes quiescent.

Symptoms.

The striking and often the only symptom of leucoplakic vulvitis is pruritus, which is peculiarly intense in the first and second stages. In the third stage the pruritus is more or less masked by the pain and acute sensitiveness due to the exposure of the nerve endings in the floor of the ulcer or crack. In the fourth stage the symptoms disappear and the patient ceases to complain. If carcinoma supervenes at the third stage the ulcers become very painful and

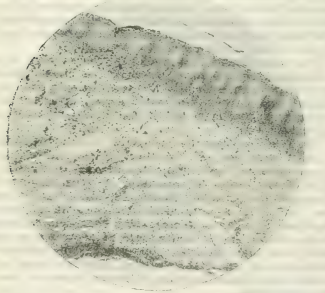


Fig. 1.—Earliest stage of leucoplakic vulvitis. Surface desquamation of epithelium and diffuse subepithelial lymphocytosis.

tender, bleed easily on being touched, become hard and indurated in spite of local treatment, and enlarge fairly rapidly.

Pathology.

The pathology of leucoplakic vulvitis may be conveniently divided into stages. Such a division, however, bears no reference to duration, but is governed solely by the histological features which the diseased tissue presents. It is necessary to emphasize this, because different parts of the diseased area may be respectively in different pathological stages at the same time.

From a study of a great number of sections obtained from 24 cases operated upon by us, it has been possible to construct an account of the full gamut of histological changes which characterize the disease from its initiation to its subsidence.

In the first stage the epithelium is swollen and the individual cells less firmly attached to one another, so that the desquamation of the superficial cells is excessive. The subepithelial tissue is abnormally vascular and is crowded with lymphocytes, some of which have intercalated themselves between the cells of the basal layers of the epithelium. Few or no polynuclear leucocytes are to be seen, and the fixed tissue cells of the part have not proliferated (Fig. 1).

In the next stage the type of the subepithelial tissue cell proliferation begins to alter. Lymphocytes are still conspicuous objects, but besides these are groups of plasma cells and an increased number of large hyaline fixed connective tissue cells normal to the part. The sustentacular elements become altered, the white fibres become decollagenized and more hyaline in appearance, whilst the elastic fibres have in many places completely disappeared over a certain subsurface area, so that a definite zone of de-elasticized and hyaline looking tissue intervenes between the epithelium and the normal tissues deep down (Fig. 2).

That many or all of the lymphocytes seen in the microscopic field are produced in the diseased area is proved: (1) By the absence of these cells in the cross sections of blood vessels, and (2) by the appearance at this stage of definite new lymph nodes (Fig. 2) in the subepithelial tissue, which contain germinal areas showing karyokinesis, and are not normally present there. The appearance of these new lymph nodes is very interesting, because they are commonly found in the neighbourhood of carcinoma, to which disease the condition under discussion bears, as already stated, a very close relation.

The origin of the plasma cells is undoubtedly local. They appear to be developed from certain elongated nuclei found in resting connective tissue. The large hyaline fixed tissue cells proliferate both mitotically and amitotically from similar cells normally found in the part, and the same may be said of endothelial cells. One of us has lately discussed fully the origin of these various groups of inflammatory cells.[1]

The epithelium at this stage is markedly hypertrophied, and many karyokinetic figures can be seen in it. The

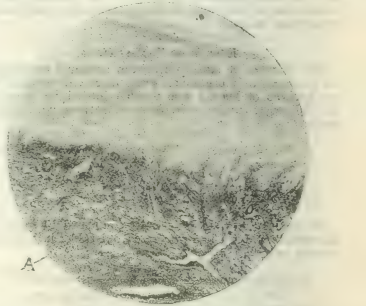


Fig. 2.—Second stage of leucoplakic vulvitis. A hyaline zone of the elasticized tissue underlies the epidermis; beyond this are are shown the elastic fibres (stained darkly) which are normally found in the connective tissue. The interpapillar epithelial processes are elongated. A new lymph node is seen embedded amongst the elastic fibres at A.

hypertrophy is chiefly of the basal layers, and the interpapillar processes of the epithelium are much elongated. The surface cells, on the other hand, still show a tendency to early desquamation, which reaches its maximum in the numerous shallow ulcers and fissures that beset the diseased area. At these points so great has been the shedding of the superficial epithelium that the apices of the elongated papillae of the corium almost reach the surface. It is also noteworthy that the inflammatory cells already described, and particularly the lymphocytes, tend to aggregate around the tips of the interpapillar epithelial processes.

In the third stage the cellularity of the subepithelial tissue begins to give place to fibrosis. Many of the inflammatory cells, disappear, collections of lymphocytes and plasma cells are still scattered over the field. A redeposit of collagen occurs around the fibroglia fibres of the fixed tissue cells, which in the preceding stage have been greatly increased in number, so that the tissue from being unduly rarefied now becomes denser than normal. The hypertrophy of the epithelium is still maintained, but the growth tendency now appears to be directed upwards, resulting in the formation of a dense mass of keratinized squames, whilst the interpapillar downgrowths are disappearing, so that the epithelium rests on the sclerosed subepithelial tissue more as a flat sheet. There is a total absence of yellow elastic tissue in the sclerosed subsurface zone (Fig. 3).

In the final stage the sclerosis of the subepithelial tissue is complete. Very few cells are to be seen under

the epidermis. Such as are present are of the fixed connective tissue type. The subepithelial zone of de-elasticized tissue is of less depth, but denser. The epithelium, probably starved by the increasing fibrosis going on underneath it, becomes thinner, whilst the cells show an early tendency to keratinization (Fig. 4).

Clinically at this stage the disease is quiescent. The surface of the vulva is smooth and shiny white in appearance, and the elevations of the labia minora and clitoris have become flattened down almost to disappearance owing to the contraction of the subepithelial tissue. Pruritus has ceased, and the patient ceases to complain.

KRAUROSIS VULVAE.

We have now to contrast leucoplakic vulvitis with kraurosis vulvae. Since Breisky's original paper the most perfect clinical description of this latter disease is that of Thiberge,[2] with whose conclusion we are in complete agreement. Kraurosis vulvae consists of an atrophic condition of the vulva, associated clinically with stenosis of the vaginal orifice, and pathologically with certain changes in the dermis.

Distribution.

The labia minora, vestibule, orifice of the urethra, and that of the vagina are always affected, the hood of the

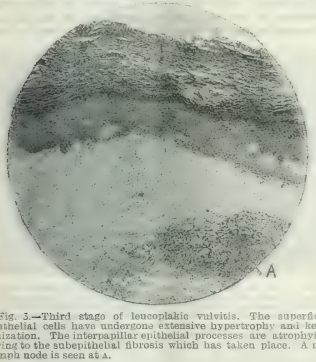


Fig. 3.—Third stage of leucoplakic vulvitis. The superficial epithelial cells have undergone extensive hypertrophy and keratinization. The interpapillar epithelial processes are atrophying, owing to the subepithelial fibrosis which has taken place. A new lymph node is seen at A.

clitoris sometimes. The skin on the outer surface of the labia majora between the labia majora and folds of the thigh covering the perineum and surrounding the anus is never affected.

Signs.

Kraurosis vulvae may be divided into two stages. In the first, the muco-cutaneous surface is red, glistening, and shiny, whilst dotted over it here and there, but more particularly on the hymeneal remains round the vaginal orifice, may be seen isolated patches, varying in size from that of a pin's head to half a split pea, and in colour from that of a bright red to a dull purple. In addition, a carnucular condition of the urethral orifice is very often present.

In the second or final stage the muco-cutaneous surface becomes pale yellow and glistening, "recalling the colour as well as the aspect of the surface of a fatty liver, particularly that of a goose such as we see exposed for sale in a provision shop." The muco-cutaneous surface is perfectly smooth, all the ridges having become obliterated. The vaginal orifice has contracted so that perhaps only with difficulty can a digital examination be made, the labia minora and clitoris disappear, the mons veneris atrophies, and the pubic hair becomes brittle and breaks off or falls out. In this disease, though marked shrinkage occurs in the mucous membrane, yet in contradistinction to leucoplakic vulvitis, owing to the absence of epithelial and subepithelial hypertrophy, the condition may be termed one of retraction with thinning.

Symptoms.

The principal symptoms complained of are those of soreness and pain, together with dysuria and dyspareunia. It is very worthy of notice that whereas in most textbooks pruritus is stated to be one of the constant symptoms of kraurosis vulvae, it is in reality one of the rarest; and that whereas dyspareunia as a symptom is only lightly touched upon, it is in reality the trouble mostly complained of. At least this has been our experience, which also corresponds with that of Thiberge, who remarks in his masterly essay on the subject, "the functional symptoms of kraurosis vulvae are of an exclusively mechanical order."

In the first stage of the disease the parts are extremely sensitive, the passage of urine gives pain, and coitus, for the same reason, is hardly endured or is impossible altogether.

In the second stage the soreness may entirely disappear, but, owing to the retraction of the vaginal orifice, dyspareunia becomes common to both parties.

Pathology.

The microscopical appearances of kraurosis vulvae are quite unlike those of leucoplakia. The epithelium is everywhere thinner than normal, and the papillae and



Fig. 4.—Final stage of leucoplakic vulvitis. The epithelium is thinner than normal; early keratinization of the surface cells is occurring. The subepithelial tissue is diffusely sclerotic.

interpapillar processes are atrophic and in places have altogether disappeared. The subepithelial connective tissue exhibits marked cellularity but of a patchy kind. In the areas of a section which correspond to the red patches seen in the surface of the mucous membrane a very large, in places even massive, proliferation of plasma cells is seen immediately under a thinned and flattened epithelial layer. Surrounding the plasma cell proliferation or partly mixed with it both lymphocytes and polymorphonuclear lymphocytes are seen. The lymphocytes are the more deeply placed, and as the surface is approached the polymorphonuclear leucocytes become increasingly predominant. In the rest of the section simple thinning of the epithelium is manifest with a certain number of polymorphonuclear leucocytes, lymphocytes, and plasma cells in the connective tissue which underlies it. One of the most striking features, perhaps, is the intercalation of polymorphonuclear leucocytes between the epithelial cells. When stained for elastic tissue the sections show that this is present in all parts, save where massive accumulations of plasma cells have occurred. A comparison of these histological appearances with those described as occurring in leucoplakic vulvitis will show that the pathology of the two diseases is quite different (Fig. 5).

Etiology.

Various causes have been assigned to kraurosis vulvae, such as leucorrhoea, syphilis, sexual abuse, age, and operations upon the genital organs necessitating the removal of the ovaries.

Jayle's classification is as follows:

1. Leucoplakia or white kraurosis (simple, syphilitic).
2. Inflammatory or red kraurosis (follicular or vascular).
3. Senile kraurosis.
4. Post-operative kraurosis.

In our experience only the last two factors have any part in the etiology. In the light of our investigations, this classification must be considerably modified. White kraurosis is undoubtedly a misnomer for leucoplakic vulvitis. Red kraurosis is the first stage of the changes we have described under the heading of this disease. The terms senile and post-operative kraurosis are merely an indication of the cause, and have no place in a classification founded on pathology.

Whilst the changes producing kraurosis vulvae are undoubtedly in a large measure inflammatory, yet there is another factor in its production which is of signal importance. The cases may be divided into three groups:

1. Those in young women associated with sterility.
2. Those occurring at or after the menopause.
3. Those occurring after operations involving the removal of both ovaries.

It would appear, therefore, that deficiency or absence of some ovarian factor in the economy of the organism plays a large part in the causation of the disease. We know of no instance in which kraurosis vulvae has been associated with carcinoma of the vulva, and the disease has in our

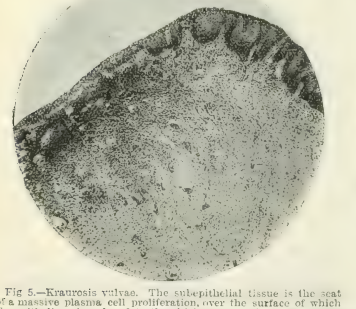


Fig. 5.—Kraurosis vulvae. The subepithelial tissue is the seat of a massive plasma cell proliferation, over the surface of which the epithelium is reduced to the thickness of a few cells. Many polynuclear leucocytes are present in the subepithelial tissue and intercalated between the epidermal cells.

opinion no relation to it, in this way markedly differing from leucoplakic vulvitis, which, as we will now proceed to show, is very closely connected with cancer in this situation.

Relationship between Leucoplakic Vulvitis and Carcinoma of the Vulva.

The following statistics deal with 58 cases of carcinoma of the vulva and 19 of leucoplakic vulvitis that have been admitted to the Middlesex Hospital and Chelsea Hospital for Women during the last ten years.

Age.

The average for carcinoma was 59; that for leucoplakia 51. The oldest patient with carcinoma was 81, and the youngest 40; the oldest with leucoplakia was 70, the youngest 26.

Civil State.

In carcinoma 58.6 per cent. were married women, 25.8 widows, and 15.6 single women; whilst in leucoplakic vulvitis 63.2 were married, 21 widows, and 15.7 single.

Parity.

In the carcinomatous cases 48.2 per cent. were sterile, and in leucoplakia 47.5. Of those women who were not sterile, the average number of pregnancies in both diseases was seven.

Pruritus and Leucorrhoea.

Of the carcinomatous patients, 36 per cent. complained of pruritus, and 13 per cent. of leucorrhoea; whilst 63 per cent. of the patients suffering from leucoplakic vulvitis complained of pruritus, but none of leucorrhoea.

Etiology.

As we have already indicated, leucoplakic vulvitis is in our opinion an antecedent condition and the cause of carcinoma of the vulva.

What is the cause of leucoplakia is a much more difficult question to decide; it has really never been determined. It cannot be due to a leucorrhoea, because in the first place the age does not correspond with the commonest period for leucorrhoeal discharges; secondly, the disease never attacks the vagina, which canal should certainly be affected if this was the cause; and, lastly, in our experience of leucoplakic vulvitis leucorrhoea has been absent. When one comes to consider the civil state of the patients it is seen that 84.4 per cent. of carcinomatous cases and 84.2 of the leucoplakic are or have been married; whilst with respect to parity both conditions are very similar, about 48 per cent. of the women being sterile, and of those who were not 7 was the average number of pregnancies in each.

Lastly, we see that the average age for both diseases is over 50.

Leucoplakic vulvitis is evidently due to some damage to or interference with the resisting power of the surface epithelium of the labia, and although coition as a cause of this cannot be insisted upon in every case, it seems to be one

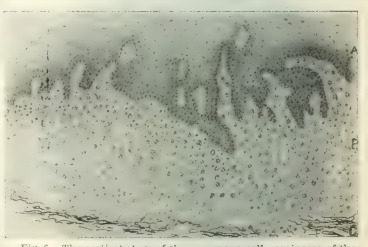


Fig. 6.—The earliest stage of the squamous cell carcinoma of the vulva. It begins as an increasing hypertrophy of the interpapillar epithelial processes, whereby they penetrate more and more deeply into an underlying connective tissue which is already crowded with plasmæ and other inflammatory cells, and from which all elastic fibres have previously disappeared. A, Thickened epithelium, with large interpapillar processes. B, Subepithelial zone, the seat of diffuse rarefaction, due to inflammatory cell proliferation and disappearance of collagen and elastin. C, Normal tissue, with elastic fibres. (Camera lucida drawing.)

of the chief causes when it is remembered that 84 per cent. of the patients at least have been subjected to coition, that the age of incidence corresponds fairly closely to the limit of the most active period of this function, whilst the question of parity is of no assistance, since practically the parous and sterile women are in equal numbers. In none of our cases was there any history or signs of antecedent syphilis.*

Pathology of Carcinoma of the Vulva.

In any case of carcinoma of the vulva we have operated upon and in every case we have seen, leucoplakic vulvitis has been present.

It has been shown that in leucoplakic vulvitis the maximum hypertrophy of the interpapillar epithelial processes occurs in the second stage—that is, that in which the cellularity and rarefaction of the subepithelial tissues are also at their maximum. It is in this stage that the supervention of carcinoma is to be feared. It begins over a variable area as an increasing hypertrophy of the interpapillar epithelial processes, whereby they penetrate more and more deeply into the underlying connective tissue. The connective tissue papillae are more than correspondingly elongated, so that they reach much higher than normal, but they are thin and compressed. (Fig. 6.)

It would appear that the growth energy of the epithelial cells becomes confined to those deep down in the inter-

* Sections stained for the spirochaete of syphilis gave negative results.

papillar processes, while the more superficial cells, on the contrary, are of feeble vitality, loosely attached to one another, and actually desquamate before keratinization can occur. Thus the elongated papillar processes of the corium eventually reach the free surface, which now bleeds readily from punctate points corresponding to their apices. The condition may be likened to an area of skin after a Thiersch graft has been removed. This absence of keratinization and early desquamation of the surface cells of a squamous celled carcinoma is very striking, and contrasts markedly with the condition found in a papilloma.

The epithelial downgrowths, which are at first simply the enlarged pre existing interpapillar processes of the epidermis, later become branched and tortuous.

This development of squamous-celled carcinoma from hypertrophied pre-existent interpapillar processes has been shown by one of us to be a constant feature of the disease, wherever its site; for even in positions such as the vaginal cervix, in which normally no papillae or interpapillar processes exist, a series of such are always formed previous to the onset of squamous cell carcinoma there as a result of the chronic cervicitis which is its invariable antecedent. The formation of interpapillar downgrowths of epithelium would appear to be an adaptation to relieve lateral growth tension, for it is certain that in all conditions of hypertrophy of the lower strata of an epidermis

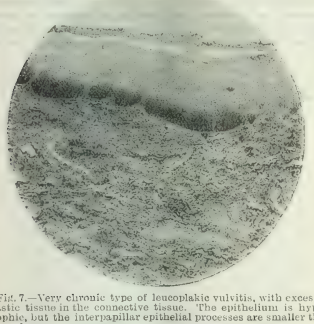


Fig. 7.—Very chronic type of leucoplakic vulvitis, with excess of elastic tissue in the connective tissue. The epithelium is hypertrophic, but the interpapillar epithelial processes are smaller than normal.

they either appear *de novo* (cf. chronic cervicitis), or if normally existent become much exaggerated (cf. the skin).

Further, it would appear that so long as the growth energy of the epithelial cells is evenly distributed along the length of the epidermis enormous hypertrophy may take place without malignancy. But that when the growth energy becomes concentrated at a series of points corresponding to each interpapillar process, a want of co-ordination is established which at once makes the condition dangerous.

The relation between the malignant epithelial ingrowth and the altered state of the subepithelial tissues is an important subject.

We have in leucoplakic vulvitis two sets of phenomena going on simultaneously—namely, those in the epithelium and those in the connective tissue. In both of them an accession of cellular energy takes place which then declines and finally gives place to a state of cellular activity and reproduction much below the normal. But a study of the earliest stages of the disease shows that the activity of the connective tissue cells is that first awakened, the growth of the epithelial cells initially being actually inhibited.

Thus it comes about that a profoundly altered state of the subepithelial tissue anticipates the occurrence of epithelial hypertrophy.

Further, it would appear that a condition of rarefaction and cellularity of the subepithelial tissue is an important factor influencing epithelial ingrowth. For in the earliest phases of carcinoma of the vulva, in which the epithelial ingrowth is only as yet foreshadowed, the connective tissue cell proliferation around this area is already typical of that seen in the developed disease.

The disappearance of elastic tissue in the area of a beginning carcinoma is very striking. On the other hand, there is evidence to show that an excess of these fibres probably acts as a check to epithelial ingrowth. In certain very chronic types of leucoplakia in which the subepithelial changes never reach a high degree of cellularity, a great excess of elastic tissue may be found. In the later phases of this condition considerable epithelial hypertrophy occurs, but without those long interpapillar downgrowths which are the first indications of approaching malignancy (Fig 7).

Further, the more benign papillomatous type of carcinoma of the vulva shows less destruction of elastic tissue than the more malignant ulcerative form. Dense sclerosis of the white fibrous elements also probably checks epithelial ingrowth, and as this progresses in the later stages of leucoplakic vulvitis the tendency to carcinoma becomes increasingly diminished.

Of the cellular elements in the connective tissue, the plasma cells are those which most characterize the second stage of leucoplakic vulvitis, and these are also the predominant tissue cells in carcinoma of the vulva. They bear this relation to the initiation of epithelial ingrowth—

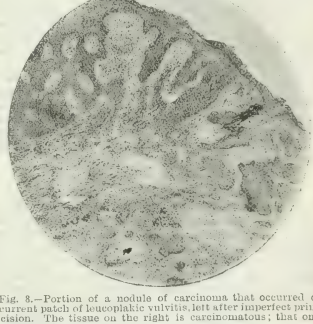


Fig. 8.—Portion of a nodule of carcinoma that occurred on a recurrent patch of leucoplakic vulvitis, left after imperfect primary excision. The tissue on the right is carcinomatous; that on the left leucoplakic.

namely, that they are largely responsible for the de-collagenization of the subepithelial tissue which occurs in the antecedent leucoplakic vulvitis.

Though changes in the adjoining connective tissue bear some very close relation to the cause of epithelial ingrowth, yet, malignancy having been established, the further spread of the tumour is independent of such assistance. For one of us has shown that the condition of the connective tissues surrounding an advanced invunner of carcinoma cells is one of passivity, and that the same is true of the tissue surrounding permeated lymphatics* and metastatic growths, excepting those in lymphatic glands, which are an exception to this rule.

Multiple Carcinomata of the Vulva.

Multiple carcinomata are more frequently met with in the vulva than any of the other common sites of this disease. This occurrence has been interpreted by some as an evidence of autoinoculation.

The cases that have been interpreted in the manner mentioned may be divided into two classes: Pseudo-multiple growths and true multiple growths.

(*a*) *Pseudo-multiple Growths.*—Many growths which at first sight appear to be double are in reality bridle-shaped, a thin tract of carcinomatous tissue uniting them across the middle line, usually just under the clitoris. When a

* This fact concerning lymphatic channels permeated by carcinoma was first stated by Sampson Handley, Hunterian Lecture, Royal College of Surgeons, 1906.

growth crosses the middle line it rarely does so directly by way of the vestibule. This is due to the fact that the vestibula mucosa usually escapes the antecedent vulvitis—that is to say, it is not in a precarcinomatous state. Ribbert stated, and we confirm his view, that the surface spread of a carcinoma is at first by successive carcinomatous conversion of the epithelium covering the precarcinomatous area. When this is exhausted further growth continues by division of the cells already formed, but there is no conversion of normal epithelium into carcinoma, the former simply undergoing a pressure destruction owing to the infiltration of the subepithelial tissues by the cells of the growth.

(*b*) *True Multiple Growths.*—We have seen four such. In three out of the four they occupied the same side of the vulva, and in none of them do we think that there was any reason to believe that they arose by autoinoculation. In all of them the vulva was leucoplakic, and the double growths were separate by a tract of mucosa that showed the typical changes belonging to that condition. Each separate growth was an entity to itself, starting in its own set of hypertrophic interpapillar processes, and in three of the cases contact between the two tumours was from their position impossible. Moreover, there was no microscopical evidence of any new element having been introduced either from the surface or from the subcutaneous tissue.

Such multiple growths, therefore, should neither be attributed to autoinoculation from the surface nor to metastatic deposit via the subcutaneous tissue. Microscopically it is quite common to find dual, treble, or even quadruple points of beginning carcinoma. In fact, seeing that every downgrowth begins as a hypertrophic interpapillar epithelial process, the growth may be said always to begin at multiple points.

The rarity of multiple primary growths of the vulva, in spite of the large precarcinomatous area existent, suggests the possibility that the epithelial ingrowth at the point of the carcinoma may act as a safety valve to the increased lateral growth tension that undoubtedly exists throughout the leucoplakic epidermis, and relieves the latter of its tendency to ingrowth.

Local Recurrences of the Growth.

There are two types of local recurrence. The first is that in which the original growth has been inefficiently removed, and recurrence takes place in the scar a short time afterwards. We have met with none such. The second is of a different nature, and we have met with examples of this after excision of the vulva. It is due to a separate cancer originating almost from a portion of the precarcinomatous area that has escaped removal. It is here to be noted that unless the lines of incision on removal of the vulva for leucoplakic vulvitis are so planned as entirely to be without the diseased area, the leucoplakic condition returns in the scar.

These recrudescences in a portion of leucoplakic epithelium left behind at the original operation are in no way to be confounded with secondary metastatic nodules. Such nodules are subepidermic in origin, whilst the recrudescence is obviously arising from a certain group of hypertrophied interpapillar processes belonging to an area the whole of which is leucoplakic and precarcinomatous (Fig. 8).

Glandular Metastases.

Glandular involvement occurs late as compared with squamous-celled carcinoma in other sites. The inner set of horizontal inguinal glands are those first affected on one or both sides. When affected they rapidly enlarge, and subsequently often break down. Sections cut from them at this period may fail to demonstrate the nature of the change, so complete is the destruction of the cells that has taken place.

All enlarged glands are not, however, carcinomatous. It has been shown by one of us[1] that lymphatic glands prior to their invasion by carcinoma cells are enlarged by a plasma cell proliferation affecting the trabecular elements together with a great hypertrophy of the germinal areas and an increase in number of the lymphocytes derived from them. Glands thus affected may attain a large size, mimicking true carcinomatous enlargement so closely that microscopical investigation is alone competent to decide its nature.

Treatment.

We have tried a large number of remedies for the pruritus in leucoplakic vulvitis, and have found that most of them have failed to give relief. We have had the greatest success with zymocide lotion, resinol ointment, and the *x* rays. In view, therefore, of our pathological findings, we advise that the affected area should be excised in all cases where these fail, and since we have shown that a permanent change of character has taken place in all the epithelial cells over the affected area, the excision should be a wide one lest the disease recur again in the scar, which has happened to us in two of our cases.

The treatment for kraurosis vulvae is to dissect out the painful parts complained of and enlarge the vulval orifice. In carcinoma the inguinal glands on both sides should be removed, whether enlarged or not.

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A NEW COLOUR-PERCEPTION SPECTROMETER.

BY F. W. EDRIDGE GREEN, M.D., F.R.C.S.

THE instrument here described is a spectrometer so arranged as to make it possible to expose to view in the eyepiece the portion of a spectrum between any two desired wave-lengths. It consists (Fig. 1) of the usual

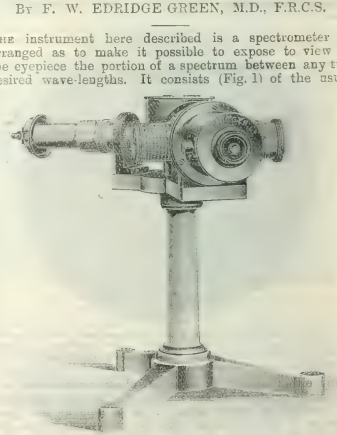


Fig. 1.

parts of a prism spectroscope—that is, a collimator with adjustable slit, prism, and telescope with eyepiece—of the following dimensions:

Focal length of collimator and telescope object glasses = 5 in. (127 mm.). Clear aperture of collimator and telescope object glasses = 1 in. (22 mm.). Slit 7 mm., effective length of jaw, with wedge for reducing the effective length of the slit, protective cap, comparison prism, and screw adjustment for the slit with divided head (see Fig. 2). The prism is of flint glass, 1.65 refractive index for D. Eyepiece, Ramsden form, focussing on to the shutters described below.

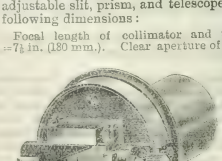


Fig. 2 (3/4 actual size).

In the focal plane of the telescope are two adjustable shutters with vertical edges, the shutters being carried by levers which rotate about centres near the object glass of

the telescope. The shutters can be moved into the field from right and left respectively, each by its own micrometer screw, and to each screw is attached a drum, the one being on the right and the other on the left of the telescope. On each of these drums is cut a helical slot in which runs an index, and the drum is engraved (see Fig. 5) in such a manner that the reading of the index gives the position in the spectrum of the corresponding shutter in wave-lengths direct.

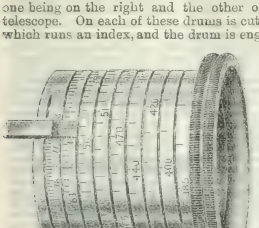


Fig. 5.

Thus, it will be seen that if, for instance, the reading on the left drum-head is 5,320 and that on the right drumhead is 5,920, the region of the spectrum from wave-length 5,320 to wave-length 5,920 is exposed to view in the eyepiece.

An adjustment for the shutters is provided in case of possible zero alterations in course of time. These adjustments—which are provided for each shutter independently—are reached by unscrewing the small screw caps on the right and left of the eyepiece end of the telescope. This exposes a screw with a square head, on to which head fits a key which is provided. To adjust the shutter the corresponding drumhead is set to the wave-length of one of the sodium lines. The slit is illuminated by a sodium flame, and the key is turned till the edge of the shutter exactly coincides with that line. The key is then removed and the reading checked. The drum will then read correctly throughout the entire spectrum.

Care should, of course, be taken to avoid pressing inward with the key, to which only a turning force should be applied.

The method of estimating colour perception described above will be found in detail in my book on *Colour Blindness* in the International Scientific Series, and in a paper in the *Transactions of the Ophthalmological Society*, 1907. It is the method which I originally advocated for testing colour perception, but with the two previous spectrometers devised by me the process was very tedious when quantitative observations were required. The same work can be done with this instrument in less than a twentieth of the time. It is made by A. Hilger, 75A, Camden Road, N.W.

The instrument should be used as far as possible with a known quality and intensity of light. The observer should first ascertain the exact position of the termination of the red end of the spectrum, the left-hand shutter being moved across until every trace of red just disappears. The position of the pointer on the left-hand drum is noted, and the wave-length recorded. The left drum is then moved so that the shutter is more towards the middle of the spectrum. The right-hand drum is then moved until the pointer indicates the wave-length recorded as the termination of the red end of the spectrum. The observer then moves the left-hand shutter in and out until he obtains the largest portion of red, which appears absolutely monochromatic to him, no notice being taken of variations in brightness, but only in hue. The position of the pointer on the left-hand drum is recorded. The left-hand shutter is then moved more towards the violet end of the spectrum. The right-hand shutter is then placed at the position previously occupied by the left-hand shutter. In this way the whole of the spectrum is traversed until the termination of the violet end of the spectrum is finally ascertained with the right-hand shutter. The variation of the size of the patches and the terminations of the spectrum with different intensities of light can be noted. The instrument can also be used for ascertaining the exact position and size of the neutral patch in dichromics, the position of greatest luminosity, and the size and extent of pure colours. When it is used to test colour-blindness, the examinee should first be shown some portion of the interior of the spectrum, and then asked to name the various colours which he sees. In this way he will have no clue to the colours which are being shown him.

The cost of the construction of the instrument was defrayed by a grant from the Royal Society.

TREATMENT OF POST-OPERATIVE SHOCK BY PITUITARY EXTRACT.

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THE great disadvantage of adrenalin in the treatment of shock is that though it produces great rise in blood-pressure and increase in arterial tone, this effect passes off in an hour or so, and the dose has then to be repeated. Any drug which would produce the same effect without the disadvantages mentioned would be a distinct advance. This I think has been discovered in pituitary extract.

I am indebted to Messrs. Burroughs and Wellcome for the samples of the drug which I used in the three following cases. It is an extract of the posterior lobe of the pituitary body, and is a fluid sterilized in the autoclave, each phial of which contains 1 c.cm. of a 20-per cent. solution.

The contents of one of the phials were injected intramuscularly into the patient's arm before the patient had fully recovered from the anaesthetic. The effect was almost immediate, and the almost imperceptible pulse soon became large and bounding. This lasted from twelve to sixteen hours, and gradually passed off. Not only did the pulse become larger in expansion but it was also slowed, and whereas it had been irregular it became regular. This effect seems due not only to the action of the drug on the blood vessels, but also on the heart. I gave the injection in conjunction with normal saline per rectum.

CASE I.

A woman was admitted complaining of great pain in the abdomen. She had a swelling on the right side over the appendicular region and extending up above the umbilicus. The temperature was 101°, and the pulse 120. She stated that she had had this pain and temperature for over a week before admission. Abscess of the appendix was diagnosed, and immediate laparotomy decided on, as the patient was then somewhat collapsed. On the abdomen being opened an ovarian cyst was found with a twisted pedicle, and which was completely bound down by adhesions at the base; 12 to 15 oz. of foul-smelling pus were evacuated. The pedicle was transfixed, the adhesions tied and cut, and the cyst removed. The whole operation took an hour and three-quarters. The patient was put back to bed in a very collapsed condition; the pulse was small, thready, irregular, and exceedingly difficult to feel. The heart was fast and irregular, and the apex beat almost imperceptible. Pituitary extract was injected into the deltoid muscle, and in five to ten minutes the pulse became gradually larger in expansion, more regular both in time and expansion, and slower. In about a quarter of an hour the pulsation in her temporal arteries could be seen at some yards' distance. In about half an hour's time 5x of normal saline were given by the rectum, and the same quantity four-hourly during the night (the operation was finished at 10 p.m.). The next morning the pulse was still large, and the effect of the pituitary extract was then evident, but gradually passed off in about fifteen hours. The woman recovered.

CASE II.

A boy, aged 2, was admitted suffering from intussusception of ileo-cæcal type, with a history of sixteen hours' duration. An hour after admission he was operated on and the intussusception reduced. The last portion of the bowel was very difficult to reduce, and was very dark in colour and congested, with a considerable deposit of lymph. It was returned, and the wound closed. The boy was put back to bed, and was found to be suffering from considerable shock. An injection of 7 minims of pituitary extract was given into the deltoid muscle, and in a few minutes the small, feeble pulse became large, regular, and forceful. Saline was also given by the rectum in small quantities. The effect lasted about twelve hours, and the boy made an uneventful recovery.

CASE III.

A man suffering from Jacksonian epilepsy was trephined, and a considerable area of bone nibbled away over the motor area. A tumour was there found, but proved irremovable. The wound was stitched up, and the patient put to bed. There was considerable shock. An injection of 1 c.cm. of pituitary extract was given into the deltoid muscle, and the same effect was observed as in the other cases. The man got over his operation, and left the hospital.

In the adults the full dose of 1 c.cm. was given. There were no signs of any ill effects whatsoever. There was

an increase of the urine passed next day after operation, and it was passed naturally. There was no increased tendency to haemorrhage. The only disadvantage observed was that there was a tendency to reaction after the effect of the injection had passed off, but this was transitory, and the patient was then over the worst period.

I have to thank Mr. Stamford for permission to publish the first two cases, and Dr. Foulds for the third.

INVERSION OF THE APPENDIX AND CAECUM.

By W. J. GREER, F.R.C.S IREL.,
CONSULTING SURGEON TO THE PONTYPOOL HOSPITAL; SURGEON TO THE NEWPORT AND COUNTY HOSPITAL.

THE number of recorded cases of partial or complete inversion of the appendix appears to be small, so the comparative uncommonness of the condition, as well as its interest, leads me to think that observations on an additional example are worthy of recital.



FIG. A.—Mucous surface of excised portion. 1, Colon; 2, ileo-caecal valve; 3, inverted appendix.

History.

A girl, aged 7, was admitted to the Newport and County Hospital under my care on February 29th, 1908, with a history of having had attacks of pain in the abdomen for five weeks previously. There was some diarrhoea at first, but lately the bowels had acted only in response to aperients. Blood had been passed by the rectum, and vomiting was frequent.

Condition on Admission.

The patient was obviously very seriously ill, the pulse small and rapid, the abdomen somewhat distended. Examination revealed a soft elongated tumour in the region of, and parallel to, the direction of the transverse colon; the tumour was freely movable, and manifestly tender to touch. A diagnosis of intussusception was ventured, and immediate coeliotomy determined on. A C E. was administered by Dr. R. McC. Linnell, and Dr. O. K Wright assisted at the operation.

Operation.

A vertical incision about 10 cm. long was made through the middle of the right rectus; the small intestine was found to be dilated and the caecum was not visible. The portion of the ascending colon in view was widely and tightly distended and fixed to the posterior abdominal wall. The appearances were very confusing, as three portions of small gut seemed to enter the base of the mass; on pulling gently on these one was seen to come away out of the centre of the mass, and proved to be a loop of small intestine which had merely packed itself into the hollow—most likely very recently, as it was not in any way strangulated. This disposed of two of the entering portions of small intestine; the third was then defined as the termination of the ileum connected with an intussusceptum. Traction on this caused the tumour in the transverse colon to recede rapidly until about midway in the ascending colon, where it became immovable, and further reduction was impossible without serious tearing of the structures. A longitudinal incision was then made in the colon, the mass extracted, cut off at its neck, the disparity in the calibre of the tubes adjusted, fine silk sutures inserted, and the junction returned into the colon; a line of similar suture material was carried round the joint on the peritoneal aspect, the wound in the intussuscipiens united with a double row of sutures, a pint of hot saline poured into the peritoneal cavity, the abdominal incision closed with through-and-through sutures of silkworm gut, a wick of gauze carried down to the vicinity of bowel repair and retained for forty-eight hours.



FIG. B.—Peritoneal surface of excised portion. 1, Colon; 2, ileum; 3, tip of the appendix.

After-History.

The child made an excellent recovery, and was discharged well on March 26th, 1908. I have seen the patient recently, and she is in good health.

Description of Part Removed.

An examination of the specimen shows it to be composed of caecum and colon 11 cm. in length, its width when cut vertically and spread out, 9 cm. The length of ileum removed is 5.5 cm. The appendix is 4 cm. long, 1 cm. of its base being inverted; the meso-appendix is thick and strong. The distance between the centres of the aperture of the appendix and ileo-caecal valve is 3 cm.

A careful scrutiny does not reveal any evidence of the ileum having passed through the ileo-caecal valve.

The accompanying illustrations will demonstrate the parts more clearly than any more detailed description.

Fig. A shows the mucous surface; the figure 1 is on the colon; 2 on the ileo caecal valve; 3 the inverted appendix.

Fig. B shows the peritoneal surface; the figure 1 is on the colon; 2 on the ileum; 3 on the apex of the appendix. The mass is swollen, oedematous, in parts almost gangrenous; the

ileo-caecal valve is not occluded by any growth or foreign body, the appendix is also patent, nor is there any concretion or polypus either in it or the ileum.

Kelly and Hurdon in their work on *Vermiform Appendix* (1905) draw attention to the rarity of intussusception of the appendix, either alone or associated with other intussusceptions, and also to the fact that such an occurrence usually takes place in children, for in only one of the 19 collected histories was the patient an adult. These authors divide the cases into three groups:

1. Those in which the appendix is carried along incidentally with the intussusceptum.

2. Those in which the intussusceptum starts at the appendicular junction portion of the colon.

3. Those in which there is an inversion of the appendix either with or without inversion of gut.

The case now recorded falls, I think, into the third class; that is to say, the appendix was partially inverted, or to be more accurate, it was turned inside out at its base, and for some distance, and travelled thus up the ascending into the transverse colon, maintaining its position at the apex of an intussusceptum, which was composed of inverted caecum and ascending colon.

Battle and Corner also allude to the condition in some detail in their work on *The Surgery of the Diseases of the Appendix Vermiformis and their Complications* (1904), and Mr. E. M. Corner deals with the subject in an article in the *Annals of Surgery*, November, 1903, p. 708.

In my case it is probable that the appendix became invaginated first, and that the caecum and ileo-caecal valve followed; the partial inversion of the appendix having excited the caecum to contract, the caput coli being then drawn in, blocking the ileo-caecal valve, the colon eventually taking action, seizing the mass and carrying it forward, assisted by the peristalsis in the small intestine resulting from the more or less blocked valve. The fact that the appendix is in the van lends support to this theory, though there is no evidence as to the nature of the *vis a tergo* inciting the primary appendicular invagination; but it may be that the invagination of the caecum occurred first, and that vigorous contractions of the colon took the mass onward; this latter being swollen and unable to recede, the squeezing process may have produced the inversion of the appendix, complete turning inside out being prevented by its thick short mesentery. Again, it is also possible that the ileo-caecal valve may have entered the colon first and carried with it the base of the appendix (Gerlach's and Nanninga's folds), and the subsequent squeezing, moulding, and turning inside out process may have thrust the inverted appendix to the front.

This last might have happened, as it seems that the distance between the ileo-caecal and appendicular openings is perhaps less than usual (3 cm.), and consequently the appendix would be readily conveyed with the valve. It is not possible to express a decided opinion as to the extent to which the other factors—long mesentery, irregular peristalsis, etc.—usually assigned as causative of the process of invagination contributed to the result. It will be clear that the caecum must have been freely movable, and its absence from the field at the early stages of the operation gave a semblance to a case of undescended caecum.

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ACUTE MASTOID SUPPURATION AND SUPPURATION IN THE NECK

TREATED WITH STAPHYLOCOCCUS VACCINE.

BY JAMES SCOTT, M.D., C.M., B.Sc. (PUB. HEALTH), D.P.H., ETC., EDINBURGH.

THE case is that of a man, aged 56, who has always enjoyed excellent health, never having suffered from any serious illness.

On September 11th, 1908, while on holiday, he caught a severe chill, followed by acute pains in the right ear and right side of the neck. Hot fomentations were applied and the ear syringed, but the pain was not relieved until the tympanum burst on September 13th (two days after the chill), when pus was freely discharged.

On September 26th he returned to his home in Edinburgh, and on examination pus was then observed coming from the middle ear through the perforation in the tympanum. The ear was syringed with boric lotion and powdered boric acid insufflated daily, but the discharge continued. Mercury perchloride lotion—1 in 2,000, then 1 in 1,000—was tried; this had no effect in diminishing the pus.

On October 23rd a slight swelling appeared over the mastoid region, which gradually enlarged and extended downwards behind the sterno-mastoid and backwards towards the occiput. It was evident the mastoid cells were involved and that operative interference was necessary. Dr. Logan Turner, Ear Department, Royal Infirmary, Edinburgh, was consulted, and he advised operation.

Operation.

On November 4th Dr. Logan Turner, assisted by myself, opened into the mastoid cells and the antrum, which contained a considerable quantity of pus; close to the tip of the process and running in a direct aspect the line had given way, forming a Bezold perforation, through which the tissues of the neck had become infected. A second incision was made along the posterior border of the sterno-mastoid on a level with the angle of the jaw; on passing a pair of dressing forceps behind the muscles, pus escaped freely. Drainage tubes were inserted into both wounds, which were dressed with aseptic gauze every second day. Pus ceased to come from the ear on the fourth day after operation, but continued to flow copiously from both wounds. Gradually it diminished, and the wounds were healed by December 15th.

The patient went to the country from January 4th to January 16th, 1909, with the intention of taking a rest before returning to duty on January 18th; while there a small abscess formed in the wound behind the ear; it burst, and pus began to run in small quantities. I syringed the abscess with perchloride lotion and dressed it with iodoform gauze, but it soon became evident that pus was burrowing its way backwards towards the occiput and downwards behind the sterno-mastoid. Dr. Logan Turner was again consulted, and he suggested that the abscess should be opened. On March 2nd, 1909, three incisions were made—one behind the ear, a second over the occiput, and a third over the tip of the mastoid; a large quantity of pus escaped from the three openings; drainage tubes were inserted, and the wounds dressed daily for a week, then every second day. Pus ceased to come from the posterior and inferior openings a fortnight after operation, but continued from the one behind the ear; it diminished for a time, but then began to flow so copiously that it saturated the dressings and ran down the neck so that I had to dress it daily. On April 11th I made two plate cultures: a loop of pus was spread over one plate, and the glass rod, after spreading the first plate, was drawn over the second. In twenty-four hours there were seventy-two colonies on the first, and

seven on the second. The organisms were then separated and grown in tubes, and were found to consist of:

1. *Staphylococcus pyogenes albus* (largest number of colonies).
2. *Diplococcus pneumoniæ* (Fraenkel).
3. A bacillus whose specific nature was not determined.

The amount of pus was increasing daily, and as it seemed to be caused principally by the staphylococcus, I determined to try a vaccine against the staphylococcus alone, and if the other organisms did not disappear, to use vaccines against them later.

On April 17th, 50 million staphylococcus vaccine (Wright) was injected into the left flank. For three days the pus diminished in amount, but gradually increased until on the sixth day the amount was as great as before injection.

On April 24th, 100 million staphylococcus vaccine was injected, and every tenth day a similar dose was given until he had had altogether eight injections. After the fourth dose there was no discharge, and the wound healed beautifully.

Before injecting the vaccine I consulted with Dr. James Ritchie, Superintendent of the Royal College of Physicians' Laboratory, Edinburgh, as to whether a mixed vaccine should be given. It was decided to try the staphylococcus vaccine, and you will observe how successful the results have been. There was never any rise of temperature after the injections, and the patient has not felt the slightest inconvenience; he has been regularly at work since January 18th, with the exception of a fortnight after the second operation, and now feels as strong and healthy as ever he did. In September, 1908, his weight was 12 st. 2 lb.; April, 1909, 10 st. 9 lb. His hearing in the right ear is now normal. He is now steadily gaining weight. The points I should like to draw attention to are:

1. The specific causes of the disease—the three different organisms which had probably found their way from the pharynx by the Eustachian tube to the middle ear.

2. When the wounds healed up the first time organisms had remained in the tissues, and a second chill reduced the vitality of the parts, thus allowing the organisms to become more active.

3. That it is not always necessary to estimate the opsonic index when the amount of discharge is seen and the effects of the dose of vaccine easily gauged.

4. When there is more than one organism present, by using a vaccine against the most numerous or virulent type, the others may be killed by phagocytes or die off.

5. In using antiseptics we may be killing only those organisms with which they come in direct contact in the wound, leaving those in the deeper parts to multiply.

6. In using a vaccine the organisms are attacked in every part through the blood.

7. The point of greatest importance is: Had I used the vaccine immediately the pus was seen in September, 1908, would it have had the same effect as it afterwards had? This question I am inclined to answer in the affirmative, and I should advise those who have similar cases to try the stock vaccine of Wright or one made from the organisms of the discharge.

IS RADIUM A CURE FOR CANCER?*

By DR. LOUIS WICKHAM,
DIRECTOR OF THE RADIUM INSTITUTE, PARIS.

If I think it useful to write an article on this subject it is because it has become apparent that in different quarters a misunderstanding has arisen as to the conclusions which I have drawn at various times in my lectures.

Some medical men have limited their opinions to the reservations I made in my communications, and have remained incredulous of the value of radium. Others, who were greatly impressed by such good results as I have obtained, have gone too far, overstepping my thoughts and the facts themselves, and have helped to establish a current of exaggeration and enthusiasm which is far from being scientific.

It is therefore necessary to put a stop to these false impressions with regard to the real value of radium.

The following conclusions are drawn from the 600 cases which I have treated during the last five years with Dr. Degrais.

It must first be stated that the word "cancer" is used in its widest sense, signifying a whole series of malignant new growths histologically different, including epitheliomata, carcinomata, lymphosarcomata, sarcomata, lymphadenomata, mycosis fungoides, etc.

Considered from this point of view I can affirm, from a study of some cases of tumours of each variety, before, during, and after the treatment, that the malignant evolution of these tumours may not only be arrested for months, but that occasionally these tumours have entirely disappeared, giving the impression of real cure, the rays having on cancer cells a somewhat selective action.

This first point is most striking, and it has led, from the point of view of practice, to an exaggerated favourable conclusion. We must not rest satisfied with the observation of the growths alone: we must reason as medical practitioners, and place ourselves in the position of the patient with cancer, and see if in practice the patient derives any definite benefit from these selective effects of radium, and to what degree.

On this new ground, practice, the use of radium is faced by numerous material and other difficulties and drawbacks such as the following:

1. If the cancer is voluminous and increasing rapidly in size, the practitioner has to deal with the following vicious circles:

(*a*) The necessity of acting rapidly;
(*b*) The fear, when acting too rapidly, and with large doses, of causing toxaemia, and accidents of which he must be particularly on his guard, if he is not sufficiently experienced in the technique, in all cases of large cancers, for example, those of the abdomen.

2. There is no recourse against metastatic growths at a distance:

(*a*) Cancerous migrations by lymphatic vessels;
(*b*) Cancerous migrations by the blood stream;
(*c*) Migrations by the serous surfaces;
(*d*) Migrations by the natural passages.

Radium cannot at present have other pretensions than to act on lesions which are localized and sufficiently accessible, or rendered accessible. In cases with generalization, the resources of radium are limited to the reduction in size of the principal tumours, to the arrest of haemorrhage and secretion, and to the diminution of pain.

3. If the cancer is localized and accessible, but inoperable, radium, with some rare but very remarkable exceptions, can only diminish or stop the haemorrhages and secretions, and occasionally render the tumour operable; but, in spite of these great advantages, which result in a prolongation of life, the patient, in the end, dies of his cancer.

4. The influence of radium diminishes as the tumour becomes less and less accessible. It is true that the rays of great penetrating power act at a depth without serious injury to the skin surface, but the results will be more uncertain as the tumours are less accessible. The few cases of inoperable cancer which were despaired of, and which I have been able to reduce and maintain, were all easily accessible cases (cancer of the parotid, of the glands in the neck, sarcoma of the shoulder, cancer of the rectum situated at a distance of less than 10 cm. from the anus, etc.).

5. Certain tissues are infinitely less favourably acted on by radium than others, for example, the mucous membranes, especially of the buccal cavity (tongue, tonsils, pharynx, etc.), and in these cases must be added the material difficulty of reaching the region conveniently, and applying the heavy screen-filters and leaving them in position for a sufficient length of time.

6. Lastly, if the cancer is very extensive, a radium-therapeutist has great difficulty in obtaining the stock of radium necessary to act sufficiently in every direction, for the number of doses needed in a number of cases is very high.

Now it is easy to understand from our previous knowledge that the use of radium is limited by a whole series of material or clinical conditions. The result is that:

(*a*) To speak in a general way of the cure of cancer by radium, without specifying and explaining circumstances, is to make use of antiscientific and inexact language; and

* I must express my best thanks to Dr. Robinson, of Paris, for his kindness in translating this paper.

(*b*) Too great enthusiasm in radium is apt to lead the doctor who possesses any to use it too much, and thus deprive the patient of the benefits of other treatments which have already proved their utility, especially surgery.

At this point I wish to separate myself from those who extol radium beyond reason. I have been content during the last five years to watch over, observe, and classify the facts, and that is all that must be done at present; any definite conclusion concerning large cases of cancer would be quite premature.

When a doctor who possesses radium is consulted in a case of cancer he should proceed as follows:

(*a*) In cancers of the skin which are localized, superficial, non-inflammatory, and of rather small dimensions, radium is of great benefit, and he can, without exaggeration, assure the patient of a cure, but only on condition that the patient binds himself to come once each month for a long period to see the doctor, to catch the first trace of any relapse; but the patient must be told also that many other means exist—such as surgery, *x* rays, etc.—which cure just as well.

(*b*) In all other cancers, whatever their nature, the doctor must first consider if these other means cannot do better. If surgery can do better (as in excision of the breast for an operable cancer, or in excision of a commencing and operable cancer of the tongue, etc.), then radium can be suggested to consolidate the cicatrix after the operation: treatment by radium is then an auxiliary to surgery, and I consider it better than the *x* rays on account of the penetrating power of the radiations.

If surgery is powerless because the cancer is too advanced, extensive, and consequently hopeless, then radium can be employed as a last resource to alleviate pain and prolong life: it can also be applied after the chief part of the growth has been removed by the knife, but in those cases the patient's relatives must be duly warned of the temporary nature of the relief.

If the surgeon cannot intervene on account of the seat or the depth of the lesions, then he can resort to the knife to open the way for the more direct application of radium apparatus (chelotomy, etc.) by means of a catheter.

If the surgeon is unable to intervene on account, not of the gravity of the cancer, but because the condition or age of the patient prevent, or because he refuses an operation, then radium can be applied. It is in these rare conditions in which radium can be applied to less advanced lesions that this method would progress and show what results it can produce, and give statistics which would warrant a bolder intervention in other cases.

Such is the line of treatment I have followed to the present time.

When dealing with a new therapeutic agent which has given such brilliant results from some points of view, one must be armed with all one's *sang froid*, and observe the facts with justice. The question thus presented of the part which radium is actually able to play in the fight against cancer places it, in spite of the reservations enumerated, in a good position, because it is a valuable auxiliary in sufficiently experienced hands and in certain cases which one must know how to distinguish.

The future is still more promising; the results I speak of I have obtained with considerable doses, it is true, as compared with those of the first investigations, but these doses are diminutive in comparison with what will soon be available. In the first instance 1 mg. or 1 or 2 cg. of pure radium was employed, now we use 5 to 50 cg.; soon we shall be able to count on several grams. The progress observed between the first two phases gives some idea of what may perhaps be realized in the future.

At all events, at the present time it would be unjust, in judging the value of radium-therapy, to limit its advantages to its action on malignant tumours; it must be considered as a whole, and especially in its action on angiomata of a prominent and erectile kind; on cutaneous vascular tumours, cheloids, certain rebellious forms of eczema, obstinate tuberculous glands, certain forms of lupus; and then, considering the ground already won, it is difficult, without any exaggeration, not to recognize that radium-therapy, as I have often repeated, has won its place in the therapeutic armamentarium, that the fine French discovery of Curie and of Madame Curie has borne definite and certain fruit in the medical field.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A SIMPLE METHOD OF COUNTING LEUCOCYTES.

THE following method is easy, simple, and capable of rapid completion. The implements cost only a few pence; the results are much more uniform (in my experience) than those of the Thoma Zeiss apparatus; it is far less tiring than the old methods; and accurate results can be obtained by those who only seldom have occasion to count leucocytes.

The method depends on the obvious fact that when equal-sized drops of diluted blood are placed on a clean slide they should cover equal areas and contain equal numbers of cells. The question of the different degrees of viscosity of different samples of blood may be neglected on account of the high dilution used.

The blood is drawn in the usual way, and diluted ten or twenty times with water, which had better be distilled. Any of the recognized mixing pipettes may be used, but the following method is good and simple:

By means of a capillary tube and teat a measured quantity of blood is drawn up, and, in the same way, ten times as much water. The fluids are blown out into a watch-glass, and upon the little pool thus formed a stream of air is blown through a capillary tube. The jet of air, when properly managed, forms a most efficient stirrer. A fair-sized drop of blood must be drawn if uniform results are to be obtained—enough to fill an inch and a half of capillary tubing is a suitable amount. If the blood has been mixed in a pipette it must be blown out into a watch-glass as soon as the mixing is finished.

Drops of the mixture are transferred from the watch-glass on to a slide by dipping the rounded tip of a glass rod into the watch-glass, and then touching the slide with the wet rod-end (an old clinical thermometer forms a convenient glass rod). The slide and rod should be free from grease; I generally pass them through a flame before use. The drops are placed in line on the slide, separated from each other by small intervals. A fresh dip must, of course, be made for each drop transferred. At each descent of the rod on to the slide or watch-glass a faint click should be produced by the contact. If attention is given to this trivial point the drops are more likely to be all of one size. It might be thought that more accuracy would be attained by measuring each drop out by means of a graduated pipette; but, practically, I think the above method is the better.

Ten or a dozen spots should be thus transferred to the slide, which is then dried in the sunshine or before a fire. Too quick drying may cause cracking of the films.

The dried slide is now very gently agitated in a dish of plain water until all the blood pigment is washed off and the slide may be held up to the light and examined. It will be seen that the place of each little spot of blood is marked by a small round film. If the slide is now examined under the microscope, with a small-aperture diaphragm, each spot will be seen to consist of a faint haze of débris evenly besprinkled with dark, conspicuous leucocytes. The clearness of the demonstration may be increased by staining the films with a watery solution of methylene blue. The enumeration may be done by counting the cells in several fields under a $\frac{1}{6}$ objective; but, owing to the comparatively small portion of each film that can be thus covered at one time, it is necessary to count a large number of fields if high uniformity is aimed at. I find the following method more accurate and less fatiguing:

A stiff paper obturator is cut to fit into the eyepiece tube of the microscope. The paper is pierced with ranks of holes made by a large needle. The middle hole should be large to facilitate focussing and finding. Twenty or more perforations should be used, and they should be of such size as to show two or three leucocytes per hole on an average with normal blood. The obturator should be fitted into the middle of the eyepiece tube; a little manipulation will soon show the best position.

A low power should be used in counting, for then a wider field is covered, and the result is more representative of the whole film. If there are ten films on the slide, it is plain that by counting a field from each film one obtains a very good test of how well the blood has been mixed. I have never found any but the smallest variations when

the mixing has been done by the method described above. Two to four fields, each from a different film, is a quite sufficient number to count for ordinary purposes. To do this takes only a very few minutes. The field should be chosen approximately at the centre of each film.

The average number per field for normal persons is noted. It of course stands for about 3,000 cells per c.mm., and the degrees of leucocytosis are calculated from this. Or a standard may be established by comparing the first few counts with those of a Thoma-Zeiss or other haemocytometer.

Of course the same glass rod and obturator must be used for all counts.

V. T. CARRUTHERS, M.B., Ch.B., F.R.C.S.Edin.,
Colombo, Ceylon. Lieut. R.A.M.C.

Reports

on

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GENERAL HOSPITAL, WOLVERHAMPTON.

PARTIAL RESECTION OF THE BLADDER FOR EPITHELIOMA.

(By W. F. CHOLMELEY, F.R.C.S., Honorary Surgeon to the Hospital.)

A man, aged 69, came under my care at the end of May, 1909. He complained of a great deal of pain at the end of micturition, felt in the penis, chiefly at the tip. He gave a history of passing a few drops of blood at the end of micturition. Urine was passed about a dozen times during the day, and two to three times at night. His urine during the time he was in bed under observation contained a small amount of blood, but was sometimes free of it.

On May 26th I examined the bladder with a cystoscope, and saw a growth on the right side reaching down to within a short distance of the orifice of the right ureter. The examination did not cause much bleeding. I proceeded at once to open the bladder above the pubes so as to get a better view of the disease, and to ascertain if it was possible to remove it. I found an obviously malignant growth, about 2½ inches in its largest diameter. It had apparently invaded the muscular wall, but, as the bladder felt very movable, I did not think it penetrated any deeper, and so should be easily removed. I first divided the right rectus muscle to give more room, and then separated the bladder from the peritoneum and tissues on the right side with my fingers. This was done with comparative ease and little bleeding. At the same time I removed with scissors the growth, together with a fair margin of healthy bladder, including the whole thickness of the bladder wall. The resulting wound in the bladder reached to within ½ in. of the orifice of the right ureter. I closed the gap in the bladder with a continuous suture of catgut, except at the top, where I put in a rubber drainage tube. I also sutured the divided rectus, and placed a tube into the tissues on the right side of the bladder, and a small gauze drain into the prevesical space. The abdominal wound was closed at the top and bottom with silkworm gut. A catheter was passed into the bladder through the urethra, tied in, and connected with a Cathcart apparatus to keep the bladder as empty as possible.

The after-history was quite uneventful, and on July 19th he was discharged, passing all his urine the right way. He can now, six months after the operation, hold his water for three hours during the day, and I have no doubt that, as time goes on, he will be able to hold it much longer.

It is early yet, of course, to say whether he is going to be free from recurrence; but I am certain that the recurrence will not take place in his bladder, as the removal was so free. One cannot be so certain about the pelvic tissue and glands. I could not at the operation feel any enlarged glands, but that, unfortunately, does not prove that they were not infected. I did not completely sew up the bladder, as I know so well that, no matter how carefully one may drain it by a Cathcart apparatus, there is a great danger that the catheter may become stopped up by some blood clot in cases where a certain amount of oozing is to be expected. Should that happen the bladder suture will give way and there will be an extensive infiltration of urine into the tissues round the bladder. An extensive leakage in this case would have been very serious, if not fatal, as the pelvic tissue was so freely opened up.

A piece of the growth was sent to the Clinical Research Association, which reported as follows:

This is an epithelioma derived from the stratified epithelium of the bladder. It invades the muscular wall by means of solid ingrowths containing here and there modified cell nests.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, December 13th, 1909.

SAMUEL WEST, M.D., F.R.C.P., President, in the Chair.

The Anatomy of the Heart.

A PAPER on recent researches on the anatomy of the heart was communicated by DR. ARTHUR KEITH and Dr. IVY MACKENZIE. Dr. Keith, in reading the paper, said that some three years ago he published, together with Dr. Martin Flack, a paper on the muscular connexions between the various parts of the heart, and summed up the results of other researches which had been published at that time. In that paper there was described a small mass of peculiar muscle and nerves—a mass little bigger than a grain of wheat—which was constantly found at the termination of the superior vena cava in the right auricle, to which they gave the name of sino-auricular node. Because of its intimate connexion with nerves and the peculiar structure of its muscle fibres—similar to those of the auriculo-ventricular node described by Aschoff and Tawara at the commencement of the bundle passing from auricles to ventricles—they supposed that the sino-auricular node might prove to be the starting point of the heart's contraction. The sino-auricular node had no special muscular connexion with the auriculo-ventricular node except through the general musculature of the auricle. They were still of opinion not only that those nodes were devoid of a special connexion, but that they represented two quite different autogenetic systems in the heart. All those areas of specialized or primitive musculature, such as had been described as nodes, were really areas where the musculature of the heart came into an extremely intimate contact with the nervous system; nodes, indeed, were really neuro-muscular contacts. They found that those areas of the heart of the tortoise which Gaskell found to have the greatest power of originating the heart's impulse, and those of the eel which MacWilliam found were the most automatic, were areas made up of a mixture of nerve and muscle fibres. The appearances led to the belief that in these areas the nerve fibres became actually continuous with the muscle fibres, and that there were nucleated fibres which, from their structure and staining reaction, appeared to be intermediate between nerve and muscle fibre. To the cardiac areas which they regarded as made up of nerve and muscle fibres they proposed to give the non-committal name of "nodal tissue." Experiments would show that the auriculo-ventricular bundle was not only for the conduction of impulses from auricle to ventricle, but that through the bundle the condition of the ventricle was continually affecting the condition of excitability of the auricle. The bundle appeared from its nature to be not only a conducting but a co-ordinating mechanism. One of the chief results of their investigation had been to impress upon them the necessity of studying the special musculature of the heart in its relation to the extraordinarily abundant nerve supply of that organ. The excitable regions of the heart were those where the nerves came into a specially direct connexion with the specialized tissues which they had named "nodal." They had not touched on the abundant nerve supply to the sinuses of Valsalva at the commencement of the aorta and round the auriculo-ventricular orifices, which they regarded as end stations for sensory reflexes. The nerve plexuses at those regions were so close that zigzag experiments could not possibly

sever all the nerve connexions between auricle and ventricle. They were also of opinion that an entirely fresh description of the nerves to the heart was necessary, and that the fundamental differentiation must be into those nerves which supply the venous base or commencement of the heart (derived from the lower cervical sympathetics) and those which supply the terminal end or arterial base of the heart. It was those nerves which ended in the venous base which appeared to exercise the inhibitory and accelerating effects on the heart through the specialized nodal system.

Dr. THOMAS LEWIS spoke on the subject of auricular fibrillation and its relationship to complete irregularity of the heart as it occurs clinically, and referred to his preliminary communication on auricular fibrillation, which was published in the issue of the BRITISH MEDICAL JOURNAL for November 27th, 1909.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, December 1st, 1909.

Dr. BYROM BRAMWELL, President, in the Chair.

Radium Treatment.

DR. LAWSON TURNER, in a paper on radium, said the use of thin sheets of plaster, as in the Radium Institute, Paris, was neither so practicable nor so efficacious as the use of a fragment of the radium salt in an aluminium tube or capsule. He had found it specially valuable in the following conditions: In rodent ulcer, where it rapidly controlled the growth; in angioma, where it was curative in the subcutaneous and mixed forms, and produced marked improvement in the port-wine stains; in warts, where there was complete eradication; and in indurative leucoplakia of the tongue and mouth, where in one case after two applications the patient could chew and swallow hard food without discomfort that previously she could not have attempted. In early malignant tumours he did not advise its use. Operation must still have precedence, but after operation it might be used to prevent recurrence.

Dyspepsia and Early Tuberculosis.

Dr. A. DINGWALL FORDYCE drew attention to a form of dyspepsia observed in children, and often difficult to distinguish from early tuberculosis. An accurate diagnosis was all-important to permit of the proper treatment. It was assisted by the facts that in the non-tuberculous condition the digestion of fats, both of the ordinary fats in food and of cod-liver oil, was impaired; in the tuberculous case this capacity was unimpaired, and might be increased. An excess of ethereal sulphates in the urine was found in the simple chronic dyspepsias, and was absent in the tuberculous cases. In a non-tuberculous case the treatment should consist of a reduction of diet, and especially of fatty elements, rest, and the use of calomel in small doses, followed by strychnine. Dr. J. W. SIMPSON said he had found the only useful diagnostic between the two groups of cases to be the result of treatment. In his opinion the v. Pirquet reaction was unreliable. It occurred often in apparently healthy children. Dr. CHALMERS WATSON had met with these two similar clinical groups in adolescents, and in them the digestive capacity for fats was not a reliable guide. Dr. BOYD said that if the absence of ethereal sulphates in the urine of tuberculous cases could be established it would be a valuable sign.

Cases and Specimens.

The following were among the exhibits:—The PRESIDENT: A case of preataxic tabes, with gastric crises occurring at about six weeks' intervals, in one of which operation for appendicitis had been performed; under x-ray treatment the patient was improving. Mr. SCOT SKIRVING: A case of left middle meningeal haemorrhage, with paralysis of right arm and leg, and profound unconsciousness lasting two weeks after trephining, and followed by much impairment of memory. The mental and motor pareses have now practically disappeared, but lasted for eighteen months, during which the patient, formerly an expert calculator, bungled simple multiplications, and showed slurring of speech, especially of the letter "s." Dr. BOYD: A patient admitted with general oedema, albuminuria, and scanty excretion of urine, in whom a salt free diet was followed by disappearance of oedema and profound diuresis. A return to ordinary diet quickly resulted in the reappearance of general oedema, but on exclusion again of sodium chloride the former rapid improvement ensued, and had so far been maintained. Mr. ALEXIS THOMSON: A boy aged 11, in whom the middle third of the humerus had been resected on account of periosteal sarcoma, a portion of the fibula being inserted in its place; *x* rays were being used locally in this case to prevent recurrence.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, December 8th, 1909.

Dr. F. W. N. HAULTAIN, President, in the Chair.

The Rational Puerperium.

DR. J. W. BALLANTYNE read a paper with this title, and owing to the great interest of the subject, the discussion was postponed till the next meeting of the society.

Early Abortion and the Anatomy of the Ovum.

Dr. B. P. WATSON and Mr. H. WADE described and illustrated by lantern slides the histological changes associated with an early abortion and the anatomy of the ovum. The specimen was obtained from a patient aged 24, who had borne two full-time children, of whom the first was alive and healthy and the second had died nine days after birth; then a series of abortions occurred at different stages in the first half of pregnancy. Each abortion was preceded by continued haemorrhage. Antisyphilitic treatment had had no effect, but syphilis could not be rigorously excluded. Curettage also had been tried without avail. The menstrual losses were always profuse. The specimen consisted of a complete decidual cast of the uterus, containing *in situ* a pea-like ovum 1 cm. in diameter. Pregnancy had not advanced beyond the third week. On section the vessels of the decidua vera, serotina, and reflexa were found to be surrounded by a definite wall, composed of a fibrous tissue deposit and an endothelial proliferation, which reduced the size of the lumen. The changes were comparable with the sclerosis of uterine vessels occasionally found about the climacteric period. At one part thrombosis in a narrowed vessel had led to the necrosis of a lobule. The same pathological condition was found in the vessels of the resting mucosa, obtained from a previous curetting. The glands showed a degree of enlargement and proliferation. From the history and the changes in the resting mucous membrane and decidua, it was suggested as probable that the vascular change was causally related to the series of abortions. Whether it was primarily due to syphilis, or to a localized toxic absorption from the uterine mucous membrane, was left undecided. Serial sections, almost exactly transverse, of the embryo and its membranes were shown. They demonstrated with diagrammatic clearness the structure and relations of the early embryo. Dr. BARBOUR and Dr. YOUNG made remarks on the paper.

GLASGOW SOUTHERN MEDICAL SOCIETY.

Thursday, November 25th, 1909.

Dr. W. K. PEDEN, President, in the Chair.

MR. A. E. MAYLARD, in a paper on *Duodenal ulcer*, pointed out that there was no single symptom pathognomonic of this disease, but a condition of hyperchlorhydria almost invariably preceded the ulceration. Hence the greater prevalence of the condition in males, in whom the first part of the duodenum had an upward direction, whereas in females it was almost transverse. Owing to the frequency of a history of recurrent attacks of "acid dyspepsia," the author had formulated the law that "recurrent hyperchlorhydria is duodenal ulcer." Characteristic pain was not present until actual ulceration had taken place, and then, however it might be explained, the onset corresponded with the time when gastric digestion had proceeded far enough to allow of the food being passed through the pylorus. Nevertheless the pain at night—also characteristic—had no special relationship to the last meal. The occurrence of haemorrhage was purely accidental, and was not as a rule rapidly fatal, because the duodenum as compared with the stomach was only slightly vascular. Usually the haemorrhage was small in quantity, and caused tarry motions of a markedly putrid kind, but occasionally bright red blood was passed per rectum, and this was not easily

explained. Dr. W. MACLENNAN referred to the frequency of chronic pancreatitis in cases of duodenal ulcer. This by reducing the pancreatic secretion partly accounted for the putridity of the tarry motions. Attacks of jaundice were also much more common than in cases of gastric ulcer. The occurrence of red blood in the stools indicated a large haemorrhage, and that all the blood had not had time to be converted in its passage down the intestine. A watch should be kept for "latent haemorrhages," that is, haemorrhages so small as not to cause definite melaena, and the stools should be tested for blood after elimination of red or "underdone" meats from the diet. It should be ascertained that the hyperchlorhydria was real, not simply due to organic acids caused by fermentation, by giving test breakfasts. Dr. J. W. LEITCH suggested that the occasional appearance of red blood in the stools might be due to carbon-monoxide-haemoglobin. The PRESIDENT said that hyperchlorhydria was common in the morning, after a test meal given the previous evening. In suspicious cases systematic testing of the stools for blood should be carried on.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, December 9th, 1909.

Mr. W. H. H. JESSOP, Vice-President, in the Chair.

Conjunctivitis.

MR. DOYNE described a form of conjunctivitis in which the Meibomian glands were affected with *Staphylococcus aureus*. This gave rise to definite acute attacks, especially after exposure of the eyes. Many cases described as chronic conjunctivitis were due to this cause, as well as many other cases of marginal blepharitis. Mr. HARMAN said that seven years ago he made bacterial cultures from the normal healthy eyes of school children by passing a platinum loop along the mouths of the Meibomian glands, and in every case he got enormous numbers of *S. aureus* and *S. albus*. Mr. DOYNE, in reply, asked members to look out for such cases and endeavour to ascertain the exciting cause, but for five days nothing but water should be used in the eyes.

Guttate Iritis.

Mr. DOYNE also described a condition, which he called guttate iritis, occurring in elderly and gouty persons. It presented the appearance of one or more warts at the pupillary margin of the iris, which came on without any noticeable inflammatory appearances and sometimes disappeared without giving rise to any inflammation. At other times inflammatory symptoms appeared and adhesions to the lens took place.

Congenital Sarcoma of the Orbit.

Mr. M. S. MAYOU recorded the following case of congenital sarcoma of the orbit:

A. P., male, aged 12 days, was admitted to the Central London Ophthalmic Hospital on March 13th, 1908. No eye had been seen since birth on the left side. The patient was a strong, healthy infant, and presented no other congenital abnormalities. The right eye was to all appearance normal. Filling the left orbit and protruding from between the lids, which could not be closed, was a red, slightly oedematous mass. It was irregular on the surface, and covered by the epithelium of the conjunctiva, except where it was exposed in the palpebral aperture, where it had started to ulcerate. There was no enlargement of the preauricular gland, and no eye could be seen. On March 15th the orbital contents were eviscerated, leaving the eyelids in position. The child made a good recovery, the wound granulating and healing over with epithelium. On June 16th, 1908, the child returned to the hospital with a large recurrent mass filling the entire orbit, and bulging forward the upper lid and protruding between them. Complete evisceration of the orbit was performed, the child making a good recovery. After the operation the patient attended the hospital for four weeks, but since then had been lost sight of. The contents of the orbit submitted for examination was hardened in formol. The eye, which was embedded in the upper part of the tumour, had been cut open, and the sclerotic divided posteriorly in several places. It appeared about the normal size, the cornea, anterior chamber, iris, ciliary body, and lens being normal. The condition of the posterior part of the globe could not be made out, but there was no evidence of any cystic protrusion therefrom. No definite orbital structure could be recognized, the whole being involved in the tumour. It was composed of medium-sized spindle cells. The walls of the vessels within the tumour were composed for the most part of its cells. Haemorrhages had taken place into the growth in many situations. The recurrent tumour examined microscopically, exhibited the same characteristics as the primary tumour, except that the haemorrhages were not so numerous.

The typical microscopical appearances, together with the recurrence of the disease, led the author to believe it to be a spindle-celled sarcoma of the orbit developing during intrauterine life. He had been able to discover the records of two similar cases which exhibited much the same characteristics.

Lymphosarcoma of the Lacrymal Gland.

MESSRS. A. P. L. WELLS and M. S. MAYOU, in a paper on lymphosarcoma of the lacrymal gland, pointed out the want of proper classification of tumours of the lacrymal gland. They divided them into those derived from the epithelial, the connective, and the lymphoid tissues. The case which they brought before the society was one of the latter type.

M. A., female, aged 66, was admitted to the Central London Ophthalmic Hospital on January 14th, 1909. She was a strong, healthy woman, no anaemia, no glandular enlargement. There was nothing in her previous history of note. She complained of a swelling which she had noticed for a considerable time at the upper and outer part of the left orbit in the situation of the orbital portion of the lacrymal gland. The surface of the swelling was somewhat irregular and about the size of a large walnut. It was soft, almost fluctuating, rounded in outline, and moderately freely movable. From January to April, whilst under observation, it gradually increased in size, and on admission into the hospital on April 8th there was, in addition to the above symptoms, displacement of the eye downwards, and the tumour seemed to have become slightly attached to the margin of the orbit, which seemed thickened. There was no enlargement of the salivary or lymphatic glands, and no signs of dissemination. On April 9th an incision was made over the tumour, which was found to be encapsuled except in one situation, where it was ruptured. After removal it was seen to be about the size of a walnut and surrounded by a capsule, which was evidently formed from the original capsule of the gland. This was composed of fibrous tissue, and was much thicker in some positions than in others. In some situations it was much infiltrated by the cells of the growth, whilst in one the tumour had penetrated it. Microscopically the tumour proved to be a small round-celled sarcoma.

The authors had been able to find records of eight cases recorded in literature exhibiting much the same characteristics. The points about the tumours were the late age at which they occurred—all the patients being over 38; their slowness of growth, three to four years, and the absence of glandular enlargement. These tumours should be differentiated from other orbital sarcomata invading the gland, and from lymphoid growths found in chloroma and lymphadenoma.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, December 3rd, 1909.

DR. NEVILLE T. WOOD, President, in the Chair.

MR. HUGH W. BAYLY, after reading a paper on laboratory methods for the diagnosis of syphilis, drew the following conclusions: (1) That syphilitic infection is easily preventable; (2) that such infection can be diagnosed with certainty, on the first appearance of a primary sore, by means of the microscope; (3) that the earlier the treatment is begun the better for the patient; (4) that a positive Wassermann reaction, in the absence of acute diseases, was pathognomonic of syphilis; (5) that the Wassermann reaction formed a very useful guide to treatment, and that antisyphilitic treatment should be continued till a succession of negative results was obtained; (6) that the blood should be examined every six months for a couple of years at least after the first negative reaction was recorded. Colonel LAMPKIN, R.A.M.C., said that for a year all the syphilitic cases admitted into the Rochester Row Hospital had been subjected to Wassermann's reaction. He quite agreed as to its value both for treatment and diagnosis, and quoted cases. Captain HARRISON, R.A.M.C., who had carried out the tests in Rochester Row, hoped that much might be learnt and done for the treatment of syphilis by the use of the Wassermann test in the army on account of the efficient system of supervision which was exercised in these cases. In the case of a negative reaction it was advisable to repeat the test with unheated patient's serum. Mr. J. ERNEST LANE said that he agreed as to the value of

Wassermann's test. It would allow early treatment, and at the same time avoid the treatment of non-syphilitics with prolonged courses of mercury, which had undoubtedly occurred. Mr. C. GIBBS thought caution should be used not to allow positive results to curtail treatment. Mr. R. HAYES hoped that the test would settle the relative values of the modes of administering mercury. Mr. J. C. R. MCDONAGH said there was a tendency for the test to be negative in undoubted syphilitic cases whilst taking mercury, but it was of great value in dealing with women who aborted. He had found a tendency for the test to remain permanently positive in the case of children with congenital syphilis however long they were treated with mercury.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, December 10th, 1909.

Mr. A. PEARCE GOULD, President, in the Chair.

Adiposis Dolorosa.

DR. MACMULLEN showed a case of adiposis dolorosa in a woman aged 62. The condition was first noted five years ago, and was then localized to one arm and circumscribed, but it spread rather rapidly. The changes were preceded by, and associated with, pain along the nerve trunks and hyperæsthetic skin areas. At present the upper segments of both arms, the back, and the sternal region are involved. Thyroid extract had been administered, with a moderate degree of improvement. Dr. A. M. GOSSAGE gave details of a similar case in which thyroid treatment had not effected improvement. Mr. V. WARREN LOW described a case in which an area of hyperæsthesia preceded the onset of subjective pain in the position in which a lipoma finally developed. Dr. LEONARD WILLIAMS commented on the efficacy of thyroid extract in small doses in these cases. A 5-grain dose was in excess of what was required; patients who wanted thyroid most were most intolerant of its action. Dr. F. J. POYNTON instanced cases in which this small dose theory was not borne out. Sir DYCE DUCKWORTH said that the tumours were decreased by thyroid treatment, and the thyroid caused least disturbance when given at night. Dr. J. GALLOWAY said that thyroid extract had very little influence on true cases of Dercum's disease. Dr. F. PARKES WEBER said that many instances of Dercum's disease, published as such, were really cases of lymphatic glandular lipomata.

Rheumatoid Arthritis.

Dr. W. P. HERRINGHAM showed a case of rheumatoid arthritis with albuminuria and great enlargement of the liver. The patient was a boy aged 15. The liver was greatly enlarged, reaching as low as the right iliac crest; it was smooth, hard, and painless. Dr. POYNTON referred to cases in which definite lardaceous changes had been found. In certain cases of Dr. Still's the enlarged livers had been found to be fatty. Dr. PARKES WEBER agreed that the enlargement of the liver was probably fatty. Sir DYCE DUCKWORTH suggested that the patient should be put on full doses of iodide of potassium. Dr. H. D. ROLLESTON said that in Still's disease there was a toxæmia which gave rise to nephritis. Lardaceous disease was known to be due to toxæmias of various kinds, especially in syphilitic suppuration. In exceptional cases the toxæmia in Still's disease might give rise to lardaceous disease of the liver instead of nephritis. Dr. HERRINGHAM said he would accept Sir Dyce Duckworth's advice and treat the patient with iodide of potassium.

Papers.

Mr. J. D. MALCOLM read a paper on a case of cholecystduodenostomy for *Acute emaciation*; and Mr. H. J. PATERSON described *Gumma of the breast* simulating malignant disease. The patient was a woman, aged 26, and when the breast was explored under chloroform it was found to be densely hard, and the histological examination at the time suggested a sarcoma; a complete Halstead operation was performed. Three years after the operation she was in excellent health after treatment by mercury and iodide of potassium. Further investigation of the removed breast demonstrated the inflammatory nature of the swelling.

Exhibits.

The following were among the exhibits:—Mr. W. G. SPENCER: A case of trephining for general epilepsy after an interval of three years, during which the patient had had only one slight fit. Dr. F. J. POYNTON: Two cases of congenital œdema with cardiac defect in mother and daughter. Mr. FREDERICK EVE: (1) A case of arteriovenous aneurysm with exophthalmos following an injury to the head; (2) a case of partial luxation of odontoid process; and (3) a case of transverse fracture of both patellæ, with much separation of fragments.

SECTION OF LARYNGOLOGY.

Friday, December 3rd, 1909.

Dr. DUNDAS GRANT, President, in the Chair.

THE following were among the exhibits: Dr. DUNDAS GRANT: Man, aged 41, a considerable smoker, having a peculiar *Erythema of the soft palate* of three months' duration. A bright red rash was distributed over the soft palate, the membrane of the hard palate having a white sclerotic appearance. Although the man had smoked 2 oz. of tobacco per week, an opinion was expressed in the discussion that it might be due to pyorrhœa alveolaris, which was also present. Dr. GEORGE C. CATHCART: A woman, aged 60, who had been hoarse for a month. There was almost complete occlusion of the anterior two-thirds of the larynx, and only a narrow chink between the vocal processes in which were retained numerous crusts. Mr. HERBERT TILLEY: (1) A case of *Tuberculous ulceration of the epiglottis*, treated by amputation of the diseased portion. The patient was a male, aged 43, who in March, 1907, had suffered slight pain on swallowing, loss of flesh, and profuse sweating at night. He also had physical signs of pulmonary tuberculosis, with evening temperature. The stump of the epiglottis was now quite healed, and the patient had gained nearly 3 st. in weight since the operation. (2) The larynx of a man, aged 76, whose right vocal cord was removed for epithelioma in September, 1896. The patient enjoyed good health till a month ago, when he succumbed, after a tracheotomy in other hands, from dyspnœa. A well-developed epitheliomatous ulcer now occupied the left cord, the original right cord and arytenoid remaining quite healthy. The general opinion was that this was a clear case of reinfection after cure of the original disease. Dr. STCLAIR THOMSON: A case in which *Complete stenosis of the larynx*, after diphtheria and tracheotomy, in a boy aged 14 months, had been completely cured by intubations spread over three years. Mr. DE SANTI: A case of laryngeal growth in a woman, formerly shown as one of soft fibroma of the anterior commissure and right vocal cord. She now appeared with a recurrence, sections showing giant cells and one tubercle bacillus, also other signs of laryngeal as well as pulmonary tuberculosis. The question arose whether it was originally a *Tuberculoma* or a simple fibroma which had since undergone tuberculous infection, and what should be the treatment. Dr. WILLIAM HILL: Two cases treated by application of radium bromide: (1) For malignant tumour of neck, showing continued decrease of the swelling after 50 mg. for twenty-two hours; (2) for carcinoma of the gullet; the patient, after six applications since July last, could now swallow almost anything, instead of only liquids and purées, as formerly. Mr. CHARTERS SYMONDS: A patient from whom the frontal bone had been removed for septic osteo-myelitis.

SECTION OF ANÆSTHETICS.

Friday, December 3rd, 1909.

Mr. RICHARD GILL, President, in the Chair.

Lymphatism.

Mr. BELLAMY GARDNER and Dr. SALUSBURY TREVOR read a paper on lymphatism, accompanied by photographs of frozen sections of the normal newborn infant, shown to demonstrate the position of the thymus gland in relation to the œsophagus, trachea, innominate artery, and aorta at the levels of the sixth cervical, first, third, fourth, and fifth dorsal vertebræ respectively. They also recorded

6 cases of sudden death presenting enlarged thymus gland and general lymphatism.

CASE I.—Boy, aged 13 months, died suddenly while a physician was at the bedside. There was no sign of asphyxia; respiration and circulation stopped simultaneously.

CASE II.—Infant of 9 months, with recently healed eczema, died within an hour after onset of tracheal stridor, with asphyxial symptoms.

CASE III.—Adult, 29 years, congenital imbecile; died suddenly in tepid bath; respiratory and circulatory failure.

CASE IV.—Female, aged 30, died suddenly under a local anæsthetic (tropacocaine) for removal of small cyst in neck. Respiratory cessation; no dyspnœa. Heart failed later.

CASE V.—Male, aged 14, died at the third inspiration of ethyl chloride, given for the adenoid operation. No respiratory obstruction. Respiration failed first, and then the heart.

CASE VI.—Boy of 15, died during operation for adenoids and tonsils under C_2E_2 mixture. No respiratory obstruction. Respiration ceased, while the corneal reflex persisted. This negatived overdose of anæsthetic. The circulation failed rapidly. The thymus weighed 56 grams. There were enlarged lymphatic glands in the infratracheal group, mesentery, and inguinal regions; enlarged Peyer's patches and solitary follicles throughout the intestine. A history of chronic eczema, a severe attack of measles, and abscess in the middle ear was afterwards disclosed.

With reference to diagnosis, it was suggested that the means pointed out by A. S. Warthin might apply in well-marked cases—that is, percussion of the thymic area over the manubrium sterni yielding unusually wide dullness; radiographic examination for wide thymic shadow above the heart; palpable cervical, axillary, or inguinal glands. Dr. DUDLEY BUXTON said that the subject of status lymphaticus in its relation to deaths under anæsthetics was complicated by the existence of great confusion in the clinical records of such cases. The physical signs were so confusing that one was led to believe that the conditions called lymphatism, thymic death, and thymic asthma, were in fact variants of some common dyscrasia, the nature of which was at present unknown. The theory that these conditions were but symptoms of different stages of some toxæmia, probably a lympho-toxæmia, appeared to supply the best explanation. The mechanical theory of death was certainly untenable; cases in which there was definite pressure by the thymus, like those in which thymic asthma existed, presented such well-marked symptoms that any general anæsthetic would be withheld. The cases in which no symptoms existed, but which revealed lymphatic hyperplasia, varied in degree, and no doubt were very common. Until the incidence of such conditions in persons who survived anæsthetics was known, it could not be said whether they were indeed more likely to die during narcosis. A subcommittee should be appointed to study the subject. What appeared to be clear from the record of the cases of death under anæsthetics was that the patients were suffering from a depressed vitality, and that their blood-pressure was abnormally low, this being due in part to the state of the heart muscle. Myocardial disease was a constant accompaniment of, if not a part of, lymphatism. It followed that these persons could not take the usual and safe strength of chloroform without grave risk. Asphyxial complications, trivial in most cases, caused serious results in them. Hence his insistence upon giving exceptionally weak vapours and always supplying oxygen with them. Cases were on record in which the patient who eventually died under chloroform had survived it many times before. Probably in the one instance more, and in the others less, powerful vapours had been employed. All persons who conceivably were of this dyscrasia should be dealt with on the lines indicated, whether they appeared robust, or whether, as in the exophthalmic goitre cases, they gave evidence of definite disease which would probably interfere with normal respiration. It was safer to assume a disease which might not be present than to overlook one which presented no clear objective signs. Dr. SPILSBURY said that too much emphasis had been laid on the size of the thymus gland; thorough microscopical examination of the structures was essential. The heart muscle was always degenerated to some extent in these cases, either fatty degeneration or brown atrophy, or a combination of the two, being an essential feature of status lymphaticus. The condition was not necessarily congenital; in some cases he had found distinct evidence that the thymus had atrophied in the ordinary way during childhood, and grown again later in life. Of all the cases of death during anæsthesia in which he had made a *post-mortem* examination, about 75 per cent. had shown signs of status lymphaticus, and this condition was, in his opinion, a more important factor in causing death than the anæsthetic employed. Dr. HEWITT said that, before putting deaths down to status lymphaticus, it ought to be considered whether the individual cases could not be explained on other grounds. In many cases an asphyxial factor was present before the sudden death occurred; but this might be so slight as to pass unobserved. The heart was really not an important factor in causing death. If the respiration were kept absolutely free and the anæsthesia was not too profound, it was nearly always possible to avert an accident. Dr. LEONARD WILLIAMS believed that status lymphaticus was due in most cases to a want of work on the part of the thyroid gland, and that the other minor glands were enlarged to make up for the lack of efficiency of the thyroid.

MANCHESTER MEDICAL SOCIETY.

Wednesday, December 1st, 1909.

Mr. W. COATES, President, in the Chair.

DR. E. S. REYNOLDS, in a communication on the importance of *Rectal examination* in medical practice, referred only to cases in which symptoms were not obviously due to rectal mischief, but in which rectal examination was essential before a correct diagnosis could be made. He described three groups of such cases: (*a*) Profound and even fatal progressive anæmia, due to slight but repeated rectal haemorrhages; (*b*) malignant disease of the rectum or in the pelvis; (*c*) pelvic abscess secondary to appendicitis. Dr. J. BARNES BURT, in a paper on the etiology of *Heberden's nodes*, analysed 40 consecutive cases, and held them to prove that Heberden's nodes occasioned a variety of conditions in no way connected with one another; that they were always preceded by some condition which led to weakening of the joint ligaments; that the more the joint was used the greater the liability to these nodes. Thus, if the ligaments were weakened constant use of the terminal phalangeal joint led to the last phalanx being tilted backwards—backwards because opposition to the thumb was the chief action of this phalanx. The posterior margins thus received an extra degree of pressure, and would therefore hypertrophy, the pressure being intermittent. The hypertrophy of the most prominent portions of the margins formed Heberden's nodes. In other words, Heberden's nodes were compensatory changes. Chronic gout, rheumatoid arthritis, senile degeneration, and wear and tear might all be important factors in the production of this disease, but just as hypertrophy of the heart was a compensatory change occurring in a variety of conditions, so Heberden's nodes were a compensatory change and not a sign of one specific disease.

Dr. H. H. MCNAIR, in a paper on *Convergent strabismus*, emphasized the necessity of curative measures being undertaken at the earliest possible date after the appearance of the squint.

LIVERPOOL MEDICAL INSTITUTION.

PATHOLOGICAL AND MICROSCOPICAL SECTION.

Thursday, November 11th, 1909.

Mr. T. H. BICKERTON in the Chair.

DR. R. J. M. BUCHANAN, in some observations on cytological methods, held that the term "somatic or systemic death" was applicable to the death of the cell as a whole, just as it was to the body as a whole, the systemic cell death taking place prior to disintegration. Recognizing the occurrence of death of the individual in instantaneous rigor or cadaveric spasm, he held that cells could also die in instantaneous rigor, and that this condition was produced and preserved permanently by the most approved methods of instantaneously fixing tissues during their life. By this means cells could be fixed in any phase of their existence, and the appearances coincident with their latest activities be permanently recorded. He drew a distinction between cells which were allowed

to die prior to examination and those dealt with promptly. In this connexion he regarded examination of a cell before its somatic death had had time to take place as examination *in vivo* as opposed to *in vitro*, and remarked that in speaking of experimental work the distinction between *in vivo* and *in vitro* should be qualified in respect of the examination of tissue cells.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

Tuesday, December 7th, 1909.

MRS. DICKINSON BERRY, President, in the Chair.

THE PRESIDENT read a paper entitled, *What to do with the Feeble-minded*, in which she gave an account of the different classes of children met with in the special schools for the mentally defective. These included backward children (who in Germany would be placed in intermediate schools); children with some special defect—for example, word-blindness—and various grades of feeble-minded children. The speaker said that though the children improved under the special training, the ultimate results were not encouraging, owing to the absence of any system of control or supervision after school age. Many of the children, as they grew up, joined the ranks of the chronically unemployed or found their way to the workhouses or gaols. Some were found later in the homes for mentally defective girls with illegitimate children. The proposals of the Royal Commission on the Feeble-minded were then considered, with special reference to the suggested powers of detention and to the systems of colonies and boarding-out. The latter plan, under good supervision, had been very successful in Belgium. Dr. ALICE JOHNSON described some *Foreign colonies for the feeble-minded*. One of these was the Waverley school in Massachusetts, which contained 1,050 inmates, housed in several blocks, each of which had a matron acting as home mother. The special features of this successful colony were the careful grading of the different classes of the feeble-minded, the bright and cheerful atmosphere that was cultivated, and the great attention paid to the physical condition of the children. From this school the boys could be sent on to a farm colony, where they did all kinds of agricultural work. An account was also given of a large colony at Ursberg, in Bavaria, consisting of idiots, mentally defective people, epileptics, deaf and dumb, crippled and blind persons, and other sick people. They were taught various trades, and the colony was almost self contained. The inhabitants carried on a bakery and a brewery, built their own houses, generated their own electricity, etc. The speaker pointed out that the colony system was the ideal treatment for the feeble-minded, who nearly always deteriorated if allowed to return to their homes. Miss WOODWARD gave an account of 4 cases of *Pernicious anaemia* (two men and two women) recently admitted to the Royal Free Hospital. They conformed to the type of the idiopathic pernicious anaemia of Addison, no cause for the disease, such as gastric carcinoma or intestinal parasites, being found, though two had pyorrhoea alveolaris. They all showed a red count of under one million with a high colour index; three had a leukopenia with a relative lymphocytosis; the fourth (who had pyorrhoea) had a leucocyte count of 5,000, of which 86 per cent. were polynuclears. This was probably due to a terminal infection; a Gram-positive diplococcus was grown from the blood just before death. *Post-mortem* examinations were made on 3 cases, and revealed the usual changes. Atrophy of the stomach glands was found in 1 case; in the same case the spleen only weighed ½ oz. In 1 case, otherwise typical, the bone marrow from the femur contained numerous large lymphocytes resembling those seen in the blood in acute lymphatic leukaemia.

DR. GASTON FRANCOIS PETITJEAN, of Brooklyn, a French physician who had lived in the United States for many years, recently died at the age—stated on his own authority—of 104 years.

THE Devon County Council has decided to arrange for the tuberculosis exhibition of the National Society for the Prevention of Consumption to be displayed for one week each at Barnstaple, Exeter, and Plymouth or Devonport, provided these places make contributions.

Rebiews.

THE OXFORD MUSEUM.

Now that the Oxford Museum has celebrated its jubilee, and the echoes of the strife which surrounded its inception (and did not cease when it was completed) have almost died away, it is right that its history should be written. Dr. VERNON has supplied the deficiency, and we cordially recommend his small *History of the Oxford Museum*[1] to those of our readers who are interested in the development of scientific teaching in England, and especially to those who are interested in Oxford.

The narrative commences with a sketch of the early years of the seventeenth century, made brilliant by the names of Sydenham, Christopher Wren, Boyle, and Harvey. This brief period was succeeded by the triumph of unscience, when the public orator did not hesitate to make a violent attack on the members of the then young Royal Society "as underminers of the university." The teaching and study of scientific subjects at Oxford was at this time at its lowest ebb, though names remembered with gratitude occasionally emerge from the surrounding gloom. Radcliffe, Savile, Ashmole, Lee, and Lord Litchfield, made benefactions to the University for the encouragement of the study of science and of medicine, but the awakening did not come until nearly the middle of the nineteenth century. Amongst those who then took an active part in urging the necessity for increased facilities for research and the teaching of science were Daubeny, Duncan, Walker, and Henry Acland. Their ideal was to give to Oxford an institution where the great truths of Nature could be investigated and taught. All that showed the relation of this earth to the infinite universe, all that concerned man and his dwelling-place, and all that affected him in health or in disease, was to be studied there. The centre was to be a great library, where should be stored all that the greatest minds have contributed to the knowledge of our material world. Each subject was to be represented by its special department, and to have its appropriate laboratories, class-rooms, and museums. Around the central building were to be observatories, institutes of comparative anatomy and pathology, physics, chemistry, and physiology—in fact, whatever was necessary to give intelligent students the opportunity of studying every department of natural science.

The protagonist of the fight was young Henry Acland, who, while yet a medical student, began what then seemed an almost hopeless contest. The ideals of those who joined with him roused bitter opposition. Nothing illustrates the state of feeling better than the answer given by Dean Buckland, the eminent geologist, when asked to sign the original petition to the University in favour of the foundation of the museum. The story is well told by Dr. Vernon. In a letter to Acland dated December 27th, 1847, Dean Buckland wrote: "Some years ago I was sanguine, as you are now, as to the possibility of natural history making some progress in Oxford, but I have long ago come to the conclusion that it is utterly hopeless. . . . I therefore return the paper, which I think it would be useless mockery to put my name to."

In this connexion it is interesting to remember that Pusey, the renowned theologian, although he had expressed the opinion that the study of natural science led "to a temper of irreverence and even arrogance inconsistent with a truly Christian character," not only supported those who were endeavouring to bring about the *renaissance* of scientific teaching in Oxford, but contributed probably more than any one else to the victory which was ultimately won.

How far the ideals of those who were concerned in making the museum an accomplished fact have been justified may be learnt from Dr. Vernon's little book. Since its foundation there have been added to the original building a new library, and additional laboratories for the study of chemistry, physics, physiology, anatomy (human and comparative), pathology, electricity, and anthropology. Thus all those departments which it was hoped would centre round the museum have one by one been added.

[1] *A History of the Oxford Museum.* By H. M. Vernon, D.M., Fellow of Magdalen College, Oxford, and K. Dorothea Vernon. Oxford: At the Clarendon Press. 1909. (Fcap. 8vo, pp. 128, ten plates, with plan of the Museum. 1s. 6d.)

with the exception of that of botany, which, unfortunately, has not yet been accomplished.

It is impossible to give here a record of all the early struggles to make the teaching of science a living factor in the university, or to give a complete account of the first beginnings of teaching or research in each of the several branches of knowledge. Mention must, however, be made of the sanitary and pathological laboratory attached to the department of medicine, in which, among others, Pode, W. F. Donkin, and E. Ray Lankester worked. This laboratory, which was carried on solely at the expense of the Regius Professor, has long been superseded, but it was the commencement at Oxford of the pathological and hygienic work which has in recent years been so largely developed. It may be mentioned that the account of the jubilee of the Museum, held last autumn, is mainly taken, with due acknowledgment, from the report which appeared in the JOURNAL of October 17th, 1908.

The foundation of the Oxford Museum has given to many generations of students opportunities for work which it would be difficult to equal, and it may not be out of place to recall Mr. Ruskin's words, sent as a message "to his friends in the Oxford Museum" on the occasion of the opening of the new pathological department in 1901:

> May God bless (he said) the reverent and earnest study of Nature and of Man, to His glory, to the better teaching of the Future, to the benefit of our country, and to the good of all Mankind.

All who are in touch with scientific work at Oxford have reason to be grateful to Dr. Vernon for having gathered together the scattered threads of a narrative so full of interest, which he has made available in his history of the Museum. From its moderate size and cost, it should command a wide circle of readers.

Where so much praise is well deserved, it may seem invidious to criticize, but we hardly think that the illustrations (good as some of them are in detail) do justice to the general architecture of a building on which so much care and skill were expended. We hope that in future editions it may be possible to improve them.

The book seems singularly free from error, but we would venture to point out that on page 42 it is stated that Acland was appointed to the Lee's Readership in 1847, "when he had not even taken his M.D. degree." He was in fact appointed in 1845, when he was still a medical student, and lectured to some of those who subsequently examined him. These are small points. Taken as a whole, this admirable little memoir tells the tale of the Oxford Museum well, and with sympathy for the peculiar difficulties which surrounded its foundation. We hope that it may enable many besides those who are working at the Museum to realize the advantages which are now available for all who care to use them, and the effort and self-sacrifice which were needed to obtain them.

PSYCHONEUROSES.

THE ten chapters comprising the volume entitled *Hysteria and other Psychoneuroses*[2] have been translated by DR. A. A. BRILL from three different volumes of Professor FREUD's works published within the last fifteen years. The first four—on the psychic mechanism of hysterical phenomena, the case of Miss Lucy R., the case of Miss E. v. R., and the psychotherapy of hysteria—have been taken from the *Studien über Hysterie* of Breuer and Freud; and the remaining chapters, dealing with "defence-neuroses," "anxiety-neuroses," psychotherapy, and the share of sexuality in the etiology of the neuroses, from the first two volumes of Freud's *Sammlung kleiner Schriften zur Neurosenlehre*, a collection of small articles upon the neuroses. The wide range of this selection has the advantage of illustrating the gradual evolution of Professor Freud's views and teaching. At the same time, for lack of authoritative revision, the earlier chapters import a certain amount of misconception as to his actual and present views. These latter, however, are fully explained in the concluding chapters, and we only touch upon this in passing by way of caution. The views and speculations of this original thinker, which have exerted a powerful influence on modern hypotheses as to the mechanism and nature of hysteria and allied psychoneuroses, are already widely known. A brief quotation from the chapter on the share of sexuality in the etiology of the neuroses gives, perhaps as succinctly as is possible, the fundamental conceptions of the theory which is everywhere now connected with Professor Freud's name:

> Together with J. Breuer, and in addition to observations which he had made on his hysterical patients fully a decade before, I have studied the mechanism of the origin of hysterical symptoms by the awakening of memories in hypnotic states. We obtained information which permitted us to cross the bridge from Charcot's traumatic hysteria to the common non-traumatic hysteria. We reached the conception that the hysterical symptoms are permanent results of psychic traumas, and that the amount of affect belonging to them was pushed away from conscious elaboration by special determinations, thus forcing an abnormal road into bodily innervation. The terms "strangulated affect," "conversion," and "ab-reaction" comprise the distinctive characteristics of this conception.

To the above should be added a further axiom: In a normal *vita sexualis* no neurosis is possible."

In pursuing his earlier psycho-analytic researches, Professor Freud found invariably that the "strangulated" or "suppressed" affect was of a sexual nature, and that it was not normally "ab-reacted," because of its unbearable character. The intolerable idea was pushed from consciousness (repression) into the under-world of the mind, where, however, it found some bodily outlet (conversion) other than that appropriate to it. The somatic symptoms and signs of hysteria are thus evidence of the "conversion" of psychic traumata of the sexual life occurring, as a rule, in childhood. This at once explains Freud's dictum that "the hysteric suffers mostly from reminiscences," or, as Boris Sidis says, from "resurrected moments." Lately Professor Freud has largely modified his original position. He states that by chance his former material furnished him with a great number of cases in which infantile sexual trauma played the main part. Since then he has learnt that many of these "seduction fancies" are confabulations, attempts at defence by the subjects against the reminiscences of their own sexual activities, the "traumatic" element of the infantile sexual experiences disappearing with this explanation. Further, his observations have shown him that the results do not depend on the experiences themselves, but on whether these are "repressed" or not. Here Professor Freud strikes upon the individual or constitutional factor, to explain which—whether it be called the "neuropathic disposition," or, with Professor Freud, the "sexual constitution"—his theory is quite useless without extraneous help. This constitutional factor is the fundamental question; for the "why" always antedates the "how." The theory explains nothing of the essence of hysteria; on the other hand, it says a great deal in a very interesting manner as to its mechanism. As a psychological theory it is coherent in itself, and is compatible with, and indeed elucidative of, subconscious processes. The proof of a theory, however, lies in the results of its application. In answer to critics, Professor Freud points to the results of his method of psycho-analysis. This method, practised and praised by Jung, Riklin, and many others, is explained in the present book. Professor Freud says he long ago discarded hypnotism and suggestion, and explains the difference between these and psycho-analysis by an adaptation of Leonardo da Vinci's ingenious contrast of painting and sculpture. The one works *per via di porre*, placing little pieces of paint where they were not; and the other *per via di levare*, taking little pieces from where they were. So, suggestive therapy acts *per via di porre*, by putting on something—the suggestion; analytic therapy acts *per via di levare* by trying to remove something—the pathogenic idea.

Those who are acquainted with Professor Freud's works in the original—books by no means easy to read owing to the inherent difficulties of the subject and the changed connotations given to terms consequent upon new conceptions—will best appreciate the value of this collection of papers. There can be no doubt that they will meet with the grateful recognition they deserve.

[2] *Selected Papers on Hysteria and other Psychoneuroses.* By Professor Sigmund Freud. Authorized Translation by A. A. Brill, Ph.D., M.D. Nervous and Mental Disease Monograph Series. No. 4. New York: *Journal of Nervous and Mental Disease* Publishing Company. 1909. (Roy. 8vo, pp. 226. $2.00.)

NEUROLOGY.

So satisfactory is the theory that many nervous diseases are due to the destructive influence of toxins or other poisons on the central or peripheral nervous systems, that

the search for further causes for the occurrence of these disorders is often omitted. In tabes and general paralysis, for example, the toxins of Schaudinn's *Treponema pallidum* may be held responsible; the peripheral neuritis and other nerve degenerations so commonly met with in patients suffering from alcoholism, gout, diabetes mellitus, or pernicious anaemia, seem to meet with a quite legitimate explanation in the assumption that they are the direct consequences of poisons or poisonous products of metabolism circulating in the blood. This assumption having been made, the mind tends to regard the etiology of such nervous diseases as settled for good and all, and to look no further for causes to explain their occurrence. According to Dr. LUDWIG EDINGER,[2] however, such views entirely overlook one of the most important factors in the production of many nervous diseases, and that is the degree of the functional activity demanded of the affected nerves or nerve tracts. The nerve cells of the central nervous system, as is well known, contain substances or food materials that are used up when the cells are functionally active, or at work. In health, the consumption of these food materials is made good, from day to day, by new supplies that take the place of what is consumed; although, even in health, exceptional cases do occur in which excessive calls being made on the activity of certain of the nerve cells, the supply of new food material to them falls short of the demand for it, and a neuritis from overexercise is the result. As an instance of this Dr. Edinger quotes the case of a patient with optic atrophy sent to him as an example of early tabes, in whom the atrophy was caused by over-use. The patient's daily task was to examine some twenty thousand eggs to see if they were good, by holding them up to a strong light and looking through them, and there was no reason for believing that he was either tabetic or syphilitic. Dr. Edinger holds that this relative deficiency in the supply of food material to the nerve cells is the immediate cause of many nervous diseases; or, in other words, that many nervous diseases are brought on by over-exercise of the part of the body affected. It must, of course, be understood that amounts of use or exercise that would be normal in healthy persons may be excessive in patients with syphilis or any other of the general diseases already mentioned. As a further instance of the effect of over-use in determining the distribution of the paralysis in a toxic neuritis, Dr. Edinger cites the wrist drop of lead palsy. Here it is the extensors of the wrist that are paralysed mainly, and much ingenuity has been exercised by neurologists in search of an explanation for the fact that the supinator longus and the long abductor of the thumb characteristically escape unparalysed. The true reason, he thinks, is this—that these two muscles are hardly used at all in the act of applying oil paint, owing to the way in which the brush is held by the painter; whereas the extensors and flexors of the wrist are set in action at every stroke of the brush, and the extensors, being naturally weaker than the flexors, are the first to give way. Many other examples drawn from patients with congenital, hereditary, or acquired nervous diseases could be quoted from Dr. Edinger to show how over-exercise, whether relative or absolute, determines the form in which such disorders find clinical expression. His views are of great interest to the neurologist and clinician, although they cannot now be said to have the additional attraction of novelty, for he has been urging them on the medical profession for some fifteen years. It is particularly from the points of view of prophylaxis and treatment—departments in which the recent advances of neurology have not been very evident—that his work merits attention.

Owing to the fact that the nerve cell has no power of reproduction, diseases involving extensive destruction of nerve tissues are among the most hopeless of maladies from the point of view of recovery. As a rule tabetics and paralytics of all kinds either sit down under their troubles or struggle on as best they can; the subjects of tics often receive no treatment save general tonics and a kindly admonition not to do it again, and aphasics grope their way back to fellow speech almost unaided. Yet something has been done here and there to help the lame dog over the stile, or, at any rate, to teach him how to circumvent the difficulty. Deaf-mutes, for example, have been taught to speak by linking articulative and motor speech processes to senses other than those of hearing; Fraenkel's work in re-educating ataxic tabetics is well known, as are also the results of nerve crossing in paralyses as carried out by Robert Jones, of Liverpool, and in many other directions a most promising and helpful field of treatment is opening up. As Professor H. LAVRAND, of Lille, says in an able and useful little book on physical and mental re-education,[4] the results obtained in cases such as we have mentioned are made possible by three well-known facts: (1) That organic lesions are, as a rule, less extensive than the symptoms would make appear; (2) that the function of nervous tissue is of great plasticity, one centre being able to complement another and even take its place; and (3) that if it be true that images stored up in the mind have the capability of motor expression; then, inversely, bodily gestures and attitudes are capable of awakening the mental images corresponding to these gestures or attitudes. Dr. Lavrand cites hemiplegic paralysis as an instance in which the symptoms are in excess of the actual organic lesion, and doubtless in many of these cases the functional disturbance of adjoining cerebral areas, or what might be termed the "penumbra" of the lesion, may be either removed by appropriate exercises and mental suggestions, or confirmed and deepened by the absence of treatment. It is, however, upon the remaining two conditions that the success of re-education must mainly depend, and of these two more particularly upon the remarkable capability of nerve tissues to take on vicarious functions. Dealing with this matter, Dr. Lavrand's suggestions as to re-education in locomotor ataxia, in paralyses, tics, aphasia, and deaf-mutism are thoroughly practical and helpful. The book is small, and gives only the broad outlines of the treatment appropriate to patients in each class, but enough is said in it to show that there is here a very important and promising department of treatment still awaiting further systematic study.

How much and yet how little modern physiology knows about the functions of the cerebellum is well illustrated by Dr. Bing's pamphlet on the significance of the spino-cerebellar system.[5] Luciani holds that the three chief symptoms of cerebellar disease are atony, asthenia, and astasia, believing that the cerebellum merely strengthens the activity of the other motor centres; Thomas sees in it a reflex centre for equilibration; Lewandowsky thinks it is the organ of muscular sense. The author details the anatomy of the dorsal and the ventral spino-cerebellar tracts, and goes on to describe his own experiments. In one series the spino-cerebellar tracts were severed in the neck on one side of the spinal cord or on both; in a second, destruction of the terminations of these tracts in the superior vermis was attempted, the actual cautery being used. The symptoms manifested by the animals—dogs—operated upon in these two series were very similar; their static equilibrium was upset, giving rise to longitudinal and transverse swaying as the animal stood, and in addition retropulsion was observed. The hind legs were more affected than the fore, and the principal movements of the limbs were those most impaired; at the same time the tone of the muscles was lowered. Bing discusses at full length the bearing of his experimental results on the different views held as to the functions of the cerebellum by Luciani, Thomas, Lewandowsky, Munk, and others; he holds that the integrity of the spino-cerebellar tracts is indispensable for the proper action of the cerebellar mechanism, and that lesions of these tracts produce hypotonus and inco-ordination of the principal movements of the limbs, particularly at the pelvic and shoulder girdles. He gives over 170 references to literature, and his pamphlet is quite adequately illustrated.

With the appearance of Part II of Vol. iii the section of neurology in the eleventh edition of *Quain's Elements of Anatomy* is completed, and it forms one of the most

[2] *Der Anteil der Funktion an der Entstehung der Nervenkrankheiten.* Von L. Edinger. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1908. (Sup. roy. 8vo, pp. 67; 5 figures. 2s. 3d.)

[4] *Re-éducation physique et psychique.* By Dr. H. Lavrand. Bibliothèque de Psychologie et de Métapsychie. No. 15. Paris: Bloud et Cie. 1909. (Cr. 8vo, pp. 124. Fr. 1.50.)

[5] *Die Bedeutung der spino-cerebellaren Systeme.* Von Dr. R. Bing. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1907. (Sup. roy. 8vo, pp. 95, with 8 figures in the text and 6 plates. 6s. 10d.)

exhaustive, elaborate, and best illustrated accounts of the nervous system and sense organs which has been published.[6] The macroscopical portions of the present volume have been revised and added to by Professor SYMINGTON, and the microscopical parts are the work of Professor SCHÄFER. Both parts have been brought thoroughly up to date, and many new and instructive illustrations have been added or introduced in the places of figures which have become obsolete or insufficient. Many of the new figures have been drawn from the authors' preparations and others have been borrowed from monographs and other textbooks. All are well chosen, and they are so numerous and so well described that they constitute in themselves an atlas of the macroscopical and microscopical anatomy of the parts dealt with. In its present form the volume is probably too full, too detailed, and too little dogmatic to appeal to the average student of medicine as a textbook, but to the student who is working for the higher examinations, to practitioners, and to specialists it will be of the utmost value, and it will be welcomed by every one who wishes to revise his knowledge of the nervous system and to become acquainted with the more recent results of neurological work.

SMALL-POX AND VACCINATION IN BRITISH INDIA.

THE volume by Major G. F. JAMES, I.M.S., entitled *Small-pox and Vaccination in British India*,[7] is certain to attract a great deal of attention, and appearing at a time when energetic attempts are being made in this country to undermine the belief in vaccination, and when as a result of relaxation of the vaccination laws the practice of vaccination is being neglected on a large scale, a wide circulation of this work could not fail to exert a beneficial influence on thoughtful readers. In the preface Major James expresses the hope that "the subject has been dealt with in such a manner as to render it interesting to all classes." This result has undoubtedly been attained. The book is fascinating and convincing, and will take a prominent place as a book of reference among works dealing with the important subject of preventive medicine. Major James has reduced the enormous mass of material at his disposal into the limits of a volume of a little over one hundred pages, and the interest of the reader is sustained throughout.

The first two chapters deal with the subject of small-pox in India in prevaccination days when inoculation of small-pox was in vogue, and the difficulties created by racial peculiarities, superstition, ignorance, and religious convictions are narrated in an interesting way. These chapters are followed by a brief history of vaccination in India. The fourth and concluding chapter states, "The proof of the value of vaccination in India." This chapter contains a mass of statistical evidence presented in a clear and concise manner the assimilation and understanding of which is greatly aided by fourteen graphic diagrams. This portion of the work is a striking and notable feature, and Major James's reputation as Statistical Officer to the Government of India in the Sanitary and Medical Departments will be greatly enhanced by this laborious and lucid effort. Throughout he anticipates and meets with cogent answers various arguments which his experience of anti-vaccinators teaches him may be advanced against the points he makes. Referring to the difficulties encountered in India in securing general vaccination, Major James says:

> The great majority of the people, while being exceedingly ignorant and childish, are so apathetic and regard the dangers of future events so lightly that even where general intelligence has advanced to an extent sufficient to realize that it is better to be vaccinated than to have small-pox, they adopt the measure only when it is granted to them entirely free of cost and is brought almost to the doors of their houses.

These remarks are by no means inapplicable to many in our own country, whose intelligence, as displayed on such matters at least, is not higher than that of the natives of India.

Step by step is built up one of the most convincing arguments in favour of vaccination ever published. The evidence produced is sufficient both in quantity and kind to enable the reader to appreciate in some measure the great blessing that vaccination has conferred upon the almost countless multitudes forming the population of India.

The numerous charts which give special point to the statistical matter are very neatly executed, but an excellent device of the author has been frustrated by the printer and the bookbinder. Chart XI gives the total number of vaccinations performed in British India annually from 1877 to 1907; Chart XII gives the annual mortality from small-pox per million, 1868 to 1907. The former is stated in the text to be a transparent sheet facing the latter, so as to show at a glance, when superimposed, the decline of small pox mortality coincident with the progress of vaccination. As a matter of fact, Chart XI is not on really transparent paper, and instead of appearing opposite Chart XII is inserted several pages further on. The book is of such merit and importance that we predict the first edition will soon be exhausted, and the failure to carry out the author's instruction in the matter just mentioned can easily be remedied in later editions.

NOTES ON BOOKS.

THOSE for whom German translations of works originally written in English have any attraction now have an opportunity of reading in German the monograph of CHARLES BECK, of New York, on surgical diseases of the breast and their treatment. Dr. SCHRÖDER,[8] of Dusseldorf, its translator, attaches to the German edition a preface to the effect that he undertook the task because he regarded Dr. Beck's exposition of his views on the subject as of too high scientific interest to be overlooked by German surgeons. He expresses, too, a hope that they will find perusal of the pages of his translation as useful as he himself has found their composition enjoyable. Possibly this will prove to be the case, though we did not find the original work entirely satisfactory, the treatment of different points being very unequal in value. In its German form the book looks well. There is an adequate, indeed large, number of illustrations in black and white, in addition to a good many diagrams in which colour has been used by way of bringing out points of special importance. For the fact that his ideas have not been unduly disguised in their German dress Dr. Beck himself vouchsafes.

DIARIES.

We have received from Messrs. John Walker and Co., Ltd., Farringdon House, Warwick Lane, E.C., samples of their diaries and pocket calendars, which range in size from a miniature volume not much bigger than a postage stamp to a calendar showing a page at an opening. They are all remarkable for neatness of printing and excellence of finish. They are to be had in various kinds of binding, and loose covers can be obtained for which refills can be purchased in future years. All but the smaller sizes contain a tabular almanack for 1911, and towards the end of the year such a table is often found a very convenient addition to any pocket calendar. The prices vary with the get-up, and the firm will supply a price-list on application.

The series of Letts's diaries published by Cassell and Co. is very extensive, and we notice among those specimens sent us some excellent desk diaries of various sizes. An octavo with two days on a page (No. 101) appears to be particularly convenient for ordinary purposes. The larger rough diary (No. 31), three days on a page, will be found useful as a desk-appointment book. The medical diary is of the ordinary type, with a week on the left-hand page and places for the names of twenty-eight patients on the opposite page. There are a few short articles upon points with regard to which information may be required in an emergency.

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[6] *Quain's Elements of Anatomy*. Eleventh edition. Vol. iii. Neurology. Part II. Edited by A. Schäfer and J. Symington. London: Longmans, Green and Co. 1909. Roy. 8vo, pp. 292, 1 plate, and woodcuts. 16s.

[7] *Small-pox and Vaccination in British India*. By G. F. James, M.D. Lond., D.P.H., Major, Indian Medical Service, Statistical Officer to the Government of India in the Sanitary and Medical Departments; formerly with the Royal Sanitary Commission in India. Published by John Murray, London. 1909. Demy 8vo, pp. 112; 14 diagrams. 7s. 6d., 6 rupees.

[8] *Die Chirurgischen Krankheiten der Brust und ihre Behandlung*. Von Dr. Carl Beck, aus dem Englischen übersetzt von Dr. Schröder. Berlin: Verlag von August Hirschwald. 1910. (Pp. 425.)

The *Garden Life* Pocket Diary, issued by the periodical of that name, shows a week in an opening, and gives monthly gardening notes and hints upon such subjects as the growing of chrysanthemums and roses and various other matters interesting to gardeners, professional or amateur.

ANNUALS.

Whitaker's Almanack for 1910[9] has been revised to November 20th, and was "published at sunrise on December 9th," on which day we find, on reference to this year's issue, the sun rose at 7.55 a.m. There are indeed few of those sudden disconcerting questions, which every schoolboy ought to be able to answer, that cannot be answered from this miniature encyclopaedia. The number of pages has not been increased, but space has been found for an enlarged list of secondary schools, and a more detailed account of Parliamentary procedure, and the principal events of the year. The volume contains, as usual, a number of articles written for this issue on such subjects as the Report of the Royal Commission on the Poor Laws, the Children's Charter (the Children's Act, 1908), old-age pensions,, aeronautics, and the navy and army. In the article on the army in 1909 we read:

In the Army Medical Corps, recent improvements in the pay, status, and educational facilities of officers are bearing excellent fruit. Probably no other army is as well equipped in this branch, and the nation at large has to thank the corps for researches resulting in the practical extermination of more than one deadly disease.

With regard to the Regular Army Reserve, it is stated that there is only a slight deficit in the Royal Army Medical Corps, but it is added:

Gaps in the R.A.M.C. reserve are being filled by the dubious expedients of transferring infantry reservists, and giving them a brief special instruction.

A note prefixed to the new edition for 1910 of *Who's Who*[10] impresses upon the reader that he ought also to provide himself with *Who's Who Year Book*,[11] a smaller volume which is described as a key to the larger. The *Year Book* consists of tables which were, in fact, the original nucleus of *Who's Who* when it was first published in 1849. The book developed into the biographical annual which most people know, and became so stout that it was thought better to detach the tabular matter. The tables range over a wide field, from the dates of race meetings to lists of university staffs and learned societies. *Who's Who* itself remains as before—an extraordinarily complete guide to people of the day, men and women about whose career or occupations, for one reason or another, information may often be desired.

Another volume of the same series of handbooks is *The Writers' and Artists' Year Book*.[12] It contains tables of journals, magazines, and publishers—English, Canadian, and American (we take leave to alter the order in the table of contents)—who are open to receive contributions, with some particulars as to the class of contributions invited. In the preface the editor gives the excellent advice, "Whenever it is possible, have the manuscript typewritten; if not, very clearly written, with plenty of space. Pack your manuscript flat, not rolled or folded." An American editor some time ago published a piece of advice to contributors in the following terms: "Send your manuscript flat, if you can; folded, if you can't; but shoot yourself before you roll it."

The Englishwoman's Year Book and Directory,[13] which may also be counted as belonging to this series, is now in its twenty-ninth year of issue, and we may feel pretty sure that the demand for it is increasing as the unmarried daughter looks about herself to find employment for her leisure or her needs. There is a section on medicine, pharmacy, and dentistry. In an introductory paragraph on general prospects the opinion of the British Medical Association, "that the principle that no distinction be made on the ground of sex as regards the amount of the emoluments to be paid lady practitioners be affirmed," is quoted. It seems well, however, to reproduce also the terms of the recommendation of the Association with regard to prospects and remuneration:

Regard must be had to the fact that the time spent in the work of medical inspection of school children can, in the majority of cases, lead to no future in this special department; that the majority of those engaged must ultimately revert to other departments of medical practice, and that the time spent in the medical inspection of school children will afford very little useful experience for future practice.

Consequently practitioners who at the commencement of their career undertake this whole-time work will be justified in requiring a higher rate of remuneration than that they would receive in posts affording valuable experience, such as those of assistants to general practitioners or of house-surgeons, and the minimum whole-time salary should be from £250 to £300 per annum.

The account of the way in which a medical training can be obtained is very condensed, but accurate so far as it goes. There is a special section on medical women in India, but not on medical missions: we suggest that in a future issue this omission should be supplied, as there is a certain risk of women taking up medical missionary work without fully understanding the nature of the work, the amount of remuneration, and the cost of living.

MEDICINAL AND DIETETIC PREPARATIONS.

Turkish Sour Milk.

THE facilities for obtaining supplies of milk soured by the action of the Bulgarian lactic bacillus are rapidly increasing, and persons wishing to take it regularly or occasionally can either prepare it at home by means of some of the cultures of bacteria, on which we have previously reported, or can obtain it ready for consumption from several sources. We have received a sample of the preparation, stated to be "the true Turkish curdled milk," supplied under the name "Yaourte" by Mrs. Marsh (Overshot Mill, Colne Engaine, Essex). We are informed that the cows from which the milk used is obtained have all passed the tuberculin test, and that the milk is sterilized for some hours before adding the lactic ferments and incubating in the jars, previously sterilized, in which it is sent out. The jars are closed with an air-tight cover, and it is claimed that the contents will keep in perfect condition for any length of time. Our determination of the acidity of the sample submitted showed it to correspond to 1.02 per cent. of lactic acid, which is practically the maximum obtainable; the taste was free from bitterness, and decidedly agreeable, the pleasant flavour being ascribed to the compounds produced by the two yeasts included among the ferments employed, which are stated to be *Streptobacillus lebenis*, *Streptococcus lebenis*, *Saccharomyces lebenis*, *Mycoderma lebenis*, and *Bacillus lebenis*.

THE RELATIONS OF THE LAITY AND THE MEDICAL PROFESSION.

By Mrs. HODGKINSON,
Editor of the *British Health Review*.

(Concluded from page 1692.)

THE question of fees is a sore subject both to the profession and the public. I approach it with trembling, but in these Jacobin days nothing is sacrosanct, not even that mythical but pleasing coin—the guinea of the consulting room. We are well aware that our advisers must live. What we beg to remind them is that we also must live, and in a double sense where they are concerned. Frankly, we think surgical fees are too high. Let me not be reminded of Whistler's rejoinder to that much pilloried Q.C.: "Sir, I did not charge for an hour's work; I charged for the experience of a lifetime." I know some one will cite this if I do not anticipate him, but let me point out the difference. You need not buy a Whistler; you may not even want to do so. Some persons might crassly prefer that "Battersea Bridge" should be in no nearer neighbourhood to them than the Tate Gallery. But when confronted with the need for operation, and you are given the choice of your money or your life, you are unable to stand upon the order of your bargaining however lean your purse may be. I positively decline to waste space in eulogizing the charity of many medical men. It needs no praise, for it is known and respected. But suppose we imitate the unemployed, and say, "Curse your charity; what we want is a lower and more definite scale of fees." Might there not be some reason in that claim? The right-minded patient hates pleading poverty, and is dreadfully harassed by the different standards obtaining. Sir

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[9] *Whitaker's Almanack, 1910*. London: J. Whitaker and Sons, Limited. (Cr. 8vo, pp. 988; 2s. 6d.)

[10] *Who's Who, 1910*. London: A. and C. Black. (Cr. 8vo, pp. 2162. 10s.)

[11] *Who's Who Year Book, 1910*. London: A. and C. Black. (Cr. 8vo, pp. 170. 1s.)

[12] *The Writers' and Artists' Year Book: A Directory for Writers, Artists, and Photographers, 1910*. London: A. and C. Black. (Cr. 8vo, pp. 156. 1s.)

[13] *The Englishwoman's Year Book and Directory, 1910*. London: A. and C. Black. (Cr. 8vo, pp. 408. 2s. 6d.)

Pompey Partington may demand £150 for a snip which Mr. Cutler Walpole may willingly perform for half the money. It is a solemn truth that the patient entering the consulting-room has not the remotest glimmer of reason to guide his expectations as to the drain on his resources, and this, at a time anxious enough in itself, adds another dread to the black flock already preying upon his vitals. How timidly he puts the question: "And may I ask, Sir Pompey, what—ahem—your fee is?" And in what trembling he waits the crisp and clear-cut reply: "My fee in such cases is invariably——" Goodness knows what, but something that in no sense necessarily represents its actual though it may its market value.

If (unless patients arrive in ermine, diamonds, or Daimlers) "an arrangement could be come to" (to quote Mrs. Nickleby) whereby the fee could be paid in instalments to cover a stated period, and if this were a recognized and usual arrangement, the blessing to the £500 a year man would be untold. For he too must live, and he naturally, and for the sake of a struggling family, desires to be treated by what he, rightly or wrongly, believes to be the best skill attainable. But he does not like to plead poverty and beg for delay. He suffers. I might amplify this theme, but space is limited. The surgical fee must be paid too quickly. That of the general practitioner is paid too slowly. To many families that dragging half-yearly or yearly bill, slowly lengthening pill-box by pillbox, visit (of frequently unknown cost) by visit, is a really dreadful incubus which casts a shadow on the Christmas festivities and darkens the merry midsummer.

"If only the doctor would send in his account monthly and have done with it, then there would be some hope of checking the thing and paying it off," is the *cri du cœur* of many a hard-pressed householder.

"I have set aside £25 for the doctor's bill," I heard a jaded-looking man say not long ago. "But it may be over £30, and it may be only £22—Lord knows which. You can't account for all the visits." There were still four months to live through before that anxious point could be settled with its unnecessary suspense. The thrifty public would certainly prefer bills more frequent, and, above all, more detailed. Honestly, would not the profession prefer them also? And if not, why not?

On the subject of advertisement the laity has its own strongly-marked view. Doubtless there are some good reasons for the rule which forbids it, and a meticulous particularity in the size of a brass plate or the iniquity of a professional notice in a chemist's shop may have their point. But we do not feel there is that consistency in the matter which commands respect.

It may be a very derogatory action in a struggling general practitioner to post his address at the chemist's, though it would often be a great convenience to the public. But if it be so, is it more worthy that the medical attendants on some distinguished invalid should be "billed" on the newspaper placards, their opinions cited, and their name and fame trumpeted through the megaphone of the press until every Hoggenheimer in Mayfair feels that these only are the guides to whom can be entrusted disease so precious as his own? One has heard that these eminent persons sometimes deplore publicity, and, with Mr. Crummles, marvel how such things (and many other notices) get into the papers. Still they do, and must be a valuable asset. Yet another point. There appears to be an idea that any physician or surgeon who writes a book for the instruction of the public, and writes it in English and not in the language courteously accepted for professional purposes as a substitute, is walking very near the edge of the precipice of advertisement, and may, and often does, incontinently tumble over, and thereby incurs the censure and contempt of the medical authorities. We think this very injurious to ourselves. That the author thus distinguishes himself amongst his *confrères* appears to us a matter of no importance. He has every right to it if he can do so, and the others may (if they can) indemnify themselves by being equally successful. But what concerns *us* is that we should have the opportunity of being so instructed. It is we who are implicated, and to treat us as children who may not hear unpleasant details, and cannot understand their bearings, is to insult our understanding, and to attempt to continue a conspiracy of silence which education is rendering more absurd and impossible every day. Far from joining in the condemnation of those who attempt to enlighten us, we fail to understand why it should not be a test of what is best and greatest in the profession to be a successful teacher of the laity in matters which concern them. This is one of the functions of the true physician, and one which the future will demand, and to stigmatize it as self-advertisement, while permitting indirect but more lucrative forms of advertisement, savours of injustice, which finds no response from us.

It is said that the laity are not qualified to comprehend such matters, and that it is in their interest that the prohibition exists. We cannot agree with this view of the case, since, with such knowledge as we possess, we must be the final judges when any definite surgical or medical treatment has to be decided for ourselves and our friends. I give a typical case: A patient sought advice from four successive specialists on a malady in which much of the happiness of her future life was involved. One advised no treatment at all and resignation to the inevitable; the second a costly and wearisome experiment, which might or might not succeed; the third suggested local and palliative measures; the fourth recommended change of air and scene. Finally, the patient and her sorely-puzzled friends pooled the advice and evolved a kind of hybrid treatment, which met with an astonishing and gratifying success.

But it was they—as it always is—who in the last resort had to judge the professional opinions, and I contend that, as no one can shift this responsibility and many others, people in this position need every sort of education possible, and that the man who has written a book which helps to create an intelligent and reasonable public, deserves well of that public and of his profession.

There is something to be said for the absolute freedom of action permitted to every medical man in America. The drawbacks are obvious, but I am by no means certain that the advantages, from the lay point of view, do not outweigh them. The ideal is, of course, State payment of the profession, and this is bound to come, so excellent has been the work done by the medical officer of health, and so clearly are indicated the opportunities for that thoroughly organized and systematic campaign against disease, so absolutely impossible under obtaining conditions.

But meanwhile, in the present state of cut-throat competition, the orthodox medical man is heavily handicapped, and this handicap reacts on the patient, who is courted far more than is good for him, and has not even the poor opportunity of judging between rival claims which is given by open advertisement.

A whole article might be devoted to an uneasy sense in the public mind that the last twenty years has seen a sensible *commercializing* of the medical world, and an increase of professional jealousy which not infrequently stifles talent, and thus reacts injuriously upon our interests.

We are dissatisfied, also, with the continuity of medical education, believing that the average medical man is unable or unwilling to keep step with the progress of modern science which affects his work more rapidly and profoundly than it perhaps does any other.

Compulsory post-graduate courses might do something to improve matters, but it is difficult to see how these could be adapted to the needs of the struggling general practitioner, whose battle with difficulties is already hard enough. Here, again, the organization of a State Medical Service would come to the aid of the public.

But I must close these discursive remarks, though there is much more I should like to say on things as they are and things as they might be. I have left much unsaid of the opinions and distrusts tending to loosen the bonds between the public and those who under many difficulties, personal as well as general, perform their duties towards us with such varying measures of success.

My belief is that those bonds may and must be strengthened if it be recognized that the future will differ from the past most materially in the fact that we shall not so much call on the physician to rescue us from the disastrous consequences of our own and others' ignorances and follies when the harm is done, as to instruct and safeguard us in the ways of health and right living. The possibilities here are infinite.

RESEARCH DEFENCE SOCIETY.

BRIGHTON.

A BRANCH of the Research Defence Society was formally constituted at a public meeting held at Brighton on December 13th. Lord CROMER was in the chair, and among those present were Sir Arthur Conan Doyle, President of the new Branch, and Mrs. Scott Malden (Vice-President), the Rev. Felix Asher, the Rev. F. H. Brewin, Major-General and Mrs. Erskine, the Rev. F. W. J. Merlin, Alderman Slingsby Roberts, J.P., the Rev. A. P. Spelman, Mr. T. Macdonald Eggar (Honorary Secretary), and several members of the medical profession. Lord Cromer alluded to the very great loss the nation in general, and more especially those interested in medical research, had suffered in the death of Lord Selby, President of the Commission appointed a few years ago to inquire into the question of vivisection. Lord Selby had, however, found a very able successor in Mr. Abel Ram, who was a member of the Commission. He had communicated with that gentleman on the subject of the delay in the issue of the report of the Commission, and had been assured that the utmost would be done to push matters forward and to get the report issued early in the forthcoming year. After expressing his pleasure at the formation of the branch, Lord Cromer went on to say that humanity was on the side of those who devoted their time, their money, their unselfish labours, and sometimes their health to preserving and prolonging human life.

Medical science had undergone a revolution during the last forty years. He did not wish to weary them with statistics, but any one who wished to go into the subject could satisfy himself beyond doubt as to the splendid results achieved by bacteriological research. The most eminent men in the medical profession were practically agreed upon the fact that these results could not have been brought about but for experiments on animals, and Darwin had himself said: "He could not think of any one step which had been made in physiology without that aid." If they would take the trouble to go into facts they would find that pain was very rarely inflicted, and they contended that when it was inflicted, it was amply justified by the results which had been obtained in preserving human life and in diminishing human sufferings. (Applause.) What antivivisectionists and the public in general had a right to expect was that the operations on animals should be under such control as to prevent the infliction of unnecessary suffering. That safeguard, he believed, at present existed, but if any further measures were required, he did not doubt that the Commission would be able to indicate the direction which reform should take.

Moving a resolution that the formation of the Brighton and Sussex Branch be confirmed, Dr. R. RYLE said no experiments whatever were made without a very definite purpose in view.

Seconding the resolution, the Rev. F. W. J. MERLIN said that when he was in a laboratory he took no anaesthetic for his Nonconformist conscience, but he never saw a single cruel action. He supported the society because he believed it was man's mission to minimize pain.

In moving a resolution that the election of the committee be confirmed, Sir ARTHUR CONAN DOYLE said that putting all human needs aside, an overpowering case could be made for experiments on animals from the point of view of the animal world alone. Millions of animals were saved from a painful death every year from anthrax, rabies, rinderpest, and other diseases by methods directly due to such experiments. The opponents of vivisection decried it in the supposed interests of animals, but it was the animal world that would suffer most severely if their ill-advised measures were adopted; and it was the animal world that had suffered most from the discouragement of research that had sprung from the agitation. Their opponents said that it was not the death of the animals but the pain inflicted to which they objected, and that 88,000 experiments took place last year. On looking into it, however, they would find that 85,000 of these were inoculations or injections involving no pain whatever. There might or might not have been subsequent disease—in most cases not—but it was a disease in every case induced for the purpose of treating and curing the same disease in others. The balance of advantage and of humanity was always in the direction that a few should have disease in order that very many might be saved. As to the odd 3,000, a single large cattle ship crossing the Atlantic, a single freight of poor old horses crossing to their doom at Antwerp would represent far more suffering than ever they endured. It was the very rarest thing for an experiment to be performed without anaesthetics, and the animal was painlessly killed before it emerged from it. He was sure that every scientific man would agree with him that if the average human life ended as easily and painlessly as the death of an animal in the laboratory, they might be easier in their minds. What was the return from this small sacrifice of animal life? It was the practically unanimous decision of the medical and scientific faculty in every country that along that track lay the line of advance. The progress that had taken the terror from diphtheria, taught them to abolish malaria on the Gold Coast and yellow fever in Panama, and changed the face of the whole globe, had all come from animal inoculations.

Dr. WILLOUGHBY FURNER seconded the resolution.

Questions were put to Lord CROMER and Mr. STEPHEN PAGET by Mr. STEPHEN COLERIDGE about his bill. Both replied that they had not read it, but would do so carefully if it ever came before Parliament. After some other questions, the meeting closed with a vote of thanks to the speakers, moved by the Rev. FELIX ASHER and seconded by Dr. HOBHOUSE.

LIVERPOOL.

A meeting was held on the same day at Liverpool to form a branch of the Research Defence Society. Lieutenant-Colonel JOHN PILKINGTON, F.S.A., who presided, proposed the resolution, which was seconded by Dr. RICHARD CATON, supported by Professor SHERRINGTON, and carried unanimously.

The following were elected the first members of the committee: Lieutenant-Colonel John Pilkington, F.S.A., Professor Sir Rubert Boyce, F.R.S., Professor C. S. Sherrington, F.R.S., Dr. Richard Caton, J.P., Mrs. Gordon Gullan, Francis C. Danson, J.P., T. E. Sampson, J.P., A. G. Jeans, A. Lyle Rathbone, J.P., C.C., P. Charles Kelly, C.C., Colonel W. H. Bretherton, V.D., Major David C. Pugh, V.D., Captain W. E. Moss, F. W. Meacock, Richard Yates, A. Adams, Frederick C. Lewis, Walter Hulme, Frederick Miners, and Mrs. Charles Farrar. The following were elected officers for the year: President, Lieutenant-Colonel John Pilkington; Honorary Treasurer, Captain E. W. Moss (Davies, Benachi, and Co.); Honorary Secretary, Mr. Frederick C. Lewis; and Honorary Auditor, Colonel W. H. Bretherton, V.D.

ADAMS v. POMEROY.

AN APPEAL.

WE have received the following letter for publication:

SIR,—The case of Adams *v. Vanity Fair* and others is of considerable interest to the medical profession. The action was originally brought against *Vanity Fair*, Limited, the editor of *Vanity Fair*, the printers, the publishers, and the writer of the article, Mr. Ernest Pomeroy. The first four made and published a full apology to Dr. Adams, which she accepted on condition that they paid costs up to the date of their apology, so that, at an early stage of the hearing, proceedings were stayed against all except the last-named defendant, Mr. Ernest Pomeroy.

The article which formed the basis of the Adams libel action was published in *Vanity Fair* on October 7th, 1908, and it is typical of the attacks previously made by Mr. Pomeroy against the medical profession, particularly in connexion with the subject of vaccination.

It contained scandalous and absolutely untrue statements regarding the whole medical profession, and suggested an imputation against Dr. Adams personally which, if true, would necessitate her exclusion from the profession on the ground of infamous conduct. She strongly resented the general as well as the personal attack, and, in our opinion, she rendered a public service by her action in bringing the defendant into court at her own risk and exposing his methods. We believe that this view will be generally endorsed and that many members of the profession will be glad to show their appreciation of the

trouble and anxiety incurred by Dr. Adams, largely from altruistic motives, by contributing to a fund for the reimbursement of her out-of-pocket expenses.

After the judge's summing up, which contained a scathing criticism and condemnation of the writer of the article, and in which he emphasized the point that the individual opinions of the jury on the merits or demerits of vaccination ought not to affect their verdict, the finding of only ½d. damages came as a surprise to those in court. The taxed costs will not cover all the legal expenses which Dr. Adams has incurred, so that there will be a deficit of at least £100.

Contributions are invited, and may be sent to the honorary secretary of the Adams Fund, Dr. L. Garrett Anderson, 114a, Harley Street, London.

We remain, etc.,

WILLIAM WHITLA.
HENRY T. BUTLIN.
EDMUND OWEN.
THOMAS BARLOW.
VICTOR HORSLEY.
MARY SCHARLIEB.
JAMES BERRY.
FLORENCE NIGHTINGALE BOYD.
MAY THORNE.
JANE H. WALKER.
F. MAY DICKINSON BERRY.

The following subscriptions have already been received:

	£	s.	d.
Mrs. Garrett Anderson, M.D.	5	0	0
Mrs. Dickinson Berry, M.D.	1	1	0
Dr. Albert Cope	0	10	6
Sir Victor Horsley	5	0	0
Sir Thomas Barlow	5	0	0
Mr. Henry T. Butlin	2	2	0
Dr. Jane H. Walker	2	2	0
Dr. May Thorne	5	0	0
Mrs. Scharlieb, M.S.	5	0	0
Mrs. Stanley Boyd, M.D.	2	2	0
Mr. Edmund Owen	2	2	0
Sir William Church	1	1	0
Sir William Whitla	1	1	0

MEDICAL RESEARCH.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.

MR. OTTO BEIT has placed in the hands of trustees the sum of £215,000 to found and endow as a memorial to his brother, Mr. Alfred Beit, a series of Beit memorial scholarships for medical research, to promote the advancement by research of medicine and the allied sciences in their relations to medicine.

The circumstances under which Mr. Beit has been led to make this munificent gift to science are explained in the following letter, which was read to the Senate of the University of London at their meeting on December 15th:

"49, Belgrave Square, S.W.,
"London, December 10th, 1909.

"My Lords and Gentlemen,

"It will be within your recollection that my brother, the late Mr. Alfred Beit, in his lifetime and by his will provided a sum of together £50 000 for the purpose of creating and assisting the fund of the then proposed 'Institute of Medical Sciences.'

"The formation of this Institute, owing to a series of circumstances, having become impossible, the Treasurers of the Fund were directed by an order of the High Court to return all moneys received for this purpose to the donors, and in consequence such part of the above sum as had already been paid was returned to my late brother's executors and by them paid over to me as his residuary legatee.

"It has always been my earnest wish that these moneys in some way should again be devoted to a public purpose as nearly as possible identical with that which had been originally contemplated by my brother.

"After considerable deliberation with those who had advised him, a plan has been devised the details of which are embodied in the accompanying Deed of Foundation.

"To give this Fund such extent as to make it, as I sincerely hope, thoroughly useful, I have decided to increase the above-mentioned sum to £215,000, so as to yield by investment in trustees' stocks an annual income of about £7,500.

"I desire to name this Fund 'The Beit Memorial Fellowships for Medical Research.'

"From this title, and on a perusal of the Deed, you will see that the Fund is to be devoted entirely to the furthering of medical research work in all its branches.

"A sum of £250 a year for three years is to be granted with this object to any man or woman of European descent, graduate of any approved university within the British Empire, who is elected to a Fellowship.

"The Fund is to be administered by a Board of Trustees, who in their turn will be assisted by an Advisory Board of medical men. The names of those who have most kindly consented to act appear in the Deed, and I take this opportunity of expressing to both the trustees and the members of the Advisory Board my sincere gratitude to them for undertaking the duties imposed upon them.

"It is my most anxious wish to make this Fund a lasting memorial to my late brother, and I address myself, therefore, to your body, knowing as you do the deep interest Mr. Alfred Beit at all times took in the advancement of medicine and medical research.

"In view of the fact that such research is to be conducted almost entirely in institutions allied to the University, I venture to ask you to allow me to have the benefit of the advice of your Principal for the time being as one of the Trustees.

"I feel convinced that the Trustees as well as the Advisory Board will at all times give every consideration to any recommendation your body may be good enough to put before them.

"I have the honour to be,
"My Lords and Gentlemen,
"Your most obedient Servant,
"OTTO BEIT.

"To the Senate of the
"University of London."

The affairs of the Trust will be administered by a board of trustees, consisting of the Right Hon. Viscount Milner, G.C.B., G.C.M.G.; the Right Hon. Lord Curzon of Kedleston, G.C.S.I., G.C.I.E.; the Right Hon. R. B. Haldane, K.C., M.P.; the Principal of the University of London (*ex officio*), Mr. H. A. Miers, D.Sc., F.R.S.; Mr. Otto Beit; Dr. J. Kingston Fowler; and Mr. Bourchier F. Hawksley. The trustees will be assisted by an advisory board, consisting of Sir T. Clifford Allbutt, K.C.B., F.R.S., Regius Professor of Physic, University of Cambridge; Dr. J. Rose Bradford, F.R.S., Professor of Medicine, University College Hospital Medical School; Dr. J. Kingston Fowler, Senior Physician to the Middlesex Hospital; Dr. C. J. Martin, F.R.S., Director of the Lister Institute of Preventive Medicine; Dr. William Osler, F.R.S., Regius Professor of Medicine, University of Oxford; and Dr. E. H. Starling, F.R.S., Professor of Physiology, University College, London. Ten fellowships, or a larger or smaller number as the trustees may determine, will be awarded annually; they will be of the annual value of £250, and will be tenable for three years, power being reserved to the trustees in exceptional cases to grant an extension for a further period of one year. Fellows will be required to devote the whole of their time to the authorized research, and will not be allowed, without the consent of the trustees, to take or hold any appointment, whether paid or unpaid.

Persons eligible for fellowship are as follows:

(I) The Fellowships are open to any person of European descent by both parents, without restriction as to nationality, who at the date of election has taken a degree in any faculty in any university in the British Empire approved by the trustees, or who, if a female, has passed an examination which would have entitled her, if a male, to take any such degree. (II) In exceptional cases the trustees may, on the recommendation of the Advisory Board, accept the possession by a Fellow at the date of election of a medical diploma registrable in the United Kingdom as a qualification for a Fellowship in lieu of a degree. (III) There are no restrictions as to age, and no person is disqualified on account of his or her religious or medical opinions.

Applications for fellowships must be addressed to the Honorary Secretary, Beit Memorial Fellowships for Medical Research, 35, Clarges Street, Piccadilly, London, W., and must be made on a form which can be obtained on application to the address indicated.

The first election of Fellows will be made on or about March 1st, 1910, and applications must be received on or

before January 17th, 1910. A Fellow will be required at least one month before the date fixed for subsequent annual elections to furnish a detailed written statement of his work during the preceding year for the consideration of the Advisory Board, which will report thereon to the trustees.

A Fellow must carry on his research in the place at which he has been authorized to carry it on, and a list of recognized places of research has been drawn up as follows:

A. *University and University Colleges and Institutes.*

1. The Physiological laboratory of the University of London, South Kensington.
2. The Institute of Physiology, University College, London, University of London.
3. The Laboratories of the Department of Chemistry, Biology, Physics, Anatomy, Pharmacology and Hygiene, University College, London, University of London.
4. The laboratories of the Departments of Chemistry, Biology, Physics, Anatomy, Physiology, Pharmacology and Hygiene, King's College, London, University of London.
5. The Brown Institution, University of London.

B. *Imperial and National Services.*

1. The laboratories of the Royal Naval Medical Service, Haslar Hospital.
2. The laboratories of the Royal Army Medical College, Millbank, S.W.
3. The Lister Institute of Preventive Medicine.
4. The laboratories of the Imperial Cancer Research Fund.
5. The Cancer Research Laboratories of the Middlesex Hospital.
6. The laboratories of the Royal Commission on Tuberculosis.
7. The laboratory of the London County Asylum, Claybury, Woodford Bridge, Essex.
8. The London School of Tropical Medicine, Victoria and Albert Docks, E.
9. The Liverpool School of Tropical Medicine.
10. The laboratories of the Royal Institute of Public Health, 37, Russell Square, London, W.C.
11. The laboratory of the King Edward VII Sanatorium, Midhurst, Sussex.

C. *Medical Schools and Colleges and the Hospitals connected with them in all the Departments of their Work.*

Such hospitals and medical schools as are schools of the University of London.

D. *Such other Hospitals, Colleges, Medical Schools, including Schools of Tropical Medicine, Laboratories, or other places as may be approved by the Trustees after receiving a Report from the Advisory Board.*

Power is, however, reserved to the Trustees to vary the place in which a Fellow should carry on his research.

The temporary office of the Trust is at Seymour House, 17, Waterloo Place, Pall Mall, S.W.

LITERARY NOTES.

In the first paragraph of "Literary Notes" which appeared in the BRITISH MEDICAL JOURNAL of December 11th, page 1692, the name of the author of the *Modern Greek-English Dictionary* there referred to was accidentally mispriuted as "Kyriades." It should have been "A. Kyriakides." The book, which is now in its second edition, contains a Cypriote vocabulary. The English publishers are Messrs. Williams and Norgate.

In a paper on books and reading, read before the Kinlochleven Literary Society, and now reprinted from the *Caledonian Medical Journal*, Dr. Lachlan Grant, of Ballachulish, discourses on the value of the reading habit, which he says can be acquired by all, especially in these days of public libraries. But Dr. Grant urges that the private collection should not be neglected, and we are sure all writers of books (which was the description given of himself by Thomas Carlyle) will highly approve his recommendation that all who can afford the luxury should buy as many of their favourites as they can. He utters a needed note of warning against too much reading of newspapers, which as he truly says, becomes a form of mental dissipation. He himself is catholic in his literary tastes. He does not frown at novels, which, it may be remembered, were an unfailing relaxation to Darwin. One of the greatest physicians of the present day used to read novels on his daily rounds, tearing out and flinging out of window the pages as perused; a better use of them would have been to give them to hospitals, the inmates of which are often even now but ill supplied with light reading. Napoleon, who carried about with him on his campaigns a library of three thousand volumes, also read in his travelling carriage. In the matter of novels he was somewhat difficult to please, and he threw away those which did not hold his interest from the first. Thus, as Andrew Lang says, he marked his steps of conquest through Europe with bad novels. The only rule as to reading is to read what interests one and gives pleasure. At the present say the snippet magazine and the novelette have almost killed the taste for anything deserving the name of literature; while the lady novelist, with her eternal sex problem, has to a large extent taken the place of Scott, Dickens, and Thackeray, who are treated as "back numbers." Has not the half-baked intellectual condition which we call "education" much to answer for? We would add that if the mind is to be instructed, books must be digested, not merely skimmed through; the spirit of the old maxim *Non multa sed multum*, which is reversed by our present system of education, still holds true.

Dr. W. H. Maidlow, of Ilminster, has been preaching from the same text as Dr. Lachlan Grant to the local literary society. We are glad to note that he makes special mention of the great men who have combined literature with medicine—Sir Thomas Browne, Oliver Goldsmith, Mark Akenside, Tobias Smollett, John Arbuthnot, George Crabbe, John Locke, John Keats, John Brown, Oliver Wendell Holmes, Charles Lever, Arthur Conan Doyle. But why does he omit the greatest of them all, François Rabelais, Doctor of Medicine of the University of Montpellier? Molière, the greatest satirist of medicine, might almost be included *in nostro docto corpore*, for he was evidently carefully posted in the medical learning of his day by some member of the Faculty. Dr. Maidlow discusses what literature is, concluding that "literature in its widest sense is the record of the impressions made by external realities of every kind upon intelligent men and the reflection which these men have made upon them." This virtually means what Matthew Arnold expressed more tersely when he defined literature as criticism of human life. Like Dr. Lachlan Grant, he thinks that the lavish manner in which literature of all kinds has nowadays been placed within reach of the humblest reader may lead to mental dissipation. Dr. Maidlow urges strongly upon readers the reading of authors whose works have become classics. As he well says: "The sign of a classic is its persistence. It has undergone the test of time, and survives in spite of its antiquities, different waves of taste, and social conditions." After all, a true classic is always modern; there is a dialogue in Theocritus between two women preparing to go to the play which might have been written to-day. Dr. Maidlow indicates his own favourites in a little catalogue of his bedside books which he gives. It consists of *Don Quixote*, Montaigne's and Bacon's *Essays*, the *Religio Medici*, the *Bible*, Plutarch's *Lives*, More's *Utopia*, the *Meditations* of Marcus Aurelius, and Banyan's *Pilgrim's Progress*. All these can be bought for a trifle, and they make up, with the addition of Shakespeare, a "perpetual feast of nectared sweets, where no crude surfeit reigns." Dr. Maidlow treats of literature for the sick. He excludes all works of a depressing character. Personally, on an occasion when he was laid up, he learnt Edward Fitzgerald's *Rubaiyat of Omar Khayyam*, some of the *Idylls of the King*, and most of the *Ancient Mariner*. For persons of less heroic digestion we should recommend something lighter. It is just in the sick room that the scraps and snippets, provided so copiously by literary caterers of the present day, find a suitable place.

The new instalment (second series, vol. xix, Q Rzehak) of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army*, which has just come to hand, includes 10,019 author titles, representing 5,231 volumes and 8,158 pamphlets. It also contains 4,065 subject titles of separate books and pamphlets, and 31,370 titles of articles and periodicals. The Library now contains 168,879 bound volumes and 297,560 pamphlets. The preface from which we take these figures is signed by the Librarian, Lieutenant-Colonel Walter D. McCaw, Medical Corps. Of the value to medical literature of this unique publication it, at this time of day, would be superfluous, and, indeed, impertinent, to speak. It is sufficient to congratulate all concerned in its production on the results of their labours.

Nova et Vetera.

THE BOOK-OATH.

Owing to the fact that the Oaths Act, 1909, has received the Royal Assent, and will come into force on January 1st, 1910, it may be assumed that the practice in England of "kissing the book" while taking an oath will soon become obsolete. Any references, therefore, in the past to oaths being taken on books, either by kissing or touching them with the hands, are not without interest.

Among the Fathers of the Christian Church swearing upon solemn occasions was held to be lawful. The early Christians were accustomed to lay their hands on the Gospels in swearing, and to say in conclusion, "So help me God and the contents of this Book." There is said to be extant (Cod. 3, 1, 14) an ordinance of the Emperor Julian prescribing that the oath be taken *sacrosanctis Evangeliis tactis*. Possibly the custom may have been derived from the Jewish oath that was taken anciently with the scroll of the Law held in the hand.

With Mohammedans it is customary, in a court of law, to take the oath on a book. The Egyptian, when swearing, places his hand on a copy of the Koran held out to him, and says, "By God the Great!" three times, and then adds, "By what is contained in this of the word of God" (Lane. *Modern Egyptians*, 1890, p. 102). The Arabian oath is taken by placing the left hand under the Koran, and the right over it (Kitto, *Pictorial Bible*, 1836, vol. i, p. 63, footnote).

Allusions occur now and again to the use of the book-oath at an early date in England. Thus in the records of an English Guild, 1389, we read: "Eche of hem had sworen on ye bok to perfomeme ye pointz"; and, again, in Hall's *Chronicle*, 1548: "Eche of theim takyng a corporal othe upon the holy Evangelistes." By a *corporal* oath was meant one taken by bodily touching a sacred object, as the Gospels, the consecrated Host, or the relics of saints, and was so called to distinguish it from oaths that were merely spoken or written. Shakespeare has several allusions to the book-oath in his plays. "I'll be sworn on a book she loves you," Mrs. Quickly says to Fenton, who is courting sweet Anne Page. "You kiss by the book," Juliet exclaims to Romeo; and Stephano to Caliban, "Come, swear to that; kiss the book."

When the practice of "kissing the book" first began is not quite clear. The kiss of veneration is certainly of ancient origin, and has been bestowed on many objects deemed sacred. In the Roman and Greek Churches especially, the Crucifix, the altar, the pictures and statues, and relics of saints have been kissed by devotees. Kissing the crucifix has in not a few Christian countries been regarded as a particularly holy act, and sometimes required in taking an oath as the highest asseveration that the witness is speaking the truth. It is not surprising, therefore, that the kiss reverential should have been extended to the Gospels, and made obligatory in the administration of judicial oaths. Apparently the laying of the hand on the Gospels is a more ancient form of swearing than "kissing the book," and was the practice that obtained in our courts until the sixteenth century, when it appears that a constable took the oath as follows: "I shall true constable be . . . so helpe me God and my holydome, and kysse the boke" (Fitzherbert, *The Boke of Surveyinge and Improvements* 1523).

After the Reformation, and when the Bible had been translated, and printed copies of it circulated widely, an oath taken upon it was very binding upon the conscience. Congreve makes a character in one of his plays say, "Madam Marwood took a book and swore us upon it, but it was but a book of poems. So long as it was not a Bible-oath we may break it with a safe conscience" (*The Way of the World*, 1698, v, 2). "On my Bible oath" has often been said when a speaker wished it to be understood that he was strictly declaring what is true.

Although "kissing the book" became a well-established practice, irregularities occurred from time to time on the part of oath-takers. Of this we have evidence in a satire on the University of Oxford, by Nicholas Amhurst, a poet and political writer. "He takes the oaths of allegiance and supremacy . . . some have thought themselves sufficiently absolved from them by kissing their thumbs instead of the book" (*Terræ Filius*, 1721). Recently some witnesses in courts of law have been alleged to adopt the same subterfuge to avoid the risk of catching any contagious disorder.

The public may well have been led to suspect that "kissing the book" is an insanitary practice after having read such notices in the press as the following: "Much-kissed Testament. Mr. J. A. Charsley, of Beaconsfield, Bucks, one of the oldest coroners in England, is resigning the appointment. . . . Mr. Charsley has in his possession a Testament which has been used at inquests in the division of Bucks for over 100 years." Many witnesses in English courts have preferred of late to take the "sanitary" oath, as it has been called, and to swear with the right hand raised as is the custom in Scotland. This sanitary oath is often termed the Scottish oath, but Judge Willis is reported to have said not long ago at the Greenwich County Court, when a plaintiff, before giving evidence, took the oath in Scottish fashion: "I do not object to your being sworn; you were sworn holding up your hand. It is quite English, and no more Scottish than English. It has been used in this country for 300 years, and yet the Legislature is passing an Act to make that legal which is already legal." However that may be, the custom of swearing with the uplifted hand is certainly a very old one, and its origin has been traced back to patriarchal times, when Abram said to the King of Sodom, "I have lift up mine hand unto the Lord, the most high God, the possessor of heaven and earth" (Gen. xiv, 22). Adjurations with the uplifted hand are mentioned in other parts of Scripture (Deut. xxxii, 40; Dan. xii, 7; Rev. x, 5). In Homer's *Iliad*, Agamemnon's oath is described as being taken, "with hands uplifted to th' attesting skies" (Pope's translation, xix, 254). Swearing, therefore, with the hand raised is a practice of much greater antiquity than that of touching a book with the hand or lips.

At one time it seemed as if the book-oath would be entirely abolished, for, as the Oaths Bill left the House of Commons, the witness was merely required to take the oath with uplifted hand; but, as amended by the House of Lords, the bill provides that "the person taking the oath shall hold the New Testament in his uplifted hand." Consequently, the place which the Bible has occupied for so long a time in the ceremony of oath-taking will still be preserved.

Sir Alfred Keogh, K.C.B., Director-General, and the officers of the Royal Army Medical Corps, London, gave a conversazione at the Royal Army Medical College on December 14th. It was largely attended, among those present being many members of the civil profession and ladies, as well as officers of the corps both on the active and the retired list. A number of interesting scientific demonstrations were given and many specimens shown, including a series illustrating the life-history of *Ornithodorus moubata*, the transmitter of the tick fever of Africa, exhibited by Lieutenant-Colonel Sir W. B. Leishman.

The Leicester and Leicestershire Branch of the National Association for the Prevention of Consumption has just issued its tenth annual report, which shows that the branch continues to carry out useful work. During the year lectures on the prevention of consumption have been given, attention has been drawn to the value of open-air schools for delicate children, and a letter has been issued to 300 manufacturers in Leicester, with the hope especially of improving the ventilation of factories and workshops. The report draws attention to the fact that both in the town and county of Leicester the deaths from tuberculous diseases are not diminishing. Arrangements have been made for the Tuberculosis Exhibition, which is now being shown in various parts of London, to visit Leicester early in the coming year. The branch has during the past, as in the previous year, maintained a number of consumptive patients at the Mount Vernon Hospital at Northwood, and a list of 51 patients treated at that institution is published in the report. During 1909, 34 applicants for admission were examined, of whom only 13 were found suitable and were admitted to Northwood. The average stay of each patient was about three months, and the satisfactory results of treatment recorded in this report are largely due to the care with which the applicants are examined by the committee, thus ensuring that unsuitable cases are rejected.

British Medical Journal.

SATURDAY, DECEMBER 18TH, 1909.

THE MEDICAL ASPECTS OF THE PARLIAMENTARY SESSION.

The fourth and last session of the Parliament of 1906 will always be remembered rather for the great questions which it raised and did not settle than for the Acts which it placed on the Statute Book. As was anticipated in the King's Speech on February 16th, less time than usual has been available for legislative measures, owing to the lengthy period required for the consideration of the means of raising the revenue necessary for the services of the State. The Finance Bill alone engaged the attention of the Commons for seventy-three sittings, and spread itself over six of the eleven months during which Parliament sat. Under these circumstances the legislative output is necessarily less abundant than usual. The Government have passed forty-one Acts, and nine Acts introduced by private members have become law. When Parliament rose on December 3rd the Speech from the Throne referred with satisfaction to some of the measures passed, such as the Housing Act, the Trades Board Act, the Irish Land Act, the Labour Exchanges Act, and the Development Act, all measures which affect the social progress of the people. In this respect the Parliament which has met for the last time has up to the end been busy over measures conducive to the general welfare of the working classes.

None of the Acts mentioned above deserves so much attention from the medical profession as the Housing and Town Planning Act. It was specially commended in the King's Speech, twice over, for its sanitary provisions, and we welcome it as a great legislative enactment for promoting public health. It stands out as one of the most important results of the most arduous session on record, and is an example of how good results can be won by patient pressure and tactful treatment. The four sessions of this Parliament have all given some share of time to the forming of this measure. In 1906 it was read a second time in the form in which Sir Walter Foster introduced it in the last Parliament, and was referred to a Select Committee. The report of the Select Committee, an excellent study of the subject, was considered by the Local Government Board, and in 1907 Mr. Burns introduced the greatly extended bill, which ran its course through Grand Committee in 1908, and has this year become law. The many crises in the fortunes of the measure have been narrated in our columns from time to time, for even in this session its success has more than once been in doubt. The President of the Local Government Board guided its course with a tactful skill and a wise courtesy which finally delivered it from the dangers that at one time threatened its existence in the Upper Chamber. The Act will do much to advance the social well-being and the sanitary development of both rural and urban areas, and will secure for the towns of the future the orderly and healthful growth essential to wholesome progress. The medical profession may well rejoice that the principle of security of tenure for county medical officers of health has been won in the Act after a strenuous struggle.

We are glad to notice that in the debates on the Finance Bill the claim of the profession to consideration as regards the proposed motor car tax was freely recognized by the Government; we hope, therefore, that this concession to a hard-worked body of men, not too well paid, will be secured in any future legislation.

It is a matter for congratulation that Sir William Collins has been able to pass the Asylum Officers' Superannuation Act. We ventured to hope when the bill had emerged from the Select Committee, that it would be assisted by the Government in its later stages. This hope was realized in the last days of the struggle, and a class of highly deserving officials, entrusted with the most delicate and responsible duties, will now be placed in an assured position in view of age or disablement.

The Metropolitan Ambulances Act is another measure which will prove useful and helpful in the case of all street accidents; while the Oaths Act, which alters the old and dirty custom of kissing the book, and substitutes the more cleanly and sanitary method of holding the New Testament in the uplifted hand, will receive general approval.

When we look back to the list of bills promised at the commencement of the session we observe with much regret that the Inebriates Bill was not even introduced, although there is real need for a new and improved Act. The Shop Hours Bill was introduced and withdrawn, and the same ill fortune has been the lot of the Milk and Dairies Bill. This is very much to be deplored. There is urgent necessity, in the interests of the health of the whole community, and more especially for the sake of the children, that a good milk bill should be passed. It has been repeatedly promised, and only last March the President of the Local Government Board, in speaking against the milk clauses in a London County Council Bill, induced their withdrawal in favour of the introduction of more general and more drastic powers in the Government bill. Yet that bill has come to nought. A new Parliament, we trust, will not sanction any more of this dangerous delay.

When the next Parliament assembles, faced, as it must be in any case, with social problems of the most far-reaching character, we hope there will be in it a sufficient number of medical men and others devoted to sanitary questions to push forward with vigour proposals for bettering the health of the people. Medical men, by their training and experience, are specially competent to advise and assist on social legislation. On the one hand, they are better informed with expert knowledge: and, on the other, less trammelled by economic and commercial considerations. That they can prove useful, every session of the Parliament of 1906 has shown, and none more emphatically than the session which has just closed.

PRISON DOCTORS AND THE HOME OFFICE.

The action brought by Mrs. Leigh, a militant suffragist, against the Home Secretary, Captain Percy (Governor of Winson Green Prison, Birmingham), and Dr. Helby (medical officer), claiming damages for assault consisting in forcible feeding while she was serving a sentence in the prison, was tried before the Lord Chief Justice and a Special Jury on December 9th.

The case was fully reported in the principal newspapers, and it is unnecessary, therefore, to repeat the details here. A verdict was given for the defendants, and judgement was accordingly entered for them with costs. On December 15th a case of the same kind, in which the plaintiff was Miss Laura Ainsworth, was, in view of the decision in the previous case, withdrawn. It would be overstepping our province to discuss these cases in their political or legal aspects. Medical evidence was given on both sides as to the advantages and disadvantages of nasal feeding, and our readers will form their own opinion on the matter. There is, however, one point closely concerning the profession which it is important should be placed in its true light. In the JOURNAL of October 9th, p. 1089, we pointed out that the Home Secretary had attempted to place the whole responsibility for the method of treatment adopted in the case of the women who refused food on the shoulders of the medical officer. It was virtually admitted in the House of Commons by Mr. Masterman that the compulsory feeding had been sanctioned by the Home Office. In the case of Mrs. Leigh it was proved beyond reasonable doubt that Dr. Helby had acted on orders sent by the Home Secretary or in his name. It was stated in evidence by the governor of the prison that he had passed on to Dr. Helby the instructions which he had received from the Home Office. He said that the effect of the instructions was that the women were not to be released, and that they were to be forcibly fed if the doctor thought it necessary. Mrs. Leigh herself stated in her evidence that, when she refused to take food, Dr. Helby, referring to a blue paper, said he had orders that she was not to be released even on medical grounds, and that if she still refused food, he had to take measures to compel her to take food. When asked by whose orders this was to be done, Dr. Helby, she said, replied that it was by order of his superior officers.

In the face of these statements it is instructive to read the following passage from an affidavit made by Mr. Gladstone: "I have in my possession or power documents relating to matters in question in this suit. I object to produce them on the ground that they are confidential communications passing between me as Secretary of State to persons under me. . . . It is contrary to my duty as Secretary of State and the interests of His Majesty's service that such documents should be produced." This conclusively proves that the Home Secretary was in communication with the prison officials in regard to the matters in question in the suit. What could such communication be about unless it were the medical treatment of the prisoners? Yet Mr. Gladstone tries to shuffle out of this plain inference when he says in answer to interrogatories: "Save in my capacity as Secretary of State, charged with superintendence of prisons of which my co-defendants are officers, I have had no communication or given no instructions whatever, verbal or in writing, to my co-defendants with reference to plaintiff or any class of prisoners in the said prison. I object to state what communications or instructions I have made or given, or caused to be made or given, to my co-defendants, on the ground that it would be contrary to the interest of the public service that any such communication or instruction should be liable to be disclosed, and I therefore object to disclose the communications or instructions now particularly in question, or the nature or effect of them." This is indeed a remarkable answer from a Cabinet Minister. In the light of the evidence of the doctor, of the governor, and of the prisoner, and of the admission of the Attorney-General, that what was done was done in communication with the Home Office (see *Times* report, December 10th), we can only characterize it as disingenuous. It is only in his capacity as Secretary of State that his communications to his subordinates are of any relevancy in this case. His real objection to state what communications he made or gave, or caused to be made or given, is, it may fairly be conjectured, that it would be contrary not so much to the public as to his own interest.

Looked at from any point of view, the manner in which Mr. Gladstone has dealt with the situation has been deplorably weak. But to attempt to throw the whole responsibility on his subordinates is to the last degree contemptible. To what evasions he has had recourse in order to shift the responsibility from himself is shown by the answer he gave to Mr. Arthur Lynch on a former occasion, when he said he "put forward medical officers because it is a medical question, and, as the honourable member knows, or might have known, any responsibility rests upon the medical officers."

It is necessary that the responsibility of the prison doctor should be clearly defined. It would be absurd if he had to get instructions from the Home Secretary for a particular line of treatment in ordinary cases or even in what may be called ordinary emergencies of medical and surgical practice. A doctor so placed would be like the Hindu stationmaster who telegraphed to head quarters: "Tiger bounding about platform; wire instructions." But when in a case such as that of the "hunger strikers," where the action of the doctor is likely to cause him, rightly or wrongly, to be held up to public obloquy, it is intolerable that he should have the whole burden of responsibility thrown upon him by his official superior. If, in the words of the Attorney-General, "whatever was done was done in communication with the Home Office," the responsibility for the doctor's action obviously rests with the higher authorities. From first to last in this unpleasant business Mr. Gladstone has cut a figure which would be lamentable were it not ridiculous. He reminds us of *Punch's* famous caricature of Lord John Russell as the naughty little boy who chalked "No Popery" on a wall and then ran away.

SECRET REMEDIES IN SOUTH AFRICA.

A STAMPS AND LICENCES BILL has recently been before the Cape Legislature, and some of its provisions were subjected to a good deal of criticism in committee, chiefly on the ground that they would operate in restraint of the freedom of trade within the colony. The Right Hon. J. X. Merriman, the Premier, who was in charge of the bill, seems to have shown a conciliatory spirit until the House came to the clause dealing with "stamp duty on patent medicines," which proposed that the stamp should be affixed before the article was exposed for sale; it was suggested that it would be sufficient if a stamp were put on when the article was actually sold. Mr. Merriman objected that the proposal would operate in favour of the dishonest trader, who would say that he had forgotten the stamp, or had no stamps ready. Then turning to the general subject he said, "Don't waste your sympathy on these articles, I implore you. I suppose that this is the time that I might shed a little light on these articles, which are sold in thousands and tens of thousands in this country. I have in my hand a book published by the

British Medical Association. Only one paper in England was found bold enough to notice it, and pointed out how the people were being swindled day by day by these articles. There are some pills—I won't tell you whose they are—which are priced at 2s. 9d. per box containing thirty, and the estimated price of the ingredients is $\frac{1}{16}$d. Yet people by shoals buy these articles. Then we have pills advertised as 'worth a guinea'—(laughter)—which are sold for 11d. in England—fifty-six pills in a box—and the cost to them is the half of a farthing. Then there's somebody's 'curative syrup,' costing 2s. 6d. a bottle, the estimated cost of its ingredients being one-third of a penny. There is a 'safe cure'—(laughter)—the cost of the mixture 5$\frac{1}{2}$d.; and so on through the whole of this book. I don't suppose there is such a revelation of the people's credulity as is to be found in this book. The people waste their substance on these things, some of which go up to 5 guineas—and worth not 5d. The people go and give money for them, and damage themselves by it—(hear, hear)—therefore, I say that that tax upon these articles—no matter where put on and how put on—is a just tax. These medicines cause harm to the people, and if they would only take exercise and drink sour milk instead, it would be much better for their health. (Laughter.) These poor people who are suffering from diseases go and take these miserable remedies, pay a high price for them, and build up the fortunes of quacks in other lands; and then make themselves worse, instead of better. It is a cruel thing. You know the Latin lines, 'Populus vult decipi . . .' If the people want to be taken in, they will be taken in." An appeal was made to Mr. Merriman to except Dutch medicines, which, a member stated, were looked upon by families as quite a *huisvriend* (house-friend). Mr. Merriman retorted that they were more properly called *huisvijand* (house-enemy), and stated that they were largely composed of alcohol, each phial containing a fluid ounce of alcohol; they appeared on women's dressing tables, and were given to children. The ingredients cost $\frac{1}{4}$d. or $\frac{1}{2}$d., but the bottles were retailed at 6d. Nevertheless Mr. Merriman consented to the omission of the clause referring to these medicines. Judging from observations made in the course of the discussion as reported in the *Cape Times*, from which paper our quotations are made, the export of secret remedies from this country to the Cape must be very considerable, and it would seem that the American trader is anxious not to be left out in the cold. This appears from a question asked in the Legislative Council by the Hon. Mr. Claassens as to whether the Cape Government were aware of the treatment of Dr. D. P. Yonkerman for tuberculosis in cattle as well as in human beings; if so, whether Government had taken, or intended to take, any steps to ascertain whether it was true that experiments had been made with it both on cattle and human beings, and that the result had been declared satisfactory by doctors and a committee? The Hon. Mr. Malan, Minister for Agriculture, who replied to the question, read a letter from the Chief Medical Officer of Health for the Colony as follows: "The Derk P. Yonkerman Co., Ltd., is an American company which alleges to quickly cure consumption by means of a proprietary article they call 'Tuberculozyne,' alleged to have been discovered by Dr. Derk P. Yonkerman. This so-called cure was investigated by the British Medical Association, and in a book published by that body called *Secret Remedies*, an analysis is given of 'Tuberculozyne,' which shows that its composition is such as to be absolutely useless for the treatment of consumption, and that the whole cost amounts to 2$\frac{1}{2}$d., for which the company charges £2 10s." The Minister added that, so far as the Government was concerned, it was not prepared to take any steps to investigate a nostrum of this kind unless there were a law which enabled Government to take proceedings against persons trading in the most barefaced and rapacious manner on the credulity of afflicted and suffering humanity. There is a refreshing directness about the concluding passage of Mr. Malan's reply, which outlines a policy well deserving the attention of Government and legislators in this country. It is, at any rate, very satisfactory to find that the information brought together in the volume *Secret Remedies*,[1] has proved of service to the Cape Government, and has enabled it to appraise at their proper value the nostrums which are advertised and pushed with apparently as much impudence in Cape Colony as in Great Britain.

ADAMS v. "VANITY FAIR" AND OTHERS.

ELSEWHERE will be found a letter, signed by the President of the Royal College of Surgeons of England, the President and the Chairman of Council of the British Medical Association, and other leading members of the medical profession, in which an appeal is made for funds to reimburse Dr. Martha Adams the legal expenses incurred by her in the action for libel brought against the Hon. Ernest Pomeroy. A full report of the case appeared in our last issue, and it is needless to repeat the details or discuss the evidence, which speaks for itself. *Vanity Fair* had already published two apologies to Dr. Adams; the action was therefore in reality against Mr. Pomeroy. The point at issue was somewhat confused by the foolish prejudice which vaccination excites in minds of a certain type, and we must add by the action of the Education Board, which may have led the jury to believe that Miss Adams had gone beyond the limits of her duty. Even if it be admitted that she stepped beyond the strict letter of the law, that would not have justified the atrocious charge that she had done so for purposes of gain. In the article complained of Mr. Pomeroy asked, with the insolence which seems to be the chief characteristic of his literary style, "How many of the children reported to the vaccination man by Dr. Martha were subsequently infected by her?" As the judge pointed out, the defendant had not taken the trouble to find out whether the plaintiff vaccinated or not. But Mr. Pomeroy offered the alternative of a still more offensive insinuation by adding: "Or, if by some other doctor, what percentage of the fees did she obtain?" As Mr. Justice Grantham said, Could anything more libellous be imagined than that? Miss Adams stated that she had nothing to do with vaccination, and that she only did what she believed to be her duty to the Education Authority of Twickenham in whose employment she was. The judge further pointed out that there was not a tittle of evidence that she did what she had done for the sake of fees or sharing the fees with another doctor. Mr. Pomeroy in cross-examination admitted that he had written that "it is a great mistake to suppose there is any merit in being truthful always," and he certainly seems to act up to the principle thus frankly avowed. What a man who professes to hold that doctors are "disease spreaders" and "corpse makers" may write about a medical practitioner cannot damage him or her in the profession; but, as Huxley said, "the world is neither wise nor just, but it makes up for its folly and injustice by being damnably sentimental." Moreover, it is very ignorant of scientific matters. It is, therefore, easily influenced by the rubbish written by fanatics about vaccination, vivisection, and similar matters, and in

[1] Published by the British Medical Association, 429, Strand, W.C. 1s.; post free, 1s. 3d.

the face of a summing up most strongly in her favour, the jury—which represents the "world" as Huxley described it—awarded Miss Adams the lowest possible damages. She deserves our fullest sympathy for her courage in facing the ordeal of a law court—for the ways of British juries are inscrutable—as she was fighting not her own battle only, but that of her profession. Although the jury had the sense to wish to make the verdict cover costs, Dr. Adams, as a matter of course, has to pay a considerable sum which the taxed costs will not cover. It is not fair that she should be allowed to bear this expense, and we confidently appeal to our readers to show their sense of the cowardly attack of which she has been the object by helping to defray the expenses which she has incurred.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE December meeting of King Edward's Hospital Fund for London took place last Monday. It is at that meeting that awards for the year are voted and declarations of policy made, and it will be seen from the remarks of the Prince of Wales (who again took the chair), reported elsewhere in this issue, that his participation in the management of the Fund is quite as active as ever. This is a matter for congratulation, because while the initial success of the Fund was due to the exertions made on its behalf by the King, its continued prosperity is in large measure undoubtedly due to the influence of the Prince of Wales. How great the success of the Fund has been is shown by the fact that even in this comparatively early year of its existence it has already reached the goal of its ambitions—namely, the power to make awards totalling in one year £150,000. In respect of policy no novelty was forthcoming. It is still held that the amalgamation of a variety of small institutions in London devoted to the treatment of diseases of the throat, ear, and nose, is desirable, but the pressure now applied is of a negative quality. Sums are set aside to assist in any amalgamation scheme which may be undertaken, and grants to individual hospitals, which would naturally come into such a scheme, are withheld. Last year we drew attention to the fact that a grant had also been withheld from a prominent hospital which the previous year had received a large sum in the way of legacies. On the other hand, its normal income left it with a large deficit on annual maintenance, and we pointed out that the withholding of grants in such circumstances was a practical reversal of the policy which the Fund had hitherto very wisely pursued—namely, that of encouraging institutions to treat legacies as extraordinary and not ordinary income, and to pass them to capital, not current accounts. It is only by care in this direction that hospitals can ever hope to reach a position of reasonable financial stability, and we are glad to note that so far as our examination of the awards has gone, this mistake has not been repeated. On the other hand, there are two notable absentees in the list of grants. One of these is a hospital which applied for a grant, but for the second year in succession has received none, and the other is an institution which, in view of previous experience, did not apparently think it worth while to make any application at all. The institutions in question are places of the highest importance, against whose financial and general administration no well-founded charge could possibly be brought, and the only ostensible reason for leaving them out is the fact that by careful administration in the past they have managed to accumulate a considerable though quite inadequate income. We are certain that if the withholding of grants to these popular hospitals were brought home to them, the general body of subscribers to the King's Fund would be painfully surprised, and we are still more sure that a continuance of the same policy towards institutions of this character is a practical invitation to other hospitals to engage in schemes calculated to keep them in a condition of comparative poverty. In one other point, too, have the actions of the Fund been calculated to give rise to disquiet. To encourage hospital enterprise in important suburbs may be a sound policy, but it is entirely detrimental to the public interest to insist on such institutions being conducted and staffed on precisely the same lines as those in Inner London. The basis of such action is a conception that the operative and medical skill of the metropolis must necessarily be concentrated in Harley Street and its locality. At this date such an idea is very ill founded. In nearly all the suburbs are to be found many medical men possessed of the highest qualifications, who, given opportunities of a kind enjoyed by their colleagues in the provinces, would do equally good work; and how good that work is every one nowadays knows. In the interest both of the lower and middle classes, the right policy would seem to be to develop in Outer London hospitals of the large cottage type, not imitations of those attached to the great teaching schools.

TINY TOWN.

WE are all inclined to condemn the public exhibition of human monstrosities, even when these monsters are of the diminutive order. Unscientific interest in the morbid must certainly be regarded as an indication of a low taste, comparable with the old time passion for gladiatorial shows and with modern bullfights. It is probably for such reason that dwarfs were so popular among the Roman, Frankish, Saxon, and Middle-English aristocracy. We read that the decadent Emperor Domitian collected dwarfs, as men now collect stamps, and formed some of them into a band of gladiators. Dwarfs also formed part of the retinue of William the Conqueror, and in the seventh century an Empress of Austria assembled together all the dwarfs in the Germanic empire. In our days we are a little ashamed of showing any interest in these diminutive people in their personal aspects. At the same time it is not easy to say what would become of them were they shut out from the possibility of earning their livelihood in exhibitions. Moreover, they are undoubtedly the happier for the society of their peers, and show by their manner that they fully appreciate the attentions lavished upon them. They are also of very distinct value from a pathological and anthropological point of view. Among those at Olympia we notice some striking examples of achondroplasia. Two of these are of exceptional interest, inasmuch as they are instances of the very rare occurrence of achondroplasia in parent and offspring. According to the statement of the mother there were two other deformed children, both of whom died in infancy. But by far the majority of the dwarfs at Olympia belong to that special kind of infantilism which arises sporadically, without evident cause, and has been termed "ateleiosis." It is characterized by the perpetuation of the physiognomy and bodily proportions of the particular time of life at which it happens to begin. It is also distinguished by the frequent occurrence of heredity, usually familial, and by its pronounced degree. These characters are well illustrated among the dwarfs of Tiny Town, most of whom are evidently little more than stereotyped children, and therefore bear extraordinary resemblance one to another. They have shrill or piping voices, big heads, short, flat faces, with more or less uptilted noses, and short

limbs. Of particular interest among these dwarfs is the wife of the late Tom Thumb, whose highly profitable associations with Barnum are so well known. This quiet little lady is a dignified matron of more than average intelligence. As the mother of a dwarf child (and we have no reason to doubt her word; moreover, there is plenty of evidence in her favour) she has proved the possibility of producing a new species or variety of human beings. In talking to her one cannot but regret, in spite of eugenics, that the little mother lost her child while it was still a baby. Some of those who strut the floor at Tiny Town are in reality charming little personages, as anyone will find when he once gets over his first feeling of repulsion. Two of the dwarfs are obviously cretinoid, but their intelligence, though decidedly slow, seems to be too good for the subjects of lifelong primary cretinism. Perhaps they were ateleiotic in the first place, and afterwards became affected with myxoedema. One dark-skinned mannikin apparently owes his stature to a totally different cause. His head is very small, his nose prominent, and his chin weak. He is no doubt an instance of what the French term "*demi-microcéphalisme*," and does not seem to be in possession of the highest degree of intelligence. The inhabitants of the Addison Road Lilliputia will be found of considerable interest to all those who make a study of post-natal development, normal or abnormal.

THE HEALTH OF THE ARMY, 1908.

SIR ALFRED KEOGH, K.C.B., in presenting, as Director-General of the Army Medical Services, his report on the health of the troops at home and abroad,[1] is able to make the gratifying statement that the decline in the incidence of sickness which has been shown for several successive years continued in 1908. When the statistics for last year are compared with those for the decade ending 1898, the decline under all heads is remarkable. The admission ratio per 1,000 of strength fell from 997 to 573, the ratio of constantly sick from 59.85 to 32.28, that of invalids sent home from 26.56 to 15.91, of invalids finally discharged from 15.36 to 10.32, and of deaths from 9.03 to 4.78. During the past decade the effective strength of the army, as indicated by the fall in the constantly-sick rates, has been raised by 5,776 men, and the wastage through death and invaliding reduced by 2,900 men a year, or at the rate of a division of troops for each decennial period. Another way of looking at the matter is that the improved health of the troops has made it possible to reduce the number of hospital beds at home stations by over 2,200, and a similar reduction is being carried out for stations abroad. Not improbably some wiseacres will, having read the report thus far, repeat the suggestion of one of their fraternity, who is, or was, an M.P., that the medical staff of the army should also be reduced, as there are fewer sick to treat. It really seems impossible to get into the heads of some people the obvious proposition that prevention is better than cure, but requires as much scientific knowledge and vigilance. It will be almost hopeless to expect them to read on to the next sentence in the report, which enumerates the causes to which the improvement in the health of the army are to be attributed; these causes are changes in medical administration, improved methods in the treatment of disease, improved sanitation, and greater care and uniformity in recruiting. In the fuller notice of this interesting report, which will be published in an early issue, the operation of these various causes and their relative importance will be considered.

[1] Army Medical Department Report for the Year 1908. Vol. I. London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. 1909. [Cd. 4933.] 2s. 8d.

THE TREATMENT OF SCHOOL CHILDREN IN HAMPSTEAD.

DURING the course of last year, the Hampstead Division determined to make an effort to form a public medical service. The local profession was called together and an organizing committee was appointed. In the course of the deliberations of this committee, suggestions were made by the Hampstead Council of Social Welfare, with a view of strengthening the position of the proposed medical service. Members of the Division took part in conferences, which were held under the auspices of the Council of Social Welfare. Although no assistance was sought in respect of the organization of the Hampstead Public Medical Service, and the work was completed entirely by the efforts of the local profession, with the advice of the Division, it became apparent from an early date that the Council of Social Welfare desired to play some, and probably an important, part in the work which was to be undertaken. In the autumn of the current year Mr. Hancock Nunn, the leader of the Council of Social Welfare, appears to have made certain proposals to the London County Council with respect to the treatment of the school children found on inspection to be defective. On the ground of these proposals certain practitioners were approached through the provident dispensaries by Mr. Nunn, who suggested that as the children were urgently in need of treatment, these gentlemen should undertake the duty of looking after the children. The Kilburn Provident Institute refused to have anything to do with the scheme, on the ground that Mr. Nunn's society was not the proper body to undertake negotiations. But a few members consented to do the work on the distinct understanding that the matter was urgent, and that it was a temporary arrangement. To this course the Division assented. A meeting of the Council of Social Welfare was called, and was attended by the representatives of the Division; the Education Officer and the Medical Officer of the Education Department of the London County Council were present. The scheme which Mr. Nunn had laid before the County Council was discussed, in the course of which the members of the Division objected to Mr. Nunn's statement that the medical profession in Hampstead had fully approved of his scheme. After further negotiations the London County Council, with the full concurrence of the Division, accepted Mr. Hancock Nunn's scheme, pending the preparation of a permanent scheme, which the profession would lay before the London County Council. In the meantime, the Public Medical Service had been inaugurated. The conditions of membership are practically the same as those applying to other public medical services. Under these conditions, it was felt that any arrangement which the London County Council and the profession might agree upon must be outside the Public Medical Service though under its control. A scheme was drawn up by a subcommittee of the Hampstead Division, which was submitted to the Public Medical Service. After certain amendments had been agreed to by both bodies it has been submitted to the County Council for consideration. There is reason to believe that the suggestions made will be accepted in the main by the Council. Under the proposed permanent scheme, any member of the Public Medical Service has the right at the commencement of each year to indicate whether he or she will undertake the treat-

ment of the children. The plan which is aimed at, and which the County Council appears to favour, is that in the first place the children should be referred to the family doctor. If the parents cannot afford to pay the usual fees, the child may be entered as a member of a family into the Public Medical Service, and would then receive treatment from the medical officers of the service like any other patient. Failing this, the County Council undertakes the responsibility of providing treatment, and practitioners who have agreed to act for the Council will be called upon to carry out the treatment. The parent shall have the right to select any practitioner from the list of those who are willing to act. The treatment is to be carried out primarily at the practitioners' homes, but certain cases may be referred to the two centres which, it is understood, will be handed over by Mr. Nunn to the Public Medical Service. The main difficulty is as to remuneration. The County Council has hitherto undertaken to pay for the work at a fixed sum per half school day per week. With an unlimited number of participants such a scale becomes impracticable. The terms suggested are 6s. per case and a few extra fees. The basis of this suggestion was that while the hospitals were receiving about 4s. or 5s. per case with all the facilities of centralization, the private practitioner might fairly ask to be paid on a slightly higher scale. At the same time it was felt that these terms would not be remunerative, and an extra fee for anaesthesia in cases of operation has been suggested. On the other hand, this sum may need subsequent adjustment. The whole question turns on the average number of attendances required for the cases. The County Council works on the supposition that this average will work out at 3. If this were so—which is a large assumption—the terms asked would be comparatively high; but if the views of the Hampstead practitioners are nearer the truth, that the average will work out at about 15 to 20, then the fees would require to be raised later. It now remains to be seen what the County Council will do with the scheme.

SIR ALFRED JONES.

ALL those members of our profession who know the great services rendered by Sir Alfred Jones, of Liverpool, in the promotion of the investigation of tropical diseases will have heard of his sudden death with deep regret. We are indebted to Sir Rubert Boyce for the following tribute to his work and to his memory: "The death of Sir Alfred Jones, K.C.M.G., suddenly and in the very midst of his work, up to the very last surrounded by his stenographers and secretaries, removes from our midst an empire builder—another Rhodes. A man of immense grasp and great ideas, but not ambitious in the narrow selfish sense. Yes, certainly ambitious for the welfare of his fellow-man, ambitious to see all around him succeeding, ambitious to live to see our country, our empire, succeed, and come out top in the race of life. Sympathetic as a woman. A more kindly sympathetic nature I have never encountered. With lightning rapidity he put himself in accord with all who approached him in this characteristic, displaying the very best quality of the Celtic race, to which he was such an ornament. To many the late Sir Alfred may appear as the successful business man, a rival of others, and therefore necessarily hardened; but to those who were privileged to know him intimately, he was the personification of goodness of heart, childlike simplicity, and lovability. To-day he is mourned not only in the British Isles and in the great British Empire, but throughout the civilized world, for foreign nations, better tuned to comprehend the vivid Celtic temperament, regarded him as one of the very great men of our time, a man whom they understood and whom they knew understood them. He will indeed be mourned by all classes of society, but perhaps by none so keenly as by our own profession, for which he always had a most profound respect and admiration, for ever recalling acts of its devotion and heroism and self abnegation. I well remember how, at a medical banquet given by the Royal Southern Hospital some years ago, he had, in the space of less than five minutes, clearly grasped the significance and possibilities of the tropical medicine movement, which had just been started by Sir Patrick Manson and Mr. Chamberlain. He there and then determined to act, and before the repast was finished the Liverpool School of Tropical Medicine was founded. Not another man in Liverpool could have grasped the situation. It was not that Sir Alfred knew much about medical or scientific discoveries. He instinctively felt, in his wonderfully receptive and imaginative mind, that here was a new cause, for the advancement of which men had already sacrificed a great part of their life—a cause, moreover, which he clearly saw would open up vast territories to civilization and commerce, and above all a movement which, if it succeeded, would relieve suffering. Sir Alfred Jones's association with the tropical medicine movement is in my opinion the greatest of his many great achievements. He was intensely proud of the success of the movement, and was ever ready to help and to get others to help. He founded the Chair of Tropical Medicine. But from long intimate acquaintance I can truly say that what most contributed to the success of the movement was not the money which he and others put into the movement but the truly magnificent and stimulating example which he himself ever presented to us, exhorting us continually to go into the tropics, into unexplored fields, and investigate for ourselves. He literally flung us into the tropics; his ships were always waiting to take us away, and as fast as men presented themselves so they were carried to the seat of their labours. And what a gain this method has been to the advancement of medical research and discovery the world knows to-day and reaps the reward. This, too, was the reward of the instigator of it all, for he cared nought for personal reward, living in the most quiet and simple manner. Only a few days ago he was looking over his numerous decorations; for almost every country had given him an Order. He smiled as he looked at them, and, turning to me, said, 'It is nice to get them. I like the appreciation; it stimulates a man to go ahead and do better still.' He valued life and its rewards because they put him in a better position to do good. 'It is not the amount of money you have; it is the capacity you possess of doing something to make the world better than you found it when you came into it.' A few Sundays back my conversation with him turned upon church going. 'Ah,' he said to me, looking round at his stenographers and secretaries, 'I must throw myself upon the mercy of the court.' He little dreamt then that the trial was so near. It has come, and we do not fear the verdict which will be passed upon a man whose life was spent making the world better by exhausting himself prematurely, striving to make the world better than he found it."

QUEENSLAND UNIVERSITY.

THE Government House Buildings, Brisbane, were, a telegram in the *Daily Telegraph* states, dedicated as the home of Queensland University on December 10th. Sir William Macgregor, G.C.M.G., M.D., the

Governor, who performed the ceremony, read a message from the King congratulating the people of Queensland, and hoping that the enterprise and loyalty which had marked the first fifty years of the existence of Queensland might be an abiding heritage, and that the prosperity of the State would be multiplied abundantly in years to come. Mr. Kingston, the chief secretary, said that £50 000 had been set aside for initial expenditure, that the annual grant for working expenses will be £10,000, and that there will be sixty foundation scholarships. Sir William Macgregor assented on behalf of the King to the University Bill, and unveiled a tablet dedicating the building. He expressed the pleasure with which he took part in a ceremony of such historic, social, and economic importance, establishing the corner-stone of a system of State education. The university course, he said, would, without unduly encroaching upon more modern developments of direct utility, include arts and classics. The plan was elastic, affording opportunities of unlimited expansion, and the university was untrammelled either by vested interests or threadbare traditions. The gift of the building was accepted on behalf of the people by Mr. Bell, Speaker of the Legislative Assembly, and congratulatory addresses were delivered by Professor David on behalf of the Sydney University, and by Professor Stirling, Professor of Physiology in Adelaide University, on behalf of that body.

A PRIZE FOR A CURE FOR CONSUMPTION.

A PERSON, whose name has not been divulged, has, we learn from the *Medical Record*, offered a prize of £20,000 for the discovery of an absolute cure for tuberculosis. Yale University is the custodian of the prize, and the physicians attached to the Yale Medical School are to act as trustees. The trustees have invited several well-known physicians to become members of an advisory board which will pass judgement on the merits of the cures submitted. Among them are Dr. E. L. Trudeau, of Saranac Lake; Dr. Simon Flexner, of the Rockefeller Institute; Dr. William H. Welch, of Johns Hopkins University, Baltimore; Dr. Lawrence F. Flick, of Philadelphia, and Dr. Herman Biggs, Chief Medical Officer of the New York Department of Health. The prize is open to all competitors in any part of the world. The money will be held in trust it is understood, and the interest from it will go toward investigating any cures the trustees or members of the advisory board hear of but that are not submitted to them for examination. The advisory board intends to hold four meetings a year, and will hold others if the cures or alleged cures that are submitted warrant it. One of the duties of the advisory board will be the exposure of "fake" consumption cures which may come to their notice. In order that the advisory board and the trustees may not be bothered with bogus remedies, one of the restrictions in the deed of gift is that the remedy must have been in use for five years and must be backed up by reliable testimonials that it has resulted in cures.

DR. LUDWIG MOND.

By the death of Dr. Ludwig Mond, F.R.S., the whole world of scientific research has lost a valuable member. During the past few years he had been in failing health, and two or three weeks ago serious symptoms showed themselves. Born close on seventy-one years ago in the town of Cassel, Dr. Mond spent his school and university days in Germany, where he studied chemistry under Kolbe and Bunsen. At the age of 23 he came to England to serve in the chemical works of Messrs. Hutchinson and Earle at Widnes. There he devised a method of recovering the sulphur which was a waste product as calcium sulphide in the Leblanc soda process. His next great work was one in which his inventive genius was rather less brought into play than his excellent insight into the possible combination of commercial interests and scientific methods. He had examined Dr. Ernst Solvay's method of preparing sodium carbonate from brine by the action of carbonic acid and gaseous ammonia. This method was just the thing which Mond was seeking, since the reaction was completed without any intervention of sulphur, and was therefore economical and satisfactory. Having received the necessary licence from Solvay, Mond entered into partnership with Mr. (now Sir John) Brunner, and started the alkali works at Winnington in Cheshire. There he exhibited remarkable skill in overcoming technical difficulties and in adapting a chemical reaction to industrial purposes. In 1879 he introduced a highly important power gas, derived from bituminous slack by treatment with a blast of air charged with superheated steam. The gases produced were brought into contact with sulphuric acid, which removed the ammonia. At a later date Dr. Mond not only turned his attention to other problems of industrial chemistry, but also employed a number of skilled chemists to work at various problems. In his laboratories, in 1889, experiments undertaken for a totally different purpose led to the discovery of the metallic carbonyls. Drs. Langer and Quincke, at that time working under his direction, discovered the tetracarbonyl of nickel. The discovery was put to profitable use, in introducing the most economical process of preparing pure metallic nickel. Among Dr. Mond's good qualities must be placed first his liberality to scientific research. In 1891 he was elected a Fellow of the Royal Society, and it was through his stimulation and financial assistance that the great international catalogue of scientific papers is being compiled. He further gave material support to the researches carried out in connexion with the Royal Institute, and founded the Davy-Faraday Laboratory, for research in pure and applied science. He was an active member of the governing body of the Lister Institute of Preventive Medicine till a few years ago. Here, too, he gave freely of the wealth which his scientific and commercial genius had enabled him to amass. Those who knew him personally will miss a kindly and sympathetic friend: those who worked with him will miss a man of unusually gifted mind, whose direction ensured success, and whose supervision was an education in itself.

THE MEDICAL SERVICE OF THE NAVY.

THE medical service of the Royal Navy is, we have reason to know, seething with discontent. The officers have several legitimate grievances, which we have been asked to ventilate. We have refrained from doing so in the hope that the matters complained of might be put right by the Admiralty of its own accord. Some time ago a Committee of Inquiry was appointed. The chairman was Admiral Durnford, and it included among its members, in addition to the Director-General of the Naval Medical Service and the Director-General of the Army Medical Services, two eminent surgeons—Sir Watson Cheyne and Mr. Lenthal Cheatle—not officially connected with either service. The report of the committee has, we believe, been in the hands of the First Lord of the Admiralty for a considerable time, but nothing has been allowed to transpire as to its recommendations, and

nothing has been done to remedy the state of affairs in the Service. Mr. McKenna's policy in certain other regions of naval administration would seem to be that of Fabius—*unus qui nobis cunctando restituit rem*; perhaps he is also trying to save the situation in regard to the medical service by delay. But the Service and those interested in its efficiency are getting restive; and we venture to suggest that he should make public the report of the committee as soon as he can find time to think of anything outside the electioneering campaign. Is he waiting to hand the problem over to his successor?

FOOTBALL CASUALTIES IN AMERICA.

ACCORDING to the American papers the number of deaths resulting from hurts received on the football field during the present season in the United States is 30, while there have been 216 cases of severe injury This is said to be the largest number of football casualties during the nine years in which they have been recorded. The most frequent cause of death was fracture—dislocation of the cervical vertebrae with crushing of the cord. The list of injuries included 19 cases of concussion of the brain, 19 of fractured rib, 19 of sprained ankle, 15 of fractured leg, 12 of fractured clavicle, and 9 of broken arm. Football is at best a rough form of sport; the other day in the Oxford and Cambridge match, Oxford had two men *hors de combat* part of the time, and may be said to have won their victory with thirteen men against fifteen. But the football "butcher's bill" in this country is small compared with the American, and this although our players do not wear defensive armour over the ears and other easily vulnerable parts as is, we believe, found to be necessary in the United States. Surely the murderous character of the game could be mitigated without in any way spoiling the *gaudium certaminis* of the players. A manly sport should not be allowed to be degraded into a brutal fight in which the deliberate maiming of opponents is part of the "game."

THE COMING GENERAL ELECTION.

SINCE the publication of the paragraph on this subject last week, Surgeon-General G. J. H. Evatt, C.B., has accepted an invitation to contest Brighton in the Liberal interest, and it has been announced that Dr. Thomas Laffan, of Cashel, will be a candidate for Mid-Tipperary. Considerable interest attaches to the election in East Marylebone, where Dr. R. O. Moon is the odd man in a three-cornered contest. At present the attempts to heal the division in the Conservative and Unionist ranks have failed, and, politics apart, Dr. Moon would be a most appropriate candidate to represent a constituency in which the medical vote is so large and influential. Within East Marylebone is included Cavendish Square, Harley Street, Wimpole Street, and other quarters where physicians and surgeons congregate. Dr. Moon is a graduate of Oxford, where he took the degree of M.D. in 1900; he is physician to the Western General Dispensary and to the Royal Waterloo Hospital. Owing to the resolve of Sir John Batty Tuke not to offer himself again for election as the Parliamentary representative of the Universities of Edinburgh and St. Andrews, the medical profession stands to lose one representative in the House of Commons, for Sir Robert Finlay, K.C., Attorney-General under the last Conservative Government, has been adopted by the Conservative Association as its candidate. We understand that it is probable that a medical candidate will stand, but the final selection has not yet been made. In the circumstances, medical graduates will probably feel it desirable not to pledge themselves definitely until the position is made quite clear.

MEDICAL SERVICE TERRITORIAL FORCE.

THE Territorial Forces Committee, appointed at the last meeting of the Council of the British Medical Association, held a meeting on December 7th, when a number of matters affecting the medical services of the Territorial Force were considered. Among other matters were two which have been the subject of correspondence recently in the JOURNAL. One of these is with respect to the instruction of members of Voluntary Aid Detachments. The Committee expressed the opinion that no medical man should be expected to give instruction in first aid and field nursing without suitable remuneration, but that officers in command of Voluntary Aid Detachments should keep their detachments efficient without remuneration. The other subject was that of the nursing service; the attention of the Committee was drawn to a letter in the JOURNAL of December 4th regarding nurses of a cottage hospital being enrolled in the Territorial Nursing Service, and the Committee recorded its opinion that in such a case as that described the nurses should be allowed to join the service, and that the hospital should be placed at the disposal of the authorities in time of war, with the reservation that the nurses should not be withdrawn from it.

THE Nobel Prize for Medicine has been awarded to Dr. Theodor Kocher, the distinguished Professor of Surgery in the University of Bern. Professor Kocher was born in Bern in 1841, and studied medicine in the university of his native city, and afterwards in Zurich, Berlin, London, and Paris. He took his doctor's degree in 1865, and was appointed to the Chair of Surgery in the University of Bern in 1872. He is the author of numerous contributions to surgical literature, the most noteworthy of which are on the surgical treatment of goitre and the results of extirpation of the thyroid gland.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Parliamentary Session.

THE Parliament elected in 1906 has beaten its previous record of hard work in the session just closed, sitting as it did in eleven months out of the twelve with no long break during the whole period. The contentious character of the Budget proposals, which were under discussion for six months in the Commons, accounts for the prolongation of the labours of Parliament much more than the number of bills passed or discussed in the Chamber. Indeed, as regards its output the session has been less productive than that of last year.

This session the total number of bills introduced was 272, as compared with 308 in 1908. Of these 272, 59 were Government bills, 5 departmental bills, and 208 were introduced by private members. The Government passed forty-one of its measures and five small Departmental Acts, while the private members, although in some cases helped by Government assistance, only succeeded in placing nine Acts upon the Statute Book, or less than 5 per cent. of their pro-

posals. It is noteworthy that the ballot for places for private bills, which is held at the commencement of every session, and which attracted 353 members to try their luck last February, was singularly unproductive, for not one of the members who drew a good place in the ballot succeeded in getting his measure passed into law.

The forty-one Acts passed by the Government this year are, with one notable exception, of little interest to the medical profession. The exception is the Housing and Town Planning Act, which has been discussed on several occasions in the pages of the JOURNAL, and promises to do much for the better housing of the poor and the orderly development of urban areas. Dealing as it does very largely and very closely with public health problems its passage, after being before Parliament for four successive sessions, is a matter for hearty congratulation. The other Acts which remotely affect public health are the Acts aimed at unemployment, namely, the Labour Exchanges, the Trades Boards and the Development Act, while the Assurance Act may also be mentioned as an Act of some interest to those of the profession connected with insurance work.

The nine Acts passed by private members include four which have a clear medical interest. They are the Metropolitan Ambulances, the Health Resorts and Watering Places (Ireland), the Asylum Officers' Superannuation, and the Oaths Act. The second of these is a small but useful measure for enabling the local authorities of Irish health resorts to use public funds for the purpose of advertising the attractions and special advantages of their respective localities. The passing of the bill was not altogether unattended with difficulty, as the first attempt was withdrawn, and the second bill, which eventually became law, was commended to the Upper Chamber by the support it had received from all parties in the Commons. The Metropolitan Ambulances Act had a relatively quiet time in the Commons. It imposes on the County Council the duty of instituting and maintaining an ambulance system for accidents, and was appropriately fathered by Sir William Collins, as ex-Chairman of the London County Council. The Government gave it support in the Lords, as it was largely founded on a report of a Home Office Committee. The Asylum Officers' Superannuation Act was lucky in getting a second reading late one night in the Commons and in being referred to a Select Committee. The Committee reported favourably, and it was only in the Lords that its difficulties began; these were, however, surmounted by tact and patience, and a useful measure has been placed on the Statute Book. The Oaths Act, which was in charge of Mr. Bramsdon, who is coroner as well as member for Portsmouth, is a distinct gain from a public health point of view, as it does away with the dirty and insanitary method of kissing the book.

The Local Education Authorities (Medical Treatment) Act which the Government assisted to pass is a small measure enabling local authorities to recover the cost of medical treatment of children when provided under Section 13 of the Education (Administrative Provisions) Act, 1907.

Among the lost bills connected with public health interests we have to deplore the inability of the Government to pass its Milk Bills for England and Scotland. These measures have been repeatedly promised and are long overdue. Among the 200 private members' bills which were lost there were over 20 dealing with subjects affecting medicine or sanitation. There were five bills dealing in different fashions with vivisection, but none of them received a second reading, and only one—the Dogs Exemption—obtained a short discussion late at night. There were three bills dealing with the registration of nurses, five dealing under the name of public health with sewers and drains and water supply, as well as the Public Health Officers Bill for giving security of tenure to all health officers. The late Dr. Cooper introduced two bills dealing with the administration of anæsthetics, and Mr. Greenwood introduced a measure for a better method of death certification. There was also a Coroners' Inquests Bill, and we may name another old friend, which will come up again, the Daylight Saving Bill.

Questions were used this year in an increasing degree to call the attention of Ministers to matters connected with medicine and public health, as the following list of titles will show: Importation and inspection of meat, Irish Poor Law relief, the Royal College of Surgeons and the admission of women, vaccination (very frequently), tuberculosis, cost of medical inspection, London University, Indian Medical Services, Malta fever, plague, experiments on cats, vermin destruction, notification of infectious diseases, water supply, tuberculous milk, factory surgeons, glanders, death-rates in England and Germany, sight tests for mercantile marine, sanitary state of Island of Lewis, medical relief and old-age pensions, Malta fever, the Inebriates Acts, infant mortality, medical fees in cases of street accidents, Chinese pork, small-pox at Bristol, accidents to railway servants, typhoid carriers, patent medicines, feeding Suffragettes, the cost of vaccination, etc. In several instances the answers to questions involved the publication of tables of valuable statistics which have been published in our weekly Parliamentary notes.

This year there have been some interesting discussions on the Estimates, the first of which was introduced by Mr. Haldane on the vote for the army. He referred at some length to the improvement in the Army Medical Department, and alluded to the excellent work done in many directions. His remarks on antityphoid inoculation and Malta fever were criticized by Mr. Lupton. When the Home Office vote was considered, Sir Charles Dilke spoke strongly about the excessive infant mortality in the towns where mothers worked in factories, and urged stronger action by the department, especially with reference to the maiming of young workers. Lead poisoning in relation to the results obtained by the Home Office rules and the effects of dust in causing pulmonary diseases were also discussed.

On this vote also Mr. Greenwood raised the whole question of vivisection on the administration of the Acts by the Home Secretary. There was an animated debate for a time, and Mr. Gladstone defended his Department and the action of the inspectors, who, he said, were faithfully discharging their duties. When the report of the Royal Commission was presented the whole subject would be reconsidered.

On the vote for the Local Government Board there was this year a long debate, which began with the treatment of workhouse children and the system of boarding-out, and passed on to the desirability of classification in the maternity wards of workhouses. The vaccination question was next raised at length by Mr. Lupton. Mr. Burns, in his reply, gave a very full account of the different methods of treating children and the costs of each. He also gave an analysis of the results of the working of the Notification of Births Act, and entered at length into the subject of infant mortality.

On the Budget resolution, the proposed rebate of the motor-car tax in favour of medical men was the subject of several speeches, and the concession made to the profession was warmly defended by the Chancellor of the Exchequer.

In the Lords, the Archbishop of Canterbury initiated a discussion on the report of the Royal Commission on the Poor Laws, and gave a very interesting analysis of the two reports. Lord Crewe, speaking for the Government, admitted the urgency of the question, and the widespread desire that legislation should not be long deferred. Surveying the work of the whole session, no great medical advantages emerge with the one exception of the legislation for the better housing of the working classes. A great number of other matters have, however, received attention, and every Government department has in turn been attacked by the method of interrogation on topics of medical interest as they arose. It is satisfactory, therefore, to conclude that, in this Parliament possibly more than in any preceding one, public health questions have been frequently and more generally in evidence.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

THE MANCHESTER ROYAL INFIRMARY AND MEDICAL WOMEN.

THE report of the Board of Management of the Manchester Royal Infirmary, given in full last week, concerning the appointment of medical women to resident posts has caused considerable resentment, and a meeting of the Northern Association of Medical Women last week expressed the unanimous opinion that the report was unfair, and that the board could not for any length of time assent to the views expressed in it. The separate points in the report were discussed, with the result indicated below:

1. The statement that no male and few female patients prefer to be treated by medical women is valueless, as the patients, when asked by those in authority at the infirmary, could hardly give an unbiassed answer. It could be shown that in hospitals where the patients have a choice there is a demand for medical women.

2. The male surgical patients so much brought forward by the board are not the only patients, and there are female wards where medical women would be particularly desirable, and there is ample work for a woman resident apart from attendance on male patients.

3. The accommodation which the board considers necessary for women residents is excessive. Accommodation for one, or at most two, would be enough, and the association thinks this could easily be obtained in the existing buildings. On this point the board might well get the opinion of a medical woman. As to the cost, if the board did not feel justified in spending the amount needed for the necessary alterations, medical women would be prepared to help in raising it. There was no necessity at all for a lady assistant medical officer to supervise the women residents.

4. The women students never dreamt that the resident posts would be denied to them in the new infirmary, and had not thought it necessary to urge their own special claims. A medical woman had made an application in 1906, while the old infirmary was in use, and no statement was made at the time that future applications would not be considered.

There are something like eighteen resident posts, and as most of them are only tenable for six months, there are over thirty vacancies a year. Every man student who desires a post can get one, and it has even happened that there has been no Manchester applicant and an outside graduate has been appointed. That being so, it is urged that it is particularly unfair that women should be debarred altogether. The association therefore held that the conclusions of the board were not established, and protested against (*a*) the statement that medical women would be less valuable and beneficial workers than men; (*b*) the estimated cost of the innovation; and (*c*) the injustice of the treatment of the medical women graduates of the Manchester University.

In addition to the above protest by the Northern Association of Medical Women there have been numerous letters in the Manchester press, all urging the same objections to the decisions of the Infirmary Board.

THE MINORITY REPORT OF THE POOR LAW COMMISSION.

A meeting organized by the Manchester branch of the National Committee for the Break-up of the Poor Law was held in the Manchester Free Trade Hall last week. The Dean of Norwich, who was advertised to preside, telegraphed that he was unable to be present, owing to illness, and the chair was taken by Mr. F. Brocklehurst. Sir John Gorst was also unable to be present, owing to his election work at Preston.

Mr. Sidney Webb explained how the Poor Law was reconstituted in 1834, and pointed out that later Parliament set up a new authority, the public health authority, and by this means introduced such overlapping that there was great confusion up and down the country and unnecessary waste of public money. The result was that sick persons were not looked after so well as they ought to be. On this account the Minority scheme proposed to transfer the sick from the Poor Law to the local health authority. It proposed to have a unified medical service, with treatment at the public expense. To-day, he said, school children were being fed by two authorities, while the aged, the feeble-minded, and the able-bodied unemployed were all being cared for by two authorities.

Mr. G. Bernard Shaw dealt specially with the unemployed, and said he wanted to know why the man who was unemployed should not be paid for being unemployed. If an intelligent nation were to make any distinction at all, it would stop paying a man as soon as he got into work and only pay him as long as he was out of work. He suggested that just as we kept our army and navy in training for times of need, so the nation ought to maintain its industrial army. We should never get rid of poverty unless we organized the unemployed and exacted from a man that he should be ready for work. As to the cry of socialism, he said all the schemes put forward were socialistic.

Mrs. Sidney Webb said that both the Majority and the Minority reports showed that the Poor Law was wholly rotten. The Minority scheme, though it had nothing to do with nationalization of the means of production and distribution, was socialistic in the sense that it was a system of caring for the poor by the State.

It is understood that the Manchester branch of the National Committee for the Break-up of the Poor Law intends during the coming winter to undertake a vigorous campaign in favour of the Minority scheme, and no doubt all the influence that can be brought to bear on the Parliamentary candidates for the district will be exerted.

HOPE HOSPITAL.

The Salford Board of Guardians have been extremely indignant at some criticism made by Sir Henry Burdett in an article which he contributed to *The Hospital* on Poor Law infirmaries in general. The Hope Hospital committee had considered the article, and recommended the board to pass a strong resolution denouncing the reference made in the article to the hospital. The reference in question is as follows:

> Some of them (Poor Law infirmaries) are of the Charles Dickens type, like the Salford Union Workhouse Infirmary at Hope, which has far too long been allowed to shock the public conscience by the inefficiency and incapacity of the board of guardians who have had it at their mercy.

The chairman of the board said the reference was both misleading and untruthful, and he flung back with indignation the charges made. A lady guardian thought the guardians were making themselves unduly excited about the article. Mr. Lowry, the Local Government Board inspector, who was present, rather agreed that the guardians were making a little too much of the attack. He had complimented the guardians on Hope Hospital, but had never said it was perfect, and did not consider it was. There were still improvements to be made, and he was sure the guardians would not allow their love of economy to stand in the way of efficiency. Eventually the board passed a resolution declaring that the article was "a scurrilous and unwarranted attack on the members of the board," and added that the guardians would invite the fullest possible investigation by any unprejudiced person with a view to proper comparison with other Poor Law or general hospitals.

It may be pointed out that the "Warning Notice" with reference to the appointments of resident medical officers at Hope Hospital have been in the BRITISH MEDICAL JOURNAL and the *Lancet* since the end of July. The place is staffed by two locumtenents. Not the slightest attempt has been made by the guardians to satisfy the legitimate demands of the medical profession as represented by the Salford Division of the British Medical Association. The Salford Division entirely agrees with Mr. Lowry that Hope Hospital is not perfect, and there are still improvements to be made. This is putting it in the very mildest terms. It is currently reported that the guardians have received certain recommendations from the Local

Government Board inspectors, which, if rightly understood, would greatly improve the administration; but it would almost appear as if the guardians were complacently satisfied with things as they are. It is necessary to assert once again that very few other people share their satisfaction, and least of all the local medical profession; and, further, that until the guardians demonstrate in deeds—not simply in words—that certain reforms, of which they have been fully informed, have been undertaken, the Salford Division cannot advise any medical man to accept the post of resident medical officer at Hope Hospital.

THE DAVID LEWIS EPILEPTIC COLONY.

At the annual meeting of friends of the David Lewis Epileptic Colony at Alderley Edge, near Manchester, it was reported that the number of inmates at the beginning of the last year was 218, which had increased in August to 231, of whom 101 were adult males, 88 adult females, and 42 boys and girls. The daily average of colonists in residence during the year was 220, against 196 in the previous year. This increase had only been possible by the completion and occupation of the new house for men, which had accommodation for 32. The accounts showed a favourable balance of £1,040, and the committee had transferred from the general fund to the maintenance fund a sum of £500, out of which they were able to make small weekly grants to assist the poorer class of colonists who might not be able to pay the full weekly charge. But a great increase in the maintenance fund was still needed to enable the committee to assist the great number of deserving cases that came under their notice. Dr. Alan McDougall, the director of the colony, stated in the medical report that a few of the adult colonists left the colony free from fits, but cure in well-established epilepsy was uncommon, and most of the cases came too late to be cured. The children, however, gave brilliant results, as one-third of them became free from fits. Five years' experience seemed to show that if all children were sent on the first appearance of epileptic symptoms to an epileptic colony and kept there till the end of their school life, the benefit to themselves, their relatives, and the State would be enormous.

LONDON.

FEEDING OF SCHOOL CHILDREN.

THE London County Council on December 14th received a report from the Finance Committee calling attention to the growing cost of the provision of meals for necessitous children. The Committee advised that only £15,000 of the supplemental estimate of £25,000 asked for by the Education Committee[1] be approved until the administration of the Provision of Meals Act, 1906, had been revised. Last year, when the funds were provided partly by the Council and partly by voluntary agencies, 4,546,000 free meals were provided. This year the original estimate of six millions had had to be increased to 7,702,000, or 70 per cent. more. The total cost was estimated to be £62,265 for the twelve months. The Finance Committee had asked the Education Committee to reconsider their methods of administration in this regard, and had pointed out to them that the principle which should be followed, not only as to feeding, but also as to medical treatment, was that recovery of the cost from parents should be the rule and not the exception. Only £26 had been obtained from parents in six months. The estimate of £15,000 was approved, the Finance Committee promising to present a further report before the money was expended.

MIDLANDS.

THE COVENTRY PROVIDENT DISPENSARY.

THE following paragraph appeared in a recent issue of the *Midland Daily Telegraph*:

Dr. McVeagh is retiring at the end of the present month from the medical staff of the Coventry Provident Dispensary after a service to that institution extending over an unbroken period of more than half a century. In his letter of resignation, which has been placed before the General Committee, Dr. McVeagh states that he is very reluctant to leave the dispensary, which he regards as the best method of providing medical attendance, and as being superior to any other club practice. The committee of the dispensary have accepted the resignation with very sincere regret, and have appointed Dr. McVeagh honorary physician to the dispensary.

It is of interest to note that Dr. McVeagh's first association with the dispensary dates back exactly fifty-seven years. At the time of his appointment the medical staff consisted of two doctors only. To-day there are five, the result of the great increase in membership of the dispensary, an evidence of its great popularity.

The committee have unanimously appointed as Dr. McVeagh's successor Dr. J. W. Farrell, of London, who is both a physician and surgeon, and whose abilities are very highly spoken of. Dr. Farrell enters upon his duties at the dispensary at the commencement of December. Meanwhile, Dr. McVeagh will continue to see patients at the dispensary as hitherto. He has taken up his residence at Kenilworth.

Dr. McVeagh's view as to the best method of providing medical attendance is not that held by the Association, and does not seem consistent with some of the views he has previously expressed; but in view of the fact that he is retiring on account of age we have no desire to emphasize these inconsistencies. In regard to his successor, it will be noted that he has the advantage of combining in his own person both the qualifications of a physician and the attributes of a surgeon. We should tender to the committee of the dispensary our congratulations on the attainment of such a combination were it not for the fact that for the past twenty years it has been compulsory on all medical men, newly qualified, to obtain this distinction. According to the *Medical Register* Dr. J. W. Farrell qualified last year, and registered on December 14th, 1908.

[1] BRITISH MEDICAL JOURNAL, November 27th, p. 1574.

WALES.

EPIDEMIC OF MALIGNANT MEASLES.

AN epidemic of measles of a most malignant type has broken out at Aberbargoed, Pengam, Fleur-de-Lis, and Abertysswg, districts situate in the centre of the Rhymney Valley. In one house alone four deaths occurred, and it is said that there are cases in almost every house at Aberbargoed. One medical man has stated that he has attended 1,000 cases, and is still attending 150 cases a day, whilst another has 50 cases. Up to the present time the number of deaths has been 25. Some evidence of the malignancy of the disease may be gleaned from the fact that some of the children have died within twenty-four hours of being attacked. Dr. H. T. Evans, M.O.H. for Bedwellty, and Dr. Rocyn Jones, the county medical officer, are doing all they can to grapple with the epidemic, and eight schools have been closed. The average attendance at these schools is 2,150, and at some of them the "order" is that they remain closed until the New Year, when the question of reopening them will be considered. It is generally considered that the Bedwellty Council is not altogether blameless in the matter, and that there is much to be said against the habits of some of the people. Last year there was an outbreak of whooping-cough at Fleur-de-Lis, and a serious outbreak of scarlatina at Pengam. The more recent returns show that the infantile mortality-rate was alarmingly high—190 per 1,000 births. So serious a view did the Local Government Board take of these figures, that it sent down one of its medical officers, Dr. J. Spencer Low, to investigate. It is due to Dr. H. T. Evans to state that he has frequently drawn attention to the insanitary conditions, such as overcrowding, existing in the district. In his report for 1907 he dealt with cellar dwellings and back-to-back and back-to-earth houses. He urged that there should be through ventilation, and that back-to-back and lean-to houses should not be permitted to remain as separate dwellings. This had particular reference to the Blackwood district. Dr. Rocyn Jones, the county medical officer, has been even more emphatic. In a report he presented to the County Sanitary Committee this year, referring to the Bedwellty district, he pointed out that the infantile mortality-rate was above

the average for the past ten years, and was much too high. Practically all the houses throughout the area are tenanted. He paid a tribute to the Powell Dyffryn Colliery Company, which had taken active measures to prevent overcrowding, and had put up hundreds of houses at Aberbargoed to relieve the pressure. But even then, he said, some of the tenants were overcrowding the houses and keeping them in anything but a clean condition. The refuse of the district was removed to farm lands. The method of sewage disposal at 20 per cent. of the houses was by privies and cesspits. At Pengam, he said, there were back-to-earth houses and cellar dwellings with no through ventilation, damp houses, and overcrowding. It is fair to add that Dr. Rocyn Jones points out that during the past few years many improvements have been effected throughout the district with respect to housing, drainage, and sewerage. Recent inquiries made at Aberbargoed show that some of the people treat the disease lightly, with the result that broncho-pneumonia sets in among those attacked. No attempt is made to isolate the sick children from the healthy in their own homes, but this is a difficulty when there are two or more families in one house.

Scotland.

[From Our Special Correspondents.]

Principal Sir William Turner.

The freedom of the city of Edinburgh was on December 10th conferred on Principal Sir William Turner. Lord Provost Brown referred to Sir William Turner's long career in connexion with the University of Edinburgh from the year 1854, when he became a demonstrator of anatomy to Goodsir, and to his work as a great teacher and organizer, as a scientific observer, and a distinguished worker in the field of science. In replying, Sir William Turner said he felt that it was not on personal grounds, but in his representative capacity as the Principal of the University, as one who had given his life's service to that institution, that he was privileged to receive the honour conferred on him. The city and the university had been intimately associated with each other for more than three centuries. The great intellectual awakening which took place at the Reformation led the influential citizens of that time to the conclusion that it was necessary that something should be done to raise the means of education in the city to a high standard, and that Edinburgh in that respect should not lag behind St. Andrews, Aberdeen, or Glasgow Universities, which were created by Bulls. The University of Edinburgh was the child of the Reformation. In October, 1583, the college was opened, and the students met in the hall of a house in the Kirk of Field, under a single teacher, Robert Rollock, who had previously taught humanity and philosophy in the University of St. Andrews. No precise record seemed to have been kept of the number of students who attended the opening course, though possibly between fifty and sixty were enrolled, for Rollock, who had been made Principal in 1586, conferred in the following year the degree of Master of Arts on 48 students who had completed the course. At the first opportunity, therefore, the right of the college to confer degrees was asserted and exercised. Such was the beginning of the University of Edinburgh. From that time onwards until 1858 the administration of the property and the rights of patronage over the town's College were controlled by the Provost and Council. Having sketched the rise of the university to a leading rank amongst the universities of Europe, the Principal said the historical relation of the university to the municipality in regard both to administration and patronage had been preserved, although in a qualified form, to the present day. But he ventured to say that the interest taken by the Town Council in the university rested on a wider and deeper foundation than that of administrative co-operation. The citizens realized that in the university they possessed a real and virile asset, which contributed in no small degree to the renown of Edinburgh as a great centre of education, and in its continued prosperity and efficiency they took a proper pride. He hoped the cordiality of thought and action between the municipality and the university might prevail throughout the generations. In a personal reference Sir William Turner recalled the date, fifty-five years ago, when he entered on his duties in the university as an assistant to the Professor of Anatomy. He acknowledged the courtesy accorded him by thousands of students during his long career as a teacher. He thanked his colleagues in the Senatus and University Court for the confidence which they had placed in him in the administration of university affairs. He was proud to have gained the esteem of the Lord Provost and of his predecessors in the civic chair, and to know that his name would now be enrolled, as Principal of the University, in the list of distinguished men on whom the freedom of the city had from time to time been conferred.

At a special meeting of the Edinburgh Merchant Company held on Friday, December 10th, Principal Sir William Turner was admitted an honorary member. At the same time the Earl of Mar and Kellie and the Secretary for Scotland (Lord Pentland) were similarly honoured.

Cremation in Edinburgh.

At a meeting in the Goold Hall on December 3rd, Dr. Aitchison Robertson, lecturer on medical jurisprudence and public health at the Medical School of the College of Surgeons, delivered an address on the subject of cremation, which he described as a desirable method of disposing of the dead, whether regarded from the point of view of hygiene, sentiment, or economy. Sentiment was outraged by the present form of earth burial. The aggregation of dead bodies in churchyards was a great danger to the living, not only by pollution of the atmosphere, but by the greater risk of contamination of water supplies. The objection that cremation got rid of the evidences of crime was hardly tenable, as the method of certification of death was so thoroughly carried out that hardly any case of crime could pass undetected. Before cremation a body must be carefully examined by two medical men, and unless their certificates proved absolutely satisfactory, the medical referee could refuse an order for cremation. The assurance offered in this respect by cremation was much greater than that afforded by ordinary burial. Indeed, many thousands of persons were buried in Great Britain every year despite the absence of any kind of medical evidence as to the cause of death. During the past ten years the practice of cremation had greatly increased in favour in Great Britain, and in Germany was making even more rapid strides. As for cost, a body could be cremated and the ashes placed in a handsome urn, which could be put in a permanent niche, or buried in a grave, at a total outlay very much below that entailed by the simplest form of earth burial as at present carried out. At one crematorium in Paris, bodies were disposed of at the nominal charge of half a crown because of the great number of people desiring to cremate their dead. In this country the cremation of a body cost about £10, while those who belonged to a cremation society had the privilege of free cremation when they died. On the conclusion of the address it was proposed, and unanimously resolved, that steps should immediately be taken to establish an Edinburgh Cremation Society to promote burial reform and the practice of cremation, and that at an early date a temporary committee should summon a meeting for the adoption of a constitution and the election of office-bearers.

Honour to Professor Cleland.

The committee in charge of the movement for recognizing the services of Professor John Cleland to Glasgow University will close the subscription list at the end of this month. The committee think it would be eminently suitable to provide as a recognition some

fund for the advancement of anatomical and anthropological science, and the details will be arranged when the amount subscribed becomes known.

THE ST. ANDREW'S AMBULANCE ASSOCIATION.

Sir George T. Beatson, K.C.B., who recently resigned the chairmanship of St. Andrew's Ambulance Association Council, after completing ten years' service, was entertained to dinner last week by the Council, in the North British Station Hotel, Glasgow. In the unavoidable absence of the Earl of Dalkeith, President, the chair was taken by Mr. N. P. Brown, the new Chairman of Council, and amongst others present were Professor Barr, Professor Alex. Ogston, Dr. D. J. Macintosh, Dr. Edington, Dr. Napier, Dr. Willis, Colonel Boyd Anderson, Colonel Stout, Colonel Barnes, and ex-Provost Ferguson.

THE POOR IN THE HIGHLANDS AND ISLANDS.

A correspondent at Stornoway sends us a copy of the following letter, published in the *Scotsman* for November 23rd, and expresses the opinion that in order to present a fair view of the situation it should be published in the BRITISH MEDICAL JOURNAL as an addendum to the article published on November 20th, p. 1476:

Stornoway, November 12th, 1909.

Sir,—As a medical man who has been in practice in the island of Lewis for the past twenty-five years, I read with great interest the article in your issue of the 11th inst. on the "Highland Poor," and your editorial thereanent. The following facts may serve to mitigate the painful impression these are sure to create in the public mind, and, at the same time, free at least a section of the population of the island from the charge of apathy and ineptitude implied in connexion with the points in your article having special reference to the Lewis.

The population of Stornoway parish—the largest in the Lewis, and nearly equal to half the population of the whole island—was at last census 12,342. At the date at which the evidence was submitted, from which you and your writer quote, this parish had six doctors, seven general nurses—five fully trained and two probationers—three fever nurses, six midwives (all certificated), two sanitary inspectors, a fever hospital with twelve beds, two cholera infirmary wards, with a convalescent room attached to each, and two wards specially devoted to the treatment of tuberculous cases.

The other three parishes of the island have, in each, a doctor and two trained nurses.

Many people still alive remember when one man had to attend to the medical and surgical needs of the whole island. The writer can readily recall the time when only two doctors were available for the entire population, and then there were neither nurses, hospitals, nor poorhouse accommodation. Surely these statements serve to show that in the matter of medical and nursing requirements the Lewis is not so very far behind other portions of the Empire. With regard to the social conditions in which its people, and especially its poor people, live, perhaps it would lead to a readier dealing with their demerits were reformers to formulate a scheme of amelioration, based more upon the average sanitary requirements of the dwellings of the islanders, than upon extreme instances of glaring sanitary defect, instances which, allow me to say, sir, I have seen equalled, if not surpassed, in certain quarters of your own fair city.—I am, etc.,

MURDOCH MACKENZIE.

GREENOCK DOCTOR'S JUBILEE.

Dr. James Whiteford, Greenock, who has just completed fifty years as a medical practitioner, was entertained last week by his numerous friends. Sir Hugh Shaw Stewart presided, and presented the doctor, on behalf of those friends, with an address and a cheque for £950. A fortnight ago the medical profession in Greenock similarly entertained Dr. Whiteford and presented him with a silver salver and cheque for £100.

THE SPITTING NUISANCE.

For the past few months the Glasgow Corporation Tramways Department has been conducting a vigorous crusade against spitting on cars. Repeated printed notices having failed apparently to make any impression, prosecutions are being undertaken, and a gradual increase in the weekly number of these, from 148 during the third week of October to 268 for the week ending December 4th, is recorded. This campaign in the interest of health and cleanliness must ultimately have its effect, and the department seems determined to put down the evil by this method as the printed instructions on the cars are disregarded.

GLASGOW CORPORATION AND FEES FOR ACCIDENTS.

At a meeting of the Watching and Lighting Committee of Glasgow Corporation a deputation from the Glasgow and West of Scotland Branch of the British Medical Association was received in connexion with the payment of fees to medical practitioners called upon by the police to attend street accidents. The deputation suggested a regulated procedure and the payment of a uniform fee of five shillings. After discussion the matter was referred to a subcommittee for consideration and report.

MEASLES AND SCHOOL CLOSURE.

The Public Health Department has decided to abandon the policy of closing the Glasgow schools during the present outbreak of measles. In his last annual report the medical officer of health discussed the policy of closure and pronounced it useless, concluding that real mischief did not proceed from the school, but from the home and the street. The increase in measles cases each week is very marked, last week's increase being 338, the total number of cases being 2,591. The total number of cases of infectious disease under supervision last week was 4,166.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

R.U.I. MEDICAL STUDENTS.

SINCE the inauguration of the new university scheme in Ireland the Royal University has ceased to exist, and in consequence a considerable number of medical students who have taken out some of their examinations in the late Royal University, but who have not yet completed their full medical course, are in the position of having to select an institution in which they may complete their curriculum and obtain a medical qualification. In order to help those students who may desire to carry on their studies and to take their qualifications under the Conjoint Scheme of the Royal Colleges of Physicians and Surgeons in Ireland, the Colleges have decided that candidates for examination under the Conjoint scheme who have obtained exemption from examination in certain subjects by reason of their having, prior to November 1st, 1909, passed in such subjects at some university or other licensing body, shall be excused from payment of half the fees for the examination or division of examination from which they have been exempted.

It is understood that the Board of Trinity College, Dublin, has also had under consideration the special circumstances of such students, but that up to the present no decision regarding them has been arrived at, although a scheme regulating the admission of art students of the Royal University has already been devised and made public. As this scheme may possibly influence some R.U.I students who contemplated entering a medical school, after completion of an arts course, it may be pointed out that its main provisions are as follows: 1. Students who have passed the matriculation examination of the R.U.I. may be placed on the books of Trinity College as matriculated students on payment of the entrance fee. 2. Students who have passed the first arts examination of the R.U.I. are allowed the entrance and one term examination in Trinity College, Dublin, and are exempted from paying the entrance fee and one half year's fees. 3. Students who have passed the second arts examination in the R.U.I. are allowed to enter as third year students in Trinity College, Dublin, on payment of the fee due at the beginning of that year.

IRISH NURSING APPOINTMENTS.

A good deal of public attention has lately been drawn to the fact that at a recent election to fill the vacant post of lady superintendent to one of the Dublin clinical hospitals, an English lady was appointed, in spite of the fact that there were several Irish candidates in the field. One of the Irish papers in particular was especially scathing in its denunciation of

the hospital in question, and went so far as to urge a discontinuance of the annual grant made to the hospital by the Corporation of Dublin. It appears that out of a total number of twenty-five applicants a list of seven was selected, and that this number included two Irish ladies. These two, however, and also the remaining five were selected, not because they were either English or Irish, but because they were regarded as the most suitable candidates. At the final election no question of nationality was considered, but the candidate who was regarded as the most eligible by the board of directors was chosen, although it was admitted that any one on the selected list was capable of filling the post. Some of those who approve the action of the board have suggested to its critics that their protest and threats may be quoted as a reason for not considering the claims of Irish women who may seek appointments outside their own country, and that if a system of protection against England is adopted in Ireland retaliation is only to be expected.

DRASTIC TREATMENT OF A MEDICAL OFFICER.

Under this title the *Irish Times* refers to the treatment by the Rathdown Board of Guardians of a dispensary medical officer, Dr. Eccles, of Delgany, co. Wicklow. It appears that Dr. Eccles was summoned on short notice to attend the winter assizes, and in consequence was compelled to obtain a substitute to carry out his dispensary duties. He asked a neighbouring medical man to undertake the work, and wrote to inform the relieving officer of the district, who acquiesced in the appointment. When, however, the question of payment of the substitute came before the board of guardians, the chairman refused to make out an order for payment, on the ground that it was not the privilege of medical officers to appoint their own substitutes, and that such appointments could only be made by the guardians or the relieving officer. It was pointed out by two of the guardians that Dr. Eccles had only nominated his substitute, who had been accepted by the relieving officer; and, furthermore, that in the circumstances it was difficult for Dr. Eccles to act otherwise, as he lived at a considerable distance from the relieving officer, and had received very short notice to attend the assizes: but in spite of this a motion to refuse payment was carried by 11 votes to 2. This action is quite on a par with the usual treatment meted out to dispensary officers in Ireland. Boards of guardians as a rule neglect no opportunity of inflicting indignities on their medical officers, and of enforcing their own petty authority. In the present instance their action, as reported, appears to be entirely unjustifiable, as if Dr. Eccles had merely written to the relieving officer requesting him to appoint a substitute, and had gone to the assizes, his post as dispensary officer must have been temporarily left vacant until the relieving officer had succeeded in obtaining the services of another medical man. In that case Dr. Eccles would presumably have been exposed to the attacks of the board of guardians for leaving his district unprovided for.

IRISH BRANCH OF THE BRITISH DENTAL ASSOCIATION.

The annual meeting was held, by kind permission of the President and Council, in the Royal College of Surgeons in Ireland, on December 10th, the President, W. G. T. Story, M.B., L.D.S., in the chair. The Honorary Treasurer presented his report, which showed a good credit balance, and the Honorary Secretary reported a successful year's work, and large increase of membership. Mr. G. W. Connor of Newry was elected President. In the evening the ordinary general meeting took place. Communications were made. At the annual dinner, held in the Shelbourne Hotel on December 11th, about eighty members and guests were present. His Excellency the Lord Lieutenant, who was prevented, owing to the critical state of his son, from being present as he had intended, sent a letter saying how much he appreciated the efforts of the dental profession in combating the ravages of caries in the teeth of the children attending board and national schools. The toast to the licensing bodies was proposed by Mr. K. E. O'Duffy, and responded to by Professor Dixon, Trinity College, Sir Christopher Nixon, and Mr. Robert Woods, Vice-President of the Royal College of Surgeons. The toast to the guests was proposed by Mr. G. M. P. Murray, who took the opportunity to welcome and congratulate Lord Justice Cherry (the late Attorney-General for Ireland) on his elevation to the Bench. It was responded to by Lord Gough, Lord Justice Cherry, and Sir John Moore. Sir Charles Ball proposed the toast to the British Dental Association and the Irish Branch, which was responded to by the President of the British Dental Association, and also by the President of the Irish Branch.

India.

MEDICAL REGISTRATION.

A MEDICAL REGISTRATION ACT has for a considerable time been urgently needed in India, and is now demanded by the medical profession in that country. Of late the discussion has been warmly taken up in Calcutta, Madras, and Bombay; and only recently a valuable contribution to the problem, published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of October 2nd, 1909, was made before the Bombay Branch by Lieutenant-Colonel H. P. Dimmock, I.M.S., Principal of the Grant Medical College.

The recent call for suggestions by the Surgeon-General with the Government of Bombay, and the reply thereto by the Grant College Medical Society,[1] marks a further hopeful stage in the discussion, as it may indicate that the Bombay Government intends to move in the matter.

It may therefore be of interest to give a brief account of the standard and nature of the qualifications granted by the various Indian universities, and the nature of the medical curriculum.

For more than fifty years medical schools worked on English principles have been educating young Indians for the medical profession, and as a result properly qualified practitioners now abound in all populous centres. Little or no regard has hitherto been paid by the Indian Administration to the matter of official recognition of the status and claims of the medical profession, and it has been left to the profession itself to agitate in a matter which might well have interested the Government before this. Western medical methods have now taken deep root in the country, and it is earnestly to be hoped that Western medical ethics will flourish along with them. But the existence of manufactories of bogus degrees, and a decided tendency, which has been noticed by the Ethical Committee of the Association, on the part of a certain class of native practitioner to insert bare-faced advertisements in native papers, and other instances of professional misconduct, show that the agitation for a General Medical Council for India comes not a day too soon. Unless the profession is to be allowed to sink to a deplorable level, it must itself keep the agitation going until a slow-moving Administration condescends to a consideration of the problem.

There are important medical schools in Calcutta, Lahore, Madras, and Bombay, which confer various diplomas and degrees on men desirous of entering civil practice. As indications of the nature of the degrees and the course of study, we may follow the *Calendars* of the Universities of Madras and Bombay.

The former university confers the degrees of M.B., C.M., and a Licence in Medicine and Surgery, with a shorter course and of a slightly lower standard. In the L.M. and S. course there is, after two years, an examination in anatomy, physiology, chemistry, with practical work (no zoology or physics). At the end of the third year a further examination in pathology, bacteriology, materia medica, and hygiene; and at the end of the fourth year in all the remaining subjects of the curriculum.

[1] BRITISH MEDICAL JOURNAL, December 11th, 1909, p. 1713.

For the M.B., C.M. degree the course is five years, and four examinations must be passed. At the end of the first year the subjects taken are inorganic chemistry, physics, zoology, and botany, with practical tests in all. At the end of the second year the students take anatomy, physiology, and organic chemistry, practical work in each subject being emphasized. At the end of the third year an examination is held in pathology and bacteriology, materia medica and therapeutics, practical pharmacy and hygiene. The final examination is taken at the end of the fifth year in the remaining subjects of the curriculum. Candidates who do not quite come up to the M.B. standard are awarded the L.M. and S.

The university grants its M.D. degree by thesis, with an oral examination on the selected subject; it can be obtained three years, or in the cases of arts graduates two years, after the M.B., C.M.

At the Bombay University the L.M. and S. diploma is granted practically on the same lines as at the Madras University, but with a five years' course, though the subjects of bacteriology and mental disease are not called for. As the Government of Bombay appears to be contemplating a diploma outside the university, the L.M. and S. is likely to be done away with.

The M.B., B.S. Bombay, recently instituted, demands a higher standard in the first arts examination than the matriculation. It is obtainable after a five years' course and three examinations—namely, the preliminary scientific, the intermediate, and the final. The last may be taken in two parts. The curriculum has been carefully thought out, and the syllabus of the preliminary scientific examination is commendable in all respects.

The degree of M.D. is given by examination in three separate branches—medicine and pathology, midwifery and gynaecology, and State medicine. There have been so far only seven successful candidates for this degree in the history of the university. There is also an M.S. degree in surgery and surgical anatomy, but no names are to be found in the Calendar under this head.

Apart from the ordinary medical practitioners there are other grades of qualifications which would have to be considered in a Registration Act. These are the assistant surgeons of the Indian Subordinate Medical Department and the hospital assistant class. The former are trained at Government medical schools for the subordinate medical care of European troops, have no connexion with a university or diploma-giving board, but are gazetted in the military list according to their appointments and promotion. The course of instruction they follow is of four years' duration, and the qualifying examinations comparatively easy.

The hospital assistants are trained at the smaller medical schools scattered about the Mofussil. For instance, in the Bombay Presidency there are such schools at Ahmedabad, Poona, and Hyderabad. Here youths, often of a class somewhat different from those who can afford the expense of the ordinary medical education, are trained for the native civil hospitals and the hospitals for the native troops. The course was formerly of three but now is of four years.

Again, there are medical schools (training for the same object—namely, the medical service of the State) in native States, some with a decidedly lower standard than that which obtains in the minor schools of British India.

Then we come to medical schools run by collections of individuals without any official countenance or control, and granting their diplomas to individuals who practise unquestioned as duly qualified men.

Finally, we have the practitioners of the ancient Hindu system, who work for the most part, but not entirely, among the very poor and ignorant, in accordance with their own methods of "learning."

All these facts peculiar to the country introduce difficulties in the problem of medical registration. The matter, however, has now become one of great importance, and it is to be hoped that the profession in India will not allow the Government to drop the matter as too difficult of solution.

Correspondence.

THE REPORTS OF THE POOR LAW COMMISSIONERS.

SIR,—Some time ago I received a letter from Mrs. Sidney Webb, enclosing a pamphlet about "The Breaking Up of the Poor Law," and asking for my criticisms and suggestions.

In answer to it I wrote the enclosed reply, to which I have received no acknowledgement.

As I think the points in my reply are worthy of consideration by my professional colleagues, I venture to ask you to insert it in the JOURNAL.—I am, etc.,

"THREATENED MEN LIVE LONG."

September 29th, 1909.

Dear Madam,

You were good enough to send me your paper on the Poor Law medical officer and to ask for criticisms and suggestions. First, I should like to say that I believe the proposals of the Majority Report to be quite impracticable, owing to the growing objection of the medical profession to contract practice, which the Majority Report proposes to largely extend. My experience is that the very people who ought to join Clubs and Dispensaries do not do so; the man will join a Friendly Society, but he seldom puts his wife and family in a Dispensary, and prefers to trust to luck or charity in case they are ill. Moreover, in agricultural districts such as this there is a question in my mind whether they can really afford to pay, out of a wage of 14s. to 16s. a week, even as small a sum as a penny a week for each member of the family. At all events, I have offered on many occasions to take families in my club, and yet they do not join.

A point which you take too much for granted is the amount of dissatisfaction at present conditions. I imagine those who gave evidence were the ones who held posts that are badly paid—those who are satisfied keeping a discreet silence! For example, I hold an appointment as District Medical Officer, for which I receive £150 a year, and I am quite contented. My predecessor held the appointment for over forty years, and now gets a superannuation allowance of £85 a year. He also is quite contented. The wretched state of the medical profession as to overcrowding, and the consequent competition, leads to medical men accepting salaries that are inadequate. They cannot afford to lose even this small amount.

In the Minority Report I thoroughly approve of the fusion of the Guardians and the Sanitary Authority—in fact, in this district they are the same men who sit firstly as Guardians, and then as Sanitary Authority—the Rural District Council. But why make it a County medical service? Why cannot you utilize the present Sanitary districts? The County is too big an unit, and many men cannot get away from their business to get to the county town to the meetings. The result will be that the whole affair will be in the hands of a leisured class governed by officials. The men who know most about the poor will be left out.

Another point where I think you are in error is as to the practicability of the District Medical Officer of the future being a whole-timer, and with his "county motor car" being able to attend the patients over a wide area. I am certain you are mistaken in thinking the motor car able to cover such wide areas as would be necessary if he (the District Medical Officer) were a whole-timer. I have been a motorist for the past six or seven years, and I am deeply struck by the nerve strain involved in continuously driving a motor; and I am certain that no medical man who has to treat a number of bad cases ought to have a radius of more than seven miles to attend to. Of course, if he had a 20 h.p. and a driver it might be different, but look at the cost! Therefore I do not believe in the "whole-time" District Medical Officer. All District Medical Officers should be private practitioners as well.

Another point is with regard to the rearrangement of districts as they become vacant. Please remember that a Parish appointment is a valuable asset in the sale of a practice. For instance, when I came here three years ago I bought the practice at so many years' purchase; in the takings of the practice the Parish appointment was included. Suppose I wish to retire, am I to have no compensation if the appointment is abolished or merged into some other district?

Another point—Do you think it is good for a medical man to be doomed to attend all his professional life one particular class of patient; viz., the very poor? I do not. One or the most attractive features in inducing a man to take up practice in the country is that he makes a large circle of friends among his patients. If he only attends paupers, this will be impossible. Also in many districts it would be impossible to make a living out of private practice alone. It will be very hard on people who live in sparsely populated districts if they have to send long distances for the private practitioner.

I can also see a difficulty in store for those who have the selection of the candidates for the higher posts. If there is one thing a medical man objects to, it is for any person to interfere with his patients. If certain men are to be selected and promoted over others, there will be endless dissatisfaction. All country practitioners think themselves as good, or a little better, than their neighbours. If one is selected the others will be

dissatisfied, and resignations will be frequent. It is quite a different thing from selecting a man for a post as Medical Officer of Health, for instance, where special experience and special training is required.

There is an important question involved in the transference of the functions of the board of Guardians to the Town Council. Even at the present time medical men are shut out from many public offices owing to the fact they cannot receive fees from any body of which they are a member. For instance, I cannot belong to the Board of Guardians owing to my holding the Parish appointment; and if medical relief is taken over by the Town Council I shall be shut out from that.

With these remarks, thanking you for giving me the opportunity,

Believe me,
Yours very truly,

SIR,—In the JOURNAL of December 4th I notice two criticisms of the "Minority Report" which appear to be misleading:

1. The writer of the article "Notes on Books," in describing the "Case Paper System," published by P. S. King and Son, states (page 1620):

> The Majority Commissioners have specially recommended the system, but the Minority do not notice it, for such a system could only work under a Destitution Authority. If the whole of the class needing Poor Law assistance were to be broken up and distributed among various bodies, according to their requirements, such a record would lose its value.

2. On page 1630 the writer of the article on the Report of the Poor Law Commission for Scotland states:

> While dissenting from the findings and recommendations of the Majority Report, the Minority do not formulate any scheme to deal with the evident overlapping of charities.

The following are extracts from the cheap edition of the Minority Report published by the Fabian Society:

> Some systematic co-ordination within each local area, of all forms of Public Assistance, and, if possible, of all assistance dispensed by voluntary agencies, is essential, if we are to put an end to the present demoralization.
>
> We propose that these officers, who might be designated Registars of Public Assistance, should have a threefold duty. They should be responsible for keeping a register, with "case papers" of the most approved pattern, of all persons receiving any form of Public Assistance within their districts, including treatment in any public institution.
>
> We should earnestly invite all voluntary hospitals, dispensaries, and other institutions regularly to send in similar information. In course of time, we should hope to get recorded in this register the persons assisted by every public or private agency within its district. The registrar would thus be able to see, at once, whether different members of the same family were receiving assistance without this being known, or whether different authorities, in ignorance of each other's doings, were simultaneously aiding the same person. In this branch of his duty, he would confine himself to communicating the information to the various local authorities, to the registrars of other districts where necessary, and to such voluntary organizations as had affiliated themselves.

These extracts appear directly to contradict the statement made by the writers of the articles referred to.—I am, etc.,

Sheffield, Dec. 8th. H. SCURFIELD.

*** The review applied, as was stated, to a particular *History Sheet or Case Paper System* commended in the Majority Report, part iv, chap. 6, sections 299, 300. It is true that in chap. 12 (B), (iii) and (*a*), of the Minority Report, from which the first two quotations made by Dr. Scurfield are taken, reference is made to "case papers of the most approved pattern," but no indication is given as to what these "case papers" may be, and there did not seem to be grounds for assuming them to be identical with those which were being reviewed. It seems, indeed, hardly likely that case papers specially introduced for use under the present Poor Law system, the main object of which is to keep all kinds of public relief given to members of one family on a special paper—treating the family as the unit for public assistance, all being under a single body—would lend itself to the needs of a system which broke up the present Poor Law, and instead of treating the family as the unit divided it up according to the kind of relief needed, sending, it might be, certain of the members of the same family to four distinct though co-ordinated bodies to be relieved.

The third quotation which Dr. Scurfield makes is from the Minority Report on England—Chapter XII (B) (iii) (*b*), whereas the article on page 1630 was concerned exclusively with Scotland. Observations and recommendations in the report on England cannot be applied to Scotland, as, indeed, the Minority appear fully to recognize. The following passages are reproduced from the Minority Report, Scotland (*f*): "The Establishment of a Common Register for all Forms of Public Assistance and of a Public Registrar."

> We therefore recommend that there should be established in each burgh and county one or more officers, to be designated Registrars of Public Assistance, to be appointed by the council of the burgh or county, and to be charged with the threefold duty of:
>
> 1. Keeping a common register of all cases in receipt of public assistance;
>
> 2. Assessing and recovering, according to the law of the land and the evidence as to sufficiency of ability to pay, whatever charges Parliament may decide to make for particular kinds of relief or treatment; and
>
> 3. Having brought before him, for record and (to prevent overlapping) sanction, all the grants of home aliment proposed by the committees concerned with the treatment of the several cases.
>
> It would, of course, be necessary for the Registrar of Public Assistance to have under his direction (and under the control of the General Purposes or Finance Committee of the County or Town Council) the necessary staff of inquiry and recovery officers, and a local receiving house for the strictly temporary accommodation of any persons who might, as "missed cases," be found in need, and not as yet dealt with by the committees concerned. In no case, however, would any but strictly temporary assistance, pending allocation to the appropriate treating authority, be thus given. The great majority of the persons needing public assistance would apply directly to, or would be discovered by, the officers of the particular authorities concerned with their particular needs, and those requiring institutional treatment would, in this way, for the most part be admitted directly into the institutions of the Local Education Authority, the Local Health Authority, the Lunacy Authority, or the Authority for the Unemployed Able-bodied, which would have their own probation wards. The local receiving house, or set of rooms, under the control of the Registrar would, therefore, mostly stand empty, available merely for exceptional and emergency cases.

The only reference to the volunteer work amongst the poor is, we believe, in (*g*), "The Enlargement of the Sphere of Charitable Effort and Volunteer Work among the Poor":

> We have not been unmindful, in our scheme of reform, of the inevitable limitations and shortcomings of all merely official machinery; or of the great advantages to be gained from utilizing the services of those charitable volunteers who already do such splendid work in alleviating the sufferings of the poor. We regard it as a great advantage of our proposals that they will not only leave free for this voluntary charitable work, but also ensure it an enlarged sphere, of even greater importance than at present. Nor do we here allude only to the numerous private institutions, which are administered by unofficial committees and maintained by voluntary subscriptions. Of these religious and philanthropic institutions—whether orphanages or infant asylums, maternity or rescue homes, training establishments of various kinds, general or special hospitals, residential schools for boys and girls of particular denominations or particular needs, homes for the mentally defective or the physically incapacitated, or asylums for the aged—we hope that the fullest possible use will be made by all public authorities, subject to proper inspection, and, if desired, reasonable payment. . . . We therefore strongly recommend to the active leaders of philanthropy in each burgh and county the desirability of taking steps to draw together all the various charitable agencies and voluntary workers in their district, into an organization on the lines of the guilds of help or councils of social welfare that have been successfully established in some towns. Such an organization might usefully include, in a federal union for mutual assistance, any local health societies, children's care, or apprenticeship associations; fresh air funds or country holiday societies; the local charitable almshouses, hospitals, infirmaries, or convalescent homes; such orphanages, industrial schools, and such institutions for the physically or mentally defective as are available; the charitable agencies connected with the various churches; any systematic visitors or workers among the poor; and, in fact, all the benevolent agencies in the locality concerned with those in need or in distress. . . . But we wish emphatically to record our dissent from the recommendations of the Majority Report with regard to what is termed a Voluntary Aid Council and Voluntary Aid Committees. . . . We regard the setting up, all over Scotland, of a new and additional relief agency, not only as generally impracticable, but even where it may be practicable, as in itself demoralizing and wasteful. . . . We see no reason to suppose that the existing organized charities, or the various churches, or benevolent individuals, are likely to be willing to subordinate their own efforts in charitable work, or even to communicate their intentions, to what will necessarily be (seeing that its principle function is to dispense relief) a rival charitable agency, any more than they have so far been willing to do this for the Charitable Organization Society. It would, we think, be out of the question to give to a non-elective and irresponsible body,

such as is proposed, any coercive or regulative powers over other charitable agencies, which could not even be required to communicate to it their proceedings. . . . The proper sphere of voluntary work is, in our judgement, the supplementing of the visiting and the provision made by the various public authorities. We utterly object to this voluntary charity being compulsorily forced on the poor in any one case as a substitute for the public provision.

THE RELATIONS OF THE LAITY AND THE MEDICAL PROFESSION.

SIR,—What your clever correspondent, Mrs. Hodgkinson, evidently requires is a new kind of medical practitioner, who shall possess two characteristics in combination.

1. He must be prepared, when consulted by a patient, to make not only such investigations as he may deem necessary to elucidate the case, but as many others as possible—the more, and the more elaborate, the better—so as thoroughly to impress his client. He must also be prepared to discuss with his patient:

(*a*) The case in detail.
(*b*) All recent writings which may be supposed (by the patient) to have any bearing on it.
(*c*) All the works on diet and hygiene in general with which the patient may be familiar, or, perhaps it would be better to say, slightly acquainted.

He should not do this hurriedly, but should give his patient plenty of time to display the extent and variety of her reading in this connexion, and to make any valuable suggestions which may occur to her. In other words, he must be prepared to treat the patient in consultation with herself.

2. He must only charge a small fee.

I do not think Mrs. Hodgkinson is likely to get what she wants—that is, to find any one who will satisfy both these requirements at once. Most medical men can find work more useful to the community and better paid. But if she is prepared to drop her second requirement and pay an adequate fee I think she may succeed even now. She need only look around her and use a little discrimination. As a help I may tell her that the names of all suitable men begin with Q. I think, perhaps, that homoeopathic practitioners as a rule are prepared to adapt their ways to the class of patients on whose behalf Mrs. Hodgkinson pleads more readily than the ordinary practitioner.—I am, etc.,

Liscard, Dec. 13th. J. A. SANDERSON.

POOR LAW AND VACCINATION APPOINTMENTS

SIR,—In the careful report of Adams *v.* Pomeroy in your last issue, I note that particular attention was given to a statement in a paper read by me at Hull in 1908; and in his evidence Dr. Whitaker appears to throw doubt on the accuracy of the statement that many Poor Law appointments throughout the country would be resigned to-morrow were it not for the fees received by the holders as public vaccinators. As the frequent misuse of the emoluments of the public vaccinator by many boards of guardians to compensate the underpaid district medical officer constitutes a well-recognized grievance, it might be well to put forward the evidence on which my statement was made, and to submit it to the criticism of Dr. Whitaker and others who doubt its accuracy.

In most cases, at all events in rural districts, if a district medical officer, who is also public vaccinator, resigns his Poor Law appointment, he is certain to be made to resign his vaccination, however much he may desire to retain it. Why do the guardians require this resignation of their retiring medical officer? Are they actuated by personal resentment against him for having given up a well-paid post they desired him to hold at all hazards? Or is it because they know that unless they can give the vaccination post as a bribe, they will be unable to find a successor? When such experience as this is constantly being met with, is it unreasonable to assume that these underpaid Poor Law appointments would be much more frequently resigned were it not for the vaccination fees? In further confirmation I may say that I know of some cases where the public vaccinator has been permitted to retain office after giving up his Poor Law appointment; but in these cases the latter has always been fairly well paid, so that no difficulty would be likely to arise in filling it up. I also have met with one case where the fees of a public vaccinator were likely to be reduced by a proposed change in his district, and his board offered to make this up by increasing his Poor Law salary. On carefully considering all the facts, I think there is plenty of evidence to prove the almost certain truth of my contention.—I am, etc.,

London, E.C., Dec. 11th. MAJOR GREENWOOD.

PULMONARY TUBERCULOSIS TREATED BY CONTINUOUS ANTISEPTIC INHALATION.

SIR,—Dr. Lees has not been precipitate in publishing his results of the continuous inhalation treatment of phthisis; their number also will doubtless lead to a still more extended trial by others; my own more limited experience leads me strongly to endorse Dr. Lees's enthusiasm. My attention was drawn to it by Dr. Lees's valedictory lecture at St. Mary's, delivered May 29th, 1907. Even in far advanced cases I have found there has been a decrease in fever and some slight improvement, so that mothers have been able to do household work, wearing the mask, when otherwise they would have been in bed, and there has been the comforting feeling that at least something additional has been done to prevent infection of others. In some of my cases no bacilli were found, but the anaemia, coupled with cough and definite signs at an apex, made one confident of a diagnosis of incipient phthisis. A short stay in hospital, with continuous inhalation, followed by a modified treatment at home, has always produced such surprising cures that, were it not for similar results in cases where tubercle bacilli have been found, I should hesitate to trust my original diagnosis.

Case 21 of Dr. Lees's is perhaps the most striking. Here tubercle bacilli were found in large numbers in March, and the patient seemed to be going down hill with a recrudescence of an old focus. He has steadily improved so that now, nine months afterwards, he weighs 29 lb. more, has lost his cough, his tubercle bacilli, and his expectoration in a great measure. He still inhales for five hours during the day and all night at his own wish. In addition, he has only been away from his work as a clerk for about a month. In such a case we can be sure, as far as we can ever be sure of anything, that the result is due to the treatment alone.

Dr. Lees, it seems to me, might have dwelt more on this point—that under his treatment patients are not kept long from work, can earn their livelihood without long lazy months, producing slackness and weariness, and the moral effect of this alone is a great gain.

The mask and inhalation are not unpleasant, and only in one instance have I had difficulty in persuading a patient to undergo the treatment. There is danger in not continuing long enough when the early result of treatment is so apparent.—I am, etc.,

St. Ives, Huntingdonshire, Dec. 15th. W. R. GROVE.

TUBERCULOSIS IN CHILDREN AND SCHOOL INSPECTION.

SIR,—I am thoroughly in accord with Dr. Allan's statement as to the difficulty of diagnosing pulmonary tuberculosis in the course of the routine medical inspection of school children. Even in the case of adults, and with plenty of time for investigation, a diagnosis is often of extreme difficulty without recourse to bacteriology or other confirmatory tests. And is trebly so in a school child during medical inspection; for on all sides you are subjected to restrictions; information is absent or of doubtful utility; time is very limited; the area of chest available for investigation rarely exceeds a square foot; and, lastly, the patient is excited and restless. Therefore, how to satisfy oneself in those cases sufficiently to make a written diagnosis has been exercising my mind for some months past. All the more so that an article appeared in the BRITISH MEDICAL JOURNAL in the commencement of the present year, from which the element of doubt seemed to have been eliminated, and fixing the incidence of tuberculosis among school children in the area under observation as somewhere about 15 per cent. Up to the present my percentage of definitely diagnosed pulmonary tubercle does not exceed 1.5 per cent., or one-tenth of the figure previously mentioned; and the difference can only be explained by a vastly dissimilar standard as to what is

considered essential to a definite diagnosis. Of course there are from 5 to 10 per cent. of what may be called borderland cases, classed variously as "constitutionally delicate," "physiologically delicate," "weak-chested," "pretuberculous," etc. And of these, possibly the majority are tuberculous. That, however, is merely a pious opinion, and I personally see no way of confirming or refuting it with the means and time at the disposal of a school medical inspector.

Discrepancies such as the foregoing emphasize the necessity for the fixation of definite standards to apply generally to medical inspection. The figures at present being worked out at such cost are, from a statistical standpoint, comparatively worthless or actually deceptive. Every one concerned takes it upon himself to fix his own standard, and the resulting figures are consequently good for his own domain and no further. Therefore the urgent need for a conference of all concerned in school medical inspection, if for nothing else than to arrange a scheme of standardization. Meanwhile, one can do no more than follow one's own scheme, and trust that

somehow good
Will be the final end of all.

—I am, etc,

Merthyr Tydfil, Dec. 15th. S. B. WALSH, M.D., D.P.H.

PROPOSED LEGISLATION ON ANAESTHETICS.

SIR,—Among the conclusions which the Anaesthetic Committee of the General Medical Council recommend to be transmitted to the Lord President of the Privy Council is one which it seems to me will press hardly upon those of us whose practice lies among the working classes, and possibly still more so upon our patients. I refer to Recommendation 7, printed on page 361 of the SUPPLEMENT to the JOURNAL of December 4th.

To take my own case. As a house-surgeon I administered some 2,000 anaesthetics, and since being in practice on my own account I have frequently in the case of poor patients given an anaesthetic and myself performed small operations, often procedures of little more than momentary duration—such as opening and inserting a tube in a deep mammary abscess, slitting up the constricting band of a bad paraphimosis, or applying the actual cautery to a superficial naevus. In all these cases the patient or parent has been willing and anxious to pay me a small fee for doing what was necessary, but the expense of calling in a special anaesthetist as well would have meant to them parting with the whole or major part of another week's wages—no inconsiderable matter, unless really necessary. In acting thus I have never felt that I was doing wrong or running such terrible risk as to call for my action being forbidden by law.

Again, in midwifery cases, are we to be debarred from giving the patient a few whiffs of chloroform while the head is passing the vulvae, or getting her lightly under while applying the forceps in a simple case, except another practitioner is present?

Of course, we are all aware that the ideal thing is to have a special anaesthetist present, and where expense is no object, one would insist upon it; but it seems to me that such cases as I have mentioned can quite well be dealt with by one man, and that the necessity for the presence of a second one might well be left to the judgement of the practitioner in charge.—I am, etc.,

Burton-on-Trent, Dec. 13th. J. H. JOYCE.

ARE WE UP-TO-DATE?

SIR,—Every day sees some addition to our medical or surgical knowledge, hour by hour fresh improvements are made, new ground opened up, and the motto of the profession should always be "Upward and Onward," but, still, sometimes it is well to pause awhile and look backward, or, perhaps, one might say, sideways. Some years ago the fresh air treatment came into vogue. It was a great idea. The profession seized upon it, turned it to account, and to-day we see and reap the benefits of this advance; and yet, had we looked backward and taken our view in Africa, we should have seen the Kaffirs for centuries past taking their sick to the mountains for fresh air treatment. We must not forget that it is only in recent years the need of oxygen and its benefits for the nervous system has been recognized, and lunatics are now kept in bed in the open air much to their benefit, and yet the unthinking (?) savage of Africa has known the benefit of fresh air for ages.

So it is with the so-much talked of massolettes and lactic acid treatment which is brought before us as something new, and which will, no doubt, benefit us in many ways. For example, it will reduce the number of cases of appendicitis by dealing with the bacilli and cocci, which causes in many—if not in all—cases this disease. And yet, again, the Kaffirs have treated their sick with sour milk for ages.

I am of opinion that many useful medical remedies might be obtained from the native races of the earth. We obtained our knowledge of quinine in an historic manner from the natives of India, and I understand the North American Indians have an antidote for snake poison. Probably every native race has made some or other medical discovery, and it seems a pity that methods of treatment by native races are not studied more. It is just possible a universal inquiry might bring to light some most valuable information. For all we know, there may be a cure for cancer somewhere in use. The natives might be using a remedy for swellings or tumours without the slightest idea they were treating cancer. I think we are too apt to treat the native medicines with contempt, and so may be overlooking some valuable remedies. If one of our multi-millionaires would engage two physicians and two surgeons, and send them on a roving commission round the world to inquire into native treatment and native remedies, I am absolutely convinced they would return with a whole fund of valuable information. It stands to sense that the natives of every country have made from time to time medical discoveries, and we certainly do not know them; and I doubt whether any great effort has ever been made to find them out. It was from the natives we heard of erythroxylum coca, and yet, in European scientists' hands, what have we not done with the leaves of this tree, the knowledge of which would never have been known to us had it not been for the discovery by the natives of Bolivia and Peru of its valuable properties in sustaining the strength on long journeys.

The Chinese have a number of absurd remedies, but amongst them must surely be something useful, and so it must be with the other Asiatic races. I am convinced there is much medical knowledge amongst the native races of the globe which has not yet been communicated to the European medical profession.—I am, etc.

Leytonstone, N.E., Nov. 19th. ARTHUR TODD-WHITE.

* * It is perhaps desirable to point out that, so far as the British Empire is concerned, some provision for the investigation of medicinal products from tropical and sub-tropical sources does exist. Such investigations are undertaken at the Imperial Institute, South Kensington, at the request, or with the concurrence, of the governments of the colonies or protectorates concerned.

THE EDUCATION OF DENTAL SURGEONS.

SIR,—The practice of dentistry calls for mechanical skill far greater than is demanded in any other department of surgery; and unless a dentist be before all things a good mechanic he cannot succeed in his profession. Mechanical training cannot be begun too early. It is a great advantage to a lad if the training can be commenced at school. "Cabinet making" and metal working provide finger training, and give deftness in the use of tools. The dental curriculum demands two years' instruction in mechanical dentistry. Before entering upon this it will have been possible to decide whether the tiro possesses the necessary aptitude; without this it will be wise to seek another vocation. Nothing could be better fitted to prepare the student for the work of operation upon the teeth than pupilage in mechanical dentistry. After this he enters upon the surgical part of his education in the dental hospital with fingers so trained that the simple operations appear easy to him; he has already carried out closely similar procedures at the workbench, and has acquired the mastery of tools, and the facility and sureness of touch which early mechanical training rarely fails to produce. Proceeding by gradual steps from operations on extracted teeth fixed in a vice—by which means many processes of "stopping" can be practised—to simple operations on the living subject, the student can be led thus into the practice of

dentistry, until at the end of his career he is turned out an accomplished practitioner. The scientific part of the education for the dental diploma provides ample teaching in the principles and practice of general and special surgery.

Higher medical and surgical degrees have certain advantages, but they cannot make their holders better dentists or provide any substitute for the indispensable skill of the accomplished handicraftsman. In some few cases a man may be found who can train himself as a mechanic after 25, the age when a full medical qualification has been obtained; but if dentistry be chosen as a profession, the only safe way in the vast majority of cases is to follow the curriculum for the dental diploma and leave higher qualifications for secondary consideration.—I am, etc.,

Redhill, Dec. 7th. HENRY SEWILL.

PRESCRIBER AND DISPENSER.

SIR,—As a practitioner dispensing his own medicines, may I point out the fact that under this system my patients are seen by me at frequent intervals, and that I am able to follow the course of the case more closely, to change the medicine in any direction I may find advantageous, and generally learn to know my patients and their diseases very intimately?

Quite apart from pecuniary considerations, which in themselves are a great obstacle, I should regret a change to the prescribing system.—I am, etc.,

London, N., Dec. 10th. A. F. SHOYER, M.D.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE.

SIR,—The governing body of the Lister Institute have noticed with much annoyance that a description with photographs of the Institute has appeared in an advertising pamphlet entitled "The Petroleum Idea," issued by the Angier Chemical Company, Limited. As the appearance of this description has occasioned some surprise and perplexity amongst the members of the profession to whose notice it has come, the governing body would be grateful if you could find space for the enclosed letter of apology from the World's Graphic Press to the Institute's solicitors, which sufficiently explains the circumstances.—I am, etc.,

CHARLES J. MARTIN, Director.

[COPY.]

World's Graphic Press, Limited,
36-38, Whitefriars Street, Fleet Street,
London, E.C.
November 26th, 1909.

Messrs. Hunter and Haynes,
9, New Square,
Lincoln's Inn.

Dear Sirs,—We are in receipt of your letter of the 19th instant with regard to the photos of the Lister Institute.

We are very sorry if we have indirectly caused annoyance to your client who kindly gave us the opportunity of taking the photos of the institute. We have not seen the pamphlet to which you refer, for it was not published by us, but we understand that the photos used therein are photos which we supplied to a firm who asked for them.

We stated at the time the permission was granted to us that we required the photos for publication in the *Scientific American*.

Please accept our sincere apology for the annoyance we have caused your client by supplying the photos to the firm in question. We undertake not to use or supply the said photographs to any journal or person without, in every case, previously obtaining the consent of the Lister Institute.

Yours faithfully,
WORLD'S GRAPHIC PRESS, LIMITED.
Sgn. J. Savory, Secretary.

A PORTABLE OXYGEN GENERATOR AND INHALER.

SIR,—In answer to the kind appreciation of my apparatus by Dr. G. A. H. Barton, I would say that there is not the smallest danger from the heat developed, even if the generation is carried out in a room where ether vapour is present and the cooling is inefficiently done. The mouthpiece of the apparatus can be adjusted easily to an ordinary facepiece, and the apparatus no doubt could be used for giving oxygen with nitrous oxide, or chloroform if the chloroform vapour were pumped into the facepiece. An assistant could gently shake the caustic soda solution round the bottom of the bag so as to absorb the exhaled carbon dioxide.—I am, etc,

London Hospital Medical College, Dec. 17th. LEONARD HILL.

MR. POMEROY ON VACCINATION.

SIR,—In your issue of December 11th you make certain comments about myself, which are, I daresay, justifiable from your point of view, and I only wish to take exception to one.

But first let me say that when I allude to doctors as fee-hunters it is not mere abuse, but my firm conviction as regards the vast majority. If not, how do you account for these three items: (*a*) During 1908 the vaccination fees were reduced at Birmingham, and the day before the new and lower scale came into practice the public vaccinators were going round and vaccinating babies of one or two days old. The medical journals did not protest. Was that done for love of vaccination, for love of children, or for love of fees? (*b*) Medical statistics. Take the last report of the Metropolitan Asylums Board on the small-pox outbreak, 1901–2. The cases are returned as vaccinated, unvaccinated, and doubtful. In vaccinated cases the deaths are 9 per cent.; in unvaccinated, 31 per cent.; in doubtful, 51 per cent. These figures, if accurate, show it to be more dangerous to be doubtful than unvaccinated. If you add the whole lot together, the mortality comes out at 16·82 per cent., which is about the same figure as before vaccination was heard of. Are these figures compiled for truth, for humanity, or for fees? (*c*) The difficulty of obtaining a death certificate as death due to vaccination. The last bad case of this happened at Bedminster, Rosina Sandhill was vaccinated by order of Messrs. Merdon and Sons on February 13th, 1909. By February 25th she was too ill to go to work, and she expired after fearful suffering on Sunday, November 14th. Dr. Bullen, who attended her pretty constantly throughout, said to her on one of his visits, "You were a bright, bonny girl, Rosie, before you were vaccinated." A *post-mortem* examination was held by Drs. Walker Hall and Bullen, at which Dr. Creighton and Dr. Hudwen attended. The two last were satisfied that the cause of death was a malignant disease—cancer—in the pelvis. The inquest was held on Wednesday, and the verdict, on the evidence of Dr. Hall Walker, was "Tubercle of many years' standing." Why was not vaccination even mentioned? Truth? the mother's feelings? or future vaccination fees?

Finally, now as to myself. You state "his notions of honour are shown by his statements in the witness box, and nothing further need be said on that subject." Your meaning is clear; but even taking that difficult position—that is, defendant in the witness box—your view is not the only one possible. What are the facts? I write a strong article, which I could easily have got out of by paying something down; but my ideas of honour make me stand by anything I sign my name to. The judge (Sir W. Grantham), in summing up, asks the jury to give "such damages as would enable her to hold up her head in an honourable profession." Yet after those words, and after the jury had seen "such a fellow" (your words of myself) and his "notions of honour" in the witness box and noted all the failings you attribute to me, they gave the woman one farthing to enable her to hold up her head, as Sir W. Grantham invited. I take it this shows their view was not yours.—I am, etc,

London, W., Dec. 14th. ERNEST POMEROY.

*** Mr. Pomeroy's letter reaches us just as we are going to press, and we have therefore no opportunity of verifying his statements. And, to speak frankly, we are not prepared to accept any statement of his on vaccination or the medical profession without the fullest proof. We do not impugn his veracity—although in open court he avowed his belief that "it is a great mistake to suppose there is any merit in being truthful always"—but he is evidently strongly biassed on the subjects referred to, and we question both his information on matters of fact and his judgement in regard to them. Subject to further inquiry, we may deal with the points he makes: (*a*) Even assuming that the public vaccinators did go round as he alleges, he does not attempt to show that any harm resulted to the children. If the vaccinators wished to be paid on the higher scale, we reply that the labourer was worthy of his hire. The motto of the illustrious family to which Mr. Pomeroy belongs is, we believe, *Virtutis fortuna comes*, and would not be appropriate to the medical profession, whose virtue is to a large extent its own

reward. (*b*) Again assuming Mr. Pomeroy's statements as to the mortality in the small-pox outbreak of 1901–2 to be correct, his estimate that 16.82 per cent. is about the same as the death-rate from the disease before vaccination was heard of, is sufficient to show that he has not taken the trouble to learn the elements of the subject. In England alone the bills of mortality show that during the years between 1667 and 1722 the average number of deaths from small-pox was 72 per 1,000 of the total number of deaths from all causes. It has been calculated that the death-rate from small-pox in England during the last half of the eighteenth century was such that if applied to the present population it would give an average of 70,000 deaths a year. In pre-vaccination days it was estimated that two-thirds of all the children born were attacked. Before the introduction of vaccination, one-half to three-fifths of the total mortality among children was in some years due to small-pox. What has never been estimated is how much in the way of fees the medical profession has lost by the introduction of vaccination. Perhaps Mr. Pomeroy will look into that question; the results might perhaps enlighten him. (*c*) As regards his Bedminster case, we should like to have the statements of the doctors; we should also be glad if Mr. Pomeroy would take the trouble to make up his mind whether it is Dr. Walker Hall or Dr. Hall Walker to whom he refers. But assuming that the opinion of Dr. Creighton and Dr. Hadwen was correct, will Mr. Pomeroy tell us what relation there could be between cancer in the pelvis and vaccination? Lastly, Mr. Pomeroy shows the graceful courtesy of his nature and the manliness (*virtus*) of his motto by the manner in which he refers to Miss Martha Adams. On this we need not comment; his noble qualities speak for themselves. We need only add that it was a part of his *fortuna* that he got a jury of the same degree of intelligence as himself. But no jury's verdict can obliterate the effect of the evidence given by this "honourable" and fortunate gentleman.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations undernoted:

FIRST B.M. EXAMINATION.—*Organic Chemistry*: H. E. A. Boldero, C. H. Carlton, F. B. Chavasse, W. T. Collier, L. M. Davis, J. C. Dixey, K. M. Dyott, V. T. Ellwood, L. Gamieson, O. H. Golch, W. J. Hart, J. W. Horan, M. R. Lawrence, F. A. Martin, D. S. Nelson, A. L. Pearce-Gould, E. Scott, G. P. Selby, N. A. Sprott, C. P. Symonds.

Human Anatomy and Physiology: W. H. Bleadon, A. Booth, A. Jackson, E. E. Mather, H. G. Morris, H. M. Pope, M. O. Raven, J. Sainsbury.

FINAL B.M.—*Pathology*: G. E. Downs, A. D. Gardner, G. W. Johnson, C. Newcourt, E. L. Pearce-Gould, A. F. Sladden.

Forensic Medicine and Public Health: R. F. Bridges, G. H. Hunt, S. F. Moore, H. P. Newsholme.

Medicine, Surgery, and Midwifery: F. J. Aldridge, Magdalen; H. G. Butterfield, Wadham; G. H. Cross, Balliol; D. C. Dobell, Christ Church; G. J. Z. Jessell, Univ. Coll.; S. F. Moore, Trinity; C. Newcourt, St. John's; H. P. Newsholme, Balliol.

UNIVERSITY OF CAMBRIDGE.

Degrees.

THE following degrees have been conferred:

M.D.—O. May, St. John's; A. Steward, Downing.

M.B.—A. Lees, King's; B. Day, Caius; H. B. Elton, Caius.

B.C.—E. A. Lees, King's; B. Day, Caius; G. A. F. Heyworth, Trinity.

Appointment.

Mr. J. E. Purvis, M.A., St. John's College, has been appointed University Lecturer in Chemistry and Physics in their application to Hygiene and Preventive Medicine.

NATIONAL UNIVERSITY OF IRELAND.

THE President of the Dublin University College, Dr. Denis J. Coffey, has issued a circular giving a general scheme for scholarships and other prizes for the session 1909-10, and a scheme of fees. In the Faculty of Medicine it is proposed to give scholarships and exhibitions in each of the five years of the same value, namely:

Two scholarships of £25 each, tenable for one year.
Two exhibitions of £25.
Two exhibitions of £15.
Other prizes to amount of £20.

The scholarships will be awarded soon after the opening of the session, the exhibitions at the close of the session.

Fees: Provisional Scheme.

As the scale of fees for the various classes cannot be completed before regulations have been made in regard to the university courses in the session 1909-10, the following arrangements have been provisionally adopted by the governing body of the Faculty of Medicine:

The amount payable for attendance on the courses of instruction given in the college for the primary medical degrees of the National University of Ireland will be £14 per annum if the courses are equally distributed over a period of five years. In the ordinary distribution of the subjects for professional examinations in certain years the subjects required are greater in number than in other years, so that the fees in those years would vary accordingly.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council was held on December 9th, Mr. Butlin, President, in the chair.

Diplomas.

Diplomas of Fellowship were issued to 28 candidates found qualified at the recent examination. Diplomas of the Licence in Dental Surgery were issued to 36 candidates.

Admission of Women to the Museum.

Certain modifications in the above regulations were adopted by the council, to the following effect:

"The museum is also open on Friday and Saturday to qualified medical women; to women medical students; to nurses; and to women obtaining orders of admission from the Secretary or Conservator.

"Women holding other medical or surgical qualifications than those of the college, and women medical students desirous of admission on other days, must make application in writing to the Secretary or Conservator. The application must be accompanied by a letter from the Dean of the applicant's medical school (in the case of a medical student), recommending that a ticket of admission be granted. Tickets of admission, which are not transferable and must be produced on application for admission, are granted for six months; at the expiration of this time application must be made for their renewal.

"On other days than Friday and Saturday women who do not hold a medical qualification or who are not medical students can only be admitted on the personal introduction of a Fellow or Member of the College, or Trustee of the Hunterian Collection, who will accompany them during their visit."

The Odontological Collection.

Mr. J. F. Colyer was appointed Honorary Curator of this collection (see JOURNAL, December 11th, p. 1686).

Recognition of Medical Schools.

The London School of Medicine for Women and the Edinburgh School of Medicine for Women were added to the list of recognized medical schools. The Royal Free Hospital was added to the list of recognized hospitals.

The Public Health Laboratories of the School of Medicine of the Royal College of Physicians and Surgeons of Edinburgh were added to the list of laboratories recognized for the course of instruction for the diploma of Public Health.

The Midwives Act.

The President called attention to the report of the Department Committee appointed by the Lord President of the Privy Council to consider the working of the Midwives Act, 1902. It was decided that a communication should be addressed to the Privy Council urging the need for early legislation to give effect to the recommendations of the committee.

Appointment of Examiners, etc.

Mr. Herbert F. Waterhouse was appointed a member of the Court of Examiners in the vacancy occasioned by the retirement of Mr. Bernard Pitts.

Dr. G. F. Blacker was appointed Examiner in Midwifery under the Conjoint Examining Board in the vacancy occasioned by the death of Dr. W. R. Pollock.

Mr. R. J. Godlee was appointed to represent the college in the Senate of the University of London in the vacancy occasioned by the death of Mr. H. H. Clutton.

Mr. A. P. Gould was appointed a member of the Executive Committee of the Cancer Research Fund in the vacancy occasioned by the death of Mr. H. H. Clutton.

The late Sir William Ferguson.

A cabinet for instruments used and made by the late Sir William Ferguson, Bart., was presented to the college by Mr. Bernard Pitts.

The Fellowship.

The following candidates were admitted to the Fellowship:

J. W. G. Grant, D. L. Davies, H. B. W. Smith, W. S. Edmond, W. G. Howarth, A. D. Griffith, F. R. Hoton, A. S. B. Bankart, J. E. H. Roberts, H. S. Souttar, J. P. Hedley, W. R. Bristow, R. N. Cooriawala, A. B. Rooke, A. P. Bacha, R. L. Spittel, M. D. D. Gilder, G. V. Deshmukh, W. W. Treves, J. J. Abraham, A. B. Aitken, H. G. Anderson, J. Grush, C. F. Muecke, M. L. Scott, A. Spong, H. G. Thompson, A. S. Worton.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting on November 11th the following gentlemen were elected to the Fellowship:

E. C. Bevers, H. H. Bywater, A. J. Evans, W. A. Fairclough, W. Girdwood, J. P. Grauger, R. H. Harris, R. B. D. Hird, J. Husband, Captain, I.M.S.; A. W. B. Livesay, Staff Surgeon, R.N.; T. R. McKenna, H. J. McLean, S. W. McLellen, J. Morris, W. J. Norton, A. N. Paul, J. Reilan, J. M. Renton, J. Russell, C. P. Sapsford, C. J. Smith, G. M. Smith, J. A. M. Smith, W. Taylor, and O. H. Williams.

Obituary.

W. B. RANSOM, M.A., M.D.CAMB., B.SC.LOND., F.R.C.P.,
SENIOR PHYSICIAN TO THE NOTTINGHAM GENERAL HOSPITAL; PHYSICIAN TO THE SHERWOOD FOREST SANATORIUM FOR CONSUMPTION, ETC.

THE name of Ransom, father and son, is not only a household word in Nottingham, but is widely known in the medical world outside that city. Dr. William Bramwell Ransom, the subject of this memoir, commenced practice in the city of his birth in 1890, and shortly afterwards was appointed Physician to the Nottingham General Hospital on the resignation of his father. Only two and a half years have elapsed since Dr. W. H. Ransom, F.R.S., passed away full of years and honours, and now on December 9th his no less gifted son has been called from his unfinished work at the early age of 43, deeply mourned by a large circle of friends and patients.

Educated in the most liberal manner for the high calling he was destined to pursue, Dr. Ransom already manifested in his boyhood and as a pupil at Cheltenham College those brilliant gifts, so conspicuous in after-life, which education can foster but cannot create. From Cheltenham at the age of 17 he proceeded to his father's old school, University College, London. In 1882, being then 21, he headed the list in physiology honours at the Final B.Sc. Lond., carrying off the university scholarship and medal. He had already entered, in 1880, at Trinity College, Cambridge, and in 1883 graduated B.A., first class in the Natural Science Tripos. On account of his great interest in physiology he was sent by the University to do original work at the Zoological Station at Naples, and at a similar institution at Roscoff in Brittany. As a result of this work he published articles on The Cardiac Rhythm of Invertebrata, The Influence of Glycerine on the Liver (*Journ. Physiol.*, vols.) 5 and 7), The Spinal and Visceral Nerves of *Cyclostomata*, and on other subjects.



Photograph by] W. B. RANSOM. *[Cox, Nottingham.*

In 1886 he was elected Fellow of Trinity College, and having returned to University College to study medicine, he gained two Fellowes medals for clinical medicine, the Liston medal for pathology, and graduated M.B.Lond. in 1888. After a year's post-graduate study in London, Vienna, and Halle, he took the M.D. in 1889. In the following year he became a Member of the Royal College of Physicians. The same college recognized his eminent abilities by electing him to the Fellowship in 1898.

No sooner had Ransom settled in Nottingham than it was felt not only among the medical profession, but by every one with whom he came in contact that a new power had arisen in the place. On the boards of charities and other committees he at once showed an insight into difficult problems which astonished men of years and experience. Whenever he spoke he was attentively listened to, and his weighty words were always delivered with grace and ease of style, and not without a fund of ready humour. Under these circumstances it cannot be wondered that he speedily became the leading medical consultant in the city and county. He early recognized that purely medical practices could not be expected to be as large as formerly on account of the ever-increasing incursions of surgery; nevertheless he was always an exceedingly busy and overworked man. He was invariably kind and sympathetic to patients and courteous towards his brethren. With his infallible memory and penetrating insight the diagnosis of a difficult case appeared an instinct with him. Yet he had none of the arrogance of intellect. He must have seen something of the mistakes of others, yet he never did or said anything calculated to disturb the relations of doctor and patient. "I never wish to meet a nicer or a fairer man in consultation"—this is not a mere commonplace of the *nil nisi bonum* type, but has been said scores of times during his lifetime.

Shortly after he commenced practice Dr. Koch announced the discovery of tuberculin. Ransom's untiring energy was shown by his making a special journey to Berlin to obtain at first hand a supply of the new specific. Its effects were afterwards demonstrated to the medical profession in the wards of the General Hospital by himself and his colleagues. For seventeen years, until finally struck down by illness, he was the constant and devoted servant of that institution. For years he spent the whole of his Sunday mornings in the wards, besides numerous visits on week-days; add to this five or more long hours for out-patients on Friday afternoons, and some conception can be formed of the work he forced himself to do, instead of allowing some space for rest and recreation. He never had a strong physique, and the enormous amount of work he got through was a continual triumph of mind over matter. He was not only keen in acquiring but generous in imparting knowledge. On his Sunday morning visits he was frequently accompanied by a small but earnest band of men, who were never looked on as intruders but received with kindly welcome, and to them he spoke with ungrudging patience. For years he poured out treasures of his well-stored mind in his lectures to nurses. No matter what the occasion, he always gave of his best—*nihil tetigit quod non ornavit*. His relations with his honorary colleagues and with the resident medical and nursing staffs were always most cordial. In addition to the General Hospital, he was also a member of the honorary staff of the Nottingham and Notts. Convalescent Homes, to which institutions he rendered valuable service by advising on medical, hygienic, and administrative matters.

In 1892, when the British Medical Association met in Nottingham, W. B. Ransom was Secretary of the Section of Medicine, his father being President. He also took part in the Leicester meeting in 1905. When the British Association for the Advancement of Science met in Nottingham in 1893, Ransom was one of the Secretaries. He was a Governor of the Nottingham High School, and a member of the Council of the Nottingham University

College. He was President of the Nottingham Medico-Chirurgical Society during the session 1896–7, and delivered a masterly address on "Immunity," afterwards published in a small volume. He was a frequent contributor of valuable clinical and pathological material to the society. Year after year he delivered set addresses, and, however long these might be, he possessed the happy art of keeping his audience interested to the end. No matter what the subject—"Should Milk be Boiled?" "The Prevention of Tuberculosis," "Pernicious Anaemia," "Experiments on Animals," "Infantilism," "Modern Views on the Nervous System," and many more—all were treated in the same exhaustive manner. When he opened a discussion on "Diet" on December 5th, 1906, there seemed to be no diminution in the familiar energy of manner or depth and facility of treatment, yet that was the last occasion on which his voice was to be heard within the walls so often the silent witnesses of his eloquence.

Ransom threw himself heart and soul into the question of the open-air treatment of phthisis, which began to be strongly advocated in Great Britain about the year 1893. By his untiring labours and great enthusiasm a Society for the Prevention of Consumption was formed. A lasting monument to those labours remains in the form of the Sherwood Forest Sanatorium. By his own generous and self-sacrificing efforts a building fund of over £5,000 was collected, a site having been provided by the generosity of the Duke of Portland. It is no easy matter in these days to start a new medical charity, and it is not too much to say that this sanatorium owes its existence to the unstinted efforts of Dr. Ransom in arousing the necessary enthusiasm. No other of his contemporaries, medical or lay, possessed the unique combination of gifts which alone could make such an effort successful. The sanatorium was opened in 1901 for 14 patients, all of the poorer class. This beneficent work has been brought within reach of an ever-increasing number of patients, 32 of whom are now accommodated, while its effects are reinforced by the active efforts of a zealous after-care committee.

Ransom contributed numerous articles to medical literature, many being of permanent value. In addition to those already referred to, the following may be mentioned: The Occurrence of Sugar in Pathological Effusions (1889); A Case of Actinomycosis (*Med. Chir. Trans.*, 1892); A Case of Actinomycosis of the Orbit, with a Summary of seven other Cases of Actinomycosis (BRITISH MEDICAL JOURNAL, 1895); A Case of "Intestinal Sand" (*Quart. Med. Journ.*, 1902); Two Cases of Acromegaly (BRITISH MEDICAL JOURNAL, 1895); On Lead Encephalopathy and the Use of Diachylon as an Abortifacient (BRITISH MEDICAL JOURNAL, 1900); Case of Tumour of the Spinal Dura Mater (BRITISH MEDICAL JOURNAL, 1894); Syringomyelia (*Journ. Path.*, vol. xi); A Case illustrating Kinesthesis (*Brain*, 1892); Tumours of the Corpus Callosum (*Brain*, 1895); Phthisis in Relation to Life Insurance (1900); The Vis Medicatrix Naturae (Presidential Address, Nottingham Naturalists' Society). This is by no means a complete list of his published writings, but it will serve to illustrate his indefatigable industry and the wide range and many-sided interest of his observations.

By a strange irony of fate Dr. Ransom fell a victim to the disease—consumption—which he had done so much to relieve. During the later years of his life he contracted several severe attacks of influenza. Definite symptoms of phthisis showed themselves in the summer of 1907, and the disease proved fatal about two and a quarter years later.

He married in 1898 a daughter of Mr. George Fowler, of Basford Hall. She and their three children survive him.

The following notes are communicated by Dr. HENRY HEAD, F.R.S., Physician to the London Hospital:

I first knew William Bramwell Ransom in the year 1880, when we entered together at Trinity College, Cambridge. He had already received a considerable scientific training at University College, London, where he attended Professor Lankester's lectures. He was intensely enthusiastic for both comparative anatomy and physiology, and at the end of his first year became a major scholar of his college. After taking his degree with First Class Honours in the second part of the Natural Science Tripos (1883), he went to Naples and worked at the action of the heart in the cuttle fish and other allied animals. On this work he obtained a Fellowship at Trinity College, and then entered strenuously on his medical studies at University College Hospital. Here he held all the ordinary junior appointments, and was House-Physician to Dr. Ringer. He returned to Nottingham about the year 1890, and the rest of his career is better known to others than to me.

In his earlier days he was always known to us for his vivacity and for the agility of his intellect. In our debates (whether in the laboratory, the hospital, or the Natural Science Club) he was distinguished for the extraordinary accuracy of his knowledge over an unusually wide range.

He had been brought up in an atmosphere of natural history, and had been taught by his father to observe the phenomena of Nature. To this had been added a superb zoological training which gave him an unusually wide range for so young a man. His power of interesting himself in new medical subjects was the outcome of his agile mind, and I know no man who could put forward so luminous and accurate an account of some recent advance in medicine in which he had interested himself.

Unfortunately the last years of his life were haunted by perpetual ill-health, which lowered his vitality and made the work that he had previously loved a heavy tax on his failing strength.

THE late Lieutenant-Colonel HENRY JAMES MCLAUGHLIN, M.B., C.M.Edin., R.A.M.C., who died with tragic suddenness from heart failure on November 23rd, at his residence,

Westcot, Callander, was the youngest son of the late Michael McLaughlin, Captain, H.M. 35th Regiment of Foot (the Royal Sussex). He was educated at the Edinburgh Institution, and took his degree at the university of that city in 1877. After passing through Netley, he entered the Army Medical Service, being first attached to the 43rd (the Northamptonshire) at Cannanore, in which regiment his elder brother was Captain. The greater part of his time he served in India, but latterly he held appointments at various home stations. He retired in 1901 with the rank of Lieutenant-Colonel, and subsequently resided at Donne and at Callander. He was in his usual health on the evening of November 22nd, and attended the West Perthshire Unionist meeting in the Public Hall, Callander. His death, which occurred on the following morning, occasioned widespread regret. Much sympathy is felt with his widow, who is the only daughter of the late Mr. W. F. Kenmore, Advocate, Edinburgh.

YET another Indian Mutiny veteran has passed away in the person of Lieutenant-Colonel CHARLES EGBERT WIMOND BENSLEY, M.D, who died at North Kensington on December 5th, at the age of 75. He entered the Bengal Medical Department as an Assistant Surgeon, August 4th, 1856, becoming Surgeon, August 5th, 1868, retiring from the service in 1883. He had received the Indian Mutiny medal for his services in that campaign.

Medico-Legal.

WORKMEN'S COMPENSATION.

Fees for Medical Examination.

DR. R. J. COLLIE (London) writes: The only medical fees payable by an employer are the fees for the employer's *own* medical man attending to make the examination of the workman.

Paragraphs 4 and 14 of the first schedule to the Act provide that a workman *must submit himself for examination by* a duly qualified medical practitioner *provided and paid by the employer*. The wording is the same in both paragraphs.

I take this to mean, and it seems to me to be clear, that a workman must submit himself to the employer's medical man if required to do so, the employer paying the fee of the medical man whom he (the employer) selects for the purpose.

It seems to me that Dr. Brand is referring to what I should have thought was a somewhat unusual proceeding—that is, a workman submitting himself to his *own* doctor, who gives a certificate upon which the employer or the insurance company act. Of course, if an employer desires to have a certificate from the workman's doctor, he must pay for it, as the workman is not bound to furnish one, although he is bound to submit himself, if required, to the employer's doctor. It may be that employers and insurance companies find this course less expensive than providing their own doctor, and if they are satisfied with such a certificate instead of an examination by their own doctor, it is open to them to accept it. It is, of course, a matter of arrangement, but a workman cannot demand the right to furnish a certificate by his own doctor at the expense of his employer in lieu of submitting himself to examination by the employer's doctor.

DR. A. T. BRAND (Driffield, E. Yorks), writes: With regard to Dr. Bateman's comments, in your issue of the 11th, on my letter of December 4th, I beg to point out that it is clearly the intention of the Act that no unnecessary expense should fall upon the injured workman (indeed, it is hard enough that he should have to pay for medical attendance for injuries sustained in his employer's service), and that the employer should pay for what benefits himself alone. It is obvious that the employer should "desire" (the Act says "require"), an examination of his injured workman, since, without a medical certificate, the insurance company would not entertain his claim. As a matter of fact, this certificate, being indispensable, is invariably procured. As to "providing" the examiner, the acceptance of the certificate from the workman, after having handed it to him to be filled up, clearly implies the "provision" of the examiner; nor can it be of the slightest moment whether the examiner is the injured workman's personal attendant, or is a surgeon specially sent by the employer. The workman neither desires nor requires a certificate, why then should he pay for one? The employer alone requires one, and the Act says he shall pay for it. My object in bringing this matter before the profession is the fact that I have had trouble in getting these fees paid, and I should imagine others have had a similar experience. I found that the workman declines to pay because he thinks (and thinks rightly), that he ought not to pay for what is no concern of his: while the employer declines to pay because he thinks (and thinks wrongly) that the workman is responsible, under the mistaken notion that the latter is the one who benefits. Thus one is apt to fall between two stools, and get no fee! I offer to my medical brethren the following advice which is simple and satisfactory, since it will effectually obviate all friction and question as to the person responsible for the fee, *never grant a certificate without first receiving the fee for it*; to employers who boggle at paying the fee imposed upon them by the Act, I offer the suggestion that they should recover it from the insurance company, since their contract, in all probability, covers all liabilities including the medical examiner's fee.

Insanity following Trauma.

AJAX writes: A man, aged 40, fell and sustained a vertical fracture of the tibia into the knee-joint. During the time he was in bed he suffered from insomnia and slight depression, followed some ten weeks later by symptoms of insanity, which quickly cleared up. He returned to work, but within a week the mental symptoms returned in an aggravated form. Can this reasonably be looked upon as a case of traumatic insanity due to the shock of accident? There is to family history of insanity.

*** On consideration of the case as stated, it would not be unreasonable to suppose that the injury accelerated the development of an impending outbreak of insanity, or that it unmasked a disease which was already established. Our correspondent ought to satisfy himself as to the genuineness of the symptoms, the incapacity, and the relation of these to trauma.

GOODWILL.

INQUIRER wishes to know what is meant by the "goodwill" of a medical practice. This has been left to him without specification by a country practitioner who has resided in the same house for over thirty years, and is a distant relation.

*** "Goodwill" was defined by Lord Eldon in *Cruttwell v. Lye* (17 Ves. 335) "as nothing more than the probability that the old customers will resort to the old place." "Inquirer," therefore, can only claim to be permitted to carry on this practice in the place of the deceased. The executors are under a legal obligation not to interfere with him in so doing, and must allow him every reasonable facility. But he has no right to the drugs, instruments, carriages, book debts, etc., unless he purchases them, and it is not certain that he can claim the first option in buying them. It is possible that he might restrain the executors from selling or renting the house to another medical practitioner, but it is not certain that he could compel them to let or sell it to him. If he did not wish to carry on the practice and the goodwill were sold by the executors, he would, of course, be entitled to the price paid.

Public Health

AND

POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Newport.—Dr. Howard Jones, M.O.H., has issued his annual report to the members of the Newport (Mon.) Sanitary Committee. The number of inhabitants per house averaged 5·66, and he states that in spite of the fact that there was no scarcity in the number of dwellings in the borough, there was still an undoubted need for cheap cottages for the labouring classes in receipt of small wages. The births registered during the year numbered 2,504, or 32·3 per 1,000, which was 0·2 per 1,000 below the average for the previous ten years. The deaths registered were 1,238, or a death-rate of 15·9 per 1,000 per annum, compared with 16·8, the average death-rate for the past ten years. The infantile mortality was equal to 135·3 per 1,000, compared with 123·7 during the past ten years: 114 infants died before they were a month old, while 66 died within a week of birth. If this appalling death-rate had continued during subsequent weeks all the infants born in Newport during 1908 would have died within 38 weeks of their birth. After giving details of how children are improperly fed, he adds, "Such a record surely points to the necessity for some radical changes in the education of our girls, so that they may be better prepared for their life-work as mothers of the nation. It also shows the necessity for organized attempts at improving the standard of home and infant hygiene." The school for mothers has, he says, done excellent work, and was worthy of the support of all interested in promoting healthier and happier conditions of living for infants. The percentage of children vaccinated had fallen from 90·1 in 1902-3 to 70·5 last year. The Local Government Board had recently increased

the facilities for securing exemption certificates, and in a seaport town like Newport this was a very serious matter, and a great danger not only to the health of the community but to the financial prosperity of the town, for outbreaks of small-pox were very expensive. Dealing with milk supply, he says that a considerable number of small dealers had given up selling milk owing to their inability to comply satisfactorily with the requirements of the regulations. All the sources of water supply to the town were flood-water schemes, each liable to contamination from dwellings, etc. Sources of probable pollution still existed, especially on the Henllys and Newchurch streams, where cottage and farm drainage found its way into the streams. After referring to the careful supervision over the slaughterhouses in the borough, he stated that it was not possible to exercise supervision over animals slaughtered outside the borough and taken directly to butchers' premises or sold about the streets. Those who sold in the streets were not hawkers or pedlars, and were not registered. They should be required to obtain the permission of the local authority to sell perishable articles of food about the town, even though they were exempted from paying either taxes or rates. Altogether 37,834 lb. of meat was destroyed during the year.

NURSING IN WORKHOUSES.

THE unfortunate occurrence at Hemel Hempstead Workhouse, which led to the death of three inmates after they had been given baths, has been the subject of correspondence between the guardians, the Local Government Board, and the Workhouse Nursing Association. The latter body took the view that the persons really to be blamed were the guardians for making faulty arrangements in regard to sick nursing in the workhouse, and maintained that the fact that the clerk to the guardians was also clerk to the local justices had had an unfavourable influence on the original inquiry. The net outcome of the matter would seem to be a decision that a new nurse superintendent, as distinct from the matron of the workhouse, and two certificated nurses shall be appointed, and that the arrangements with regard to the bathing of inmates are to be overhauled. The Local Government Board sees no objection in the clerk to the guardians in this district holding more than one appointment.

POOR LAW SUPERANNUATION.

POOR LAW, whose age is 68, asks whether he will be entitled to superannuation if he now resigns his Poor Law appointments received in 1897, and if so, what is likely to be the amount awarded to him. The combined salaries amount to £95 a year with emoluments in addition.

*** As our correspondent is upwards of 65 years of age, and has completed twelve or thirteen years of Poor Law service, he will be entitled to receive as many sixtieths of his annual remuneration as his aggregate and completed years of service will number on the date of his retirement. The unit upon which this superannuation will be awarded will be reckoned by taking the average of all salaries and emoluments received by our correspondent for Poor Law services during his last five years of office.

HYPODERMIC INJECTIONS IN POOR LAW INFIRMARIES.

X. Y. Z. writes: Have the guardians the right to give directions that no sister in a Poor Law infirmary shall give (under written direction of the medical officer or assistant medical officer) a hypodermic injection to a patient, but that these shall be given by the medical officers themselves?

*** A board of guardians is acting within its powers in giving any such directions as will prevent minor operations in surgery being undertaken or performed in workhouses or infirmaries under their control by any unqualified person.

DR. J. BRINDLEY JAMES, of Hammersmith, has been nominated a medical officer for the purpose of the Elementary School Teachers' Superannuation Act, 1898.

THE President and Council of the Medical Graduates' College and Polyclinic gave a well-attended conversazione on December 10th. Various scientific demonstrations were given, including a lantern lecture by Dr. Bashford illustrating results recently obtained in the laboratories of the Imperial Cancer Research Fund.

HIS MAJESTY THE KING OF ITALY has conferred decorations upon the following officers, in recognition of their services with the field hospital at Catona after the earthquake in Sicily and Calabria last December: Major G. S. Crawford, R.A.M.C., to be Commander of the Crown of Italy; Captains H. S. Anderson, R.A.M.C., H. C. Winckworth, R.A.M.C., J. A. Lloyd-Jones, R.A.M.C., and R. Randon, Medical Officer, Royal Malta Artillery, to be Chevaliers of the same Order.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL. THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

VOX CLAMANTIS would feel greatly obliged for suggestions as to the best method of renewing the worn-out black marks on a clinical thermometer.

CHASSEUR, who has recently taken over a practice in the centre of a provincial pack's country, and is able to get half a day's hunting once a week, asks hunting doctors whether he is expected to subscribe at the full rate.

URTICARIA AFTER ALBUMEN WATER.

DR. RONALD T. HEIDMAN, M.B., C.M.Edin. (Crouch Hill, N.), writes: I was called to see a bottle-fed baby about 9 months old, who, during the last few days, had occasionally been sick, bringing up very curdled milk. As she had been sick after each of her feeds the morning I saw her, I ordered albumen water which was made very strong, the white of one egg in 3 or 4 oz. of water. Half an hour later I was called to see the child again. She was looking pale, and large red blotches were coming on her cheeks and forehead. While I was looking at her more appeared on her arms and legs and a few on the body. She seemed tired and uninterested in things, but not in pain. In less than an hour the spots had mostly disappeared, and the baby was much as usual. I have never seen this effect from egg albumen before and should like to know whether it was due to the strength of the solution or whether it is a common effect of albumen water. She has never had urticaria before or since.

ANSWERS.

POTABLE is informed that no notice can be taken of anonymous communications.

DIABETIC COOKERY BOOKS.

SUGAR.—Mrs. Ernest Hart's *Diet in Sickness and in Health* (London: The Scientific Press. 1895. 3s. 6d.), and Mrs. and Mrs. Poole's *Cookery for the Diabetic*, 3rd edition (London: Longmans, Green, and Co. 1898. 2s. 6d.) contain the information as to cookery for which our correspondent asks.

CONSTIPATION IN AN INFANT.

DR. F. A. V. DENNING (Sligo) writes: In reply to "M.D.," I would suggest the infant be given cream with some water. The mother probably is putting the fat on herself, and her milk is devoid of it; hence the constipation.

TREATMENT OF MUSCULO SPIRAL RHEUMATISM.

DR. H. D. MCCULLOCH (London, W.) writes: I beg to submit a reply to "Talbot's" query regarding treatment of musculospiral rheumatism (?) (*sic*), if chronic neuritis of this nerve is intended (BRITISH MEDICAL JOURNAL, November 27th, 1909, p. 1587). If the recent method of alcohol injections has had no effect, it would be well worth his while to try *x*-ray irradiation through leather filter over the course of the nerve by weekly applications, over 2 in. of its length each time. One milliampère of current should be kept passing through the focus tube, which is enclosed in a Belot's shield; the seance should last for fifteen minutes. The arm should be carried in a sling for the first month while under treatment, and a short course of local faradization finishes the treatment.

LETTERS, NOTES, ETC.

MESSRS. F. KIMBER, BULL, AND DUNCAN, solicitors, 6, Old Jewry, E.C., write to state that the Mr. Dudley Wright against whom an action was brought in the King's Bench Division on December 4th for the recovery of £150 in connexion with the rights of a book, entitled, *The Annals of Psychical Science*, is not their client; Mr. Dudley D'A. Wright, F.R.C.S., of Bentinck Mansions, W.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	15	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive posted *Restante* letters addressed either in initials or numbers.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

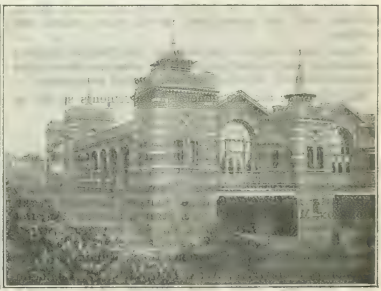
LONDON: SATURDAY, JULY 3, 1909.

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Royal Victoria Hospital, Belfast: South-west corner.



Royal Victoria Hospital, Belfast: South front.

THE SEVENTY-SEVENTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION,

BELFAST,

JULY 23RD TO JULY 31ST, 1909.

President:

SINCLAIR WHITE, M.Ch., F.R.C.S., Senior Honorary Surgeon, the Royal Infirmary, Sheffield.

President-elect:

Sir WILLIAM WHITLA, M.D., LL.D., Professor of Materia Medica and Therapeutics, Queen's College, Belfast.

Past-President:

HENRY DAVY, Hon.D.Sc., M.D., F.R.C.P.Lond., Physician, Royal Devon and Exeter Hospital, Exeter.

Chairman of Representative Meetings:

JAMES ALEXANDER MACDONALD, M.D., M.Ch., R.U.I., Physician, Taunton and Somerset Hospital.

Chairman of Council:

EDMUND OWEN, Hon.D.Sc., LL.D., F.R.C.S., Consulting Surgeon, St. Mary's Hospital, London.

Treasurer:

EDWIN RAYNER, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-seventh Annual Meeting of the British Medical Association will be held in Belfast in July, 1909. The President's address will be delivered on Tuesday, July 27th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 23rd, 1909.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by R. W. Philip, M.D., F.R.C.P.Edin., Physician, Royal Infirmary, and Royal Victoria Hospital for Consumption, Edinburgh.

The Address in Surgery will be delivered by Arthur Edward James Barker, F.R.C.S., Professor of the Principles and Practice of Surgery, University College, London.

The Address in Obstetrics will be delivered by Sir John W. Byers, M.D., Professor of Midwifery and Diseases of Women, Queen's College, Belfast.

The Popular Lecture will be delivered by Dr. J. A. Macdonald, Physician to the Taunton and Somerset Hospital, Chairman of the Representative Meetings.

THE SECTIONS.

The scientific business of the meeting will be conducted in fifteen Sections, which will meet on Wednesday, July 28th, Thursday, July 29th, and Friday, July 30th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the British Medical Journal *without special permission.*

The following are the general arrangements so far as they are yet complete:

Anatomy and Physiology.

President: Charles Scott Sherrington, M.D., F.R.S., Physiological Laboratory, University, Liverpool.

Vice-Presidents: Professor Thomas Hugh Milroy, M.D., F.R.S.E., Queen's College, Belfast; Professor Peter Thompson, M.D., King's College, Strand, London; Arthur Philip Beddard, M.D., F.R.C.P., 44, Seymour Street, Portman Square, London, W.; Professor Andrew Francis Dixon, M.B., D.Sc., 73, Grosvenor Road, Dublin.

Honorary Secretaries: Alex. Low, M.B., 142, Blenheim Place, Aberdeen; John Alex. Milroy, M.D., Queen's College, Belfast.

The following provisional programme has been arranged:

A discussion on the Deep Afferents, their Function and Distribution. To be opened by Professor C. S. Sherrington. The list of those who intend to take part in the discussion is not yet complete.

Papers.—The following papers have been accepted:

Dixon, Professor A. F., Dublin. The Anatomy of the Achondroplastic Skeleton.
Johnston, H. M., B.A., M.B., B.Ch., Dublin. Notes on the Distribution of the Intercostal Nerves.
Maclean, Hugh, M.D., Liverpool. Phosphatides in the Light of Modern Research.
Milroy, John Alex., M.D., Belfast. (1) Some Observations on the Staining of the Central Nervous System in Bulk with Aniline Dyes (with demonstration); (2) Some Metallic Derivatives of Haematoporphyrin.
Moore, Professor B., Liverpool. The Bio-Chemistry of Haemolysis.
Patten, Professor C. J., Sheffield. An Early Human Embryo.
Roaf, Herbert E., M.D., Liverpool. A Simple Method of Demonstrating Cholesterin in Bile.
Anderson, Professor R. J., Galway. (1) Some Results of the Uniformity of Action and Habit; (2) Some Characters that make for Persistence (having regard chiefly to the Skeleton).
Earle, H. G., and Goodall, Dr. J. Strickland (London). The Structure of the Pancreas in Relation to Function (illustrated by microscopic and lantern slides).
Scanes-Spicer, Robert H., B.Sc., M.D.Lond. Some Points in the Mechanics of Respiration: (1) The Significance of the Transverse Axis of Cricothyroid Rotation in Respiration; (2) The Variations of Stress, Strain, and Friction in the Throat and Larynx in Costal and Abdominal Breathing respectively.

Professor Peter Thompson (London) will give a demonstration of models illustrating three stages in the form of the human heart during the first month of development.

Dermatology and Electro-Therapeutics.

President: William Calwell, M.D., 6, College Gardens, Belfast.

Vice-Presidents: Robert Briggs Wild, M.D., 96, Mosley Street, Manchester Leslie Roberts, M.D., 46, Rodney Street, Liverpool.

Honorary Secretaries: James Harry Sequeira, M.D., F.R.C.P., 8a, Manchester Square, London; S. Ernest Dore, M.D., 26, New Cavendish Street, London; John Campbell Rankin, M.D., 38, University Road, Belfast.

The following programme has been arranged:

Wednesday, July 28th.—Introductory address by the President, Dr. William Calwell.

Discussion on Radium and Radio-therapy in Skin Disease. Dr. Louis Wickham, Head of the Radium Institute in Paris, will give a Lantern demonstration on the Treatment of Skin Diseases by Radium. Sir Malcolm Morris, K.C.V.O. (London), Professor Wild (Manchester), Dr. Pernet (London), Dr. Goodwin Tomkinson (Glasgow), Dr. Deane Butcher (London), Dr. R. W. Mackenna (Liverpool), Dr. Sequeira, and Dr. Dore have promised to take part in the discussion.

Thursday, July 29th.—9.30 a.m. Demonstration of Cases.

Discussion on the Mucous Membrane Lesions in Cutaneous Disease. To be opened by Sir Malcolm Morris, K.C.V.O. The frequent association of mucous membrane lesions with affections of the skin and their value in diagnosis will be special features, and the treatment of the commoner forms will be discussed. Dr. Wilfred Fox (London), and Dr. Campbell Rankin (Belfast) will take part in the discussion.

Friday, July 30th.—Discussion on the Supposed Risks attending the *X*-ray Treatment of Ringworm.

The special points on which discussion is invited are the possibility of injury to the cerebrum and idiosyncrasy.

Papers.—The following papers have been accepted:

Wild, Professor, Manchester. Acanthosis Nigricans.
St. George, Dr., Lisburn. Case of Acanthosis Nigricans, with sections.
Allworthy, Dr. S. W., Belfast. Case of Cutaneous Actinomycosis, with photographs.
Tomkinson, Dr. Goodwin, Glasgow. The Etiology and Treatment of Pruritus Ani.
Evans, Mr. Wilmott, London. Cheiropompholyx.
Fox, Dr. Wilfred, London. The Choice of a Salt for Mercurial Injection in Syphilis.
Hall-Edwards, Dr., Birmingham. On Idiosyncrasy and *X*-ray Treatment.
Morton, Dr. Reginald, London. Osseous Changes in Chronic *X*-ray Dermatitis.
Butcher, Dr. Deane. Electrical Treatment of Acne.
Jones, Dr. Lewis.
Hazelton, Dr. E. B., Sheffield. *X* Rays in Gynaecology.

Dr. Stopford Taylor and Dr. Mackenna (Liverpool) will show casts and photographs of skin diseases in the Museum.

DISEASES OF CHILDREN.

President: HAROLD J. STILES, F.R.C.S.Edin., 9, Great Stuart Street, Edinburgh.

Vice-Presidents: JOHN MCCAW, M.D., 74, Dublin Road, Belfast; RICHARD WHYTOCK LESLIE, M.D., "St. Heliers," Strandtown, Belfast; ROBERT CAMPBELL, F.R.C.S., 21, Great Victoria Street, Belfast.

Honorary Secretaries: ANDREW FULLERTON, F.R.C.S.I., 3, University Square, Belfast; JOHN WILLIAM SIMPSON, M.D., 19, Lansdowne Crescent, Edinburgh.

It is proposed to devote some portion of three of the days on which the Section meets to the discussion of the following subjects:

Wednesday, July 28th.—Club Foot. To be introduced by Mr. Robert Jones, F.R.C.S. The following have signified their intention of taking part in the discussion: Mr. J. H. Nicoll, Mr. Alex. McLennan, Mr. E. Laming Evans, Mr. Edmund Owen, Sir George Beatson, Mr. Maynard Smith, and Mr. A. H. Tubby.

Mr. ROBERT JONES will deal with the congenital type and its varieties. Equino-varus is the only variety which presents difficulty. A brief statement of the anatomy. Treatment varies with stage of disease, and may be manipulative, operative, separately, or in combination. Treatment, though started at birth, can only be completed by act of walking. On the action of the tendo Achillis in producing varus, and its prevention. On the rotatory deformities of the tibia and fibula and their early correction. The neglected and so-called "recurrent" case and its management. The causes of so-called "relapse" and its prevention. The importance of an accurate knowledge of the signs of recovery. Mr. Jones will confine his remarks mainly to methods adopted in his own clinic.

Thursday, July 29th.—Functional Neuroses in Children. To be introduced by Dr. J. A. Coutts. The following gentlemen will take part in the discussion: Mr. Sidney Stephenson and Dr. G. E. Shuttleworth.

Dr. COUTTS will deal with the following points: Functional neuroses of early infancy. Faulty deglutition. Congenital dyspnoea. Congenital tremor. Pyloric stenosis. Antecedents of functional neuroses in older children. Cyclic vomiting. Migraine. Tics. Head nodding and head banging. Chorea. Hysteria. Incontinence of urine and faeces. Lienteric diarrhoea. Night terrors. Somniloquence. Asthma.

Papers:

RAW, Dr. Nathan. Tuberculosis in Children.
NICOLL, Mr. J. H. Surgery of Infancy.
MCLENNAN, Mr. Alex. Madelung's Subluxation of the Wrists.
FORDYCE, Dr. A. Dingwall. Abdominal Tuberculosis in Young Children.
EDGINGTON, Mr. G. H. Case of Sarcoma of the Prostate in a Child.
POWER, Mr. D'Arcy. On the Value of New Tuberculin (TR) in Surgical Tuberculosis.
DUN, Mr. R. C.: The Association of a Patent Funicular Process with Certain Forms of Hydrocele; two cases of Median Hare-lip.
SMITH, Mr. Maynard. Exomphalos.
CARMICHAEL, Mr. E. Scott. Pneumococcal Peritonitis in Children, with a Record of Twenty Cases.
MONSARRAT, Mr. K. W. Acute Staphylococcic Osteitis.

HAEMATOLOGY AND VACCINE THERAPY.

President: Sir ALMROTH WRIGHT, M.D., F.R.S., 6, Park Crescent, Regent's Park, London, N.W.

Vice-Presidents: ALEX. GARDNER ROBB, M.B., 15, University Square, Belfast; THOMAS HOUSTON, M.D., 95, Great Victoria Street, Belfast; Captain STEWART RANKIN DOUGLAS, I.M.S., Inoculation Department, St. Mary's Hospital, London.

Honorary Secretaries: WILLIAM DUNLOP DONNAN, M.D., 12, High Street, Holywood, co. Down; DUDLEY W. CARMALT-JONES, M.B., B.Ch.Oxon., 73, Wimpole Street, London, W.

The following programme has been arranged:

Wednesday, July 28th.—Opening Address on Retrospect and Prospect by the PRESIDENT, of which the following is a synopsis:

Brief survey of the therapeutics of bacterial diseases, and of the development of therapeutic immunization out of prophylactic immunization. Anticipation that the method of passive immunization (serum-therapy) would furnish a general method for the treatment of generalized bacterial infections. Question as to how far this anticipation has been realized. Proposal that localized bacterial infections might appropriately be treated by active immunization (vaccine therapy). Subsequent suggestion that vaccine-therapy might be applied also to generalized infections. Brief synopsis of the results which have been achieved by this therapeutic method. Question as to what future extensions may be anticipated for the method depends upon whether the fundamental assumption of the method—that is, the assumption that the machinery of immunization can be called into action in every bacterial infection by a suitable dose of the appropriate vaccine—is well founded. Consideration of this question. Urgent need for further study of the physiology of the machinery of immunization. Possible applications of vaccine therapy in connexion with the secondary infections of scarlatina, small-pox, cancer, whooping-cough, and hay fever, and in connexion with the limitation of family and institutional epidemics.

Thursday, July 29th.—Discussion: The Early Diagnosis of Tuberculosis for the Effective Treatment of that Disease. To be opened by Professor CALMETTE, l'Institut Pasteur de Lille, with a paper of which the following is a synopsis:

(1) Experimental researches have shown that tuberculous infection is at first confined to glands, that its spread depends on the number and virulence of the bacilli, that if few they are destroyed or calcified in the glands, and that serious lesions are due to single massive or repeated small infections; early diagnosis is essential for cure. (2) Consideration of the relative value of cutaneous, conjunctival, and intradermo reactions in diagnosis; and, further, of those of "reactions of recrudescence," and humoral and phagocytic reactions. (3) Suggested routine employment of the above for the isolation of infected subjects.

Friday, July 30th.—Discussion: Bacterial Infections of the Respiratory Tract other than Tuberculous. To be opened by Dr. BORDET, who will deal with the micro-organism of whooping-cough. A cocco-bacillus was isolated in 1906 with definite cultural and staining peculiarities. Filtered cultures are non-toxic, but endotoxins are highly virulent and produce the essential symptoms of whooping-cough. Specific properties are present in the serum of convalescents, which may be demonstrated by the method of the fixation of complement.

The following papers have been accepted:

NOON, Mr. Leonard. The Site of Inoculation as Influencing the Immunity Produced.
GOLLA, Dr. The Antitryptic Index.
INMAN, Dr. The Value of the Opsonic Index in Diagnosis and Regulation of Treatment of Tuberculosis.
CARMALT-JONES, Dr. (1) Review of Inoculation Treatment of Tuberculosis, with Special Reference to Glands; (2) The Treatment of Bronchial Asthma by a Vaccine.
SMITH, Mr. Maynard. The Inoculation Treatment of Tuberculous Arthritis.
PATERSON, Dr. The Value of Inoculation in the Sanatorium Treatment of Phthisis.
WILLCOX, Dr. The Treatment of Pneumonia by Inoculation.
BENHAM, Dr. The Bacteriology and Vaccine Therapy of Common Colds.
HOUSTON, Dr. Typhoid Carriers.
FLEMING, Dr. The Inoculation Treatment of Acne Vulgaris.

Professor Sanfelice, of the University of Bologna, will give a demonstration of work on the Parasitology and Serum Therapy of Cancer.

HYGIENE AND PUBLIC HEALTH.

President: LOUIS COLTMAN PARKES, M.D., 61, Cadogan Square, Chelsea, London.

Vice-Presidents: SAMUEL AGNEW, M.D., Lurgan, co. Armagh; HENRY O'NEILL, M.D., 6, College Square East, Belfast; CHARLES KILLICK MILLARD, M.D., Town Hall, Leicester.

Honorary Secretaries: CHARLES PORTER, M.D., Public Health Department, Town Hall, Finsbury; WILLIAM MCLORINAN, L.R.C.P., 103, Antrim Road, Belfast; THOMAS CARNWATH, M.B., Town Hall, Manchester.

The following programme has been arranged:

Wednesday, July 28th.—Discussion: Compulsory Notification of all Forms of Tuberculosis. To be opened by Dr. Scurfield, M.O.H., Sheffield. Dr. Parkes (President of the Section) and others will take part in the discussion.

The following is a synopsis of the paper by Dr. H. SCURFIELD:

In the first part of his paper Dr. Scurfield gives an account of the use which is made of the compulsory notification of consumption in Sheffield, which came into force in November, 1903. Bacteriological examination of sputum is provided free of charge for medical practitioners in the city. Inspectors visit the notified cases, leave printed advice with them, advocate the use of the open window, supply pocket spittoons, and disinfect when necessary. Hospital accommodation is provided by the corporation for twenty males and twenty females for short periods of treatment, the principal object being to educate the patients and to select those who are suitable for prolonged sanatorium treatment. Hospital treatment on modern lines is also provided at the Sheffield Royal Infirmary, and by both boards of guardians. In Sheffield about one-third of the consumptives die in the workhouse hospitals. An open-air school has just been provided for delicate children. In the second part of the paper Dr. Scurfield points out the importance of analysing the total tuberculosis rate, so that the rate for males, females, and children may be given separately. Thus in the case of Sheffield there is nothing remarkable about the total rate, but when analysed it is found that the female rate is very low, and that the rate for males and children is high. He submits tables showing the rates for males, females, and children under 5 years of age in various English towns. He gives a comparison of the rates in Sunderland and Sheffield, and of the conditions which, in his opinion, affect those rates. He concludes with some comments on the tuberculosis rates in other towns, and the conditions which appear to affect them.

Thursday, July 29th.—Discussion: Latent Infections of the Diphtheria Bacillus, and Administrative Measures required for Dealing with Contacts (with the Laryngological Section). To be opened by Dr. Watson Williams (Bristol), from the clinical standpoint; Dr. Buchanan (Glasgow), from the bacteriological standpoint; Dr. Forbes (M.O.H., Brighton), from the administrative standpoint.

Dr. R. M. BUCHANAN will deal with the following points: (1) The latency of infection—general; (2) the variety of return cases—significance; (3) infection in contacts and school children and its frequency; (4) type, virulence, and persistence of the bacilli in the clinically unaffected; (5) the question of the infecting power, and the segregation of carriers.

The following is a summary of the points to be referred to in the paper by Dr. FORBES:

(*a*) Legal powers for dealing with contacts. (*b*) Action to be taken after a case of diphtheria has occurred, and has been removed from:—(1) Hospital ward: (Keep all children in bed; keep same staff on duty in ward and exclude visitors; admit no new cases; swab all children and staff: (*a*) if positive, isolate; (*b*) if negative, no treatment, reswab next day). (2) Home: (Exclude all children from school for four weeks, and, in addition, according to opportunity and home conditions, either have swabs taken from all members of the family or only from those who have or have had some suspicious symptoms. Cases giving positive results must be dealt with according to their surroundings; those in better-class families may be isolated at home, whilst those in poor families should be removed to an isolation hospital). These remarks apply mainly to children; generally speaking, diphtheria-carrying wage-earners are allowed to continue at work, unless that work will bring them in special contact with children or with food. (*c*) If case occurs and is isolated at home, the procedure is the same as in (*b*) (2), excepting that contacts are kept from school for four weeks from the time when all cases are free from infection. (*d*) School: closure seldom necessary. (*e*) Antitoxin injection for contacts usually inadvisable.

Friday, July 30th.—Discussion: The Discharge of Sewage Effluents into Tidal Waters. To be opened by Dr. Henry O'Neill, Sir P. R. O'Connell (Belfast), Professor Letts, and others will take part in the discussion.

In opening the discussion, Dr. HENRY O'NEILL, J.P. and a member of the City Council, Belfast, will point out that the problem of sewage purification in Belfast is one of more than ordinary difficulty owing to the sluggish tides and large areas of shallow water in the upper reaches of Belfast Lough, which favour the growth of *Ulva latissima*, a green seaweed, which, according to the investigations of Professor Letts, is an indication of sewage pollution. The subject has been under the consideration of the corporation for ten years. In the earlier experiments screened sewage was run on to double contact beds, under the impression that a moderate degree of purification would produce an effluent sufficiently good for discharge into the large volume of tidal waters of the Lough, but Professor Letts found that if the growth of the weed was to be considerably reduced, the effluent must be free, not only from ammonia, but from nitrates. Certain experimental contact beds treated with sewage which had been screened and treated for six or eight hours in a septic tank produced purification to the extent of 90 per cent. free and 75 per cent. albuminoid ammonia, but the beds rapidly silted up, and the area which would have been required would have been excessive. Percolating filter beds with revolving sprinklers dealing with screened and sedimented sewage yielded results highly satisfactory as regards economy, space, and freedom from silting up, but the effluent, though good, contained nitrates in quantity sufficient to provide food for the *Ulva*. Professor Letts found that by mixing the effluent from the percolating filter with about an equal quantity of septic sewage and treating the mixture in contact beds, the organic matter was oxidized at the expense of the nitrates in the filter effluent, and the total quantity of *Ulva* pabulum reduced. These experiments form the basis of an original scheme of purification applicable when a highly nitrified effluent is undesirable. Special contact beds are not necessary, as the storm-water filters can be used for the denitrifying process, which is suspended during storms. Two methods of disposal of the sludge are proposed: (1) At the main outfall works it will be conveyed to sea by steamer; (2) at the Sydenham outfall, as shallow water renders steamer disposal expensive and inconvenient, Dibdin's slate beds, which convert the sludge into an inoffensive humus, will be installed. It has also been proposed as regards the main outfall, to depend solely on screening, sedimentation, and sludge removal, effluent being discharged only during the first half of ebb-tide. Arguments in favour of this scheme are that the growth of *Ulva* would be reduced, that any weed could be collected as thrown on the beach and removed, it being thought that the expense of this would be a continually diminishing annual sum. A joint board of the Belfast, Holywood, and Castlereagh authorities had been expending £2,000 a year on the collection of the weed from the foreshore, some 20,000 tons being removed last year, but this plan was stopped in September owing to want of funds.

Papers.—The following have been accepted:

NIVEN, Dr., M.O.H., Manchester. Control of Tuberculosis in Cattle.

WYNNE, Dr. Darley Clonmel. Cattle Fairs and Tuberculosis.

CLARK, Dr. R. V., Assistant Medical Officer, Leeds.

WILSON, Dr. Isolation of *B. typhosus*.

EWART, Dr., Assistant M.O.H., Middlesbrough. Some Features concerning the Sewage Pollution of an Estuary.

BUCHAN, Dr., M.O.H., Isleworth. Typhoid Pollution of Mussels, etc.

MCWEENEY, Professor. Mode of Detecting Bacillus Carriers.

PATERSON, Dr., Assistant M.O.H., St. Helens. Measles in Schools in a recent outbreak at St. Helens.

GILCHRIST, Dr. Endemicity of Influenza.

STORY, Dr., Dublin. Neglect of Physical Education in Primary and Secondary Schools.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

President: STCLAIR THOMSON, M.D., F.R.C.P., 28, Queen Anne Street, London.

Vice-Presidents: ERNEST BLECHYNDEN WAGGETT, M.B., 45, Upper Brook Street, London, W.; HENRY SMURTHWAITE, M.D., 8, St. Mary's Place, Newcastle-on-Tyne; J. A. KNOWLES RENSHAW, M.D., 11, St. John Street, Manchester.

Honorary Secretaries: HAROLD SHUTTLEWORTH BARWELL, F.R.C.S., 55, Wimpole Street, London; JOHN STODDART BARR, M.B., 13, Woodside Place, Glasgow; HENRY HANNA, M.B., B.Sc., 57, University Road, Belfast.

The following subjects have been selected for special discussion:

Wednesday, July 28th.—The Treatment of Tinnitus Aurium. (1) Dr. Thomas Barr (Glasgow); (2) Mr. Richard Lake (London).

The following is a synopsis of the remarks to be made by Dr. THOMAS BARR (Glasgow) in opening the discussion:

The paper, by arrangement with Mr. Richard Lake, deals solely with non-operative treatment. It is pointed out that the tinnitus aurium is merely a symptom, and effective treatment must depend on a correct knowledge of the condition underlying it. Hence, thorough examination of the organ of hearing by all the subjective and objective methods is a primary essential. After brief reference to cases depending on accumulation of wax, Eustachian obstruction, removable fluids in the tympanum, and other conditions in which tinnitus can be readily cured or alleviated by well-known methods, the author deals with cases where tinnitus persists after such methods of treatment or where no definite lesion can be shown, by objective examination, to exist in the ear. In this connexion emphasis is placed on the importance of attention to the state of the general health, and the influence of coexisting systemic disease is shown, as also that of mental attitude, personal habits, climate, and special drugs, and external applications. The special treatment indicated for the pulsating forms of tinnitus is considered. The value of *Ton-behandlung* is next discussed, this being the influence exerted upon certain subjective sounds in the ear, mainly of a musical character, by objective sounds from a tuning-fork. With reference to electrical treatment, it is pointed out that the apparently good effects from the high frequency currents reported a few years ago do not seem to have been borne out by further experience. In discussing the effects upon tinnitus of naso-pharyngeal treatment it is shown that the establishment of good nasal breathing and a healthy condition of the naso-pharyngeal mucous membrane often leads to the disappearance or mitigation of the symptoms, but that, on the other hand, it may be aggravated by ill-directed treatment of the naso-pharyngeal order.

Mr. LAKE will deal with the operative treatment: first, what may be termed remote operative, in the form of intranasal treatment, lumbar puncture, and ligation of the carotid artery; afterwards tracing the gradual evolution of the course of operative interference from simple removal of one or more of the ossicles or adhesions, etc., the simple opening or perforation of the labyrinth, its complete ablation, to the division of the auditory nerve itself; he will also endeavour to point out the lines which may be useful in attempting to decide when to operate and what operation to select.

Thursday, July 29th.—Latent Infections of the Diphtheria Bacillus, including the Administrative Measures required for dealing with Contacts. (In association with the Section of Hygiene and Public Health.) (1) Dr. Robert M. Buchanan (Glasgow); (2) Dr. Duncan Forbes (Brighton); (3) Dr. P. Watson Williams (Bristol).

Dr. WATSON WILLIAMS will open the discussion from the clinical standpoint:

If diphtheria may be defined as any pathological condition, local or general, due to infection by specific diphtheria organisms, diphtheria is "latent" when such pathological conditions are unaccompanied by obvious illness. The impinging of diphtheria bacilli on the nasal or oral mucous membrane without any local reaction, though not a true infection, is clinically a form of latent diphtheria. Latent diphtheria infections may be grouped under three heads: (1) Patients who afford none of the usual clinical indications of diphtheria, are not definitely ill, and yet are found to be anaemic, have increased pulse tendency, are poorly in association with nasal catarrh, membranous rhinitis, faucial redness, and slight subacute tonsillitis, otorrhoea, sores, etc., which on bacteriological examination prove to be diphtheritic. (2) Cases with any of these diphtheritic lesions, but with no general symptoms of ill-health. (3) Persons who present no local lesions, and no departure from normal health, but in whom diphtheria bacilli have been found by culture tests. In practice latent diphtheria is met with affecting the nasal cavities, the fauces and mouth, the external auditory meatus, the skin, genital organs. There is no characteristic symptom or sign of a latent diphtheria, for in their clinical aspects they are indistinguishable from similar non-diphtheritic lesions of the same territories. Pseudo-membranous lesions of the mucous membrane of the upper air tract may be non-diphtheritic or diphtheritic. The only crucial test by which latent diphtheritic infection can be determined is the bacteriological test. Examples of latent diphtheria will be cited, and various methods of treatment discussed.

Friday, July 30th.—The Treatment of Cicatricial Stenoses of the Larynx and Trachea. (1) Dr. H. Lambert Lack (London): (2) Dr. Delsaux (Brussels); (3) Dr. Bryson Delavan (New York).

Dr. H. LAMBERT LACK will deal chiefly with cicatricial stenosis of the larynx in children as the result of tracheotomy for diphtheria. In nearly every case the tracheotomy tube was introduced through the larynx at the original operation, and this is considered to be the cause of the subsequent stenosis. In some cases the stricture was fibrous and limited to the soft parts, in others the laryngeal cartilages were extensively destroyed and the stricture almost impermeable. The first indication of treatment is to remove the tube from the larynx by performing a low tracheotomy and inserting the tube in as low a part of the trachea as can be reached. In cases seen early this alone will suffice to effect a cure. Where extensive stenosis is present and the above treatment fails, the larynx should be opened, the cicatricial tissue excised, and the case carefully watched. The various means of dilating the larynx by passing a solid plug upwards from the tracheotomy wound and by inserting a T-shaped cannula are described and condemned. The author's experience of intubation is also unfavourable. Two illustrative cases are described and some statistics given.

The following is a synopsis of Dr. DELSAUX'S (Brussels) remarks:

Laryngo-tracheostomy means the formation in the larynx and upper part of the trachea of an opening such that it may either be left permanently or used for a very long period. Nearly all cases of cicatricial stenosis of the upper air passages (including syphilitic stenosis and stenosis due to perichondritis) are remediable by this operation, but it should not be undertaken in cases due to lupus. The teeth, gums, and mouth receive careful attention before operation, which must not be undertaken so long as the temperature is abnormal or in the presence of catarrh of the trachea or bronchi. As a rule, general anaesthesia is procured, but local analgesia by the infiltration method of Schleich is also employed, though there are objections to its use. The operation is divided into six stages: (1) Incision of the skin, (2) section of the cartilages of the larynx and trachea, (3) suture of the larynx to the skin, (4) division of the cicatrix and excision of its tissues, (5) insertion of a cannula fitted with a dilating drain tube, (6) dressing of the wound. Further particulars are reserved for my full address. The after-treatment is quite as important as the operation itself. Dilatation at the commencement must not be rapid, very supple india-rubber tubes being used, and their calibre gradually increased until it surpasses the normal diameter of the contracted area by as much as 2 mm. in a child and 3 mm. in an adult. Before closing the artificial opening the patient must be gradually habituated to breathing without a cannula and without a tube, at first for a few minutes at a time. As a rule the opening should not be closed for several months after the initial operation. When closed it must be entirely and thoroughly closed. If the opening be large, the method of Gluck may be used, the opening being covered in by two unequal flaps; or, better, by shutter flaps at different levels carefully sutured together in the middle line. When the opening is small it can be closed by the plastic operation usually employed in closing an ordinary tracheotomy wound. Among 60 patients operated on in this fashion there have been six deaths, of which three took place during the after-cure. There have also been two failures, one being in a patient with tubercle of the larynx, and the other a syphilitic case. In the remaining 52 cases, 10 in whom the final plastic operation had been completed, are entirely cured, and up to the present no case of recurrence of stenosis has been reported. In the other cases either the process of dilatation is still going on, or the plastic

operation for the closure of the opening is about to be performed. Usually the patients can make themselves easily understood, and some have even recovered their voices owing to re-formation of the vocal cords (Fraenkel). Laryngo-tracheostomy is the operation to be preferred in the treatment of cicatricial stenosis of the upper air passages. It is an operation attended by little risk, and should become the routine method of dealing with these cases.

It is proposed this year to arrange a special exhibition of skiagraphy in relation to diseases of the upper air and food passages. Members are requested to send in the titles and descriptions of any skiagraphs they propose to contribute to Dr. Hanna at once. Every care will be taken of negatives and prints, which should be carefully labelled with the owner's name and address.

MEDICINE.

President: Professor JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., 3, Queen's Elms, Belfast.

Vice-Presidents: ARTHUR FOXWELL, M.D., F.R.C.P., 47, Newhall Street, Birmingham; JOSEPH FRANCIS O'CARROLL, M.D., F.R.C.P.I., 43, Merrion Square, Dublin; LAURISTON ELGIE SHAW, M.D., F.R.C.P., 64, Harley Street, London; WILLIAM BAIRD MCQUITTY, M.D., 8, College Square East, Belfast.

Honorary Secretaries: JOHN SMYTH MORROW, M.D., Eia House, Antrim Road, Belfast; LEWIS ALBERT SMITH, M.D., 25, Queen Anne Street, London, W.; JOHN ELDER MACILWAINE, M.D., 55, University Road, Belfast.

The following subjects have been chosen for discussion and demonstration:

1. Wednesday, July 28th.—Angina Pectoris. To be opened by Sir T. Clifford Allbutt, K.C.B. The following will take part in the discussion; Professor Osler, Sir T. Lauder Brunton, Dr. A. Foxwell, Dr. Alexander Morison, Professor Hugo-Marcus (Nice), Dr. W. K. Hunter, Dr. W. Gordon, and Dr. Nathan Raw.

Sir CLIFFORD ALLBUTT, K.C.B., proposes at the outset of the discussion on angina pectoris to ascertain precisely what is to be discussed, and in what terms. He will urge concerning this malady that precision both of terms and of substance is especially needed, for no disease has been more obscured by factitious notions or more confused by false analogies and erratic conjectures. Yet in all medicine there is no disease which presents a clearer image to the observant eye, nor one more conspicuously detached from the clinical jungle. If its characters are confused we have confused them by equivocations; if its type is blurred it has been distorted by counterfeits. If angina pectoris be looked at simply, without prepossession and with discrimination, its features will come into focus and the type will take fairer definition. On the threshold the speaker finds himself confronted by sophists who say bluntly that angina pectoris is not a disease, but a symptom or "symptom group"; it is here, indeed, that the sophistry begins, for this argument is but a play of words. "A symptom" angina pectoris certainly is not, for it is manifold; a symptom group it is, no doubt, or rather a symptom process, or procession. Now a symptom-group, or procession of symptoms negative and positive, which recurs in mankind with fair uniformity, must be due to causes correspondingly uniform. That genuine angina pectoris may occur with the heart, lungs, and kidneys intact, is at last reluctantly admitted by physicians who have studied the data; and if so the essential, as apart from contingent causes, must lie outside these organs. The opener will divide angina pectoris into angina minor and angina major, and the symptoms of the two degrees will be compared. "Pseudo-angina" he intends to dismiss as pseudol diagnosis, and to relegate these cases to the Vaso-vaga-class of Gowers, Vasomotor oscillations commonly occur in angina pectoris it is true, and in two main but incidental relations: first as determinants, when by changes of blood pressure attacks are provoked or mitigated; secondly, as consequences of acute impressions reaching the nerve centres by afferent paths. The speaker will proceed to appreciate the current hypotheses of angina pectoris, pointing out the diversity of these irreconcilable and often mutually destructive explanations. He will then advocate again his own interpretation, first published in 1894, and frequently and formally repeated since without effect upon medical opinion, although at length it has been fully accepted by Josué, in a paper published last November. This interpretation is that the origin of angina pectoris lies not in the heart but in the supra-sigmoid portion of the aorta; that the oppression of angina minor is seated in this place; and that in angina major the referred pains still originate here, but, as in the degrees of their severity they force successive centres, they radiate over more and more extensive areas. That, as concerns fatality, angina pectoris, neither in its minor nor in its major forms, is directly fatal; that indeed in many, perhaps in the majority, of major and minor cases taken together, death, if it occurs, is due to co-operating causes; that in a large number of cases, whatever the issue of co-operating lesions, such as valvular or myocardial disease, the anginous lesion is healed, or, at any rate, the symptoms cease; and, furthermore, that not a few cases of angina pectoris, even of the major variety, end in complete recovery; that when death is directly attributable to the angina it is due to vagus inhibition, such as is prone to happen, for example, in surgical operations about the root of the lungs or the brachial plexus, or to be induced by some other intense peripheral irritation, as in the genitalia. Finally, that, although a sound heart may be inhibited to the point of death, this very rarely happens; and that in nearly all cases in which the heart fails to disengage itself from the inhibitory interference, the myocardium, whether by coronary disease, by toxic influence, or otherwise, was previously unsound.

2. Thursday, July 29th.—The Medical Aspects of Athleticism. To be opened by Dr. Tyrrell Brooks (Oxford), Dr. Clement Dukes (Rugby). The following will take part in the discussion: Sir Clifford Allbutt, Sir T. Lauder Brunton, Sir James Barr, Dr. Watson Williams, Dr. A. Foxwell, Dr. Chalmers Watson, Dr. Gordon Gullan, and Dr. Clive Riviere.

Dr. TYRRELL BROOKS (Oxford) in introducing the discussion will deal with the following points:

(1) Athletics, (*a*) at school, (*b*) at the university; what amount of medical supervision is practicable? (2) The dangers of athletics during convalescence. (3) Physical training and athletics. (4) The moral aspect of athletics. (5) The duties of the profession, (*a*) to the individual, (*b*) to the race with reference to physical development.

The following is a synopsis of the remarks to be made by Dr. CLEMENT DUKES (Rugby):

(1) The Greeks aimed at, and attained, by their well-regulated physical training, the highest perfection of the human form, which also influenced the moulding and elevation of the mind. (2) The strength and wisdom of the next generation depend upon the mental and physical development of the present, for the intellectual value of exercise is as great as its physical value. (3) Athleticism is the "intemperance" of physical exercise, which is injurious to the not fully-grown body. (4) Physical examination and medical direction are necessary to avoid this, so that the feeble may be strengthened by well-regulated exercise, and the strong not injured by unwise and prolonged exertion. (5) How to obviate the evils of athleticism, and in what they consist. (6) Classical instances will be given of the defects of athleticism, and of the difficulties in their correction. (7) Ideal rules for the prevention of the harm occasioned by athleticism. (8) The practical rules in force now at Rugby to obviate these defects, and how they have worked; such rules are necessary to control the impulsive nature of youth, and they should be enforced.

3. Friday, July 30th.—Demonstration on Gastric Illumination by Dr. Theodore Thompson and Dr. H. S. Souttar.

The following papers have been accepted:

SAMWAYS, Dr. D. W., Mentone. Misconceptions concerning the Riviera.
GORDON, Dr. W., Exeter. The Influence of Soil on Phthisis, as illustrating a neglected principle in Climatology.
MAGUIRE, Dr. W. J., Belfast. The Value of Mental Symptoms in Diagnosis.
RIVIERE, Dr. Clive, London. A Natural Experiment in Cardiac Strain.
HUGO-MARCUS, Dr., Nice. The Treatment of Syphilis by Intravenous Injections.

RAW, Dr. Nathan, Liverpool. Bovine Tuberculosis in the Human Subject.
GULLAN, Dr. Gordon, Liverpool. Hour-glass Stomach.
LAWSON, Dr. David, and GETTINGS, Dr. G. T., Banchory. The Oral Administration of Tuberculin TR.
STEWART, Dr. Purves. The Technique and Results of Schlösser's Method of Treatment of Tic-douloureux.
ROLLESTON, Dr. H. D. Pruritis in Lymphadenoma.
EVE, Dr. Frank C. A Case in which Glycosuria was only to be Inferred from the Presence of Gas and Bacilli in the Urine.

NAVY, ARMY, AND AMBULANCE.

President: Fleet Surgeon J. LLOYD THOMAS, R.N.

Vice-Presidents: Inspector-General ROBERT BENTHAM, R.N. (retired), 22, King's Avenue, Ealing, London, W.; Lieut.-Colonel R. PORTER, M.B., R.A.M.C., P.M.O., Station Hospital, Military Barracks, Belfast; Colonel THOMAS H. HENDLEY, I.M.S., C.I.E., 4, Loudon Road, London, N.W.

Honorary Secretaries: Captain M. LOWSLEY R.A.M.C., St. Michael's Road, Aldershot; Captain HERBERT HUGH BLAIR CUNNINGHAM, M.D., F.R.C.S., 69, University Road, Belfast; Staff Surgeon EDMUND COX, M.B., R.N., The Royal Naval Hospital, Chatham; Captain WILLIAM SALISBURY-SHARPE, M.D., R.A.M.C.T., 6, Cleveland Terrace, Hyde Park, London, W.

The following papers have been accepted:

Wednesday, July 28th:

HENDLEY, Colonel T. H., C.I.E., I.M.S. Contrast between the Treatment of the Wounded under the Moghul Emperors and King Edward VII, Emperor of India.
JAMES, Colonel H. E. R., F.R.C.S., R.A.M.C. The Medical Branch of the Officers' Training Corps.
STORY, J. B., M.B., M.Ch., F.R.C.S.I., Dublin. Physical and Moral Effects of Military Training.
PORTER, Lieutenant-Colonel R., M.B., C.M., R.A.M.C. Short paper with a practical demonstration on Physical Training of Recruits in the Army.

Thursday, July 29th:

CRAWFORD, Major, G. S., R.A.M.C. On the Beneficial Results of Recent Sanitary Work in Malta.
BASSETT-SMITH, Fleet Surgeon, P. W., R.N. Modern Methods of Laboratory Diagnosis of Syphilis.
LAMBKIN, Colonel F. J., R.A.M.C. Probable Effects in the Services of the New Treatment of Syphilis by means of Organic Arsenical Compounds.

Friday, July 30th:

MAHON, Staff Surgeon F. F., R.N. On the First-Aid Relief rendered after the Messina Disaster.
WALLIS, Staff Surgeon J. G., R.N. A detailed scheme for an Unexpected Landing Party using Material available on Board Ship.
CARVELL, J. M., M.R.C.S., L.S.A., Surgeon, St. John Ambulance Brigade. Existing Ambulance Organization of the Home Railway Companies.
RIVERS, W. C. L.R.C.P., M.R.C.S., D.P.H., Newcastle-on-Tyne. Rhinology as an Aid to Diagnosis of Pulmonary Tuberculosis.

OBSTETRICS AND GYNAECOLOGY.

President: JOHN CAMPBELL, M.D., F.R.C.S., Crescent House, University Road, Belfast.

Vice-Presidents: ROBERT ALEXANDER GIBBONS, M.D., 29, Cadogan Place, London; JOHN SINGLETON DARLING, M.B., High Street, Lurgan; CHARLES EDWIN PURSLOW, M.D., 192, Broad Street, Birmingham; EWEN JOHN MACLEAN, M.D., 12, Park Place, Cardiff.

Honorary Secretaries: HENRY THOMAS HICKS, F.R.C.S., Derby; ROBERT JAMES JOHNSTONE, M.B., F.R.C.S., 14, University Square, Belfast.

The Committee have thought it well to select two chief subjects for discussion:

Wednesday, July 28th.—1. The Treatment of the Graver Forms of Puerperal Sepsis. To be introduced by Dr. Thomas Wilson (Birmingham).

The following is a synopsis of Dr. T. WILSON'S paper opening the discussion:

Since the days of Semmelweiss the theory of puerperal fever has been placed upon a sound basis, with the result that the disease has been practically abolished in properly conducted lying-in institutions. In spite of this the mortality, and therefore probably the morbidity, from this affection have remained undiminished. The cases are scattered, and only here and there provision is beginning to be made for collecting them in hospitals or other institutions suitable for research and effectual treatment. As a consequence, the best treatment remains in many directions undetermined. It is now universally agreed that puerperal fever is due to infection of wounds and raw surfaces arising in parturition, the most common points of entry of the germs being at the placental site and through lacerations of the cervix and vagina. Many different germs have been proved to be exciting causes of the disease. Grave cases of puerperal fever may be defined as those which endanger the life of the patient, and as in the worst cases the *Streptococcus pyogenes* is the organism most frequently found, the discussion will chiefly be limited to this infection, which varies in gravity from slight and passing local inflammations to the most severe and rapidly fatal blood poisoning; in individual cases rapid and unexpected changes, either for better or worse, frequently occur. The indications for treatment are, first, to attempt to limit the entry and spread of the infecting organisms, and, secondly, to support the patient. The most important point is that immediate and effective treatment should be undertaken without the least delay on the appearance of the first indication of infection, which is usually a rise in temperature, most frequently occurring on the second or third day after delivery. When the temperature exceeds 102° F. a careful examination of the patient should be made, and this will include an examination of the lochia and, if possible, a digital exploration of the uterus. Opinions differ as to the relative value of digital evacuation as compared with curetting, and of copious intrauterine douching as opposed to swabbing with strong antiseptics. The advocates of douching and strong antiseptics also disagree as to the best drug to employ. Observers are more in accord on the necessity for rest, for a suitable nourishing diet, and for attention to the excretory functions. The places of alcohol and quinine in the treatment are still unsettled. Injections of antistreptococcus serum have generally proved disappointing, and treatment by vaccines is still too recent and has been employed in too few cases for the formation of a valid opinion. Collargol has given favourable results in the hands of some practitioners, but has frequently proved disappointing. There is general agreement that pus should be let out at the earliest possible moment by the nearest route. In peritonitis incisions and drainage through the posterior vaginal vault and abdominal wall have been employed with no very satisfactory result. Abdominal or more frequently vaginal hysterectomy has been employed with a fair amount of success in certain conditions, such as infected fibroids or infected rupture of the uterus, but in ordinary cases of puerperal infection these operations have generally proved disappointing. Where the infection has spread along the veins, giving rise to phlebitis with no obvious secondary deposits, the veins have been ligatured or removed through the peritoneal cavity or by a subperitoneal operation. Diagnosis of these cases is difficult and the indication for operation uncertain, and hitherto the number of recorded successful cases small. Patients who are gravely septic bear anaesthetics and operations very badly, and, on the other hand, recovery often takes place without the aid of surgery in cases that appear practically hopeless.

Thursday, July 29th.—2. Endometritis. To be introduced by Dr. E. Hastings Tweedy (Dublin).

Dr. HASTINGS TWEEDY will introduce the discussion on endometritis on the following lines:

(1) Eliminating histological considerations, he will classify endometritis anatomically into corporeal and cervical, clinically into acute and chronic. (2) Briefly mention the origin, course, and symptoms of acute endometritis. (3) Treatment in detail of acute endometritis, comprising vaccines from cultures, douches, gauze drainage, manual exploration, and the very occasional use of the blunt flushing spoon curette, condemning entirely the use of the sharp curette. (4) Definition of cases classified as chronic endometritis—that is, all other non-malignant diseases of the endometrium. (5) The underlying causes, and the necessity of treating them. (6) Consideration of the indications and proper method of curettage, with causes of failure. Under indications is placed the symptomatology and mention made of the frequency of deferred

symptoms. (7) Possibility of rupturing the uterus, and its proper treatment when recognized. (8) Frequent local treatment following curettage considered unnecessary and harmful. (9) Local treatment other than curettage and medical treatment. (10) He will insist on curettage before all cervical or vaginal operations and operations for displacement. (11) Treatment of endocervicitis by caustics, astringents, cauterization, etc.

Friday, July 30th.—Consideration of the Report of the Ophthalmia Neonatorum Committee (jointly with the Section of Ophthalmology). Reading of papers.

The following have accepted invitations to assist at the deliberations of the Section: Professor Fehling (Strassburg), Professor Jacob (Brussels), and Professor Whitridge Williams (Baltimore).

Drs. Herman and Roberts (London), Jardine and Munro Kerr (Glasgow), Donald and Stanmore Bishop (Manchester), Jellett and Alfred Smith (Dublin), are expected to take part in the discussions.

The following papers have been submitted:

FEHLING, Professor. On Caesarean Section and Pubiotomy.
WILLIAMS, Professor Whitridge. On the Frequency and Clinical Significance of Funnel-shaped Contraction of the Pelvis.
AUSTIN, J. J., M.D., Belfast. Midwifery in Private Practice: A Criticism of Method Based on Actual Results.
CAMERON, Murdoch, M.D., Glasgow. Cases of Dystocia due to Ventrifixation of the Uterus.
CAMERON, S., M.B., Glasgow. Surgical Treatment of Chronic Salpingitis.
HICKS, H. T., F.R.C.S., Derby. Chorion Epithelioma following nearly Full-term Delivery.
KLEIN, J. M. Munro, M.D., Glasgow. Frequency of Adeno-carcinoma of the Body of the Uterus in Fibroid Tumours of that Organ, based on a Series of 160 Cases of Abdominal Hysterectomy.
MCILROY, H. Louise, M.D. Development of the Epithelial Elements of the Ovary.
SAVAGE, Smallwood, M.B., F.R.C.S. An Ovarian Tumour, Clinically Malignant, arising from the Overgrowth of Luteïn Cells.
THORNE, Miss May, F.R.C.S.I. Pregnancy and Labour after Ventrifixation of the Uterus.

In the Pathological Part of this Section, Cancer of the Uterus has been chosen as one affording a wide scope for the exhibition of Specimens, Photographs, Microscopic Slides, etc.

These, with any others of interest, will be exhibited in the Pathological Museum.

OPHTHALMOLOGY.

President: JOHN WALTON BROWNE, M.D., 10, College Square North, Belfast.

Vice-Presidents: ARTHUR W. SANDFORD, M.D., 13, St. Patrick's Place, Cork; WILLIAM MARCUS KILLEN, M.D., 9, Clifton Street, Belfast; ALEX. HILL GRIFFITH, M.D., 17, St. John Street, Manchester.

Honorary Secretaries: JAMES ANDREW CRAIG, F.R.C.S., 11, University Square, Belfast; LESLIE JOHNSTON PATON, F.R.C.S., 1, Spanish Place, Manchester Square, London.

The subjects chosen for discussion are:

1. Eye Injuries in their Relation to the Workmen's Compensation Act. To be opened by Drs. Freeland Fergus (Glasgow) and Shaw (Belfast).

2. The Diseases of the Lymphoid Tissue of the Conjunctiva. To be opened by Professor R. Greef (Berlin), Mr. Treacher Collins (London), and Dr. Nelson (Belfast).

In his paper, Mr. TREACHER COLLINS will deal with the following points:

The contagious character of trachoma; the "trachoma bodies"; the contagion not air-borne but due to transference of moist discharge; the adenoid layer of the conjunctiva the chief seat of reaction and the centre of the follicles the position in which the toxin is most intense; "elementary or primary granulations"; trachoma a non-pyogenic disease: essentially a chronic disorder; acute symptoms when present due to mixed infection; natural destruction of trachoma follicles by rupture, by absorption, and by strangulation from new formation of fibrous tissue; "Stellwag's brawny oedema"; similarity of the palpebral conjunctiva in the late stages of trachoma to skin; possibility of curing early cases of trachoma without new formation of fibrous tissue; pannus the result of abrasion of corneal epithelium and infection; treatment of trachoma (*a*) by rupture or instrumental removal of follicles—expression, Galezowski's excision of the retrotarsal fold, Kuhnt's removal of tarsus and conjunctiva; (*b*) by stimulating absorption of follicles—copper sulphate, jequiritol, *x* rays, kataphoresis; (*c*) by stimulating formation of fibrous tissue—*Gratarge*. Conditions other than trachoma with follicular enlargements: (*a*) atropine and eserine irritation, (*b*) simple folliculosis, (*c*) muco-purulent ophthalmia and follicles. Conditions resulting in fibrous tissue formation simulating that produced by trachoma, (*a*) tubercle, (*b*) pemphigus, (*c*) spring catarrh, (*d*) membranous ophthalmia, (*e*) burns.

The following papers have been accepted:

HINSHELWOOD, James, M.A., M.D. Case of Sarcoma of the Choroid.
POLLOCK, W. B. Inglis. Visual Acuity of School Children.

PATHOLOGY.

President: Professor WM. ST. CLAIR SYMMERS, M.B., Queen's College, Belfast.

Vice-Presidents: WALTER SYDNEY LAZARUS-BARLOW, M.D., Cancer Research Laboratory, Middlesex Hospital, London; ARTHUR EDWARD MOORE, M.B., Castlemahon, Blackrock, Cork; ASTLEY VAVASOUR CLARKE, M.D., 37, London Road, Leicester; Professor I. WALKER HALL, M.D., 9, Royal Park, Clifton, Bristol.

Honorary Secretaries: ALFRED EDWARD BARNES, M.B., 348, Glossop Road, Sheffield; OTTO F. F. GRÜNBAUM, M.D. 34, Wimpole Street, London, W.; WILLIAM JAMES WILSON, M.D., Pathological Laboratory, Queen's College, Belfast.

Thursday, July 29th.—Discussion: The Early Diagnosis and Treatment of Tuberculosis (jointly with the Section of Haematology and Vaccine Therapy).

Wednesday and Friday, July 28th and 30th.—The following papers have been accepted:

ROBERTSON, Dr. W. Ford, and Dr. M. C. W. YOUNG. On the Protozoan Origin of Tumours.
LAZARUS-BARLOW, Dr. W. S. Radio-activity and Carcinoma.
MCWEENEY, Professor E. J., M.D., F.R.C.P.Dub. On the Use of Coloured Media in the Detection and Differentiation of Bacilli of the Typho-coli Group.
WILSON, Dr. W. James. On Heterologous Agglutinins.
WHITE, Dr. C. Powell, Manchester. Carcinoma of the Testis in an Infant.
GRÜNBAUM, Professor, Leeds, and Professor SYMMERS, Belfast, will also make contributions.
CHAMBERS, Miss Helen. Tumours of the Thyroid.
ROWNTREE, Dr. Cecil. Xray Carcinoma.
BECKTON, Dr. Henry. The Absence of Altmann's Granules in Cells of Malignant New Growths.
SMITH, Professor Lorrain, F.R.S. An Interesting Case of Cancer of the Pylorus.

PHARMACOLOGY AND THERAPEUTICS.

President: Professor RALPH STOCKMAN, M.D., F.R.S.Edin., The University, Glasgow.

Vice-Presidents: Professor WALTER ERNEST DIXON, M.D., Pharmacological Laboratory, Cambridge; NEWMAN NEILD, M.D., 9, Richmond Hill, Clifton, Bristol.

Honorary Secretaries: VICTOR GEORGE LEOPOLD FIELDEN, M.B., 84, Dublin Road, Belfast; HECTOR CHARLES CAMERON, M.B., Guy's Hospital, London, S.E.

The following subjects have been suggested for discussion:

1. Spinal Anaesthesia. To be opened by Mr. George Chiene, F.R.C.S.Edin., to be followed by Dr. Dudley Buxton (London), Mr. Robert Campbell, F.R.C.S. (Belfast), Dr. Arthur L. Fleming (Clifton), Dr. Alex. Don (Dundee), Dr. J. Mill Renton (Glasgow), Dr. J. C. Martin (Portrush), Dr. J. Hogarth Pringle (Glasgow), etc.

The following is a synopsis of the opening address by Mr. GEORGE CHIENE, F.R.C.S.Edin.:

Short historical summary of spinal anaesthesia; the drugs at present employed and the amount injected; the technique; the advantages and disadvantages of spinal anaesthesia compared with other methods (1) before the operation, (2) during the operation; the comparative results, immediate and remote; the comparative mortality;

question of the use of spinal anaesthesia alone or combined with other methods.

2. The Treatment of Oedema. To be opened Dr. H. D. Rolleston.

The following is a synopsis of Dr. H. D. Rolleston's paper introducing the discussion:

Oedema, being a manifestation of numerous and very different conditions, certain distinct groups of it are recognized: (1) Cardiac oedema and oedema of venous obstruction, primarily mechanical, and due to hydrostatic factors; (2) renal dropsy which, though in some instances, as in granular kidney, largely cardiac, is in its proper sense more complicated; (3) toxic oedemas other than those due to renal disease; (4) inflammatory oedema; (5) oedemas due to nervous causes, that is, hysterical oedema; (6) oedema due to lymphatic obstruction; (7) oedemas of doubtful origin, for example, Milroy's disease. Discussion of treatment is mainly directed to the forms of more widespread oedema. (1) Cardiac Dropsy: Good effect of the recumbent position and of cardiac tonics such as digitalis, caffeine, and its allies diuretin, theobromine, and theocin; restriction of fluid and of intake of salt. (2) Renal Dropsy: The complicated etiology and the natural variations in the amount of urinary excretion make treatment much more problematic and its effects more difficult to estimate with accuracy than in cardiac dropsy. Cases of urinary crises occurring under caffeine, and without any special treatment, are given to illustrate this point. Is reduction of oedema always beneficial in renal disease? Conceivably renal oedema is part of a compensatory process whereby waste products are excreted into tissue spaces, and in this event absorption of oedema fluid may increase toxaemia. An important question is, Should the ingestion of fluid be restricted or not? If an increased consumption of fluid is followed by increased excretion of water and solids, and so by diminution of toxaemia, this is justified; if, on the other hand, increased ingestion of fluid is not followed by increased diuresis and excretion of solids, a restricted regimen is indicated in order to avoid hydraemic plethora. Probably no hard-and-fast rule can be adopted, but each case should be investigated as to the excreting powers of the kidneys. Brief statement of the effect of increased diaphoresis according to von Noorden's views. Effect of purgation partly to remove fluid, partly to diminish toxaemia. Influence of a salt-free diet. Question of incision of oedematous parts and drainage so as to diminish the osmotic tension of the tissues and the local toxic accumulation; method of incision, risks of the procedure. Combination of drainage with free ingestion of fluid. Various drugs in the treatment of dropsy in patients with renal disease.

Papers:

CHARTERIS, Dr. Frank, Glasgow. The Effect on the Leucocyte Count produced by Thiosinamin Injections, Lecithin, and Nucleinate of Soda.

MCWALTER, Dr. J. C., Barrister-at-Law, Dublin. The Regulation of Quack Medicine Traffic.

Professor W. E. Dixon and Dr. H. H. Dale (Cambridge) will give a pharmacological demonstration showing the action of the pressor substances in putrid meat, placenta, and ergot on the surviving mammalian organs—heart and uterus.

PSYCHOLOGICAL MEDICINE.

President: T. OUTTERSON WOOD, M.D., 40, Margaret Street, Cavendish Square, London.

Vice-Presidents: GEORGE ROBERT LAWLESS, F.R.C.S.I., District Asylum, Armagh; WM. RICHARD DAWSON, M.D., Farnham House, Finglas, co. Dublin; ROBERT HENRY COLE, M.D., 25, Upper Berkeley Street, London, W.; MICHAEL JAMES NOLAN, L.R.C.P. and S.I., Down District Asylum, Downpatrick.

Honorary Secretaries: WALTER SAMUEL SMYTH, M.B., District Asylum, Antrim; SIDNEY HERBERT CLARKE, M.B., Leicester and Rutland Asylum, Narborough, Leicestershire.

The following subjects have been selected for special discussion in this Section:

July 28th.—Somatic Delusions and Local Delusions. To be opened by Dr. C. A. Mercier. Dr. J. M. MacCormac will also speak.

Dr. MERCIER's paper describes a case in which delusions of complete obstruction of the bowels, and of having been raped "per rectum" were found to be coexistent with tuberculous ulcers of the jejunum, and of the rectum, and the relation between the delusions and the lesions is discussed. Three possible hypotheses suggest themselves: (1) That the lesions were the cause of the delusions. This is rejected. (2) That the lesions were responsible for the particular character of the delusions in a person who would, without them, have had delusions of some kind. This also is rejected. (3) That the localization of the lesions was due to failure or disorder of the neurotrophic influence of the parts of the cerebrum whose disorder underlay the delusions. This is regarded as the most probable hypothesis.

July 29th.—Papers.

July 30th.—Considerations upon the Commissioners' Report of the Care and Control of the Feeble-minded. To be opened by Dr. W. R. Dawson. Dr. G. E. Shuttleworth and Dr. W. J. Maguire will also speak.

The following is a synopsis of Dr. W. R. DAWSON's introductory paper:

(1) *The "Principles" laid down by the Royal Commission.* The fundamental idea that of protecting all persons who cannot take part in the struggle of life owing to mental defect, and of extending this protection to their property, may be accepted. The authority affording this protection should be a special and powerful central authority and independent of other administrative departments. Local bodies are made subject to this central authority, but perhaps it would be well to restrict the powers of the local authorities still further by making the asylum service a national service, on the lines recommended for the Irish Poor Law Service by the recent Viceregal Commission. Desirability of close co-operation between judicial and administrative authorities is evident, and therefore the amalgamation of the Lunacy Commission and the Chancery Visitors may be approved. (2) *The Detailed Recommendations.* The three methods of dealing with the mentally defective are stated in the preamble to be oversight, certification, and detention. It is difficult to see what good would be done by the first two alone. The change in the statutory terms "lunatic" and "asylum" can only be of temporary utility, but is unobjectionable. The classification is unnecessarily elaborate, and the distinction between "persons of unsound mind" and "persons mentally infirm" seems devoid of utility. If classification is necessary, the last four groups, namely, "moral imbeciles," "epileptics," "inebriates," and "deaf and dumb" or "blind," should be given up and merged with the others. There seems no sufficient reason why the central authority should not be called the board of control in Ireland as well as in England and Scotland. The increase of the medical members of the board is highly desirable, and the extension to all mentally defective persons of the provisions of the Lunacy Act relating to management and administration may also be approved. Is the appointment of "certifying medical practitioners" necessary? Unnecessary complications in connexion with the passing of plans for buildings, etc. Dr. Dunlop's disapproval of compulsory notification, except where public assistance is required, seems to be well founded, such proceeding being too inquisitorial and likely to lead to unnecessary friction in practice. The special report on frequently recurring cases is, however, a good suggestion. Objection is taken to the retention (the introduction as far as Ireland is concerned) of the order for reception by a judicial authority, at all events in the case of paying patients. Where possible, special classes better than special schools. The provisions for criminal defectives, epileptics, and inebriates may be approved. The recommendation which is apparently intended to deal with the question of family care is not sufficiently definite. No system is complete which does not definitely legalize this mode of treatment. The question of voluntary boarders should also be dealt with, and the whole system would require to be supplemented by regulations dealing with inebriates who are not mentally defective.

The following papers have been accepted:

MACCORMAC, Dr. J. M. The Superficial and Deep Reflexes as an Additional Means in the Diagnosis of the Principal Forms of Mental Diseases.

CROTHERS, Dr. T. D., U.S.A. A Study of the Hereditary Influence in the Causation of Inebriety.
SHUTTLEWORTH, Dr. G. E. Mongolian Imbecility.
SCHOFIELD, Dr. A. The Present Position of Applied Psychology in Medicine.

The Secretaries will be glad to receive offers of other papers.

SURGERY.

President: Professor THOMAS SINCLAIR, M.D., F.R.C.S., 22, University Square, Belfast.

Vice-Presidents: CHARLES ALFRED BALLANCE, M.V.O., M.S., F.R.C.S., 106, Harley Street, W.; Sir PETER O'CONNELL, M.D., 9, College Square North, Belfast; ARTHUR JOHN DREW, F.R.C.S., Water Hall, St. Aldate's, Oxford; JOHN GALWAY COOKE, M.B., City and County Infirmary, Londonderry; ARTHUR BROWNLOW MITCHELL, F.R.C.S.I., 18, University Square, Belfast.

Honorary Secretaries: W. THELWALL THOMAS, F.R.C.S., 84, Rodney Street, Liverpool; G. LENTHAL CHEATLE, C.B. F.R.C.S., 117, Harley Street, London; HOWARD STEVENSON, M.B., F.R.C.S.I., 2, College Square North, Belfast; JAS. BERNARD MOORE, M.B., 11, Clifton Street, Belfast.

Special discussions on the following subjects will be held on Wednesday, July 28th, and Thursday, July 29th:

1. The Operative Treatment of Obstructive Jaundice and the Proper Selection of Cases. Introduced by (1) Mr. B. G. A. Moynihan; (2) Sir Thomas Myles. The following have signified their intention of taking part: Mr. E. Stanmore Bishop, Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. W. I. de C. Wheeler, Mr. K. W. Monsarrat, Mr. C. P. Childe, and Mr. David Dickie (Glasgow).

2. Modern Methods in the Treatment of Tuberculous Disease of Joints. Introduced by (1) Sir William Macewen, F.R.S.; (2) Mr. Robert Jones. The following will speak: Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. R. C. Dun, Mr. T. S. Kirk, Mr. C. W. Cathcart, Mr. A. H. Tubby, and Mr. Robert Campbell (Belfast).

Sir WILLIAM MACEWEN will introduce a discussion on the Differential Treatment of Tuberculous Joints, according to the stages of the disease. In the early stages attention will be directed to the effect of various forms of treatment, such as rest, fixation, massage, fluxion, injections (local and general), hygiene, etc. The treatment in the late stage, operative and otherwise, will be discussed. Special modes of operating will be described, and the after-treatment will be briefly alluded to.

Mr. ROBERT JONES will follow, dealing with the subject in the following manner. In children strictly conservative methods advocated; excisions never performed. The necessity of clearly defining the essential signs of disease, and of adopting methods for the prevention of deformity. How to deal with the deformity in an actively diseased joint. The tuberculous abscess and its management. On the treatment of old sinuses and dangers of mixed infections. The importance of complete rest of the diseased joint and methods of securing it. The necessity for accurate tests of the recovery of individual joints. The value of open air. In adult tuberculosis prognosis much worse, and excision of the joint frequently imperative.

Friday, July 30th, will be devoted to the reading of papers on subjects other than the above.

The following papers have been accepted:

SYME, G. A. Some Unusual Cases of Echinococcus (Hydatid) Cyst, with remarks on Diagnosis and Treatment.
GROVES, Ernest W. H. The Radical Treatment of Cancer of the Stomach—Methods, Results, and Statistics.
FREYER, P. J. A recent series of 200 cases of Enucleation of the Enlarged Prostate, with special reference to the operation (1) in octogenarians, (2) in cases of extremely large prostate.
BIRD, F. D. Operation for Liver and Lung Hydatids.
MITCHELL, A. B. Perforative Duodenal Ulcer.
NEWBOLT, G. P. Some Cases of Resection of Intestine.
BLANEY, Alexander. Notes on Four Cases of Removal of the Gasserian Ganglion.
CATHCART, Mr. C. W. The Irritative Property of Extravasated Blood and its Clinical Importance.
EDINGTON, Mr. G. H. Some Cases of Intestinal Anastomosis.
LEEDHAM-GREEN, Mr. C. Scopolamin-morphine Narcosis.
HOBT, Dr. E. C. The Diagnosis of Malignant Disease by Estimation of the Autitryptic Content of the Blood Serum.

Facilities will be provided for showing specimens and drawings to illustrate subjects under discussion.

TROPICAL MEDICINE.

President: CHARLES WILBERFORCE DANIELS, M.B., London School of Tropical Medicine, Albert Docks, London.

Vice-Presidents: Lieutenant-Colonel ANDREW DEANE, M.D., F.R.C.S.I., I.M.S., Royal Victoria Hospital, Belfast; Surgeon-General W. R. BROWNE, M.D., C.I.E., 5, Royal Crescent, Holland Park Avenue, London.

Honorary Secretaries: JAMES COLVILLE, M.D., 7, University Square, Belfast; Dr. ANTON BREINL, Director Runcorn Research Laboratories.

The following subjects have been selected for discussion:

Wednesday, July 28th, 10 a.m.—Persistence of the Tropical Diseases of Man due to Protozoa. The discussion will be opened by the President.

The following is a synopsis of Dr. DANIELS's paper introducing the discussion:

Diseases due to protozoa are in man caused by the parasites in their asexual cycles. The sexual forms may be present, but seem to have little or nothing to do with the causation of disease. The persistence of a disease due to a protozoa in man is, therefore, the same as the persistence of asexual multiplication of that parasite. On theoretical grounds repeated asexual reproduction should result in a degeneration of the strain, but of this in the human parasites there is little or no evidence. All the evidence goes to show that as far as these parasitic protozoa are concerned loss of virility takes place even with indefinite asexual multiplication. Protozoal infections do die out in man, but not from any developed weakness of the parasite, but from a steady increase in the resistant and germicidal powers of the host, and in essentials as causes of disease resembling bacteria. The instances taken will be the parasites of malaria, trypanosomes, and *Entamœba histolytica*.

Thursday, July 29th, 10 a.m.—Treatment of Chronic Recurrent Dysentery, with Special Reference to the Possibilities of Surgical Treatment. The discussion will be opened by Mr. J. Cantlie.

Mr. CANTLIE's paper will deal with the following points: Meaning of term—relation to colitis—mucus and mucous casts in stools—seat of chronic dysenteric lesions the sigmoid flexure—anatomy of sigmoid revised—use of the sigmoidoscope and the aid it affords to diagnosis and treatment—treatment of recurrent dysentery by diet (meat and milk diets); by drugs (ipecacuanha, cuttlefish bone, lactobacillin, alkalis); by enemata (sea-water, quinine, nitrate of silver); by dilatation of sigmo-rectal pylorus; by direct applications to ulcerative surfaces through tube of sigmoidoscope; by washing out intestine through opening in appendix; by opening sigmoid flexure; by excision of lesion at junction of sigmoid and rectum (that is, of sigmo-rectal pylorus)—relation of liver abscess to dysentery—hepatitis not a necessary preliminary to liver abscess—suppurative hepatitis a local lesion not usually the result of general hepatitis.

Friday, July 30th, 10 a.m.—Feeding and Treatment of Children in the Tropics. The discussion will be opened by Dr. W. Carnegie Brown.

Dr. CARNEGIE BROWN, in introducing the discussion, will deal with the following points:

Infant mortality in the tropics: comparative statistics. Feeding problems: Unsatisfactory supply of fresh milk; utility of preserved milk; other substitutes. Relative infrequency in the tropics of the zymotic diseases of early life—for example, diphtheria, scarlet fever, acute rheumatism, etc.; consequent rarity of serious after-effects. Prevalent disorders of children: Tetanus, infantile diarrhœa, helminthiasis, dysentery, continued fevers, malaria, infantile splenomegaly, biliary cirrhosis, anæmia, and other marasmic conditions, yaws; prevention and treatment. Possibility of rearing healthy European children in the tropics; age for return to a temperate climate.

The Committee will be glad to receive pathological specimens, photographs, drawings, or microscopical preparations illustrative of any subject in Tropical Medicine.

PROVISIONAL TIME TABLE.

FRIDAY, JULY 23RD, 1909.

12 noon.—Annual General Meeting, followed by Representative Meeting.

SATURDAY, JULY 24TH, 1909.

9.30 A.M.—Representative Meeting.

SUNDAY, JULY, 25TH, 1909.

11.30 A.M.—Service at the Cathedral.

MONDAY, JULY 26TH, 1909.

10 A.M.—Representative Meeting.

7.30 P.M.—Annual Conference of Secretaries of Division and Branches.

TUESDAY, JULY 27TH, 1909.

10 A.M.—Council Meeting.

10.30 A.M.—Representative Meeting (if required).

10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

2.30 P.M.—Adjourned General Meeting.

Induction of President.

2 to 4 P.M.—Inspection of Messrs. William Ewart and Son's Works, Flax Spinning and Weaving.

3 to 5 P.M.—Inspection of Harbour and Docks at the invitation of the Belfast Harbour Commissioners, by steamer. Robert Thompson, Esq., Chairman, will entertain the visitors at tea on board (limited to 150).

4 to 6 P.M.—Reception at Mater Infirmorum Hospital.

8.30 P.M.—President's Address.

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

WEDNESDAY, JULY 28TH, 1909.

9.15 A.M.—Annual Meeting of Medical Libraries' Association.

9.30 A.M.—Council Meeting.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

10.30 A.M.—Representative Meeting (if required).

12.30 P.M.—Address in Medicine.

2.30 P.M.—Visit to Belfast Rope Works Company's Premises.

2.30 P.M.—Visit to Messrs. John Shaw, Brown and Co.'s Premises, Damask Weaving.

4 to 6 P.M.—Garden Party given by the President and Lady Whitla at Lennoxvale House.

7.30 P.M.—Annual Dinner.

8 to 11 P.M.—Ladies' Reception, given by local members at the Opera House. Plays will be performed by members of the Ulster Literary Theatre.

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

THURSDAY, JULY 29TH, 1909.

8 A.M.—National Temperance League Breakfast.

9.30 A.M.—Council Meeting.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

12 NOON.—Cricket Match at the North of Ireland Cricket Club Grounds. (See below.)

Garden Party given by Sir Thomas and Lady Dixon at Hillsborough Castle. Train from Great Northern Railway. For times see *Daily Journal*. (Limited to 150.)

Drive in County Down, including visit to Forster Green Hospital and Sanatorium; to Belvoir Park (tea), with inspection of Model Dairy; and to Purdysburn Hospital (limited to 100). Brakes will start from the College at 2.30.

12.30 P.M.—Address in Surgery.

THURSDAY, JULY 29TH (*Continued*).

1.30 P.M.—Luncheon at Messrs. Dunville and Co.'s Warehouse, and subsequent inspection of Distillery (limited to 100).

2.30 to 4.30 P.M.—Inspection of Messrs. Harland and Wolff's Works.

Members wishing to visit these works are specially requested to send on a postcard their names to the Honorary Local Secretaries, Queen's College, Belfast, as soon as possible.

3 P.M.—Reception at the Royal Victoria Hospital given by the Chairman, James Davidson, Esq. (limited to 500).

8.30 P.M.—Reception given by the Right Hon. the Lord Mayor in the City Hall.

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

FRIDAY, JULY 30TH, 1909.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

Golf match at Newcastle for the Belfast Cup, presented by the Ulster Medical Society. Competitors will be entertained to luncheon and tea in the Club House of the Royal County Down Golf Club, names to be sent beforehand on postcard to the Honorary Local Secretaries, Queen's College, Belfast.

12.30 P.M.—Address in Obstetrics.

3 P.M.—Garden Party at the Royal North of Ireland Yacht Club's Club House, Cultra, with yacht race for members. Frequent trains from County Down Railway Station. See *Daily Journal*. (Limited to 200.)

4 to 6 P.M.—Garden Party given by R. J. McMordie, Esq., at Cabin Hill, Knock, Belfast. (Limited to 250.)

8 P.M.—Popular Lecture.

8.30 P.M.—Reception given by the President and Members of the Ulster Branch in the Botanic Gardens.

Exhibition of Surgical Instruments, Drugs Foods, etc., from 9 A.M. to 6 P.M.

SATURDAY, JULY 31ST, 1909.

Excursions.

Bowling.—The Belfast Bowling Club has kindly offered the use of their fine ground to members of the Association attending the Belfast meeting. The ground is only two minutes' walk from the College. Any members wishing to take part in a match are asked to send their names on a postcard to Dr. John Rusk, 188, Antrim Road, Belfast.

Cricket Match.—A cricket match for the members of the British Medical Association visiting Belfast will be held on Thursday, July 29th, on the grounds of the North of Ireland Cricket Club, which are only ten minutes' walk from Queen's College. Dr. J. W. Taylor has kindly arranged to give luncheon to the teams, and afternoon tea to them and the spectators as well. Cricketing members who are willing to take part in the match are asked to communicate as soon as possible with Dr. J. W. Taylor, Dunelin, Malone Road, Belfast.

CATHEDRAL SERVICE.

The Bishop of Down, Connor, and Dromore has arranged that the Sunday morning service at the Cathedral (11.30 a.m., July 25th) shall be a special service for medical men. There will be special hymns printed, the Bishop will preach, and seats will be reserved for members of the Association.

Honorary Local Secretaries—

HENRY LAWRENCE MCKISACK, M.T., M.R.C.P.,
17, University Square, Belfast.

CECIL EDWARD SHAW, M.A., M.D., M.Ch.,
29, University Square, Belfast.

HOWARD STEVENSON, B.A., M.B., F.R.C.S.I.,
2, College Square North, Belfast.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BIRMINGHAM BRANCH.

THE annual meeting was held at the Medical Institute on Thursday, June 17th, MR. F. MARSH (the President) in the chair. Thirty members were present.

Apologies for Non-attendance.—Apologies for absence were received from Dr. Freer and Mr. Priestley Smith. The notice convening the meeting was read.

Confirmation of Minutes.—The minutes of the last annual meeting were read, confirmed, and signed.

Coventry Provident Dispensary.—The PRESIDENT moved and MR. GILBERT BARLING seconded the following resolution:

> That this Branch hereby records its high appreciation of the public spirit shown by Drs. Pickup, Fenton, Heal, and Arch in resigning, at considerable pecuniary sacrifice, the posts of medical officers to the Coventry Provident Dispensary, in response to a representation by the Coventry Division and Birmingham Branch of the British Medical Association, who were of opinion that the management of the dispensary was inimical to the best interests of the general public and the medical profession.

This was carried unanimously.

Election of Officers.—The following members were elected officers for 1909-10: *President*, Dr. Herbert Manley; *President-elect*, Mr. Gilbert Barling; *Representatives of Branch on Central Council*, Dr. Herbert Manley and Mr. Albert Lucas: *Honorary Treasurer*, Dr. Thomas Wilson; *Chairman of Pathological and Clinical Section*, Dr. Stacey Wilson; *Honorary Secretaries*, Mr. Albert Lucas and Mr. J. Furneaux Jordan.

Annual Report, Financial Statement, etc.—The annual report, the financial statement, the report of the representatives of the Branch on the Council, the report of the Pathological and Clinical Section, and the report of the Ethical Committee, having been previously circulated amongst the members, were taken as read, approved, and ordered to be entered on the minutes.

Installation of New President.—Mr. MARSH then welcomed the new President, Dr. Herbert Manley, to the chair. Dr. HERBERT MANLEY heartily thanked the members for electing him to the office of President of the Birmingham Branch.

Votes of Thanks to Retiring Officers.—Dr. MANLEY proposed a vote of thanks to the retiring President. This was seconded by Dr. BRANSON, and carried by acclamation. Mr. MARSH replied. Votes of thanks to the retiring officers for their services during the session 1908-9 were passed.

President's Address.—Dr. HERBERT MANLEY then delivered his presidential address on the subject of the medical aspects of the report of the Poor Law Commission. A vote of thanks to the President for his address was moved by Dr. MESSITER, seconded by Dr. HENTON WHITE, and carried unanimously.

DUNDEE BRANCH.

THE annual meeting was held at the Royal Infirmary, Dundee, on May 7th.

Election of Officers.—The following members were elected officers for the ensuing year: *President*, J. A. C. Kynoch (Dundee); *President-elect*, D. Laing (Arbroath); *Past-President*, G. Peterkin (Forfar); *Vice-Presidents*, A. J. Duncan (Dundee), D. Wardrop (Alyth); *Treasurer*, D. M. Greig (Dundee); *Secretaries*, R. Cochrane Buist (Dundee), A. P. Low (Dundee); *Council*, H. C. Colman (Broughty Ferry), W. S. Malcolm (Dundee), C. S. Young (Dundee), W. E. Foggie (Dundee), M. Connon (Montrose), A. D. Yule (Arbroath); *Representative for Representative Meeting*, R. Cochrane Buist.

EDINBURGH BRANCH:

NORTH-WEST EDINBURGH DIVISION.

THE annual meeting of the Division was held on June 7th, Dr. JAMES RITCHIE in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Election of Officers.—The following officers were elected: *Chairman*, Dr. James Ritchie; *Vice-Chairman*, Dr. Alex. James; *Honorary Secretary and Treasurer*, Dr. F. D. Simpson; *Representatives on Branch Council*, Drs. Ballantyne and Simpson; *Representative at Representative Meetings*, Dr. Nasmyth; *Members of Executive Committee*, Drs. Gibson, Elder, Lackie, Haig Ferguson, Scott Carmichael, W. T. Ritchie.

Report of Executive Committee.—The report of the Executive Committee was read and approved.

Whole-time Medical Officers of Health.—On the motion of Dr. NASMYTH, the meeting expressed approval of the principle that medical officers of health should not engage in private practice, but recognized, at the same time, that small sanitary areas could not expect their medical officer to be debarred from private practice.

Medical Certification of Suitability for Hospital Treatment.—While the Division recognized the existence of hospital abuse, it considered it would be inexpedient to have the proposed rule regarding certificates enforced.

Fresh Public Medical Institutions.—The meeting considered that as regards Scotland any action by the Association in this matter was unnecessary.

Earlier Election of Representatives.—It was resolved:

> That Rule 7 of the Division's By-laws be altered as follows: That the Representative of the Division shall be elected by a general meeting of members held not more than nine months nor less than three weeks before the Annual Representative Meeting.

GLASGOW AND WEST OF SCOTLAND BRANCH.

THE annual general meeting of this Branch was held in the Pathological Department of the Western Infirmary on Wednesday, June 9th, at 5 o'clock p.m., Professor R. STOCKMAN, M.D., presiding.

Confirmation of Minutes.—The minutes of the (*a*) annual meeting and the (*b*) special meeting were read and adopted.

Apologies for Non-attendance.—Letters were read from Drs. A. C. Munro, Frew, Hunter, Grant Andrew, and other members, expressing their regret at being unable to attend.

Notice of Council Election.—Dr. W. L. MUIR moved:

> That the Secretary of the Branch officially notifies the Secretaries of Divisions of an approaching Council election one month before the day of nomination.

This was seconded by Dr. BRYCE and agreed to.

Honorary Secretary's Report.—The HONORARY SECRETARY presented the following report:

On December 31st, 1907, the membership of the Branch was 697; on December 31st, 1908, the membership was 687—a decrease of 10 members; 45 new members have been added—15 by change of address; 55 members have been lost to the Branch—11 by death, 15 by resignation, and 26 by removal.

There have been held throughout the year one special meeting and seven Council meetings. The special meeting was called to consider the question of petitioning the Privy Council to amend the provisions of the draft Charter relating to the Referendum. A reply postcard was sent to every member of the Branch asking an affirmative or negative reply to the two following questions:

1. Are you of opinion that a Referendum should be taken on a requisition of half the members of the Central Council *present and voting* at the meeting at which the question comes up?
2. Are you of opinion that the Referendum should be taken by letter addressed to every member of the Association?

An affirmative reply was given to both questions in 180 instances.

A negative reply to the first question and an affirmative to the second were given in 72 instances.

An affirmative answer to the first question and a negative to the second were given in 2 instances.

An affirmative reply to the second question alone was given in 19 instances.

A negative reply to both questions was given in 7 instances.

To the first question, therefore, there replied:

In the negative	79
In the affirmative	182

So that there was, of those voting, a majority of 103 in favour of a Referendum being taken on the requisition of half the members of the Central Council *present and voting* at the meet-

ing at which the question comes up. And to the second question there replied

In the negative	9
In the affirmative	271

a majority of 262 in favour of the opinion that a Referendum should be by letter addressed to every member of the Association. Only 40 per cent. of the members voted.

As the draft petition against this particular clause in the Charter asked that the Referendum should be taken on the requisition of half the Central Council, *whether present or not*, it was considered incompetent for the officials of this Branch to sign the petition. The issue of a separate petition from members enabled any member of the Branch to sign who chose.

Dismissed Ruchill Residents' Fund.—A sum of £81 was obtained and equally divided among the three dismissed resident assistants.

The reports on the *Abuse of Medical Charities* and on the *Payment for Attendance on Street Accidents* are submitted.

The *Medical Examination of Children under the Glasgow School Board* is receiving the consideration of the Council.

The attention of the Branch is drawn to the financial statement of the various Branches throughout the kingdom given in the SUPPLEMENT to the JOURNAL of May 1st. The Central Council has agreed not to recognize any expenditure outwith the regulations of the Association, "and that the balances in the hands of the Branches be calculated as though such expenditure had not been made."

It is recommended by your Council that no further honoraria be given.

Dr. W. L. MUIR raised some questions on the matter of the Referendum and a special petition which had been sent to the Privy Council. Drs. JOHN DUNCAN and GEORGE B. BUCHANAN and the SECRETARY replied. Adopted after some discussion on the various questions considered in the report.

Financial Statement.—The following abstract of income and expenditure for year ending December 31st, 1908, was presented:

INCOME.

	£	s.	d.
Balance in hand, December 31st, 1907	305	14	7
Capitation grant for year 1908	137	8	0
Returned by Divisions	30	2	4
Bank interest	2	8	0
	475	12	11

EXPENDITURE.

	£	s.	d.
Grants to Divisions:			
Ayrshire Division—61 at 1s. 6d.	4	11	6
Dumbartonshire—50 at 1s. 6d.	3	15	0
Lanarkshire—74 at 1s. 6d.	5	11	0
Renfrewshire—77 at 1s. 6d.	5	15	6
Glasgow Central—127 at 1s. 6d.	9	10	6
Glasgow Eastern—78 at 1s. 6d.	5	17	0
Glasgow North-Western—114 at 1s. 6d.	8	11	0
Glasgow Southern—90 at 1s. 6d.	6	15	0
Secretarial expenses:			
Printing and stationery	32	7	10
Postage and expenses	5	17	8
Clerical aid	4	12	0
Items not included in above:			
Branch Representatives' honorariums	21	0	0
Honorariums to Division Representatives—8 at £5 5s.	42	0	0
Branch councillors' railway fares	5	5	9
Balance at December 31st, 1908	312	3	2
	475	12	11

March 6th, 1909.—Examined, compared with the vouchers, and found correct, balance at the credit of the Branch being three hundred and twelve pounds, three shillings and twopence, composed of deposit receipt for two hundred and twenty pounds, and on current account ninety-two pounds, three shillings, and twopence.

(Signed) ELLIE JARDINE
W. SEMPLE YOUNG, *Auditors.*

This report was adopted.

Abuse of Medical Charities in Glasgow.—The following report of the Branch Council on the question of the abuse of medical charities in Glasgow was presented:

We have to report that, following upon the remit made to us to enquire into the question of the abuse of medical charities in Glasgow, we issued circular letters to all the members of the medical profession practising in Glasgow and the immediate neighbourhood, including a large number of practitioners who were not members of the Association. We indicated that we would be extremely obliged if members of the profession would favour us with any views on the enclosed *specific instances*, if they were aware of any, of the abuse of medical charities. We suggested that such instances would naturally fall under one or more of the following categories, namely:

1. Indoor department of general hospitals—
   (*a*) Surgical section.
   (*b*) Medical section.
2. Outdoor department of general hospitals or other dispensaries.
3. Special hospitals or dispensaries.

We underlook that the sources of information would be regarded as absolutely confidential; and, indeed, the names of the gentlemen who communicated with us were not laid before the committee.

The result of the issue of the circular was extremely disconcerting. We had only 49 replies to the 600 circulars issued. This small response was undoubtedly due in large part to the inertia of the profession; but in the face of so limited a response, it can hardly be asserted that the medical profession in Glasgow suffers to any large extent from the abuse of medical charities.

From the instances furnished to us, however, it is evident that such abuse does to a certain extent exist, and that there is at present no sufficient means of checking it. Such abuse, unfortunately, is frequently associated with cases recommended by medical men.

The general view appeared to be that there was no serious abuse of the indoor departments of hospitals, but that there was some abuse of the outdoor departments and dispensaries. Such instances as the following may be cited:

1. Wife of buyer in a large warehouse, residing in a good house, no family, attends —— Dispensary, and remarks to neighbours that she "does not need to pay a doctor."
2. The wife of a partner in a public-house and aerated water manufactory business receives free advice and medicine at the same dispensary.
3. Man earning £4 a week attends —— Infirmary Dispensary; has abscess in finger opened and after-treatment.
4. Case of lad receiving liberal compensation under the Workmen's Compensation Act who visited a medical man, on crutches, with his foot swathed in cotton-wool and bandages. On taking these off a slight injury to the big toenail was found. He had been treated by a nurse at the —— Infirmary, who told him to "keep coming back."
5. The singular case is cited of a girl who repeatedly returned with a prescription for cod-liver oil, which was stamped all over with "repeats." The prescription, she said, was "for her father." The reporter was astonished at the father requiring so much oil as prescribed. The explanation was that "the meals on boots"—and found the oil useful in that connexion.
6. Girl, one of a family whose united income is close on £6 a week, is married to one of the —— Infirmary, where she gets six tickets (also pills—gratis, of course—and is told to come back when they are finished.

   Complaint is made of the admission for treatment on subscription lines workmen frequently thinking that because they subscribe 1d. a week or month they have a right to treatment, and of employers of labour who save the cost of paying a medical man by giving an employee an hospital line.
7. We have a case of a bachelor earning from 45s. to 55s. per week, who considers that as he was a contributor of one or two shillings a year to the funds of the —— Infirmary, he was entitled to enter it for an operation for [illegible].

It appears to be generally admitted that there is a considerable abuse of special hospitals and dispensaries. While the information at our disposal does not justify us in arriving at any large generalization, we would suggest—

1. That a communication should be addressed to the various infirmaries and dispensaries in Glasgow suggesting that a conference should be arranged of representatives from various Boards of Management, with a view to the introduction of a uniform plan of action to prevent the abuse of medical charities through the resort to them of persons who are in a position to obtain such medical or surgical treatment, and medicines, and dressings as they require.
2. That the system of admission by subscribers' lines is open to objection: that patients should be accepted by medical charities on the ground of necessity and suitability alone.

This report was adopted. The Branch Council to proceed on the lines suggested in the report.

Payment for Attendance on Street Accidents.—The following report of the Branch Council on the question of payment for attendance on street accidents was presented:

We have to report that, following upon the remit made to us by the Glasgow Southern Division into the question of payment for attendance on street accidents, information has been obtained from the Medical Officers of Health for Liverpool, Sheffield, Manchester, Newcastle, and Birmingham. The following is a brief summary of the replies:

Liverpool.—"There is no fixed scale here in connexion with the remuneration of medical men for attendance on street accidents. We have no police ambulance. Services [illegible] with by the Watch Committee on its merits."

Sheffield.—"If the police have to summon a doctor to attend a case of accident in the street the doctor's fee is paid by the

police. The chief constable informs me that no question has arisen as to the amount of such fee up to the present time. If a doctor attended a street accident case on his own initiative and sent in his account the police would not pay it. In the majority of cases the police send for the ambulance and take the case to the hospital. There are probably not more than twelve cases in the year where a policeman summons a doctor."

Manchester.—"The police here have no instruction to call medical aid, and, as a matter of fact, very rarely do so. The police ambulance is at once summoned and the person taken to hospital. Where medical aid has been summoned the practitioner is paid, but no rate of remuneration has been fixed."

Newcastle.—"The chief constable informs me that the fees paid to medical men by the Newcastle Watch Committee for attendance on street accidents vary, the ordinary fee being 5s. In certain cases 10s. 6d. is paid."

Birmingham.—"When a police officer is called to a street accident, and he considers it necessary that a medical man should be called, he fills in a medical attendance card,* which

* *Specimen of Card issued by Birmingham City Police.*

For one attendance only

BIRMINGHAM CITY POLICE.

.....19 .

Please attend immediately to

.....

suffering from .....

at .....

Signed..... *Rank*.....

Doctor.....

Send Account and this card without delay to

The Chief Clerk,

Chief Constable's Office, Newton Street.

This Card is only to be given where Medical Aid is called in by the Police.

the doctor forwards with his account to the office. All members of the force carry these cards. The fees vary with the usual charges of the doctor whose services are called in. Most of the claims run from 3s. 6d. to 5s.

Your Council is of opinion that this Branch should communicate with the Police Authorities of Glasgow, and recommends the adoption of the system in use at Birmingham, but that the fee should be a uniform one of 5s.

This report was adopted along with the following resolution, moved by Dr. LAWSON and seconded by Dr. W. L. MUIR, namely:

That it be an instruction to the Branch Council to reconsider the question of payment of fees to medical men who attend street accidents, especially with reference to the non-payment of a fee in cases in which a constable has not called the doctor.

Instruction to Branch Council.—The following motion, proposed by Dr. W. L. MUIR and seconded by Dr. J. PATRICK, was agreed to, namely:

That it be an instruction to the Branch Council that, either at the annual meeting of the Branch or at a meeting called for the purpose, our members on the Central Council in London give an account of their stewardship and, generally, their opinions on matters of interest to members of the Association.

Election of Office-bearers.—Dr. CASKIE moved and Dr. SEMPLE-YOUNG seconded the election of office-bearers as follows: *President*, Professor Ralph Stockman; *President-elect*, Dr. J. N. Marshall, Rothesay; *Vice-Presidents*, Dr. A. Campbell Munro and Dr. J. H. Nicoll; *Secretary*, Dr. Wm. D. Macfarlane, junior, 17, Woodside Crescent, Glasgow; *Treasurer*, Dr. J. P. Duncan, Queen's Park House, Glasgow; *Central Council:* Mr. Jas. Grant Andrew and Dr. D. Mackintosh, M.V.O., have been re-elected members of the Central Council for another year. The election was agreed to unanimously.

Ethical Committee.—Dr. STEWART asked for the report of the Ethical Committee. Professor STOCKMAN said it was not yet complete.

Pathological Demonstration.—A demonstration was given in the pathological department of the infirmary by Professor MUIR and others. The following subjects were illustrated by a lantern demonstration, specimens, etc.: Serum diagnosis of syphilis; trypanosomiasis; multiple cerebro-spinal sclerosis; origin of cancer in cirrhosis of the liver; recent methods of cultivation of the typhoid bacillus; cultivation of gonococci from joints; Addison's disease; chorion epithelioma and melanomata; leukaemia in an infant, and other cases of interest. There was a microscopic demonstration of microparasites, blood diseases, etc. The Pathological Museum was open for the inspection of members.

Votes of Thanks.—Professor Muir was accorded a hearty vote of thanks for a very interesting and instructive demonstration. A vote of thanks was accorded to the retiring President and to Mr. Grant Andrew, Honorary Secretary, for the great interest they had taken in the work of the Branch.

METROPOLITAN COUNTIES BRANCH.

THE fifty-seventh annual general meeting was held on June 24th, at 5 p.m., at the St. James's Vestry Hall, Piccadilly, W. Sir VICTOR HORSLEY, F.R.S., President, was in the chair. There were about fifty members present.

Confirmation of Minutes.—The minutes of the last annual meeting and of the special meeting held on December 30th, 1908, of which full accounts appeared in the SUPPLEMENT, were taken as read and signed by the Chairman.

REPORT OF BRANCH COUNCIL.

The report of the Council for the year 1908-9 was read. It was as follows:

The Council is glad to report that the activity and work of the Branch has increased during the past year. Many important questions have been discussed in the Divisions and in the Council, and are either settled or being brought to favourable issues.

Area of the Branch.—In consequence of its having been fortunately found possible to organize a Buckingham Division, the area of the Watford and Harrow Division of the Association has been slightly reduced.

The Charter.—The Branch has, as a whole, held but one meeting, namely, a special meeting summoned on the requisition of fifty members to consider a proposition to oppose the application for a Royal Charter, made by the Association to the Privy Council, until certain points concerning the Referendum had been reconsidered by the Association. The special meeting, which was held on December 30th, 1908, declined by a very large majority to oppose the application. At the meeting the important point was raised whether a Branch or Division could use the funds of the Association to oppose any act of the Association which had been decided by the Representative Meeting and the Central Council. Counsel's opinion, obtained by the Central Council on the application of the President, was that the Branches and Divisions could not legally use their funds for the purpose stated.

Finance.—The statement of accounts and balance sheet is appended to this report. It will be seen that, in spite of a largely increased amount for printing, owing to the work of the Council and Committees, the balance in favour of the Branch is about £70 more than in the previous year.

Hampstead Hospital.—Much of the time of the Council has been occupied with the Hampstead Hospital question, which involves two distinct matters: first, the ethical position of certain members of the Branch; and, secondly, the constitutional question of the relation of the hospital to the interests of the public and of the local practitioners. The ethical question concerned the position of certain members of the Association against whom it was alleged that they had, by disregarding the warning notice, placed themselves in direct opposition to the profession in Hampstead. The Council reports that the ethical position of these gentlemen was discussed fully by the Marylebone Division, but referred by the Division to the Branch Council. The findings of the Branch Council were duly referred to the Central Council, which has approved the report of the Central Ethical Committee thereon. The Branch Council also requested the Central Council to take steps to secure by conference a reinvestigation of the whole question, including the constitution of the hospital staff, and at their April meeting desired that an historical account of the dispute should be published by the Central Council. The Branch Council are glad to report that they understand negotiations are in progress and that the record in question will be published very shortly. The Council also feels that the first step towards a successful issue of the negotiations and a solution of this dispute in a manner satisfactory to the medical profession has been secured by Mr. Edmund Owen's resignation of his position on the staff of the hospital. Arising in connexion with this question, the Branch Council, on a motion from the Westminster Division, approved and forwarded to the Central Council the following resolution:

That the Council of the Metropolitan Counties Branch is of opinion that the Central Council, having permitted the

publication of the warning notice, should secure its observance. By reason of his loyal compliance with the notice, a member of the Council of the Branch lost the opportunity of regaining his hospital appointment, while those who defied the notice were enabled thereby to supplant him. The Branch Council, therefore, most earnestly call upon the Central Council to redress the injustice without delay, as its long continued existence is conducive to the disintegration of the Association.

Putney Hospital.—It is hoped that the relation of the profession to the Putney Hospital will be satisfactorily adjusted by the action of the practitioners resident in the district.

King's College Hospital.—The Council regrets that in spite of the resolution of the Representative Meeting at Sheffield, the extremely important question of the out-patient department of the new (transferred) King's College Hospital remains unsettled. It is also the subject of negotiations by the Central Council, and it is hoped that the solution of this matter, which is of such serious import to the practitioners resident in South London, will be furthered by the support of the forthcoming Representative Meeting at Belfast.

Medical Treatment of Children in Elementary Schools.—The Branch Council has devoted much attention to the question of medical inspection and treatment of school children, and is taking steps to prevent the abuse of voluntary hospitals and charitable institutions by the London County Council, the Education Committee of which is proposing to make an arrangement with some of the hospitals, whereby school children shall be treated therein on consideration of a grant from the County Council to the expenses of the charities. The Branch Council, feeling that the interests of the children, of the other patients attending these hospitals, of the subscribers to the charities, and of medical practitioners, whether in consulting or general practice, were alike adversely affected by this proposition, addressed a letter to the members of all the staffs of the London hospitals in opposition to the action of the County Council. The matter is still under discussion, but in respect of the same question the Branch Council is glad to report that the County Council have courteously modified, in accordance with the desire of the Branch Council, their instructions to parents respecting children suffering from suppurating ears, and have especially withdrawn their suggestions that such children should be taken to the hospitals.

So-called Spiritual or Faith Healing.—The attention of the Branch Council having been drawn to efforts made by certain persons to secure the support of the Established Church for what is termed "spiritual healing," the Council at once approached the Bishop of London to secure that a proper inquiry should be made into the subject, and at the same time reported the matter to the Central Council. A favourable reply was received from the Bishop of London, and the Central Council appointed a committee of inquiry.

Hospital Treatment and Certification of Accident Cases under the Workmen's Compensation Act.—Under recent legislation there is a constantly growing tendency to require unremunerated work from the medical profession, and to accept (contrary to the Medical Acts) certificates from unqualified persons. In respect of the Workmen's Compensation Act, the Branch Council formulated a number of propositions, and forwarded them to the hospital authorities throughout the metropolis, with the view of preventing this form of hospital and professional abuse. The Council invites the active co-operation of the staffs of the hospitals in this matter.

Federated Societies Medical Benefit Association.—Inasmuch as the scheme proposed by this association was antagonistic to the principles of contract practice as adopted by the British Medical Association, and therefore was, in the opinion of the Branch Council, prejudicial to the interests of the public and profession alike, the Council addressed a letter to all members of the Branch in the metropolitan area, urging them not to act as medical officers under the said scheme.

School Care Committees.—In view of the large number of medical questions now brought under the scope of education authorities, the Branch Council has taken steps to bring to the notice of the bodies concerned the desirability of appointing medical men upon the School Care Committees now being formed under the London County Council. The Council invites the active interest of the members of the Branch in the matter, and hopes that practitioners will come forward to serve on the School Care Committees.

Elections.—At the ordinary meetings up to May 27th, 1909, 111 candidates were elected members of the Association.

Resignation of the Past President.—The Past President of the Branch, Dr. Frederick Taylor, having been appointed a member of the General Medical Council, has consequently resigned his membership of the Association.

Deaths.—The Council records with regret the deaths of Mr. George Eastes, a former President and Treasurer, as well as a most active member of the Branch, and of Dr. E. A. Snape, a member of the Council.

The report was adopted.

Balance Sheet.

The following balance sheet for 1908 was presented:

Dr.	£ s. d.	£ s. d.
	1907	
Balance in hand	826 19 0	879 10 10½
Paid by General Secretary:	£ s. d.	
On February 10th, 1908 ...	15 12 0	
,, May 19th, 1908	268 16 0	
,, September 30th, 1908 ...	134 8 0	
,, December 31st, 1908 ...	114 2 0	
	£532 18 0	533 10 0 — 532 18 0
This amount represents:		
2,524 Members at 4s.	£505 16 0	
59 Members at 2s. ...	5 18 0	
Arrears for 1905, 1 at 4s. ...	0 4 0	
,, ,, 1906, 21 at 4s. ...	4 4 0	
,, ,, 1907, 92 at 4s. ...	18 8 0	
,, ,, 1907, 4 at 2s. ...	0 8 0	
	£532 18 0	
Interest	20 12 10	9 12 6
N.B.—The Balance at the Audit, £981 13s. 2½d., is made up of:		
£650 0 0 on Deposit.		
122 2 5½ in hands of Division Secs.		
209 15 9 Balance at Bank.		
981 18 2½		
Deduct 32 8 7½ Deficit in Expenses of Divisions.		
£949 9 7 Branch's real Balance.]		

Finance Committee.

The Committee has, in accordance with the regulations of the Council, examined the Honorary Treasurer's Financial Statement, and, having compared this with the vouchers and bank book, has authorized the Chairman to sign it as correct.

(Signed) LAURISTON E. SHAW, *Chairman, Finance Committee.*
H. BERHAM ROBINSON, *Treasurer.*

March 11th, 1909. £1,381 1 10 £1,422 1 4½

Cr.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
	1907			
Expenses of Division:				
Chelsea ...	9 19 7		8 11 6	
City	20 9 5		18 5 6	
Ealing	11 7 5		17 0 8	
Hampstead ...	53 6 10½		35 17 6½	
Kensington ...	21 8 2		29 10 11	
Lambeth ...	11 11 2½		8 1 10½	
Marylebone ...	51 6 11		54 0 6	
Richmond ...	20 7 10		17 12 8	
St. Pancras ...	14 2 3		15 3 3	
Stratford ...	13 7 9		13 18 6	
Tottenham ...	14 10 2		9 18 9	
Walthamstow ...	9 6 10½		9 16 11½	
Wandsworth ...	47 4 4		19 7 8	
Watford ...	6 12 3		6 12 11	
Westminster ...	26 5 10		26 7 3	
		334 6 10½		290 6 5½
Expenses of Branch:				
Hire of Rooms ...	20 1 6		22 5 6	
Printing	118 12 0		139 18 2	
Secretarial expenses ...	12 19 5		9 13 5	
Treasurer's expenses ...	0 7 0		0 4 3	
Bank charges	0 4 2		0 4 2	
Expenses of South London Hospitals Committee ...			10 0 0	
Expenses of South-Western Hospitals Committee ...	15 0 0			
		167 4 1		182 5 4
Balance in hand		879 10 10½		949 9 7
		£1,381 1 10		£1,422 1 4½

REPORT OF REPRESENTATIVES ON CENTRAL COUNCIL.

The Charter.—At the meeting of the Central Council on October 28th, 1908, the draft Charter, Ordinances, By-laws, and Schedule thereto, submitted by the Organization Committee, as finally revised by counsel, were approved, and the Chairman of Council and the Chairman of the Organization Committee were authorized to proceed with the application for a Charter. The petition on behalf of the Association to His Majesty the King was accordingly presented on December 21st, 1908, and this was approved by the Council at the January meeting, 1909. The Central Council, without dissent, approved of the action of its officers in applying for the Charter.

Hospital Questions.—The King's College Hospital out-patients and the Hampstead Hospital questions are still under consideration.

Medical Inspection and Treatment of School Children.—Recommendations on these subjects were submitted at the Central Council meeting of April 28th, 1909, and were referred to Divisions and the Representative Meeting (see BRITISH MEDICAL JOURNAL SUPPLEMENT of May 15th, 1909). The following recommendation may be specially noted:

> The Council will ask the Representative Meeting to approve that, if it be found desirable to appoint a class of school medical officer having supervising as well as inspecting duties, a rate of salary should be fixed above the minimum adopted by the Association for officers engaged in inspection only.

Midwives Act.—The Council has not been successful in obtaining representation for the British Medical Association on the Departmental Committee. It approved of evidence being given before that Committee in favour of representation on the Midwives Board and on other points, and the following gentlemen were appointed to give such evidence, namely: Dr. L. McManus, London; Dr. J. H. Taylor, Salford; Mr. C. E. S. Flemming, Stratford-on-Avon, with the Medical Secretary. (N.B.—This evidence has since been given.)

Model Rules of a Public Medical Service.—These were approved by the Council on April 28th, 1909, subject to opinion of counsel on some points reserved. In this connexion the Council recommends the consideration of the recommendations of the reports of the Royal Commission on the Poor Law concerning public medical assistance.

Poor Law Reform Committee.—It was decided on April 28th to appoint a special committee to consider the reports of the Royal Commission on the Poor Law as affecting the medical profession, and to report to the Council with recommendation as to any action which should be taken by the Association. The committee is to be constituted as follows: Five members nominated by the Medico-Political Committee, three by the Public Health Committee, two by the Hospitals Committee, two by the Scottish Committee, and two by the Irish Committee. It would be difficult to exaggerate the importance of this committee, as legislation is almost certain to follow the report of the Commission, which, in its recommendations for the treatment of the sick poor, repeatedly recognizes the influence and work of the British Medical Association. We think it desirable that the Poor Law Reform Committee should co-opt at least one additional member, who would further represent the views held in the Metropolitan Counties Branch.

Representation of the British Medical Association in the House of Lords.—The Earl of Wemyss proposes to bring before the House of Lords the suggestion that the British Medical Association, as representing the medical profession, should nominate three members of the House of Lords to represent them officially in questions coming before the House. This matter was brought forward at the Council meeting, April 28th, 1909, and referred to the Representative Meeting.

Coroners' Law.—The Council has appointed representatives to give evidence before the Departmental Committee of the Home Office on this subject. The tenor of the evidence will be that agreed on by the Medico-Political Committee, and will be given at the end of June.

General Anæsthetics Bill.—Evidence on this bill will also be given before the Departmental Committee of the Home Office on Coroners' Law.

King Edward's Hospital Fund.—The application to the King Edward Hospital Fund for London for representation of the British Medical Association on its Committee on Out-patients has not been granted so far, possibly owing to the postponement of the inquiry till next year.

Ebbw Vale.—There is every prospect of success in this matter, as, even if the fund were broken up, it would lead to an organization similar to a public medical service.

Expenditure of the Association.—This has been considerable, owing to the increased work of the Association for the profession. As examples of expenditure the following may be mentioned, namely: The preparation of the evidence to be laid before the Royal Commission on the Poor Law cost over £250, and the preparation of the Medical Acts Consolidated Bill will probably cost from £300 to £400. At the same time the occupation of the new premises has been costly, and as the shops on the Strand and Agar Street have not let, there is no set-off at present by rents coming in.

General Secretary.—There has been much discussion in the Council on the subject of the future title of the General Secretary. The Representative Meeting had decided that he should be called "Financial Secretary," but, after a statement by the officer in question, the Council decided to recommend that his title should be "Financial Secretary and Business Manager."

J. FORD ANDERSON,
G. E. HASLIP,
HUGH R. KER,
LAURISTON E. SHAW,
G. CRAWFORD THOMSON.

May 20th, 1909.

The report was approved.

Proposed British Medical Students' Union.—Dr. WALTER SMITH moved the following resolution, of which he had given notice:

> That the Representatives of the Branch on the Central Council be instructed to move at the Representative Meeting the following resolution on the last paragraph of Section 5 of the annual report of the Central Council: That a committee, say, of seven, be formed to investigate and report as to the feasibility of forming a British Medical Students' Union or a similar body, under the auspices of this Association, with branches in all towns having medical schools, which shall act as a nursery for future members of the Association.

This motion was seconded by Dr. KER and carried.

Rules of the Branch.—These rules, which had been adopted at the last annual meeting, but had been slightly amended by the Central Council, were adopted in their amended form.

Election of Officers.—The scrutineers of the ballot, Drs. G. Crichton A. Withers Green, W. A. Milligan, P. J. S. Nicoll, St. Clair B. Shadwell, G. Cardno Still, and James Young, reported the results of the election as follows: *President elect*, Dr. Lauriston E. Shaw; *Treasurer*, Mr. H. Betham Robinson; *Honorary Secretary*, Dr. E. W. Goodall (there was only one nomination for each of these posts): *Vice-Presidents*, Mr. Atwood Thorne, Drs. Major Greenwood, M. G. Biggs, and Knowsley Sibley; *Representatives of the Branch on the Central Council*, Sir Victor Horsley, Drs. Lauriston E. Shaw, Ford Anderson, Hugh R. Ker, and G. E. Haslip. It was resolved that the Council of the Branch should appoint another Honorary Secretary at its next meeting, as by the rules of the Branch there should be two Secretaries.

New President.—The retiring President, Sir Victor Horsley, then left the chair, which was taken by the new President, Dr. Ford Anderson.

Vote of Thanks to Retiring President.—Dr. BIGGS proposed that a hearty vote of thanks should be accorded to the retiring President and the other officers of the Branch for their services during the past year. This was carried unanimously.

President's Address.—Dr. ANDERSON then delivered a short address on "Home and Hospital Treatment of the Poor and Low-wage Earners, based on the Majority Report of the Royal Commission on the Poor Laws and Relief of Distress." (The address was published in the SUPPLEMENT for June 26th, 1909.)

Vote of Thanks to the President.—The meeting terminated with a vote of thanks to the President for his address.

HAMPSTEAD DIVISION.

THE seventh annual meeting of this Division was held in the Committee Room of the Hampstead Central Library, Arkwright Road, on Tuesday, June 22nd, Dr. OPPENHEIMER was in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Annual Report.—The sixth annual report of the work of the Division was read and adopted. It was to the following effect:—During the year 1908–9 there have been twelve meetings of the Division; eight of these were business meetings, at which discussions took place and resolutions adopted *inter alia* on the following matters: Hampstead Hospital question, ethical rules, financial matters affecting the Association, school clinics, medical treatment of school children, the report of the Medico-Political Committee on the medical inspection and treatment of school children, the draft Charter, contract practice, federated benefit societies and medical benefits, State support and training of midwives, medical officers of health. The average attendance at these was 13, or, excluding the annual meeting, 11.3. There were four scientific meetings held at which papers were read (1) by the Chairman on The Philosopher Physician, (2) by Dr. Mercier on Principles of Treatment, (3) by Sir Almroth Wright on The Principles of Vaccine Therapy, (4) by Dr. J. Mackenzie on Nodal Rhythm and Heart-block. The attendance at the scientific meetings averaged: Members, 18: visitors, 1.25. During the year the committee has lost the services of the following: Dr. Nelson Hardy and Dr. Stewart, who have moved out of the Division; Dr. Yeld and Dr. Jessop, who retired owing to ill health; and Dr. Humphreys resigned in April. In addition three meetings of the local profession have been held under the auspices of the Division on the following matters: (1) The Hampstead Hospital question; (2) the formation of a public medical service for Hampstead; (3) the fees proposed to be paid to public vaccinators by the guardians of the poor of Hampstead. With regard to the first, the report of the council, Metropolitan Counties Branch, just issued, shows the present position. The establishment of a public medical service for Hampstead is being forwarded by a committee of the local profession in conjunction with the Hampstead Council of Social Welfare, representatives of the friendly societies, and other interested bodies, and it is hoped that a scheme for its inauguration will shortly be submitted to the profession. The third meeting of the local profession was called to protest against the low fees offered by the guardians for public vaccination, fees which are the lowest permitted by the Local Government Board, and also considerably lower than the fees paid by the majority of boards of guardians in the metropolitan area. The meeting appointed a deputation to wait on the guardians and lay their views on the matter before that body, and the deputation has been successful in persuading the guardians to reconsider the question. Meanwhile a warning notice has been inserted in the BRITISH MEDICAL JOURNAL, and a copy of the resolutions of the meeting has been sent to every member of the local profession. The average attendance at these meetings was: Members, 16; non-members, 3.3; total, 19.3. The annual dinner took place on November 17th, 1908, at the Great Central Hotel. It was well attended and was made the occasion to present Dr. Yeld with an address and a testimonial in recognition of his valuable services to the Division for nearly five years. His subsequent resignation in March in consequence of ill health has deprived the Division of a most valuable and efficient officer. The nucleus of a reference library of medical works has been gradually collected at the central library for the use of the Division and of the medical profession of the neighbourhood. The Borough Council, in addition to housing the library, have allowed the use of the library lecture room for Divisional meetings. In April of this year the Division numbered 193 members; since this date one member, Dr. Hall, of Neville Court, has been lost by death. There are, however, three applications for membership before the Branch Council, which should bring our numbers up to 200. Meanwhile the Branch Council have raised the number required for a third elected representative to the Branch Council from 200 to 250. There are some 250 medical men within the area of the Division who have not yet joined the Association, and it is hoped that the very important work now being carried on by the Association will attract many new members.

Election of Officers.—The following were elected as officers and members of the committee for the year 1909–10: *Chairman*, Mr. H. W. Armit; *Vice-Chairman*, Dr. Ford Anderson; *Representatives to the Branch Council*, Dr. C. James and Miss Dobbie, M.D.; *Honorary Secretaries and Treasurers*, Dr. Parsons and Mr. C. W. Cunnington; *Elected Members of Committee* (11), Drs. Oppenheimer, Macevoy, Pidcock, Claude Taylor, A. Oakley, P. Evans, A. R. Roche, Ware, Scrase, Cowell, C. MacFadden. The Representative to the Representative Meeting, Mr. H. W. Armit, was elected at the Divisional meeting on March 23rd.

Vote of Thanks to Retiring Chairman.—A cordial vote of thanks to Dr. Oppenheimer for his services as chairman during the past year was unanimously carried.

Instructions to Representative at Annual Representative Meeting.—Further instruction to the Representative on details of the agenda of the Annual Representative Meeting, deferred from the meeting of June 4th, were agreed to.

Proposed Alteration of By-laws.—Dr. OPPENHEIMER moved that the by-laws be amended by the insertion of the following:

> That nominations for officers of the Division and for members of the Committee shall be in writing, and be in the hands of the secretaries not later than twenty-one days before the date of the annual meeting, except in the case of nominations by the committee.

This was carried *nemine contradicente*.

STRATFORD DIVISION.

THE annual general meeting of this Division was held on Thursday, June 24th; Dr. GROGONO presiding, in the absence of the Chairman of the Division.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

School Care Committees.—The Division proceeded to elect members willing to act on the various local school care committees, Dr. Carsham Corner, Dr. Challans, and Dr. Collins being elected.

Medical Inspection of School Children.—Thereafter the recommendations upon which the Divisions are asked to instruct their Representatives on medical inspection of school children and treatment of those found defective were considered, and after discussion it was decided that the Representative be accorded a free hand to act according to his discretion in the matter.

Election of Officers.—The office-bearers for the ensuing year were then elected as follows: *Chairman*, A. J. Couzens, F.R.C.S.; *Vice-Chairman*, J. Biernacki, M.D.; *Representative in Representative Meetings of Association*, Percy Rose; *Representative on Council of Branch*, C. Spurrell, F.R.C.S.; *Executive Committee*, Drs. H. S. Beadles, G. Black, F. H. Dayus, E. G. Frederick, W. A. Grogono, E. Hay, C. J. Stocker, W. C. Taylor; *Secretary and Treasurer*, P. J. S. Nicoll, M.D.; *Assistant Secretary*, G. A. Troup, M.D.

WALTHAMSTOW DIVISION.

THE annual meeting of the Division was held at Livingstone College, Leyton, at 4 p.m. on Thursday, June 24th, by the kind invitation of Dr. C. F. Harford. Eighteen members and visitors were present. Dr. HICKMAN presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Letters from Medical Secretary.—Letters from the Medical Secretary were read, and the Secretary instructed to send a letter to each of the nine medical officers of health residing in the area of the Division, similar to the draft sent by the Medical Secretary.

Annual Report.—The annual report was then presented. It was as follows: The work of the session 1908–9 has been good, but the attendances have decreased. Since the issue of the last report seven meetings have been held—one a special meeting to consider an urgent business matter; of the rest five were purely scientific and one combined both science and business. The average attendance (including visitors) at all meetings has been 9, a decrease of 1.2 on last session's record. At the scientific meetings 10.6, and at the business meetings 6.5, was the average, compared with last session's 11.9 and 7.5 respectively. The annual meeting was held at the Great Eastern Hotel, Liverpool Street, on June 16th, 1908, and was followed by the annual dinner. The following important matters have been considered by the Division, and all but the last.

which is still under consideration, were appropriately dealt with: (1) By-laws of proposed Charter; (2) medical treatment of school children found defective by the medical inspector; (3) the grouping of Divisions in proposed Charter for the purposes of Central Council elections; (4) medical inspection of school children; (5) proposed federation of all the big friendly societies. The Division is much indebted to Drs. R. Hutchison and T. G. Stevens, and Messrs. C. D. Ballance, McAdam Eccles, and A. W. Holthusen (House-Surgeon, Walthamstow Hospital) for the able and interesting papers they kindly read at the scientific meetings. The Division is also indebted to the Walthamstow Hospital and the authorities of Grove Hall, Wanstead, for the use of rooms in which some of the meetings were held.

Financial Statement.

	£	s.	d.
Printing and stationery	4	1	6
Postage	1	13	5½
Hire of rooms...	1	0	6
Gratuities	0	8	0
Tea, etc.	1	0	7
Lantern and operator...	1	12	1
	9	16	1½

The Executive Committee only had occasion to meet once during the session for the purpose of transacting necessary formal business. Your representative on the Branch Council has been summoned to seven meetings, of which he has attended six. He also served on the Medical Charities Committee. The Secretary attended four of the Branch Council meetings. Your Representative at Representative Meetings attended the Representative Meeting at Sheffield. The two notices of motion sent up from this Division for the consideration of the Representative Meeting were discussed, but met with defeat. A monthly report of the current work of the Association will in future be in the hands of your Secretary in the early part of each month, and will be read at the next available meeting of the Division or open for inspection at any time to members. The Executive Committee deeply deplore the meagre attendance at the meetings. They appeal to all members to try and induce non-members to join the Association, and beg of them to try and attend at least the meetings held in their district during the coming session.—H. V. HICKMAN (Chairman), A. POTTINGER ELDRED (Hon. Sec.). The reception of the report was proposed by Dr. SHADWELL and seconded by Dr. A. BERRILL, and carried *nemine contradicente*. The adoption of the report was then proposed by Dr. SHADWELL and seconded by Dr. C. J. HORNER, and carried unanimously.

Election of Officers.—The election of officers for the coming session was next proceeded with. The following were nominated: *Chairman*, Dr. C. F. Harford; *Vice-Chairman*, Dr. Robert Jones; *Representative on Branch Council*, Dr. C. H. Wise; *Representative at Representative Meetings*, Dr. St. C. B. Shadwell; *Executive Committee*, Drs. Horner, Hickman, Dykes, Warner, and Macgregor; *Honorary Secretary and Treasurer*, Dr. A. P. Eldred. It was proposed by Dr. NOBLE and seconded by Dr. PRICE that the names of the gentlemen nominated should be submitted to the meeting *en bloc*. This was unanimously agreed to. The names were then put to the meeting and all declared duly elected.

Installation of New Chairman.—The consideration of the programme for the next session was deputed to the Chairman and Honorary Secretary. At this point Dr. HICKMAN left the chair, and the newly elected Chairman, Dr. C. F. HARFORD, took his place.

Vote of Thanks to Retiring Chairman and Honorary Secretary.—Dr. WARNER proposed a vote of thanks to the retiring Chairman, and coupled the name of the Honorary Secretary with it. Dr. BERRILL seconded, and it was accorded with acclamation. Dr. HICKMAN and the HONORARY SECRETARY thanked the members for their vote, and the meeting terminated.

President's Address.—An address of great ability, entitled "How to Increase the Membership and Improve the Utility of the Walthamstow Division of the British Medical Association from the Local Practitioner's Point of View," was then delivered by Dr. C. F. HARFORD, Chairman for the new session. He said:

I desire to thank you most heartily for the honour you have done me in electing me as Chairman of this important Division of the British Medical Association. Living as we do under the shadow of the great metropolis, it is difficult for us to realize the vast size of the area from which our membership is drawn; but when we remember that Leyton and Walthamstow were reckoned, from the point of view of population, in the census of 1901 as the thirty-fourth and thirty-eighth of the great towns of England and Wales, it will be seen that these two great districts are each of them more populous than most of the large towns in the provinces, and, with the rapid increase in the population which has taken place since 1901, it is probable that both districts would now occupy a higher place in the list.

Nor is this all. Our Division, though bearing the name "Walthamstow," comprises the districts so far afield as Ongar, Epping, and Chingford, and embraces all the nearer districts, so that our Division corresponds to a small county rather than a single town, with a considerably larger population than the smaller counties of England.

This being the case, we may well ask what is the position of the members of the medical profession who minister to the needs of this vast population, and we are bound to confess that the influence of the profession as a whole in this area is not what it ought to be. The British Medical Association is the only body which seeks to unite the practitioners of the area in question in any organized manner, and not quite half the medical practitioners in that area belong to the Association, and only a very small number of the members take any practical part in the meetings or business of our Division.

I venture to think, therefore, that it is time that we took this matter seriously to heart, and endeavoured to find the cause of our weakness and the remedy which might be applied. It is with this in view that I have ventured to introduce the subject which is before us this afternoon—namely, "How to increase the membership and improve the utility of the Walthamstow Division of the British Medical Association from the local practitioner's point of view."

I am aware that my qualifications for dealing with this subject are very small, seeing that much of my professional work lies outside the Division, and such work as is done in this college relates more to conditions of tropical climates than the district which lies at our doors. None the less, I am deeply desirous to serve the district in which I dwell, and I earnestly invite you to consider with me how we may uphold the dignity, interests, and influence of the medical profession in this part of South-West Essex. I fear that the same reason which has obscured the importance of such great districts as Leyton and Walthamstow has also to some extent affected the members of our profession. With Harley Street and Cavendish Square almost at our doors, it is little wonder that we should sometimes fail to realize the responsibility of our position, and that though near to the metropolis the interests of our neighbourhood are not in any way identical with those of the great city beyond the Lea. We are bound, if we do our duty, to look after the interests of the population amongst whom our lot is cast. We shall be wise if we look after our interests as professional men, for otherwise who can be expected to care for them? and in order to do this we must be united, and we must each do our part. We live in a day of combination for the common good, and though I do not suggest that we should adopt the somewhat sordid policy of the trade unions, yet common sense tells us that we must be united if we are to achieve any great influence or any marked success. Individuals may, as they have done in the past, do much for their respective districts, and I am sure that the various centres of South-West Essex owe much to the medical practitioners of enterprise and public spirit who have interested themselves in the welfare of the community, but if we were able to act as a body our influence would be almost irresistible.

For what purpose, then, does the British Medical Association exist, and in what way may it be of benefit to medical practitioners of our Division, and how may we combine to make it a success? This is the problem which we now have to face.

1. I consider that the first object of the Association is a

scientific one. We are all of us, I am sure, conscious—and may I not say painfully conscious?—of the widening gap which separates us from our student days, and the opportunities which we then had of studying the various branches of medicine and surgery under the most favourable conditions—opportunities which, perhaps, we did not value so fully as we should have done at the time, opportunities which are now gone for ever. We are all conscious of the rapid strides which are being made in every department of medical science, and we realize that our patients expect us to treat them according to the latest methods, and in every respect to keep abreast with the times. How can we do this?

(*a*) Medical literature must clearly be our chief aid, and very prominent amongst modern medical literature comes the BRITISH MEDICAL JOURNAL, and if it were for this purpose alone that we joined the Association the JOURNAL is well worth sixpence a week, which is all that our subscription involves.

(*b*) But mere reading is tedious work, and we need the contact with our brethren in the profession to stimulate our faculties and to enable us to maintain and develop our professional efficiency. We live in an age of specialism, and it is impossible for any man to be a specialist in all branches of medical and surgical science. It is therefore of the greatest possible value to us to hear papers from recognized authorities in different subjects, as was the case last year in this Division, and to be able to discuss these papers. But it is also most helpful to discuss with our brother practitioners some of the cases which arise in our own practice. Who can tell that we may not be able ourselves to make some valuable contribution to medical science, and in any case we may, by the experience which we gain day by day, learn valuable lessons which we may pass on to others, and we may be able to gain from others their experience on kindred subjects which may be helpful to ourselves. In particular, much may be gained by the consideration of cases brought forward for discussion, and if only all will co-operate the scientific interests of our Division will be materially advanced.

2. But besides the scientific questions which may interest us, there are a number of problems which concern the public welfare and which may in many ways affect our professional interests, and which it might be desirable for us to discuss as members of the medical profession.

(*a*) The question of hospitals is one with which we may well concern ourselves. With London so near there may not be the same need for the maintenance of large hospitals in the suburban districts, but at the same time, with the large poor population which are to be met with in Leyton and Walthamstow, there must be increasing need for hospital accommodation in our district.

(*b*) Questions of public health are also of vital importance to us, and the report of the medical officer of health for Leyton, which has recently been issued, seems in many ways a satisfactory one. At the same time there are questions even in that report which call for our consideration, and I am sure that Dr. Taylor, who has written to express his sympathy with the objects of our meeting, and medical officers of health in other districts will welcome the support of the British Medical Association in the carrying out of needed reforms.

(*c*) The administration of the Poor Law also involves many questions of a medical character, particularly in view of possible changes, and upon these it is desirable that we should keep a watchful eye.

(*d*) Educational questions. The medical inspection of school children and other questions relating to the health of children demand the careful attention of members of the profession.

All of these points may be considered as they affect our own district, but these same questions are being considered by the British Medical Association as a body, and we ought as a Division to have the opportunity of expressing our opinion upon any of the questions which are being debated by the general body of the Association. I am inclined to think that perhaps rather too much time has been taken up at our public meetings in considering questions of this kind which perhaps do not interest all, but I think it would be well for a subcommittee in our Division to be charged with the consideration of these questions, bringing forward any points of importance for the general consideration of members, and we owe much to our representatives who have for years past voiced the feelings of our Division in the larger meetings of the Association.

3. Ethical questions. Cases of difficulty are bound to arise at times, owing to misunderstandings between professional brethren, and the British Medical Association has done valuable work in the past in dealing with ethical questions, and it may do so in the future.

4. Medical protection. The work of medical protection has been well done in the past by various organizations, and it is a question how far this can be done by the British Medical Association, and in the future it is probable that some attention may be given to this important matter.

In this brief summary which I have endeavoured to give of the scope of the work of the British Medical Association and the advantages which may accrue to local practitioners from joining heartily in the work of our Division, one is bound to confess that there are certain difficulties in the way of success, and yet I feel sure that these are not insurmountable, and I propose to make some suggestions as to the way in which they may be removed.

The great distances which many of our members have to travel undoubtedly make it difficult for some to attend any combined meetings. It is clear that combined meetings must be held at some centre, and probably Leyton and Walthamstow are the parts most accessible to the majority of members. At the same time, it is worthy of consideration whether it may not be possible to hold less formal meetings in small groups in the different Divisions which might help to increase the common sympathy between members of our profession which may give opportunities for scientific discussion and clinical demonstrations.

When, however, we come to the question of local problems, it is clear that these need to be dealt with in different ways. Poor Law questions might well be considered by the whole Division, but questions which simply affect urban councils of the districts, as Leyton and Walthamstow, should, I think, be considered primarily by practitioners living in those districts; and I think that it would be most desirable in any part where there is a large enough number of members of the Association that there should be a local subcommittee, with power to call together the members of the district for the consideration of purely local questions, it being understood that no action could be taken in the name of the Division without reference to the entire Division.

These matters of detail, however, could easily be arranged, and I submit them for your consideration.

Medical men sometimes ask, "What has the British Medical Association done for me?" but there is another question which I think we may fairly ask, and that is, "What have I done for the British Medical Association?" I speak as one who has done very little for the Association in the past, but I am most anxious, specially during my year of office, to help forward our Division in every way in my power, and particularly to see a large accession of members from Leyton. I think that it is hardly sufficiently recognized that the British Medical Association is an organization which is under the control of its members, and each one of us, therefore, has the opportunity of affecting the counsels of the Association at large. I trust that we in this Division may do our part, and that we may not only derive benefit, but that we may be able to make some valuable contribution to this great medical association.

At the end of the address discussion and suggestions were invited. The following gentlemen took part in the discussion: Drs. PRICE, SHADWELL, MACGREGOR, WARNER, HICKMAN, BERRILL, NOBLE, and ELDRED.

Tea.—The members and visitors then adjourned to tea kindly supplied by Dr. Harford, who entertained them in a sumptuous manner.

Exhibits.—At the conclusion of the tea many articles of interest, chief amongst which was Dr. Livingstone's medicine chest and microscopical specimens of the blood parasites of tropical countries, were shown, and with these ended a most instructive and enjoyable meeting.

A BUSINESS meeting of this Division was held at the Walthamstow Hospital on Tuesday, May 18th, at 4 p.m. Five members were present. Dr. HICKMAN presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Letters.—Letters from the Medical Secretary and City Division were read and the Secretary instructed to reply.

Annual Representative Meeting.—It was proposed, seconded, and unanimously resolved, that the Representative at Representative Meetings should exercise his own discretion in voting on all matters brought up at the Representative Meeting.

Whole-time Medical Officers of Health.—The next business was the consideration of the Public Health Committee's report upon the desirability of whole-time appointments for medical officers of health. The Secretary was instructed to forward to the Medical Secretary the following unanimous resolution:

> The general principle of whole-time appointments is unanimously supported by this Division, but we are of opinion that under existing circumstances such appointments, in the very sparsely populated rural districts, are impossible for economical as well as other reasons.

The meeting then ended.

Westminster Division.

The annual meeting of the Division was held on Thursday, June 3rd, at the Criterion Restaurant, Dr. William Ewart presiding. Twenty-three members and guests dined together, and six members arrived at a later hour.

Confirmation of Minutes.—The minutes of the previous meeting were duly accepted and signed.

Medical Secretary's Report.—The Medical Secretary's report was read.

Appointment of Scrutineer.—Dr. Milligan was selected to act as scrutineer at the forthcoming election of the officers of the Branch and of representatives on the Central Council.

Unqualified Practice.—The communication from the Medico-Political Committee concerning "unqualified practice" was referred to the Executive Committee.

Election of Officers.—The following gentlemen nominated by the Executive Committee were elected to the undermentioned offices: *President*, Dr. Dauber; *Vice-President*, Dr. F. J. Allan; *Honorary Secretary and Treasurer*, Mr. Howell Evans; *Assistant Honorary Secretary*, Dr. Milligan; *Representative in Representative Meetings*, Dr. Haslip; *Representatives on Branch Council*, Drs. Archer, Finucane, Allan, Howell Evans, and Hilliard; *Executive Committee*, Drs. Allan, Archer, Cautley, Cope, Dauber, Durham, Evans, Ewart, Finucane, Haslip, Hilliard, Milligan, Inglis Parsons, Roche, Sibley, and Spencer.

Treasurer's Report.—The Honorary Treasurer's report was received.

Paper.—Sir Lauder Brunton read a paper on blood pressure in man, which will be published in an early issue of the Journal.

Vote of Thanks.—A hearty vote of thanks was accorded to Sir Lauder Brunton and those gentlemen who entered into the discussion.

The Midwives Act.—The following paper on the Midwives Act was read by Dr. M. I. Finucane at a previous meeting. He said:

The position of the subject of the Midwives Act of 1902 on our agenda paper to-day will enable me only to briefly touch upon some of its provisions and defects.

In considering the Midwives Act of 1902 and the present Departmental Committee's inquiry into the working of it, it is important in basing our criticisms on the Act and this inquiry not to overlook, first of all, any benefits it may have conferred on the public and the profession.

Personally I am prepared to accept the overwhelming evidence given by inquiries previous to the Act, which showed the necessity for it, and our common knowledge and experience as doctors as corroborating the report of the Select Committee, which spoke "of the serious and unnecessary loss of life and health and permanent injury to both mother and child in the treatment of childbirth by the untrained and unregulated midwifery practice of women." The public utility and demand—and I would add, still growing demand—for this class of medical service from women midwives to women, especially amongst the poor, is undoubted and incontrovertible; and if you have added to this public safety, insured as it is by the Legislature in this Act, and administered by the Central Midwives Board in the spirit of the Act, as it appears to me they are endeavouring to do by their regulations, as regards the training, examination, registration, and local control of midwives, then subject to legislative provision for improvement and regulation such as I shall indicate in the following remarks, and which the working of the Act has shown is required, there should remain no reasonable ground of complaint either to the public or to the medical profession.

I am not one of those who see in this Act a further encroachment on the domain of the general practitioner, or, as a recent letter in the British Medical Journal asserts, and which it is only fair to quote as putting this view of it before you, if only to elicit discussion, when the writer says: "Is it not patent to anybody who has eyes to see that the whole end and aim of the powers that be is to get all the practice out of the hands of private practitioners, and substitute a public service of inferior midwives, etc.?"

1. The Act has been a failure in so far as it has not kept up the supply of midwives required—which was predicted—and to the cost of their training, and, I would also add, as to their efficient training.

2. The Act has also been a failure in so far as it has not dealt with the fundamental requirements of medical help to midwives in midwifery emergencies by a proper provision for payment of such services.

3. The Act has been a failure in so far as the delegation of powers under the Act is allowed by county councils to subordinate local authorities, who in their turn can delegate to others, by which the difficulty, practically amounting to impossibility, exists of the Central Midwives Board being able to collect the contributions of the local supervising authorities as provided by Section 5 of the Act.

The terms of reference to the present Departmental Committee sitting to inquire into the working of the Midwives Act being somewhat limited, I must shortly summarize under headings the points that occur to me as relevant to that reference in this Division.

First, as to supply. In a return furnished by the Medical Officer of Health of Westminster it would appear there are only six registered qualified midwives at present in practice in the city; there are others, of course, on the register who are not in practice. Section 10 of the Act requires every woman to notify in writing her intention to practise to the local supervising authority.

From my observation I believe there are many more midwives in practice than the above numbers indicate, and this must presuppose ignorance on the part of the midwife of the necessity for notification, or not very efficient supervision by the local supervising authority, in justice to whom it must be said that it is no part of their business to see that these are on the roll of local midwives, though there is a penalty attached to the non-notification by the practising midwife, and the prosecution of such an offence *may* be carried out by the local supervising authority.

The scarcity of supply also, in my opinion, up to now has been largely due to the want of co-operation by the Local Government Board and Central Midwives Board, by which two great bodies, dealing with similar services, have kept one another at arm's length; for whereas before the Act there was a steady and constant supply of women who had completed their general training as nurses in our Poor Law institutions, afterwards taking their midwifery training in the excellent and up-to-date lying-in wards of the Poor Law union—I speak especially of the metropolis and St. George's, Hanover Square, Union—now, owing to certain requirements of the Central Midwives Board, such as over 100 cases a year being required and the resident appointment of the medical officer being a necessity, that Board has refused recognition of the Poor Law unions as training schools. Further, in our union here, the guardians, though urged by the medical officer to apply for recognition by the Central Midwives Board, have refused to do so, and thus this excellent means of turning out annually numbers of women with certificates of general training as nurses and midwives has been lost. It is satisfactory to note that by the circular of the Local Government Board there is a marked disposition of that body to come more into line with the requirements of the Act.

[illegible] right to apply the new regulations

The cost of training is at present, in the absence of the training in Poor Law institutions, too high for the class of women adopting this as a calling with the intention of future practice; from inquiries I have made the least cost to women would be about £50. All this extra cost would be avoided by the more general utilization of Poor Law lying-in wards as training centres.

As to efficiency. It is obvious that institutional training in the lying-in wards in addition to the general training as a nurse will turn out more capable women than a three months' training in a district under a local practising midwife.

The payment of professional services where doctors are called in by the practising midwife is at present in a state of chaos, and will have to be altered; and I think we should insist that the payment of medical practitioners called in to assist midwives attending abnormal labour among the poor should be definitely provided by one public authority. At present in this union of your Division the County Council have delegated to the guardians this function, and the guardians have only agreed to pay 10s. 6d. per case, and that only if the case is handed over to one of their district medical officers, under the provisions of Articles 182 and 183 of the General Consolidated Order and to Section 2 of the Poor Law Amendment Act, 1848, and which really only applies to paupers. No public announcement of this has been made for the information of general practitioners, but a notice has been sent to a few of the practising midwives. One case that I know of was attended by a doctor in such an emergency, and I believe his ordinary fee was subsequently paid; but there ought to be some definite understanding providing for this by law.

It would have been easy to elaborate in detail numerous interesting points to the profession on this Act as one observes it in a district, but time prevents, and the scope of the Departmental Committee's present inquiry does not touch these points.

As members of the profession and this Division we have been too slack in the past to safeguard all the interests involved in this legislation, and it is now too late to turn back. We must accept the Act and work it to the best advantage of all concerned.

I think the constitution of the personnel of the Central Midwives Board has not sufficiently recognized the important interests of the great mass of medical men practising midwifery—namely, the general practitioner—and that personnel fails to include sufficient representatives of this class on the membership of the Central Midwives Board. Where the work of that Board is increasing there is every reason to think its present numbers are too small, and I venture to express the hope that if the number of representatives are increased this Association and Division will see to it that the mass of the profession are more adequately represented.

NORTH OF ENGLAND BRANCH.

THE following is the result of the recent election of representatives on the Central Council of the Association:

	Farquharson.	MacDonald.	Todd.
Plumpers	6	1	55
Splits—			
Farquharson and MacDonald ..	3	3	0
Farquharson and Todd ...	173	0	173
MacDonald and Todd ...	0	27	27
	182	51	255

Elected. Votes.

D. F. Todd 255
A. C. Farquharson 182

Not Elected.

J. MacDonald 51

ALBERT E. MORRISON, *President.*
J. G. MODLIN
R. S. HUTCHESON, *Scrutineers.*

June 21st.

NORTH NORTHUMBERLAND DIVISION.

THE annual meeting was held in the Plough Hotel, Alnwick, on Thursday, June 24th. There were present: Drs. Main, Robson, Purves, Moyes, and Bowman. Dr. MAIN was voted to the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Dey, Badcock, and Forrest.

Installation of New Chairman.—Dr. ROBSON proposed, and Dr. WELSH seconded, the nomination of Dr. Scott Purves as chairman, and he was elected.

Election of Officers.—Dr. Main having resigned the chair to the new chairman, the following officers were elected: *Vice-Chairman*, Dr. Dey; *Secretary*, Dr. Burman; *Representatives on Branch Council*, Drs. Maclagan and Robson; *Executive Committee*, Drs. Paxton, Macaskie, and Moyes.

Nomination of Representative at Annual Representative Meeting.—The Secretary was instructed to write to the Secretary of the Morpeth Division asking him to call a meeting of the combined Divisions to nominate a Representative for Representative Meeting.

County Nursing Association.—The SECRETARY read correspondence with the County Nursing Association regarding the alteration in the rules for maternity nurses at Alnwick, and he was instructed (1) to call attention to the fact that no answer had been given to the request to withdraw the rule; (2) to ask the local secretary to call a meeting of the local committee and the local medical men to consider the alteration of the rule, in accordance with the letter of the President of the Association in a letter dated December 22nd, 1908.

Place of Meeting.—It was decided to ask permission to hold subsequent meetings at Alnwick in the committee room of the infirmary.

Communication as to Collection of Debts.—A communication from a member referring to the collection of debts was considered, and the Secretary was requested to invite the member to bring forward some definite scheme, on the lines suggested in his letter, at the next meeting.

Annual Social Meeting.—It was decided to hold the annual social meeting at Chillingham Castle in the first week of August, and the Secretary was instructed to make the necessary arrangements for the meeting.

Communications.—Various communications from the Medical Secretary were discussed.

Tea.—The members were entertained to tea by the Chairman.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of the Branch was held at Lossiemouth on Saturday, June 5th. Twenty-five members were present.

Apologies for Non-attendance.—Apologies were intimated from Drs. Kaye, Bruce, Murdo Mackenzie, J. A. Cameron, Simpson, and others.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Autumn Meeting.—It was decided to hold the autumn meeting at Elgin and the next annual meeting at Nairn.

Election of Office-bearers.—The following members were elected officers for the ensuing year: *President*, Dr. Pender Smith (Dingwall); *President-elect*, Dr. Brodie Cruickshank (Nairn); *Vice-Presidents*, Dr. Miller (Fort William), and Dr. de Watteville (Kingussie); *Members of Council*, Dr. John Mackenzie (Inverness), Dr. Campbell (Elgin), Dr. Kaye (Strathpeffer), Dr. John MacDonald (Inverness), Dr. Sutter (Nairn), Dr. Mackie (Elgin); *Representative at Representative Meetings*, Dr. Jas. Murray (Inverness); *Representative on Central Council*, Dr. J. Munro Moir (Inverness); *Honorary Secretary and Treasurer*, Dr. John Munro Moir (Inverness).

Earlier Appointment of Representative.—It was unanimously resolved to alter the Branch rule so as to provide for the election of the Representative to the Annual Representative Meeting being made as early as possible after January 1st in each year.

Whole time Medical Officers of Health.—It was unanimously agreed:

That this Branch considers that, as far as possible, appointments as medical officers of health should be whole time appointments, that in exceptional circumstances, as in [illegible] of necessity be part-time [illegible]

Medical Certification of Suitability for Hospital Treatment.—It was unanimously resolved to approve of the recommendation that medical certificates of suitability for hospital treatment should be required as a condition of

hospital treatment, except in cases of accident or sudden illness.

Representation of Local Medical Profession on Hospital Boards.—The principle of representation of local medical men on hospital boards was approved of.

Business Management of the Association.—Dr. J. MUNRO MOIR proposed, and Dr. DE WATTEVILLE seconded, the following resolution, which was unanimously approved:

That, in view of the practical experience of the last thirty-seven years, during which period the Association has enjoyed great financial prosperity, it has been proved that, in the best interests of the British Medical Association, it is essential to have an official with the rank and status of "General Secretary and Manager"; and that such official should possess special business training. Further, that having regard to the highly satisfactory manner in which Mr. Guy Elliston has discharged the duties since his appointment in 1902, it is in the interests of the Association that his services should be retained as "General Secretary and Manager"; and that the Representative of the Northern Counties Branch to the Representative Meeting at Belfast be instructed accordingly.

After luncheon at the Stotfield Hotel, golfing members, through the courtesy of the Moray Golf Club, enjoyed a pleasant game over the Lossiemouth course.

NORTH WALES BRANCH:

NORTH CARNARVON AND ANGLESEY DIVISION.

A MEETING of this Division was held at the British Hotel, Bangor, on June 23rd, Dr. R. A. PRICHARD, J.P. (Conway), in the chair.

Election of Officers.—The following officers were elected for the ensuing year: *Chairman*, H. Jones Roberts, M.D., J.P. (Penygroes); *Vice-Chairman*, E. Parry Edwards, J.P. (Mynyddygof); *Secretary*, John Evans, M.D. (Carnarvon); *Representative to Annual Representative Meeting*, Emyr O. Price, M.D. (Bangor); *Representatives on Branch Council*, John Evans, M.D. (Carnarvon), R. A. Prichard, J.P. (Conway), J. R. Prytherch, M.B. (Llangefni), J. Lloyd Roberts, M.B., J.P. (Colwyn Bay); *Executive Committee*, G. Llewelyn Jones (Llangefni), R. H. Mills Roberts, C.M.G., F.R.C.S.E., J.P. (Llanberis), Corbet W. Owen, M.B. (Bangor), R. Lumley Roberts (Bethesda).

Matters Referred to Divisions.—The various matters referred by the Central Council to Divisions were discussed and, in general, approved of.

Unqualified Practice.—A letter was read from the Medical Secretary with reference to the inquiry being made by medical officers of health into unqualified practice. In view of its prevalence in the area of the Division, it was decided to make an exhaustive investigation and to collect evidence. For this purpose a subcommittee, consisting of the Chairman-elect, Vice-Chairman-elect, Honorary Secretary, with Drs. Prichard (Conway), Prytherch (Llangefni), and Price (Bangor), was appointed.

Cases.—Two interesting cases of colostomy were then described by Dr. J. R. Prytherch, of Llangefni.

SOUTH-EASTERN BRANCH:

BROMLEY DIVISION.

THE annual general meeting of this Division was held at the Bell Hotel, Bromley, on Wednesday, June 9th.

Amendments and Additions to Rules.—Several amendments and additions to the existing rules of the Division were made, and the Honorary Secretary was instructed to forward a copy of the new rules to the Secretary of the Branch.

Date of Election of Representative at Representative Meetings.—It was decided that the following amendment to Article XXVII be brought before the notice of the Council of the Association:

In the case of a constituency formed within the United Kingdom the Representative shall be elected by a general meeting of members of the constituency held not more than *nine* months nor less than three weeks, etc.

Election of Office-bearers.—The following members were appointed officers for the ensuing year: *Chairman*, J. Scott, M.D.; *Vice-Chairman*, C. E. M. Lewis, M.D.; *Honorary Secretary and Treasurer*, A. Tennyson Smith, M.D.; *Representatives on Branch Council*, J. Scott, M.D., and A. Tennyson Smith, M.D.; *Representative at Representative Meeting*, elected by the Sevenoaks Division; *Executive Committee*, J. Ilott, M.D., E. A. Seal, M.D., G. R. Stillwell, M.B., and H. J. Wolseley, M.B.

Royal Commission on Unqualified Practice.—The letter sent by the Medical Secretary was discussed, and the Honorary Secretary was instructed to write to the different medical officers of health in Kent regarding co-operation. The following resolution was passed:

The Bromley Division would urge upon the Council the necessity of including the traffic of quack medicines and apparatus within the scope of the Royal Commission.

Ophthalmia Neonatorum Report.—The Ophthalmia Neonatorum Report, forwarded by the Medical Secretary, was read and discussed.

CANTERBURY AND FAVERSHAM DIVISION.

A MEETING of this Division was held on June 17th at the Cottage Hospital, Faversham, Dr. C. DUDLEY GARRETT presiding. There were present: Drs. Alexander, Bowes, Evers, Garrett, Gosse, Heggs, Hinchley, and Reid.

Next Meeting.—The annual meeting was fixed for Thursday, July 8th, at the County Hotel, Canterbury, when Dr. Eyre, of Guy's Hospital, will give a lantern demonstration upon vaccines and vaccine therapy.

Proposed Division of the South-Eastern Branch.—The meeting unanimously supported the proposal of the Brighton Division. The October meeting, 1908, also unanimously supported the proposal (sixteen members present).

Medical Inspection and Treatment of School Children.—Subject to paragraph 31, the meeting approved all the recommendations contained in the report of the Medico-Political Committee. Under Recommendation B, however, for part-time officers, the meeting was in favour of payment per head and not by time devoted.

Ophthalmia Neonatorum Committee Report.—All the recommendations were approved.

Medical Certification of Suitability of Patients for Hospital Treatment.—The recommendation contained in the report of the Medico-Political Committee was approved.

Contributions to Hospitals by Employers and Employees.—Both the motions were disapproved.

Fresh Public Medical Institutions.—In regard to this matter the motion was approved.

Sanatoriums for Tuberculous Workers.—The resolution of the Representative Meeting was approved.

Representation of Local Medical Profession on Hospital Boards.—The meeting unanimously approved the motions of the Wandsworth Division.

Unqualified Practice.—Correspondence concerning "unqualified practice" and medical law reform was read.

Luncheon.—The Chairman (Dr. Garrett) kindly entertained members at luncheon prior to the meeting.

Votes of Thanks.—Hearty votes of thanks were accorded the Chairman for presiding and for his hospitality, and also the Faversham Cottage Hospital authorities for their hospitality.

EASTBOURNE DIVISION.

THE seventh annual general meeting was held at the Grand Hotel, Eastbourne, on Friday, June 18th, at 7 p.m., Dr. W. J. C. MERRY in the chair. There were present: Drs. Elvy, J. H. Ewart, H. D. Farnell, H. S. Gabbett, F. C. Goodwin, C. O'Brien Harding, A. Harper, G. S. Robinson, A. Roberts, H. W. Saunders, A. P. Sherwood, and the Honorary Secretary.

Confirmation of Minutes.—The minutes of the last annual general meeting were read and confirmed.

Apologies for Non-attendance.—Apologies for inability to attend were received from Drs. J. Adams, A. Bowles, L. Cane, W. S. Fincham, H. Habgood, and J. Holman.

Report of Executive Committee.—The annual report of the Executive Committee was unanimously adopted.

Election of Officers.—The following officers, representatives, and members of Executive Committee were unanimously elected to serve for the ensuing year: *Chairman*, H. D. Farnell, F.R.C.S., J.P.; *Vice-Chairman*, Kenneth Frazer, M.D.; *Honorary Secretary and Treasurer*, William Muir Smith, M.B.; *Representative on Branch Council*, W. J. C. Merry, M.D.; *Representative for Representative Meeting*, J. H. Ewart, M.R.C.S.; *Executive Committee*, H. S. Gabbett, M.D., F. C. Goodwin, M.D., C. O'B. Harding, M.R.C.S., J.P., A. Harper, M.D., A. Roberts, M.R.C.S.

Whole-time Medical Officers of Health.—After considering the report of the Public Health Committee published in the SUPPLEMENT of January 23rd, requesting an expression of opinion by the Division for or against the proposition, "That medical officers of health should be debarred from engaging in private practice," it was duly proposed, seconded, and carried unanimously (twelve members present and voting):

That the proposition be approved, with the addition of "when practicable."

It was unanimously resolved to adjourn the remainder of the agenda till an early meeting.

Dinner.—The members thereafter adjourned to dinner, at which fifteen sat down. After dinner the CHAIRMAN proposed the toast of "The King," to which members loyally responded. Dr. F. MARSDIN proposed the health of the Chairman in reminiscent terms, to which the CHAIRMAN cordially responded. The members then adjourned to the library, where coffee, cigars, and cigarettes were handed round by the bounty of the Chairman, the remainder of the evening being spent in social intercourse.

ISLE OF THANET DIVISION.

THE annual general meeting of this Division was held at the Victoria Hotel, Ramsgate, on Friday, June 25th, at 4 p.m., Dr. G. E. HALSTEAD in the chair. There were also present eleven members.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Next Meeting.—It was decided to hold the next meeting at Broadstairs about the end of September, and Dr. Brightman was elected Chairman for that meeting; Mr. Hugh M. Raven was re elected Honorary Secretary and Treasurer and member of the South-Eastern Branch Council; Drs. Nichol, Heaton, Thornton, and Cotton were re-elected members of the Executive Committee.

Earlier Election of Representative at Representative Meetings.—Dr. THORNTON moved that Rule 7 be altered in order that the Representative may be elected, if wished, nine months before the Representative Meeting, notice of this having been given on the agenda; the matter was fully discussed and agreed to unanimously.

Letter from Canterbury and Faversham Division.—A letter was received from the Honorary Secretary of the Canterbury and Faversham Division saying that they hoped to hold their annual meeting and to elect (jointly with Thanet) the Representative early in July, and that Dr. Gosse was willing to act again.

Proposed Division of South-Eastern Branch.—A letter was read from the Honorary Secretary of the South-Eastern Branch asking the opinion of the Division on the proposition of the Brighton Division to divide the Branch into two parts, (1) Kent and (2) Sussex and Surrey. The Division, after a prolonged discussion, came to the conclusion that things had better be left as they were.

Annual Report.

The annual report of the Division, which had been circulated among the members, was presented by the Executive Committee. It was as follows:

The Executive Committee beg to offer their annual report. They regret to report the death of Mr. W. K. Treves, F.R.C.S., one of the earliest members of the Association in this Division, the first chairman of the newly constituted Division, and for many years the Honorary Secretary of the old East Kent district. Mr. Treves always took the keenest interest in the work of the Association in the honour and interests of the profession, and his loss has been greatly felt by all the members. The Division now contains forty-nine members, the same number as last year. As far as can be ascertained there are about twelve medical men in active practice in the Divisional area who are not members of the Association. It is hoped that no opportunity will be lost for inducing them to join the British Medical Association. The Division has met six times, the average attendance being 17.3. The annual dinner was held at Ramsgate in December, at which covers were laid for twenty. The Executive Committee have met five times. The Special Committee dealing with the negotiations with the Fever Hospital has met four times.

The following are the chief matters with which the Division has dealt during the year:

Medico-Political.—1. The agenda of the Annual Representative Meeting, a report of which was kindly given by Dr. Gosse at a meeting in October.

2. Medical inspection of school children. The Division has kept in touch with the various points which are arising in this matter, and the Executive Committee have been given power to co-opt the local medical school inspectors when the subject is under discussion.

3. In considering a report from the Medico-Political Committee of the Association, Dr. Street introduced a discussion on the question of medical examinations for life insurance. In reply to specific questions on fees for examination for insurance, the following resolution was carried unanimously:

That the Division is of opinion that a fee less than one guinea should not be accepted as payment for the usual examination and report on a candidate for the policy of an ordinary life assurance company.

The Honorary Secretary was instructed to forward this resolution as a reply, being the opinion of the Division in the matter, but it was not intended as a direction to members.

4. A proposal for the dividing up of the South-Eastern Branch has been before the Division more than once, and the matter is still under consideration.

5. Negotiations have been taking place during the year between the specially-appointed committee and the board of the Isolation Hospital. At a meeting in March, 1909, Drs Halstead and Thornton were appointed as delegates to meet a subcommittee of the management, and it is hoped that shortly alterations will be made at the hospital to ensure adequate provision for isolating cases in which there is doubt as to diagnosis and cases of mixed infection.

Many other matters of minor importance have been dealt with by the Executive Committee and reported upon.

Medico-Ethical.—The following resolution was unanimously carried at a meeting in June, 1909:

That this Division is of opinion that medical men should not attend gratuitously the staff of hotels and boarding houses in consideration of their being recommended to visitors needing medical advice, the opinion of the Ethical Committee of the British Medical Association being that such gratuitous attendances violate the spirit of the Prevention of Corruption Act, and is discreditable to the medical profession.

The following resolution, which had been carried unanimously at one and endorsed at another meeting, which was largely attended by members and by several dental surgeons present by invitation, was circulated among all medical men practising in Thanet:

That members of this Division are reminded that it is, in the opinion of the General Medical Council, infamous conduct in a professional respect to administer anæsthetics for or in any way to assist an unregistered dentist.

Clinical.—The following papers have been before the Division during the year:

Mr. Douglas Drew read a paper on some complications of suppurative disease of the middle ear, their diagnosis and treatment. The paper was illustrated by museum specimens, photographs, and diagrams.

Dr. Arthur Latham read a paper on the administration of tuberculin, which was illustrated with diagrams and charts of various cases.

Sir Malcolm A. Morris, F.R.C.S., read a paper on the use of radium in the treatment of diseases of the skin, and gave a demonstration of a method of treatment with specimens.

Mr. Bertram Thornton read a paper on some observations on scarlet fever.

Mr. H. M. Raven read some notes on cases of high tension.

Fourteen cases of clinical interest were brought before the Division and led to interesting discussions.

For the information of those members who have joined the Thanet Division since 1905, attention is drawn to the resolution which was carried by the Division in that year with regard to the signing of school certificates:

That the members of the Isle of Thanet Division be desired to decline to furnish school certificates to the Kent Educational Authorities for a fee less than half a crown.

And also to the following resolution, which was passed in 1906:

That the members of this Division be informed that the Kent County Council will not sanction the coroner paying a fee for a report on a case of uncertifiable death, and they are advised not to give such report.

HUGH M. RAVEN, Honorary Secretary.

DR. WATTS moved and DR. TAMPLIN seconded the adoption of the report, both gentlemen remarking on the useful and full year's work which had been carried through, especially on the successful conclusion to the long negotiations with the board of the Isolation Hospital. The adoption was carried unanimously.

Unqualified Practice.—A letter was read from the Medical Secretary on reporting cases of unqualified practice to the medical officer of health. The letter was not discussed.

Current Work of the Association.—A letter was read from the Medical Secretary about the current work of the Association. It was not discussed.

Annual Representative Meeting.—As no member had notified the Honorary Secretary that he wished any point in the agenda of the Annual Representative Meeting to be discussed, the various matters were left to the discretion of the Representative of the Division.

Whole-time Medical Officers of Health.—A discussion took place on the question of the desirability of a medical officer of health giving his whole time to the work. A report on the subject appeared in the BRITISH MEDICAL JOURNAL of January 23rd, 1909. The matter was well discussed. Eventually the following resolution was carried:

That medical officers of health should, as a rule, be debarred from engaging in private practice provided that a sufficient remuneration be forthcoming, which should be at a minimum approximately of £500 a year.

Divisional Area.—The discussion followed mainly on the lines of what was and would be in future the best arrangement for the Divisional area, and it was decided to postpone further discussion to a meeting of the Division, on the agenda of which the matter could be formally placed, when it was hoped there would be a larger attendance.

Ophthalmia Neonatorum Report.—A consideration of the report of the British Medical Association Committee on Ophthalmia Neonatorum led to an interesting discussion, in which many members joined.

Vote of Thanks to Chairman.—A vote of thanks was passed to the Chairman for presiding.

MAIDSTONE DIVISION.

THE annual meeting of this Division was held at the Kent County Ophthalmic Hospital, Maidstone, on Thursday, June 24th, at 6 p.m. The Executive Committee met at 5.30. There were present at the meeting: Mr. F. T. TRAVERS, in the chair; Drs. Douglas, Pye Oliver, Mapleton, Hoar, Caesar, Lewis, Falwasser, Parr-Dudley, Mr. Killick, Mr. Hallowes, Drs. Baynton Forge, Ryan, Dwyer, Captain Reed, R.A.M.C.; visitors, Dr. Howarth, Captain Parry, R.A.M.C.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Letter to Head Masters of Schools.—Dr. PARR-DUDLEY moved that the following letter be sent to head masters in Kent:

Sir,—I am instructed by the Maidstone Division of the British Medical Association respectfully to call your attention to the following considerations:

The increase in the number of students this year entering the medical schools is evidence that there is a complete ignorance on the part of the parents of the economic crisis in the profession of medicine.

In general practice, to which nine-tenths of the entrants are destined, the field of work, and therefore the income, has been contracting, and is bound to contract as disease becomes more and more preventable. Moreover, a high percentage of the work of every general practitioner is unremunerative and in the nature of charity.

The BRITISH MEDICAL JOURNAL says: "The average income of the practitioner has been estimated at £200–£250 a year. The chances of being able to save even to the extent of the capital expended in education are in a large proportion of cases slight, while reasonable provision for old age, after family expenses are met, is difficult and too often impossible." This is after a training lasting seven years and costing £1,000–£1,200 at least, and even this pittance is only gained by working seven days a week and being "on duty" twenty-four hours a day, with the natural result that the death-rate in the medical profession is higher than in any other, the army not excepted.

In France and Germany it has been found needful to issue "letters of warning" to intending students, as the results of practice are equally unsatisfactory there.

We would therefore ask you to urge intending entrants to inquire further before joining so overcrowded a profession."

DR. HOAR proposed and MR. HALLOWES seconded that the Representative Meeting be requested to send a letter to the head masters of schools in accordance with the terms of the above letter, based on that already sent to the head masters of schools by the Salford Division of the British Medical Association. This was carried unanimously.

Hearts of Oak Benefit Society.—Dr. PARR-DUDLEY moved:

That whereas the Hearts of Oak Benefit Society has refused to appoint medical officers with the diplomas of "L.F.P.S.G.—L.S.A., and L.M. only," and whereas the Society of Apothecaries have professed themselves unable to deal with the above, this meeting considers it desirable that the BRITISH MEDICAL JOURNAL shall prominently publish these facts.

It was unanimously resolved that the Honorary Secretary write to the Medical Secretary and draw his attention to these facts.

Election of Officers.—The Executive Committee having recommended the following members to be officers for the ensuing year, they were unanimously elected: *Chairman*, Dr. Wolseley Lewis; *Vice-Chairman*, Dr. W. Douglas; *Honorary Secretary and Treasurer*, George Potts; *Representative at Representative Meetings*, Dr. W. Douglas; *Representative on Branch Council*, Dr. A. T. Falwasser; *Executive Committee*, Mr. Killick, Dr. Joyce, Dr. Mapleton, Dr. W. Shaw.

Advertisements in Local Press.—Dr. FALWASSER drew attention to an advertisement of an eczema and skin cure which had been issued in Maidstone. The Secretary was directed to forward the same to the Medical Secretary. Dr. Falwasser showed several advertisements which had appeared in the local press and which were considered indecent. The Secretary was asked to write to the editor of the paper and to draw his attention to the matter, and to suggest that he have them suppressed.

Kent County Council and Midwifery Fees.—Dr. CAESAR drew the attention of the meeting to a notification requesting him to attend to a case of difficult labour, which notification appeared in the name of the Kent County Council. Dr. Caesar desired to know if the Kent County Council was responsible for the fee. Dr. HOWARTH stated that they were not. Dr. FORGE suggested that the Kent County Council should notify this fact on their forms in future.

Representative Meeting.—The following resolution was passed:

That a synopsis of the work done at the Representative meetings be published in the SUPPLEMENT to the JOURNAL soon after the meetings and distributed to the secretaries and Representatives.

Dinner.—After the meeting a dinner was held at the Royal Star Hotel, Maidstone, when twenty-three sat down to it.

TUNBRIDGE WELLS DIVISION.

THE annual meeting was held on Wednesday, June 16th, at 5.15 p.m., at the General Hospital, Tunbridge Wells, Dr. ADENEY in the chair. There were also present: Drs. Wilson, P. C. Smith, B. Rix, C. Rix, Guthrie, W. Wallis, Warde, Davies, Riley, Pardington, Dyer, and Starling.

Confirmation of Minutes.—The minutes of the last annual meeting were read, confirmed, and signed.

Election of Officers.—The following members were elected officers for the ensuing year: *Chairman*, Dr. W. Wallis; *Vice-Chairman*, Dr. E. L. Adeney; *Joint Secretaries*, Drs. E. A. Starling and W. B. Warde; *Representative on Branch Council*, Dr. Pardington; *Representative to Representative Meeting*, Dr. Starling; *Executive Committee*, Drs. B. Rix, C. R. Watson, J. B. Footner, C. R. Crawford, C. Rix, Thos. Elliott.

Division of South-Eastern Branch.—The motion:

That this Division do not consent to the division of the Branch,

was carried, with one dissentient and one neutral.

Report of Executive Committee.—The annual report of the Executive Committee was unanimously adopted.

Whole-time Medical Officers of Health.—The meeting approved of medical officers of health not engaging in private practice, provided that the areas are so grouped as to provide adequate work and remuneration for the officers.

Unqualified Practice.—A subcommittee was appointed to obtain information and communicate the same to the medical officer of health.

Medical Certification of Suitability of Patients for Hospital Treatment.—It was unanimously decided that the onus of deciding on the financial fitness of the patient for hospital treatment should not be thrown on the medical practitioner.

Contributions to Hospitals by Employers and Employees.—The meeting unanimously disagreed with the resolutions passed at the Sheffield annual meeting.

Fresh Public Medical Institutions.—The meeting agreed with the statement submitted by the Central Council.

Sanatoriums for Workers Suffering from Tuberculosis.—The meeting unanimously agreed with the statement submitted.

Representation of Local Medical Profession on Hospital Boards.—The report on this matter was unanimously adopted.

Other Matters.—The matters of the medical inspection of school children and the report on ophthalmia neonatorum were deferred to a meeting to be held on Wednesday, June 30th.

SOUTH MIDLAND BRANCH.

THE annual meeting of this Branch was held on June 18th, at 2.30 p.m., at the General Hospital, Northampton, under the presidency of Dr. ALFRED LINNELL (Paulerspury). Forty-three members were present.

Luncheon.—Previous to the meeting the President entertained the members present, numbering thirty-eight, to a most excellent luncheon at Franklin's Hotel, Northampton.

President's Address.—The PRESIDENT's address was in two parts: (1) Valuable suggestions for adding to the numerical strength and the popularity of the Association, deprecating the present-day methods of rushing resolutions through and forcing them upon the members, whether they like it or not; (2) the treatment of diphtheria in villages. He advised immediate injection of serum and the minimum of local treatment.

Surgery of the Tongue.—Mr. JONATHAN HUTCHINSON, Surgeon to the London Hospital, then addressed the meeting on the surgery of the tongue. The paper was a very exhaustive one, dealing with most of the surgical conditions of the tongue, but especially with syphilis and malignant disease, each subject being illustrated by excellent diagrams, which were sent round the room. He strongly recommended surgeons to leave lingual hypochondriacs severely alone, and never to operate upon them in any way. Leucoplakia, which so many regarded as due to syphilis, he considers as due to chronic local irritation either by teeth or tobacco, and only a concomitant of syphilis. With regard to malignant disease, he strongly advised an operation which included the removal of all lymphatic glands in the digastric triangle and along the internal jugular vein. He generally did this first, at the same time tying the lingual arteries, the actual removal of the tongue being then accomplished with little or no haemorrhage.

The Aims of the Association.—Dr. LARKING read a paper on the aims of the Association. He said they were in urgent need of a Charter which, among other things, would exert discipline in the profession. The members who did not attend meetings had no right to direct the management of the Association. The Poor Law Commission Report was not satisfactory, because it suggested an extension of contract practice, and this needed to be curtailed. Dr. Downes's memorandum should be printed in the JOURNAL.

BUCKINGHAMSHIRE DIVISION.

THE annual meeting was held on Tuesday, June 15th, at Aylesbury, at 3.30 p.m. There were nineteen members present: Drs. Baker, Bradbrook, Bradshaw, Buxton, Carruthers, Crawley, Drake, Eagles, Graham, Larking, Magrath, Macfarland, Morrison, Norman, Perrin, Reynolds, Turner, Wheeler, and Lauriston Shaw.

Election of Officers.—The whole of the officers were re-elected, and Dr. Bradbrook of Fenny Stratford was appointed Representative.

Annual Report.—The annual report was as follows:

> The Committee beg to report that the Division now numbers 61 members, and will doubtless be of great service to the medical men in its area, both on account of the opportunity of scientific discussion and social intercourse. The attendance at the two meetings held was excellent, being 40 per cent. of the membership. Rules have been passed and a copy sent to each member. No financial statement can be made this year owing to the recent formation of the Division. The Branch Council defrayed all the preliminary expenses. The thanks of the Division are due to Mr. Andrew Clark, Mr. Smith Whitaker, Mr. James Berry, and Dr. William Hill for their kindness in visiting the Division and giving addresses.

Instructions to Representative at Annual Representative Meeting.—The Representative was instructed *re* Annual Representative Meeting, and the following riders were sent for consideration.

(*a*) And would object to the principle by which all children needing medical relief can under Section 12 of the Children's Act require treatment from the Poor Law medical officer, while no provision is made in this section for remuneration of such increased services.

(*b*) That, whilst favouring the drafting of schemes for public medical services and stating main principles affecting contract practice, the policy of the Association should be to curtail and not to encourage contract practice as far as possible, as injurious to the interests of the profession.

Entertainment Fund.—Subscriptions to the amount of £2 2s. 6d. were collected for the entertainment fund. It was proposed and carried unanimously:

> That all members of the Division be asked to contribute a minimum sum of 2s. 6d. every year.

Contract Practice.—The resolution to endeavour to secure combined action in contract practice in the Division was carried unanimously.

Discussion.—Dr. LAURISTON SHAW then opened a discussion on Dilatation of the Stomach, in which several members joined. A very hearty vote of thanks was carried with applause.

Next Meeting.—At the invitation of the members at High Wycombe, it was decided to hold the next meeting there in September.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

THE annual meeting of the Division was held at the Infirmary, Carmarthen, on Monday, June 7th, Dr. D. R. PRICE in the chair. There were present: Drs. Hopkin, R. G. Price, Owen Williams, E. Ward, D. A. Hughes, David Phillips, Matthias, T. Morgan, T. J. Jenkins, J. R. Evans, E. R. Williams, and Parry.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following officers were then elected: *Chairman*, Dr. Richard Hopkin, Llangadock; *Chairman-elect*, Dr. J. Edgar P. Davies, Llanelly; *Secretary and Treasurer*, Dr. D. R. Price, Ammanford; *Representatives on Branch Council*, Dr. Hopkin, Dr. Owen Williams, and Dr. J. E. P. Davies; *Representatives on Branch Contract Practice Committee*, Dr. D. J. Williams, Dr. O. Williams, and Dr. S. J. Roderick: *Executive Committee*, Drs. Bowen Jones, D. A. Hughes, D. Phillips, S. J. Roderick, Matthias, Samuel Williams, R. G. Price, Evan Evans, and T. Morgan.

Rules of the Division.—These were considered, and the alterations suggested by the sub-committee appointed for the purpose were adopted. It was resolved that the rules be printed and circulated, and that a special meeting be held to draw up a scale of fees for private and contract practice.

Coroners Act.—It was resolved to inform the Medical Secretary that, in the opinion of this Division, no information should be given to a coroner without a fee unless an inquest is afterwards held.

Treatment of Defective School Children.—On this question the following resolution was passed:

The Division is of opinion that children found defective should be referred to their own medical attendant, and when the parents are unable to pay, the cost be borne out of public funds.

Papers.—Dr. Phillips, Llandilo, read an interesting paper on pneumonia. Drs. R. G. Price, Owen Williams, and Edgar Davies joined in the discussion.

The matron at the infirmary very kindly provided tea for the members.

SOUTH-WESTERN BRANCH:

Torquay Division.

A meeting of this Division was held at the Torbay Hospital on Friday, June 25th, at 4.30 p m.

The attendance was not sufficient to form a quorum (3). The membership of the Division is 86.

We have received the following letter from the Honorary Secretary:

June 26th.

Sir,

I shall be obliged if you will publish the enclosed agenda complete, with the additions I have made and this letter. That such an important agenda should result in no quorum would at first suggest how very busy the doctors of the neighbourhood must be. But there are many retired doctors in the district, more than enough to easily give such a modest quorum.

The result must surely call for serious reflection. Is the Association in a condition to receive a Charter with advantage to its members?

Would it not be better to face the facts fairly, and return to the management by one aided by the Representative Meeting? The alternative, supposing the Charter is pressed, will probably be numerous resignations; for what confidence can any one have in a business worked by doctors?—I am, etc.,

Griffith C. Wilkin.

The agenda was as follows: (1) Minutes of the last ordinary meeting; (2) inquiry into unqualified practice; (3) expenditure of Divisions and Branches; (4) any other business.

With regard to the second matter on the agenda it was pointed out on the circular convening the meeting that evidence as to unqualified practice may be divided into: (1) Evidence as to unqualified practice carried on locally—for example, bonesetters, spiritualistic and magnetic healers, vendors of abortifacients, procurers of abortion, herbalists, prescribing chemists, etc. (2) Evidence as to unqualified practice carried on locally, but advertised widely, such as various "institutes," the well-known patent medicines, hernia, consumption, catarrh, asthma, and other quacks, etc. It would be interesting to have evidence collected near the centre of operations of unqualified practitioners who, besides advertising largely, often receive patients coming from a distance. (3) Evidence as to the local effects of unqualified practice by quacks residing elsewhere, who advertise widely. (4) The evidence should be definite and concise, and consist of statements of fact, and not of opinion.

[*One or two verbal modifications have been made under* (2).]

ULSTER BRANCH.

Portadown and West Down Division.

The spring meeting was held in the Anchor Café, Portadown, on April 7th, at 3 p.m., Dr. Agnew in the chair. Nineteen members were present.

Representative at Representative Meeting.—Dr. Darling was unanimously re-elected Representative for Representative Meeting.

Paper.—Mr. A. Fullerton read a very interesting paper on recent methods of diagnosis in genito-urinary surgery, showing specimens and demonstrating the instruments most in use for diagnosis. Most of the members present took part in the discussion that followed, and Mr. Fullerton was elected an honorary member of the Division.

Next Meeting.—It was decided to hold the next meeting in Warrenpoint on June 22nd.

Summer Meeting.

The summer meeting was held in the Old Town Hall, Warrenpoint, on June 22nd at noon. Dr. Agnew was in the chair, and twenty-seven members were present.

Statement of Accounts.—The Honorary Secretary submitted the statement of accounts for the year, showing £5 2s. 9d. in hand, as against £5 0s. 3d. a year ago, the grant from the Branch of £5 3s. 6d. just covering expenses. On the motion of the Chairman, seconded by Dr. S. E. Martin, the statement was approved.

Election of Officers.—The following were unanimously elected officers for the ensuing year: *Chairman-elect*, Dr. Agmondisham Vesey; *Vice-Chairmen*, Drs. Graves and Rowlett; *Honorary Secretary and Representative*, Dr. J. Singleton Darling; *Members of Branch Council*, Drs. Agnew, Lawless, and Taylor; *Executive Committee*, Drs. Fergus, W. E. Hadden, Deane, Flood, S. E. Martin, and Glenny.

Papers.—Professor Anderson read papers on (1) some effects of motion; (2) effects of pressure on heart; (3) relation of muscles to bones, and was thanked by the Chairman.

Entertainment by Warrenpoint Urban Council.—The meeting then adjourned, and, on the invitation of Warrenpoint Urban Council and Amusements Committee, inspected the very fine new baths recently opened by the Lord Lieutenant. The members and their lady friends were most hospitably entertained by the Council to luncheon in the Pavilion, the Chairman, Mr. Carroll, in the chair, and then taken for a sail on Carlingford Lough in the Lough steamer, stopping at Carlingford Castle, where afternoon tea was provided. A delightful day was spent. The Chairman of Council, the Town Clerk (Mr. McKernan), and Mr. J. E. Connor, J.P., Secretary of the Amusements Committee, with Mr. Johnston, solicitor, were untiring in their efforts to make everything as enjoyable as possible, Mrs. Carroll, Mrs. Johnston, and other local ladies heartily aiding them.

Vote of Thanks.—The thanks of the Division were subsequently sent to the Council for their generous hospitality.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

The annual meeting of this Branch was held on June 10th at the Imperial Hotel, Malvern, Mr. Edgar Morris, President, in the chair. The following members were present: Drs. Geo. W. Crowe, A. O. Holbeche, E. S. Robinson, J. Mabyn Reade, Bertram Addenbrooke, Guy S. Thompson, Arthur R. Green, Edgar Avery-Jones, Herbert Jones, T. Bates, Thomas Turner, J. W. Miller, D. D. Gold, Ed. B. Flennell, Laurence D. Pole, C. C. Legge, John Steed, A. Baird, H. Neville Crowe, John J. Cowan, H. Jacob, C. S. Morrison (Honorary Secretary).

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following were elected officers for the ensuing year: *President*, Dr. G. W. Crowe (Worcester); *President-elect*, Dr. John Steed (Hereford); *Honorary Secretary and Treasurer*, Mr. C. S. Morrison (Hereford); *Representative on Central Council with Gloucestershire Branch*, Mr. H. Jones (Hereford).

Financial Statement and Report of Council.—The Council presented the financial statement, and *inter alia* drew attention of members to the recent intimation received from the Central Organization Committee that the capitation grant allocated per member had been reduced from 4s. to 2s., and the future intention of the central authority to exercise their discretionary power of augmenting or reducing the grant in accordance with the value of the work accomplished by any Branch. Members were reminded that social legislation intimately touching the legitimate activities of the profession has been the outstanding feature of all the medico-political business brought before the Divisions in the past year, and the council of the Branch would urge upon members the necessity of being alert to the dangers which threatened them by undue interference with many of their prescriptive and exclusive rights and discretions. Even provincial and cottage hospitals were threatened to be made the mere "medical departments" of local authorities. The council drew attention and expressed its strong objection to the alteration proposed by the Southern Branch to the scheme of grouping, by which it was proposed to substitute Oxford for Gloucester for the election of representatives of Divisions to the Central Council. The scheme of grouping proposed by the Southern Branch was an alteration of the scheme of

grouping devised on well-defined general principles by the Central Organization Committee of the Association. These principles were totally ignored in the proposal put forward by the Southern Branch. The council concluded its annual report with a reference to a pleasing incident—namely, the support extended by the Society of Medical Officers of Health in dealing with a matter of public importance involving a principle which, if accepted, was likely to work prejudicially in the future as a precedent. It was moved and seconded that the Secretary forward the resolution of protest against the reduction of the capitation grants to the Central Council.

Installation of New President.—At the conclusion of business, Mr. EDGAR MORRIS introduced his successor, Dr. G. W. CROWE (Worcester), as President for the year.

Vote of Thanks to Retiring President.—A hearty vote of thanks was accorded to the retiring President.

Papers.—Dr. CROWE read a paper—Notes on a Case of Pneumonia Treated with Pneumococci Vaccine—showing the marked improvements which followed the whole symptom complex of an anxious intractable case by a single injection. Mr. EDGAR MORRIS read notes on cases of gastro-jejunostomy, inviting opinions on the methods adopted.

Cinematographic Exhibition.—A series of films were exhibited by the cinematograph, showing movements characteristic of various diseases of the nervous system. This concluded the business.

LANCASHIRE AND CHESHIRE BRANCH: LIVERPOOL AND BIRKENHEAD COMBINED DIVISIONS.

Hospital Abuse.

DR. HUBERT ARMSTRONG (Liverpool) writes:

May I be permitted to enter a protest against the report of the meeting of the combined Divisions of Liverpool and Birkenhead printed in the SUPPLEMENT for June 26th?

It is not a fair statement of the facts that "the St. Paul's Hospital is arranging to place a ward of ten beds and ten cots and the services of its medical staff at the disposal of the public health authorities," etc. The truth is that the Hospital Committee is striving to raise money to rebuild the hospital, and the new building is to have the accommodation for ophthalmia cases raised from four (as at present) to ten beds and cots (as stated). Use is made, and will continue to be made, of the notification of such cases obtained by the public health authorities from the midwives attending the hospital class of patient, in order that earlier treatment may be secured than is otherwise often the case; and mother and child are removed to the hospital in the public ambulance, just as any accident is removed to a general hospital. There has never been any suggestion that the ward should be "at the disposal of the public health authorities," whose control over the admissions would be limited to the recommendation of suitable cases, and over the staff and treatment absolutely non-existent. I am told that so far not more than 10 per cent. of the admissions have been made with the co-operation mentioned.

It is equally unfair to have omitted all reference to the Hospital Abuse Committee's *action*, taken without consultation of the Divisions, and evidenced by the correspondence which formed part of the report. It was, I think, undoubtedly this action, rather than the laudable recommendations reported, which the meeting repudiated by its vote.

The concluding paragraphs convey a wrong impression, for Dr. Harvey was obviously out of order in attempting to speak after the closure had been carried, and to say he "was refused a hearing" is a discourtesy to the chairman.

Finally, though the minority quite possibly numbered 21 (I believe it did), the majority appeared so much greater that no figures were given to the meeting; 29 is consequently an uncorroborated count, and in the electric state of the atmosphere prevailing it is highly improbable that a third of those present did not vote.

Personally I have a great distaste for polemics, but while striving to make this letter as free from offence as possible, I must again say that I do think, with others to whom I have spoken, that, in view of the feeling raised locally, a fairer report might have been sent you, and hope that you may find room for this protest in default of any other carrying greater weight.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

ANNUAL GENERAL MEETING.

Notice is hereby given that the 1909 Annual General Meeting of the British Medical Association will be held in the Assembly Hall, Belfast, on Friday, July 23rd, at Twelve noon.

[*This Meeting is to comply with Article XII, and will adjourn forthwith until Tuesday, July 27th, at 2.30 o'clock.*]

ANNUAL REPRESENTATIVE MEETING.

Also, notice is hereby given that the 1909 Annual Representative Meeting will be held in the Assembly Hall, Belfast, on Friday, July 23rd (and following days as required), immediately after the Annual General Meeting, fixed for Twelve noon, on Friday, July 23rd.

BY ORDER OF THE COUNCIL,
GUY ELLISTON.

May, 1909.

BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—The annual meeting of the Cambridge and Huntingdon Branch will be held at Cambridge on Tuesday, July 13th, at 12.30.—H. B. RODERICK, Honorary Secretary, Cambridge.

DORSET AND WEST HANTS BRANCH.—The summer meeting of this Branch will be held in Christchurch, Hants, on Wednesday, July 7th.—JAMES DAVISON, Honorary Secretary, "Streateplace," Bournemouth.

EAST ANGLIAN BRANCH.—The annual meeting will be held at the Grand Hotel, Clacton-on-Sea, on Thursday, July 8th. Programme of proceedings: 12.20 o'clock, Council meeting. 12.40 o'clock, general meeting. Agenda: (1) Minutes of last meeting; (2) annual report; election of officers; financial report. 1 o'clock, luncheon, by kind invitation of the President-elect, Dr. W. H. Slimon, J.P. 2.30 o'clock, resumed general meeting. Introduction of Dr. Slimon as President of the Branch. (3) Address by W. H. Slimon, M.D., J.P., Vice-President-elect of the Obstetrical and Gynaecological Section of the Royal Society of Medicine, on Severe Gastric Disturbances caused by Trivial Pathological Conditions of the Uterus and Adnexae. (4) H. Macnaughton-Jones, M.D., etc., President-elect of the Obstetrical and Gynaecological Section of the Royal Society of Medicine, will read a paper on Uterine Haemorrhage. Exhibition of surgical instruments, drugs, etc.—R. H. NICHOLSON, H. A. BALLANCE, J. GUTCH, Honorary Secretaries.

EDINBURGH BRANCH.—The annual business meeting of the Branch will be held in the Hall of the Royal College of Physicians, Queen Street, Edinburgh, on the afternoon of Wednesday, July 7th, at 4 o'clock p.m. In addition to the business meeting, a discussion will take place upon the treatment of chronic constipation at 4.45 p.m. Members will dine together in the Royal British Hotel at 6.30 o'clock.—A. LOGAN TURNER, FRANCIS D. BOYD, Honorary Secretaries.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

NORTH OF ENGLAND BRANCH.—The annual meeting of this Branch will be held on Tuesday, July 6th, at the Royal Victoria Infirmary, Newcastle-on-Tyne. 9 a.m. to 1 p.m.: The Executive Committee of the Newcastle Division B.M.A. are making the following arrangements to hold an "all-day" scientific meeting, and desire hearty co-operation of all medical men residing in the Branch. Gentlemen showing cases or specimens

are asked to be good enough to communicate their intention to Mr. Ouston, 1, Saville Place, Newcastle-on-Tyne. 1 p.m.: Lunch. Business: 2 p.m. Mr. Rutherford Morison, Senior Surgeon Royal Victoria Infirmary, President-elect, will take office as President of the Branch for 1909-10. (1) Election of Honorary Secretaries and Treasurer. (2) Election of President-elect. 3.30 p.m.: Visit to Walkergate Fever Hospital, where some very interesting cases will be shown. Visit to Armstrong and Whitworth Works, Elswick. Golf match.—A. E. MORISON, President, D. F. TODD, Honorary Secretary and Treasurer, Sunderland.

NORTH WALES BRANCH.—The annual meeting will be held at Rhaeadr Festiniog, on Tuesday, July 13th.—H. JONES ROBERTS, Honorary Secretary, Penygroes.

SOUTH-EASTERN OF IRELAND BRANCH.—A meeting of this Branch, as also a meeting of the Branch Council and the local Division, will be held at the Club House, Carlow, on Wednesday, July 7th, at 5.30 o'clock. Agenda: (1) Minutes of last meeting. (2) Letters of apology. (3) Correspondence. (4) Dr. O'Brien will move: That the third Wednesday in June be fixed for our future annual Branch meetings at Clonmel, at 12 noon. (5) Dr. Laffan will move: That that portion of Dr. Walshe's resolution designated *(a)* and carried as amended at Clonmel, which refers to the introduction of the competitive system into the Irish Poor Law Service or into any part thereof, be and is hereby rescinded. (6) Any other business.—J. QUIRKE, Honorary Secretary, Piltown.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—A meeting of this Division will be held at The Cedars, Chepstow (the residence of Dr. A. G. Lawrence), on Friday, July 9th, at 5 p.m.—R. J. COULTER, W. BASSET, Honorary Secretaries, Newport.

CENTRAL MIDWIVES BOARD.

A special penal meeting of the Central Midwives Board was held at Caxton House, Westminster, on June 24th, with Dr. F. H. CHAMPNEYS in the chair.

Midwives Censured.

The following charges alleged against the midwife Emma Pitman were considered:

That, having been in attendance as a midwife at a confinement on January 2nd, 1909, and following days, she falsely entered in her register of cases that her last visit was on January 12th, and that the condition of the mother was then good, whereas in fact she was in attendance on the mother until her death on January 14th. Also that being in attendance as a midwife at a confinement, the patient suffering from persistently offensive lochia with abdominal tenderness and a rise of temperature above 100.4° F., she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that it might be immediately forwarded to the medical practitioner, as required by Rules E 18 and 19.

After deliberation the Board severely censured this midwife. The Chairman expressed the regret of the Board that the Bridgwater District Nursing Association had failed in its duty to the public by refusing to allow one of its nurses—a material witness—to give evidence.

The following charges alleged against the midwife Eliza Thompson were considered:

That, being in attendance as a midwife at three confinements, and having advised in each case that medical aid should be summoned, she failed to notify the local supervising authority thereof, as required by Rule E 20, and that she habitually neglected, after repeated warnings, to do so.

After deliberation the Board censured this midwife.

At the ordinary monthly meeting of the Board held the same day the following business *inter alia* was transacted:

Midwives Summoning Medical Assistance.

A letter from Dr. Thresh, County Medical Officer for Essex, as to the refusal of medical practitioners in a country district of Essex to attend when summoned on the advice of a midwife was further considered. A letter on the same subject was considered from Mrs. Gifford, Honorary Secretary of the Aldham, Copford, and Mark's Tey Nursing Association. The Secretary, Mr. Duncan, was instructed to reply that no blame can attach to the midwife if she strictly carries out the rules of the Board as to summoning medical assistance.

Simplification of Wording of Examination Papers.

A letter was considered from the Secretary of Queen Victoria's Jubilee Institute for Nurses asking the Board to request the examiners to simplify as far as possible the wording of the examination papers. The Board decided to reply that the matter was receiving its attention.

Prescribing by Midwives.

A letter was considered from the General Secretary of the Medical Defence Union as to a certified midwife prescribing for a patient suffering from influenza, and appending the initials C.M.B. to her name. The Board decided to inform the Medical Defence Union that the midwife had undertaken to discontinue the use of the initials C.M.B., and that it did not appear from the evidence before the Board that the midwife had prescribed.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Surgeon F. E. Bolton to Chatham Hospital, June 15th; Surgeon M. J. Laffan, M.B., to the *Implacable*, June 15th; Staff Surgeon P. T. Sutcliffe, M.B., to the *Victory*, additional, for disposal, June 18th.

The following temporary appointments have been made for the manœuvres, dated June 14th: Fleet Surgeon P. E. Maitland to the *Diamond*; Fleet Surgeon F. W. Parker to the *Niobe*; Staff Surgeon R. T. Gilmore to the *Spartiate*; Staff Surgeon J. G. Watt to the *Andromeda*: Surgeon J. Glaister, M.B., lent to the *Circe*.

ROYAL NAVAL VOLUNTEER RESERVE.

Albert James Gilbertson, M.B., B.S., has been appointed Surgeon, June 24th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

The undermentioned officers have been appointed Medical Officers, London Recruiting Area: Lieutenant-Colonel S. C. Philson, Majors W. Hallaran, M.B., A. E. Milner, and E. R. Buswell.

Lieutenant-Colonel H. J. R. Morelle, who is serving in India, assumed the officiating charge of the office of Principal Medical Officer, Presidency and Assam Brigades, from April 13th.

The undermentioned officers on the Indian establishment will be three years dating from the following dates of 1909-10: Lieutenant-Colonel F. P. Nichols, M.B., F. J. Jenckyn, M.B., W. W. Pike, D.S.O., E. R. G. Landen-Bell, M.B., J. R. Stuart, M.B., G. G. Wilson, M.D., W. C. Buchanan, C.M.G., M.B., and J. W. G. Mc D. R. Forrest. H. A. Haynes, M.D., G. E. Hale, D.S.O., W. T. Swan, M.B., C. T. Blackwell, M.D., P. C. H. Gordon, H. D. Rowan, M.B., H. Gemmell, M.B., P. W. G. Eeles-Hall, M.B., S. Kennedy, H. F. G. Elvington, H. M. Adamson, M.B., A. R. Aldridge, M.B., D. M. O'Callaghan, R. Holyoake, F. S. Le Quesne, V.C., and A. L. F. Bate. Majors E. A. Burnside, B. J. Inniss, R. C. Thacker, A. J. Luther, H. E. Winter, J. W. Jennings, D.S.O., C. Dalton, C. W. Duggan, M.B., J. McDermott, M.B., H. W. K. Read, J. B. Anderson, E. S. Clark, M.B., R. M. Cameron, M.B., M. Boyle, M.B., F. Riddle, M.B., J. Greig, St. J. B. Killery, G. T. K. Maurice, W. E. Hudleston, and M. M. Rattray, M.B.; Captains C. H. Hopkins, J. G. Berne, G. E. Carter, M.B., S. O. Hall, J. H. Brunskill, M.B., A. J. Richards, A. B. Shallcross, M.B., W. F. Ellis, S. M. W. Meadows, T. E. Hartt, B. G. Patch, D. P. Watson, M.B., J. E. Powell, F. M. M. O'Mahoney, R. H. Nicol, M.B., S. L. Pallant, R. B. Sylvester-Bradley, J. D. Richmond, M.B., M. C. Wethered, M.D., H. C. Hildreth, W. McD. McDowall, R. T. Collins, T. J. Wright, A. C. Osburn, F. J. Turner, J. Fairbairn, M.B., J. A. Thomas, M.D., R. B. Lloyd, A. Orwell, M.B., F. H. Nore, M.D., W. F. H. Vaughan, R. B. Hole, M.B., T. C. Lucas, M.B., G. E. Cathcart, W. Wiley, M.B., H. Harding, M.B., J. A. Turnbull, M. F. Fanning, M.D., Archer, F. J. Gerard, M.B., A. A. Mearns, S. C. Bowles, and A. S. Arthur, M.B. Of these officers, Lieutenant-Colonel Lynden-Bell has exchanged with Lieutenant-Colonel Simpson; Lieutenant-Colonel Stuart will retain the rank on retirement on March 17th, 1910; Lieutenant-Colonel Freyer and Major Duncan proceed home on retirement. The services of Captains Smallman, Powell, Ellis, Lucas, Surgeon to the Governor of Madras, Meaden, and Bowle are extended for one year each to the season of 1910-11.

Major A. G. Thompson, M.B., who is serving in India, at the Brigade Laboratory, Ferozepore, is appointed a Specialist in the Prevention of Disease.

INDIAN MEDICAL SERVICE.

Major A. G. Hendley, Bengal, retires from the service, June 25th. He was appointed Surgeon, March 30th, 1889, and became Major, March 30th, 1901.

Captain A. F. Hamilton, M.B., is appointed Specialist in Advanced Operative Surgery, 6th (Poona) Division.

The promotion to be Colonel of Lieutenant-Colonel R. N. Campbell, Bengal, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

The promotion to be Major of Major A. Leventon, Bengal, is antedated from July 29th, 1907, to January 29th, 1907.

The promotion of Major J. M. Woollett, M.B., to be Major is antedated from January 28th, 1909, to July 29th, 1908.

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Major C. C. Fleming, D.S.O., M.B., Royal Army Medical Corps, to be Instructor, vice Major J. D. Ferguson, D.S.O., who is

TERRITORIAL FORCE.

INFANTRY.

SURGEON-CAPTAIN H. J. TAYLOR, from the 2nd Volunteer Battalion the Loyal North Lancashire Regiment, to be Surgeon-Captain, 5th Battalion the Loyal North Lancashire Regiment, with precedence as in the Volunteer Force, April 1st, 1908.

ROYAL ARMY MEDICAL CORPS.

Lowland Mounted Brigade Field Ambulance.—The transfer as a Transport Officer, with the honorary rank of Lieutenant, of Lieutenant R. B. CARSLAW, M.B., Transport Officer, from the Scottish Command, Glasgow Companies, Royal Army Medical Corps (Territorial), which was announced in the *London Gazette* of July 14th, 1908, is cancelled.

Lieutenant R. B. CARSLAW, M.B., Transport Officer, from the Scottish Command, Glasgow Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force, dated April 1st, 1908.

Third Lowland Field Ambulance.—Captain A. M. MCINTOSH, M.B., to be Major, April 1st, 1909. Lieutenant D. J. GRAHAM, M.D., from the Attached to Units other than Medical Units List, to be Lieutenant, dated July 3rd, 1908.

First Welsh Field Ambulance.—THOMAS SMYTH to be Lieutenant, May 1st, 1909.

Fourth Southern General Hospital.—The undermentioned are appointed officers whose services will be available on mobilization, dated September 29th, 1908: To be Lieutenant-Colonels: HENRY DAVY, M.D., F. J. DOMVILLE, E. L. FOX, M.D., J. S. SQUARE, F.R.C.S. (Eng.). To be Majors: JOHN BRUCE, M.B., C.M., A. ROGERS, F.R.C.S.Edin., A. N. DAVIS, W. L. WOOLCOMBE, F.R.C.S.Edin., R. L. RUTHERFORD, M.D., R. H. LUCY, M.B., F.R.C.S.Eng., W. C. WILSON, M.D., RUSSELL COCKBURN, D.P.H., F.R.C.S.Eng., E. BEAUMONT, M.B., C.M., F.R.C.S.Edin., J. H. DAWE, M.B., G. F. ALDOUS, F.R.C.S.Edin., R. Y. SOLLY, M.D., F.R.C.S.Eng., HENRY ANDREW, E. G. S. SAUNDERS, M.D., W. G. HAMILTON, M.B., C.M., ROSENBERGER, G. G. ARNOLD, F.R.C.S.Edin., G. C. SANDFORD, M.D., THOMAS HORTON, M.D., C. D. LINDSEY, M.D., BRENNAN DYSART, M.B., F.R.C.S.Eng., C. L. LANDER, M.B., G. A. ROBERTS, F.R.C.S.Eng., A. E. CARVER, M.B., E. G. SMITH.

Second Northumbrian (City of London) Field Ambulance.—CALB E. BICKERTON, M.B., to be Lieutenant, April 13th.

Third London (City of London) Field Ambulance.—Captain H. C. PERLEE resigns his commission, May 8th; BERNARD E. POTTER, M.B., to be Lieutenant, May 22nd.

Sixth London Field Ambulance.—EDWARD P. MINETT, to be Lieutenant, May 18th.

Second North Midland Field Ambulance.—ALBERT J. RIDDETT, to be Lieutenant, April 29th.

Third North Midland Field Ambulance.—GEORGE J. S. ATKINSON, to be Lieutenant, March 8th.

Second South Midland Field Ambulance.—SAMUEL G. WEBB, M.D., to be Lieutenant, May 1st.

Second Northumbrian Field Ambulance.—GEORGE R. ELLIS, M.B., to be Lieutenant, May 1st. The following officers to be Captains, May 8th: Lieutenant H. C. PEARSON, M.B., and Lieutenant D. A. CAMERON, M.B.

Third West Riding Field Ambulance.—Lieutenant JAMES MACKINNON, from the 1st West Riding Field Ambulance, to be Lieutenant, April 28th.

First Northern General Hospital.—To be Major, whose services will be available on mobilization: R. A. BOLAM, M.D. (late Lieutenant, 9th Battalion the Durham Light Infantry), with seniority next below Major W. G. Richardson, March 30th.

For Attachment to Units other than Medical Units.—Surgeon-Captain A. MARTIN, M.B., resigns his commission, March 17th (5th King's (Liverpool Regiment), to be Captain, with precedence as in the Volunteer Force, April 1st, 1908: Surgeon-Captain W. W. JONES, M.B., from the 3rd Volunteer Battalion the Welsh Regiment, to be Captain, with precedence as in the Volunteer Force, April 1st, 1908; Major D. SMART, M.B., from the 1st West Lancashire Field Ambulance, to be Major, May 8th; Surgeon-Captain W. B. ARMSTRONG, M.B., from the 5th (The Dumbartonshire) Battalion the Princess Louise's (Argyll and Sutherland Highlanders), to be Captain, with precedence as from July 11th, 1905, May 20th. ARTHUR E. HORSFALL, M.B., late Second Lieutenant, 7th Battalion the Prince of Wales's (North Riding) Regiment, to be Lieutenant, February 15th, 1909. EDWARD L. D. DEVINEY, to be Lieutenant, dated March 17th, 1909. Surgeon-Captain A. P. SWANSTON, from the 5th (Pinner's) Battalion the Royal Welsh Fusiliers, to be Captain, with seniority as from May 23rd, 1900, dated April 27th, 1909. Surgeon-Major W. B. MACRAE, M.D., from the 7th Battalion the Northumberland Fusiliers, to be Major, with seniority as from August 1st, 1903, dated April 1st, 1908. Surgeon-Captain P. J. LE RICHE, from the 2nd Volunteer Battalion, the Royal Sussex Regiment, to be Captain, with precedence as in the Volunteer Force, dated April 1st, 1908. Lieutenant J. E. GIBSON, M.D., resigns his commission, April 12th. Captain R. J. SWAN resigns his commission, May 3rd. Lieutenant J. E. SIMPSON, M.B., to be Captain, May 11th. Lieutenant-Colonel and Honorary Surgeon (Honorary Lieutenant-Colonel in the Army) Sir James Richardson Andrew Clark, Bart., C.B., from the Royal Army Medical Corps (Militia), to be Lieutenant-Colonel, dated September 20th, 1908, with precedence as in the Militia, dated September 20th, 1908. CUTHBERT T. BAYNHAM to be Second Lieutenant. JAMES A. DURIE and FRANCIS H. WYATT, to be Lieutenants, dated April 1st, 1909.

First Highland Field Ambulance.—Captain J. W. MILNE, M.B., resigns his commission, April 30th.

First Home Counties Field Ambulance.—SIDNEY W. MILNER to be Lieutenant, March 29th. GEORGE POTTS, to be Lieutenant, February 11th.

Sanitary Service.—Captain W. ARCHIBALD, M.D., resigns his commission, February 28th. To be Captain, whose services will be available on mobilization: WILLIAM BUTLER, M.B., June 5th.

First South Midland Mounted Brigade Field Ambulance.—DONALD BUCHANAN, to be Lieutenant, May 8th.

First South Midland Field Ambulance.—Major A. R. BADGER resigns his commission, June 9th.

Fifth Southern General Hospital.—The undermentioned to be officers whose services will be available on mobilization, dated July 21st, 1908:—To be Lieutenant-Colonels: C. C. CLAREMONT, M.D., G. P. GIBBS, F.R.C.S.Eng., Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel G. G. SPARROW (late 2nd Hampshire Royal Garrison Artillery, Volunteers), retired list; H. W. SHUTTLE. To be Majors: J. R. S. ROBERTSON, M.B. (late Surgeon, Army Medical Department), A. V. FORD, JOHN PHILLIPS, M.B., J. R. KEELE, N. E. ALDRIDGE, M.B., C. F. ROUTH, M.D., W. P. PURVIS, M.D., F.R.C.S.Eng., H. P. WARD, M.B. To be Captains: T. A. M. FORDE, SAMUEL GOSS, G. H. COWEN, M.B., F.R.C.S.Eng., W. P. MCELDOWNEY, M.B., C. A. S. RIDOUT, M.B., F.R.C.S.Eng., J. T. LEON, M.D., HAROLD BURROWS, M.B., F.R.C.S.Eng. J. H. P. FRASER, M.B., J. D. WRIGHT, E. J. D. TATROL, M.B., THOMAS HOLMES, M.D., J. W. G. KEMP, SAMUEL HUGHES, M.B., C. H. SANDERS, M.B., W. P. O. MILNE, R. A. DOUL, M.B., A. W. POWER, J. T. M. MCDONALD, late Surgeon, Royal Navy), CHARLES LAMPLOUGH, M.D., M. H. WAY.

SPECIAL RESERVE OF OFFICERS.

SUPPLEMENTARY LIST.

ROBERT MAGILL, M.B., to be Lieutenant (on probation), June 7th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,520 births and 3,801 deaths were registered during the week ending Saturday last, June 26th. The annual rate of mortality in these towns, which had been 12·6 and 12·5 per 1,000 in the two preceding weeks, further declined last week to 12.1 per 1,000. The rates in the several towns ranged from 4.9 in Ipswich, 5.2 in Willesden, 5.6 in East Ham and in Devonport, 5.7 in King's Norton, 5.6 in Wallasey, and 6.8 in Leyton, to 16.2 in Manchester, 16.6 in Salford, 16.7 in Liverpool, 16.9 in Rochdale, 17.3 in Middlesbrough, 18.6 in South Shields, 19.5 in Great Yarmouth, and 19.6 in Oldham. In London the rate of mortality was 12.1 per 1,000, being equal to the average rate in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·1 per 1,000; in London also the rate from these diseases was 1.1 per 1,000, while among the seventy-five other large towns it ranged upwards to 2.5 in Middlesbrough, 3.4 in Norwich, 3.9 in Stockton-on-Tees, 4.5 in Bootle and in Salford, and 5.2 in Manchester. Measles caused a death-rate of 1.1 in Manchester, 1.2 in Gateshead, 1.3 in Coventry and in Merthyr Tydfil, 1.5 in Bootle, 1.6 in Walsall, 1.8 in South Shields, 2.0 in Great Yarmouth, 2.9 in Stockton-on-Tees, 3.0 in Salford, 3.4 in Norwich, and 5.0 in Wolverhampton; whooping-cough of 1.0 in Burnley and 1.5 in Middlesbrough; and diarrhœa of 1.0 in Portsmouth and 1.5 in Bootle. The mortality from scarlet fever, from diphtheria, and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,223, 2,265, and 2,445 at the end of the three preceding weeks, had further risen to 2,517 at the end of last week: 368 new cases were admitted during the week, against 375, 305, and 468 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, June 26th, 925 births and 464 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 16.3, 14.5, and 15.5 per 1,000 in the three preceding weeks, declined again to 12.7 per 1,000 last week, but was 0.6 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 8.5 in Perth and 10.3 in Aberdeen to 18.3 in Leith and 19.7 in Dundee. The death-rate from the principal infectious diseases averaged 1.5 per 1,000 in these towns, the highest rates being recorded in Paisley and Perth. The 197 deaths registered in Glasgow included 8 which were referred to whooping-cough and 9 to diarrhœa; 4 fatal cases of whooping-cough and 2 of diarrhœa were recorded in Edinburgh; 2 of typhus and 3 of diarrhœa in Dundee; 2 of diphtheria and 4 of whooping-cough in Aberdeen; and 4 of measles in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, June 19th, 620 births and 312 deaths were registered in the twenty-two principal urban districts of Ireland, as against 607 births and 358 deaths in the preceding period. The annual death-rate in these districts, which had been 20.2, 16.4, and 16.7 per 1,000 in the three preceding weeks, fell to 14.2 per 1,000 in the week under notice, this figure being 1.0 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 15.7 and 13.2 respectively. Those in other districts ranged from 6.0 in Londonderry and 9.6 in Ballymena to 21.0 in Newry and 27.3 in Waterford, while Cork stood at 16.4 and Limerick at 15.0. The zymotic death-rate in the twenty-two districts averaged 0.9 per 1,000, as against 1.3 per 1,000 in the preceding week.

During the week ending Saturday, June 26th, 581 births and 387 deaths were registered in the twenty-two principal urban districts of Ireland, as against 620 births and 312 deaths in the preceding period. The annual death-rate in these districts, which had been 16.4, 16.7, and 14.2 per 1,000 in the three preceding weeks, rose to 17.7 per 1,000 in the week under notice, this figure being 2.6 per 1,000 higher than the corresponding annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 19.6 and 14.8 respectively, those in other districts ranging from 4.7 in Westport and 7.8 in Galway to 28.8 in Sligo and 29.2 in Waterford, while Cork stood at 20.5, Londonderry at 25.0, and Limerick at 8.2. The zymotic death-rate in the twenty-two districts averaged 1.1 per 1,000, as against 0.9 per 1,000 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where all particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BOURNEMOUTH: ROYAL EOSCOMBE AND WEST HANTS HOSPITAL.—House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BURNLEY: VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

CAIRO: SCHOOL OF MEDICINE.—Professor of Anatomy. Salary, £800 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £60 per annum.

CHELTENHAM GENERAL HOSPITAL.—Male House-Physician. Salary, £70 per annum.

CHESTER CITY AND COUNTY.—Medical Officer of Health. Salary, £500 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £60 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—House-Physician (Male). Salary at the rate of £75 per annum.

ELY EDUCATION COMMITTEE.—School Medical Officer. Salary, £250 per annum.

DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

GORDON HOSPITAL FOR FISTULA, ETC., Vauxhall Bridge Road, S.W.—Resident House-Surgeon.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House-Physicians. Honorarium, £25 for six months each.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Physician; salary, £50 for six months and washing allowance, £2 10s. (2) Locumtenent to act as bacteriologist and pathologist. Salary, £3 3s. per week.

INVERNESS: NORTHERN INFIRMARY.—House-Surgeon. Salary, £100 per annum.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—(1) Honorary Surgeon. (2) House-Surgeon; salary at the rate of £50 per annum.

LEEDS: PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—(1) Assistant Anæsthetist; (2) Assistant Surgeon.

MOUNT VERNON HOSPITAL FOR CONSUMPTION.—(1) Junior Resident Medical Officer at Hampstead; (2) Assistant Resident Medical Officer at Northwood. Honorarium, £50 per annum each.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Surgeon for Diseases of the Ear and Throat.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary, £60 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Assistant House-Surgeon (Male). Salary at the rate of £50 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) House-Surgeon; (2) House-Physician. Salary at the rate of £50 per annum each.

ROYAL DENTAL HOSPITAL SCHOOL OF DENTAL SURGERY, Leicester Square, W.C.—Demonstrator of Practical Dental Surgery. Stipend, £40.

SOMERSET COUNTY COUNCIL.—Medical Officer of Health. Salary, £700 per annum, rising to £800.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

TIVERTON INFIRMARY AND DISPENSARY.—House-Surgeon and DISPENSER.—Salary, £30 per annum.

WADSLEY: WEST RIDING ASYLUM.—Fifth Assistant Medical Officer (Male). Salary, £140 per annum, rising to £160.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Salary, £75 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary at the rate of £120 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician. Salary, £65 per annum, rising to £75.

WOLVERHAMPTON UNION.—Assistant Medical Officer of the Workhouse, and Medical Officer of the Cottage Homes. Combined salary, £140 per annum.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Barnoudh, co. Merioneth; Hyline, co. Kent; Harris, co. Inverness; Ollaberry, co. Shetland; Bellanagh, co. Cavan.

APPOINTMENTS.

ALLAN, James W., M.B., C.M., Resident Medical Officer to Bellefield Sanatorium, Lanark.

BALY, A. L., M.R.C.S., L.R.C.P., Assistant Medical Officer of the Lambeth Infirmary.

BAYLY, Hugh W., M.A. Camb., M.R.C.S., L.R.C.P., Honorary Pathologist to the London Lock Hospital.

COX, E. Harvie, M.B., Ch.B. Manchester, Honorary Surgeon to the Rochdale Infirmary.

CROWLEY, Ralph H., M.D., M.R.C.S., Assistant Medical Officer to the Board of Education.

DOBSON, J. R. B., M.R.C.S., L.R.C.P., B.Sc., Assistant Medical Officer to the Royal Hamadryad Seamen's Hospital, Cardiff.

HEPBURN, Malcolm L., M.D., B.S. Lond., F.R.C.S. Eng., Assistant Surgeon to the Central London Ophthalmic Hospital.

INGLIS, J. P. Park, M.B., Ch.B. Edin., Assistant Medical Officer, Metropolitan Asylum, Caterham, Surrey.

ISAAC, Charles Leonard, M.B., M.R.C.S., Medical Referee under the Workmen's Compensation Act, 1906, for County Council No. 30.

JEFFREYS, W. M., B.A., M.R.C.S., L.R.C.P., House-Surgeon to University College Hospital, Gower Street, W.C.

MARTIN, Basil W., M.B., B.Ch. Aberd., Medical Officer to the Reading Dispensary.

MARTIN, E. K., M.B., B.S., F.R.C.S., L.R.C.P., House-Physician to University College Hospital.

NIALL, W. B., M.D., R.U.I., Medical Officer for the Guildford No. 2 District of the Guildford Union.

NOLAN, H., M.D., LL.D., F.I.C., Controller of the Division of Public Security, Ministry of the Interior, Egypt.

ORCHARD, H. P., M.R.C.S., L.R.C.P., Senior Assistant Medical Officer to the Whitechapel Union Infirmary.

PEARSON, J. Sidney, M.A., M.D., B.C. Cantab., etc., Pathologist and Registrar to the East London Hospital for Children, Shadwell.

PIM, A. A., F.R.C.S., L.R.C.P. Edin., District Medical Officer of the Bedminster Union.

REID, A. J., M.B., Assistant Honorary Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

SANSOM, W., M.D., Assistant Honorary Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

SHERREN, James, F.R.C.S., Examiner in Anatomy for the Primary Fellowship of the Royal College of Surgeons of England.

SMITH, Grafton Elliot, M.B., M.S. Syd., Professor of Anatomy in the University of Manchester, vice Professor Young, resigned.

STEEN, Robert Hunter, M.D. Lond., Professor of Psychological Medicine, King's College, London, vice Professor E. W. White, M.B. Lond., elected Emeritus Professor.

SUCKLING, J. J., M.B., B.S., M.R.C.S., L.R.C.P., House-Surgeon to University College Hospital.

SWEETING, R. Deane, M.D. Dub., D.P.H. Camb., Examiner for the Conjoint Diploma in Public Health of the Royal Colleges of Physicians and Surgeons of England.

TASKER, H. L., M.R.C.S., L.R.C.P., Obstetric Assistant to University College Hospital.

THOMAS, Wm., M.R.C.S., L.R.C.P., District Medical Officer of the Bodmin Union.

VOSPER, S., M.R.C.S., L.R.C.P., Medical Officer to the British Lying-in Hospital, Endell Street, W.C.

WILLIAMS, Richard Thomas, L.R.C.P., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit, No. 30.

WILKINSON, Robert, M.D. Brux., M.R.C.S., L.R.C.P., Medical Officer of Health to Penge Urban District Council.

WOODWARK, A. S., M.B., B.S. Lond., M.R.C.P., Physician to the Casualty Department at St. Bartholomew's Hospital.

CHELSEA HOSPITAL FOR WOMEN.—The following have been appointed Clinical Assistants: Oscar Teichmann, F.R.C.S. Eng.; John B. Parry, M.D. Toronto; H. E. McEwen, M.D. Halifax; Geo. Carruthers, M.D., C.M. McGill.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

COLLINS.—On June 20th, at 3, Columbia Place, Cheltenham, the wife of J. Rupert Collins, M.A., M.D. Dub. Univ., of a daughter.

EVANS.—On the 26th June, at 10, Harley House, Regent's Park, W., the wife of Arthur Evans, M.S., M.D., F.R.C.S., of a son.

OLIPHANT.—On May 21st, at St. John's, Antigua, B.W.I., the wife of Frank B. Oliphant, M.B., C.M. Edin., Government Medical Officer, of a daughter.

MARRIAGES.

BROWN—McDOUGAL.—On Saturday, June 19th, at St. Andrew's Church, Muswell Hill, N., by the Rev. M. O. Blakelock, James McCulloch Leigh Brown, M.D., Pateley Bridge, Yorks, to Mary Grant, daughter of the late William Grant McDougal, Esq., of Edinburgh.

CUNNINGHAM—CLARENCE.—On June 17th, at All Saints, Chardstock, by the Rev. E. A. Midwinter, Vicar of St. Paul's, Marylebone, assisted by the Rev. A. W. Bull, Rector of the parish, and the Rev. J. E. B. Brine, Vicar of Studley, Oxford, John Francis, eldest son of J. K. Cunningham, of Sec Tor, Axminster, to Phyllis Lovell, youngest daughter of L. B. Clarence, of Coaxden, Axminster, late Judge of the Supreme Court, Ceylon.

DEATHS.

SCOTT.—At 48, Fountainhall Road, Aberdeen, on the 28th June, Henrietta Gordon, the beloved wife of Lieutenant-Colonel George Scott, M.B., C.M., D.P.H., late Royal Army Medical Corps, and sister of John Gordon, M.D., J.P., Aberdeen.

WOOLBABE.—At Melbourne, on May 8th, aged 33 years, Margaret (Peggy), beloved wife of Frederick Woolrabe, M.R.C.P., F.R.C.S. Edin., D.P.H., of Ricardton, near Campbell Town, Tasmania, Health Officer to Government of Queensland, Brisbane.

Hospitals and Asylums.

NORTH WIMBLEDON COTTAGE HOSPITAL.

THE thirty-ninth annual report of this hospital stated that a sufficient area of additional land had been secured, and a sum of £1,200 collected towards the cost of a proposed extension. The total number of patients treated during the year 1908 was 208, including 10 in the hospital on the first day of that year. The report records the council's high appreciation of the devoted and valuable services of Dr. Pocklington, who had been a member of the honorary medical staff since the foundation of the hospital in 1869.

RECENT PUBLICATIONS.

Transactions of the American Pediatric Society: Twentieth Session, May 25th, 26th, and 27th, 1908. Edited by L. E. le Fétra, M.D. Vol. xx. New York: E. B. Treat and Co. 1909. (Post 4to, pp. 238.)

The volume covers the proceedings at the meeting last year at Delaware Water Gap, Pennsylvania. Among its more important contents are two papers by Drs. H. Koplik and L. E. la Fétra, dealing with the epidemic of infantile paralysis in New York in the summer of 1907. The feature of the volume as a whole, however, is an array of interesting papers on the serum treatment of cerebro-spinal meningitis and allied topics. The president, Dr. C. Gilmore Kerley, devoted his address to a consideration of the defects of public school education in the United States.

Studies in Wives. By Mrs. Belloc Lowndes. London: W. Heinemann and Co. 1909. (Post 8vo, pp. 247. 6s.)

A volume of short stories which has good points, even subordinate characters being made to stand out clearly by a few brief phrases. Its tone, however, is unpleasant throughout, for, like many other women writers, the authoress seems to delight in painting unpleasant pictures of her sex. Medical men, however, have too much experience of life not to recognize that all her wives are rare pathological specimens, not representatives of the average married woman.

Marlborough's Self-taught Series. No. 22. Persian Self-taught. By Shayk Hasan. London: E. Marlborough and Co. 1909. (Cr. 8vo, pp. 96. 2s. 6d.)

This is an addition to a well-known series of guides to elementary knowledge of various languages. The author, who writes from Cambridge, seems to have found no difficulty in adapting the phonetic system of the earlier volumes to his own language. Though Persian is a very complete language and one of much beauty, it is possibly easier to acquire a working knowledge of it without study of grammar than in the case of German and French, so that the volume may prove useful to travellers.

Progressive Medicine. Vol. i. 1909. Edited by H. A. Hare and H. R. M. Landis. London: Rebman Limited. 1909. (Roy. 8vo, pp. 277. 12s.; 4 volumes, 42.)

A synopsis of recent work and literature connected with the surgery of the head and thorax; infectious diseases; those of children; rhinology, laryngology, and otology. There is a good index. The publication appears quarterly, and in effect is a yearbook of a rather elaborate kind. Among the twenty contributors are one or two English authorities.

The Girls' School Year Book (Public Schools). April 1909, to April, 1910. London: The Year Book Press (Swan Sonnenschein and Co., Limited). (Cr. 8vo, pp. 594. 2s. 6d.)

The volume contains an account of all secondary schools for girls in the kingdom, and sundry information likely to prove useful to young women and their teachers. The various dissertations on occupations, professional and mechanical, now open to women are cases in point.

The Annual Charities Register and Digest. Edited by C. S. Loch. Eighteenth edition. London: Longmans, Green and Co. 1909. (Demy 8vo, pp. 686. 5s.)

The eighteenth issue differs little in essential details from its predecessors. Practically it consists of three parts: (1) the introduction, giving in some 70 paragraphs, occupying nearly 300 pages, a most able digest of all organized methods of relieving distress and preventing its occurrence; (2) a series of articles each written by an expert, on such subjects as the care of the blind, of sane epileptics, rescue work, and the arrest of tuberculosis; and (3) particulars of each of the charities at work within the area of the metropolis or available for its inhabitants, classified according to their objects. The index contains some 9,000 references. The book is not so well known as it should be. Were its introductory pages studied by those who have money to distribute there would be far less overlapping of charity, while those who desire to help persons in distress would find their task materially lightened.

Sister K. By Mable Hart. London: Methuen and Co. 1909. (Post 8vo, pp. 318. 6s.)

A novel with a not uninteresting plot in which the principal characters are hospital nurses. The general life of a large metropolitan hospital is sketched in outline, and some characteristic types are cleverly depicted. It is free from exaggeration and pleasant in tone.

Medical Fellowship, D.P.H. and Dental Examination Papers. Edinburgh: E. and S. Livingstone. 1909. (Pp. 288. 7½ in. × 4½ in.)

A volume containing reprints of the papers set during the past three years at the examinations of the University of Edinburgh, of the Faculty of Physicians and Surgeons of Glasgow, and of the two Royal Colleges in Edinburgh. As it would seem to contain not less than four thousand questions on medicine, surgery, hygiene, dental surgery, and the underlying sciences, it should be found useful by students preparing for examinations.

Erholungs- und Kurorte nach ihren Höhenlagen. Zusammengestellt von Lasirifa. Berlin: A. Hirschwald. 1909. (Post 8vo, pp. 66. M. 0.60.)

A list of health and pleasure resorts, mainly those on the Continent of Europe, arranged according to their altitude above the sea, prefaced by a short classification according to locality. There is no alphabetical index.

DIARY FOR THE WEEK.

FRIDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W., 8 p.m.—(1) Card Exhibit:—Dr. F. W. Edridge Green: Spectroscope for Testing Colour Perception. (2) Paper:—Messrs. A. Lawson and Mackenzie Davidson: A Preliminary Note on the Treatment of Eye Disease by Radium. (3) Presentation of the Nettleship Medal. (4) Annual General Meeting.

SATURDAY.

ROYAL SOCIETY OF MEDICINE:

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.—Meeting at Cambridge, 3 p.m. Demonstrations in the Pharmacological Laboratory, by Professor W. E. Dixon and others.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., The Nose; Friday, 3.45 p.m., The External Ear.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Classes, 2 p.m. and 3.15 p.m. respectively; Demonstrations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday and noon, Friday; Eye, 11 a.m. Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Tuesday, 2.15 p.m., Artificial Immunization in Infectious Diseases. Thursday, 2.30 p.m., Headaches and Their Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin: Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures, at 5.15 p.m. each day, will be given as follow: Monday, Paralysis Agitans; Tuesday, Surgical Treatment of Cancer of the Rectum; Wednesday, Feeble-minded Children; Thursday, Acute Poliomyelitis and Landry's Paralysis (illustrated by cases).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 5.30 p.m., Treatment of Nervous Diseases; Friday, 3.30 p.m., Familial Ataxia, Friedreich's Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient, 2.30 p.m., Medical Out-patient: Nose, Throat, and Ear; X rays: 4.30 p.m., Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic: 2.30 p.m., Demonstrations: Post-Surgical, Gynaecological; 4.30 p.m., Lecture: The Cesspools of the Body: Procedures of Surgical Drainage. Wednesday, 2.30 p.m., Medical Out-patient: Skin and Eye Clinics. Thursday, 2.30 p.m., Gynaecological Operations: Clinics: Medical Out-patient; Surgical out-patient; X rays: 3 p.m., Medical In-patients. Friday, Clinic: 10 a.m., Surgical Out-patient; 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient; 4.30 p.m., Subconjunctival Injections in the Treatment of Eye Disease.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics, and X Rays; 2.30 p.m., Operations. Monday, Wednesday, and Thursday, 2 p.m., and Saturday, 10 a.m., Diseases of the Eyes. Tuesday and Friday, 2 p.m. (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin; 10 a.m., Gynaecological Operations. Wednesday and Saturday, 10 a.m., Diseases of Children; 2.30 p.m., Diseases of Women. Lectures: At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar. At 12 noon, Monday, Pathological Demonstration. At 12 15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine. At 4 p.m., Monday, Practical Surgery; Tuesday, Clinical Pathology; Wednesday, Medicine; Thursday and Friday, Clinical.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
4 Sunday ..	
5 MONDAY ..	
6 TUESDAY ..	NORTH OF ENGLAND BRANCH, Annual Meeting, Royal Victoria Infirmary, Newcastle-on-Tyne; Scientific Meeting, 9 a.m. to 1 p.m.; Lunch, 1 p.m.; Business Meeting, 2 p.m.; Excursions and Golf Match, 3.30 p.m.
7 WEDNESDAY	DORSET AND WEST HANTS BRANCH, Summer Meeting, Christchurch. EDINBURGH BRANCH, Annual Business Meeting, Royal College of Physicians, Queen Street, Edinburgh, 4 p.m.; Discussion, 4.45 p.m.; Dinner, Royal British Hotel, 6.30 p.m. SOUTH-EASTERN OF IRELAND BRANCH, Club House, Carlow, 5 p.m.; also Branch Council and Local Division.
8 THURSDAY ..	EAST ANGLIAN BRANCH, Annual Meeting, Grand Hotel, Clacton-on-Sea; Council Meeting, 12.20 p.m.; General Meeting, 12.40 p.m.; Luncheon, 1 p.m.; Resumed General Meeting, 2.30 p.m.
9 FRIDAY ..	LONDON: Poor Law Committee, 2.30 p.m. MONMOUTHSHIRE DIVISION, *South Wales and Monmouthshire Branch*, The Cedars, Chepstow, 3 p.m.
10 SATURDAY ..	
11 Sunday ..	
12 MONDAY ..	LONDON: Election Returns Committee, 2.30 p.m.

Date.	Meetings to be Held.
	JULY *(Continued)*.
13 TUESDAY ..	CAMBRIDGE AND HUNTINGDON BRANCH, Annual Meeting, Cambridge, 12.30 p.m. NORTH WALES BRANCH, Annual Meeting, Blaenau Festiniog.
14 WEDNESDAY	
15 THURSDAY ..	
16 FRIDAY ..	
17 SATURDAY ..	CEYLON BRANCH, Clinical Meeting, Colonial Medical Library, 2.30 p.m.
18 Sunday ..	
19 MONDAY ..	
20 TUESDAY ..	
21 WEDNESDAY	
22 THURSDAY ..	
23 FRIDAY ..	ANNUAL GENERAL MEETING, Assembly Hall, Belfast, 12 noon. ANNUAL REPRESENTATIVE MEETING, immediately after the Annual General Meeting.
24 SATURDAY ..	ANNUAL REPRESENTATIVE MEETING, 9.30 a.m.
25 Sunday ..	
26 MONDAY ..	ANNUAL REPRESENTATIVE MEETING, 10 a.m.
27 TUESDAY ..	CENTRAL COUNCIL, 10 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
28 WEDNESDAY	CENTRAL COUNCIL, 9.30 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
29 THURSDAY ..	CENTRAL COUNCIL, 9.30 a.m.
30 FRIDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from the General Secretary, 429, Strand, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently-elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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PROCEEDINGS OF COUNCIL.

AT a Meeting of the Council, held at 429, Strand, London, W.C., on Wednesday, June 30th, 1909, at 2 o'clock in the afternoon:

Present:

Mr. EDMUND OWEN, LL.D., London, Chairman of Council, in the Chair: afterwards Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. SINCLAIR WHITE, Sheffield, President.

Dr. J. A. MACDONALD, Taunton, Chairman of Representative Meetings.

Dr. JOHN FORD ANDERSON, London
Dr. JAMES GRANT ANDREW, Glasgow
Mr. H. A. BALLANCE, Norwich
Sir JAMES BARR, Liverpool
Dr. T. R. BRADSHAW, Liverpool
Surgeon-General W. R. BROWNE, C.I.E. (Colombo, Ceylon, and South Indian and Madras Branches)
Dr. R. COCHRANE BUIST, Dundee
Mr. ANDREW CLARK, D.Sc., London
Mr. J. WARD COUSINS, Portsmouth
Mr. C. F. CUTHBERT, Gloucester
Mr. E. J. DOMVILLE, Exeter
Mr. A. J. DREW, Oxford
Dr. GEORGE EDMOND, Aberdeen
Mr. J. H. EWART, Eastbourne
Mr. W. H. GARSTANG, Altrincham
Dr. D. GOYDER, Bradford
Dr. T. D. GREENLEES, London (Cape of Good Hope Eastern, Western, and Border Branches)
Dr. G. E. HASLIP, London
Dr. HENRY HETLEY, London
Dr. R. MCKENZIE JOHNSTON, Edinburgh
Colonel C. H. JOUBERT DE LA FERTÉ Weybridge (Representative of the Indian Medical Service)
Mr. HUGH R. KER, London
Mr. R. H. KINSEY, Bedford
Mr. F. C. LARKIN, Liverpool
Dr. A. E. LARKING, Buckingham
Dr. CHARLES ACFIE, Bolton
Dr. DONALD J. MACKINTOSH, M.V.O., Glasgow
Dr. O. J. MARTIN, F.R.S., London (Sydney and New South Wales Branch)
Mr. M. A. MESSITER, Dudley
Dr. J. MUNRO MOIR, Inverness
Professor J. T. J. MORRISON, Birmingham
Dr. T. G. NASMYTH, Edinburgh
Dr. B. H. NICHOLSON, Colchester
Dr. FRANK M. POPE, Leicester
Dr. T. WHITEHEAD REID, Canterbury
Dr. H. JONES ROBERTS, Penygroes
Major O. L. ROBINSON, R.A.M.C., Netley (Egypt, Gibraltar, and Malta and Mediterranean Branches)
Mr. W. ST. A. ST. JOHN, Derby
Dr. CECIL E. SHAW, Belfast
Dr. LAURISTON E. SHAW, London
Lieutenant-Colonel R. J. S. SIMPSON, C.M.G., London (Griqualand West, Natal, and Transvaal Branches)
Dr. W. JOHNSON SMYTH, Bournemouth
Mr. CHARLES R. STRATON, Salisbury
Mr. J. LYNN THOMAS, C.B., Cardiff
Dr. ALEXANDER TROTTER, Perth
Mr. T. JENNER VERRALL, Brighton
Mr. F. E. A. WEBB, Cambridge
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly
Lieutenant-Colonel E. M. WILSON, C.B., C.M.G., Farnborough (Representative of the Army Medical Service)

Minutes.

The Minutes of the last Meeting, held on April 28th, 1909, having been printed and circulated, were taken as read, and signed as correct.

Apologies.

Read letters of apology for non-attendance from the President-elect, the Past-President, Fleet Surgeon E. J. Biden, R.N., Dr. Astley V. Clarke, Dr. E. Cureton, Mr. G. Young Eales, Mr. C. E. S. Flemming, and Dr. C. G. D. Morier.

Deaths.

The CHAIRMAN reported receipt of acknowledgments to the Resolution of Condolence passed upon the death of the President of the Association, and of Mr. C. G. Wheelhouse, which were ordered to be entered on the Minutes.

The President of the Association.

Arising out of Minute of Council inviting Dr. Davy, the Past-President, to fill the office of President of the Association until the Annual Meeting, *vice* Mr. Simeon Snell, deceased, the CHAIRMAN OF COUNCIL reported that Dr. Davy had informed him that he did not feel justified in accepting the invitation until he had the assurance that the Sheffield Members did not wish to make a nomination.

On learning this, the Chairman of Council communicated with Sheffield, when he was notified that there was a general wish that Mr. Sinclair White should be appointed to act as Mr. Simeon Snell's successor.

Consequently it was unanimously resolved that Mr. Sinclair White, M.D., F.R.C.S., Surgeon to the Royal Infirmary, Sheffield, be appointed President of the British Medical Association in accordance with Article XL.

Mr. Sinclair White then entered the room, and was presented to the Chairman by Dr. GOYDER. The Chairman announced to Mr. White that the Council had been pleased to elect him to the Presidency of the Association in the place of their late friend, Mr. Snell, and he congratulated the Association as well as Mr. White upon the appointment.

Standing Committees.

It was decided that it is not practicable under existing conditions to convene newly-appointed Standing Committees during the Annual Meeting. All Subcommittees which have not discharged their reference at the time of Annual Meeting are to be continued in office until the first meeting of their respective Committees.

Journal and Finance Committee.

The TREASURER presented the Minutes of the Journal and Finance Committee of June 23rd, 1909.

Arrangements were adopted whereby the Journal and Finance Committee may report to the Representative Meeting upon the financial aspects of any proposals placed

on the Agenda of the Meeting involving considerable new expenditure.

Copies of the leaflet *Appeal to Midwives and Nurses* to promote the earlier recognition of uterine cancer were ordered to be printed and circulated to various Midwives' and Nurses' Associations, and to the Branches and Divisions.

The accounts for the quarter ending June 12th last, amounting to £9,725 9s. 6d., were approved, and the Treasurer was empowered to pay those remaining unpaid, amounting to £2,617 1s. 7d.

Hospitals Committee.

Dr. Pope presented the Report of the Hospitals Committee of June 3rd, 1909.

The Council decided to submit to the Representative Meeting the Report as to contributions to Hospitals by employers of labour or by employees, prepared by the Hospitals Committee, with the following Recommendation:

> That, in the opinion of the Annual Representative Meeting, contributions to Hospitals by employers of labour or by employees should not be considered as the payment of premiums of insurance against the cost of treatment of sickness or accident, nor as entitling the contributors to claim hospital treatment either for themselves or for persons nominated by them, but as charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted.

Also, the Report concerning the representation of the local medical profession on Boards of Hospitals and similar bodies, prepared by the Hospitals Committee, with the following Recommendation:

> That, in the opinion of the Representative Meeting, the association of officially recognized representatives of the local medical profession in the general management of hospitals and other medical charities is desirable in the interests of these institutions, as well as of the profession, and that for the appointment of such representatives use should be made of the machinery afforded by recognized bodies representative of the profession such as a Division of the British Medical Association.

The Council will submit to the Representative Meeting the Report relative to fresh Public Medical Institutions, prepared by the Hospitals Committee, with the following Recommendation:

> That, in the opinion of the Representative Meeting, no fresh Public Medical Institution should be opened without previous consultation with the local medical profession, through some organized body, such as the local Division of the British Medical Association.

The action suggested by the Westminster Division in the following Resolution is to be taken:

> The Westminster Division of the British Medical Association, being impressed by the necessity for establishing a hospital for the treatment of patients suffering from acute insanity, urges the Central Council to approach the London County Council with a view to their taking immediate steps to establish the hospital suggested by Dr. Maudsley, and to accept his offer of endowment.

At the same time attention will be drawn to the following principle approved by the Annual Representative Meeting, 1908:

> *Minute* 676.—That the Representative Meeting considers that the services of the Profession should not be given gratuitously to patients who are maintained by public funds.

The remainder of the Report was approved.

Naval and Military Committee.

Colonel C. H. Joubert de la Ferté presented the Report of the Naval and Military Committee of June 7th, 1909.

The Council approved of some private Member of Parliament (to be selected by the Chairman of the Naval and Military Committee) being requested to put the following questions to the Secretary of State for India:

> (i) Whether the Government of India, Home Department, Notification No. 607, of 1st July, 1907, regarding the receipt of fees by officers of the Indian Medical Service for professional services rendered to Indian nobles or gentlemen and their families or dependents in British India, is still in force.
>
> (ii) If in force, whether it has received the necessary confirmation of the Secretary of State, in anticipation of which the Order was issued nearly two years ago, and whether the Order has been objected to by one or more of the local Governments.
>
> (iii) Whether the Order has not caused grave dissatisfaction in India, not only amongst the officers of the Indian Medical Service, but also amongst natives of high position, and whether it is not contrary to the letter and the spirit of the Regulating Act of 1773 (13 Geo. III, c. 63, Art. 25), by which the right to take or accept fees, gratuities, and rewards in the way of their profession, was specially reserved to Medical Officers.

The remainder of the Report was approved.

Organization Committee.

Mr. Andrew Clark presented the Report of the Organization Committee of June 8th, 1909.

It was agreed that in all cases in which special copies of documents referred to the Divisions are circulated, under Standing Orders of the Council, to Honorary Secretaries of Divisions and Representatives in the Representative Meeting, copies will be supplied also to the Chairmen of Divisions.

THE CHARTER.

The Council then considered the counter-Petitions lodged in opposition to the application for a Royal Charter, together with the Draft Replies of the Association thereto, prepared by the Organization Committee.

Moved by Mr. Andrew Clark: That the Council approve the Draft Replies submitted by the Organization Committee, and that they be Sealed with the Seal of the Association, and presented to the Privy Council as the Replies of the Association to the Petitions in opposition to the Charter applied for by the Association.

Whereupon an Amendment was moved by Dr. Pope, seconded by Dr. McKenzie Johnston: That all depreciatory remarks as to the constitution or government of any opposing Corporation be omitted.

The Amendment, having been put from the Chair, was declared to be lost.

Whereupon a further Amendment was moved by Mr. Domville, seconded by Dr. Pope: That the answers prepared by Counsel in the two Petitions of Members of the Association be reconsidered by the Organization Committee, with a view to the omission of paragraphs reflecting upon members of the Association.

The Amendment, having been put from the Chair, was declared to be lost: 18—28.

The Recommendation to generally approve the Draft Replies was temporarily withdrawn in favour of the following motion by Mr. Ballance, seconded by Mr. Verrall: That to facilitate the business of the Meeting, the consideration of the Draft Replies to each counter Petition be taken separately.

This having been adopted, the Council proceeded to consider *seriatim* each Petition lodged in opposition to the Application for a Royal Charter, and the Draft Replies thereto.

Petition of the Royal College of Physicians of London.

Moved by Dr. Pope, seconded by the Chairman of Representative Meetings, and resolved: That the Draft Reply of the Association to the Petition of the Royal College of Physicians of London be referred back to Counsel for correction, instructing him that in the opinion of the Council the sentence "It is inconceivable that a body composed as is the Association would abuse such a power or," should have a comma inserted between the words "power" and "or."

Petition of the Royal College of Surgeons of England.

Moved by Dr. McKenzie Johnston, and resolved: That the word "profession" on page 11, Clause 4 (2) (*a*) be deleted from the Draft Reply to the Petition of the Royal College of Surgeons of England.

Petition of the Master, Wardens, and Society of the Art and Mystery of Apothecaries of the City of London.

The Draft Reply of the Association to the Petition of the Master, Wardens, and Society of the Art and Mystery of Apothecaries of the City of London was approved.

Petition of the Royal College of Physicians of Edinburgh.

The Draft Reply of the Association to the Petition of the Royal College of Physicians of Edinburgh was approved.

Petition of the Royal College of Surgeons of Edinburgh.

Moved by Dr. MCKENZIE JOHNSTON, and resolved: That in the Draft Reply of the Association to the Petition of the Royal College of Surgeons of Edinburgh, Clause 1 (1), page 30, be amended to read as follows: That the Government of the Royal College of Surgeons of Edinburgh is vested solely in the President, Council, and Fellows, and that the Licentiates of the said College have no voice in the management of the affairs thereof.

Petition of the Senatus Academicus of Edinburgh.

The Draft Reply of the Association to the Petition of the Senatus Academicus of Edinburgh was approved.

Petition of the British Medical Benevolent Fund.

Moved by Mr. VERRALL, seconded by Professor MORRISON, and resolved: That in Clause 6–7 (*b*), page 38, of the Draft Reply of the Association to the Petition of the British Medical Benevolent Fund, the word "infinitely" be deleted.

Petition of the Society for Relief of Widows and Orphans of Medical Men.

Moved by Mr. VERRALL, seconded by Professor MORRISON, and resolved: That in Clause 4 (*b*), page 42, of the Draft Reply of the Association to the Petition of the Society for Relief of Widows and Orphans of Medical Men, the word "infinitely" be deleted.

Petition of Certain Branches and Members of the British Medical Association.

Moved by Mr. DOMVILLE, seconded by Mr. VERRALL: That in Clause 1 (*c*), page 43, of the Draft Reply of the Association to the Petition of Certain Branches and Members of the British Medical Association, the subclause be amended so as to commence with the words "The Council of the Association is advised by Counsel that under the circumstances," etc.

The Amendment, having been put from the Chair, was declared to be carried: 29—14.

Moved by Mr. DOMVILLE, seconded by Dr. BRADSHAW: That in Clause 5, 6, p. 44, last line but one, all words be deleted after the words "constitutional manner."

The Amendment, having been put from the Chair, was declared to be lost: 17—19.

Moved by Mr. KINSEY, seconded by Dr. BRADSHAW, and resolved: That in Clause 5, 6, page 44, the words "who voted" be added.

Moved by Mr. DOMVILLE, seconded by Dr. MCKENZIE JOHNSTON: That in Clause 7, page 44, the last sentence, commencing "It is therefore fitting," be deleted.

The Amendment, having been put from the Chair, was declared to be lost.

Moved by Mr. DOMVILLE, seconded by Dr. MCKENZIE JOHNSTON: That the last paragraph of Clause 20, page 50, commencing "It is also the fact," be deleted.

The Amendment, having been put from the Chair, was declared to be lost.

Moved by Dr. POPE, seconded by Mr. STRATON: That the following words be added to Clause 22, p. 51: "Nevertheless, the Association is willing to waive the apparent irregularity of the Petition, and to insert clauses giving effect to the Prayer of the Petition as to the Referendum and the election of Representatives."

The CHAIRMAN ruled the Amendment out of order.

Petition of Certain Members of the British Medical Association.

Moved by Mr. DOMVILLE, seconded by Dr. MCKENZIE JOHNSTON, and resolved: That on page 56, Clause 5, of the Draft Reply of the Association to the Petition of Certain Members of the British Medical Association, the following words be added—"who voted."

Moved by Mr. DOMVILLE, seconded by Dr. MCKENZIE JOHNSTON: That the second paragraph of Clause 20, page 62, commencing "It is also the fact," be deleted.

The Amendment, having been put from the Chair, was declared to be lost.

Moved by Mr. DOMVILLE, seconded by Dr. BRADSHAW: That in Clause 23, page 64, the words "The limited number of signatures correctly represents the limited support obtainable for these views," be deleted.

The Amendment, having been put from the Chair, was declared to be lost: 17—24.

In regard to the same Clause (23, page 64), it was moved by the TREASURER, seconded by Mr. DOMVILLE: That the first word "limited" be deleted, and that the word "obtained" be substituted for the word "obtainable," so as to read as follows: "The number of signatures correctly represents the limited support obtained for these views."

The Amendment, having been put from the Chair, was declared to be lost: 20—22.

Moved by Dr. BUIST, seconded by Mr. VERRALL, and resolved: That the first word "limited" be deleted.

Mr. ANDREW CLARK then submitted the following Motion: That the Council approve the Draft Replies as amended, and that they be Sealed with the Seal of the Association and presented to the Privy Council as the Replies of the Association to the Petitions in opposition to the Charter applied for by the Association.

The Motion, having been put from the Chair, was declared to be carried: 28—11.

Moved by the CHAIRMAN OF REPRESENTATIVE MEETINGS and carried as a Rider: That these Petitions against the Charter, and the Replies thereto, be issued to the Representative Meeting for discussion and information.

Proposed South African Committee.

The Council authorized the Organization Committee to consider forthwith the alterations of the present Articles and By-laws of the Association, which would be necessary in order to provide for the constitution of a South African Committee, having the composition and powers desired by the South African Branches, so far as those powers can be conferred consistently with the Memorandum of Association.

The remainder of the Report was approved.

Public Health Committee.

Mr. DOMVILLE presented the Report of the Public Health Committee of June 8th, 1909.

The Council will submit to the Representative Meeting the Report prepared by the Public Health Committee concerning the desirability of Health Officers being required to give their whole time to the work of that office, including the following Recommendation:

> That, in the interests of the public health and in view of the multiplicity of duties thrown upon Medical Officers of Health by recent enactments, it is desirable that in all future appointments Medical Officers of Health should be required to devote their whole time to the duties of their office and be debarred from private practice: that they should be adequately paid, and, if necessary, districts should be grouped for the purpose; and that it is further desirable that Medical Officers of Health should be protected in carrying out their duties and be secured from capricious dismissal.

The support of the Association is to be given to the Government Milk and Dairies Bill (Commons) and the Government Milk and Dairies (Scotland) Bill (Lords).

The Treasurer of the Association and Mr. Herbert Jones were appointed as Representatives of the Association to attend the forthcoming Public Health Congress at Leeds on July 17th to 24th.

Members of the Public Health Committee and of the Committee on Poor Law Reform who are able to attend, together with the Medical Secretary, were authorized to represent the Association in the Conference organized by the Poor Law Medical Officers' Association to consider the Reports of the Royal Commission on the Poor Laws.

The remainder of the Report was approved.

Medico-Political Committee.

Dr. MACDONALD presented the Report of the Medico-Political Committee of June 9th, 1909.

It was decided to adopt as a Standing Order of Council the principle that any fund authorized to be raised by the British Medical Association be audited from time to time by the Auditors of the Association.

The Council recorded the satisfactory assurances received from the South Wales Branch and the North Glamorgan Colliery Surgeons' Medico-Ethical Society as to the benefits resulting to the local profession from the action of the Association, and as to the value of the services rendered by the Medical Secretary in the Ebbw Vale dispute, namely:

Report of Branch Contract Practice Committee.

That this Committee, having heard a full report of the Ebbw Vale dispute, expresses its satisfaction at the valuable results already attained as regards:

(a) The term of employment of the medical officers of the Ebbw Vale Workmen's Doctors' Fund;

(b) The reinstatement of Dr. Dwyer and the decision to reinstate Dr. O'Sullivan; and

(c) The effect of this prolonged struggle in maintaining and improving the position of colliery surgeons of the British Medical Association and of the profession generally in South Wales.

Report of North Glamorgan Colliery Surgeons' Medico-Ethical Society.

That the Society hereby expresses its appreciation of the work of the Branch Contract Practice Committee as tending to enhance the status of the British Medical Association in protecting the interests of its members. The Society further takes this opportunity of recording its approval of the management of the Ebbw Vale dispute, and of the great value of the services of the Medical Secretary of the Association, Dr. J. Smith Whitaker, in connexion therewith.

A *précis* of recent correspondence with the Central Midwives Board submitted by the Medico-Political Committee will be reported by the Council for the information of the Representative Meeting.

The Report on the Employment of Midwives by Medical Practitioners as assistants or otherwise, submitted by the Medico-Political Committee, was ordered to be transmitted for the information of the Divisions and of the Representative Meeting.

The Council will transmit for the information of the Representative Meeting the Memorandum of Evidence submitted to the Departmental Committee on the Midwives Act.

Concerning the following Resolution of the Reigate Division:

> The Reigate Division would urge upon the Council the necessity of including the traffic in quack medicines and apparatus within the scope of the proposed Royal Commission; and, in view of the fact that this fraudulent and cruel trade is carried on mainly by means of advertisements, the Division would further urge upon the Council the necessity of bringing the facts at once forcibly before newspaper proprietors,

it was decided that the suggestion of the Reigate Division as to approaching newspaper proprietors be not adopted, but that the influence of the Association be exerted in favour of the appointment of a Royal Commission to consider all forms of unqualified practice.

The subject of the issue by the Association of a circular letter to Public Schools, as suggested by the Manchester and Salford Combined Divisions, drawing attention to the overcrowded state of the Medical Profession, will be brought to the notice of the Representative Meeting, but without any recommendation from the Council.

The Council approved the following eight Rules, as Model Rules, which Divisions should suggest for inclusion in the Rules of local District Nursing Associations:

(1) That the nurse shall in every case carry out the directions of the Registered Medical Practitioner in attendance.

(2) The nurse, when requested in an emergency, may visit and render first aid to any person without awaiting instruction from a doctor.

(3) If in her opinion the attendance of a doctor is necessary, she must insist that he be sent for; and if for any reason his services are not available the nurse must, if the case is still one of urgency, remain with the patient and do her best until he arrives, or until the emergency is over.

Should the patient refuse to have a doctor, the nurse must at once leave and report the case to her Secretary.

(4) Should any further attendance be requested by the patient after the emergency is over, the nurse must explain that the doctor will decide whether or not this is necessary.

(5) No attendance after a first visit shall be given by a nurse unless she has received directions with regard to the case from a doctor.

(6) No nurse is allowed to administer on her own responsibility, or prescribe, any sort of drug for internal use for any form of disease.

(7) The Association shall consist of all subscribers of ..... and donors of ..... to the Association, together with all registered medical practitioners resident and practising in the area of the Association.

(8) That it is desirable that no midwife in the employment of a Nursing Association should accept an engagement without first asking the patient to state, and herself registering, the name of the doctor to be called in, should any emergency arise.

The remainder of the Report was approved.

The Chairman of Council.

The Chairman of Council here vacated the Chair, which was thereafter occupied by the Treasurer.

Ethical Committee.

Mr. KINSEY presented the Report of the Ethical Committee of June 11th, 1909.

The Representative Meeting is to be informed of the ambiguity in the definition of the term "Consultant" contained in the second paragraph of the Report on the Ethics of Consultation, approved by the Annual Representative Meeting at Sheffield, 1908, and to be requested to authorize the Council to amend the paragraph.

The Representative Meeting is to be recommended to authorize the preparation of a Report on the position of Medical Practitioners who are called upon to examine, on behalf of employers, insurance companies, and persons similarly interested, patients who are under the care of other practitioners.

The revised Report on a Special Class of Consultants will be placed before the Representative Meeting.

The remainder of the Report was approved.

Science Committee.

Dr. BUIST (in the absence of the Chairman) presented the Report of the Science Committee of June 12th, 1909.

Mr. William Nicoll, M.A., D.Sc., M.B., Ch.B., is appointed Ernest Hart Memorial Scholar for the period of one year.

The following are appointed Research Scholars for a period of one year: Mr. Harold Ackroyd, M.B., Mr. Charles Bolton, M.D., Mr. William James Penfold, M.B.

Renewed Grants in aid of Scientific Research to the amount of £150, and new Grants to the amount of £200, were authorized.

The remainder of the Report was approved.

Premises Committee.

Mr. ANDREW CLARK presented the Report of the Premises Committee of June 16th, 1909, which was approved.

Supplementary Report of Council.

The Supplementary Report of Council, presented in accordance with the Standing Orders of the Representative Meeting, was referred to the Chairman of Council to make such corrections and additions as are necessary to give effect to the decisions of this meeting of Council, and to make such verbal amendments as he thinks desirable. Subject to such revision, the Report was approved for submission to the Representative Meeting.

Candidates.

The four candidates whose names appeared on the Notice convening the Meeting were elected Members of the British Medical Association.

Applications.

The application from the Continental Anglo-American Medical Society for permission to hold its annual luncheon during the Meeting of the Association at Belfast, and the application from the Irish Medical Schools' and Graduates' Association for permission to hold a Meeting during the Annual Meeting of the Association in Belfast, were acceded to.

THE SEVENTY-SEVENTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION,

BELFAST,

JULY 23RD TO JULY 31ST, 1909.

President:

SINCLAIR WHITE, M.Ch., F.R.C.S., Senior Honorary Surgeon, the Royal Infirmary, Sheffield.

President-elect:

Sir WILLIAM WHITLA, M.D., LL.D., Professor of Materia Medica and Therapeutics, Queen's College, Belfast.

Past-President:

HENRY DAVY, Hon.D.Sc., M.D., F.R.C.P.Lond., Physician, Royal Devon and Exeter Hospital, Exeter.

Chairman of Representative Meetings:

JAMES ALEXANDER MACDONALD, M.D., M.Ch., R.U.I., Physician, Taunton and Somerset Hospital.

Chairman of Council:

EDMUND OWEN, Hon.D.Sc., LL.D., F.R.C.S., Consulting Surgeon, St. Mary's Hospital, London.

Treasurer:

EDWIN RAYNER, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-seventh Annual Meeting of the British Medical Association will be held in Belfast in July, 1909. The President's address will be delivered on Tuesday, July 27th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 23rd, 1909.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by R. W. PHILIP, M.D., F.R.C.P.Edin., Physician, Royal Infirmary, and Royal Victoria Hospital for Consumption, Edinburgh.

The Address in Surgery will be delivered by ARTHUR EDWARD JAMES BARKER, F.R.C.S., Professor of the Principles and Practice of Surgery, University College, London.

The Address in Obstetrics will be delivered by Sir JOHN W. BYERS, M.D., Professor of Midwifery and Diseases of Women, Queen's College, Belfast.

The Popular Lecture will be delivered by Dr. J. A. MACDONALD, Physician to the Taunton and Somerset Hospital, Chairman of the Representative Meetings.

THE SECTIONS.

The scientific business of the meeting will be conducted in fifteen Sections, which will meet on Wednesday, July 28th, Thursday, July 29th, and Friday, July 30th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following are the general arrangements so far as they are yet complete:

ANATOMY AND PHYSIOLOGY.

Physiology Class-room, Queen's College.

President: CHARLES SCOTT SHERRINGTON, M.D., F.R.S., Physiological Laboratory, University, Liverpool.

Vice-Presidents: Professor THOMAS HUGH MILROY, M.D., F.R.S.E., Queen's College, Belfast; Professor PETER THOMPSON, M.D., King's College, Strand, London; ARTHUR PHILIP BEDDARD, M.D., F.R.C.P., 44, Seymour Street, Portman Square, London, W.; Professor ANDREW FRANCIS DIXON, M.B., D.Sc., 73, Grosvenor Road, Dublin.

Honorary Secretaries: ALEX. LOW, M.B., 142, Blenheim Place, Aberdeen; JOHN ALEX. MILROY, M.D., Queen's College, Belfast.

The following provisional programme has been arranged:

A discussion on the Deep Afferents, their Function and Distribution. To be opened by Professor C. S. Sherrington. The list of those who intend to take part in the discussion is not yet complete.

Papers.—The following papers have been accepted:

DIXON, Professor A. F., Dublin. The Anatomy of the Achondroplastic Skeleton.

JOHNSTON, H. M., B.A., M.B., B.Ch., Dublin. Notes on the Distribution of the Intercostal Nerves.

MACLEAN, Hugh, M.D., Liverpool. Phosphatides in the Light of Modern Research.

MILROY, John Alex., M.D., Belfast. (1) Some Observations on the Staining of the Central Nervous System in Bulk with Aniline Dyes (with demonstration); (2) Some Metallic Derivatives of Haematoporphyrin.

MOORE, Professor B., Liverpool. The Bio-Chemistry of Haemolysis.

PATTEN, Professor C. J., Sheffield. An Early Human Embryo.

ROAF, Herbert E., M.D., Liverpool. A Simple Method of Demonstrating Cholesterin in Bile.

ANDERSON, Professor R. J., Galway. (1) Some Results of the Uniformity of Action and Habit; (2) Some Characters that make for Persistence (having regard chiefly to the Skeleton).

EARLE, H. G., and GOODALL, Dr. J. Strickland (London). The Structure of the Pancreas in Relation to Function (illustrated by microscopic and lantern slides).

SCANES-SPICER, Robert H., B.Sc., M.D.Lond. Some Points in the Mechanics of Respiration: (1) The Significance of the Transverse Axis of Cricothyroid Rotation in Respiration; (2) The Variations of Stress, Strain, and Friction in the Throat and Larynx in Costal and Abdominal Breathing respectively.

Professor Peter Thompson (London) will give a demonstration of models illustrating three stages in the form of the human heart during the first month of development.

Dermatology and Electro-Therapeutics.

Modern Languages Class-room, Queen's College.

President: William Calwell, M.D., 6, College Gardens, Belfast.

Vice-Presidents: Robert Briggs Wild, M.D., 96, Mosley Street, Manchester Leslie Roberts, M.D., 46, Rodney Street, Liverpool.

Honorary Secretaries: James Harry Sequeira, M.D., F.R.C.P., 8a, Manchester Square, London; S. Ernest Dore, M.D., 26, New Cavendish Street, London; John Campbell Rankin, M.D., 38, University Road, Belfast.

The following programme has been arranged:

Wednesday, July 28th.—Introductory address by the President, Dr. William Calwell.

Discussion on Radium and Radio-therapy in Skin Disease. Dr. Louis Wickham, Head of the Radium Institute in Paris, will give a Lantern demonstration on the Treatment of Skin Diseases by Radium. Sir Malcolm Morris, K.C.V.O. (London), Professor Wild (Manchester), Dr. Pernet (London), Dr. Goodwin Tomkinson (Glasgow), Dr. Deane Butcher (London), Dr. R. W. MacKenna (Liverpool), Dr. Sequeira, and Dr. Dore have promised to take part in the discussion.

Thursday, July 29th.—9.30 a.m. Demonstration of Cases.

Discussion on the Mucous Membrane Lesions in Cutaneous Disease. To be opened by Sir Malcolm Morris, K.C.V.O. The frequent association of mucous membrane lesions with affections of the skin and their value in diagnosis will be special features, and the treatment of the commoner forms will be discussed. Dr. Wilfred Fox (London), and Dr. Campbell Rankin (Belfast) will take part in the discussion.

Friday, July 30th.—Discussion on the Supposed Risks attending the X-ray Treatment of Ringworm.

The special points on which discussion is invited are the possibility of injury to the cerebrum and idiosyncrasy.

Papers.—The following papers have been accepted:

Wild, Professor, Manchester. Acanthosis Nigricans.
St. George, Dr., Lisburn. Case of Acanthosis Nigricans, with sections.
Allworthy, Dr. S. W., Belfast. Case of Cutaneous Actinomycosis, with photographs.
Tomkinson, Dr. Goodwin, Glasgow. The Etiology and Treatment of Pruritus Ani.
Evans, Mr. Wilmott, London. Cheiropompholyx.
Fox, Dr. Wilfred, London. The Choice of a Salt for Mercurial Injection in Syphilis.
Hall-Edwards, Dr., Birmingham. On Idiosyncrasy and X-ray Treatment.
Morton, Dr. Reginald, London. Osseous Changes in Chronic X-ray Dermatitis.
Butcher, Dr. Deane. Electrical Treatment of Acne.
Jones, Dr. Lewis.
Hazelton, Dr. F. B., Sheffield. X Rays in Gynaecology.

Dr. Stopford Taylor and Dr. Mackenna (Liverpool) will show casts and photographs of skin diseases in the Museum.

Diseases of Children.

Greek Class-room, Queen's College.

President: Harold J. Stiles, F.R.C.S.Edin., 9, Great Stuart Street, Edinburgh.

Vice-Presidents: John McCaw, M.D., 74, Dublin Road, Belfast; Richard Whytock Leslie, M.D., "St. Heliers," Strandtown, Belfast; Robert Campbell, F.R.C.S., 21, Great Victoria Street, Belfast.

Honorary Secretaries: Andrew Fullerton, F.R.C.S.I., 8, University Square, Belfast; John William Simpson, M.D., 19, Lansdowne Crescent, Edinburgh.

It is proposed to devote some portion of three of the days on which the Section meets to the discussion of the following subjects:

Wednesday, July 28th.—Club Foot. To be introduced by Mr. Robert Jones, of Liverpool. The following have signified their intention of taking part in the discussion: Mr. J. H. Nicoll, Mr. Alex. McLennan, Mr. E. Laming Evans, Mr. Edmund Owen, Sir George Beatson, Mr. Maynard Smith, and Mr. A. H. Tubby.

Mr. Robert Jones will deal with the congenital type and its varieties. Equino-varus is the only variety which presents difficulty. A brief statement of the anatomy. Treatment varies with stage of disease, and may be manipulative, operative, separately, or in combination. Treatment, though started at birth, can only be completed by act of walking. On the action of the tendo Achillis in producing varus, and its prevention. On the rotatory deformities of the tibia and fibula and their early correction. The neglected and so-called "recurrent" case and its management. The causes of so-called "relapse" and its prevention. The importance of an accurate knowledge of the signs of recovery. Mr. Jones will confine his remarks mainly to methods adopted in his own clinic.

Thursday, July 29th.—Functional Neuroses in Children. To be introduced by Dr. J. A. Coutts. The following gentlemen will take part in the discussion: Mr. Sidney Stephenson and Dr. G. E. Shuttleworth.

Dr. Coutts will deal with the following points: Functional neuroses of early infancy. Faulty deglutition. Congenital dyspnœa. Congenital tremor. Pyloric stenosis. Antecedents of functional neuroses in older children. Cyclic vomiting. Migraine. Tics. Head nodding and head banging. Chorea. Hysteria. Incontinence of urine and fæces. Licnteric diarrhœa. Night terrors. Somniloquence. Asthma.

Papers:

Raw, Dr. Nathan. Tuberculosis in Children.
Nicoll, Mr. J. H. Surgery of Infancy.
McLennan, Mr. Alex. Madelung's Subluxation of the Wrists.
Fordyce, Dr. A. Dingwall. Abdominal Tuberculosis in Young Children.
Eddington, Mr. G. H. Case of Sarcoma of the Prostate in a Child.
Power, Mr. D'Arcy. On the Value of New Tuberculin (TR) in Surgical Tuberculosis.
Dun, Mr. R. C.: The Association of a Patent Funicular Process with Certain Forms of Hydrocele; two cases of Median Hare-lip.
Smith, Mr. Maynard. Exomphalos.
Carmichael, Mr. E. Scott. Pneumococcal Peritonitis in Children, with a Record of Twenty Cases.
Monsarrat, Mr. K. W. Acute Staphylococcic Osteitis.

Haematology and Vaccine Therapy.

Surgery Class-room, Queen's College.

President: Sir Almroth Wright, M.D., F.R.S., 6, Park Crescent, Regent's Park, London, N.W.

Vice-Presidents: Alex. Gardner Robb, M.B., 15, University Square, Belfast; Thomas Houston, M.D., 95, Great Victoria Street, Belfast; Captain Stewart Rankin Douglas, I.M.S., Inoculation Department, St. Mary's Hospital, London.

Honorary Secretaries: William Dunlop Donnan, M.D., 12, High Street, Holywood, co. Down; Dudley W. Carmalt-Jones, M.B., B.Ch.Oxon., 78, Wimpole Street, London, W.

The following programme has been arranged:

Wednesday, July 28th.—Opening Address on Retrospect and Prospect by the President, of which the following is a synopsis:

Brief survey of the therapeutics of bacterial diseases, and of the development of therapeutic immunization out of prophylactic immunization. Anticipation that the method of passive immunization (serum-therapy) would furnish a general method for the treatment of generalized bacterial infections. Question as to how far this anticipation has been realized. Proposal that localized bacterial infections might appropriately be treated by active immunization (vaccine therapy). Subsequent suggestion that vaccine-therapy might be applied also to generalized infections. Brief synopsis of the results which have been achieved by this therapeutic method. Question as to what future extensions may be anticipated for the method depends upon whether the fundamental assumption of the method—that is, the assumption that the machinery of immunization can be called into action in every bacterial infection by a suitable dose of the appropriate vaccine—is well founded. Consideration of this question. Urgent need for further study of the physiology of the machinery of immunization. Possible applications of vaccine therapy

in connexion with the secondary infections of scarlatina, small-pox, cancer, whooping-cough, and hay fever, and in connexion with the limitation of family and institutional epidemics.

Thursday, July 29th.—Discussion: The Early Diagnosis of Tuberculosis for the Effective Treatment of that Disease (in conjunction with the Section of Pathology). To be opened by Professor CALMETTE, l'Institut Pasteur de Lille, with a paper of which the following is a synopsis:

(1) Experimental researches have shown that tuberculous infection is at first confined to glands, that its spread depends on the number and virulence of the bacilli, that if few they are destroyed or calcified in the glands, and that serious lesions are due to single massive or repeated small infections; early diagnosis is essential for cure. (2) Consideration of the relative value of cutaneous, conjunctival, and intradermo reactions in diagnosis; and, further, of those of "reactions of recrudescence," and humoral and phagocytic reactions. (3) Suggested routine employment of the above for the isolation of infected subjects.

Friday, July 30th.—Discussion: Bacterial Infections of the Respiratory Tract other than Tuberculous. To be opened by Dr. BORDET, who will deal with the micro-organism of whooping-cough. A cocco-bacillus was isolated in 1906 with definite cultural and staining peculiarities. Filtered cultures are non-toxic, but endotoxins are highly virulent and produce the essential symptoms of whooping-cough. Specific properties are present in the serum of convalescents, which may be demonstrated by the method of the fixation of complement.

The following papers have been accepted:

NOON, Mr. Leonard. The Site of Inoculation as Influencing the Immunity Produced.
GOLLA, Dr. The Antitryptic Index.
INMAN, Dr. The Value of the Opsonic Index in Diagnosis and Regulation of Treatment of Tuberculosis.
CARMALT-JONES, Dr. (1) Review of Inoculation Treatment of Tuberculosis, with Special Reference to Glands; (2) The Treatment of Bronchial Asthma by a Vaccine.
SMITH, Mr. Maynard. The Inoculation Treatment of Tuberculous Arthritis.
PATERSON, Dr. The Value of Inoculation in the Sanatorium Treatment of Phthisis.
WILLCOX, Dr. The Treatment of Pneumonia by Inoculation.
BENHAM, Dr. The Bacteriology and Vaccine Therapy of Common Colds.
HOUSTON, Dr. Typhoid Carriers.
FLEMING, Dr. The Inoculation Treatment of Acne Vulgaris.

Professor Sanfelice, of the University of Bologna, will give a demonstration of work on the Parasitology and Serum Therapy of Cancer.

HYGIENE AND PUBLIC HEALTH.

Natural Philosophy Class-room, Queen's College.

President: LOUIS COLTMAN PARKES, M.D., 61, Cadogan Square, Chelsea, London.

Vice-Presidents: SAMUEL AGNEW, M.D., Lurgan, co. Armagh; HENRY O'NEILL, M.D., 6, College Square East, Belfast; CHARLES KILLICK MILLARD, M.D., Town Hall, Leicester.

Honorary Secretaries: CHARLES PORTER, M.D., Public Health Department, Town Hall, Finsbury; WILLIAM MCLORINAN, L.R.C.P., 103, Antrim Road, Belfast; THOMAS CARNWATH, M.B., Town Hall, Manchester.

The following programme has been arranged:

Wednesday, July 28th.—Discussion: Compulsory Notification of all Forms of Tuberculosis. To be opened by Dr. Scurfield, M.O.H., Sheffield. Dr. Parkes (President of the Section) and others will take part in the discussion.

The following is a synopsis of the paper by Dr. H. SCURFIELD:

In the first part of his paper Dr. Scurfield gives an account of the use which is made of the compulsory notification of consumption in Sheffield, which came into force in November, 1903. Bacteriological examination of sputum is provided free of charge for medical practitioners in the city. Inspectors visit the notified cases, leave printed advice with them, advocate the use of the open window, supply pocket spittoons, and disinfect when necessary. Hospital accommodation is provided by the corporation for twenty males and twenty females for short periods of treatment, the principal object being to educate the patients and to select those who are suitable for prolonged sanatorium treatment. Hospital treatment on modern lines is also provided at the Sheffield Royal Infirmary, and by both boards of guardians. In Sheffield about one-third of the consumptives die in the workhouse hospitals. An open-air school has just been provided for delicate children. In the second part of the paper Dr. Scurfield points out the importance of analysing the total tuberculosis rate, so that the rate for males, females, and children may be given separately. Thus in the case of Sheffield there is nothing remarkable about the total rate, but when analysed it is found that the female rate is very low, and that the rate for males and children is high. He submits tables showing the rates for males, females, and children under 5 years of age in various English towns. He gives a comparison of the rates in Sunderland and Sheffield, and of the conditions which, in his opinion, affect those rates. He concludes with some comments on the tuberculosis rates in other towns, and the conditions which appear to affect them.

Thursday, July 29th.—Discussion: Latent Infections of the Diphtheria Bacillus, and Administrative Measures required for Dealing with Contacts (with the Laryngological Section). To be opened by Dr. Watson Williams (Bristol), from the clinical standpoint; Dr. Buchanan (Glasgow), from the bacteriological standpoint; Dr. Forbes (M.O.H., Brighton), from the administrative standpoint.

Dr. R. M. BUCHANAN will deal with the following points: (1) The latency of infection—general; (2) the rarity of return cases—significance; (3) infection in contacts and school children and its frequency; (4) type, virulence, and persistence of the bacilli in the clinically unaffected; (5) the question of the infecting power, and the segregation of carriers.

The following is a summary of the points to be referred to in the paper by Dr. FORBES:

(*a*) Legal powers for dealing with contacts. (*b*) Action to be taken after a case of diphtheria has occurred, and has been removed from:—(1) Hospital ward: (Keep all children in bed; keep same staff on duty in ward and exclude visitors; admit no new cases: swab all children and staff: (*a*) if positive, isolate; (*b*) if negative, no treatment, reswab next day). (2) Home: (Exclude all children from school for four weeks, and, in addition, according to opportunity and home conditions, either have swabs taken from all members of the family or only from those who have or have had some suspicious symptoms. Cases giving positive results must be dealt with according to their surroundings; those in better-class families may be isolated at home, whilst those in poor families should be removed to an isolation hospital). These remarks apply mainly to children; generally speaking, diphtheria-carrying wage-earners are allowed to continue at work, unless that work will bring them in special contact with children or with food. (*c*) If case occurs and is isolated at home, the procedure is the same as in (*b*) (2), excepting that contacts are kept from school for four weeks from the time when all cases are free from infection. (*d*) School closure seldom necessary. (*e*) Antitoxin injection for contacts usually inadvisable.

Friday, July 30th.—Discussion: The Discharge of Sewage Effluents into Tidal Waters. To be opened by Dr. Henry O'Neill, Member of the City Council, Belfast. Sir P. R. O'Connell (Belfast), Professor Letts, and others will take part in the discussion.

In opening the discussion, Dr. HENRY O'NEILL will point out that the problem of sewage purification in Belfast is one of more than ordinary difficulty owing to the sluggish tides and large areas of shallow water in the upper reaches of Belfast Lough, which favour the growth of *Ulva latissima*, a green seaweed, which, according to the investigations of Professor Letts, is an indication of sewage pollution. The subject has been under the consideration of the corporation for ten years. In the earlier experiments screened sewage was run on to double contact beds, under the impression that a moderate degree of purification would produce an effluent sufficiently good for discharge into the large volume of tidal waters of the Lough, but Professor Letts found that if the growth of the weed was to be considerably reduced, the effluent must be free, not only from ammonia, but from nitrates. Certain experimental contact beds treated with sewage which had

been screened and treated for six or eight hours in a septic tank produced purification to the extent of 90 per cent. free and 75 per cent. albuminoid ammonia, but the beds rapidly silted up, and the area which would have been required would have been excessive. Percolating filter beds with revolving sprinklers dealing with screened and sedimented sewage yielded results highly satisfactory as regards economy, space, and freedom from silting up, but the effluent, though good, contained nitrates in quantity sufficient to provide food for the *Ulva*. Professor Letts found that by mixing the effluent from the percolating filter with about an equal quantity of septic sewage and treating the mixture in contact beds, the organic matter was oxidized at the expense of the nitrates in the filter effluent, and the total quantity of *Ulva* pabulum reduced. These experiments form the basis of an original scheme of purification applicable when a highly nitrified effluent is undesirable. Special contact beds are not necessary, as the storm-water filters can be used for the denitrifying process, which is suspended during storms. Two methods of disposal of the sludge are proposed: (1) At the main outfall works it will be conveyed to sea by steamer; (2) at the Sydenham outfall, as shallow water renders steamer disposal expensive and inconvenient, Dibdin's slate beds, which convert the sludge into an inoffensive humus, will be installed. It has also been proposed as regards the main outfall, to depend solely on screening, sedimentation, and sludge removal, effluent being discharged only during the first half of ebb-tide. Arguments in favour of this scheme are that the growth of *Ulva* would be reduced, that any weed could be collected as thrown on the beach and removed, it being thought that the expense of this would be a continually diminishing annual sum. A joint board of the Belfast, Holywood, and Castlereagh authorities had been expending £2,000 a year on the collection of the weed from the foreshore, some 20,000 tons being removed last year, but this plan was stopped in September owing to want of funds.

Papers.—The following have been accepted:

Niven, Dr., M.O.H., Manchester. Control of Tuberculosis in Cattle.
Wynne, Dr. Darley, Clonmel. Cattle Fairs and Tuberculosis.
Clark, Dr. R. V., Assistant Medical Officer, Leeds. Diphtheria.
Wilson, Dr. Isolation of *B. typhosus*.
Ewart, Dr., Assistant M.O.H., Middlesbrough. Some Features concerning the Sewage Pollution of an Estuary.
Buchan, Dr., M.O.H., Isleworth. Typhoid Pollution of Mussels, etc.
McWeeney, Professor. Mode of Detecting Bacillus Carriers.
Paterson, Dr., Assistant M.O.H., St. Helens. Measles in Schools in a recent outbreak at St. Helens.
Gilchrist, Dr. Endemicity of Influenza.
Story, Dr., Dublin. Neglect of Physical Education in Primary and Secondary Schools.
Magennis, Dr. E. School Medical Inspection.

Laryngology, Otology, and Rhinology.

Midwifery Class-room, Queen's College.

President: Stclair Thomson, M.D., F.R.C.P., 23, Queen Anne Street, London.

Vice-Presidents: Ernest Blechynden Waggett, M.B., 45, Upper Brook Street, London, W.; Henry Smurthwaite, M.D., 8, St. Mary's Place, Newcastle-on-Tyne; J. A. Knowles Renshaw, M.D., 11, St. John Street, Manchester.

Honorary Secretaries: Harold Shuttleworth Barwell, F.R.C.S., 55, Wimpole Street, London; John Stoddart Barr, M.B., 13, Woodside Place, Glasgow; Henry Hanna, M.B., B.Sc., 57, University Road, Belfast.

The following subjects have been selected for special discussion:

Wednesday, July 28th.—The Treatment of Tinnitus Aurium. (1) Dr. Thomas Barr (Glasgow); (2) Mr. Richard Lake (London).

The following is a synopsis of the remarks to be made by Dr. Thomas Barr (Glasgow) in opening the discussion:

The paper, by arrangement with Mr. Richard Lake, deals solely with non-operative treatment. It is pointed out that the tinnitus aurium is merely a symptom, and effective treatment must depend on a correct knowledge of the condition underlying it. Hence, thorough examination of the organ of hearing by all the subjective and objective methods is a primary essential. After brief reference to cases depending on accumulation of wax, Eustachian obstruction, removable fluids in the tympanum, and other conditions in which tinnitus can be readily cured or alleviated by well-known methods, the author deals with cases where tinnitus persists after such methods of treatment or where no definite lesion can be shown, by objective examination, to exist in the ear. In this connexion emphasis is placed on the importance of attention to the state of the general health, and the influence of coexisting systemic disease is shown, as also that of mental attitude, personal habits, climate, and special drugs, and external applications. The special treatment indicated for the pulsating forms of tinnitus is considered. The value of *Ton-behandlung* is next discussed, this being the influence exerted upon certain subjective sounds in the ear, mainly of a musical character, by objective sounds from a tuning-fork. With reference to electrical treatment, it is pointed out that the apparently good effects from the high frequency currents reported a few years ago do not seem to have been borne out by further experience. In discussing the effects upon tinnitus of naso-pharyngeal treatment it is shown that the establishment of good nasal breathing and a healthy condition of the naso-pharyngeal mucous membrane often leads to the disappearance or mitigation of the symptoms, but that, on the other hand, it may be aggravated by ill-directed treatment of the naso-pharyngeal order.

Mr. Lake will deal with the operative treatment: first, what may be termed remote operative, in the form of intranasal treatment, lumbar puncture, and ligation of the carotid artery; afterwards tracing the gradual evolution of the course of operative interference from simple removal of one or more of the ossicles or adhesions, etc., the simple opening or perforation of the labyrinth, its complete ablation, to the division of the auditory nerve itself; he will also endeavour to point out the lines which may be useful in attempting to decide when to operate and what operation to select.

Thursday, July 29th.—Latent Infections of the Diphtheria Bacillus, including the Administrative Measures required for dealing with Contacts. (In association with the Section of Hygiene and Public Health.) (1) Dr. Robert M. Buchanan (Glasgow); (2) Dr. Duncan Forbes (Brighton); (3) Dr. P. Watson Williams (Bristol).

Dr. Watson Williams will open the discussion from the clinical standpoint:

If diphtheria may be defined as any pathological condition, local or general, due to infection by specific diphtheria organisms, diphtheria is "latent" when such pathological conditions are unaccompanied by obvious illness. The impinging of diphtheria bacilli on the nasal or oral mucous membrane without any local reaction, though not a true infection, is clinically a form of latent diphtheria. Latent diphtheria infections may be grouped under three heads: (1) Patients who afford none of the usual clinical indications of diphtheria, are not definitely ill, and yet are found to be anaemic, have increased pulse tendency, are poorly in association with nasal catarrh, membranous rhinitis, faucial redness, and slight subacute tonsillitis, otorrhoea, sores, etc., which on bacteriological examination prove to be diphtheritic. (2) Cases with any of these diphtheritic lesions, but with no general symptoms of ill-health. (3) Persons who present no local lesions, and no departure from normal health, but in whom diphtheria bacilli have been found by culture tests. In practice latent diphtheria is met with affecting the nasal cavities, the fauces and mouth, the external auditory meatus, the skin, genital organs. There is no characteristic symptom or sign of a latent diphtheria, for in their clinical aspects they are indistinguishable from similar non-diphtheritic lesions of the same territories. Pseudo-membranous lesions of the mucous membrane of the upper air tract may be non-diphtheritic or diphtheritic. The only crucial test by which latent diphtheritic infection can be determined is the bacteriological test. Examples of latent diphtheria will be cited, and various methods of treatment discussed.

Friday, July 30th.—The Treatment of Cicatricial Stenoses of the Larynx and Trachea. (1) Dr. H. Lambert Lack (London); (2) Dr. Delsaux (Brussels); (3) Dr. Bryson Delavan (New York).

Dr. H. Lambert Lack will deal chiefly with cicatricial stenosis of the larynx in children as the result of tracheotomy for diphtheria. In nearly every case the

tracheotomy tube was introduced through the larynx at the original operation, and this is considered to be the cause of the subsequent stenosis. In some cases the stricture was fibrous and limited to the soft parts, in others the laryngeal cartilages were extensively destroyed and the stricture almost impermeable. The first indication of treatment is to remove the tube from the larynx by performing a low tracheotomy and inserting the tube in as low a part of the trachea as can be reached. In cases seen early this alone will suffice to effect a cure. Where extensive stenosis is present and the above treatment fails, the larynx should be opened, the cicatricial tissue excised, and the case carefully watched. The various means of dilating the larynx by passing a solid plug upwards from the tracheotomy wound and by inserting a T-shaped cannula are described and condemned. The author's experience of intubation is also unfavourable. Two illustrative cases are described and some statistics given.

The following is a synopsis of Dr. DELSAUX'S (Brussels) remarks:

Laryngo-tracheostomy means the formation in the larynx and upper part of the trachea of an opening such that it may either be left permanently or used for a very long period. Nearly all cases of cicatricial stenosis of the upper air passages (including syphilitic stenosis and stenosis due to perichondritis) are remediable by this operation, but it should not be undertaken in cases due to lupus. The teeth, gums, and mouth receive careful attention before operation, which must not be undertaken so long as the temperature is abnormal or in the presence of catarrh of the trachea or bronchi. As a rule, general anaesthesia is procured, but local analgesia by the infiltration method of Schleich is also employed, though there are objections to its use. The operation is divided into six stages: (1) Incision of the skin, (2) section of the cartilages of the larynx and trachea, (3) suture of the larynx to the skin, (4) division of the cicatrix and excision of its tissues, (5) insertion of a cannula fitted with a dilating drain tube, (6) dressing of the wound. Further particulars are reserved for my full address. The after-treatment is quite as important as the operation itself. Dilatation at the commencement must not be rapid, very supple india-rubber tubes being used, and their calibre gradually increased until it surpasses the normal diameter of the contracted area by as much as 2 mm. in a child and 3 mm. in an adult. Before closing the artificial opening the patient must be gradually habituated to breathing without a cannula and without a tube, at first for a few minutes at a time. As a rule the opening should not be closed for several months after the initial operation. When closed it must be entirely and thoroughly closed. If the opening be large, the method of Gluck may be used, the opening being covered in by two unequal flaps; or, better, by shutter flaps at different levels carefully sutured together in the middle line. When the opening is small it can be closed by the plastic operation usually employed in closing an ordinary tracheotomy wound. Among 60 patients operated on in this fashion there have been six deaths, of which three took place during the after-cure. There have also been two failures, one being in a patient with tubercle of the larynx, and the other a syphilitic case. In the remaining 52 cases, 10 in whom the final plastic operation had been completed, are entirely cured, and up to the present no case of recurrence of stenosis has been reported. In the other cases either the process of dilatation is still going on, or the plastic operation for the closure of the opening is about to be performed. Usually the patients can make themselves easily understood, and some have even recovered their voices owing to re-formation of the vocal cords (Fraenkel). Laryngo-tracheostomy is the operation to be preferred in the treatment of cicatricial stenosis of the upper air passages. It is an operation attended by little risk, and should become the routine method of dealing with these cases.

It is has been arranged this year to have a special exhibition of skiagraphy in relation to diseases of the upper air and food passages. Members are requested to send in the titles and descriptions of any skiagraphs they propose to contribute to Dr. Hanna at once. Every care will be taken of negatives and prints, which should be carefully labelled with the owner's name and address.

MEDICINE.

Chemistry Class-room, Queen's College.

President: Professor JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., 3, Queen's Elms, Belfast.

Vice-Presidents: ARTHUR FOXWELL, M.D., F.R.C.P., 47, Newhall Street, Birmingham; JOSEPH FRANCIS O'CARROLL, M.D., F.R.C.P.I., 43, Merrion Square, Dublin; LAURISTON ELGIE SHAW, M.D., F.R.C.P., 64, Harley Street, London; WILLIAM BAIRD MCQUITTY, M.D., 8, College Square East, Belfast.

Honorary Secretaries: JOHN SMYTH MORROW, M.D., Eia House, Antrim Road, Belfast; LEWIS ALBERT SMITH, M.D., 25, Queen Anne Street, London, W.; JOHN ELDER MACILWAINE, M.D., 55, University Road, Belfast.

The following subjects have been chosen for discussion and demonstration:

1. Wednesday, July 28th.—Angina Pectoris. To be opened by Sir T. Clifford Allbutt, K.C.B. The following will take part in the discussion: Professor Osler, Sir T. Lauder Brunton, Dr. A. Foxwell, Dr. Alexander Morison, Professor Hugo-Marcus (Nice), Dr. W. K. Hunter, Dr. W. Gordon, and Dr. Nathan Raw.

Sir CLIFFORD ALLBUTT, K.C.B., proposes at the outset of the discussion on angina pectoris to ascertain precisely what is to be discussed, and in what terms. He will urge concerning this malady that precision both of terms and of substance is especially needed, for no disease has been more obscured by factitious notions or more confused by false analogies and erratic conjectures. Yet in all medicine there is no disease which presents a clearer image to the observant eye, nor one more conspicuously detached from the clinical jungle. If its characters are confused we have confused them by equivocations; if its type is blurred it has been distorted by counterfeits. If angina pectoris be looked at simply, without prepossession and with discrimination, its features will come into focus and the type will take fairer definition. On the threshold the speaker finds himself confronted by sophists who say bluntly that angina pectoris is not a disease, but a symptom or "symptom group"; it is here, indeed, that the sophistry begins, for this argument is but a play of words. "A symptom" angina pectoris certainly is not, for it is manifold; a symptom group it is, no doubt, or rather a symptom process, or procession. Now a symptom-group, or procession of symptoms negative and positive, which recurs in mankind with fair uniformity, must be due to causes correspondingly uniform. That genuine angina pectoris may occur with the heart, lungs, and kidneys intact, is at last reluctantly admitted by physicians who have studied the data; and if so the essential, as apart from contingent causes, must lie outside these organs. The opener will divide angina pectoris into angina minor and angina major, and the symptoms of the two degrees will be compared. "Pseudo-angina" he intends to dismiss as pseudol diagnosis, and to relegate these cases to the Vaso-vagal class of Gowers. Vasomotor oscillations commonly occur in angina pectoris it is true, and in two main but incidental relations: first as determinants, when by changes of blood pressure attacks are provoked or mitigated; secondly, as consequences of acute impressions reaching the nerve centres by afferent paths. The speaker will proceed to appreciate the current hypotheses of angina pectoris, pointing out the diversity of these irreconcilable and often mutually destructive explanations. He will then advocate again his own interpretation, first published in 1894, and frequently and formally repeated since without effect upon medical opinion, although at length it has been fully accepted by Josué, in a paper published last November. This interpretation is that the origin of angina pectoris lies not in the heart but in the supra-sigmoid portion of the aorta; that the oppression of angina minor is seated in this place; and that in angina major the referred pains still originate here, but, as in the degrees of their severity they force successive centres, they radiate over more and more extensive areas. That, as concerns fatality, angina pectoris, neither in its minor nor in its major forms, is directly fatal; that indeed in many, perhaps in the majority, of major and minor cases taken together, death, if it occurs, is due to co-operating causes; that in a large number of cases, whatever the issue of co-operating lesions, such as valvular or myo-

cardial disease, the anginous lesion is healed, or, at any rate, the symptoms cease; and, furthermore, that not a few cases of angina pectoris, even of the major variety, end in complete recovery; that when death is directly attributable to the angina it is due to vagus inhibition, such as is prone to happen, for example, in surgical operations about the root of the lungs or the brachial plexus, or to be induced by some other intense peripheral irritation, as in the genitalia. Finally, that, although a sound heart may be inhibited to the point of death, this very rarely happens; and that in nearly all cases in which the heart fails to disengage itself from the inhibitory interference, the myocardium, whether by coronary disease, by toxic influence, or otherwise, was previously unsound.

2. Thursday, July 29th.—The Medical Aspects of Athleticism. To be opened by Dr. Tyrrell Brooks (Oxford), Dr. Clement Dukes (Rugby). The following will take part in the discussion: Sir Clifford Allbutt, Sir T. Lauder Brunton, Sir James Barr, Dr. Watson Williams, Dr. A. Foxwell, Dr. Chalmers Watson, Dr. Gordon Gullan, and Dr. Clive Riviere.

Dr. TYRRELL BROOKS (Oxford) in introducing the discussion will deal with the following points:

(1) Athletics, (*a*) at school, (*b*) at the university; what amount of medical supervision is practicable? (2) The dangers of athletics during convalescence. (3) Physical training and athletics. (4) The moral aspect of athletics. (5) The duties of the profession, (*a*) to the individual, (*b*) to the race with reference to physical development.

The following is a synopsis of the remarks to be made by Dr. CLEMENT DUKES (Rugby):

(1) The Greeks aimed at, and attained, by their well-regulated physical training, the highest perfection of the human form, which also influenced the moulding and elevation of the mind. (2) The strength and wisdom of the next generation depend upon the mental and physical development of the present, for the intellectual value of exercise is as great as its physical value. (3) Athleticism is the "intemperance" of physical exercise, which is injurious to the not fully-grown body. (4) Physical examination and medical direction are necessary to avoid this, so that the feeble may be strengthened by well-regulated exercise, and the strong not injured by unwise and prolonged exertion. (5) How to obviate the evils of athleticism, and in what they consist. (6) Classical instances will be given of the defects of athleticism, and of the difficulties in their correction. (7) Ideal rules for the prevention of the harm occasioned by athleticism. (8) The practical rules in force now at Rugby to obviate these defects, and how they have worked; such rules are necessary to control the impulsive nature of youth, and they should be enforced.

3. Friday, July 30th.—Demonstration on Gastric Illumination by Dr. Theodore Thompson and Dr. H. S. Souttar.

The following papers have been accepted:

SAMWAYS, Dr. D. W., Mentone. Misconceptions concerning the Riviera.
GORDON, Dr. W., Exeter. The Influence of Soil on Phthisis, as illustrating a neglected principle in Climatology.
MAGUIRE, Dr. W. J., Belfast. The Value of Mental Symptoms in Diagnosis.
RIVIERE, Dr. Clive, London. A Natural Experiment in Cardiac Strain.
HUGO-MARCUS, Dr., Nice. The Treatment of Syphilis by Intravenous Injections.
RAW, Dr. Nathan, Liverpool. Bovine Tuberculosis in the Human Subject.
GULLAN, Dr. Gordon, Liverpool. An Obscure Case of Hour-glass Contraction of the Stomach and Special Reference to Diagnosis.
LAWSON, Dr. David, and GETTINGS, Dr. G. T., Banchory. The Oral Administration of Tuberculin TR.
STEWART, Dr. Purves. The Technique and Results of Schlösser's Method of Treatment of Tic-douloureux.
POLLESTON, Dr. H. D. Pruritis in Lymphadenoma.
EVE, Dr. Frank C. A Case in which Glycosuria was only to be Inferred from the Presence of Gas and Bacilli in the Urine.
WILLIAMS, John H. (Washington). Tabes Dorsalis, its Rational Treatment in the Light of its Real Pathogenesis.

Dr. B. Moore, Johnston Professor of Bio-Chemistry in the University of Liverpool, will give a demonstration on a new method of administering oxygen to patients in high percentage of known value.

NAVY, ARMY, AND AMBULANCE.
Latin Class-room, Queen's College.

President: Fleet Surgeon J. LLOYD THOMAS, R.N.

Vice-Presidents: Inspector-General ROBERT BENTHAM, R.N. (retired), 22, King's Avenue, Ealing, London, W.; Lieut.-Colonel R. PORTER, M.B., R.A.M.C., P.M.O., Station Hospital, Military Barracks, Belfast; Colonel THOMAS H. HENDLEY, I.M.S., C.I.E., 4, Loudon Road, London, N.W.

Honorary Secretaries: Captain M. LOWSLEY R.A.M.C., St. Michael's Road, Aldershot; Captain HERBERT HUGH BLAIR CUNNINGHAM, M.D., F.R.C.S., 69, University Road, Belfast; Staff Surgeon EDMUND COX, M.B., R.N., The Royal Naval Hospital, Chatham; Captain WILLIAM SALISBURY-SHARPE, M.D., R.A.M.C.T., 8, Cleveland Terrace, Hyde Park, London, W.

The following papers have been accepted:

Wednesday, July 28th:

HENDLEY, Colonel T. H., C.I.E., I.M.S. Contrast between the Treatment of the Wounded under the Moghul Emperors and King Edward VII. Emperor of India.
JAMES, Colonel H. E. R., F.R.C.S., R.A.M.C. The Medical Branch of the Officers' Training Corps.
STORY, A. E., M.B., M.Ch., F.R.C.S.I., Dublin. Physical and Moral Effects of Military Training.
PORTER, Lieutenant-Colonel R., M.B., C.M., R.A.M.C. Short paper with a practical demonstration on Physical Training of Recruits in the Army.

Thursday, July 29th:

CRAWFORD, Major, G. S., R.A.M.C. On the Beneficial Results of Recent Sanitary Work in Malta.
BASSETT-SMITH, Fleet Surgeon, P. W., R.N. Modern Methods of Laboratory Diagnosis of Syphilis.
LAMBKIN, Colonel F. J., R.A.M.C. Probable Effects in the Services of the New Treatment of Syphilis by means of Organic Arsenical Compounds.

Friday, July 30th:

MAHON, Staff Surgeon F. F., R.N. On the First-Aid Relief rendered after the Messina Disaster.
WALLIS, Staff Surgeon J. G., R.N. A detailed scheme for an Unexpected Landing Party using Material available on Board Ship.
CARVELL, J. M., M.R.C.S., L.S.A., Surgeon, St. John Ambulance Brigade. Existing Ambulance Organization of the Home Railway Companies.
RIVERS, W. C., L.R.C.P., M.R.C.S., D.P.H., Newcastle-on-Tyne. Rhinology as an Aid to Diagnosis of Pulmonary Tuberculosis.

OBSTETRICS AND GYNÆCOLOGY.
Natural History Class-room, Queen's College.

President: JOHN CAMPBELL, M.D., F.R.C.S., Crescent House, University Road, Belfast.

Vice-Presidents: ROBERT ALEXANDER GIBBONS, M.D., 29, Cadogan Place, London; JOHN SINGLETON DARLING, M.B., High Street, Lurgan; CHARLES EDWIN PURSLOW, M.D., 192, Broad Street, Birmingham; EWEN JOHN MACLEAN, M.D., 12, Park Place, Cardiff.

Honorary Secretaries: HENRY THOMAS HICKS, F.R.C.S., Derby; ROBERT JAMES JOHNSTONE, M.B., F.R.C.S., 14, University Square, Belfast.

The Committee have thought it well to select two chief subjects for discussion:

Wednesday, July 28th.—1. The Treatment of the Graver Forms of Puerperal Sepsis. To be introduced by Dr. Thomas Wilson (Birmingham).

The following is a synopsis of Dr. T. WILSON's paper opening the discussion:

Since the days of Semmelweiss the theory of puerperal fever has been placed upon a sound basis, with the result that the disease has been practically abolished in properly conducted lying-in institutions. In spite of this the mortality, and therefore probably the morbidity, from this affection have remained undiminished. The cases are scattered, and only here and there provision is beginning to be made for collecting them in hospitals or other institutions suitable for research and effectual treatment. As a consequence, the best treatment remains in many directions undetermined. It is now universally agreed that puerperal fever is due to infection of wounds and raw surfaces arising in parturition, the most common points of entry of the germs being at the placental site and through lacerations of the cervix and vagina. Many

different germs have been proved to be exciting causes of the disease. Grave cases of puerperal fever may be defined as those which endanger the life of the patient, and as in the worst cases the *Streptococcus pyogenes* is the organism most frequently found, the discussion will chiefly be limited to this infection, which varies in gravity from slight and passing local inflammations to the most severe and rapidly fatal blood poisoning; in individual cases rapid and unexpected changes, either for better or worse, frequently occur. The indications for treatment are, first, to attempt to limit the entry and spread of the infecting organisms, and, secondly, to support the patient. The most important point is that immediate and effective treatment should be undertaken without the least delay on the appearance of the first indication of infection, which is usually a rise in temperature, most frequently occurring on the second or third day after delivery. When the temperature exceeds 102° F. a careful examination of the patient should be made, and this will include an examination of the lochia and, if possible, a digital exploration of the uterus. Opinions differ as to the relative value of digital evacuation as compared with curetting, and of copious intrauterine douching as opposed to swabbing with strong antiseptics. The advocates of douching and strong antiseptics also disagree as to the best drug to employ. Observers are more in accord on the necessity for rest, for a suitable nourishing diet, and for attention to the excretory functions. The places of alcohol and quinine in the treatment are still unsettled. Injections of antistreptococcus serum have generally proved disappointing, and treatment by vaccines is still too recent and has been employed in too few cases for the formation of a valid opinion. Collargol has given favourable results in the hands of some practitioners, but has frequently proved disappointing. There is general agreement that pus should be let out at the earliest possible moment by the nearest route. In peritonitis incisions and drainage through the posterior vaginal vault and abdominal wall have been employed with no very satisfactory result. Abdominal or more frequently vaginal hysterectomy has been employed with a fair amount of success in certain conditions, such as infected fibroids or infected rupture of the uterus, but in ordinary cases of puerperal infection these operations have generally proved disappointing. Where the infection has spread along the veins, giving rise to phlebitis with no obvious secondary deposits, the veins have been ligatured or removed through the peritoneal cavity or by a subperitoneal operation. Diagnosis of these cases is difficult and the indication for operation uncertain, and hitherto the number of recorded successful cases small. Patients who are gravely septic bear anæsthetics and operations very badly, and, on the other hand, recovery often takes place without the aid of surgery in cases that appear practically hopeless.

Thursday, July 29th.—2. Endometritis. To be introduced by Dr. E. Hastings Tweedy (Dublin).

Dr. HASTINGS TWEEDY will introduce the discussion on endometritis on the following lines:

(1) Eliminating histological considerations, he will classify endometritis anatomically into corporeal and cervical, clinically into acute and chronic. (2) Briefly mention the origin, course, and symptoms of acute endometritis. (3) Treatment in detail of acute endometritis, comprising vaccines from cultures, douches' gauze drainage, manual exploration, and the very occasional use of the blunt flushing spoon curette, condemning entirely the use of the sharp curette. (4) Definition of cases classified as chronic endometritis—that is, all other non-malignant diseases of the endometrium. (5) The underlying causes, and the necessity of treating them. (6) Consideration of the indications and proper method of curettage, with causes of failure. Under indications is placed the symptomatology and mention made of the frequency of deferred symptoms. (7) Possibility of rupturing the uterus, and its proper treatment when recognized. (8) Frequent local treatment following curettage considered unnecessary and harmful. (9) Local treatment other than curettage and medical treatment. (10) He will insist on curettage before all cervical or vaginal operations and operations for displacement. (11) Treatment of endocervicitis by caustics, astringents, canterization, etc.

Friday, July 30th.—Consideration of the Report of the Ophthalmia Neonatorum Committee (jointly with the Section of Ophthalmology). Reading of papers.

The following have accepted invitations to assist at the deliberations of the Section: Professor Fehling (Strassburg), Professor Jacob (Brussels), and Professor Whitridge Williams (Baltimore).

Drs. Herman and Roberts (London), Jardine and Munro Ker (Glasgow), Donald and Stanmore Bishop (Manchester), Jellett Alfred Smith (Dublin), Cuthbert Lockyer (London), Frederick Edge (Wolverhampton), and R. C. Buist (Dundee), are expected to take part in the discussions.

The following papers have been submitted:

FEHLING, Professor. On the Treatment of Contracted Pelvis.
WILLIAMS, Professor Whitridge. On the Frequency and Clinical Significance of Funnel-shaped Contraction of the Pelvis.
AUSTIN, J. J., M.D., Belfast. Midwifery in Private Practice: A Criticism of Method Based on Actual Results.
CAMERON, Murdoch, M.D., Glasgow. Cases of Dystocia due to Ventrifixation of the Uterus.
CAMERON, S., M.B., Glasgow. Surgical Treatment of Chronic Salpingitis.
HICKS, H. T., F.R.C.S., Derby. Chorion Epithelioma following nearly Full-term Delivery.
KERR, J. M. Munro, M.D., Glasgow. Frequency of Adenocarcinoma of the Uterus in Fibroid Tumours of that Organ: Based on a Series of 160 Cases of Abdominal Hysterectomy.
LOCKYER, Cuthbert, F.R.C.S. The Treatment of Uterine Cancer in the Later Months of Pregnancy.
MCILROY, H. Louise, M.D., Glasgow. Development of the Epithelial Elements of the Ovary.
SAVAGE, Smallwood, F.R.C.S., Birmingham. An Ovarian Tumour, Clinically Malignant, arising from the Overgrowth of Lutein Cells.

In the Pathological Part of this Section, Cancer of the Uterus has been chosen as one affording a wide scope for the exhibition of Specimens, Photographs, Microscopic Slides, etc.

These, with any others of interest, will be exhibited in the Pathological Museum.

OPHTHALMOLOGY.

Practical Histology Class-room, Queen's College.

President: JOHN WALTON BROWNE, M.D., 19, College Square North, Belfast.

Vice-Presidents: ARTHUR W. SANDFORD, M.D., 13, St. Patrick's Place, Cork; WILLIAM MARCUS KILLEN, M.D., 9, Clifton Street, Belfast; ALEX. HILL GRIFFITH, M.D., 17, St. John Street, Manchester.

Honorary Secretaries: JAMES ANDREW CRAIG, F.R.C.S., 11, University Square, Belfast; LESLIE JOHNSTON PATON, F.R.C.S., 1, Spanish Place, Manchester Square, London.

The subjects chosen for discussion are:

1. Eye Injuries in their Relation to the Workmen's Compensation Act. To be opened by Drs. Freeland Fergus (Glasgow) and Shaw (Belfast).

Dr. CECIL SHAW will deal specially with the unsatisfactory working of the Workmen's Compensation Act with regard to compensation for the loss of an eye. According to the Act, compensation is given in cases of total or partial incapacity for work. But where one eye is lost and the other is healthy a man soon learns to work with one eye, and in the great majority of cases work can be done quite as well as before. According to a strict interpretation of the Act, such persons should only obtain compensation for the two or three months that elapse before they are fit for work again. But the true injury in loss of an eye is not generally any loss of capacity for work, but lies in the greatly increased risk of total blindness owing to disease or accident in the other eye. Every one is liable to disease and accident, but to the one-eyed man it is a much more serious event. Owing to this many employers avoid one-eyed workmen, and even though perfectly fit for work, they may fail to obtain it on this account. Case. A better form of compensation for loss of an eye would be a sum fixed according to the average wages, to be paid irrespective of all theories or statements about the workman's capacity for work.

2. The Diseases of the Lymphoid Tissue of the Conjunctiva. To be opened by Professor R. Greef (Berlin), Mr. Treacher Collins (London), and Dr. Nelson (Belfast).

In his paper, Mr. TREACHER COLLINS will deal with the following points:

The contagious character of trachoma; the "trachoma bodies"; the contagion not air-borne but due to transference of moist discharge; the adenoid layer of the conjunctiva the chief seat of reaction, and the centre of the follicles the position in which the toxin is most intense; "elementary or primary granulations"; trachoma a non-pyogenic disease; essentially a chronic disorder; acute symptoms when present due to mixed infection; natural destruction of trachoma follicles by rupture, by absorption, and by strangulation from new formation of fibrous tissue; "Stellwag's brawny oedema"; similarity of the palpebral conjunctiva in the late stages of trachoma to skin; possibility of curing early cases of trachoma without new formation of fibrous tissue; pannus the result of abrasion of corneal epithelium and infection; treatment of trachoma (*a*) by rupture or instrumental removal of follicles—expression, Galezowski's excision of the retrotarsal fold, Kuhnt's removal of tarsus and conjunctiva; (*b*) by stimulating absorption of follicles—copper sulphate, jequiritol, *x* rays, kataphoresis; (*c*) by stimulating formation of fibrous tissue—*Gratarge*. Conditions other than trachoma with follicular enlargements: (*a*) atropine and eserine irritation, (*b*) simple folliculosis, (*c*) muco-purulent ophthalmia and follicles. Conditions resulting in fibrous tissue formation simulating that produced by trachoma, (*a*) tubercle, (*b*) pemphigus, (*c*) spring catarrh, (*d*) membranous ophthalmia, (*e*) burns.

On Friday, July 30th, the Section of Ophthalmology will hold a joint meeting with the Section of Obstetrics and Gynaecology to discuss the report on Ophthalmia Neonatorum.

The following papers have been accepted:

RINSHELWOOD, Dr. James. Case of Sarcoma of the Choroid.
POLLOCK, Dr. W. B. Inglis. Visual Acuity of School Children.

PATHOLOGY.

Pathology Class-room, Queen's College.

President: Professor WM. ST. CLAIR SYMMERS, M.B., Queen's College, Belfast.

Vice-Presidents: WALTER SYDNEY LAZARUS-BARLOW, M.D., Cancer Research Laboratory, Middlesex Hospital, London; ARTHUR EDWARD MOORE, M.B., Castlemahon, Blackrock, Cork; ASTLEY VAVASOUR CLARKE, M.D., 37, London Road, Leicester; Professor I. WALKER HALL, M.D., 9, Royal Park, Clifton, Bristol.

Honorary Secretaries: ALFRED EDWARD BARNES, M.P., 348, Glossop Road, Sheffield; OTTO F. F. GRÜNBAUM, M.D., 34, Wimpole Street, London, W.; WILLIAM JAMES WILSON, M.D., Pathological Laboratory, Queen's College, Belfast.

Thursday, July 29th.—Discussion: The Early Diagnosis and Treatment of Tuberculosis (jointly with the Section of Haematology and Vaccine Therapy).

Wednesday and Friday, July 28th and 30th.—The following papers have been accepted:

ROBERTSON, Dr. W. Ford, and Dr. M. C. W. YOUNG. On the Protozoan Origin of Tumours.
LAZARUS-BARLOW, Dr. W. S. Radio-activity and Carcinoma.
MCWEENEY, Professor E. J. On the Use of Coloured Media in the Detection and Differentiation of Bacilli of the Typho-coli Group.
WILSON, Dr. W. James. On Heterologous Agglutinins.
WHITE, Dr. C. Powell, Manchester. Carcinoma of the Testis in an Infant.
GRUNBAUM, Professor, Leeds, and Professor SYMMERS, Belfast, will also make contributions.
CHAMBERS, Miss Helen. Tumours of the Thyroid.
ROWNTREE, Dr. Cecil. X-ray Carcinoma.
BECKTON, Dr. Henry. The Absence of Altmann's Granules in Cells of Malignant New Growths.
SMITH, Professor Lorrain, F.R.S. An Interesting Case of Cancer of the Pylorus.
MOORE, Benjamin, M.A., D.Sc., and WILLIAMS, R. Stenhouse, M.B., D.P.H. The Growth of the Bacillus of Tuberculosis and other Micro-organisms in Increased Percentages of Oxygen.
RUFFER, Dr. Marc Armand, and WILLMORE, Dr. J. Graham. The Etiology of Bacillary Dysentery.

PHARMACOLOGY AND THERAPEUTICS.

Materia Medica Class-room, Queen's College.

President: Professor RALPH STOCKMAN, M.D., F.R.S.Edin., The University, Glasgow.

Vice-Presidents: Professor WALTER ERNEST DIXON, M.D., Pharmacological Laboratory, Cambridge; NEWMAN NEILD, M.D., 9, Richmond Hill, Clifton, Bristol.

Honorary Secretaries: VICTOR GEORGE LEOPOLD FIELDEN, M.B., 84, Dublin Road, Belfast; HECTOR CHARLES CAMERON, M.B., Guy's Hospital, London, S.E.

The following subjects have been suggested for discussion:

Wednesday, July 28th.—Discussion on Spinal Anaesthesia. To be opened by Mr. George Chiene, F.R.C.S.Edin., to be followed by Dr. Dudley Buxton (London), Mr. Robert Campbell (Belfast), Dr. Arthur L. Fleming (Clifton), Dr. Alex. Don (Dundee), Dr. J. Mill Renton (Glasgow), Dr. J. C. Martin (Portrush), Dr. J. Hogarth Pringle (Glasgow), Mr. Leedham-Green (Birmingham), and Dr. G. A. H. Barton (London).

The following is a synopsis of the opening address by Mr. GEORGE CHIENE, F.R.C.S.Edin.:

Short historical summary of spinal anaesthesia; the drugs at present employed and the amount injected; the technique; the advantages and disadvantages of spinal anaesthesia compared with other methods (1) before the operation, (2) during the operation; the comparative results, immediate and remote; the comparative mortality; question of the use of spinal anaesthesia alone or combined with other methods.

Thursday, July 29th.—Pharmacological Demonstration. Professor W. E. Dixon and Dr. H. H. Dale (Cambridge) will give a demonstration showing the action of the pressor substances in putrid meat, placenta, and ergot on the surviving mammalian organs—heart and uterus.

Papers:

CHARTERIS, Dr. Frank, Glasgow. The Effect on the Leucocyte Count produced by Injections of Thiosinamin, Lecithin, and Nucleinate of Soda.
MCWALTER, Dr. J. C., Barrister-at-Law, Dublin. The Regulation of Quack Medicine Traffic.
MOORE, Professor Benjamin, D.Sc., Liverpool. A New Member of the Saponin-digitalin Group of Glucosides, its Chemistry and Physiological Action. (Heart tracings to illustrate the action of the drug will be exhibited.)

Friday, July 30th.—Discussion on the Treatment of Oedema. To be opened by Dr. H. D. Rolleston; to be followed by Sir James Barr (Liverpool), Dr. W. S. Lazarus-Barlow (London), Dr. Arthur Foxwell (Birmingham), Dr. F. Charteris (Glasgow), and Dr. Geo. Parker (Bristol).

The following is a synopsis of Dr. H. D. ROLLESTON'S paper introducing the discussion:

Oedema, being a manifestation of numerous and very different conditions, certain distinct groups of it are recognized: (1) Cardiac oedema and oedema of venous obstruction, primarily mechanical, and due to hydrostatic factors; (2) renal dropsy which, though in some instances, as in granular kidney, largely cardiac, is in its proper sense more complicated; (3) toxic oedemas other than those due to renal disease; (4) inflammatory oedema; (5) oedemas due to nervous causes, that is, hysterical oedema; (6) oedema due to lymphatic obstruction; (7) oedemas of doubtful origin, for example, Milroy's disease. Discussion of treatment is mainly directed to the forms of more widespread oedema. (1) Cardiac Dropsy: Good effect of the recumbent position and of cardiac tonics such as digitalis, caffeine, and its allies diuretin, theobromine, and theocin; restriction of fluid and of intake of salt. (2) Renal Dropsy: The complicated etiology and the natural variations in the amount of urinary excretion make treatment much more problematic and its effects more difficult to estimate with accuracy than in cardiac dropsy. Cases of urinary crises occurring under caffeine, and without any special treatment, are given to illustrate this point. Is reduction of oedema always beneficial in renal disease? Conceivably renal oedema is part of a compensatory process whereby waste products are excreted into tissue spaces, and in this event absorption of oedema fluid may increase toxaemia. An important question is, Should the ingestion of fluid be restricted or not?

If an increased consumption of fluid is followed by increased excretion of water and solids, and so by diminution of toxaemia, this is justified; if, on the other hand, increased ingestion of fluid is not followed by increased diuresis and excretion of solids, a restricted regimen is indicated in order to avoid hydraemic plethora. Probably no hard-and-fast rule can be adopted, but each case should be investigated as to the excreting powers of the kidneys. Brief statement of the effect of increased diaphoresis according to von Noorden's views. Effect of purgation partly to remove fluid, partly to diminish toxaemia. Influence of a salt-free diet. Question of incision of oedematous parts and drainage so as to diminish the osmotic tension of the tissues and the local toxic accumulation; method of incision, risks of the procedure. Combination of drainage with free ingestion of fluid. Various drugs in the treatment of dropsy in patients with renal disease.

Psychological Medicine.

English Class-room, Queen's College.

President: T. Outterson Wood, M.D., 40, Margaret Street, Cavendish Square, London.

Vice-Presidents: George Robert Lawless, F.R.C.S.I., District Asylum, Armagh; Wm. Richard Dawson, M.D., Farnham House, Finglas, co. Dublin; Robert Henry Cole, M.D., 25, Upper Berkeley Street, London, W.; Michael James Nolan, L.R.C.P. and S.I., Down District Asylum, Downpatrick.

Honorary Secretaries: Walter Samuel Smyth, M.B., District Asylum, Antrim; Sidney Herbert Clarke, M.B., Leicester and Rutland Asylum, Narborough, Leicestershire.

The following subjects have been selected for special discussion in this Section:

July 28th.—Somatic Delusions and Local Delusions. To be opened by Dr. C. A. Mercier. Dr. J. M. MacCormac will also speak.

Dr. Mercier's paper describes a case in which delusions of complete obstruction of the bowels, and of having been raped "per rectum" were found to be coexistent with tuberculous ulcers of the jejunum, and of the rectum, and the relation between the delusions and the lesions is discussed. Three possible hypotheses suggest themselves: (1) That the lesions were the cause of the delusions. This is rejected. (2) That the lesions were responsible for the particular character of the delusions in a person who would, without them, have had delusions of some kind. This also is rejected. (3) That the localization of the lesions was due to failure or disorder of the neurotrophic influence of the parts of the cerebrum whose disorder underlay the delusions. This is regarded as the most probable hypothesis.

July 29th.—Papers.

July 30th.—Considerations upon the Commissioners' Report of the Care and Control of the Feeble-minded. To be opened by Dr. W. R. Dawson. Dr. G. E. Shuttleworth and Dr. W. J. Maguire will also speak.

The following is a synopsis of Dr. W. R. Dawson's introductory paper:

(1) *The "Principles" laid down by the Royal Commission.* The fundamental idea that of protecting all persons who cannot take part in the struggle of life owing to mental defect, and of extending this protection to their property, may be accepted. The authority affording this protection should be a special and powerful central authority and independent of other administrative departments. Local bodies are made subject to this central authority, but perhaps it would be well to restrict the powers of the local authorities still further by making the asylum service a national service, on the lines recommended for the Irish Poor Law Service by the recent Viceregal Commission. Desirability of close co-operation between judicial and administrative authorities is evident, and therefore the amalgamation of the Lunacy Commission and the Chancery Visitors may be approved. (2) *The Detailed Recommendations.* The three methods of dealing with the mentally defective are stated in the preamble to be oversight, certification, and detention. It is difficult to see what good would be done by the first two alone. The change in the statutory terms "lunatic" and "asylum" can only be of temporary utility, but is unobjectionable. The classification is unnecessarily elaborate, and the distinction between "persons of unsound mind" and "persons mentally infirm" seems devoid of utility. If classification is necessary, the last four groups, namely, "moral imbeciles," "epileptics," "inebriates," and "deaf and dumb" or "blind," should be given up and merged with the others. There seems no sufficient reason why the central authority should not be called the board of control in Ireland as well as in England and Scotland. The increase of the medical members of the board is highly desirable, and the extension to all mentally defective persons of the provisions of the Lunacy Act relating to management and administration may also be approved. Is the appointment of "certifying medical practitioners" necessary? Unnecessary complications in connexion with the passing of plans for buildings, etc. Dr. Dunlop's disapproval of compulsory notification, except where public assistance is required, seems to be well founded, such proceeding being too inquisitorial and likely to lead to unnecessary friction in practice. The special report on frequently recurring cases is, however, a good suggestion. Objection is taken to the retention (the introduction as far as Ireland is concerned) of the order for reception by a judicial authority, at all events in the case of paying patients. Where possible, special classes better than special schools. The provisions for criminal defectives, epileptics, and inebriates may be approved. The recommendation which is apparently intended to deal with the question of family care is not sufficiently definite. No system is complete which does not definitely legalize this mode of treatment. The question of voluntary boarders should also be dealt with, and the whole system would require to be supplemented by regulations dealing with inebriates who are not mentally defective.

The following papers have been accepted:

MacCormac, Dr. J. M. The Superficial and Deep Reflexes as an Additional Means in the Diagnosis of the Principal Forms of Mental Diseases.

Crothers, Dr. T. D., U.S.A. A Study of the Hereditary Influence in the Causation of Inebriety.

Shuttleworth, Dr. G. E. Mongolian Imbecility.

Schofield, Dr. A. The Present Position of Applied Psychology in Medicine.

The Secretaries will be glad to receive offers of other papers.

Surgery.

Anatomy Class-room, Queen's College.

President: Professor Thomas Sinclair, M.D., F.R.C.S., 22, University Square, Belfast.

Vice-Presidents: Charles Alfred Ballance, M.V.O., M.S., F.R.C.S., 106, Harley Street, W.; Sir Peter O'Connell, M.D., 9, College Square North, Belfast; Arthur John Drew, F.R.C.S., Water Hall, St. Aldate's, Oxford; John Galway Cooke, M.B., City and County Infirmary, Londonderry; Arthur Brownlow Mitchell, F.R.C.S.I., 18, University Square, Belfast.

Honorary Secretaries: W. Thelwall Thomas, F.R.C.S., 84, Rodney Street, Liverpool; G. Lenthal Cheatle, C.B., F.R.C.S., 117, Harley Street, London; Howard Stevenson, M.B., F.R.C.S.I., 2, College Square North, Belfast; Jas. Bernard Moore, M.B., 11, Clifton Street, Belfast.

Special discussions on the following subjects will be held on Wednesday, July 28th, and Thursday, July 29th:

1. The Operative Treatment of Obstructive Jaundice and the Proper Selection of Cases. Introduced by (1) Mr. B. G. A. Moynihan; (2) Sir Thomas Myles. The following have signified their intention of taking part: Mr. E. Stanmore Bishop, Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. W. I. de C. Wheeler, Mr. K. W. Monsarrat, Mr. C. P. Childe, Mr. David Dickie (Glasgow), and Mr. J. Crawford Renton.

2. Modern Methods in the Treatment of Tuberculous Disease of Joints. Introduced by (1) Sir William Macewen, F.R.S.; (2) Mr. Robert Jones. The following will speak: Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. R. C. Dun, Mr. T. S. Kirk, Mr. C. W. Cathcart, Mr. A. H. Tubby, Mr. Robert Campbell (Belfast), Mr. J. Crawford Renton, Mr. J. Ward Cousins, and Mr. Maynard Smith.

Sir William Macewen will introduce a discussion on the Differential Treatment of Tuberculous Joints, accord-

ing to the stages of the disease. In the early stages attention will be directed to the effect of various forms of treatment, such as rest, fixation, massage, fluxion, injections (local and general), hygiene, etc. The treatment in the late stage, operative and otherwise, will be discussed. Special modes of operating will be described, and the after-treatment will be briefly alluded to.

Mr. ROBERT JONES will follow, dealing with the subject in the following manner. In children strictly conservative methods advocated; excisions never performed. The necessity of clearly defining the essential signs of disease, and of adopting methods for the prevention of deformity. How to deal with the deformity in an actively diseased joint. The tuberculous abscess and its management. On the treatment of old sinuses and dangers of mixed infections. The importance of complete rest of the diseased joint and methods of securing it. The necessity for accurate tests of the recovery of individual joints. The value of open air. In adult tuberculosis prognosis much worse, and excision of the joint frequently imperative.

Friday, July 30th, will be devoted to the reading of papers on subjects other than the above.

Dr. Depage (Brussels) and Dr. Sonnenburg (Berlin) have signified their intention of being present and taking part in the discussions of the Section.

The following papers have been accepted:

SYME, G. A. Some Unusual Cases of Echinococcus (Hydatid) Cyst, with remarks on Diagnosis and Treatment.
GROVES, Ernest W. H. The Radical Treatment of Cancer of the Stomach—Methods, Results, and Statistics.
FREYER, P. J. A recent series of 200 cases of Enucleation of the Enlarged Prostate, with special reference to the operation (1) in octogenarians, (2) in cases of extremely large prostate.
BIRD, F. D. Operation for Liver and Lung Hydatids.
MITCHELL, A. B. Perforative Duodenal Ulcer.
NEWBOLT, G. P. Some Cases of Resection of Intestine.
BLANEY, Alexander. Notes on Four Cases of Removal of the Gasserian Ganglion.
CATHCART, C. W. The Irritative Property of Extravasated Blood and its Clinical Importance.
EDINGTON, G. H. Some Cases of Intestinal Anastomosis.
LEEDHAM-GREEN, C. Scopolamin-morphine Narcosis.
HORT, E. C. The Diagnosis of Malignant Disease by Estimation of the Antitryptic Content of the Blood Serum.

Facilities will be provided for showing specimens and drawings to illustrate subjects under discussion.

TROPICAL MEDICINE.

Logic Class-room, Queen's College.

President: CHARLES WILBERFORCE DANIELS, M.B., London School of Tropical Medicine, Albert Docks, London.

Vice-Presidents: Lieutenant-Colonel ANDREW DEANE, M.D., F.R.C.S.I., L.M.S., Royal Victoria Hospital, Belfast; Surgeon-General W. R. BROWNE, M.D., C.I.E., 5, Royal Crescent, Holland Park Avenue, London.

Honorary Secretaries: JAMES COLVILLE, M.D., 7, University Square, Belfast; Dr. ANTON BREINL, Director Runcorn Research Laboratories.

The following subjects have been selected for discussion;

Wednesday, July 28th, 10 a.m.—Persistence of the Tropical Diseases of Man due to Protozoa. The discussion will be opened by the President.

The following is a synopsis of Dr. DANIELS's paper introducing the discussion:

Diseases due to protozoa are in man caused by the parasites in their asexual cycles. The sexual forms may be present, but seem to have little or nothing to do with the causation of disease. The persistence of a disease due to a protozoa in man is, therefore, the same as the persistence of asexual multiplication of that parasite. On theoretical grounds repeated asexual reproduction should result in a degeneration of the strain, but of this in the human parasites there is little or no evidence. All the evidence goes to show that as far as these parasitic protozoa are concerned loss of virility takes place even with indefinite asexual multiplication. Protozoal infections do die out in man, but not from any developed weakness of the parasite, but from a steady increase in the resistant and germicidal powers of the host, and in essentials as causes of disease resembling bacteria. The instances taken will be the parasites of malaria, trypanosomes, and *Entamœba histolytica*.

Thursday, July 29th, 10 a.m.—Treatment of Chronic Recurrent Dysentery, with Special Reference to the Possibilities of Surgical Treatment. The discussion will be opened by Mr. J. Cantlie.

Mr. CANTLIE's paper will deal with the following points: Meaning of term—relation to colitis—mucus and mucous casts in stools—seat of chronic dysenteric lesions the sigmoid flexure—anatomy of sigmoid revised—use of the sigmoidoscope and the aid it affords to diagnosis and treatment—treatment of recurrent dysentery by diet (meat and milk diets); by drugs (ipecacuanha, cuttlefish bone, lactobacillin, alkalis); by enemata (sea-water, quinine, nitrate of silver); by dilatation of sigmo-rectal pylorus; by direct applications to ulcerative surfaces through tube of sigmoidoscope; by washing out intestine through opening in appendix; by opening sigmoid flexure; by excision of lesion at junction of sigmoid and rectum (that is, of sigmo-rectal pylorus)—relation of liver abscess to dysentery—hepatitis not a necessary preliminary to liver abscess—suppurative hepatitis a local lesion not usually the result of general hepatitis.

Friday, July 30th, 10 a.m.—Feeding and Treatment of Children in the Tropics. The discussion will be opened by Dr. W. Carnegie Brown.

Dr. CARNEGIE BROWN, in introducing the discussion, will deal with the following points:

Infant mortality in the tropics: comparative statistics. Feeding problems: Unsatisfactory supply of fresh milk: utility of preserved milks; other substitutes. Relative infrequency in the tropics of the zymotic diseases of early life—for example, diphtheria, scarlet fever, acute rheumatism, etc.; consequent rarity of serious after-effects. Prevalent disorders of children: Tetanus, infantile diarrhœa, helminthiasis, dysentery, continued fevers, malaria, infantile splenomegaly, biliary cirrhosis, anæmia, and other marasmic conditions, yaws; prevention and treatment. Possibility of rearing healthy European children in the tropics; age for return to a temperate climate.

The Committee will be glad to receive pathological specimens, photographs, drawings, or microscopical preparations illustrative of any subject in Tropical Medicine.

PROVISIONAL TIME TABLE.

FRIDAY, JULY 23RD, 1909.

12 noon.—Annual General Meeting, followed by Representative Meeting.

SATURDAY, JULY 24TH, 1909.

9.30 A.M.—Representative Meeting.

SUNDAY, JULY, 25TH, 1909.

11.30 A.M.—Service at the Cathedral.

MONDAY, JULY 26TH, 1909.

10 A.M.—Representative Meeting.
7.30 P.M.—Annual Conference of Secretaries of Divisions and Branches.

TUESDAY, JULY 27TH, 1909.

10 A.M.—Council Meeting.
10.30 A.M.—Representative Meeting (if required).
10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).
2.30 P.M.—Adjourned General Meeting.
Induction of President.
2 to 4 P.M.—Inspection of Messrs. William Ewart and Son's Works, Flax Spinning and Weaving.
3 to 5 P.M.—Inspection of Harbour and Docks at the invitation of the Belfast Harbour Commissioners, by steamer. Robert Thompson, Esq., Chairman, will entertain the visitors at tea on board (limited to 150).
4 to 6 P.M.—Reception at Mater Infirmorum Hospital.
8.30 P.M.—President's Address. (Academic Dress or Uniform.)
Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

WEDNESDAY, JULY 28TH, 1909.

9.15 A.M.—Annual Meeting of Medical Libraries' Association.
9.30 A.M.—Council Meeting.

WEDNESDAY, JULY 28TH *(Continued)*.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M. } Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

10.30 A.M.—Representative Meeting (if required).

12.30 P.M.—Address in Medicine.

2.30 P.M.—Visit to Belfast Rope Works Company's Premises.

4 to 6 P.M.—Garden Party given by the President and Lady Whitla at Lennoxvale House.

7.30 P.M.—Annual Dinner.

8 to 11 P.M.—Ladies' Reception, given by local members at the Opera House. Plays will be performed by members of the Ulster Literary Theatre.

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

THURSDAY, JULY 29TH, 1909.

8 A.M.—National Temperance League Breakfast.

9.30 A.M.—Council Meeting.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M. } Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

12 NOON.—Cricket Match at the North of Ireland Cricket Club Grounds. (See below.)

Garden Party given by Sir Thomas and Lady Dixon at Hillsborough Castle. Train from Great Northern Railway. For times see *Daily Journal*. (Limited to 150.)

Drive in County Down, including visit to Forster Green Hospital and Sanatorium; to Belvoir Park (tea), with inspection of Model Dairy; and to Purdysburn Hospital (limited to 100). Brakes will start from the College at 2.30.

12.30 P.M.—Address in Surgery.

1.30 P.M.—Luncheon at Messrs. Dunville and Co.'s Warehouse, and subsequent inspection of Distillery (limited to 100).

2.30 to 4.30 P.M.—Inspection of Messrs. Harland and Wolff's Works.

Members wishing to visit these works are specially requested to send on a postcard their names to the Honorary Local Secretaries, Queen's College, Belfast, as soon as possible.

3 P.M.—Reception at the Royal Victoria Hospital given by the Chairman, James Davidson, Esq.

8.30 P.M.—Reception given by the Right Hon. the Lord Mayor in the City Hall. (Academic Dress or Uniform.)

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

FRIDAY, JULY 30TH, 1909.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M. } Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

Golf match at Newcastle for the Belfast Cup, presented by the Ulster Medical Society. Competitors will be entertained to luncheon and tea in the Club House of the Royal County Down Golf Club by the President of the Ulster Medical Society and Mrs. Kirk, names to be sent beforehand on postcard to the Honorary Local Secretaries, Queen's College, Belfast.

12.30 P.M.—Address in Obstetrics.

3 P.M.—Garden Party at the Royal North of Ireland Yacht Club's Club House, Cultra, with yacht race for members. Frequent trains from County Down Railway Station. See *Daily Journal*. (Limited to 200.)

4 to 6 P.M.—Garden Party given by R. J. McMordie, Esq., at Cabin Hill, Knock, Belfast. (Limited to 250.)

8 P.M.—Popular Lecture.

8.30 P.M.—Reception given by the President and Members of the Ulster Branch in the Botanic Gardens. (Academic Dress or Uniform.)

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

SATURDAY, JULY 31ST, 1909.

Excursions.

Academic Dress.—The local Executive Committee request that members will wear academic dress or uniform at the President's Address on Tuesday evening, July 27th; at the Lord Mayor's reception on Thursday evening, July 29th; and at the reception by the President and members of the Ulster Branch on Friday evening, July 30th.

Bowling.—The Belfast Bowling Club has kindly offered the use of their fine ground to members of the Association attending the Belfast meeting. The ground is only two minutes' walk from the College. Any members wishing to take part in a match are asked to send their names on a postcard to Dr. John Rusk, 188, Antrim Road, Belfast.

Cricket Match.—A cricket match for the members of the British Medical Association visiting Belfast will be held on Thursday, July 29th, on the grounds of the North of Ireland Cricket Club, which are only ten minutes' walk from Queen's College. Dr. J. W. Taylor has kindly arranged to give luncheon to the teams, and afternoon tea to them and the spectators as well. Cricketing members who are willing to take part in the match are asked to communicate as soon as possible with Dr. J. W. Taylor, Dunelin, Malone Road, Belfast.

Club Privileges.—The Committees of the Union and Reform Clubs have kindly arranged to make all members of the Association honorary members during the time of the meeting, with the usual proviso that they reside at least fifteen miles from Belfast.

Boating.—The Belfast Boat Club, which has a commodious club-house on the River Lagan, within a mile of the college, has arranged to make all members of the Association honorary members during the meeting.

CATHEDRAL SERVICE.

The Bishop of Down, Connor, and Dromore has arranged that the Sunday morning service at the Cathedral (11.30 a.m., July 25th) shall be a special service for medical men. There will be special hymns printed, the Bishop will preach, and seats will be reserved for members of the Association.

Honorary Local Secretaries—

HENRY LAWRENCE MCKISACK, M.D., M.R.C.P.,
17, University Square, Belfast.

CECIL EDWARD SHAW, M.A., M.D., M.Ch.,
29, University Square, Belfast.

HOWARD STEVENSON, B.A., M.B., F.R.C.S.I.,
2, College Square North, Belfast.

EXCURSIONS.

The following excursions have been arranged for Saturday, July 31st:

1. *Carlingford Lough and the Mourne Mountains.*—The members taking this excursion will travel by train to Warrenpoint, where they will be the guests for the day of the Warrenpoint Urban Council, who will provide a steamer for a morning cruise on the sheltered waters of Carlingford Lough, one of the most beautiful bays in Ireland. During the trip a very fine view of the Mourne range is obtained, and the steamer will call at the town of Carlingford to enable visitors to see the ruins of its castle and abbey. In the afternoon the visitors will be entertained at a garden party by the Urban Council, and any who may wish to do so will have the opportunity of taking the short drive to the lovely watering place of Rostrevor, where tea will be provided at the sanatorium by the kindness of Dr. Williams. Fare (inclusive of lunch), 5s. 6d.

2. *Portrush and the Giant's Causeway.*—Visitors will be conveyed by rail to Portrush, and thence by electric tram to the Causeway, passing on the way the ruins of Dunluce Castle. After a stay at the Causeway, allowing sufficient time to explore it, the visitors will return to

Portrush for a late lunch. There will be ample time left to see the White Rocks, Ramore Head, etc., before the train leaves in the evening for Belfast. Fare (inclusive of meals), 10s. 6d.

3. *Glenariff and the Antrim Coast Road.*—Visitors will proceed by rail as far as Parkmore, and will then walk through Glenariff Glen to see the gorge with its waterfalls and cascades. At the foot brakes will be waiting, and the party will drive down the Vale of Glenariff to lunch at Garron Tower. After lunch the drive will be resumed along the Coast Road to Larne, where tea will be served. The party will return to Belfast from Larne by train. Fare (including lunch and tea), 12s.

All these excursions will be completed in time to allow visitors to catch the Saturday night cross-Channel boats.

THE PATHOLOGICAL MUSEUM.

The following Committee has been appointed to organize the pathological museum:

President: Professor W. St. Clair Symmers.

Honorary Secretaries: Thomas Houston, M.D.; W. J. Wilson, M.D.

J. S. Dickie, M.B.	C. H. P. D. Graves, M.D. (Cookstown).
Rowland Hill, M.B.	
C. G. Lowry, M.D.	Professor McWeeney (Dublin).
J. E. MacIlwaine, M.D.	Professor Moore (Cork).
John M'Leish, M.B.	C. H. Nesbitt, M.D. (Randalstown).
W. J. Maguire, M.D.	
J. C. Rankin, M.D.	Professor O'Sullivan (Dublin).
Fred. Smyth, M.D.	R. T. Rowlette, M.D. (Dublin).
Ernest Wales, M.D.	Professor White (Dublin).
J. Singleton Darling, M.D. (Lurgan).	John Wilson, M.D. (Castleblayney).

Ex-Officio Members.

The President-elect: Sir William Whitla, M.D., LL.D.

The Local Honorary Treasurer: Joseph Nelson, M.D.

The Local Honorary Secretaries: H. L. McKisack, M.D.; C. E. Shaw, M.D.; Howard Stevenson, F.R.C.S.I.

The Committee propose that the material should be arranged under the following heads:

I. Exhibits bearing on discussions and papers in the various sections.

II. Specimens and illustrations relating to any research work.

III. Instruments relating to clinical diagnosis and pathological investigation.

IV. Individual specimens of special interest, or a series illustrating some special subject.

It is also proposed to make a special effort to gather together a series of exhibits relating to:

(*a*) Tuberculosis.
(*b*) Diseases of warm climates.
(*c*) Cancer of the uterus.
(*d*) X-rays and photography.

The Committee wish it to be understood that the above are only suggestions, and if there is any subject in which Members are specially interested, and of which interesting specimens can be supplied, they will be glad to hear from them.

The Museum will occupy a central position, and will be easy of access.

It is hoped that it will be possible for arrangements to be made whereby exhibitors may have an opportunity of demonstrating their specimens.

Thomas Houston,
W. J. Wilson,
Honorary Secretaries.

Communications should be addressed to one of the Honorary Secretaries at Queen's University, Belfast.

Arrangements have been made with Messrs. Baird and Tatlock to collect and pack specimens sent from London for the Pathological Museum. Members proposing to send exhibits to the Museum are requested to communicate with Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, London, E.C.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

EDINBURGH BRANCH.

The annual meeting of the Edinburgh Branch was held in the hall of the Royal College of Physicians, 9, Queen Street, on Wednesday, July 7th, at 4 p.m., Dr. Hamilton in the chair. Between fifty and sixty members were present.

Confirmation of Minutes.—The minutes of the annual meeting held on June 26th, 1908, were read, approved, and signed.

Report of Secretaries.—The Branch Council met on six occasions during the past year for the discussion of business. Thirteen new members were elected to the Branch. The usual winter clinical meeting of the Branch was held in the Royal Infirmary on Friday, February 26th, followed by a dinner in the Royal British Hotel in the evening. Drs. McKenzie Johnston and Nasmyth were re-elected unopposed as representatives of the Edinburgh and Fife Branches on the Central Council of the Association. Part of the time of the Council meetings was occupied in discussing and formulating a petition against certain provisions of the proposed Charter, mainly in connexion with the Referendum. The Branch was circularized on the matter, and a majority of the members voted in favour of the Referendum being taken by postcard vote. The Council also determined in favour of attempting to hold a scientific meeting of the Branch in the summer, and resolved that this year a discussion should be initiated at the annual meeting.

Treasurer's Report.—The Treasurer's annual report was submitted, showing a balance of £172 15s. 4½d. The statement of accounts having been duly audited and found correct, the report was approved.

Petition against the Draft Charter.—A resolution of the Council:

> That a sum not exceeding £25 shall be voted to meet certain expenses connected with the presentation of the petition to the Privy Council against the draft Charter,

was submitted for approval. Dr. James Carmichael moved, and Dr. McKenzie Johnston seconded, that the resolution be approved. After a few remarks by Dr. Cullen as to the validity of the grant, the motion was unanimously adopted.

Meetings of the City Divisions.—Dr. Keppie Paterson moved, and Dr. Dewar seconded, a resolution of the Council:

> That the President of the Branch shall be empowered, on the request of the Chairmen and Secretaries of any two of the City Divisions, to summon a meeting of the three City Divisions with at least two days' clear notice.

Dr. Carlyle Johnstone moved an amendment:

> That the President of the Branch shall be empowered, on the request of the Chairmen and Secretaries of any two of the Divisions of the Branch, to summon a meeting of all the Divisions of the Branch with seven clear days' notice to country members, and at least two days' notice to city members.

The amendment was accepted by the mover and seconder of the motion, and became the finding of the meeting.

Election of Office-bearers.—The following gentlemen were elected: *President*, Dr. Alexander James; *President-elect*, Dr. William Russell; *Vice-Presidents*, Dr. James Hunter (Linlithgow), Dr. A. A. Matheson; *Treasurer*, Dr. James Ritchie; *Secretaries*, Dr. Francis D. Boyd, Dr. Michael Dewar.

Installation of New President.—Dr. James was then called to the chair, and in a few words expressed his thanks to the meeting for his election.

Vote of Thanks to Retiring Officers.—Dr. McKenzie Johnston moved a vote of thanks to the retiring President, Dr. George A. Berry. Dr. Russell moved a special vote of thanks to the retiring Secretary, Dr. Logan Turner, in recognition of his valuable services during the past six years.

Lady Medical Officers to School Boards.—Dr. ELSIE INGLIS introduced the question of the proposed inadequate remuneration of lady medical officers by the Edinburgh School Boards. The discussion was taken part in by Drs. KEPPIE PATERSON, ALEX. WALKER and LUNDIE.

Discussion.—Dr. RUSSELL opened a discussion on the treatment of chronic constipation, which was joined in by Drs. MELVILLE DUNLOP, CHALMERS WATSON, J. R. HAMILTON, T. THYNE, LUNDIE, WEBSTER, GEORGE HUNTER, JAMES CARMICHAEL, CARLYLE JOHNSTONE, and SCOT SKIRVING.

Vote of Thanks to Chairman.—A vote of thanks to the Chairman closed the meeting.

Dinner.—A dinner took place in the Royal British Hotel later on, with Dr. James presiding over a company of about thirty members. A most enjoyable and pleasant evening was spent, enlivened by song and story.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL AND BIRKENHEAD COMBINED DIVISIONS.

A MEETING of the combined Divisions was held at the Liverpool Medical Institution on July 9th, at 4.30 p.m. Sir JAMES BARR was in the chair, and forty-four other members were present, all signing the presence list.

Confirmation of Minutes.—The minutes of the meeting of June 18th and its adjournment to July 2nd were read and confirmed *nemine contradicente*.

Hospital Abuse Committee.—Dr. HARVEY tendered the resignation of the Hospital Abuse Committee, reading the letter given in the agenda, namely:

3, Allerton Road,
Liverpool,
June 22nd, 1909.

Dear Sir,

At a meeting of the Hospital Abuse Subcommittee held this day, present Drs. Harvey, Waters, Tisdall, Palmer, E. T. Davies, Howard, and Given, the following resolution was proposed and carried unanimously:

That this Committee feel that after the way their report on the method proposed for dealing with cases of ophthalmia neonatorum has been rejected, and their members prevented from explaining their position—on the occasion of the meeting of the combined Divisions on June 18th—they have no alternative but to tender their resignation forthwith. At the same time they wish to emphasize their hope that a new subcommittee may be appointed who will have the confidence of the Association, and whose duties shall be definitely defined.

I am, dear Sir,
Yours faithfully,
HENRY HARVEY.

Dr. Grossmann,
Honorary Secretary Combined Divisions
of Liverpool and Birkenhead.

Mr. LARKIN informed the meeting that he had been instructed by the unanimous resolution of the meeting of the Joint Committee held the day before to inform the combined Divisions that the members of the Joint Committee accepted equal responsibility with the Hospital Abuse Committee for the rejected report, and therefore would resign with them. A discussion followed, in which Sir JAMES BARR, Messrs. and Drs. LARKIN, M. ALEXANDER, STOOKES, E. T. DAVIES, TISDALL, OLDERSHAW, and HARRISON took part. It was finally resolved by 22 votes to 2,

That the combined Divisions decline to accept the resignation.

On the resolution of Mr. LARKIN, seconded by Dr. BREWER, it was resolved *nemine contradicente*:

That a small subcommittee be appointed to draw up suitable Standing Orders for the conduct of the meetings.

It was also resolved:

That the subcommittee consist of the Chairman, the Secretary, and Mr. Larkin, to report, if possible, to the annual meeting of the combined Divisions that day week (July 16th).

LIVERPOOL CENTRAL DIVISION.

THE annual meeting was held on June 23rd; Dr. HUBERT ARMSTRONG, Chairman, presiding. There were present Dr. Frank H. Barendt, Secretary, and nine members.

Election of Officers.—The following gentlemen were elected officers and members of the Executive Committee for the ensuing year: *Chairman*, Dr. Sydney J. Palmer; *Vice-Chairman*, Dr. Francis W. Bailey; *Secretary*, Dr. Frank H. Barendt; *Representative for Representative Meeting*, Dr. T. Bushby; *Representatives on Branch Council*, Drs. Sydney J. Palmer and Thomas R. Bradshaw; *Executive Committee*, Drs. Hubert Armstrong, F. J. Strong Heaney, N. Percy Marsh, George P. Newbolt, E. Malcolm Stockdale.

Joint Committee of Liverpool and Birkenhead Divisions.—The following members were elected by the Division: Drs. T. Bushby, Frank H. Barendt, Sydney J. Palmer, F. J. Strong Heaney, and E. Malcolm Stockdale.

Report of Executive Committee.—The report of the Executive Committee was submitted, and with some emendations adopted and ordered to be printed and circulated among the members in due course.

Annual Representative Meeting.—The business of the Annual Representative Meeting was considered, and the recommendations of the Executive Committee were adopted. The Secretary was requested to communicate these to the Divisional Representative, Dr. T. Bushby.

Current Work of the Association.—The two reports (March 31st and May 5th, 1909) on current work of the Association, which were forwarded to the Secretary at his request by the Medical Secretary of the Association, were read. Dr. ARMSTRONG proposed and Mr. R. W. MURRAY seconded:

That at the discretion of the Executive Committee the reports forwarded to the Division be epitomized, printed, and circularized among the members of the Division.

Votes of Thanks to Retiring Officers.—Votes of thanks to the retiring officers and the Secretary were passed for their valuable services during the past year.

NORTH OF ENGLAND BRANCH.

THE annual meeting of this Branch was held on July 6th at Newcastle-upon-Tyne.

Scientific Meetings.

The day's proceedings started at 9 a.m. with a series of scientific meetings at the Royal Victoria Infirmary, Newcastle. Over 200 members were present, and they took a keen interest in the meetings and demonstrations. The following is a summary:

Section I (Medical).—Dr. GEORGE HALL demonstrated the following cases: (1) Amyotrophic lateral sclerosis in a woman, her husband showing an arrested progressive muscular atrophy; (2) tumour of cauda equina; (3) specific paraplegia, twelve months after laminectomy (by Mr. Angus); (4) patient six months after laminectomy (by Mr. Angus), for fractured spine and complete paraplegia. Dr. HORSLEY DRUMMOND demonstrated some cases of heart disease. Dr. DAVID DRUMMOND demonstrated some cases of spinal disease. Sir THOMAS OLIVER demonstrated the following cases: (1) Cases of splenic anæmia; (2) spleno-medullary leukæmia; (3) diabetes; (4) double renal calculus; (5) aortic disease. Dr. FRANCIS HERNAMAN-JOHNSON demonstrated a case of chronic infantile paralysis diagnosed as morbus coxæ. Dr. BEATTIE demonstrated the following cases: (1) Cases of pneumothorax; (2) examples of pleuritic effusion; (3) cases of specific aortitis; (4) thoracic aneurysm with anginal attacks; (5) hemiplegia with atheromatous arteries in a child of 10. Dr. HUME demonstrated the following cases: (1) Series of cases of enlarged spleen; (2) series of cases of heart disease; (3) Huntingdon's chorea. Dr. ALLISON demonstrated the following cases: (1) Congenital cystic kidneys; (2) aortic stenosis; (3) exophthalmic goitre; (4) myxœdema. Dr. PARKIN demonstrated the following cases: (1) Malaria, with slide showing the parasite; (2) aortic aneurysm; (3) aortic stenosis; (4) acute nephritis.

Section II (Surgical).—Mr. W. G. RICHARDSON demonstrated a series of cases showing the result of excision of the tongue and jaw for carcinoma; the specimen removed in each case was also shown. Mr. J. W. LEECH demonstrated a series of cases illustrating tumours of the breast. Dr. HENDERSON showed two cases of Jacksonian epilepsy. Mr. A. M. MARTIN showed a series of cases illustrative of joint lesions. Mr. RUTHERFORD MORISON showed a series of cases (with the specimen removed in each case) where partial gastrectomy had been performed for carcinoma of the stomach. Mr. H. B. ANGUS showed a series of cases illustrative of duodenal ulcer, before and after operation. Mr. JOHN CLAY gave a demonstration of the urethroscope and catheterization of the ureters. Mr. J. V. W. RUTHERFORD showed a series of cases of tumours in the rectum. Mr. R. J. WILLAN gave a demonstration of urethroscopy, cystoscopy, and catheterization of the ureters.

In the Eye Department, Mr. WARDALE and Mr. GOWANS

showed a series of cases of external diseases of the eye, also microscopic slides of various types of conjunctivitis.

In the Ear, Nose, and Throat Department, Mr. RIDLEY and Mr. WHYLLIS showed a series of cases; Mr. OUSTON gave a demonstration of Bruning's instruments for direct bronchoscopy and oesophagoscopy; Mr. SMITHWAITE showed cases in the side-room of Ward No. 2.

In the Gynaecological Department, Dr. RANKEN LYLE showed cases in the out-patient department.

In the Skin Department, Dr. BOLAM showed cases of chronic lichen, dermatitis herpetiformis, etc.

In the Electrical Department, Dr. ARNISON demonstrated cases of thoracic aneurysm by x rays.

In the Eye Infirmary, St. Mary's Place, Mr. PERCIVAL and Mr. BENNETT showed cases and operated.

At the Hospital for Sick Children, Moor Edge, Dr. MACCRACKEN and Dr. OGDEN showed cases of medical disease in children; Mr. OUSTON and Mr. HAWTHORN showed cases of surgical disease in children.

Pathological Museum.—The following is a list of the exhibits:—

Dr. ALLISON: A series of South African ticks (from cattle and sheep).
Dr. BOLAM: Some slides illustrating the histopathology of skin conditions.
Mr. CLAY: Examples of diseases of the genito-urinary organs.
Dr. HUME: Specimen of congenital heart disease; blood films from cases of pernicious anaemia and spleno-medullary leukaemia; blood films showing malarial parasites.
Dr. HALL: Liver (with sections) showing multilobular cirrhosis in a child; abdominal aorta showing calcareous degeneration as the effect of pressure.
Professor HUTCHENS and Dr. LAWS: A series of bacteriological specimens.
Dr. RANKEN LYLE: Chronic inversion of the uterus; multiple fibroids; uterus showing concealed accidental haemorrhage; mesothelioma of both ovaries.
Sir THOMAS OLIVER and Dr. RANKEN LYLE: Large parovarian cyst.
Dr. STUART MACDONALD: A series of plates and photographs to illustrate the pathology of epidemic cerebro-spinal meningitis.
Mr. MARTIN and Dr. MACDONALD: Specimen from a case of gall stones showing ulceration into the duodenum, ulcerative enteritis, and peritonitis.
Mr. MORISON: Two series of specimens of gastric carcinoma; a series of specimens of malignant tongues; a series of specimens of ovarian tumour; a series of specimens of malignant growth of colon; natural appendicostomy after appendicitis; bicornuate uterus; duodenal ulcer after burns; carcinoma of oesophagus; excision of kneejoint; partial hepatectomy; desmoid tumour of belly wall; lipoma of the cord; aberrant thyroid gland; hernial sac which simulated a hydrocele; an appendix 10½ in. long; bladder growth with right ureter; naevus verrucosus.
Mr. MORISON and Mr. WILLAN: Malignant kidney, with estimation of renal function.
Dr. PATTERSON: A series of coloured and other photographs illustrating skin diseases.
Mr. RICHARDSON: A series of specimens from malignant tongue and jaw cases; sarcoma of brachialis anticus muscle; case of inverted Meckel's diverticulum, causing intussusception of small intestine; a series of malignant growths of the large bowel.
Mr. RICHARDSON and Mr. WILLAN: Septic kidney, with estimation of renal function.
Mr. SLADE: A series of bacteriological specimens.
Mr. J. D. WARDALE and Mr. GOWANS: A series of foreign bodies from the eye; two cases of sarcoma of retina.
Mr. WHILLIS: Papilloma of larynx removed from a girl aged 10 years (by intralaryngeal method); enucleated tonsils (removed with guillotine); specimens of temporal bones showing mastoid disease, and the tracts infecting the lateral sinus and the brain; brain showing temporosphenoidal abscess.
Mr. R. J. WILLAN: Prostate removed by Freyer's method; bladder, ureter, and kidney, illustrating effects of obstruction from malignant prostate; vesical calculus removed by litholapaxy.
Mr. HESLOP: A series of loose semilunar cartilages from the knee joint.
Dr. PARKIN: Viscera from a case of polyserositis.

Luncheon.—Luncheon was held in the King's Hall, Armstrong College of Science, use of which was kindly granted by the Council of the College and Sir Isambard Owen. Mr. Rutherford Morison, President-elect, invited all the honorary officials of the Branch as his guests. The Lord Mayor of Newcastle was also present. Expressions of regret were received from Sir George Hare Philipson, Sir Isambard Owen, Professor Howden, and many other members of the Branch who were unable to be present. Mr. RUTHERFORD MORISON proposed the following toasts: (1) "The King;" (2) "The Lord Mayor and Corporation of Newcastle-on-Tyne." In the course of his remarks he pointed out the great improvement which had taken place in recent years in the pavements, the cleansing of the highways, and the general sanitary arrangements of the city, also that the present Lord Mayor had been most active in assisting all movements for the welfare of the citizens. The LORD MAYOR, in reply, stated that he had great pleasure in being present at the annual meeting of the Branch, and still more so because his old friend Mr. Rutherford Morison was President-elect, and he was sure that the members in electing Mr. Morison as President were not only honouring him, but honouring themselves, as from his personal knowledge of Mr. Morison he knew that he would grace the office.

Business Meeting.

The members then adjourned to the Council Chamber of the College, where Mr. A. E. MORISON occupied the chair. Apologies for absence were read. Over 100 members were present at the meeting.

Installation of New President.—The PRESIDENT briefly introduced his brother, Mr. Rutherford Morison, and pointed out that it was rather a unique instance that one brother should follow the other as President of a Branch, and that the younger brother had preceded the elder.

President's Address.—Mr. RUTHERFORD MORISON then took the Presidential chair, and gave a short address on what he called Trades Union Aspect of the Medical Profession, and pointed out that if the members of the profession would only be loyal to each other and give that co-operation which had been demonstrated by other societies, a good many evils would be done away with and reforms made which would elevate the standard of the profession both from a scientific and financial point of view. He hoped that during his year of office he would be able, with the co-operation of the members, to improve the organization and activity of the Branch.

Vote of Thanks to Retiring President.—Dr. ADAMSON then moved a vote of thanks to the retiring President (Mr. A. E. Morison), and said that he had always been most active in the work of the Branch, and had shown by his straightforward actions that he had the welfare of the members at heart. This was carried with acclamation. Mr. A. E. MORISON briefly returned thanks.

Re-election of Honorary Secretary and Treasurer.—The PRESIDENT moved the re-election of Dr. David F. Todd as Honorary Secretary and Treasurer of the Branch, and said he was sure that under his leadership and energy the Branch would go on and prosper. The HONORARY SECRETARY thanked the members for having done him the honour of electing him as Honorary Secretary and Treasurer of the Branch. He assured them that he undertook the duties with the greatest possible pleasure, and at the same time realized the responsibility of the position and the enormous amount of work attached to it. He could not possibly hope to carry out the duties successfully without the hearty support and loyalty of the honorary officials and members of the Branch, and pointed out that he would like to see the members of the Branch take a more deep and active interest in the work of the British Medical Association. He regretted to state that he had often noticed when meetings for the members were called that there was not that attendance which one would expect, except in those cases where some acute financial matter was under discussion. The arrangement of Divisions had not altogether proved the success which they should have expected, as several of them were practically moribund. He hoped during the present year, with the help of the President, to visit these Divisions, to try and get them reorganized and put upon a working basis. He would like to take this opportunity of asking the members to try and get as many new members as possible, as at the present time about 30 per cent. of practitioners resident in the Branch were not members. By doing this they would increase the fighting strength and financial position of the Branch.

Vote of Thanks to College and Sir Isambard Owen.—Dr. JAMES SMITH moved a vote of thanks to the council of the college and Sir Isambard Owen for their kindness in permitting the members to use the college that day. This was carried with applause. This concluded the ordinary business of the day.

Visit to Elswick.—The members then departed to the various outings which had been arranged, namely, Messrs. Armstrong and Whitworth's works at Elswick and Scotswood, where, through the permission of Sir Andrew Noble and the kindness and courtesy of Mr. Purvis, arrangements were made to show a party of the members through the ordnance and motor works where famous Elswick cars are manufactured which have been recently put through such a severe test at Brooklands with such successful results. Mr. Englebach explained that they were making arrangements to provide cars with complete upkeep, including driver, at so much per annum. This should prove a great boon to many professional men who do not want to be troubled with the detail and worry connected with motoring.

Visit to Walkergate Fever Hospital.—A party of members paid a visit to Walkergate Fever Hospital, and were shown round by Dr. Kerr, and afterwards entertained at tea.

These visits were highly appreciated by members.

Golf Match.—Another party of members paid a visit to Northumberland Golf Club at Gosforth, where Dr. Ouston (Honorary Secretary of Newcastle Division) had most kindly made arrangements for a match to be played, Married *v.* Single. This was carried out most successfully, and formed a very enjoyable outing. Dr. Ouston kindly provided tea for the members afterwards.

PERTHSHIRE BRANCH.

THE summer meeting of the Branch was held on Moncrieff Island on Friday, June 4th.

Council Meeting.

Present: Drs. Bruce, Burnet, Haig, Trotter. On the motion of Dr. TROTTER, seconded by Dr. BURNET, Dr. Edwards (Bridge of Earn) was elected a member of Council. A letter was read from a member of the Branch, stating that he had withdrawn a prescription form complained of.

Ordinary Meeting.

Election of Officers.—The following members were elected officers for the ensuing year: *Members of Council*, Dr. Kennedy, Colonel Moffat, Dr. Edwards; *President*, Dr. Bruce; *Vice-President*, Dr. Lyell; *Representative*, Dr. W. Haig (Crieff). The Treasurer and Secretaries were reappointed.

Ophthalmia Neonatorum Report.—The meeting approved of the report of the Committee on Ophthalmia Neonatorum.

Annual Golf Match.—After the meeting the members played the annual golf match with Dundee. The result of the match was in favour of Perth: 5—3.

Luncheon.—The members were entertained to lunch and tea by Dr. A. Trotter, member of Council for the combined Branches.

SPECIAL MEETING.

A SPECIAL meeting was held in the County and City Infirmary on Monday, June 28th.

Council Meeting.

A Council meeting was held at 3.30, Dr. BRUCE, President, in the chair. There were present: DRS. P. Stewart, Macdiarmid, Lyell, P. Stirling, Edwards, and Taylor.

New Member.—Dr. G. C. Strathairn (Crieff) was elected a member of the Association and Branch.

General Meeting.

A general meeting was held at 3.30.

Proposed Motor Speed Limit.—The proposed ten miles per hour limit for motor cars in and around the borough of Perth was considered as affecting the members of the Branch in their daily rounds, and a petition to the Secretary for Scotland, urging that no speed limit should be imposed in Perth and stating their reasons, was directed to be forwarded by the Secretary.

SOUTH-EASTERN BRANCH:

CHICHESTER AND WORTHING DIVISION.

THE annual meeting of the Division was held at the Pier Hotel, Bognor, on Friday, June 18th. The chair was taken by Dr. EUSTACE.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Place of Next Meeting.—It was decided to hold the next meeting at Littlehampton.

Election of Officers.—The following officers were elected for the ensuing year: *Chairman*, Mr. W. S. Simpson; *Vice-Chairman*, Dr. Eustace: *Honorary Secretary and Treasurer*, Dr. Morris; *Representative on Branch Council*, Dr. Cameron; *Representative at Representative Meeting*, Dr. Hinds. *Executive and Medico-Political Committee*, Dr. Eustace, Dr. Hinds, Dr. Ewart, Dr. Cameron, Dr. Haydon, Mr. Elliot Blake, Mr. Milbank Smith, and Mr. Last.

Report of Honorary Secretary.—The HONORARY SECRETARY read his report and statement of accounts for 1908.

Report of Representative.—Mr. ELLIOT BLAKE read a report of the Representative Meeting.

Report of Ophthalmia Neonatorum Committee.—The recommendations of this Committee were considered and unanimously approved of.

Medical Inspection of Children.—The report of the Medico-Political Committee on this matter was considered and the recommendations unanimously approved of.

Medical Certificates for Hospitals.—The report on medical certificates as to suitability for hospital treatment was considered and approved of.

Unqualified Practice.—This matter was fully discussed, and the general opinion was that the evil was very prevalent. It was decided to help the medical officers of health in the Division in acquiring evidence of it.

Representation of Local Medical Profession on Hospital Boards.—The resolutions of the Hampstead and Wandsworth Divisions were approved of.

SOUTHERN BRANCH:

GUERNSEY AND ALDERNEY DIVISION.

A MEETING of this Division was held on Monday, June 28th, and was attended by ten members.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Honorary Secretary's Report.—The SECRETARY reported the approval by the Organization Committee of the new rules for the Divisional library; that he had received £10 from the Branch Council towards the cost of bringing amendments of the existing lunacy laws to the notice of the Crown officers, and then before the Royal Court; and made a report concerning the housing of the Divisional library.

Report of Lunacy Laws Committee.—The report of the Lunacy Laws Committee was read and adopted by the Division, and thanks were passed to the Committee for their care and promptness.

Instructions to Representative.—Instructions were given to the Representative on the matter brought up by the Hampstead and Wandsworth Divisions regarding the representation of the local medical profession on hospital boards and similar institutions.

Ophthalmia Neonatorum Report.—The SECRETARY was instructed to convey to the Medical Secretary the approval by the Division of the proposed directions to nurses and midwives, and the suggestions to medical men contained in the Ophthalmia Neonatorum Report.

Case.—Dr. CONRAD CAREY described an interesting case of so-called delayed chloroform poisoning.

Votes of Thanks.—Votes of thanks to Dr. Aikman and the President concluded the meeting.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

MONMOUTHSHIRE DIVISION.

A MEETING of this Division was held at the residence of Dr. A. G. Lawrence, The Cedars, Chepstow, on Friday, July 9th: the CHAIRMAN (Dr. O. E. B. Marshi) presided, and the attendance numbered twenty-one.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Vote of Congratulation.—A hearty vote of congratulation to Dr. Glendinning on his election as Vice-President of the South Wales and Monmouthshire Branch was unanimously passed, and Dr. Glendinning briefly acknowledged it.

Reports as to Disputes.—The Honorary Secretary presented a report on the position of the Ebbw Vale dispute, and read letters from the Honorary Secretary of the Cardiff and Westminster Divisions with reference respectively to the dispute at the Llanbradach Collieries and the Hampstead Hospital. The Honorary Secretaries were instructed to take steps to put the Ethical Rules of the Division in force with regard to the Llanbradach Collieries, and the Representative was instructed to support the motion of the Westminster Division at the Representative Meeting.

Contributions to Hospitals by Employers and Employees.—The discussion on the report on contributions to hospitals by employers of labour and employees, which had been adjourned from the annual meeting, was continued, and it was resolved:

That the Division approves of the negative proposition that such contributions should not be considered as entitling the contributors to unlimited hospital as also to gratuitous medical attendance, but considers that the positive proposals are impracticable.

Papers.—Dr. A. G. Lawrence read a paper on the cure of tuberculosis by other acute diseases, and exhibited a patient who was in an advanced stage of phthisis seventeen years ago, but recovered rapidly after a severe attack of small pox. The paper was discussed by Drs. Mulligan, Greer, Coulter, Morrell Thomas, Bassett, Cropper, and Geatte, and Dr. Lawrence replied. Dr. V. A. Crinks read notes on a case of extracranial false venous aneurysm communicating with the longitudinal sinus, and exhibited a specimen of the occipital bone perforated by numerous small channels. Drs. Greer, Bassett, and Morrell Thomas discussed the paper, and Dr. Crinks replied. Dr. J. Cropper exhibited a series of most interesting slides from a case of pernicious malaria exhibiting phagocytosis.

Vote of Thanks.—A very hearty vote of thanks was unanimously passed to Dr. Lawrence for his kindness and hospitality in entertaining the meeting.

SOUTH-WESTERN BRANCH.

The annual meeting of the Branch was held at Bideford on June 30th. There was a good attendance of members.

Installation of New President.—Dr. Banks resigned the Presidential chair to Dr. Toye.

President's Address.—The new President then delivered his inaugural address, in which he alluded to the energy that characterized the officers of the Association in North Devon, and pointed out that every medical man in Bideford was a member. He then drew attention to the strain to which members of the profession were exposed; discussed the excessive mortality for a learned profession (medicine 966, law 821, clergy 533, as against 953 for all males), and reviewed the causes thereof; suggesting certain precautions as likely to help to remedy this excessive death-rate.

Report of Branch Council.—The Branch Council's report was adopted, and the meeting expressed its approval of the work which had been done towards procuring such a modification of the draft Charter as would allow the scattered members of the Branch equal voting facilities with urban members, and reaffirmed the resolution:

That it is necessary for the safe government of the Association that the Referendum be taken by letter to every member of the Association, and on the requisition of half the Council.

Treasurer's Account. — The Treasurer's accounts, showing a credit balance of £74 16s., were approved and adopted.

Luncheon, etc.—Before the meeting Dr. Toye kindly entertained members at luncheon. Dr. Pearson provided tea in the afternoon, and the annual dinner of the Branch was held in the evening.

STAFFORDSHIRE BRANCH:

Mid-Staffordshire Division.

The seventh annual meeting of this Division was held at the Infirmary, Burton-on-Trent, on June 30th, Dr. Stack (Chairman) presiding. There were present Drs. W. G. Lowe, F. N. Cookson, C. T. Holford, G. H. Hesker, and C. Thompson.

Confirmation of Minutes.—The minutes of the meeting held on April 15th were read and passed.

Letter to a Member.—The Secretary stated that, in accordance with the resolution then passed, he had written to a member of the Division, who had replied that he had resigned his position as medical referee to the sanatoriums for workers suffering from tuberculosis.

Election of Officers.—The following officers were elected: *Chairman*, Dr. Stack; *Vice-Chairman*, Dr. Cookson; *Secretary*, Dr. Thompson; *Representative*, Dr. Cookson; *Representatives on Branch Council*, Drs. Blumer, G. Reid, and Holford; *Executive Committee*, Drs. Rowland, Butter, Geoghegan, and Hartley.

Ophthalmia Neonatorum Committee.—In regard to the report of the Ophthalmia Neonatorum Committee, the following resolution was passed:

That this Division approves of the report of the Ophthalmia Neonatorum Committee.

Medical Inspection of School Children.—Recommendations A to N were discussed, and the Representative was instructed.

Annual Representative Meeting —The provisional agenda of the Annual Representative Meeting were discussed and the Representative instructed as to his vote on the different motions to be submitted.

WEST SOMERSET BRANCH.

The sixty-seventh annual meeting of this Branch was held at the London Hotel, Taunton, on Friday, July 2nd.

New President.—A letter was read from Dr. Aveling, the late President of the Branch, apologizing for his absence owing to his being abroad, and on the proposal of Dr. Macdonald, Mr. Charles Farrant, of Taunton, the new President, took the chair. There were nineteen members present.

Apologies for Non-attendance.—Apologies for non-attendance were received from Dr. James Davison, of Bournemouth, the new Representative of the Branch on the Council of the Association, and many others.

Annual Report.—After the minutes of the spring meeting had been read and signed, the Honorary Secretary read the sixty-sixth annual report and also the balance sheet, a copy of which had been issued to each member These were unanimously adopted by the meeting.

Election of Officers.—The following members were elected officers for the ensuing year: *President-elect*, Dr. W. H. Maidlow, Ilminster; *Representative of the Branch*, Dr. J. Macdonald was re-elected Representative of the Branch; *Honorary Secretary*, Mr. W. B. Winckworth was re-elected Honorary Secretary and Treasurer; *Council*, Dr. C. B. Stewart and Mr. Wilberforce Thompson were elected to vacancies on the Council.

Examination of Recruits for Territorial Force.—A letter was read from Lieutenant-Colonel Boyle, Secretary to the Somerset Territorial Force Association, pointing out that a fee of one shilling only was allowed by regulations for the examination of recruits for this Force, and that that was only payable in the event of a candidate being passed, and appealing to the medical men of Somerset to forego the small fee and undertake examinations free of charge. After some discussion, it was proposed by Colonel Hartley, V.C., C.M.G., and seconded by Dr. Meade-King:

That the members of this Branch are prepared to examine recruits for the Territorial Army at a charge of half a crown per head, irrespective of whether the candidates are passed or rejected.

President's Address.—Mr. Farrant read a paper o much interest on some surgical aspects of haematuria. He dealt with the various causes of the symptom and related many clinical experiences in which he had met with the

symptom. At the finish he was cordially thanked for his able address, on the proposition of Dr. MACDONALD, seconded by Mr. C. RANDOLPH.

Luncheon.—Twenty-two members afterwards sat down to lunch at the London Hotel, and the afternoon was spent playing golf on the Pickeridge Golf Links, where those present were entertained with great hospitality by the President.

YORKSHIRE BRANCH.

THE annual meeting of this Branch was held at the Grand Hotel, Scarborough, on Saturday, June 26th, at 4 p.m., Dr. GORDON BLACK presiding.

Confirmation of Minutes.—The minutes of the last meeting of the Branch were read by the HONORARY SECRETARY (Dr. Bronner) and adopted.

New Members.—It was announced that the Branch Council had duly elected the following gentlemen as members of the Association: William Mitchell Branson, Clyde Longman Hayes, George B. Hillman, Harry Mason, Charles D. Pye-Smith, and Herbert P. Thompson.

Apologies for Non-attendance.—Letters of apology for inability to attend were read from Drs. Turner, Riseley, Lee, and Swanson.

Report of Council.—The HONORARY SECRETARY read the report of the Council on the past year. The following is the text of the report:

During the year three meetings have been held at Leeds, York (annual), and Harrogate, with an average attendance of about 40. At the annual meeting held at York, Dr. Turner was elected President, and it was decided to hold the next annual meeting at Scarborough; 100 members have been added during the year, 82 by election, and 18 through change of address; 50 members have been lost—10 by death, 12 by resignation, and 28 by change of address, making a net gain of 50. The membership on December 31st, 1908, was 910.

Capitation grants of 3s. per head have been made to the Barnsley, Bradford, Halifax, Huddersfield, Scarborough, Sheffield, and York Divisions. The expenses of the Leeds and Harrogate Divisions have been paid according to statements sent in by the respective secretaries. We began the year with a balance in hand of £132 11s.; the expenses of the Divisions have been £105 10s. 6d., and of the Branch £29 12s. 6d.; £180 6s. has been received from London; bank interest amounts to £2 16s., leaving a balance in hand of £180 10s.

A special meeting of the Council was called in November to consider the desirability of taking action, with other Branches, *re* petitioning the Privy Council to amend the provisions of the draft Charter, relating to the Referendum. It was decided to take a postcard vote, with the following result: approving 378, disapproving 9, neutral 12. Steps are being taken to reorganize the Wakefield and Doncaster Division. The Council suggest that the next annual meeting be held at Sheffield, and that Dr. Pye-Smith be elected President-elect.

The report was adopted *nem. con.*

The Election of Officers.—Dr. MOSSOP (Bradford) proposed and Dr. CUFF (Scarborough) seconded that Dr. Godfrey (Scarborough), President-elect, be elected President. This was carried unanimously. Dr. GODFREY then took the chair. On the recommendation of the Council, Dr. Pye-Smith (Sheffield) was voted as President-elect for the coming year. Mr. SINCLAIR WHITE (Sheffield) proposed and Dr. JALLAND (York) seconded that Dr. Bronner be re-elected Honorary Secretary and Treasurer. This was carried with acclamation. Dr. Goyder (Bradford) and Mr. Sinclair White (Sheffield) were the only two nominations for election as Representatives on the Central Council. On the proposal of Dr. GODFREY, seconded by Dr. BRONNER, they were duly re-elected.

The late Mr. Wheelhouse and the late Mr. Simeon Snell.—The PRESIDENT proposed and Dr. Goyder seconded votes of condolence with the widows of the late Mr. Wheelhouse and Mr. Simeon Snell on the irreparable loss sustained by them and the profession on the death of their respective husbands. These were carried unanimously.

President's Address.—The PRESIDENT then stated that he desired to express his thanks to the Council and the members of the Branch for election, and to his Scarborough colleagues for selection. He then delivered a short address on the pursuit of the new, as evidenced by a tendency to allow modern scientific aids to diagnosis and treatment (such as bacteriology, opsonins, serum treatment, and x-ray diagnosis) to supplant the accurate, old-time, practical methods of clinical investigation. He dwelt on the prescribing of new, insufficiently proved remedies, and on the use of fancy instruments, all tending to a weakening of individuality and self-reliance, and of practical clinical work. On all these subjects the President made some most practical and suggestive remarks, which were listened to with the greatest attention and interest.

Votes of Thanks.—Professor GRIFFITH (Leeds) proposed, and Dr. METCALFE (Bradford) seconded, that a very hearty vote of thanks should be given to Dr. Godfrey for his excellent and practical address. This was adopted. Dr. CHURTON (Leeds) proposed, and Dr. HANDCOCK (Scarborough), seconded, that Dr. Turner should be thanked for the admirable way in which he had carried out the duties of President during the past year. This was agreed to. Dr. MOSSOP proposed, and Dr. BRONNER seconded, that Dr. Turner's name should be addded to the list of Vice-Presidents of the Branch. Carried.

Papers.—Several papers of considerable interest were then read and discussed. These are inserted in the JOURNAL under the heading of "Clinical and Scientific Proceedings."

Annual Dinner.—The annual dinner took place after the meeting, at the Grand Hotel, at 6.30. The chair was occupied by the PRESIDENT, who was supported by the presence of a large number of ladies and gentlemen.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

ANNUAL GENERAL MEETING.

Notice is hereby given that the 1909 Annual General Meeting of the British Medical Association will be held in the Assembly Hall, Belfast, on Friday, July 23rd, at Twelve noon.

[*This Meeting is to comply with Article XII, and will adjourn forthwith until Tuesday, July 27th, at 2.30 o'clock.*]

ANNUAL REPRESENTATIVE MEETING.

Also, notice is hereby given that the 1909 Annual Representative Meeting will be held in the Assembly Hall, Belfast, on Friday, July 23rd (and following days as required), immediately after the Annual General Meeting, fixed for Twelve noon, on Friday, July 23rd.

BY ORDER OF THE COUNCIL,

GUY ELLISTON.

May, 1909.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

THE ROYAL COMMISSION ON THE POOR LAW.

THE POOR LAW MEDICAL OFFICERS' ASSOCIATION AND THE REPORT.

It was mentioned last week that the annual meeting of the Poor Law Medical Officers' Association of England and Wales took place on July 6th, at the Guildhall, London, but the report of the proceedings was necessarily deferred.

The Lord Mayor, who was accompanied by the sheriffs, took the chair at the opening of the proceedings, and welcomed the association in the name of the corporation. The corporation, he said, noted with interest the opportunity which the conference would afford for the consideration of the report of the Royal Commission on the Poor Law; in discussing such a subject the Association was not only advancing the interests of its members but of the general public, and he thanked the Poor Law medical officers for their useful and disinterested services to the community.

The Lord Mayor, at the conclusion of his address, vacated the chair, which was taken by Surgeon-General Evatt, President, who thanked the Lord Mayor for his kindness, adding that, though not many were present, there was a greater audience of Poor Law doctors all over the kingdom, who had to deal with the actual ultimate men, women, and children. The service was labouring under great difficulties, but was doing exceedingly important work for the empire. Its members were working in every part of the country, often for very poor salaries, and often without much sympathy, but they were the basis on which would be built up a great public service, which would confer immense benefits on the citizens. Nothing had so much tended towards raising the private soldier and making him a temperate and healthy man as the work of the sanitary officers of the army, and he believed an equally good work could be done for human life in the country by a great State medical service. There was no Minister of health in England, and therefore no body to give advice to the King and the Government on health questions. There was a need of greater sympathy from the State. The medical officers of the army sympathized with the Poor Law medical officers. Thirty years ago the medical service of the army was very defective, and he could claim that he was the first to put forward the idea that it should be made into a great corps and obtain a definite status in the army. Similar work lay before the civil profession. He understood that within the last few weeks a body of medical men had sent a circular to the head masters of public schools, recommending them to advise their pupils not to enter the profession of medicine. If the recommendation of that circular was well founded, it revealed a lamentable state of affairs, for it was lamentable to try to keep the best brains out of a profession so noble and so important.

District Medical Officers.

Dr. Major Greenwood said that last year at the Hull meeting he had expressed a confident opinion that the Commission would suggest something to ameliorate the grievances of district medical officers, but he feared his confidence had been misplaced. Their work had been recognized in both the Majority and Minority Reports, and their complaints had been justified. But when they looked for practical recognition of their long and faithful service, they found the proposal of the majority to abolish their office as soon as possible. While they could hardly be expected to be delighted with this prospect, yet they were ready to admit that their service was created for certain public ends, and that if these could be attained better in other ways, they had only to submit with the best grace they could. They had, however, a right to criticize the reasons given by the Commission for so drastic a change. The present Poor Law system, like the British Constitution, had grown with the needs of the country, and, theoretically, no doubt both might be abolished, and re-created with advantage; but it was well recognized in the history of civilization that the most revolutionary changes were not always followed by a maximum of advantage. There was in the report too much desire to overthrow and build anew on entirely fresh foundations, regardless of the consequences to other important public interests. Some of the foregoing remarks, he thought, might apply to the report as a whole, but it was only his intention to deal with Poor Law medical relief, and more especially with that portion which came within the scope of the district medical officer. The first question was, Why were district medical officers to be abolished? The only qualification to the expressed efficiency of the present district medical officers in the eyes of the Commissioners would seem to be that some of the State poor were unwilling to employ them, for the following reasons:

1. That the attention they get from the district medical officer is not satisfactory, and that they frequently call in another doctor.
2. That they will often pay a fee of 6d. or 1s., and travel a considerable distance, rather than employ the district medical officer.
3. That it is a great hardship not to be able to choose their own doctor.

In ordinary medical practice, might not a patient become dissatisfied with the doctor he himself has chosen and call in another? The suggestion that some of the State poor preferred to pay for their medical attendance, because the district medical officer neglects them, was not proved, and the finding of the Commissioners was all the other way. The calling in of another doctor was more often the result of a feeling of independence that should be fostered. Abundant reasons are given by the Commissioners themselves in the Minority Report on p. 874 against the principle of permitting the State poor their choice of a doctor. Yet another complaint against the work of the district medical officers was that they did not regard the patient's sanitary surroundings, and considered their duty ended by visiting and prescribing a medicine. Such criticisms, if true, condemned not only Poor Law medical practice, but at least nine-tenths of the medical practice of the country, both private and hospital. No district medical officer could ride roughshod over all the erroneous and ignorant ideas of his poor patients. If the patient refused to follow the district medical officer's advice, the latter must still attend him, and could not get rid of his responsibility. If every destitute person who chose to set up his opinion against that of the doctor could be haled off to a Poor Law institution, as to a prison, some of this difficulty might disappear. It was alleged that the appointment of district medical officer is valuable to the holder, apart altogether from the monetary emoluments attached to the post. But if he were going to build his practice on such an appointment he must be specially attentive to his pauper patients, must humour their whims, and not be too explicit in pointing out their dirty habits, or urge too vehemently sanitary considerations. If he did, his pauper patients would warn others against him, and, where they could, themselves call in a "pay doctor." This action on their part would very likely be misconstrued by local philanthropists, and be put down to neglect on the part of the parish doctor, who could not afford to regard these evils quite in the same light as the Commissioners. It was untrue to say that the district medical officer did not take cognizance of the sanitary surroundings of the patient. He often gave the medical officer of health the first intimation of dangerous sanitary defects, and was seldom chary of pointing out bad habits. But in too many cases his advice was practically useless. The majority proposed to treat all Poor Law patients in provident institutions, the State paying the contributions of the Poor Law patients, who would be allowed to choose their own doctors. As all the doctors in the district might, if they like, attach themselves to these institutions, every practitioner could become a Poor Law medical officer. Such a scheme was as impracticable as it was undesirable. It was inconsistent with other recommendations of the same Commissioners as to the necessity of an increase of State inspection of Poor Law medical work. If nearly all medical practitioners were Poor Law medical officers, how could such inspection be carried out? Again, the expense would be prohibitive. The scale of fees would have to be much higher than in the present provident dispensaries, as much more work would be required. The treatment of the provident dispensaries would not be sufficient for the State contributories. Then, there would be the little official extras, which

would have to be paid for—such as the keeping of special registers, official reports, etc.—no mean item in the work of the district medical officer. The new system would not be cheaper than the old. In the metropolis provident dispensaries had never been a success, and there were practically no provident dispensaries in the metropolitan area that could be used on which to graft Poor Law relief. If a special attempt were made to create them they would not be supported by the classes for whom such institutions were properly intended, but would result in another series of Poor Law dispensaries with no advantage over the present and much more expensive. He agreed with the Minority Report that the carrying out of a scheme of this kind would bring us "round again to a State medical service, but this time to one of gigantic proportions." The establishment of a gratuitous medical service for the cure of disease was condemned, yet the scheme contemplated a large number of dispensary Poor Law doctors, all interested in getting as many Poor Law patients as possible; and as he was to replace the relieving officer he would be able to accept as a Poor Law patient any applicant he chose, and be paid at least as much for Poor Law as for other patients. If it were urged that abuse could occur only on the first application, and that improper persons would afterwards be weeded out by the Public Assistance officer, it could only be said that if the new officer resembled the old it would be extremely unlikely. Thus a widespread gratuitous medical attendance for the poorer classes would be the inevitable result of the proposals of the Majority. At the present time, if a legal order was presented to the district medical officer, he must attend, however awkward or inconvenient the summons. Under the new arrangement he need only do so if he considered the applicant entitled to his services. This might be a gain to the doctor, but it was by no means certain that it is good for the poor applicant. It was, further, certain that many more under the new arrangement would seek and obtain free medical relief, but by no means so certain that the increase would include any but an insignificant fraction of those properly entitled to relief, who refrained from applying because of having to face the relieving officer. Dr. Greenwood next alluded to the recommendation of the Minority to retain the Poor Law medical officers as a distinct State service, but to arrange them side by side with the Sanitary State Service, as a branch of the Public Health Department. This proposal, he thought, was practical and statesmanlike. In the first place, it recognized what he considered the *sine qua non* of any system of Poor Law medical relief—that it should be administered by a separate and distinct public service, in which the officers were removed from considerations inseparable from competitive medical practice, where proper Government inspection was possible, and where the mere "bottle of medicine" treatment, if not entirely done away with, might at least be kept within moderate limits. It did not propose to destroy the present service, but rather to utilize it in a somewhat different manner. It was true that one of the tendencies would be to make the district medical officership a whole-time appointment and to debar the district medical officer from general practice, but he was not sure that under the present system the tendency was not in that direction. It also might encourage too freely gratuitous medical relief. If the Poor Law medical service, when ranged side by side with the public health medical service, were to minister relief as freely and gratuitously to all classes of the community as is done now by the latter, great dangers might arise. If thereby a higher degree of physical health were attained by the people it would, in his opinion, be dearly paid for by undermining the independence of the people and pauperizing the lower classes of the nation. On the whole, the speaker expressed himself in favour of a continuation of the present system, but with suitable reforms. There were many abuses to be removed and necessary adjustments to be made, but he did not think that its fundamental structure was likely to be bettered.

MEDICAL RELIEF AND PUBLIC ASSISTANCE.

Mr. C. S. LOCH, the Secretary of the Charity Organization Society, dealt with the purport of the recommendations of the report of the majority of the Royal Commission affecting medical relief. The Commission, he said, aimed at (1) a more efficient system of public medical assistance; (2) the co-ordination of agencies for the supply of medical relief; (3) the prevention of any undue deterrence being attached to applications for medical relief; and (4) the promotion of independence and of contributing and provident methods of obtaining advice and treatment. As to the first point, the provision of indoor medical relief was found defective, especially in rural districts and in somewhat obsolete institutions. Nursing also, particularly in connexion with outdoor medical relief, was insufficient. Sometimes neither medical relief nor nursing was within reach, and the care of the members of a family in receipt of outdoor relief was often very insufficient. This was a major cause of dissatisfaction. All outdoor relief it was felt should be conducted and provided under close supervision, and subject to the fulfilment of all necessary requirements of cleanliness and sanitation. A difficulty in indoor relief was that persons suffering from some disease could go out of an institution quite improperly; they should be deprived of their liberty until cured. Children suffering from ophthalmia, for instance, should not be allowed to leave with their parents. The inspection by the Local Government Board was insufficient, and there was no inspection by the local authority. Usually there was no medical man qualified to advise on medical questions among the members of boards of guardians. Though there had been a great advance in the supply and organization of medical relief in urban districts much remained to be done, and in order to obtain better administration it was recommended that there should be in each county and county borough a Public Assistance Authority to undertake the supply of medical assistance and to promote the organization of public and voluntary medical agencies, with power to appoint a Medical Assistance Authority to undertake this part of the work. As to deterrence, Mr. Loch said that the Poor Law infirmaries and medical outdoor relief deterred less and less as institutional medical relief became dissociated from the workhouse. It was suggested that deterrence due to the fear of losing the franchise should be withdrawn altogether, and that the application to the relieving officer which was said to be deterrent should no longer be insisted upon, the applicant being allowed to go to the district medical officer direct. Doubt had been cast on the generalization that medical relief was ever the first step to pauperism; medical relief had "come to mean no more than this—inability to provide whatever medical treatment is necessary." Dr. Downes had said:

> The Poor Law, therefore, has been obliged to provide for the sick on a scale continuously advancing with the standard of the care of the sick; and as, with medical paupers, this provision becomes more complete, the more unequal, in the absence of effective organization, is the condition of the man who tries to provide it for himself.

The Commission having thus recommended the modification, amounting almost to complete removal of deterrence, submitted a plan to enable those who wished to provide medical treatment for themselves, a form of self-deterrence. It proposed that the power of recovering the cost of medical relief should be used in the case of persons who could have afforded to join a provident dispensary, that in such cases investigation should be made, but not in the case of members of a provident dispensary with a proper wage limit. It recommended also the promotion of provident dispensaries by the Public Assistance Authority, on the understanding that "the British Medical Association should suggest a general scheme or scale of fees and wage limit to be applied by their local Branches as local circumstances may suggest." It also recommended agreements with voluntary hospitals for the treatment of special cases, and that the member of the provident dispensary should be allowed to choose his own doctor, and through him assure admission to a voluntary or general hospital. The general principle was that those who could pay towards their treatment should do so according to their ability, and that for those who had not the means the Public Assistance Authority should pay. The policy of the report, the careful treatment of individual cases, would be applied to this department, as well as to others. There should be nothing to deter the parent from seeking medical treatment for the child, for instance, but if he did not belong to a provident dispensary his circumstances should be investigated, and he should pay what seemed right.

The objections of the council of the Poor Law Medical Officers' Association were that Poor Law medical relief could not be placed on a provident basis, being intended for those who could not contribute, that the plan would be bad for provident institutions, and that it would be more expensive, since it would mean free medical help to all poor persons. These objections were founded on a misunderstanding. The scheme of the Majority Report was:

> The primary responsibility of the Public Assistance Authorities for the inspection and supervision of medical assistance should be clearly recognized and carefully maintained, but meanwhile, the arrangements for both indoor and outdoor medical assistance should be periodically inspected by medical inspectors on behalf of the Local Government Board, and to this end the Board's staff of medical inspectors should be increased.
>
> That the Public Assistance Authority, to assist them in carrying out their functions in connexion with medical assistance, shall appoint a committee from among their number, to which shall be added representatives of the Health Committee of the county council, or of the county borough council, and of the local Branch or Branches of the British Medical Association. The committee shall be called the county or county borough medical assistance committee, as the case may be, and shall have power to co-opt representatives of local hospitals, county or county borough nursing associations, dispensaries, and registered friendly societies.

It proposed to merge provident dispensaries and sick clubs in the Poor Law. The provident system would remain independent of the Poor Law or Public Assistance, but the Public Assistance Authority, acting on behalf of the community at large would "play up" to the dispensaries, there would be no large off-hand transfer of cases to provident dispensaries or sick clubs from the Committee of Public Assistance, while young people and others suitable to become members would, if possible, be drawn into a provident dispensary. He thought the division actually in force would continue at least for some time. Chronic patients would go to the Public Assistance officers and institutions, while those suffering from acute illness would pass to the hospitals, the details being settled according to local conditions. The proposal was not that Poor Law medical relief should be placed on a provident basis, but that medical assistance should be placed on a provident basis. With regard to the question whether the relieving officer must be continued, Mr. Loch said that so far as the provident system superseded that of Poor Law medical relief the application would be made to the dispensary doctor selected by the applicant. So far as it did not, some suitable arrangement would have to be made, the object being to avoid any deterrence which would be wrong or injurious. If the scheme of the Commission were put into force and succeeded, there would be a constant upwowing of the applicant to the provident or paying range; if a state of society could be brought about in which this process was complete, then the district medical officers would have no work to do in that capacity, for a very large section of the population now treated gratuitously could pay towards their treatment, but the prospect of the district medical officers being thrown out of work was, at any rate in urban or more populous districts, rather visionary. It could only be hoped at present to establish a public organization, which would bring about intimate co-operation between the medical profession and the agencies concerned in the care of the sick, and by so doing promote effective medical assistance and independence.

The Place of the Poor Law Medical Officer in a Unified County Medical Service.

Mrs. Sidney Webb said: I hope that I shall not be considered impertinent if I venture to say that, of all the branches of the public service, that of the Poor Law Medical Officer seems to me to be, at present, the most hardly treated, the least appreciated, and the most depressed. Take first the remuneration. You are unfortunately only two well acquainted with the miserable pittances of £50, £80, or £100 a year that the nation allows to thousands of fully qualified practitioners, for laborious duties of the highest importance to the public health, at a rate which often works out at a few pence per attendance. Consider the degradation of having to balance the cost of the drugs that ought to be used in any particular case against the prospect of having to spend on that case out of your own pocket far more than you are paid for it. Then consider the total absence of any professional stimulus, the lack of any encouragement by competent inspection, the absence of professional records, the complete indifference of boards of guardians and the Local Government Board to any results, as shown by their failure to ask for any reports, or to inquire whether the patients live or whether they die. Finally, think of the future of a Poor Law medical officer. Year after year he may go on in the same round of uncomfortable Poor Law practice, without prospect of promotion, usually without even an advance of salary, without the slightest chance of rising out of the narrow rut into which Fate has thrust him. Has any mark of distinction or any sort of public honour—I do not say a baronetcy, but anything whatsoever—ever been given to a Poor Law medical officer as a Poor Law medical officer, even for the most meritorious, the most zealous, the most useful, and the most prolonged official service? In the course of my membership of the Poor Law Commission there was nothing with which I was more impressed than with the amount of devoted work, really quite unpaid for, that the Poor Law medical officers were, as a class, giving to the poor; or than the utter lack of official appreciation and encouragement which that work secured. What many members of the Poor Law Medical Service feel most is not the miserable pay that they get, nor the lack of official appreciation or encouragement, nor even the absence of honour and dignities, but the extraordinarily narrow scope that, under the necessary limitations of the Poor Law, they find for useful work. It is not encouraging, for instance, to have through one's hands (as the Poor Law medical officer does) one-third of all the deaths from phthisis; and yet, as several Poor Law doctors told us, never to have seen among them a single curable case. It breaks the spirit of a man who cares anything about his professional work to have to go on year after year merely pretending to deal with cases, which have come to him only when destitution has set in, and therefore usually too late for any permanently remedial treatment, under structural and other conditions which he knows will prevent cure, but which he, as a mere Poor Law doctor, has no power to prevent. Meanwhile, he sees the medical officer of health in go-ahead districts advancing from point to point, starting this and that promising experiment, with municipal hospitals, bacteriological laboratories, Roentgen ray treatment, milk dispensaries, school clinics, and what not, obtaining not only all the honour and glory, but apparently unlimited scope, and the public expense, for really useful service to the State. Now, the two reports of the Poor Law Commission agree in recommending the prompt and complete destruction of the present Poor Law system, the abolition of the workhouse, and the abandonment of the well-known "principles of 1834." But they differ vitally in what they propose to construct. The Majority Report proposes that the Poor Law Medical Service shall continue in England and Wales separate from the Public Health Service, under a separate local authority, and that it shall remain rigidly restricted to attendance on paupers. It follows (as is inevitable under any Poor Law authority) that the patients are not to be eligible, even for medical treatment, until they have become destitute, and that the treatment must cease as soon as they cease to be destitute. Moreover, it is proposed that there should be, alongside the work of the Poor Law doctor, a great extension of the contract practice of provident dispensaries in which as many people as possible are to be enrolled. The fees from these enlarged provident dispensaries are, however, not to be secured to the Poor Law medical officer; they are to be shared among all the doctors of the district, including any newcomers who may be attracted by this bait, according to the number of patients who honour them with their patronage; for every one, even the pauper, is to have free choice of doctors. The district medical officer will thus find his professional work dwindling, for the competition will be increased, and it will often not be the "parish doctor" who is preferred; and the chance of any improvement in salaries will, therefore, not be great. Indeed, it is expressly contemplated in the Majority Report that the new Public Assistance Authority will find the duties of the district medical officer gradually dwindling away, his work being more

and more taken from him, so that after more or less lingering, he will be wholly got rid of. The Minority Report proposes, on the other hand, that both the Poor Law Medical Service and the Public Health Service should be merged in a new County Medical Service, working under the supervision of an enlarged Health Committee of the County or County Borough Council. Into that County Medical Service would come all the different branches of medical practice that are or may be maintained at the public expense—the isolation and other public hospitals, including the existing workhouse sick wards and the Poor Law infirmaries; the domiciliary or dispensary work of the district medical officer; the whole public supervision of, and whatever public provision is or may eventually be made for, maternity and infancy up to school age; the county homes for the aged needing institutional care, and whatever county institutions may be provided for the crippled and incapacitated; the milk clinics, the bacteriological laboratories and the elementary and public secondary school inspection and doctoring; the examination of candidates, the certification and the medical treatment required by all the public services in the county; and the general sanitation of the whole district. Only by some such unification into a County Medical Service, it is suggested, can we put a stop to the very serious overlapping and duplication between the different rate-supported medical services that is now so rapidly increasing. Only by some such unification can we prevent the Poor Law Medical Service from being more and more definitely restricted in the scope of its work, and from being more and more overshadowed by the growing Public Health Department. It is, I think, clear that under such a County Medical Service, which sooner or later is bound to come, there will be no question of all the work being done by one medical officer. There will be needed all sorts of medical practitioners. To say nothing of the subordinate staff of minor health officers and nurses which would be organized under medical supervision to the extent required by the circumstances of each part of the county, there would be the domiciliary and dispensary practice which the community is bound to maintain for those who cannot pay a remunerative fee to the private practitioner. This would doubtless remain in the hands of the present district medical officers until the occurrence of vacancies permitted a rearrangement of districts. There would be no disturbance of the rights or positions of existing officers. Probably, as the existing district medical officers retire, or to the extent that they may choose to exchange their private practice for a salary and the prospect of a pension, the future will see the private practitioner relieved of all necessity for taking on the laborious and underpaid Poor Law work (like other contract practice) merely in order to keep out interlopers. We may contemplate the district medical officer of the future as invariably a whole-timer, absolutely debarred from private practice, properly salaried and pensionable, and provided with a county motor car to enable him to cover a large district whenever he is summoned by telephone by the local nurses, dispensary attendants, and minor health officers whom the county employs, leaving the private practitioner of the future free to monopolize all the paying practice. Alongside this domiciliary and dispensary service of the district medical officer there would be an institutional branch of the County Medical Service, into which the district medical officers would be promoted; of medical superintendents and resident medical officers of the various kinds of public hospitals, convalescent homes, phthisis sanatoriums, homes for the aged, institutions for the incapacitated and what not, into which the present Poor Law and public institutions of the county would be differentiated. This branch, of course, would be in the main—though not to the exclusion of consulting physicians and surgeons—a whole-time service, recruited largely from the district medical officers of all the counties, debarred from private practice, with adequate salaries and pensions. Alongside these two branches of the County Medical Service, there would be a third, the special sanitary service, probably not localized, but visiting the various parts of the county as required, using the greater mobility now afforded by the motor car, and discharging such of the duties of the medical officer of health as were not combined with the domiciliary practice of the district medical officer. Finally, there would be at the head of all, in general charge of the whole medical staff and medical institutions of the county, the county medical officer, probably aided in the larger counties by one or other assistants serving, so to speak, on his staff, and representing probably different branches of the County Medical Service. The county medical officer, who would hold a very highly-paid and responsible post, and his assistants, who would likewise be whole-timers of lifelong experience, would, in fact, be chosen indiscriminately from any of the three branches of the County Medical Service, the chance of promotion to the highest posts being thus open to any medical men, whether district medical officers or institution superintendents, clinicians, or sanitarians, who developed not only professional but also administrative ability. For it is a great mistake to suppose that the county medical officer need be, or ought always to be, a sanitarian. At present, it is true, the medical officer of health with his D.P.H. is apt to get all the plums, but this is just because the Poor Law Medical Service is kept outside as a separate Poor Law service, in which there is no possibility of advancement. I see no hope of improvement so long as this isolation continues. But the sanitarian has, from the standpoint of county administration, often grave defects. From his lack of experience he sometimes forgets to allow for the difficulties of domiciliary practice. He is apt to leave out of account the very stubborn feelings and prepossessions of the average man, who will not be dragooned into health. He runs the risk of falling behind in his professional knowledge, so far as clinical work is concerned. On the other hand, there are growing up in the Poor Law Medical Service many men who join high professional qualifications and great range of experience with administrative training as the superintendents of Poor Law infirmaries larger than most voluntary hospitals; or as conducting domiciliary and dispensary practices of greater range and extent than the majority of those who are only private practitioners; or as the resident medical officers of workhouses of gigantic size, in which they have to deal with every age from infancy to senility, and with every possible case, from childbirth to cancer, from tubercle to typhus. I venture to think that the part played by the Poor Law Medical Service in the future County Medical Service will be one of dignity and importance; and that the early creation of such a unified service, as advocated in the Minority Report, offers the only practical means of putting an end to the very unsatisfactory position in which all sections of the Poor Law Medical Service now find themselves.

DISCUSSION.

The PRESIDENT then invited Dr. Smith Whitaker, Medical Secretary of the British Medical Association, to open the discussion.

Dr. SMITH WHITAKER said it must be obvious to all who had followed the papers that they had in this question of reorganization of the Poor Law Medical Service a question of the most profound importance, not only to the Poor Law medical officers, but also to the whole body of the profession and to the public. The British Medical Association endeavoured, so far as it was possible, to represent the opinion of the profession. As to the future of the Poor Law Medical Service three points of view had been placed before the meeting. He thought he was justified in saying that the British Medical Association at present had no opinion on the matter. It was important that that should be stated, because he found many misconceptions current. He had seen and heard statements that the British Medical Association took this, that, and the other view, but it was a body of 21,000 medical practitioners scattered all over the country, and the opinion of the British Medical Association on such an important question could not be gathered up in the space of two or three months. Like all democratic bodies, it had to pay the penalty of democratic government, and that penalty was that it must move slowly. In the memorandum of evidence submitted to the Royal Commission was the following paragraph:

The Association has had under its consideration three systems of appointment of Poor Law officers—namely, (a) the creation of a State medical service, giving their whole time; (b) the appointment of special officers, devoting their whole time (the present system); and (c) the proposal that there

should be no special officers, but that the work should be distributed among all medical men willing to undertake it.

That was to say, the whole-time State service—the proposal of the Minority Report; the proposal of the part-time State service—the existing system; and the proposal that there should be no special service, but that it should be thrown open to medical practitioners generally, which, it might be gathered, was the general tendency of the Majority Report. The memorandum referred to went on to say that, in the opinion of the Association, there was no general dissatisfaction in the medical profession with the present system of appointments. It did not say, with the details of the present system, that there were not many matters which might be corrected, but the Association was not able to speak to any general dissatisfaction with the present system. But it was stated that there were some members of the profession, who had paid special attention to the subject, who would prefer System A, and there were others who would prefer System C. He believed that that statement represented the position to-day as it did two and a half years ago, when those words were written. He did not think there was any general dissatisfaction with the part-time State service. He believed there were many able members of the profession who believed they must end in the whole-time State service, and there were those also who believed that they must pay attention to the development of provident agencies, and link State medical service with the medical aid of those who contributed something by provident means to their own medical relief. These proposals had been argued on this occasion, and it was evident that the Poor Law Medical Service had one point in common with provident agencies and private practice—that was, that it was a service for the treatment of existing disease. It had a point in common with the public health service, inasmuch as it was a public service. The tendency of the Majority Report was to dwell essentially on the aspect of the Poor Law Service as a service for the treatment of disease, and so associate it with other services that provided for treatment. The whole idea was one of co-ordination—of linking up with the other agencies for the treatment of disease. The Minority Report said: "You must have a State preventive service; link it up with that." Now, he thought it obvious that there was an inherent reasonableness in each of these proposals, and the question that had to be threshed out was whether there were fundamental inconsistencies between them. Each of the readers of papers had naturally emphasized the points of difference between his own opinions and the opinions he was combating, but when the matter came to be debated in committees and at meetings of the profession he suggested that the fruitful way would be to look for and to emphasize, not points of difference, but points of agreement. It was not purely a Poor Law question; it was a question profoundly affecting the treatment of disease and the prevention of disease, and as such affected the general community. It was a question with which the whole body of the medical profession was closely concerned. Whatever came, he thought that the Poor Law medical officers might be reassured upon one point, and that was as to the position of the existing holders of Poor Law appointments. Whatever came, it was not a question of sweeping away existing Poor Law officers. Their position was one of peculiar advantage as compared with other medical officers. They were practically the only State medical service at the present time that had security of tenure. Their appointments were practically guaranteed, subject to good conduct. They had, therefore, to make a clear distinction between the question whether the present system of Poor Law appointment was to continue, and the question how the existing holders were to be treated. In any event, he thought that Poor Law officers had had sufficient experience of the British Medical Association to be sure that they would be supported by it through thick and thin in their demand for fair play as individuals, either under the present system or should it be abolished. He would like to point out, as an absolutely impartial looker-on, the objections that struck him in each of the three systems under review. The fundamental objection to the proposals of the Majority Report lay in their very complexity and in the danger of what Mrs. Sidney Webb called "medical demagogy"—that the Poor Law medical officer might try to please his patient rather than to do his duty by him. The Minority Report had seemed to a great many people to be wanting in humanity, in appreciation of the fundamental facts of life. It was true Mrs. Webb made reference to her recognition of the fact that people could not be dragooned into health, but he thought that in the Minority Report there was not sufficient recognition of that fact, and the question was whether whole-time officers would be looking for approbation from their employers instead of treating their patients with that human recognition which was necessary not only to please them but also to make them well. Those who were not medical practitioners did not pay sufficient attention, perhaps, to the mental factor in the treatment of disease. It was not, perhaps, sufficiently recognized that in dealing with human beings they were dealing with human consciousness and not merely with machinery that could be taken to pieces for repair. That was the criticism which he had heard from others, and which he thought could be brought fairly against the proposals of the Minority Report. With regard to the present system there was the fact, admitted by everybody, that in one important respect it had broken down. Everybody was agreed that the present Poor Law medical officer was not receiving proper consideration from his employers, and was not adequately remunerated, and did not work under conditions which encouraged him to put out his best efforts. How did that criticism arise? From faults of individuals? Surely it was the fault of the system. Why were they not adequately remunerated? Because the guardians said they would not pay more than they could get men for. And why were low salaries accepted? Partly, he believed, because the Poor Law medical officer was not dependent upon his Poor Law appointment for his living. He had a private practice, and he rather looked upon the Poor Law payment as something which would help him to pay his rent or meet other expenses of practice. It was a minor part of his business, and wherever people did work on that basis of supplementing their income, a tendency would be found for remuneration to go down. That, he suggested, was one of the reasons why the present system had broken down. The conclusion he desired to come to was that there was room for the most careful consideration, not only by the Poor Law Medical Officers' Association, but by the British Medical Association; and he had been authorized to inform them that the Poor Law Committee appointed recently by the British Medical Association (which included among its members the Honorary Secretary of the Poor Law Medical Officers' Association) would be most delighted, on a suitable opportunity, to meet in conference representatives of the Poor Law Medical Officers' Association, in order to go thoroughly into the matter from the point of view of the Poor Law medical officers themselves.

Dr. Mahomed (Bournemouth) criticized the proposal that provident dispensaries should take over the work now done by district medical officers. He was both a Poor Law medical officer and an officer of a provident dispensary, and he asked how, if medical officers of the dispensaries refused to take over the work, they were to be compelled to do so? Nor did he see how the transfer was likely to benefit the community. As to the franchise, he thought it ought to be the reward of the proper discharge of the duties of citizenship; it should be enjoyed only by a man who had qualified himself to defend his country and had maintained himself and his family in a proper state of health; a parent who refused to see that the health of his family was maintained should be punished in some way.

Dr. Holder (Hull) thought that Dr. Major Greenwood's paper, which was eminently practical, covered the whole ground. Speaking from a very ripe experience—he had spent thirty years in the Poor Law Medical Service, had been connected for twenty years with municipal authorities, and had had to do with port sanitary work from his early days—he wished to emphasize the intimate relationship that should exist between Poor Law medical officers and the sanitary officers, and the necessity for linking up those services. Often the medical officer of health was acquainted with the outbreak of an epidemic too late to take preventive action. On the whole, the report of the Royal Commission had done full justice to the Poor Law Medical Service. No branch of the profes-

sion had a wider experience of disease. There was one point which Dr. Smith Whitaker had overlooked when he spoke of the remuneration for Poor Law work being regarded merely as something with which to pay rates and taxes. On reflection, he would find that in the service there were men of high scientific qualifications, men who practically took a leading part with the propagation of knowledge in their respective districts. He had recently found that more papers had been read and written by members of the Poor Law Medical Service than by all the rest of the persons in the *Medical Directory*. There was, therefore, something more than the getting of remuneration to pay rates and taxes. What had taken him into the service in his early days was to get a practical knowledge of disease, and no field offered more facilities for that purpose than the Poor Law Medical Service. Why men entered that low-paid branch of the profession and why they kept in it was the desire to acquire a large scientific knowledge, which in turn they could give to their profession through their own press, for the benefit and health of the entire community. The Majority Report seemed to him to set up a scheme of reorganization in part; but Dr. Downes's report was, in his opinion, the most practical of all the reports. The scheme of the Minority Report was one for complete regeneration, renewing everything. It was a grand scheme, beautifully conceived, and it came from the minds of those who had a vast benevolence and hope in their fellow creatures. But he could not support it because it was not practicable to wipe out things as they were. The much traduced board of guardians contained very good and earnest members, and although there were many defects in the existing system it could not be wiped out to make a clean slate. Reform must come, as Dr. Downes said, by a process of improvement by reorganization. In desiring to see an improvement in the status and remuneration of this branch of the medical profession he was not speaking selfishly, for he was one of the best paid. He had £150 a year and had 13,000 people to look after. He had to have a qualified assistant, to whom he paid £200 a year, so that those people were not neglected, but he could not do the work without an assistant.

Dr. MAJOR GREENWOOD thought that Dr. Holder had misunderstood Dr. Whitaker's point, which was merely that the remuneration received was so small that it only paid rates and taxes. Dr. Greenwood was not prepared to accept the contention that the present system had broken down, for it had not been shown that the grievances which existed could not be removed. Referring to Mr. Loch's paper, Dr. Greenwood said that the report of 1834 laid it down that no one who became a pauper should be placed in a better position than the class immediately above—a point too much lost sight of in the reports of the recent Royal Commission. He asked what was meant by the term "undue deterrence," and expressed the opinion that there were not many such cases; no doubt there had been deterrence properly criticized as of a somewhat brutal nature, but this was being done away with. Speaking of one of the worst parishes in London, he could say that there was not so much deterrence as formerly. He thought the recommendations as to general relief in both reports were impracticable; the suggestion in the Majority Report that the British Medical Association should fix fees and a wage limit was impracticable; the friendly societies were determined not to agree upon any wage limit. He had read the Minority Report at first with much enjoyment, it was the best report for the Poor Law Medical Service; but as a ratepayer and member of the public, he demurred strongly on the ground of its excessive cost. He asked what was meant by the phrase "remunerative fee" in the Majority Report. Fees were fixed according to circumstances, and were based on the character of the neighbourhood and the class of patients. If the Poor Law Service were to be given a free hand to spend money, like the sanitary service, it could spend twice as much; it was the lavish expenditure involved which made him regard the Minority Report as impracticable.

Dr. MAUDE (Sevenoaks) thought the proposals for reconstruction very indefinite. The most important question of cost—the cost of salaries and working expenses—appeared to have been forgotten. The Minority Report seemed extremely attractive, but it did not contain any mention of scales of payment. It was extremely important to have some indication of what such a scheme for a general public medical service would cost. He calculated that the medical profession now were contributing three millions a year in gratuitous service to the public. That estimate was founded on the lowest club contract rate—4s. a year. That rate was unremunerative and meant that one-fourth of the population was now receiving gratuitous attention from the medical profession in hospitals and through the private charities of individual doctors. The rate of payment must be increased to 5s., and even 20s., in order to provide anything like an adequate and adequately remunerated public medical service for the country at large. Where was that money to come from? The Minority Report was based upon the assumption that in a very short period there would come about an entire socialization of medicine in England. There was no experience, but in a few isolated districts abroad the socialization of medicine had been forced upon the community. That raised a point to which no reference had been made—the control of the working hours of medical men. One of the experiments he had referred to was made in a canton in Northern Italy, where a scheme of socialistic medicine and attendance was introduced. The hours of work turned out to be so long that the whole body of medical men had to resign after a period of three months, and after two of them had died from sheer exposure. The same experiment had been made in a canton in Southern Norway. The scale of pay for the medical men was at the rate of £170 a year. Living and expenses of practice were put down at £69 a year, but that was an official estimate, and the real estimate would probably be very different. The hours of work were to be twenty-four hours a day on duty for thirteen and a half days in a fortnight. Until there was some assurance of better protection in the matter of hours, and that the various public bodies were likely to treat medical men fairly in the matter of a working wage, it was not difficult to see why most of them were so reluctant to establish a wide system of whole-time medical service. The British Medical Association had only a membership of something like 20,000 out of 30,000 medical men in the United Kingdom, and until it got a larger membership and could show a stronger front in the larger towns it was impossible to approach with confidence any of the large schemes which would sweep away the present medical services. Lay friends should understand that doctors were working men, and even when a nearer approach had been made to a complete socialistic condition it should be remembered that they were worthy of the wages of ability which the Fabian Society had laid down as necessary.

Mr. LOCH, speaking as a layman, said that he did not believe that any large system for the socialization of medical relief would afford either better organization or better remuneration to the medical profession. The suggestion of the Majority Report that there should be in every large district a body specially charged with the duty of organizing medical relief in a manner consistent with the independence of the people was founded largely upon the evidence given by medical men. There was no proposal to force a provident dispensary system on the profession; the proposal was to establish a method by which all the forms of medical relief should be brought into some kind of uniform organization.

Dr. E. CLAUDE TAYLOR said that the necessity for a public health service was indisputable, and that it was a mere truism to say that it would be of the highest value to the State.

THE POOR LAW INFIRMARIES.

Dr. F. S. TOOGOOD, Medical Superintendent of the Lewisham Infirmary, read a paper on this subject, in which he traced the history of the great improvement which had been effected. The nature of the cases had changed, also, as formerly patients needing surgical operations were transferred to the nearest hospital. The separation of the sick wards from the ordinary workhouse administration, which resulted in the establishment of separate infirmaries, caused a gradual transformation, until to-day the best of the London infirmaries were clinically equal to the general hospitals. The institutions were staffed by conscientious and capable men, with trained nurses as matrons, and young, well-educated women as

nurses, and the tone had changed vastly for the better. As a consequence the class of person admitted included many who could not rightly be designated paupers, and insensibly the stigma of pauperism had been detached from the infirmaries. In districts abundantly served by general hospitals the inmates of the infirmary would be found to consist mainly of chronic and incurable patients, with few acute cases, and little or no surgery, the social status of the majority being approximate to that of the ordinary workhouse inmate. But in a district remote from a general hospital, especially if the infirmary medical staff were keen, and the local medical practitioners and the general public found that all emergencies could be dealt with, the patients, both in social status and in the nature of the diseases, could scarcely be distinguished from those in a general hospital. The better the class of patient the less was the individual affected by any remaining stigma of pauperism. The patients were attracted partly by the fact that the infirmary was near the homes of their friends, so that they could be visited easily and frequently, and partly by the restfulness of the infirmary wards, which contrasted with the frequent examinations made in hospitals with schools attached. It had been stated that there was a wealth of material in infirmary wards which ought to be utilized for research and teaching, but it was a mistake to suppose that infirmaries contained cases not to be seen in general hospitals, and the pages of the medical press, and the proceedings of the various societies, bore witness to the interest which the medical staff of infirmaries took in unusual conditions of disease, while permission was never refused to genuine investigators to prosecute inquiries in definite directions. He did not believe there was a real demand for increased teaching facilities and the utilization of the infirmaries as teaching centres; owing to the decline in the number of London students, they were barely sufficient to carry on the necessary work of the general hospitals. If a genuine demand arose, the medical staffs of the infirmaries would be prepared to undertake the work. In addition to the work usually done by general hospitals, infirmaries had to provide accommodation for infectious diseases not admitted into the hospitals of the Asylums Board, namely, for measles, chicken-pox, whooping-cough, erysipelas, and puerperal fever. In 1891 he had advocated the detention of all cases of lunacy for the full statutory period of seventeen days before passing them on to an asylum; this had become a general practice, and roughly only one-third of the total admissions to the mental wards required transference to an asylum. The proposal of the London County Council for receiving houses was uncalled for, as the work was already being done, and its good effects had been recognized by the Royal Commission on the working of the lunacy laws. With few exceptions, properly equipped mental blocks existed in all London unions, and the small percentage of cases ultimately confined in asylums was a striking evidence of the success of the treatment. In the Minority Report the infantile mortality-rate obtaining in infirmaries had been compared unfavourably with that obtaining in certain lying-in hospitals, but in the special lying-in hospitals of London the patients were mainly married women of undoubted respectability, and therefore picked cases. The admissions to a Poor Law lying-in ward included many of the most unfavourable type; a considerable proportion of the cases at the Lewisham Infirmary were primiparae, and many were sent by outside doctors because it was known or anticipated that the labour would be difficult. The Commission could have obtained information in an exact form, but the statistics published were partial and misleading; one-third of the unions were left out altogether, and the assumption that the children who left the workhouse or infirmary would die at the same rate as those who remained was amazing. A frequent reason for the continued presence of mother and child was the weakly condition of the latter. Not uncommonly mother and child left the lying-in ward at the end of the customary three weeks in perfect condition, and frequently in a few days the child was readmitted in a moribund condition, woefully neglected, and dying from improper feeding. Many of the mothers and babies were transferred to the workhouse, where the mother was given a liberal diet, and some task of washing or cleaning, but the care of the child was regarded as the first demand upon her; there was, however, no power to prevent her taking her discharge. There were twenty-six infirmaries in the metropolis, containing 14,863 beds, and 79,111 patients were treated in 1908; the number of nurses employed was 1,756, and over 3,500 operations under anaesthetics were performed annually. The number of operations in various infirmaries varied greatly, ranging from 12 to over 600. While proud of the good work done by the small staffs of the infirmaries, Dr. Toogood concluded his paper by indicating some directions in which improvements might be effected. He saw no reason for mixing the Poor Law service up with the sanitary authorities. The Tuberculosis Order of the Local Government Board suggested methods by which the health authorities might keep in touch with suitable cases. London should be dealt with as a whole, the present areas being too small; this reform would give an opportunity for dealing more economically with disease by enabling some specialization in treatment. By judicious grouping, considerable economies could be effected, but on the other hand the poor could not travel great distances to visit friends, and the removal of patients for lengthy periods would mean considerable hardship. At present there was little or no co-operation between the district medical officer and the infirmary medical officer. In Lambeth, however, the centrally situated districts had been administered for some years past by medical officers working from the infirmary under the supervision of the medical superintendent. By this arrangement the home circumstances of the patients became known, and the frequent discharges and readmissions avoided. Where this system did not exist the patients discharged as no longer requiring the skilled attention of the infirmary were often sent in again immediately by the district medical officer because it was impossible for them to remain at home. While the question of whole-time or part-time district medical officers was of little importance, it was essential that there should be a central point from which all the work should radiate, and the infirmary appeared to be the proper head quarters. A considerable economy in beds would be effected, any temporary overcrowding of the infirmary being met by the treatment of special cases in their own homes. The practice of paying a district medical officer a stated salary, to include medical attendance, medicines, and surgical appliances, led to sweating of the hard-worked and underpaid medical officer; the salary of infirmary medical officers compared unfavourably with that of officers holding similar positions in the service of the Metropolitan Asylums Board and of the county asylums. Men who each performed some three or four hundred major operations yearly were receiving salaries often only one-third, and never more than one-half, of those paid by the county boards. It was disheartening to find that even when a medical officer had convinced his local board that he was worthy of greater recompense, the Local Government Board, to whom the proposal had to be referred, seemed to have a standard of payment based on the idea that the Poor Law medical officers had large private incomes, and undertook their official work as a recreation. He believed that the Poor Law Medical Service did its work efficiently, and efficient supervision of out-patient practice would be enormously costly. A medical officer could not compel his patients to follow his advice. Both reports appeared to believe that by calling the Poor Law by some other name, and transferring the work to some other authority, the system itself could be changed. The personal characteristics of the people and the economic conditions of society would not be altered by changing a name, nor removed by transferring work to bodies devoid of experience.

THE PUBLIC HEALTH ASPECT OF THE REPORT.

Dr. MCCLEARY (Medical Officer of Health, Hampstead), in the course of a paper on this subject, expressed the opinion that the recommendations of the Majority Report were more revolutionary than those of the Minority, and would involve not only the abolition of existing methods of Poor Law medical relief, but also a complete reorganization of medical practice generally among the working classes. The majority apparently did not realize the

importance of disease as a cause of destitution, and their real object seemed to be the creation of a huge system of State-aided contributory insurance against sickness. It was doubtful whether the scheme propounded would secure it, for, as Dr. Downes had said, it offered what amounted in a large measure to free medical relief without adequate safeguard either to the medical profession or to the ratepayers. Provident dispensaries established by the enrolment of paupers, all subsidized by the rates, would become provident in name only. The application of preventive measures based on scientific etiology was the great problem with which medicine was confronted. But though the majority of the Commissioners recognized that sickness was one of the chief causes of pauperism, they did not attempt to apply the principle of prevention. The Minority Report, Dr. McCleary held, sought to make the fullest possible use of the means for the control and prevention of disease. It recognized that the medical assistance afforded by the State should only be given by a distinct service formed by the fusion of the two great medical services now grappling with disease among the poor, the Poor Law medical service and the public health service. The result would be the formation of a new public medical service, which would perform the functions of both the existing services. Public health work, formerly chiefly a matter of sewers and drains, had undergone a great development on its clinical side in connexion with the prevention of infantile mortality, consumption, school hygiene, and the administration of the Midwives Act. An enlarged public medical service, on the lines recommended by the Minority Report, would ensure a control of disease far in advance of anything which could be hoped of the present organization.

DISCUSSION.

The PRESIDENT urged that what was needed was a great preventive service. Boards of guardians were damned by public opinion, and he appealed for wide views on the question of expenditure; public money wisely spent in prevention would be bread cast upon the waters which would return after many days.

Dr. WITHERS GREEN (London) insisted on the necessity of recognizing that the medical officer was the head of the infirmary; the master was the head of the workhouse and had the last word there, but in the infirmary the medical officer should have definite authority and the last word. This he thought guardians understood. There was no difficulty in getting good nurses, for he believed that there were more nurses than posts. He thought there should be some better understanding between the large hospitals and the infirmaries. There was certainly a great deal of malingering, which sometimes resulted in hardship to the really deserving. A working arrangement between the hospitals and the infirmaries, and a better understanding between them, would make for fairer and more equitable treatment.

Dr. SIDNEY DAVIES (Medical Officer of Health, Woolwich) said that the recommendation of the Minority Report for a preventive medical service was not founded on the assumption that the Poor Law Medical Service was not doing well the work it attempted to do, but there was a great gap between it and the Public Health Service. The Minority Report recommended that the Poor Law Medical Service should come to the assistance of the medical officers of health, so that the earliest symptoms might be diagnosed and epidemics nipped in the bud. The whole success of the work of the medical officer of health among the poor in improving their habits depended on the absence of dragooning; persuasion would succeed where more stringent methods would fail.

Dr. S. R. THOMPSON (London) considered that any suggestion to deal with the perverseness of the individual in a way calculated to ensure the welfare of the community deserved support, and thought medical officers of health should be given full power to prevent the individual from being a source of danger to the community. Though medical men in poor districts were not in the habit of demurring at the part of public philanthropists forced upon them, it was the cause of many hardships to them. Contract work was contrary to the true spirit of professional work, and was good neither for the doctor nor the patient. For this reason he looked askance at provident dispensaries. His long experience of police and Poor Law work had not been happy. The relationship between doctor and patient in contract work was not what it ought to be. He thought that the Poor Law and public health services should be correlated, but in any rearrangement it would be necessary to see that the Poor Law medical officers were properly recognized.

Dr. J. H. WHEELER (High Wycombe) argued against the perpetuation of the present system of paying medical officers by contract; it was most unjust, inasmuch as it amounted to a medical man contracting to attend practically an unlimited number of persons. Twenty years ago he was appointed to a district stated to have a population of 8,000, the census proved that it contained 11,000, and at the last census it had risen to 15,000. The work had practically been doubled, but his salary had been increased by only £10: when he had asked for a further increase he was told that he was lucky to get anything. He hoped that the medical men would be better men of business in the future and insist upon being paid for the work done. Why should not Poor Law medical officers be paid for each case they attended, as vaccinators were paid for each case vaccinated? In the flowery picture Mrs. Webb had drawn of good salaries and retiring allowances nothing was said of the size of the districts, or the hours of labour, points which demanded consideration.

Dr. HOLDER said that as an officer of a sanitary committee at a great fishing port he had had many opportunities of seeing that an amalgamation of the two services would be of the greatest benefit to the people; when disease was brought into the port by a ship there was no machinery by which suspected persons could be kept under observation. They were at liberty to frequent public-houses, and as a result of this lack of supervision 900 cases of smallpox occurred on one occasion; of those who died 50 per cent. were unvaccinated, while of the vaccinated only 9 per cent. died. An intimate relationship between the public services would prevent the outbreak of serious epidemics which, of course, involved serious cost. In every respect, therefore, the amalgamation of these two services was desirable and deserved support.

Dr. MAJOR GREENWOOD agreed that an approximation between the Poor Law and sanitary services was desirable, and believed the tendency of late years had been in that direction, but he held with Dr. Toogood that Poor Law medical officers were primarily clinicians. To suggest, however, that they should discover cases of illness was impracticable; the modern institution of health visitors, whose duty it was to seek out cases which required the attendance of the Poor Law medical officers, was a move in the right direction. It was quite true that, as Dr. McCleary had said, many sick people went untended, but this must always happen, since it was not possible to compel a sick person to undergo treatment. The idea of house-to-house visitation, save in regard to infectious disease affecting the health of the community, was contrary to British ideas of personal liberty. It might be necessary to remove an infectious patient compulsorily, but the general application of such a system to all cases of illness would not be tolerated. This difficulty it was which rendered impossible the adoption of otherwise good suggestions in both reports.

Dr. WALTER SMITH maintained that excellent results would follow a more harmonious working arrangement between the two public services.

Mr. LAWSON DODD thought that the attitude of the public mind towards disease and poverty was undergoing a change. The prevention of disease was really part of the prevention of poverty. Medical men should realize that to treat disease effectively it must be treated early and promptly, and in an educative manner. These characteristics of effective treatment were not fulfilled in a satisfactory way by the present Poor Law medical system; there should be no deterrence in the way of seeking treatment. He believed that the medical officer of health was the most effective person to deal with poverty in an effective way, that was to say, by prevention. In considering the treatment of poverty, the large child population must be taken into account; it was imperative that they should not be deterred from seeking treatment if they were to have a good start in life, and become healthy and satisfactory citizens. He regretted that Dr. Toogood should have said that he saw no reason for "mixing up" the Poor Law and the public

health services, because the general principle underlying the development of an enlightened public opinion was the organization of the various agencies of medical relief and their co-ordination and co-operation. It would be unfortunate if the view was spread abroad that the medical profession was opposed to co-ordination. He looked forward to the time when the absurd distinction between hospitals and Poor Law infirmaries, both of which existed for the treatment of poor people, would cease. A properly organized hospital system supported, not by passing round the hat, but by the State, was needed. In that way he hoped that it would be possible to have the question of a State medical service debated free from the petty considerations of salary, which at present disgraced so many discussions. The time had passed when at meetings of medical practitioners the main question for discussion should be whether a fee of 5s. or 5s. 6d. was to be charged. The deterrence at present existing in the Poor Law system was a curse, and the victims of that system were patients, not criminals.

Dr. Toogood said he thought that some of his remarks had been misunderstood. He did not mean that there was to be no co-operation and no co-ordination when he spoke of "mixing up." What he objected to was being swallowed up. Mrs. Webb and Mr. Lawson Dodd seemed to think that by calling a purely medical service by some other name its whole characteristics could be altered. The reason the Poor Law did not get cases earlier was that people would not apply. To call the service by another name would not make people come. It was a question of education.

Dr. Major Greenwood moved:

(*a*) That in any system of Poor Law medical reform there must always be a separate and distinct medical service to attend to the sick State poor; that the security of the ratepayer and the welfare of the sick State poor imperatively demand the isolation of that class of the people requiring State assistance, so that the latter may be administered with a due regard to economy, and may not tend to the pauperization of the nation by the granting of free medical attendance to a large portion of the community.

(*b*) That, except in cases of emergency in sparsely inhabited rural districts, where access to the relieving officer is difficult, all persons requiring State aid, medical or other, must first make application to a special officer, with whom should always rest the responsibility of deciding as to the right of the applicant to State assistance.

Dr. Napper, who seconded, said that he thought it would be a mistake to do away with the relieving officer.

Mr. Dodd expressed a hope that the resolution would not be carried. He thought they should be careful not to commit themselves to the idea that the giving of medical treatment was necessarily pauperizing. Medical treatment made people fit to work, and, as a consequence, prevented pauperization.

Dr. Thompson supported the resolution.

Dr. Major Greenwood said, speaking for himself, that he did not agree with the Majority or the Minority Report on this point. His opinion was that free medical treatment always had a pauperizing effect where the recipient was able to pay. Whether relief was given in kind, or in the form of money or medical attendance, it had a similar pauperizing effect.

The Chairman said he realized that this was a most serious resolution to pass. A great step forward had been taken, and he thought it was rather inexpedient to divide upon it.

Dr. Major Greenwood accepted an amendment that the words "separate and" should be deleted from the resolution, which was then put and carried.

Dr. Mahomed then moved:

That this Conference would welcome the establishment of a Civil Medical Service.

On the suggestion from the Chairman that the hour was late and the subject too important to be discussed at such short notice, Dr. Mahomed agreed to allow the resolution to drop.

The Next Meeting.

Dr. Drury said that he was authorized to invite the Conference to hold its next annual meeting in Halifax, where it would receive a civic welcome.

The Chairman thanked Dr. Drury, and said that the invitation would be considered by the Council in due course.

Election of Officers.

After the minutes of the last meeting at Hull had been confirmed and the annual report and balance sheet adopted, the officers for the ensuing year were elected. Surgeon-General Evatt was re-elected President, Dr. Balding President of the Council, Dr. Napper, Treasurer; Dr. Lloyd Brown was re-elected Auditor; and Dr. Major Greenwood, Honorary Secretary. Dr. Biddle (Perthyr) and Dr. Drury (Halifax) were elected to vacancies on the Council, and the remaining members were re-elected.

Votes of thanks to the President for presiding and to the Lord Mayor and Corporation of the City of London for the use of the Guildhall having been carried, the Conference ended.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Staff Surgeon C. E. C. Stafford, M.B., to the *Bicester*, July 17th; Surgeon F. R. Featherstone to the *Pembroke*, additional, for disposal, July 9th; Surgeon L. M. Morris to the Royal Marine Division, Plymouth, July 17th; Fleet Surgeon C. J. Mansfield, M.D., to the *Indomitable*, July 26th; Fleet Surgeon G. A. Waters, M.D., and Staff Surgeon C. R. Nicholson to the *Duke*, on recommissioning, July 27th; Staff Surgeon S. R. Rice to the *Formidable*, July 26th; Staff Surgeon G. R. MacMahon, M.B., to the *Terrible*, for medical charge on the voyage to Colombo, July 27th, and to the *Tyne*on, additional, for Sydney Medical Depôt, undated; Staff Surgeons W. L. Martin and S. H. Woods, M.D., to the *Terrible*, July 27th, and to the *Cambrian* on recommissioning, undated; Staff Surgeon R. Hughes to the *Terrible*, July 27th, and to the *Psyche* on recommissioning, undated; Staff Surgeon A. F. Fraser, M.B., and Surgeon A. T. Rivers to the *Terrible*, July 27th, and to the *Flora* on recommissioning, undated; Staff Surgeon A. A. Forrester, M.B., to the *Tyrannus* on recommissioning, undated; Staff Surgeon P. F. Alderson to the *Triad*, additional, for Pembroke Dockyard, temporarily; Surgeon J. Fellerton, M.B., to the *Terrible*, July 27th, and to the *Pioneer* on recommissioning, undated.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel H. G. L. Wortabet, M.D., Madras, is permitted to retire from the service from date of discharge. He was appointed Assistant Surgeon, March 31st, 1879, and became Lieutenant-Colonel, March 31st, 1899. He was in the Afghan war, receiving a medal, and with the Burmese expedition in 1886-8, for which he was granted a medal with two clasps.

The following Lieutenants are promoted to be Captains from the dates specified:—September 1st, 1908: A. Hayden, M.B. February 1st, 1909: P. S. Mills, M.B., F. P. Wernicke. March 1st, 1909: C. R. O'Brien, M.B., N. H. Hume, M.B., G. E. Malcomson, M.D., D. M. C. Church, M.B. Captain Hayden was appointed Lieutenant, September 1st, 1905; the other officers cited, February 1st, 1906.

CADET BATTALION.

Surgeon-Major I. J. E. Renshaw, 1st Cadet Battalion the Manchester Regiment, resigns his commission, May 29th.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Alexander McKellop, M.B., to be Lieutenant (on probation), Supplementary List, June 17th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Notts and Derby Mounted Brigade Field Ambulance.—Lieutenant A. R. Tweedie to be Captain, March 27th.

Second Northumbrian Field Ambulance.—Second Lieutenant A. C. H. McCullagh, M.B., from the Unattached List, to be Lieutenant, April 1st.

First Northern General Hospital.—Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel J. V. W. Rutherford, from the 1st Northumbrian Brigade, Royal Field Artillery, to be Lieutenant-Colonel, March 30th.

Attached to Units other than Medical Units.—Lieutenant Samuel Martyn, M.B., to be Captain, April 1st, 1908.

For Attachment to Units other than Medical Units.—Henry M. Bates (Surgeon-Lieutenant-Colonel Irish) Volunteer Battalion, The King's (Liverpool Regiment)) to be Captain, May 1st; Douglas G. Rice-Oxley to be Lieutenant, May 19th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,786 births and 3,711 deaths were registered during the week ending Saturday last, July 10th. The annual rate of mortality in these towns, which had been 12.3, 12.1, and 11.8 per 1,000 in the three preceding weeks, was again 11.8 per 1,000 last week. The rates in the several towns ranged from 4.5 in King's Norton, 4.9 in Hornsey, 5.2 in Willesden, 5.6 in Tottenham, 5.7 in Burton-on-Trent, 6.3 in Stockton-on-Tees, and 6.9 in Reading to 15.7 in Rhondda, 15.9 in Newcastle-on-Tyne, 16.8 in Middlesbrough and in Tynemouth, 16.9 in Wolverhampton, and 17.4 in Hanley. In London the rate of mortality was 12.0 per 1,000, while it averaged 11.7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.1 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.0 per 1,000, while among the seventy-five other large towns these infectious diseases caused death-rates ranging upwards to 3.0 in West Bromwich and in Salford, 3.1 in Walsall, 3.5 in St. Helens, 4.6 in Coventry, and 5.0

in Wolverhampton. Measles caused a death-rate of 1.3 in Norwich, in Salford, and in Aberthyr Tydfil, 1.6 in St. Helens, 2.6 in Walsall, 3.0 in West Bromwich, 4.6 in Coventry, and 5.0 in Wolverhampton; whooping-cough of 1.1 in Huddersfield, 1.2 in Derby, and 1.5 in Middlesbrough; and diarrhoea of 1.3 in Birkenhead. The mortality from scarlet fever, from diphtheria, and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,945, 2,517, and 2,587 at the end of the three preceding weeks, had further risen to 2,649 at the end of last week; 371 new cases were admitted during the week, against 468, 368, and 390 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, July 10th, 871 births and 462 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 15.5, 12.7, and 13.3 per 1,000 in the three preceding weeks, declined again to 12.9 per 1,000 last week, but was 1.1 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 11.5 in Greenock and 12.2 in Glasgow to 14.1 in Aberdeen and 14.6 in Leith. The death-rate from the principal infectious diseases was 1.0 per 1,000, the highest rates being recorded in Dundee and Paisley. The deaths registered in Glasgow included 2 which were referred to measles, 2 to scarlet fever, 5 to whooping-cough, and 1 to diarrhoea. Four fatal cases of whooping-cough were recorded in Edinburgh, 4 of diarrhoea in Dundee, and 4 of measles in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 10th, 553 births and 341 deaths were registered in the forty-two principal urban districts of Ireland, as against 515 births and 375 deaths in the preceding period. The annual death-rate in these districts, which had been 14.2, 17.7, and 17.1 per 1,000 in the three preceding weeks, fell to 15.6 per 1,000 in the week under notice, this figure being 3.8 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 15.6 and 13.9 respectively, those in other districts ranged from 6.9 in Armagh and 8.2 in Drogheda to 55.0 in Limerick and 57.2 in Newtownards, while Cork stood at 24.7, Londonderry at 14.5, and Waterford at 9.7. The zymotic death-rate in the twenty-two districts averaged 1.4 per 1,000, as against 1.1 per 1,000 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—House-Surgeon. Salary, at the rate of £20 per annum.

BIRMINGHAM PARISH INFIRMARY.—(1) Assistant Medical Officer; (2) Assistant Surgical Officer. Salary, £104 per annum each.

BIRMINGHAM: QUEEN'S HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

BIRMINGHAM UNIVERSITY.—Walter Myers Travelling Studentship. Value £150 for one year.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £80 per annum, eligible for re-election at the rate of £100 per annum.

BRIGHTON: LEWES ROAD HOSPITAL.—House-Physician.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—Honorary Surgeon; and, if necessary, an Honorary Assistant Surgeon.

BURNLEY: VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon. Salary, £60 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Surgeon.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £60 per annum.

CARDIFF INFIRMARY.—House-Surgeon. Honorarium, £30 for six months.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Assistant Surgeon.

CHELTENHAM GENERAL HOSPITAL.—(1) Surgeon in charge of Branch Dispensary. Salary, £80 per annum, and £10 in lieu of cab hire. (2) House-Physician (male). Salary, £70 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £60 per annum.

DERBYSHIRE COUNTY COUNCIL.—Assistant Bacteriologist. Salary, £150 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary, £60 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary, £125 per annum.

GOVAN PARISH SCHOOL BOARD.—Principal Medical Officer. Salary, £500 per annum.

HACKNEY UNION.—Second Assistant Medical Officer for the Workhouses, etc. Salary, £120 per annum.

HULL ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon to Out-patient Department.

JERUSALEM MISSION HOSPITAL.—Junior Medical Officer.

LEICESTER EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

LIVERPOOL PARISH WORKHOUSE HOSPITAL.—Assistant in the Medical Staff. Salary, £100 per annum, and £20 for examining applicants for outdoor relief.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary, £60 per annum.

MANITOBA MEDICAL COLLEGE.—Professor of Anatomy. Salary, £500 per annum.

NATIONAL UNIVERSITY OF IRELAND.—Professorships and Lectureships in University College, Cork, University College, Galway, and University College, Dublin.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary, £60 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Lady House-Surgeon. Salary at the rate of £100 per annum.

PERTH ROYAL INFIRMARY.—House-Surgeon. Salary, £60 per annum.

PORTSMOUTH PARISH.—Second Assistant Resident Medical Officer for the Workhouse, etc. Salary, £120 per annum, increasing to £130.

ROYAL EAR HOSPITAL, Soho.—(1) Non-resident House-Surgeon. Salary at the rate of £40 per annum. (2) Clinical Assistants.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident Junior House-Surgeon (Male). Salary, £60 per annum.

ST. GEORGE'S UNION INFIRMARY, Fulham Road, S.W.—Second Assistant Medical Officer. Salary, £120 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SUNDERLAND AND DURHAM COUNTY EYE INFIRMARY.—House-Surgeon, outdoor. Salary, £210 per annum.

SUNDERLAND INFIRMARY.—Male House-Surgeon. Salary, £80 per annum.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields.—House-Surgeon. Salary, £100 per annum.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Salary, £75 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician. Salary, £65 per annum, rising to £75.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

APPOINTMENTS.

BATESON, H., M.D.Edin., District Medical Officer of the Barton-upon-Irwell Union.

GARRETT, R. R., M.R.C.S., L.R.C.P., Medical Officer of Health Eastleigh and Bishopstoke Urban District.

LAMBE, T., M.R.C.S., L.R.C.P., District Medical Officer of the Auckland Union.

LIDDELL, L. S. L., M.B., C.M.Edin., District Medical Officer of the Bury Union.

LONG, H. B., M.R.C.S., L.R.C.P., District and Workhouse Medical Officer of the Bicester Union.

MCALISTER, R. D., M.B., Ch.B.Edin., District Medical Officer of the Loughborough Union.

MORRIS, S. H., M.B., Certifying Factory Surgeon for the Cleator District, co. Cumberland.

O'HART, P., M.B., B.Ch.R.U.I., Certifying Factory Surgeon for the Carney District, co. Sligo.

SANDFORD, R. B., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the Wakefield Union.

SUTTON, H. M., M.R.C.S., Certifying Factory Surgeon for the Truro District, co. Cornwall, and District and Workhouse Medical Officer for the Truro Union.

THOMAS, W. M., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Lostwithiel District, co. Cornwall.

WARNER, H. F., M.B., District Medical Officer of the Walsingham Union.

WEAVER, Alf. E. R., M.D., B.Ch., Medical Officer of Health to the Abertillery Urban District.

YOUNG, Ernest, M.D., Clinical Assistant to the Out-patient Department of the Mount Vernon Hospital for Consumption and Diseases of the Chest.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

BRISCOE—STAGG.—On the 7th inst., at St. Andrews, Weybread, by the Rev. H. H. B. Ayles, D.D., assisted by the Rev. F. Matthews, Vicar, John Charlton, of Harley Street, M.D., son of J. J. Briscoe, of Bonner Hall, Cambs., D.L., to Grace Maud, M.B., B.S., daughter of the Rev. S. W. Stagg and Mrs. Stagg, of Waveney House, Weybread.

HOBDEY—WORSWICK, COUSINS—WORSWICK.—On July 8th, at the Congregational Church, Chorlton Road, Manchester, by the Rev. A. Goodrich, D.D., assisted by the Rev. F. T. Lagesse, M.A., and the Rev. F. J. Chambers, B.A., T. S. M. Hobdey, jun., of Sale, to Josephine, and W. J. Cousins, M.B., B.Ch., of Brooks's Bar, to Constance, second and third daughters of F. H. Worswick, M.D., J.P., and Mrs. Worswick, of Brooks's Bar, Manchester.

SAFFLEY—ALSTON.—On July 7th, at Sefton Park Presbyterian Church, by Rev. A. Connell, B.D., assisted by Rev. J. McMurchy, B.D., John Saffley, M.B., Ch.B.Edin., 35, Grove Park, Liverpool, to Florence, third daughter of Henry Alston, Auldyn Villa, Glenauldyn, Isle of Man.

DEATH.

HODDER.—On June 25th, at St. Heliers, Jersey, Frederick William Lloyd Hodder, Colonel, Army Medical Department (retired), son of the late Dr. Hodder, of Toronto, Canada, aged 86.

RECENT PUBLICATIONS.

Netta. By F. M. White. London: Ward, Lock, and Co. 1909. (7¼ in. by 5 in.; pp. 360. Price 6s.)

A mystery story by an experienced inventor of such plots. Important incidents are the use by the villain of a drug which produces catalepsy, and the breaking up of a secret society by the heroine and a friend.

New and Non-official Remedies. Chicago: The Press of the American Medical Association. 1909. (7½ in. by 5¼ in.; pp. 467.)

A volume containing an account of such medicinal substances as had up to January 1st, 1909, been described under the same title in the journal of the American Medical Association. The accounts are based partly on information supplied by the manufacturers, partly on special investigation.

American Self-Knowledge. Epitome by C. A. F. Lindorme, Ph.D. Atlanta, Georgia. (n.p., n.d.)

A synopsis in twenty-two brief chapters of some unnamed work containing expressions of personal views on a variety of subjects. Among the things to which the author objects is the phrase "the law of Nature." Nature, he says, being sovereign, has no laws. The first sentence of the book is "action goes before abstraction." One remembers circumstances not uncommected with the police courts in which this statement is absolutely true. The meaning of the author, however, so far as we can discern it, is that it is not Thought that gives rise to Action, but Action to Thought. We are inclined to believe, therefore, that the action of writing this book is an illustration of the author's doctrine.

The Dental Directory. London: John Bale, Sons, and Danielsson, Limited. 1909. (8 in. by 5¾ in.; pp. 228. 2s. 6d. net.)

A neat volume in a red cover containing alphabetical and topographical lists of the names and addresses of all registered dentists; information as to dental schools, hospitals, publications, and associations; and notes on the Dentists Act and the dental curriculum.

DIARY FOR THE WEEK.

TUESDAY.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Anæsthetics; Friday, 3.45 p.m., Mouth and Teeth.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day:—Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical. Lectures at 5.15 p.m. each day will be delivered as follows: Monday, Stammering; Tuesday, Some Nervous Affections in Children; Wednesday, The Prescription of Dietaries; Thursday, Chemical Antiseptics in Modern Surgery. Friday, College closes for vacation.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.	Date.	Meetings to be Held.
JULY.		**JULY** *(Continued).*	
17 SATURDAY ..	CEYLON BRANCH, Clinical Meeting, Colonial Medical Library, 2.30 p.m.	26 MONDAY ..	ANNUAL REPRESENTATIVE MEETING, 10 a.m.
18 Sunday ..		27 TUESDAY ..	CENTRAL COUNCIL, 10 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
19 MONDAY ..		28 WEDNESDAY	CENTRAL COUNCIL, 9.30 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
20 TUESDAY ..		29 THURSDAY ..	CENTRAL COUNCIL, 9.30 a.m.
21 WEDNESDAY		30 FRIDAY ..	
22 THURSDAY ..		31 SATURDAY ..	
23 FRIDAY ..	ANNUAL GENERAL MEETING, Assembly Hall, Belfast, 12 noon. ANNUAL REPRESENTATIVE MEETING, immediately after the Annual General Meeting.	**AUGUST.**	
24 SATURDAY ..	ANNUAL REPRESENTATIVE MEETING, 9.30 a.m.	1 Sunday ..	
25 Sunday ..		2 MONDAY ..	*Bank Holiday.*
		3 TUESDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from the General Secretary, 429, Strand, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner resident within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Bye-laws of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently-elected Member, shall remain a member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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The Seventy-Seventh Annual Meeting
OF THE
BRITISH MEDICAL ASSOCIATION,
BELFAST,
July 23rd to July 31st, 1909.

President:
Sinclair White, M.Ch., F.R.C.S., Senior Honorary Surgeon, the Royal Infirmary, Sheffield.

President-elect:
Sir William Whitla, M.D., LL.D., Professor of Materia Medica and Therapeutics, Queen's College, Belfast.

Past-President:
Henry Davy, Hon.D.Sc., M.D., F.R.C.P.Lond., Physician, Royal Devon and Exeter Hospital, Exeter.

Chairman of Representative Meetings:
James Alexander Macdonald, M.D., M.Ch., R.U.I., Physician, Taunton and Somerset Hospital.

Chairman of Council:
Edmund Owen, Hon.D.Sc., LL.D., F.R.C.S., Consulting Surgeon, St. Mary's Hospital, London.

Treasurer:
Edwin Rayner, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-seventh Annual Meeting of the British Medical Association will be held in Belfast in July, 1909. The President's address will be delivered on Tuesday, July 27th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 23rd, 1909.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by R. W. Philip, M.D., F.R.C.P.Edin., Physician, Royal Infirmary, and Royal Victoria Hospital for Consumption, Edinburgh.

The Address in Surgery will be delivered by Arthur Edward James Barker, F.R.C.S., Professor of the Principles and Practice of Surgery, University College, London.

The Address in Obstetrics will be delivered by Sir John W. Byers, M.D., Professor of Midwifery and Diseases of Women, Queen's College, Belfast.

THE SECTIONS.

The scientific business of the meeting will be conducted in fifteen Sections, which will meet on Wednesday, July 28th, Thursday, July 29th, and Friday, July 30th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the British Medical Journal *without special permission.*

The following are the general arrangements so far as they are yet complete:

Anatomy and Physiology.

Physiology Class-room, Queen's College.

President: Charles Scott Sherrington, M.D., F.R.S., Physiological Laboratory, University, Liverpool.

Vice-Presidents: Professor Thomas Hugh Milroy, M.D., F.R.S.E., Queen's College, Belfast; Professor Peter Thompson, M.D., King's College, Strand, London; Arthur Philip Beddard, M.D., F.R.C.P., 44, Seymour Street, Portman Square, London, W.; Professor Andrew Francis Dixon, M.B., D.Sc., 73, Grosvenor Road, Dublin.

Honorary Secretaries: Alex. Low, M.B., 142, Blenheim Place, Aberdeen; John Alex. Milroy, M.D., Queen's College, Belfast.

The following provisional programme has been arranged:

A discussion on the Deep Afferents, their Function and Distribution. To be opened by Professor C. S. Sherrington. The list of those who intend to take part in the discussion is not yet complete.

Papers:

Dixon, Professor A. F., Dublin. The Anatomy of the Achondroplasic Skeleton.

Johnston, H. M., B.A., M.B., B.Ch., Dublin. Notes on the Distribution of the Intercostal Nerves.

Maclean, Hugh, M.D., Liverpool. Phosphatides in the Light of Modern Research.

Milroy, John Alex., M.D., Belfast. (1) Some Observations on the Staining of the Central Nervous System in Bulk with Aniline Dyes (with demonstration); (2) Some Metallic Derivatives of Haematoporphyrin.

Moore, Professor B., Liverpool. The Bio-Chemistry of Haemolysis.

Patten, Professor C. J., Sheffield. An Early Human Embryo.

Roaf, Herbert E., M.D., Liverpool. A Simple Method of Demonstrating Cholesterin in Bile.

Anderson, Professor R. J., Galway. (1) Some Results of the Uniformity of Action and Habit; (2) Some Characters that make for Persistence (having regard chiefly to the Skeleton).

Earle, H. G., and Goodall, Dr. J. Strickland (London). The Structure of the Pancreas in Relation to Function (illustrated by microscopic and lantern slides).

Scanes-Spicer, Robert H., B.Sc., M.D.Lond. Some Points in the Mechanics of Respiration; (1) The Significance of the Transverse Axis of Cricothyroid Rotation in Respiration; (2) The Variations of Stress, Strain, and Friction in the Throat and Larynx in Costal and Abdominal Breathing respectively.

Rutherford, Norman C., F.R.C.S.E., Edinburgh. Chondrocranium of the Trout with Reference to Brain and Cranial Nerves.

Demonstrations:

Professor Peter Thompson (London) will give a demonstration of models illustrating three stages in the form of the human heart during the first month of development.

Dr. David Waterston (Edinburgh) will give two demonstrations: (1) Reconstruction models illustrating the development of the human pelvis and pelvic organs in the first three months; (2) Lissauer's and other methods for making outline tracings of the skull in various planes.

Dermatology and Electro-Therapeutics.

Modern Languages Class-room, Queen's College.

President: William Calwell, M.D., 6, College Gardens, Belfast.

Vice-Presidents: Robert Briggs Wild, M.D., 96, Mosley Street, Manchester Leslie Roberts, M.D., 46, Rodney Street, Liverpool.

Honorary Secretaries: James Harry Sequeira, M.D., F.R.C.P., 8a, Manchester Square, London; S. Ernest Dore, M.D., 26, New Cavendish Street, London; John Campbell Rankin, M.D., 38, University Road, Belfast.

The following programme has been arranged:

Wednesday, July 28th.—Introductory address by the President, Dr. William Calwell.

Discussion on Radium and Radio-therapy in Skin Disease. Dr. Louis Wickham, Head of the Radium Institute in Paris, will give a Lantern demonstration on the Treatment of Skin Diseases by Radium. Sir Malcolm Morris, K.C.V.O. (London), Professor Wild (Manchester), Dr. Pernet (London), Dr. Goodwin Tomkinson (Glasgow), Dr. Deane Butcher (London), Dr. R. W. MacKenna (Liverpool), Dr. Sequeira, and Dr. Dore have promised to take part in the discussion.

Thursday, July 29th.—9.30 a.m. Demonstration of Cases.

Discussion on the Mucous Membrane Lesions in Cutaneous Disease. To be opened by Sir Malcolm Morris, K.C.V.O. The frequent association of mucous membrane lesions with affections of the skin and their value in diagnosis will be special features, and the treatment of the commoner forms will be discussed. Dr. Wilfred Fox (London), and Dr. Campbell Rankin (Belfast) will take part in the discussion.

Friday, July 30th.—Discussion on the Supposed Risks attending the *X*-ray Treatment of Ringworm.

The special points on which discussion is invited are the possibility of injury to the cerebrum and idiosyncrasy

Papers.—The following papers have been accepted:

Wild, Professor, Manchester. Acanthosis Nigricans.

St. George, Dr., Lisburn, and Melville, Dr. Moncrieff, Youghal. Case of Acanthosis Nigricans, with sections.

Allworthy, Dr. S. W., Belfast. Case of Cutaneous Actinomycosis, with photographs.

Tomkinson, Dr. Goodwin, Glasgow. The Etiology and Treatment of Pruritus Ani.

Evans, Mr. Wilmott, London. Cheiropompholyx.

Fox, Dr. Wilfred, London. The Choice of a Salt for Mercuria) injection in Syphilis.

Hall-Edwards, Dr., Birmingham. On Idiosyncrasy and *X*-ray Treatment.

Morton, Dr. Reginald, London. Osseous Changes in Chronic *X*-ray Dermatitis.

Butcher, Dr. Deane. Electrical Treatment of Acne.

Jones, Dr. Lewis.

Hazelton, Dr. E. B., Sheffield. *X* Rays in Gynaecology.

Dr. Stopford Taylor and Dr. Mackenna (Liverpool) will show casts and photographs of skin diseases in the Museum.

Diseases of Children.

Greek Class-room, Queen's College.

President: Harold J. Stiles, F.R.C.S.Edin., 9, Great Stuart Street, Edinburgh.

Vice-Presidents: John McCaw, M.D., 74, Dublin Road, Belfast; Richard Whytock Leslie, M.D., "St. Heliers," Strandtown, Belfast; Robert Campbell, F.R.C.S., 21, Great Victoria Street, Belfast.

Honorary Secretaries: Andrew Fullerton, F.R.C.S.I., 8, University Square, Belfast; John William Simpson, M.D., 19, Lansdowne Crescent, Edinburgh.

It is proposed to devote some portion of three of the days on which the Section meets to the discussion of the following subjects:

Wednesday, July 28th.—Club Foot. To be introduced by Mr. Robert Jones, of Liverpool. The following have signified their intention of taking part in the discussion: Mr. J. H. Nicoll, Mr. Alex. McLennan, Mr. E. Laming

Evans, Mr. Edmund Owen, Sir George Beatson, Mr. Maynard Smith, and Mr. A. H. Tubby.

Mr. ROBERT JONES will deal with the congenital type and its varieties. Equino-varus is the only variety which presents difficulty. A brief statement of the anatomy. Treatment varies with stage of disease, and may be manipulative, operative, separately, or in combination. Treatment, though started at birth, can only be completed by act of walking. On the action of the tendo Achillis in producing varus, and its prevention. On the rotatory deformities of the tibia and fibula and their early correction. The neglected and so-called "recurrent" case and its management. The causes of so-called "relapse" and its prevention. The importance of an accurate knowledge of the signs of recovery. Mr. Jones will confine his remarks mainly to methods adopted in his own clinic.

Thursday, July 29th.—Functional Neuroses in Children. To be introduced by Dr. J. A. Coutts. The following gentlemen will take part in the discussion: Mr. Sidney Stephenson and Dr. G. E. Shuttleworth.

Dr. COUTTS will deal with the following points: Functional neuroses of early infancy. Faulty deglutition. Congenital dyspnœa. Congenital tremor. Pyloric stenosis. Antecedents of functional neuroses in older children. Cyclic vomiting. Migraine. Tics. Head nodding and head banging. Chorea. Hysteria. Incontinence of urine and faeces. Lienteric diarrhœa. Night terrors. Somniloquence. Asthma.

Papers:

RAW, Dr. Nathan. Tuberculosis in Children.
NICOLL, Mr. J. H. Surgery of Infancy.
MCLENNAN, Mr. Alex. Madelung's Subluxation of the Wrists.
FORDYCE, Dr. A. Dingwall. Abdominal Tuberculosis in Young Children.
EDGINGTON, Mr. G. H. Case of Sarcoma of the Prostate in a Child.
POWER, Mr. D'Arcy. On the Value of New Tuberculin (TR) in Surgical Tuberculosis.
DUN, Mr. R. C.: The Association of a Patent Funicular Process with Certain Forms of Hydrocele; two cases of Median Hare-lip.
SMITH, Mr. Maynard. Exomphalos.
CARMICHAEL, Mr. E. Scott. Pneumococcal Peritonitis in Children, with a Record of Twenty Cases.
MONSARRAT, Mr. K. W. Acute Staphylococcic Osteitis.

HAEMATOLOGY AND VACCINE THERAPY.

Surgery Class-room, Queen's College.

President: Sir ALMROTH WRIGHT, M.D., F.R.S., 6, Park Crescent, Regent's Park, London, N.W.

Vice-Presidents: ALEX. GARDNER ROBB, M.B., 15, University Square, Belfast; THOMAS HOUSTON, M.D., 95, Great Victoria Street, Belfast; Captain STEWART RANKIN DOUGLAS, I.M.S., Inoculation Department, St. Mary's Hospital, London.

Honorary Secretaries: WILLIAM DUNLOP DONNAN, M.D., 12, High Street, Holywood, co. Down; DUDLEY W. CARMALT-JONES, M.B., B.Ch.Oxon., 78, Wimpole Street, London, W.

The following programme has been arranged:

Wednesday, July 28th.—Opening Address on Retrospect and Prospect by the PRESIDENT, of which the following is a synopsis:

Brief survey of the therapeutics of bacterial diseases, and of the development of therapeutic immunization out of prophylactic immunization. Anticipation that the method of passive immunization (serum-therapy) would furnish a general method for the treatment of generalized bacterial infections. Question as to how far this anticipation has been realized. Proposal that localized bacterial infections might appropriately be treated by active immunization (vaccine therapy). Subsequent suggestion that vaccine-therapy might be applied also to generalized infections. Brief synopsis of the results which have been achieved by this therapeutic method. Question as to what future extensions may be anticipated for the method depends upon whether the fundamental assumption of the method—that is, the assumption that the machinery of immunization can be called into action in every bacterial infection by a suitable dose of the appropriate vaccine—is well founded. Consideration of this question. Urgent need for further study of the physiology of the machinery of immunization. Possible applications of vaccine therapy in connexion with the secondary infections of scarlatina, small-pox, cancer, whooping-cough, and lacy fever, and in connexion with the limitation of family and institutional epidemics.

Thursday, July 29th.—Discussion: The Early Diagnosis of Tuberculosis for the Effective Treatment of that Disease (in conjunction with the Section of Pathology). To be opened by Professor CALMETTE, l'Institut Pasteur de Lille, with a paper of which the following is a synopsis:

(1) Experimental researches have shown that tuberculous infection is at first confined to glands, that its spread depends on the number and virulence of the bacilli, that if few they are destroyed or calcified in the glands, and that serious lesions are due to single massive or repeated small infections; early diagnosis is essential for cure. (2) Consideration of the relative value of cutaneous, conjunctival, and intradermo reactions in diagnosis; and, further, of those of "reactions of recrudescence" and humoral and phagocytic reactions. (3) Suggested routine employment of the above for the isolation of infected subjects.

Friday, July 30th.—Discussion: Bacterial Infections of the Respiratory Tract other than Tuberculous. To be opened by Dr. BORDET, who will deal with the micro-organism of whooping-cough. A cocco-bacillus was isolated in 1906 with definite cultural and staining peculiarities. Filtered cultures are non-toxic, but endotoxins are highly virulent and produce the essential symptoms of whooping-cough. Specific properties are present in the serum of convalescents, which may be demonstrated by the method of the fixation of complement.

The following papers have been accepted:

NOON, Mr. Leonard. The Site of Inoculation as Influencing the Immunity Produced.
GOELLA, Dr. The Antitryptic Index.
INMAN, Dr. The Value of the Opsonic Index in Diagnosis and Regulation of Treatment of Tuberculosis.
CARMALT-JONES, Dr. (1) Review of Inoculation Treatment of Tuberculosis, with Special Reference to Glands; (2) The Treatment of Bronchial Asthma by a Vaccine.
SMITH, Mr. Maynard. The Inoculation Treatment of Tuberculous Arthritis.
PATERSON, Dr. The Value of Inoculation in the Sanatorium Treatment of Phthisis.
WILLCOX, Dr. The Treatment of Pneumonia by Inoculation.
BENHAM, Dr. The Bacteriology and Vaccine Therapy of Common Colds.
HOUSTON, Dr. Typhoid Carriers.
FLEMING, Dr. The Inoculation Treatment of Acne Vulgaris.

Professor Sanfelice, of the University of Bologna, will give a demonstration of work on the Parasitology and Serum Therapy of Cancer.

HYGIENE AND PUBLIC HEALTH.

Natural Philosophy Class-room, Queen's College.

President: LOUIS COLTMAN PARKES, M.D., 61, Cadogan Square, Chelsea, London.

Vice-Presidents: SAMUEL AGNEW, M.D., Lurgan, co. Armagh; HENRY O'NEILL, M.D., 6, College Square East, Belfast; CHARLES KILLICK MILLARD, M.D., Town Hall, Leicester.

Honorary Secretaries: CHARLES PORTER, M.D., Public Health Department, Town Hall, Finsbury; WILLIAM MCLORINAN, L.R.C.P., 103, Antrim Road, Belfast; THOMAS CARNWATH, M.B., Town Hall, Manchester.

The following programme has been arranged:

Wednesday, July 28th.—Discussion: Compulsory Notification of all Forms of Tuberculosis. To be opened by Dr. Scurfield, M.O.H., Sheffield. Dr. Parkes (President of the Section) and others will take part in the discussion.

The following is a synopsis of the paper by Dr. H. SCURFIELD:

In the first part of his paper Dr. Scurfield gives an account of the use which is made of the compulsory notification of consumption in Sheffield, which came into force in November, 1903. Bacteriological examination of sputum is provided free of charge for medical practitioners in the city. Inspectors visit the notified cases, leave printed advice with them, advocate the use of the open window, supply pocket spittoons, and disinfect when necessary. Hospital accommodation is provided by the corporation for twenty males and twenty females for short periods of

treatment, the principal object being to educate the patients and to select those who are suitable for prolonged sanatorium treatment. Hospital treatment on modern lines is also provided at the Sheffield Royal Infirmary, and by both boards of guardians. In Sheffield about one-third of the consumptives die in the workhouse hospitals. An open-air school has just been provided for delicate children. In the second part of the paper Dr. Scurfield points out the importance of analysing the total tuberculosis rate, so that the rate for males, females, and children may be given separately. Thus in the case of Sheffield there is nothing remarkable about the total rate, but when analysed it is found that the female rate is very low, and that the rate for males and children is high. He submits tables showing the rates for males, females, and children under 5 years of age in various English towns. He gives a comparison of the rates in Sunderland and Sheffield, and of the conditions which, in his opinion, affect those rates. He concludes with some comments on the tuberculosis rates in other towns, and the conditions which appear to affect them.

Thursday, July 29th.—Discussion: Latent Infections of the Diphtheria Bacillus, and Administrative Measures required for Dealing with Contacts (with the Laryngological Section). To be opened by Dr. Watson Williams (Bristol), from the clinical standpoint; Dr. Buchanan (Glasgow), from the bacteriological standpoint; Dr. Forbes (M.O.H., Brighton), from the administrative standpoint.

Dr. R. M. Buchanan will deal with the following points: (1) The latency of infection—general; (2) the rarity of return cases—significance; (3) infection in contacts and school children and its frequency; (4) type, virulence, and persistence of the bacilli in the clinically unaffected; (5) the question of the infecting power, and the segregation of carriers.

The following is a summary of the points to be referred to in the paper by Dr. Forbes:

(*a*) Legal powers for dealing with contacts. (*b*) Action to be taken after a case of diphtheria has occurred, and has been removed from:—(1) Hospital ward: (Keep all children in bed; keep same staff on duty in ward and exclude visitors; admit no new cases; swab all children and staff: (*a*) if positive, isolate; (*b*) if negative, no treatment, reswab next day). (2) Home: (Exclude all children from school for four weeks, and, in addition, according to opportunity and home conditions, either have swabs taken from all members of the family or only from those who have or have had some suspicious symptoms. Cases giving positive results must be dealt with according to their surroundings; those in better-class families may be isolated at home, whilst those in poor families should be removed to an isolation hospital). These remarks apply mainly to children; generally speaking, diphtheria-carrying wage-earners are allowed to continue at work, unless that work will bring them in special contact with children or with food. (*c*) If case occurs and is isolated at home, the procedure is the same as in (*b*) (2), excepting that contacts are kept from school for four weeks from the time when all cases are free from infection. (*d*) School: closure seldom necessary. (*e*) Antitoxin injection for contacts usually inadvisable.

Friday, July 30th.—Discussion: The Discharge of Sewage Effluents into Tidal Waters. To be opened by Dr. Henry O'Neill, Member of the City Council, Belfast, Sir P. R. O'Connell (Belfast), Professor Letts, and others will take part in the discussion.

In opening the discussion, Dr. Henry O'Neill will point out that the problem of sewage purification in Belfast is one of more than ordinary difficulty owing to the sluggish tides and large areas of shallow water in the upper reaches of Belfast Lough, which favour the growth of *Ulva latissima*, a green seaweed, which, according to the investigations of Professor Letts, is an indication of sewage pollution. The subject has been under the consideration of the corporation for ten years. In the earlier experiments screened sewage was run on to double contact beds, under the impression that a moderate degree of purification would produce an effluent sufficiently good for discharge into the large volume of tidal waters of the Lough, but Professor Letts found that if the growth of the weed was to be considerably reduced, the effluent must be free, not only from ammonia, but from nitrates. Certain experimental contact beds treated with sewage which had been screened and treated for six or eight hours in a septic tank produced purification to the extent of 90 per cent. free and 75 per cent. albuminoid ammonia, but the beds rapidly silted up, and the area which would have been required would have been excessive. Percolating filter beds with revolving sprinklers dealing with screened and sedimented sewage yielded results highly satisfactory as regards economy, space, and freedom from silting up, but the effluent, though good, contained nitrates in quantity sufficient to provide food for the *Ulva*. Professor Letts found that by mixing the effluent from the percolating filter with about an equal quantity of septic sewage and treating the mixture in contact beds, the organic matter was oxidized at the expense of the nitrates in the filter effluent, and the total quantity of *Ulva* pabulum reduced. These experiments form the basis of an original scheme of purification applicable when a highly nitrified effluent is undesirable. Special contact beds are not necessary, as the storm-water filters can be used for the denitrifying process, which is suspended during storms. Two methods of disposal of the sludge are proposed: (1) At the main outfall works it will be conveyed to sea by steamer; (2) at the Sydenham outfall, as shallow water renders steamer disposal expensive and inconvenient, Dibdin's slate beds, which convert the sludge into an inoffensive humus, will be installed. It has also been proposed as regards the main outfall, to depend solely on screening, sedimentation, and sludge removal, effluent being discharged only during the first half of ebb-tide. Arguments in favour of this scheme are that the growth of *Ulva* would be reduced, that any weed could be collected as thrown on the beach and removed, it being thought that the expense of this would be a continually diminishing annual sum. A joint board of the Belfast, Holywood, and Castlereagh authorities had been expending £2,000 a year on the collection of the weed from the foreshore, some 20,000 tons being removed last year, but this plan was stopped in September owing to want of funds.

Papers.—The following have been accepted:

Niven, Dr., M.O.H., Manchester. Control of Tuberculosis in Cattle.
Wynne, Dr. Darley, Clonmel. Cattle Fairs and Tuberculosis.
Clark, Dr. R. V., Assistant Medical Officer, Leeds. Diphtheria.
Wilson, Dr. Isolation of *B. typhosus*.
Ewart, Dr., Assistant M.O.H., Middlesbrough. Some Features concerning the Sewage Pollution of an Estuary.
Buchan, Dr., M.O.H., Isleworth. Typhoid Pollution of Mussels, etc.
McWeeney, Professor. Mode of Detecting Bacillus Carriers.
Paterson, Dr., Assistant M.O.H., St. Helens. Measles in Schools in a recent outbreak at St. Helens.
Gilchrist, Dr. Endemicity of Influenza.
Story, Dr., Dublin. Neglect of Physical Education in Primary and Secondary Schools.
Magennis, Dr. E. School Medical Inspection.

Laryngology, Otology, and Rhinology.

Midwifery Class-room, Queen's College.

President: St.Clair Thomson, M.D., F.R.C.P., 28, Queen Anne Street, London.

Vice-Presidents: Ernest Blechynden Waggett, M.B., 45, Upper Brook Street, London, W.; Henry Smurthwaite, M.D., 8, St. Mary's Place, Newcastle-on-Tyne; J. A. Knowles Renshaw, M.D., 11, St. John Street, Manchester.

Honorary Secretaries: Harold Shuttleworth Barwell, F.R.C.S., 55, Wimpole Street, London; John Stoddart Barr, M.B., 13, Woodside Place, Glasgow; Henry Hanna, M.B., B.Sc., 57, University Road, Belfast.

The following subjects have been selected for special discussion:

Wednesday, July 28th.—Discussion: The Treatment of Tinnitus Aurium. (1) Dr. Thomas Barr (Glasgow); (2) Mr. Richard Lake (London).

The following is a synopsis of the remarks to be made by Dr. Thomas Barr (Glasgow) in opening the discussion:

The paper, by arrangement with Mr. Richard Lake, deals solely with non-operative treatment. It is pointed out that the tinnitus aurium is merely a symptom, and effective treatment must depend on a correct knowledge of the condition underlying it. Hence, thorough examination of the organ of hearing by all the subjective and objective methods is a primary essential. After brief reference to cases depending on accumulation of wax, Eustachian

obstruction, removable fluids in the tympanum, and other conditions in which tinnitus can be readily cured or alleviated by well-known methods, the author deals with cases where tinnitus persists after such methods of treatment or where no definite lesion can be shown, by objective examination, to exist in the ear. In this connexion emphasis is placed on the importance of attention to the state of the general health, and the influence of coexisting systemic disease is shown, as also that of mental attitude, personal habits, climate, and special drugs, and external applications. The special treatment indicated for the pulsating forms of tinnitus is considered. The value of *Tonbehandlung* is next discussed, this being the influence exerted upon certain subjective sounds in the ear, mainly of a musical character, by objective sounds from a tuning-fork. With reference to electrical treatment, it is pointed out that the apparently good effects from the high frequency currents reported a few years ago do not seem to have been borne out by further experience. In discussing the effects upon tinnitus of naso-pharyngeal treatment it is shown that the establishment of good nasal breathing and a healthy condition of the naso-pharyngeal mucous membrane often leads to the disappearance or mitigation of the symptoms, but that, on the other hand, it may be aggravated by ill-directed treatment of the naso-pharyngeal order.

Mr. LAKE will deal with the operative treatment: first, what may be termed remote operative, in the form of intranasal treatment, lumbar puncture, and ligation of the carotid artery; afterwards tracing the gradual evolution of the course of operative interference from simple removal of one or more of the ossicles or adhesions, etc., the simple opening or perforation of the labyrinth, its complete ablation, to the division of the auditory nerve itself; he will also endeavour to point out the lines which may be useful in attempting to decide when to operate and what operation to select.

Papers:

JONES, Hugh E., Liverpool. Preliminary Observations on the Association of Slight Abnormalities of the Auricle with Certain Forms of Deafness.

JACKSON, George, Plymouth. The Etiology of Auditory Meatus Exostoses.

MCKENZIE, Dan, London. The Clinical Value of Labyrinthine Nystagmus Tests.

Thursday, July 29th.—Discussion: Latent Infections of the Diphtheria Bacillus, including the Administrative Measures required for dealing with Contacts. (In association with the Section of Hygiene and Public Health.) (1) Dr. Robert M. Buchanan (Glasgow); (2) Dr. Duncan Forbes (Brighton); (3) Dr. P. Watson Williams (Bristol).

Dr. WATSON WILLIAMS will open the discussion from the clinical standpoint:

If diphtheria may be defined as any pathological condition, local or general, due to infection by specific diphtheria organisms, diphtheria is "latent" when such pathological conditions are unaccompanied by obvious illness. The impinging of diphtheria bacilli on the nasal or oral mucous membrane without any local reaction, though not a true infection, is clinically a form of latent diphtheria. Latent diphtheria infections may be grouped under three heads. (1) Patients who afford none of the usual clinical indications of diphtheria, are not definitely ill, and yet are found to be anaemic, have increased pulse tendency, are poorly in association with nasal catarrh, membranous rhinitis, faucial redness, and slight subacute tonsillitis, otorrhœa, sores, etc., which on bacteriological examination prove to be diphtheritic. (2) Cases with any of these diphtheritic lesions, but with no general symptoms of ill-health. (3) Persons who present no local lesions, and no departure from normal health, but in whom diphtheria bacilli have been found by culture tests. In practice latent diphtheria is met with affecting the nasal cavities, the fauces and mouth, the external auditory meatus, the skin, genital organs. There is no characteristic symptom or sign of a latent diphtheria, for in their clinical aspects they are indistinguishable from similar non-diphtheritic lesions of the same territories. Pseudo-membranous lesions of the mucous membrane of the upper air tract may be non-diphtheritic or diphtheritic. The only crucial test by which latent diphtheritic infection can be determined is the bacteriological test. Examples of latent diphtheria will be cited, and various methods of treatment discussed.

Papers:

SCANES-SPICER, R. H., London. Cancers of the Throat: Observations on the Sites of Origin, Pathogeny, Early Diagnosis, and Radical Cure.

NEIL, J. Hardie, New Zealand. The Surgical Anatomy of the Tonsils.

Friday, July 30th.—Discussion: The Treatment of Cicatricial Stenoses of the Larynx and Trachea. (1) Dr. H. Lambert Lack (London); (2) Dr. Delsaux (Brussels); (3) Dr. Bryson Delavan (New York); to be followed by Dr. Emil Mayer (New York).

Dr. H. LAMBERT LACK will deal chiefly with cicatricial stenosis of the larynx in children as the result of tracheotomy for diphtheria. In nearly every case the tracheotomy tube was introduced through the larynx at the original operation, and this is considered to be the cause of the subsequent stenosis. In some cases the stricture was fibrous and limited to the soft parts, in others the laryngeal cartilages were extensively destroyed and the stricture almost impermeable. The first indication of treatment is to remove the tube from the larynx by performing a low tracheotomy and inserting the tube in as low a part of the trachea as can be reached. In cases seen early this alone will suffice to effect a cure. Where extensive stenosis is present and the above treatment fails, the larynx should be opened, the cicatricial tissue excised, and the case carefully watched. The various means of dilating the larynx by passing a solid plug upwards from the tracheotomy wound and by inserting a T-shaped cannula are described and condemned. The author's experience of intubation is also unfavourable. Two illustrative cases are described and some statistics given.

The following is a synopsis of Dr. DELSAUX'S (Brussels) remarks:

Laryngo-tracheostomy means the formation in the larynx and upper part of the trachea of an opening such that it may either be left permanently or used for a very long period. Nearly all cases of cicatricial stenosis of the upper air passages (including syphilitic stenosis and stenosis due to perichondritis) are remediable by this operation, but it should not be undertaken in cases due to lupus. The teeth, gums, and mouth receive careful attention before operation, which must not be undertaken so long as the temperature is abnormal or in the presence of catarrh of the trachea or bronchi. As a rule, general anaesthesia is procured, but local analgesia by the infiltration method of Schleich is also employed, though there are objections to its use. The operation is divided into six stages: (1) Incision of the skin, (2) section of the cartilages of the larynx and trachea, (3) suture of the larynx to the skin, (4) division of the cicatrix and excision of its tissues, (5) insertion of a cannula fitted with a dilating drain tube, (6) dressing of the wound. Further particulars are reserved for my full address. The after-treatment is quite as important as the operation itself. Dilatation at the commencement must not be rapid, very supple india-rubber tubes being used, and their calibre gradually increased until it surpasses the normal diameter of the contracted area by as much as 2 mm. in a child and 3 mm. in an adult. Before closing the artificial opening the patient must be gradually habituated to breathing without a cannula and without a tube, at first for a few minutes at a time. As a rule the opening should not be closed for several months after the initial operation. When closed it must be entirely and thoroughly closed. If the opening be large, the method of Gluck may be used, the opening being covered in by two unequal flaps; or, better, by shutter flaps at different levels carefully sutured together in the middle line. When the opening is small it can be closed by the plastic operation usually employed in closing an ordinary tracheotomy wound. Among 60 patients operated on in this fashion there have been six deaths, of which three took place during the after-cure. There have also been two failures, one being in a patient with tubercle of the larynx, and the other a syphilitic case. In the remaining 52 cases, 10 in whom the final plastic operation had been completed, are entirely cured, and up to the present no case of recurrence of stenosis has been reported. In the other cases either the process of dilatation is still going on, or the plastic operation for the closure of the opening is about to be performed. Usually the patients can make themselves easily

understood, and some have even recovered their voices owing to re-formation of the vocal cords (Fraenkel). Laryngo-tracheostomy is the operation to be preferred in the treatment of cicatricial stenosis of the upper air passages. It is an operation attended by little risk, and should become the routine method of dealing with these cases.

The following is an abstract of Dr. BRYSON DELAVAN'S remarks:

In the successful management of stricture of larynx three things are essential: (1) That the stricture be relieved; (2) that the relief be permanent; (3) that the treatment be conducted with the least possible injury to the parts involved. Treatment by occasional temporary dilatation is a failure. Operative measures are apt to aggravate the trouble rather than relieve it. Success depends upon constant and long-continued distension of stricture on the principle that scar tissue in general when subjected to long-continued stretching will lose its resiliency. The O'Dwyer tube answers all indications. The larynx tolerates its presence indefinitely. It can be shaped and adjusted to fit perfectly any desired space, and thus effect complete distension of the narrowed parts. Its presence is not necessarily irritating. Patients have worn it for months at a time. The method is applicable to infants and young children as well as to adults. There is a large amount of clinical evidence to prove its value. The fact that relief is permanent is proved only by lapse of years without recurrence. This is true of all methods. Injury to parts through endo-laryngeal or extra-laryngeal operations is not a negligible factor, and should certainly be avoided as far as possible. Specimens of special O'Dwyer and Rogers tubes will be described and exhibited. Illustrative cases will be related.

Papers:

WOODS, R. H., Dublin. Case of Extirpation of the Larynx with a New Vocalizing Apparatus.

HILL, William, London. On a New Method of Preventing the Re-formation, after Removal, of Transverse Webs, Adhesions and Cicatrical Formations in the Larynx by the Wearing of a Laryngeal Splint (inserted through a Thyro-fissure) for Two to Three Weeks.

Dr. P. Watson Williams (Bristol) will give a demonstration of the radical operation for fronto-ethmoidal sinus suppuration by osteoplastic flap, and of the method of exploring the sphenoidal sinus without inspection.

The following gentlemen are among those who will take part in the work of the Section: Dr. Louis Barr (Nice), Dr. Emil Mayer (New York), Mr. Ward Cousins (Southsea), Dr. Lindley Sewell (Manchester), and Mr. Macleod Yearsley (London).

Dr. Bryson Delavan will show a new and effective illuminator, an improved Gottstein knife, and other instruments.

Dr. William Hill will exhibit an operating direct vision laryngoscope.

In connexion with the Section an exhibition will be held of skiagraphy in relation to diseases of the upper air and food passages.

MEDICINE.

Chemistry Class-room, Queen's College.

President: Professor JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., 3, Queen's Elms, Belfast.

Vice-Presidents: ARTHUR FOXWELL, M.D., F.R.C.P., 47, Newhall Street, Birmingham; JOSEPH FRANCIS O'CARROLL, M.D., F.R.C.P.I., 43, Merrion Square, Dublin; LAURISTON ELGIE SHAW, M.D., F.R.C.P., 64, Harley Street, London; WILLIAM BAIRD MCQUITTY, M.D., 8, College Square East, Belfast.

Honorary Secretaries: JOHN SMYTH MORROW, M.D., Ela House, Antrim Road, Belfast; LEWIS ALBERT SMITH, M.D., 25, Queen Anne Street, London, W.; JOHN ELDER MACILWAINE, M.D., 55, University Road, Belfast.

The following subjects have been chosen for discussion and demonstration:

1. Wednesday, July 28th.—Angina Pectoris. To be opened by Sir T. Clifford Allbutt, K.C.B. The following will take part in the discussion; Professor Osler, Sir T. Lauder Brunton, Dr. A. Foxwell, Dr. Alexander Morison, Dr. W. R. Hunter, Dr. W. Gordon, and Dr. Nathan Raw.

Sir CLIFFORD ALLBUTT, K.C.B., proposes at the outset of the discussion on angina pectoris to ascertain precisely what is to be discussed, and in what terms. He will urge concerning this malady that precision both of terms and of substance is especially needed, for no disease has been more obscured by factitious notions or more confused by false analogies and erratic conjectures. Yet in all medicine there is no disease which presents a clearer image to the observant eye, nor one more conspicuously detached from the clinical jungle. If its characters are confused we have confused them by equivocations; if its type is blurred it has been distorted by counterfeits. If angina pectoris be looked at simply, without prepossession and with discrimination, its features will come into focus and the type will take fairer definition. On the threshold the speaker finds himself confronted by sophists who say bluntly that angina pectoris is not a disease, but a symptom or "symptom group"; it is here, indeed, that the sophistry begins, for this argument is but a play of words. "A symptom" angina pectoris certainly is not, for it is manifold; a symptom group it is, no doubt, or rather a symptom process, or procession. Now a symptom-group, or procession of symptoms negative and positive, which recurs in mankind with fair uniformity, must be due to causes correspondingly uniform. That genuine angina pectoris may occur with the heart, lungs, and kidneys intact, is at last reluctantly admitted by physicians who have studied the data; and if so the essential, as apart from contingent causes, must lie outside these organs. The opener will divide angina pectoris into angina minor and angina major, and the symptoms of the two degrees will be compared. "Pseudo-angina" he intends to dismiss as pseudol diagnosis, and to relegate these cases to the Vaso-vaga-class of Gowers. Vasomotor oscillations commonly occur in angina pectoris it is true, and in two main but incidental relations: first as determinants, when by changes of blood pressure attacks are provoked or mitigated; secondly, as consequences of acute impressions reaching the nerve centres by afferent paths. The speaker will proceed to appreciate the current hypotheses of angina pectoris, pointing out the diversity of these irreconcilable and often mutually destructive explanations. He will then advocate again his own interpretation, first published in 1894, and frequently and formally repeated since without effect upon medical opinion, although at length it has been fully accepted by Josué, in a paper published last November. This interpretation is that the origin of angina pectoris lies not in the heart but in the supra-sigmoid portion of the aorta; that the oppression of angina minor is seated in this place; and that in angina major the referred pains still originate here, but, as in the degrees of their severity they force successive centres, they radiate over more and more extensive areas. That, as concerns fatality, angina pectoris, neither in its minor nor in its major forms, is directly fatal; that indeed in many, perhaps in the majority, of major and minor cases taken together, death, if it occurs, is due to co-operating causes; that in a large number of cases, whatever the issue of co-operating lesions, such as valvular or myocardial disease, the anginous lesion is healed, or, at any rate, the symptoms cease; and, furthermore, that not a few cases of angina pectoris, even of the major variety, end in complete recovery; that when death is directly attributable to the angina it is due to vagus inhibition, such as is prone to happen, for example, in surgical operations about the root of the lungs or the brachial plexus, or to be induced by some other intense peripheral irritation, as in the genitalia. Finally, that, although a sound heart may be inhibited to the point of death, this very rarely happens; and that in nearly all cases in which the heart fails to disengage itself from the inhibitory interference, the myocardium, whether by coronary disease, by toxic influence, or otherwise, was previously unsound.

2. Thursday, July 29th.—The Medical Aspects of Athleticism. To be opened by Dr. Tyrrell Brooks (Oxford), Dr. Clement Dukes (Rugby). The following will take part in the discussion: Sir Clifford Allbutt, Sir T. Lauder Brunton, Sir James Barr, Dr. Watson Williams, Dr. A. Foxwell, Dr. Chalmers Watson, Dr. Gordon Gullan, Dr. Clive Riviere, and Dr. W. J. Tyson.

Dr. TYRRELL BROOKS (Oxford) in introducing the discussion will deal with the following points:

(1) Athletics, (*a*) at school, (*b*) at the university; what amount of medical supervision is practicable? (2) The

dangers of athletics during convalescence. (3) Physical training and athletics. (4) The moral aspect of athletics. (5) The duties of the profession, (*a*) to the individual, (*b*) to the race with reference to physical development.

The following is a synopsis of the remarks to be made by Dr. CLEMENT DUKES (Rugby):

(1) The Greeks aimed at, and attained, by their well-regulated physical training, the highest perfection of the human form, which also influenced the moulding and elevation of the mind. (2) The strength and wisdom of the next generation depend upon the mental and physical development of the present, for the intellectual value of exercise is as great as its physical value. (3) Athleticism is the "intemperance" of physical exercise, which is injurious to the not fully-grown body. (4) Physical examination and medical direction are necessary to avoid this, so that the feeble may be strengthened by well-regulated exercise, and the strong not injured by unwise and prolonged exertion. (5) How to obviate the evils of athleticism, and in what they consist. (6) Classical instances will be given of the defects of athleticism, and of the difficulties in their correction. (7) Ideal rules for the prevention of the harm occasioned by athleticism. (8) The practical rules in force now at Rugby to obviate these defects, and how they have worked; such rules are necessary to control the impulsive nature of youth, and they should be enforced.

3. Friday, July 30th.—Demonstration on Gastric Illumination by Dr. Theodore Thompson and Dr. H. S. Souttar.

The following papers have been accepted:

SAMWAYS, Dr. D. W., Mentone. Misconceptions concerning the Riviera.
GORDON, Dr. W., Exeter. The Influence of Soil on Phthisis, as illustrating a neglected principle in Climatology.
MAGUIRE, Dr. W. J., Belfast. The Value of Mental Symptoms in Diagnosis.
RIVIERE, Dr. Clive, London. A Natural Experiment in Cardiac Strain.
RAW, Dr. Nathan, Liverpool. Bovine Tuberculosis in the Human Subject.
GULLAN, Dr. Gordon, Liverpool. An Obscure Case of Hour-glass Contraction of the Stomach and Special Reference to Diagnosis.
LAWSON, Dr. David, and GETTINGS, Dr. G. T., Banchory. The Oral Administration of Tuberculin TR.
STEWART, Dr. Purves. The Technique and Results of Schlösser's Method of Treatment of Tic-douloureux.
COLLESTON, Dr. H. D. Pruritis in Lymphadenoma.
EVE, Dr. Frank C. A Case in which Glycosuria was only to be Inferred from the Presence of Gas and Bacilli in the Urine.
WILLIAMS, John H. (Washington). Tabes Dorsalis, its Rational Treatment in the Light of its Real Pathogenesis.

Dr. B. Moore, Johnston Professor of Bio-Chemistry in the University of Liverpool, will give a demonstration on a new method of administering oxygen to patients in high percentage of known value.

NAVY, ARMY, AND AMBULANCE.

Latin Class-room, Queen's College.

President: Fleet Surgeon J. LLOYD THOMAS, R.N.

Vice-Presidents: Inspector-General ROBERT BENTHAM, R.N. (retired), 22, King's Avenue, Ealing, London, W.; Lieut.-Colonel R. FOSTER, M.B., R.A.M.C., P.M.O., Station Hospital, Military Barracks, Belfast; Colonel THOMAS H. HENDLEY, I.M.S., C.I.E., 4, Loudon Road, London, N.W.

Honorary Secretaries: Captain M. LOWSLEY R.A.M.C., St. Michael's Road, Aldershot; Captain HERBERT HUGH BLAIR CUNNINGHAM, M.D., F.R.C.S., 69, University Road, Belfast; Staff Surgeon EDMUND COX, M.B., R.N., The Royal Naval Hospital, Chatham; Captain WILLIAM SALISBURY-SHARPE, M.D., R.A.M.C.T., 8, Cleveland Terrace, Hyde Park, London, W.

The following papers have been accepted:

Wednesday, July 28th:

HENDLEY, Colonel T. H., C.I.E., I.M.S. Contrast between the Treatment of the Wounded under the Moghul Emperors and King Edward VII. Emperor of India.
JAMES, Colonel H. E. R., F.R.C.S., R.A.M.C. The Medical Branch of the Officers' Training Corps.
STORY, J. B., M.B., M.Ch., F.R.C.S.I., Dublin. Physical and Moral Effects of Military Training.
FOSTER, Lieutenant-Colonel R., M.B., C.M., R.A.M.C. Short paper with a practical demonstration on Physical Training of Recruits in the Army.

Thursday, July 29th:

CRAWFORD, Major, G. S., R.A.M.C. On the Beneficial Results of Recent Sanitary Work in Malta.
BASSETT-SMITH, Fleet Surgeon, P. W., R.N. Modern Methods of Laboratory Diagnosis of Syphilis.
LAMBKIN, Colonel F. J., R.A.M.C. Probable Effects in the Services of the New Treatment of Syphilis by means of Organic Arsenical Compounds.

Friday, July 30th:

MAHON, Staff Surgeon F. F., R.N. On the First-Aid Relief rendered after the Messina Disaster.
WALLIS, Staff Surgeon J. G., R.N. A detailed scheme for an Unexpected Landing Party using Material available on Board Ship.
CARVELL, J. M., M.R.C.S., L.S.A., Surgeon, St. John Ambulance Brigade. Existing Ambulance Organization of the Home Railway Companies.
RIVERS, W. C. L., R.C.P., M.R.C.S., D.P.H., Newcastle-on-Tyne. Rhinology as an Aid to Diagnosis of Pulmonary Tuberculosis.

OBSTETRICS AND GYNÆCOLOGY.

Natural History Class-room, Queen's College.

President: JOHN CAMPBELL, M.D., F.R.C.S., Crescent House, University Road, Belfast.

Vice-Presidents: ROBERT ALEXANDER GIBBONS, M.D., 28, Cadogan Place, London; JOHN SINGLETON DARLING, M.B., High Street, Lurgan; CHARLES EDWIN PURSLOW, M.D., 192, Broad Street, Birmingham; EWEN JOHN MACLEAN, M.D., 12, Park Place, Cardiff.

Honorary Secretaries: HENRY THOMAS HICKS, F.R.C.S., Derby; ROBERT JAMES JOHNSTONE, M.B., F.R.C.S., 14, University Square, Belfast.

The Committee have thought it well to select two chief subjects for discussion:

Wednesday, July 28th.—1. The Treatment of the Graver Forms of Puerperal Sepsis. To be introduced by Dr. Thomas Wilson (Birmingham).

The following is a synopsis of Dr. T. WILSON'S paper opening the discussion:

Since the days of Semmelweiss the theory of puerperal fever has been placed upon a sound basis, with the result that the disease has been practically abolished in properly conducted lying-in institutions. In spite of this the mortality, and therefore probably the morbidity, from this affection have remained undiminished. The cases are scattered, and only here and there provision is beginning to be made for collecting them in hospitals or other institutions suitable for research and effectual treatment. As a consequence, the best treatment remains in many directions undetermined. It is now universally agreed that puerperal fever is due to infection of wounds and raw surfaces arising in parturition, the most common points of entry of the germs being at the placental site and through lacerations of the cervix and vagina. Many different germs have been proved to be exciting causes of the disease. Grave cases of puerperal fever may be defined as those which endanger the life of the patient, and as in the worst cases the *Streptococcus pyogenes* is the organism most frequently found, the discussion will chiefly be limited to this infection, which varies in gravity from slight and passing local inflammations to the most severe and rapidly fatal blood poisoning; in individual cases rapid and unexpected changes, either for better or worse, frequently occur. The indications for treatment are, first, to attempt to limit the entry and spread of the infecting organisms, and, secondly, to support the patient. The most important point is that immediate and effective treatment should be undertaken without the least delay on the appearance of the first indication of infection, which is usually a rise in temperature, most frequently occurring on the second or third day after delivery. When the temperature exceeds 102° F. a careful examination of the patient should be made, and this will include an examination of the lochia and, if possible, a digital exploration of the uterus. Opinions differ as to the relative value of digital evacuation as compared with curetting, and of copious intrauterine douching as opposed to swabbing with strong antiseptics. The advocates of douching and strong antiseptics also disagree as to the best drug to employ. Observers are more in accord on the necessity for rest, for a suitable

nourishing diet, and for attention to the excretory functions. The places of alcohol and quinine in the treatment are still unsettled. Injections of antistreptococcus serum have generally proved disappointing, and treatment by vaccines is still too recent and has been employed in too few cases for the formation of a valid opinion. Collargol has given favourable results in the hands of some practitioners, but has frequently proved disappointing. There is general agreement that pus should be let out at the earliest possible moment by the nearest route. In peritonitis incisions and drainage through the posterior vaginal vault and abdominal wall have been employed with no very satisfactory result. Abdominal or more frequently vaginal hysterectomy has been employed with a fair amount of success in certain conditions, such as infected fibroids or infected rupture of the uterus, but in ordinary cases of puerperal infection these operations have generally proved disappointing. Where the infection has spread along the veins, giving rise to phlebitis with no obvious secondary deposits, the veins have been ligatured or removed through the peritoneal cavity or by a subperitoneal operation. Diagnosis of these cases is difficult and the indication for operation uncertain, and hitherto the number of recorded successful cases small. Patients who are gravely septic bear anaesthetics and operations very badly, and, on the other hand, recovery often takes place without the aid of surgery in cases that appear practically hopeless.

Thursday, July 29th.—2. Endometritis. To be introduced by Dr. E. Hastings Tweedy (Dublin).

Dr. Hastings Tweedy will introduce the discussion on endometritis on the following lines:

(1) Eliminating histological considerations, he will classify endometritis anatomically into corporeal and cervical, clinically into acute and chronic. (2) Briefly mention the origin, course, and symptoms of acute endometritis. (3) Treatment in detail of acute endometritis, comprising vaccines from cultures, douches, gauze drainage, manual exploration, and the very occasional use of the blunt flushing spoon curette, condemning entirely the use of the sharp curette. (4) Definition of cases classified as chronic endometritis—that is, all other non-malignant diseases of the endometrium. (5) The underlying causes, and the necessity of treating them. (6) Consideration of the indications and proper method of curettage, with causes of failure. Under indications is placed the symptomatology and mention made of the frequency of deferred symptoms. (7) Possibility of rupturing the uterus, and its proper treatment when recognized. (8) Frequent local treatment following curettage considered unnecessary and harmful. (9) Local treatment other than curettage and medical treatment. (10) He will insist on curettage before all cervical or vaginal operations and operations for displacement. (11) Treatment of endocervicitis by caustics, astringents, cauterization, etc.

Friday, July 30th.—Consideration of the Report of the Ophthalmia Neonatorum Committee (jointly with the Section of Ophthalmology). Reading of papers.

The following have accepted invitations to assist at the deliberations of the Section: Professor Fehling (Strassburg), Professor Jacob (Brussels), Dr. Cullen (Baltimore), Sir Halliday Croom (Edinburgh), and Professor F. W. Kidd (Dublin).

Drs. Herman and Roberts (London), Jardine and Munro Ker (Glasgow), Donald and Stanmore Bishop (Manchester), Jellett Alfred Smith (Dublin), Cuthbert Lockyer (London), Frederick Edge (Wolverhampton), and R. C. Buist (Dundee), are expected to take part in the discussions.

The following papers have been accepted:

Fehling, Professor. On the Treatment of Contracted Pelvis.

Williams, Professor Whitridge. On the Frequency and Clinical Significance of Funnel-shaped Contraction of the Pelvis.

Austin, J. J., Belfast. Midwifery in Private Practice: A Criticism of Method Based on Actual Results.

Cameron, Murdoch, Glasgow. Cases of Dystocia due to Version-retroflexion of the Uterus.

Cameron, Sir, Glasgow. Surgical Treatment of Chronic Salpingitis.

Hicks, H. T., Derby. Chorion Epithelioma following nearly Full-term Delivery.

Keer, J. M. Munro, Glasgow. Frequency of Adeno-carcinoma of the Uterus in Fibroid Tumours of that Organ; Based on a Series of 160 Cases of Abdominal Hysterectomy.

Lockyer, Cuthbert. The Treatment of Uterine Cancer in the Later Months of Pregnancy.

McIlroy, H. Louise, Glasgow. Development of the Epithelial Elements of the Ovary.

Savage, Smallwood, Birmingham. An Ovarian Tumour, Clinically Malignant, arising from the Overgrowth of Lutein Cells.

In the Pathological Part of this Section, Cancer of the Uterus has been chosen as one affording a wide scope for the exhibition of Specimens, Photographs, Microscopic Slides, etc.

These, with any others of interest, will be exhibited in the Pathological Museum.

Ophthalmology.

Practical Histology Class-room, Queen's College.

President: John Walton Browne, M.D., 10, College Square North, Belfast.

Vice-Presidents: Arthur W. Sandford, M.D., 13, St. Patrick's Place, Cork; William Marcus Killen, M.D., 9, Clifton Street, Belfast; Alex. Hill Griffith, M.D., 17, St. John Street, Manchester.

Honorary Secretaries: James Andrew Craig, F.R.C.S., 11, University Square, Belfast; Leslie Johnston Paton, F.R.C.S., 1, Spanish Place, Manchester Square, London.

The subjects chosen for discussion are:

1. Eye Injuries in their Relation to the Workmen's Compensation Act. To be opened by Drs. Freeland Fergus (Glasgow) and Cecil Shaw (Belfast).

Dr. Cecil Shaw will deal specially with the unsatisfactory working of the Workmen's Compensation Act with regard to compensation for the loss of an eye. According to the Act, compensation is given in cases of total or partial incapacity for work. But where one eye is lost and the other is healthy a man soon learns to work with one eye, and in the great majority of cases work can be done quite as well as before. According to a strict interpretation of the Act, such persons should only obtain compensation for the two or three months that elapse before they are fit for work again. But the true injury in loss of an eye is not generally any loss of capacity for work, but lies in the greatly increased risk of total blindness owing to disease or accident in the other eye. Every one is liable to disease and accident, but to the one-eyed man it is a much more serious event. Owing to this many employers avoid one-eyed workmen, and even though perfectly fit for work, they may fail to obtain it on this account. Case. A better form of compensation for loss of an eye would be a sum fixed according to the average wages, to be paid irrespective of all theories or statements about the workman's capacity for work.

2. The Diseases of the Lymphoid Tissue of the Conjunctiva. To be opened by Mr. Treacher Collins (London) and Professor R. Greeff (Berlin). Dr. J. Nelson (Belfast), Dr. A. F. MacCallan and others will take part in the discussion.

In his paper, Mr. Treacher Collins will deal with the following points:

The contagious character of trachoma; the "trachoma bodies"; the contagion not air-borne but due to transference of moist discharge; the adenoid layer of the conjunctiva the chief seat of reaction, and the centre of the follicles the position in which the toxin is most intense; "elementary or primary granulations"; trachoma a non-pyogenic disease; essentially a chronic disorder; acute symptoms when present due to mixed infection; natural destruction of trachoma follicles by rupture, by absorption, and by strangulation from new formation of fibrous tissue; "Stellwag's brawny oedema"; similarity of the palpebral conjunctiva in the late stages of trachoma to skin; possibility of curing early cases of trachoma without new formation of fibrous tissue; pannus the result of abrasion of corneal epithelium and infection; treatment of trachoma (*a*) by rupture or instrumental removal of follicles—expression, Galezowski's excision of the retrotarsal fold, Kuhnt's removal of tarsus and conjunctiva; (*b*) by stimulating absorption of follicles—copper sulphate, jequiritol, *x* rays, kataphoresis; (*c*) by stimulating formation of fibrous tissue—*Gratage*. Conditions other than trachoma with follicular enlargements: (*a*) atropine and eserine irritation, (*b*) simple folliculosis, (*c*) muco-purulent ophthalmia and follicles. Conditions resulting in fibrous tissue

formation simulating that produced by trachoma, (*a*) tubercle, (*b*) pemphigus, (*c*) spring catarrh, (*d*) membranous ophthalmia, (*e*) burns.

On Friday, July 30th, the Section of Ophthalmology will hold a joint meeting with the Section of Obstetrics and Gynæcology to discuss the report on Ophthalmia Neonatorum. To be opened by Mr. Sydney Stephenson (London). Dr. Reber (Philadelphia), Dr. George Carpenter (London), and Dr. A. Nimmo Walker (Liverpool), will take part in the discussion.

The following papers have been accepted:

FUCHS, Dr. E., Vienna. Malformation of the Cornea in Cases of Inherited Syphilis.
HINSHELWOOD, Dr. James, Glasgow. A Case of Sarcoma of the Choroid.
HOLMES, Dr. Gordon. Ophthalmoplegic Migraine.
KILLEN, Dr. Wm. The Relationship of Asthenopia with Adenoids.
HORSLEY, Sir Victor, F.R.S. Notes on Optic Neuritis.
HARMAN, Mr. Bishop. (1) Acute Orbital Periostitis consequent on Dental Disease. (2) Demonstration of Diaphragm Test.
FERGUS, Dr. Freeland. Trephining in Glaucoma.
POLLOCK, Dr. W. B. Inglis. Visual Acuteness among School Children.
STOREY, Dr. Advancement Operations in Convergent Strabismus.

Dr. A. Fleming will give a demonstration on Wassermann Reaction.

PATHOLOGY.

Pathology Class-room, Queen's College.

President: Professor WM. ST. CLAIR SYMMERS, M.B., Queen's College, Belfast.

Vice-Presidents: WALTER SYDNEY LAZARUS-BARLOW, M.D., Cancer Research Laboratory, Middlesex Hospital, London; ARTHUR EDWARD MOORE, M.B., Castlemahon, Blackrock, Cork; ASTLEY VAVASOUR CLARKE, M.D., 37, London Road, Leicester; Professor I. WALKER HALL, M.D., 9, Royal Park, Clifton, Bristol.

Honorary Secretaries: ALFRED EDWARD BARNES, M.B., 348, Glossop Road, Sheffield; OTTO F. F. GRÜNBAUM, M.D., 34, Wimpole Street, London, W.; WILLIAM JAMES WILSON, M.D., Pathological Laboratory, Queen's College, Belfast.

Thursday, July 29th.—Discussion: The Early Diagnosis and Treatment of Tuberculosis (jointly with the Section of Haematology and Vaccine Therapy).

Wednesday and Friday, July 28th and 30th.—The following papers have been accepted:

ROBERTSON, Dr. W. Ford, and Dr. M. C. W. YOUNG. On the Protozoan Origin of Tumours.
LAZARUS-BARLOW, Dr. W. S. Radio-activity and Carcinoma.
MCWEENEY, Professor E. J. On the Use of Coloured Media in the Detection and Differentiation of Bacilli of the Typho-coli Group.
WILSON, Dr. W. James. On Heterologous Agglutinins.
WHITE, Dr. C. Powell, Manchester. Carcinoma of the Testis in an Infant.
GRÜNBAUM, Professor, Leeds, and Professor SYMMERS, Belfast, will also make contributions.
CHAMBERS, Miss Helen. Tumours of the Thyroid.
ROWNTREE, Dr. Cecil. X-ray Carcinoma.
BECKTON, Dr. Henry. The Absence of Altmann's Granules in Cells of Malignant New Growths.
SMITH, Professor Lorrain, F.R.S. An Interesting Case of Cancer of the Pylorus.
MOORE, Benjamin, M.A., D.Sc., and WILLIAMS, R. Stenhouse, M.B., D.P.H. The Growth of the Bacillus of Tuberculosis and other Micro-organisms in Increased Percentages of Oxygen.
RUFFER, Dr. Marc Armand, and WILLMORE, Dr. J. Graham. The Etiology of Bacillary Dysentery.

PHARMACOLOGY AND THERAPEUTICS.

Materia Medica Class-room, Queen's College.

President: Professor RALPH STOCKMAN, M.D., F.R.S.Edin., The University, Glasgow.

Vice-Presidents: Professor WALTER ERNEST DIXON, M.D., Pharmacological Laboratory, Cambridge; NEWMAN NEILD, M.D., 9, Richmond Hill, Clifton, Bristol.

Honorary Secretaries: VICTOR GEORGE LEOPOLD FIELDEN, M.B., 34, Dublin Road, Belfast; HECTOR CHARLES CAMERON, M.B., Guy's Hospital, London, S.E.

The following subjects have been suggested for discussion:

Wednesday, July 28th.—Discussion on Spinal Anæsthesia. To be opened by Mr. George Chiene, F.R.C.S.Edin., to be followed by Dr. Dudley Buxton (London), Mr. Robert Campbell (Belfast), Dr. Arthur L. Fleming (Clifton), Dr. Alex. Don (Dundee), Dr. J. Mill Renton (Glasgow), Dr. J. C. Martin (Portrush), Dr. J. Hogarth Pringle (Glasgow), Mr. Leedham-Green (Birmingham), and Dr. G. A. H. Barton (London).

The following is a synopsis of the opening paper by Mr. CHIENE.

Short historical summary of spinal anæsthesia; the drugs at present employed and the amount injected; the technique; the advantages and disadvantages of spinal anæsthesia compared with other methods (1) before the operation, (2) during the operation; the comparative results, immediate and remote; the comparative mortality; question of the use of spinal anæsthesia alone or combined with other methods.

Thursday, July 29th.—Pharmacological Demonstration. Professor W. E. Dixon and Dr. H. H. Dale (Cambridge) will give a demonstration showing the action of the pressor substances in putrid meat, placenta, and ergot on the surviving mammalian organs—heart and uterus.

Papers:

CHARTERIS, Dr. Frank, Glasgow. The Effect on the Leucocyte Count produced by Injections of Thiosinamin, Lecithin, and Nucleinate of Soda.
MCWALTER, Dr. J. C., Barrister-at-Law, Dublin. The Regulation of Quack Medicine Traffic.
MOORE, Professor Benjamin, D.Sc., Liverpool. A New Member of the Saponin-digitalin Group of Glucosides, its Chemistry and Physiological Action. (Heart tracings to illustrate the action of the drug will be exhibited.)

Friday, July 30th.—Discussion on the Treatment of Oedema. To be opened by Dr. H. D. Rolleston; to be followed by Sir James Barr (Liverpool), Dr. W. S Lazarus-Barlow (London), Dr. Arthur Foxwell (Birmingham), Dr. F. Charteris (Glasgow), and Dr. Geo. Parker (Bristol).

The following is a synopsis of Dr. H. D. ROLLESTON'S paper introducing the discussion:

Oedema, being a manifestation of numerous and very different conditions, certain distinct groups of it are recognized: (1) Cardiac oedema and oedema of venous obstruction, primarily mechanical, and due to hydrostatic factors; (2) renal dropsy which, though in some instances, as in granular kidney, largely cardiac, is in its proper sense more complicated; (3) toxic oedemas other than those due to renal disease; (4) inflammatory oedema; (5) oedemas due to nervous causes, that is, hysterical oedema; (6) oedema due to lymphatic obstruction; (7) oedemas of doubtful origin, for example, Milroy's disease. Discussion of treatment is mainly directed to the forms of more widespread oedema. (1) Cardiac Dropsy: Good effect of the recumbent position and of cardiac tonics such as digitalis, caffeine, and its allies diuretin, theobromine, and theocin; restriction of fluid and of intake of salt. (2) Renal Dropsy: The complicated etiology and the natural variations in the amount of urinary excretion make treatment much more problematic and its effects more difficult to estimate with accuracy than in cardiac dropsy. Cases of urinary crises occurring under caffeine, and without any special treatment, are given to illustrate this point. Is reduction of oedema always beneficial in renal disease? Conceivably renal oedema is part of a compensatory process whereby waste products are excreted into tissue spaces, and in this event absorption of oedema fluid may increase toxaemia. An important question is, Should the ingestion of fluid be restricted or not? If an increased consumption of fluid is followed by increased excretion of water and solids, and so by diminution of toxaemia, this is justified; if, on the other hand, increased ingestion of fluid is not followed by increased diuresis and excretion of solids, a restricted regimen is indicated in order to avoid hydraemic plethora. Probably no hard-and-fast rule can be adopted, but each case should be investigated as to the excreting powers of the kidneys. Brief statement of the effect of increased diaphoresis according to von Noorden's views. Effect of purgation partly to remove fluid, partly to diminish toxaemia. Influence of a salt-free diet. Question of incision of oedematous parts and drainage so as to diminish the osmotic tension of the tissues and the local toxic accumulation; method of incision, risks of the procedure. Combination of drainage with free ingestion of fluid. Various drugs in the treatment of dropsy in patients with renal disease.

PSYCHOLOGICAL MEDICINE.

English Class-room, Queen's College.

President: T. OUTTERSON WOOD, M.D., 40, Margaret Street, Cavendish Square, London.

Vice-Presidents: GEORGE ROBERT LAWLESS, F.R.C.S.I., District Asylum, Armagh; WM. RICHARD DAWSON, M.D., Farnham House, Finglas, co. Dublin; ROBERT HENRY COLE, M.D., 25, Upper Berkeley Street, London, W.; MICHAEL JAMES NOLAN, L.R.C.P. and S.I., Down District Asylum, Downpatrick.

Honorary Secretaries: WALTER SAMUEL SMYTH, M.B., District Asylum, Antrim; SIDNEY HERBERT CLARKE, M.B., Leicester and Rutland Asylum, Narborough, Leicestershire.

The following subjects have been selected for special discussion in this Section:

July 28th.—Somatic Delusions and Local Delusions. To be opened by Dr. C. A. Mercier. Dr. J. M. MacCormac will also speak.

Dr. MERCIER's paper describes a case in which delusions of complete obstruction of the bowels, and of having been raped "per rectum" were found to be coexistent with tuberculous ulcers of the jejunum, and of the rectum, and the relation between the delusions and the lesions is discussed. Three possible hypotheses suggest themselves: (1) That the lesions were the cause of the delusions. This is rejected. (2) That the lesions were responsible for the particular character of the delusions in a person who would, without them, have had delusions of some kind. This also is rejected. (3) That the localization of the lesions was due to failure or disorder of the neurotrophic influence of the parts of the cerebrum whose disorder underlay the delusions. This is regarded as the most probable hypothesis.

July 29th.—Papers.

July 30th.—Considerations upon the Commissioners' Report of the Care and Control of the Feeble-minded. To be opened by Dr. W. R. Dawson. Dr. G. E. Shuttleworth and Dr. W. J. Maguire will also speak.

The following is a synopsis of Dr. W. R. DAWSON's introductory paper:

(1) *The "Principles" laid down by the Royal Commission.* The fundamental idea that of protecting all persons who cannot take part in the struggle of life owing to mental defect, and of extending this protection to their property, may be accepted. The authority affording this protection should be a special and powerful central authority and independent of other administrative departments. Local bodies are made subject to this central authority, but perhaps it would be well to restrict the powers of the local authorities still further by making the asylum service a national service, on the lines recommended for the Irish Poor Law Service by the recent Viceregal Commission. Desirability of close co-operation between judicial and administrative authorities is evident, and therefore the amalgamation of the Lunacy Commission and the Chancery Visitors may be approved. (2) *The Detailed Recommendations.* The three methods of dealing with the mentally defective are stated in the preamble to be oversight, certification, and detention. It is difficult to see what good would be done by the first two alone. The change in the statutory terms "lunatic" and "asylum" can only be of temporary utility, but is unobjectionable. The classification is unnecessarily elaborate, and the distinction between "persons of unsound mind" and "persons mentally infirm" seems devoid of utility. If classification is necessary, the last four groups, namely, "moral imbeciles," "epileptics," "inebriates," and "deaf and dumb" or "blind," should be given up and merged with the others. There seems no sufficient reason why the central authority should not be called the board of control in Ireland as well as in England and Scotland. The increase of the medical members of the board is highly desirable, and the extension to all mentally defective persons of the provisions of the Lunacy Act relating to management and administration may also be approved. Is the appointment of "certifying medical practitioners" necessary? Unnecessary complications in connexion with the passing of plans for buildings, etc. Dr. Dunlop's disapproval of compulsory notification, except where public assistance is required, seems to be well founded, such proceeding being too inquisitorial and likely to lead to unnecessary friction in practice. The special report on frequently recurring cases is, however, a good suggestion. Objection is taken to the retention (the introduction as far as Ireland is concerned) of the order for reception by a judicial authority, at all events in the case of paying patients. Where possible, special classes better than special schools. The provisions for criminal defectives, epileptics, and inebriates may be approved. The recommendation which is apparently intended to deal with the question of family care is not sufficiently definite. No system is complete which does not definitely legalize this mode of treatment. The question of voluntary boarders should also be dealt with, and the whole system would require to be supplemented by regulations dealing with inebriates who are not mentally defective.

The following papers have been accepted:

MACCORMAC, Dr. J. M. The Superficial and Deep Reflexes as an Additional Means in the Diagnosis of the Principal Forms of Mental Diseases.

CROTHERS, Dr. T. D., U.S.A. A Study of the Hereditary Influence in the Causation of Inebriety.

SHUTTLEWORTH, Dr. G. E. Mongolian Imbecility.

SCHOFIELD, Dr. A. The Present Position of Applied Psychology in Medicine.

The Secretaries will be glad to receive offers of other papers.

SURGERY.

Anatomy Class-room, Queen's College.

President: Professor THOMAS SINCLAIR, M.D., F.R.C.S., 22, University Square, Belfast.

Vice-Presidents: CHARLES ALFRED BALLANCE, M.V.O., M.S., F.R.C.S., 106, Harley Street, W.; Sir PETER O'CONNELL, M.D., 9, College Square North, Belfast; ARTHUR JOHN DREW, F.R.C.S., Water Hall, St. Aldate's, Oxford; JOHN GALWAY COOKE, M.B., City and County Infirmary, Londonderry; ARTHUR BROWNLOW MITCHELL, F.R.C.S.I., 18, University Square, Belfast.

Honorary Secretaries: W. THELWALL THOMAS, F.R.C.S., 84, Rodney Street, Liverpool; G. LENTHAL CHEATLE, C.B., F.R.C.S., 117, Harley Street, London; HOWARD STEVENSON, M.B., F.R.C.S.I., 2, College Square North, Belfast; JAS. BERNARD MOORE, M.B., 11, Clifton Street, Belfast.

Special discussions on the following subjects will be held on Wednesday, July 28th, and Thursday, July 29th:

1. The Operative Treatment of Obstructive Jaundice and the Proper Selection of Cases. Introduced by (1) Mr. B. G. A. Moynihan; (2) Sir Thomas Myles. The following have signified their intention of taking part: Mr. E. Stanmore Bishop, Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. W. I. de C. Wheeler, Mr. K. W. Monsarrat, Mr. C. P. Childe, Mr. David Dickie (Glasgow), and Mr. J. Crawford Renton.

2. Modern Methods in the Treatment of Tuberculous Disease of Joints. Introduced by (1) Sir William Macewen, F.R.S.; (2) Mr. Robert Jones. The following will speak: Mr. Douglas Drew, Mr. A. B. Mitchell, Mr. R. C. Dun, Mr. T. S. Kirk, Mr. C. W. Cathcart, Mr. A. H. Tubby, Mr. Robert Campbell (Belfast), Mr. J. Crawford Renton, Mr. J. Ward Cousins, and Mr. Maynard Smith.

Sir WILLIAM MACEWEN will introduce a discussion on the Differential Treatment of Tuberculous Joints, according to the stages of the disease. In the early stages attention will be directed to the effect of various forms of treatment, such as rest, fixation, massage, fluxion, injections (local and general), hygiene, etc. The treatment in the late stage, operative and otherwise, will be discussed. Special modes of operating will be described, and the after-treatment will be briefly alluded to.

Mr. ROBERT JONES will follow, dealing with the subject in the following manner. In children strictly conservative methods advocated; excisions never performed. The necessity of clearly defining the essential signs of disease, and of adopting methods for the prevention of deformity. How to deal with the deformity in an actively diseased joint. The tuberculous abscess and its management. On the treatment of old sinuses and dangers of mixed infections. The importance of complete rest of the diseased joint and methods of securing it. The necessity for accurate tests of the recovery of individual joints. The value of open air. In adult tuberculosis prognosis much worse, and excision of the joint frequently imperative.

Friday, July 30th, will be devoted to the reading of papers on subjects other than the above.

Dr. Depage (Brussels) and Dr. Sonnenburg (Berlin) have signified their intention of being present and taking part in the discussions of the Section.

The following papers have been accepted:

SYME, G. A. Some Unusual Cases of Echinococcus (Hydatid) Cyst, with remarks on Diagnosis and Treatment.
GROVES, Ernest W. H. The Radical Treatment of Cancer of the Stomach—Methods, Results, and Statistics.
FREYER, P. J. A recent series of 200 cases of Enucleation of the Enlarged Prostate, with special reference to the operation (1) in octogenarians, (2) in cases of extremely large prostate.
BIRD, F. D. Operation for Liver and Lung Hydatids.
MITCHELL, A. B. Perforative Duodenal Ulcer.
NEWBOLT, G. P. Some Cases of Resection of Intestine.
BLANEY, Alexander. Notes on Four Cases of Removal of the Gasserian Ganglion.
CATHCART, C. W. The Irritative Property of Extravasated Blood and its Clinical Importance.
EDINGTON, G. H. Some Cases of Intestinal Anastomosis.
LEEDHAM-GREEN, C. Scopolamin-morphine Narcosis.
HORE, E. C. The Diagnosis of Malignant Disease by Estimation of the Antitryptic Content of the Blood Serum.

Facilities will be provided for showing specimens and drawings to illustrate subjects under discussion.

TROPICAL MEDICINE.

Logic Class-room, Queen's College.

President: CHARLES WILBERFORCE DANIELS, M.B., London School of Tropical Medicine, Albert Docks, London.

Vice-Presidents: Lieutenant-Colonel ANDREW DEANE, M.D., F.R.C.S.I., I.M.S., Royal Victoria Hospital, Belfast; Surgeon-General W. R. BROWNE, M.D., C.I.E., 5, Royal Crescent, Holland Park Avenue, London.

Honorary Secretaries: JAMES COLVILLE, M.D., 7, University Square, Belfast; Dr. ANTON BREINL, Director Runcorn Research Laboratories.

The following subjects have been selected for discussion

Wednesday, July 28th, 10 a.m.—Persistence of the Tropical Diseases of Man due to Protozoa. The discussion will be opened by the President.

The following is a synopsis of Dr. DANIELS's paper introducing the discussion:

Diseases due to protozoa are in man caused by the parasites in their asexual cycles. The sexual forms may be present, but seem to have little or nothing to do with the causation of disease. The persistence of a disease due to a protozoa in man is, therefore, the same as the persistence of asexual multiplication of that parasite. On theoretical grounds repeated asexual reproduction should result in a degeneration of the strain, but of this in the human parasites there is little or no evidence. All the evidence goes to show that as far as these parasitic protozoa are concerned loss of virility takes place even with indefinite asexual multiplication. Protozoal infections do die out in man, but not from any developed weakness of the parasite, but from a steady increase in the resistant and germicidal powers of the host, and in essentials as causes of disease resembling bacteria. The instances taken will be the parasites of malaria, trypanosomes, and *Entamœba histolytica*.

Thursday, July 29th, 10 a.m.—Treatment of Chronic Recurrent Dysentery, with Special Reference to the Possibilities of Surgical Treatment. The discussion will be opened by Mr. J. Cantlie.

Mr. CANTLIE's paper will deal with the following points: Meaning of term—relation to colitis—mucus and mucous casts in stools—seat of chronic dysenteric lesions the sigmoid flexure—anatomy of sigmoid revised—use of the sigmoidoscope and the aid it affords to diagnosis and treatment—treatment of recurrent dysentery by diet (meat and milk diets); by drugs (ipecacuanha, cuttlefish bone, lactobacillin, alkalis); by enemata (sea-water, quinine, nitrate of silver); by dilatation of sigmo-rectal pylorus; by direct applications to ulcerative surfaces through tube of sigmoidoscope; by washing out intestine through opening in appendix; by opening sigmoid flexure; by excision of lesion at junction of sigmoid and rectum (that is, of sigmo-rectal pylorus)—relation of liver abscess to dysentery—hepatitis not a necessary preliminary to liver abscess—suppurative hepatitis a local lesion not usually the result of general hepatitis.

Friday, July 30th, 10 a.m.—Feeding and Treatment of Children in the Tropics. The discussion will be opened by Dr. W. Carnegie Brown.

Dr. CARNEGIE BROWN, in introducing the discussion, will deal with the following points:

Infant mortality in the tropics: comparative statistics. Feeding problems: Unsatisfactory supply of fresh milk; utility of preserved milk; other substitutes. Relative infrequency in the tropics of the zymotic diseases of early life—for example, diphtheria, scarlet fever, acute rheumatism, etc.; consequent rarity of serious after-effects. Prevalent disorders of children: Tetanus, infantile diarrhœa, helminthiasis, dysentery, continued fevers, malaria, infantile splenomegaly, biliary cirrhosis, anæmia, and other marasmic conditions, yaws; prevention and treatment. Possibility of rearing healthy European children in the tropics; age for return to a temperate climate.

The Committee will be glad to receive pathological specimens, photographs, drawings, or microscopical preparations illustrative of any subject in Tropical Medicine.

PROVISIONAL TIME TABLE.

FRIDAY, JULY 23RD, 1909.

12 noon.—Annual General Meeting, followed by Representative Meeting.

SATURDAY, JULY 24TH, 1909.

9.30 A.M.—Representative Meeting.

SUNDAY, JULY, 25TH, 1909.

11.30 A.M.—Service at the Cathedral.

MONDAY, JULY 26TH, 1909.

10 A.M.—Representative Meeting.
7.30 P.M.—Annual Conference of Secretaries of Divisions and Branches.

TUESDAY, JULY 27TH, 1909.

10 A.M.—Council Meeting.
10.30 A.M.—Representative Meeting (if required).
10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).
2.30 P.M.—Adjourned General Meeting.
Induction of President.
2 to 4 P.M.—Inspection of Messrs. William Ewart and Son's Works, Flax Spinning and Weaving.
3 to 5 P.M.—Inspection of Harbour and Docks at the invitation of the Belfast Harbour Commissioners, by steamer. Robert Thompson, Esq., Chairman, will entertain the visitors at tea on board (limited to 150).
4 to 6 P.M.—Reception at Mater Infirmorum Hospital.
8.30 P.M.—President's Address. (Academic Dress or Uniform.)
Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

WEDNESDAY, JULY 28TH, 1909.

9.15 A.M.—Annual Meeting of Medical Libraries' Association.
9.30 A.M.—Council Meeting.
10 A.M.—Sectional Meetings.
10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).
10.30 A.M.—Representative Meeting (if required).
12.30 P.M.—Address in Medicine.
2.30 P.M.—Visit to Belfast Rope Works Company's Premises.
4 to 6 P.M.—Garden Party given by the President and Lady Whitla at Lennoxvale House.
7.30 P.M.—Annual Dinner.
8 to 11 P.M.—Ladies' Reception, given by local members at the Opera House. Plays will be performed by members of the Ulster Literary Theatre.
Exhibition of Surgical Instruments, Drugs Foods, etc., from 9 A.M. to 6 P.M.

THURSDAY, JULY 29TH, 1909.

8 A.M.—National Temperance League Breakfast.
9.30 A.M.—Council Meeting.
10 A.M.—Sectional Meetings.
10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

THURSDAY, JULY 29TH *(Continued)*.

12 NOON.—Cricket Match at the North of Ireland Cricket Club Grounds. (See below.)

Garden Party given by Sir Thomas and Lady Dixon at Hillsborough Castle. Train from Great Northern Railway. For times see *Daily Journal*. (Limited to 150.)

Drive in County Down, including visit to Forster Green Hospital and Sanatorium; to Belvoir Park (tea), with inspection of Model Dairy; and to Purdysburn Hospital (limited to 100). Brakes will start from the College at 2.30.

12.30 P.M.—Address in Surgery.

1.30 P.M.—Luncheon at Messrs. Dunville and Co.'s Warehouse, and subsequent inspection of Distillery (limited to 100).

2.30 to 4.30 P.M.—Inspection of Messrs. Harland and Wolff's Works.

Members wishing to visit these works are specially requested to send on a postcard their names to the Honorary Local Secretaries, Queen's College, Belfast, as soon as possible.

3 P.M.—Reception at the Royal Victoria Hospital given by the Chairman, James Davidson, Esq.

8.30 P.M.—Reception given by the Right Hon. the Lord Mayor in the City Hall. (Academic Dress or Uniform.)

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

FRIDAY, JULY 30TH, 1909.

10 A.M.—Sectional Meetings.

10 to 12 A.M. and 2.30 to 4.30 P.M.—Inspection of York Street Flax Spinning and Weaving Company's Works (limited to 16 each time).

Golf match at Newcastle for the Belfast Cup, presented by the Ulster Medical Society. Competitors will be entertained to luncheon and tea in the Club House of the Royal County Down Golf Club by the President of the Ulster Medical Society and Mrs. Kirk, names to be sent beforehand on postcard to the Honorary Local Secretaries, Queen's College, Belfast.

12.30 P.M.—Address in Obstetrics.

3 P.M.—Garden Party at the Royal North of Ireland Yacht Club's Club House, Cultra, with yacht race for members. Frequent trains from County Down Railway Station. See *Daily Journal*. (Limited to 200.)

4 to 6 P.M.—Garden Party given by R. J. McMordie, Esq., at Cabin Hill, Knock, Belfast. (Limited to 250.)

8.30 P.M.—Reception given by the President and Members of the Ulster Branch in the Botanic Gardens. (Academic Dress or Uniform.)

Exhibition of Surgical Instruments, Drugs, Foods, etc., from 9 A.M. to 6 P.M.

SATURDAY, JULY 31ST, 1909.

EXCURSIONS.

Academic Dress.—The local Executive Committee request that members will wear academic dress or uniform at the President's Address on Tuesday evening, July 27th; at the Lord Mayor's reception on Thursday evening, July 29th; and at the reception by the President and members of the Ulster Branch on Friday evening, July 30th.

Bowling.—The Belfast Bowling Club has kindly offered the use of their fine ground to members of the Association attending the Belfast meeting. The ground is only two minutes' walk from the College. Any members wishing to take part in a match are asked to send their names on a postcard to Dr. John Rusk, 183, Antrim Road, Belfast.

Cricket Match.—A cricket match for the members of the British Medical Association visiting Belfast will be held on Thursday, July 29th, on the grounds of the North of Ireland Cricket Club, which are only ten minutes' walk from Queen's College. Dr. J. W. Taylor has kindly arranged to give luncheon to the teams, and afternoon tea to them and the spectators as well. Cricketing members who are willing to take part in the match are asked to communicate as soon as possible with Dr. J. W. Taylor, Donelle, Malone Road, Belfast.

Club Privileges.—The Committees of the Union and Reform Clubs have kindly arranged to make all members of the Association honorary members during the time of the meeting, with the usual proviso that they reside at least fifteen miles from Belfast.

Boating.—The Belfast Boat Club, which has a commodious club-house on the River Lagan, within a mile of the college, has arranged to make all members of the Association honorary members during the meeting.

CATHEDRAL SERVICE.

The Bishop of Down, Connor, and Dromore has arranged that the Sunday morning service at the Cathedral (11.30 a.m., July 25th) shall be a special service for medical men. There will be special hymns printed, the Bishop will preach, and seats will be reserved for members of the Association.

Honorary Local Secretaries—

HENRY LAWRENCE MCKISACK, M.D., M.R.C.P., 17, University Square, Belfast.

CECIL EDWARD SHAW, M.A., M.D., M.Ch., 29, University Square, Belfast.

HOWARD STEVENSON, B.A., M.B., F.R.C.S.I., 2, College Square North, Belfast.

EXCURSIONS.

The following excursions have been arranged for Saturday, July 31st:

1. *Carlingford Lough and the Mourne Mountains.*—The members taking this excursion will travel by train to Warrenpoint, where they will be the guests for the day of the Warrenpoint Urban Council, who will provide a steamer for a morning cruise on the sheltered waters of Carlingford Lough, one of the most beautiful bays in Ireland. During the trip a very fine view of the Mourne range is obtained, and the steamer will call at the town of Carlingford to enable visitors to see the ruins of its castle and abbey. In the afternoon the visitors will be entertained at a garden party by the Urban Council, and any who may wish to do so will have the opportunity of taking the short drive to the lovely watering place of Rostrevor, where tea will be provided at the sanatorium by the kindness of Dr. Williams. Fare (inclusive of lunch), 5s. 6d.

2. *Portrush and the Giant's Causeway.*—Visitors will be conveyed by rail to Portrush, and thence by electric tram to the Causeway, passing on the way the ruins of Dunluce Castle. After a stay at the Causeway, allowing sufficient time to explore it, the visitors will return to Portrush for a late lunch. There will be ample time left to see the White Rocks, Ramore Head, etc., before the train leaves in the evening for Belfast. Fare (inclusive of meals), 10s. 6d.

3. *Glenariff and the Antrim Coast Road.*—Visitors will proceed by rail as far as Parkmore, and will then walk through Glenariff Glen to see the gorge with its waterfalls and cascades. At the foot brakes will be waiting, and the party will drive down the Vale of Glenariff to lunch at Garron Tower. After lunch the drive will be resumed along the Coast Road to Larne, where tea will be served. The party will return to Belfast from Larne by train. Fare (including lunch and tea), 12s.

All these excursions will be completed in time to allow visitors to catch the Saturday night cross-Channel boats.

THE PATHOLOGICAL MUSEUM.

The Committee appointed to organize the Annual Pathological Museum propose to arrange the material under the following heads:

I. Exhibits bearing on discussions and papers in the various sections.

II. Specimens and illustrations relating to any research work.

III. Instruments relating to clinical diagnosis and pathological investigation.

IV. Individual specimens of special interest, or a series illustrating some special subject.

It is also proposed to make a special effort to gather together a series of exhibits relating to: (a) Tuberculosis.

(*b*) Diseases of warm climates. (*c*) Cancer of the uterus. (*d*) X-rays and photography.

The Museum will occupy a central position, and will be easy of access.

THOMAS HOUSTON,
W. J. WILSON,
Honorary Secretaries.

Communications should be addressed to one of the Honorary Secretaries at Queen's University, Belfast.

Arrangements have been made with Messrs. Baird and Tatlock to collect and pack specimens sent from London for the Pathological Museum. Members proposing to send exhibits to the Museum are requested to communicate with Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, London, E.C.

Messrs. Stockwell and Co., Ltd., passenger agents, 8 and 10, Beak Street, Regent Street, W., are prepared on receipt of a voucher and information to advise as to the best route to Belfast, to obtain tickets in advance, and reserve seats and cabins.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BATH AND BRISTOL BRANCH:
TROWBRIDGE DIVISION.

A MEETING of the Division was held at St. John's Parish Rooms, Devizes, on July 10th, at 3.30 p.m. Eight members were present.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Medical Inspection of School Children.—The report of the Medico-Political Committee on the medical inspection of school children was discussed, and it was resolved:

That the recommendations contained in the report be approved.

Representation of Local Medical Profession on Hospital Boards.—In regard to this matter it was resolved:

That the principle of the motions proposed be supported.

Report of Ophthalmia Neonatorum Committee.—The report of the Ophthalmia Neonatorum Committee was discussed, and it was resolved:

That the conclusions and recommendations of the report be approved.

Inquests at Cottage Hospitals.—Dr. BOND detailed particulars of an instance in which he had obtained payment from the coroner, and he was asked to prepare a statement of the case for transmission to the Medical Secretary.

The Profession and Local Nursing Associations.—A discussion took place on the relations of the profession to local nursing associations, and it was resolved to instruct the Representative to support the motions on this subject before the Annual Representative Meeting.

BIRMINGHAM BRANCH:
DUDLEY DIVISION.

THE annual meeting of this Division was held on June 24th at the Institute, Stourbridge. The chair was taken by Mr. ALFRED FREER, J.P., and there were present Drs. H. D. Ellis, G. J. Dudley, H. Wilberforce Freer, G. R. Gifford, R. H. H. Clarke, L. Francis, G. L. Webb, L. Hickey, L. A. Taylor, and M. A. Messiter (Honorary Secretary).

Election of Officers.—The following were elected officers for the ensuing year: *Chairman*, Dr. R. H. H. Clarke; *Secretary*, Dr. L. A. Taylor; *Members of Branch Council*, the Chairman and Secretary were elected members of the Branch Council.

Unqualified Practice.—The memorandum on inquiry into unqualified practice was discussed at length. The general opinion appeared to be that the forms of unqualified practice were many and varied, and, though some types of it were harmless, so far as the public health was concerned, other forms were detrimental; the use of diachylon plaster as an abortifacient was referred to, and, from the cases given by various members, it appears to be a fairly common practice in the district.

Tea.—After the meeting, the members were kindly entertained to tea by the retiring Chairman, Mr. Alfred Freer.

CAMBRIDGE AND HUNTINGDON BRANCH.

THE annual meeting of the Branch was held at Trinity Hall, Cambridge, on Tuesday, July 13th, at 12.30 p.m. The President (Mr. Lancelot Newton), having been delayed by a motor mishap, Professor HOWARD MARSH (Master of Downing), took the chair.

Confirmation of Minutes.—The minutes of the last annual meeting and of the last general meeting were read and adopted.

Balance Sheet.—The Balance Sheet was read and adopted.

Election of Officers.—President: The Master of Downing formally proposed, and Mr. Apthorpe Webb seconded, that Professor German Sims Woodhead be elected President for the ensuing year. This was carried unanimously, and on the Master of Downing vacating the chair was taken by the new President. *President-elect:* Mr. Robert Odell, F.R.C.S.Edin., of Hertford, was proposed as President-elect by the President, and seconded by Mr. Apthorpe Webb. Carried unanimously. *Honorary Secretary:* Mr. Apthorpe Webb proposed, and Dr. Graham seconded, that Dr. H. B. Roderick be re-elected Honorary Secretary for the ensuing year. Carried. *Representative at the Representative Meetings:* The Honorary Secretary proposed, and Dr. Haynes seconded, that Dr. J. H. C. Dalton be elected Representative for the Representative Meeting. Carried. *Branch Council:* The Honorary Secretary proposed, and the President elect seconded, that the following gentlemen be elected members of the Branch Council for the ensuing year: Dr. Griffiths, Dr. Graham, Mr. Tylor, Mr. Apthorpe Webb, and Dr. Aldren Wright.

Proposed Annual Meeting at Cambridge.—The question of inviting the Association to hold the annual meeting in Cambridge in 1913 was then considered. Mr. APTHORPE WEBB proposed and Dr. DALTON seconded that the matter be referred to the Council for consideration. This was carried.

Proposed Representation of Members in Rural Districts at Branch Meetings.—Mr. KING proposed and Mr. DEIGHTON seconded that the Council consider the following proposal:

To ask all the members of the Branch to elect at least one representative for every six members in rural districts to represent them at all meetings of the Branch.

This proposal,

That the Council should consider the matter,

was carried.

This concluded the general business meeting.

Luncheon.—At 1.30, by the kind invitation of the President, over forty members sat down to lunch in the college hall. The following toasts were drunk: "The King," proposed by the PRESIDENT; "The President," proposed by the MASTER OF DOWNING; "The Outgoing President," proposed by the PRESIDENT; "The President-elect," proposed by the OUTGOING PRESIDENT.

President's Address.—At 2.30 Professor Sims Woodhead delivered his Presidential Address in the Lecture Theatre of the Medical School. The title of his paper was: "What do we know about Cancer?" The address was illustrated by lantern slides. A vote of thanks to the President for his excellent and most instructive address was proposed by Mr. LANCELOT NEWTON, the outgoing President, and seconded by Dr. STEAR. This was carried with acclamation.

Reception.—After the address the members again proceeded to Trinity Hall, where the President and Mrs. Sims Woodhead received them and their wives in the Fellows' Garden.

DORSET AND WEST HANTS BRANCH.

THE summer meeting of this Branch was held in the Town Hall, Christchurch, Hants, on Wednesday, July 7th, the President, Dr. CHARLES J. MARSH, of Yeovil, in the chair. There was a large attendance. Among those present were Dr. Davison (Honorary Secretary), Dr. MacDonald, Dr. Johnson Smyth, Dr. Arthur Ransome, F.R.S., Mr. J. A. Hosker, J.P., Mr. Belben, Dr. E. Kaye Le Fleming, Mr. Unwin, Mr. Blake, Dr. Hardie, Mr. Flower, Dr. Whittingdale, Mr. Wm. Burrough Cosens, Mr. de Castro, Mr. W. H. Dodd, Mr. Crespi, Dr. Humphrey

Davy, Dr. Eleanor Bond, Dr. Facey, Mr. Batley, Dr. Steel Dickie, J.P., Dr. William T. Gardner, Dr. Reid, Dr. Marriner, Mr. Mooring Aldridge, Dr. Fiske, Mr. Bushman, Mr. Miller, Dr. Sanderson Wells, Mr. Penny-Snook, Dr. Bottomley, Mr. Burdwood, Mr. Forster, Dr. Hemsted, Mr. Hartford, Dr. Clift, Dr. Johns, Mr. Lamb, Mr. Busteed, Dr. Buckland, and Dr. Manning.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apology for Non-attendance.—A letter of apology for non-attendance was read from Mr. Decimus Curme.

Next Meeting.—It was decided to hold the next meeting of the Branch in Sherborne.

Case of Sudden Death.—Dr. MACDONALD related a case of sudden death. *Post-mortem* examination revealed rupture of the heart. The pathological specimen was exhibited and proved of great interest to the meeting.

Discussion.—Dr. LE FLEMING, Vice-President, introduced a discussion on Some Points in the Treatment of Pulmonary Tuberculosis. The PRESIDENT, Dr. RANSOME, Dr. DENTON JOHNS, Dr. ELEANOR BOND, Dr. BLAKE, Mr. COSENS, Dr. WHITTINGDALE, and Dr. WILLIAM GARDNER joined in the discussion. Dr. LE FLEMING replied.

Papers.—Dr. HEMSTED read an able and unique paper entitled, Notes on a Case of Disseminated Tuberculosis treated with Marmorek's Serum. Dr. DAVYS MANNING read notes on chelidonine in biliary colic.

British Medical Benevolent Fund.—Mr. WALTER H. DODD, one of the honorary local secretaries of the British Medical Benevolent Fund, made a short statement in reference to that fund. On that subject the PRESIDENT, Dr. BUCKLAND, Dr. RANSOME, and Mr. FLOWER addressed the meeting.

New Members.—It was announced that Mr. Augustus Herbert Bibby Hartford and Mr. Albert Brook Batley, of Christchurch, had been that day elected by the Branch Council members of the British Medical Association.

Luncheon.—Previous to the meeting the members and friends lunched together at the King's Arms Hotel.

Vote of Thanks.—On the motion of the PRESIDENT, seconded by Mr. J. A. HOSKER, a cordial vote of thanks was passed by acclamation to the members of the medical profession in Christchurch and Highcliffe-on-Sea for their kind hospitality in entertaining the members of the Branch to afternoon tea after the meeting.

Exhibits.—Messrs. Burroughs, Wellcome and Co., of London, attended the meeting and exhibited a choice selection of drugs and recent pharmaceutical preparations for which their well-known house is famous. Messrs. F. Davidson and Co., of 29, Great Portland Street, London, attended and exhibited, per Mr. Dexter, a selection of optical, surgical, and electrical appliances. One of their most interesting exhibits afforded the members an opportunity of seeing Dr. Brünig's instruments for direct oesophagoscopy and laryngo-tracheo-bronchoscopy. It was gratifying to know that these delicate instruments could now be made in England and turned out by this firm at lower prices than similar instruments from abroad.

EAST ANGLIAN BRANCH.

THE annual meeting of the East Anglian Branch was held at the Grand Hotel, Clacton-on-Sea, on Thursday, July 8th.

MEETING OF COUNCIL.

The Council meeting was held at 12.20 o'clock, and there were present Dr. D. G. THOMSON, President of the Branch (in the chair), Dr. Slimon, Dr. Curl, Dr. W. H. Cardy Bluck, Dr. Gutch, Dr. Caie, and Dr. Nicholson.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

New Members.—The following gentlemen were elected members of the Association: R. L. Ley, M.B.Cantab., Great Yarmouth; Archibald Davidson, M.D., Norwich; C. T. Plowright, M.B., B.S., King's Lynn.

Approval of Annual Report.—The annual report was approved.

Autumn Meeting.—It was decided to hold the autumn meeting at Great Yarmouth.

GENERAL MEETING.

The general meeting was held at the Grand Hotel at 12.40 o'clock.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Annual Report.—The following annual report was read and approved:

The Council have pleasure in reporting that the Branch is in a prosperous condition. Fifteen new members have been elected during this year. There are 430 members in the Branch, exclusive of associate members.

The annual meeting of the Branch was held at the Norfolk and Norwich Hospital, Norwich, by kind permission of the Board of Management, on Friday, June 18th, 1908, under the presidency of Dr. D. G. Thomson. The meeting was largely attended and was most successful.

Luncheon was given by the President, and was attended by about 70 members and friends.

After luncheon the President addressed the members on the work the British Medical Association was doing at the present time.

A unanimous vote of thanks was accorded to Dr. Edgar Barnes for the services he had rendered to the Branch as one of the representatives to the Central Council for the last eight and a half years.

Dr. Charles Mercier read a paper on Moral Imbecility, which gave rise to ample discussion amongst the members.

The Council desire to thank Dr. and Mrs. Thomson for their kind hospitality at Thorpe End, Norwich.

The autumn meeting was held at Chelmsford on September 24th.

Dr. D. G. Thomson, President of the Branch, read a paper on the recent report of the Royal Commission on the Feeble-minded, and Dr. K. S. Storrs read a paper on Serum Therapy. Dr. Curl, Colchester, read a paper on Some Considerations on the Treatment of Haemoptysis.

The Council desire to express their thanks for the kind hospitality extended by Dr. and Mrs. Storrs.

A special meeting of the Council was held at Ipswich on Thursday, March 11th.

The reports of the Divisions were considered; they showed that good work had been done by the Divisions.

The spring meeting was held at Bury St. Edmunds on Thursday, April 15th, 1909.

It was unanimously resolved to confer the honour of President-elect on Dr. P. Minns, of Thetford. Dr. P. Minns, in a letter to Dr. Gutch, has kindly accepted the honour.

At this meeting, Dr. H. H. Brown, Ipswich, read a paper on the Prevention and Treatment of Surgical Shock, and Dr. Scott Kilner showed some interesting cases, and also Dr. Hinnell and Dr. Caie.

The Council wish to express their thanks to Dr. and Mrs. Scott Kilner and to Dr. and Mrs. Caie for their kind hospitality on that occasion.

The Council desire to place on record the great loss they have sustained in the death of Dr. W. A. Elliston of Ipswich, who was a staunch friend of the British Medical Association, and did everything in his power to promote its welfare.

Election of Officers.—The following members were elected officers for 1909–10: *President*, Dr. W. H. Slimon (Clacton-on-Sea); *President-elect*, Dr. P. Minns (Thetford); *Vice-Presidents*, Dr. A. C. Waters (Southend), Dr. R. W. Brogden (Ipswich), and Dr. D. G. Thomson (Thorpe, Norwich); *Secretary for Essex*, Dr. B. H. Nicholson (Colchester); *Secretary for Norfolk*, Mr. H. A. Ballance (Norwich); *Secretary for Suffolk*, Dr. H. A. Gutch (Ipswich); *General Secretary and Treasurer*, Dr. B. H. Nicholson (Colchester); *Representatives on Central Council of the Association*, Mr. H. A. Ballance (Norwich) and Dr. B. H. Nicholson (Colchester).

Financial Statement.—The financial statement showed a balance in hand on December 31st, 1908, of £93 8s. 8d.

Luncheon.—At 1 o'clock luncheon was given by the President-elect, Dr. W. H. Slimon, J.P., which was attended by about fifty members and friends.

Installation of New President.—After luncheon the general meeting was resumed, and Dr. D. G. THOMSON introduced Dr. W. H. Slimon as President of the Branch.

Vote of Thanks to Retiring President.—Dr. SINCLAIR HOLDEN proposed and Dr. CAIE seconded a vote of thanks to Dr. D. G. Thomson for the very excellent way in which he had performed his duties as President of the Branch during the past year.

President's Address.—Dr. SLIMON then addressed the members on severe gastric disturbances caused by trivial pathological conditions of the uterus and adnexa. At the close of the address a hearty vote of thanks was accorded to Dr. Slimon, on the proposition of Major FREEMAN, R.A.M.C., seconded by Dr. CURL.

Paper.—Dr. H. MACNAUGHTON-JONES read a paper on Uterine Haemorrhage, and illustrated the paper by numerous specimens.

NORWICH DIVISION.

Norwich Public Medical Service.

THE annual report of the Norwich Public Medical Service has been forwarded by the Honorary Secretary of the Norwich Division, under whose auspices the service is carried on. It will be interesting to the various Divisions which are at present considering the advisability of establishing such a service to note the steady growth in membership and the financial stability of the Norwich service. The report is as follows:

The general committee have pleasure in presenting the seventh annual report.

During the past year the growth of the service has steadily continued, the number of new members admitted being 1,480.

The number of members leaving the service was unfortunately high—namely, 740, leaving a net increase of membership of 740.

The committee are aware that the withdrawals seem large, but, considering the distress prevalent during the year, are, looking to past experience, of opinion this item calls for no special comment.

Last year the important step of appointing a second collector was taken, and he commenced duty the first week in the year. The committee are glad to report that his work has fully justified the increased expenditure, as is well shown by the following figures:

Total collection for fourth quarter, 1907	... £227 8 4
" " first quarter, 1908 ...	... 253 14 2
An increase of £36 5s. 10d.	

The satisfactory fact may be noted that of this amount only £7 10s. 0d. was from new members, the remainder, namely, £29 0d, being arrears.

The committee again desire to express their high appreciation of the continued valuable services of the secretary (Mr. C. A. Cooper) and his staff.

	1907. £ s. d.	1908. £ s. d.
Gross receipts for quarter-ending March	218 6 7	263 14 2
" " " " June	218 16 7	258 9 4
" " " " September	230 13 2	289 0 9
" " " " December	227 8 4	281 13 2
	£895 4 8	£1,072 17 5
Working expenses	13.75 %	16.25 %
Total number of members, December 31st...	4,765	5,505
	£ s. d.	£ s. d.
Amount of weekly payments	19 16 11	22 18 7

J. M. G. BREMNER,
Honorary Secretary.

Statement of Account, January 1st to December 31st, 1908.

RECEIPTS.	£ s. d.	EXPENDITURE.	£ s. d.
Balance at bank ...	244 10 5	Medical officers	851 13 4
Members' payments ...	1,072 17 5	Secretary	32 10 0
Medical officer's fee ...	1 1 0	Collectors	137 13 0
Cards	3 0 10	Cheque book	0 5 0
Bank interest	2 13 4	Auditor	1 1 0
		Insurance	3 10 6
		Postage, etc.	1 8 11
		Balance at bank ...	296 1 3
	£1,324 3 0		£1,324 3 0

Of the balance, £296 1s. 3d., £239 7s. 5d. has since been paid to medical officers.

CHARLES H. ANDREWS,
Honorary Treasurer.

I have examined the accounts of the "Norwich Public Medical Service" for the year 1908, and in my opinion the above statement is properly drawn up so as to exhibit a true and correct record of the transactions of the society for that period, as shown by the various books and documents submitted to me.

A. C. POLE.

February 18th, 1909.

EDINBURGH BRANCH:

SOUTH-EASTERN COUNTIES OF EDINBURGH DIVISION.

Election of Officers: The following is a list of the office bearers elected for 1909-1910: *Chairman*, E. M. Tyrrell, M.B., Galashiels; *Vice-Chairman*, M. J. Oliver, M.B., Hawthorndene, St. Boswells; *Hon. Secretary*, John Jeffrey, M.B., F.R.C.S.E., Glenbank, Jedburgh; *Representative for Representative Meeting*, W. Blair, M.D., Jedburgh; *Representative on Branch Council*, W. L. Cullen, M.B., St. Boswells; *Executive Committee*, E. M. Tyrrell, M.B., G. G. Bannerman, M.B., W. H. Calvert, M.D., J. W. Somerville, M.D., J. Young, M.B., J. Carlyle Johnstone, M.D.

LANCASHIRE AND CHESHIRE BRANCH:

MANCHESTER (SOUTH) DIVISION.

A GENERAL meeting of the Division was held at the house of Dr. Ashton, 315, Wilmslow Road, Fallowfield, at 3.30 p.m., on Wednesday, June 30th. Dr. RUSSEN RHODES was in the chair, and there were nine other members present: Drs. Ashton, Boyd, Vipont Brown, Grant Davie, Gregory, Godson, Hopkinson, McDougall, and Sawers Scott. Dr. Fitzgerald was present as a guest.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Elections to Central Council.—A letter was read from Dr. Garstang thanking the Division on behalf of himself and colleagues for their return to the Central Council at the recent election. With regard to the polling returns of this Division the SECRETARY pointed out that, even though the members had received a special appeal to fill up and return their voting papers, as only one half of the electors in the Division had voted the previous year, nevertheless the official returns showed that only 45.6 per cent. of the members voted on this occasion. The CHAIRMAN expressed the hope that in the future members would show greater interest in the election of their representatives on the Central Council, as well as in all other matters concerning their Division.

Joint Committee (Manchester and District) Warehousemen and Clerks Association.—A request was read from the Joint Committee for the Division to give its representative power and instructions to consider and discuss in the Joint Committee the subject of proposed reforms in the medical arrangements of this association, in view of the fact that ethical questions may be involved in dealing with the subject. This was unanimously agreed to.

Coroner and Post-mortem Examinations.—Dr. SAWERS SCOTT introduced this subject by reading an excerpt from a local newspaper in which the Manchester coroner had adversely criticized a medical practitioner's action in giving a certificate of death where an accident had antedated the death for some time, but which the medical man thought had contributed little, if any, to the cause of death. The coroner stated that he had been having considerable difficulty with medical men, and, unless he could rely upon them voluntarily notifying him of similar circumstances before giving a certificate, he would do his best to have notification on the medical attendant's part made compulsory. After some discussion the whole subject was referred to the Joint Committee for consideration.

Appointment of Deputy Representative for the Representative Meeting, Belfast.—Dr. E. Vipont Brown was unanimously appointed Deputy Representative.

Final Instructions to Representative.—The Division discussed and gave final instructions to the Representative on the subjects which still required consideration.

SOUTHPORT DIVISION.

A MEETING of this Division was held at the Temperance Institute on Friday, July 16th, at 8 p.m. Dr. BARWISE was in the chair, and there were present Drs. G. R. Anderson, Ashworth, Baildon, Bentall, Gill, Littler, Mackay, Popert, Russel, Schofield, Walker, and Harris.

Confirmation of Minutes.—The minutes of the last special meeting were read and confirmed.

Executive Committee.—It was explained that there was a vacancy on the Executive Committee, Dr. Gill, a member of the committee as Representative for Representative Meeting, having at the annual meeting been inadvertently elected an ordinary member of committee also; Dr. Schofield was unanimously elected to fill the vacancy.

Election to Central Council.—A letter of thanks from Dr. Garstang on behalf of himself, Messrs. Larkin, Macfie, and Taylor, for their election to the Council of the Association, was read.

Alteration of Rule 7.—A letter from the Organization Committee approving of the alteration of Rule 7 was read.

Local Government Board Inquiry respecting Unqualified Practice.—The SECRETARY reported that he had communicated with the medical officer of health, who would be pleased to receive information respecting unqualified practice, with the view of communicating it to the Local Government Board. After discussion, a sub-committee, consisting of the Chairman, Secretary, Dr. Baildon, and Dr. Russel, was appointed to consider the subject and report.

Ophthalmia Neonatorum Report.—The report of the Ophthalmia Neonatorum Committee was then considered, and the following resolution was passed unanimously:

That this Division approves of the administrative and educative measures recommended in the report, and expresses a general approval of the report and its other recommendations.

Medical Inspection and Treatment of School Children.—The report on the medical inspection and treatment of school children, published in the SUPPLEMENT of May 15th, was considered and it was unanimously resolved:

That this Division approves generally the recommendations in the report, and would specially emphasize their approval of the paragraph on page 232, namely: "In view of the foregoing considerations the Medico-Political Committee is of opinion that any attempt by public authorities to arrange for the treatment of school children at hospitals and other charitable institutions is thoroughly unsound in principle."

Agenda of Annual Representative Meeting.—The agenda paper of the Annual Representative Meeting was then considered, and it was resolved:

That action respecting the various resolutions to be submitted to the Representative Meeting be left to the discretion of the Representative.

This resolution included the motion of the Westminster Division respecting the Hampstead Hospital question, which, at the request of the Westminster Division, was specially mentioned.

LEINSTER BRANCH:

EAST LEINSTER DIVISION.

THE annual meeting was held in the Royal College of Physicians on June 30th, at 5 o'clock.

Election of Officers.—The following officers were elected for the ensuing year: *Chairman*, R. L. Heard, M.B. (Monkstown); *Vice-Chairman*, Colonel W. T. Johnston, M.D., R.A.M.C. (Kingstown); *Honorary Secretary and Treasurer*, R. C. Peacocke, M.D., 4, Avoca Terrace, Blackrock, co. Dublin; *Representative for Representative Meeting*, Colonel W. T. Johnston, M.D. (Kingstown); *Executive Committee*, A. G. Dampier Bennett, J. W. Boyce, M.D., W. R. Dawson, M.D., H. C. Earl, M.D., W. Furlong, M.D., R. N. Lyon, J. Mason, M.B., Lieutenant-Colonel Moran, I.M.S., Professor A. H. White; *Representatives on Branch Council*, J. W. Boyce, M.D., W. V. Furlong, M.D., Colonel Johnston, M.D., J. Mason, M.B., R. C. Peacocke, M.D.

METROPOLITAN COUNTIES BRANCH:

CHELSEA DIVISION.

THE annual meeting of the Division was held at the Chelsea Town Hall on Tuesday, July 6th.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—Chairman: Dr. WILLIAMS proposed and Dr. BEDFORD seconded the re-election of Dr. P. H. PARSONS as Chairman. This was carried unanimously. *Vice-Chairman:* Dr. BONNEY proposed that Dr. Williams be elected Vice-Chairman. This was seconded by Dr. KEEN, and carried unanimously. On the proposition of the CHAIRMAN, Dr. Gallard was re elected Honorary Secretary and Treasurer. *Executive Committee:* The following gentlemen were elected: Drs. Bedford, Bonney, Butler, Campbell-Boyd, Hamilton, Keen, Lee, O'Sullivan, Williams, and Young. *Representative at Representative Meeting:* Dr. Williams was elected to this position, with power to appoint a deputy. *Representatives on Branch Council:* Drs. Bedford, Young, and the Secretary were elected, but it was subsequently ascertained that the Representative at Representative Meetings must be one of the three appointed, and Dr. Bedford graciously resigned in place of Dr. Williams.

Members of South-West London Hospital Medical Committee.—The Chairman, Drs. Williams and Young were re-elected.

Balance Sheet for 1908.—This was read by the SECRETARY, approved, and adopted.

Dr. Bonney's Recovery.—The CHAIRMAN referred in felicitous terms to the sympathy which they had all felt for Dr. Bonney in his serious illness, and the pleasure it gave them to see him amongst them again. Dr. BONNEY expressed his thanks and gratification.

The late Dr. Ramsden.—A letter from Mrs. Ramsden was read, in which she acknowledged the letter of condolence sent to her upon the death of Dr. Ramsden.

Hampstead Hospital.—A letter from the Westminster Division was read with reference to the Hampstead Hospital and the warning notice in the JOURNAL. The meeting endorsed the action of the Westminster Division, and instructed their Representative to do likewise at the Representative Meeting.

Letter from Branch Secretary.—A letter from the Branch Secretary was read, inquiring if this Division was prepared to nominate a candidate as Honorary Secretary of the Branch. It was decided not to nominate any one.

Meeting on Medical Reform.—A letter from Dr. Crichton, Chairman of the Subcommittee of the Kensington Division, was read, inviting the Secretary to attend a meeting on medical reform at the Kensington Town Hall on July 6th.

The Council of the College of Surgeons.—Another letter from the Kensington Division was read, as follows:

Dear Sir,—I have to inform you that the Executive Committee of the Kensington Division decided not to submit the resolution from your Division anent the action of the Council of the R.C.S. to this Division, for they do not see that it is a matter which can properly or profitably be discussed by any outside body.—Yours faithfully, H. B. OVERY, Honorary Secretary.

Unqualified Practice.—A memorandum *re* unqualified practice and the investigations concerning it which were being made by the Local Government Board through the medical officers of health was received from the Medical Secretary of the Association. The Secretary was instructed to send the same reply as that to the medical officer of health for Fulham—namely, "that they had no evidence of unqualified practice being prevalent in the district."

School Care Committees.—A letter from the Medical Secretary of the Association concerning School Care Committees was read, requesting the Secretary to forward to the managers the names of any medical men in this Division who were willing to serve on the same, if so requested.

Representation of Profession on Hospital Boards.—A letter from the Hospitals Committee was read, requesting the Division to support the Representatives of the Hampstead and Wandsworth Divisions at the Representative Meeting in their endeavours to secure representation of the local medical profession on the boards of management of hospitals. The Representative was instructed to give the necessary support.

Ophthalmia Neonatorum Report.—A report of the Committee on Ophthalmia Neonatorum was deferred for future consideration.

Medical Inspection of School Children.—Further communications were received from the Medical Secretary of the Association on the subject of the medical inspection of school children, and the Representative was instructed to carry out the views and opinions of the Division thereon.

Public Medical Service.—The following letter, dated July 2nd, was received from Dr. Young:

Dear Sir,—I beg to report that a public medical service, called the Chelsea and Fulham Public Medical Service, has been started in the Division. Seventeen members have joined the active staff, and four have become honorary members. Only members of the Division can join the staff, and they may do so on the 1st of January or the 1st of July, after due notice. A management committee has been formed, and a guarantee fund of £1 1s. each, payable by the staff, has been opened, but the assistance of all members of the Division who approve of the formation of these services will be much appreciated. As the service is only in its infancy at present, my report is necessarily short, but next year I hope to be in a position to state that substantial progress has been made.—Yours very truly, JAMES YOUNG, Honorary Secretary.

Vote of Thanks.—On the proposition of the CHAIRMAN, a hearty vote of thanks was passed to Dr. J. T. Gardner for the services he had rendered this Division, and Dr. PARSONS expressed the hope that the Kensington Division would find him as energetic a worker as they had done in Chelsea. Dr. GARDNER expressed great regret at his impending separation from so many old friends.

The General Election.—The CHAIRMAN urged upon the meeting the advisability of approaching candidates for Parliamentary honours at the next General Election, which might soon take place, with reference to pending matters affecting the welfare of members of the profession.

NORTH WALES BRANCH.

THE sixtieth annual meeting of the Branch was held at the Queen's Hotel, Blaenau Festiniog, on Tuesday, July 13th, at 2.30 p.m., Dr. W. MICHAEL WILLIAMS (Penmachno) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were taken as read, confirmed, and signed.

Jones Morris Memorial Prize.—A letter was read from the Registrar of the University College of North Wales, stating that the council of the college had approved of the terms of the award of the Jones Morris Memorial Prize as amended. It was resolved that the name of the recipient of the prize be announced at the annual meeting every year.

Installation of New President.—Dr. W. Michael Williams resigned the chair to Dr. H. Grey-Edwards (Bangor), and a vote of thanks was accorded to the retiring President for the able manner in which he had discharged his duties during the past year.

Report of Council.—The HONORARY SECRETARY read the annual report of the Branch Council, which congratulated the Branch on attaining its "Diamond Jubilee," the first meeting having been held at Bangor on July 27th, 1849, and from that time up to the present the history has been one of continued prosperity. The report was received and adopted.

Election of Officers.—The following were elected officers for the ensuing year: *President-elect*, Mr. O. Wynn Griffith (Pwllheli); *Honorary Secretary*, Dr. H. Jones Roberts (Pen-y-groes) (re-elected); *Representative on Central Council*, Dr. H. Jones Roberts (re-elected); *Members of Branch Council*, Drs. H. Drinkwater (Wrexham), E. D. Evans (Wrexham), Richard Evans (Wrexham), E. Moss (Wrexham), John Evans (Carnarvon), R. Arthur Prichard (Conway), J. Lloyd Roberts (Colwyn Bay), J. R. Prytherch (Llangefni), Hugh Jones (Dolgelly), H. Gladstone Jones (Criccieth), and J. O. Williams (Barmouth).

Places of Meeting for 1909.—It was resolved that the intermediate meeting be held at Carnarvon and the annual meeting at Llangollen.

President's Address.—The PRESIDENT delivered his address, taking as his subject "The changes in the methods of treatment of disease during the last thirty years." On the proposal of Dr. J. LLOYD ROBERTS (Colwyn Bay), seconded by Mr. EVAN WILLIAMS (Bala), a vote of thanks was tendered to the President for his able and interesting address.

Papers.—The following papers were read—Mr. PRICE MORRIS (Old Colwyn): (1) An apparently hopeless case of cystitis recovering; (2) a fatal case of actinomycosis. Dr. HUGH JONES (Dolgelly): Note on a case of puerperal eclampsia. Dr. ENOCH MOSS (Wrexham): A case of hydrocele of the canal of Nuck. Drs. O. T. WILLIAMS and N. PERCY MARSH (Liverpool): The treatment of cerebro-spinal meningitis with Flexner and Jobling's antimeningococcic serum. Dr. R. J. M. BUCHANAN (Liverpool): The symptoms and treatment of duodenal ulcer.

Luncheon.—Before the meeting the members lunched together at the Queen's Hotel.

SOUTH CARNARVON AND MERIONETH DIVISION.

THE annual meeting of this Division was held at the Tower Hotel, Pwllheli, on Thursday, May 27th, at 2 p.m., Dr. HUGH JONES (Dolgelly) presiding, in the unavoidable absence of the chairman. There was a good attendance.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Apology for Non-attendance.—Dr. Evans (Festiniog) wired regretting his unavoidable absence.

Election of Officers.—The following members were elected officers for the ensuing year: *Chairman*, Dr. J. W. Rowlands (Llanaelhaiarn); *Vice-Chairman*, Dr. W. R. Williams (Machynlleth); *Honorary Secretary*, Dr. Gladstone Jones (Criccieth); *Representative to Representative Meeting*, Dr. J. W. Rowlands; *Representatives on Branch Council*, Dr. Wynn Griffith (Pwllheli), Dr. J. O. Williams (Barmouth), Dr. Hugh Jones (Dolgelly), and Dr. Gladstone Jones (Criccieth); *Executive Committee*, Dr. R. Jones Evans (Pwllheli), Dr. J. R. Jones (Penrhyndeudraeth), and Dr. Howel White (Corwen); *Representative on Central Council*, Dr. H. Jones Roberts (Pen-y-groes) was unanimously re-elected as Representative of the North Wales Branch on the Central Council of the Association, and a special vote of thanks was accorded to him on the proposal of Dr. Wynn Griffith, seconded by Dr. Hugh Jones (Dolgelly).

Report of Executive Committee.—The Executive Committee's report was read, confirmed, and adopted.

Medical Inspection of School Children and their Treatment.—With regard to the question of the treatment of defective children, and the remuneration for that duty, it was resolved:

That a committee be formed to consider these points, and then to forward the resolution to the Branch for united action.

Cases.—Dr. LIVINGSTONE DAVIES (Criccieth) showed the following cases: (1) Fibro-neuroma of the musculo-spiral nerve, and specimen; (2) epithelioma near root of tongue. Dr. R. JONES EVANS (Pwllheli) showed a case of fracture of the radius, with unusual displacement of fragments.

Tuberculosis Regulations.—Dr. E. LLOYD OWEN, medical officer of health, read a paper on tuberculosis regulations, for which he was warmly thanked.

Water Charges and Medical Practitioners.—The meeting considered the question of water charges imposed upon medical men by urban district councils and boroughs for water for dispensing purposes, and decided to support Dr. Davies in any steps he might take to resist the imposition of such charges, as the matter affects all medical practitioners.

Next Meeting.—It was decided to hold the next meeting at Dolgelly.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL AND BIRKENHEAD COMBINED DIVISIONS.

Hospital Abuse.

DR. HUBERT ARMSTRONG (Liverpool) writes:

If Dr. Grossmann thinks otherwise we must agree to differ, but I cannot see how a summary of proceedings can possibly be a fair one which has not a single word in it referring to the action taken by the subcommittee. The reading of the letters written formed a large part of the report as delivered by the Chairman of the Subcommittee.

I never objected to the reference to Dr. Tisdall, and I may be wrong as to the point of order in regard to Dr. Harvey and the closure, but Dr. Grossmann has now also admitted error in his report on which my remarks were based.

Most of the questions raised are, like the first, equally matters of opinion; for instance, as to how much or how little is meant by the phrase to "place a ward, etc., at the disposal of the public health authorities." Dr. Tisdall, commenting on a quotation from the *Ophthalmoscope*, says "the 'Health Department' acts *first*: 'voluntary effort' takes up the work only on the failure of the former to provide hospital treatment." But it must be remembered that the request for help came from the hospital to the corporation, and not from the health authorities to those of the hospital. The hospital, treating patients of the hospital class suffering from ophthalmia neonatorum, found that it it could get them sooner it could cure them more effectually, and invited the co operation of the medical officer of health, etc., to secure that result. So that although the Health Department now acts first in a proportion of the cases admitted, there is no reason to suppose that it would have acted at all had it not been for the activity of the hospital. I do not wish to enter into the controversy as to whether this constitutes a form of hospital abuse or not, but it is explanation enough to my mind of the view that the ward is not in the least "at the disposal of the Health Authorities."

As my last word I should like to say that I have not even heard of any one, within the profession, who, although differing from the subcommittee as to the merits of their line of action, has doubted that it was prompted by excellent motives, and entirely free from personal feeling against either hospital or staff. It would be unnecessary to say so did not Dr. Harvey's reiteration of the fact seem to imply a doubt in his mind as to the point of view of his opponents.

THE FORMATION OF A WAKEFIELD DIVISION.

A MEETING was held at Wakefield on July 13th to form a Division of the British Medical Association, those present being Dr. Walker, J.P., Wakefield; Dr. Kaye, County Medical Officer; Dr. Goyder, Bradford; Dr. Hillman, Dr. Kemp, Dr. Chrispin, Dr. Clarke, Castleford; Dr. Ward, Brotherton; Dr. Osmond, Pontefract; Dr. Stevens, Featherstone; Dr. Stanger, Wakefield; Dr. Asten, Horbury; Dr. Schofield, Altofts; and Dr. Smith Whitaker, Medical Secretary of the British Medical Association.

A resolution was unanimously carried that a Division should be formed for Wakefield, Pontefract and Castleford, on the proposition of Dr. KEMP, seconded by Dr. GOYDER.

Address by Medical Secretary of the Association.

In supporting the proposition, Dr. SMITH WHITAKER said, though he was not, he was afraid, likely to become a member of the new Division, he hoped they would not think him intrusive in supporting the resolution that their Wakefield Division should be revived, reorganized, and made a real working part of the machinery of the Association. He supposed that they were all fairly familiar with the circumstances that had led to a revival of the Division. Something like twelve or eighteen months ago one or two medical men in Castleford district lost their Poor Law appointments through what was regarded by every one, he thought, who looked into the matter, as the very inequitable action of the guardians. The matter was investigated by the Council of the Yorkshire Branch and by the Public Health Committee of the Association in London, and all agreed that their members, Dr. Kemp and Dr. Hillman, were deserving of every support, but though that was the feeling of the Association and the Yorkshire Branch Council supported them so far as it could, those efforts broke down. The matter was inquired into by a central committee, who came to the conclusion that the sole and simple reason why the Association was unable to give effective support was the inactivity of the Wakefield and Doncaster Division. That Division was formed in 1903, but after two or three years' existence the Honorary Secretary, Dr. McLean of Doncaster, wrote that he had tried to call a meeting, but only the Chairman and himself attended. This was the second time this had happened, and under the circumstances they could not elect officers, and he must decline to carry on the secretarial work any longer, as he had not the support from other medical practitioners in the district necessary to carry on the work successfully. Thus the Division broke down. When the time of trial came, these gentlemen needed the activity of a local organization to support them. He was sure that state of affairs resulted simply from a want of appreciation by the medical men of the district of the nature, the objects, and organization of the Association; a want of appreciation of the objects, because they did not realize that the beginning and the end of the existence of the Association was to promote the interests of the medical profession. People often spoke as if the Association had a purpose of its own to serve. This was not so. Its objects were to promote the medical and allied sciences and to maintain the honour and interests of the medical profession, and all it asked of members of the profession was their support to the best of their ability in regard to that work.

To illustrate the kind of work for the profession which such an organization could do he proposed to give them an account of action taken in regard to some important current problems. As it happened, even in the last week, it had been his duty to take part in meetings bearing very closely on the present interests of, not only the members of the British Medical Association, but all members of the profession. A week previously (July 6th) a Conference was held in London organized by the Poor Law Medical Officers' Association, it being their annual meeting, to which they invited other members of the profession for the purpose of discussing the Majority and Minority Reports of the Royal Commission on Poor Law. Papers were read by the Honorary Secretary of that organization, Dr. Major Greenwood, who defended the existing system of Poor Law appointments—the part-time officers; by Mr. Loch, Secretary of the Charity Organization Society, one of the signatories to the Majority Report of the Royal Commission; and by Mrs. Sidney Webb, one of the Minority of the Commission; and a discussion followed. In the first place he would like to point out that the Reports of that Commission were of the very first importance to all members of the profession to-day. They must bear in mind that, even if the question affected only Poor Law medical officers, they could not have the salaries and conditions of employment of one section of the profession touched without affecting the standard of remuneration and conditions of employment of the whole profession. If the proposals of the Minority were adopted the existing Poor Law system would be swept away. The work would be taken out of the hands of the private medical practitioner; they would have the work placed under the supervision of the county medical officers, and they would have a gigantic system of whole-time State officers carrying out Poor Law work. The avowed object was to build up one State Medical Service in this country for preventive medicine as well as Poor Law Treatment. That was their object; he did not say whether it was good, bad, or indifferent, but it must have a profound influence on the position of the medical profession in the community if such a system were carried into effect. The Majority recommended that the Poor Law Medical Service—which they called the Public Assistance Service—should be linked up with existing agencies for treatment, clubs—provident and charitable institutions, including hospitals and dispensaries—all to be organized under committees called Public Assistance Committees. They proposed that the British Medical Association should have the right to nominate members of these committees, and also that the British Medical Association should be consulted as to the standard of remuneration. There would be no fixed salaries: the work was to be thrown upon the private members of the profession, who were to be paid according to the work they did. It was not for him to discuss the merits of those reports, or to go into them in detail. All he wanted to bring home to their minds was that they had now put before the country proposals of importance and far-reaching effect as affecting the medical profession of the country. If those attending the conference were not able to see for themselves the importance of this matter, they had it rubbed into them the same evening (July 6th) at the dinner organized by the Poor Law Medical Officers' Association, which was practically an extension of the conference. Mr. Loch said that he had now been in contact with the medical profession as regarded organization for something like thirty years, and had seen many generations of medical reformers. They had come with great ideas of the reforms they were going to carry out: but it had been characteristic of the medical profession that they never agreed amongst themselves as to what they wanted, and were never in the same mind for two years together. That was a criticism of the political methods of the medical profession as he (Mr. Loch) had known it. These reports were now before the country, he said, and if they chose to exert themselves no one could have greater influence than the medical practitioner upon the reorganization of the Poor Law Medical Service, and he implored them to consider the matter carefully amongst themselves, to make up their minds as to what they wanted and stick to it, and to see whether for once, at any rate, the medical profession could not deal with a political question in a way that would command the respect of the public. Prebendary Russell Wakefield, one of the signatories of the Minority Report, said members of the Royal Commission had not the expert knowledge of members of the profession as to conditions of relief. They looked at the matter from an administrative and public point of view; therefore, in the Minority Report, they had not attempted to work out details of the medical relief which they sketched; they left that to be done by the medical profession, and he hoped that the British Medical Association would take up the work. Then Mr. Sidney Webb, who was understood, through his wife, to be closely in touch with the Minority, said that an organization had been formed for the purpose of keeping the Minority proposals before the community. He pointed out that the British

Medical Association would have to look at the matter not only from the point of view of the Poor Law medical officers, but of the profession and the public also. But whether the British Medical Association went into the matter or not, or whether it made up its mind or not, whether it was apathetic or active, with the support of the profession or in spite of them, the movement was going forward; he could vouch for that. The Report was not going to sleep in the pigeon-holes of Government departments, as so many reports had done in the past. They might make up their minds to it that something was going to be done.

The questions he (the speaker) was leading up to were, "How is the profession to do this work?" "How is the medical profession to consider these subjects?" Why, through some organization, obviously. How else could such things be considered? What kind of organization did they want? In the first place, they must obviously have some kind of Central Council and Executive Committees, and some machinery to give effect to their views. But how were the views of members of the medical profession scattered through these islands to be ascertained? The British Medical Association had devised a plan. It carried out a plan seven years ago in adopting its new constitution, and it only rested with members of the profession throughout the country to take advantage of that scheme of organization. The Association had said, "We will set up in every district a local organization to be called a Division, and try to make it so small that every member shall have a reasonable chance of attending the meetings if he will take the trouble to do so. We will bring the Association to the doors of the profession." That was the change made seven years ago because the Branches were so large that members could not attend the meetings without much sacrifice of time. Thus instead of the large Yorkshire Branch they would have ten or more Divisions so mapped out that men should have no excuse for not attending the meetings and taking part in the work of the Association, the Divisions to be made as small as they could be made consistently with including a sufficient proportion of the members to give weight to their views. The objects of the Divisions were threefold. In the first place they had all the purposes of a local medical society where they could consider anything scientific, ethical, or any local question affecting them. Any similar question to that at Castleford they would deal with through their Division, and if they found they wanted the support of a still wider area they could appeal to the Branch or the Central Office as the case might require. Secondly, a Division was an instrument through which the Association gathered up its information for its members. It was also an instrument, thirdly, through which the Association in many things must give effect to its decisions. Let them take the Poor Law question as an illustration. Their Central Executive, the Council, had appointed a strong Committee to investigate the matter. It would not rest with that Committee or with the Council to decide. Their business would be to draw up a statement of questions for consideration which would be referred to the members of the Association through the Divisions, and they would all have the opportunity, if they chose to take the trouble, to express their opinion as to the future of the Poor Law Medical Service, and also as to the future of provident organizations in the profession and of many medical charities, because all were covered by the Poor Law Reports. When an opinion had been so declared locally, each Division appointed its Representative to the Annual Representative Meeting, whom it instructed to represent it in that general gathering of the Association. The object of the Representative Meeting was to take the place of the General Meeting. They could not, with a large widespread organization like theirs, make a General Meeting representative, and the object of the Representative Meeting was that as nearly as possible every member should have the opportunity, through his appointed Representative, to give effect to his views. Then the conclusion so arrived at would be given effect to by the Council, and if proposals were thus approved by the Association it would rest very largely with the Divisions, each in their own district, to give effect to the views of the Association. He would take an example of a matter which had already been dealt with on these lines, the medical treatment of school children found upon inspection to be defective. The previous Wednesday he had to attend a meeting in West Norfolk in which the medical practitioners had been called together by the Division to confer with the county medical officer of health to discuss the arrangements to be made in the rural districts of the county of Norfolk for the treatment of children found upon medical inspection to be defective. There had been some previous correspondence, and the object was that the medical officer of health might have an opportunity of hearing the views of medical practitioners, of explaining to them the position of the county council, and removing various misunderstandings that might arise. The conference, he was told afterwards, was most successful, misunderstandings that had previously existed were removed, and there was good reason for the belief that in the working of that matter the views of private practitioners would receive due consideration. Let them trace the history of that matter of treatment of school children. Ever since the passing of the Education (Administrative Provisions) Act, which provided for the medical inspection, and also, permissively, for the treatment, of school children, the Executive and the Divisions of the Association had been at work considering the various new problems that had arisen; and he thought one might say, looking back over the past two years, that they had had a very considerable influence on the course of events. To take one matter only, the Association laid down a minimum rate of pay for medical inspection, namely, £250 per annum, and applied to this subject the principle that medical women ought not to be paid less than medical men if they were doing the same work. They had succeeded over the greater part of England and Wales in getting these principles recognized by local authorities. He thought that that was the first time there had been, on the part of the profession, a national attempt to suggest a minimum rate of payment and to get it accepted. He thought they would recognize it was a very important step to take, and it could only have been taken by such an organization as he was explaining. Local medical societies alone could not have done such a thing. They could have suggested, but would not have had the power to enforce it. One of the things which led to the reorganization of the British Medical Association was an experience of the helplessness of local medical societies before questions of this kind. It was their constant experience that people came in from outside to defeat them, and therefore they needed not only the support of local Divisions but that all the local Divisions should be federated in a national organization which could support each and get support from each.

Another example of the same kind of work was with regard to contract practice, clubs, and similar matters, particularly questions of colliery appointments, in which the Association had been successful in maintaining proper rates of remuneration and conditions of employment.

But all this work depended fundamentally on the activity of the Divisions and the comprehensiveness of membership of the Divisions. If some present were not members of the Association, he would point out that the work of the Association was not for objects purely affecting the Association. They did not work for the benefit of their own members exclusively, but for the general benefit of the profession, and it was only by the support of the general body of the profession that that work could be carried out successfully. Nothing had weakened the Association more, in various matters they had had to deal with, than the cry, "Oh, you don't represent the profession, but only a section of the profession." They had had to admit very often that that was quite true, but it was no discredit to the Association so long as it was doing its best to carry on the work; the blame for that was on those who held aloof from the Association. An Association existed not for its own sake but for the objects for which it was formed, and the Association asked the profession that in some way or other they would assist it in carrying out those objects.

So much for the political work of the Association. He would like to glance at the other work which a Division might do. First, take the ethical work. It was the commonest experience of doctors that they had little difficulties of relationship to one another. There was an accepted standard in the profession of the way in which

medical men should treat one another when they came in contact in their professional capacity—in such matters, for example, as the transfer of patients from one doctor to another. Then as to such matters as advertising and canvassing, there was a proper standard of conduct to be observed, and it must rest, in the first place, with the practitioners of each locality to secure the observance of that standard in each locality. In any case of difficulty in the Division, they had the machinery for appealing to the profession over a wider area. If they had any difficulty in Wakefield, for instance, they could appeal to the Yorkshire Branch. Those concerned could, further, appeal if necessary to the Central Ethical Committee and the Central Council of the Association, which was drawn from every part of the British Empire. Then, again, a great deal of medico-political work depended in the last resort on local agreement. Those in the district could agree between themselves as to the amount of remuneration and the conditions and amount of employment. Such agreements were nothing unless they had some means of bringing about their observance, and that must be brought about by means of the Division. Further considering the work of a Division, he need not dwell upon the social advantages afforded by any kind of local medical society. Then they had the scientific work of a Division, and might hold meetings for discussing various scientific questions in the Association. They had the advantage of the great Annual Meeting of the Association, the most important medical congress in this country. They had the advantage also of the BRITISH MEDICAL JOURNAL. Efforts were now being made to make the Central Library more accessible to provincial members of the Association.

He suggested to them that the British Medical Association could, through its Divisions, do everything that any local medical society could do, social, political, or ethical; that the Division could do a great many of these things better than any other local medical society because of its affiliation to a national organization. Lastly, there were some things which it could do, as experience showed, which no isolated local medical society could touch at all. Nothing was commoner in his experience than to hear the question "Why should I join the British Medical Association?" or "What benefit am I getting for my 25s. subscription?" or, again, if they did not like the JOURNAL, "Why should I pay 25s. for a JOURNAL I don't want?" Quite apart from any question of the merits of the BRITISH MEDICAL JOURNAL as compared with other organs, he suggested to them that they did not if they were members, pay 25s. for the JOURNAL. The nett cost of supplying the JOURNAL to every member was about 6s. or 7s., and the rest of their subscription went to carry on the other work of the Association; 4s. was the amount devoted up to the present, and practically that amount would go in the future, to carrying on local work in the Divisions and Branches. Perhaps as they developed they would require more than that amount for the local work. Then they could see that such work as he had been describing in the political sphere could not be carried out without considerable expense. He would just mention two or three pieces of work. In the first place was the question of Poor Law reform.

They appointed a committee to investigate the matter and draw up a statement of the views the Association placed before the Commission. Members were appointed to give evidence. About a day was spent in giving evidence, and they could tell from the Report that that evidence of the Association carried considerable weight with the Commissioners. But all that work was not done without a great deal of expense. Take, again, the question of the Midwives Act. No question, he supposed, was more irritating to medical men than the calls from midwives to assist them in cases of difficulty or urgency, for the doctor had very often a very poor chance of receiving payment. The Privy Council had appointed a Departmental Committee to investigate the matter. The Association, through the Medico-Political Committee, prepared evidence which was placed before the Departmental Committee, and would, doubtless, receive their very careful consideration. The Home Secretary had appointed a committee to investigate the whole subject of Coroner's Law. He need only run over a few of the grievances the profession had felt in that matter. The question of non-remuneration of honorary medical officers of cottage hospitals who gave evidence at inquests; the question of inadequate payment for attendance at a distance, and non-payment for time in case of inquests held over more than one day; the neglect in many cases of medical evidence; and the riders sometimes added by juries to their verdicts reflecting upon the character of the medical practitioner concerned in the case. Those and many other matters of importance would come under review on this Committee. He believed they would have to investigate also the whole subject of death registration in this country, and the Association was preparing evidence to put before that Committee. There was the question also of the amendment of the Medical Acts to provide for the suppression of unqualified practice, the introduction of the one portal system, and the reform of the General Medical Council, which the Association had been engaged in the last few years in drafting—a most expensive matter to be engaged in, and one which they knew the members of the profession felt to be of the first importance. All that work was for the general good of the profession. Consequently it could not be carried on successfully by a body which did not feel itself to be truly representative of the profession. If members of the profession desired to see such work done, as they surely must, why should they not desire also to contribute as far as they could both towards the expenses and towards the personal work of doing it, and so take their part in shaping the course of events and not leave them merely to be shaped by others?

Nothing, he thought, had been more injurious to the profession than the constant cry of the public that the medical men were always disunited amongst themselves. The medical profession had up to the present been a disorganized body. It had had no sense of corporate unity, and the aim of the British Medical Association, he believed, ever since its foundation in 1832, had been to try to fulfil that conception of a medical profession consisting, not of physicians, surgeons, apothecaries, but of medical practitioners (hear, hear). They desired, through the Association, to create one organized body of medical practitioners, consisting of all reputable members of the profession in the British Empire. This was the object it existed to fulfil, and it was the object he hoped they, through the formation of that Division, would contribute to enabling it to fulfil.

Election of Officers.—The following officers were elected: *Chairman*, Dr. Walker: *Vice-Chairman*, Dr. McLean (Doncaster); *Honorary Secretary*, Dr. Kemp; *Representative on Branch Council*, Dr. Kaye; *Committee*, Drs. Stanger, Kaye, Osmond, Stevens, Hillman, Ward, and Clarke.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—The annual social meeting will, through the courtesy of Lord Tankerville, be held at Chillingham on Tuesday, August 3rd, 1909. Members, their wives, and invited guests will assembled in the courtyard at 1.30 p.m. The castle will be inspected first, and at 2.30 p.m. the party will be conducted to the park to view the celebrated herd of wild cattle. They will afterwards proceed to Chatton Hotel, where tea will be served at 5 p.m. Members intending to be present will kindly communicate with the Secretary (giving the number of invited guests) not later than Thursday, July 29th. Permission has been granted to members to leave their motor cars in the stable yard of the castle.—C. CLARK BURMAN, 12, Bondgate Without, Alnwick.

MEMBERS ELECTED DURING THE JUNE QUARTER.

UNDER BY-LAWS 2 AND 3.

BY THE COUNCIL.

Flood, Bernard, L.R.C.P.and S.Edin., Katagum, Northern Nigeria
Woollatt, Percy Charles, Civil Surgeon, M.R.C.S.Eng., L.R.C.P.Lond., Shiraz, Persia

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Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon H. W. Finlayson, M.B., to the *Bristol*, July 15th; Fleet Surgeon H. E. Tomlinson, to the *Assistance*, July 15th; Staff Surgeon D. V. Lowndes to the *Philomel*, on recommissioning, July 27th; Staff Surgeon L. T. P. Beames and Surgeon J. Horsman to the *Terrible*, for the voyage home, undated; Surgeon W. E. Ormsby, M.B., to the *Halcyon*, additional, for the *Skipjack*, July 17th; Surgeon G. O. M. Dickenson to Haslar Hospital, July 13th; Surgeon G. T. Verry to the *Lord Nelson*, July 15th.

Mr. F. F. Ward, M.B., civil practitioner, has been appointed Surgeon and Agent at Ipswich, July 15th; and Mr. J. Wilson, civil practitioner, Surgeon and Agent at Leith, July 16th.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Lieutenant-Colonel G. E. Wrenn retires on retired pay, July 17th. He was appointed Surgeon, July 30th, 1881; Surgeon Major, July 30th, 1893; and Lieutenant-Colonel, July 30th, 1901. He served in the Egyptian war in 1882 (medal, and Khedive's bronze star); with the Bechuanaland expedition in 1884-5, and in the South African war in 1899-1902 (despatches [twice], Queen's medal with three clasps, King's medal, and, according to the *Official Quarterly Army List*) received the Queen's medal with three clasps.

Lieutenant-Colonel W. H. Day, M.B., from the Half-pay List, is restored to the establishment with precedence next below P. C. H. Gordon, July 1st. Lieutenant-Colonel Day was placed on half-pay on account of ill-health, September 30th, 1908.

Lieutenants J. S. Dunne and A. D. O'Carroll, M.B., are promoted to be Captains, March 1st. Their appointments as Lieutenants bear date July 30th, 1906.

Lieutenant-Colonel C. R. Collet, from the Second List, is restored to the establishment, July 17th. He was appointed on probation August 1st, 1908.

Lieutenant-Colonel C. P. Tyndell, from Staff Officer to the Principal Medical Officer, Eastern Command, has been appointed Administrative Medical Officer, Fordon District, vice Lieutenant-Colonel R. I. D. Hackett, M.D. Lieutenant-Colonel M. W. Russell to succeed Lieutenant-Colonel Tyrrell as Staff Officer to the Principal Medical Officer, Eastern Command.

Lieutenant-Colonel L. Haywood, M.B., retired pay, has been appointed Staff Officer to the Administrative Medical Officer, South Midland Division, Territorial Force.

Captain D. Harvey, M.B., who is serving in India, is appointed Honorary Surgeon to the Governor-General of India.

Lieutenant-Colonel W. W. Pike, D.S.O., Commanding the Station Hospital at Dargueling, has assumed duty as Officiating Principal Medical Officer, Presidency and Assam Brigades, in addition to his other duties.

Examination of Majors for Promotion.

An Army Order just issued announces that, with reference to footnote (*) to Appendix XIV of the king's Regulations, it is decided that the subjects selected for the year 1910 will be as follows:

Subject 3 (a). The Medical History of the Russo-Japanese War. Book recommended, *The Russo-Japanese War, Medical and Sanitary Reports*, published by the General Staff, and obtainable through all booksellers or direct from the War Office, price 6*s.*

Subject 3 (b). The Medical Service of the German Army. Book recommended, *Handbook of the Medical Services of Foreign Armies*, Part II, Germany. Obtainable through all booksellers. Price 6*d.*

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant D. Murphy, Supplementary List, to be Captain, July 4th.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE SECOND QUARTER OF 1909.

SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.

In the accompanying table will be found summarized the vital statistics of the City of London and of the metropolitan boroughs, based upon the Registrar-General's returns for the second quarter of the year. The mortality figures in the table relate to the deaths of

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Second Quarter of 1909.

Boroughs.	Estimated Population middle of 1909.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric Fever.	Diarrhœa.	Phthisis.	Deaths of Children under One Year of Age to 1,000 Births.
COUNTY OF LONDON ...	4,833,938	30,043	15,479	24.9	12.8	1.38	1,669	—	837	109	135	420	—	28	1	142	1,450	92
Paddington	151,955	755	488	19.9	12.9	1.24	47	—	21	5	1	14	—	1	—	5	43	95
Kensington	183,683	823	521	18.0	11.4	1.00	46	—	17	3	2	19	—	—	—	5	34	97
Hammersmith	125,704	755	445	24.1	14.2	3.15	98	—	58	7	8	19	—	—	—	6	34	113
Fulham	176,405	1,083	478	24.6	10.9	1.35	59	—	29	2	5	19	—	2	—	8	36	95
Chelsea	74,249	347	218	18.5	11.6	0.69	13	—	3	2	4	3	—	—	—	1	20	66
City of Westminster ...	168,383	655	531	15.8	12.6	0.72	30	—	8	9	4	7	—	—	—	2	57	164
St. Marylebone	126,027	1,044	417	33.2	13.3	0.76	24	—	11	1	2	5	—	—	—	4	34	58
Hampstead	96,122	345	209	14.7	8.9	0.89	21	—	9	2	—	9	1	—	—	—	15	81
St. Pancras	237,422	1,305	787	22.0	13.3	0.70	41	—	23	—	9	8	—	—	—	1	81	97
Islington	351,203	1,982	1,135	22.6	13.0	1.76	154	—	95	6	6	25	—	4	—	8	87	113
Stoke Newington ...	54,423	242	128	17.8	9.4	0.80	11	—	4	1	—	6	—	—	—	—	9	79
Hackney	237,601	1,381	687	23.3	11.6	0.91	54	—	12	3	5	22	—	1	—	11	67	85
Holborn	55,802	394	195	29.4	14.5	1.11	15	—	9	1	—	3	—	—	—	1	40	69
Finsbury	89,289	809	455	34.9	19.6	3.19	76	—	46	1	1	21	—	—	—	7	47	157
City of London ...	18,193	67	112	14.8	24.7	0.22	1	—	1	—	—	—	—	—	—	—	13	119
Shoreditch	114,802	904	501	31.6	17.5	3.87	111	—	69	2	10	25	—	2	—	3	45	141
Bethnal Green	130,318	1,004	476	31.1	14.7	1.28	42	—	12	1	5	17	—	2	—	6	40	107
Stepney	312,525	2,613	1,084	35.5	13.9	1.47	115	—	71	5	10	15	—	—	—	14	124	88
Poplar	171,965	1,238	673	39.0	15.8	2.92	125	—	72	6	6	20	—	3	—	8	91	126
Southwark	211,125	1,419	745	27.0	14.2	1.38	73	—	34	6	7	18	—	1	—	7	47	92
Bermondsey	127,559	1,098	562	35.6	17.7	2.54	81	—	48	2	3	21	—	—	—	7	47	137
Lambeth	324,188	2,134	1,038	26.4	12.8	1.32	109	—	38	11	13	33	—	5	—	8	105	85
Battersea	186,036	1,202	556	23.8	15.0	1.36	63	—	33	1	6	18	—	1	—	4	53	88
Wandsworth	297,966	1,707	722	25.0	10.5	1.36	78	—	37	5	6	20	—	2	1	7	60	65
Camberwell	383,022	1,709	867	24.2	12.3	1.19	84	—	38	8	8	23	—	—	—	7	72	91
Deptford	118,583	774	339	26.2	11.5	0.87	26	—	8	5	3	6	—	1	—	3	37	97
Greenwich	111,014	630	267	22.8	9.6	0.50	14	—	4	1	1	4	—	—	—	3	19	68
Lewisham	160,749	915	379	22.8	9.5	0.49	22	—	1	4	6	6	—	—	—	5	44	66
Woolwich	133,374	729	408	21.9	12.3	1.23	41	—	26	6	5	1	—	1	—	2	47	70

persons actually belonging to the various boroughs, and are obtained by distributing the deaths occurring in institutions among the boroughs to which the deceased persons belonged previously to admission. The births registered in London during the three months under notice were equal to an annual rate of 24.9 per 1,000 of the population, estimated at 4,833,938 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 27.0, 26.7, and 26.2 per 1,000, the average rate for the same period of the ten years 1899-1908 being 28.0 per 1,000. The birth-rates last quarter ranged from 14.7 in Hampstead, 14.8 in the City of London, 15.8 in the City of Westminster, 17.8 in Stoke Newington, 18.0 in Kensington, and 18.5 in Chelsea, to 31.6 in Shoreditch, 31.9 in Bethnal Green, 35.2 in St. Marylebone, 35.5 in Stepney, 35.6 in Bermondsey, and 34.9 in Finsbury.

During the quarter the deaths of 15,479 London residents were registered, equal to an annual rate of 12.8 per 1,000, against 14.2, 14.0, and 13.7 per 1,000 in the same quarter of the three preceding years; in the second quarter of the ten years 1899-1908 the death-rate averaged 14.8 per 1,000. Among the several boroughs the death-rates last quarter ranged from 8.9 in Hampstead, 9.4 in Stoke Newington, 9.5 in Lewisham, 9.6 in Greenwich, 10.9 in Wandsworth, and 11.5 in Fulham, to 15.8 in Poplar, 17.5 in Shoreditch, 17.7 in Bermondsey, 18.4 in Finsbury, and 24.7 in the City of London.

The 1,669 deaths from all causes last quarter included 1,669 which were referred to the principal infectious diseases; of these, 837 resulted from measles, 109 from scarlet fever, 135 from diphtheria, 420 from whooping-cough, 28 from enteric fever, one from ill-defined pyrexia, and 142 from diarrhœa, but not any from small-pox or from typhus. These 1,669 deaths were equal to an annual rate of 1.38 per 1,000, or 0.20 per 1,000 less than the average rate in the corresponding quarters of the ten preceding years. The lowest death-rates from these diseases last quarter were 0.22 in the City of London, 0.49 in Lewisham, 0.50 in Greenwich, 0.69 in Chelsea, 0.72 in St. Pancras, and 0.72 in the City of Westminster; the highest rates were 1.76 in Islington, 2.54 in Bermondsey, 2.92 in Poplar, 3.15 in Hammersmith, 3.19 in Finsbury, and 3.87 in Shoreditch. The several rates proportional to the population were recorded in Hammersmith, Islington, Finsbury, Shoreditch, Poplar, and Bermondsey: from scarlet fever in Hammersmith, the City of Westminster, Poplar, Lambeth, Deptford, Greenwich, and Woolwich; from diphtheria in Kensington, Chelsea, St. Pancras, Shoreditch, Bethnal Green, Lambeth, Lewisham, and Woolwich; from whooping-cough in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Poplar, and Bermondsey; from enteric fever in Islington, Shoreditch, Bethnal Green, and Poplar; and from diarrhœa in Hammersmith, Fulham, Hackney, Finsbury, Bethnal Green, Stepney, Poplar, and Bermondsey.

During the three months under notice the deaths from phthisis among persons belonging to London numbered 1,450, and were equal to an annual rate of 1.20 per 1,000, against 1.41, 1.41, and 1.39 in the corresponding quarters of the three preceding years; the average rate for the corresponding period of the ten years 1899-1908 was 1.50 per 1,000. The death-rates from this disease last quarter ranged from 0.47 in Hampstead, 0.66 in Stoke Newington, 0.69 in Chelsea, 0.74 in Kensington, 0.81 in Wandsworth, and 0.82 in Fulham, to 1.59 in St. Pancras and in Stepney, 1.69 in Southwark, 1.98 in Holborn, 2.03 in Finsbury, and 2.37 in the City of London.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 92 per 1,000 last quarter, against 97, 101, and 99 in the corresponding quarters of the three preceding years; in the second quarters of the ten years 1899-1908 the rate averaged 107 per 1,000. The lowest rates of infant mortality last quarter were recorded in Chelsea, St. Marylebone, Holborn, Wandsworth, Greenwich, Lewisham, and Woolwich; and the highest rates in Hammersmith, the City of London, Shoreditch, Poplar, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,266 births and 5,651 deaths were registered during the week ending Saturday last, July 17th. The annual rate of mortality in these towns, which had been 11.8 per 1,000 in each of the two preceding weeks, declined to 11.5 per 1,000 last week. The rates in the several towns ranged from 4.9 in Willesden, 5.6 in Rotherham, 5.7 in Walthamstow and in King's Norton, 5.9 in Handsworth (Staffs), 6.0 in Hornsey, and 6.7 in Smethwick, to 17.1 in Liverpool, 17.3 in Merthyr Tydfil, 17.8 in Hanley, Barnsley, Newport (Mon.), 18.2 in Coventry, 19.5 in Warrington, 20.5 in Middlesbrough, and 21.5 in Great Yarmouth. In London the rate of mortality was 10.6 per 1,000, while it averaged 11.8 in the seventy-six other large towns. The principal infectious diseases caused a death-rate of 1.0 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was 0.8 per 1,000, while among the seventy-five other large towns it ranged upwards to 3.0 in Hanley and in Salford, 3.2 in Swansea, 4.5 in Wolverhampton, 4.6 in Coventry, 4.7 in Newport (Mon.), and 5.9 in West Bromwich. Measles caused a death-rate of 1.3 in Salford and in South Shields, 1.5 in Tynemouth, 2.0 in Coventry, 2.5 in Norwich, 3.0 in Wolverhampton, 3.3 in Newport (Mon.), and 4.4 in West Bromwich; scarlet fever of 1.2 in Blackburn, Middlesbrough, of 1.6 in Swansea and 2.0 in Great Yarmouth; enteric fever of 1.1 in Blackburn; and diarrhœa of 1.2 in Aston Manor and in Rhondda, and 1.4 in Bolton. The mortality from diphtheria showed no marked excess in any of the large towns, and the total cases registered per week remained during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital on Saturday, July 17th, was 2,574, against 2,517, 2,587, and 2,647 at the three preceding weeks; 419 new cases were admitted during the week, against 398, 380, and 371 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, July 17th, 944 births and 442 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 13.7, 13.5, and 12.9 per 1,000 in the three preceding weeks, declined again last week to 12.5 per 1,000, but was 1.0 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among the eight Scottish towns the death-rates ranged from 10.3 in Leith and 11.4 in Glasgow to 15.6 in Perth and 18.8 in Dundee. The death-rate from the principal infectious diseases was 1.1 per 1,000, the highest rates being recorded in Dundee and Greenock. The 190 deaths registered in Glasgow included 4 from diphtheria, 6 from whooping-cough, 3 from enteric fever, and 4 from diarrhœa. Three fatal cases of whooping-cough were recorded in Edinburgh, in Dundee, and in Aberdeen; and 2 of diarrhœa in Edinburgh and Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 17th, 535 births and 294 deaths were registered in the twenty-two principal urban districts of Ireland, corresponding to annual rates of 30.4 and 16.7 per 1,000 respectively. The annual death-rate in these districts, which had been 17.7, 17.1, and 15.6 per 1,000 in the three preceding weeks, fell to 13.4 per 1,000 in the week under notice, this figure being 2.9 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 16.9 and 11.2 respectively, those in other districts ranging from 4.1 in Londonderry and 4.9 in Kilkenny to 21.1 in Tralee and 27.2 in Galway, while Cork stood at 14.4, Londonderry at 12.1, and Waterford at 17.2. The zymotic death-rate in the twenty-two districts averaged 1.1 per 1,000, against 1.2 per 1,000 in the preceding week.

Vacancies and Appointments.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £80 per annum.

BIRMINGHAM UNIVERSITY.—Chair of Zoology. Stipend, £600 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary, £80 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £80 per annum for six months and £100 per annum if re-elected.

BRIGHTON: LEWES ROAD HOSPITAL.—House-Physician.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CANTERBURY BOROUGH ASYLUM. Assistant Medical Officer. Salary, £140 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL. — Assistant Surgeon.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £120 per annum, rising to £130.

DERBYSHIRE COUNTY COUNCIL.—Assistant Bacteriologist. Salary, £150 per annum.

DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum.

HULL ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon to Out-patient Department.

JERUSALEM MISSION HOSPITAL.—Junior Medical Officer.

KIRKBURTON: STORTHES HALL ASYLUM.—Locumtenent for two months. Salary, £3 3s. per week.

LANCASTER: ROYAL LANCASTER INFIRMARY.—House-Surgeon. Salary, £150 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary at the rate of £50 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary, £50 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Resident House-Physician. Salary, £80 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION, Etc.—Assistant Medical Officer at the New Crossley Sanatorium, Delamere Forest. Salary, £100 per annum.

MANITOBA MEDICAL COLLEGE.—Professor of Anatomy. Salary, £500 per annum.

NATIONAL UNIVERSITY OF IRELAND.—Professorships and Lectureships in University College, Cork, University College, Galway, and University College, Dublin.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

PERTH ROYAL INFIRMARY.—House-Surgeon. Salary £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) House-Surgeon; (2) House-Physician. Salary, at the rate of £60 per annum each.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

SHEFFIELD UNION HOSPITAL. — Resident Assistant Medical Officer. Salary, £150 per annum.

SMETHWICK EDUCATION COMMITTEE.—School Medical Officer. Salary, £250 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £120 per annum.

SUNDERLAND AND DURHAM COUNTY EYE INFIRMARY.—House-Surgeon, outdoor. Salary, £40 per annum.

SUNDERLAND INFIRMARY.—Male House-Surgeon. Salary, £80 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—Male House-Surgeon. Salary, £100 per annum.

TEIGNMOUTH HOSPITAL.—House-Surgeon. Salary, £70 per annum.

TIVERTON INFIRMARY AND DISPENSARY. — House-Surgeon. Salary, £50 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician. Salary, £55 per annum, rising to £75.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Tralee, co. Kerry, and Kilmackevogue, co. Kilkenny.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

BODINGTON.—On July 10th, at Rooksacre, Worthy Road, Winchester, the wife of Dr. A. E. Bodington, of a son.

DEATHS.

BATTEN.—On July 15th, 1909, at Brunswick Square, Gloucester, Rayner Winterbotham Batten, M.D.Lond., F.R.C.P., in his 75th year. Funeral at Gloucester, 10.30, Saturday.

BROWN.—At the Edinburgh Hydropathic, Craiglockhart, on the 14th inst., William Brown, F.R.C.S.E., Consulting Medical Officer of Health for the City of Carlisle. Funeral took place at the Dean Cemetery, Edinburgh, on Saturday, the 17th inst., at 3 p.m.

URQUHART.—Suddenly, on July 19th, 1909, at the residence of Dr. F. W. Moir, West Cults, Aberdeenshire, William Donald Urquhart, M.B. and C.M., of Smethwick, Birmingham.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. JOHN WRIGHT AND SONS, Limited, of Bristol, have acquired the rights of translation for English-speaking countries of M. Félix Lejars's *Urgent Surgery*. Mr. William Stewart Dickie, F.R.C.S., of Middlesbrough, is the translator, and the work will be issued in two volumes, printed on art paper, in order to get the best result from the fine illustrations which by courtesy of the French publishers, Messrs. Wright, are enabled to print from the originals. The first volume will be ready in the autumn.

RECENT PUBLICATIONS.

Synoptic Chart of Cardiac Examination. Arranged by John D. Comrie, M.A., B.Sc., M.B., F.R.C.P.E. London: John Bale, Sons, and Danielsson, Limited. 7s. 6d.

Impressed upon a chart, an imposing pasteboard structure, are outlines of the body, the bones of the chest, the heart, and great vessels. The outline is pierced with apertures, in which appear, by the manipulation of tapes, groups of physical signs typifying certain conditions of the heart. The chart is ingenious, but as a didactic instrument not to be commended. The pamphlet of 12 pages which accompanies it is neither complete nor sound.

Low's Handbook to the Charities of London. 1909. London: Eliot Stock. (Cr. 8vo, pp. 248. 1s.)

The seventy-fourth year of publication of this well-known handbook. It contains an alphabetical list of metropolitan charities, giving their objects, date of formation, and addresses. There is an elaborate table of contents, in which the charities are classified under their objects.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
JULY.	
23 FRIDAY ..	ANNUAL GENERAL MEETING, Assembly Hall, Belfast, 12 noon. ANNUAL REPRESENTATIVE MEETING, immediately after the Annual General Meeting.
24 SATURDAY ..	ANNUAL REPRESENTATIVE MEETING, 9.30 a.m.
25 Sunday ..	
26 MONDAY ..	ANNUAL REPRESENTATIVE MEETING, 10 a.m.
27 TUESDAY ..	CENTRAL COUNCIL, 10 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
28 WEDNESDAY	CENTRAL COUNCIL, 9.30 a.m. ANNUAL REPRESENTATIVE MEETING, 10.30 a.m., if required.
29 THURSDAY ..	CENTRAL COUNCIL, 9.30 a.m.
30 FRIDAY ..	
31 SATURDAY ..	
AUGUST.	
1 Sunday ..	
2 MONDAY ..	*Bank Holiday.*
3 TUESDAY ..	NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Annual Social Meeting, Chillingham, 1.30 p.m.; Tea, Chatton Hotel, 5 p.m.
4 WEDNESDAY	
5 THURSDAY ..	
6 FRIDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 31ST, 1909.

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SEVENTY-SEVENTH ANNUAL MEETING
OF THE
British Medical Association.

BELFAST, 1909.

ANNUAL GENERAL MEETING.

THE Annual General Meeting of the Association was opened in the Assembly Hall, Belfast, on Friday, July 23rd.

The SECRETARY read the notice convening the meeting.

The TREASURER (Dr. Rayner) moved that the Chairman of Representative Meetings (Dr. Macdonald) take the chair in the absence of the President of the Association and the Chairman of Council, and this was agreed to.

The Minutes of last Annual Meeting were confirmed, whereupon the Meeting was adjourned until Tuesday, July 27th, at 2.30 o'clock in the afternoon.

[The report of the Adjourned Annual General Meeting will be found at p. 159.]

ANNUAL REPRESENTATIVE MEETING.

FRIDAY, JULY 23RD.

J. A. MACDONALD, M.D., in the Chair.

ELECTION RETURNS.

THE Return of the Election of Representatives of Divisions for the year, and the names of substitutes for Representatives unavoidably absent, was received, approved, and entered on the Minutes.

The CHAIRMAN announced that letters of apology had been received from Dr. T. Richmond (Glasgow North-Western), Dr. G. C. Mathison (Melbourne and Victoria), Dr. J. M. Ferguson (Burnley), Dr. J. R. Fuller (Tottenham), Dr. W. F. Fryer (South Suffolk), Dr. G. Haslip (Westminster), Mr. C. E. S. Flemming, and Dr. W. Hall.

The CHAIRMAN, having stated that the Chairman of Council was unable to attend owing to indisposition, referred to the deaths of Representatives during the past year: Dr. Harrison Mitchell, who had been elected Representative of the English Division of the Border Counties Branch; Dr. Hills, the Representative of East Leinster for three years; and Dr. Ramsden, Representative of Chelsea. The last named was present last year, and all remembered him as a very promising Member of the Association and as a very enthusiastic Representative who had always done his work carefully. Dr. Harrison Mitchell had attended every Representative Meeting since it was established. The Chairman concluded by moving that an expression of sorrow for the loss sustained by the death of those Members be entered upon the Minutes, and this was agreed to.

Dr. BUIST (Dundee) inquired whether extracts from the Minutes could be sent to the friends of the deceased Representatives, and the CHAIRMAN said he was quite willing to accept that as an addition to his proposal, and the meeting agreed.

The CHAIRMAN next moved:

That those Chairmen of Standing Committees who are not Members of the Representative Meeting be invited to take part in the proceedings for the assistance of the meeting.

This was agreed to.

STANDING ORDERS.

The CHAIRMAN moved the adoption of the Standing Orders as they were adopted at the Sheffield Meeting, after some verbal and technical amendments had been agreed to.

The CHAIRMAN called attention to the paragraph with reference to the nominations to the offices of Chairman of Representative Meetings and Deputy Chairman. Amendments had been proposed by Dr. Fothergill and Dr. Buist, the consideration of which was deferred, and subject to these the Standing Orders were adopted.

ANNUAL REPORT OF COUNCIL.

On the motion of the TREASURER, the Annual Report (published in the SUPPLEMENT of May 22nd, p. 277) and Supplementary Report of the Council (published in the SUPPLEMENT of July 10th, p. 42) were received.

The CHAIRMAN moved, and it was resolved:

That all Motions by Divisions or Branches which relate to matters dealt with in the Annual or Supplementary Reports of Council be considered as amendments or riders to the Recommendations, if any, to which they are relevant, or to the Motion: "That the remainder of the Report under the heading . . . be approved."

MEMBERSHIP OF THE ASSOCIATION.

The TREASURER moved that Paragraphs 1 to 6 of the Annual Report of the Council be approved. This was agreed to.

Dr. FOTHERGILL (Wandsworth) said that the new Constitution of the Association had now been in operation for seven years, and those Members who met many other Members heard that the new procedure had not been a success. He suggested that the subject should be referred to the Council to take steps to bring about some alterations which would lead to increased membership. He believed that there were a large number who were on the border-line, who at a very early date would leave the Association if something were not done to bring them more into the work, and he believed that there were also a large number who would not join if nothing was done to induce them to come in. He thought that men in the rural districts were left almost entirely to their own Branches. If their Divisions covered large areas, and if it was impossible for them to attend meetings, nothing was done from the head office in the way of considering their awkward position. The Branch did nothing. It would not be well to interfere unduly with the Branches, but the Members should be assisted. Another point was the want of visitors. He would suggest that some scheme might be encouraged in the Divisions by which some one might go into the outlying districts and help the men more. There seemed to be no suggestions from the Organization Committee as to the best way in which to approach Members. He thought that the system of annual election to offices in a Division was a bar to progress. The change occurred too soon; a man had just begun to get into the work when he went out of office. Another point was that the work in the Association was confined to too few. There were remarks made to the effect, "The So-and-So clique runs this Association." Something was needed that would broaden the interest of Members. Another point was the mass of literature which was sent down for discussion, but which it was absolutely impossible to discuss adequately. Could it not be suggested to the Divisions that they should increase the number of members of their Committees, and have on those Committees Members from all the various outlying districts? As to what might be called the disunion inside the Association itself, that was not confined to the rank and file. The Association would not progress if those in high office were falling out with it. He believed that the harm which had been done through this disunion in the last twelve months had been immense. The net increase last year was only 39, although the Association had to make up a leeway of 10,000 or more. He moved:

That, with reference to paragraph 5 of the Annual Report of Council, it be an instruction to the Central Council to call into a conference with itself, at which any member who desires may be present, such members of the Association as it may wish to consult in order to discuss "The membership of the Association and what steps can be taken towards increasing it"; and to report to this Body, with recommendations.

Dr. JOHN BROWN (Bury and Rochdale), in seconding the Motion, said that he regretted very much that the

Association did not increase more rapidly. In his opinion certain work should be delegated to the Branches and Divisions, and in that way greater interest in the work would be created. At present there was an opinion that the work was done too much by a few. Some of them had been doing spade work, but it was spade work on rocky soil. Many had said to him that they saw no advantage in joining the Association beyond getting the JOURNAL, and that was all they wanted. Out of a membership of 54 in his Division, over 40 had never attended a single Meeting, annual or otherwise. What was wanted was something to induce Members to join, not merely because they wanted to have a cheap JOURNAL. Bread and butter questions, relating to Poor Law appointments and police appointments, ought to be dealt with in the Divisions. Some were hoping there would be an amalgamation or federation of different societies. The British Medical Association was doing a large amount of work for other bodies, and was getting neither their thanks nor their coin. It was a painful thing to see such a decline in the increase of Members to the Association.

Dr. D. CAMPBELL WATT (Natal) said the Association had done a great deal lately in increasing its membership by its application for a Charter, and, in his opinion, such a discussion as the Meeting was now engaged upon would be more useful if it referred to some period after the Charter was granted.

Dr. HOLDEN (West and South Suffolk) referred to the difficulty of awakening interest in the outlying Members and suggested that a paper of questions with space for answers should be issued with the SUPPLEMENT, so that a Member could send suggestions to the Secretary of his Division. In his opinion Members would take more interest in the Association if they had an opportunity of expressing an opinion on any subject, even though they could not attend the Meeting.

Dr. SWAYNE (Norwood) thought the Representatives ought themselves to canvass non-members. He had always found that the Representatives had been well received by the Members of the Association and others. If the Representatives bestirred themselves and held private meetings, more could be done than in the way that had been suggested.

Dr. NASH (Derby) thought the revision of the areas of Divisions was a subject worthy of the consideration of the Organization Committee.

The CHAIRMAN ruled the speaker out of order. It was a Division's own fault if it did not have its boundaries settled.

Mr. LARKIN (Liverpool Western), while heartily agreeing with everything Dr. Fothergill wished to bring about, said he could not support the Rider, because it seemed to him far too vague and indefinite.

Dr. BUIST said that according to his reading of the Motion any Member of the Association who wished could join the Conference.

Dr. FOTHERGILL said that the point was, that it was not to be a close Conference and that anybody who liked to attend and listen might do so.

Dr. HUGH KER (Council) said that while cordially agreeing with Dr. Fothergill in his wish to increase the membership of the Association, he wished to point out that until the Association had greater latitude by means of a Charter it could do no more than it was doing. Its Members ought to sink their differences and put their shoulders to the wheel to try and get the Charter through as quickly as possible.

The CHAIRMAN deprecated the adoption of the Motion in its present form; the matter should be crystallized and come up for discussion on a future occasion.

The Motion was lost.

STANDING ORDERS.

Dr. BUIST moved an Amendment with regard to the mode of election of the Chairman and Deputy-Chairman as follows:

That all words after "direct" in line 13 be omitted, and that the following be inserted:

Each voter shall number the names of the candidate for each office in the order of his preference.

COUNTING OF VOTES.

The Scrutineers shall count the votes as follows:

(*a*) Each candidate shall be credited with the number of votes given for him by those voters who have marked him (1), and if any candidate be found to have an absolute majority of votes cast, he shall be declared to be elected.

(*b*) If no candidate have received an absolute majority, the candidate, or in case of equality, those candidates who have received fewest votes shall be excluded. The votes of those excluded shall be transferred to the candidates numbered (2) on their respective papers.

(*c*) If no candidate have received an absolute majority of votes cast, the procedure described under (*b*) shall be repeated, and so on until a candidate is found to have an absolute majority, when such candidate shall be declared to be elected.

After some discussion, the meeting adjourned for luncheon, and on resuming, Dr. BUIST suggested that, as the matter was rather complicated, it should be postponed until the next day, and this was agreed to.

FINANCIAL STATEMENT, 1908.

The TREASURER, in moving that the financial statement and balance sheet for the year 1908 be approved, said that, after paying their debts, there remained £732 to carry to reserve. In future the interest on the loan from the bank for the new premises would have to be met from current revenue; on the other hand, he was very glad to be able to tell the meeting, that the corner shop of the Agar Street premises had been let quite recently at a satisfactory rent, and he anticipated that eventually, and perhaps before very long, the Association would derive a considerable profit from the building. He desired to emphasize the fact that on the total receipts for the JOURNAL the loss for bad debts represented less than one-eighth per cent. He thought if bad debts incurred by members were only one-eighth per cent., or even a great deal more, they would be very glad. The fact reflected the very greatest possible credit on the management of the JOURNAL. With regard to the new premises, the amount standing to the debit of that account on December 31st, 1908, was £38,586. Dealing with the following quotation as to the financial outlook—

> The revenue from the JOURNAL has shown remarkable vitality at a time when newspaper proprietors had had much cause for anxiety; nevertheless, such revenue is liable to fluctuate considerably. The Association, like any other public body, must stand or fall upon the soundness of its financial position. If demands upon the resources of the Association continue to grow in the same degree, the most important question Members will have to decide is not so much what the Association is going to do, but how it is going to do it.

—the Treasurer thought the money the Association had spent so far had been very well spent. If had been spent for the benefit of the Association and for the Medical Profession outside the Association; but the Association could not go on spending to the same extent in that way unless Members of the Medical Profession outside the Association came in and helped them.

Estimate of Income and Expenditure for 1909.

The TREASURER said that there was an estimated deficit of £750 for the current year. The rent of the shop which had been let would not commence at once, because there was a considerable amount of work to be done to make the place tenantable: but the tenants were in possession. But he thought that it was quite possible that the deficit would be wiped out before that time next year.

APPORTIONMENT OF MEMBERS' SUBSCRIPTIONS.

The paragraph (9) of the Council's Report showing the apportionment of subscriptions was approved.

In moving the reception of paragraph (10) he said that he thought there were very few Members of the Association or Members of the Medical Profession who would not agree with him when he said that the BRITISH MEDICAL JOURNAL was not only equal, but superior, to any medical journal he had had the opportunity of reading.

Capitation Grants.

Mr. JAMES MCNIDDER (East York and North Lincoln) asked whether the reduction recommended

of the Capitation Grant to Branches from 4s. to 2s. had been allowed for in the estimate of receipts.

The TREASURER pointed out that a deduction of £1,500 was allowed for in that respect.

ARREARS OF SUBSCRIPTIONS.

Dr. W. L. MUIR (Glasgow Eastern) called attention to the amount of arrears of subscriptions, £900, and asked whether those subscriptions were ever to be paid. If those arrears of subscriptions were paid there would be a balance to the good. He thought that if a Member did not pay, a summons should be issued to compel him to pay.

The TREASURER replied that some subscriptions in arrear were eventually paid. While it was true that some medical men neglected repeated applications, it must also be remembered that there were medical men who left their families at death in such a position that the Association could not insist on payment.

Dr. EWART (Eastbourne) thought that in some cases Members in arrear were dealt with too leniently.

Dr. TODD (Sunderland) considered the matter important. He had discussed it with Mr. Elliston, who had sent him at the end of six months a list of those who were in arrears in his Branch. He had seen some of those gentlemen personally, and those he had not seen personally he had written to, and in the result he had got most of them to pay. He knew there were many men in his own Branch who would pay if they were pressed, and he thought it was a disgrace to the profession that these men should be allowed to get into arrears without legal steps to recover being taken. Arrears should not be allowed to go over so long a period as two years; and if a Member did not pay his subscription after sixteen months he should be struck off the roll of the Association and the JOURNAL should not be supplied to him.

Dr. GOYDER (Council) urged that Treasurers of Divisions should be supplied with a list of those who had not paid their subscriptions. He had had a good deal of experience in gathering in subscriptions, and he found that the default was often due not from real unwillingness to pay but to lack of power. If a list were sent to the Treasurer, the Treasurer would notify those whose subscriptions were in arrear, and in that way he thought they would be able to get them.

The FINANCIAL SECRETARY said that the figures published in the balance sheet made the percentage of loss larger than would turn out to be the case. Of the £912 that was being written off this year as a prudent measure it was fair to anticipate that during the next few years fully 50 per cent. would be recovered. That really meant that the loss should be reduced to something like £500, and when that was spread over the entire membership it represented a loss of only about 2 per cent., and it was really a very low percentage for so large a body. As regarded sending information to the local Secretaries of Members being in arrears, this was done, and the Secretaries were notified privately before the supply of the JOURNAL to any Member was stopped.

ISSUE OF SUPPLEMENT TO NON-MEMBERS.

Dr. HOWELL (Cleveland) asked whether the item, "Sundry sales, JOURNALS, £2,428," represented JOURNALS sold over and above those supplied to Members.

The CHAIRMAN replied in the affirmative.

Dr. HOWELL then asked whether, with the JOURNALS supplied to the public the SUPPLEMENT was also supplied, and whether he was right in supposing that a Resolution had been passed at a previous Representative Meeting to the effect that the SUPPLEMENT should not be so supplied.

The TREASURER said that the SUPPLEMENT was part of the JOURNAL, and it would be very inconvenient as regards the postage to send the JOURNAL apart from the SUPPLEMENT.

Dr. DOUGLAS (Maidstone, and Rochester and Chatham) asked whether the difficulty might not be got over by putting a note: "This is supplied to others than the Members of the Association without the SUPPLEMENT, which is purely a matter of business." He asked the Council to take the matter into consideration.

The TREASURER said the Council had had it under consideration; but the difficulties in the way of carrying out what had been suggested would be almost insuperable.

Dr. GOFF (Lanarkshire) thought it was resolved last year that the SUPPLEMENT should not be supplied to others than Members of the Association. The SUPPLEMENT was always a separate thing. Though the JOURNALS sent to Members of the Association were sent by post, he presumed that the other JOURNALS were not; and it seemed to him that it would be very easy to omit the SUPPLEMENT from those which were not sent by post, and which went to non-members.

Dr. TODD said that the matter was really an important one. In the North of England, it had been found that they were supplying the sinews of war to their opponents by giving information to others which should be kept to Members alone. He did not see why it was impossible to send the JOURNAL without the SUPPLEMENT, because he understood there were kindred societies who send their supplements or their supernumerary notes to their members alone, and did not send them to outsiders who were subscribers.

The TREASURER would certainly not like to say it was impossible; but there was a certain amount of news given in the SUPPLEMENT apart from the business of the Association. For instance, there were the Public Health statistics, which were for the benefit of the community generally. At the same time, if the Meeting thought the matter should be again considered, he was quite willing that it should. If the Meeting was of opinion that it was inadvisable that the SUPPLEMENT should be sent to anybody except Members, the Council and the Journal and Finance Committee, he was quite sure, would do their very best to carry that out; but there were difficulties from the business point of the matter, and in the make-up of the JOURNAL.

Dr. HOWELL said that he had not had an answer to his question as to whether there had not been a Resolution passed by the Representative Body to the effect that the SUPPLEMENT should not be supplied to the general public.

The CHAIRMAN stated that a Resolution had been passed to the effect that the SUPPLEMENT to the JOURNAL should, if possible, not be issued with the JOURNAL otherwise than to Members. They would have to register it as a newspaper, and send it out under a special cover at double postage.

Dr. BUIST moved:

That it be an instruction to the Council to present to the next Representative Meeting a Report on the practicability of not issuing the SUPPLEMENT to non-members.

Mr. ARMIT (Hampstead) seconded.

Dr. FOTHERGILL moved as an Amendment:

That the Resolution should read, "the practicability of not issuing the private affairs appearing in the SUPPLEMENT."

He suggested that there might be a different periodical called by a different name entirely, which could be sent to the Members, and not sent out at all to the public. The Amendment was not seconded.

Dr. NASH asked whether Dr. Buist would accept the addition of the words, "and reconsider the make-up of the SUPPLEMENT." It seemed to him that such things as public health statistics and information with regard to appointments might very well go into the JOURNAL.

The CHAIRMAN said he did not think it was necessary to alter the wording of the Motion in order to carry out what Dr. Nash desired.

Dr. THOMAS FORT (Oldham) asked why the Council had not carried out the Resolution which had been passed.

The CHAIRMAN replied that up to the present the Council had not seen their way to carry it out.

Dr. JOHNSON SMYTH (Bournemouth) said the present discussion seemed to hinge upon the belief that if the SUPPLEMENT was not issued with the JOURNAL the enemy would not be aware of the private

affairs of the Association. The enemy was very wide awake, and whether the SUPPLEMENT was issued with the JOURNAL or not he would certainly obtain information.

Dr. ROBERTSON (Glasgow Southern) wished to move that the *status quo* be maintained.

The CHAIRMAN pointed out that that object would be attained if Dr. Buist's Motion was rejected.

Dr. ROBERTSON did not think it was desirable to alter the present state of things. He was quite certain that considering the large number of SUPPLEMENTS issued throughout the length and breadth of the country, if any one wanted to find out what was in the SUPPLEMENT he would succeed. He had never seen anything in the SUPPLEMENT which he would mind anybody reading. The Association was not trying to hide under a bushel what it was doing.

A Motion that the question be now put was carried; and Dr. Buist's Motion was put to the Meeting and carried.

The CHAIRMAN said the Treasurer's Motion was still under consideration—namely, "That the financial statement and balance-sheet for the year 1908 be approved."

The Motion was put to the Meeting and declared carried.

DIVISION OF SUBSCRIPTIONS TO THE ASSOCIATION INTO TWO GRADES.

Dr. BROWN (Rochdale and Bury) moved as a Rider:

That, in the opinion of the Representative Meeting, it is desirable that there be two grades of subscriptions, one, as at present, to include membership of the Association and JOURNAL, and one—say, at 10s. 6d. annually—to include membership of the Association and the SUPPLEMENT of the JOURNAL only; and that the Council be instructed to consider how effect can best be given to this proposal.

He said that, in spite of efforts to increase the number of Members his Division contained only a little over 50 per cent. of the medical men in the area. To the question asked by some as to what the Association was doing for them, the reply was that it had been doing a great deal for all the profession, both those inside and outside. On the other hand, others said, 'We do not care for your Divisional Meetings; we get the JOURNAL, and that is all we want." But the Association would not be as strong as it ought to be if based solely on the JOURNAL. His Division thought it might be possible to have a membership consisting of two grades of subscriptions. At first their suggestion was to have two classes of Members, but that was ruled out of order by the Chairman; consequently the idea was to have only one class of membership, some having the JOURNAL and paying a little higher subscription than the Members who did not take the JOURNAL. He thought there should be a subscription of one guinea without the JOURNAL, and of 25s. with the JOURNAL. They were competing with journals which were offering insurances.

The CHAIRMAN pointed out that Dr. Brown's Resolution would necessitate an alteration of the Articles of Association, for which there would have to be a general meeting followed by a confirmatory meeting. It could not otherwise become operative.

Dr. MUIR said a similar resolution was brought forward by his Division at the Meeting in Caxton Hall, and the then Chairman, Sir Victor Horsley, ruled it out of order, in which decision he acquiesced.

The CHAIRMAN said Dr. Muir was quite right. He would put it to the Meeting: Was it worth while to discuss the matter? ["No, no."] He did not wish to throw cold water on Dr. Brown's enthusiasm, but it would be only wasting time to go on with it.

Dr. BROWN asked the Chairman to take a vote on his Resolution.

The CHAIRMAN then put Dr. Brown's Motion to the Meeting, when it was lost, only one hand being held up in favour of it.

FINANCIAL POSITION OF THE ASSOCIATION.

Dr. GORDON (Exeter) in moving,

That a Special Committee be appointed to consider the financial position of the Association,

said he would in the first place point out that his Resolution was moved by himself and not by his Division, and would therefore require a seconder. The Motion was not brought before the Meeting as suggesting any reflection on any person or any Committee which had to do with the finances of the Association. It was satisfactory to hear that next year a deficit need no longer be contemplated, but it did not touch the figures that he wished to place before the Meeting. He would give his figures very shortly. In the year 1900, with an income of £43,263, there was a surplus of £6,272; in 1909, after omitting the capitation grants to Branches, the income was £49,736, or more than £6,000 a year increase, and there was a surplus of only £732; that is to say, nearly £6,000 a year less was saved. He would not insist on the figures of 1900, because he thought that might be rather unfair, that year being rather an exceptional year. Taking the next year, 1901, with an income of £43,730, there was a surplus of £4,963, or just under £5,000—that is to say, taking 1901 and comparing it with the present year, the expenses since had increased by £11,000 a year. Of course, they must increase, because the Association was doing a great deal of work, and he would be the last to suggest that the work which had been done had not been carried out with the intention of doing the very best for the profession. They might differ in their views with regard to it, but that fact would remain. In his opinion, the work was costing too much. There were many things that might be done if there were a surplus. The Association ought to be able to subsidize one or two things, and, in his opinion, £11,000 for the work before the Meeting was too large an outlay. He thought his Motion was almost suggested by a paragraph quoted by the Treasurer from the Council's Report warning the Association that it must look into the finances. He proposed that a small Committee be appointed to see where expenses could be cut down without diminishing efficiency. There was a feeling throughout the Association that too much money had been spent, and the Bought Members should be satisfied that matters were being looked into. There was a large amount of expense arising from Committees which he thought might be avoided. Some eleven years ago the Army and Navy Committee, of which he had been a member, undertook work of a very exhaustive character, extending over two years. During that time only five Meetings were held, and the enormous mass of correspondence and literature to be gone through was done by means of the post without bringing people to London. By having fewer Committees, by amalgamating them, by having fewer Members on them and fewer Meetings, and by using the post to a larger extent, he thought a great deal of money would be saved.

Dr. A. WALKER (South and North-East Edinburgh), in seconding, said that there was no attempt to express any sort of dissatisfaction with those who had guided the affairs of the Association financially hitherto; but to consider the financial position and endeavour to rectify it here and there could do no harm. While it was probably impossible in such an Association to fix upon any one particular item as being extravagant, yet possibly in small matters of detail extravagance would be detected, and the total might be considerable. As a slight example of unnecessary expenditure, he instanced the issue of a circular announcing a golfing fixture for the following day, when a small paragraph in the JOURNAL would have obviated the printing and posting of some 200 circulars. In itself that might be a small matter, but it was in the accumulation of such small matters that extravagance arose. The justification for the appointment of such a Committee as was proposed occurred in the Council's Report, which showed the finances to be unsatisfactory. While every one was glad to hear there was a prospect of recovery, yet it must be borne in mind that the Association had entered upon a speculation in the erection of that enormous building in the Strand. ["No, no."] It was speculation. A very large amount of capital had been put into the premises.

Dr. Buist inquired whether the proposal was to have a Special Committee appointed by the Representative Meeting.

Dr. Gordon said he intended it to be appointed by the Representative Meeting that day.

Dr. Douglas thought Dr. Gordon had forgotten the Report of the Special Finance Inquiry Committee last year.

Mr. F. C. Larkin said he believed it was only three years since his Branch published a more alarming description of the financial state of the Association than Dr. Gordon had given. Dr. Gordon had almost paraphrased their report, the result of which was the appointment of the Special Finance Inquiry Committee, which was, perhaps, the most excellent report on finance or anything else the Association had published. The answer to everything Dr. Gordon had said was contained in that report. He opposed Dr. Gordon's motion because he thought it an unnecessary expense after all the work had been done two years ago.

Mr. Kinsey (Bedford), speaking as one who had seen a great deal of the internal work of the office, thought there was no course which would be more expensive than than of adding to the work of the Secretaries. The appointment of a Committee would involve taking the Secretaries away from the regular routine work which they had already too much of, and for that reason such a Committee would be in itself very expensive. He deprecated the idea of having smaller Committees and less frequent meetings, because that would mean that smaller Committees with fewer meetings would have to give a great deal more time to the work, and that demand was not justified. The more the work was spread over the Members the better.

The Treasurer had no doubt that if such a Committee as that proposed were formed it might perhaps be able to introduce some economies, but the cost of the Committee would be infinitely greater than any economies which might be effected. The work of the Association was infinitely greater than eight or nine years ago. The larger circulation of the Journal alone accounted for £500 a year. The staff was larger and clerks more numerous, more had to be paid in salaries, and a vast deal more work was being done. If the comparison were taken back further still, it would be found the Association saved thousands a year and did nothing for the Profession, and he was of opinion that it had still more work to do, and that the money spent in the future would be very well spent on behalf of those who were going to follow them. He strongly condemned the statement that the new building was a speculation. Was the plot of land in the Strand to be left vacant, or was the Association to sell it and migrate elsewhere? No! The Association deserved a good home, and it had a good home, and that home was going to pay for itself and contribute considerably towards the funds of the Association. He thought the Meeting had not heard a single point upon which anything could be said beyond the sending out of some golf circulars. Not much money had been spent on the social side of the Association.

The Motion was then put, two voting for it, and it was declared lost.

British Medical Journal.

On the motion that paragraph 10 (the British Medical Journal) be approved,

Dr. Laffan (Carlow, Kilkenny, and Waterford) moved:

> That, in the opinion of the Representative Meeting, the British Medical Journal should more largely advocate the rights, interests, and claims of the medical masses in the future than it has done in the past.

He desired only formally to move it. It was the desire of his Branch or Division to afford an opportunity to Members of reflecting over the precise value they were getting from their Journal, and also to furnish food for reflection to those who conducted it. If a man was in the habit of reading his paper and found it interesting, nothing he could say would be likely to induce him to change his opinion.

A Representative: Who are the "masses"?

The Chairman: I do not think that is a question that requires any answer.

After some discussion the motion was withdrawn, Dr. Laffan expressing himself satisfied with having drawn attention to the matter.

Advertisements.

Dr. E. D. Kirby (Birmingham Central) moved:

> That the advertisement of patent foods, proprietary remedies, and the like in the British Medical Journal is calculated to authenticate in the eyes both of the medical profession and of the public, the preposterous and often mendacious claims of the vendors, and that the present condition of the advertisement pages is, in this respect, not creditable to the Association.

Any one who examined the advertisement columns of the British Medical Journal would, he thought, see many advertisements he would rather not have seen. Many of the remedies there advertised were almost to be classed among quack remedies, a "quack remedy" being one of which they did not know the exact composition, and which was widely advertised in the lay press. Remedies were advertised in the British Medical Journal which came under that definition. Of course, he would be told that quack remedies always have existed and always would exist, and why should not the Journal get as much money out of them as possible, that they did the profession a great deal of harm, and it was only by receiving pay for these advertisements they could get any plunder out of them. He did not think that was sound argument; he was sure it was not a very high one. It was not sound argument because the advertisers of these foods were not fools, and would not advertise unless they found it paid them, and he did not believe there was a single self-respecting medical man who took much notice of these advertised remedies and preparations. It was not, therefore, from the medical men that the proprietors of these remedies expected to get a return but from the public, because the fact of their appearing in a journal of the standing of the British Medical Journal seemed to give a *cachet* to the remedies, and seemed in the eyes of the public to authenticate all that was said about them, and so the public more largely bought them, to its ultimate detriment. Dr. Kirby proceeded to mention a number of advertisements which he thought objectionable.

Mr. Ballance (Norwich) thought they should get sufficient information before coming to a definite conclusion as to the amount of money they were going to lose.

Dr. Johnson Smyth thought the Association could not give assurance of the veracity of every line that appeared in the advertising pages of the Journal.

Dr. Stanley A. Gill (Southport) protested against the prostitution of the pages of the Journal because the Association wanted money.

Dr. F. E. Wynne (Leigh and Wigan) said that he did not think that the fact of an advertisement appearing in the Journal carried with it any real sanction.

Dr. Douglas suggested that the matter should be referred to the Council.

Dr. D. Campbell Watt said that as a matter of practical politics there were undoubtedly difficulties in the way; but it seemed to him that a medium course might be adopted. It might be possible to insist that for a secret remedy to be advertised in the Journal, the contents should be disclosed to the Manager of the Journal.

Dr. G. Westby (Liverpool Southern) said that the last proposal would tend to guarantee those advertisements which appeared. Would it not be well to refer the matter for the consideration of the Journal and Finance Committee?

Dr. R. Wallace Henry (Leicester and Rutland) suggested that the words after the word "vendors" should be omitted.

Dr. E. D. Kirby accepted the proposal. It had been pointed out to him that the last three lines were a sort of reflection upon the management but he was sure that nothing of the

sort was thought of by the Division when it framed the Resolution. It thought that if anybody was to be blamed it was the Journal and Finance Committee.

Lieutenant-Colonel CURME (West Dorset) said that his Division felt very strongly upon the matter, and if the proposal which had been made had not come forward, it would have proposed something similar. Although an advertisement might not have editorial commendation, still the public might look upon the fact of its appearing in the JOURNAL as a more or less direct authority for its genuineness. Advertisements ought not to be inserted without very strict supervision. If the thing was wrong the question of money ought not to come in at all.

Dr. DREW (Oxford) asked for an expression of opinion from the Treasurer as to what carrying out of the proposal would be likely to cost the Association.

The TREASURER said that it would not be possible to say. The JOURNAL already refused a considerable number of advertisements, and that refusal cost about £1,000 a year. If members looked over the advertisements of the JOURNAL they would see that there was very little to complain of. Sometimes an objectionable advertisement slipped in. There was one expression in the Resolution against which he must protest in the name of his professional brethren—namely, the expression that advertisement in the BRITISH MEDICAL JOURNAL was calculated to authenticate a claim in the eyes of the Medical Profession. The Medical Profession were not such fools.

Dr. MACLEAN (Cardiff) asked Dr. Kirby whether he would accept the interpolation of the word "certain" immediately before the words "patent foods."

Dr. KIRBY adopted the suggestion.

Dr. J. H. TAYLOR (Salford) said that the Birmingham (Central) Division could not have realized the difficulties of this matter. To accept the Resolution would only be to land in a still greater difficulty, for not only would the advertisements be lost, but by excluding advertisements considered to be wrong, a guarantee would be given to those that were retained. That meant that they must be guaranteed by examination. He hoped the Resolution would not be carried.

The CHAIRMAN suggested to Dr. Kirby that as the subject had been well ventilated, he might drop the first of the Resolutions, and take a vote upon the second one.

Dr. KIRBY, with the consent of the meeting, agreed to this course. He then moved:

That the Council instruct the Journal and Finance Committee to appoint annually a Subcommittee for the revision of advertisements; and that no advertisement be accepted for publication in the BRITISH MEDICAL JOURNAL until it has been approved by the Subcommittee; and the Subcommittee shall not allow any advertisement to appear which contains misleading or exaggerated statements, nor any advertisement of any preparation or appliance which is advertised elsewhere than in the medical press as a remedy for any morbid condition, and is of such a character that its use demands medical supervision in the interests of the patient, or which is anywhere advertised in misleading or exaggerated terms.

Mr. BALLANCE moved as an Amendment that the Resolution be referred to the Council for consideration and report.

The CHAIRMAN stated that it was rather difficult to accept this as an Amendment, and asked Dr. Kirby whether he would be willing that the following should be put: "That the following Motion of the Birmingham (Central) Division," setting it out, "be referred to the Council for consideration and report."

Dr. KIRBY agreed.

In reply to Dr. FOTHERGILL, the CHAIRMAN stated that if the Resolution were passed the Meeting would not be expressing an opinion upon the matter, but referring the whole matter for consideration to the Council.

The Motion was put to the Meeting and carried.

Dr. MUIR moved:

That the Council take into consideration the advisability of establishing an accident policy in connexion with the BRITISH MEDICAL JOURNAL.

He said he had been asked to bring this matter before the Meeting because another journal had offered this advantage.

Dr. BROWN (Rochdale) seconded.

Dr. WALTER SMITH (St. Pancras and Islington) asked if the proposal could be carried out without a Charter.

Mr. HEMPSON (Solicitor) said it would not be within the powers of the Association, as it would be constituting itself an insurance company. If it were done through an insurance company there would have to be individual contracts.

After some further discussion,

The CHAIRMAN put the Motion to the Meeting, when 61 voted in favour of it and 39 against.

COMMITTEES—FORM OF REPORTS: MATTERS REFERRED.

The TREASURER moved:

That paragraphs 11 to 15 (Committees—Form of Report and List of Matters Referred) be approved.

(See Report of Council, SUPPLEMENT, May 22nd, 1909, p. 287.)

The Motion was carried unanimously.

CENTRAL ETHICAL COMMITTEE.

Use of Reprints for Advertising Purposes.

Mr. KINSEY (Chairman of the Ethical Committee) moved:

That the following Recommendation of the Council be adopted:

That it is the professional duty of Medical Authors of articles in Medical Journals to co-operate with the proprietors and editors of those journals in preventing any improper use of such articles for purposes of advertisement.

He explained that the object was to ensure co-operation between the author of an article and the journal in order to checkmate the unscrupulous advertiser.

The Motion was adopted.

Approval of Report.

On the Motion of Mr. KINSEY, the remainder of the Annual Report of Council under the heading "Central Ethical Committee" (SUPPLEMENT, May 22nd, p. 288) was approved.

SPECIAL CLASS OF CONSULTANTS.

Mr. KINSEY moved:

That the Report on the Recognition of a Special Class of Consultants be referred to the Divisions, and that the Council be instructed to consider the replies and submit a further Report to the Representative Meeting.

The object was to unify the interests of the general practitioner and the specialist. At present it could not but be felt that very often the general practitioner used his influence to prevent a patient going to a specialist, and all knew the reasons. It was desirable to do away with such a condition of things, and to ensure that the patient should always get the necessary advice. In the first place, it was desired to remove all cause of jealousy of specialists on the part of general practitioners, and to make quite sure that the general practitioner would not lose his patient by sending him to the specialist. On the other hand, it was desired that the general practitioner should, as far as possible, choose the specialist for the patient, because the frivolous reasons for which patients very often went to specialists when they chose them for themselves were well known. If some consensus of opinion could be obtained by means of which it could be ensured that the patient should trust the general practitioner to choose the specialist for him, it would be much better for the specialist, the general practitioner, and the patient. Further, it was desired that the specialist, instead of doing anything to appeal to the public, should appeal to the general practitioner, so that there would be more confidence between the various members of the profession in those two classes, and also more confidence on the part of the public towards the whole profession. He directed special attention to the following points in the Report:

(1) The desirability of such recognition on the interests of the community;
(2) The influence of such recognition upon the interests of existing branches of the profession;
(3) The possible means of formal recognition of such a class;
(4) The relations that should subsist between the members of such a class and other practitioners.

And, further, to the words:

> By the establishment of a class of pure consultants in all specialities, the following risks, which are at present very material, should be minimized to the undoubted advantage of the community:
>
> (a) The undue restraint by the general practitioner of a patient from seeking special advice.
>
> (b) The choice by a patient of a form of specialism unsuited to his condition.
>
> (c) The choice by a patient of a practitioner as a specialist whose experience and capacity do not justify him in assuming the position.
>
> This plan might therefore be expected to cause a considerable increase in the number of consultations between general practitioners and those who are devoting themselves to the study of limited branches of professional work, and to distribute such consultations more evenly amongst the consultants.

It would be much better for the consultants. They would see fewer patients, but they would, of course, receive larger fees in proportion to the amount of attention and work which they put in; and on the other hand, it would be very much to the advantage of the general practitioner, because if he knew that the consultant was really competent in the branch which he professed and for which he was seeing his patient, and he knew that he was receiving a proper and substantial and adequate fee, then the general practitioner might very properly expect to have such a letter as would set him *en rapport* with the whole of the facts of the case so far as they were known to the specialist himself.

Dr. Fothergill thought the views of the consultants upon this question should be ascertained. Many specialists held a very strong opinion that general practitioners did not act quite fairly towards them. Did the Committee propose to have a conference with the consultants with a view to coming to an amicable arrangement?

Mr. Muir said that in Glasgow there were very few pure consultants. But there was a large proportion of quasi-consultants who really were general practitioners, and, consequently, the feeling was that when a general practitioner sent a patient to one of these quasi-consultants he would never see that patient again. The report contained a perfect series of clauses for protection if they could be carried out.

Dr. Nash said that many members of the consulting class in London had a considerable amount of general practice at large fees. He was speaking of men who held positions in some of the best known hospitals. Their view was that their wealthy patients would not have the general practitioner, but were prepared to pay large fees.

Dr. R. Wallace Henry said that a large number of people had no regular family doctor. Amongst the poorer classes, he found that during the past year 55 per cent. of those he had seen had neither a private nor a club doctor. Amongst the better class of people, the proportion was probably not quite so large, but he thought it would be probably found to be in fact 30 per cent. He put the case of a member of a family requiring a pair of spectacles: he would go to an ophthalmic surgeon in order to know what spectacles he ought to have, and the consultant would prescribe them. Was he to insist that the patient must have a family doctor before he provided the spectacles, or was he to insist that he should get a family doctor as soon as he prescribed the spectacles?

Dr. Lauriston Shaw (Council) said that the Ethical Committee was of opinion that it was not necessary that this Report, before it went to the Divisions, should be submitted to some body of consultants. The Ethical Committee did not think it necessary or intend to compel any member of the profession to take up any particular line of practice; it was purely a voluntary arrangement, and personally he was of opinion that if once it was adopted by any large body the consultants would be the first to benefit by it. He did not think it would be necessary to endeavour to restrict anybody's practice. Let him practise in any particular way he liked, if only he would adopt the regulations which the Ethical Committee would be prepared to draw up. He thought that was the answer to be given to the question how they would deal with the quasi-consultant. Make provisions to deal with him by making it worth his while to give up being a "quasi" and become a "pure" consultant.

Dr. Campbell Watt asked if it was proposed to give the consultant any protection against one general practitioner calling in another general practitioner in consultation. Were they going to restrict the consultant as against the general practitioner, and restrict the general practitioner from consulting with another general practitioner?

Mr. Kinsey thought that the present state of things was not satisfactory. It was not satisfactory to either of the three classes concerned. But a great reform could not be effected all at once; the idea must be first of all thoroughly digested. The present proposals meant a considerable improvement—that "pure" consultants, in the proper sense of the term, should be recognized by the profession as such. One general practitioner could not be prevented from calling in another general practitioner. No violent attempt at reform was desired. What was desired was that the best work should be done, and that was only possible through friendly co-operation between the general practitioner and the "pure" consultant. If Members present were thoroughly convinced, and if the general practitioners were convinced, that the present state of things was unsatisfactory and ought to be amended, and that this was an honest and upright way of trying to amend it, then, he thought, they would see their way to approving the Report.

The Motion was carried.

Mr. Kinsey moved:

> That the Representative Meeting authorize the Council to amend the second paragraph of the Report on the Ethics of Consultation, approved by the Sheffield Meeting, in accordance with the suggestions contained in paragraph 3, Supplementary Report of the Council.

It was desirable to modify the definition so as to exclude from the term "consultant" those who were called in by employers, and it would not answer the purpose of the company to have the two doctors consulting together. He asked the Meeting to accept the Resolution to instruct the Committee to draw up a special Report dealing with cases where the consultant was not called in either by the patient or by the patient's friend, but by an independent party altogether for their own purposes.

Dr. E. Vipont Brown (Manchester, South) moved as an Amendment:

> That the second paragraph of the Report on the Ethics of Consultation be amended in accordance with the following rule: "No practitioner shall examine a patient who is being attended by another practitioner without first communicating with the attending practitioner, in order to give him an opportunity of being present at the examination. This shall apply whether the examination is at the request of the patient or of the patient's friend, or an employer, or an insurance society, or any other person or persons similarly interested, the only exception being when the examination is ordered by a judge in court."

Dr. Bradbrook (Buckinghamshire) did not think the amendment would be universally applicable, because there must be many instances of minor consultations and examinations which would not conveniently come under its provisions. Examples occurred to him rather frequently as a railway doctor. He had to examine a great many cases under the Compensation Act, as many as two or three came in a day, and it would be out of the question to make arrangements with the attending private practitioner in every one of those cases. He had never had a misunderstanding with any of his neighbours on that account. In his opinion the Amendment would be unworkable.

The Chairman said that the proposal involved an alteration of policy, and ought, he thought, to be referred to the Ethical Committee. This was agreed to, as was also the original motion.

Mr. Kinsey then moved, and it was resolved:

> That the Council be instructed to prepare and submit to the Divisions a Report on the position of Medical Practitioners who are called upon to examine, on behalf of employers, insurance companies, and persons similarly interested, patients who are under the care of other Practitioners.

Mr. KINSEY moved, and it was resolved:

That the remainder of the Supplementary Report of the Council under the heading "Central Ethical Committee" be approved.

Dr. PULLON (Burnley) asked if the Report would shortly be published. Various Divisions were suffering from the absence of these rules.

Mr. KINSEY said it was rather a serious business to draw up rules, but he hoped they would be submitted to the next Representative Meeting, and they would, he supposed, be circulated to the Divisions before then. Perhaps the Meeting would allow him to mention two points which were constantly escaping the notice of Secretaries, and getting people into a great deal of trouble. One was the first principle, which required that when a man had a complaint against another he should take the preliminary step of seeing his adversary, and trying to come to a friendly agreement with him. The next thing was still more important, and that was that the Association and its Divisions were only privileged as long as they could keep to ethical matters within their own cognizance. It was constantly happening, and with very serious legal results, that secretaries wrote to Members of the Profession who were not Members of the Association, and told them things which were not privileged, forgetting that there was such a thing as an action for libel. It was absolutely necessary that they should all understand that they were only privileged in very important matters as long as they confined themselves within the limits of the Association. In all the ethical cases that were brought before the Council the names were suppressed as well as the localities, so that only the Ethical Committee knew who the people were and where they lived. The Council had to give its opinion on an abstract question; it was not safe to go further than that.

CHLOROFORM COMMITTEE.

The TREASURER moved, and it was resolved:

That paragraph 21 of the Annual Report of Council (Chloroform Committee) be approved. (See SUPPLEMENT, May 22nd, p. 283.)

COLONIAL COMMITTEE.

The TREASURER moved, and it was resolved:

That paragraph 22 of the Annual Report of Council (Colonial Committee) be approved. (See SUPPLEMENT, May 22nd, p. 288.)

IRISH COMMITTEE.

The paragraph (34) of the Annual Report of Council referring to the Irish Committee (SUPPLEMENT, May 22nd, p. 290) was approved.

[Mr. BALLANCE, Deputy Chairman, took the chair at this stage.]

JOURNAL AND FINANCE COMMITTEE.

The paragraph (35) in the Report of the Council on the Journal and Finance Committee (SUPPLEMENT, May 22nd, p. 290) was then considered in the absence of the officials of the Association. The following is an extract from the Minutes:

Proposed by the TREASURER:

That the title of the office formerly known as that of General Secretary and Manager be henceforth Financial Secretary and Business Manager.

Whereupon an Amendment was proposed by Mr. A. J DREW (Oxford):

That Minute 544 of the Annual Representative Meeting, 1908, be rescinded, and that, in view of the practical experience of the last thirty-seven years, during which period the Association has enjoyed great financial prosperity, it has been proved that in the best interests of the British Medical Association it is essential to have an official with the rank and status of "General Secretary and Manager," and that such official should possess special business training. Further, that having regard to the highly satisfactory manner in which Mr. Guy Elliston has discharged the duties since his appointment in 1902, it is in the interests of the Association that his services should be retained as General Secretary and Manager.

The DEPUTY CHAIRMAN ruled that the Amendment must be taken in three parts, and that the first line and a half, down to the word "rescinded," must be taken first.

The Amendment was rejected by 14 to 103.

Whereupon an Amendment was proposed by Dr. EWEN J. MACLEAN (Cardiff Division):

That the following words be added to the Recommendation of the Council: "And that it be referred to the Council to define the duties of this office and of that of Medical Secretary in accordance with the principle set forth in Minute 544 of the Representative Meeting of July, 1908."

The DEPUTY CHAIRMAN ruled that Dr. Maclean's Motion must be taken as a Rider.

Whereupon an Amendment was proposed by Dr. METCALFE:

That the title be Business Secretary.

The DEPUTY CHAIRMAN ruled the Amendment out of order.

Whereupon an Amendment was proposed by Dr. DOUGLAS:

That the title be Financial and Business Secretary.

The DEPUTY CHAIRMAN ruled the Amendment out of order.

Mr. STRATON inquired whether, inasmuch as the Articles and By-laws provide for certain duties to be discharged by the General Secretary, it was not necessary that there be an officer so designated.

The CHAIRMAN OF REPRESENTATIVE MEETINGS reported, in reply, that he had already obtained the Solicitor's opinion on the matter, and was advised that it was not necessary.

Resolved (103 to 6):

That the title of the Officer formerly known as that of General Secretary and Manager be henceforth Financial Secretary and Business Manager.

Proposed, as a Rider, by Dr. MACLEAN (Cardiff) seconded by Dr. W. E. THOMAS (North Glamorgan and Brecknock), and resolved (*nem. con.*):

That it be referred to the Council to define the duties of this office and of that of Medical Secretary, in accordance with the principles set forth in Minute 544 of the Annual Representative Meeting of July, 1908.

Proposed by the TREASURER and resolved:

That the remainder of the Annual Report under the heading "Journal and Finance Committee" be approved.

Proposed by the TREASURER and resolved:

That the Supplementary Report of the Council under the heading "Journal and Finance Committee" be approved.

Proposed by Dr. E. R. FOTHERGILL (Wandsworth), seconded by Dr. J. BROWN (Rochdale):

That with reference to paragraph (3) of the Supplementary Report, it be an instruction to the Council, before reporting to the Representative Meeting, to consult, when possible, the Branch or Division that has placed the Motion on the Agenda.

The Rider was carried.

MEDICO-POLITICAL COMMITTEE.

Dr. J. A. MACDONALD (Chairman of the Committee) said its principal recommendations (SUPPLEMENT, May 22nd, p. 290) had reference to the medical inspection of school children.

Medical Inspection of School Children.

The Motion was that the following Recommendation of the Council be adopted:

That, in the opinion of the Representative Meeting, the duties of the office of Assistant Medical Officer of Health, and the general arrangements, should be such as would enable the holder to base a claim for an appointment elsewhere as Medical Officer of Health upon the experience gained in this appointment. It would appear, *prima facie*, that one condition of this should be that he should be the officer not merely of the Education Committee, but also of the Sanitary Committee of the Corporation.

Dr. MACDONALD said that the Association had adopted the policy that an Assistant Inspector of School Children should not accept a lower salary than £250 a year, but it had been found that some of the local authorities tried to dodge the regulation by appointing what they called "Assistant Medical Officers of Health," and asking them to do medical inspection of school children. There had been a dispute with a local authority, and the following question was put before it: "Suppose this gentleman who has been appointed as Assistant Medical Officer of Health, and has been doing work as Inspector of School Children, applies for a situation as Medical Officer of Health in

some other district, could you give him a recommendation to that effect?" The local authority had to acknowledge that they could not.

Dr. PULLON moved the following Amendment by the Burnley Division:

"That the foregoing Motion be amended by the deletion of all words after "appointment" in the seventh line and inserting: "It would therefore seem that a person whose whole time, or greater part of it, during the school session and during school hours, is taken up with the duties of medical inspection of school children is ineligible for the title 'Assistant Medical Officer of Health,' and ought to be designated 'School Medical Officer,' or some similar title, and should receive the remuneration agreed upon by this Association for such work, whether he be under the supervision of the Medical Officer of Health or not."

The Medical Profession in Burnley had been placed in a difficulty because of the vagueness and indefiniteness of the last sentence of the Resolution adopted by the Council. An Assistant Medical Officer of Health so-called had been appointed, the recommendation being that he should receive £150 per annum, which was subsequently increased to £200, at which salary he was appointed. Although the appointee was not a member of the Association, yet, owing to the action taken by the Burnley Division, the Sanitary Committee, of which the medical officer was nominally the servant, although he was actually doing school work, raised his salary to £250. At the same time it was highly desirable that the matter should be more clearly defined, and capable of only one construction.

Dr. F. P. BASSETT (St. Helens and Warrington) hoped this Amendment would not be proceeded with. There were many places in which it was not possible to employ a whole-time officer at a salary of £250 a year in connexion with school work alone. But in many cases it could be made worth the while of a man with a career before him by allowing him to learn the real work of a Medical Officer of Health, so that his work as Assistant Medical Officer of Health could be used as a stepping-stone to other appointments. It was not correct to say that the work of the School Medical Officer was entirely confined to inspecting school children, there was also the work of inspecting school buildings, and other work in which the school officer was acting for the Medical Officer of Health. He thought that the work of the medical inspection of school children alone would be found to be so monotonous and laborious that men would be very unwilling to keep to it. It would be a pity to close the door of the Public Health Department to men, and women also, whose work was distinctly in a department of the Public Health, and he hoped the Recommendation of the Council would be adopted.

In answer to the DEPUTY CHAIRMAN,

Dr. PULLON said it appeared that any person whose whole time or the greater part of whose time during the school session was taken up by the medical inspection of the school children was to be appointed Assistant Medical Officer of Health and to be designated School Medical Officer. He thought the last speaker had not dealt with that phase of the question. It was easily to be understood that in certain boroughs it was essential that one officer should be capable of doing the dual work, while in the large county boroughs there was more work than could be done by one medical officer of health.

The DEPUTY CHAIRMAN wished to know whether, during part of the school session, when the school medical officer was not engaged in the inspection of school children, he would do some work as assistant medical officer of health, and during the vacation spend the whole of his time as assistant medical officer?

Dr. PULLON replied in the affirmative; but the vacation was a small proportion of the year's work.

The TREASURER said that in Stockport he had insisted that the School Medical Officer should be the servant of and paid by the Education Committee. In a borough of 10,000 people, the work would take the whole time of the officer.

Mr. LARKIN thought that extra duties as Medical Officer of Health should not be assigned to a man who was devoting the whole of his time to the duty of inspection. He thought the career supposed thus to be opened out delusive. There were so many Assistant Medical Officers of Health that to call them Assistant Medical Officers of Health gave them little chance of promotion to be Medical Officers of Health; and as a matter of fact, their training would not suit them for such promotion.

Sir VICTOR HORSLEY (Marylebone) was prepared to accept any proposal of this kind which would prevent the medical officers of a municipality having the beggarly salary of £150 a year.

Dr. MACLEAN stated that the result of the action taken in Cardiff was that the salary of the medical officer had been raised to £250 a year; the School Medical Officer now undoubtedly had a certain status in public health work, and, in the absence of the Medical Officer of Health of the city, took his place.

Dr. THOMAS (North Glamorgan and Brecknock) supported the Amendment moved by the Representative of the Burnley Division. In Rhondda one School Medical Officer had been appointed at a salary of £250, rising by annual increments of £10 to £300; and also an Assistant Medical Officer of Health, who devoted part of his time to school work, starting at £250 and rising to £350 by annual increments of £10. He thought that was the position which ought to be taken up, and therefore supported the Burnley Amendment in preference to the Recommendation of the Medico-Political Committee.

Dr. J. BROWN asked whether the Medico-Political Committee assumed that the Assistant Medical Officer of Health had the D.P.H., without which a man was not eligible to be an Assistant Medical Officer of Health. So that unless the Committee assumed that the Medical Inspector of Schools had the D.P.H. the Resolution was of no value.

Dr. NASH dissented from Dr. Brown's view.

Dr. J. A. MACDONALD said that he was willing to accept the Amendment. He thought that it was a very good thing to have heard the expression of opinion from different districts upon this very important point. He was quite certain that what had been proposed was on the right line. The Association ought to put its foot down upon the attempts being made by different local bodies.

Dr. D. G. THOMSON (Mid-Norfolk) suggested that the word "corporation" was not the proper word to use, but that the words should be "local authority," and this was agreed to.

Dr. LYSTER (Winchester) thought that the present difficulty had arisen because the Association had neglected in the past to look after the interests of the Assistant Medical Officer of Health. Dr. Macdonald had just alluded to the fact that certain local authorities in the country were trying to dodge the ruling that there should be a minimum salary of £250 a year by calling their officers Assistant Medical Officers of Health. He would suggest that a more logical way of dealing with the problem would be to level up the officials, and that the Association should extend their rule of a minimum salary of £250 a year to every whole-time official, whether he was called Assistant Medical Officer of Health or School Medical Officer. Public bodies had got into the habit of paying absurd salaries to Assistant Medical Officers of Health who had been doing a great deal of drudgery work.

Dr. J. A. MACDONALD was sure that the Association was quite willing to take up the matter and endeavour to improve the position of Assistant Medical Officers of Health, as Dr. Lyster suggested, but the action proposed now to be taken would improve their position. He was quite willing to accept the suggestion that the Medico-Political Committee should consider the matter.

The Motion, as amended and as accepted by the Chairman of the Medico-Political Committee, was then carried *nem. con.*

Dr. J. RUSSELL (North Staffordshire) moved the following Rider on behalf of his Division:

That the Representative Meeting approves of the principle of Motion 44, but sees great difficulties in the way, and advises

the postponing of any action until the Public Assistance Department of the County Councils has been organized and defined by Act of Parliament.

One difficulty that his Division saw in the way of carrying out the Recommendation was that it would involve an encroachment on the position of local medical officers of health. Further, it would lead to a division of responsibility between the Education Committee and the Sanitary Committee of the County Council; and finally there would be serious financial difficulties as more assistant officers of health would have to be appointed.

Dr. J. J. MACAN seconded, but the Motion on being put to the Meeting was lost, only three voting for it.

Dr. J. A. MACDONALD moved:

That the Representative Meeting approve the system of payment of School Medical Officers by fixed salary, or, in the case of part-time officers, payment for time devoted to the work.

Dr. W. L. MUIR said that he had heard that the Glasgow School Board intended to appoint one whole-time School Medical Officer at a salary of £500, and one Assistant School Medical Officer at a salary of £200, and twenty part-time medical officers to examine school children for two days in the week for three hours a day at the munificent salary of £40 a year. Local Members of the Association desired that they should have the sympathy of the Association in resisting this ridiculous scheme.

Dr. VIPONT BROWN said that he had an Amendment which had been before the Division, and he held in his hand the Annual Report in which the Resolutions of the Division were contained.

The CHAIRMAN said it had never been published in the JOURNAL, and it dealt with an utterly new principle, and on that ground it could not be accepted as an Amendment to the Motion.

Dr. VIPONT BROWN said it was a distinct Amendment to the second part of it.

Mr. ARMIT wished to point out a difficulty that had arisen where medical inspectors were being offered for three half-days a week a salary of £120 per annum; many medical men and women considered this better payment than £50 per annum for a single half-day. The appointments were being rapidly filled.

Dr. LYSTER proposed as an Amendment the omission of the reference to part-time work, and to substitute the words "for whole time." The curse of the Medical Profession had been part-time work, which had been taken on as an extra, such as part-time Poor Law work and so forth. All the difficulties and habits on the part of the public towards the Medical Profession had arisen very largely from this temptation held out to medical men. He thought the Association might wisely set its face directly and definitely against this habit, and encourage as far as possible whole-time work.

The DEPUTY CHAIRMAN said an important new principle was now being brought forward—namely, that there should be no half-time medical officers at all, which would mean that no general practitioners should take up the work. It was hardly an Amendment.

Dr. CASKIE (Glasgow, North-Western) suggested the insertion of the word "adequate" before "payment," so that it should read "adequate payment for time devoted to the work."

Dr. D. BLAIR (Lancaster) thought the Representatives might lay down what was adequate payment for part time. What one part of the country might consider good pay another would call starvation.

Dr. CASKIE said in Glasgow it was considered that the remuneration should be at the rate of 10s. 6d. per hour.

Mr. T. W. PATTINSON (Bolton) said that in Liverpool it was thought that the half-time system was undesirable.

Dr. NASH asked whether Mr. Armit's question was to be discussed, as it had a very important bearing on the position the Association had taken up.

The DEPUTY CHAIRMAN said it could not be discussed on the Motion before the Meeting.

The Motion was then put and carried.

Dr. MACDONALD moved that the following Recommendation be adopted:

That, in the opinion of the Representative Meeting, special systems of capitation payment for Medical Inspection, such as those adopted in Hertfordshire and Derbyshire, are satisfactory in sparsely populated districts.

Special arrangements were necessary in outlying districts, such as Devonshire and parts of Somerset.

Dr. MUIR asked whether the system of capitation payment meant that the School Medical Officer was only to be paid for such of the children as were in ill-health.

Dr. MACDONALD said that the systems referred to in the Motion contained elaborate provisions as to distance travelled, and so on.

Dr. VIPONT BROWN thought that the whole system of payment by capitation was wrong in principle. It was proposed that sparsely populated districts should amalgamate to support a whole-time Medical Officer of Health, and his Division thought the same could be done with regard to the Medical Inspection of Children.

Dr. MUIR thought that such combination would be unworkable in his part of the country.

Mr. STRATON argued that in sparsely populated districts it was better to put the work into the hands of men who had to make their living there. As Medical Officer for a district, it had been put into his hands to arrange the matter—either to do it himself or to arrange for the examination of school children by others. He had invited every medical man in the district to share the work, and all with one exception accepted. They had examined the children quite as successfully as any young man at £250 a year, and had added something to their incomes, which somewhat made up for the loss of incomes through midwives. The County Council, however, had taken a different view, and had engaged a young man to travel about and do the work. How he would do it in that sparsely populated district he (the speaker) did not know, and he doubted whether the work would be better done.

The Motion, when put, was agreed to.

Dr. J. A. MACDONALD moved that the following Recommendation be adopted:

That, in the opinion of the Representative Meeting, the system of payment per child examined should be opposed by the profession. If for any special reasons it is adopted in any district, the fee should be not less than 2s. 6d. per head.

Dr. G. PARKER (Bristol) inquired whether the second sentence applied to urban districts. A calculation had been made that if applied in Bristol it would cost about £7,000 a year, and it was hardly justifiable to ask the ratepayers for that sum.

In reply to Mr. LARKIN, Dr. G. PARKER said that in Bristol the work was done by part-time officers, for whom the Association had been successful in getting better terms.

Dr. NASH endorsed Dr. Parker's remarks, and thought as a matter of practical politics the last part of the Resolution was inadvisable, since the Association would stultify itself in the eyes of the public by asking such a fee; it was useless to put forward Utopian ideas.

Sir VICTOR HORSLEY hoped nothing would be struck out. He was Chairman of the Subcommittee of the Medico-Political Committee on the subject, and he very well recollected the information it had received from Dr. Fremantle, Medical Officer for the Hertfordshire District, who calculated that when the medical officer was properly remunerated, not only for the examination but also for filling up forms and half a dozen little things he was expected to do, the proper remuneration amounted to from 2s. 5d. to 2s. 5d. He could not understand the ideas which seemed to prevail in some medical men's minds when they were brought face to face with the question of the State paying a medical man properly for work. What was £7,000 a year to Bristol? He thought it was absolutely nothing if it meant the medical profession were going to be properly paid for the work done.

Dr. NASH thought what was proposed was right for

rural districts, such as Hertfordshire and Derbyshire, but he contended that in urban districts it was an excessive fee.

Dr. Muir said that the general feeling in his Division was that the half-crown fee only applied to such children as were brought before the medical officer; it did not mean each individual child in the school.

Dr. Macan moved that the question be put, which was agreed to.

The Motion was then put and carried.

Dr. J. A. Macdonald moved that the following Recommendation be adopted:

That, in the opinion of the Representative Meeting, if it be found desirable to appoint a class of School Medical Officer having supervising as well as inspecting duties, a rate of salary should be fixed above the minimum adopted by the Association for officers engaged in inspection only.

Dr. W. Ewart inquired what "supervising" meant.

Dr. J. A. Macdonald explained that in some cases Assistant Medical Officers had been appointed to do the actual inspection, and were under the supervision of the Medical Officer of Health; but it had been found that there was an endeavour to combine the duties, and make the Assistant Medical Officer the supervising officer at a salary of £250 a year. If the local authorities wished to combine inspection and the supervision, they should pay a higher salary than where the assistant officers only did the inspection.

The Motion was then agreed to.

School Nurses.

Dr. J. A. Macdonald moved that the following Recommendation be adopted:

That, in inspection, the duty of the school nurse should be, in the opinion of the Representative Meeting, simply to assist the school medical officer.

Dr. Fothergill moved:

That the word "medical" be inserted before the word "inspection."

This was accepted by the Chairman of the Medico-Political Committee.

Dr. Fothergill then moved:

That the word "attend" be substituted for the word "assist."

His Division thought the Resolution did not define the nurse's duty, which was twofold: She carried on inspection without a doctor being present, and also she helped the doctor at his inspection. Therefore it was necessary to have the matter more clearly defined.

Dr. Pullon seconded.

The Deputy Chairman said the point to be seconded was the substitution of the word "attend" for the word "assist." Dr. Macdonald had informed him that he would accept the addition of the word "medical" before "inspection."

Mr. Domville (South-Western Branch) presumed the Amendment meant that the nurse should assist by doing what the doctor told her; she was not to stand by and do nothing.

After some further discussion the Amendment was lost.

Dr. Fothergill moved:

That the words "at the time of his inspection of the children" be added.

Dr. J. A. Macdonald accepted the addition of the words, "at the time of his inspection of the children" to the Resolution; and the Motion was then agreed to. He then moved that the following Recommendation be adopted:

That, in treatment, the school nurse should, in the opinion of the Representative Meeting, act under the instruction and supervision of the practitioner in charge of the patient, and should, as far as possible, receive written instructions from him.

Mr. Armit suggested as an Amendment that the Motion should be put in the negative form:

That in the opinion of the Representative Meeting the school nurse should not act except under the instructions.

That would prevent her acting except when she had definite instructions.

Dr. Metcalfe (Bradford) said that the duties of the school nurses in Bradford largely consisted of examining the children's heads, a class of work no medical officer would wish to do.

The Deputy Chairman said Dr. J. A. Macdonald could not accept Mr. Armit's proposition.

Mr. Straton said he should oppose the negative form, because this was a different thing. To assist the medical officer in examining the child was one thing; to assist him in treating the child was totally different, and assumed that the School Medical Officer was going to treat the child.

Dr. Macdonald did not see the force of Mr. Straton's contention. He thought the practitioner was perfectly safeguarded by the provision that the nurse was to act under his instructions and directions.

The Recommendation was adopted, as was also the Recommendation:

That the duties of the school nurse should be defined in written rules including the foregoing provisions.

Treatment of School Children found Defective.

Dr. Macdonald moved that the following Recommendation be adopted:

That the Association should oppose the reference of school children found upon inspection to be defective to public medical charities for treatment.

Dr. Fothergill moved the following Amendment:

That the words "by the school authority or any of its recognized officers" be inserted after the word "reference" in the first line.

Mr. Larkin said that his objection to the Amendment was that children were sent to the hospitals not by the school authority but by the medical inspector.

The Chairman asked Dr. Fothergill what he meant by "school authority."

Dr. Fothergill: Doctor or nurse or any official acting under the authority of the local authority or other officers.

The Amendment was lost.

Dr. Fothergill stated that the Wandsworth Division also suggested the following addition:

That, after inspection, every child found to be defective should be referred in general terms to a registered medical practitioner.

In London cards used to be given to the children recommending them to go to hospitals, but, through the work of the Branch Council, those cards were withdrawn, and parents with defective children were now told that they must take them to a doctor.

Mr. Armit pointed out that if the child was referred to a hospital it was being referred to a registered medical practitioner just as much as if referred to a private practitioner. The inclusion of the words proposed would weaken the Resolution, inasmuch as the Resolution stated that the Association would oppose the reference of children to public charities.

Dr. Nash hoped the Amendment would not be passed. They were face to face with the fact that 33 per cent. of the children examined got no treatment whatever. When he had had this work to do he had been careful to find out what the parents' means were, and had found that with a certain percentage it was useless to send them to a doctor. What could a man, who was working two days a week on short time, give to a doctor? It might be left to the good sense of the inspector to do what was best for the children.

Dr. Williams (Watford and Harrow) also opposed Dr. Fothergill's proposition, which was covered by an Amendment standing in his own name, which would follow later on.

Mr. Beckett-Overy (Kensington) said it seemed to him necessary to add some words, and he proposed to add, "whether accompanied by payments or subsidies or not." At the present moment the London County Council were considering various ways of getting over the difficulty.

Dr. Bushby (Liverpool Central) proposed to add at the end of the Resolution the words, "whether accompanied by payments or subsidies or not."

This was seconded by Dr. Fothergill, and accepted by Dr. Macdonald.

Dr. Henry moved that the words after "Association" should be omitted, and that the Motion should read:

That the Association considers that with the co operation of the staffs of infirmaries, hospitals, dispensaries, and Poor Law officers there is ample provision for those unable to pay the ordinary medical fees.

The DEPUTY CHAIRMAN said that he could not accept Dr. Henry's proposition as an Amendment.

Mr. STRATON desired to move as an Amendment that the card should not direct the parent to any particular source of treatment, but should direct him to secure proper medical treatment. Many of the children in the public elementary schools were well enough off to go to their own private practitioners.

The DEPUTY CHAIRMAN said that he could not accept the proposition as an Amendment.

The Motion was then put to the Meeting and carried, with the addition of the words "whether accompanied by payments or subsidies or not."

Mr. BECKETT-OVERY said that the London County Council had succeeded, in spite of the opposition of the Metropolitan Counties Branch, in obtaining various forms of treatment for various forms of payment in various ways. He thought the matter was so important that he should like to move the following Rider:

That the Representative Meeting regrets that the London County Council Education Committee has succeeded in spite of the protests of the Metropolitan Counties Branch in getting treatment for the children at many of the London hospitals, and hopes that the medical staffs will still do all that lies in their power to prevent this abuse of the charities.

Sir VICTOR HORSLEY would like to suggest to Mr. Beckett-Overy that his Rider would come much better as a separate Motion after all the Recommendations had been disposed of. The matter contained in the Motion was of great importance to members in London; but at the same time it was only a kind of pious opinion, and it had nothing to do with the Recommendations of the Medico-Political Committee.

Mr. BECKETT-OVERY agreed that the proposal should come as a separate Motion later on.

Dr. J. A. MACDONALD moved that the following Recommendation be adopted:

That there is no objection to treatment by provident dispensaries, or other contract practice organizations, of children found upon inspection to be defective, provided that the remuneration of the practitioner is adequate for the work done, and that effect is given to the principles of the Contract Practice Report of the Association.

This was agreed to.

Dr. J. A. MACDONALD moved that the following Recommendation be adopted:

That the Association should oppose any scheme of provision for the treatment of school children, found upon inspection to be defective, which rests on the reference of such children to the Poor Law, pending such reforms as may result from the consideration of the Reports of the Royal Commission.

Dr. LYSTER thought the wording of the Motions on this subject was indefinite; the purpose of this Motion in particular was vaguely expressed. If the Resolutions went to the local bodies of the kingdom, composed in a great many cases of the soundest business men of the country, they would bring ridicule upon the Association. As regards the present Motion, the local bodies would know perfectly well that a large number of the cases now met with in schools were actually at the present time under the Poor Law. To say that such cases must not be referred to the Poor Law amounted to an absurdity. The Motions, if passed, would depreciate the standing of the profession with business men. He would like to suggest that the Council be requested to formulate some definite scheme of treatment.

Dr. NASH endorsed what Dr. Lyster had said. If the Resolution was passed it would help to stultify the Association in the eyes of the local authorities.

Dr. HENRY thought the Motions vaguely drawn. His Division was of opinion that all patients unable to pay ought to be referred to the Poor Law for treatment, especially in view of the fact that the taint of pauperism and the disqualification were likely to be removed when the Poor Law was amended.

Sir VICTOR HORSLEY said the last three speakers had clearly proved that they misunderstood the whole purport of the Recommendation of the Committee. He hoped the Recommendation would be carried.

Dr. J. H. TAYLOR said that the emphasis was upon the word "scheme." The Motion recommended that as a general scheme it was not desirable that the whole of the work of looking after defective children should be placed on the Poor Law.

Dr. MACDONALD said that some of the Divisions had recommended that the whole of the children who were not able to pay for their own treatment in the ordinary way by a general practitioner should be referred to the Poor Law for treatment. The Recommendation now before the Meeting had been drafted to prevent any action being taken. He objected to all those children who were on the borderland being referred to the Poor Law medical officer for treatment, when the whole matter was in the melting-pot as to what was going to be done.

The Motion was put to the Meeting and carried.

Dr. BRADBROOK moved the following Rider:

And would object to the principle by which all children needing medical relief can, under Section 12 of the Children Act, require treatment from the Poor Law medical officer, while no provision is made in this section of the Children Act for remuneration of such increased service.

In formulating the Rider the Buckinghamshire Division had been anxious to see that all treatment of children found defective should be paid for and should not be regarded as an addition in the ordinary course to the work of the Poor Law officers and not paid for. In the debate which took place upon this matter in his Division it was the general sense that all the aids to the parents in the treatment of their children were formulated in the interests of the poor, but were taken advantage of by not only the poor in the ordinary acceptation of the term, but the poor in spirit. Whenever a child was found defective, the parents should be required to see to the treatment of the child; and, if they could not pay for it themselves, they should be made paupers and bear the stigma of pauperism and suffer all the disabilities that pauperism brought; that was only fair to the rest.

Mr. BECKETT-OVERY opposed the Rider. The present position of educational authorities throughout the country was such, that such a Rider would have no effect.

Sir VICTOR HORSLEY thought the real situation was that there were a certain number of children who ought to be treated by the Medical Profession, and for treating whom the Medical Profession ought to be paid. If these children were referred *en bloc* to the Poor Law the Medical Profession would not get a halfpenny, and the Poor Law officers would simply get more work. He hoped the Rider would not be carried.

Dr. GIBSON (Harrogate) seconded the Rider.

Dr. VINCENT BROWN said his Division had recommended that school clinics should be established where school children should be treated by whole-time medical officers at a rate fixed by the Association.

Dr. DRAPER (Huddersfield) said that in his district the children were referred either to the Poor Law medical officer or to the infirmary. The board of guardians paid £100 a year to the infirmary. The district officers were expected to treat all cases, but any operation went into the infirmary, and was taken away from them, so that they were really deprived of the necessity of doing any operation at all.

The Rider was then put to the Meeting and lost.

Dr. MACDONALD moved that the following Recommendation be adopted:

That, under existing conditions, the most satisfactory provision for the treatment of school children, found upon inspection to be defective, whose parents cannot afford to pay for such treatment, is by placing them under the care of private practitioners, who should be adequately remunerated out of public funds without intervention from the Poor Law.

Dr. WILLIAMS moved an Amendment as follows:

That in lines 3 and 4 the words "whose" to "treatment" be struck out; and that all the words after "practitioners," in line 5, be struck out; and in place of them be inserted the following words:

"In order to do this, the method of procedure should be as follows:

"The medical inspector should report each case to the Education Committee, stating in writing all the defects found.

"The Education Committee should notify the parent or guardian that the defects must be at once attended to.

"When the parent or guardian shows that he is unable to pay the fees required, the Education Committee should give a voucher for the payment of the fees on a fixed scale (after the manner in which payments are made for soldiers on furlough in districts where there is no available officer of the Royal Army Medical Corps).

"When application for treatment is made this voucher should be handed to the practitioner along with the medical inspector's report.

"A free choice should be left to the parent or guardian to select for himself the practitioner to carry out the treatment; but it should be distinctly enacted that charitable institutions should not be made use of in this connexion."

The Motions lately discussed had been, as one of the Members had described, destructive; but his was constructive. He had no objection to the Motion as it stood, but he wished it to be amplified, and the only way to do that was in the way suggested; if accepted, it would ensure that the work should be paid for by the authority which ordered it to be done. It would ensure that there should be no interference between practitioners and their patients, the parent or guardian being given an absolutely free choice. There would be no taking away the patients from one practitioner and sending them to another on the recommendation of the inspector or any one else.

Dr. T. W. H. GARSTANG (Altrincham) seconded the Amendment. The suggestions contained in it were an exceedingly businesslike attempt to construct a policy which should be satisfactory to the Profession. A proposal, practically identical, had been submitted by his Division some months back to a local authority. The reply was that the Education Authority had no power at present to fulfil these conditions, though well disposed towards them. There had been, perhaps, a tendency during the discussion to forget that conditions which applied to London were not necessarily identical with those which applied to the large provincial boroughs, and that the conditions which applied to either were entirely different to those which applied to rural districts. No doubt some of their difficulties debated had arisen from trying to find formulas which would suit diversified circumstances. The parent of the child might receive cards containing all sorts of instructions, but there was no executive power to compel him to observe them. The suggestions contained in the Amendment were exceedingly workmanlike.

Dr. FOTHERGILL asked if it was intended that every defective child should be paid for by the State, because his Division thought that if the parents could pay for their children the State should not be called upon.

The DEPUTY CHAIRMAN said the Chairman of the Medico-Political Committee would accept the Amendment of the Watford and Harrow Division, so that it would become the original proposition.

Dr. NASH said one of the practical difficulties not provided for was the treatment of ringworm.

Dr. R. W. W. HENRY moved that before the words,

when the parent or guardian shows that he is unable to pay the fees required,

the following be inserted:

That should the parent be able to pay a small fee the parent shall be entitled, on the presentation of a voucher to that effect from the head teacher, to take the child to a dispensary or to the surgery of any medical man willing to see the child at this fixed small fee.

He explained that, owing to the absence of middle-class schools in Leicester, parents receiving from £300 to £400 a year sent their children to high-grade board schools. Such people could afford to pay a fee. When the matter came before his Division it had been objected that the head teacher was not the proper person to give a certificate, but in Leicester, where the feeding of school children had been adopted, it had been found that the head teachers had very good knowledge of the circumstances of the children's parents, and were very discriminating in the children they selected, and he thought they would be equally discriminating in dealing with children for medical treatment.

Mr. DOMVILLE suggested that if the Amendment were passed it would tie the hands of the profession in the future, and, further, that it was out of order.

Sir VICTOR HORSLEY also contended that the Amendment was out of order.

The DEPUTY CHAIRMAN said that if the Amendment were pressed it must be taken subsequently, and asked the Meeting to vote on the Resolution before the Meeting.

In reply to Dr. NASH'S question as to the treatment of ringworm, Dr. WILLIAMS said the treatment was to be paid for on a fixed scale arranged and agreed upon, and that fixed scale might include treatment of ringworm.

It was then proposed that the question be put, and this being agreed to, the Motion was put and carried, whereupon the meeting adjourned at 10.15 until the next day at 9.30 a.m.

SATURDAY, JULY 25TH.

Mr. H. A. BALLANCE, F.R.C.S., in the Chair.

MEDICO-POLITICAL COMMITTEE.

Treatment of School Children Found Defective.

Sir VICTOR HORSLEY moved as a Rider to the Motion last under discussion:

That the Representative Meeting approve of the scheme included in the foregoing Recommendation as being applicable to many districts, but not to the exclusion of other procedures which may be approved by the Association.

The Harrow scheme, he thought, was a good workable one for some districts, but not necessarily the best for certain others; it certainly would not be the best for an urban district. If the Rider were agreed to, the ideas of the Association would not be all crystallized into one point, but it would be left open for other methods and schemes to be brought forward and possibly approved by the Association.

Mr. H. BECKETT-OVERY seconded, and the Rider was carried *nem. con.*

Dr. J. A. MACDONALD moved, and it was agreed, that the following Recommendation be adopted:

That, in sparsely populated districts, such provision should be made by the "recognition" of the surgeries of private practitioners as places at which treatment may be obtained at the public expense.

On the Motion that the following Recommendation be adopted:

That, in towns, the work should be similarly entrusted to private practitioners discharging their duties at convenient centres (designated "school clinics") situated in schools or in independent buildings,

the DEPUTY CHAIRMAN said there was an Amendment standing in the name of the Wandsworth Division to delete all the words after "private practitioners" in the second line, but as that was a direct negative he could not accept it.

Dr. FOTHERGILL said that at present the inspection was confined to children newly entering school and children that were about to leave, but as the system developed, what he might call the intermediate children would be inspected, and eventually the whole school would be inspected. Following logically upon that, treatment would have to follow; the suggestion that the work should be done in school clinics was premature. The Poor Law reports foreshadowed that large infirmaries now in the hands of the guardians would eventually be handed over to county councils or borough councils, or similar bodies, according to the district, and it was felt that such institutions would thereby be put at the disposal of the Education Authority. Such hospitals would by development and increase of staff and provision of operating theatres eventually meet all the necessities for the treatment of children.

Mr. ARMIT, on the instruction of his Division, opposed the Resolution on the ground that the

approval of school clinics was not in the interests of the general practitioner. He asked a ruling on an Amendment which he proposed namely

> That the treatment should be undertaken in all cases by the general practitioner, and the general practitioner may refer the patient to an institution where the necessary treatment can be satisfactorily carried out.

That would imply, if the general practitioner did not feel inclined or capable of carrying out the treatment himself, that he could refer it to such institutions as the Public Medical Service or other organizations, other than charitable institutions, where either he or his colleagues could carry out the treatment satisfactorily for the children.

The DEPUTY CHAIRMAN said that he had other Amendments which must be put first.

Dr. E. VIPONT BROWN moved as an Amendment that the words "whole-time officers or" be inserted after the words "that in towns the work should be similarly entrusted to." If that were not done the Meeting would be passing a vote of censure upon all school clinics, some of which at the present time were being run by whole-time medical officers. He did not ask the Meeting to say that school clinics run by whole-time medical officers were the ideal that should be aimed at, but only not to pass a vote of censure upon school clinics such as those which were at the present time working so admirably in Bradford, and which were run by whole-time medical officers. He quoted from the Report of the School Medical Officer at Bradford to show that where medical inspection of children in the poorer schools had been adopted in the past less than one-sixth of the children found defective had been treated.

Dr. JAMES METCALFE seconded. As the Representative of the Bradford Division, he had taken considerable interest for some years in the question of medical inspection and medical treatment of school children, and the Bradford Division had had a large number of communications with Dr. Crowley, School Medical Officer for Bradford, who had been recently appointed Assistant Medical Officer of the Board of Education, on the subject. For some years there had been in Bradford a very elaborate and thorough system of medical inspection in schools, for Bradford had been a pioneer. Some general practitioners thought their corns were rather trodden on in connexion with this work; but, on the whole, he was quite certain, speaking as a general practitioner, that for the city and the country this work was most useful and most necessary. In Bradford the system of school clinics was worked by the medical officer, whose salary was £600, and by two assistants, whole-time officers, who were paid some £200 to £250 a year. The school clinic had been limited, after discussion with the superintendent, to certain important but primary forms of treatment. It was not considered that all forms of medical treatment should be carried out in a school clinic. Cases were first referred to their own board, and were then referred if they were not of the class which could pay a medical practitioner for attendance, to one of the officers: and, as a last resort, if they were there attended to, they could be compelled to go to the school clinic for treatment. Certain cases were, however, relegated to the school clinic from the beginning. Those were cases which must be considered to be of the nature of school diseases, such as sore heads, sore eyes, and infectious skin troubles. Such cases it was thought should be treated at the school clinic, and not referred to private practitioners at all. His Division had rather resented this plan, and had discussed the matter with perhaps some acrimony with Dr. Crowley and others, but had finally come to the conclusion that this was a fair working method: that those primary infectious school troubles should be treated by the school clinic, and that more important diseases should be sent to their own doctor or to public institutions. In a city like Bradford, and in other large cities, it was practically necessary that whole-time officers should do a certain portion of this work. In smaller centres, he had no doubt whatever that the work could be equally well done by private practitioners at school clinics; but it would be impossible in the bigger centres to do the whole of the work by private practitioners.

Dr. R. GORDON (Sheffield) said he was instructed by his Division to oppose school clinics. The hospitals at Sheffield worked on the "recommend" system, and the Education Committee some twelve months ago said practically: "If you do not agree to our arrangement, by supplying so many 'recommends' for so much money, we will appoint school clinics." An agreement was entered into for one year that a certain number of children whose parents were unable to pay a general practitioner should have a recommendation to go to the hospital. As a result of that arrangement only 210 cases had been referred to the hospitals: the others had gone to private practitioners. In the first instance the parents received a note recommending them to go to their own doctor or to a private practitioner. If they were unable to pay a doctor, the school officer assisted them with a "recommend." The cases had been divided between the three hospitals in Sheffield—the Royal Hospital, the Royal Infirmary, and the Children's Hospital—with the result that each hospital had been entitled to a sum of only between £10 and £11 a year. In Sheffield it was held that the existing facilities were sufficient, and the children should be referred to the private practitioner. Was the private practitioner to lose all his patients between the ages of 5 and 15, as would happen if special men were appointed? On that ground he had been asked to oppose school clinics and to support the proposal to refer patients to private practitioners.

Dr. G. S. PULLON said he was instructed to oppose school clinics, of which he had had considerable personal experience. The proposal was a most dangerous innovation as regarded the work of private practitioners; and, if carried out as in Bradford, it would certainly seriously curtail the legitimate sphere of action of private practitioners.

Dr. W. T. BROOK FOX (Blyth, Morpeth, and North Northumberland) opposed the Recommendation of the Bradford Representative, not merely upon financial grounds, but on the ground that unfortunately the feeling between the profession and the Medical Officers of Health, whether educational or sanitary, was not always of the best; and this innovation would lead to a still greater breach even in the case of whole-time medical officers, while in the case of part-time medical officers, who were carrying on their ordinary practice, it would have a very bad effect indeed.

Dr. F. E. WYNNE also opposed the Amendment. Leigh was on the eve of appointing a whole-time Medical Officer of Health, and his Division took the view that his interference in treatment would be very detrimental to the interests of the general practitioner, and that it was not essential in the interests of the school children. If the Education Authority could compel the whole-time men to treat children in school clinics, the whole-time men would very soon want to attend those children who were confined to bed. One of the most important arguments in favour of school clinics was that it was impossible to obtain compulsory treatment for the children of the more ignorant classes. In Leigh the profession had laid a proposition before the Education Committee to the effect that when the whole-time school inspector was appointed, he should give any child not fit to attend school a certificate; the child would come up before the School Attendance Committee, and, if it failed to attend the school because it had not had treatment, it would be regarded, or the parents would be regarded, as defaulters. Then the parents would, if necessary, be summoned before the magistrates, and in that way the existing machinery of the School Attendance Committee could put upon the parents the necessary compulsion to have their children attended by private practitioners, or any other existing means, without putting this work on the whole-time officer and seriously interfering with the interests of the private practitioners.

Sir VICTOR HORSLEY thought that, having been the Chairman of the Special Subcommittee of the Medico-

Political Committee on this subject, he ought to speak now. The answers returned on the subject of school clinics showed that there was a great deal of misconception in the minds of many of the Divisions. The only question before the Meeting now was, whether the school clinic was, or was not, a suitable means of meeting a public evil in certain districts. In London, the feeling against school clinics had been fomented and perverted, not by the general practitioners—the opposition had originated in the minds of some of the Education Committee, who spoke very slightingly of the Medical Profession, and who had endeavoured to take away this work for which the State ought to pay from the Medical Profession, whether whole-time or part-time officers, and had entered into arrangements with the voluntary charities to do the work, the very point which this Association had condemned. So now it would be seen how the matter stood in London. If the Meeting objected to the school clinic system *in toto*, it would then be doing a much greater injury to the profession by driving these people to the charity hospitals. That was the battle they were now fighting in London; and, if this Representative Meeting should throw out the school clinic as a possible means of dealing with a very great public evil, it would also, as had been stated, be doing a great injustice to the Medical Profession. Then, coming to the question of detail, it was perfectly obvious that from a public point of view in a city like London the children must be dealt with at some convenient place in the neighbourhood of the schools. Schools could be grouped and a school clinic established to deal with the children who otherwise would not be dealt with. There was no objection to the school clinic from the point of view of the private practitioner if the private practitioner was given an opportunity of treating the children. The children must either be treated there or in private surgeries. He had been very glad to see the Meeting pass, almost without criticism, the Resolution relating to recognized surgeries, because the system of recognized surgeries was obviously the proper system in country districts. In towns the proposal was that from the general practitioners should be constructed the rota of men willing to do the work, and that they should do it at the school clinic. It had been said that if school clinics were established all over London they would be officered, not by the general practitioners of the district but by the budding consultants; but the area was so enormous and the number of children to be treated so large that there were not enough budding consultants to go round. Some people had spoken as though the children had always been treated by the private practitioner and as though he was going to lose them as patients, but the evidence went to show that the children had never been treated at all by anybody, and that they were a new class of patients, as it were. The Association wanted to secure that they should be dealt with by the State in a fair way; that was to say, that the State should pay the practitioner for treating them. If there were dropped out from the scheme the possibility of a school clinic a great deal of harm would be done.

Mr. H. Beckett-Overy said that he hoped the Meeting would do nothing which would lead the public to suppose that it was against school clinics; but school clinics were applicable to certain places only. He appealed to the men who came from the country not to oppose school clinics generally. School clinics were not necessary in the country and in the smaller towns. He hoped that the men to whom the question was not a burning one would give those to whom it was the chance to work school clinics where they were workable. Whether the persons carrying out the work were general practitioners or consultants, or all-time medical officers, the Association had to see that they were adequately remunerated. Some of the diseases of the children were diseases which were practically the result of the State compelling the children to congregate in large masses. Therefore it was the duty of the State to make provision for the treatment of the children. There was no intention on the part of the Education Authority in London, as far as he knew, to undertake the treatment of any other diseases than eyes, ears, adenoids, teeth, and contagious skin diseases. If clinics were not formed in London, all the children would go to the hospitals. A great number of the children, especially in London, were not treated at all, and would not be treated unless the State took the matter in hand. Another point to be considered was that some of the children were four, five, six, or even more miles from the hospitals to which they had to be taken. He earnestly hoped that the decision would be in favour of the establishment of school clinics in districts where they were suitable.

Dr. Nash said that it was found that over 30 per cent. of the children referred for treatment did not get it. That 30 per cent. represented new work to the practitioner. He was concerned with the administration of the Act as it affected some 23,000 children. The chief diseases were running ears and ringworm. What source of satisfaction or profit were the majority of those cases to the general practitioner? They occurred, as a rule, in the dirtiest and lowest class, and the children were either in a club or attended some dispensary, and at the present the practitioner made no profit whatever. Out of 150 cases sent back recently to school as free from ringworm, 147 were microscopically infected. From the point of view of the State those children must be looked after. Their education was being absolutely ruined. It was found that the chronic type of ringworm was not treated. He frequently received letters from chemists to say that the child had no ringworm. These cases could not be treated by any means except the x-ray apparatus. In the school clinic the authorities would provide the apparatus, and the children could be treated at the centre. The diseases which would be treated at the school clinic were diseases to which the curse of the general practitioner, and the diseases out of which he made practically no profit whatever.

Dr. R. W. W. Henry said that while he had great sympathy with the observations of Sir Victor Horsley and Dr. Nash, he had been instructed by his Division to oppose school clinics in any form. The largest meeting held in his Division since he had been a Member had opposed school clinics, owing to what occurred at Bradford. As far as could be judged, not only from the medical papers, but from the reports in the daily papers, there had been much friction between the school clinics and the medical practitioners, although since that discussion things might have improved. This showed that school clinics, although they might be most admirable, were extremely difficult to manage if they were not to be abused. Out of 73 replies from Divisions, only 11 were in favour of school clinics. That the Recommendation of the Committee was in favour of school clinics was probably due to the fact that it had taken London into consideration rather than the country at large. London was in a different position to the rest of the country, and should be placed on a different basis.

Dr. Stanley Gill said he was instructed to reiterate the opinion previously expressed by his Division, that parents having the means should pay private practitioners for treatment, and that hospitals should only be resorted to in exceptional cases. His Division considered that if school clinics should be established payment should be per case, and all Registered Medical Practitioners in the area of the respective authorities desiring to share in the work should be appointed on the staff of the school clinic, the work to be done in their own surgeries, and the selection of the practitioners in each case to be left to the parents. This opinion would apply to both the borough and the county areas contained in his Division.

Dr. Ewen J. Maclean gave the statistics of Cardiff with regard to the proportion of children found to be defective, and the direction in which they had gone for treatment and the proportion which received no treatment. About 10,000 children were examined in the year ending April, 1909. Of that number a certain proportion were found defective. With regard to the defectives, about 18 per cent. had been traced as having

consulted private practitioners; 38 per cent. attended the Cardiff Infirmary; 4 per cent. consulted chemists; and 40 per cent. received no attention. He need not comment on the figures.

Dr. BUIST wished to emphasize the importance of Members not insisting on conditions which were applicable to their own districts only, and shutting out conditions which were absolutely essential for the work in other districts. The Resolution of the Committee, amended as he understood it was suggested, was applicable to towns. A Resolution of this kind did not compel any town or any Division in any town where it was not applicable to apply it. He strongly appealed to the Members not to vote against the Resolution simply because it did not apply to their own district.

Dr. J. H. TAYLOR asked whether it was definitely decided that the Chairman of the Medico-Political Committee would not accept the Amendment.

The DEPUTY CHAIRMAN said he left it to the Meeting. The Resolution as amended would read: "That, in towns, the work should be similarly entrusted to private practitioners, or whole-time medical officers discharging their duties," etc. The effect of this Amendment, if carried, would be to allow school clinics in certain places to be attended by whole-time officers.

The DEPUTY CHAIRMAN then took a show of hands. The voting was so close that a division was taken, with the result that 62 voted for the Amendment and 67 against. The Amendment, therefore, was lost.

Dr. A. H. WILLIAMS proposed the following Amendment:

That the word "discharging" be struck out, and "who may discharge" be inserted in place thereof.

Mr. S. E. BAXTER (Northamptonshire) seconded.

The Amendment was carried.

Dr. R. E. HOWELL said his Division was opposed to school clinics altogether. In Middlesbrough it had not been found necessary to establish school clinics. The Members of his Division opposed school clinics because they felt the work of the general practitioner was being more and more absorbed by the State. The matter was of such importance and the conditions were so varied that he moved that the question be again referred to the Divisions. It would be doing harm to the profession to draw a hard and fast line, and to declare that school clinics should not be established in any part of the country. In some places they were absolutely necessary but in others they were not.

Dr. NASH seconded.

Dr. DOUGLAS pointed out that no hard-and-fast rule was proposed, but a Recommendation only.

Mr. DONALD ARMOUR (Marylebone) strongly opposed a reference to the Divisions, because in London the matter was very urgent. If the Recommendation were to be acted upon it should be acted upon at once, for the lay members of hospital boards were ready to act.

Dr. W. T. BROOK FOX supported the amended Motion, which he thought very elastic.

Dr. J. A. MACDONALD opposed Dr. Howell's Amendment because it was necessary that something should be done at once not only in London but all over the country. Unless action were taken at once the profession would have no hand in the matter, and the Educational Authorities would develop it in their own way.

Dr. LAURISTON SHAW (Metropolitan Counties Branch) said the difference between country and town seemed to be that if in the towns school clinics were not established, the work would be carried out by voluntary charity, and the difference to the Medical Profession between having the thing done by voluntary charity in which the Medical Profession would not be paid at all and having it done by school clinics or by private enterprise was enormous. In London the Association was seeking to prevent the work being done by the hospitals and by voluntary charities, and those who were there to oppose school clinics as a universal method might at least let them have school clinics in the big towns, where it seemed to be the only possible feasible means of securing that the Medical Profession should be paid for its services.

Dr. A. C. MAYO (East Norfolk and North Suffolk), did not see the use of referring this matter again to the Divisions, as they had not the necessary information on which to form a definite opinion. If they could get the speech of Sir Victor Horsley printed and read to all their Divisions, the Divisions, he believed, would all vote for the Motion in a body. Here, what had to be decided on was the general principle: they could not lay down details which would work in large towns, in metropolitan boroughs, and in county districts. If the general principles were stated the various districts would work out the details for themselves.

Mr. G. WESTBY moved that the question be now put, but eventually Dr. HOWELL, with the approval of his seconder, withdrew his Amendment.

The original Motion was then proposed to be put.

Dr. FOTHERGILL asked that the vote might be taken by card, but the requisite twenty not rising in their places, the vote was taken by show of hands, and the original Motion was adopted by 108 votes to 8, in the following form:

That, in towns, the work should be similarly entrusted to private practitioners who may discharge their duties at convenient centres (designated "school clinics") situated in schools or in independent buildings.

Dr. FOTHERGILL moved:

That payment under any scheme should be made on a scale agreed upon between the Medical Profession, as represented by the local Branch or Division of the British Medical Association, and the Local Education Authority.

To submit a scheme embracing the whole of the districts of England, Scotland, and Ireland, would be useless, because local circumstances were so different. Each district should settle its own scheme.

Sir VICTOR HORSLEY seconded the Rider, which was accepted.

Dr. FOTHERGILL proposed:

That a medical certificate of suitability for school clinic treatment be required as a condition for school clinic treatment.

That in districts where surgeries are "recognized" as school clinics such certificate shall be supplemented by one given by the school inspector, stating that the patient is not in a position to pay for adequate treatment.

The Hospitals Committee had decided to recommend that patients going into hospital should receive a medical certificate, that they were eligible both from the financial and the hospitals point of view. The certificate for school clinics was a logical sequence of the action in respect to hospital treatment.

Dr. J. METCALFE seconded.

Mr. H. BECKETT-OVERY asked how Dr. Fothergill would arrange for these certificates from poor districts.

Dr. FOTHERGILL replied: In the same way as with the hospitals. Patients having to go to hospitals had to get the certificate of the district medical officer.

Dr. R. L. LANGDON-DOWN (Richmond) thought the Rider seemed to perpetuate a misconception which had already been prevalent in the Divisions, that school clinics were something which precluded the ordinary private practitioner doing work and getting payment; but it seemed to him that any comparison between that and the charitable hospital would be wrong, and therefore the ground on which Dr. Fothergill had brought this to their notice fell through.

The proposition was lost.

Security of Tenure of School Medical Officers.

The following Recommendation was agreed to:

That the Representative Meeting hereby approves the action of the Council in seeking to secure reasonable security of tenure of office for the School Medical Officer and his assistants.

Dr. E. VIPONT BROWN moved as a Rider:

That this Meeting is of opinion that the appointment of the School Medical Officer and his assistants should only be terminable with the consent of the Central Board of Education.

The proposition was carried.

Hospital Treatment of School Children.

Mr. H. BECKETT-OVERY moved:

That the Representative Meeting regrets that the Education Committee of the London County Council has made arrangements with the committees of management of some of the London hospitals for the treatment of a small number of children, and hopes that the medical staffs will do all in their power to prevent such abuse of voluntary charities and inadequate provision for a public evil.

The London County Council had made a series of agreements with several London hospitals to treat the children in various ways. Roughly speaking, children were to be treated in some cases for nothing, and in other cases for a small sum. In no case was there any co-ordination or any definite attempt to grapple with the treatment of the children. Only a small number of the children would be treated. He felt sure that as the Association was opposed to subsidies to hospitals the Motion would be agreed to.

The Motion was seconded by Mr. DONALD ARMOUR.

Dr. BUIST suggested the omission of the words "a small number of." It was the principle which was important and not a particular instance.

Sir VICTOR HORSLEY said that the Motion as it stood crystallized in a Resolution the fact that the attempt on the part of the County Council was in itself ridiculous, because the County Council had been able to secure provision for a few hundred out of about 70,000 or 80,000 children requiring treatment. He thought that the words should be retained.

The Motion was agreed to.

After some discussion, the following Rider was adopted:

That it be an instruction to the Council to send a similar communication, subject to the wish of the local Division, to the borough and county education authorities and the staffs of provincial hospitals in the United Kingdom.

Circulation of Report.

Dr. MACLEAN moved:

That it be an instruction to the Council to forward the Report on the Medical Inspection of School Children and the treatment of those found defective to the Chairmen and Secretaries of Divisions, together with a memorandum on the importance of the Divisions taking prompt action on the lines indicated in the Report.

He had been asked the other day by an influential Member of his Division what the British Medical Association was going to do in the matter of the treatment of defectives. His interrogator said he understood that it was passing certain Resolutions, and that the matter would in all probability stop there. The comment that he (Dr. Maclean) made on that was that everything depended on the local machinery of the Association being brought into operation. He thought that if a memorandum of the kind were sent to the Divisions, it would remind them of the fact that they could bring the local machinery into operation with effect; and, further, that if it were not so brought into operation the Resolutions would have no effect; useful advice could, however, be given on the point whether a Division should approach the staff of a local hospital to find out to what extent the abuse existed and in other directions. He would remind the Meeting that the proportion of defectives which found its way to the hospitals was large in the case of Cardiff, no less than 38 per cent. of defectives were now being treated at the infirmary. So long as this large proportion of defectives was treated by the local institutions the local Education Authorities probably would not take the trouble to formulate a scheme.

Sir VICTOR HORSLEY, who seconded, said nothing could be done until the Resolutions which the Meeting had just carried had been adopted, but if this Motion were now accepted it would be an instruction to the Medico-Political Committee to at once communicate with all the Divisions in the country. If this could have been done before, the medical profession in many parts of the country would have been in a much better position, in Leeds for instance. Dr. Maclean's Motion also brought into prominence the necessity of all Divisions in all parts of the country being thoroughly organized and taking their share in the work.

The DEPUTY CHAIRMAN asked the proposer and seconder of the Rider whether they would agree to the insertion after the word "Secretaries" of the words "Representatives of Divisions."

This alteration being assented to, the Rider was put to the Meeting and carried.

Representation of the Association on the Central Midwives Board.

Dr. J. A. MACDONALD moved, and it was resolved:

That the Representative Meeting approve of the action of the Council in endeavouring to secure representation of the British Medical Association on the Central Midwives Board

Rights and Obligations of Members of Committees and Subcommittees of the Association.

Dr. J. A. MACDONALD moved:

That the Representative Meeting take into consideration the general question of policy which has arisen as to the propriety of a member of a Committee or Subcommittee taking independent action by a letter to the BRITISH MEDICAL JOURNAL with respect to subjects which are under the consideration of the Committee or Subcommittee of which he is a member.

On the motion of Dr. MACLEAN, seconded by Mr. ARMIT, it was agreed that the Meeting should pass to the next business.

Representation of the British Medical Association in the House of Lords.

Dr. J. A. MACDONALD next brought up the following:

That the following Recommendation be adopted (paragraph 40 of Annual Report):

That the Representative Meeting take into consideration the general question of policy raised by a communication received from Earl Wemyss, stating that he proposes to bring before the House of Lords the question of arrangements being made whereby important Bodies representative of those engaged in various professions and businesses may nominate each three members of the House of Lords to represent them officially in questions coming before the House of Lords, the names of such Representatives to be entered on the Journal of the House. Earl Wemyss approaches the British Medical Association as a Body representative of the Medical Profession, and states that the following Bodies have already expressed approval of the idea: The Royal Academy, the Royal Institute of British Architects, the Building Trades Federation of the United Kingdom, the Shipping Federation, and the Employers' Parliamentary Council.

The Medico-Political Committee did not think it was competent to deal with the matter, and referred it to the Council, who in turn referred it to the Representative Meeting.

Dr. W. GORDON moved as an Amendment:

That the Council of the Association be instructed to thank the Earl of Wemyss for his letter, and to inform him that the British Medical Association feels itself obliged to decline the proposal he has communicated, as, in the opinion of the Association, the only competent representatives of the Medical Profession in the House of Lords would be medical members of that House.

Mr. HAYWARD (Torquay) seconded.

Dr. BUIST said that by the casting vote of the Chairman of his Division he had instructions to move that the Association return a favourable answer to the Earl of Wemyss; that was to say, that it was willing to accept the scheme if it were carried through. He thought the feeling of his Division was induced by a Scottish characteristic to take as much as could be possibly got when it did not cost anything.

Mr. ARMIT moved as an Amendment to Dr. Buist's proposal:

That the Meeting defer the consideration of the question for twelve months.

It was possible that at that time there might be no House of Lords.

Dr. J. BROWN seconded.

The DEPUTY CHAIRMAN accepted Dr. Buist's proposal as an Amendment to the original Motion. In doing so he had to point out that Dr. Gordon's Motion must also be taken as an Amendment to the Motion before the Meeting.

Dr. C. E. ROBERTSON seconded Dr. Buist's Motion.

Dr. W. GORDON thought the matter ought not to

be treated lightly. The Earl of Wemyss's communication had been sent in all seriousness, and should be treated seriously. One point which was before them was—what were the interests which the House of Lords asked to have represented, and by whom was it proposed that they should be represented? It appeared that the Association was approached as representing the Medical Profession. He asked. What were the interests of the Medical Profession, and what were the Association's interests? The Association's interests were ultimately the medical interests of the empire, and therefore not only professional interests, but the interests of the empire, because the Medical Profession was as much responsible for the promotion of the welfare of the empire as the navy was for defending it. Their responsibilities, great as they were, ended at the door of the House of Lords, but if they accepted representation inside the House, their responsibilities went with those representatives into the House. The representatives proposed must be men not only of great judgement and great devotion to duty, but also men who had thorough knowledge and training in medical matters. If it were borne in mind that the only people in the House of Lords who could be competent to represent the great responsibilities the medical profession owed to the empire must be members of the profession, and if the House of Lords had at last come to the conclusion that there ought to be representatives of such vast interests and responsibilities in their House, then the only thing to do was to appoint medical men as peers to represent those interests. It must be remembered that the House of Lords, in spite of the enormous and magnificent services that the medical profession was rendering and had rendered for a long time past to the empire, had sedulously set itself to exclude members of the profession as medical men from its body. Lord Lister was selected as a scientist and not as a surgeon. He thought that they would be very mistaken if they allowed themselves to be made parties to what, after all, could be but a make-believe arrangement.

Dr. W. T. BROOK FOX, after what Dr. Gordon had said, emphasized the fact that so long as there was a House of Lords the profession should be represented there. He thought the scheme of the Earl of Wemyss was the thin end of the wedge, and that in the future the medical profession should be represented in the House of Lords, and the profession would be represented in the best manner if its representatives were suggested by the Association.

The Amendment was lost.

Dr. DOUGLAS considered it a question of half a loaf or no bread, and he preferred the half loaf. He would prefer medical peers, but as they had no medical peers, except one who was very old and whom they could not expect to attend regularly in the House of Lords, he took it that if any peers accepted the duty of watching over the interests of the profession in the House of Lords and who were willing to be informed and instructed by the British Medical Association, it would be a very good thing. It would be better to have some representation than no representation at all. Therefore, he hoped Dr. Buist's Resolution would be carried, and that the Medico-Political Committee would find some practical way of giving effect to it.

Dr. E. J. MACLEAN did not see any good reason why the Meeting should not accept the proposal. It was a mistake to suppose that because a medical man was elected to the House of Commons he would always do those things in respect of any measure before the House which the British Medical Association would wish, and there was therefore very good reason for cordially accepting this proposal of the Earl of Wemyss; and in that sense and for that reason he supported the Resolution.

The Resolution was carried by a large majority.

Sir VICTOR HORSLEY asked how the proposed Representatives were to be dealt with: how they were to be instructed: and what would be done if they did not carry out the wishes of the Association.

Mr. ARMIT said that Dr. Buist's Resolution having been adopted, his Amendment became the Resolution before the Meeting. Therefore, he moved:

That the consideration of this question should be postponed for twelve months.

The DEPUTY CHAIRMAN pointed out that the practical meaning of Mr. Armit's proposition was that the consideration of a favourable answer to the Earl of Wemyss should be postponed for twelve months.

Dr. W. T. BROOK FOX thought the subject merited further consideration.

Dr. W. GORDON thought the proposal should not go forward at once.

Mr. ARMIT said that in the past the Association had time and again applied to peers to assist it with regard to Bills affecting the medical profession. Peers, not being responsible to any electorate, did not give any pledge: they simply listened to what the Medical Profession said, and then, in the House, acted according to their own views. If the suggestion of the Earl of Wemyss were adopted, what guarantee had they that the persons selected would accept the suggestions of the profession? The British Medical Association might go to a peer and say, We want this, that, and the other done. The noble lord might reply, "I am very sorry, I can't do it"; or, "I will give the matter my best consideration," and he might then do nothing. What was the good of having representation in that way? The profession could not force the House of Lords, or even make suggestions to it as to what it wanted, because it had no power of putting pressure. He thought it was better to select such peers as were likely to be useful to them for each particular case.

The Amendment was then put to the Meeting and lost.

Sir VICTOR HORSLEY moved:

That the favourable answer to the Earl of Wemyss consist in the expression of an opinion on the part of those representing the Association that it would be a good thing for the nation if the medical profession were represented in the House of Lords.

He simply moved that in order to get the Association out of what he considered to be a very ridiculous position. He, personally, had no desire to see the House of Lords maintained at all: he thought a second chamber a mistake. He mentioned that in order that there might be no doubt as to his reasons for moving the Resolution.

Dr. J. A. MACDONALD seconded the Motion, on the ground that he wanted to see the House of Lords maintained on a more dignified footing than it was at the present time.

Dr. R. C. BUIST asked, on a point of order, whether this was an Amendment or a Rider? If a Rider, he would be very glad to support it.

Dr. W. E. THOMAS was glad to see that the Earl of Wemyss was in favour of reform.

The DEPUTY CHAIRMAN said, on the question of interpretation, he ruled that the Motion before the Meeting dealt with the way in which a favourable answer should be conveyed to the Earl of Wemyss, and, after a short further discussion, the Motion was carried.

Approval of Report.

It was further agreed:

That the remainder of the Annual Report of Council under the heading "Medico-Political Committee" (paragraphs 41 to 60) be approved.

Registration.

Dr. BUIST moved:

That it be an instruction to the Council to take steps to secure adequate representation of the Medical Profession, through the British Medical Association, on any Board created under a Registration of Nurses (Scotland) Bill.

He observed that it would be within the knowledge of the Meeting that a separate Bill for the registration of

nurses in Scotland was drafted, and received the approval of the authorities of the Association in Scotland and, through them, of the Council. In the Bill as drafted for Scotland, there was no provision for representation of the British Medical Association; and his Division was of opinion that representation of the profession through the British Medical Association was essential; and, for that reason, he moved this Rider, which was in entire harmony with the provisions in the corresponding Bills drafted for England.

Sir Victor Horsley pointed out that the Council, in approving the principle of separate registration for Scotland, provided there was reciprocity of registration between the various parts of the United Kingdom, had forgotten the previous Resolutions of the Representative Meeting passed at Oxford and in London in which the principle of the one-portal system for nurses' registration was accepted. The separate registration for Scotland did not carry out the one-portal system. So that what had been adopted for England, had not, apparently, been adopted for Scotland. He did not propose to move a Resolution because, as he understood from the Report of the Committee referring to this matter, the question was still open.

Dr. Muir said that as far as the separate bill for the Registration of Nurses in Scotland was concerned he did not think that it would be passed, and considered that to have separate registration bills would be a huge mistake.

The Medical Acts.

The Deputy Chairman, in the absence of the Representative of the Hereford Division, moved the following Rider:

That the Representative Meeting fully concurs with the General Medical Council in being of opinion that the present Medical Acts do not sufficiently enable persons requiring medical aid to distinguish qualified from unqualified practitioners, and that it is contrary to the interest of the public that medical and surgical practice should be carried on with impunity by persons holding no recognized qualifications; and that it be an instruction to the Council to request the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects produced by the unrestricted practice of medicine and surgery by unqualified persons.

Sir Victor Horsley said that the proposal was a direct instruction to the Council to deal with the question of medical practice by asking for a Royal Commission, and absolutely conflicted with the previous Resolution of the Representative Meeting regarding the Medical Acts Amendment Bill, which was now about to be introduced into the House of Commons. If the Government, when the Bill was introduced, said it would refer it to a Select Committee, of course the Association would agree, but it could not do two things at once. It could not introduce a Bill and at the same time press for a Royal Commission. If it was required he would move an Amendment that the proposal by the Hereford Division should be referred to the Council.

The Deputy Chairman said that when he moved the Rider he was under the impression that the Council had already been instructed to ask the Government for a Royal Commission, but that might not be the case.

Dr. Muir said that he understood that the General Medical Council had approached the Privy Council, calling their attention to the matter of unqualified practice, and the Privy Council had opened communications with the sanitary authorities of the country. The Glasgow sanitary authorities had asked those whom he represented for information in connexion with the matter and the information had been supplied. He did not know whether the same state of things obtained in all parts of the country.

The Deputy Chairman stated that the same thing was being done throughout the country at the instigation of the Local Government Board.

The Rider by the Hereford Division was referred to the Council for consideration.

Public Medical Service.

Dr. Walter Smith (St. Pancras and Islington) moved:

That the time is now opportune for the British Medical Association to take into consideration the drafting of a scheme for a Public Medical Service to embrace philanthropic dispensaries and medical services, school clinics, the Poor Law Medical Service, provident dispensaries, and the medical services of friendly societies and clubs.

He said that several Branches and Divisions had taken steps in connexion with the formation of a public medical service for their own localities, but he thought that there should be one scheme, the general principles of which should apply to the whole country. The Report of the Royal Commission on the Poor Law was perhaps the most important event that had occurred for some years, with regard to the medical profession. He believed that the Council had appointed a Poor Law Committee to watch matters generally and to watch certain schemes which had been brought forward. He thought that that Committee ought at once to prepare a scheme for a public medical service, showing what the wishes of the medical profession in the matter were. The subject was a very old one. He was glad to understand that there was likely to be a special meeting of the Representatives before anything was done in the matter, to consider the question, because it was an immense business, and there was no body of men so much affected as medical men.

Mr. Armit, who seconded, said that the Hampstead Division had at the present moment under consideration the formation of a public medical service, and the negotiations going on between the Committee specially appointed by the Division and the existing authorities were very promising. It was too early at present to speak with confidence, but he thought that a solution might be found within a reasonable time. It was important that the public medical service should be uniform all over the kingdom.

Dr. Pope moved that the Resolution should be referred to the Council. It would have to go to the Poor Law Committe.

Dr. Johnson Smyth seconded the Motion.

Dr. J. A. Macdonald said that he did not think there was any other course possible except to refer the matter to the Council to deal with. There had just been received back from counsel a draft for a public medical service which had been under consideration for some two or three years. Some method would have to be adopted for bringing that scheme into unison with all the other bodies interested.

It was then agreed that the Resolution should be referred to the Council for consideration and report.

Contract Practice.

Dr. Fothergill (Wandsworth) moved:

That it be an instruction to the Central Council to formulate Resolutions embracing the main principles as affecting medical contract practice.

He did not wish to start a discussion, but would draw attention to the fact that in discussing hospital questions opinions on certain fixed points had gradually been formulated. It was exceedingly useful when dealing with local bodies to be able, as cases might arise, to refer to various Resolutions of the Association, and to get the local bodies to accept them. If there were the same sort of formula to appeal to with regard to contract practice it would be most useful. He would like in the form of queries to put forward one or two suggestions, which might later be incorporated in Resolutions; for instance, Was every one who wished to do so entitled to insure against a doctor's bill? If the answer were in the affirmative, should the premiums vary with the age, present health, financial position, and the services required? Another question might be: Should doctors receive these premiums, or should they be paid into some fund out of which the doctors would be paid only for the work they did? A fourth question would be: Should the payments of the doctors be for the work done on an agreed scale, or should they be whole-time or part-time appointments

on a fixed scale? He thought, in view of the Poor Law Commission's Report, that the time had now come when the Association should finally draft Resolutions on the question of medical contract practice.

Sir VICTOR HORSLEY said he would second the Resolution if only to point out that the Association had already done what was desired in its Contract Report, and it only remained for the Council to extract from that Report the main principles. He quite agreed with Dr. Fothergill, and recently, as President of the Metropolitan Counties Branch, he had had difficulty, in preparing a document on the club practice in London, in stating what were the opinions of the Association. He considered that the suggestion was an admirable one in furthering the work of the Association.

The Resolution was carried.

Dr. BRADBROOK moved:

That, whilst favouring the drafting of schemes for public medical services and stating main principles affecting contract practice, the policy of the Association should be to curtail and not to encourage contract work, as it is injurious to the interests of the profession.

The Buckinghamshire Division did not seek to discourage contract practice entirely, but admitted that it was a disagreeable necessity in a good many instances. This Rider, together with the two Motions just adopted, pointed out the necessity of the Association dealing with contract practice by gentle and persuasive methods. Members knew what the clubs thought of them, and those who had read the annual report of the different societies at Whitsuntide had no doubt seen the many uncomplimentary things that were said about club surgeons, by the Hearts of Oak especially, who pointed out that a doctor who was worth having made £2,000 a year. Those who did not make £2,000 a year now knew what the Hearts of Oak thought of them. It was necessary thoroughly to revise all contract practice, whether in a club or union. In one case in the Bankruptcy Court recently it turned out that the bankrupt had an average salary of 19s. 3d., for which he paid sixty or seventy visits, covered sixty or seventy miles, and made up sixty or seventy bottles of medicine a week. With that and similar instances there was no need to emphasize the necessity of seeing that the trades union aspect was taken into consideration, and that all those methods which were used against them by the clubs were adopted. It ought to be possible for the Medical Secretary, when tackling a case of under-payment or disagreement, to refer to the whole body of the Association, and point out that if any one instance of injustice to a club surgeon was unrevised all the doctors of that particular body would strike work.

Dr. W. A. CASKIE seconded.

Dr. J. A. MACDONALD asked the Representative of the Buckinghamshire Division if it would not be sufficient for him to ventilate the matter without putting a definite Resolution. Some of the friendly societies were now becoming much more amenable to suggestions, and he would deprecate doing anything which might interfere with an effective arrangement being reached.

Dr. BRADBROOK said his Division would be quite satisfied with attention being brought to the subject if the Council would act on it.

With the permission of the Meeting the Rider was withdrawn.

Model Rules for District Nursing Associations.

Dr. J. A. MACDONALD moved:

That the following Recommendation be adopted (paragraph 13 of Supplementary Report of Council):

That in the opinion of the Representative Meeting the following eight Rules are suitable for suggestion by Divisions as Model Rules for inclusion in the rules of local District Nursing Associations.

Numerous district nurses' associations had been formed throughout the country, in many of which the nurses were doing work on their own account, and the Committee found it necessary to suggest that these rules should be embodied in the rules of those associations. He proposed to take them one by one.

1. The nurse shall in every case carry out the directions of the Registered Medical Practitioner in attendance.

Dr. ROBERTSON asked if Dr. Macdonald would explain the meaning of the word "nurse." Did he mean a registered nurse, or did he include a person with some but not a complete training? In Glasgow there was an association which employed nurses who received at the utmost some three months' training, but could not be considered in any way as fully equipped, yet they were really doing the work of trained nurses. Was it suggested that these women should come in under this rule?

Dr. MACDONALD said it was suggested that they should be included in the rules of the associations.

The Recommendation was agreed to.

Dr. MACDONALD then moved, and it was resolved:

2. That the nurses, when requested in an emergency, may visit and render first aid to any person without awaiting instruction from a doctor.

Dr. MACDONALD then moved:

3. If in her opinion the attendance of a doctor is necessary she must insist that he be sent for; and if for any reason his services are not immediately available the nurse must, if the case is still one of urgency, remain with the patient and do her best until he arrives or until the emergency is over. Should the patient refuse to have a doctor the nurse must at once leave and report the case to her Secretary.

Dr. T. FORT asked if only the doctor suggested by the nurse might be sent for.

Dr. MACDONALD replied that the patient's friends would probably call in any one who was available.

Dr. GORDON moved as a Rider:

The nurse shall in no case attempt to influence a patient in her choice of a medical man.

The DEPUTY CHAIRMAN thought that that would come better as an additional rule.

Dr. GORDON said the matter had been considerably discussed in Cornwall, and the Secretary of the Division had passed the rule on to him as a suggestion.

Mr. HAYWARD seconded.

After a short discussion, the Motion was amended to read as follows:

9. A nurse shall in no case attempt to influence a patient in the choice of a doctor.

The DEPUTY CHAIRMAN said it would be inserted in its proper place as an additional rule.

Dr. J. A. MACDONALD then moved:

4. Should any further attendance be requested by the patient after the emergency is over, the nurse must explain that the doctor will decide whether or not this is necessary.

This was agreed to. He then moved:

5. No attendance after a first visit shall be given by a nurse unless she has received directions with regard to the case from a doctor.

This was agreed to. He then moved:

6. No nurse is allowed to administer on her own responsibility or prescribe any sort of drug for internal use for any form of disease.

Dr. GORDON said the members in Cornwall, who had been working so much in the matter, would not accept the rule without modification, although he, personally, thought the rule should stand as it was.

Dr. MACLEAN, while in thorough sympathy with any due and proper limitation of the nurse's duty, thought the proposed rule, as it stood, would unnecessarily prejudice the rules as a whole in the sight of any committee which had to do with the supervision of district nurses. Dealing with the case of nurses who were midwives, he pointed out that under the Midwives Act, and specifically under the rules of the Central Midwives Board, a midwife was allowed by law to administer aperients, ergot, and various anodynes on her own responsibility in circumstances which did not require the calling in of a doctor. Seeing that all district nurses must, after the year 1910, be also certificated midwives, he moved that the following be inserted at the commencement of the proposed rule:

Apart from her duties as certificated midwife.

Mr. LARKIN thought the addendum suggested was not relative to the rule.

Dr. W. Gosse (Isle of Thanet, Canterbury, and Faversham) inquired, was constipation a disease? It was a condition a nurse could treat. As a matter of fact, a nurse of whom he heard prescribed in such cases as an aperient salts in lemonade, which she called "salts of lemon."

Dr. Maclean asked permission to alter his Amendment, so that it would read:

> No nurse is allowed to administer on her own responsibility, or prescribe any sort of drug for internal use, apart from her duties as certificated midwife.

To this the Meeting agreed.

Dr. J. S. Darling (Portadown and West Down) asked if the Committee had taken into account the fact that a large number of decrepit old people were attended by district nurses. It would be useless to ask a ladies' committee to accept such a rule, because the old people would then have to wait until the doctor gave permission for them to have a dose of castor oil. He would like the matter referred back for modification or deleted altogether.

Inspector-General R. Bentham, R.N., thought the Meeting seemed to be confusing the duties of district nurse and the duties of midwife, but they were very distinct. The midwife had a certificate from the Midwives Board, but the district nurse had nothing of the kind. There were times when the duties of both were combined by either, but they were two distinct individuals as a general rule, and in his district the district nurses rarely attended maternity cases. He thought it would be a mistake to make one rule apply to both.

Dr. Pope (Council) said that the midwife after next year would be certificated, and there could not be any other sort of midwife; she would have to act under the conditions contained in her instructions and nothing that could be passed could affect her. He therefore thought that the words proposed must be inserted to make it clear that the rule did not conflict with the rules of the Central Midwives Board.

Dr. T. W. H. Garstang ventured to think that Dr. Maclean and Dr. Pope were both mistaken as to the position of the midwife after 1910. The Midwives Act contained no provision for removing from the roll women already on the roll, and the old handy woman who had already been put on the Midwives' Roll would remain there until such time as she should die off.

The Amendment was carried by a large majority, and became the substantive Resolution before the Meeting.

Dr. Macdonald suggested that the words "apart from her duties as certificated midwife," should be put at the commencement of the Resolution, not at the end. The suggestion was agreed to.

Dr. Bruce Goff said there were many places in the Western Islands of Scotland where there was no doctor at all, but where there were certificated nurses who also held certificates as midwives. What was to be done in such cases? The rule would prevent these certificated nurses from giving a dose of medicine to any individual who was sick. There were islands where there was no doctor of any description, and the only person who could prescribe was the certificated nurse, and there were other places in the Shetlands where the only doctor was something like twenty or thirty miles away.

A Member: Fifty miles.

Dr. Bruce Goff said the rule would prevent the poor people of these islands getting the advantage of the knowledge of the certificated nurse.

Dr. Pope asked if the nurses in the Shetland Islands belonged to the District Nurses' Association.

Dr. Bruce Goff: Yes.

Dr. W. T. B. Fox entirely agreed with the view that the rule prejudiced the whole case. The rules, he took it, were to protect medical men, but this rule had nothing to do with them in that character. If a nurse should give a drug which had a detrimental effect the nurse must be held responsible. The rule would undoubtedly prejudice the profession with the nursing associations. He was prepared to say that a considerable number of nursing associations would not accept the rule.

Dr. Macdonald thought many members had run away with a wrong idea. This rule was suggested as a counsel of perfection—a model rule. If the nursing associations did not want to adopt it they could leave that particular rule out and adopt the others; there was no difficulty about it. With regard to the suggestion of Dr. Darling that the rule would not allow of an old woman giving a patient a dose of castor oil, a doctor might give instructions to give that old woman the dose of castor oil when she required it.

Dr. Pope said there was one point which had not been emphasized—namely, that the rules were suggested as rules upon which the Divisions should consult the nursing associations. He thought, therefore, Dr. Bruce Goff's animadversions were hardly justified.

Dr. Maclean's Amendment as the substantive Motion was then adopted.

Dr. Macdonald moved Rule 7:

> 7. The association shall consist of all subscribers of . . . and donors of . . . to the association, together with all Registered Medical Practitioners resident and practising in the area of the association.

Dr. Henry moved to add at the end of the rule, "who may desire to act with the association."

Dr. Fothergill opposed the Amendment. The object of the rule as it stood was to provide that every doctor living in the district of the nursing association should be, *ipso facto*, a member of it. He would get the agenda, and could keep his eye on what was going on, and, if he cared to, could attend the meetings. If the Amendment were carried the nursing association would have to communicate with him to ascertain his wishes.

Dr. John Brown thought that those who desired to be on should be on, but there would be scores who did not wish to be on and did not want notices to be sent to them.

The Motion that the words "who may desire to act with the association" be added to Rule (7) was lost.

Mr. Kinsey said that he had always found that the difficulty was to get the doctors to take a personal interest in the matter, and that whenever a doctor did take a personal interest he was sure to be put upon the Committee by the lay people, who were glad of guidance.

Dr. Todd agreed that it would be impracticable to ask the associations to allow all the members to be upon the Committees. It would be quite unworkable and quite an unnecessary expense to throw upon the associations. He would move that the Resolution should read, "together with one or more representatives of the local Division of the British Medical Association." That would allow the local Division to get its views represented upon the nursing association.

The Motion was seconded by Dr. John Brown.

The Amendment was put to the Meeting and lost.

Dr. Walter Smith moved that Rule (7) should be deleted.

The Deputy Chairman stated that Dr. Smith's proposal was not an Amendment.

Rule (7) was then adopted.

Dr. Macdonald then moved:

> 8. No midwife in the employment of a nursing association should accept an engagement without first asking the patient to state, and herself registering, the name of the doctor to be called in, should any emergency arise.

The rule was adopted.

Dr. Johnson Smith proposed that the words "medical practitioner" should be used instead of the word "doctor" in all the rules.

Dr. Fothergill opposed this proposal. He said that the rules would be circulated amongst the nurses, and the Committee had endeavoured to use phraseology so simple that every nurse could understand what was meant.

The Motion was put to the Meeting and lost.

Dr. Fothergill proposed the following as a new rule:

> That in order to protect her employers and the local medical profession, any midwife employed or woman engaged to be trained as a midwife by a nursing association or similar body should be required, previous to her engagement, to enter into a bond not to practise midwifery for a certain period of time and within a certain radius after leaving her employers.

He said that in his district a nurse brought into the district by a nursing association had been taken by a medical man to his patients, and when she had had a sufficient introduction, she resigned; and, not far from the house of the medical man, a brass plate was put up, "Miss So-and-so, Certificated Midwife." The result was, that many patients, who used to pay the doctor a guinea, now engaged this nurse, and paid her 25s. for midwifery and nursing. In another instance the same thing had occurred. If these nurses were going to be helped in their work under the aegis of a nursing association, that association should see that medical men were protected, and did not have their practice taken away. The suggestion would be of use also from the point of view of the nursing association, for it would be detrimental to its interests if one of its nurses could resign and start in practice in the district. Such a rule as he was proposing was in force in several districts—Winchester was one; one of the rules of at least one nursing association was that a nurse was debarred from practising independently in the district in which she had been trained. He urged the Meeting to incorporate the proposed new rule, in order that it might be sent to the Divisions; and then, if the Divisions approved of it, it could be sent to the nursing associations.

Dr. R. GORDON seconded.

Dr. POPE asked the Solicitor whether such a bond as was suggested would be legal, and could be enforced.

Dr. BUIST suggested that Dr. Fothergill's Motion was not quite in harmony with what the Meeting had previously been doing. The suggested rule should provide that no midwife employed by a nursing institution shall start an independent practice in the district within a certain time.

Dr. W. L. MUIR said he was under a strong impression that such a bond would not be legal in Scotland, as it would be held to be in restraint of trade.

The SOLICITOR stated that in his opinion such a bond would be legal, and he did not think there would be any legal disability in putting it into force.

Dr. GARSTANG said that he knew of a case in which the bond had been enforced.

Mr. C. R. STRATON said that it could only be enforced by the institution, and not by a medical man.

The DEPUTY CHAIRMAN said the best way to deal with the matter would be to vote on the question of the introduction of a rule providing for a bond between the nurse and her employer, and then to refer the Motion to the Council, who would send it on to the Medico-Political Committee to draft a rule. Was it the wish of the Meeting that a rule providing for a bond should be inserted?

A show of hands was in favour of the insertion of a rule providing for a bond.

Approval of Supplementary Report.

Dr. J. A. MACDONALD moved, and it was resolved:

That the remainder of the Supplementary Report, under the heading "Medico-Political Committee" (Paragraphs 12 to 24), be approved.

Overcrowding in the Medical Profession.

Dr. DOUGLAS moved:

That, having considered the reference from the Council contained in paragraph 24 of the Supplementary Report of the Council, the Representative Meeting requests the Council to consider the advisability of drawing the attention of head masters of schools to the overcrowded conditions of the medical profession and the small income received by many medical men after much expenditure of time and money.

Dr. Douglas said that to a certain extent the profession was overcrowded, and people were deluded into thinking they would be more successful than was likely to be the case. His Division had requested that attention should be drawn to it. The Salford Division had issued a letter to this effect to the head masters in that district, and his Division wished to follow on the same lines.

Dr. J. H. TAYLOR seconded the Resolution. On behalf of his Division he had handed in an Amendment, but the Salford Division would be very glad to accept the Maidstone Motion. He had been told that the Head Master of the Manchester Grammar School had been accustomed to advise almost any promising boy to become a doctor, but he had now stopped this practice. He did not wish to suggest anything in the terms of the somewhat crude letter which had been sent by him. He would rather say that some extract from the Educational Number of the JOURNAL, which dealt with this subject, might be sent to the head masters. The matter had been very well put in two recent articles in the JOURNAL, which gave an explanation as to how it arose. He believed that something of the same kind had been done for many years in France, where an association of all the medical societies had issued for at any rate three years what it called warning notices. They were not only sent to the head masters, but posted up in the medical schools and universities. The effect had been very materially to reduce the number of medical students, which had up to then been gradually increasing.

On the proposition of the DEPUTY CHAIRMAN, it was agreed that the proposal should be referred to the Council for its consideration.

Subsidies to Midwives.

Dr. WALTER SMITH moved:

That the Central Council be instructed to consider the following subject, to consult the Divisions thereon, and to report on it to the next Annual Representative Meeting:

That the subsidizing of midwives by public authorities, nursing associations, and similar bodies is undesirable in districts where adequate medical attendance is available, and that in the interests of the parent and child any assistance rendered should take the form of partially or entirely providing a Registered Medical Practitioner and nurse.

He said his Division was not in favour of public bodies subsidizing midwives to do work which hundreds of medical men were willing to do at a small fee. All he asked was that this Recommendation should be referred to the Council for consideration.

Mr. JACKSON seconded the Motion, which was put and carried, and the Meeting adjourned for luncheon.

MODE OF ELECTION OF CHAIRMAN AND DEPUTY CHAIRMAN.

Following the adjournment, Dr. J. A. MACDONALD resumed the chair, and the Meeting proceeded to deal with Dr. Buist's Amendment to the Standing Order dealing with the election of Chairman and Deputy Chairman of Representative Meetings. Dr. Buist's Amendment was as follows:

NOMINATION.

Nominations for the office of Chairman of Representative Meetings, and Deputy Chairman of Representative Meetings for the year should be handed in writing to the Secretary of the Meeting not later than the termination of the second day's proceedings. Each nomination shall be signed by the nominator, and shall contain a declaration that the candidate nominated has agreed to serve.

VOTING.

The names of all candidates duly nominated shall be issued in a voting paper, which shall be issued and collected at such time as the Meeting shall direct. Each voter shall number the names of the candidates for each office in the order of his preference.

SCRUTINY.

The scrutineers shall proceed as follows:

(*a*) *Count.*—On the first count each candidate shall be credited with the number of votes given by those voters who have numbered him (1), and if any candidate be found to have received an absolute majority of votes cast he shall be declared to be elected.

(*b*) *Exclusion and Transfer.*—If no candidate be thus elected, that candidate who has received fewest votes shall be excluded, and his votes shall be transferred to the candidates respectively numbered as next preference on his voting papers, and any candidate now found to have an absolute majority shall be declared to be elected.

(*c*) If after the first transfer no candidate be declared to be elected, the procedure of exclusion and transfer shall be repeated, and so on until one candidate is declared to be elected.

(*d*) *Exceptions.*—(1) If on a count between three candidates no candidate be found to be elected, and the candidates who have fewer have an equal number of votes, the preferences

on the voting papers of the highest candidate shall, for the time being, be credited to the other two candidates, and that candidate who has fewer votes shall be excluded.

(2) If on a count between two candidates, after the others have been excluded, the votes are equal, that candidate who has the larger number of first preference votes shall be declared to be elected.

(3) In any case of equality subsisting after this procedure, one of the candidates shall be excluded by lot.

(4) Any voting paper shall become invalid if its preferences be exhausted before a candidate is declared elected.

ENTRANCE INTO OFFICE.

Except with regard to *ex officio* membership of Council and Committees, the Chairman and Deputy Chairman so elected shall not assume their functions until the close of the Annual Meeting.

Dr. FOTHERGILL suggested that in the paragraph headed "Voting" the word "placed" be substituted for the word "issued" in the first line, as the word "issued" occurred in the second line.

Dr. BUIST said he was willing to accept the alteration.

Dr. BUIST observed that the last part of the Standing Order included the suggestion that the Chairman and Deputy Chairman should remain in office, with regard to certain functions for which preparations were made before the Meeting, until the end of the Annual Meeting. This would relate only to social functions. Invitations were issued to the Chairman of the Representative Meeting during the year, and they must be accepted by the Chairman. He would move:

That, except in regard to *ex officio* membership of Council and Committees, the Chairman and Deputy Chairman so elected shall not assume their functions until the close of the Annual Meeting.

The CHAIRMAN, in putting the Resolution to the Meeting, said it was brought forward because it was felt there might be some difficulty as to who was representing the Association. The matter had been postponed from the previous day, when it was hoped some precedent might be set as to how the matter should be dealt with.

The Resolution was then adopted.

HOSPITALS COMMITTEE.

Certificates of Suitability for Hospital Treatment.

Dr. POPE moved:

That the following Recommendation of the Council be adopted (paragraph 23 of the Annual Report).

That a medical certificate of suitability for hospital treatment be required as a condition of hospital treatment, except in case of casualties.

Dr. FOTHERGILL moved as an Amendment on behalf of the Wandsworth Division:

That except in emergencies a medical certificate of suitability for hospital treatment be required as a condition of hospital treatment.

He said that the Memorandum of the Hospital Committee distinctly said that a casualty patient should be attended to the first time; but that afterwards he should bring a medical certificate like an ordinary outpatient, stating that he was entitled to have hospital treatment.

Dr. J. H. TAYLOR called attention to a very curious incompleteness in both the Amendment and the original Motion. The point had been recently noted in Manchester. If a patient went to a hospital without a certificate the rule could be carried out by the hospital officer giving a certificate.

Dr. POPE said that in the principles of hospital treatment as adopted by the Association it was stated that a casualty patient should bring a letter on his second attendance. If the word "emergencies" was used, it would allow the house-surgeon or the house-physician to call anything an emergency, and he very often would.

The Amendment was put to the Meeting, and lost.

Dr. R. W. W. HENRY moved that the Resolution should read as follows: "That a certificate of medical or surgical suitability for hospital treatment," and so on. A large number of the country Members of his Division thought they would be put into a very invidious position if they had to make any statement with regard to the financial position of the patients sent to the hospitals. In his Division an Amendment was carried by the casting vote of the Chairman. Personally he thought it was wrong, but it was his duty to move it.

The Motion was not seconded.

Dr. FOTHERGILL asked whether Dr. Pope would accept the words, "at the first attendance." If so, he moved those words as an Amendment.

The Motion was seconded by Dr. E. D. KIRBY.

The Motion was then put to the Meeting, and carried.

After a short discussion upon the form of the Resolution, it was agreed that the Council should put the Resolution into proper form.

Dr. THOMAS BUSHBY proposed to add to the Resolution the words "and urgent illness."

This was seconded by Dr. W. JOHNSON SMYTH.

Dr. J. MACDONALD (South Shields and Tyneside) asked whether "medical certificate of suitability" included a certificate of a school medical officer.

The CHAIRMAN, in reply, said it certainly did. He had as much right to give a certificate as anyone else. He then put the Amendment that the words "and urgent illness" be added to the Resolution, which was lost.

The Resolution as amended was agreed to.

Definition of "Nursing Home."

Dr. POPE moved:

That the following definition be approved (paragraph 24 of Annual Report):

A "nursing home" is an institution in which patients are received for medical care under the attendance of Medical Practitioners selected by themselves, and where the patients are responsible to the home for charges for maintenance and nursing, and to the Medical Practitioners for their fees.

Dr. GILL said nursing homes were used for purposes for which they ought not to be used, especially in cases of mental unsoundness. He thought these homes should be registered and properly named. They ought to be called homes for the reception of cases of ordinary medical and surgical treatment, and not cases of insanity.

Dr. MACAN rose to a point of order. The registration of homes for the reception of persons of unsound mind was a very important point and ought not to be raised on the question of the definition of a nursing home.

The CHAIRMAN said the question before the Meeting was merely the definition of what a nursing home was.

Dr. GILL thought the definition was wrong. The definition was that a nursing home was an institution at which patients were received for medical care under the attendance of a medical practitioner selected by themselves. That was all very well, but he maintained that those homes ought not to be used for the treatment of mental disease. Homes which received mental cases ought to come within the Lunacy Act and be inspected by the Commissioners in Lunacy in the same way that lunatic asylums were.

The CHAIRMAN said that if the proprietors of homes were doing anything which brought them within the law they were offending against the definition.

Dr. GILL said he would submit to the Chairman's ruling.

The Motion was agreed to.

Dr. MACAN moved as a Rider:

That all nursing homes ought to be registered and regularly inspected lest they should be improperly used for the detention fee of lunatics.

Dr. WESTBY seconded the Rider.

Dr. POPE said that the definition was drawn because at last year's Representative Meeting it had been said that it was not known exactly what was meant by a nursing home, and the Council was asked for a definition. Three Committees with a Subcommittee all met together to discuss the matter, and the Council had now said what in their opinion was a nursing home as at present constituted—what was meant by nursing home when that expression was used, and he submitted that the Rider was out of order.

The CHAIRMAN ruled that Dr. Macan's Rider was in order; it had nothing to do with the definition of a nursing home.

Dr. J. BROWN said it seemed to be absurd to bring in the question of lunatics, because if any one received a lunatic patient into a nursing home or any place for profit he brought himself within the law.

Dr. GILL said that was perfectly true, but there were many things done in this world secretly.

Dr. THOMSON said there was nothing illegal in a nursing home, or any other home, taking in an uncertified patient, provided that it was not done for profit.

Dr. BUIST thought the assertion that nursing homes should be subject to inspection would serve the purpose, and again bring the matter before the Council of the Association.

Dr. J. J. MACAN said his seconder would accept the alteration.

Dr. J. H. EWART inquired whether "nursing home" applied also to surgical home, because he thought nothing could be more objectionable than a nursing home or surgical home being open to inspection. How could a well-to-do patient be asked to go into an institution where a gentleman in blue might be running in at any moment? It would be the death-blow to any first-class nursing home.

The Rider was then put to the Meeting and lost.

Approval of Report.

Dr. POPE moved:

That the remainder of the Annual Report of Council under the heading "Hospitals Committee" (paragraphs 25 to 33) be approved.

This was agreed to.

United Kingdom Hospitals Conference.

Dr. FOTHERGILL moved the following Rider:

That this Representative Body do annually elect twenty-five of its Members, of which not less than three shall be Representatives from Scotland, and not less than three Representatives from Ireland, to represent it at the United Kingdom Hospitals Conference, so long as these Conferences shall continue to be held, together with others to be elected by the Central Council, and that they do report to this Body.

That was simply the position taken up the previous year, when the Representative Meeting decided that if there were any conferences to be held in the future, that body would elect twenty-five Members to take part in the conference. Those Members were elected but no conference had been held, but there were hopes that conferences on these subjects might be got up by some other body. With the leave of the Meeting, he would like to add after the words "United Kingdom Hospitals Conference" the words "or similar conference," so that any conference which was held would be embraced, and the Representative Meeting should elect twenty-five of its Members to attend such conference.

Dr. POPE accepted the proposal. It had been taken for granted that that would be done. With regard to the Hospitals Conference, he explained that considerable difficulty had been found in getting a layman of sufficient standing to take the chair. It involved a great deal more than the mere taking of the chair at the meeting, because the gentleman who occupied that position had to be consulted beforehand, and had also to sit on the subcommittees. In the meantime there was another body which had not been very active lately, but which it was hoped would be more active in the future—namely, the Hospital Association. One of the most important members of the association was on the Hospitals Committee, and there was reason to think that a more fruitful conference would be obtained if the Association combined with that body, and they were proceeding in that hope.

Dr. E. J. MACLEAN inquired whether it was contemplated that the Report should be presented only to the Representative Meeting. He could imagine an occasion for reporting shortly after the Annual Meeting, and therefore if the Report only came to the Representative Meeting there might be a considerable waste of time. He inquired whether the Report could not go to the Council.

Dr. E. R. FOTHERGILL desired to add the words "or in the matter of urgency to the Divisions direct." He pointed out that what was proposed was a Committee of the Representative Meeting, and that had nothing to do with the Council.

Dr. MACLEAN suggested that it might be wise to insert a provision for reporting to the Council, and the Council could thereupon take such action as it thought proper, either in the direction of immediate action or report to the Divisions.

Dr. POPE pointed out that the Hospitals Committee would also be a member of the conference, and would report to the Council, and the reports would be identical.

Dr. MACLEAN expressed his satisfaction with Dr. Pope's statement.

Dr. BUIST suggested that, having regard to that circumstance, it would simplify the matter if the Rider stopped at the words "by the Central Council" in the last line but one. The Report had to come to the Representative Meeting in any case, whether carried through the Central Council or not. There was no necessity for any instructions about reporting.

Dr. POPE thought there was, because the thing was presented from the point of view of the Hospitals Committee and the Council.

The Motion was carried.

Gratuitous or Semi-gratuitous Hospital Treatment.

Dr. LAFFAN withdrew the Rider by the Waterford Division:

That the Council be instructed to take steps to give practical effect to the Oxford Resolutions on the subject of gratuitous or semi-gratuitous hospital treatment of the well-to-do.

Representation of Profession on Hospital Committees.

Dr. FOTHERGILL moved:

That, in the opinion of the Representative Meeting, the management of general and cottage hospitals should be vested in a Committee on which the local medical profession is adequately represented by directly elected representatives.

The previous year a Resolution on similar lines had been brought forward, and it was suggested it was not in order because it had not been before the constituencies sufficiently long. The matter had now been before the constituencies, and he believed they were more or less ready to say that the local profession should be adequately represented on any cottage or general hospital.

The CHAIRMAN directed Dr. Fothergill's attention to two subsequent Motions and suggested that they covered his Rider.

Dr. FOTHERGILL agreed, and the Meeting assented to the withdrawal of the Rider.

Certificates under Workmen's Compensation Act.

Dr. J. H. TAYLOR moved:

That, in the opinion of the Representative Meeting, any member of an honorary or paid medical or surgical staff of a hospital who signs any certificate or gives any report on any case under the Workmen's Compensation Act, ought to receive personally the usual fee in full.

He said the Rider shortly amounted to the following: That any fee obtained for a certificate under the Workmen's Compensation Act should go to the medical officer who gave the certificate. In the Supplementary Report they were informed that 100 hospitals gave information: in 82 cases a charge was made for a certificate, and in the large majority of institutions the fee was given to the resident medical officer, but he found in a fair minority no fee whatever was charged, and yet the staff had to give a certificate; and in another minority a fee was charged and the resident medical officer got nothing of it, the whole of it going to the hospital. His Division simply wanted to make a rule that any medical officer who gave a certificate got a fee.

Dr. VIPONT BROWN seconded.

Mr. ARMIT moved to delete the words "sign any certificate or" so that the Rider of the Salford Division would only apply to reports and not certificates. The Hampstead Division felt there were some certificates given which the medical officer giving them should not necessarily require a fee for, and that it should be

left to his own discretion whether he should ask for a fee. The report was a totally different matter; but as to signing a certificate, the medical officer called upon to give it could very easily make his own arrangement, and it would not be a very great hardship if he gave a certificate without receiving a fee.

No seconder being forthcoming the Amendment fell to the ground.

Dr. D. Campbell Watt proposed to insert a provision with reference to certificates under the lunacy laws, for the reason that occasionally cases had been admitted to the general hospital which had turned out to be cases of lunacy, and the medical officer of the hospital had had to sign the certificate, and in some hospitals the board had claimed a fee.

The Chairman ruled that he could not admit the Amendment, as the report referred only to cases under the Workmen's Compensation Act.

The Resolution was then adopted.

Dr. Fothergill moved:

That it be an instruction to the Council to consider the question of fees, and report to the Representative Meeting.

He thought it most desirable that they should come to some united action on the question of fees. In London the local Divisions had taken it up, and some said the fee should be 6d., some 1s., some even going as high as 5s. It was important to consider the matter, as the insurance companies were constantly cutting them down.

Mr. G. Westby seconded the Rider, which was agreed to.

New Medical Institutions.

Dr. Pope moved:

That, in the opinion of the Representative Meeting, no fresh public medical institution should be opened without previous consultation with the local medical profession, through some organized body, such as the local Division of the British Medical Association.

Dr. Kirby moved to omit the words "some organized body, such as."

Dr. D. E. Finlay (Gloucester) seconded.

Dr. Pope pointed out that if the Amendment was carried local practitioners' unions in large places like Birmingham and the colliery districts would be prevented taking any action; and an injury would be done to the public if no new hospital or any medical scheme could be started unless the British Medical Association approved of it. If that was the meaning of the Amendment, he thought it ought not to be accepted without full consideration.

Dr. W. Douglas hoped the Amendment would not be accepted, as it would cause friction between this Association and bodies which did not belong to the Association whom they hoped to draw within its folds.

Sir Victor Horsley pointed out that there was no other organized body but the British Medical Association, and that the words proposed to be omitted were necessary in order to bring the Resolution within practical politics.

Dr. J. S. Darling said it was quite a mistake to think there was no association but the British Medical Association in existence. There were many parts of Ireland in which the British Medical Association had very few Members, and the Irish Medical Association had a great many Members; it would be foolish to ignore other bodies in that cavalier manner.

Sir Victor Horsley said what he was referring to was bodies organized throughout the United Kingdom. The British Medical Association was the only body in existence for the whole United Kingdom.

Dr. Pope wished to point out to Sir Victor that there were several associations organized locally.

Dr. C. E. Robertson said that though the British Medical Association had Members in different Divisions throughout Glasgow, they were by no means so well organized as were other medical societies in Glasgow. The Southern Medical Society of Glasgow consisted of 230 members, whose average attendance would always be anything between 25 and 30 per cent., and there were sometimes as many as 100 Members present on a special occasion. The local Division of the British Medical Association was a small matter compared with that. The local Division never got an attendance of more than seven or eight, or eleven at the most; and it would be a mistake to cut out such an Association as the Southern Medical Association of Glasgow. There were also other societies in Glasgow larger than the Division of the British Medical Association; and it would be a great mistake to say that these little Divisions, because they were little Divisions by comparison, were to be the only bodies to have any say as to whether or not there was to be any fresh medical institution in Glasgow.

Dr. Buist observed that some members of the Meeting were forgetting the historical consistency of the Association, which had used the words "through some organized body such as a local Division of the British Medical Association" from the time it began to issue Reports on Contract Practice and things of that sort. It seemed now that Members were going to sacrifice continuity. He hoped the phrase would be retained as it had stood all along, because the difficulties which had made the insertion of those words necessary in the first instance had not yet been removed.

Dr. Fothergill hoped the original form would be retained. They must look to their local Divisions to keep the profession together. There might be some little local societies, but he wanted the Division to be the society to call together the whole of the Medical Profession.

The Amendment was lost and the Resolution agreed to.

Representation of Local Medical Profession on Boards of Hospitals and Similar Bodies.

Dr. Pope moved:

That, in the opinion of the Representative Meeting, the association of officially recognized representatives of the local medical profession in the general management of hospitals and other medical charities is desirable in the interests of those institutions, as well as of the profession, and that for the appointment of such representatives use should be made of the machinery afforded by recognized bodies representative of the profession such as a Division of the British Medical Association.

Dr. Fothergill moved to insert the words "promotion and" before "general management of hospitals and other medical charities."

The Chairman said that Dr. Pope would accept the Amendment.

Dr. Henry thought it would be of interest if the Chairman of the Hospitals Committee would inform the Meeting what had already been done in Leicester in regard to this question.

Dr. Muir said this subject would be brought before his Division, and he found that in the Glasgow hospitals—using the word "hospitals" in its proper sense, these being public, not parochial, hospitals—there were publicly elected members from the Town Council and other organized bodies, and those members were usually such medical men as happened to be members of those bodies for the time being. They therefore decided in Glasgow that the Division should apply specifically for one or more Members from their own Division on the only hospital in it, which was the Royal Infirmary. He did not know the result of the application.

Dr. Pope, replying to Dr. Henry, said that at Leicester the representation of the local Division on the Hospital Board was provided for, the infirmary having put upon its rules that its governing body shall include two members to be nominated by the local Division.

Dr. Buist proposed as an Amendment that the words "recognized bodies representative of the profession, such as" should be omitted.

The Motion was seconded by Sir Victor Horsley.

Dr. Robertson said that it seemed to him that the whole Motion took it for granted that hospitals could at some time or other to a large extent be under the control of the British Medical Association. That question was a very open one. For instance, the hospital of which he was one of the governors had a charter, and it was an utter impossibility to add to it or to take away from it without the governors going to Parliament and getting practically a new charter.

To say that the small Southern Division was to be given the power of ousting from its position the Southern Medical Society of Glasgow was to his mind preposterous, and it would not help the British Medical Association either in the minds of outsiders or in the minds of the Governors of different institutions.

Dr. THOMAS BUSHBY supported Dr. Buist's Amendment because there was no doubt it was a very important thing in many hospitals to have representation directly of the British Medical Association. He thought there were very adequate reasons for an impartial body like the British Medical Association, representing medical interests purely and simply, being represented upon the committees of hospitals. It was very often impossible for people who were bound by sentiment and loyalty to their own institutions to speak with that detachment which was necessary upon matters which affected them and also the profession at large. He would like to support very heartily the suggestion that, as far as it was possible, the Division should be represented.

Dr. NASH wanted to place upon record the fact that he had been instructed by his Division to oppose the Resolution, as it thought that it would result in endless friction.

Dr. JAMES METCALFE wished to say that he had been instructed strongly to support the representation of the medical profession upon the boards of management of hospitals.

The Amendment was put to the Meeting, and Dr. NASH asked that the numbers might be given.

Upon a show of hands, it was declared that there were 83 for the Resolution and 17 against.

Nomination and Election of Representatives.

Dr. FOTHERGILL moved:

That it be an instruction to the Central Conneil to prepare a scheme for the nomination and election of representatives in accordance with the above Resolution, and to submit the same for the approval of the Divisions and of this Body.

The effect of the Rider was that having passed the idea that there should be representation, it would be very useful that the Council should elaborate some scheme by which it should be done. There was some opinion that a Division consisting of ten or fifteen men were going to settle the whole business without consulting the larger number outside the Division at the time. It would seem that by the scheme every man in the district had a voting paper, and his vote would count with the Association, and he would at last join the Association itself.

The Rider was then put and carried.

Contributions to Hospitals by Employers of Labour and Employees.

Dr. POPE moved:

That, in the opinion of the Annual Representative Meeting, contributions to hospitals by employers of labour or by employees should not be considered as the payment of premiums of insurance against the cost of treatment of sickness or accident, nor as entitling the contributors to claim hospital treatment either for themselves or for persons nominated by them, but as charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted.

Dr. MUIR moved as an Amendment that the Motion should read:

That, in the opinion of the Annual Representative Meeting, contributions to hospitals by employers of labour or by employees by means of weekly collections and otherwise should be charitable payments adequate for the same, and not as entitling the contributors to unlimited hospital as also gratuitous medical attendance.

The CHAIRMAN declined to accept the Amendment it being precisely the same as the Motion before the Meeting.

Dr. GILL proposed as an Amendment:

That at the present time this Meeting does not consider that any steps should be taken to carry out the suggestions of the Report.

The CHAIRMAN ruled that as this was a direct negative it could not be put as an Amendment.

The Motion was put and carried.

The Meeting then adjourned till Monday at 10 o'clock.

MONDAY, JULY 26TH.

J. A. MACDONALD, M.D., in the Chair.

HOSPITALS COMMITTEE.

Hampstead Hospital.

Dr. DAUBER (Westminster) moved:

That, in the opinion of the Representative Meeting, the Central Council, having permitted the publication of the Warning Notice with reference to the Hampstead Hospital, should secure its observance. Having regard to the fact that an ex-Chairman of a Division of the Association lost his Hospital appointment through compliance with the Notice, while those who defied it were enabled thereby to supplant him, the Representative Meeting instructs the Council to take all steps within the power of the Association to redress the injustice thus occasioned, as its long-continued existence is conducive to the disintegration of the Association.

He said that at the last Representative Meeting this question was then already six months old. Since then it had been bandied about from one Committee to another, but nothing had been done, and the injustice done to a certain Member for his loyalty to the Association had not been rectified. The Association existed for two purposes—one scientific, and the other social and medico-political. He imagined that the medico-political work was as interesting to the majority of Members as the scientific. All present knew the history of the Hampstead Hospital question: that there was a warning notice that no one should apply for an appointment at the Hampstead Hospital without consulting the Division or the Medical Secretary. The then Chairman of the Westminster Division, who had held a position at one of the hospitals which were affiliated and had tendered his resignation, applied to the Executive of the Division to know what he should do—whether under the circumstances, in view of this warning notice, he was justified in applying for an appointment. The Division unhesitatingly said, "Certainly not. You must be, at all costs, loyal to the Association." The Division agreed to support him, and had supported him in every way. There had, of course, been great difficulties in the case. But these warning notices were not put in haphazard; any one wishing to put in a warning notice had to submit it to the Council.

Some Members expressed dissent, and Dr. Dauber appealed to the Chairman whether he was not stating a fact when saying that the warning notice was put in with the full knowledge of the Central Council.

The CHAIRMAN said the form of the warning notice had been agreed upon by the Council; but the Council might not know anything about any particular warning notice having been given.

Dr. DAUBER said that seemed to him to be a very anomalous state of affairs.

The CHAIRMAN said that question was not under discussion at present.

Dr. DAUBER asked if no one was responsible for the notice being inserted in the JOURNAL.

The CHAIRMAN replied that he had not said that the Council was not responsible for it; what he had said was that the warning notice was not submitted to the Council when put in.

Dr. DAUBER thought that was a very unsatisfactory state of affairs, and one which should be removed. At any rate, the Council was responsible for this warning notice, and he thought that if it permitted warning notices to be inserted in the JOURNAL it should abide by them. He hoped the Motion would meet with the approval of the Meeting.

Dr. JOHN BROWN seconded the Motion.

Mr. ARMIT proposed as an Amendment the omission of the words:

Having regard to the fact that an ex-Chairman of a Division of the Association lost his hospital appointment through compliance with the notice, while those who defied it were enabled thereby to supplant him.

The sense of the Resolution would then be to call the attention of the Council to the fact that the publication of the warning notice had been permitted, and that it was the duty of the Council to secure its observance. His reason for proposing this Amendment was twofold. In the first place the gentleman referred to

in the portion of the original Motion which he suggested should be deleted, was not the only one who complied with the terms of the warning notice. Every one was pleased that a large number of Members of the Association showed loyalty, and acted loyally, and all realized that the good conduct and discipline of the Association depended upon such loyal action, but there was no reason why, because a man acted loyally, he should be patted on the back and others left unpatted. There was another reason why his Division had suggested that these words should be left out. The terms of the original Motion were that the ex-Chairman of a Division had lost a hospital appointment through compliance with a warning notice, but no man could lose a hospital appointment for which, on the advice of his Division, he did not apply. The Member in question was wise in taking the advice of the Division. Other Members had been wise in acting on their own initiative, feeling that there was no possible question as to what course they should follow. For these reasons he thought it far better that the personal element should be left out. The meaning of the word "injustice" in the Motion was greatly altered by the elision. The meaning of the alteration really was that the injustice was to the Association and not to individuals. It was not an injustice to the Hampstead Division in particular, but an injustice to the Metropolitan Counties Branch, and an injustice to the whole British Medical Association. The mover had said that nothing had been done to settle this point. He begged very respectfully to differ. A great deal had been done. There had been delays, and some of these delays might, perhaps, have been avoided, but the delay was deliberate in certain instances, and its object was to give the respondents in the case every possible opportunity of explaining their views. The result of the delay had been that one respondent had reinstated himself before the Association, had resigned his appointments in connexion with the hospital, and had given his pledge that he would assist the Association in carrying out the Resolution which was passed at the Representative Meeting last year. He could not have done more. Delay had occurred also for the reason that attempts had been made to get other respondents to take a similar view.

The Amendment was accepted by the mover and seconder.

Dr. Langdon-Down agreed almost entirely with what Mr. Armit had said. A question which, like the present, involved many personal details and judicial questions, was an extremely difficult one for a meeting like the present to deal with. To know the exact facts and the exact interpretation of the facts could not be the duty of such a meeting, and must be a duty to be undertaken by committees. It could not be too fully understood that what was wanted was to right the wrongs of Hampstead rather than to pursue any individual Members of the Association.

The Amendment was agreed to.

Sir Victor Horsley was delighted that the Meeting had accepted the Amendment. The Metropolitan Counties Branch felt very strongly that great injury was being done to the Association by the ethical side of the matter being still under consideration. The Metropolitan Counties Branch had passed a Resolution calling upon the Central Council to close certain correspondence which it understood was being carried on between the Ethical Committee and certain Members of the Association. One respondent had done all that he could to right himself with the Association, and the Metropolitan Counties Branch Council had recognized that fact in its Annual Report, and had pointed out that if other Members had acted in the same spirit the negotiations with the Hampstead Hospital would probably have reached a successful issue by the present time. Under the circumstances the action of the Metropolitan Counties Branch in asking that the correspondence should be brought to an end was only consistent with the best interests of the Association. He therefore proposed as an Amendment that, after the words "instructs the Council," the following words should be inserted: "to settle forthwith the ethical question involved and." In moving this Amendment he would like to associate himself very strongly with the remarks of Mr. Armit. It was a question not of injustice to the individual, but of injustice to the whole of the 20,000 members of the Association.

Dr. Goodall (City Division) seconded the Amendment.

The Amendment was carried with three dissentients, but with the additional alteration that the words "that has been occasioned" were substituted for the words "thus occasioned."

After some further discussion of the details of the circumstances connected with the Hampstead Hospital dispute, Dr. Maclean said that in the South Wales and Monmouthshire Branch, of which he was a member, the importance of the warning notice was immeasurable, and that Branch would deeply regret any action which would tend to imperil the status of the warning notice. He was a member of the Ethical Committee, and Secretary and Treasurer of the Contract Practice Committee of the South Wales and Monmouthshire Branch, which Committee had had much experience of the warning notice. As a member of the Ethical Committee who had been present at every meeting when the matter had been discussed, he was conscious of no desire on the part of any single member to undermine the warning notice. The members of the Ethical Committee, under the wise and careful guidance of its Chairman, Mr. Kinsey, would not be parties to anything which would have that effect. In his opinion, it was impossible for that Meeting to be fully acquainted with all the intricate details of the question. The Meeting must therefore have confidence in the Committees. If the Committees had not that confidence, then they should be reorganized. The delay had been due to the full consideration of the very serious issues involved. He would ask the mover to accept the following Amendment:

To insert the words "To consider the advisability of settling forthwith the ethical question."

Dr. Nash seconded the Amendment.

Mr. Donald Armour urged that the matter should be settled, as keeping the question open was inflicting serious injury on the Association in the metropolis.

Sir Victor Horsley considered the Amendment unnecessary. The Metropolitan Branch Council merely asked the Central Council to close a correspondence that was going on, that this ethical matter might be closed. As Mr. Armour had said, the British Medical Association in the metropolis was suffering.

Mr. Kinsey said it would be quite impossible for the greatest orator in the world to make 100 or 120 men understand in an hour or two the intricacies of a dispute which had involved six or seven different individuals or Branches for the last two years. The intention of the instruction of the Council to the Ethical Committee was to bring about an amicable solution by persuasion, and the persuasion was so far effective that the Committee of the Hampstead Hospital had agreed to depute a subcommittee to meet a subcommittee of the Council. He contended that there had been no unreasonable delay.

Dr. Dauber said he had not wished to speak again. The plain issue was being confused. The question was, Was a warning notice to be regarded, or was it not?

Dr. Langdon-Down, though agreeing very much with the remarks which had been made by the proposer of the Amendment, thought it superfluous.

Dr. Maclean, having regard to the expression of opinion of the Members, said that he was willing to withdraw his Amendment, and with the consent of the seconder and of the Meeting, and it was withdrawn accordingly.

The Motion was then put to the Meeting and carried *nem. con.*, the number in favour of it being 118.

Approval of Report.

The Chairman moved:

That the remainder of the Supplementary Report under the heading "Hospitals Committee" be approved.

(See Supplement, July 10th, 1909, p. 44.)

South London Hospital Medical Committee.

Dr. FOTHERGILL moved as a Rider:

That it be an instruction to the Central Council to communicate with the South London Hospital Medical Committee, and, in conjunction with that body, to take all possible steps to obtain acceptance at an early date by the Medical Profession in South London of a scheme which, while safeguarding their interests, will prove acceptable to the Committee of Management of King's College Hospital.

The Motion was seconded by Dr. R. ESLER (Lambeth) and carried.

Pathologists to Institutions.

Dr. F. G. BUSHNELL (Brighton) moved the following Rider:

That the conditions of service of pathologists and bacteriologists who are registered medical practitioners and attached to public institutions and bodies should be considered by the Council of the British Medical Association, it possible jointly with representatives of some pathological society, and be reported on and recommendations made to the next Annual Representative Meeting.

He thought that the subject of the conditions of service of pathologists at hospitals was one which deserved the attention of the Association. The number of such officers was increasing, and was already quite a considerable body. It was important that they should have fair conditions of service. One matter to which he would ask special attention was that of the tenure of office of these men. Another question was as to whether pathologists and bacteriologists had the right to carry on practice in order to bring their income up to that of the average medical man.

Dr. LYSTER, in seconding the Rider, said that if some consideration were not given by the Association to the appointment of bacteriologists difficulties would arise in the future. The creation of bacteriological laboratories in connexion with county health work would probably very rapidly develop, and many would be appointed bacteriologists at inadequate salaries if attention were not paid to the point.

The Rider was agreed to.

OPHTHALMIA NEONATORUM COMMITTEE.

On the motion of Dr. BUIST, paragraph 62 of the Annual Report of Council (Ophthalmia Neonatorum Committee, published in the SUPPLEMENT, May 22nd, 1909, p. 293) was approved.

On the suggestion of the CHAIRMAN, Dr. BUIST moved that Part B of the Report—"Directions to Midwives and Nurses" and "Suggestions to Medical Practitioners"—be approved, and this was agreed to.

Dr. BUIST moved the approval of the sections of the Report dealing with (I) Prevalence and (II) Prevention.

Dr. ROBERTSON said that the Division he represented was opposed on principle to the British Medical Association laying down defined lines as to treatment on any subject connected with medicine. He did not think the Association should put into the hands of lawyers a printed method by which the lawyers could in a simple way test whether the doctor was absolutely doing his duty. It would put an end to any man having any ideas of his own with regard to the treatment of disease.

Dr. HENRY thought it extremely important that the Committee should define what was meant by ophthalmia neonatorum. Up to a few years ago it was assumed that all these cases were gonorrhoeal, but now it was clear that many were due to some other infection.

Dr. FOTHERGILL urged that in the notification forms there should be a column in which it would be possible for the doctor or midwife to state if they had been in attendance. At present a midwife would attend her patient for ten days, and on the eleventh day, if the child was not better, would send for the doctor. In a recent case brought to his notice, on the eleventh day he found that the child's eyes were very bad. Of course, had the midwife acted during her period of ten days she would have come under the local supervising authority for their inspection and control; but she waited until after the ten days' limit, and then sent for a doctor, who sent the mother and the baby to the hospital. He did not know what the result was, but the midwife escaped responsibility. If in notification forms there were a means of stating whether the midwife had been in attendance the local supervising authority would be able to get hold of her. The rules of the Midwives Board provided that a midwife was only to attend for ten days. Another point was that if a midwife's name appeared in the notification form it could be submitted to the Midwives Board to be dealt with.

The CHAIRMAN said that Dr. Buist was willing to accept Dr. Fothergill's proposal.

Dr. FOTHERGILL, in connexion with the following paragraph:

(c) *Central Midwives Board.*—The presence of purulent vaginal discharges should be included by the rules of the Midwives Board among the conditions for which medical help should be summoned,

pointed out that the rules of the Midwives Board expired at the end of September next, and he would like to suggest that immediate steps be taken to ask the Board to introduce this rule.

The CHAIRMAN said that Dr. Buist would also accept that point for the consideration of the Committee.

Dr. DICK (Manchester North) said it seemed to him the conclusion:

4. Cases of ophthalmia without adequate treatment have been found to occur amongst cases attended by medical practitioners, as well as amongst those attended by midwives,

rested upon insufficient evidence. It was founded upon the Memorandum (paragraphs 45 to 48), but the only practical investigation made (paragraph 47) was irrelevant. That paragraph stated that Mr. Stephen Mayon had investigated 162 confinements complicated with ophthalmia, and had ascertained that 90 had been attended by medical men and 72 by midwives. The figures, he thought, were irrelevant as bearing upon the question of the efficiency of the medical men concerned. The question depended upon the proportion of ophthalmic cases to the total number treated. Quite an unjustifiable slur, therefore, had been cast upon the private practitioners. With regard to the next paragraph (48) which dealt with improper or inefficient treatment, the history obtained in a few cases in hospitals was not sufficient to condemn the whole class of private practitioners as being imperfectly informed upon the treatment of these very important ailments. The history might rest upon utterly inadequate foundations. He moved that Conclusion 4 be referred back to the Committee for further consideration.

Dr. J. BROWN seconded.

Mr. DOMVILLE suggested that the difficulty would be met by deleting the paragraph.

Dr. DICK and his seconder assented to this course.

The Motion for the deletion of paragraph 4 was lost.

Dr. WYNNE moved the omission of the words "without adequate treatment." The Motion was seconded by Dr. MACLEAN and carried.

The paragraph as amended was then agreed to.

The Chairman then vacated the Chair, which was taken by the Deputy Chairman, Mr. Ballance.

Dr. WESTBY moved:

That in the matter of the treatment of ophthalmia neonatorum, this Meeting endorses the view taken by the Hospital Abuse Subcommittee of the combined Liverpool and Birkenhead Divisions, namely, that the public authorities should not be relieved at the expense of the charitable and of the Medical Profession, of duties which seem more appropriately to belong to such public authority.

At a combined Meeting of the Liverpool, Bolton, and Birkenhead Divisions, a Hospital Abuse Subcommittee was appointed. The Report of that Committee was accepted by the Executive Committee of the combined Divisions, and brought before a Meeting of the combined Divisions at which a number of Members were present who were not present at the former Meetings, and the Report was rejected. The Committee were of opinion that the ten beds and ten cots proposed to

be provided at the hospital ought to be provided out of public funds.

Mr. LARKIN seconded the Motion. The main point was that the public authorities should not be relieved at the expense of the charitable and of the medical profession.

Dr. BUIST suggested the advisability of omitting the words "seem more" and "to," so that it would read "of duties which appropriately belong to such public authority."

This was agreed to by the mover and seconder.

Professor MOORE (Birkenhead) said this question had stirred the Liverpool District to its depths. He did not hold a brief for either side, but merely gave the views of an outsider, being now out of practice. When the Hospitals Committee brought forward its views in Liverpool it was defeated. If the profession was to have any weight in the country it must point out some way of dealing with every public evil that arose. Its members must regard themselves as public servants, at the same time safeguarding their own interests. If they put it forward that children were going blind, and at the same time let them go blind till they got their own way, the country would not be with them. Instead of quarrelling over the matter it would be better to point out to the Government how to proceed. Mr. Walker had proposed as a memorial to his father that there should be ten beds in Liverpool for the purpose of treating these cases, and his own personal opinion was that that was not too large a number for that city. At the same time, to safeguard the rights of the profession, it would be a better policy to set out what ought to be done. It would be better to say to the country they wanted to have places where these children could be treated, and power given to the medical men to treat them there, and if each general practitioner could have an opportunity of treating his own cases, it would solve the whole matter. Many of these cases could not be treated without sending them to the hospital, and the point was how to do that without defrauding a medical man of his fee, which he had every right to obtain. He hoped the Meeting would take the lines of Dr. Buist's Resolution, and point out definitely the path to pursue, without taking sides on the question.

Sir VICTOR HORSLEY hoped that the Meeting would carry the Motion proposed by the Liverpool Division. It was a perfectly plain issue, and was exactly the same as one for which the profession in London was fighting now with regard to the treatment of school children. Professor Moore's view seemed to be that if the Amendment was carried the profession would be prejudiced in the eyes of the public. He refuted that suggestion. The Resolution simply expressed the sense of the Meeting that persons who ought to be treated by the State, and whose treatment should be paid for by the State, ought not to be treated by public charities. Until the proper treatment of these children by the State was carried out they would undoubtedly continue to be treated in the haphazard way they were at the present time. Professor Moore seemed to think that the children would be allowed to go blind because of the Resolution proposed, but that was not so. All the Meeting was asked to do was to express the principle that ought to be followed, and it seemed to him that the Liverpool Amendment did express it. He contended that it was a national work. The State ought to carry it out, and ought to pay a medical man properly for doing the work.

Professor MOORE suggested that Sir Victor Horsley's concluding statement should take the place of the Resolution.

Dr. GILL said that his Division held that any attempt by public authorities to arrange for the treatment of school children in hospitals and other charitable institutions was thoroughly unsound in principle.

Dr. BUSHBY wished to associate himself with the remarks made by Professor Moore. This was more or less a local question. No one objected to the principles enunciated by Mr. Larkin and Sir Victor Horsley, but personally he should prefer some Resolution to be passed which left out any mention of the Liverpool Subcommittee.

Dr. WESTBY contended that any Division had a right to bring forward anything it desired in connexion with the Association or the Medical Profession generally, as by doing that the autonomy of each Division was maintained. He would agree to the omission of the reference to the Subcommittee.

Mr. LARKIN also agreed to the deletion.

The DEPUTY CHAIRMAN said the proposal was to make the Motion read:

> That, in the matter of the treatment of ophthalmia neonatorum, this Meeting expresses the view that the public authorities should not be relieved at the expense of the charitable and of the Medical Profession of duties which appropriately belong to such public authority.

The Motion was agreed to in this form.

Mr. LARKIN wished to propose an Amendment, but he was not quite sure whether the ground was not already covered by the previous Amendment, which, to his mind, gave a very clear statement of the position. The Amendment asked the Meeting to accept, in relation to children suffering from ophthalmia neonatorum, practically the same position as that taken up with regard to the treatment of school children. The Amendment was:

> That the principle of item 38 of the Agenda of the Representative Meeting be embodied in Recommendation II. A (6) of the Report of the Ophthalmia Neonatorum Committee, namely:
>
> That the Association should oppose the reference of infants found on inspection to be suffering from ophthalmia neonatorum to public medical charities for treatment.

The DEPUTY CHAIRMAN stated that the ground was covered by the Amendment which had just been passed.

[The Deputy Chairman then retired and the chair was taken by the Chairman.]

Mr. E. J. CLARKE (Ashton-under-Lyne and Glossop) moved that a definition of "ophthalmia neonatorum" be introduced into the Report.

Dr. HENRY seconded the Amendment, which was lost.

Dr. BUIST said that with reference to the "Directions to midwives and nurses" and "Suggestions to medical practitioners" he did not propose to ask the Meeting to approve that portion of the Report, but hoped it would be referred to the conference of the two Sections on Obstetrics and Ophthalmology for consideration without prejudice.

This was agreed to.

Dr. J. H. TAYLOR inquired whether the Appendix was going to be regarded as part of the Report. The CHAIRMAN replied in the negative, and Dr. TAYLOR said that on that understanding there was of course no objection to it.

In answer to Dr. W. DOUGLAS, Dr. BUIST pointed out that in the Report it was stated that the Committee was to be reappointed to give effect to the Recommendations.

ORGANIZATION COMMITTEE.

Mr. ANDREW CLARK (Chairman, Organization Committee) moved:

> That consideration of the Recommendations of the Council (paragraph 64 of Annual Report) as to alteration of the By-laws affecting Standing Committees, and the composition of the Council, respectively, be postponed.

This was agreed to. He then moved:

> That the remainder of the Annual Report of the Council under the heading "Organization Committee" (paragraphs 63 to 69) be approved.

Honorary Officers of the Association.

Dr. FOTHERGILL asked whether the Chairman of the Organization Committee would accept the following Rider, proposed by the Wandsworth Division, for consideration and report to the next Representative Meeting:

> That it be an instruction to the Central Council to prepare and submit to this Body for approval—
>
> I. A form of undertaking to be given by Honorary Officers of the Association on accepting office, by which they shall pledge themselves in all matters coming before them in their official capacity, to act in accordance with, and to

support the decision of, the lawfully instituted authorities of the Association; and also

II. Such amendments of the Regulations of the Association as will provide that all Honorary Officers of the Association shall be required to give the undertaking in the prescribed form on accepting office.

With the consent of the Meeting, Mr. CLARK agreed to the suggestion of Dr. Fothergill.

The Motion was then agreed to.

Proposed Medical Students' Union.

Dr. LAURISTON SHAW moved:

That a Committee, say, of seven, be formed to investigate and report as to the feasibility of forming a British Medical Students' Union or a similar body under the auspices of this Association, with branches in all towns having medical schools, which shall act as a nursery for future Members of the Association.

He said that all must recognize that the Association must catch its members young. The proposal of the Metropolitan Counties Branch was that some form of students' union should be formed whereby men, while still *in statu pupillari*, might recognize the, advantages of working together. Although the terms of the Resolution suggested the appointment of a special committee, he felt sure that he might propose that the matter be submitted to one of the Standing Committees. Perhaps the best way would be to propose that the Council should be requested to investigate and report. That would make it necessary that the matter should go through the Organization Committee—a body which he was sure was best able to deal with the subject.

Dr. WALTER SMITH seconded the Motion.

Dr. NASH stated that last year a Resolution was passed to the effect that something should be done with regard to meetings being held at the different hospitals for the purpose of educating students as to what the British Medical Association was doing, and he would ask whether anything had been done in the matter.

The CHAIRMAN referred Dr. Nash to paragraph 69 of the Report of the Council.

The Motion was carried.

Maps of Divisions and Branches.

Dr. SWAYNE moved:

That the Council be requested to consider the desirability of preparing a complete set of official maps of the boundaries of Divisions and Branches, showing clearly, in the case of town Divisions, the street boundaries.

His Division had recently conducted a campaign in order to bring more clearly before medical men in the district the work which the Association was doing. When they came near the boundaries they found themselves in the difficulty that many whom they wished to invite might possibly prove afterwards, if they became Members, to be allotted to other Divisions; the Members of his Division thought that under the circumstances it was hardly worth while wasting their time in trying to induce men to join the Division when they would not be in that Division but in some other Division afterwards. Another point had arisen in his Division, which had had to settle an ethical question; the parties lived close to the boundary, but after the dispute was settled it was not certain that one of the parties did not live in another Division.

Dr. KIRBY seconded.

The CHAIRMAN stated that the Treasurer was of the opinion that the funds of the Association could stand the expense, and he was quite willing that it should be incurred.

The Motion was put to the Meeting and carried.

Affiliation of Other Associations.

The CHAIRMAN said a Rider had been sent in by Dr. A. H. Williams (Watford and Harrow), but as he could not be present, he (the Chairman) would submit it to the Meeting for him. It was as follows:

That it be an instruction to the Council to consider and report to the Divisions on the question of making such arrangements as will allow of the affiliation to this Association of the associations of medical men in certain public services and of other medical societies.

Dr. J. BROWN seconded, and said that he was sorry Dr. Williams was not there to move it, because he could have given the Meeting some information with regard to what the Postal Medical Officers of the Association desired. The Association had been the strong arm of their forces when they had to go before the Postmaster-General, and they had secured certain benefits which they would not have got without that help. He belonged to eight associations, and for all of them the British Medical Association had done a vast amount of work. The following were the associations which he thought might in some way be affiliated with them:

The Association of British Postal Medical Officers; The Association of Public Vaccinators of England and Wales; The Association of Medical Officers of Schools; The Poor Law Medical Officers' Association of England and Wales; The Metropolitan Police Surgeons' Association; The United Kingdom Police Surgeons' Association; The Association of Factory Surgeons; The Life Assurance Medical Officers' Association; The Medical Defence, and other societies.

The Rider was agreed to.

Addresses at Medical Schools.

Dr. WYNNE proposed as a Rider:

That it be an instruction to the Council to provide for addresses to be given by Members of the Association to students in the medical schools on Medico-Political and Medico-Ethical questions.

The matter was brought up by Dr. Nash at the last Meeting, but the Resolution then passed was found by the Council to be impracticable. He wanted to bring the matter up again, although he knew the Organization Committee had it in hand, in order to put a little more pressure on it to do something as soon as possible. In every Division like his own, which represented a rapidly-growing industrial population, one of the difficulties was the incoming of young men who knew nothing about such questions. They came in quite innocently; and, before anything was known about them, they did mischief by accepting contract practice, and in other ways. As soon as the situation was explained to them they were brought into line; but, meantime, the mischief was done; and he thought it would be a more economical and better procedure if the young men were approached before they were qualified. In all medical schools and all universities there existed something in the nature of a students' union. With all deference to Dr. Lauriston Shaw's suggestion, it would be more practicable at first to approach those students' unions by sending down experienced men to address the students personally and to call attention to some of the problems that would face them on their entry into general practice.

Dr. W. P. KENNEDY (Bath and Trowbridge) seconded the Rider. If the Meeting considered it was advantageous to the medical profession to establish medico-political and medico-ethical principles, and that those principles should be enforced, he thought the medical student ought to be initiated into those principles at an early stage of his career.

The Motion was agreed to.

THE CHARTER.

The section of the Supplementary Report of the Council containing the Recommendations of the Organization Committee as to the petitions and draft Charter submitted to the Privy Council was then considered, together with the relevant Motions and Riders.

In order to meet, as far as possible, the various points of objection raised in the petitions lodged in opposition to the grant of the Charter, the Meeting authorized the Organization Committee to make certain concessions on behalf of the Association, which included that to the dissentient Branches and Members of a postal vote being taken if and when a Referendum is determined upon by not less than thirty Members of the Council present and voting when it is determined upon.

ELECTION OF CHAIRMAN AND DEPUTY CHAIRMAN.

The CHAIRMAN announced that, as there was only one nomination for the post of Chairman of Representative Meetings, Mr. Ballance was duly elected.

Mr. BALLANCE returned thanks to the Meeting for his appointment.

The CHAIRMAN then announced that, as there was only one nomination for the post of Deputy Chairman, Dr. Maclean had been duly elected.

Dr. MACLEAN briefly returned thanks.

REPRESENTATIVES AT THE UNITED KINGDOM HOSPITALS CONFERENCE.

The CHAIRMAN announced that the following, being the only candidates nominated, were duly elected as Representatives at the United Kingdom Hospitals Conference:

England and Wales.

Armit, H. W. ...	... Hampstead.
Bushnell, F. G. ...	... Brighton.
Dauber, J. H. ...	... Westminster.
Davies, J. E. P. ...	... South-West Wales.
Fothergill, E. R.	... Wandsworth.
Goodall, E. W. ...	... City.
Horsley, Sir V. H.	... Council.
Jackson, George ...	... Plymouth.
Kirby, E. D. ...	... Birmingham (Central)
Langdon-Down, R. L.	... Richmond.
Macdonald, J. ...	... South Shields, Tyneside.
Macdonald, J. A.	... West Somerset.
Morison, Rutherford	... Newcastle-on-Tyne.
Nash, E. H. T. ...	... Derby.
Sansome, T., jun.	... West Bromwich.
Smith, Walter ...	... St. Pancras and Islington.
Smyth, W. Johnson	... Bournemouth.
Taylor, J. H. ...	... Salford.
Williams, A. H. ...	... Watford and Harrow.

Scotland.

Lawson, D. ...	... Aberdeen, Orkney, Shetland.
Livingston, G. R.	... Scottish Division, Border Counties Branch.
Muir, W. L. ...	... Glasgow East.

Ireland.

Fullerton, A. ...	... Belfast.
Laffan, T. ...	... Carlow, Kilkenny, and Waterford.
White, Professor A. H. ...	Council.

METHOD OF APPOINTMENT OF PRESIDENT.

Dr. NASH moved a resolution calling upon the Council to reconsider the method of appointing the President of the British Medical Association. He said that there was, as far as he knew, no other large scientific body which elected its President in the same way.

Dr. JOHN BROWN seconded, thinking that the time had come when Members of the Association should have the chance of selecting some Member who was not a consultant.

The Motion was put to the Meeting and lost.

PREMISES COMMITTEE.

Mr. ANDREW CLARK said that the premises were now quite complete, and that the Conversation Room for the use of Members was ready, but so far had been little used. He moved the adoption of the Report of the Committee (see SUPPLEMENT, May 22nd, p. 294), and it was agreed to.

PUBLIC HEALTH COMMITTEE.

On the Motion of Mr. DOMVILLE (Chairman) the Report of the Public Health Committee (see SUPPLEMENT, May 22nd, p. 295) was received.

Salary of Assistant Medical Officers of Health.

Dr. BASSETT moved:

That the Association considers that the minimum salary of Assistant Medical Officers of Health should be £250 per year.

The object of the proposal was to put the assistant medical officers of health on the same footing as the whole-time school medical inspectors.

Dr. HERBERT JONES (Council) thought there were reasons why this very definite Resolution should not be adopted. It was very essential that medical officers of health should serve a sort of apprenticeship by acting as assistant to a medical officer of health; the Resolution would almost altogether prevent this. A certain number of assistant medical officers of health received less than £250 a year, and were yet in a sense well paid for what they did. If a salary of £250 could be obtained well and good; but he appealed to the Meeting not to pass a Resolution which would have the effect of placing on the warning list every appointment advertised at a less sum than £250 a year.

Dr. GOODALL said that many medical officers of health were not paid enough; and if it were to be admitted that the assistant should be paid a small salary, how could it be hoped ever to get the salaries of the experienced men raised?

Dr. NASH thought there was the serious practical difficulty that a large number of assistant medical officers of health were assistant medical officers to the local fever hospital, and as such they were paid partly in kind, because their salary was £120 a year and their keep. The Resolution would make it very difficult to differentiate between what should be put on the warning list and what should not. Another practical difficulty was that a number would escape it by being called not "assistant medical officers of health," but "assistants to the assistant medical officer of health."

Dr. LAURISTON SHAW was not surprised to hear that some thought that assistant medical officers of health should be paid a small salary, because they were gaining experience; but he was tired of hearing that medical men should have small pay because of the wonderful experience they were gaining from doing their work. Had they not five expensive years of medical education? and, at the end of that, they were expected to take hospital appointments for nothing, because it would give them so much experience. After seeing out-patients for eighteen years at his hospital, he took the post of senior physician at £40 a year because of the glorious opportunities it gave him of gaining experience. He maintained that the sooner members of the profession got rid of the idea altogether that they were doing good to themselves by doing the work the better it would be. An assistant medical officer should have £250 a year; and, if Dr. Nash was troubled about residence, it was quite easy to say that non-resident whole-time assistant medical officers of health should have £250.

The CHAIRMAN asked if Dr. Bassett would accept the addition of the words "whole time."

Dr. BASSETT assented.

Dr. NASH asked if the word "non-resident" would also be accepted.

The CHAIRMAN said that would have to be put as an Amendment.

Dr. NASH proposed the addition of the word "non-resident."

This, not being seconded, fell to the ground.

The CHAIRMAN then put the Resolution as follows:

That the Association considers that the minimum salary of whole-time Assistant Medical Officers of Health should be £250 a year.

He stated that the voting on this required a two-thirds majority, as it involved a declaration of policy.

The Motion was put and carried, 94 voting for and 3 against.

Dr. J. MCNIDDER proposed that this should not apply where the resident medical officer in a fever hospital was also the medical officer of health. A resident medical officer in a fever hospital was often paid £200 a year with all found, which was equal to considerably over £300 a year.

Dr. NASH seconded.

The CHAIRMAN pointed out to Dr. Nash that this was not the same thing as he had previously proposed. He had referred to a medical officer in a fever hospital who held a dual office.

Dr. NASH said that the majority of medical officers of health started life as resident medical officers in a fever hospital. If the Resolution passed were not safeguarded, the value of the warning notice would be undermined.

In reply to Dr. Buist on a point of order, the CHAIRMAN said that by whole-time medical officer of health was to be understood one who gave his whole time to that office and was not doing medical officer's work in a fever hospital.

Sir VICTOR HORSLEY thought that if a man was going to do two kinds of work, and to live in an infectious hospital into the bargain, he ought to be paid a fair salary.

Dr. NASH said a large number of these appointments were in hospitals with 30 to 40 beds, which did not fully employ a man's time.

The CHAIRMAN appealed to Dr. Herbert Jones to state whether it was part of a medical officer of health's duty to do fever hospital work.

Dr. HERBERT JONES said it was not a duty imposed upon him by the Local Government Board.

The CHAIRMAN said in that case he would rule the Rider out of order.

Whole-Time Medical Officers of Health.

The CHAIRMAN OF THE PUBLIC HEALTH COMMITTEE proposed the following Recommendation of the Committee:

> That in the interests of the public health, and in view of the multiplicity of duties thrown upon medical officers of health by recent enactments, it is desirable that in future appointments medical officers of health should be required to devote their whole time to the duties of their office, and be debarred from private practice; that they should be adequately paid, and if necessary districts should be grouped for the purpose; and that it is further desirable that medical officers of health should be protected in carrying out their duties and be secured from capricious dismissal.

It was important to decide whether the medical officer of health should give his whole time to his duties. The replies from the majority of Divisions were in favour of a whole-time officer, with or without reservations (see Supplementary Report of Council, SUPPLEMENT, July 10th, p. 52).

Dr. J. H. EWART asked if the Resolution meant that the medical officer must not take any fee of any sort on any occasion whatever. In many towns the medical officer of health was also medical officer of a sanatorium. In the town he himself lived in the medical officer of health was a very valuable man indeed. He was a whole-time officer, and, of course, had great experience in fever cases. It happened that some 5,000 or 6,000 children went to Eastbourne every year to be educated, and when a doubtful case arose the medical officer of health was called with the general practitioner. The schoolmasters and parents insisted on the medical officer of health giving an opinion. In that case, why should he be debarred from earning two or three guineas, which other people could well afford and were very willing to pay?

Dr. GOODALL asked whether that was not consulting rather than private practice.

Dr. DOMVILLE replied that as a public official he was bound to give his services if called upon. A public vaccination officer would be bound to vaccinate a duke who applied to him, and if any ratepayer required the services of any medical officer of health he was bound to give them.

The CHAIRMAN remarked that a fee for consultation was as much a private fee as any other.

Dr. NASH said in one or two appointments lately in non-county boroughs the Local Government Board inserted certain conditions in order to allow boroughs to pay a lower salary than £500 a year; those conditions being that they should be allowed to take pupils and do consulting work.

Dr. DOMVILLE pointed out that consultation work was a very different thing to taking private patients.

Dr. MUIR said it must be borne in mind that in Scotland medical officers of health now had a security of tenure. They were therefore in a better position than their compeers in England. He did not think it would be practicable to make the medical officers in the outlying portions of Scotland whole-time medical officers and debar them from doing anything else. His Division discussed this question a month ago and approved of the principle where it could best be carried out.

Dr. FOTHERGILL moved the addition of the words:

> And that they be allowed to participate in any superannuation scheme approved by the Local Government Board.

The CHAIRMAN OF THE PUBLIC HEALTH COMMITTEE accepted the Amendment.

Mr. BALLANCE moved to insert after the words "private practice" the words "except as consultants." A good many reasons had been given why medical officers of health should be debarred from getting private practice except as consultants.

Dr. MACLEAN seconded.

Dr. HAIG (Perth) asked whether this Motion affected the position of medical officers of health who, as in some places in Scotland, were also medical officers of fever hospitals. He did not see how this Motion could be carried with justice to those men, or with justice to the cities or counties in which they were at present working.

Dr. DOMVILLE replied that this was one of a multiplicity of duties thrown on the medical officer of health, and it was for that reason thought that he should not be engaged in private practice as well.

Dr. WALKER said that he held the appointment of half-time medical officer of health in London for many years; and he felt very strongly the necessity for being sufficiently paid so as to be able to do without private practice. In very many cases, in order to carry out duties satisfactorily the medical officer of health ran the risk of coming into conflict with people upon whom he might depend largely for a living. The duties of the position were overwhelming in some of the districts in Scotland. In visiting the Highlands recently he found that the population was so sparse and the distances were so great, that the medical officer could not make a living at all in the neighbourhood without having some other support. In such circumstances he did not see how the work of the medical officer of health could be satisfactorily carried out unless he was allowed to have private practice.

Dr. PULLON confirmed the remarks of the last speaker, and suggested that there should be inserted after the word "should" the words "in large urban districts," so that it would allow of sparsely populated districts being grouped together.

Dr. JOHNSON SMYTH said that for some time he had been Chairman of the Sanitary Committee of Bournemouth, and he had found that if a case of infectious disease were imported the medical man attending to the case would often suggest that it should be seen by the medical officer of health, and to prevent that would be doing an injustice to the medical officer of health, to the patient, and to the public. He would therefore support the Motion that the medical officer of health, who was supposed and ought to be a specialist in infectious diseases, should be at liberty to attend such a case, both in his own interests and in the interest of the patient, and of the public at large.

Dr. MAYO did not agree with the last speaker, thinking that the result would be to introduce another cause of friction between the medical officers of health and the practitioners in the town.

Dr. NASMYTH (North-West Edinburgh), speaking as a medical officer of health in Scotland for the last thirty years, observed that a good deal had been stated in error of the actual state of affairs in Scotland. A great many medical officers of health in Scotland had salaries varying from £50 to £100 a year. It was true that counties were grouped, but there were certainly many able men whose salaries did not amount to £500 a year. If this Resolution or the Amendment were carried these men would be debarred from augmenting their salary by giving evidence in courts of law, by writing books, and by consulting in regard to questions of public health, which he considered were all perfectly compatible to carrying out the duties of a medical officer of health.

The Motion was then put and carried.

An Amendment by Dr. MUIR, seconded by Dr. BROWN, that the words "where practicable" be inserted after the word "required," in the fifth line, was negatived.

Dr. NASH moved the addition of the words "or reduction of salary" after "capricious dismissal."

The Motion was seconded by Dr. LYSTER and carried.

Dr. E. G. WALES (West Norfolk) asked what steps it was proposed to take to secure and protect the present part-time men in the country. The purely rural Division which he represented felt very strongly that if the Motion was passed in its present terms, a great hardship would be inflicted on the present men in the country. They had to be appointed annually and therefore stood to be shot at every year.

Dr. Pullon moved that after the words "should be required" in the fifth line there should be inserted the words "in all boroughs and large urban districts."

Dr. E. G. Wales seconded the Motion.

Dr. Herbert Jones said that he was disappointed that, after all the years during which the Public Health Committee of the Association and the Society of Medical Officers of Health had been working to get security of tenure for rural medical officers of health and for all medical officers of health, a medical officer of health who admitted that he stood up to be shot at year by year should second a proposal which debarred him from having security of tenure. It must be apparent to everybody that the medical officers of health in the large towns were in a very much better position than those of the rural districts. It had been almost unheard-of that the medical officer of health of a county borough or a large town had suffered from the present condition of affairs. It was those in the rural districts, where public opinion did not back them up, who wanted the assistance. If the words "in all boroughs and urban districts" were inserted, and if the rural districts were left out altogether, the whole of the work which had been done in the past years would be thrown away. They were very near to securing what they had been striving for for years and years.

The Amendment was put to the Meeting and lost, 2 only voting in favour of it.

Dr. E. G. Wales wished to explain that the part of the Motion to which so many in the country objected was the first part, which would provide that medical officers of health should be whole-time officers. He had seconded the Amendment in order that those in the country might not be debarred from private practice.

The Motion as amended was then put to the Meeting and carried.

Approval of Report.

Dr. Domville moved:

That the remainder of the Supplementary Report of the Council under the heading "Public Health Committee" be approved.

The Motion was carried.

The Meeting was then adjourned.

TUESDAY, JULY 27TH.

J. A. Macdonald, M.D., in the Chair.

Naval and Military Committee.

The Chairman of the Committee (Colonel Joubert de la Ferté) moved:

That paragraph 61 of the Annual Report of Council (Naval and Military Committee) be approved.

He said that at the suggestion of the Council a question had recently been asked in Parliament with reference to the order as to fees, which was objected to by the Indian Medical Service. The order had been issued for two years by the Government of India, but had not yet received the sanction of the Secretary of State, who was in communication with the Government of India on the subject. The answer to the question was to the effect that the subject was still under consideration.

The Report was approved.

Science Committee.

Dr. Buist, in the absence of the Chairman of the Science Committee, proposed that the paragraphs of the Annual Report of Council referring to the Science Committee (Supplement, May 22nd, p. 296) be approved. The Report contained a good many details of interest to the Divisions, because the Science Committee during the past year had been attempting to formulate a scheme that should knit up the work of the Divisions with the scientific work of the Association as a whole.

The Motion was agreed to, and Dr. Fothergill moved the following Rider:

That, with a view to further interesting Divisions and Branches in the Section work of the Annual Meeting, it be an instruction to the Central Council to encourage them to nominate one or more Members to take part in the discussions of any subject arranged for, which has previously been considered by the Division or Branch.

The Science Committee had recommended that, in order to interest the Divisions and Branches in the science work of the Sections, the Divisions should be asked what subjects they thought should be considered in the Sections in the following year, and a detailed programme in accordance with those suggestions would be circulated to the Divisions in order that they could discuss the subjects chosen in their scientific meetings during the winter session. The Wandsworth Division would like the Meeting to go one step further to encourage those Divisions which had suggested topics. They might be able to give information on certain topics to the Sections; for instance, representatives of colliery districts might be able to give information upon colliery diseases, and the same with representatives of town districts in relation to town diseases.

Dr. J. Brown seconded the Resolution, which was adopted by 93 votes to 3.

On the Motion of Dr. Buist the Supplementary Report of the Council under the heading "Science Committee" was approved.

Library.

Dr. Brown moved:

That it is most desirable that the Library should be open during the hours most convenient to the Members of the Association. It is suggested to the Council that 10 a.m. to 8 p.m. would be most convenient hours.

Dr. A. H. Williams seconded.

Dr. Buist stated that the Science Committee would be very willing to take the matter into consideration.

Central Laboratory.

Dr. Bushnell moved:

That the provision of a central pathological and bacteriological laboratory of the British Medical Association where permanent accommodation for research work under the supervision of the Association could be arranged, is advisable in the scientific interests of the members, and that it be an instruction to the Council to consider and report thereon.

He trusted that the Meeting would see its way to recommend the provision of such a laboratory, and did not think that the expense would be serious, as it was merely a matter of fitting up a laboratory.

The Motion was seconded by Dr. Henry.

Dr. Buist said that he thought that it would be desirable if the Meeting would refrain from any expression of opinion as to the advisability of such a step until it had got the necessary information as to the conditions under which such a step would be advisable. He would suggest that the Meeting should agree to a Motion in the following form:

That the Council be instructed to consider and report on the advisability of establishing a Central Research Laboratory for the use of Members.

Professor Moore seconded.

Mr. Armit suggested that the mover and seconder of the Rider might accept Dr. Buist's Amendment.

The mover and seconder agreed to this course, and the Amendment was then carried.

Scottish Committee.

On the motion of Dr. Buist, the paragraph of the Annual Report of the Council referring to the Scottish Committee (Supplement, May 22nd, p. 296) was approved.

Therapeutic Committee.

On the motion of Dr. Buist, the paragraph of the Annual Report of the Council referring to the Therapeutic Committee (Supplement, May 22nd, p. 297) was approved.

Appointment of Materia Medica Committee.

Dr. Laffan moved:

That the Council be requested to appoint a Materia Medica Committee, whose duty it will be, with such professional aid as they can summon to their assistance, to investigate and pronounce on the uses and properties of all drugs which shall be used by the profession, and that in view of the grave injury inflicted on the public and on the profession alike by the present wholesale introduction of drugs by mere commercial firms, whereby the ground is being cut from under our feet, and the gullible public are induced to accept nostrums on the sole strength of mere assertions, that the hospitality of our museum and the pages of our Journal shall be both shut out from giving any further aid to the wholesale advertisements of drugs and preparations,

the sole virtues of which have too often no existence save in the mendacity of their introducers.

He said the Motion had been on the books for the last three years: and he thought it was of importance to the whole profession that it should be carried.

Dr. MACAN said the real gist of this Motion was covered by the Rider of the Birmingham Division. The matter had already been ventilated and would be before the Council. He moved that the Meeting proceed to the next business.

On the Motion of Dr. DOUGLAS, seconded by Dr. DRURY (Halifax), the Motion was referred to the Council for consideration.

UTERINE CANCER COMMITTEE.

On the Motion of Dr. BUIST, the paragraph in the Annual Report of the Council referring to the Uterine Cancer Committee (SUPPLEMENT, May 22nd, p. 297) was approved.

Dr. BUIST then moved that the corresponding paragraph in the Supplementary Report be approved.

On this Dr. LYSTER moved as an Amendment:

That the paragraph in question should be amended so as to enable the distribution of the appeal to midwives and nurses through the doctors who had the charge of those midwives, in addition to its distribution through training institutions.

Medical officers who had charge of the supervision and inspection of midwives throughout their areas were constantly sending out instructions and directions, and the appeal addressed to midwives and nurses concerning uterine cancer would be much more effective if it were distributed through the medical officers. He could not think that the distribution through a nursing institution, with which the midwives had long ceased to have any connexion, could have any effect.

Dr. WYNNE seconded the Amendment.

Dr. MACAN suggested that it would be better to insert the words "by medical officers supervising midwives and through the agency of."

Dr. BUIST said the Society of Medical Officers of Health refused to co-operate with the British Medical Association in the distribution.

Dr. MANLEY, in answer to Dr. BUIST, said that the matter was considered by the Council of the Society of Medical Officers of Health, and it was felt that, while individually an effort should be made, it was not desirable that the name of the society should be associated with it.

Dr. Lyster's Rider was then put and carried.

Approval of Report.

Dr. BUIST moved the approval of the Report of the Uterine Cancer Committee.

Dr. KIRBY said he had been asked by his Division to call serious attention to the somewhat dogmatic statements made in the Report. Reports like these might put a weapon into the hands of their enemies, into the hands of people who wished to blackmail the general practitioner. Of the appeals one was described as "An appeal to Medical Practitioners to promote the Earlier Recognition of Uterine Cancer," and he wished to direct special attention to the following paragraphs:

6. The recognition of early cancer is not usually difficult, and the disease should not be overlooked by the medical attendant.
7. A medical practitioner who fails to make a physical examination of a patient exhibiting any of the symptoms of uterine cancer incurs grave responsibility.

If a patient with any of the above symptoms comes for advice, a careful visual and bimanual examination must be made before any treatment is recommended.

He would like to have the advice of their Solicitor as to whether the issuing of a Report like this, with these definite statements, might not very often lay the practitioner open to a charge of blackmail. Statements so dogmatic and definite as those in the Report were to be deprecated. Then as to the suggestion that the doctor was always to make an examination, were they to examine every female that came to them? The position was impossible. Then there was the further statement: "Cancer beginning in the cervical canal is not difficult to detect." There were a few other qualifying words he admitted, but counsel in court would not quote those qualifying words. His Division was also in sympathy with the Glasgow (Southern) Division in thinking that the issue of these Reports might do harm and create a great danger for the profession. He questioned, and would like to know from Mr. Hempson, whether it was advisable to issue such Reports in these terms without some qualifying additions to safeguard the position of members of the profession.

Dr. DAUBER said that the statements in a report were only suggestions. He had been gynæcologist to out-patients at the Hospital for Women in Soho for fourteen or fifteen years, and it was grievous to see the numbers of women who came too late, and the very small percentage who attended sufficiently early to permit uterine cancer to be treated effectively. The difficulties of the general practitioner in dealing with these cases were, he knew, very great: but he felt that if more physical examinations were made at the time when there was irregular haemorrhage many cases would not be allowed to go on so long that they became inoperable. There might be no symptoms or only the slightest symptoms of uterine cancer. Women had come into his out-patient department hardly feeling ill at all, quite unaware that there was anything the matter with them except that they had a little irregular haemorrhage or a little irregular loss, and the whole vagina had been blocked with cancer —absolutely hopeless cases.

Dr. MACAN strongly supported the Resolution, observing that they were considerably behind their professional brethren in America in regard to this matter. The objections raised against the Recommendations of the Uterine Cancer Committee seemed to him to be very specious. It would be observed that the statement in the Report was:

The recognition of early cancer is not usually difficult, and the disease should not be overlooked by the medical attendant.

To say that a thing was not "usually difficult" was equal to saying that it was sometimes difficult. The Report further stated in regard to cervical cancer:

If a patient with any of the above symptoms comes for advice, a careful visual and bimanual examination must be made before any treatment is recommended.

Then followed the remark on page 3:

Cancer beginning in the cervical canal is not difficult to detect where the os uteri is dilated as in many multiparæ.

A previous speaker had asked if they were to examine every female patient, implying that this Report said that they were to examine every female patient; but it did not. The Report said:

The early symptoms of cancer are: Irregular bleeding of any description, even if there be only traces: bleeding post-coitum: and watery, blood-tinged discharge. There may be no loss of strength or wasting, nor any condition to alarm the patient. Pain, wasting, profuse bleeding, and foul discharge, indicate advanced disease.

It was under those circumstances that they were advised to examine women.

Mr. BALLANCE said that there seemed to him to be an unnecessary trepidation as regards the possible legal consequences if the Association published the Report. The phrases used in the Report were precisely the same as the phrases which occurred in any textbook on the subject.

The SOLICITOR (Mr. Hempson) said that supposing what was laid down in the Report appeared in textbook form a medical man who was on his defence could have it put to him, "Did you know that this document had been published; had you read it?" but it did not follow that that would condemn him. No man was bound to follow any definite course of treatment provided that it could be shown that he had used reasonable care and skill according to his ability. He should have thought that there was no legal risk in publishing the Report. If the matter contained in the Report was published in book form it would be just as strong a weapon. The only difference would be that if it was published as a Report it would bear the impress of the Association.

Dr. DARLING wished to protest against the assumption that the Association was not to declare itself in

line with thoroughly established medical knowledge. The Recommendations in the Report were not speculative opinions—they were all matters which every man who knew anything about his business knew. He heartily supported the Motion.

Dr. KIRBY moved that the Report should be referred back for verbal emendations before being issued. He recognized fully the very valuable character of the Report, but he thought there were some emendations that might be made by the Committee which drew the Report.

Dr. HUGH KER seconded the Motion, and pointed out that although a textbook could be quoted against a man, the textbook represented only the opinion of the individual who wrote it, but the collective opinion of a Scientific Committee of an Association of 20,000 men was a totally different thing. Although he cordially approved the Report, he considered that it needed such alterations as would prevent it being used against medical men.

Dr. BUIST said that the Report as far as it concerned medical practitioners had had all the publication which it was proposed to give it. What the Report stated did not in the least degree affect the responsibility of a man to whom there came any person with symptoms which might tend to uterine cancer.

Dr. LAURISTON SHAW made a very strong appeal to the Meeting to consider the matter very carefully before it adopted the Report, because it seemed to him that it was likely to be the first of many reports of a similar character. The Report contained the appeal of those who were working in gynaecology as specialists to the general practitioner to come up to the level of the specialists, and there would be similar appeals from specialists in every department. He was in favour of orthodoxy in economics, and he wanted orthodoxy in constitutionalism, but he did not want orthodoxy in scientific medicine. If once the Association began to say, "This is the way to treat cases; this is the way to make a diagnosis, and if you do not do this you are doing wrong," medical men would be put into an exceedingly difficult position—a position which might have the most serious results upon the advance of medicine altogether.

Dr. WIPOST BROWN, as a general practitioner, appealed to the Representatives to support the Report exactly as it stood. It was their first duty to look to the interests of the poor women suffering from uterine cancer rather than the interests of those of their own profession who either did not know their work or did not do it conscientiously.

Dr. GOSSE said that, having elected a Committee to inquire into uterine cancer, it seemed but logical to adopt its Report. The Members of the Association had the Report, and they ought to know everything it contained; but it differed from a textbook, which was merely the opinion of one man. The Report was the opinion of their own Committee. He did not think they should put weapons into the hands of the unscrupulous, to be used against them.

Dr. MACLEAN supported Dr. Lauriston Shaw. He quite agreed that they should draw a distinction between the possible effect of the Report and a quotation from a textbook in a court of law. He could imagine a witness being asked if he was a Member of the British Medical Association, and if he had read the Report on Uterine Cancer; and, if he replied in the affirmative, it might be used against him. At the same time, they were all fully conscious of the fact that they should do everything that was safely in their power to strengthen the hands of the practitioners. The patient or her friends, however, were only too anxious to fix responsibility for the lack of previous diagnosis upon the general practitioner; bearing that fact in mind, he thought the Report might have been more cautiously worded. The conditions under which charges of malpraxis were advanced were becoming wider.

The CHAIRMAN said he must bring the discussion to a close on the ground that the Report had already been issued. All the Meeting could do was to condemn the Committee for having issued it. The discussion was so interesting that he had allowed it to go on; but all the Meeting was asked to do was to approve, or not, of what had already been done.

Mr. LARKIN said the Members had never had the Report before them.

The CHAIRMAN said the Report had been issued so far as the Committee proposed to issue it.

Dr. FOTHERGILL asked who gave the Committee that power.

The CHAIRMAN replied that it was done by the Council's authority, as would be seen from the paragraph in the Supplementary Report.

Dr. FOTHERGILL said that Members had had no control over this matter. If it had been dealt with by the Council in anticipation of their decision, he would propose that they proceed to the next business.

Sir VICTOR HORSLEY seconded the proposition, and it was carried.

GENERAL APPROVAL OF REPORTS OF COUNCIL.

On the motion of the TREASURER, the Annual Report and Supplementary Report of Council were approved, subject to the Amendments and other Resolutions adopted by the Meeting with reference thereto.

VOTING IN THE COUNCIL.

Dr. MUIR moved:

That the Council consider the desirability of printing in the record of its deliberations which are printed in the SUPPLEMENT the names of its Members, as to how they vote, and not simply the numbers.

The Division he represented contained no consultants; they were all general practitioners; and all those he had been able to come in contact with desired that in reporting the proceedings of the Council in the SUPPLEMENT the names of the Council should be printed, stating how they voted. Of course, no hard and fast line could be laid down for this, because he understood it might lead to difficulty under certain circumstances.

The Motion having been seconded was put to the Meeting and lost.

AMENDMENTS OF BY-LAWS.

Proposed Amendments of Existing By-laws.
Mode of Election of Council.

On the Motion of the TREASURER, it was resolved:

That the present by-laws of the Association, numbered 23 to 32 inclusive, relative to the composition and mode of election of Council, be rescinded, and the corresponding by-laws, numbered 37 to 46 inclusive, in the schedule to the draft Charter, be adopted in substitution therefor, subject to such verbal amendments and alterations as the legal advisers of the Association may deem to be necessary.

Motions by the Dundee Branch, the Wandsworth Division, and the Gateshead Division, being covered by Resolutions already passed, were withdrawn.

STANDING COMMITTEES.

The TREASURER moved:

That the Schedule to the present By-laws of the Association as to Standing Committees be amended by making such verbal changes as are necessary to bring it into conformity with the corresponding Schedule appended to the draft Charter.

Dr. FOTHERGILL said that his Division considered that the word "verbal" in line 3, did not cover the case.

Mr. HEMPSON (Solicitor) said Dr. Fothergill had rather misconceived what was intended to be conveyed by the Motion. As he read it, it was intended to adopt the substance of the By-laws, and make such verbal changes in adapting them as might be necessary to make them agree with the present By-laws.

Dr. FOTHERGILL withdrew his Amendment.

The Motion was then put and carried *nem. con.*

MOTIONS RELATING TO THE HONOUR AND INTERESTS OF THE MEDICAL PROFESSION OR OF THE ASSOCIATION.

Medical Teaching.

Dr. LAFFAN moved:

That in the opinion of the Representative Meeting it is contrary to the interests of the profession that the mass of the profession, and even the majority of members of hospital staffs, should be excluded as at present from all share in medical teaching.

The busy practitioner, he said, could not sit down to note even one case day after day; but, with the aid of a pupil or two, he would be able to make a return of cases that were at present lost. From the point of view of science, the profession, and the patient, there was a decided loss in the present order of things; and the reason for that loss was that the profession was governed by a small knot of people. The late Sir James Paget and Mr. Wheelhouse were very emphatic supporters of the principle of apprenticeship and a wider extension of clinical hospitals.

Dr. BROWN cordially agreed with what had been said. The Motion was lost.

Medical Examinations.

Dr. LAFFAN moved:

That in the opinion of the Representative Meeting all medical examinations ought to be duly advertised, and open to the presence of every Registered Medical Practitioner.

He had presented a Report to the Medical Council, which was entered on the Minutes, and was open to anybody to inspect who wished to instruct himself on the grounds.

Dr. BUIST supported the principle of open examinations by seconding the Motion.

The CHAIRMAN put the Motion to the Meeting, and the requisite two-thirds majority not being obtained, it was negatived, 51 voting for and 37 against.

Promulgation of the Policy of the Association.

Dr. FOTHERGILL moved the following Resolution:

That it be an instruction to the Central Council to investigate and report as to the best means for bringing before the Members those conclusions of this Representative Body arrived at from time to time which define the policy of the Association, with a view to their general acceptance and adoption throughout the Association.

Resolutions affecting the policy of the Association were sent to the Divisional Secretary, and came before a few Members who attended the Divisional Meeting, but the majority of the Members never heard of such Resolutions.

The Motion was carried.

Federated Societies' Medical Benefit Association.

The following Resolution by the Wandsworth Division:

That in the opinion of the Representative Meeting Members of the British Medical Association should refuse to support the proposed Federated Societies' Medical Benefit Association, since its regulations contravene the conditions which the Association has approved for the conduct of Contract Practice.

was referred to the Council for consideration.

Instruction in Hygiene.

Dr. LAFFAN moved:

That in view of the large sums of public money paid to those who give technical instruction in agriculture and various trades, of the cost to the community of the maintenance of hospitals and sanatoriums for the treatment and cure of disease, much of which is preventable, and of the recognition by the Legislature of public health lectures as a part of technical education qualified for a share in the local grants, the services of Members of the Medical Profession in giving instruction in hygiene should no longer be treated as a matter of philanthropy; that medical practitioners should not lecture gratuitously for philanthropic societies such as the Women's National Health Association, which, while deserving of sympathy and encouragement, afford by their existence evidence of the neglect by the Government, central and local, in matters of sanitation and public health; but that such societies should co-operate with the county councils in the selection of lecturers, who should be remunerated in part at least from public funds.

The Motion dealt with two principles. The first was that the Government and the local bodies, who could afford to pay for instructors in every other department, ought to be able to afford to pay for instruction in hygiene. The second was that those who every day of the week were giving their services for nothing ought to cease to do so, as otherwise the profession could not enjoy the respect which was its due.

Dr. COSTELLO (Mid, North, and South Connaught), who supported the Motion, said that the question was a vital one to doctors in Ireland. Money was expended by the county councils and by Government in teaching, and there were inspectors and lecturers in agriculture sent round teaching the hens how to lay eggs.

Dr. DARLING appealed to the Meeting not to permit the withdrawal to take place. He said that the Irish National Health Association was a purely philanthropic Association and he hoped that the Meeting would not say that no medical man was to do what he could to further such a splendid national movement.

Dr. COSTELLO said that those whom he represented did not intend any hostility to any association in particular, but they wished to take action with regard to the county councils which had money.

Dr. SWAYNE said that there were an enormous number of medical men who were lecturing for nothing in the better class districts, and it would put a great many of those men into very awkward positions indeed if a Resolution such as the present was passed without having very careful consideration.

It was moved and seconded, and agreed, that the question be now put.

The Resolution was then put to the Meeting, carried, and referred to the Council.

ELECTION OF COMMITTEES.

Medico-Political Committee.

The CHAIRMAN announced that the following Members had been elected to serve upon this Committee:—England and Wales: Mr. H. W. Armit (Hampstead), Dr. E. H. T. Nash (Derby), Dr. E. Fothergill (Wandsworth), and Dr. D. F. Todd (Sunderland). Scotland: Dr. Lawson (Aberdeen, Orkney and Shetland). Ireland: Mr. A. R. Fullerton (Belfast).

Central Ethical Committee.

The CHAIRMAN announced that the following Members had been elected upon this Committee:—England and Wales: Dr. Langdon-Down (Richmond), Dr. E. J. Maclean (Cardiff), Dr. Bateman (London). Scotland: Dr. Bruce Goff (Lanarkshire). Ireland: Dr. P. G. Lee (Cork).

SYNOPSIS OF WORK OF REPRESENTATIVE MEETINGS.

Dr. DOUGLAS moved:

That a new Standing Order be adopted as follows: That a synopsis, with references, of the work done at the Representative Meetings be published in the SUPPLEMENT to the JOURNAL soon after the Meeting, and distributed to the Secretaries and Representatives.

Dr. J. METCALFE seconded the Motion.

The CHAIRMAN agreed to give effect to the Motion.

The Meeting then adjourned.

CONCLUDING MEETING.

The chair was taken by Dr. J. A. MACDONALD.

VOTE OF THANKS TO RETIRING CHAIRMAN.

Sir VICTOR HORSLEY said:

Mr. Chairman, ladies and gentlemen, A most agreeable and at the same time almost impossible task has been placed in my hands. It is that of endeavouring to convey the gratitude of the Representative Meeting to their Chairman, Dr. James Macdonald. A redeeming feature of the difficulty, however, is that this meeting is held in Belfast, so that we not only express our appreciation of the way in which we have been ruled over by Dr. Macdonald, but we can offer him our grateful congratulations in his own home. When I thought of this I found that a great man and no small pioneer in working for his fellow-creatures, Mr. Roosevelt, had supplied in a recent work evidence which showed that it was by the same happy accident of our Chairman being born in Ulster that he possessed those qualities which are so justly appreciated. Those of you who are interested in endeavouring to foresee how the British Medical Association will develop into a truly Imperial Association may possibly have read Mr. Roosevelt's recent work on the making of the West. There you will find that the great President of the American Republic points out that the peculiar admixture of Scottish and Irish blood in this part of the United Kingdom produces a race of men to whom the success in pushing forward the civilization of the human race in the States is chiefly due. I take it, ladies and gentlemen, that the admixture of two such different

bloods was not affected by any process of haemolysis. I suggest that our new Section of Haematology might investigate this, because I quite agree with Mr. Roosevelt, from the evidence before us, that the Scoto-Irishman is the best specimen that we can have of the man who can force public questions to the front and do honest work for his fellow-creatures. What are the qualifications that Mr. Roosevelt ascribes to the Scoto-Irishman? They are, first, tirelessness; secondly, truculency: and, thirdly, obstinacy. All those great qualities we have found in Dr. James Macdonald. A great deal more, ladies, and gentlemen—we have found in him another capacity, of a great leader. It is that he possesses an inexhaustible fund of generous sympathy. I am not going to describe Dr. Macdonald's career to you, but I should like to say that, after scattering his opponents like chaff on the international football field, he settled down on the fringe of that side of England which the Romans, with unintentional harshness, called Damnonia: and there he started that pioneering work, not only for the Medical Profession but for the whole English people, for which I contend he was especially fitted by his unprecedented experience of scrimmages. Ladies and gentlemen, we are not only grateful to Dr. Macdonald for fighting the nation's battles and our battles, but we are, above all, grateful to him for his method of fighting them, the prominent characteristic of which is kindness. Whenever at these meetings I have watched him take the chair in his cheery way in the morning, it has invariably reminded me of Dickens's description of one of his most amiable characters, whom he describes by saying, "In she came, one vast substantial smile." Dr. Macdonald, it is your sunny frankness of character that has endeared you to us all. Now, I have been asked to present to you, Sir, on behalf of your colleagues in the Representative Meeting, a small but a masterful token—the hammer of the leader of a great Meeting. We ask you to accept it, not only for your unflinching interest in the welfare of our Association, but in particular for your warm sympathy with the Medical Practitioners throughout this great Empire. One word more. In making this offering of the hammer, in spite of Dr. Macdonald's athletic eminence, I would not have it regarded as Thor's hammer. The singular characteristic of the blows with which Dr. Macdonald has called us to order is this: they are not destructive, but they are like the fairy blows of Wayland Smith: they have constructed measures of vast importance, not merely for this Association, but for the whole Empire.

Mr. BALLANCE: Mr. Chairman, ladies and gentlemen, It is a great privilege and honour to me to be allowed to second the Motion which Sir Victor Horsley has put before you. Sir, we have recognized during your tenure of office that this Meeting had in you an altogether exceptional Chairman, and, as far as any man can be, you have been an ideal Chairman. We recognize the tact and ability with which you have presided over our Meetings. But, Sir, there is something more than that. Surely nothing could have exceeded Dr. Macdonald's sweet reasonableness towards us when we were trying to move Motions which were quite out of order. Beyond that, what has been impressed upon us is, if I may be allowed to say so, the personal charm which has pervaded these Meetings like an atmosphere. It is with the deepest regret—and I share in that regret as much as anybody in this room—that you are going to leave the chair which we put you into three years ago. But, Sir, you will depart from that chair with our best wishes for strength and long life in the future to help us in the work of this Association, the interests of which you have so much at heart. You will still be on the Council of this Association, and, therefore, a member of this body, and whenever in future years you come to us to assist us with your wise counsel in our deliberations we shall offer you the warmest welcome, and we trust that for many years to come we shall see you, although not Chairman, a Member of this Meeting to take part in our work. I second this Motion with the greatest pleasure.

Dr. D. CAMPBELL WATT: Sir, it has been suggested to me that it would be fitting on my part to support this Motion, coming, as I do, from across the sea. In one respect, I cannot do justice to it, on account of my being a Scotsman exiled in South Africa, and not having been long enough in Ireland to catch the curious characteristic of the Irish people. So that anything I say must be manifolded, and coming as a stranger amongst you I was struck at once by the ability, the courtesy, the promptness and the knowledge of business which characterized our Chairman, and I shall carry back to my constituents a pleasing recollection of my good fortune in having sat under him. Allow me to wish him, on behalf of myself and those I represent, long life and success.

Dr. BRUCE GOFF: Mr. Chairman, ladies and gentlemen, It is a very great pleasure to me as one of the oldest members from the North, and having sat under various chairmen for the last thirty years, to endorse what has been said by previous speakers. It has never before been my good fortune to sit under a man who has had such a grip of a meeting as our Chairman, and I hope Dr. Macdonald will be long spared to give us the advice which we all appreciate most highly.

Sir VICTOR HORSLEY put the Resolution, which was carried to the accompaniment of cheering and the singing of "He's a jolly good fellow."

Dr. MACDONALD: Ladies and gentlemen, It is almost impossible for me to say anything to you. I can only assure you that this is by far the most difficult task I have had since I undertook this position. When three years ago I succeeded Sir Victor Horsley in this chair I thought to myself I was very presumptuous, but I happened one night to meet a dear old friend of mine, Dr. Kinsey, of Bedford, and he asked me whether I was not afraid to take the chair of this Meeting. I had a little talk with him, and I said I did not see why I should be as I was addressing an assembly of gentlemen, and I was quite sure there would be no difficulty in dealing with them, and then he paid me one of the best compliments I have ever had paid in my life. He said: "I am not half so much afraid of the Representative Meeting as I was before I spoke to you." Well, gentlemen, it has been to me all the time that I have been in this chair not a source of difficulty or anything like it. It has been a source of pure pleasure, because I have not had any difficulty whatever, owing to your generosity, in keeping the Meeting absolutely in order. It is an extraordinary thing that during all the time of my office here I have never had once to call upon a Member of this Meeting for exceeding the time limit of his speech. When you consider that I have presided over four Meetings of something between 120 and 150 men who have their objects very greatly at heart, that is strong evidence of the easy task it is to any chairman to conduct this Meeting. Gentlemen, I can only say, "Thank you"; with this one word, that I am intensely delighted to hear the few words that were said by my friend Dr. Campbell Watt, who has come from Natal, because I have felt in this matter more strongly than anything else that we should make this great Association of ours Imperial. My feeling is that this Association should be world-wide, and that every medical man who speaks the English language ought to be a member of it. I thank you very much for your kindness in making this presentation to me. [Cheers.]

STANDING ORDERS.

The CHAIRMAN moved that in Standing Order I (A), 1 (iii), the words "and financial estimate" should be inserted after the words "Report of the Council." He said that this would involve the deletion of Standing Order I (A), 1 (iv).

This was agreed to.

He then moved that Standing Order (B) III 4 (A) should read as follows:

That the Council shall submit, in addition to its Annual Report, a supplementary report dealing with those matters of importance arising subsequent to the issue of the Annual Report, in which action by the Representative Meeting is recommended.

This was agreed to.

He then moved that in Standing Order (B) III 5 the words "and Reports if any of Standing Committees" should be deleted. This was agreed to.

He then moved that Standing Order No. B. III. 15, should be amended in accordance with the Resolution of Saturday last. This was agreed to.

He then moved that with these Amendments the Standing Orders should be approved. This was agreed to.

CONFIRMATION OF MINUTES.

The Minutes of the Meeting having been read and confirmed, it was proposed by Sir VICTOR HORSLEY and seconded:

That a summary of the proceedings of this final meeting be prepared by Dr. J. A. Macdonald and Mr. Ballance, and added to the Minutes.

VOTE OF THANKS.

Proposed by Mr. BALLANCE, seconded by Dr. MACLEAN, and resolved:

That the thanks of this Meeting be given to the Belfast Arrangements Committee, and to Dr. Cecil Shaw particularly, and to the committee which arranged the excursions to Newcastle and Portrush on July 24th and 25th.

ADJOURNED ANNUAL GENERAL MEETING.

(Continued from page 121.)

TUESDAY, JULY 27TH, 1909.

Dr. SINCLAIR WHITE, President, in the Chair.

THE adjourned General Meeting of Members was held at 3 p.m. on Tuesday, July 27th, in the Assembly Hall, Belfast.

The PRESIDENT said: Ladies and gentlemen, By the kindness of my colleagues, I have been appointed to fill, for a brief period, the vacancy caused by the lamented death of your late President, Dr. Simeon Snell. Your Council has already placed on record its appreciation of Dr. Snell's valuable work. Having been associated with him for many years, I bear grateful testimony to his untiring efforts to uphold the dignity and advance the interests of the Medical Profession, and I ask you to empower me, on behalf of this Association, to convey to his family our heartfelt sympathy with them in their sad bereavement. It affords me special pleasure to be present to-day, because, being an Ulster man, I am naturally proud of this great and progressive city, whose inhabitants are known and admired for their business enterprise and good faith in every corner of the earth. I have now to introduce to you your future President. My task is alike a pleasant and easy one. To the people of Ulster an introduction is wholly superfluous: nor, indeed, is it necessary in the case of the vast majority of those present, because the excellence of the work accomplished by Sir William Whitla has gained for him a world-wide reputation as a distinguished physician and a master in the Science of Therapeutics—a science which his writings have done so much to enrich. I am confident that he will worthily uphold the high traditions of the office to which his colleagues in Belfast have nominated him, and in this belief I have very great pleasure in calling on him to take office.

Sir WILLIAM WHITLA then took the chair, and after thanking the Meeting for its hearty reception of him, said that as this was a purely business Meeting he would reserve his remarks until the evening, merely taking that opportunity of offering the Association a hearty Irish welcome to Belfast.

Sir JAMES BARR said that the loss of the late President, Mr. Simeon Snell, was a very sad one to the British Medical Association, but there was found in Sheffield a man very well worthy to follow in his footsteps and it was the express desire of the Sheffield people that Mr. Sinclair White should become the President of the Association in the room of the late President, Mr. Simeon Snell. It spoke well for a man if he obtained the confidence of the people with whom he worked, and had their best wishes and goodwill. Mr. Sinclair White had the good fortune to be an Irishman, but he had won the utmost confidence of the Sheffield people: and any man who obtained the confidence of Yorkshire people must be a very good man indeed; and, in that position, an Irishman looks to be in the forefront. At the last Meeting at Sheffield, the President was not able to do as much as he would have done if he had been in good health, and the great bulk of the work fell upon Dr. Sinclair White. Many of those present were present at Sheffield, and knew that it was largely due to the manner in which Dr. Sinclair White saw to every detail that that Meeting was such a success. He had the greatest pleasure in proposing: "That the very hearty thanks of this Association be accorded to Dr. Sinclair White."

Professor REEVE, of Toronto, one of the Past-Presidents of the Association, said that he doubly appreciated the permission to second this Resolution, because he could cordially support the appreciative reference of Sir James Barr to the retiring President, and because it afforded him an opportunity of referring to the late President, who was not only an ophthalmic surgeon of high repute, but a man close to whose heart lay the best interests of the profession as a whole.

Sir WILLIAM WHITLA (the President-elect): Gentlemen, I formally put this vote to you for your acceptance, and you will signify your acceptance of it in the usual way.

The Resolution was carried by acclamation, and Mr. SINCLAIR WHITE briefly acknowledged the compliment.

The President then vacated the chair, which was taken by the Chairman of Council, Mr. Edmund Owen, who said that, owing to the recent death of Mr. Simeon Snell of Sheffield, the Association was left without a President, and it was competent for the Council to recommend the appointment of a President to take the place left so sadly vacant. After careful thought, the Council came to the conclusion that no better man could be found to fill the post than Mr. Sinclair White. He would therefore formally move that the Meeting approved the action of the Council in appointing Mr. Sinclair White President, and that also that he should be during the next year Past-President. The Standing Orders required that there should be a Past-President.

Dr. MACDONALD said that it might seem rather peculiar that this Motion should be necessary, but there was a doubt as to the reading of the Articles of Association. It might be supposed that having been elected to the post of President for the remainder of the time left vacant by the untimely death of Mr. Snell, Mr. Sinclair White would naturally become Past-President for the year, but there is some doubt, and, therefore, the Chairman of Council had come to the conclusion that it would be better to make this formal proposition that the post of Past-President should be filled by Mr. Sinclair White. No one could fill it more admirably. Dr. Macdonald concluded by seconding the Resolution, which was carried by acclamation.

Mr. EDMUND OWEN then said that he had a very pleasant duty to perform in moving the following recommendation from the Council:

That in recognition of the distinguished services o Dr. Macdonald, of Taunton, Chairman of Representative Meetings of the Association from 1906 to 1909, he be, and is hereby elected, a Vice-President of the Association for life.

In response to the request of the CHAIRMAN for a seconder, there were loud shouts of "All."

The CHAIRMAN said when he began to work in the Association he did not know Dr. Macdonald, and when he first met him he was a little bit afraid of him, because Dr. Macdonald looked so big and strong; but his fear was soon dispelled, as he knew Dr. Macdonald's brain was right and his heart was good. If he had to read the character of Dr. Macdonald in two or three words, he (the Chairman) would say Dr. Macdonald was one of the best.

The Motion was then put and carried with acclamation.

Dr. J. A. MACDONALD: Mr. Chairman, ladies and gentlemen, I am sure that you will pardon me if under the circumstances, I simply say "Thank you. (Cheers.)

The Chairman said that the Council was not yet able to say anything definite with regard to the place of meeting for next year, and he moved:

That the Annual General Meeting of the British Medical Association delegates to the Council all powers under Article 18 to appoint a President-elect, and to make all arrangements for the holding of the Annual General Meeting in 1910.

This was agreed to.

On the motion of the Treasurer the financial statement for the year ending December 31st, 1908, was received and adopted, and Messrs. Price, Waterhouse and Co. were appointed Auditors until the next Annual General Meeting. This was agreed to.

ADJOURNED ANNUAL GENERAL MEETING.

TUESDAY, JULY 27TH, 1909.

Evening Meeting.

Sir William Whitla in the Chair.

The large hall and its galleries were crowded by an audience which included many ladies. The majority of the members wore academic costume. Among those present were His Excellency the Earl of Aberdeen, the Countess of Aberdeen, the Lord Mayor (Sir Robert Anderson) and the Lady Mayoress, the Rev. Dr. Hamilton (Vice-Chancellor of Belfast University), Lady Whitla, the Past President of the British Medical Association and Mrs. Sinclair White, the High Sheriff, Sir James Henderson, D.L., and Sir William Crawford.

Presentation of Badge to President.

Mr. Edmund Owen: May it please Your Excellencies, my Lord Mayor, ladies and gentlemen, I call upon Dr. Dempsey to present the Badge of Office to Sir William Whitla, the President of the Association.

Dr. Dempsey: May it please Your Excellencies, ladies and gentlemen, This afternoon the President of the Association was formally installed in office. This evening he enters upon his duties, and it has been customary in the Association for some years past for the local members of the profession to present the President with a Badge of Office. As President of the Ulster Branch, the honour has been assigned to me to present Sir William Whitla with this badge as a token of the cordial friendship which exists between him and the members of the profession here, and we desire that he should wear it at all the public functions of the Association, and that he should retain it afterwards as a memento of this great Meeting, and of the exalted position which he has occupied at it. (Loud applause.) I desire, in the presence of this distinguished assembly, in the presence of Your Excellencies, who have graciously honoured our Meeting, to convey to Sir William the expression of the high esteem in which he is held by the entire medical profession throughout the province of Ulster. We appreciate him for his kindly and friendly disposition, for the interest which he has always taken in all that concerns the welfare and prosperity of his medical brethren, and more especially for the splendid generosity which he exhibited some years ago when he presented as a free gift to the medical profession of Ulster and of Belfast that fine building, the Medical Institute, which many of you no doubt have seen, and which he fully furnished and equipped. (Applause.) We feel proud of Sir William, because of the eminent position which he has attained in the profession. As a literary man and an author his works are known to medical men and to medical students throughout the world, and they have been translated into many languages. When it became the duty of the Ulster Members to select a President for the Association on the occasion of the Annual Meeting, one name only was spoken of, one name only was thought of, that of Sir William, who was not only unanimously selected as President but spontaneously. We feel quite convinced that, in the discharge of the onerous and responsible duties connected with the office, he will take a prominent place among the most illustrious of his predecessors. (Loud applause.)

The President: Your Excellencies, Mr. Vice-Chancellor, my Lord Mayor, ladies and gentlemen, I feel keenly the honour which has been conferred upon me by my professional brethren with whom I have long been associated in this part of the world. I think to receive a valuable and costly gift like this is a touching thing always, but to receive it from the hands of men with whom one's whole life has been bound up is a joy which I feel wholly unable to express. If anything could emphasize the value which I attach to this gift, it is that it comes to me from the hands of an old and valued friend, whose high professional life has been an example to all his colleagues and his younger brethren. (Applause.)

Presentation of Guests and Delegates.

The President called on Dr. Cecil Shaw to present the delegates and foreign guests.

Dr. Cecil Shaw presented the following foreign guests: Professor Bordet (Brussels), Dr. Delavan (New York), Dr. Delsaux (Brussels), Professor Fuchs (Vienna), Professor Fehling (Strassburg), Professor Greef (Berlin), Dr. Jacob (Brussels), Dr. Wickham (Paris), Dr. Cullen (Baltimore), Dr. Gwathley (Norfolk, Va., U.S.A.), Dr. Old (Norfolk, Va., U.S.A.).

He also presented the following Colonial Delegates: Captain Gordon Tucker (Bombay Branch), Dr. Carter (British Guiana Branch), Dr. Sanders (Hong Kong and China Branch), Dr. Anderson and Dr. Syme (Melbourne and Victoria Branch), Dr. Hyslop and Dr. Campbell Watt (Natal Branch), Dr. Collins, Dr. M'Lean, and Dr. Morice (New Zealand Branch), Dr. Symons (South Australian Branch), Surgeon-General Benson (South Indian and Madras Branch), Dr. Maher (Sydney and New South Wales Branch), Dr. Reeves (Toronto Branch), Dr. Ferguson (Cairo Branch), Dr. Wilmore (Alexandria Branch).

President's Address.

Mr. Edmund Owen then called upon Sir William Whitla to deliver his Presidential Address.

The address is published in full in the Journal this week, page 249.

When the applause which greeted the conclusion of the address had subsided,

Mr. Edmund Owen said: May it please Your Excellency, I will ask you, as an Honorary Member of the British Medical Association, to move a vote of thanks to Sir William Whitla for his address.

The Earl of Aberdeen (Lord Lieutenant of Ireland) said: Mr. Chairman, my Lord Mayor, ladies and gentlemen, It is indeed a notable privilege to be asked to present to you the sentiment which will undoubtedly be most cordially and enthusiastically ratified. The address to which we have listened has been delivered on a memorable occasion, and we must all feel that it has been worthy of the occasion (hear, hear, and applause). Among the many features of the discourse, and I shall not attempt, of course, to enumerate them all, one comes to our mind at the outset—that is, that while there was in this deliverance one central topic which ran like a thread through it all, yet there were many frequent and delightful excursions into various regions of interest which certainly gave an adornment and fresh zest to the treatment of the whole. In particular I think we must be struck by the effect and the force with which the President of the Association introduced those brief biographical notices of the champions of medical science in the past, especially in Ireland. I should like to express my pleasure and our general gratitude for, among other points, the manner in which Sir William Whitla forcibly brought out something about the noble work and career of the late Dr. MacCormac, especially in his splendid pioneer work. He was indeed a pioneer, and might we not also say that he was, in a sense, a martyr, because of the misunderstanding to which he was subjected in trying to enlighten his fellow creatures in all the subjects in which he was the pioneer; but "he being dead, yet speaketh," and his voice will be heard and not be forgotten. With regard to some other features in his address Sir William said that it was a mistake to suppose, as people sometimes do, that the recognition of the great position, and the sacred

responsibility, one may say, of the medical profession, is a modern idea. It was fully recognized in ancient times, and I could not help remembering one example, not only of the position of the medical profession in the past, but also an illustration of the community of sympathy and fellow feeling which seems to have descended down through the ages in regard to the representatives of this illustrious science. I am thinking of a record. I hope it is authentic—at any rate it is authentic enough for my purpose (laughter)—in regard to a medical practitioner living about two thousand years before the Christian era in the State of Alexandria, who composed a sort of invocation or prayer, or, at any rate, an inspiration. I can only recollect clearly one clause in this inspiration, and it was something like this: a petition that he and his fellow workers in medicine might be delivered from all amateur would-be practitioners—(laughter)—and moreover, that he might be enabled to ward off the army of interfering relatives. Now that, at any rate, illustrates the community of sentiment which has not been interrupted up to the present time. I have said that the address was worthy of the occasion and of the audience, and I venture to say that the audience is worthy of the address. It has been followed with the closest attention. This is a brilliant audience; and I speak not only of the mental equipment, but of externals, and it must be felt that on this occasion, at any rate, the delights of adornment are not limited to the fair sex. This will not be only a vote of thanks, but a vote of congratulation and good wishes. We thank Sir William Whitla for his splendid address, but we also seize this opportunity of congratulating him upon the high distinction which has been so appropriately conferred upon him at the present time. If anything could quicken our congratulations it would be the delightful way in which the opening ceremony of this evening was conducted and performed. I could not help thinking that when Dr. Dempsey was acting as spokesman in the presentation of the badge of office, his remarks were pervaded by a peculiar friendliness and brotherliness than which nothing could have given so much effect to this characteristic incident, and it was observable also in the eloquent reply of the President—namely, this fraternal and kindly feeling. We may have admiration and confidence without having affectionate regard, but surely on this occasion this feeling has been emphasized, and has been, as it were, a completion of the whole of the ceremony. We are surrounded to-night by celebrated and distinguished members of this great and glorious profession, not only from different parts of our own country, but from all parts of the world. I am especially thinking of the distinguished friends from foreign countries who grace this assembly by their presence. I think I cannot sum up more effectively anything I can say than by giving the words of the Resolution, which I have great pleasure in bringing to your notice:

> That the best thanks of the Association be given to Sir William Whitla for his able and interesting address on the occasion of the Seventy-seventh Annual Meeting of the British Medical Association.

Sir CLIFFORD ALLBUTT: Mr. Chairman, it would ill become me, were the hour earlier than it is, to endeavour by any poor embroideries of my own to add anything to what has been so admirably said on our behalf by His Excellency. When I came upon this platform and looked round at the brilliant audience, and saw the rapt attention with which the address of your President has been listened to, I thought of the many occasions on which I have been present at meetings of the British Medical Association, and there was certainly no occasion on which the audience was more brilliant, more attentive, and more appreciative than here in Belfast. When I thought that, I saw at once that one came here to realize that your President had already attained that place in your esteem which he has long occupied in the hearts and understanding of his own friends; and that you, by bestowing upon him the Presidency, and in honouring him with such an audience as this to-night, have placed him in a position which might be admired, and I might say in a good sense envied, by any member of the great profession to which I, like others, have the honour to belong. Sir William Whitla is known to us, and he is known outside our ranks, as a very learned man of science, a man of great scientific attainments; he is also known as a man of many accomplishments and a very skilful writer, whose books have run through many editions. I am sure you will feel that the address which has been given to us to-night was worthy even of a man who came to us with such great credentials and from whom we expected so much as we expected from him. There are many points in the address as to which, on a more fitting occasion, we should many of us like to say more; but I will only refer to one which he has mentioned—the memory of a great man who has gone. I must add my own tribute, small as it is, to Henry MacCormac, whom I had the privilege of knowing fairly well, who honoured me with much of his confidence, and with whose great scientific pioneer work I was privileged to have some small part. It has been one of the remorses of my life that I did not realize until he was taken from us what a great man we had lost. He was a generation before his time; but I believe I am correct in putting this forward as his view, that he realized there was one thing at the back of consumption—he could not say what it was—to be expelled or driven away or its effects neutralized by some such methods as those which he projected, and which have been carried out with such great success in our own time. It is, therefore, a privilege I cannot forbear to give myself to-night to add my small tribute to the memory of a very great man who not long ago was living amongst you. But now I must return to those who are living distinguished lives already. I think His Excellency will know, by the way in which you receive the proposition which he has laid before you, which I have the honour of seconding, how fully you appreciate the address which we have heard, and the great place which your President has taken on your behalf, and as representing yourselves. (Applause.)

The motion was then put and carried by acclamation.

The PRESIDENT: Your Excellency and friends, I thank you very heartily for the enthusiastic way in which you have received this motion. Of my poor efforts I know you form far too high an opinion; and I think the best thing I can say, and the only thing I can say, is that I am deeply grateful for the gracious words spoken by His Excellency and Sir Clifford Allbutt, and to you for the way in which you have received them.

THE PATHOLOGICAL MUSEUM.

THE Museum of the Queen's University was thrown open to visitors, and in addition the Museum Committee had arranged in the larger laboratories a rich collection of specimens sent by various schools and individuals for the occasion. It is impossible to enumerate all the specimens, which have, indeed, been catalogued, and if in the following description the names of many of those who have assisted in the collection are omitted, it is only because we can merely hope to touch upon the most conspicuous of the exhibits.

Queen's University put forth its best in every section, and many specimens were of historical interest, especially noteworthy being a unique series of fractures collected by the late Professor Gordon of Belfast, an early authority on Colles's fracture. Professor Symmers was responsible for a comprehensive collection illustrating the various lesions of bilharziosis and some striking examples of cerebro-spinal meningitis—a subject which Belfast has done much to illuminate in recent years. He also showed the pubic regions of several eunuchs—an interesting anatomical and surgical study—and specimens of Madura foot. Professor Symington (Belfast), amongst other exhibits, had included his pioneer radiograms,

with Dr. Rankin, of skulls showing the development of the teeth; and also a rare specimen of a section through the skull of a man the subject of phosphorus necrosis.

The University contributed a large collection of diseases of the heart and blood vessels, amongst which were specimens showing ossification of the auricular walls; a beautiful pneumococcic ulcerative endocarditis of the mitral valve in its natural colours; a melanotic sarcoma of the visceral pericardium, secondary to a skin lesion (this had been mounted for fifty years); and a large aneurysm of the ventricle.

Amongst the diseases of the genito-urinary system were some fine examples of hypernephroma from St. Peter's Hospital (London), Professor Muir (Glasgow), Mr. Andrew Fullerton (Belfast), and from the same sources examples of tuberculosis of all parts of the genito-urinary tract. Two very large congenital cystic kidneys from a woman aged 41, were of much interest, (Dr. Singleton Darling, Belfast); and a striking picture was presented by a large horseshoe kidney the seat of tuberculosis (Howard Stevenson, Belfast), and by another specimen of hydronephrosis the result of a kink in the ureter (Queen's University). Mr. Freyer (London) had sent a series of diseased prostates, and Professor Lorrain Smith (Manchester) a most beautiful series of specimens, mounted in gelatine, illustrating various diseases of the kidney, and including acute nephritis in various infectious diseases, and a striking specimen with myelin and cholesterin crystals in the intertubular lymphatics.

The section devoted to diseases of the female genitalia was enriched by a series of thirty-five specimens illustrating Wertheim's operation (Cuthbert Lockyer, London); and a similar series of cancer of the cervix, perfectly preserved in liquid paraffin, and lent by Drs. Comyns Berkeley and Victor Bonney, all of which illustrated the attention that the Middlesex Hospital has devoted to this subject.

In this section, also, were a series of epithelioma of the external genitals, with a photograph showing the spread of malignant growth along the lymphatics in the wall of the ureter (Drs. Cochrane Buist and Archibald Leitch, Dundee); and a diverse interesting series shown by Sir John Byers (Belfast). An instructive specimen was Mr. Johnstone's (Belfast) example of a pregnant uterus with a fibroid shown in mesial section.

Professor Muir showed a gumma of the spleen and a lymphadenomatous spleen with a large tuberculous mass at the upper end, the combination of tuberculosis with lymphadenoma being of special import.

Queen's University contributed a special series of diseases of the liver, including a melanotic sarcoma, which, as far as could be ascertained, was of primary hepatic origin. Other specimens of note were a fine example of actinomycosis (Dr. Mair, Manchester), and a colour specimen of deciduoma secondary to the uterus (Mr. Hicks and Dr. Barber, Derby). A liver showing extreme fatty degeneration due to chloroform poisoning (Mr. Robert Campbell, Belfast) must be of great interest at this present stage of acuity of the chloroform mortality question.

A large collection of diseases of the respiratory system also came from the University Museum, including a specimen of œdema glottidis, which, though not of uncommon occurrence, is rarely seen in museums.

The specimens of cerebro-spinal meningitis have already been mentioned, and with these must be associated a specimen of meningitis due to the anthrax bacillus (Belfast).

To the bones and joints Professor Muir contributed valuable specimens of syphilitic disease of the wrist and knee-joint, and Mr. Kirk a rare example of a fracture of the head of the radius.

The alimentary system, which was largely represented, included some well-preserved examples of acute and toxic gastritis (Queen's University); some simple tumours of the stomach, for example, adenoma of the pylorus (Mr. Mitchell), and a gastric polypus (Royal Victoria Hospital, Belfast); a series showing physiological hour-glass contraction (Dr. C. G. Lowry); a large calcified cyst of the mesentery, and an acute proctitis and colitis from a case of acute lymphatic leukæmia (Drs. Rolleston and Torrens, London). An enlarged mass from the site of the thymus and histological specimens of the same case was shown in another section.

A remarkable specimen was a primary round-celled sarcoma of the head of the pancreas from a patient, aged 16, together with metastases in the liver, lungs, and ovary (Mr. Mitchell, Belfast).

Chronic tuberculosis of the suprarenal glands was beautifully shown in a coronal section through the kidneys and prevertebral tissues of a case of Addison's disease (Professor Muir). Cerebro-spinal fever was further illustrated by the enlarged mesenteric glands from a case (Belfast).

A remarkable series of diseases of the thyroid gland had been collected and beautifully mounted by Miss Chambers, M.D. (Royal Free Hospital, London).

Amongst the diseases of the skin were the familiar wax casts of Drs. Stopford Taylor and MacKenna, illustrating the cutaneous lesions of syphilis, which had been remarkably well prepared by the exhibitors themselves. These latter also showed a series of photographs of states of various skin lesions, a collection which was considerably enlarged by the dermatological plates shown by Dr. Calwell (Belfast).

Other specimens are at the time of writing still coming in, and of these a notice will be given in the next issue, together with an account of the large microscopical exhibits.

(To be continued.)

The Annual Exhibition OF FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FIRST NOTICE.]

THE annual exhibition of medical and surgical accessories, including literature, was housed this year in a brick-built building adjoining one of the entrances to the grounds of Queen's College, where the scientific discussions were held, and where every one attended for the registration of names, etc. It was well lighted and well roofed, and its carpet-covered floor space allowed of free circulation. Exhibitors were thus able to do their work in favourable and comfortable circumstances, and by eleven o'clock on the opening day the scene was already one of great animation. The stalls numbered upwards of ninety, and a glance at various visitors' lists at the luncheon hour showed that a large number of members of the Association had already found their way to them. A description of some of the exhibits follows; no selection among the stalls has been made, those being first noticed which happened to be most convenient to examine early.

Wright's Bijou Orchestra played daily from 9.30 to 1 and from 2.30 to 6 p.m.

CHARLES HEARSON AND CO., LIMITED, Scientific Instrument Makers (68, Willow Walk, Bermondsey). The incubators, shakers, and other apparatus shown by this firm made its stand very attractive to any one who has ever even dabbled in bacteriology. The incubators were of four main types, the firm's ordinary *biological incubator* being shown to work equally well with gas, oil, or electricity, and at any temperature desired; the latter is regulated by the firm's patent capsule, which has superseded the old thermostatic bar. Another was an *incubator for gelatine cultures*, which can be regulated to work at any temperature from 14° C. upwards, the lower temperatures being obtained by ice, the others by gas, electricity, or oil. A third was a new *cool incubator*, in which running water suffices in ordinary cases to keep the interior at the desired temperature; and the fourth an incubator

especially intended for opsonic work. The firm's paraffin bath and oven is here shown; it has a second apparatus by which the temperature can be varied according to the quality and melting point of the paraffin. The *autoclaves* included the Lequeux pattern, and the *shakers* one recently devised by the firm; it works with a Watkin switch, and either the continuous or alternating currents can be used. Among the *centrifuges* was one made in six sizes, the largest having a capacity of 3,000 c.cm.; it works at 4,000 revolutions a minute. Finally should be mentioned the *Copenhagen Model Bacteria Separator*, which, we understand, has met with great approval at Oxford. It has six cups, each holding 50 c.cm., but its main feature is its enormous speed; it is guaranteed to give 8,000 revolutions a minute, and will go up, we were informed, to as much as 10,000. It separates microscopic organisms which cannot otherwise be differentiated mechanically. To avoid risks the cups are covered in and the whole apparatus protected by an armour plate.

H. K. LEWIS, Medical Publisher and Librarian (136, Gower Street, and 24, Gower Place, W.C.). Partly for its publications and partly for its work as a circulating library, this firm is familiar to all medical book lovers, and its stall contained many new books and fresh editions of old friends. Among the former we noticed Dr. Louis Parkes's *House Drainage and Sewage Disposal*, being the Chadwick Lectures delivered for the University of London; and an important volume by Dr. W. D'Este Emery on *Immunity and Specific Therapy*, giving an account of the present position of knowledge on the subject. There were also *The Causation of Sex*, by Dr. Rumley Dawson; *The Operations of Aural Surgery*, by Mr. C. E. West and Mr. Sydney R. Scott; *The Mind and its Disorders*, by Dr. Stoddart, the latter being an addition to the well-known Practical Series; an important contribution to clinical pathology, by Dr. O. C. Gruner, on *Puncture Fluids*; a useful book by Mr. Arthur Cooper, on *Sexual Disabilities; Practical Bacteriology, Blood Work, and Animal Parasitology*, by Dr. E. R. Stitt, of the U.S. Navy; and *Diseases of the Nervous System, for the General Practitioner and Student*, by Dr. Alfred Gordon, of the Jefferson Medical College. Amongst the fresh editions of standard works published since the last exhibition, may be mentioned the fourth edition of Binnie's *Manual of Operative Surgery*; the second edition of Dr. R. W. Allen's *Vaccine Therapy*, and a second edition of the *Manual of Infectious Diseases*, by Dr. E. W. Goodall and the late Dr. Washbourne. Another useful exhibit was the latest edition (the 15th) of the *Extra Pharmacopœia*, by Martindale and Westcott, also published since the last exhibition. The selection of the publications originally issued by the New Sydenham Society, also shown, included the *Atlas of Clinical Medicine*, *Atlas of Pathology*, and other well-known classical works. The exhibit also included a variety of case-books, charts, and a medical ledger of very convenient design, recently brought out by this firm. A feature was also made of the recently revised Catalogue of its Medical and Scientific Circulating Library, together with copies of the quarterly lists of additions, which serve to keep this eminently useful catalogue up to date.

GEORGE GALE AND SONS, LIMITED, AND WHITFIELD BEDSTEADS, LIMITED (Birmingham). These combined firms had upon view a good selection of the bedsteads long and favourably known as the *Lawson Tait bed*. They continue to manufacture them on the lines which they have found so successful in the past, but here and there improvements in the matter of detail were to be noted. They are of various sizes and of various strengths, according to the precise purpose for which they are required, and there can be few frequenters of hospitals who are entirely unacquainted with them. In asylums it is equally common to see them, for the firm has special beds for asylum work finished and fitted according to the class of asylum-ward for which they are required—for instance, *Safety beds for epileptics*. Their feet are of various patterns, some beds having wooden castors, others castors with india-rubber tyres, and others no castors, but india-rubber-shod feet. One specially useful pattern is the *Head and Knee Rest Bedstead*. It is divided into three planes, which, by turning a handle, can be adjusted at any desired angle. With this bedstead the raising of even a very heavy and helpless patient into a sitting position and maintaining him there is a comparatively simple matter, and all loose rests, never very easy to adjust, are superfluous. Another advantage is that head or thigh rest can be raised separately. Some well-made aseptic furniture was also shown, the facilities for nursing including an overhead bed pulley, so made as to turn flat against the wall when out of use. It will not, however, turn beyond a right angle to the axis of the bed; so it cannot damage the walls. Perhaps, however, the most interesting exhibit of all was one which proves the extreme durability of the manufactures of this firm. This was a "Lawson Tait" wire mattress which has been repurchased from a customer after having been in use for upwards of thirty-five years. It of course looked worn, but apart from superficial appearance and in point of elasticity was in a condition equal to new.

THE HOLBORN SURGICAL INSTRUMENT CO. (Thavies Inn, Holborn Circus). Prominent among the instruments and appliances exhibited by this firm was an assortment of hot-air chambers for use in connexion with Bier's hyperæmic treatment. It is one which has grown rapidly in favour in this country, but, so far as hot air is concerned, has hitherto not been easy to adopt, the appliances being somewhat costly. The *Holborn Hot-air Chamber* in question, however, is quite inexpensive, and seems well made, so should be seen by those who would like to take this treatment up. In the same connexion were also shown a number of *Suction Glasses* such as are used by Bier. Among them were some models which the firm has made for St. Thomas's Hospital. The firm's £25 prize set of surgical instruments—an old-standing favourite—was again on view. It is intended to meet the needs of men commencing practice. Another useful set of instruments was that named the *Rotunda Set of Midwifery Instruments*. They are fitted into a special box devised by Dr. Wrench, and are mentioned in Tweedy and Wrench's *Practical Midwifery*. We also noted Dr. Stanley Woodwark's Midwifery Bag, an excellently designed outfit, of which an account was given in these columns by Dr. Woodwark last year (see BRITISH MEDICAL JOURNAL, 1908, vol. ii, p. 1755). As soon as its flap front is dropped open, sterilizer, douche can, and bottles are all in full view. A new *Cotton-wool Holder*, made to the order of Dr. Pegler, of the Metropolitan Ear and Throat Hospital, was also on view, and is here illustrated (Fig. 1). It seemed a very practical kind of appliance, and may be expected to take the fancy of many busy ear and throat specialists. The general instruments included an effective and very simply constructed Abdominal Retractor used by Mr. Charles Ryall, and an improved form of the *Drop-bottle Stand* originally designed by Dr. Russ Wood. It has a wide base, so cannot easily be overturned (Fig. 2). As will be seen from the illustration, it holds six bottles. School

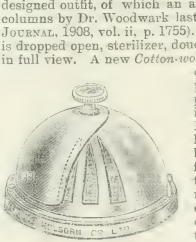


Fig. 1.

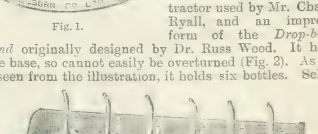


Fig. 2.

work being to the fore, *Batten's Forehead Magnifier* should perhaps be specially mentioned. It resembles an ordinary laryngoscope headpiece, except that the place of the mirror is taken by a strong magnifying glass. It should be very useful in examining children's heads for broken hairs in cases of suspected ringworm.

LIVERPOOL LINT CO. (Mark Street Mills, Liverpool). It is this wholesale firm, we believe, which medical men have mainly to thank for the greatly improved form in

which lint bandages and other dressing materials are now to be obtained. Little by little the old bulky dressings are disappearing, and in their place we have attractive little packets, so small that enough to dress several cases can be carried in the pocket with ease, while storage space in the surgery is greatly economized. One of the specialities of the firm is *Splint Padding*, which can be obtained either in compressed or natural form, and in either case when laid on the splint makes a thick soft pad. It is composed of a mixture of carbolized tow, absorbent cotton-wool, and other fabrics, and is very easily handled. Apart from its special purpose, it makes a good covering for fomentations or poultices. Another is *Impermiette*, a substitute for rubber waterproof materials, of which we have a high opinion; it keeps well in the hottest weather, and can be sterilized with soap and hot water, and is not affected by chloroform or carbolic acid in 5 per cent. solution. In the heavier qualities it makes excellent bed sheets. The exhibit also included *Vulnoplast*, about the most practical form of ready-made dressing we know. It is very easy and economical to use, since all that is required is to cut off a piece of the desired size and place it over the cleansed wound, which is thereby at once efficiently dressed. No bandaging is required, because the dressing has a backing of adhesive plaster.

The Charles H. Phillips Chemical Company (14, Henrietta Street, Covent Garden). As in previous years, this firm confined its exhibit to two of its products, the one being a compound syrup of quinine, the other a fluid magnesia. The former is known as the *Syrup of Phospho-Muriate of Quinine Compound*, its strong point being that in its preparation the muriate instead of the sulphate of quinine is used, and phosphates instead of hypophosphites. Hence, the preparation being acid, there is no risk of the contained strychnine being thrown down, as sometimes occurs in the case of hypophosphite syrups. It is a pleasant bitter tonic, not productive of headache, and very stable. The fluid magnesia of the firm is termed *Milk of Magnesia*, this being the registered title of an odourless, white, palatable fluid with the physical appearance of milk. It is a hydrated oxide of magnesia, each fluid ounce representing, we understand, magnesium hydrate 24 grains. Under the microscope it is seen to be homogeneous, a fact which supports the firm's statement that their *Milk of Magnesia* is not, as are many magnesia preparations, merely a triturated magnesia suspended by mucilaginous or glycerine solutions. It attributes its special value as a neutralizer of free acids to the fact that it is entirely free from carbonates, and therefore does not give rise to discomforting evolutions of carbonic acid gas. It combines readily with tinctures as well as with iodides and other solutions of salts, and is useful as a suspender of fixed and volatile oils. We have had considerable experience of its use in the diarrhœa of children and in gastric irritability, and consider it an excellent form in which to administer magnesia when indicated in such cases. It may be also substituted for lime juice in the modification of cow's milk. Owing to its persistent alkalinity and tastelessness it forms a good mouth-wash for use at bedtime.

Malted Milk, Limited (Slough, Bucks). The exhibit of this firm was *Horlick's Malted Milk*. Most people are familiar with its name, and there are plenty of reasons why they should become well acquainted with the product itself. It is a dried powder, derived, we understand, from malted barley and wheat and dried cow's milk, and, according to an analysis by Holt, contains 8.7 per cent. fats, 16.3 proteids, 3.8 inorganic salts, and some 68 per cent. soluble carbohydrates in the form of dextrine, lactose, and maltose. From the testimonials we have seen it would appear to be used largely as a food for infants, and its claims to respect in this connexion may be considered at least as good as any of its rivals; but beyond this it is a very convenient form of food both for adults and invalids. Put up as it is in bottles, it remains good, in our experience, for an indefinite period, and its preparation for use entails no trouble whatever. The desired quantity is made up into a paste with a little milk or water, and is at once ready for use on the addition of whatever quantity of hot or cold water it is desired to add. In addition, it can quite well be administered in its powder form. By adults who are not invalids, *Horlick's Malted Milk* may be taken in a great number of different ways—as a warm "night-cap" for the sleepless at bedtime, or as a cool long drink during hot weather, by shaking it up with soda water, and in either way by those who have either no time or no appetite for an ordinary meal. It is in the latter connexion that our own acquaintance with it is most extensive.

Keen, Robinson, and Co. (Denmark Street, St. George's-in-the-East). The names of the specialities of this firm, and of that which is incorporated with it—namely, J. and J. Colman, Limited—have long since gained a position among household words. They are Colman's Mustard, Robinson's Patent Groats, and Robinson's Patent Barley. The latter of these is a flour prepared, we were informed, from the finest Scottish barley. It offers, as is well known, a very suitable means of preparing barley water, a fluid which, whether flavoured with lemon juice or other agent, is so much used in the sick room, and also by many persons as a substitute for plain water at meals. It may also be used as a diluent of milk for babies and young people. The *Patent Groats* have also long since become familiar. They are derived from Scottish-grown oats, and make most palatable gruel with the help of milk. Such gruel is a form of food which, in dealing with children after weaning, with convalescents, and with nursing mothers, might well be used with greater frequency than has been the case of late years. Colman's Mustard was shown in three guises—as ordinary mustard powder, as *Colman's Sinapisms*, and as *Medical Mustard Bran*. They are all admirable preparations, constant in their strength and easy to use. The progress of science has abundantly proved the underlying wisdom of a good many ancient ways of meeting attacks of disease, and among these must certainly be placed the use of mustard plasters as a counter-irritant and reflex alterative of the circulation in deep-seated organs. There is much, too, to be said in favour of that old-fashioned way of dealing with a chill which consisted in immersing the feet in a tub of hot water and mustard, swallowing some pleasant-flavoured hot posset, and jumping into a well-warmed bed. The special object of the *Medical Mustard Bran* is for application as a poultice in lumbago or any condition in which warm moisture and prolonged but very mild counter-irritation is required. It fulfils these ends very well, taking up large quantities of water and being both cleanly and comfortable.

Fairchild Brothers and Foster (Bath House, Holborn Viaduct, E.C.). This firm has made its reputation by skill in the production of aids to digestion, and of these there was a comprehensive display at Belfast. Among them was *Panopepton*, now very well known as a readily absorbed solution of beef and wheat flour. It is quite palatable, and deserves the place which it has gained. The ratio of proteid constituents to carbohydrates is as 1 to 2.16, and it has been largely used by many medical men as a food adjuvant in the treatment of the sick and of old people, and as a temporary substitute for milk food during attacks of summer diarrhœa in children. Pepsencia, zymine, diazyme, peptogenic milk power, and enzymol, were also shown. Of these *Zymine* is a white, dried powder, representing all the active principles of the pancreas gland; *Diazyme* being a powder of the same order, but in fluid form. As for the *Peptogenic Milk Powder*, this has long since found favour as a means of converting cow's milk into a solution corresponding in chemical constitution to human milk. It is quite easy to use. Among the firm's newer preparations *Holadin* is an extract of the pancreas representing all its constituents, is believed to be of special strength in amylolytic and lipolytic enzymes, while in *Holadin and Bile Salts* we have a combination into which the taurocholate and glycocholate of soda enter. Some *Lactic Bacillary Tablets*, intended for internal administration in the treatment of fermentative disorders of the intestines, and *Pepules* were also shown, the latter containing various pancreatic and gastric ferments either alone or compounded with bismuth, nux vomica, and the like. They offer a convenient means of administering such aids to digestion.

THE ANGIER CHEMICAL COMPANY, LIMITED (32, Snow Hill, London, E.C.). Of the principal product of this firm, namely, *Angier's Emulsion*, we have given an account on several previous occasions. In appearance it is a thick, creamy liquid, the odour of which could not, we think, be found objectionable by the most sensitive person; while its taste is by no means unpleasant. The firm states that in its preparation it uses a specially purified petroleum, to which it adds the hypophosphites of lime and soda and chemically purified glycerine. Some years ago the preparation was analysed by us, and the results confirmed the manufacturers' statements. From a pharmaceutical standpoint, it is undoubtedly a very successful preparation, for examined under the microscope the globules are seen to be in a state of fine subdivision, while it mixes readily with milk and other liquids. This is a strong point in its favour, since some persons might prefer to take it diluted. As for its therapeutic value, it seems clear that its passage along the intestine must exert a protective and, therefore, sedative effect: while we have reason to believe that many medical men esteem it useful in the treatment of pulmonary and bronchial affections. The other exhibit of the firm was *Angier's Throat Pastilles*. These consist of purified petroleum in combination with elm bark and other common ingredients of throat lozenges, but, we are informed, no narcotic of any sort. The firm believes them to be specially useful to those who have much speaking to get through, and in the general treatment of irritable throats. They are certainly pleasant lozenges to take.

RONUK, LIMITED, Sanitary Polish Manufacturers (Portslade, Brighton). A series of small model floors in oak, teak, maple, pitch-pine, and deal, gave visitors an excellent idea of the results which can be obtained by the use of *Ronuk*, the sanitary polish from which the firm derives its name. The polish itself was also shown in two forms, a concentrated paste and a liquid, as well as a *Ronuk Stain* for colouring and hardening the surface of ordinary deal flooring, and various accessories. The initial preparation of the floor is perhaps of a rather more elaborate nature than that required with common stains and varnishes, but the effect obtained is greatly superior. Once polished, the appearance of the floors is easily preserved by the brushes which the firm supplies in various weights according to the special requirements of the case, heavy brushes for places with a wide extent of uncovered floor, and others of a lighter kind for domestic use. There is no difficulty in keeping floors prepared with ronuk in good order, but in addition to undertaking the original preparation of floors, the firm also contracts for their annual maintenance. Though they may not know it, most people must be acquainted with this polish, for it is used not only in hospitals, but in a great number of public institutions, such as the National and Tate Galleries, and countless private houses, hotels, and restaurants. That it gives general satisfaction is evident from the numerous official testimonials which the firm has received. The firm also manufactures a sanitary polish which is intended for application to linoleum; without making it slippery it keeps it bright and increases its durability.

LIEBIG'S EXTRACT OF MEAT CO. (4, Lloyd's Avenue, London, E.C.). Of the various preparations of this firm, those which appeal more particularly to medical men are Lemco, Oxo, and Bifti. The former is, under another name, the preparation on which the firm originally founded its repute, the word *Lemco* being made up of the initials of the company's name. It is a pure beef extract, entirely free from fat, and, as is well known, lends itself readily to the preparation of beef teas. As for *Oxo*, though a somewhat younger claimant to popularity, it is now an almost equally familiar preparation to every one. It is a compound of meat extract and meat fibre with the addition of flavouring matters, and long personal experience proves that on addition to it of a sufficiency of hot water, a stimulating and exceedingly pleasant drink, with a full beef broth flavour, results. It is also put up in a form specially intended for the sick room, called *Nursing Oxo*. This is somewhat stronger than ordinary Oxo, and its special point is that all flavouring agents are omitted in order that it may be flavoured in the sick room according to the varying tastes of invalids. As for *Bifti*, these are small penny tablets of beef extract. They are intended either for use in the sick room or for ordinary domestic use. With their assistance it is easy to prepare forthwith a very good soup, and they should be a boon to those engaged in district nursing. There were also shown Fraybentos Ox Tongue, Corned Beef, and a delicately-seasoned *Fraybentos Ox-Tail Soup*, one ready for immediate use. All these preparations are manufactured, we were informed, at Fraybentos, in the State of Uruguay, where the firm, we understand, possesses upwards of 1,000,000 acres of land, at which it maintains a standing stock of over 200,000 cattle. In addition, the firm has other ranches in South-West Africa, which are still in process of development.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

FIFE BRANCH.

THE seventh annual meeting of the Branch was held in the Hotel, Thornton, on Thursday, June 17th, at 3 p.m. Dr. W. B. Dow, LL.D., Dunfermline, President, occupied the chair, and there was a fair attendance of members.

Apologies for Non-attendance.—Some apologies for absence were intimated.

Confirmation of Minutes.—The minutes of the last annual meeting were read and approved.

Election of Officers.—On the motion of Dr. CRAIG, President-elect, seconded by Dr. LAING, Dr. W. B. Dow was re-elected President of the Branch for the current year, and, on the motion of the HONORARY SECRETARY, Dr. Craig was continued in the office of President-elect. Dr. Macintosh (Kirkcaldy) was elected a member of Branch Council in room of Dr. Orr, and Dr. Caskie (Methil) was elected in room of Dr. Henderson, now resident in England. The other members of Branch Council were re-elected, namely, Drs. D. E. Dickson, Richardson, Mackenzie, McDonald (Cupar), and Spence. Dr. R. Balfour Graham was re-elected Honorary Secretary and Treasurer. The meeting expressed satisfaction that Dr. T. G. Nasmyth, lately Medical Officer of Health for the county, had again been elected as one of the Representatives of the Fife and Edinburgh Branches on the Central Council, and he was heartily congratulated by the CHAIRMAN.

Votes of Thanks to Retiring Officers.—Dr. Aitken, who has served for two years on the Council as a Past-President, falls to retire according to the rules, and, on the motion of the HONORARY SECRETARY, a hearty vote of thanks was passed him for his services. Dr. Orr (Tayport), who has served for five years as a member of Branch Council, also, according to the rules, demits office at this time, and he was thanked for his services.

Report of Council.—The HONORARY SECRETARY then submitted the report of the Branch Council for the past year, which showed that the Council had met three times and had elected seven new members—a record for the Branch—and that the membership now stood at 81, with one associate member. The funds of the Branch on ordinary account now stood at about £25 odd on the credit side, and on the special account at 16s. 4d. on the credit side. The Colliery Surgeons' Committee had met on several occasions, and the questions under discussion had not been finally settled. Some expenses that had been incurred by that Committee were authorized to be met out of the funds of the Branch.

Hospital Certificates to Out-patients.—The HONORARY SECRETARY reported that, by request of the Hospitals Committee of the Association, he had issued circulars to all the hospitals in the area of the Branch anent the question of the granting of certificates to out-patients, and that he had received replies from all these hospitals—four in number—which replies he had forwarded to the Medical Secretary. The custom was apparently the same in all the hospitals—that where there were out-patients no certificates were issued.

Circulars to Non-members.—He also reported that he had issued some two dozen circular letters to non-members within the area of the Branch asking them to apply for admission to the Association, with the result that two had responded and were admitted. He had first ascertained from reliable sources, that is—the President and Members of Branch Council—as to the desirability of the candidates for membership.

Representative at Representative Meeting.—Dr. Dow, the Division's Representative at Representative Meetings last year at Sheffield, handed in a report of his attendances thereat, and was thanked for the same. On the motion of Dr. AITKEN, seconded by Dr. SPENCE, Dr. W. B. Dow was re-elected Representative to the Representative Meetings to commence at Belfast on July 23rd.

Whole-time Medical Officers of Health.—The question submitted from the Public Health Committee of the Association for the opinion of the Division as to whether medical officers of health should be debarred from engaging in private practice was answered in the affirmative, with the qualification that "where it was practicable."

Medical Certificates of Suitability for Hospital Treatment.—With reference to the report on medical certification of suitability of patients for hospital treatment, submitted from the Association for the consideration of the Division, it was agreed that a medical certificate of suitability for hospital treatment should, as a general rule, be required as a condition of hospital treatment, except in cases of casualties or great urgency.

Instructions to Representative at Representative Meeting.—The business of the Representative Meeting was then considered, and the Representative was instructed to use his own discretion regarding the various subjects on the billet, as these were two voluminous to discuss *seriatim*.

Autumn Meeting.—It was agreed that a meeting be held in the autumn for a discussion upon a scientific subject, to be afterwards fixed, and it was left with the President and Secretary of the Branch to arrange for this.

Tea.—At the close of the meeting, Dr. T. G. Nasmyth kindly entertained the members of the Branch to tea and strawberries.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL AND BIRKENHEAD COMBINED DIVISIONS.

THE annual meeting of the combined Divisions was held at the Liverpool Medical Institution on Friday, July 16th, at 4.30 p.m. Sir JAMES BARR was in the chair, and thirty-one other members were present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Subcommittee on Standing Orders.—The report of the Subcommittee on Standing Orders was considered, and the Orders amended and adopted.

Annual Report and Balance Sheet.—The annual report and balance sheet were read and adopted.

Election of Officers.—The following were elected officers for the year: *Chairman*, Dr. A. C. E. Harris; *Vice-Chairman*, Dr. Percy Marsh; *Secretary and Treasurer*, Dr. Grossmann; *Auditors*, Drs. E. T. Davies and Mathews.

Hospital Abuse.—The Standing Committee on Hospital Abuse was then appointed as follows: Drs. Harvey, Parkinson, Howard, Given, Tisdall, E. T. Davies, Palmer, Waters (Bootle), Fardon, Stookes, Monsarrat, Bradshaw, Harrington, Newbolt, A. N. Walker, Sir James Barr, together with the officers. The terms of reference were renewed. It was proposed by Mr. MONSARRAT, seconded by Sir JAMES BARR:

> That the title of the committee be "Hospital Administration Committee."

The resolution was lost, and it was resolved to continue the old title "Hospital Abuse Committee."

Matters referred to Divisions.—SUPPLEMENT, May 22nd:

Item 11 (p. 270, amendment by the Waterford Division): To be left to the Representative.

Item 28 (p. 271, amendment by the Oxford Division): To be opposed.

Item 56 (p. 272, amendment by the Wandsworth Division *re* capitation grants): To be opposed.

Ophthalmia Neonatorum Report.—To the report of the Ophthalmia Neonatorum Committee, the following amendment was agreed to (to be moved by one of the Divisions in proper form):

> That the principle of Item 38 of the Agenda of the Representative Meeting (p. 271, SUPPLEMENT, May 22nd) be embodied in the Recommendation II*a* (*b*) of the Report of the Ophthalmia Neonatorum Committee, by addition of the following words, namely: "That the Association should oppose the reference of infants found on inspection to be suffering from ophthalmia neonatorum to public medical charities for treatment."

All other items were agreed to.

MIDLAND BRANCH:

BOSTON AND SPALDING DIVISION.

THE seventh annual meeting was held at the White Hart Hotel, Boston, on Tuesday, June 22nd. Dr. SMITH was in the chair, and there were present: Drs. Crofton, Mason, Pilcher, South, Tuxford, White, Witham, and Wilson.

Apologies for Non-attendance.—Regrets at non-attendance were received from Drs. Wolfendale, Husband, Mann, Miller, Steil, and Walker.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following were elected officers for the ensuing year: *Chairman*, Dr. Husband (Crowland); *Vice-Chairman*, Dr. Mason; *Representative on Branch Council*, Dr. Mason; *Honorary Secretary and Treasurer*, Dr. Wilson; *Representative in Representative Meeting*, Dr. MacFarland (Lincoln); *Deputy*, Dr. Carline. *Executive Committee*, Drs. Allan, Bone, Crofton, Mann, Miller, Pilcher, Smith, Taylor, Tuxford, Wrinch, White, and Witham.

Programme for the Year.—It was decided to hold a motor meet at Revesby on July 15th. The Secretary was asked to get permission to view the abbey and the Miningsby Water Works; time 3.30 p.m. An ordinary meeting to be held the first week in October in Spalding and first week in March, 1910; also one in Boston in November, and, if possible, again in December.

Treatment of School Children.—It was decided that the resolution of March 12th, 1909, should be considered sufficient.

Unqualified Practice.—The SECRETARY reported that the medical officer of health had sent up his report on this subject to the Local Government Board, so it was decided that the notice received from the Medico-Political Committee to be sent to the medical officer of health should stand over. The Secretary was asked to write to the above-mentioned Committee to inquire what steps could be taken to prevent chemists from giving advice to patients and prescribing, and also what was the position of the medical man to the chemist when the patient came under the former's care seriously ill. Did he cover the chemist?

Annual Report.—The SECRETARY reported that the membership stood at 39, showing no increase. There was a deficit of 3s. 6d. on December 31st, 1908. The Secretary had received during the last few days a cheque for £5 17s. from the Branch Secretary, being an additional grant of 3s. per member from the Branch Council. This was allowed because the working of a small Division was more expensive than a large one. The balance on June 22nd was £5 8s. 11d.

Invitation to Non-members to Join the Association.—The Secretary was desired to send the form issued by the Midland Branch Council to all medical men residing in the Divisional area who are not members.

Invitation to Midland Branch to Meet in the Division.—The Secretary was asked to write to the President-elect (Dr. W. H. B. Brook, of Lincoln) for his views on the subject.

Luncheon.—The members had luncheon in the hotel afterwards.

YORKSHIRE BRANCH:

BARNSLEY DIVISION.

THE annual meeting of this Division was held on July 21st, at the Beckett Hospital, Barnsley, at 8.30 p.m. There were present: Drs. Knowles, Johnston, Harvey, Wiggins, Anderson, Cheves, Wallis, Holroyde, Rowley, Burman, Horton, Howell, and H. F. Horne (Honorary Secretary).

Election of Officers.—The following officers were elected: *President*, Dr. Burman; *Vice-President*, Dr. Knowles; *Secretary*, Dr. H. F. Horne; *Representatives to Branch Council*, Drs. Burman and Castle; *Members of Committee*, Drs. Harvey, Wallis, Shine, Johnson; *Representative to Representative Meeting*, Dr. J. F. Horne.

The Local Levy of Five Shillings.—It was proposed by Dr. KNOWLES and seconded by Dr. JOHNSON that the local levy of five shillings be dropped, the Division being in funds.

New Member.—Proposed by Dr. ELLIOTT, seconded by Dr. JOHNSON, that Dr. H. N. Thompson be elected a member of the Division.

Hampstead Hospital.—A communication was read by Dr. BURMAN from the Westminster Division *re* the Hampstead Hospital appointments. Dr. HARVEY proposed and Dr. HORTON seconded:

That in the opinion of the Barnsley and District Division of the British Medical Association the warning notice with reference to the Hampstead Hospital should be strictly observed, and that this Division endorses the action of the Westminster Division.

Current Work of the Association.—A report was then read by the SECRETARY on the current work of the British Medical Association.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the large English towns, including London, 8,056 births and 3,335 deaths were registered during the week ending Saturday last, July 24th. The annual rate of mortality in these towns, which had been 11.8, 11.8, and 11.5 per 1,000 in the three preceding weeks, further declined last week to 10.6 per 1,000. The rates in the several towns ranged from 3.6 in Willesden, 4.4 in Smethwick, 4.8 in York, 4.9 in Hornsey, 5.6 in Tottenham, 5.8 in Croydon, and 5.9 in West Hartlepool, to 18.8 in St. Helens, 14.9 in Tynemouth, 15.0 in Barry, 15.1 in Great Yarmouth, 16.3 in West Bromwich, 16.4 in Swansea, and 16.6 in Newport (Mon.). In London the rate of mortality was 10.0 per 1,000, while it averaged 10.8 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.0 per 1,000; in London the death-rate from these diseases was 0.8 per 1,000, while among the seventy-five other large towns it ranged upwards to 2.5 in Southampton, in Norwich, and in Wolverhampton, 2.6 in Salford, 2.7 in South Shields, 3.7 in West Bromwich, 3.8 in Bootle, 4.9 in Walsall, and 6.7 in Newport (Mon.). Measles caused a death-rate of 1.0 in East Ham, 1.1 in Salford, 1.3 in Coventry, 1.7 in Norwich, 2.2 in West Bromwich, 2.3 in Bootle, 2.5 in Wolverhampton, 2.6 in Walsall, and 5.0 in Newport (Mon.); diphtheria of 1.2 in Rochdale; whooping-cough of 1.0 in West Ham, 1.1 in Walthamstow and in St. Helens, and 1.3 in Southampton and in South Shields; and diarrhœa of 1.2 in Wigan, 1.4 in Ipswich, and 1.5 in Bootle. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,587, 2,647, and 2,737 at the end of the three preceding weeks, had declined again to 2,731 at the end of last week. Of new cases were admitted during the week, against 350, 371, and 415 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending July 24th, 903 births and 448 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 13.5, 12.9, and 12.5 per 1,000 in the three preceding weeks, was again 12.5 per 1,000, and was 1.9 per 1,000 below the mean rate recorded in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 7.9 in Leith, and 11.2 in Edinburgh, and in Aberdeen to 17.6 in Paisley and 19.8 in Perth. The death-rate from the principal infectious diseases averaged 1.3 per 1,000 in these eight towns, the highest rates being recorded in Paisley and Perth. The 208 deaths registered in Glasgow included 5 which were referred to measles, 2 to scarlet fever, 3 to whooping-cough, and 8 to diarrhœa. Two fatal cases of whooping-cough and 2 of diarrhœa were recorded in Edinburgh, 3 of diarrhœa in Dundee, and 5 of measles in Paisley.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Staff Surgeon A. C. BEAN, to the *President*, additional, as Inspecting Medical Officer, Royal Naval Auxiliary Sick Berth Staff, June 16th; Fleet Surgeon D'ARCY HARVEY, M.B., to the *Hindkiver*, on recommissioning, July 31st. Fleet Surgeon G. LEY, to the *Juno*, July 22nd; Staff Surgeon N. H. HARRIS, to the *Shannon*, July 22nd; Staff Surgeon P. T. SCOTT CLARKE, M.B., to the *Dreadnought*, July 22nd. Staff Surgeon F. T. LOGAN, to the *Victory*, additional, for disposal, July 22nd; Staff Surgeon R. H. MACDERMOTT, to the *Lotus*, July 22nd; Staff Surgeon J. C. WATT, to the *Hermione*, on recommissioning, July 22nd; Staff Surgeon J. E. H. DRILLIEN, to the *Canberra*, on recommissioning, August 4th; Staff Surgeon E. S. IRENARD, to the *Apollo*, on commissioning, August 4th; Surgeon W. E. ORMSBY, M.B., to the *Hannon* additional, for the *Sparrow*, on recommissioning, July 23rd; Surgeon C. T. VEAREY, to the *Flora*, additional, July 27th, and on recommissioning, undated; Surgeon C. J. O'CONNELL, to the *Roxburgh*, on recommissioning, August 4th; Staff Surgeon C. M. KOCK, to the *Victory*, additional, July 27th, and to be lent to Yarmouth Hospital, temporarily, undated; Staff Surgeon R. S. OSBORNE, to the *Heudiver*, July 28th, and on recommissioning, July 31st, on appointment of Fleet Surgeon D'Arcy Harvey to the *Hindkiver* being cancelled.

SURGEON A. T. REVERS to remain in the *Lord Nelson*, his appointment to the *Terrible* and the *Fisgard* being cancelled.

MR. E. PRATT, civil practitioner, is appointed Surgeon and Agent at Whitehaven, July 22nd.

INDIAN MEDICAL SERVICE.

THE retirement from the service of the undermentioned officers, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King: Lieutenant-Colonel H. G. L. WORTABET, June 22nd; Lieutenant-Colonels A. SELCOE, M.D., March 25th, and Lieutenant-Colonel A. G. HENDLEY, June 25th.

TERRITORIAL FORCE.

ROYAL HORSE ARTILLERY.

SURGEON-CAPTAIN P. E. BARBER, from the 3rd West Riding Brigade Royal Field Artillery, to be Surgeon-Captain West Riding Battery, November 16th, 1908.

YEOMANRY.

Surgeon-Major J. E. BOWSER, M.B., and Surgeon-Lieutenant J. LIVINGSTONE, M.B., from the Westmorland and Cumberland Imperial Yeomanry, are appointed to the Westmorland and Cumberland Regiment, with rank and precedence as in the Imperial Yeomanry, April 1st, 1908.

ROYAL ARMY MEDICAL CORPS.

London Mounted Brigade Field Ambulance.—The promotion to the rank of Lieutenant-Colonel of Major (Hon. Major in the Army) C. Stonham, C.M.G., bears date April 1st, 1908, and not March 5th, 1909, as stated in the *London Gazette* of March 26th, 1909.

First South Midland Mounted Brigade Field Ambulance.—Captain W. H. SHEPHERD, M.B., to be Major, June 23rd.

Second Home Counties Field Ambulance.—Lieutenant J. INNES, M.B., to be Captain, June 2nd.

First London (City of London) Field Ambulance.—The following officers to be Captains: Lieutenant E. A. BOTT, M.B., April 30th; Lieutenant A. ELLIOT, M.D., June 17th, 1908.

Third Lowland Field Ambulance.—WILLIAM K. MACDONALD, M.B., to be Lieutenant (to be supernumerary Captain).

Third Wessex Field Ambulance.—Lieutenant-Colonel H. M. BROWNFIELD resigns his commission, retaining his rank and uniform, June 5th. EDMUND ALDERSON, M.D., to be Lieutenant, June 16th.

Royal Army Medical Corps (Supplementary Special Reserve).—SAMUEL R. R. MATTHEWS to be Lieutenant, May 1st; ALBERT A. GUNN, M.B., to be Lieutenant, June 16th; THOMAS N. THOMAS to be Lieutenant, June 17th.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £80 per annum.

BIRMINGHAM UNIVERSITY.—Lecturer on Pathology and Bacteriology.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum for six months and £120 per annum if re-elected.

BRIGHTON: LEWES ROAD HOSPITAL.—House-Physician.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary, £140 per annum.

CARSHALTON: THE CHILDREN'S INFIRMARY.—Assistant Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Assistant Surgeon.

CHELTENHAM GENERAL HOSPITAL.—(1) House-Surgeon; (2) Surgeon-in-Charge of the Branch Dispensary. Salary, £70 and £80 per annum respectively.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—House-Physician (male). Salary at the rate of £70 per annum.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £120 to £140 per annum, rising to £160.

DEVONSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GERMAN HOSPITAL, Dalston, N.E.—Honorary Anæsthetist.

LANCASTER: ROYAL LANCASTER INFIRMARY.—House-Surgeon. Salary, £100 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary, £60 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Resident House-Physician. Salary, £80 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION, ETC.—Assistant Medical Officer at the New Crossley Sanatorium, Delamere Forest. Salary, £100 per annum.

NATIONAL UNIVERSITY OF IRELAND.—Professorships and Lectureships in University College, Cork, University College, Galway, and University College, Dublin.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Assistant House-Surgeon (male). Salary, £75 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—(1) Senior Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary at the rate of £100 and £80 respectively.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer (male). Salary, £100 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SUNDERLAND INFIRMARY.—Male House-Surgeon. Salary, £80 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

WIGAN INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician. Salary, £65 per annum, rising to £75.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Belford, co. Northumberland; Arnesby, co. Leicester; Holdesdon, co. Hereford; and Methlick, co. Aberdeen.

APPOINTMENTS.

PHITTACHARJI, J. C., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer and Public Vaccinator of the Lutterworth Union.

BROWN, D. W., M.O.Edin., M.R.C.S., Certifying Factory Surgeon for the Preston (West) District, co. Lancaster.

BROWNE, F. J., M.B., Ch.B.Aberd., Certifying Factory Surgeon for the Abertillery District, co. Monmouth.

DINGLE, H., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Barmouth District, co. Merioneth.

FISHER, J. B., M.D.Edin., Certifying Factory Surgeon for Whitehaven District, co. Cumberland.

GARRETT, R. R., M.R.C.S., L.R.C.P. Certifying Factory Surgeon for the Bishopstoke District, co. Hants.

HICKS, J. A. Braxton, M.B., B.S.Lond., Pathologist to the Seamen's Hospital ("Dreadnought"), Greenwich, S.E.

LITHGOW, J., M.D.Glasg., Certifying Factory Surgeon for the Cleland District, co. Lanark.

MACMILLAN, A. S., M.B., Ch.B.Glasg., District Medical Officer of the Market Bosworth Union.

MACMILLAN, A. S., M.B., Ch.B.Glasg., Certifying Factory Surgeon for the Market Bosworth District, co. Leicester.

MAYNE, John Fitzgerald, M.B., Ch.B.Edin., Senior Resident Surgeon to Oldham Infirmary.

MORTON, E. Reginald, M.D., F.R.C.S.E., Lecturer on Radiology at the West London Post-Graduate College.

MULCAHY, P., L.R.C.P.Edin., L.R.C.S.I., Certifying Factory Surgeon for the Ballinamore District, co. Leitrim.

O'KEEFE, P. J., L.R.C.P. and S.Edin., District Medical Officer of the Frecot Union.

PRETTY, H. C., M.R.C.S., L.R.C.P., District Medical Officer of the Kettering Union.

SCOTT, D. H., L.R.C.P. and S.Edin., District Medical Officer of the Tiverton Union.

WARNER, H. F., M.B., Certifying Surgeon for the Fakenham District, co. Norfolk.

WHITE, J., L.R.C.P. and S.Ire., Certifying Factory Surgeon for the Tullaroan District, co. Kilkenny.

WOOD, F., M.D.Edin., M.B., C.M., Certifying Factory Surgeon for the Leith District, co. Edinburgh.

GUY'S HOSPITAL.—The following gentlemen have been appointed Dental House Surgeons: Mr. H. G. SPALE, Mr. M. D. Clarke, Mr. J. A. W. Stuart.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester Square. The following appointments have been made:—
Assistant Physician: William Griffith, M.B., Ch.B.Vict., M.R.C.P. Lond.
Casualty Officer: C. A. McBride, M.D., C.M.Toronto, L.R.C.P., L.R.C.S.Edin.
Clinical Assistant: Miss Louisa Woodcock, M.D.Lond., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

POWELL.—On July 21st, at Calverton House, Stony Stratford, the wife of Cecil Powell, M.A., M.B., of a son.

MARRIAGE.

WHITE—TICHENER.—On July 22nd, at St. George's, Hanover Square, by the Rev. David Anderson, Rector of the parish, Charles Francis Orr White, M.R.C.S., L.R.C.P., son of the late John Orr White, and Mrs. Orr White, of Sunnyside, Norwood, to Edith Nina, younger daughter of Mr. Edward Tichener, of Heath View, Walton, Epsom.

RECENT PUBLICATIONS.

British Association. Anthropometric Investigation in the British Isles. Final Report of the Committee on Anthropometric Methods. London: The Royal Anthropological Institute. (Cr.8vo, pp. 58. 1s.)
Discusses at length the method of making full anthropometric observations, and describes the instruments, but contains notes on the factors in the environment which should be recorded, a note on anthropometry in schools, and schedules for records. The report should be in the hands of all school medical officers.

Knaves or Fools? By Charles E. Wheeler, M.D., B.S., B.Sc. London: John Hogg. (7½ in. by 5 in., pp. 104. 2s. 6d. net.)
An exposition of the present situation and future of homoeopathy, and an account of Hahnemann and his times, and the trend of modern medicine. The homoeopathist of to-day does not feel bound, it appears, to adhere to all the doctrines of Hahnemann, and regards any kind of treatment which is useful as one which he may rightly use. A good deal is said as to the price which the convert to homoeopathy has to pay, but it seems to be forgotten that there are very material offsets on the other side of the account.

Topographical List of Registered Dentists for 1909. Metropolitan Area. London: John Bale, Sons, and Danielsson, Limited.
A slim pamphlet, issued under the auspices of the Metropolitan Branch of the British Dental Association. It contains the names and addresses of all registered dental practitioners practising in the metropolitan area, with date of qualification. The notices of the General Medical Council as to unqualified assistants, advertising, and covering, are reproduced.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
AUGUST.	
1 Sunday ..	
2 MONDAY ..	*Bank Holiday.*
3 TUESDAY ..	
4 WEDNESDAY	
5 THURSDAY ..	
6 FRIDAY ..	
7 SATURDAY ..	
8 Sunday ..	
9 MONDAY ..	
10 TUESDAY ..	
11 WEDNESDAY	

Date.	Meetings to be Held.
AUGUST (*Continued*).	
12 THURSDAY ..	
13 FRIDAY ..	
14 SATURDAY ..	
15 Sunday ..	
16 MONDAY ..	
17 TUESDAY ..	
18 WEDNESDAY	
19 THURSDAY ..	
20 FRIDAY ..	
21 SATURDAY ..	
22 Sunday ..	
23 MONDAY ..	

Printed and Published for the British Medical Association at their Office, No. 429 Strand, in the Parish of St. Mary-le-Strand, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 7TH, 1909.

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SEVENTY-SEVENTH ANNUAL MEETING
OF THE
British Medical Association.

BELFAST, 1909.

ADJOURNED ANNUAL GENERAL MEETING.

WEDNESDAY, JULY 28TH, 1909.

ADDRESS IN MEDICINE.

THE Address was delivered by Dr. R. W. Philip in the Library, Queen's College, Belfast. Sir WILLIAM WHITLA (President) was in the chair, and among those present on the platform were the Earl and Countess of Aberdeen and the Lord Mayor (Sir Robert Anderson) and the Lady Mayoress.

The PRESIDENT said that it was wholly unnecessary to introduce the lecturer, as there was no one in the profession unacquainted with the high position attained by Dr. Philip.

Dr. PHILIP then delivered the Address, which was printed in full in the JOURNAL of July 31st, p. 256.

Professor LINDSAY (President of the Section of Medicine) said that he had great pleasure in moving that the best thanks of the meeting be given to Dr. Philip for his very interesting and valuable address. Dr. Philip had been a pioneer in the treatment of tuberculosis, and had a good claim to be regarded as the real pioneer of the system of tuberculous dispensaries. He had been one of the leaders in a great crusade against tuberculosis which was now being waged by almost all civilized nations. Ireland occupied a very unfortunate position as regards the prevalence of tuberculosis. It was gratifying that it should have been a Belfast physician who was one of the first to throw out a practical hint as regards the successful treatment of this great scourge of humanity; and to those members of the medical profession who practised in Belfast it was a matter of real gratification to feel that after half a century Henry MacCormac was at last coming into his own. How vast the tuberculosis problem was was now universally recognized, and Dr. Philip had given some very remarkable figures, which he felt sure those present would be glad to study in print. They had learnt to recognize how general this malady was, how varied its manifestations, and how vast its range; in Ireland they had recognized the greatness of the problem, and he thought they might say that the movement inaugurated by Her Excellency had been launched upon large and hopeful lines. Ireland had entered upon a new epoch—an epoch of energy, an epoch of hopefulness, and it might already be said to be an epoch of progress.

Dr. LAURISTON SHAW had great pleasure in seconding the vote of thanks to Dr. Philip for his excellent address. No subject could be chosen more appropriate to form the subject of an address before the British Medical Association. It brought home the fact that the knowledge of medicine was far greater than the capacity to apply it. It was only by the organization of efforts that it would be possible to eradicate the disease, although the means of eradication were already recognized.

The motion was then put and carried with acclamation.

Dr. PHILIP having expressed his thanks, the meeting adjourned.

ADJOURNED ANNUAL GENERAL MEETING.

THURSDAY, JULY 29TH, 1909.

THE adjourned Annual General Meeting was held on Thursday, July 29th, 1909, the PRESIDENT (Sir William Whitla) in the chair.

Among those present were: Their Excellencies the Earl and Countess of Aberdeen, the Lord Mayor and Lady Mayoress, Mr. Edmund Owen (Chairman of Council).

LADY ABERDEEN AND THE ASSOCIATION.

The PRESIDENT called upon Mr. Edmund Owen to open the proceedings.

Mr. EDMUND OWEN said that at the meeting of the Council of the British Medical Association which had been held on the previous day the following resolution was unanimously passed:

> That it be a recommendation to the Annual General Meeting to elect Her Excellency Lady Aberdeen an honorary member of the British Medical Association for life.

He said that Her Excellency Lady Aberdeen would be the only woman honorary member of the Association, and the Association would be extremely proud to have her. The great reason that the Council had for asking the meeting to pass this recommendation was that it was desirous of placing its official seal of approval upon the good work which Her Excellency was doing, not only in Ireland, but wherever she went. In England they had a gracious lady who did her best for the poor, the maimed, the halt, and the blind—he alluded to the Queen—and Her Excellency was doing her share of good work in Ireland, especially towards the diminution of tuberculosis in Ireland. Her Excellency had said elsewhere that the two great factors in the suppression of this unnecessary and cruel disease, tuberculosis, were fresh air and sunlight; and it was with extreme satisfaction that the speaker could assure his hearers that in the Budget there was going to be no tax put upon fresh air and sunlight. It had been done once a hundred years ago, when a window tax was put on, and there were people living in Belfast now who could remember that iniquitous tax. Mr. Edmund Owen then formally moved:

> That this general meeting of the Association do hereby elect Her Excellency an honorary member of the British Medical Association for life,

and he called upon Sir William Whitla to second the motion.

The PRESIDENT said he thought that the motion was one which would receive the unanimous sympathy and support of the entire assembly. In formally seconding the motion that the recommendation of the Council be accepted, he would only repeat what he had already said at the dinner on the previous evening. Never was an honour better deserved; never was a blue ribbon more honourably won, and never was a Victoria Cross pinned upon the breast of a hero as a reward for a truer devotion to service. The President asked the meeting to express in the usual way their acceptance of the resolution.

The motion was carried by acclamation amid loud applause.

Mr. EDMUND OWEN, in addressing the Countess, said: Madam, in the name and by the authority of the British Medical Association, I have the pleasure to admit you an honorary member thereof, and I hope that I may take this opportunity of expressing the wish of the Association that you may long be spared to carry on the great work which is so dear to your heart. (Loud applause.)

The COUNTESS OF ABERDEEN said that she was very grateful for having had given her an opportunity of expressing her deep appreciation of the signal honour which the Association and its Council had conferred upon her, and given to her with accompanying words which altogether overwhelmed her. In accepting the honour she was glad to think that she might take it as a token of recognition, not so much of her personal services, as of her splendid fellow workers of the Women's National Health Association of Ireland. It was the earnest aim and endeavour of that association to try to carry to the homes of the people the knowledge which the medical profession had made certain by its grand work of research, but which did not, perhaps, attain its full fruition until it was believed in by the mothers. (Applause.) The British Medical Association had, she felt, placed upon her a very great responsibility that day, and the best that she could do was to promise to do her utmost to be faithful to the trust that was reposed in her. (Loud applause.)

Mr. EDMUND OWEN: May I ask Your Excellency if you are a member of the British Medical Association?

The COUNTESS OF ABERDEEN: I have the honour so to be.

Mr. EDMUND OWEN: Will Your Excellency be so kind as to sign your name? and might I ask you the usual question—that you write distinctly? (Loud laughter.)

The COUNTESS OF ABERDEEN: I will endeavour to do so.

The Countess then signed the membership roll.

Mr. EDMUND OWEN: Now I have the pleasure to present to Your Excellency your badge of membership.

The COUNTESS OF ABERDEEN: Thank you.

ADDRESS IN SURGERY.

The PRESIDENT then called upon Mr. Arthur Barker to deliver the Address in Surgery. The address was published in the BRITISH MEDICAL JOURNAL of July 31st, p. 263.

The PRESIDENT called on Professor Sinclair to move a vote of thanks.

Professor SINCLAIR said that the very agreeable duty had been assigned to him of moving:

> That the best thanks of the Association be given to Mr. A. E. J. Barker, F.R.C.S., for his able and interesting Address in Surgery.

Those of the company who had the privilege of knowing Mr. Barker knew quite well the class of address that they might expect—one that would be marked by high scientific merit conveyed with much literary charm, and above all, showing a rigid self-criticism in the examination and presentation of facts, and that conscientiousness in the estimation of facts and the enunciation of the principles of treatment based upon them which was one of Mr. Barker's most noteworthy qualities. Such an address as they had had the privilege of listening to had a stimulating and elevating effect upon all surgeons primarily, but he (the speaker) was aware that through the circulation of the JOURNAL the address would have a far-reaching effect, not only in this country, but in the Colonies and in foreign parts. He felt sure that those who had had the advantage of hearing Mr. Barker would, when they had time to read the address, and ponder and reflect over the principles which Mr. Barker had elucidated, derive very great advantage from it, and would be able to apply in their own surgical practice the principles which he had laid down. He was also glad to note in the address what one would expect from Mr. Barker's great depth of view, namely, his very generous appreciation of the work done by others, not only in the schools of our own country, but of the Continent and abroad. In closing, the speaker wished to say that it was a great satisfaction to him and other operating surgeons to recognize that in this presentation of the newer principles of peritoneal pathology, Mr. Barker had not wholly explained away the need for the operating surgeon. The operating surgeons might still feel that they have some place in society, and that they had a good deal yet to do in alleviating the ills that flesh was heir to. At present, of course, there was a general tendency to believe that the physician of the future should prevent all these things, but in the domain of surgery it would be very difficult to explain the method or process by which many of the problems which came before practical surgeons could be prevented. He had the very greatest pleasure in moving that the best thanks of the meeting be given to Mr. Barker, and he was sure he might appeal to the audience to support the vote which he had the honour of moving.

The Chairman called upon Dr. the Hon. W. Collins of New Zealand to second the motion.

Dr. W. Collins said that he felt it, coming as he did from the furthest away of the dominions of His Majesty, a very great honour to be asked to second this motion. Seventy-five per cent. of the medical profession in New Zealand belonged to the Association, and he hoped as time went on it would not be only 75 per cent., but more nearly 90 per cent., who would then belong to the Association. He knew that all the members of the Association out there followed the addresses and the lectures given at those meetings very closely, and he did not think that any address would interest them more than the very able address that they had heard that day from Mr. Barker on intestinal surgery. He did not wish to add anything more, but to heartily second the vote of thanks.

The resolution was carried with acclamation.

The President said that it gave him very great pleasure to convey the vote of thanks to Mr. Barker for his admirable and magnificent address. The qualities of the address had been fully dealt with by Professor Sinclair, though he had forgotten to mention that indescribable charm of delivery which enabled the hearers to digest it as they went along. He personally had never listened to an address with greater pleasure, and he was very pleased indeed to be the medium of communication of this vote.

Mr. Barker, in returning thanks, said the more than kind words of the President, of Professor Sinclair, and of the gentleman who had seconded, had touched him very much. He was not a stranger, he was glad to say, but, coming from a long distance, one was warmed up by such kindly expressions as had fallen from the mover and seconder of the resolution, and from the President. He could only say that he was deeply thankful for them. What surgeons wanted more than anything else was to be encouraged. He did not mean to say "encouraged to do operations," for there was already too much inclination to do that nowadays, perhaps. What they did want was to be encouraged to be hopeful. It would be a long, long time before the affections with which surgeons were concerned would be brought into the domain of preventive medicine. He (the speaker) was afraid it would be a long time, much as they might hope for it, and sincerely as they might believe that the time would come when tuberculous diseases and cancerous diseases would be taken out of the hands of the operating surgeon. In the meantime they had very heavy work to do, sometimes almost hopeless work, and they had an enormous burden placed on their shoulders—that of taking the lives of human beings into their hands and putting them into the most imminent peril for a time in the hope of prospective gain, of which gain they were not certain. The position of the surgeon, therefore, was one of enormous responsibility, and they were inclined at times to become a little hopeless; but it was with the wish to stimulate hopefulness that he (Mr. Barker) gave this brief review, imperfect as he felt it to be, of what had been achieved, and he had endeavoured to point out that surgeons had a great deal more to achieve in the future, and he hoped that he had stimulated some amongst his friends, perhaps those who read his words, to a greater amount of hopefulness still.

ADJOURNED ANNUAL GENERAL MEETING.

FRIDAY, JULY 30TH, 1909.

Presentation to Lady Aberdeen.

On Friday, July 30th, before the commencement of the proceedings, the Countess of Aberdeen was presented with a magnificent bouquet of roses by Master Stratford Reid Byers.

Address in Obstetrics.

The President was in the chair, and among those present were the Earl and Countess of Aberdeen. The President called upon Sir John Byers, M.A., M.D., M.A.O. (*hon. causâ*), to deliver his address, which is published in this week's issue at p. 301.

Professor Murdoch Cameron, M.D., moved that a vote of thanks be given to Sir John William Byers for his able and interesting Address in Obstetrics. He was sure they had all listened to the address, which was a summary of progress which had been made during the last twenty-five years, with the greatest interest. The address had also thrown out to the youngest members present sufficient material to keep them busy during the winter in their local societies. He had given them plenty of material for discussion. Sir John Byers had quoted from John Burns, whom he had known for a long time as a man very noted in settling labour questions; but there was another greater than he, another Burns, Bobbie Burns, whom the north of Ireland could not claim, who had said:

> To make a happy fireside clime
> For weans and wife,
> That's the true pathos and sublime
> Of human life.

If they followed out the indications given to them by Sir John Byers, and also supplied by the excellent speech they had heard at the Opera House from Lady Aberdeen, they would not be happy till they made "the happy fireside clime." He was glad that the address had discussed only the last twenty-five years, because he would have sat down all the sooner if he had gone beyond that, because he was a bird of the Sixties, and they had not the good advice of John Burns in those days. The older men would remember that the book that they had then was little "Swayne." It was a remarkable book, and several of them found themselves in the slums with this little book of 50 or 60 pages, and sometimes had to go down to the nearest lamp-post after seeing a case to see whether their diagnosis was right or wrong. Sir John Byers had spoken about the midwives. He (the speaker) approved of the importance which everybody attached to the subject, but he thought he would like to limit the work to lady nurses, because the argument was that men should not attend women, who ought to have the choice of having women to attend them. Now that they had got lady doctors the State should insist on even the poorer classes having the best quality supplied to them. He again asked the audience to thank Sir John for his excellent address.

Professor Corby said that when he came into the room he had been asked to second the vote of thanks which had been proposed so ably by Professor Cameron, of Glasgow. He had been very pleased to have had the pleasure of listening to that address, which was characterized by profound learning and erudition. Sir John had gone into the subject very thoroughly indeed. He had pointed out what medical science had done for the people, not alone of Belfast, but of the great Empire to which they all belonged. No doubt sanitary science and the introduction of antiseptics—the introduction of serums—had all done much for the preservation of human health. He had seen a calculation some time ago that three years had been added on to the average life of men by sanitary science. He would like to ask how many years had been added by the introduction of antiseptics. He was really of opinion that if Mr. Lloyd George had known how many years were being added on to the life of the average citizen he would have hesitated a good deal about introducing the old age pensions. In connexion with this subject he was particularly impressed with what Sir John had said with regard to puerperal fever. There was no doubt that puerperal fever was a great scourge to humanity. Even in their own time they knew that there were an immense number of lives that had been lost, but now in later years they knew that parturition was a mere trifle as compared with what it had been thirty years ago. He could not help thinking that instead of Professor Cameron and himself being there for the purpose of presenting the vote of thanks, two lady doctors should have been there—unmarried ladies—and they should have given scientific proof why their unmarried sisters should be addressed as to the

necessity of getting married and giving more employment to medical men generally.

The resolution was put and carried unanimously.

Sir John Byers said that he had to thank the mover and seconder of the vote of thanks for their very kind words, and he hoped they would not take it as being derogatory to them when he said that he had to thank those present more for their patience in listening to his long address. He felt that, whatever the address might be worth, it fell far short of the traditions of Irish obstetric medicine. He and Dr. Dempsey had now seen two Meetings of the British Medical Association in Belfast, and some of those present might see a third; and he hoped that when that time came many of the questions that he had raised would be solved by his successors in the chair, or perhaps a man from another part of Ireland; and the whole thing would finally end at this—a saving of life, a betterment of the human race, and a raising of the whole moral and material conditions of the country.

The President said that he was going to break through all the traditions, rules, and practices of the Annual Meetings. There was no provision in the practice of the meeting for a farewell. But he wanted to take the opportunity of saying that owing to the unique character of the meeting it had, in one respect, no precedent; and therefore he felt that he was justified in breaking through the ordinary routine. All those present knew and felt how much of the success of the meetings had depended upon the gracious presence of their illustrious guests Lord and Lady Aberdeen. He wished to thank Their Excellencies and to take farewell, an affectionate farewell, for he believed new friendships had been created and old friendships cemented by their meetings which would never be forgotten, and which he hoped would never lessen their brotherhood as long as they remained members of the British Medical Association. In addition to the high character of the scientific work done by the Association at this Annual Meeting—which he believed had never been excelled—he thought that they could claim that the social functions had been quite beyond, in one respect at least, those at any former meetings, and he felt that the excellence of their social functions depended to a large extent upon the gracious presence of their honorary members. He believed that he was justified, and the meeting would support him, in breaking through their traditions and rules, for he wished to take the opportunity of proposing, in the most formal manner, a vote of thanks to Their Excellencies for their gracious presence and patronage at the meetings. He asked those present to carry this vote of thanks in the usual manner.

The motion was carried by acclamation.

The meeting, on the proposal of Professor Cameron, gave three cheers for Lady Aberdeen.

The Earl of Aberdeen said that if the proceeding was an irregularity it certainly was one which had a very gratifying aspect to some of those present. He was very grateful to the President for the manner in which he had alluded to the Countess of Aberdeen and himself in relation to what they would always consider to have been a most happy privilege, namely, that of participating in the proceedings of that memorable week. He gathered that that day's meeting was the final portion of the authorized programme, and that fact suggested, among other things, that the public were indebted to the Association for the splendid series of addresses which had been delivered in that Hall. He ventured to say that one of the dominant features of the addresses had been that of brightness and hopefulness, and that was something which would spread hope not only to the members of the medical profession but to the general public, who were called upon to give their support when they could, and to devote their intelligent attention to what they were doing. He could not imagine anything by way of a more fitting conclusion to the proceedings than the address to which they had listened that day, which was interesting, not only from scientific knowledge, but also the great spirit of hopefulness and brightness. Indeed, he thought that Sir John Byers was the personification of animation and brightness. In conclusion he felt that he must say that though he was a sort of Irishman Lady Aberdeen had the advantage of him upon that point, for she was Irish by descent. They in Ireland would all be delighted when the Association could come again; but he must confess he was something else beside an Irishman, and he hoped the Association would go somewhere else first, and that was Scotland. Sidney Smith had said that Scotland was the knuckle-bone of England, and there were worse things than the knuckle-bone of a leg of mutton. He hoped the Association would go to Aberdeen, and he could promise them a splendid welcome. They would do all that lay in their power to greet and welcome the Association when they did go there. He wished to express on behalf of Lady Aberdeen and himself the pleasure it had given them to attend these functions, and also the indebtedness which the community must feel with regard to the proceedings and as to the social entertainments which they were privileged to participate in. The Lord Mayor and Lady Mayoress, with the thoughtfulness which distinguished them, had devoted themselves most notably and successfully to making the meetings a success. The President and Lady Whitla had performed their part magnificently and still there was more to follow that evening. They all felt that their hospitality and social entertainments had been magnificent and quite worthy of that great city of their great Empire.

ANNUAL DINNER.

The Annual Dinner of the Association was held on Wednesday, July 28th, 1909, in the Ulster Hall, Belfast.

The President (Sir William Whitla, M.D., J.P.) occupied the chair, and amongst those present were His Excellency the Lord Lieutenant, the Lord Mayor (Sir Robert Anderson, J.P.), The Vice-Chancellor of Queen's University (Rev. Dr. Hamilton), Sir Lauder Brunton, Bart., M.D.; The Provost of Trinity College (Dr. Anthony Traill), Professor Fuchs (Vienna), Professor A. E. J. Barker, Professor Fehling (Strassburg), Sir James Henderson, D.L.; Dr. Dawson Williams (Editor, British Medical Journal), Dr. Delavan (New York), Dr. R. W. Philip, Mr. Andrew Clark, Professor Sanfelice (Naples), Dr. J. Walton Browne, Mr. J. Davidson, Dr. Sinclair White, The Lord Bishop of Down, Connor and Dromore, Sir Clifford Allbutt, K.C.B., M.D., F.R.S.; Professor R. A. Reeve (Toronto), Professor W. Osler, F.R.S.; Mr. Robert Thompson, J.P.; Sir William Crawford, J.P.; Sir James Barr, M.D.; Dr. J. A. Macdonald, Professor Sir John W. Byers, Dr. Rayner, Sir P. R. O'Connell, M.D., D.L.; Mr. H. A. Ballance, Professor Calmette (Lille), and Mr. R. J. M'Mordie.

The orchestra played the National Anthem as the Lord Lieutenant and his party entered the hall.

The Lord Bishop said grace, and the dinner was then served.

The King.

When the dinner was concluded, the President proposed the toast of "The King," their patron, and this was duly honoured, the guests singing the National Anthem.

The Lord Lieutenant and Prosperity to Ireland.

The next toast was that of "The Lord Lieutenant and Prosperity to Ireland." The President said that this was a toast which was always received with enthusiasm in Ireland, and which certainly required no words of his to commend it to an assembly of medical men in any part of the British Isles. Their relationship to the toast was almost unique. Whilst he asked them to honour the toast of his Excellency the Lord Lieutenant, the representative in Ireland of His Gracious Majesty, he asked them at the same time to drink to one of themselves, for the Right Hon. the Earl of Aberdeen had long been an honorary member of their Association, as he was also a graduate of no less than five British universities. He (the President)

voiced the feeling of every one present that night, and he was confident that they would all wish him to express their gratitude to His Excellency for the honour which he had done to the Association by his presence with that of his illustrious consort at their proceedings, an event which made that Annual Meeting a red letter one for all time in the historical calendar of the British Medical Association. Since His Excellency's acceptance of the high office of Lord Lieutenant and Governor-General of Ireland in 1905, he had laboured in the interests of all classes of His Majesty's subjects in Ireland, but for none more heartily, earnestly, and zealously than for the poor, the needy, and the suffering part of the people. Her Excellency's labours in the domain of preventive medicine in Ireland were known to them all, and had made the name of Aberdeen to be a household word in every cabin and mansion in the land, but nowhere were their labours more keenly appreciated or more highly valued than in the hearts of their professional brethren in Ireland and in England and Scotland. Had he been proposing the toast on the previous evening he would have said that he had been seriously scrutinizing the constitution and statutes of the British Medical Association, hoping that no barrier would lie in the way of their honouring themselves still further, and enrolling the name of the Countess of Aberdeen amongst those of their honorary members. (Applause.) By circumstances over which he had no control he was unable to be present at the Council meeting that morning, but they could understand how rejoiced he was—as they each would be—when he announced the fact that the Council had decided that the Countess of Aberdeen should be elected on the following day at half-past twelve, immediately before the Address in Surgery, an honorary member of their great Association. No blue ribbon was ever better earned; no Victoria Cross was ever pinned on the breast of a hero for a truer devotion to duty than that shown by Her Excellency. The second part of the toast required no words of his to commend it to every Briton and Irishman present. "Prosperity to Ireland" was a sentiment dear to them all. The day, thank God, was past, or was fast passing away, when the toast could be given or accepted in any narrow party or political spirit. He could assure His Excellency that when they drank to the prosperity of Ireland they did not think or feel that Ireland meant Ulster; but whether the toast was given in the north, south, east, or west of the island, they received it in a true spirit of brotherhood, and drank to the prosperity of their native land. It was in that deeply sincere spirit that he asked them to accept prosperity to Ireland. He was not a politician, but he believed that he could see signs that their countrymen were beginning to realize that prosperity, and above all happiness, to Ireland could only be attained by the closest union of all parties working together for the good of their country; and that prosperity and happiness must come, not through Acts of Parliament, but through their individual and united exertions. He believed Irishmen were beginning to recognize—

> How small, of all that human hearts endure,
> That part which laws or kings can cause or cure;
> Still to ourselves in every place consigned,
> Our own felicity we make or find:
> With secret course which no loud storms annoy,
> Glides the smooth current of domestic joy.

He had great pleasure, therefore, in asking them to drink with enthusiasm "The Lord Lieutenant and Prosperity to Ireland." (Loud applause.)

The toast was drunk with much enthusiasm, the company singing "For he's a jolly good fellow."

His Excellency, who was very heartily received, said: The manner in which this toast has been proposed and received cannot fail to be deeply appreciated. The toast is, of course, primarily an official one, and, owing to its character, is sure of a cordial reception in an assembly such as this, especially when presented with so much heartiness and grace. At the same time, it would savour of affectation on my part if I were to avoid any allusion, by way of grateful acknowledgement, regarding the very kindly and genial personal expressions which your President contrived skilfully to import into his remarks. I must not dwell upon that aspect, however. I will ask you to accept a concentrated "Thank you" for what was said and for the manner in which the toast was received. There was another somewhat personal element in the President's remarks about which I need not exercise quite so much self-restraint, though even in that matter I am conscious that I must be prepared to apply the brakes with considerable force, lest I should transgress. I refer, of course, to the statement and announcement, coupled with singularly graceful and appreciative allusions, as to Lady Aberdeen having been honoured by the Association as she has been. You might be very sure that this distinction which has now been definitely announced, and which was in a sense foreshadowed earlier in the day, is at any rate well bestowed in this sense, that it will be deeply prized and cherished by the recipient; and, moreover, I cannot help but feel that the generous tribute of the President, when he alluded to the fact that Lady Aberdeen has been for some time, and will continue to be, engaged as long as she has health and strength, in strenuous work in the sacred cause of the promotion of health, was not undeserved. It implies watchful discrimination on the part of your President, and the members of your Association, who endorse, so to speak, his utterance, that you have observed and detected this circumstance. I need hardly add that Lady Aberdeen would be the first to declare that she has throughout this and other efforts been splendidly supported and helped by the members of the medical profession and by distinguished members of this assembly. I cannot help just incidentally remarking that I am not likely to forget the fact that in one sense on this occasion I have been ahead of Lady Aberdeen. (Laughter.) I was an honorary member of the Association first, and that was when the members met in Montreal, when I had the privilege of assisting at the reception there in the capacity of Viceroy, which now for the second time I have the privilege of doing, and it is a great satisfaction and honour to me to welcome you to Ireland in the name of the King. I hope I shall not prove unworthy of this distinction, and I am sure in admitting Lady Aberdeen to honorary membership you will never regret that distinction having been bestowed upon her. As to the far-reaching sentiment which forms the second part of the toast, that is a wish in which we can all, whether visitors or residents, with heart and voice unite. It is usually prudent, especially for an official, on such an occasion as this to leave the matter there without even a hint as to the variety of views as to the best methods for promoting the welfare of this island. And perhaps even the simple remark that you, gentlemen, our welcome visitors, will find the country in a decidedly placid condition just now on the whole, might suggest an element of discussion. Happily, however, there is amongst the topics relating to the wellbeing of Ireland one, much in evidence just now, about which there is so much accord that it may be safely touched upon—and, indeed, our Chairman has led the way), especially in this great representative gathering of medical forces. I mean, of course, the movement now in progress for promoting the health of the community. The manner in which this movement, which is especially identified with the Women's National Health Association, has been taken up gives ground for unmixed satisfaction. The mere mention of one or two of the leading features of the movement will, I think, justify that declaration. One of these features is that the enthusiasm and zeal manifested since the formation of the Women's National Health Association has sprung up on ground which was nurtured and prepared by medical ministration, and also by the efforts of the Local Government Board and the National Association for the Prevention of Consumption. Next, that the operations of the new organization have from the outset received from the physicians and surgeons of the country invaluable support, advice, and assistance. Indeed, the generous manner in which this help, in the very effective shape of

lectures and otherwise, has been ungrudgingly given, in some instances by distinguished medical authorities from the other side of the channel, constitutes a striking example of what is justly regarded as a chief glory of the medical profession—namely, the traditional readiness to contribute from the stores of scientific knowledge and resource for the benefit of the race. A third feature of this movement is to be found in the fact that it has evoked a splendid manifestation of hearty combination and co-operation between persons of different creeds, classes, and opinions. This characteristic, essential for the real success of the work, may also surely have an important indirect influence in habituating persons who have been much kept asunder to meeting together on common ground. Of course, together with all this there has been no lack of discussion, especially in connexion with that which has thus far formed the central work of the Association, namely, the war against consumption, in which such important questions as that of notification have necessarily taken a prominent place. And it can easily be understood how opportune, how helpful, is the influence of such a discourse as that which was delivered to-day by Dr. Scurfield. Now, as to results from the active crusade which has been carried on for the past two years, and which has been maintained with unremitting earnestness—in one sense, of course, it is too early to see actual results in regard to diminution of the scourge, but surely it is something more than a happy coincidence that in the report of the Registrar-General for Ireland just issued, which deals with the year 1908, we find the gratifying announcement that the rate of mortality from all forms of tuberculosis in Ireland shows that the rate of 2.7, which was maintained during the three previous years in succession, has now fallen to 2.6, which means that there were 386 fewer victims to the disease last year than in any of the three previous years. The Registrar-General goes on to refer in most hearty and appreciative language to the campaign which has been carried on through the agency of the Women's National Health Association of Ireland; and he has something to say about the President of the Association which I shall not quote here. Special reference is also made to the effect of the Travelling Tuberculosis Exhibitions, which, as the Registrar-General remarks, "have instructed the people as to the infectious nature of the disease and the means of protecting themselves from its ravages, and evidences are not wanting that the lessons thus inculcated are bearing fruit." Allusion is also made to the gaining of half of the grand prize presented by the International Congress at Washington last year. But as to results, although it may be too soon to lay stress upon the figures of any one year, yet, in some respects, the question of results is already by no means theoretical. For instance, when we know that in innumerable cases throughout the country windows formerly not only habitually closed, but even nailed up, are now constantly open, there is an actual practical result already attained which cannot fail to have further effect as time goes on; and, again, if I may once more allude to the official statements of the Registrar-General, it is observed that in the district reports sent in by the Registrar's various localities such items as the following occur:

> There is a great improvement with regard to cleanliness in dwellings. People are beginning not to be frightened of fresh air.

And again:

> People seem to be awakening to the fact that the inroads of this terrible malady may be lessened by the timely adoption of suitable methods.

Before passing on I would like to draw attention to the fact that the annual report of the Registrar-General for Ireland has, as usual, appeared before the corresponding volume for England, and also, I must admit, before that of Scotland. Now, of course, the indications alluded to are very encouraging, but it most not be supposed that the crusade is carried on without the necessity of the utmost vigilance and energy. There is opposition, of course well meant, and therefore more difficult to overcome, as for example on the subject of notification. It is no new experience. It seems that if such a phrase as "You ought not to make people lepers," is repeated a good many hundred or thousand times, a certain influence is effected; but, on the other hand, it is very encouraging to observe that the mass of the people in Ireland have shown a remarkable amount of intelligence and freedom from prejudice about the whole subject. Perseverance and good sense will prevail, especially as there is now the splendid organization of the Women's Health Association, with its 170 branches distributed throughout the country, the members of which constitute an earnest and hearty missionary force. I thought it might not be out of place to make these few allusions on this occasion of the assembling of so many distinguished members of the medical profession from other countries, who never look with indifference upon any work connected with the promotion of health, and the more so when it is connected with Ireland, which is this year the scene of the annual general assembly of the professors of the healing art. And, that being so, I cannot forbear remarking that it was in Ireland that the first tuberculosis exhibition in the British Empire took place not quite two years ago. Ireland has in this matter taken a front place—not for the first time in history, nor will it be the last. Now, before concluding, I wish to join with all possible heartiness in the expressions of deep satisfaction and appreciation which had been evoked regarding the visit of the British Medical Association to this city. The event had been looked forward to with the utmost interest, and there cannot be the slightest doubt that this dinner, for instance, the discussions, the social intercourse, which is being provided during this memorable week will have a lasting effect. Moreover, while the actual members of the Association best know the value of their own discussions and interchange of ideas upon many technical and abstruse phrases of medical science beyond the grasp of we ordinary lay people, I hope it will be a further satisfaction to them to reflect that what we cannot always understand we can admire, and also that these proceedings cannot fail to produce enlightenment and benefit to the community at large. (Applause.)

The British Medical Association.

The Lord Bishop of Down and Connor and Dromore proposed the toast of "The British Medical Association." He said he rose to propose it with very great diffidence; he supposed he had been asked to do so because of the close connexion of the profession to which he had the honour to belong with the profession so honourably represented in their gathering that evening. He presumed that no unkind person would say he had been chosen because he belonged to the profession that preached to speak to the profession that practised. But he might say he had been chosen because their great profession believed that man consisted of three parts—soma, psyche, pneuma—and that the man whose duty it was to have the cure of souls had a right to speak in the presence of those who had the cure of bodies. They both had the cure of minds diseased. But at the same time one thought gave him a great deal of perturbation. He read a few days ago a speech delivered at the Psychotherapeutic Society in London, and the lecturer used these words—he said he would speak principally on silence as a factor in healing. In the course of his lecture he also said:

> The talker or the speaker who asks men to listen to him is a sort of human vampire sapping the energy of those who are about him.

With that terrible danger, but feeling, after the brilliant speeches of His Excellency and their President, that the vampire was not such an evil beast, he rose to propose the toast of "The British Medical Association." A kind friend gave him, within the last few hours, a book containing a record of the work done by their society, of its origins and aims; and he could not do better than repeat the splendid statement made by the originator of the society some seventy-seven years ago—Sir Charles Hastings. He laid down what every one of them, laymen as well as skilled physicians, must recognize to be the noblest aim that

any association could set before itself in three sentences—the advancement of medical science in all its aspects, the maintenance of the honour and dignity of the profession, and the promotion of friendly intercourse one with another. Now, it was sometimes said that an ideal created an organization, and the organization killed the ideal. Emphatically, that had not been so with their organization. For seventy-seven years they had dealt with questions social, economic, and scientific, and never was their society in so prosperous a state as at present, embracing within its ranks more than half of the medical profession in Great Britain, while it was one of the strongest scientific organizations in the world. Now, the fact of the seventy-seven years' existence naturally suggested to one's thoughts the fact that they were more than entitled to an old age pension. They in Ireland were supposed to be wonderfully partial towards that great Act. In fact, he heard—and wild horses would not tear from him the name of the county where it occurred—of a man who was asked was it possible that he had an old age pension. He replied that it was. Asked had he produced his certificate, he answered "No." He was then asked how a young-looking, ruddy, and strong man like him could have become the possessor of a pension. His reply was that he appeared before the officer, and was passed without a word. "How was that?" "Well, bless your heart," said the man, "it was not me the officer seen at all; but it was an ould Alibi down from the mountains." He did not suggest for one instant that there was any "ould Alibi" in connexion with their society, but in its seventy-seven years it illustrated the splendid statement that King William of Prussia made after his visit to Oxford. He said what struck him most there was that everything old in the university was new, and everything new was old. In other words, that there was reverence for the past and there was hope and anticipation for the future. Their society had reverence for the past. The great profession of medicine brought it back as long as the world lasted, and some of them in their student days remembered the admiration with which they read in their Greek studies of the great writings of the illustrious Greek physicians—Hippocrates, Antaeus, and Galen. They thought then of the reverence due to the past history of the medical profession, but still more they thought of the hopefulness for the future. Their organization, since it placed itself about seven years ago on its present more democratic basis, had an absolute right to look forward with hopefulness for the future. He rejoiced in the words used by the President and His Excellency with regard to Ireland, and he had no sympathy with those who were always despairing, either for their country or the future of the world. He came across pessimists who he fancied were suffering from chronic dyspepsia or intermittent stomach-ache, and they were the last to succeed in the noble profession of medicine. The hopefulness of medical men, the fact that they never despaired, the fact that their motto *must* be "While there's life there's hope," was one of the splendid realities which gilded life with the optimism of light. He understood that they were welcoming that day to the great city of Belfast—as His Excellency had so graciously and kindly welcomed them to the Emerald Isle—distinguished medical men from almost the whole of the known world—from Brussels, Berlin, Paris, Lille, Strassburg, Vienna, Naples, India, and Japan, not to mention the English-speaking representatives from British Guiana, Hong Kong, Victoria, Gibraltar, Natal, New Zealand, from Canada, the fairest daughter of the great Continent of America, and from "the far distant wash of Australasian seas." And they who were outside the profession, like himself and some other guests, welcomed the members of the profession as men distinguished for three great gifts. They were distinguished for skill, for sympathy, and for self-sacrifice. His heart had been stirred by reading one instance of noble self-sacrifice in the case of a doctor (and he had known it exemplified in scores of cases of medical men). In this a French doctor continued to perform an operation upon a patient suffering from purulent pleurisy, although some of the pus squirted into his (the doctor's) eye, with the result that he lay in hospital for six months, at the end of which time he had lost his sight. Was it any wonder that the French President bestowed upon him the Cross of the Legion of Honour?

> Peace hath her victories renowned,
> Her triumphs cover every shore,
> Where human energies abound
> Their conquests flourish more and more.

There was no class of men for whom he had more kindly—and, let him add, more affectionate—feelings than for the medical men with whom he had been brought in contact. He believed they were men who had an enthusiasm for humanity. He believed that they were men of whom the lines could never be said, "Laugh, and the world laughs with you; weep, and you weep alone." He knew no class of men more ready not only to laugh with those who laughed, but weep with those who wept. Might he not say it for those in Belfast who had come in contact with individual members of the Association for all too short a time during that one brief week—might he not say for each one of them that their hearts were wax to receive the happy impression that their visit had made, wax to receive it, but marble to retain it? He had to couple the toast with the name of one who was a distinguished Irishman, who had been transplanted or translated—he did not know which—to the great sister island of England, which lay just off the coast of Ireland. (Laughter.) He coupled it with the name of one who was the Prime Minister of their Lower House of Convocation—they saw how one lapsed into ecclesiastical language—and one who, if they would pardon him for saying so, he most gladly associated with the toast. He was not only a distinguished medical man, but he was a brilliant Rugby player in the days of old, and he (the Lord Bishop), as an old Rugby player himself, rejoiced to have the honour and pleasure of proposing that great toast, the toast of "The British Medical Association," coupled with the name of Dr. Macdonald.

Dr. Macdonald ventured to express his regret that his friend, Mr. Edmund Owen, the Chairman of Council, was not there to respond to the toast, because he was sure that Mr. Edmund Owen would have done it much better than he could possibly hope to do. He wished to be permitted to thank all the inhabitants of Belfast in particular for the welcome they had given to the British Medical Association during the week, and he wished to be permitted also to thank His Excellency Lord Aberdeen for the very eloquent words in which he had referred to the British Medical Association. He also wished to express his regret that he was so utterly unable to voice the thanks of the Association for the way in which the toast had been proposed and received. To him it was a matter of great personal gratification, although he took the honour with great diffidence, to respond to this toast. The last time he sat in that hall was when he was a humble student trying to learn his duties as a medical man. To come back there after twenty-five years and to have the distinguished honour conferred upon him to be asked to respond to this toast in regard to the great Association was an honour he valued very highly. The Lord Bishop had spoken of the aims of their Association in three divisions—one was that of maintaining the honour and dignity of the medical profession. That he took as the lowest platform of their duty. The British Medical Association had a greater duty to perform in carrying it out. The Irish race had been described as "the finest peasantry on the sod, who would fight like devils for conciliation and hate each other for the love of God." He did not say that the British Medical Association resembled them, but there were some dissentients in their ranks. He hoped that such a meeting as that at which they were all present that evening would lead ultimately to the curing of those dissensions, and he appealed to those who were inclined to keep those dissensions going to unite and become the greatest force, firstly, in

looking after their own interests, and secondly, in using all the force that they possessed for improving the condition of the human race. The British Medical Association represented some 21,000 men who came from every region of the earth—from England, Ireland and Scotland, and the dominions of His Majesty beyond the seas. If they could only get perfect union among their ranks and induce members of the medical profession who did not belong to them to come into their ranks they would become the greatest force for bringing about the happiness of the human race and the people of the world. If they could only unite together, which he hoped they would, then there was nothing, in his opinion, that could prevent their carrying out their high ideal, namely, to bring happiness and health to the human race. He begged to thank them on behalf of the Association for the reception they had given to the toast and for the kind words in which the toast had been proposed.

Presentation of Golf Cup.

Surgeon KIRK presented to the President a silver cup for golfing competitions to be taken part in annually by the members of the Association.

The PRESIDENT, in accepting the cup, said the presentation was enhanced by the fact that it came from the hands of a very distinguished surgeon, who had been President of the Ulster Medical Society, and whose year of office had been one of the most successful and prosperous in its annals.

"Our Guests."

Sir PETER R. O'CONNELL, M.D., D.L., in proposing this toast, said they had there the honour of entertaining a great many distinguished members of their profession, many of them from foreign countries and colonial parts, and, in addition, they had the honour of entertaining some of their most eminent citizens. They extended to all of them a hearty welcome, and trusted they would find that the traditional hospitality of their country had not fallen into degenerate hands. It was exactly a quarter of a century since the British Medical Association met in that city. Memorable and historic as that occasion was, he ventured to submit that everything pointed to the present meeting as a landmark greater than its predecessor. Two events of supreme importance engaged the attention and loomed large in the public eye. They had a peculiar interest to their profession. The great strides made in sanitary and preventive medicine, and the birth of their new university were things of the greatest moment. The city which had produced a Kelvin, an Andrews, a MacCormac, and a Gordon would, with its increased and improved facilities, take its proper place in organized and beneficent research in future. He had pleasure in proposing the toast, coupling with it the names of the Lord Mayor (Sir Robert Anderson), Professor Fehling of Strassburg, and Dr. Delavan of New York. (Applause.)

The toast was drunk with enthusiasm.

The LORD MAYOR, in reply, thanked those present for the invitation he had received to be present at the splendid banquet, and secondly, for coupling his name with the toast. He did not think he would be doing his duty if he did not say it had been a matter of great congratulation to the citizens of Belfast to have the members of the British Medical Association among them; and he felt sure that he was expressing the heartfelt desire of the entire inhabitants when he said they gave to the Association a most hearty welcome to the city. He believed, at the same time, that their presence would be the means of doing a vast amount of good. He had stated to Her Excellency that he thought the meeting of the Association in Belfast at this time most opportune, having regard to the magnificent work she had been doing since she came to Ireland, and the great success that had attended her efforts. He believed that their presence among the people of Belfast, and the splendid papers which had been delivered would help the work of Her Excellency very materially indeed.

Professor FEHLING (Strassburg) said: I have the honourable duty and the great pleasure to thank you in the name of the foreign guests for the toast you have amiably drunk. I venture to say that all we who come from Germany, Austria, Belgium, etc., were delighted and proud to be invited to this Belfast meeting. There is no other medical institution in the world such as the British Medical Association with its 30,000 members; and we think of all the famous names which are still or have been once members of this distinguished society. I will only remind you in my special department of the names of men such as Matthews Duncan, Lord Lister, and in this country the late Sir Arthur Macan. People say so often that such meetings are unnecessary, as they have their special journal. But, gentlemen, that is quite another thing; when I can listen to a speaker, speak to him personally, then I have the real impression of the man. There is now always being discussed the necessity of peace between great nations; that is such a simple truth that I would not go back on it. On the contrary we, the men of science, come to fight with you in a scientific way, and when *you* are victorious in some part we are the first to bow ourselves before you, and, vice versa, you before us. That is the only way for the advancement of science, and the best way to know and appreciate each other. Secondly, I wish to thank you for your hospitality. Those who only meet the British nation abroad know nothing about this famous hospitality. I have stayed in England and Scotland and now in Ireland, and I can say that everywhere there is this natural hospitality, all over the United Kingdom. To finish, I cannot better thank you in the name of the foreign guests than to use here in the seat of a young university the old students' expression applied to the British Medical Association "*Vivat, floreat, crescat, in aeternum!*" (Applause.)

Dr. DELAVAN said that there was a feeling of kinship in all the assemblies of the Association, but he was glad to say that he had kinship of blood with their city, as his grandfather came from it many years ago. Anything more delightful than the hospitality which had been extended to them on their visit to Belfast he had never known, and he begged to thank them in the name of all his countrymen. He hoped some day the Association would come to the United States, or, if that were not possible, to Canada, and they would shake hands across the border.

The President.

Professor Sir CLIFFORD ALLBUTT, K.C.B., in proposing this toast, said that on the previous night it was his privilege to say something of the esteem—the scientific esteem, as well as the personal affection—with which their President was regarded by his friends and by all who knew him. (Applause.) It might, therefore, be a better compliment if he (the speaker) referred rather to the very important address which Sir William Whitla delivered to them and touched upon one or two of those exceedingly pressing and important problems which he laid before them in his inimitable way. It was, perhaps, not unnatural that he (Sir Clifford Allbutt) should think more of what the President had said upon education and medical education. The problem was one which was so difficult that it was almost impossible to do more than he did—to point out the lines and tell them what great events must depend upon the decision that they arrived at with regard to education. As regarded the framework of their education, there was the almost irreconcilable difficulty between the foundation for liberal education in science and arts, and at the same time to equip students with that measure of technical education which he was bound to have if he was to go into the world as a safe man in practice. It was difficult enough in five years to equip a student with that necessary furniture; and it seemed to be a very serious blot upon their education if they could not, either by improving secondary education or in some other way, lay before the technical education course a broad and deep foundation of general knowledge. It was a question of the ship and the cargo. They were increasing the cargo the ship had to carry. Almost every year new regulations were required, and

were they quite sure that they were instructing those young men in such a way as not to make them mechanical carriers, or develop them into the kind of men who would use those tools as skilled artisans? It was no use equipping those men with that furniture unless they were taught that resourcefulness, that alertness of mind, and breadth of view by which alone they could use those instruments which were placed in their hands. They must, he was sure, develop their education on their own lines. There had been—and for good reasons—a strong disposition to develop their education on the lines of some other nations, and if he might speak of German education, many thoughtful Germans thought that in England we should make a great mistake if we mechanically modelled our education upon German methods. Excellent and useful as they were in their own country, still they filled one side of education, but there were defects on the other side, and education in this country did meet certain great requirements in human thought that theirs did not; while, on the other hand, their wonderful organization and extraordinary industry were faculties which we might envy. Therefore, while we might go abroad to take what was best from other nations it was important that we should hold on to the main lines of education as developed by our own people after their own fashion. The President also spoke of the university being a new one, saying also with some little regret that Belfast was also a new place. Some of them who lived very much in old places did not listen to a remark like that with great equanimity, because they felt themselves too much anchored to the past and wished they had the freedom of a new university and a new place. He was carefully avoiding the telling of stories after the capital ones to which they had listened, but he might tell them one he had heard from the Lord Bishop, who said to the driver of a car, "Where are you going?" "Well, sir," said he, "I don't know where we are going, but I'm going as hard as we can." So in regard to the new university and the new place of Belfast, it was their business to go as hard as they could. (Applause.) There were a great many other places which were anchored back by heavy legacies from the past. Both these kinds were admirable, the old and the new, but the great thing they had to bear in mind was that the whole fleet should go together. The toast, however, was the health of their President, who had attained by sheer merit the very distinguished place which he held at present. Besides his scientific eminence, he had been a most generous benefactor to the city, and had presented their profession with an institute. His name was known for generosity and benevolence as well as for other distinctions, and he had made that meeting one of the most notable in the great roll as well as one of the largest. They would express to him their congratulations upon his great position and their admiration of the wonderful way in which he—with assistance, no doubt—had organized that great meeting, over which he had presided with such distinction. They cordially wished him all health and happiness in his future life. (Applause.)

The toast was received with cheers and the singing of "For he's a jolly good fellow."

The PRESIDENT in reply expressed his thanks for the reception they had given to the toast and to Sir Clifford Allbutt for his lucid and eloquent address. He apprehended that their meeting would not be a complete success until they had enrolled Lady Aberdeen an honorary member. (Applause.) She would be the first lady to receive that distinction in all the seventy-seven years of their history as an Association. Sir Clifford had spoken of the organization of the meeting, but he would feel himself a very mean man if he sat down without confessing freely and fully from his heart that he was a mere figure-head, and that all the work had been done by the secretaries of the different committees. He himself had done absolutely nothing but look on. He had been put to no trouble and no anxiety and no thought, save a meteorological one, as to the hours between 4 and 6 that afternoon. He asked them to drink to the health of the man to whom the success of the meeting was due more than any one else, and that was Dr. Cecil Shaw, who had been a very zealous and hard-working secretary.

The toast was drunk with much enthusiasm, and Dr. CECIL SHAW briefly returned thanks.

"God save the King" was then sung, and the meeting dispersed.

THE PATHOLOGICAL MUSEUM.

II.

NOT the least interesting part of the Museum was the histological display rendered possible by the thoughtfulness of Messrs. Ernst Leitz, who had again placed at the disposal of the Museum Committee 100 of their microscopes of the latest pattern. Under one of these Mr. Ogilvie most effectively demonstrated, with the aid of the Leitz dark-ground illuminator, live spirochaetes and motile bacilli. The clearness of this apparatus again aroused much admiration.

Lieutenant-Colonel Sir Wm. Leishman had sent slides of kala-azar, showing the parasites in the spleen (*ante* and *post mortem*) and liver, and also in various stages of development, from cultures on the Novy-McNeal medium, including the flagellated forms and the rosette forms in process of fission. To merely mention these is to give no idea of the delicacy and clearness of these beautiful preparations, every detail of which was stained by the Leishman-Romanowsky method.

Contributions to the cancer problem were numerous. Dr. Beckton (London) demonstrated in beautiful sections Altmann's granules occurring in all normal tissues and benign growths, but invariably absent from malignant growths.

Professor Sanfelice (Milan), who has had the misfortune to lose the whole of his laboratory and the results of his work in the Messina calamity, showed many slides in support of his theory of the blastomycotic origin of cancer. These included sections of sarcoma and carcinoma produced (indiscriminately) in animals by a toxin which he had separated from a yeast obtained from malignant growths. There could be no doubt that the adeno-carcinomata, said to have been produced in a dog by the injection of the toxin, and the metastases were carcinomata. Some slides were taken from animals undergoing cure with an antiserum obtained by immunizing dogs and asses against the toxin. Other slides showed various stages in the serum cure of spontaneous cancer in dogs; others were from cases of experimental blastomycosis in rats, and in support of this view of the origin of cancer was a section of a human ovarian carcinoma with blastomycetes in the cells and outside of them. The Professor himself gave a special demonstration in the museum, and for a full hour was bombarded with questions in French and German, until his eager listeners dispersed, full of new ideas, if not absolutely satisfied. We shall look forward with eagerness to the results of his treatment of cases in the human subject in the new institute about to be built in Milan.

In another room Dr. Ford Robertson and Dr. Margaret Young had arranged an elaborate series of slides and diagrams to illustrate the life-history of the protozoon which they claim to be the causal agent of cancer. Their specimens were stained by a new ammonium silver cyanide process, which has many of the disadvantages of all silver methods. If we were not converted to a belief in this new protozoon, but still kept an open mind, we could, nevertheless, admire the enthusiasm of Dr. Margaret Young, who has for three years devoted herself to the details of this research, and who was always at hand to demonstrate the specimens.

Other histological exhibits were: Sections of skin from a case of acanthosis nigricans (Dr. St. George, Belfast); sections of a fetal spinal cord, by Dr. Macguire; the ovary of a newborn puppy showing embryonic cells, by Dr. Louise McIlroy (Glasgow); a series of tissues with the neutral and acid fats differentiated by Nile-blue (Professor Lorrain Smith); and the acne bacilli in tissue and from cultures, by Dr. Fleming (London).

The section devoted to radiography was specially instructive. The photographs, shown by Dr. Rhys (Cardiff), of renal calculi—in 1 case there were twenty-nine calculi in the right kidney and one in the left—had been taken with a two-minute exposure, and were said to demonstrate the disadvantages of the instantaneous method, which was so prominent at last year's meeting. There could be no question, at any rate, as to the clearness and utility of these specimens of Dr. Rhys's. A large and equally valuable series of skiagrams of the skull, illustrating disease of the sinuses, came from Drs. Logan Turner and W. G. Porter. Dr. Watson Williams (Bristol) was responsible for an effective stereoscopic display of skiagrams of the frontal sinuses, etc., with probes *in situ*. Dr. Howard Pirie (London) and Dr. Knowles Renshaw (Manchester) also contributed to this section.

In addition to the coloured plates already mentioned there were many beautiful water-coloured drawings by Nairn (Dr. Newbolt, Liverpool) and coloured illustrations of *cancer en cuirasse*, etc. (Mr. Mitchell, Belfast).

Mention must be made of some life-like papier-maché casts illustrative of topographical anatomy (Mr. C. W. Cathcart, Edinburgh), and a large series of sections of eyes mounted in glycerine jelly (Dr. Cecil Shaw, Belfast) showing a variety of diseases and injuries.

Dr. Buchanan (Glasgow) had on view a series of cultures on glucose-neutral-red ox serum, showing how to differentiate between *B. diphtheriæ*, *B. xerosis*, and *B. hofmanni*, and Professor McWeeney (Dublin) an equally effective demonstration of his china-green media method for differentiating typhoid bacilli. Professor McWeeney gave a special demonstration of the various media used for this purpose.

Only two pieces of apparatus remain to be mentioned—namely, the ingenious apparatus of Dr. James Wilson (Belfast) for evaporating water under reduced pressure (at 42° C.), enabling typhoid bacilli to be isolated from infected water, and the newly introduced base sledge microtome of Messrs. Leitz, suitable for celloidin or paraffin, which cuts sections up to 5 in. in diameter, and is rigid and easily manipulated. This seemed to be capable of doing all that was claimed for it.

There are no new methods of mounting specimens to mention, but it is quite evident that the liquid paraffin method of Rowntree has come to stay. The results are equally as good as the glycerine method, and the expense considerably less.

We had almost neglected to mention an important collection of animal parasites and specimens illustrating diseases common to man and the lower animals, which forms a permanent collection in the Hygiene Museum of the university. Its origin is due to the energy of Dr. Henry O'Neill, J.P. (Belfast).

In conclusion we have to express our indebtedness to the energetic honorary secretaries, Drs. Houston and W. J. Wilson, who spent much time in pointing out the salient features of the collection which they had been instrumental in great part in bringing together and arranging.

ANNUAL REPRESENTATIVE MEETING.

Dr. Rowland Fothergill (Southfields, S.W.) writes to draw attention to two points as to which he says there is some confusion in the report of the Annual Representative Meeting published in the Supplement of July 31st. The first instance is at page 138. After "the motion was agreed to" there was a resolution passed to send copies to all the staffs of London hospitals. This is omitted. Page 150: Resolution at bottom of second column was never submitted. The resolution then submitted was one *re* financial grants to Branches and Divisions being made direct from the head office. The latter, Dr. Fothergill says, is important, as it reads as if his Division authorized the resolution. This is not so.

The Annual Exhibition

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[Second Notice.]

W. B. Saunders Company (Henrietta Street, Covent Garden, W.C.). As on some previous occasions, the exhibit of this firm was specially strong in treatises and handbooks on surgery, gynaecology, and obstetrics. The firm has devoted a good deal of its energies to bringing British and American medical men into literary touch with one another, and, though English medical writers were well represented, books of American origin predominated. Conspicuous among them were the first four volumes of *Keen's Surgery: its Principles and Practice*. The fifth and last volume, it is hoped, will have been published before the end of August. It is a monumental work to which attention has several times been drawn in these columns. Though it bears the name of Dr. W. W. Keen of Philadelphia and has the advantage of being edited by him, its pages are made up by contributions from eminent surgeons in both hemispheres. Each chapter practically represents a monograph on some particular subject by a recognized authority, and to each an extensive bibliography is attached. Hence the work is as useful to research students as to those who merely wish to acquire the latest practical and theoretical knowledge concerning the subjects treated. Other recent works to be seen were *Myomata of the Uterus*, by Howard A. Kelly and Thomas S. Cullen, of the Johns Hopkins University. In addition to its excellent letterpress, this book contains 400 original illustrations. Other works were Gant's *Constipation and Intestinal Obstruction*, Bonney's *Pulmonary Tuberculosis*, and a volume entitled *Physical Diagnosis*, by Da Costa. Another well illustrated work shown was *Medical Gynaecology*, by S. W. Bandler. Even more imposing was Kelly and Noble's work on *Gynaecology and Abdominal Surgery*. It is in two volumes each of 900 pages, and is beautifully and freely illustrated. In addition to completed works Messrs. Saunders had upon view some advanced sheets and specimen illustrations of important works which will shortly be published by them. These included Tousey's *Medical Electricity*, and a volume by Cotton on *Dislocations*. Similar advanced sheets were also shown of the *Principles of Pharmacy*, by Arny, and *Exercise in Education and Medicine*, by Mackenzie.

Jeyes' Sanitary Compounds Company, Limited (64, Cannon Street, London, E.C.). The principal preparation of this firm is Cyllin, which owes its origin, we understand, to a suggestion thrown out by Sir Lauder Brunton in one of his Croonian Lectures. The special claim made for it is that in spite of its great bactericidal power it is relatively non-toxic. As it lends itself readily to a great number of different purposes, it was shown in numerous forms—as *Cyllin-medical*, which has a Rideal-Walker coefficient of 20: as a *Cyllin Liquid Soap* for use before operating, in combination with gauzes and wools for dressing purposes; as *Cyllin Sanitary Powder* guaranteed to have three times the bactericidal strength of the strongest carbolic acid powder commonly sold, and as an ordinary household disinfectant. It was also shown as a Cyllin Tooth Powder, in pastilles for use in sore throat, and in perles for internal administration. In the household form Cyllin appears to be growing greatly in favour with school authorities, especially those who are undertaking the routine disinfection of school floors. Cyllin was the disinfectant used in the prolonged experiments undertaken by the Bucks Education Committee a year or two ago, and the results of which did much to promote the adoption of this practice. It appears also to be useful in favus, for in the *Medical Officer* for June 5th, 1909, Dr. Kerr, Medical Officer of Health to the Education Department of the London County Council, giving an account of the Council's

method of dealing with children suffering from this disease, says: "If there are many scabs when the child is admitted the head is poulticed each morning with linseed and a small proportion of Cyllin, about 1 part in 200 of the water used for the poultice. The heads are also washed daily. When poulticing is not required a compress of perchloride of mercury solution 1 in 250, with glycerine 1 in 10 or 12, or a compress of Cyllin solution, is used. The Cyllin solution may be increased in strength till in some cases the pure solution is painted on. The Cyllin is merely used as a convenient disinfectant: no doubt many other similar materials would be equally applicable and equally effective."

Buxton Thermal Mineral Water Station. This inland health resort had a display by which an endeavour was made to bring home to visitors to the exhibition some idea of the arrangements it has made for the treatment of invalids and of its natural qualifications for this purpose. It was shown that the arrangements at the bathing establishment are of a most comprehensive nature, providing as they do for every form of balneotherapy, and including, besides the special Buxton douche massage, Aix, Vichy, and Plombières douches and throat and face sprays, all ordinary douche and immersion baths. It was shown, too, that Nauheim treatment is in use, and that high-frequency, radiant heat, and light treatment, and many other forms are all to the fore. The climate of Buxton is dry and bracing, and its situation in a wide, open valley, at an elevation of more than 1,000 ft. above the sea, ensures the purity of its atmosphere; whilst the surrounding hills, rising to an altitude of 1,800 ft., protect the town from the effects of high winds. The natural drainage is good, and the absolute humidity is among the lowest in the records of the Royal Meteorological Society. A not unsuccessful endeavour was also made to bring into relief the beautiful scenery of the Peak district of Derbyshire, in which Buxton lies, the luxurious character of its hotel accommodation, and the ample provision for amusement and agreeable exercise both in summer and winter.

Mellin's Food, Limited, Food Specialists (Stafford Street, Peckham, S.E.). Some foods for infants and adults, some biscuits, and a well-designed bottle wherewith to administer its own or any other infants' food, were the principal exhibits of this firm. As for *Mellin's Food for Infants*, a brown granular powder in which the starch of the original cereal grains has been diastased, it has long since attained popularity, but *Lacto* is perhaps less well known. It was introduced originally for use in tropical countries where cow's milk is at a premium, or an impossibility, but there are many other occasions on which resort to its employment might be useful. For instance, when the milk supply is temporarily regarded as being of too untrustworthy a character to be utilized, or when an extra meal is required by an invalid or other persons who cannot for some reason take a sufficiency of ordinary food. It is derived from milk carefully selected, we were informed, for its rich quality and from wheat and barley malt; and in the process of manufacture the caseinogen is modified by the action of the malt until the milk no longer clots when treated with digestive ferments. Added to warm water, Lacto forms a milk-like fluid which, according to an analysis we have seen, contains a high proportion of hydrocarbons, the ash showing a good deal of phosphoric acid. The preparation would appear to be entirely starch free, the whole of that present in the original components having been converted into maltose and dextrine. A strong point in its favour is that it is free from the milk flavour which some persons find so objectionable, and that it is very easy to prepare. As for the *Mellin's Food Biscuits*, they are a mixture of Mellin's Food and ordinary wheat. They are of pleasant flavour, and a useful half-way house between ordinary and predigested food.

Frank A. Rogers (327, Oxford Street, London, W.). This firm had upon view a certain number of pharmaceutical compounds, but what made the stall more particularly interesting was the display of sprays, atomizers, and inhalers. It is in these articles that the firm specializes, and it must be admitted that it thoroughly understands the work. They are characterized by the neatness of their fabrication and by effectiveness in action. A general idea of the form of the sprays will be gathered from the annexed block (Fig. 1), which represents Rogers's No. 1 spray. It is now quite an old friend, but has been found so popular and reliable that it continues to be produced according to the original pattern. It is made with nozzles suited either for general spraying of the throat and nose, for spraying the larynx, and for post-nasal work. Of the same general make are the miniature series, which are designed for use with the more expensive solutions, and give a very fine spray. In connexion with this series should be mentioned *Rogers's Pocket Spray*, a very compact little arrangement for the use of patients suffering from hay fever, nasal catarrh, and the like. It is a very taking appliance, since it can be used without removal from its container, and is thus immediately available in circumstances which would render the use of an ordinary spray exceedingly inconvenient. Equally well designed and neat in form is the series of *Aquolic Atomizers* for use with oils or viscid solutions. They are of several forms, and between them should meet all needs. The *Kloram Inhaler* was also on view, and a picture of it is here shown. We drew attention to its decided merits as a means of administering nascent chloride of ammonia a few weeks ago, and here need merely repeat that the vapour produced is thoroughly washed by passing through water, comes off freely, and is entirely unirritating. It is quite the best of the many appliances of like purpose that we have had occasion to examine and use. Among the pharmaceutical preparations we noticed more particularly *Glucaphen*, which we understand to be a nitrogenous food in concentrated form; *Tablozenges*, a new form of tablet lozenge, made with a fruit basis containing but little sugar, and intended to assist post-nasal treatment by vaporization of the contained drugs; and finally, *Muscatol*, a pleasantly-smelling insect repeller, which, from letters received by the firm, would appear to have proved an effective guard against mosquitos, midges, and the like in many parts of the world.

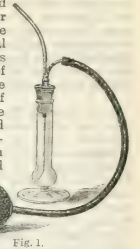


Fig. 1.

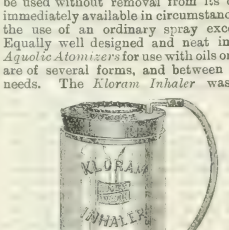


Fig. 2.

Cadbury Bros., Limited (Bournville, near Birmingham). This firm enjoys a wide reputation for two reasons: First, in connexion with the chocolate and cocoa preparations which it manufactures, and, secondly, as the founder of one of the earliest garden cities—namely, Bournville. It is at this place, amidst the most healthy surroundings and under ideal conditions of cleanliness and purity in all processes of manufacture, that its chocolate is produced. The firm has many competitors to deal with, but avoids all risk of losing ground by maintaining its products at their accustomed excellence. With its "Neapolitains," or "*C.D.M.*," it has met Swiss manufacturers on their own ground by the production of a milk-blend sweetmeat of excellent flavour, but still prepares the chocolate first associated with its name, though it is now produced by a new process, and is termed "Bournville." Both of these preparations are entitled to a distinct place in scientific dietetics. The same may be said of *Cadbury's Cocoa Essence*: prepared as it is under most modern machinery, its freedom from added sugar and from grittiness in solution renders it acceptable to many persons who, as a rule, dislike cocoa. Regarding

it as a combined food and beverage, there are many conditions of health and disease to which it is well suited for use. The firm issues a pamphlet containing some fifty or sixty receipts for the use of the firm's preparations in the household, and two other pamphlets give an interesting and illustrated account of Bournville, and the principle upon which the trust established by a member of the firm in connexion with it is administered. Though primarily intended for the benefit of the workpeople of the firm, it has served also as a material contribution towards the solving of the housing problem.

G. H. ZEAL (82, Turnbull Street, London, E.C.). Though this firm of thermometer makers does its work on a wholesale basis its name has become known to medical practitioners partly owing to the excellence of its products, partly through its introduction of the *Repello Clinical Thermometer*. The strong point of this thermometer is that it gets rid of the trouble and risk of getting down the mercury to normal by shaking. This is effected by converting the upper end of the tube into a flattened bulb. This is made of elastic glass, so that the mercury can be reset simply by finger pressure. The instrument looks fragile, but is really no more readily broken than are ordinary thermometers. One make of this particular thermometer has a duplex bulb, which renders it highly sensitive, and a rapid recorder. The clinical thermometers which the firm makes, however, are of all forms, and suited to all tastes, special attention being paid in all of them to legibility of scale, rapidity of registration, and permanency of lettering. It is, perhaps, not generally known that the scales of the cheaper kind of thermometers tend to become inaccurate owing to contraction of the glass, but all the thermometers of this firm, whatever their price, are made from what is known, we understand, as "normal" glass, and are therefore free from the defect in question. Since last year a *Broad Index Clinical Thermometer* has been added to the firm's list. Instead of a magnifying front it has an extra broad thread of mercury, and we found it extremely easy to read. It is also flattened at the sides, and will not roll off a table when laid down incautiously. Another novelty shown was a *Thermometer Clip* by which to fix a thermometer case to the edge of the vest pocket, thus eliminating risk of its falling out when the garment is taken off or its wearer stoops. Finally may be mentioned the excellent *Aseptic Clinical Thermometer*, which fits like a stopper into a sealed outer glass case. A temperature can thus be taken without the patient knowing the degree recorded, while the thermometer itself, having a perfectly smooth exterior, can be kept absolutely clean.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

CAPE OF GOOD HOPE—EASTERN PROVINCE BRANCH.

A REGULAR meeting of the Branch was held at 8 p.m. on June 12th at the Veterinary Laboratory, Grahamstown, by kind invitation of Mr. William Robertson, M.R.C.V.S. Dr. G. E. FITZGERALD was in the chair, and there were present: Drs. Bruce-Bays, A. Cowper, E. G. Dru Drury, R. T. Harrison, J. A. Lea, C. F. Lillie, R. C. Mullins, G. C. Purvis. Mr. W. Robertson, M.R.C.V.S., of Grahamstown, attended as a visitor.

Confirmation of Minutes.—The minutes of the meeting of April 16th were read and confirmed. Arising out of the minutes letters were read from the Under Colonial Secretary and from Dr. Darley-Hartley.

The Colonial Medical Council.—After discussion of a letter from the Western Branch, it was resolved:

That this Branch does not view with favour the proposal to introduce a one-clause bill to alter the constitution of the Colonial Medical Council, rather than a bill to amend the Medical and Pharmacy Acts.

Vote of Thanks.—It was resolved:

That the thanks of the Branch be accorded to Dr. A. J. Gregory, medical officer of health, for his valuable donation of the third volume of the Scientific Reports of the Imperial Cancer Research Fund to the Branch library.

Thanks of Clergy to Medical Profession.—A letter was read from the Clerical Secretary of the Synod of the Diocese of Grahamstown of 1909, covering a copy of a resolution passed unanimously by the Synod:

That the clerical members of the Synod wish most sincerely to place on record their deep gratitude and appreciation of kindnesses they meet with throughout this diocese at the hands of the members of the medical profession, the very great majority of whom are ever ready to place their skill, time, and sympathy at the service of the clergy and their families, while making no claim for the remuneration which is their just due.

South African Medical Congress.—It was resolved that the South African Medical Congress should be invited to hold their next meeting at Grahamstown.

Training of Nurses.—It was resolved:

That this meeting of the Eastern Province Branch of the British Medical Association prays the Colonial Medical Council to reconsider the effect of their regulations (gazetted December 1st, 1908) for trained nurses on the Albany General Hospital and the smaller hospitals of the Colony. That the resolution be accompanied by a short statement of the position of this hospital as a training school, and that as an alternative the Council should frame a list of recognized training schools for nurses.

Communications.—Dr. LEA related a case of interstitial keratitis accompanied by a tumour of the nasal septum. Dr. PURVIS showed sections of the tumour. Dr. BRUCE-BAYS showed a sarcoma of the fibula removed by amputation; also two cases of primary malignant disease of the liver in male Kaffirs. Dr. HARRISON related a case for which he suggested the diagnosis of "erythromelalgia." Dr. LILLIE also showed a case of fatty liver. Dr. MULLINS proposed the shortening of the period of home treatment of scarlet fever by the adoption of the inunction method recently redescribed by Dr. Robert Milne, Medical Officer to the Barnardo Homes. A lengthy and animated discussion followed. A letter was read from Dr. H. F. B. WALKER of Bedford, covering a short paper on the Bedford small-pox cases, with a complete list of cases and an analysis. Dr. J. P. GRANT had also kindly forwarded a paper on the subject of the native disease known as "amaas." Owing to the lateness of the hour both these papers and their discussion were postponed to the next regular meeting in August.

CAPE OF GOOD HOPE—WESTERN PROVINCE BRANCH.

THE ordinary meeting of this Branch was held on Friday, June 25th, at the Library, Queen Victoria Street. The PRESIDENT (Dr. Jasper Anderson) was in the chair, and twenty-four members were present.

An Ethical Case.—The PRESIDENT reported the decision of the Branch Council on the case of a member who had advertised in the *Cape Times* his change of address. This the Council judged was an infringement of the Branch by-law forbidding any advertisement. The action of the Council was approved.

Papers.—Sir E. STEVENSON read a paper on procidentia, its causes and treatment. Dr. SCHWARZ read a paper on the etiology and pathognomonic differences of tympanal perforations.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.

THE annual meeting of this Division was held on June 29th at the Kensington Town Hall, Dr. A. J. RICE-OXLEY in the chair. There were twenty members present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed, and it was decided that the minutes of the previous annual meeting should in future be read.

Election of Officers.—The following gentlemen were then elected to fill the various offices and as members of the Executive Committee: *Chairman*, Charles

Buttar, M.D.; *Vice-Chairman*, Surgeon-General Sir Charles Cuffe, K.C.B.; *Honorary Secretary and Treasurer*, H. Beckett-Overy, M.D.; *Representatives on Branch Council*, Charles Buttar, M.D., A. J. Rice-Oxley, M.D., H. H. Sturge, H. Beckett-Overy; *Executive Committee*, E. C. Barnes, H. W. Chambers, A. B. Lyon, James Moorhead, Herbert Tanner, G. Crawford Thomson, A. Gordon Wilson; *Representative for Representative Meetings*, H. Beckett-Overy. Dr. W. H. Lamb and Dr. C. H. Bennett were appointed Scrutineers, and, after the voting, declared the above officers duly elected.

Report of Executive Committee.—The annual report of the Executive Committee was then read, and it was noted that the average attendance had been considerably higher than in previous years.

Motion as to Re-election of Chairman.—Dr. H. H. Sturge moved a resolution empowering the Division to re-elect the Chairman for a second year of office.

Representative Meeting.—The Agenda for the Representative Meeting was considered, and the Representative instructed on various matters.

Unqualified Practice.—The Secretary read communications from the Medical Secretary and the Medical Officer of Health for Kensington on this matter, and the members were requested to forward any information they might have to the Medical Officer of Health.

Children's Care Committees.—Dr. Ethel Bentham was nominated by the Division, and the Secretary instructed to forward her name in due course.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Lancashire and Cheshire Branch.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. Charles Larkin, Branch Secretary, 54, Rodney Street, Liverpool.

CENTRAL MIDWIVES BOARD.

A meeting of the Central Midwives Board was held at Caxton House, Westminster, on July 22nd, with Dr. F. H. Champneys in the chair.

Disinfection.

A letter from Mrs. L. R. Cooper, an approved midwife, inquiring as to quarantine to be imposed on pupils coming from hospitals of the Metropolitan Asylums Board, was further considered, and a letter from the Clerk to the Board on the same subject was also considered.

The Board decided (1) that the reply to Mrs. Cooper be that in the opinion of the Board safety will not be ensured unless there is (*a*) adequate disinfection before leaving a fever hospital; (*b*) a period of quarantine lasting one week, to safeguard patients against incubation of a fever in the nurse. (2) That the Clerk be thanked for his letter and informed that the Board notes that by General Regulation 14 of the Metropolitan Asylums Board's regulations for their nursing staff, nurses leaving the service of the Board must satisfy the matron that their clothing has been disinfected.

Ophthalmia Neonatorum.

A letter was considered from the Local Government Board inquiring the Board's opinion as to precautions which the London County Council desires should be adopted by midwives within its jurisdiction in order to guard against the occurrence of ophthalmia neonatorum, and in particular whether the use by the midwife of a weak solution of nitrate of silver is advisable for infants born of mothers suffering at the time of birth from a vaginal discharge.

The Board decided that the reply be that in the opinion of the Board it would not be advisable to order midwives to drop any fluid into the child's eyes as a matter of routine.

The Board having considered the whole question of the precautions to be adopted in order to minimize the risk of the occurrence of inflammation of the eyes in newborn children, decided that the following leaflet be approved, and that, subject to the assent of the Privy Council to the proposed amendments to Rule E 14 and 19, copies be issued to midwives, local supervising authorities, and recognized training schools and teachers.

Inflammation of the Eyes in Newborn Children. Ophthalmia Neonatorum.—This is a very common cause of hopeless blindness, which is one of the greatest misfortunes that can happen to a child. A very large number of children will be saved from blindness if the following directions of the Central Midwives Board are observed. It generally arises from purulent discharges from the mother getting into the baby's eyes at birth. It is, therefore, of the greatest importance that this should be prevented: (1) By curing such discharges if possible before labour. This requires medical treatment (Rule 19, 1 and (3) as to need). (2) By taking the greatest care that such discharges shall not be carried into the baby's eyes when it opens them for the first time soon after the head is born. The discharges may be carried into the baby's eyes in the following ways: (*a*) The discharges collect round the eyes, especially the eyelashes, and easily get into the eyes. This can be generally prevented if the midwife takes care that "as soon as the child's head is born, and if possible before the eyes are opened, its eyelids and the surrounding skin are thoroughly wiped with clean material, such as cotton-wool, lint, or rag, using separate pieces for each eye." The reason for this is that the piece used for wiping the first eye will be polluted by the discharges, and should not be used for the other eye. (*b*) Newborn babies sometimes rub their eyes with their hands. This may rub the discharges into their eyes. Rule E. 14, "as soon as the child is born the hands must therefore be carefully cleansed." (*c*) When the baby is bathed the discharges with which its body is covered during labour are washed off into the bath water. If its face is washed in this water, matter may get into the eyes. N.B.—The above directions are to be observed in *all* cases, whether purulent discharges are known to be present or not.

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1909.

[Specially Reported for the British Medical Journal.]

In the accompanying table will be found summarized the vital statistics for seventy-six of the largest English towns, based upon the Registrar-General's weekly returns for the second quarter of the year. The 108,859 births registered in these towns during the quarter under notice were equal to an annual rate of 26.5 per 1,000 of the population, estimated at 16,845,281 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 28.3, 28.1, and 27.9 per 1,000. In London the birth-rate last quarter was equal to 24.9 per 1,000, while it averaged 27.2 per 1,000 in the seventy-five other large towns, and ranged from 15.9 in Hastings, 17.6 in Halifax, 17.8 in Hornsey, 19.4 in Bournemouth, 20.1 in Handsworth (Staffs), and 20.4 in Bradford, to 33.1 in St. Helens, 35.4 in Coventry, 35.6 in Middlesbrough, 36.8 in Tynemouth, 36.1 in Merthyr Tydfil, and 40.9 in Rhondda.

The 56,876 deaths registered in these towns last quarter were equal to an annual rate of 13.9 per 1,000, the annual rates in the three preceding second quarters having been 14.8, 14.2, and 13.7 per 1,000. The death-rate in London was equal to 12.8 per 1,000, while it averaged 14.3 in the seventy-five other large towns, and ranged from 8.1 in Hornsey, 9.2 in Leyton and in King's Norton, 9.3 in Handsworth (Staffs), 9.9 in East Ham, and 9.7 in Walthamstow, to 18.0 in Coventry and in Liverpool, 18.1 in St. Helens, 18.8 in Salford, 18.5 in Wigan, 18.6 in Wolverhampton, 19.7 in Oldham, and 20.6 in Middlesbrough.

The deaths from all causes in the seventy-six towns included 5,604 which were referred to the principal infectious diseases; of these, 3 resulted from small-pox, 2,636 from measles, 494 from scarlet fever, 515 from diphtheria, 1,204 from whooping-cough, 187 from "fever" (principally enteric), and 567 from diarrhœa. These 5,604 deaths were equal to an annual rate of 1.37 per 1,000, the death-rates from the same diseases in the corresponding quarters of the three preceding years having been 1.45, 1.58, and 1.13 per 1,000. The death-rate in London last quarter from these principal infectious diseases was 1.38 per 1,000, while it averaged 1.36 in the seventy-five other towns, and ranged from 0.18 in Hastings, 0.21 in Barrow-in-Furness, 0.30 in Rotherham, 0.34 in Bournemouth, 0.36 in Newport (Mon.), 0.37 in Ipswich, and 0.39 in Brighton, to 2.45 in Norwich, 2.77 in Bootle, 2.85 in Salford, 3.37 in Wigan, 3.41 in St. Helens, and 4.60 in Wolverhampton.

The 2,636 deaths from measles were equal to an annual rate of 0.64 per 1,000; in London the death-rate from this disease was 0.69 per 1,000, while it averaged 0.62 in the seventy-five other large towns, and ranged upwards to 1.84 in Salford, 1.98 in St. Helens, 2.08 in Bootle, 2.16 in Norwich, 2.30 in Wigan, and 3.76 in Wolverhampton. The 494 fatal cases of scarlet fever were equal to a rate of 0.12 per 1,000; in London the rate was only 0.09 per 1,000, while it averaged 0.13 in the seventy-five other large towns, and ranged upwards to 0.32 in Liverpool, 0.36 in St. Helens, 0.39 in Warrington, 0.41 in Blackburn, 0.46 in Salford, and 0.57 in Wallasey. The 515 deaths from diphtheria corresponded to a rate of 0.13 per 1,000; in London this disease caused a death-rate of 0.11, while among the seventy-five other large towns the rates ranged upwards to 0.27 in Stockport, 0.28 in Wallasey and in Warrington, 0.35 in Salford

Analysis of the Vital Statistics of Seventy-six of the Largest English Towns during the Second Quarter of 1909.

Towns.	Estimated Population middle of 1909.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Fever.	Diarrhœa.	Deaths of Children under one year to 1,000 Births.	Rate per cent. of Uncertified Deaths.
76 Towns - - - -	16,445,281	108,859	56,876	26.6	13.9	1.37	5,604	3	2,636	494	513	1,204	187	567	101	0.8
75 Provincial Towns -	11,611,343	78,816	41,397	27.2	14.3	1.36	3,935	3	1,799	385	378	784	161	425	104	1.1
London - - - -	4,833,938	30,043	15,479	24.9	12.8	1.38	1,669	—	837	109	135	420	26	142	92	0.1
Croydon - - - -	161,078	1,060	444	26.4	11.1	0.67	27	—	4	2	4	12	1	4	81	—
Willesden - - - -	160,424	1,002	401	25.1	10.0	0.98	39	—	8	2	2	23	2	2	88	0.7
Hornsey - - - -	95,628	424	192	17.8	8.1	0.50	12	—	2	—	1	8	—	1	50	—
Tottenham - - - -	129,463	597	239	30.9	10.2	0.64	21	—	2	1	4	11	—	3	76	—
West Ham - - - -	321,767	2,303	1,058	28.7	13.2	2.06	166	—	64	19	6	66	1	10	100	—
East Ham - - - -	149,575	899	353	24.1	9.5	1.69	63	—	38	2	5	14	—	4	82	0.5
Leyton - - - -	129,614	790	297	24.4	9.2	0.80	26	—	4	3	6	11	1	1	68	—
Walthamstow - - -	136,602	848	329	24.9	9.7	0.86	29	—	13	4	2	6	—	4	81	—
Hastings - - - -	68,165	271	198	15.9	11.7	0.18	3	—	—	—	3	—	—	—	55	1.5
Brighton - - - -	130,926	705	434	21.6	13.3	0.39	13	—	1	4	2	3	—	3	67	—
Portsmouth - - - -	214,726	1,474	756	27.5	14.1	1.58	85	—	32	4	26	6	5	12	96	0.8
Bournemouth - - -	72,368	350	210	19.4	11.6	0.34	6	—	3	1	2	—	—	—	71	—
Southampton - - -	124,667	751	395	24.2	12.7	0.87	27	—	—	2	5	12	7	1	87	—
Reading - - - -	82,995	445	223	21.5	10.8	0.83	17	—	14	—	1	—	1	1	76	2.2
Northampton - - -	97,752	533	292	21.9	12.0	0.41	10	—	4	—	—	—	1	5	86	0.7
Ipswich - - - -	74,889	477	219	25.5	11.7	0.37	7	—	2	2	1	—	1	1	82	—
Great Yarmouth - -	53,430	350	227	26.3	17.0	1.14	15	—	3	—	1	6	—	5	109	—
Norwich - - - -	124,136	818	435	26.4	14.1	2.45	76	—	67	—	2	4	3	—	94	0.2
Plymouth - - - -	124,180	683	436	22.1	14.1	0.85	27	—	15	2	6	2	1	1	108	—
Devonport - - - -	83,103	557	209	26.9	10.1	1.07	22	—	14	—	3	1	2	2	68	—
Bristol - - - -	377,642	2,212	1,164	23.5	12.4	0.76	72	2	32	3	8	17	1	9	91	0.1
Hanley - - - -	68,831	557	259	32.5	15.1	1.05	18	—	—	—	4	2	6	6	118	0.4
Burton-on-Trent - -	54,453	332	149	29.5	13.2	0.43	6	—	—	—	1	4	—	1	99	2.0
Wolverhampton - -	104,653	668	485	25.6	18.6	4.60	120	—	98	3	4	14	—	1	132	0.4
Walsall - - - -	99,399	721	368	29.1	14.8	1.65	41	—	20	2	2	7	—	10	121	0.3
Handsworth - - -	70,186	351	162	20.1	9.3	0.91	16	—	6	1	4	2	1	2	83	4.9
West Bromwich - -	70,457	494	238	28.1	13.5	1.93	34	—	16	5	2	8	—	3	109	2.1
Birmingham - - -	563,629	3,742	2,000	26.6	14.2	1.67	234	—	156	20	16	43	1	18	104	3.5
King's Norton - -	81,632	477	188	23.4	9.2	1.28	26	—	18	4	4	—	—	—	59	1.6
Smethwick - - -	70,377	507	225	28.9	12.8	1.70	30	—	17	1	2	5	—	5	110	0.9
Aston Manor - - -	85,257	519	252	24.4	11.9	1.17	25	—	5	4	2	2	2	10	100	0.8
Coventry - - - -	80,163	707	350	35.4	18.2	2.10	42	—	24	3	2	7	1	5	98	2.8
Leicester - - - -	244,255	1,360	616	22.3	10.1	0.42	25	—	4	4	6	2	5	2	83	0.8
Grimsby - - - -	73,036	576	222	31.6	12.2	0.70	13	—	—	1	—	7	2	3	111	1.8
Nottingham - - -	263,443	1,764	1,015	26.9	15.5	1.18	78	—	50	2	2	10	2	12	121	0.4
Derby - - - -	129,411	845	395	26.1	12.2	0.89	29	—	13	2	6	5	—	3	108	—
Stockport - - - -	103,706	730	407	28.2	15.7	1.74	45	—	14	8	7	11	1	4	88	0.2
Birkenhead - - -	121,123	950	471	31.5	15.6	0.49	15	—	2	4	4	1	1	3	93	1.1
Wallasey - - - -	71,004	485	215	27.4	12.1	1.24	22	—	2	10	5	—	2	3	78	0.5
Liverpool - - - -	760,357	6,007	3,416	31.7	18.0	2.23	423	—	211	61	22	64	19	46	121	2.5
Bootle - - - -	69,393	533	290	30.8	16.8	2.77	48	—	36	3	4	—	1	4	111	1.0
St. Helens - - - -	95,161	786	429	33.1	18.1	3.41	81	—	47	11	—	20	2	4	134	3.7
Wigan - - - -	90,678	741	419	32.8	18.5	3.37	76	—	52	4	—	12	2	6	144	—
Warrington - - -	72,276	539	319	29.9	17.7	2.23	40	—	18	7	5	4	3	3	130	4.4
Bolton - - - -	187,824	1,152	657	24.6	14.0	1.04	48	—	20	4	2	12	6	4	115	0.9
Bury - - - -	59,234	299	229	20.2	15.5	0.88	13	—	5	—	1	4	—	3	114	2.6
Manchester - - -	656,455	4,734	2,919	29.0	17.9	2.12	347	—	169	46	36	45	17	39	124	0.9
Salford - - - -	241,950	1,771	1,112	29.4	18.4	3.53	201	—	111	28	21	20	5	16	129	0.2
Oldham - - - -	143,301	1,039	704	29.1	19.7	1.09	39	—	11	10	3	3	2	10	107	—
Rochdale - - - -	89,653	519	345	23.2	15.4	0.48	11	—	5	2	1	1	—	2	108	2.6
Burnley - - - -	106,267	721	385	27.2	14.5	1.07	28	—	1	5	6	5	1	10	128	1.0
Blackburn - - - -	136,959	798	516	23.4	15.1	1.46	50	—	10	14	5	8	4	9	94	1.9
Preston - - - -	118,519	801	492	27.1	16.7	1.60	47	—	3	4	2	30	—	8	151	2.4
Barrow-in-Furness -	62,996	429	204	27.3	13.0	0.24	4	—	—	1	1	—	—	1	79	1.5
Huddersfield - - -	94,739	626	348	26.5	14.7	0.83	20	—	1	2	6	4	5	2	86	1.1
Halifax - - - -	111,911	690	358	24.8	12.8	0.48	13	—	—	5	6	1	—	1	93	1.1
Bradford - - - -	293,983	1,495	1,020	20.4	13.9	0.66	48	—	8	6	10	16	3	5	98	0.4
Leeds - - - -	484,012	2,826	1,601	23.4	13.3	0.56	67	—	13	2	14	23	10	5	117	—
Sheffield - - - -	470,958	3,433	1,736	29.2	14.8	1.45	171	—	120	8	5	18	8	12	104	1.4
Rotherham - - -	65,070	519	174	32.0	10.7	0.30	5	—	—	—	2	—	1	2	96	1.1
York - - - -	87,004	526	231	24.2	10.6	0.51	11	—	—	1	2	5	1	2	59	0.4
Hull - - - -	275,552	2,071	948	30.1	13.8	0.72	50	—	16	4	11	9	3	7	93	0.7
Middlesbrough - -	105,255	933	525	35.5	16	57	8	—	3	3	30	6	10	151	0.8
Stockton-on-Tees -	53,417	389	174	29.2	13.1	1.22	16	—	9	—	3	1	—	95	1.7
West Hartlepool - -	79,686	536	216	27.0	10.9	1.10	22	—	13	1	5	1	—	2	103	—
Sunderland - - -	159,378	1,216	671	30.6	16.9	1.76	69	—	48	5	3	7	1	5	118	1.8
South Shields - -	117,627	887	443	30.2	15.1	1.81	53	—	25	2	5	15	2	4	109	3.8
Gateshead - - -	131,024	980	431	30.0	13.2	0.82	27	—	12	6	1	1	—	7	99	7.0
Newcastle-on-Tyne -	281,584	1,997	1,059	28.4	15.1	1.27	89	—	40	6	12	24	4	3	106	—
Tynemouth - - -	55,808	498	243	35.8	17.5	1.58	22	—	7	3	—	11	1	—	112	1.2
Newport (Mon.) - -	78,336	615	248	31.5	12.7	0.36	7	—	7	—	—	—	—	75	—	—
Cardiff - - - -	5,303	1,282	616	26.3	12.7	0.86	42	1	6	2	21	2	10	89	—	—
Rhondda - - - -	133,894	1,385	568	40.9	16.8	1.44	49	—	14	2	12	9	1	11	104	0.4
Merthyr Tydfil - -	78,365	705	312	36.1	16.0	1.07	21	—	6	6	3	1	1	4	85	0.5
Swansea - - - -	98,308	806	409	32.9	16.7	1.54	38	—	5	2	3	23	—	5	119	0.2

and in Rhondda, and 0.49 in Portsmouth. The 1,204 fatal cases of whooping-cough were equal to a rate of 0.29 per 1,000; in London the rate was 0.35 per 1,000, while it averaged 0.27 in the seventy-five other large towns, among which it ranged upwards to 0.58 in Willesden, 0.79 in Tynemouth, 0.82 in West Ham, 0.94 in St. Helens, 0.96 in Tottenham, and 1.02 in Preston. The 187 deaths referred to "fever" corresponded to a rate of 0.05 per 1,000; in London the "fever" death rate was only 0.02 per 1,000, while among the seventy-five other large towns it ranged upwards to 0.15 in Bolton, 0.17 in Warrington, 0.21 in Huddersfield, 0.23 in Southampton and in Middlesbrough, and 0.35 in Hanley. The 567 fatal cases of diarrhœa were equal to a rate of 0.14 per 1,000, which was also the death-rate from the same cause in London; among the seventy-five other large towns the rates ranged upwards to 0.28 in Oldham, 0.32 in Rhondda, 0.35 in Hanley, 0.38 in Great Yarmouth, and 1.02 in Preston. 0.40 in Walsall, and 0.47 in Aston Manor. Of the 5 deaths from small-pox, 2 belonged to Bristol and 1 to Cardiff.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 101 per 1,000 last quarter, against 108, 110, and 100 in the corresponding period of the three preceding years. In London the rate of infant mortality last quarter was 92 per 1,000, while it averaged 101 in the seventy-five other large towns, and ranged from 50 in Hornsey, 55 in Hastings, 59 in Kings Norton and in York, 67 in Brighton, 68 in Leyton, and 76 in Newport (Mon.), to 128 in Hanley, 129 in Salford, 131 in Warrington, 132 in Wolverhampton, 134 in St. Helens, 144 in Wigan, and 151 in Preston and in Middlesbrough.

The causes of 972, or 2.9 per cent., of the deaths in the seventy-six towns last quarter were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Bradford, Cardiff, Birmingham, Oldham, and in fifteen other smaller towns, the highest proportions of uncertified deaths were 3.5 in Birmingham, 3.7 in St. Helens, 3.8 in South Shields, 4.4 in Warrington, 4.9 in Handsworth (Staffs), and 7.0 in Gateshead.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,294 births and 3,397 deaths were registered during the week ending Saturday last, July 31st. The annual rate of mortality, which had been 11.8, 11.5, and 10.6 per 1,000 in the three preceding weeks, increased to 10.8 per 1,000 last week. The rates in the several towns ranged from 4.5 in East Ham, 4.8 in Burton-on-Trent, 5.2 in Willesden, 5.6 in Devonport, 5.7 in King's Norton, 6.2 in Croydon, and 6.4 in Tottenham, to 15.1 in South Shields, 16.0 in Huddersfield, 16.1 in Wigan, 16.6 in Great Yarmouth, and 18.4 in Rotherham. In London the rate of mortality was 10.3, while it averaged 11.0 per 1,000 in the seventy-five other large towns. The deaths referred to the principal infectious diseases averaged 1.0 per 1,000 in the seventy-six towns; in London this death-rate was equal to 0.8 per 1,000, while among the seventy-five other large towns these diseases variously caused death-rates ranging upwards to 2.5 in Wolverhampton, 2.6 in Bury, 3.7 in Walsall, 4.0 in Newport (Mon.), 4.3 in Warrington, and 5.9 in Stockton-on-Tees. Measles caused a death-rate of 2.1 in Bootle, 2.9 in Stockton-on-Tees, and 3.3 in Newport (Mon.); scarlet fever of 1.4 in Warrington; whooping-cough of 1.1 in Huddersfield; and diarrhœa of 1.6 in Rotherham, 1.7 in Birkenhead, 2.6 in Bury, and 3.9 in Stockton-on-Tees. The mortality from diphtheria and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,647, 2,737, and 2,731 at the end of the three preceding weeks, had declined to 2,667 at the end of last week; 296 new cases were admitted during the week, against 371, 415, and 367 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, July 31st, 892 births and 423 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.9, 12.5, and 12.5 per 1,000 in the three preceding weeks, declined to 11.8 per 1,000 last week, but was 1.0 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 10.2 in Paisley and 10.3 in Aberdeen to 15.2 in Leith and 18.8 in Greenock. The death-rate from the principal infectious diseases averaged 1.1 per 1,000, the highest rates being recorded in Leith and Greenock. The deaths referred to Fever in Glasgow included 2 which were referred to scarlet fever, 5 to whooping-cough, 1 to "fever," and 6 to diarrhœa. Five fatal cases of whooping-cough were recorded in Edinburgh and one death from typhus in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 24th, 592 births and 317 deaths were registered in the twenty-two principal urban districts of Ireland as against 535 births and 294 deaths in the preceding period. The annual death-rate in these towns, which had been 17.1, 15.6, and 13.4 per 1,000 in the three preceding weeks, rose to 14.5 per 1,000 in the week under notice, this figure being 3.9 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 14.4 and 15.2 respectively, those in other districts ranging from 4.0 in Dundalk, and 4.4 in Lurgan, to 31.1 in Galway, and 34.8 in Kilkenny, while Cork stood at 17.1, Londonderry at 12.1, Limerick at 8.2, and Waterford at 9.7. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000 as against 1.1 per 1,000 in the preceding period.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

COLONEL A. PETERKIN, M.B., late Administrative Medical Officer at Capetown, has been appointed Principal Medical Officer, London District.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT W. F. M. LOUGHNAN, Brigade Laboratory, Bareilly, India, has been appointed Specialist in the Prevention of Disease from May 1st.

Captain T. C. LUCAS, M.B., is seconded for service on the Staff of the Governor of Bombay, August 1st, 1908.

Major C. W. DUGGAN, M.B., retires on retired pay, July 28th. He was appointed Surgeon-Captain, July 28th, 1891, and made Major, July 28th, 1903. He was present during the operations against the Sofas on the West Coast of Africa in 1893, receiving a medal with clasp therefor.

The following Captains are promoted to be Majors, July 28th: C. H. HOPKINS, M.B., W. BOWEN, W. H. S. NICHERSON, V.C., H. O. B. BROWNE-MASON, and F. S. PENNEY. Their previous commissions are thus dated: Majors Hopkins and Bowen: Surgeon-Lieutenant, July 28th, 1897; Captain, July 28th, 1900. Major Nickerson: Surgeon-Lieutenant, July 27th, 1898; Captain, November 29th, 1900. Majors Browne-Mason and Penney: Surgeon-Lieutenant, January 28th, 1898; Captain, January, 1901. Major Hopkins served in the Nile campaign in 1898, being present at the battle of Khartoum, and receiving the Khedive's medal with clasp and the British medal. Major Nickerson was in the South African war in 1899-1902, and was in operations in the Transvaal, the Orange River Colony, and Cape Colony, for which he was mentioned in dispatches, promoted to be Captain, received the Queen's medal with three clasps and the King's medal with two clasps, and was awarded the Victoria Cross. Major Penney was in operations in Sierra Leone in 1898-9 (medal with clasp), and in Cape Colony during the South African war in 1902 (medal with two clasps). Majors Bowen and Browne-Mason have no war records in the *Army Lists*.

Major A. G. THOMPSON, who is serving in India at the Brigade Laboratory, Ferozepore, is appointed Specialist in the Prevention of Disease from May 16th.

Lieutenant-Colonel S. F. FREYER, C.M.G., M.D., retires on retired pay, August 4th. He joined the department as Surgeon, August 2nd, 1884; was made Surgeon-Major, August 2nd, 1896; and Lieutenant-Colonel, August 2nd, 1904. He served with the Soudan expedition in 1885 (medal with clasp and Khedive's bronze star); with the Burmese expedition in 1886-7 (medal with clasp); and in the South African war in 1899-1902, being present at the relief of Ladysmith (mentioned in dispatches, appointed C.M.G., and awarded the Queen's medal with clasp, and the King's medal with two clasps).

Lieutenant R. EDWARDS, from the Seconded List, is restored to the establishment, July 30th. He was appointed on probation, January 20th, 1909.

INDIAN MEDICAL SERVICE.

LIEUTENANT W. A. MEARNS, M.B., is promoted to be Captain from February 1st. He was appointed Lieutenant, January 1st, 1908.

Captain R. H. HAMILTON, 5th (Mhow) Division, is appointed a Specialist in Ophthalmology, from May 13th.

Captain A. F. HAMILTON, M.B., 6th (Poona) Division, is appointed Specialist in Advanced Operative Surgery, from May 31st.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First Welsh Field Ambulance.—Lieutenant J. F. DWYER resigns his commission, June 17th.

First Highland Field Ambulance.—JOHN D. FIDDES, M.B., to be Lieutenant, June 10th.

Second North Midland Field Ambulance.—RICHARD M. WEST, M.D. (late Captain, 5th Northern General Hospital, Royal Army Medical Corps), to be Lieutenant, June 19th.

First Wessex Field Ambulance.—Lieutenant A. W. F. SAYRES to be Captain, June 13th.

Fifth Northern General Hospital.—Captain R. M. WEST, M.D., resigns his commission, June 9th.

Third Southern General Hospital.—Officers whose services are available on mobilization: A. L. ORMEROD, M.D., to be Captain, July 10th.

Sixth London Field Ambulance.—HENRY E. DAWSON, M.D., to be Lieutenant, July 6th.

Attachment to Units other than Medical Units.—Captain C. K. BOWES, M.D., resigns his commission, June 15th. Lieutenant A. L. LOW resigns his commission, March 31st. Captain A. P. SWANSON to be Major, June 23rd, 1908. Captain M. A. COOKE to be Major, June 26th, 1908. IVAN C. KEIR, M.D., late Lieutenant, 4th Battalion the Duke of Edinburgh's (Wiltshire Regiment), to be Lieutenant, July 1st.

For Attachment to Units other than Medical Units.—LIONEL D. BAILEY, to be Lieutenant, June 19th. The announcement of the transfer of Surgeon-Major J. E. BYRNE, M.B., and Surgeon-Lieutenant J. STIVENSTONE, M.B., from the Westmorland and Cumberland Imperial Yeomanry, which appeared in the *London Gazette* of April 27th, 1909, is cancelled. Surgeon-Lieutenant-Colonel (Honorary Major in the Army) W. J. NAISBETT, D.S.O., M.D., from the Ayrshire (Earl of Carrick's Own) Imperial Yeomanry, to be Lieutenant-Colonel, with precedence as in the Imperial Yeomanry, April 1st, 1908. He is retired, under the provisions of paragraph 99, Territorial Force Regulations, retaining his rank and uniform, April 28th. HENRY R. WADD, to be Lieutenant, June 7th; LEWIS BEESLY to be Lieutenant, June 12th; THOMAS H. LA N. HIME, to be Lieutenant, June 23rd; THOMAS F. ROCHE, to be Lieutenant, June 23rd. Captain W. S. GRIFFITH, M.B., from the Sanitary Service, to be Captain, March 1st. WILLIAM E. ALSTON, M.B., to be Lieutenant, July 1st. The appointment to a Lieutenancy of WILLIAM H. NEWTON bears date February 21st, 1909, and not March 1st, 1909, as stated in the *London Gazette* of July 6th, 1909.

ROYAL FIELD ARTILLERY.

Surgeon-Captain P. E. BARBER, from the 4th West Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Surgeon-Captain 3rd West Riding Brigade, with precedence as in the Volunteer Force, April 1st, 1908; Supernumerary Surgeon-Lieutenant G. MACKIE, 2nd South Midland Brigade, is absorbed into the establishment, March 31st.

ROYAL GARRISON ARTILLERY.

Surgeon-Major J. L. THOMAS, C.B., F.R.C.S., Surgeon-Captain R. J. R. C. SIMONS, and Surgeon-Captain C. O. PARSONS, from the 2nd Glamorganshire Royal Garrison Artillery (Volunteers), are appointed to the Glamorgan unit, with rank and precedence as in the Volunteer Force, April 1st, 1908.

VOLUNTEERS.

CADET BATTALION.

WILLIAM H. DAVIS to be Surgeon-Lieutenant, 1st Cadet Battalion the King's Royal Rifle Corps, July 8th.

CHANGES OF STATIONS.

The following changes of stations amongst the officers of the Army Medical Service have been officially reported to have taken place during June, 1909:

		FROM		TO
Lieut.-Col. W. Heffernan	...	Capetown	...	Pembroke Dck.
,, F. F. Nichols, M.B.	...	Peshawar	...	Jullundur.
,, B. M. Skinner, M.V.O.	...	Sialkot	...	Peshawar.
,, H. J. Fletcher, M.B.	...	Rawal Pindi	...	Sialkot.
,, H. D. Rowan, M.B.	...	Lahore	...	Murree.
,, J. Will, M.B.	...	Cork	...	Kinsale.

			FROM	TO
Lieut.-Col.	D. M. O'Callaghan ...	...	Rawal Pindi ...	Kuldana.
	A. L. F. Bate... ...	...	Sialkot... ...	Rawal Pindi.
Major	J. C. Morgan ...	...	Fermoy ...	Kilworth Camp.
,,	F. Smith, D.S.O. ...	...	Rawal Pindi ...	Murree.
,,	C. W. H. Whitestone, M.B.	...	Quetta ...	Peshawar.
	S. H. Withers, M.B. ...	...	Ambala ...	Gharial.
,,	L. F. More, M.B. ...	...	Rawal Pindi ...	Murree.
,,	W. J. Taylor, M.B. ...	...	Belfast... ...	Bally Kinler Camp.
Captain	W. C. Croly ...	...	Queenstown ...	Cork.
,,	B. B. Burke ...	...	Devonport ...	Crownhill.
,,	R. F. Ellery ...	...	Worcester ...	Okehampton.
,,	A. C. Duffey, M.D. ...	...	Dublin ...	Kilbride C'mp.
,,	C. D. Myles, M.B. ...	...	,,	Curragh.
,,	R. N. Woodley ...	...	Cork ...	Belfast.
,,	D. L. Harding, F.R.C.S.I.	...	Chester ...	Conway Camp.
,,	T. F. Ritchie, M.B. ...	...	Kilworth Camp	Fermoy.
,,	D. J. F. O'Donoghue ...	...	Fermoy ...	W. Africa.
,,	P. Davidson, D.S.O., M.B.	...	Rawal Pindi ...	Netley.
,,	C. A. J. A. Balck, M.B. ...		,,	Northern Comd.
,,	J. W. S. Seccombe ...	...	Bangalore ...	Dalhousie.
,,	T. S. Coates, M.B. ...	...	—	Brockenbir Moor Camp.
,,	C. Brandhall	...	Karachi ...	York.
,,	H. T. Stack, M.B. ...	...	Fermoy ...	Tipperary.
,,	T. S. Dudding	...	Pembroke Dock ...	Chapelhay Camp.
,,	H. H. J. Fawcett ...	...	Simonstown ...	Hilsea.
,,	C. H. Turner	...	Rawal Pindi ...	Murree.
,,	H. T. Wilson	...	,,	Barian.
,,	A. W. Gater	...	Jullundur ...	Clifton.
,,	R. J. B. Buchanan ...	...	Coshan ...	Winchester.
,,	H. Stewart, M.B. ...	...	Nowshera ...	Upper Topps.
Lieutenant	W. R. Galwey, M.B. ...		Crownhill ...	Willsworthy Camp.
,,	A. Dawson, M.B. ...	...	Mhow ...	Wellington.
,,	C. R. M. Morris, M.B. ...		Attock ...	Sialkot.
,,	T. W. O. Sexton		Pretoria ...	Standerton.
,,	A. H. Heslop, M.B. ...		Rawal Pindi ...	Gharial.
,,	A. C. Vidal		Gosport ...	Cosham.
,,	D. Coutts, M.B.		Fyzabad ...	Cawnpore.
,,	D. F. Mackenzie, M.B. ...		Lucknow ...	Lebong.
,,	R. D. O'Connor		Tidworth ...	Kasauli.
,,	O. R. McEwen		Rawal Pindi ...	Khyra Gali.
,,	T. McC. Phillips, M.B.		Belfast... ...	Finner Camp.
,,	J. B. Hanafin, F.R.C.S.I.		Dublin ...	Glenbeith Cp.
,,	B. G. S. Gregg, M.B. ...		Kilbride ...	Oranmore Cp.
,,	F. T. Dowling, M.B. ...		Okehampton ...	Wedgecock Cp.
,,	J. F. Grant, M.B. ...		Cork ...	Fermoy.
,,	H. H. Blake, M.B.		Berwick-on-Tweed	Stobs.
,,	B. Varvill		Hilsea ...	Burghclere Cp.
,,	W. J. Dunn, M.B.		Colchester ...	Bury St. Edmunds.
,,	F. B. Dalgliesh		Netley ...	Durrington Cp.
,,	A. G. Wells		Rawal Pindi ...	Lahore.
,,	T. S. Eves, M.B.		Dublin ...	Maryboro' Heath Camp.
,,	J. S. McCombe, M.B. ...		Durrington Camp	Windmill Hill Camp.
,,	E. V. Vaughan, M.B. ...		Fermoy ...	Queenstown.
,,	A. N. R. McNeill, M.B. ...		Fort George ...	Edinburgh.
,,	T. B. Nicholls, M.B. ...		Winchester ...	Cosham.
,,	J. B. Jones, M.B.		Londonderry...	Maghagan Cp.
,,	G. S. Parkinson		Belfast... ...	Dunree Camp.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM UNIVERSITY. — Lecturer on Pathology and Bacteriology.

BIRMINGHAM UNIVERSITY.—Professorship of Anatomy. Stipend, £300 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY. — Junior House-Surgeon. Salary, £80 per annum.

BRIGHTON: LEWES ROAD HOSPITAL.—House-Physician.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BURNLEY: VICTORIA HOSPITAL. — Resident Medical Officer. Salary, £100 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CHELTENHAM GENERAL HOSPITAL. — (1) House-Surgeon; (2) Surgeon-in-Charge of the Branch Dispensary. Salary, £70 and £80 per annum respectively.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL. — Honorary Ophthalmic Surgeon.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, N.E.—Clinical Assistant.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

LANCASTER: ROYAL LANCASTER INFIRMARY.—House-Surgeon. Salary, £100 per annum.

LEICESTER INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum.

LEIGH, BOROUGH OF.—Medical Officer of Health. Salary, £400 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN. — House-Surgeon. Salary £30 for six months.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.— (1) Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary at the rate of £120 and £52 10s. per annum respectively.

MANCHESTER HOSPITAL FOR CONSUMPTION, Etc.— Assistant Medical Officer at the New Crossley Sanatorium, Delamere Forest. Salary, £100 per annum.

MIDDLESBROUGH UNION WORKHOUSE.—Resident Medical Officer. Salary, £220 per annum.

MILE END OLD TOWN.—Assistant Medical Officer of the Infirmary and Workhouse. Salary, £150 per annum, rising to £170.

NATIONAL UNIVERSITY OF IRELAND.—Professorships and Lectureships in University College, Cork; University College, Galway, and University College, Dublin.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon. Salary, £160 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Locumtenent for Junior House-Surgeon.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—(1) Senior Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary at the rate of £100 and £80 respectively.

SALISBURY INFIRMARY.—Assistant House-Surgeon.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL. Male House-Surgeon. Salary, £100 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Officer-in-Charge of X-Ray Department.

WIGAN INFIRMARY. — Junior House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician. Salary, £65 per annum, rising to £75.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Mountmellick, Stradbally, Maryborough, and Emo, Queen's County; Cloneygowan, King's County; and Chorley, co. Lancaster.

APPOINTMENTS.

BATES, William, L.R.C.P. and S.Edin., Medical Officer of Health to the Wednesfield Urban District Council.

BRIGGS, Walter, M.B., B.S.Lond., M.B., Ch.B.Vict., Honorary Assistant Surgeon at the Blackburn and East Lancashire Infirmary.

CURRIE, J. R., M.B., Ch.B.Edin., D.P.H., Medical Officer of Health, City and County of Chester.

DALLY, J. F. Halls, M.A., M.D.Cantab., M.R.C.P.Lond., Physician to the St. Marylebone General Dispensary, Welbeck Street, W.

DRYLAND, G. W., M.R.C.S., L.R.C.P., District and Workhouse Medical Officer of the Kington Union.

ELLIS, F. W., M.D.Aberd., F.R.C.S., Resident Medical Officer to the King's Norton Infirmary, vice J. Hora, M.B., B.S.Lond., resigned.

FRASER, R., M.B., Ch.B.Aberd., Medical Officer of Health, Orrell Urban District.

HACKNEY, C., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Hythe District, co. Kent.

HENDERSON, P., L.R.C.P. and S.Edin., District Medical Officer of the Morpeth Union.

HOLTZMANN, W. W., M.B., B.C.Camb., F.R.C.S., District Medical Officer of the Hemel Hempstead Union.

KEYSER, Chas. R., F.R.C.S.Eng., Surgeon to the Cancer Hospital, London.

MACCOMBIE, J., M.D., Medical Superintendent, North-Western Hospital of the Metropolitan Asylums Board, vice F. W. Hume, L.R.C.P., M.R.C.S., deceased.

MACE, H. G., M.B., B.S., L.R.C.P., House-Surgeon to University College, Hospital.

MOLE, Harold F., F.R.C.S.Eng., Surgeon to the Bristol Royal Infirmary, vice G. Munro Smith, L.R.C.P., M.R.C.S., resigned.

SAVAGE, W. G., M.D.Lond., Schools Medical Officer to the Somerset County Council.

SCOTT, Sydney, M.S.Lond., F.R.C.S.Eng., Surgeon for Diseases of the Ear and Throat to the National Hospital for the Relief and Cure of the Paralysed and Epileptic, Queen Square, W.C.

SPEARMAN, R., M.B., B.C.Camb., Certifying Factory Surgeon for the Clacton-on-Sea District, co. Essex.

WILLIAMS, H. W. S., M.R.C.S., L.R.C.P., Medical Officer of Health, Holywell Rural District, and Medical Officer of the Holywell District of the Holywell Union.

WILLIAMS, T. Gee, M.B., Ch.B.Manchester, Senior House Surgeon at the Blackburn and East Lancashire Infirmary.

WOODSEND, R. N., M.R.C.S., L.R.C.P., House-Physician to University College Hospital.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

POST-GRADUATE COLLEGE, West London Hospital.—The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics, X Rays; 2.30 p.m., Operations. Monday, Wednesday, and Thursday, 2 p.m., Diseases of the Eyes (Saturday, 10 a.m., Diseases of the Eyes). Tuesday and Friday, 10 a.m., Gynaecological Operations; 2 p.m. (and Wednesday and Saturday, 10 a.m.) Diseases of the Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin. Wednesday and Saturday, 10 a.m., Diseases of Children; 2.30 p.m., Diseases of Women. Lectures, at 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar: Monday at 12 noon; Clinical Lecture, Wednesday, at 5 p.m. Friday, at 5 p.m., Lecture: Tonsillitis—Acute, Chronic, Quinsy. Treatment.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 14TH, 1909.

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Association Intelligence.

PROCEEDINGS OF COUNCIL.

AT a Meeting of the Council, held in the Library, Queen's College, Belfast, on Tuesday, July 27th, 1909.

Present:

Mr. EDMUND OWEN, London, Chairman of Council, in the Chair.

Dr. SINCLAIR WHITE, Sheffield, President.

Sir WILLIAM WHITLA, M.D., Belfast, President-elect.

Dr. J. A. MACDONALD, Taunton, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. FORD ANDERSON, London
Dr. J. GRANT ANDREW, Glasgow
Mr. H. A. BALLANCE, Norwich
Dr. W. A. CARLINE, Lincoln
Professor HENRY CORBY, M.D., Cork
Mr. J. WARD COUSINS, Portsmouth
Dr. JAMES DAVISON, Bournemouth
Mr. E. J. DOMVILLE, Exeter
Mr. A. J. DREW, Oxford
Mr. J. H. EWART, Eastbourne
Dr. A. C. FARQUHARSON, Bishop Auckland
Mr. T. W. H. GARSTANG, Altrincham
Dr. DAVID GOYDER, Bradford
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern Province; Cape of Good Hope, Western Province; and Cape of Good Hope, Border Branches)
Sir VICTOR HORSLEY, F.R.S., London
Colonel C. H. JOUBERT DE LA FERTÉ, I.M.S., Weybridge (Representative of the Indian Medical Service)
Mr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Mr. HUGH R. KER, London
Mr. R. H. KINSEY, Bedford
Mr. F. C. LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. CHARLES MACFIE, Bolton
Dr. HERBERT MANLEY, West Bromwich
Dr. J. MUNRO MOIR, Inverness
Dr. T. G. NASSMYTH, Edinburgh
Dr. B. H. NICHOLSON, Colchester
Dr. T. WHITEHEAD REID, Canterbury
Mr. W. ST. A. ST. JOHN, Derby
Dr. CECIL E. SHAW, Belfast
Dr. LAURISTON E. SHAW, London
Dr. W. MITCHELL STEVENS, Cardiff
Mr. C. R. STRATON, Wilton
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Dr. ALEXANDER TROTTER, Perth
Mr. T. JENNER VERRALL, Brighton
Dr. DENIS WALSHE, Craigne
Mr. D. J. WILLIAMS, Llanelly
Lieut.-Colonel E. M. WILSON, C.M.G., S. Farnborough (Representative of the Army Medical Service)

Co-opted Members.

The CHAIRMAN reported that the total number of Representative Members returned to the Council was 58, and that under By-law 32 the Council had power to co-opt five Members.

A ballot was taken, and the following gentlemen were declared the co-opted Members of Council for the ensuing twelve months:—Dr. R. C. Buist, Mr. Andrew Clark, Dr. J. A. Macdonald, Dr. E. J. Maclean, and Dr. F. M. Pope.

Apologies.

Letters of apology for non-attendance were read from Surgeon-General Branfoot, C.B., Dr. George Edmond, Dr. E. Cureton, Dr. G. E. Haslip, Dr. R. McKenzie Johnston, Dr. D. J. Mackintosh, M.V.O., Dr. C. G. D. Morier, Dr. H. Jones Roberts, Major O. L. Robinson, Lieutenant-Colonel R. J. S. Simpson, and Professor A. H. White.

Standing Orders.

The Standing Orders were affirmed as the Standing Orders for the ensuing year.

Minutes.

The Minutes of the last Meeting, held on June 30th, 1909, having been printed and circulated, were taken as read, and signed as correct.

Services.

The following were elected the Representatives of the Services in accordance with By-law 23:—Inspector-General Bentham, R.N., representing the Royal Navy Medical Service; Colonel C. H. Joubert de la Ferté, I.M.S., representing the Indian Medical Service; and Colonel E. M. Wilson, C.B., C.M.G., D.S.O., representing the Army Medical Service.

Committees.

The Standing Orders were suspended, when the Chloroform Committee and the Ophthalmia Neonatorum Committee were reappointed.

Also, the Poor Law Committee was appointed, with the following additional names: Dr. J. C. McVail, Glasgow; Dr. Major Greenwood, London; Dr. Lauriston E. Shaw, London; together with Dr. R. C. Buist and Dr. Munro Moir (Representatives of the Scottish Committee), and two Members to be nominated by the Irish Committee.

Meetings.

The Quarterly Meetings of Council were fixed for the following dates: October 27th, 1909; January 26th, 1910; April 27th, 1910; and June 29th, 1910.

Candidates for Membership.

The six candidates whose names appeared on the notice convening the Meeting were elected Members of the British Medical Association.

AT a Meeting of the Council, held in the Library, Queen's College, Belfast, on Wednesday, July 28th, 1909.

Present:

Mr. EDMUND OWEN, London, Chairman of Council, in the Chair.

Dr. SINCLAIR WHITE, Sheffield, Past-President.

Mr. H. A. BALLANCE, Norwich, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. FORD ANDERSON, London
Dr. J. GRANT ANDREW, Glasgow
Insp.-General R. BENTHAM, R.N.(ret.), London (Representative of the Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, London
Professor HENRY CORBY, M.D., Cork
Mr. J. WARD COUSINS, Portsmouth
Dr. JAMES DAVISON, Bournemouth
Mr. E. J. DOMVILLE, Exeter
Mr. A. J. DREW, Oxford
Mr. J. H. EWART, Eastbourne
Dr. A. C. FARQUHARSON, Bishop Auckland
Mr. T. W. H. GARSTANG, Altrincham
Dr. DAVID GOYDER, Bradford
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern Province; Cape of Good Hope, Western Province; and Cape of Good Hope, Border Branches)
Sir VICTOR HORSLEY, F.R.S., London
Colonel C. H. JOUBERT DE LA FERTÉ, I.M.S., Weybridge (Representative of the Indian Medical Service)
Mr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Mr. HUGH R. KER, London
Mr. R. H. KINSEY, Bedford
Mr. F. C. LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. J. A. MACDONALD, Taunton
Dr. CHARLES MACFIE, Bolton
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. HERBERT MANLEY, W. Bromwich
Dr. J. MUNRO MOIR, Inverness
Dr. T. G. NASMYTH, Edinburgh
Dr. B. H. NICHOLSON, Colchester
Dr. F. M. POPE, Leicester
Dr. T. WHITEHEAD REID, Canterbury
Dr. CECIL E. SHAW, Belfast
Dr. LAURISTON E. SHAW, London
Dr. W. MITCHELL STEVENS, Cardiff
Mr. C. R. STRATON, Wilton
Mr. G. A. SYME, London (Melbourne and Victoria Branch)
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Dr. ALEXANDER TROTTER, Perth
Mr. T. JENNER VERRALL, Brighton
Dr. DENIS WALSHE, Graigue
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly

Minutes.

The CHAIRMAN reported that the Minutes had been printed and circulated, and he was empowered to sign the same as correct.

Representative Meeting Minutes.

Dr. MACDONALD presented the Minutes of the Representative Meeting held on July 23rd, 24th, 26th, and 27th.

The Council tendered to Dr. Macdonald its most cordial thanks for the great services which he had rendered to the Association as Chairman of the Representative Meeting during the years 1906–1909.

AT a Meeting of the Council, held in the Library, Queen's College, Belfast, on Thursday, July 29th, 1909.

Present:

Mr. EDMUND OWEN, London, Chairman of Council, in the Chair.

Dr. SINCLAIR WHITE, Sheffield, Past-President.

Mr. H. A. BALLANCE, Norwich, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. FORD ANDERSON, London
Dr. J. GRANT ANDREW, Glasgow
Insp.-Gen. R. BENTHAM, R.N. (ret.), London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Mr. ANDREW CLARK, London
Professor HENRY CORBY, M.D., Cork
Mr. J. WARD COUSINS, Portsmouth
Dr. JAMES DAVISON, Bournemouth
Mr. E. J. DOMVILLE, Exeter
Mr. J. H. EWART, Eastbourne
Dr. A. C. FARQUHARSON, Bishop Auckland
Dr. DAVID GOYDER, Bradford
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern Province; Cape of Good Hope, Western Province; and Cape of Good Hope, Border Branches)
Dr. R. J. GUINNESS, Dublin
Mr. W. ST. A. ST. JOHN, Derby
Dr. CECIL E. SHAW, Belfast
Dr. LAURISTON E. SHAW, London
Dr. W. MITCHELL STEVENS, Cardiff
Mr. C. R. STRATON, Wilton
Mr. G. A. SYME, London (Melbourne and Victoria Branch)
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Brighton
Dr. DENIS WALSHE, Graigue
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly
Lieut.-Colonel E. M. WILSON, C.M.G., S. Farnborough (Representative of the Army Medical Service)

Minutes.

The Minutes of the previous day's Meeting having been printed and circulated, were taken as read, and signed as correct.

Apologies.

Letters of apology were read from Mr. T. W. H. Garstang, Sir Victor Horsley, F.R.S., Colonel C. H. Joubert de la Ferté, I.M.S., Mr. Albert Lucas, and Dr. T. G. Nasmyth.

Committees.

The Medico-Political Committee was empowered to invite the Chairman of the Public Health Committee to its Meetings.

The following returns show the constitution of the various Committees:

The President, Chairman of Representative Meetings, Chairman of Council, and Treasurer are *ex officio* Members of all Committees.

Arrangements Committee.

Andrew, Dr. J. Grant, Glasgow
Drew, Mr. A. J., Oxford
Hail, Dr. Wm., Lancaster
Lucas, Mr. A., Birmingham
Nicholson, Dr. B. H., Colchester
Shaw, Dr. Cecil, Belfast

And six Members to be appointed by the Local Executive.

Central Ethical Committee.

Elected by the Representative Meeting:

Bateman, Dr. A. G., London
Goff, Dr. Bruce, Bothwell
Langdon-Brown, Dr. R. L., Hampton Wick
Lee, Dr. Philip G., Cork
Maclean, Dr. E. J., Cardiff

Elected by the Council:

Ewart, Mr. J. H., Eastbourne
Kinsey, Mr. R. H., Bedford
Milburn, Dr. C. H., Hull
Shaw, Dr. Lauriston E., London
Straton, Mr. C. R., Wilton

Chloroform Committee.

Barr, Sir James, M.D., Liverpool
Brodie, Dr. T. G., F.R.S., London
Buxton, Dr. Dudley, London
Crocker, Dr. H. Radcliffe, London
Dunstan, Professor, F.R.S., London
Harcourt, Professor Vernon, F.R.S., Ryde
Horsley, Sir Victor, LL.D., F.R.S., London
McCardie, Dr. W. J., Birmingham
Martin, Dr. C. J., F.R.S., London
Rowell, Mr. George, F.R.C.S., London
Sherrington, Professor C. S., F.R.S., Liverpool

Colonial Committee.

Cousins, Mr. J. Ward, Portsmouth
Morier, Dr. C. G. D., London

And five members to be appointed by the Representatives of the Colonial Branches on the Council.

Hospitals Committee.

Anderson, Dr. J. Ford, London
Johnstone, Mr. R. J., Belfast
Joubert de la Ferté, Colonel C. H., I.M.S., Weybridge
Ker, Mr. Hugh R., London
Mackintosh, Dr. D. J., M.V.O., Glasgow
Pope, Dr. F. M., Leicester
Reid, Dr. T. Whitehead, Canterbury
Roberts, Dr. H. Jones, Penygroes
St. John, Mr. W. St. A., Derby
Shaw, Dr. Lauriston E., London
Trotter, Dr. A., Perth

Journal and Finance Committee.

Buist, Dr. R. C., Dundee
Carline, Dr. W. A., Lincoln
Goyder, Dr. David, Bradford
Haslip, Dr. G. E., London
Horsley, Sir Victor, F.R.S., London
Johnston, Dr. R. McKenzie, Edinburgh
Ker, Mr. Hugh R., London
Larkin, Mr. F. C., Liverpool
Macdonald, Dr. J. A., Taunton
Verrall, Mr. T. Jenner, Brighton
Williams, Mr. D. J., Llanelly

Medico-Political Committee.

Elected by the Representative Meeting:

Armit, Mr. H. W., London
Fothergill, Dr. E. R., Southfields
Fullerton, Mr. Andrew, Belfast
Lawson, Dr. David, Banchory
Nash, Mr. E. H. T., Derby
Todd, Dr. David F., Sunderland

Elected by the Council:

Flemming, Mr. C. E. S., Bradford-on-Avon
Macdonald, Dr. J. A., Taunton
Macfie, Dr. Charles, Bolton
Straton, Mr. C. R., Wilton
Taylor, Dr. J. H., Salford
Verrall, Mr. T. Jenner, Brighton

Naval and Military Committee.

Bentham, Inspector-General, R.N. (ret.), London
Biden, Fleet Surgeon E. J., R.N., Fareham
Browne, Surg.-Gen. W. R., M.D., C.I.E., London
Cuffe, Sir Charles, K.C.B., London
Giles, Colonel P. V., V.D., Bletchley
Joubert de la Ferté, Colonel C. H., I.M.S., Weybridge
Twiss, Lieutenant-Colonel G. E., R.A.M.C., Sholing

Ophthalmia Neonatorum Committee.

Elected by the Council:

Buist, Dr. R. C., Dundee
Helme, Dr. T. A., Manchester
Martin, Dr. C. J., F.R.S., London
Shaw, Dr. Cecil E., Belfast
Stephenson, Mr. Sydney, London

Representatives of Societies:

Andrews, Dr. H. Russell, London
Carpenter, Dr. George, London
Lawson, Mr. Arnold, London
Sergeant, Dr. Edward, Preston

Organization Committee.

Clark, Mr. Andrew, Uxbridge
Davison, Dr. James, Bournemouth
Garstang, Mr. T. W. H., Altrincham
Greenlees, Dr. T. D. (Cape of Good Hope Branches), London
Larkin, Mr. F. C., Liverpool
Moir, Dr. J. Munro, Inverness
Todd, Dr. David F., Sunderland

Poor Law Committee.

Anderson, Dr. J. Ford, London
Buist, Dr. R. C., Dundee
Darling, Dr. J. S., Lurgan
Domville, Mr. E. J., Exeter
Flemming, Mr. C. E. S., Bradford-on-Avon
Fothergill, Dr. E. R., Southfields
Garstang, Mr. T. W. H., Altrincham
Greenwood, Dr. Major, London
Jones, Mr. Herbert, Hereford
McVail, Dr. J. C., Glasgow
Mahon, Dr. R. B., Ballinrobe
Moir, Dr. J. Munro, Inverness
Pope, Dr. F. M., Leicester
Shaw, Dr. Lauriston E., London
Straton, Mr. C. R., Wilton
Taylor, Dr. J. H., Salford

Public Health Committee.

Domville, Mr. E. J., Exeter
Farquharson, Dr. A. C., Bishop Auckland
Garstang, Mr. T. W. H., Altrincham
Goyder, Dr. David, Bradford
Jones, Mr. Herbert, Hereford
Manley, Dr. Herbert, West Bromwich
Nasmyth, Dr. T. G., Edinburgh

Science Committee

Bradford, Professor Rose, F.R.S., London
Buist, Dr. R. C., Dundee
Dixon, Professor W. E., Cambridge
Haldane, Dr. J. S., F.R.S., Oxford
Martin, Dr. C. J., F.R.S., London
Nasmyth, Dr. T. G., Edinburgh
Pope, Dr. F. M., Leicester
Shaw, Dr. Cecil, Belfast
White, Professor A. H., Dublin
White, Dr. Sinclair, Sheffield

Therapeutic Committee.

Brown, Dr. Burton, London
Cushny, Professor A. R., M.D., F.R.S., London
Davy, Dr. Henry, Exeter
Dixon, Professor W. E., M.D., Cambridge
Marshall, Professor C. R., Dundee
Martin, Dr. C. J., F.R.S., London
Shaw, Dr. Lauriston E., London
Smith, Dr. F. J., London
Tirard, Dr. Nestor, London
Wild, Professor Robert B., Manchester

The thanks of the Council were given to Mr. Herbert Jones, Dr. E. J. Maclean, Dr. J. H. Taylor, and Dr. Mitchell Stevens, for kindly acting as scrutineers in the election of Committees.

Meetings of Branches & Divisions.

DORSET AND WEST HANTS BRANCH:

Bournemouth Division.

An additional summer meeting of this Division was held at Pamp Hill Green, Wimborne, on Saturday, July 31st.

Motor Gymkhana.

A very successful motor gymkhana was the feature of the meeting.

Event 1.—Cars driven round a large circle; at a given signal the cars stop and a lady passenger races to a basket in the centre of the circle to obtain a ball: in each round there being one less ball than competitors. Won by T. Telfordsmith and Miss Warry.

Event 2.—Tilting at an air balloon with a pointed lance. Won by C. D. Muspratt.

Event 3.—Tandem race. Cars were tied together by some yards of tape, and raced about fifty yards without breaking the tape. Won by C. B. Thomson and T. Telfordsmith.

Event 4.—Run in heats. The driver was required to drop a potato in each of three pots about twenty yards apart. A lady passenger then dismounted and picked up an egg in a spoon and held it while the car returned to the starting line. Won by T. Telfordsmith and Mrs. Telfordsmith.

Event 5.—Open to visitors only, and under similar conditions as the previous. Won by G. Benison and Miss Cooper.

At the conclusion of the meeting the prizes were distributed by Dr. Eleanor Bond, Chairman of the Division.

GLASGOW AND WEST OF SCOTLAND BRANCH.

Govan Medical Association and the Cottage Nurses' Training Home.

In 1905 the Govan Medical Association felt dissatisfied with the management of the Govan Cottage Nurses' Training Home, and ultimately the matters in dispute were referred to the Council of the Glasgow and West of Scotland Branch for an opinion. The Govan Home is an institution for teaching and training "cottage nurses," and collects funds from the charitable by public subscription. At the same time

it makes a fixed charge of 8s. 6d. for attendance on midwifery cases, and has fixed the wage limit of persons entitled to request such attendance at 30s. a week. The Branch Council has recently expressed its opinion as follows:

"Having considered the matters in dispute between the Govan Medical Association and the Govan Cottage Nurses' Training Home, the Branch Council is of opinion that a home of this character, where nurses are under training, should be conducted, so far as attendance on midwifery cases is concerned, on similar lines to those of other charitable institutions, where no fee is exacted, and only the necessitous poor are attended. At the same time patients should be encouraged to make a voluntary contribution to the home. The Branch Council is further of opinion that no midwifery case should be attended where the wage exceeds 20s. per week."

SOUTH-EASTERN BRANCH:

Canterbury and Faversham Division.

The annual meeting of this Division, to which all members of the other Divisions comprised in the Old East Kent District (namely, Ashford, Dover, Folkestone, and Thanet) were invited, was held at the County Hotel, Canterbury, on July 9th. Mr. Sidney Wacher, of Canterbury, presided. Thirty members were present.

Vaccines and Vaccine Therapy.—An address (with lantern demonstrations) was given by Dr. J. W. H. Eyre, Bacteriologist and Lecturer on Bacteriology at Guy's Hospital, on vaccines and vaccine therapy. By way of introduction, he shortly summarized the various forms of immunity, and then traced the experimental work upon which had been based the successive theories explanatory of the principles underlying immunity. He then reviewed the work of Sir Almroth Wright in connexion with opsonins, which had made it possible to apply to practical medicine the methods in use in the laboratory for the experimental production of active immunity. After detailing the various procedures involved in the bacteriological diagnosis, the preparation of vaccines, and the estimation of opsonic indices, he illustrated the principles of vaccine therapy by instancing furunculosis. The first step in the vaccine treatment of such a condition was to identify the germ or germs responsible for the pus formation; this was done by opening one of the abscesses under aseptic precautions, collecting some of the contained pus and examining it both microscopically and by cultivations, and so ascertaining the germs present. If more than one kind of germ was present, each was obtained in pure culture. Next a specimen of blood was collected from the patient's ear, and tested for the amount of *opsonin* present for each of the different germs already isolated. Supposing both the *Staphylococcus albus* and the *Staphylococcus aureus* were present in the pus, the opsonic index of the patient's blood was estimated first to an emulsion of *Staphylococcus albus*, and afterwards to an emulsion of *Staphylococcus aureus*. If the first worked out to 1.0 and the second to 0.5, the *Staphylococcus aureus* would be regarded as the germ responsible for the patient's infection, and the treatment would be planned accordingly. If a second specimen of blood was taken and the index found to be 1.0 to *Staphylococcus albus* and 1.5 to *Staphylococcus aureus*, this opinion would simply be strengthened. A low index such as the first might mean only a predisposition to infection by the particular germ used, or it might mean an actual infection; a high index, on the other hand, meant an actual infection, as Nature only manufactured an excess of any particular opsonin for the special purpose of dealing with germs that had already gained entrance to the body. The first essential—the vaccine—was prepared from the cultivation already obtained. Next, the patient was inoculated with a dose of that vaccine. With an index so low as the first (0.5) a small dose would be given—one containing perhaps 25,000,000 or 50,000,000 of dead staphylococci, and the opsonic power of the patient's blood to the *Staphylococcus aureus* would be estimated daily during the treatment. Experience in the use of vaccines fortunately enabled frequent blood examinations to be dispensed with in many cases, but if carried out it would be found that during the twenty-four hours following the injection the opsonic index would remain stationary, or would fall slightly—this fall being referred to as the *negative phase*—and during this period the abscesses might appear to be more acute, and the patient might complain of not feeling so well; during the following days the opsonic index would steadily rise to a maximum—this rise being termed the *positive phase*—and clinically improvement would be marked. If no further injections of vaccine were given, the index, after maintaining a position of equilibrium for a longer or shorter period, would gradually fall off until it again reached its original position; but, the maintenance of a high level for as long a period as possible being the end aimed at, another injection would be given during the phase of equilibrium, when the same opsonic cycle would be repeated—that is to say, negative phase, positive phase, equilibrium, and falling off, and so on until the cure was complete. Great care must be exercised to avoid giving an injection during the negative phase, or the negative phase of the second injection would be superposed upon that of the first, possibly with serious consequences to the patient. When not contraindicated the injection was made into the subcutaneous tissue of the abdomen or of the flank—less suitable spots being between or under the scapula. The injection should never be made into the forearm, as it was not well absorbed from this situation, whilst the constant movement of the muscles below the loose skin usually led to considerable discomfort and inflammation. Strict aseptic precautions should be observed in administering the injection. In the course of the treatment of any bacterial infection by vaccines careful watch was kept on all operative procedures, dressings, etc., as these usually acted as injections, and were followed by similar phenomena; and in female cases full cognizance was taken of the onset and continuance of the menstrual period, for during this time the opsonic index had a marked downward tendency, which necessitated special care in the adjustment of the size of the dose and the date of the injection. Tuberculous lesions such as tuberculous disease of bones, joints, or the genito urinary system, offered the best illustration of the employment of vaccine therapy in chronic infections. Here the vaccine used was the new form of tuberculin, Koch's T.R. This was a solution prepared by grinding up 10 mg. of dried tubercle culture in 1 c.cm. of glycerine solution and centrifugalizing, after which the solution contained 2 mg. of bacterial protoplasm in every cubic centimetre. This formed the vaccine, but in its original condition it was much too strong, so was diluted with sterile salt solution so that, if necessary, such minute doses as one-hundred-thousandth of a milligram, which was sometimes selected as the initial dose, could be administered. The opsonic cycle already referred to as following the administration of a dose of bacterial vaccine followed the injection of tuberculin, with this difference, that whilst the cycle in acute and subacute infections was completed in a few hours or a few days, according to the size of the dose, the cycle following a suitable dose of tuberculin occupied from ten to twenty-one days; the intervals between successive doses was lengthened correspondingly, but the size of the dose and the intervals between the injections were, in the first instance, governed by the movements of the opsonic index as determined by the examination of the patient's blood. In the discussion which followed, Dr. Tyson (Folkestone), Dr. Thornton (Margate), and Dr. Frank Wacher (Canterbury) strongly advocated the more universal adoption of vaccine treatment. Members spoke of the necessity of a competent bacteriologist for this work being appointed to the staff of every general hospital. In the discussion it was pointed out that with some vaccines, by commencing with very small doses and regulating the dosage by the clinical manifestations, it was possible to apply this treatment without the elaborate and tedious technique of the estimation of the opsonic index. For

instance, with tubercle the weight and temperature were a sufficient guide.

Vote of Thanks.—A hearty vote of thanks was accorded Dr. Eyre for his address, which was most lucid, interesting, and instructive.

Preliminary Meetings.

Confirmation of Minutes.—The minutes of the May meeting were read and confirmed.

Annual Report.—The annual report stated that the membership of the Division was 40, as against 38 last year. Five Divisional meetings were held, with an average attendance of 20 including members of other Divisions, or of 12 exclusively. During the year papers were read as follows: Dr. Wilfred Harris (London), Characteristic Features of Nervous Diseases; Dr. Harold Wacher (Canterbury), Significance of the Extensor Plantar Reflex; Dr. Robert Hutchison (London), The Relation of the Carbohydrates to Various Diseases; Dr. Halstead (Ramsgate), Therapeutic Hypnotic Suggestion. The following subjects of local interest were discussed: Police Emergency Fees in Kent; The Medical Inspection and Treatment of School Children in Kent. The balance-sheet was submitted and approved.

Next Meeting.—It was decided to hold the next meeting at Herne Bay in October.

Election of Officers.—The following officers were elected: *Chairman*, Dr. J. W. Hayward (Whitstable); *Vice-Chairman*, Dr. C. J. Evers (Faversham); *Representative on Branch Council*, Dr. A. R. Henchley (Canterbury); *Honorary Secretary and Treasurer*, Dr. T. B. Heggs (Sittingbourne); *Executive Committee*, Drs. Reid, Garrett, F. Wacher, Selby, and Hayward.

Vote of Thanks.—A vote of thanks was passed to the retiring officers for their services during the past year.

Canterbury and Faversham with Thanet Divisions.

A combined meeting of these Divisions was also held.

Election of Joint Representative at Representative Meeting.—Dr. Wm. Gosse (Sittingbourne) was unanimously re-elected as the joint Representative, with Dr. Street (Thanet) as his deputy.

The Annual Exhibition
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[Third Notice.]

Messrs. John Wright and Sons, Limited, had an interesting exhibit of such of their books and publications as are of interest and value to the medical profession. Amongst them, and quite a novelty, were samples of a new series of *Anatomical Casts* which the firm hopes to issue shortly. They illustrate topographical anatomy, and will reproduce various dissections made from the surface inwards. They are made of papier-maché, and each one is only about one-eighth of an inch or less in thickness; each completed step of a dissection is thus represented, and the subjects may be superimposed and then removed in proper sequence. In this way the relation of parts can be studied or demonstrated with the greatest ease. The material is light and durable, and may be freely handled by students without fear of breakage, while the casts are readily packed into small compass for travelling. They are being prepared under the superintendence of Mr. Charles W. Cathcart of Edinburgh. The series when complete should be found of use both in refreshing knowledge when studying surgical anatomy and operative surgery, and in the training of ambulance classes, both civil and military. They are to be issued, we understand, at a moderate price. There were also shown various time-saving devices in medical book-keeping, and some additions to the charts and visiting lists, for which the firm is well known. Amongst the medical and surgical publications we noticed a fifth and greatly improved edition of *Pye's Surgical Handicraft*, now under the supervision of Mr. Clayton-Greene; a comprehensive account of *Arthritis Deformans and its Allied Conditions*, by Dr. R. Llewellyn Jones; *Natural Therapy*, by Dr. T. D. Luke of Edinburgh (all of which are abundantly illustrated); and the fourth edition of *Hutchison and Collier's Index of Treatment*. There were also to be seen the first few sheets of an English translation of *Urgent Surgery*, by Professor Lejars, which in its French form has now reached its sixth edition. It will appear in two volumes on art paper, with all the original plates and figures, the translational duties being undertaken by Mr. W. Stewart Dickie, F.R.C.S., of Middlesbrough. Messrs. Wright have secured the rights for all English-speaking countries.

Siemens Brothers and Co., Ltd. (Caxton House, Westminster, S.W.). This important firm gave members an opportunity of examining at their leisure some interesting improvements in appliances for electro-therapy and other branches of medicine. Among the more recent advances in *x*-ray work have been instantaneous radiography and the production of unidirectional high tension current without the aid of induction coils and interrupters, and both these functions seemed well fulfilled by the new Siemens *X-Ray Outfit with Rotary High Tension Rectifier*. It comprises a special transformer with subdivided primary, which is connected direct to an alternating current supply. The alternating current is stepped up to the pressure necessary for the tube and is then commuted by means of a rectifier, which is rotated by a self-starting synchronous alternating current motor, also connected direct to the mains. Where only a continuous current supply is available, a rotary converter is connected to the mains; and generates a single-phase alternating current as well as rotating the rectifier. The advantage of this system would seem to be that inverse radiation is entirely eliminated and that the plant provides a large reserve of energy suitable for instantaneous radiography. Messrs. Siemens also showed one of their new "*G P.*" *X-Ray Outfits*; this consists of a 16 in. spark induction coil, spark-gauge, switch-table and Wehnelt interrupter, all the apparatus being mounted on a protective screen lined with lead and provided with a lead glass window. The object kept in view has been to provide for all probable needs of men in general practice at as low a price as is consistent with good workmanship and material. When it is desired to use the outfit for instantaneous radiography short exposures are obtained by means of the main switch by cutting out the shunt resistance. Second only to the efficient production of the *x* rays is their proper application, and to assist this the company has brought out what it calls a *Universal and Safety Protective Tube Stand*. This is a general utility apparatus for holding the patient securely in the standing or sitting position, and protecting him and the radiographer from the harmful effects of the *x* rays, and also for permitting the free movement of the fluorescent screen or dark slide in any direction in relation to the patient. The tube is fitted in a protective box at the back of the stand, and its distance from the patient, as well as its movements in a horizontal direction, can be read off and controlled by a hand wheel in the front. All live parts are effectually insulated or kept outside the reach of the patient and practitioner. A device of much interest was the *Clinical Temperature Recorder* shown. It consists of a platinum spiral in a quartz glass tube, known as the "resistance thermometer," which is inserted into a suitable part of the human body; a 4-volt accumulator battery; a regulating apparatus; and a recording milli-voltmeter of the well-known Siemens type, as used for thermo-electrical measurements. The instrument is supplied in two patterns, that is, with suspended or pivoted moving coil, and both of these patterns can be provided with slow or

quick recording device. The charts are graduated longitudinally into units of time and transversely into degrees of temperature from about 85 to 115 degrees Fahrenheit. With this apparatus investigations can be made over periods of several days, and continuous curves obtained in order to demonstrate the progress of pathological cases and the effects of the administration of drugs. Messrs. Siemens also showed a variety of radio-active substances and applicators, including some radio-active earth.

CALLARD AND COMPANY (74, Regent Street, W.). As food specialists, this firm has a well-established and well-founded reputation, its more particular aim being the preparation of articles of diet for diabetics and other persons to whom starches or sugars, or both, are forbidden. Biscuits practically free both from starch and sugar, and cakes, marmalade, jams, and beverages, almost if not absolutely sugarless, were all upon view, and for the most part proved pleasant to eat. The two starchless breads shown may be regarded, however, as the principle exhibits of the firm. One of these was a brown bread named *Cellulon*; when cut into thin slices and buttered, it is an excellent bread for use with fish and the like, and those eating it would be unlikely, we think, to detect that it was not ordinary brown bread. Nevertheless, the contained carbohydrates, according to the analyses supplied, are considerably less than 2 per cent., while the hydrocarbons and albuminoids are as high as 18 per cent. and 19 per cent. respectively. The *Prolacto Bread*, on the other hand, is white, and in texture and appearance has a greater resemblance to ordinary bread than the vast majority of its congeners. Moreover, in respect of palatability, it will be a surprise to those who are only acquainted with earlier endeavours to produce a practically starchless bread. Nevertheless, in spite of its close resemblance to ordinary bread in other ways, the carbohydrates are well under 1 per cent., the albuminoids being nearly 34 per cent., and the fat a little over 17 per cent. Both these breads seem thoroughly worth trial in any case of diabetes.

The CELLULAR CLOTHING COMPANY (72, 73, Fore Street, London, E.C.). The extent to which the fabric of this firm has been imitated during the past ten years in itself offers strong testimony to its popularity and probable value. It may be added that long experience shows the latter to be real and great. The principles underlying the construction of the material are perfectly sound in themselves, and they are realized with marked success. The fabric consists of a fine meshwork of small cells which allows evaporation from the surface of the body to proceed slowly and steadily, but at the same time prevents the body heat escaping too rapidly, the net result being that the body is protected from chill by a layer of naturally warmed and dry air in the interstices of the tissue. This is a sound conception of the principles on which a covering for the body should be built, and we have found that the underclothing made of this material can be comfortably worn both in winter and in summer; that it washes well and does not shrink, and lasts considerably longer than a merino or other fabric of ordinary make and of corresponding power of protection. *Aertex Cellular* cloth, in short, seems to combine most of the advantages of cotton and woollen underclothing as commonly constructed; and the firm has applied the same idea to bed-sheeting, of which we have also had experience. Weight for weight, these sheets provide more protection than ordinary sheets, and should therefore be useful in the sick-room in dealing with patients who, whether from fancy or otherwise, are unable to sleep when covered with a due amount of ordinary bedclothing. They should be specially useful at sea and in damp climates, and are also pleasant to use in hot weather in this country. Attention may also well be directed to the *Red yarn* underclothing. It is intended for the use of residents or travellers in hot climates, and designed to protect them from the effects of direct sunlight by cutting off the actinic rays.

C. OPPEL AND CO. (10 and 12, Milton Street, London, E.C.). This firm is the representative of the Friedrichshall springs, which lie in the beautiful valley of Saxe-Meiningen, Germany. Since the water has been in use in all countries as an aperient for practically a century there ought to be little need to say anything in its favour at this date. The claims of so many comparatively novel aperient waters are, however, constantly being put forward in these days that there is a danger of old friends of approved value being overlooked. The water has a specific gravity of about 1022; its principal contents being, roughly, magnesium sulphate 6.2, sodium sulphate 5.2, magnesium chloride 4.9, sodium chloride 7.9, together with a small proportion of lime and potash salts. In its action it is not drastic and it may be taken in ordinary doses for a very long period without bringing about any dyspepsia. Furthermore it has the supreme advantage as an aperient of not losing its efficacy by continued use. It is entirely free from suspended matter and extremely stable in composition. As for its taste, this is on a par with practically all natural waters which lay claim to medicinal properties of the same character. Some persons who dislike its flavour find it comparatively easy to take when milk is added. There are probably few remedies to the value of which testimony has been paid by an equally large number of distinguished clinicians. Its special characteristic was well described by Sir Henry Thompson in the following words: "One of the characteristics of this water is that the longer it is taken the smaller is the quantity necessary to effect the purpose. It leaves the patient less constipated after discontinuing it than he was before, and may be taken habitually without lowering the system. As an occasional aperient and corrector of digestion I know of nothing at all equal to Friedrichshall."

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE accompanying diagram shows the prevalence of the principal epidemic diseases during the second quarter of the year; the fluctuations of each disease and its relative fatality compared with that in the corresponding periods of recent years can thus be readily seen.

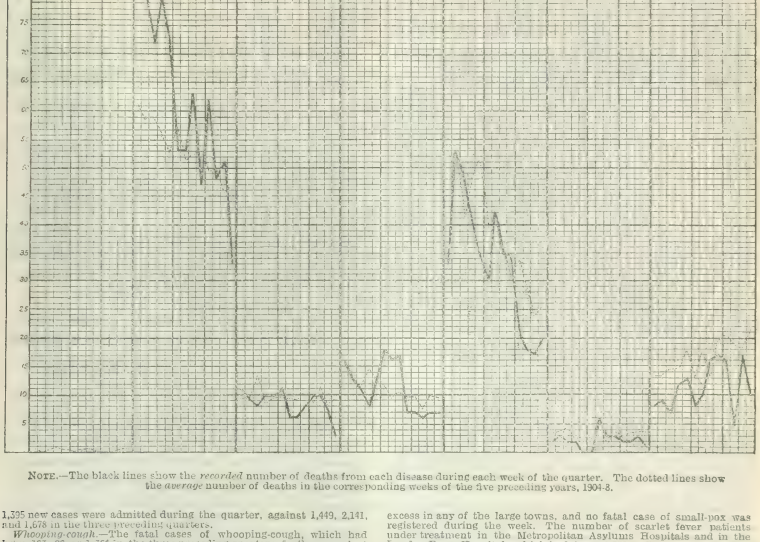
Small-pox.—No fatal case of this disease was registered in London last quarter, and no small-pox patients were under treatment during that period in the Metropolitan Asylums Hospitals.

Measles.—The deaths from measles, which had been 258, 457, and 1,155 in the three preceding quarters, declined again to 845 last quarter, but were 150 in excess of the corrected average number in the corresponding quarter of the five preceding years; this disease was proportionally most fatal last quarter in Hammersmith, Islington, Finsbury, Shoreditch, Poplar, and Bermondsey.

Scarlet Fever.—The fatal cases of scarlet fever, which had been 104, 155, and 109 in the three preceding quarters, were again 109 last quarter, and were 15 fewer than the corrected average number. The greatest proportional mortality from this disease was recorded in Hammersmith, the City of Westminster, Poplar, Lambeth, Deptford, Greenwich, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 3,451, 5,498, and 2,412 at the end of the three preceding quarters, had risen again to 2,539 at the end of last quarter; 4,086 new cases were admitted during the quarter, against 5,344, 6,225, and 3,892 in the three preceding quarters.

Diphtheria.—The deaths from diphtheria, which had been 134, 227, and 234 in the three preceding quarters, declined again last quarter to 146, and were equal to the corrected average number for the corresponding period of the five preceding years. The highest death-rates from this disease last quarter were recorded in Hammersmith, Chelsea, St. Pancras, Shoreditch, Bethnal Green, Lambeth, Lewisham, and Woolwich. There were 890 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of June, against 953, 1,201, and 1,105 at the end of the three preceding quarters;

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE SECOND QUARTER OF 1909.



NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1904-8.

1,395 new cases were admitted during the quarter, against 1,449, 2,141, and 1,678 in the three preceding quarters.

Whooping-cough.—The fatal cases of whooping-cough, which had been 163, 96, and 364 in the three preceding quarters, further rose last quarter to 429, but were 74 below the corrected average number. This disease was proportionally most fatal in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Poplar, and Bermondsey.

"*Fever.*"—Under this heading are included deaths from typhus, from enteric fever, and from ill-defined pyrexia. The deaths referred to these different forms of "fever," which had been 27, 126, and 60 in the three preceding quarters, further declined last quarter to 29, and were 14 below the corrected average number; of these 29 deaths, 28 were attributed to enteric fever, and one to ill-defined pyrexia. The greatest proportional mortality from enteric fever last quarter was recorded in Fulham, Islington, Shoreditch, Bethnal Green, and Poplar. The Metropolitan Asylums Hospitals contained 58 enteric fever patients at the end of last quarter, against 95, 147, and 87 at the end of the three preceding quarters; 105 new cases were admitted during the quarter, against 165, 315, and 182 in the three preceding quarters.

Diarrhœa.—The 148 deaths from diarrhœa in London last quarter were 68 fewer than the corrected average number in the corresponding period of the five preceding years. The highest death-rates from this disease were recorded in Hammersmith, Fulham, Hackney, Finsbury, Bethnal Green, Stepney, Poplar, and Bermondsey.

In conclusion, it may be stated that the 1,704 deaths in London referred to the principal epidemic diseases last quarter were 1.5 per cent. below the average. The lowest death-rates from these diseases in the aggregate were recorded in Chelsea, the City of Westminster, St. Marylebone, St. Pancras, the City of London, Greenwich, and Lewisham; and the highest rates in Hammersmith, Islington, Finsbury, Shoreditch, Poplar, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,472 births and 5,311 deaths were registered during the week ending Saturday last, August 7th. The annual rate of mortality, which had been 11.5, 10.6, and 10.8 per 1,000 in the three preceding weeks, declined again to 10.5 per 1,000 last week. The rates in the several towns ranged from 5.8 in East Ham, 5.3 in Walthamstow, 5.7 in Kingston, Surbiton, 5.8 in Bournemouth and in Barrow-in-Furness, and 5.9 in Handsworth (Staffs.) to 14.3 in Huddersfield and in Swansea, 14.8 in West Bromwich, 15.0 in Hoolie, 15.1 in Liverpool, 16.6 in Great Yarmouth, and 18.0 in Newport (Mon.). In London the rate of mortality was 10.1, while it averaged 10.7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.1 per 1,000 in the seventy-six towns; in London this rate was equal to 0.9 per 1000, while among the seventy-five other large towns these infectious diseases caused death-rates ranging upwards to 2.6 in Coventry and in Salford, 2.7 in Rhondda, 2.9 in Wigan, 3.0 in Middlesbrough, 4.7 in Newport (Mon.), and 5.2 in West Bromwich. Measles caused a death-rate of 1.5 in Hoolie, 4.0 in Newport (Mon.), and 7.4 in West Bromwich; scarlet fever of 1.2 in Rhondda; diphtheria of 1.0 in Middlesbrough; whooping-cough of 1.0 in Middlesbrough and 1.2 in Wigan; and diarrhœa of 1.2 in Aston Manor and in Wigan, and of 1.6 in Nottingham. The mortality from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 2,739, 3,731, and 2,867 at the end of the three preceding weeks, had declined to 2,564 at the end of the last week; 280 new cases were admitted during the week, against 415, 367, and 295 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, August 7th, 874 births and 429 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.5, 12.5, and 11.3 per 1,000 in the three preceding weeks, increased to 12.0 last week, but was 1.5 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 9.8 in Aberdeen and 9.9 in Perth to 15.2 in Dundee and 15.4 in Greenock. The death-rate from the principal infectious diseases averaged 1.8 per 1,000, the highest rates being recorded in Greenock and Perth. The deaths registered in Glasgow included 5 which were referred to measles, 2 to scarlet fever, 2 to diphtheria, 5 to whooping-cough, 2 to "fever," and 7 to diarrhœa. Five fatal cases of whooping-cough and 4 of diarrhœa were recorded in Edinburgh, and 4 deaths from diarrhœa in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 31st, 615 births and 337 deaths were registered in the twenty-two principal urban districts of Ireland as against 592 births and 317 deaths in the preceding period. The annual death-rate in these districts, which had been 15.6, 15.4, and 14.5 per 1,000 in the three preceding weeks, rose to 15.9 per 1,000 in the week under notice, this figure being 4.6 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 17.4 and 13.1 respectively, those in other districts ranging from 4.4 in Lurgan and 4.8 in Sligo to 23.9 in Ballymena and 25.0 in Galway, while Cork stood at 14.4, Londonderry at 23.0, Limerick at 12.3, and Waterford at 17.5. The zymotic death-rate in the twenty-two districts averaged 1.7 per 1,000 as against 1.0 per 1,000 in the preceding period.

During the week ending Saturday, August 7th, 615 births and 344 deaths were registered in the twenty-two principal urban districts of Ireland, as against the same number of births and 337 deaths in the preceding period. The annual death-rate in these districts, which had been 15.9, 14.5, and 15.4 per 1,000 in the three preceding weeks, rose to 15.8 per 1,000 in the week under notice, this figure being 5.3 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 15.2 and 14.6 respectively, those in other districts ranging from 5.1 in Clonmel and 8.9 in Armagh to 27.3 in Tuhmon and 29.6 in Queenstown, while Cork stood at 20.0, Londonderry at 18.5, Limerick at 15.0, and Waterford at 13.6. The zymotic death-rate in the twenty-two districts averaged 1.7 per 1,000 for the eight weeks ended

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON C. R. NICHOLSON has been allowed to withdraw from the service, with a gratuity, July 24th. He was appointed Surgeon, May 15th, 1899, and Staff Surgeon, May 15th, 1907.

Staff Surgeon E. F. POWER, has been placed on the retired list, July 28th. He was appointed Surgeon, November 10th, 1896, and made Staff Surgeon, November 10th, 1904.

Fleet Surgeon F. H. A. CLAYTON, M.D., has been appointed Assistant to the Medical Director-General at the Admiralty, from August 12th.

The following appointments have been made at the Admiralty: Fleet Surgeon G. A. S. BELL to the *Russell*, July 27th; Fleet Surgeon H. W. GORDON GREEN to the *Hampshire*, July 27th, and on recommissioning, August 10th; Staff Surgeon R. MACLEOD, M. CAMERON, M.B., to the *Attentive*, on recommissioning, July 28th; Staff Surgeon M. C. LANGFORD and Surgeon C. F. BAINBRIDGE, M.B., to the *Devonshire*, on commissioning, August 10th; Staff Surgeon M. P. JONES to the *Topaze*, on recommissioning, August 10th; Staff Surgeon F. J. L. P. MCKENNA, M.B., to the *Leander* and for torpedo-boat destroyers, July 27th; Surgeon J. J. H. ROONEY to the *Vivid*, additional, for disposal, July 27th; Surgeon A. V. J. RICHARDSON, M.B., to the *Hampshire*, on recommissioning, August 10th; Fleet Surgeon H. W. G. DOYNE to the *President*, additional, temporarily, August 11th; Fleet Surgeon C. L. W. BUNTON, M.B., and Surgeon F. G. H. R. BLACK, M.B., to the *Carnarvon*, on recommissioning, August 10th; Fleet Surgeon H. L. PENNY to the *President*, additional, for the Royal Fleet Auxiliary *Maine*, July 30th; Staff Surgeon T. T. JEANS, M.B., to Chatham Hospital, July 30th; Surgeon E. R. T. THOMAS to the *Illustrious*, July 30th; Surgeon J. A. MCKEY to the *Vivid*, July 30th; Staff Surgeon W. S. WESTCOTT, to the *Excellent*, additional, for the *Revenge*, July 31st; Staff Surgeon F. F. LOBB, to the *Victory*, additional, August 2nd; Surgeon A. DAVIDSON, M.B., to the *Vivid*, additional, for disposal, August 4th; Fleet Surgeon J. D. ELPHINSTONE, to the *Iron Duke*, on recommissioning, August 7th; Fleet Surgeon F. J. A. DALTON, and Staff Surgeon L. LINDOP, to the *New Zealand*, on recommissioning; Staff Surgeon J. WHELAN, to the *Minotaur*, on recommissioning; Staff Surgeon R. H. MORNEMENT, to the *Eclipse*, on recommissioning; Staff Surgeon C. R. SHEWARD, M.B., to the *Majestic*, on recommissioning, August 10th.

Mr. S. W. SCOTT is appointed Surgeon and Agent for duty with civilian workmen at Turnchapel and Oreston injured while on duty.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned Lieutenants to be Captains, July 30th: C. M. DREW, M.B., A. A. SCOTT-CURTIS, M.B., A. G. CUMMINS, M.B., H. E. GUTZLER, S. A. LITTLEJOHN, W. R. GILWET, M.B., F. A. MCCAMMON, M.B., GEORGE DE LA COUR, M.B., WILLIAM EGAN, M.B., R. G. H. TATE, M.D., ALEXANDER DAWSON, M.B., FRANK FORREST, A. S. WILLIAMS, V. C. OSBORNE, C. F. EDMONDS, A. V. G. JOHNSON, C. R. W. HOWELL, M.B., R. E. U. NEWMAN, M.B., E. W. M. PAINE, F. C. G. HOWELL, W. H. GILLATT, M.B., PATRICK SAMPSON, M. G. DILL, M.B., J. B. G. MCLIGAN, E. M. O'NEILL, M.B., C. B. ESSERY, M.B., W. A. SCOTT, W. C. SEALES, A. H. BOND, T. C. C. LESLIE, D. DE C. O'GRADY, L. G. GIBSON, P. S. STEWART, M.B., T. W. Q. SEXTON.

The undermentioned Temporary Captains are confirmed in that rank: S. G. WALKER, M.B., J. A. CLARE, M.B., H. H. LEESON, W. G. WRIGHT, M.B., A. T. J. MCCREERY, M.B., H. S. HANKEN, M.B., J. A. MANIFOLD, M.B., S. B. DYERS, M.B., R. C. FERRIER, M.B., S. TOMLINSON, A. D. STIRLING, M.B., G. P. TAYLOR, M.B., R. C. PARIS, A. W. BEVIS, E. C. LAMBKIN, M.B., O. W. MCSHEEHY, M.B., M. J. WILLIAMSON, M.B., C. L. FRASER, M.B., MICHAEL WHITE, M.B., J. J. H. ROCHE, M.B., J. R. HILL, M.B., H. F. JOYNT, M.B., A. S. M. WINDER, M.B., J. R. YOURELL, M.B., P. G. M. ELVERY, JOHN BECTON, W. B. RUNNIE, M.B. Lieutenant Walker was appointed on probation, February 4th, 1908; Lieutenants CLARE, LESLIE, WRIGHT, and MCCREERY, August 1st, 1908; all the other officers cited, January 30th, 1909.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First South-Western Mounted Brigade Field Ambulance.—Major G. R. SWINHOE resigns his commission, May 15th.

For Attachment to Units other than Medical Units.—ARTHUR H. NORRIS to be Lieutenant, June 22nd.

MR. J. G. MACNAB, M.B., civil practitioner, has been appointed Surgeon and Agent at Dysart, July 29th.

THE undermentioned officers, who are serving in India, are appointed specialists in the subjects named: Captain H. HERRICK, 4th (Quetta) Division, in Dermatology; Lieutenant G. DE LA COUR, M.B., 9th (Secunderabad) Division, in Advanced Operative Surgery.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—(1) Visiting Pathologist; (2) House-Surgeon; (3) Assistant House-Surgeon; (4) Resident Medical and Surgical Officer for the Jaffray Branch. Salary at the rate of £50 per annum for (1) and (2), £40 for (3), and £150 for (4).

BIRMINGHAM UNIVERSITY.—Professorship of Anatomy. Stipend, £800 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CAPETOWN: SOMERSET HOSPITAL.—Assistant Surgeon. Salary, £200 per annum.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary £70 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Honorary Ophthalmic Surgeon.

COLCHESTER: ESSEX COUNTY HOSPITAL.—Honorary Dental Surgeon.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

EDINBURGH DISTRICT ASYLUM, Bangour Village.—Third Assistant Medical Officer and Pathologist. Salary, £120 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Two Clinical Assistants. Salary at the rate of £100 per annum each.

LANARK COUNTY.—Two Medical Officers for examination and supervision of school children. Salary, £350 per annum each.

LEIGH, BOROUGH OF.—Medical Officer of Health. Salary, £400 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) three House-Surgeons. Salary at the rate of £60 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary at the rate of £120 and £52 10s. per annum respectively.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary, £60 per annum.

MANCHESTER: NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £80 per annum.

MILE END OLD TOWN.—Assistant Medical Officer of the Infirmary and Workhouse. Salary, £150 per annum, rising to £170.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary at the rate of £60 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Physician. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary, £160 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Resident Medical Officer. Salary, £100 per annum.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

SALISBURY INFIRMARY.—Assistant House-Surgeon.

SOUTHWARK UNION.—Assistant (male) Medical Officer at the Infirmary. Salary, £100 per annum.

SUNDERLAND: SUNDERLAND AND DURHAM EYE INFIRMARY.—House-Surgeon. Salary, £210 per annum (outdoor).

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—Male House-Surgeon. Salary, £100 per annum.

TEIGNMOUTH HOSPITAL, SOUTH DEVON.—House-Surgeon. Salary, £70 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House Physicians; (2) three House-Surgeons.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Creetown, co. Kirkcudbright; Llangefni, co. Anglesey; and Saundersfoot, co. Pembroke.

APPOINTMENTS.

ANDERSON, F. T., F.R.C.S., Certifying Factory Surgeon for the Horsmonden District, co. Kent.

ARNOTT, W., M.B., District Medical Officer of the Skipton Union.

BARTLETT, C. E., M.R.C.S., L.R.C.P., District Medical Officer of the Chepstow Union.

BROWNE, F. J., M.B. Aberd., District Medical Officer of the Bedwelty Union.

BUXTON, Dudley W., M.D., B.S. Lond., M.R.C.P., Lecturer in Anæsthetics at the Royal Dental Hospital of London, Leicester Square, W.C.

CHALMERS, T. A., L.R.C.P. and S. Edin., L.F.P.S. Glasg., Certifying Factory Surgeon for the Inverness District, co. Inverness.

CHAMBERS, A. S., M.B. Dub., District Medical Officer for the Sleaford Union.

COLLINGS, D. W., M.B. Lond., District Medical Officer of the Eastbampstead Union.

WALTERS, C. Ferrier, F.R.C.S. Eng., Assistant Surgeon to the Bristol Royal Infirmary.

IN the notice of the appointment of Dr. W. G. Savage published last week the office should have been County Medical Officer of Health, Somerset County Council, and not Schools Medical Officer, as printed.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

MARRIAGE.

KIDD—WILDE.—On August 3rd, at St. John's, Farncombe, Surrey, by the Rev. H. J. Evans, uncle of the bridegroom, assisted by the Rev. E. F. Bowring, Rector of Farncombe, Archibald Kidd, M.R.C.S., L.R.C.P., D.P.H., elder son of the late Robert Bobun Kidd, of Blofield, Norfolk, to Sarah Jane, only daughter of Thomas Wylde, of Salisbury, Rhodesia.

DEATH.

RICHARDS.—On July 9th, 1909, at his residence, Wharncliffe Mansions, Boscombe, Bournemouth (also of Green Mount, Cleckheaton, and late of Huddersfield) John Ellison Richards, M.D., aged 58.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 21ST, 1909.

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An Address

ON THE

MEDICAL ASPECT OF THE REPORT OF THE ROYAL COMMISSION ON POOR LAW REFORM.*

BY H. MANLEY, M.D., D.P.H.,

MEDICAL OFFICER, COUNTY BOROUGH AND INFECTIOUS HOSPITAL, WEST BROMWICH; PRESIDENT OF THE BIRMINGHAM BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

GENTLEMEN,—The honour which you have conferred upon me in electing me President of this important Branch of our Association is one which I value very highly indeed. I look back upon the roll of my predecessors, most of whom were numbered among my father's personal friends, and I feel proud that I should occupy the same chair as they did. I will endeavour to discharge the duties of my office to your satisfaction.

This honour does not all belong to the individual, for I feel a peculiar pleasure in the fact that I am the first representative of the whole-time medical officers of health who has filled the chair of the Birmingham Branch. However much it may seem that the tendency of the sanitary service is to find itself in conflict with the interests of the larger body of men engaged in general practice, notwithstanding the unfortunate attitude taken up by the JOURNAL of the Association upon this subject, it is extremely gratifying to find that it is possible for a member of the service to be elected to preside over one of our most powerful Branches, and to be associated with the government of the Association at a time when the relations of official life and general practice are so much under discussion.

I think it must be felt by all of you that there is a crisis approaching in the position of the ordinary practitioner of medicine: he is open to attack from many enemies both within and without the profession; he is shamelessly exploited by public men who ought to know better, and who, while ever ready to proclaim the noble and disinterested work of medical men, are singularly slow to provide them with the means of a livelihood, or even a moderate return for the time, money, and ability expended upon a laborious and ever-increasing period of medical education.

The suggestion of some form of a State medical service is neither new nor original; so long ago as 1856 that distinguished statistician, Dr. Rumsey, called attention to the need for some similar combination of offices to that which is now seriously proposed.

At that far distant period he had before him only one possible focus or base of operations—the Poor Law Medical Service. To that he proposed to affiliate certain officers, some not yet in being, which appeared to him to be necessary for the better administration of local government. Among these were the medical officer of health (then in embryo), the superintendent registrars (now lost to the profession), the medical jurist or coroner's assessor (still to be invented), analyst and public vaccinator, and with these certain ill-defined duties in connexion with hospitals, asylums, and lunatics.

In those days preventive medicine was a dream of the few. The Health of Towns Commission, whose reports show a wider range of vision than is generally credited to them, speak of the health and comfort of the people, and at the same time cynics were defining medical men as "quacks who poured drugs of which they knew little into bodies of which they knew less"; "paid to tell idle stories in the chamber of a sick man until he is either cured by Nature or killed by remedies."

To-day the recent issue of the Report of the Poor Law Commission has furnished me with an opportunity of discussing the grievous disabilities under which we are labouring as a profession, many of which have been amply noticed by the Commissioners, and of laying before you the remedies suggested by the Commissioners for what is to them a national evil and to us a source of continuous annoyance and injustice.

Never has there been a moment in our professional history when there was greater need or greater opportunity for the general medical practitioners of this country to decide for themselves what is to be done for them, and then to take united action to induce—I had almost said to compel—the great departments of the State to recognize and to protect a body of its most highly trained citizens, who are indispensable to its welfare, and who receive a very scanty return either in cash or courtesy for the services rendered to the public and to the Government.

Union is what we most desiderate; in the Association we are at the present time face to face with unfortunate dissensions over matters of internal policy, but the enemy is at the gate, and we need our full fighting strength for the protection of our professional future.

The want of union amongst us is notorious, and even when one of us is called to share in the government of the country, his appointment is received with suspicion and distrust. The reason is not far to seek. Until we have been able to set our house in order and to cleanse our ranks from the dishonest practitioner, until we have succeeded in producing a generation with an elementary knowledge of medical ethics, we shall have difficulty in bringing home conviction to the minds of the laity.

It is hardly necessary for me to labour to you the grievances of the general practitioner, but the report

* Delivered at the annual meeting of the Birmingham Branch, June 17th, 1909.

of the Commission has gone so deeply into them that I must briefly recall them to your minds.

The past history of the Poor Law service is known to most of you. The work of Dr. Rogers, which culminated in fixity and superannuation, has passed into history. But fixity is still denied to the Scottish Poor Law officers and to a large number of the auxiliaries in this kingdom.

For a moment I must burden you with the statistics of the service. There are in England and Wales 3,713 district medical officers, who in one year attended 216,022 cases, in addition to those who also were in receipt of regular parish pay, and to the inmates of the Poor Law infirmaries.

It is estimated that this relief cost about £500,000. It must not, however, be supposed that this half-million of money in any way represents the net income of the district medical officers. It is notorious that in the majority of districts the salaries paid are quite disproportionate to the work required or to the expenses incurred in covering the area. There are in England and Wales 650 boards of guardians, and to each board there are about six district medical officers whose districts vary in character and population, and who have to find their own drugs, dispensers, dressings, and bandages. In the original scheme it was provided that the district medical officer should receive extra fees for instrumental midwifery and for certain operations, as well as for assistance—for example, in giving an anaesthetic—but he rarely gets paid.

Dr. Downes, the Medical Inspector of the Local Government Board under the Poor Law, says: "It is undeniable that the majority of the medical officers, indoor or outdoor, are paid salaries miserably inadequate.

The report states that "many of the district medical officers declare that they do not receive more than fourpence or sixpence per visit." There is no reason to doubt the accuracy of this statement, and the Commissioners have believed and recorded it.

The original General Consolidated Orders of 1847 fixed a maximum of area and population for each district, but unfortunately left the central authority discretionary power to make exceptions on the application of the local authorities. "The exceptions allowed by the central authority are fairly numerous": so runs the report, and it is unfortunate that the number is not given. For instance, the areas in the borough of West Bromwich remain as they were in 1847, although the limit of the population has been exceeded for more than forty years.

The central authority also gives permission to avoid the payment of extra fees, and the unlucky medical officer has to pay for his own anaesthetist, or throw himself on the mercy of his brother practitioners, who are ever ready to hasten to the assistance of a colleague in difficulties. There is really no cause for their refusal except what I may call the systematic dishonesty of the Poor Law service. It is a singular fact that members of a board of guardians seldom see any harm in thus defrauding a medical man of money which he has fairly earned.

On this question of remuneration the Commissioners say:

"The competition of the medical men themselves and their want of cohesion in the matter of any attempt to raise their salaries have, we are told, both tended to keep the remuneration at a minimum."

"We do not feel qualified to determine the actual amount or method of remuneration which should be fixed for the various grades of medical officers employed; this is a detail which, we believe, can be safely left to the judgement of the new authorities which we propose to set up."

Gentlemen, our colleagues will derive no comfort from such a remark as this. The Commissioners are well informed; they admit the gross abuse at present existing; they recognize that the Consolidated Orders are systematically evaded. Yet they shrug their shoulders and do not propose even to enforce the very moderate regulations which have been abrogated under the discretion given to the central authority. It is for us to see that under a new name we do not find ourselves face to face with a perpetuation of an old injustice.

It is, I fear, only too true that we suffer from the unfair competition of our own colleagues. There are men ever ready to cry:

> My poverty and not my will consents;

there will always be public bodies to reply:

> I pay thy poverty and not thy will.

And meanwhile the Local Government Board continues to wink at these abuses, and also at the bribery, by giving collateral appointments, when the whole question could be settled by a few firm circulars issued from Whitehall. See especially the case of Edmonton (McVail, p. 119).

To these very practical drawbacks another may be added in the petty tyranny exercised by the relieving officer, and the utterly futile way in which orders for medical relief are distributed. The abuses of the Irish Poor Law system are well known, but England in places is little better; in one union in the Western Midlands the blank orders are left by the officer at the shops in a village; in nearly all no thought is given to the hours or the convenience of the doctor; notes are marked urgent which relate to chronic cases, and if the unlucky doctor does not attend, he runs the risk of being haled before the coroner, bullied by the jury, reported to the board of guardians, and pilloried in the papers, usually without a shade of justification.

Not the least factor in perpetuating this abominable system is the entire freedom from supervision which distinguishes the Poor Law Medical Service. The figures for England and Wales are still fresh in your memories. There are only two medical inspectors of the Local Government Board; of these, the senior confines his energies almost entirely to London, and the junior does what he can in the provinces, being expected to visit about 80 infirmaries in a year out of 650. Neither of them has any interest in or control over outdoor medical relief, nor has anybody else.

It is wonderful, under all these circumstances, that the work has been done as well as it has, but the profession have not wholly escaped the censure of the Commission, and, to be candid, it is not right that the facts should be concealed.

The report says:

"Outdoor medical relief begins and ends with a bottle of medicine and in the twentieth century we have ceased to believe in the bottle of medicine." "It is not regarded as any part of the duty of a District M.O. to take any steps to prevent disease either in the way of recurrence in the same patient or in its spread to other persons."

In plain English a great part of this half-million of money is spent in providing the poor with bottles of medicine—"a dark medicine with a strong taste preferably of peppermint." Burnt sugar, peppermint water, chlorodyne, and cough mixtures constitute the stock in trade of the average Poor Law dispenser.

As the local medical humorist wrote: "You just tell the medicines by the corks: if the cork's black you know it's the iron tonic, and if it's stained brown with a crust on it, it's the rhubarb and soda, and if it isn't any colour at all it's the salts and quassia. The pot. nit. you can tell by the taste, and the asafoetida and bromide by the smell. And that's all except the cough mixture which smells of paregoric. It's only fools as wants prescription books." Truly, "populus vult decipi et decipitur."

So much for our disabilities in the service of the Poor Law.

But the Commissioners have not stopped here; they have with great wisdom taken into account all the agencies through which medical relief is given either gratuitously or at less than a standard rate of fees. In this purview they have included the conditions of contract practice, which as we all know is closely assimilated in its defects to the conditions above mentioned; they have not lost sight of the effects of the competition of sanitary authorities, who have practically monopolized the treatment of the chief infectious diseases; they are cognisant of the ever-growing

tendency to make phthisis an institutional disease; the increased power and exalted status of the midwife has not escaped them; and finally they have considered exhaustively those institutions which subsist upon charity, and under the names of hospitals, general and special, nursing homes, residential and district, medical missions, etc., deprive the humbler members of the profession of their legitimate fees and offer to the public a more or less efficient service which tends to degrade and demoralize its recipients.

Even so the list is far from complete. We are threatened with the school clinic, by which the treatment of all children attending elementary schools will be taken over by the education authorities, under the direction of the medical officer of health. I am not surprised that the Editor of the British Medical Journal writes scoffingly of "the coming apotheosis of the M.O.H.": but I hope to show you that there is another side even to that.

I have purposely omitted from the above list provident dispensaries, and these must now occupy our attention. The provident organizations of the kingdom must be taken to include not only the provident dispensaries proper, but should embrace those institutions to which payments are made by the working classes under the heading of "Hospital Saturday," and the like.

The majority of the Commissioners have given very serious consideration to this large provident body, and have seen in it the nucleus of a combination which shall embrace all, or nearly all, the competing and overlapping agencies for medical relief at present in operation.

Before entering upon a definite series of recommendations the Commissioners point out certain cardinal defects which they desire to remedy and certain objections which they feel to the alternative schemes which they have discussed.

All the Commissioners are agreed on the necessity of reform in the administration of the Poor Law; in relief, both indoor, outdoor, and medical; in the arrangement of institutions, and in the attempt to better the home conditions of the poor.

The lines of difference are as follows:

1. The sort of authority which shall replace the present boards of guardians who are to be abolished.

2. The basis upon which the reformed Poor Law Medical Service shall be constructed so as to prevent waste, diminish overlapping, and secure efficiency in treatment by a better class of Poor Law medical officer.

3. The best methods of preventing the abuse of the system finally selected by Parliament.

The proposal of the majority is to substitute for the present Poor Law units a combined committee of a county council, partly elective and partly co-opted, which should organize on the basis of a provident dispensary system all the existing agencies for medical and nursing aid within its area.

To ensure the presence of experts the local Branches of the British Medical Association were to be invited to elect representatives on the committee. The Report says: "We cannot conceive that any medical institution could be efficiently managed by a committee who had at hand no medical experience except that of the actual medical officers responsible for the very arrangements which it was the duty of the committee to direct, control, and criticize."

Evidently the Commissioners have observed many things which are not to be set down in plain English.

In organizing this system on a "provident basis," they lay stress on two main points:

1. Power to compel payment from those who are able to pay.
2. That although for State reasons treatment must precede investigation, strict investigation must sooner or later be made into every case "to prevent the well-to-do from abusing the system of medical assistance."

Thus they propose to combine into one vast provident dispensary all existing institutions, and then they find themselves face to face with the struggle now taking place between the medical profession and the friendly societies. It is to remedy this abuse that they propose that "The British Medical Association be requested to suggest a general scale of fees and wage limit to be applied as local circumstances may suggest."

It would, of course, be premature to discuss the difficulties of such a scheme, and of assigning to each doctor proportionate remuneration for the work done. No suggestion is offered as to the principle of payment. At present, as we know, payment by area and population prevails; there is considerable danger that under the proposed general provident dispensary many of the present disabilities of the profession will be perpetuated, and that in return for a guaranteed sum in fees the dispensary medical officer will find himself as much as ever at the beck and call of an even larger and more exacting set of tyrants than under the present system.

In Birmingham we are in an exceptionally favourable position for forming an opinion on dispensary schemes on a gigantic scale. The recently established dispensary, with its 50 per cent. of medical control and its invitation to all medical men to come in, will afford those who are keen on reform a fine object lesson. It is perhaps not a bad thing that those men whose practices are most affected have shown some signs of combination and elected members of their own body to manage their affairs, but it will be seen from my quotation that that is not the proposition of the Commissioners. It appears to them that the supervision and criticism of the dispensary doctor of the future must be carried out, not by representatives of the doctors themselves, but rather by those who have had some past experience and are now free from the *sturm und drang* of earning bread and cheese by competitive practice, and able to look at the whole question from a sociological as well as from a medical point of view.

Between the recommendations of the majority of the Commission and the report of the dissenting four is interposed the exceedingly valuable and important memorandum issued by Dr. Downes. Dr. Downes, as you all know, is the senior Medical Inspector of the Local Government Board; those abuses and defects in the Poor Law which seem to have come as a surprise to the Commission have been known to him for years. He knows also what is good in the present system far better than his colleagues can do, and in his mind the good points are less obscured by the cloud of defects. He says:

> I desire to support the principle that public relief in every form should be administered and controlled by one local authority in each area.
>
> I dissent from the scheme of administration proposed in the Majority Report.
>
> The scheme proposed in the Report is too complicated for adoption in practice.
>
> The scheme set out in the Report appears to me to offer what amounts to a large measure of free medical relief without adequate safeguard either to the medical profession generally or to the ratepayer.

From these very few quotations I think that we shall see the necessity for a very careful and detailed examination of the scheme before we bestow the blessing of the British Medical Association upon it. The report of the Commission has put our Association forward as the recognized representatives of the medical profession. It is a position to which I believe we are fully entitled, but this recognition imposes upon us an increased responsibility not only to the State, which is prepared to approve our status, but to ourselves, collectively and individually.

Before passing to a review of the scheme put forward by the minority, it is necessary to say a few words upon the very interesting and valuable report issued as an appendix and compiled by Dr. McVail.

In this report most of the disabilities of medical officers which I have recited to you are amply illustrated from his experience among the rural and urban areas which he visited.

There are, however, some points which seem to have escaped him. He lays stress upon the unwillingness of sanitary authorities to accept reports from Poor Law officers as to the dirty and insanitary condition of pauper houses. This may be the case in rural areas; it is certainly the exception in the large majority of

urban districts, and it is a pity that it should go forth in this form.

He is prepared to carry the scheme much further than the Commissioners propose, and suggests that, working upon a provident dispensary basis, the medical officer should keep himself informed of the physical state of every patient on his list, so that he would have a life history of all of them. Dr. McVail in this preaches a doctrine of perfection, and, what is worse, he is prepared to overlap even more seriously than is at present the case. The dispensary doctor would, in his idea, usurp the functions of the school inspector, the medical inspector under the Factory Acts, the inspectors of midwives, the health visitors, and even the work done for life insurance. That the intrusion of the profession into the houses of the poor and the regular examination of the working man and his family would be resented goes without saying.

In short, Dr. McVail's proposals, excellent as they may be in theory, are wholly unworkable, and are based in some parts upon what he himself admits, a general want of knowledge of the conditions prevailing among the poorer classes in England. He says that until he undertook this inquiry he knew absolutely nothing of the subject.

The report of the minority is signed by Prebendary Wakefield, Mr. Chandler, Mr. Lansbury, and Mrs. Sidney Webb. The views expressed by these four members of the Commission were laid before their colleagues, but for reasons to which I shall briefly allude did not find acceptance with them.

The Minority Report commences by reciting in greater detail and in more picturesque language the objections to the present system of Poor Law relief, both general and medical, institutional and domiciliary, and is so eminently readable that it has been likened to a magazine article. After this recital the report proceeds to outline a scheme for reform, based upon the same administrative units as the scheme of the majority, but with this difference, that they do not propose to set up a new form of committee *ad hoc*, but rather to make use of the means which are already to hand and in full operation.

The minority see that since the establishment of the Poor Law service, the end of which is apparently at hand, there have sprung into being or developed a number of new agencies which have concerned themselves with the great problems of charity and medical relief; they see that these agencies overlap in a wasteful manner, and cost far more than they should for what I may call management expenses.

The principal agency, and the only one which is fully under public control, is the great sanitary service of the kingdom now organized in suitable areas and capable of further development. The administrative units of this service are, in fact, the same units as those proposed by the whole of the Commissioners in both schemes put forward.

Thus it is pointed out that the health committees of these administrative bodies already pass beyond the limits of preventive medicine and undertake the institution and management of isolation hospitals and phthisis sanatoriums, and that these institutions are gratuitous, like the medical relief of the Poor Law, and even more so, as little or no inquiry is made as to the ability to pay, nor attempt made to recover the cost. The addition of the arrangement and supervision of domiciliary and institutional Poor Law medical relief to the other duties of this Committee would not be a heavy burden, and with it would come the control of public vaccination, which ought to belong to them now, and the management of registration, which is essentially the function of a health department, and which once was theirs.

Again, in the new developments of the education committees the minority see a vast service, already co-ordinated with the sanitary departments in most good governments, assisting in the detection of disease, and on the point of undertaking curative measures for every child attending an elementary school; thus the children of the Poor Law will be automatically provided for, and by a careful system of inspection and prevention, much of the mortality of child life may be saved.

The same administrative units have been made responsible for the supervision of old age pensions, and may easily, if it seem good, undertake the provision of almshouses and the conversion of the present workhouses into homes of rest, more resembling the almshouse than the hated poor-house of fiction and poetry. Incidentally, though it does not affect the medical question, there are distress committees already at work for the relief of the unemployed.

One element only of new organization will be required. The work done by the relieving officers will have to be co-ordinated with the work already done by school attendance officers, district nurses, and health visitors, and referred to a central officer whom it is proposed to call the Registrar of Public Assistance. Home nourishment, old age pensions, and most of all the recovery of fees from those who can afford to pay them, will constitute the chief of his duties.

It has been said in the JOURNAL that these proposals "are nebulous and insufficiently considered," but to me there seems to be a good deal in them worthy of your consideration.

One of the principal criticisms which has been urged against them is that the control of the new scheme is insufficiently defined. The minority say:

> In such a unified medical service, organized in districts of suitable extent, the existing medical officers of health, hospital superintendents, school doctors, district medical officers, workhouse and dispensary doctors, and medical superintendents of Poor Law infirmaries would all find appropriate spheres; that one among them being placed in administrative control who has developed most administrative capacity.

In this extremely guarded suggestion nervous critics have been quick to detect the "coming apotheosis of the medical officer of health." They have failed to appreciate the fact that whereas the minority might in plain language have put forward the medical officer of health, they have carefully refrained from doing so. You know the proverb:

> Corinth Town is fair,
> But 'tis not every man who can get there.
> HOR., Ep. I, 7.

And the possession of a public health diploma *plus* the tenure of the post of medical officer of health does not necessarily confer administrative ability. In the recent movement for the examination of school children some medical officers of health have wisely abstained from involving themselves in new duties for which they did not feel themselves adapted, and I see no reason to suppose that it would be otherwise in this case. Administrative talent is not the prerogative of any branch of our profession, and in the ranks of medical officers of all official grades the local authority will be ready to recognize that man whose talents point in that direction. It may be the health officer or it may not, the authority will be at liberty to choose the best man for the post. The majority, in rejecting this scheme, put forward the following argument as their chief reason:

> It is to be expected also that if the whole or even a large proportion of the population resorted to the gratuitous public medical service, the practice of the majority of private medical practitioners would be gone.

Possibly this would be the case, or, to express it more accurately, his private practice would be exchanged for a State appointment. But this private practice is very seriously threatened already: the abuse of hospital out-patient departments, the sixpenny doctor's shop, and the herbalists, to say nothing of patent medicines and tabloids, have done much to reduce it to a minimum. They go on to say:

> With the exception of a very limited number of those who might attend the wealthiest classes, medical practitioners would be either absorbed in the public service or would be obliged to change their profession. We cannot contemplate with equanimity the extinction of an independent medical profession which may not only serve as a recruiting ground for the more responsible posts in a public service, but will by its originality and independence of criticism preserve that service from excessive officialism.

This exalted view of our profession is complimentary, but is somewhat difficult to realize in the fierce

struggle for existence which goes on at the bottom of the ladder. Nor do I think that medical men are independent of or insensible to criticism. On the contrary, we are an extremely sensitive body of men. The causes of individual failure are often known only to ourselves, and it must be even more terrible in many instances to review the secrets of individual success.

Further objections are raised to the appointment of a new official to be called the Registrar of Public Assistance, but this seems to be a minor matter compared with the creation of an entirely new Committee.

Oddly enough, while advocating the establishment of a provident service, the majority point out very clearly that there is no intention to interfere with the gratuitous treatment of infectious disease by the sanitary authorities, but seem entirely to overlook the fact that in many cases such treatment is compulsory; and, finally, in criticizing the imperfect administration of the smaller sanitary districts, they forget that the minority have adopted the same administrative unit as themselves.

It will have been seen that my own opinion inclines to the report of the minority, and to the scheme for a State Medical Service administered by the existing authorities in counties and county boroughs. I feel that much of the opposition which is being roused to this scheme among the profession is due to a mistaken notion of the position of the sanitary officers. I cannot overlook the bitter cry of the general practitioner who writes thus in the JOURNAL:

> We have let the midwifery go; we have let school inspection go: and apparently we are trying to throw overboard the health appointments; and all that remuneration and prestige will be lost to the general practitioners.

Even in our own service the lines of cleavage between the part-time and the whole-time men are becoming more defined, and the replies of the Divisions will decide for the appointment of whole-time men, except in the very small districts.

It will always be true that the best medical officers of health are those who know something of private practice, of the Poor Law, and of the trials of the general practitioner, and it should be the endeavour of the Association to build up the public health service on those lines rather than to assume a hostile attitude to its further development.

CONCLUSION.

It is abundantly evident that we are on the eve of great and sweeping changes in the administration of medical aid.

The reform of the Poor Law and the abolition of boards of guardians as the relieving authority is inevitable. If one political party does not do it the other will.

Two schemes will be before the country:

1. The arrangement of all medical relief on a provident basis.
2. The establishment of a State medical service with power to the State to recover the cost from those who can afford to pay.

In the first there will be set up a new authority, not much differing from the old, who will perpetuate the worst abuses and features of the present system if they are not closely watched. The only safeguard offered to the profession under this scheme is the co-option of a few members of the Association who are sufficiently well placed to be outside the official list of doctors. In the second the scheme will be controlled ultimately by the councils of counties and county boroughs working in their existing committees and appointing a central medical officer to administer the whole scheme of medical relief, both curative and preventive.

My own predilection is for the latter. I can speak as having had full experience of Poor Law practice, contract practice, and public health administration. I beg of you to consider this question without prejudice, and not to be led astray by cries of medical socialism and political faction which are wholly beside the main issue.

It is for the Association to discuss this matter very fully, and to sink all small differences in coming, if possible, to some fighting agreement.

Do not deceive yourselves by saying that these things will not happen. It is too late to turn back; it is of no use to dam the flowing tide. You must divert the flood into such channels as will best serve to irrigate your own interests, and however conservative you may be in this matter, you must endeavour to modify the policy of the party of progress to your own ends. I commend to you the words of one of the most eloquent of our own profession—Professor Oliver Wendell Holmes:

> Yet in opinions look not always back;
> Your wake is nothing, mind the coming track.
> Leave what you've done for what you have to do;
> Don't be "consistent," but be simply true.

Meetings of Branches & Divisions.

NORTH OF ENGLAND BRANCH.

A SPECIAL meeting of the Branch was held at the Royal Victoria Infirmary, Newcastle, on Tuesday, August 10th, at 3.30 p.m., Mr. RUTHERFORD MORISON, President, in the chair.

Apologies for Absence.—The HONORARY SECRETARY (Dr. Todd, Sunderland) intimated that he had numerous apologies for absence from members who were away on their holidays, etc.

Relation of Northumberland and Durham Committees to Branch Council.—The PRESIDENT opened a discussion on the positions of the Durham and Northumberland Committees and their relationship to the Branch Council. He was desirous that these committees should be able to act at all times independently of the Branch Council, and that the Divisions should report all work done by them to these committees. The HONORARY SECRETARY (Dr. Todd, Sunderland) thought that if the President's ideas were carried out, it would practically mean the effacement of the Branch Council, and interfere with the autonomy of the Divisions, and would be unconstitutional and against the standing orders. After a long discussion, the following resolution was proposed by Dr. BUNTING of Newcastle, and seconded by Dr. FOX of Blyth:

> That a special Subcommittee be appointed to consider the readjustment of the relations to each other of the County Committees, Divisions, and Branch Council.

This was carried unanimously, and the following were elected to act:

> The President, Mr. Rutherford Morison (Newcastle); the Honorary Secretary, Dr. Todd (Sunderland); Dr. T. L. Bunting (Newcastle); Dr. Trotter (Bedlington); Dr. Don (Newcastle); Dr. Davis (West Hartlepool); Dr. Farquharson (Bishop Auckland); Dr. Mearns (Gateshead).

Elections to Branch Council.—Drs. Burnett, Bunting, and Peart were elected members of the Branch Council.

Contract Practice.—The HONORARY SECRETARY then reported that a new society had recently been formed called the "Doctors' Medical Friendly Collecting Society," and explained that he considered it another attempt to exploit the general medical practitioner for the financial gain of a body of laymen; the principle of allowing any others than medical men to interfere in the relationships between a doctor and his patient was entirely wrong, and lowering to the status of the medical profession. He proposed the following resolution:

> That no member of the North of England Branch, British Medical Association, should have anything whatever to do with the said society.

Dr. CAMPBELL of Newcastle seconded the resolution, and in a most able speech showed the very injurious effect that such societies had on general practice, and that canvassing, etc., was distinctly against the instructions of the General Medical Council, and if even the Society were prepared to put on a wage limit that medical men would have no control or power to see that their recommendations were carried out. Many members spoke in support of the resolution, and the same, on being put to the meeting, was carried unanimously.

New Members.—Eighteen new members were elected.

The Annual Exhibition

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FOURTH NOTICE.]

JAMES B. LIPPINCOTT AND CO., Publishers (5, Henrietta Street, London, W.C.). This firm of publishers, whose name has now become familiar on this side of the water, has a record of over one hundred years behind it in America. Of its many departments that which deals with scientific works is one of its best, and from time to time a considerable number of publications issued by it have been favourably reviewed in these columns. Several of these were on view at Belfast, their feature as a whole being their wealth in illustrations. An instance in point is Piersol's *Human Anatomy*, the reception of which in the United Kingdom and the Colonies was quite as favourable as that which the work received when it first appeared in America. It is a textbook on anatomy of a most elaborate character containing over 1,700 illustrations, of which 541 are in colours. The description of each organ begins with an account of its gross anatomy, this being followed by an account of its histology and embryology, each article concluding with a review of the practical considerations attaching to the organ. An equally striking book shown was Pfaundler and Schlossmann's *Diseases of Children*. It is in four volumes, containing in addition to 400 engravings 61 full-page plates. The editors have had the assistance of a very large number of specialists in different countries, and the book as a whole is of a most comprehensive and practical character. The firm is also the publisher of the well known *International Clinics*, of which several volumes were shown. It is a quarterly journal of clinical lectures by leading authorities in all parts of the world. Each quarterly volume contains some three hundred pages, illustrations both in colours and in black and white being freely used. In the same connexion may be mentioned Winter's *Gynaecological Diagnosis*, an octavo of some six hundred pages and some three hundred and fifty coloured and other illustrations. Other noteworthy books to be seen were Fox's *Photographic Atlas of Diseases of the Skin*, a third English edition of Fuchs's *Textbook of Ophthalmology*, an eighth revised edition of White and Martin's *Genito-Urinary Surgery and Venereal Diseases*, and a further revised issue of *Lippincott's New Medical Dictionary*. There can be obtained on application a well illustrated catalogue of the firm's more important medical publications up to date.

THE ROYAL LEAMINGTON SPA. The authorities of the Borough of Leamington had upon view a number of pictures and statistical records relative to this well-known inland health resort. For a full account of the numerous attractions of the locality, both to visitors in search of health and for ordinary residents, we must refer readers to an article published in these columns in the issue for August 10th, 1907. It is difficult at an exhibition to bring home to visitors a full and true conception of the therapeutical and other advantages to be found at a health resort, but at any rate the authorities of the Borough of Leamington made it clear by their exhibit that the Royal Pump Room and bathing establishments, as reorganized, are of a thoroughly satisfactory character, and that they offer facilities for all forms of hydrotherapeutic treatment now in repute. The sketches exhibited showed, too, that the town is well laid out, and excellently supplied with open spaces; while as regards the climate, the tables shown seemed to justify the claim made for Leamington that, so far as equability is concerned, the meteorological conditions are superior to those of the majority of inland watering places in this country.

BRAND AND CO. (74–84, South Lambeth Road, Vauxhall, S.W.). There was a fairly complete collection of the dietetic specialities of this firm, the majority being products too long and favourably known to require detailed description. One specially useful preparation is *Brand's Meat Juice* in small flat bottles, which is simply the juice of English-grown beef obtained by pressure. In our own experience a teaspoonful of this liquid in a wineglassful of cold water makes a very stimulating beverage, and if the bottle is corked with a scorched pledget of cotton-wool it keeps good for many days. An analysis which we have seen shows it to contain 30 per cent. of beef extractives and 10 per cent. of mineral matter, chiefly in the form of soluble phosphates and common salt. Another speciality of value is the firm's *Fever Food*, a mixture of meat essence, yolk of egg, and fresh cream. It sounds a curious combination, but has been carefully thought out on scientific lines, and is certainly very palatable. It is prepared more particularly for use in the tropics, but should be useful anywhere. The firm's ordinary essence of beef is now put up in glass pots of hygienically attractive appearance, corresponding preparations of chicken, mutton, and veal being vended in the same style. Of the same general character, and specially intended for hospital use, is the firm's *Beef Broth*. It is really a jelly, which can be eaten with a spoon or turned into a fluid to be drunk. Similar preparations of chicken, mutton, and game can also be obtained. One of the earliest products of the firm, *Brand's Concentrated Beef*, is still vended in its original form, the sausage-like skin in which it has been familiar to several generations of medical men. Likewise useful for much the same purposes are the *Beef Tea Tabules*; they can be carried about in the pocket, occupying no space, and can be converted into beef tea with a little hot water at a moment's notice. We also noted a *Nutrient Powder* of the same general character as that which is now commonly used as an adjunct to vegetarian diets, and an albuminous essence of beef which consists of ordinary beef essence supplemented by a proportion of the albuminous fatty and fibrous elements of meat.

THE HYGIENIC SYPHON COMPANY (20, Bucklersbury, London, E.C.). This company had upon view a new form of syphon, in launching which it is desirous of receiving the assistance of the medical profession. This is likely to be forthcoming, for this *Hygienic Syphon* is certainly preferable to those in ordinary use. The latter have several disadvantages from the point of view of hygiene. Apart from the fact that there commonly enters into their construction more or less metal which may possibly be corroded by the liquid in the bottle, they can rarely be cleaned, since their heads are very difficult to remove; hence when refilled the new liquid mixes with the dregs of the old. Furthermore, since they are filled through the spout, dust or anything else collected therein may be swept into the interior of the bottle. In this connexion it is to be remembered that syphons are sent out to households of very varying character, and often remain in sick rooms for an indefinite period. The *Hygienic Syphon* is free from all these defects. With the exception of a thin gutta-percha washer it is made entirely of ebonite, porcelain, and glass; the head, being screwed into the bottle, can be removed in a few seconds, and the bottle thoroughly cleaned out, and the whole apparatus could be sterilized if desired. Finally, in filling the bottles, there is no risk of carrying in extraneous matter unintentionally, since the liquid is not forced in through the spout. The mechanism by which syphonage action is brought about is very simple, and every householder can, if he pleases, keep his own tap, screwing it into the syphon head of each new flask of aerated water received. In these circumstances he will receive his fresh supplies in syphons covered with a porcelain dust-tight cap, and replace this by his own tap. The adoption of these new syphon heads should be a great protection both to the public and the mineral water trade, which is of gigantic size in this country. It seems to be admitted by

manufacturers that this new system is of a perfectly practical character, and that, except for the initial expense of new bottling outfits, it will be easy and advantageous to adopt. It only remains, therefore, for consumers to demand that their aërated waters should be supplied to them in bottles with this very cleanly device, instead of the old-fashioned head.

INTERNATIONAL PLASMON, LIMITED (66a, Farringdon Street, London, E.C.). This was the first of the dried milk products to make its appearance, and it won favour in spite of considerable opposition and doubt as to its real value. This, however, may be considered as having now been proved to the full, more especially in view of the fact that the firm puts its preparation forward in no sense as a medicine, but purely as a food. It contains, we were informed, all the caseinogen and salts of good milk in a dried form without any alteration or addition, and the chief claim made for it is that by its use the nutritive value of other foods can be readily increased. Its addition either in solution or in powder foods does not interfere with the flavour of the other foods thus supplemented. Another strong point is that its employment requires no kind of skill on the part of the nurse or housewife, but for the benefit of those who prefer a food entirely ready made, the firm supplies many common articles of diet ready fortified by the addition of *Plasmon* in various proportions. These include biscuits of all varieties, such as plain, sweet, wholemeal, fancy and cracker biscuits, beef-teas, and custards. A plasmon cocoa was also on view, which contains, we were informed, over 72 per cent. of soluble proteids. According to Virchow, the whole of plasmon is assimilable; while in regard to its practical use its entire solubility is of great advantage. From correspondence we have seen, it would appear that the phosphorus contents of the dried milks which, since the introduction of plasmon have become so popular, have been called into question, and the point has been carefully tested on behalf of the firm by an analyst of standing. After reviewing all the factors involved, he shows that all the phosphorus in plasmon is probably not directly ascribable to the casein it contains, because other dried milk preparations in which the casein has been purified by chemical treatment show considerably less phosphorus than plasmon. His conclusion is that in these preparations some of the organic phosphorus of milk is destroyed, while the manufacturers of plasmon have been fortunate enough to hit on a process by which the whole of it is preserved in a concentrated but still natural combination.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

The Registrar-General has just issued his return relating to the births and deaths in the second quarter of the year, and to the marriages during the three months ending March last. The marriage-rate during that period was equal to 15·5 per 1,000 persons, or 1 per 1,000 less than the mean rate for the corresponding quarters of the ten preceding years.

The births registered in England and Wales during the quarter under notice numbered 237,142, and were equal to an annual rate of 26·6 per 1,000 of the population, estimated at 35,755,615 persons in the middle of the year; the average rate in the second quarter of the ten preceding years was 28·5 per 1,000, the rate last quarter being lower than in the corresponding period of any year since civil registration was established. The birth-rates in the several counties ranged from 20·5 in Sussex, 21·8 in Cornwall, 22·0 in Northamptonshire, and 22·1 in Kent, to 30·3 in Gloucestershire, and in Carmarthenshire, to 31·3 in Northumberland, 31·6 in Nottinghamshire, 33·6 in Carmarthenshire, 35·2 in Durham, 35·8 in Glamorgan-shire, and 37·6 in Monmouthshire. In seventy-six of the largest towns, including London, the birth-rate averaged 26·6 per 1,000; in London the rate was 24·9 per 1,000, while among the seventy-six other towns it ranged 27·2, and ranged from 15·9 in Hastings, 17·6 in Halifax, 17·8 in Hornsey, 19·4 in Bournemouth, 20·1 in Handsworth (Staffs), 20·2 in Bury, and 20·4 in Bradford, to 33·1 in St. Helens, 34·1 in Gateshead, 35·2 in Middlesbrough, 35·8 in Tynemouth, 36·1 in Merthyr Tydfil, and 40·9 in Rhondda.

The excess of births over deaths during the quarter was 112,121, against 111,798, 111,398, and 122,863 in the corresponding periods of the three preceding years. From returns issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 40,321 persons. There was an outward balance of 16,580 English, of 9,381 Scottish, of 9,913 Irish, and of 227 Welsh passengers, and an inward balance of 6,106 British Colonial passengers; among foreigners there was a net balance outward of 10,355 persons.

During the second quarter of the year the deaths of 125,021 persons were registered, equal to an annual rate of 14·0 per 1,000, or 1·5 per 1,000 less than the mean rate in the late ten preceding second quarters. The lowest county death-rates last quarter were 11·1 in Middlesex, 11·5 in Essex, 11·7 in Leicestershire, 11·9 in Kent, and in Northamptonshire, and 12·0 in Surrey and in Wiltshire; the highest rates were 18·1 in Glamorganshire, 15·2 in Cumberland, 15·6 in Northumberland, 15·7 in Durham, 15·8 in Carmarthenshire, 16·5 in Lancashire, and 16·6 in the North Riding of Yorkshire. In seventy-six of the largest towns, with an aggregate population estimated at 16,____millions, the corrected death-rate averaged 14·7 per 1,000, in its smaller towns, containing an aggregate population of over five millions, the rate was 13·9 per 1,000, while in the remainder of the country it was 12·6 per 1,000. The annual death-rates in the seventy-six towns ranged from 8·1 in Hornsey, 9·2 in King's Norton, 9·3 in Leyton, and in Handsworth (Staffs), 9·5 in East Ham, and 9·7 in Walthamstow, to 18·0 in Liverpool, 18·1 in Liverpool, and in St. Helens, 18·4 in Salford, 18·5 in Wigan, 18·6 in Wolverhampton, 19·7 in Oldham, and 20·0 in Middlesbrough; in London the rate of mortality was 13·8 per 1,000.

The 125,021 deaths from all causes in England and Wales last quarter included 9,559 which were referred to the principal infectious diseases; of these 4,020 were attributed to measles, 2,159 to whooping-cough, 1,081 to diphtheria, 984 to diarrhœa, 871 to scarlet fever, 432 to "fever" principally enteric, and 6 to small-pox. The aggregate mortality from these causes was equal to 1·07 per 1,000, or 0·20 per 1,000 less than the average rate in the corresponding second quarter of the previous ten years. The mortality from each of these diseases, except measles, was below the average.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 95 per 1,000, or 17 per 1,000 less than the average rate in the ten preceding second quarters. Among the seventy-six towns the rates of infant mortality last quarter ranged from 67 in Sussex, 68 in Wilts, 70 in Kent, 71 in Kent, in Berkshire, in Middlesex, and in Dorsetshire, and 72 in Hertfordshire, to 104 in Nottinghamshire, 105 in Durham, 106 in the North Riding of Yorkshire and in Carmarthenshire, 108 in Lincolnshire, 114 in Staffordshire, and 119 in Lancashire. In seventy-six of the largest towns the mean rate was 109 per 1,000, while in London it was 92 per 1,000, while it averaged 104 in the seventy-five other large towns, and ranged from 50 in Hornsey, 55 in Hastings, 58 in Kings' Norton and in Leyton, 62 in Brighton, and 63 in Acton and in Devonport, to 130 in Warrington, 132 in Wolverhampton, 134 in Hebburn, 136 in Wigan, and 151 in Preston and in Middlesbrough.

The mean death-rate among persons aged 1 to 60 years was 7·5 per 1,000 of the population estimated to be living at these ages, and was 0·7 per 1,000 below the mean rate in the corresponding period of the ten preceding years. In the seventy-six large towns the death-rate at this group of ages was 7·7 per 1,000; in London the rate was 7·0 per 1,000, while among the other towns it ranged from 3·7 in Hornsey, 4·6 in Handsworth (Staffs), 4·7 in Croydon, and 4·9 in Tottenham, to 12·1 in Hastings, 12·2 in Devonport, to 13·1 in Hebburn, 13·6 in Wolverhampton and in Wigan, 11·8 in Salford, 12·0 in Middlesbrough, 12·2 in Oldham, and 12·3 in Warrington.

Among persons aged 60 years and upwards the death-rate last quarter was equal to 65·6 per 1,000 of the population at that age-period, the average rate being 66·2 per 1,000. In the seventy-six large towns the mortality of this age-group averaged 67·0 per 1,000; in London the rate was 62·1, while it ranged from 43·9 in King's Norton, 47·7 in West Bromwich, 48·5 in Leyton, and 49·7 in Reading, to 82·5 in Birkenhead, 84·0 in Barry, 85·0 in Preston, 86·4 in Rhondda, and 91·2 in Oldham.

The mean temperature of the air last quarter was slightly above the average. The rainfall was in excess of the average in all districts except the English Channel; the excess in London and the South-Eastern districts amounted to about 30 per cent. The duration of bright sunshine was everywhere in excess of the average.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,285 deaths under 1 year of age were registered during the week ending Saturday last, August 14th. The annual rate of mortality in these towns, which had been 10·6, 10·8, and 10·5 per 1,000 in the three preceding weeks, rose last week to 11·5 per 1,000. The rates in the same towns ranged from 2·8 in Leyton, 4·6 in Walthamstow, 5·7 in Kings' Norton and in Preston, 5·8 in Barrow-in-Furness, 6·3 in East Ham, and in Reading, 6·5 in Hornsey, to 14·1 in Liverpool, 14·3 in Blackburn, 15·3 in Oldham, 15·7 in Walsall, 15·8 in Halifax, 16·4 in Swansea, 17·3 in Rhondda, 19·2 in West Bromwich, and 25·3 in Newport (Mon.). In London the rate of mortality was 11·3 per 1,000, while it averaged 11·6 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·5 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 1·0 per 1,000, while among the seventy-five other large towns they ranged from 0·2 to 2·9 in Wigan and in Warrington, 3·2 in West Ham and in Salford, 3·4 in Plymouth, 3·5 in Middlesbrough and in Rhondda, 5·2 in West Bromwich, and 6·5 in Newport (Mon.). The highest death-rates were 2·0 in Rhondda, 1·7 in Salford, 2·5 in Wolverhampton, 3·0 in West Bromwich, and 7·3 in Newport (Mon.); scarlet fever of 1·5 in West Hartlepool and 1·4 in Wolverhampton; diphtheria of 1·3 in Kings' Norton, and 2·1 in Grimsby; and diarrhœa of 1·5 in Leicester and in Stockport, 1·7 in Liverpool and in Wigan, 1·8 in Aston Manor and in Nottingham, 1·9 in West Ham, 2·1 in Plymouth and in Swansea, 2·2 in West Bromwich, and 2·3 in Bootle and in Rhondda. The mortality from whooping-cough was not excessive in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,731, 2,657, and 2,564 at the end of the three preceding weeks, had further declined to 2,518 at the end of last week; 298 new cases were admitted during the week against 367, 336, and 280 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, August 14th, 885 births and 552 deaths were registered in the eight principal Scottish towns. The annual rate of mortality in these towns, which had been 12·5, 11·8, and 12·0 per 1,000 in the three preceding weeks, further rose last week to 12·5 per 1,000, and was 1·1 per 1,000 below the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 11·3 in Edinburgh and 11·7 in Dundee to 14·1 in Perth and 16·8 in Leith. The death-rate from the principal infectious diseases averaged 1·2 per 1,000, the highest rates being recorded in Dundee, Leith, and Greenock. The 216 deaths registered in Glasgow included 6 which were referred to measles, 2 to scarlet fever, 4 to enteric fever, 1 to typhus, and 8 to diarrhœa. Two fatal cases of scarlet fever, 5 of whooping-cough, and 2 of diarrhœa were recorded in Edinburgh; 5 of diarrhœa in Dundee and 2 in Greenock; and 1 of cerebro-spinal meningitis in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 14th, 680 births and 307 deaths were registered in the twenty-two principal urban districts of Ireland, as against 615 births and 344 deaths in the preceding period. The annual death-rate in these districts, which had been 14.5, 15.4, and 15.8 per 1,000 in the three preceding weeks, fell to 14.0 per 1,000 in the week under notice, this figure being 2.5 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The rates in Dublin and Belfast were 15.5 and 14.2 respectively, those in other districts ranging from 4.7 in Wexford and 6.6 in Queenstown to 28.6 in Newtownards and 33.8 in Galway; while Cork stood at 15.8, Londonderry at 13.5, Limerick at 19.3, and Waterford at 23.4. The zymotic death-rate in the twenty-two districts averaged 1.3 per 1,000, as against 1.7 per 1,000 in the preceding period.

Naval and Military Appointments.

ROYAL NAVY — MEDICAL SERVICE.

SURGEONS T. B. SHAW, M.B., A. T. GAILLETON, M.B., G. S. DAVIDGE, and P. T. NICHOLLS are promoted to be Staff Surgeons, August 10th. Their first appointment bears date August 10th, 1901. Staff Surgeon Shaw, whilst Surgeon of the *Hawkeith*, landed for the capture of the Mullah's stronghold at Illig, in 1904, for which he received the East African medal with clasp.

The following appointments have been made at the Admiralty: Fleet Surgeon P. E. MAITLAND to the *Albion* on recommissioning; Surgeon L. C. ROWAN-ROBINSON, M.B., to the *Drake*, August 10th; Surgeon S. H. VICARY-SMITH to the *Implacable*, August 10th; Surgeon W. MEARNS, M.B., to the *Actaeon*, August 10th; Staff Surgeon P. H. BOYDEN, M.D., to the *President*, additional, for London Recruiting Head Quarters, temporary, August 11th.

INDIAN MEDICAL SERVICE.

THE promotion of Major A. LEVINGTON, F.R.C.S.I., notified in the *London Gazette* of October 4th, 1907, is antedated to January 29th, 1907.

The promotion of Major J. M. WOOLLEY, M.B., notified in the *London Gazette* of March 26th, 1909, is antedated to July 29th, 1908.

The undermentioned Lieutenants are promoted to be Captains from the dates specified:—A. F. HAYDEN, M.B. (provisionally), September 1st, 1908; P. S. MILLS, M.B. (provisionally), and P. F. WERNICKE, February 1st; C. R. O'BRIEN, M.B., N. H. HUME, M.B., G. E. MALCOLMSON, M.D., and D. M. C. CHURCH, M.B., March 1st. The first appointment of Captain Hayden bears date September 1st, 1905; that of the other officers cited, February 1st, 1906.

WEST AFRICAN MEDICAL STAFF.

THE following changes in the personnel of the West African Medical Staff are announced by the Colonial Office:

RETIREMENTS.—A. B. Rendle, M.O., Southern Nigeria, February 12th, 1909. J. C. RYAN, M.O., Southern Nigeria, May 31st, 1909, receiving a gratuity. R. E. McConnell, M.O., Gold Coast, July 2nd, 1909. J. B. H. DAVSON, S.M.O., Gold Coast, July 25th, 1909, receiving a pension. G. L. BARKER, M.O., Gold Coast, August 15th, 1909, receiving a gratuity.

APPOINTMENTS.—J. Tichborne, late S.M.O., Northern Nigeria, to be S.M.O., Gold Coast, vice J. B. H. Davson, retired. First appointments have been made as follows:—C. F. Lahn, M.B., B.Ch. Oxon., February 20th, 1909, to be M.O., Southern Nigeria. E. Slack, M.B., B.C. Camb., March 6th, 1909, to be M.O., Gold Coast. H. B. Kent, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., April 3rd, 1909, to be M.O., Southern Nigeria. A. W. H. Grant, L.M.S.S.A. Lond., May 8th, 1909, to be M.O., Southern Nigeria. E. M. Franklin, L.R.C.P., L.R.C.S. Edin., L.F.P.S Glasg., June 5th, 1909, to be M.O., Southern Nigeria. E. Brabazon, M.R.C.S. Eng., L.R.C.P. Lond., July 6th, 1909, to be M.O., Gold Coast. W. S. Clarke, M.B., Ch.B. Aberd., D.P.H., July 24th, 1909, to be M.O., Southern Nigeria.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £50 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—Honorary Acting Medical Officer.

BRENTWOOD: ESSEX AND COLCHESTER ASYLUM.—Fourth Assistant Medical Officer. Salary, £150 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

FULHAM UNION INFIRMARY.—Assistant Medical Superintendent. Salary, £150 per annum.

GLASGOW: ANDERSON'S COLLEGE MEDICAL SCHOOL.—Chair of Physiology.

HALIFAX ROYAL INFIRMARY.—Third House-Surgeon. Salary, £60 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Assistant Surgeon.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) three House-Surgeons. Salary at the rate of £60 per annum.

MANCHESTER CHILDREN'S HOSPITAL.—Resident Medical Officer (male). Salary at the rate of £90 per annum.

MANCHESTER: NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Honorarium at the rate of £50 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary, £60 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Physician. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons (male). Salary, £40 each per annum.

OLDHAM INFIRMARY.—(1) Senior House-Surgeon; (2) Third House-Surgeon. Salary, £120 and £80 per annum respectively.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer. Salary, £50 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Resident Medical Officer. Salary, £100 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £80 per annum.

SUNDERLAND: SUNDERLAND AND DURHAM EYE INFIRMARY.—House-Surgeon. Salary, £210 per annum (outdoor).

TEIGNMOUTH HOSPITAL, SOUTH DEVON.—House-Surgeon. Salary, £70 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians; (2) three House-Surgeons.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Resident Surgical Officer; (2) House-Surgeon. Salary, £125 and £80 per annum respectively.

APPOINTMENTS.

GRAY, L., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for Stafford.

HOOD, B., M.R.C.S., Medical Officer St. Marylebone Parish Workhouse.

JARVIS, J., M.R.C.S., L.R.C.P., District Medical Officer of the Bath Union.

KER, W. P., M.R.C.S., L.R.C.P., District Medical Officer of the Bellingham Union and of the Rothbury Union.

MONTGOMERY, E. C., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Maidenhead District, co. Berks.

RADCLIFFE, R. B., M.B., Ch.B. Leeds, District Medical Officer of the Tadcaster Union.

WALTER, E. C., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Wallingford District, co. Berks.

WELCH, C. H., M.R.C.S., L.R.C.P., District Medical Officer of the Bath Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

DEATH.

MENNIE.—On August 16th, suddenly, at Balgownie, 211, Bridge Road, Battersea, S.W., James Edward Mennie, M.B., Ch.B. Aberdeen.

RECENT PUBLICATIONS.

The Handy Hotel Guide. London: The Hotel and General Advertising Company, Limited, 239, Shaftesbury Avenue. (No price mentioned.)

The thirteenth edition of an alphabetical list of hotels in the United Kingdom, formerly published under the title *The Tariff-Frame Hotel Guide*. It contains the names and some particulars of tariffs of over 1,000 hotels, including many in small places not advertised in the usual railway guides; it seems likely to be useful to cyclists and motorists in particular.

Practical Summary of Points to be Noted in Cases of Neurasthenia in Women. Arranged by George Burford, M.B., and C. Granville Hey, M.B. London: John Bale, Sons and Danielsson. (Cr. 8vo, pp. 16. 1s. 6d. a dozen.)

A scheme for taking notes of such cases, with blanks for entries, and a few notes on points to which special attention should be given.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W. The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics, X Rays; 2.30 p.m., Operations. Monday and Thursday, and Wednesday, at 2 p.m., Diseases of the Eyes (Saturday at 10 a.m.). Tuesday and Friday, 10 a.m., Gynæcological Operations; 2 p.m. (and Wednesday and Saturday, 10 a.m.) Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin. Wednesday and Saturday, 10 a.m., Diseases of Children; 2.30 p.m., Diseases of Women. Lectures: At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar. Friday, Demonstration by Medical Registrar. At 12 noon, Monday, Pathological Demonstration. At 12.15 p.m., Tuesday and Wednesday, Practical Medicine. At 5 p.m., Tuesday, Syphilitic Diseases of the Nervous System. Wednesday, Squint.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 28TH, 1909.

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The Annual Exhibition

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FIFTH NOTICE.]

J. AND J. TAUNTON, LIMITED (Belgrave Works, Sherbourne Road, Birmingham). This well-known firm of bedstead manufacturers had a limited display of its productions in the way of hospital and asylum bedsteads. All of them were fitted with the firm's Diagna Spring Mesh Bottom. At first sight the special advantage of this patent is not obvious, but on closer observation it will be seen that the coiled springs common to all spring mattresses, instead of being straight, all bend towards the mathematical centre of the mattress. The tension, therefore, is diagonal instead of longitudinal. The modification is very slight, but sufficient to secure an immense advantage—namely, that, instead of the weight of the body acting only in the middle of the mattress, it is equally distributed, and sagging is avoided. It is claimed by the makers that this Diagna Spring Mesh is 37 per cent. stronger than any other form of mesh in the market, and it appears that two or three years ago this claim became the subject of an action in the law courts, which went in Messrs. Tauntons' favour. One specially attractive bed shown was that known as the *Rotunda Bedstead*. Its mattress can be elevated to any angle desired, so as to secure vaginal drainage, and suspended between the uprights at the foot is a neat infant's cot. Another good bed shown was the *Chatham Ideal Surgical Bed*. The whole of the headpiece can be removed from the legs, so as to facilitate nursing, and fracture boards can be placed in position without disturbing the patient. A new device shown was a fracture *Extension Pulley*, which can be fixed to any bedstead. It is very smart in appearance, and the method of bringing to bear the desired weight is both simple and ingenious.

THE MALTINE MANUFACTURING COMPANY (24, Hart Street, Bloomsbury, London). At this date there is little fresh that can be said in respect of maltine, which, in the various guises in which it is produced by this firm, is likely to maintain its position in the treatment of nutritional disorders, whatever advances in other directions may be made. Apart from its own dietetic value, *Maltine*, when combined with cod-liver oil, certainly enables the latter to be taken by persons who can neither swallow nor assimilate it in any other form. We tasted the preparation after an interval of a year, and were again struck by the success with which all taste of cod liver oil is concealed by maltine when mixed with the oil by the vacuum process employed by this firm. A large number of other compounds of maltine were also shown, nearly all of them being familiar products, such as maltine with pyrophosphate of iron, quinia, and strychnia, and *Maltine with creasote*. Attention may also well be directed to the use of maltine as a means of rendering cow's milk more easily assimilable by young children. The firm issues a pamphlet on the subject which is worth perusing. On the same stall was shown another popular preparation, "Carnrick's Liquid Peptonoids," described as a compound of beef, wheat, and milk. An analytical article on this preparation is published in the JOURNAL this week, page 562.

Messrs. SLACK AND BROWNLOW (Abbey Hey, Gorton, Manchester). If the well-known filters of this firm have any fault at all it is that in external appearance many of them suggest a return to the old-fashioned inefficient filter of twenty years ago. But, of course, the resemblance is merely one of external appearance, the firm's filtering appliances being really of the most modern character. They are made entirely in England, the filtering medium being porous porcelain thrown into the form of hollow cylinders or candles, and their use constitutes an entire protection against impure water, as that which passes through them is rendered sterile, whatever the number of previously contained micro-organisms may have been. All the candles or cylinders are readily detachable so as to admit of their being occasionally cleaned and boiled, thus guarding against any theoretic possibility of organisms growing through the filtering material; very few joints are now used anywhere, and filters of a kind and shape suitable to all needs—from those of a traveller at one extreme to those of a hospital at the other—may be obtained. For household purposes an excellent filter is the stoneware non-pressure filter, in

which an ice chamber has been introduced in such fashion that the filtered water is cooled to a pleasant temperature, but not brought into direct contact with the ice. Appliances for attachment to the main and filtering rapidly may likewise, of course, be obtained. A good example of these is the *Hospital Sterilizer*, an exceedingly practical appliance for use in the operating room, and providing sterilized water of any temperature desired. Since last year the firm has put upon the market quite a fresh appliance. This is a bulb of loose textured porcelain filled with crystals of permanganate of potash, which is intended to be placed in lavatory cisterns, impregnating the water with more or less of this salt, according to the length of the intervals between the time the cistern is emptied. It is an effective device.

BOVRIL, LIMITED (152–156, Old Street, London, E.C.). This firm prepares a good many concentrated and other foods, but only showed two of them at Belfast—Bovril and Invalid Bovril. Of the former little need be said beyond stating that its popularity is quite easy to understand. Apart from the fact that with hot water and a tin or pot of this speciality to hand, nothing is easier than the preparation of a cup of a pleasant and stimulating kind of soup. According to an analysis by Allen the percentage contents of Bovril are shown to be: Insoluble proteids and meat fibre, 8.4; soluble proteids and gelatine, 3.8; meat bases, 12; non-nitrogenous extractive matters, 19.7; mineral matters, 17.8. It is, in fact, a meat extract *plus* albumen and fibrin. The latter two ingredients are, we were informed, separately prepared from fresh meat and then blended with what may be called the "beef tea" part of the final product. The *Invalid Bovril*, which was also shown, is much the same preparation, though somewhat more concentrated and free from any added seasoning. This is an advantage in the sick-room, as anything required in the way of pepper and salt can be added to suit the particular patient's taste. It is a preparation deservedly in favour at a very large number of hospitals and other public institutions.

NESTLÉ AND ANGLO-SWISS CONDENSED MILK COMPANY (6 and 8, Eastcheap, London, E.C.) The brand of condensed milk, *Nestlé's Swiss Milk*, which may be regarded as the principal exhibit of this firm, established its reputation at least thirty years ago, and has retained it unblemished up to the present date. We have had long experience of its use both at home and abroad, and have often found it a much more desirable substitute for human milk than the cow's milk commonly obtainable at dairies. A strong point in its favour is the absence of variation in its quality and in spite of the number of dried milks now on the market, and the somewhat increased care exercised in the milk trade as a whole, there would still seem to be a long and successful future before it. The unsweetened condensed milk sold under the name of *Viking Milk* was put upon the market at a considerably later date, but may likewise be regarded as having attained the position of a classic among milk foods. Most people, too, are probably acquainted with *Milo Food*, at any rate by name; it is intended for the use both of infants and invalids. The other brands of milk shown included *Milkmaid Condensed Milk* and *Ideal Unsweetened Milk*. Some chocolates were also on view, one being a chocolate prepared by the firm itself, *Nestlé's Milk Chocolate*, and another the first of the milk chocolates to appear, namely, *Peter's Swiss Milk Chocolate*. An assortment of *Kohler's Bon Bons* and chocolate were also shown. Though we have mentioned them as sweetmeats all these articles have a strong claim to be regarded as dietetic preparations, for they are useful in dealing both with children and invalids, and with adults, as an addition or temporary substitute for other food.

Messrs. MAYER AND MELTZER (71, Great Portland Street, W.). The exhibit of this firm was, as usual, particularly strong in instruments for special branches of surgery. Among such may be mentioned Hill's new *Direct Operating Laryngoscope*, which aims at facilitating the intralaryngeal manipulation of instruments and Chevalier Jackson's *Gastroscope*. Of allied purpose is the pharyngoscope, designed by Dr. Harold Heys, New York, which deserves the attention of laryngologists not at present satisfied with their ability to obtain a clear view of the naso-pharynx and surrounding parts. The otology instruments included Mr. Richard Lake's new gouges and curettes, and the gouge designed by Dr. Dan McKenzie to prevent the hand blocking the view of the cutting edge during use and the dissipation of force, which is common in instruments of like purpose. In the same connexion should be noted a *Mastoid Pillow* intended to encourage drainage by allowing the patient to lie on the affected side after operation, and the firm's lamps. They are all cleverly designed; and one of them—the new examination lamp fitted with a 1-ampère Nernst burner—secures notably brilliant illumination. The instruments for general surgery and a variety of useful adjuncts to the practiceof medicine included Stanmore Bishop's new gastrectomy clamps and Bilton Pollard's twin gastro-enterectomy forceps, designed to keep the edges in exact apposition during suturing; Haden's compress heater, Cate's apparatus for continuous saline infusion or rectal feeding, and Frazer's wide-mouthed, narrow-stemmed glass for the collection and sedimentation of urine. Several of these have been noticed in these columns comparatively recently. As space did not allow of the effective exhibition of the operating-room and aseptic hospital furniture manufactured by the firm, these were illustrated by photographs, one of which showed the Charing Cross operation table designed by Mr. Stanley Boyd. The special claim made for it is that it is the only table which revolves on its own axis and yet does not require to be built into the floor. In addition to all the usual movements, it can be adjusted by screws at any height from 2 ft. 6 in. to 4 ft., and is free from rack and pinion devices.

Messrs. REYNOLDS AND BRANSON, LTD. (13, Briggate, Leeds). This well-known North Country firm of wholesale pharmacists and surgical instrument makers had a good many attractive things to examine. One was a chloroform bottle, cased entirely in white metal. It holds 100 c.c.m., and experiments showed that it allowed drops of chloroform to pass freely but regularly; and that the precise consumption was easy to test by a glance at a slot running down the side. Also to be seen was a model of the firm's self-weighing machine, a very useful surgery appliance which aims at preventing loss of the weights by providing for them a locked case concealed under the platform. The firm's operating suit is well designed. Made of a fine linen material, it leaves the arms free from the elbow downwards, and provides a covering both for the mouth and the head. The stall was strong in devices for facilitating clinical laboratory work, these including the firm's *Chrometer*, an ingenious apparatus to which we have previously drawn attention. It is intended to enable observers to determine quantitively and rapidly the amount of creatinin, sugar, indican, or other normal or abnormal constituent of urine by a colour test. We tested this appliance some years ago, and came to the conclusion that it was of a thoroughly practical character. The same remark may be made of the firm's *Ureameter*, but we have not yet had an opportunity of testing what it has named the *Rystos Purinmeter*. It is likely, however, to prove not less satisfactory, as it has been worked out by those who devised the former appliance, namely, Dr. F. M. Dimmock of Harrogate, and Mr. F. W. Branson, F.I.C., of Leeds. Among the many pharmaceutical preparations shown we noted Ergothe (R. and B.), a clear brown solution standardized so that one fluid part equals, we were informed, one part by weight of ergot; and some *Bismuth Subgallate Suppositories* which were stated to have given much satisfaction in practice. In addition to bismuth subgallate they contain balsam of tolu, zinc oxide,

and some resorcin to alleviate irritation. A further apparatus deserving mention was a colour-testing lamp of simple character. Its bull's-eye can be reduced to a small disc of such size that at a distance of 12 yards it looks the same size, we understand, as a railway lamp at 600 yards. Behind this disc red, yellow, green, and white lights can be made to pass in succession by a movement of the finger, the lamp when not in use as a colour-tester being available for ordinary purposes.

FINDLATER AND CO. (Canal Street, Albany Road, Camberwell). This firm had upon view a number of the foreign medicinal and other waters for which it is agent. All of them are unmodified natural waters. Some of these are comparatively newcomers so far as British medicine is concerned. One of them was *Martigny*, which is obtained from a spring discovered within recent years near Contrexéville. In its constituents and therapeutic qualities it is closely allied to that well-known water, but contains a very much larger percentage of lithia. Another was *Carabana*, a natural aperient water, containing an unusually large proportion of sulphates. It is not unpleasant to take, and is stated to be free from constipating after-effects. Other waters shown were *Ems*, an alkaline muriated water greatly in favour in Prussia in the treatment of cases of catarrhal influenza; and *Taunus*, a sparkling mineral water for table use, and stated to have been constantly used by the late Queen Victoria. The water from two of the *Wildungen Springs* was also shown, one of these being from the Helenen Spring, which is, perhaps, one of the most popular sources in Germany for use in gouty and allied disorders, and the other the George Victor Spring, which is regarded as being extremely useful in cystic catarrh and allied conditions.

The APOLLINARIS COMPANY, LTD. (4, Stratford Place, Oxford Street, London, W.). The exhibit of this firm included four mineral waters, of which one is fortified by the addition of lithium salts and the other three waters in their natural state. In one way, perhaps, the most important is the water from which the firm derived its name, *Apollinaris Water*. This is a natural mineral water, conspicuous for the large amount of carbonic acid it contains, and of agreeable taste. It is bottled by the firm itself at the springs, and can be obtained both in glass and stone bottles. The larger glass bottles contain about 40 per cent. more than an ordinary siphon, so thus purchased the water is relatively very cheap. The stone bottles are especially suited for use where all the water is not expected to be drunk forthwith. Patent stoppers of a rather ingenious character are supplied with them, and enable the water of an opened bottle to be kept in a pleasant, sparkling condition throughout a long evening, even in an overheated room. Another exhibit was one almost equally well known; this is *Apenta water*, which is bottled near Budapest. It contains a certain amount of lithia, but depends for its therapeutic value mainly on the contained sulphates of soda and magnesia, the latter predominating. Its strong points are the uniformity of its constitution and the certainty of its action; and as an aperient water it has won high praise from several Continental authorities, such as Liebreich, Baccelli, Lancereaux of Paris, and Rosenstein of Leyden. Another water which has won popularity is *Johannis*, a sparkling table water drawn from springs near Neiderselters, Rhenish Prussia. It is heavily charged with natural carbonic acid and has a fresh pleasant taste and mixes well with wine and water. While well adapted for drinking purposes it is believed to be specially suited to those who suffer from dyspepsia and gouty disorders. In order, however, to give it a definite therapeutic value, the proprietors of the spring also bottle it under the name of *Johannis Lithia*, adding to each bottle a small quantity of lithium carbonate.

B. KUHN AND CO. (16, Rood Lane, London, E.C.). What may be regarded as the principal exhibit of this firm was a drug of considerable familiarity named *Chinosol*. It was brought out a good many years ago now as a non-poisonous antiseptic and haemostatic deodorant, and it appears to have maintained its place. It is a yellow, finely crystalline powder, readily soluble in water. Chemically it is a potassium salt of a compound of oxychinoline and sulphuric acid which appears to depend for its antiseptic power on the oxydizing action of the oxychinoline when set free in contact with the alkaline secretions. It can be obtained in a variety of forms for all purposes—as a powder for ordinary sanitary purposes, in tablets for the preparation of solutions of various strengths from 1 in 150 to 1 in 2,400, as a tooth-powder, as a mouth wash, and as chinosol gauze, lint and wool for ordinary surgical use. By a modification in the process of manufacture, its bactericidal strength has, it is stated, been raised some 25 per cent. since the date at which Professor Klein of St. Bartholomew's Hospital reported favourably upon it. Dentists would appear to find it particularly well suited for use in connexion with extractions and for dental procedures, and a strong point in its favour is the fact that it does not coagulate albumen. The firm deals largely in ethyl chloride, issuing it in a variety of convenient metal cylinders and sealed glass bulbs. Also on view was *Salvator Grape Juice*, which is stated to be prepared in the Bordeaux and Burgundy districts, and to be entirely free from alcohol or added preservatives. Another exhibit was a very old friend Papain (Finkler), a natural digestive with considerable fibrin-solving power, derived from the juice of the *Carica papaya* tree. There was also to be seen on the stall a specimen of the *Eclair Vermorel Knapsack Sprayer*, a popular appliance in France for the application of solutions to the walls of schools, stables, and elsewhere. It is very light and portable, and holds some 3½ gallons of liquid.

FELTOE AND SMITH (25, Augustus Street, Regent's Park, London, N.W.). This firm is the proprietor of two brands of lime juice and lemon squash, known respectively as "Specialité Lime Juice Cordial" and Specialité Lemon Squash," both of which are manufactured by the firm itself. The *Lime Juice Cordial* is guaranteed by the firm to be entirely free from foreign material, and is certainly, when mixed with water, an extremely pleasant and refreshing beverage. Unlike many of its congeners, it is entirely free from musty flavour, while it is believed by the manufacturers to be as free from alcohol as any beverage can be. The *Specialité Lemon Juice* contains, we were informed, nothing but the juice of lemons and loaf sugar. When the lemons are squeezed the pulpy portions are removed by a process discovered by the firm, leaving the juice perfectly clear. All the utensils used in the process of manufacture are, it is stated, made of porcelain. The lemon squash crystals are another useful product of the firm, as they are exceedingly portable, and, provided water is obtainable, lemonade of excellent flavour can be prepared rapidly by their aid at a very small cost; the contents of one of the bottles costing 4½d. are sufficient, we were informed, for two gallons of lemonade.

M. HOFF (29, New Bridge Street, London, E.C.). This firm showed only three preparations, of which two were already familiar to most visitors. The more important of these was *Homax*, which was one of the first really palatable and easily utilized malt extracts to appear, and has well maintained its reputation. Apart from its general good qualities as malt extract it is much more liquid, and therefore more readily measured than are most of its congeners. The other familiar exhibit was *Ironol*, the nature of which is indicated with sufficient clearness by its name. Of its exact composition we are not aware, but we were informed that its main constituent is iron in organic form. It is a palatable mixture, stated to cause no blackening of the teeth on prolonged use, nor constipation or other evidence of digestive disturbance. It is held, therefore, to be a particularly useful form in which to administer iron in cases of anaemia, general debility, and the like. The third

exhibit was a newcomer named *Dragolet*, a mixture of malt extract claimed to be of unusually high diastatic power and cocoa. It is intended to be taken by children and adults in place of cod-liver oil. It is free from viscidity and of pleasant aroma and flavour and of the consistency of cream. According to Hoepfner one part of Dragolet diastases 20 parts of starch in an hour and a half.

W. GAYMER AND SONS (Attleborough, Norfolk). This is a firm of cyder manufacturers to whose products we drew attention in connexion with the annual exhibition at Sheffidld. There is a popular theory that, while apple trees will grow anywhere, only those growing on certain soils will produce apples from which any satisfactory cyder can be produced. Some support for this belief is offered by the fact that, with one exception, all the counties with a reputation for cyder are contiguous, and in one part of England, namely the west. The notable exception is Norfolk, in which county the firm represented by Messrs. Gaymer and Sons has been carrying on the manufacture of cyder for the past 200 years. Until a year or two ago it did not concern itself much with markets outside the eastern counties, but is now a serious competitor to cyder makers throughout the country. This cyder can be obtained both in bottles and in barrels, and in both cases a strong point is that the firm is able to secure year by year a cyder of closely corresponding character. It is failure in this respect in the cyder trade as a whole which in the past has helped to diminish the popularity of cyder as a beverage. Messrs. Gaymers' bottled brands number some half-dozen, and there is much to be said in their favour from an economic and dietetic standpoint. As an alcoholic beverage they have, apart from their purity and other good qualities, the advantage of being inexpensive, being much cheaper, for instance, than are light German and French wines. In flavour each of the brands differs, as do champagnes, from extra dry to sweet. It is, indeed, with champagne that one or two of the brands may quite well be compared, while chemically their alcoholic contents vary according to the brand from what in temperance circles are commonly classed as non-alcoholic drinks to about 7 or 8 per cent. In respect of their dietetic value there is a good deal of evidence to show that cyder is a better drink for persons of rheumatic and uric acid tendency, as well as for large meat eaters, than either wine or beer. This is possibly due to the presence of malic acid in cyder.

THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LIMITED (7 and 8, Idol Lane, London, E.C.). What may be called the speciality of this firm is the isolation of alkaloids, and to this fact attention was strikingly drawn by the exhibition on its stall of two large flasks containing respectively crystals of strychnine and caffeine in greater quantity than had probably ever been prescribed by all the medical visitors together. Besides such work, however, the firm engages largely in pioneering, and had plenty of new compounds to show. Among these was *Digalen*, an amorphous digitoxin, isolated by Professor Cloetta of Basle. Unlike the crystalline digitoxin, it is perfectly soluble, and thus permits of exact dosage, while further advantages claimed for it are that its physiological effect is uniform and rapid but not cumulative, and that it causes no gastric trouble. It may be given, it is said, either by the mouth, by the rectum, or by hypodermic injections. *Thiocol*, a potassium salt of guaiacol sulphonate, was also shown. It is soluble, free from odour, and almost tasteless, and is claimed to fulfil all the indications of guaiacol and creosote, but without producing any gastric irritation. It may be prescribed in solution or as a powder, or in tablet form; the dose being 0.5 gram. It is stated also to have been found useful in the treatment of chronic intestinal catarrh. A further preparation was *Thigenol*, a sodium sulphooleate, believed to have all the therapeutic value of ichthyol, but to be superior to it in the fact that any staining caused can be removed promptly by the use of soap and water. It dissolves readily in water and is uniformly miscible with ointments and glycerine. Other preparations shown were Secacornin, Airol and Benzosalin. The former, prepared according to the method of Keller, is, we were informed, a sterile solution of the haemostatic and contractile constituents of ergot freed from sphacelinic acid and other gastric disturbers. Being standardized it is said to give uniform effects and that these are rapid and powerful. As for *Airol*, this is an iodo-bismuth free from odour and is intended to play parts such as those commonly allotted to iodoform. We were told that it has been found useful in ophthalmology in the treatment of corneal ulcers and the like. As for benzosalin, this is an ester of benzyol salicylic acid. It is insoluble in water and the salicylic acid part of the compound is not liberated until the small intestine is reached.

VIROL, LIMITED (152-166, Old Street, London, E.C.). This firm showed its special preparation, which is derived from, we understand, yellow marrow, red bone marrow, eggs, malt extract, and lemon juice. It is one which gained popularity among medical men in a very short space of time, and from the testimonials shown it is evidently now used with satisfaction in a large number of hospitals and sanatoriums. In appearance and consistence it is very much like honey, and can be given either diluted or spread on thin slices of bread, its taste resembling that of toffee. It has been found of utility in dealing with the summer diarrhoea of infants, and as an easily-digested tissue former is considered to be indicated in cases of marasmus, rickets, tuberculosis, anaemia, and gastric disorders, the conception being that it should replace cod liver oil. Hutchison in his book, *Food and the Principles of Dietetics*, describes it as an agreeable preparation of very considerable nutritive value.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BOMBAY BRANCH.

A MEETING of the members of the Bombay Branch was held in the University Library on July 22nd at 5.30 p.m., Lieutenant-Colonel H. P. DIMMOCK, I.M.S., Vice-President, occupying the chair. The following members were also present: Dr. J. M. Meher-Homji, Dr. H. N. Anklesaria, Dr. Jal. R. Vakil, Dr. F. S. Joshi, Dr. H. J. Dadysett, Dr. Rodrigues, Dr. Sorab K. Engineer, Dr. (Miss) A. Benson, Dr. (Miss) Engineer, Dr. J. C. Bulsara, Dr. Sorab Nariman, and the Honorary Secretary, Dr. D. R. Bardi.

Tea.—Before the ordinary business of the meeting half an hour was spent in conversation, tea being served to the members.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election to Council.—On the motion of Dr. SORAB K. NARIMAN, seconded by Dr. H. J. DADYSETT, Dr. (Miss) A. M. Benson was unanimously elected a member of the Council in place of Lieutenant-Colonel M. A. T. Collie, I.M.S., who had ceased to be a member.

Demonstration of Aural Instruments.—Dr. H. J. DADYSETT exhibited the following apparatuses, which he had invented: (*a*) Hot-air apparatus for dry catarrh of the membrana tympani; (*b*) self-acting Eustachian injection syringe; (*c*) miniature aural trumpets; (*d*) motor plugs for the ears, as well as Dr. Stanley Turner's aural massage apparatus. Dr. Dadysett read notes of cases in which he had used his hot-air apparatus.

Cases.—Dr. JAL. R. VAKIL read notes of a case of acute rheumatism with severe heart and nervous complications, ending in recovery. In the discussion which followed, Drs. DADYSETT, SORAB ENGINEER,

SORAB NARIMAN, and F. S. JOSHI took part. A vote of thanks was passed to Dr. Vakil for the notes.

Vote of Condolence.—On the motion of DR. SORAB NARIMAN, seconded by DR. BARDI, it was resolved to put on record the deep regret with which the Branch received the news of the death of Brigade-Surgeon-Lieutenant-Colonel G. A. Maconachie, I.M.S. (retired), who was a former Secretary of the Branch.

Vote of Thanks.—After the usual vote of thanks to the chair, the meeting was dissolved.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Great Yarmouth on Thursday, October 7th. Members wishing to show cases or specimens or to read papers should communicate at once with Mr. H. A. Ballance, M.S., Norwich. —B. H. NICHOLSON, General Secretary.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—The annual social meeting will be held at Alnwick (instead of Chillingham) on Thursday, September 9th. Members and their friends will assemble at the Barbican at 1.30 p.m., when the various interesting features of this historic castle will be explained by Mr. Pitchford; the gardens will then be visited, after which brakes will be in attendance to convey the party through the Alnwick parks to Hulne Abbey, where tea will be provided. Members of the Morpeth Division having been invited as guests of this Division, it is hoped that members of the Division will endeavour to attend and give them a hearty welcome. Those intending to be present must communicate with me (giving the number of their invited guests) not later than Monday, September 6th, in order that the necessary arrangements may be made.—C. CLARK BURMAN, Secretary, 12, Bondgate Without, Alnwick.

SOUTH-EASTERN OF IRELAND BRANCH.—A meeting of this Branch, as also a meeting of the Branch Council and the local Division, will be held at Adelphi Hotel, Waterford, at 5.30 p.m. on Wednesday, September 1st next. Agenda: (1) Minutes of last meeting. (2) Letters of apology. (3) Dr. Laffan will move: "That that portion of Dr. Walsh's resolution, moved at Clonmel last meeting, later amended and subsequently passed as a substantive resolution, and which refers to the introduction of the competitive system into the Irish Poor Law Service or any part thereof, be and is hereby rescinded. (4) Dr. Laffan will read notes on and exhibit two cases: Appendicotomy, and the Radical Cure for Hernia in an Aged Patient. (5) Dr. Quirke will Demonstrate on the Cranium and the Technique of Schlösser's Method of Treatment of Tic-douloureux, and exhibit the necessary instruments, etc., for the operation. (6) Luncheon at 2 o'clock. (7) Any other business.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON H. C. WOODYATT has been allowed to withdraw from the service with a gratuity, August 18th. He was appointed Surgeon February 11th, 1901, and Staff Surgeon February 11th, 1909.

The following appointments have been made at the Admiralty: Fleet Surgeon F. W. PARKER to Portland Hospital, September 3rd; Staff Surgeon J. O'REA to the *Victory*, additional, for disposal, August 15th; Staff Surgeons R. ST. G. S. BOND, M.B., and W. H. POPE to the *Vivid*, additional, for disposal, to date September 20th and September 28th respectively; Surgeon H. BERNS, M.B., to the *Victoria*, additional, for Haslar Hospital, for general duty, and for the next course of instruction, November 1st; Staff Surgeon H. V. WELLS to the *Diamond*, on recommissioning, August 24th; Staff Surgeon E. COX, M.B., to the *Pembroke*, additional, for disposal, September 4th; Surgeon J. D. KAIR to Chatham Hospital, September 4th.

MR. R. FLOOD, M.B., civil practitioner, has been appointed Surgeon and Agent at Newey, August 19th.

ARMY MEDICAL SERVICE.

COLONEL F. B. MACLEAN, who is serving in India, has been transferred from Secunderabad to Meerut as Officiating Principal Medical Officer.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel L. IRVINE, retired pay, has been appointed Staff Officer to the Administrative Medical Officer, North Midland Division, Territorial Force.

The undermentioned are appointed Lieutenants (on probation), dated July 31st: GILBERT H. DIVE, LIONEL C. HAYES, M.B., BERNARD G. GOODWIN, ARTHUR S. CANE, THOMAS H. DICKSON, M.B., KENNETH COMYN, FREDERICK R. LAING, M.B., ALFRED G. JONES, M.B., JOHN M. WEDDELL, PHILIP C. FIELD, VICTOR P. HUTCHINSON, THEODORE W. STALLYBRASS, M.B., HUGH G. ROBERTSON, M.B., RICHARD C. G. M. KINKEAD, M.B., CHARLES M. NICOL, M.B., HERBERT V. STANLEY, M.B., EDWARD C. SPONEY, M.B., ARTHUR P. O'CONNOR, M.B., RONALD M. DAVIES, M.B., ROBERT GALE, M.B.

The following Lieutenants (on probation) are seconded under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1907: LIONEL C. HAYES, M.B., BERNARD G. GOODWIN, FREDERICK R. LAING, M.B.

INDIAN MEDICAL SERVICE.

CAPTAIN J. G. P. MURRAY, M.B., is promoted to be Major, from July 28th. His previous commissions are dated: Surgeon-Lieutenant, July 28th, 1897; Captain, July 28th, 1900. He was in the China war in 1900, receiving a medal.

Captain H. C. BROWN, M.B., Brigade Laboratory, Dera Ismail Khan, is appointed Specialist in the Prevention of Diseases from June 1st.

Lieutenant W. L. WATSON, 5th (Mhow) Division, is appointed Specialist in Electrical Science from June 17th.

Lieutenant-Colonel C. J. SARKIES, M.B., Bombay, is appointed to officiate as Principal Medical Officer, Burmah Division.

SPECIAL RESERVE OF OFFICERS.

SURGEON-LIEUTENANT-COLONEL R. H. DOOGHE, M.D., 3rd Battalion Bedfordshire Regiment, relinquishes his commission, August 15th; he retains his rank and uniform.

TERRITORIAL FORCE.

ROYAL GARRISON ARTILLERY.

SURGEON-CAPTAIN C. FORSYTH, M.B., Essex and Suffolk Regiment, to be Surgeon-Major, July 7th.

INFANTRY.

Surgeon-Captain J. S. S. PERKINS, 4th Battalion Devonshire Regiment resigns his commission, June 30th.

ROYAL ARMY MEDICAL CORPS.

The transfer to the Territorial Force from the 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment) of Supernumerary Surgeon-Captain H. M. MACNAGHTON-JONES, M.D., 2nd London (Royaux de London) Field Ambulance, which was announced in the *Londion Gazette* of August 11th, 1908, is cancelled.

For Attachment to Units other than Medical Units.—ARTHUR H. W. HUNT to be Captain, May 7th.

VOLUNTEER FORCE.

INFANTRY.

SUPERNUMERARY SURGEON-CAPTAIN H. M. MACNAGHTON-JONES, M.D., 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment), not having signified his wish to serve in the Territorial Force, is struck off the strength of the battalion, March 31st, 1908.

CHANGES OF STATIONS.

THE following changes of stations amongst the officers of the Army Medical Service have been officially reported to have taken place during July, 1909:

	FROM	TO
Lieut.-Col. Sir J. Fayrer, Bart., M.B.	Duke of York's School	London.
Major J. G. McNaught, M.D.	Wynberg	Pretoria.
Captain R. S. H. Fuhr, D.S.O.	London Dist.	Woolwich.
" O. W. A. Elsner	Kinsale	Dublin.
" W. M. McConghlin	Millbank	Aldershot.
" A. F. Weston		Cosham.
" W. L. Bennett, M.B.	Edinburgh	W. Command.
" A. C. Duffey, M.D.	Kilbride Camp	Omagh Camp.
" R. M'K. Skinner	Glasgow	Lanark Camp.
" L. Cotterill	Edinburgh	Stobs.
" P. Davidson, D.S.O., M.B.	Nedley	Mudeford.
" C. A. J. A. Balck, M.B.	N. Command	Hornsea.
" J. M. M. Crawford	Woolwich	Guildford.
" H. T. Stack, M.B.	Tidworth	Bellaria.
" G. E. Catheart	Rawal Pindi	Khanspur.
" J. A. Turnbull	Nowshera	Cherat.
" J. Cahill, M.B.	Peshawar	"
" P. Power, M.B.	Belfast	Mosney Camp.
Lieutenant V. C. Honeybourne	Rawal Pindi	Khanspur.
" C. T. Edmunds	Peshawar	Cherat.
" R. E. U. Newman, M.B.	Sialkot	Kalabagh.
" M. G. Dill, M.B.	Chatham	Landguard Fort.
" F. H. M. Chapman	Bulford	Tidworth.
" E. M. Middleton	Rawal Pindi	Kuldana.
" T. M'C. Phillips, M.B.	Finner Camp	Belfast.
" J. R. Lloyd	Chester	Kess.
" H. H. Blake, M.B.	Stobs	Edinburgh.
" W. J. Dunn, M.B.	Bury St. Edmunds	Ipswich.
" J. S. McCombe, M.B.	Windmill Hill Camp	Tidworth.
" E. V. Vaughan, M.B.	Queenstown	Fermoy.
" A. N. R. M'Neill, M.B.	Edinburgh	Lanark Camp.
" F. H. Somers-Gardner, M.B.	Churn Camp	Cosham.
" A. W. Byrne, M.B.	Preston	Church Stretton.
" S. W. Kyle, M.B.	Dublin	Finner Camp.
" H. Bevis	Curragh	Beaden.

Lieutenant-Colonel J. Coats, M.B. (retired pay), has relinquished the medical charge of troops at Ayr.

Lieutenant-Colonel A. De C. Scanlan, retired pay, has assumed medical charge of the troops at Guildford, in place of Lieutenant-Colonel W. M. James, retired pay.

Lieutenant-Colonel J. M'Laughlin, M.D., retired pay, has been placed in medical charge of troops at Belfast, where he succeeds Major P. Connolly, retired pay.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,815 births and 3,721 deaths were registered during the week ending Saturday last, August 21st. The annual rate of mortality in these towns, which had been 10.8, 10.5, and 11.5 per 1,000 in the three preceding weeks, further rose to 11.8 per 1,000 last week. The rates in the several towns ranged from 4.4 in Hornsey, 5.2 in East Ham, 5.7 in Walthamstow, 6.3 in Ipswich, 6.4 in Leyton, 6.5 in Croydon, and 7.0 in Preston, to 16.6 in Great Yarmouth, 16.7 in Liverpool and in Bury, 17.1 in Sheffield, 17.3 in Bootle, 17.9 in Blackburn, 18.8 in Middlesbrough, and 20.2 in Swansea. In London the rate of mortality was 11.1 per 1,000, while it averaged 12.0 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.9 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was 1.3 per 1,000, while among the seventy-five other large towns they caused death-rates ranging upwards to 4.5 in Warrington, 4.4 in Liverpool, 4.5 in Middlesbrough, 4.8 in Nottingham, 4.9 in Aston Manor, 5.0 in Sheffield, 6.0 in Bootle, and 9.0 in Swansea. Measles caused a death-rate of 1.1 in Salford and 3.3 in Newport (Mon.); diphtheria of 1.1 in Salford and 1.7 in Barrow-in-Furness; whooping-cough of 1.1 in St. Helens; and diarrhœa of 2.9 in Bournemouth, 3.2 in Leicester and in Rotherham, 3.5 in Middlesbrough, 3.7 in Preston, 4.2 in Nottingham, 4.5 in Aston Manor and in Warrington, 4.9 in Sheffield, 5.3 in Bootle, and 8.0 in Swansea. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns, and no fatal cases of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,667, 2,704, and 2,538 at the end of the three preceding weeks, had further declined to 2,411 at the end of last week; 245 new cases were admitted during the week, against 296, 280, and 295 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, August 21st, 864 births and 428 deaths were registered in the eight principal Scottish towns. The annual rate of mortality in these towns, which had been 11.8, 12.0, and 12.5 per 1,000 in the three preceding weeks, declined again to 12.0 per 1,000 last week, but was 0.9 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 10.1 in Greenock and 11.6 in Glasgow and in Edinburgh to 14.0 in Leith and 15.6 in Perth. The death-rate from the principal infectious diseases averaged 1.7 per 1,000, the highest rates being recorded in Paisley and Greenock. The 194 deaths registered in Glasgow included 4 which were referred to measles, 7 to diphtheria, 3 to whooping-cough, and 16 to diarrhœa. Two fatal cases of scarlet fever, 3 of whooping-cough, and 3 of diarrhœa were recorded in Edinburgh; 3 of diarrhœa in Dundee and in Greenock; 2 of diphtheria in Aberdeen; and 2 of measles in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 21st, 649 births and 354 deaths were registered in the twenty-two principal urban districts of Ireland, as against 680 b rths and 307 deaths in the preceding period. The annual death-rate in these towns, which had been 13.6 and 14.0 per 1,000 in the three preceding weeks, rose to 16.2 per 1,000 in the week under notice, this figure being 4.4 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 19.8 and 15.6 respectively, those in other districts ranging from 4.8 in Ballymena and 5.7 in Newtownards to 23.9 in Cork and 25.8 in Portadown, while Cork stood at 8.9, Londonderry at 19.3, Limerick at 23.7, and Waterford at 19.5. The zymotic death-rate in the twenty-two districts averaged 2.3 per 1,000, as against 1.3 per 1,000 in the preceding period.

Hospitals and Asylums.

THE GENERAL HOSPITAL, BIRMINGHAM.

The statistical report for 1908 of the in-patients of the General Hospital shows that 5,526 patients were treated during the year. Of these 1,641 were medical, 3,595 surgical, and 294 gynæcological cases. Of the medical cases 1,076 were cured, 241 relieved, 65 unrelieved, 231 died, and 66 were transferred to the surgical wards. The most important medical cases were 48 cases of gastric ulcer with no deaths, 85 cases of bronchopneumonia with 5 deaths, 91 cases of lobar pneumonia with 18 deaths, 44 cases of empyema with 7 deaths, 165 cases of various forms of cardiac disease with 29 deaths, 16 cases of cerebral tumour with 7 deaths, 32 cases of enteric fever with 4 deaths, 54 cases of acute rheumatism with no deaths, and 18 cases of diabetes mellitus with 7 deaths. On the surgical side there were 2,712 cases reported cured, 531 relieved, 91 unrelieved, and 295 died. The most important surgical cases were 11 cases of cerebral tumour with 1 death, 49 cases of nephroptosis with 1 death, 46 cases of carcinoma of the breast with 2 deaths, 23 cases of perforated gastric ulcer with 7 deaths, 8 cases of duodenal ulcer with 1 death, 5 cases of perforated duodenal ulcer with 4 deaths, 21 cases of intussusception with 9 deaths, 48 cases of intestinal obstruction with 19 deaths, 184 cases of suppurative appendicitis with 32 deaths, 112 cases of relapsing appendicitis with no deaths, and 128 cases of burns and scalds with 57 deaths. In the gynæcological department 254 patients were treated, and of these 218 were cured, 23 relieved, 5 unrelieved, and 8 died. In the several departments of the hospital 216 cases of malignant tumour were treated, and of these 175 were carcinomatous. Of the cases of carcinoma the most frequent were as follows: 46 of the breast, 35 of the rectum, 20 of the tongue, 20 of the uterus, 13 of the intestines, 9 of the stomach, 7 of the gall bladder, and 5 of the lips. The registered number of administrations of anæsthetics was 3,605. Spinal injection was made in 14 cases, and local anæsthesia was employed in 163 cases. There was one fatality, during the administration of chloroform for proposed operation for tumour of the brain, in which pressure symptoms were extreme. Et_2O was employed in 1,187 cases, either either singly or in sequence in 477, chloroform in 690, ethyl chloride in 481, nitrous oxide in 419, and in the remainder various anæsthetics in sequence. The report of the x-ray and light department shows that the total number of radiographs taken and examinations made was 692. Thirteen radiographic examinations of the abdomen were made after the administration of food containing bismuth. Nearly 3,000 applications of the x rays were administered for therapeutic purposes, cases of lupus, rodent ulcer, and cancer being principally dealt with.

At the Jaffray Branch Hospital 335 cases were treated during the year. Of these 190 were cured, 65 much relieved, 16 relieved, 6 unrelieved, 8 died, 8 were transferred to the General Hospital, and 42 were remaining in the hospital at the end of the year.

THE RETREAT, YORK.

From the annual report of the Medical Superintendent (Dr. Bedford Pierce), for the year 1908 it appears that on January 1st there were 165 certified patients in residence, and on the last day of the year 179. The total number of certified patients under care during the year was 217, and the average number daily resident 173.78, all of these numbers being in excess of those of the previous year. During the year 52 certified cases (or, including 2 statutory readmissions, 54) were admitted, of whom 47 were direct admissions and 5 transfers. In the attacks were first attacks with three, and in 16 more within twelve months of admission; in 14 not-first attacks within twelve months of admission; and in the remainder, whether first attacks or not, the illness was of more than twelve months' duration, including 1 case of congenital origin. The admissions were classified, according to mental disorder, into: Mania of all kinds, 9; recent and chronic melancholia, 19; secondary dementia, 2; confusional insanity, 6; primary dementia, 5; delusional insanity, 5; volitional insanity, 2; and general paralysis, stupor, alternating insanity, and congenital defect, 1 each. As regards the probable origination of the mental disorder in the 47 direct admissions, alcohol was assigned in only 2, influenza in 5, child-bearing in 3, critical periods in 2, various bodily affections in 8, and mental stress in 15. An insane heredity was ascertained in 22, an epileptic heredity in 2, an alcoholic heredity in 5, a neurotic heredity in 5, and of marked eccentricity in 1, giving a total neuropathic heredity in 31, or 66 per cent. During the year 17 were discharged as recovered, giving a recovery-rate on the direct admissions of 36·17 per cent., or of recoveries in the direct admissions on the direct admissions of 34·12 per cent. Also 9 were discharged as relieved and 8 as not improved. During the year 4 certified patients died, giving a death-rate on the average numbers resident of 2·30 per cent., as compared with the average for this institution of 5·36 per cent. The deaths were due to cerebral atrophy, heart disease, bronchitis, and senile decay. The general health appears to have been good throughout the year, and only two major but non-fatal accidents occurred. There were 7 voluntary boarders in residence on January 1st, 1908, 22 were admitted during the year, and 24 remained in the institution on December 31st. Only 1 was discharged as recovered, 5 were discharged as relieved, 15 as not improved, and 2 died.

SALTERLEY GRANGE SANATORIUM.

Since this institution was opened on January 7th, 49 patients suffering from phthisis have been admitted. Nine left the institution for various reasons before the completion of their treatment, 9 were discharged, of whom 8 were apparently restored to health, and 1 showed no improvement, leaving 31 patients in the institution at the end of the half year. The total number of patients examined for Salterley Grange from October 27th, 1908, to June 30th, 1909, was 207, and of these 50 were passed by the examining physician, Dr. Douglas Stanley, while 157 were rejected chiefly as being in too advanced a condition of the disease. The accounts in connexion with the erection of the chalets, and equipment of the institution have now been completed. The loan authorized by the Council for this purpose amounted to £8,500. The total amount spent on capital account was £8,629, in addition to £1,730 defrayed out of last year's revenue account for repairs to cottages on the estate, additional alterations to the house used as an administrative block, fire appliances, telephones, and other work for which no provision was made in the loan.

THE WARNEFORD HOSPITAL FOR MENTAL DISEASES, OXFORD.

The annual report for 1908 of this mental hospital for patients belonging to the educated classes shows that on January 1st, 1908, there were in residence 99 certified patients and 2 voluntary boarders, and on the last day of the year 99 certified patients and 1 voluntary boarder. Altogether there were 118 certified cases, and 4 voluntary boarders under care during the year, the average number of certified patients daily resident being 98.

During the year 19 certified cases were admitted, as compared with 40 for the previous year, the small number of admisions being fixed, Dr. Neil, the medical superintendent, says, by the small number of vacancies which occurred in 1908. Of the 19 admissions 14 were direct and 5 indirect admissions. In only 2 of the direct admissions were the attacks first attacks within three months, and in 2 more within twelve months, of admission; in 2 the attacks were not-first attacks within twelve months of admission, whilst the remainder were of either more than twelve months' duration or cases of congenital defect. As regards the forms of mental disorder on admission, 6 were cases of recent mania; 5 of recent and 1 of chronic melancholia; 2 of senile or secondary dementia; 2 of delusional insanity; 1 of general paralysis, and 2 of congenital defect. On the whole, therefore, the admissions were not of a favourable character as regards recovery. The numbers dealt with are so small that a detailed analysis of the table of etiological factors would be useless, but it may be mentioned that an insane heredity was ascertained in 8 of the 14 direct admissions and that prolonged mental stress was assigned in 5. During the year 6 were discharged as recovered, giving a recovery-rate on the direct admissions of 42.8 per cent., but of the recoveries in the direct admissions on the direct admissions of only 14.3 per cent. Also 5 were discharged as relieved and 3 as not improved. During the year 5 died, giving a death-rate on the average numbers resident of 5.1 per cent., the deaths being due in 2 to general paralysis and in 1 each to exhaustion from melancholia, arterio-sclerosis and suicide by hanging. An inquest was held in the latter case and the hospital authorities exonerated from blame. The institution receives patients at reduced rates, 47 patients during the year under review receiving charitable aid from the funds at the disposal of the Governors.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE UNION.—Resident Assistant Medical Officer to the Workhouse. Salary, £100 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—Third House-Surgeon. Salary, £50 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary, £140 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DUBLIN: ROYAL VICTORIA EYE AND EAR HOSPITAL.—House-Surgeon. Salary, £40 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, S.E.—House-Surgeon. Salary at the rate of £60 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HALIFAX ROYAL INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Assistant Surgeon.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) Three House-Surgeons. Salary at the rate of £60 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary, £60 per annum.

MILDMAY MISSION HOSPITAL, Bethnal Green, E.—House-Surgeon (male). Salary at the rate of £70 per annum.

NEWCASTLE-ON-TYNE: EYE INFIRMARY, St. Mary's Place.—Non-resident House-Surgeon. Salary, £100 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Physician. Salary, £80 per annum.

OLDHAM INFIRMARY.—(1) Senior House-Surgeon; (2) Third House-Surgeon. Salary, £120 and £80 per annum respectively.

OLDHAM UNION.—Resident Medical Officer for the Workhouse. Salary, £150 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Surgeon; (2) Junior House-Surgeon.—Salary at the rate of £80 and £40 per annum respectively.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Resident Medical Officer. Salary, £100 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—Professor of Anatomy.

ROYAL EAR HOSPITAL, Soho.—(1) Non-resident House-Surgeon. Salary at the rate of £40 per annum. (2) Clinical Assistants.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, W.C.—Assistant House-Surgeon. Salary, £20 for six months.

ST. PANCRAS UNION.—Assistant Medical Superintendent of the Infirmary and Assistant Medical Officer of the Workhouse. Joint salary at the rate of £135 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon (male); (2) Junior House-Surgeon (male). Salary at the rate of £60 and £50 respectively.

SOUTHWARK UNION.—Assistant Medical Officer (male). Salary, £100 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Surgical Officer. Salary, £125 per annum.

YORK DISPENSARY.—Resident Medical Officer (male). Salary, £130 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Bicester, co. Oxford; Cromer, co. Norfolk; Littleport, co. Cambridge; and at Watlington, co. Oxford.

APPOINTMENTS.

BAIN, W., M.R.C.S., L.R.C.P., Medical Officer of Health, Minehead Urban District.

BROADBENT, F., M.R.C.S., L.R.C.P., District Medical Officer of the Newark Union.

BROWNE, F. H., M.B., B.S.Durh., Medical Officer of Health, Upholland Urban District.

BUDD, A., M.B., B.S., Medical Officer of Health of the Borough of Launceston.

BURT, W. C., M.R.C.S., L.R.C.P., Medical Officer of Health, Stratford and Wolverton Rural District.

GARRETT, R. R., M.R.C.S., L.R.C.P., District Medical Officer of the South Monaghan Union.

HALLOWES, K. R. C., M.B., B.S.Dub., Certifying Factory Surgeon for the Bellanagh District, co. Cavan.

HARDWICK, R. H., M.R.C.S., L.R.C.P., District Medical Officer of the Hollinfare Union.

HIGGINS, T. S., M.R.C.S., L.R.C.P., Assistant Medical Officer of Health, City of Birmingham.

HUMPHREYS, J., L.R.C.P.I., L.R.C.S.I., District Medical Officer of the Festiniog Union.

LLOYD, Brinley L., M.B., B.S.Lond., Medical Inspector of Schools at Sheffield.

MCDONALD, J., M.B., C.M.Edin., District and Workhouse Medical Officer of the Belford Union.

MACDONALD, M. C., M.B., Ch.B., Resident Assistant Medical Officer at the Bradford Union Sanatorium, Eastby, Yorks.

MACKAY, D. Matheson, M.D., C.M.Edin., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Assistant Ophthalmic Surgeon to the Hull Royal Infirmary.

RUSSELL, R. F., M.B., Ch.B.Aberd., Certifying Factory Surgeon for the Ollaberry District, co. Zetland.

SCALES, F. Shillington, M.D., B.C.Cantab., Honorary Medical Officer in Charge of the Electrical Department at Addenbrooke's Hospital, Cambridge.

TRIMBLE, Robert, M.D.Glasg., F.R.C.S.I., Medical Referee under the Workmen's Compensation Act, attached more particularly to Preston, Garstang, and Chorley County Courts.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

ELLIS.—On August 24th, 1909, at 208, London Road, Leicester, the wife of L. Erasmus Ellis, M.D., of a daughter.

MARKS.—On August 18th, at 1, Trinity Place, Swansea, the wife of Urban Marks, M.R.C.S.Eng., L.R.C.P.Lond., of a son.

DEATH.

GRANGER.—Suddenly, at a nursing home, Leeds (of appendicitis), on August 22nd, Henry Maxwell Granger, M.B., Ch.B., aged 25, youngest son of the late Dr. John Ross Granger, of 2, Grosvenor Terrace, Glasgow.

RECENT PUBLICATIONS.

Nutrition and Evolution. By Hermann Reinheimer. London: J. M. Watkins. 1909. (Demy 8vo, pp. 298. 6s.)

A weird mixture of science, philosophy, free quotation, and speculation, embodying, we are given to understand, a complete biological analysis born of a combined study of physiological, psychological, and architectural laws. One of the author's discoveries is that nutrition and its silent effects is one of the most formidable factors in the shaping of individual and racial destinies. No sufferer from dyspepsia or witness of famine in India will be disposed to doubt its truth.

Parenthood and Race Culture. By C. W. Saleeby, M.D., F.R.S.Edin. London: Cassell and Co. 1909. (Med. 8vo, pp. 347. 7s. 6d.)

A plea for greater care on the part of the individual and the State in the begetting and rearing of children. Eloquently written, but twice as long as it need be and marred by assumptions of originality for ideas which are in nowise novel.

What is Life? By Frederick Hovenden, F.L.S., F.G.S., F.R.M.S. Third Edition, revised, with appendix. London: Chapman and Hall. 1909. (Med. 8vo, pp. 352.)

The author, who has written several other treatises, has a special conception of his own regarding molecules. He admits that he is not personally acquainted with all the sciences which he enlists in his service, but answers to his own satisfaction the questions which form the subtitle of the book—namely, "Where are we? What are we? Whence do we come?" There are some works which gain by being published with uncut pages, but this is not one of them.

The Etiology and Nature of Cancerous and other Growths. By W. T. Gibson, A.R.C.S. London: Bale, Sons, and Danielsson. 1909. (Demy 8vo, pp. 139. 6s.)

A painstaking endeavour to throw some light on the nature of malignant disease by an attempted analysis of the conditions with which it is associated and discussions of its proved and alleged characteristics. It is the sort of work which, if worth doing at all, requires medical training for its successful accomplishment.

A Handbook on Foreign Study. By H. J. Darnton-Fraser. Edinburgh: The Darien Press. (Demy 8vo, pp. 80. 6d.)

An exceedingly useful pamphlet, compiled by authority of the Students' Representative Council, giving brief accounts of all foreign universities, showing what each has to offer to foreign students, the dates when the principal work is going on, and the cost of living. Short articles by authorities such as Professor William Osler on the advantages of foreign study in connexion with several professions serve as an introduction.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W. The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Out Clinics, X Rays; 2.30 p.m., Operations. Monday, Wednesday, and Thursday, 2 p.m., Diseases of the Eyes (Saturday, 10 a.m.). Tuesday and Friday, 10 a.m., Gynæcological Operations; 2.30 p.m., Diseases of the Skin; 2 p.m., (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear. Wednesday and Saturday, 10 a.m., Diseases of Children; 2.30 p.m., Diseases of Women. Lectures: At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar. At 12.15 p.m., Tuesday and Wednesday, Practical Medicine. At 5 p.m., Tuesday, Gynæcological; Thursday, Perforation of Gastric and Duodenal Ulcers.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
AUGUST.	
29 Sunday ..	
30 MONDAY ..	
31 TUESDAY ..	
SEPTEMBER.	
1 WEDNESDAY	SOUTH-EASTERN OF IRELAND BRANCH, also Branch Council and Local Division. Adelphi Hotel, Waterford, 3.30 p.m.; Luncheon, 2 p.m.
2 THURSDAY ..	
3 FRIDAY ..	
4 SATURDAY ..	
5 Sunday ..	
6 MONDAY ..	
7 TUESDAY ..	

Date.	Meetings to be Held.
SEPTEMBER *(Continued).*	
8 WEDNESDAY	
9 THURSDAY ..	NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Annual Social Meeting, Alnwick, 1.30 p.m.
10 FRIDAY ..	
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	LONDON: Organization Committee, 10.45 a.m.
15 WEDNESDAY	
16 THURSDAY ..	
17 FRIDAY ..	
18 SATURDAY ..	
19 Sunday ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from the General Secretary, 429, Strand, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently-elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

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SUPPLEMENT

TO THE

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

GLASGOW AND WEST OF SCOTLAND BRANCH.

A MEETING of members of the Branch and of medical practitioners resident in Glasgow and district was held in the Faculty Hall, St. Vincent Street, on August 25th, at 4 p.m., to consider the terms of appointment of school medical officers in Glasgow under the Glasgow School Board. Dr. JAMES GRANT ANDREW, who was called to the chair, said that, in the absence of the Chairman of the Branch (Professor Stockman) and of Dr. Campbell Munro, he had been asked to preside, and, though he felt very unqualified to occupy that position, yet, being a member of the Central Council, he had some knowledge of what was going on in the Association with regard to this movement. The meeting had been convened to consider the terms of appointment of the school medical officers in Glasgow under the Glasgow School Board. Members of the profession who were not members of the British Medical Association were invited to attend and were welcome, but he invited those who were not members of the Association to take that opportunity of becoming so, because it was only by united action that the School Board could be asked—he would not say compelled—to give the medical profession the very just terms demanded. He did not think this Branch had any quarrel with the salary offered for the chief medical officership. The salary offered was £500, and the resolution which the Branch Council had drawn up for submission to the meeting on this point only desired that this should be understood to be a commencing salary. The difficulty had arisen with regard to the part-time officers. The British Medical Association had decided to recommend that part-time medical officers should not accept office at a salary below a minimum of £50 per annum. The Glasgow School Board offered £40 for twenty weeks, and it would be found that, on this basis, the amount offered was a little over 5s. an hour, whereas the minimum of the British Medical Association was at least 10s. an hour. He understood that as near at hand as Govan the medical officers of the board received at first a salary of £50 per annum, which worked out at 8s. 4d. an hour, and it appeared that they were now receiving £75, which was at the rate of 12s. 6d. an hour. Thus at Govan the medical officers were receiving 12s. 6d. for the same work as that for which the Glasgow Board was offering a little over 5s. an hour. Perhaps those in touch with what is being settled in the counties would state what was being done there. At any rate, it was clear that the Glasgow Board was asking members to accept office for a salary which was less than that recommended by the British Medical Association. On receipt of a communication from the Deputy Medical Secretary of the Association to the effect that an advertisement had been tendered by the School Board of Glasgow for insertion in the BRITISH MEDICAL JOURNAL, inviting applications for the appointment on the terms mentioned, he (Dr. Grant Andrew) had requested that it should be withheld until the profession in Glasgow had had an opportunity of considering the matter. The Branch Council met, and had unanimously approved the resolution which was now submitted to the meeting for its approval.

The resolution was then read by Dr. MACFARLANE, one of the Honorary Secretaries of the Branch, as follows:

> That the commencing salary of the whole-time school medical officers be not less than £500 per annum, and that for junior or assistant medical officers be not less than £250 per annum (these sums being understood as exclusive of travelling expenses, clerical assistance, cost of stationery, postages, etc.); and for part-time officers the Association recommends a system of payment which is in operation in London—viz., that the salary should be based upon the time devoted to the work, and that the minimum should be £50 per annum in respect of each school session of two hours per week.

Dr. W. L. MUIR, in moving the adoption of the resolution, said that as a member of the Representative Body of the Association since it was instituted, he did so with the greatest pleasure. Speaking with full knowledge of what had been going on in connexion with this matter for the last eighteen months, he could say that the matter was not one that had arisen suddenly, or been acted on precipitately in the Representative Meeting which represented the individual members of the Association. A long discussion had taken place upon it at the meeting in Sheffield in 1908, and certain

propositions were then formulated. The matter came up again at the meeting in Belfast in July last. The reason why the subject had been so fully discussed at these Annual Representative Meetings was that the provisions of the law as to medical inspection of school children had come into force in England about twelve months before they came into force in Scotland—in Scotland, in fact, they had only become operative within the last two or three months. The position expressed in the resolution was in accord with the terms agreed upon by the Representative Meeting, and had been read in the resolution. The salary offered by the Glasgow School Board for the whole-time supervising officer—£500 per annum *plus* working expenses—was in accord with the opinion of the Association provided it was recognized as a commencing salary. The British Medical Association had determined that the salary to be paid a whole-time assistant medical officer should be not less than £250 a year with working expenses, and in one of the Scottish counties four whole-time assistant medical officers had been appointed at the salary of £250 per annum. The Glasgow School Board had not taken that course. There was a general tendency for public bodies to squeeze the profession in monetary matters, and it would be observed that the offer of the School Board was made in a tentative way, though why that course should have been followed under an Act of Parliament which was compulsory was difficult to understand. The proposal was for a tentative arrangement for twenty weeks, at the end of which time the officers might be reappointed or apparently completely abolished. It would not be sufficient to have a mere understanding on this point; there must be a definite undertaking. The British Medical Association had agreed that £50 per annum, subject to the conditions mentioned in the motion, should be the minimum salary for the part-time officers. He hoped that the School Board of Glasgow would see that it was its duty not to sweat the profession.

Dr. BROWN (M.O.H., Ayr), in seconding the motion, said that its adoption would greatly strengthen the hands of medical officers of health in recommending the schemes to their authorities. The motion took exception to the terms offered to the part-time officers. In one hour only five or six children could be examined, and the British Medical Association, after careful consideration, had come to the conclusion that half a crown should be paid for each examination; that worked out at the rate of 12s. 6d. an hour. The Glasgow School Board offered only 5s. an hour, or a little more. As Dr. Muir had well said, if the profession were united the perfectly reasonable remuneration asked would be obtained. It must be remembered that the seven and a half hours' work did not cover all the work in connexion with the examination of children. A good deal of the clerical work had to be done at home.

Dr. FINDLAY inquired whether the Branch Council had considered the alternative of recommending the board to appoint whole-time assistants instead of twenty part-time officers.

The CHAIRMAN (Dr. Grant Andrew) said that that suggestion had not been considered by the Council.

Dr. BATTERSBY remarked that there seemed to be a discrepancy between the advertisement and the terms of the resolution. The School Board wished twenty weeks and seven and a half hours a week. The resolution spoke of £50 for two hours weekly.

The CHAIRMAN explained that seven and a half hours a week for twenty weeks at £40 worked out at 5s. 4d. an hour. The minimum salary recommended by the Association was £50 per annum. If the motion became the finding of the meeting, it was proposed to appoint a committee to approach the School Board and ask it to consider the proposal to increase the salaries of the part-time medical officers.

Dr. W. L. MUIR called attention to the recommendation of the Association, that in no circumstances were the medical women to be paid smaller salaries than men.

No amendment being offered, the resolution was carried *nemine contradicente*.

Dr. CASKIE moved that a committee of seven be formed from the meeting to approach the School Board for the purpose of having them consider the resolution just passed.

Dr. MACNICOL seconded, and the following committee was appointed: Professor Glaister, Professor Stockman, Dr. W. L. Muir, Dr. Grant Andrew, Dr. Marion Gilchrist, Dr. David Young, Dr. Grieve, and the Secretary (*ex officio*).

The CHAIRMAN understood that the resolution would be submitted to the School Board at a very early date.

A MEMBER said that doubtless numerous applications were already lodged with the board, and that the Board might stultify the meeting by pointing to these applications. Could steps be taken to get the applications withdrawn?

The CHAIRMAN said that the committee just appointed would meet the School Board before the appointments were made; if the board gave an unfavourable answer, it would be open to those who had applied to withdraw.

Dr. MARION GILCHRIST said that in several cases there had been difficulty in inducing women not to apply for appointments at salaries less than those offered to men, but their Vigilance Committee had been helpful in preventing this.

Dr. CULLEN suggested that members should be circularized, but expressed the opinion that it would be better to wait until after the interview with the board. If it was unfavourable, it was then open to the Association to take other means of informing its members.

Dr. LAWSON thought the deputation should make it clear to the board that if it did not accede to the request the Branch would take means of requesting candidates to withdraw.

Dr. BONER moved that all the members of the profession in Glasgow be circularized stating that the meeting had been held, and that any persons who had already applied were requested to reconsider the matter until the official conference with the School Board had taken place.

Dr. CROW seconded.

Dr. BALFOUR MARSHALL moved that in view of the shortness of the time for applications now to be lodged, the meeting remit the matter to the committee with powers to act provided that the School Board gave an unfavourable reception to the committee. The committee in this case would take action to get applicants to withdraw.

A vote of thanks to the Chairman terminated the meeting.

METROPOLITAN COUNTIES BRANCH.

TREATMENT OF SCHOOL CHILDREN FOUND DEFECTIVE ON INSPECTION.

THE following letter has been addressed to the President of the Board of Education:

METROPOLITAN COUNTIES BRANCH,
BRITISH MEDICAL ASSOCIATION,
3rd August, 1909.

To the President of the Board of Education.

SIR,

Re Provisional arrangements by the London County Council for the Medical Treatment in Voluntary Hospitals of Elementary School Children found on medical inspection to be defective.

The Metropolitan Counties Branch Council of the British Medical Association desires to draw your attention to the fact that the proposals of the London County Council to provide for the medical treatment of a few children among the enormous number found on medical inspection to be defective, are wholly inadequate as a means of coping with a great public evil, and are most detrimental to the interests of the voluntary charities and of the work of the medical profession in relation to those institutions.

In the first place only a few hospitals have consented to enter upon even the restricted amount of work proposed to be provided, and in the second place even these are situated in the central area of the metropolis where elementary schools are relatively few, while very extensive and more outlying districts of the metropolis, in which the greatest number of children are being educated, are left wholly unprovided for.

The large majority of the conditions and physical defects which it is proposed to treat require almost daily care. It is clearly impossible that the children and their parents should travel long distances and wait many hours for attention which could easily be provided under a School Medical Bureau by

practitioners at some local centre or school clinic, or public medical service in the immediate neighbourhood of each of the schools.

Indeed, the proposals of the County Council are evidently drafted so as to provide for the treatment of only a fraction of the enormous number of children whose necessities are admittedly most serious. Such action of the County Council amounts therefore to an evasion of the Education (Administrative Provisions) Act, 1908.

The British Medical Association has consistently held the view that since the State assumes the responsibility of the school child's health it must in the first instance refer the child found defective to its private medical practitioner.

In the large number of cases where the parent is too poor to pay a private practitioner and is unwilling to pass under the existing Poor Law, the responsibility for the provision of a properly organized school medical service rests upon the local education authorities, and cannot be evaded by reference of a few of the children to charitable institutions.

The Metropolitan Counties Branch Council therefore regards the proposals of the County Council to take advantage of the funds of the voluntary hospital charities and of the gratuitous services of their honorary staffs as reprehensible, since such proposals involve a large increase of the unpaid work already done for the community by the medical profession and a diversion of the funds, premises, and materials of the charitable institutions from the purposes for which they were given by the benevolent and for which the medical profession have contributed in charity both their services and their time.

In conclusion, the Metropolitan Counties Branch Council respectfully suggests that you should not sanction the present scheme of the County Council, since it in no wise attempts adequately to provide for the removal of a great public evil and source of national deterioration.

We have the honour to remain, Sir,

Your obedient Servants,

J. FORD ANDERSON, M.D.,
President of the Metropolitan Counties Branch of the British Medical Association.

E. W. GOODALL, M.D., Eastern Hospital, Homerton, N.E.

W. GRIFFITH, M.B., 1, Chester Gate, N.W.,
Honorary Secretaries of the Metropolitan Counties Branch.

On May 21st last the then President and Honorary Secretaries of the Branch addressed to all the members of the staffs of hospitals in London likely to be affected by the proposals of the Education Committee of the London County Council a letter, which was published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of June 12th, p. 387. The President and Honorary Secretaries have now addressed a further communication to the members of the medical staffs of the London hospitals, enclosing a copy of the above letter addressed to the President of the Board of Education, and copies also of letters addressed to the boards and committees of management of London hospitals and the chairman of the medical committee of each of the London hospitals. In the letter to the boards and committees of management, the officers of the Branch quote the resolution of the Representative Meeting adopted on July 25th, 1909, as follows:

> That the Representative Meeting regrets that the Education Committee of the London County Council has made arrangements with the committees of management of some of the London hospitals for the treatment of a small number of children, and hopes that the medical staffs will do all in their power to prevent such abuse of voluntary charities and inadequate provision for a public evil.

The letter then states as follows:

We propose to deal only with the disadvantages which we, who are specially interested in the professional side of hospital charities, foresee as likely to fall upon these institutions without any compensating profit to the children so treated. It appears to us that, whether or not payment is accepted from the County Council, a definite contract made with such a public body to undertake the treatment of cases chosen by its Officers, fundamentally alters the basis on which, hitherto, voluntary medical charity has rested. The Metropolitan Counties Branch regards it as essential that a Hospital, if it is to retain its voluntary character, should, both from a medical and an economic point of view, not delegate to non-medical bodies the determination of the fitness of individual cases for medical treatment at such institutions. Under the arrangement suggested by the London County Council the normal work of the Hospitals which, as the recent Poor Law Report shows, is greatly overloaded, would have to give way to the preferential treatment of such children.

In particular, it seems desirable that it should be fully recognized that Hospital Out-Patient Departments should not be regarded as places for the primary routine treatment of trivial ailments even though affecting special organs of the body. It is clear that the ordinary patients would suffer, and that the discontent thus caused would bring in its train reduced support to the funds of the hospitals.

The Metropolitan Counties Branch is also in agreement with the view which has been for many years held by a majority of those interested in all forms of charity that the acceptance of a money grant from a municipal body would immediately lessen the voluntary character of the Hospitals, and would be a first step towards municipalization.

In this connexion it has been suggested as a justification of the course proposed by the County Council that Poor Law cases have been treated for payment in some hospitals, but the Branch desires to point out that this most unsatisfactory arrangement originated in consequence of the defects of the present Poor Law system, and the Branch looks to future efficient legislation to bring about the discontinuance of such a faulty and anomalous practice.

The Metropolitan Counties Branch is aware that some of the hospitals have provisionally accepted the terms of the London County Council, whether advised or not in this matter by their Medical Committees. Until recently, however, this question has not been considered by the profession, and it is believed that more complete understanding of its details will ultimately lead to an almost unanimous professional opinion in accordance with that which has been reported to you as the result of the discussion by the representatives of the Association at Belfast.

In conclusion, the Branch would draw the attention of your Board to the hope which has been widely expressed, that the Voluntary Hospitals will do nothing to hamper the creation of a much-desired School Medical Service in which through the agency of the private practitioner the common ailments of school children will be treated, and thus will be secured what all have at heart, namely, the reduction of the enormous mass of ill-health and suffering which has been disclosed by the systematic medical inspection of Schools.

The letter to the Chairman of the Medical Committee of each of the hospitals contains the following passages:

The Council desires to draw your attention to the fact that the medical profession is already suffering severely from the extraordinary amount of unpaid work imposed upon it, and that although suggestions have apparently been made that grants should be paid to some hospitals in return for the accommodation granted, and even that a portion of this might be allotted to certain junior medical officers, it is clear that unless the relations of the honorary medical staffs to these institutions is radically changed, no proper remuneration of the profession can be provided. For the members of such Hospital Staffs to accept remuneration for treating the common ailments of children on a scale commensurate with the fees charged by general practitioners, would jeopardize their professional standing.

We observe further that it is particularly stated that at present the County Council will not require, as a condition of its grant, that hospital out-patient departments should be inspected, or that the Council should be represented on the Board of Management. But if precedent be followed, such entry by the County Council cannot be refused, and consequently the position of the medical staffs and of the circumstances of their work will be profoundly altered.

The Metropolitan Branch Council therefore trusts that in the interests of the public, the efficiency of the School Medical Service, and in the interests of all branches of the profession, you will lay before your Committee the need of actively opposing the proposal of the London County Council.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Great Yarmouth on Thursday, October 7th. Members wishing to show cases or specimens or to read papers should communicate at once with Mr. H. A. Ballance, M.S., Norwich. —B. H. NICHOLSON, General Secretary.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION. —A meeting of the Committee will be held at Dr. G. H. Smith's, Knutsford, at 4.30 p.m., on Wednesday, September 29th. A general meeting of the Division will be held at Knutsford at 4.30 p.m. on Thursday, October 7th. Further particulars in future notice. —H. G. COOPER, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[SIXTH NOTICE.]

BURROUGHS, WELLCOME AND CO. (Snow Hill Buildings, London, E.C.). The exhibit of this firm was a very large one and covered several distinct fields of work. In connexion with all of them a striking point was the skill and taste exhibited in making the various preparations readily utilizable. Instances in point are the Vaporole Brand products for hypodermic and other use. Thus *Ernutin*, a representative of the active principles of ergot physiologically standardized and intended for hypodermic injection, is sent out in a tiny glass flask, like a closed-in claret glass. It stands quite steadily and its contents can be got at by breaking through the neck in which the cover ends. The base of the cavity is highly convex, and the liquid can be removed by a hypodermic syringe to the last half drop. *Tyramine* and *Hemisine* are sent out in the same way; the former is the chief active constituent of aqueous extracts of ergot and the latter of the suprarenal gland. Also shown were samples of the serums and vaccines prepared at the Wellcome Physiological Research Laboratories. They included an acne bacillus vaccine and a gonococcus vaccine, in addition to tuberculins, both for therapeutic inoculation and opsonic index work, and antidysenteric and antidiphtheria serums. The latter is sent out in two strengths, one marked "high potency," having 1,000 units to each c.cm. of fluid. A polyvalent serum prepared from horses immunized, we were informed, against streptococci from sixty sources was also shown. It is intended for use in cases in which a precise diagnosis cannot at once be made but immediate treatment is deemed necessary. Another exhibit was *Wellcome Brand Chloroform* in 30 c.cm. and 60 c.cm. sealed tubes, as well as in ordinary bottles, while there was a striking array of excellent medicine cases and first-aid equipments, one of the latter being specially intended for motorists. Among the minor products the *Vaporoles* of aromatic ammonia were very attractive; they are tiny phials surrounded by cotton-wool and enclosed in a silk sheath. The glass is strong enough to allow them to be carried in the pocket, but breaks readily by finger pressure, exhaling a very powerful vapour. Hazeline or hamamelis figured in several preparations, notably as *Hazeline Snow*, a soothing, non-greasy application for use after shaving, and in this connexion, *Opa*, an antiseptic liquid dentifrice of pleasant smell and taste, may also be mentioned. Their stand, indeed, was almost as strong in elegant preparations for toilet purposes and personal hygiene as it was in those of a strictly scientific order.

REBMAN, Limited (129, Shaftesbury Avenue, London). This firm had upon view a good selection of the text-books, treatises, and atlases dealing with medicine, surgery, and public health in all their branches which it has produced. The new volumes included Mr. Norman Barnett's *Accidental Injuries to Workmen*, which has arrived at an opportune moment, while its value is increased by an introduction written by a barrister and dealing with the subject strictly from a legal point of view. Also among the volumes just out was the *Textbook of Mental Diseases*, by Professor Tanzi of Florence, an importance treatise on the subject which has been well translated by Drs. Ford Robertson and T. C. Mack; it is specially notable for the very lifelike character of its illustrations, which have been engraved from photographs. Likewise excellently illustrated and in colours was Moure's *Diseases of the Pharynx and the Larynx*. We also noticed a translation by Bleck of Bier's *Hyperaemia as a Curative Agent*, for which the translator has used the sixth and revised German edition; comprehension of the details of the treatment is facilitated by some forty illustrations. Among the new editions was the sixth issue of Bland-Sutton and Giles's well-known volume, *Diseases of Women*, and a second edition of Casper's *Textbook of Genito-urinary Diseases*. The stand, too, was strong in atlases, those shown including Toldt's *Atlas of Anatomy for Students and General Practitioners*, and the first four parts of Neisser and Jacobi's imposing *Ikonographia Dermatologica*, and Bardeleben and Haeckel's *Atlas of Applied (Topographical) Human Anatomy*, as translated from the third German edition by Dr. Howell Evans; it contains upwards of two hundred coloured plates. The *Atlas of Typical Operations in Surgery*, by Bockenheimer and Frohse, with letterpress by the same translator, was also on view.

THE AUTO-GLOVING MACHINE COMPANY (21, Woodstock Street, Oxford Street, W.). This is a firm which has bought up, we understand, all rights in a machine of the same name to which we drew attention in connexion with the exhibition at Sheffield, and again last April when we illustrated our description by an engraving. Since then a modification has been introduced into its manufacture which is of some importance, since it allows the upper and only part of the machine likely to be touched by the hand of the surgeon or his assistants to be removed from the rest and sterilized in an ordinary hot-air chamber. In this direction there was little fault to be found even with the original model, and as now made it seems to meet the most exacting requirements of aseptic surgery. For the rest the appliance is undoubtedly one of practical utility, for by its use the hands can be aseptically gloved in india-rubber in a couple of seconds or so, and without trouble or risk of tearing.

SAVORY AND MOORE, Limited (143, New Bond Street). This is a firm of pharmaceutical chemists of very old standing and high repute, and what we consider its most typical and distinctive exhibit were the *Gelatine Lamels* to which we drew attention last year. They are thin, soluble sheets marked in squares, each representing a definite quantity of some drug of well-assured value. Any dose which it may be desired to administer can be cut off and given floating in water or in solution. We have had considerable experience of their use both at home and abroad, and find that they admirably meet the needs supplied by tablets and pills. They are eminently portable, remain in good condition indefinitely, and it is an advantage to be able to vary doses at will. Also shown, of course, was *Savory's Food for Infants*, too well-known a production of this character to need description beyond pointing out that it is neither a dried milk food nor a predigested food, but one designed for use with fresh milk. With it was shown an excellent feeding-bottle, free from valves and provided with a minute hole by which the flow of liquid can be regulated by pressure of the finger. The firm's *Pancreatised Emulsion* and *Savore*, a concentrated food intended to meet the needs of convalescents and other people unable to assimilate ordinary nourishment with readiness, may also be noticed in the same connexion. A comparatively new preparation is that to which the firm has given the name Fructolea. These are a substitute for the various medicated syrups now in use, all sugar being replaced by glycerine. One of them is prepared from red bone marrow and iron and calcium. In composition it is analogous to the well-known Parrish's Chemical Food, with the important difference that the iron and lime are combined

with glycero-phosphoric, not crude phosphoric, acid. *Molfa*, a well-made soap; some milk-souring tablets, producing a curdled milk of higher acidity, as the firm believes, it is stated, than similar preparations; and *Carbolated Orilave* were also among the exhibits. The latter is a mouth wash, agreeable and refreshing to use and possessed of considerable bactericidal power.

SACCHARIN CORPORATION (165, Queen Victoria Street). This firm is the proprietor of Novocain, which has been too largely used as a local anesthetic and in the production of spinal anaesthesia to require extended description. It is still a moot point what is the best drug for use in spinal anaesthesia, but the claims of Novocain to that position have been strongly upheld, while as a local anaesthetic used by subcutaneous injection its value is scarcely open to dispute. On a recent occasion (see BRITISH MEDICAL JOURNAL, March 27th, 1909, p. 783) the action of local anaesthetics was reviewed from a pharmacological standpoint by C. N. Le Brocq in a report to the Therapeutic Committee of the British Medical Association, and he concluded that novocain was the most satisfactory of the seven with which he experimented for general use. Its anaesthetic action is found equal to that of cocaine, and its toxicity and general destructive power on the tissues much less. To this it may be added that Novocain appears to be in nowise altered by boiling, so solutions of it can be sterilized as desired. The drug can be obtained either in ready-made solutions or in tablets, each containing Novocain and chloride of sodium in such proportions that when added to 100 c.cm. of sterilized water a ½ per cent. solution of novocain in normal saline results. This can be boiled, and a few drops of suprarenin then added. For urological purposes a novocain nitrate can also be obtained. This is recommended for use in gonorrhoea, as it can be combined with various preparations of silver. A further form was novocain with the addition of a small percentage of strychnine, as recommended by Mr. Canny Ryall. The firm also exhibited on behalf of J. Wilson and Valdispano, 5, New London Street, a liqueur brandy known as P.G.B., which proved very palatable.

INGRAM AND ROYLE, Limited, Mineral Water Manufacturers (26, Upper Thames Street). As a kind of practical encyclopaedia of natural mineral waters, all having more or less therapeutic or dietetic value, the exhibit of this firm was, as usual, unique. Hardly any source which has attained any reputation and whose water is exported was not represented. Altogether there were some forty-eight varieties, as well as salts and pastilles, composed of the ingredients of several leading waters, such as Vichy and Carlsbad. The Hungarian saline aperient — Hunyadi Janos — was, of course, on view, as also specimens of the Celestins and Grande-Grille springs of Vichy in their natural conditions, both being waters which appear to maintain their popularity, the one as a remedy for gout and rheumatism, the other as an alternative in cases of so-called congested liver. A few waters of British origin, such as those of Cheltenham Spa and Strathpeffer, were also shown, and also a new competitor for favour from Ontario, Canada, namely, Magi Caledonia, put forward as a mild laxative and alterant. Among table waters was Giesshubler, a pleasantly-sparkling alkaline water which has a distinct reputation in dyspepsia; Evian-Cachat, a still water which has been claimed to be useful as a beverage for the gouty; St. Galmier, and many others. The firm issues on application a little pamphlet on natural mineral waters, which may be found useful when reference books on the subject are not readily available.

SCHWEPPES, LIMITED (49, Pall Mall, S.W.). This firm of mineral water manufacturers had for principal exhibit a new non-alcoholic wine named Vindevie, which proved on tasting to be very palatable either alone or mixed with effervescing water. It is prepared, we were informed, from the juice of freshly-gathered Algerian grapes by what is known as the Kuhn process. This gets over the difficulty of preservin grape juice from alcoholic fermentation not by adding preservatives, but by destroying all micro-organisms which may be present by raising it under pressure to a temperature of 110 C. in a silver-lined apparatus. It contains by weight 15.5 parts of grape sugar, while its acidity is equal to 0.9 part of tartaric acid. We recently analysed it, and found that, as stated by the manufacturers, it is non-alcoholic, and free from preservatives of any kind. It would appear, therefore, to be deserving of trial in the treatment of systemic and functional disorders such as those for which grape cures have been prescribed in the past. It also showed *Proset*, a fruit beverage, which appears to have attained considerable popularity among athletes and in ordinary temperance circles. It is supplied in two qualities, dry and sweet.

THE HANLEY CHEMICAL MANUFACTURING COMPANY (Hanley, Staffordshire). The exhibit of this firm was a liquid preparation of haemoglobin, to which attention was drawn in these columns last year. It is a deep brown liquid, tasting somewhat like sherry, and becomes almost solid on heating. As calculated from the nitrogen present the amount of proteid is 22 parts per 100, while the liquid on ignition leaves an ash of about 2 per cent., containing iron, lime, soda, and phosphates. This liquor haemoglobin composition has been recommended in wasting diseases, and appears from its composition to be a good vehicle for administering iron in organic combination.

ASYLUMS OFFICERS' SUPERANNUATION BILL.

REPORT OF SELECT COMMITTEE.

THE Select Committee of the House of Commons, under the chairmanship of Mr. John Henderson, instructed to report on the Asylums Officers' Superannuation Bill, recently presented a report stating that legislation providing assured pensions for asylum officers and servants upon a contributory basis would be advantageous alike to the inmates and to the staffs of asylums. The report stated further that:

> While it is true that advantage has been taken by a large number of asylum authorities in England, Wales, and Ireland of their optional powers of pensioning officers on their retirement, there are some who grant no superannuation allowances whatever. In the case of those authorities which exercise their discretionary power, the majority appear to have no definite scale of allowance in force, and in some instances the discretion is said to be capriciously exercised. Nearly all the witnesses who appeared before us approve of a uniform scale of pensions operating throughout the public asylums of the United Kingdom.

The Committee held eleven meetings and examined twelve witnesses, and received also observations from the Lunacy Commissioners expressing their entire agreement with the object of the bill so far as it is designed to substitute for the discretionary power on the part of the authorities of asylums to grant pensions, the obligation to grant superannuation allowances on fixed scales, and to provide for contributions from the recipients of such allowances in aid thereof.

DEPUTATION TO THE LORD CHANCELLOR.

A deputation, consisting of representatives of the Asylum Workers' Association and of the Medico-Psychological Association, in support of this bill, some account of which was given in our issue of August 14th, p. 406, was received by the Lord Chancellor at the House of Lords on September 1st.

Sir JOHN JARDINE, M.P., who introduced the deputation, expressed regret at the unavoidable absence of Sir William Collins and Mr. Charles Roberts, both of whom had taken a leading part in promoting the bill in the House of Commons. It had passed through that House with little opposition and but few amendments, and would, he urged, tend to the improved care of the insane, inasmuch as the prospect of an assured pension would secure the continued services of the most highly-qualified officers.

Dr. SHUTTLEWORTH, speaking as Honorary Secretary of the Asylum Workers' Association, the promoters of the bill, referred to the desirability, in the interests of the insane, of asylum service being rendered more

attractive by placing those engaged in this arduous work on a basis similar as regards definite and assured superannuation allowances to that which already existed in the case of the Police, Prison, Poor Law, and Civil Services. It was the aim of his association to inspire its members, the majority of whom were nurses and attendants in asylums, with a higher ideal of their vocation in ministering to minds diseased, but financial prospects necessarily had their influence, and efficient and well-trained asylum workers were apt, under present conditions, to migrate into services in which the emoluments were more secure. The wages of asylum workers were low as compared with those of similar responsible callings, the hours long and the duties trying. The Lunacy Commissioners both in England and Scotland had from time to time insisted on the necessity of definite and liberal superannuation arrangements in order to secure the best class of service for the insane, and many asylum authorities, including the London County Council, had signified their approval of the settlement proposed in the Bill, which was, in fact, a contributory pension scheme. He ventured to hope that the Bill which had been favourably reported on by a Select Committee, and had passed through the House of Commons without any serious opposition, would commend itself to the support of the Government.

Dr. HAYES NEWINGTON, Treasurer of the Medico-Psychological Association, said that his association cordially supported the bill as a measure calculated to attract a class of workers equal to those who went into the Police, Prison, and other Public Services which now enjoyed definite superannuation schemes. He referred to the system of examinations organized by his association, and pointed out that it was most desirable in the interests of the patients that inducements should be offered to those who had been trained for asylum service to remain in it for the whole of their working life. This could only be done by securing the certainty of provision for declining years such as was provided in this bill.

Dr. BOWER, as Chairman of the Parliamentary Committee of the Medico-Psychological Association, corroborated Dr. Newington's statements, and laid stress upon the importance of securing permanence of asylum service in the interests of the insane.

The Rev. JOHN PECK spoke to the same effect, from the point of view of Chaplain at the Holloway Sanatorium.

After putting several questions to members of the deputation, the LORD CHANCELLOR prefaced his reply by expressing his gratification at seeing a lady (Mrs. Chapman, Honorary Treasurer of the Asylum Workers' Association) present that day, as he thought—with the Lunacy Commissioners—that women ought to have more to do than at present with the work of caring for the insane. He was very sensible of the difficult and trying duties which much necessarily attach to the calling of an asylum worker. It was, indeed, difficult to imagine duties more trying and more deserving of public sympathy. As regards the measure in question, he was personally quite ready to support it, subject to the approval of his colleagues in the Cabinet, to whom he would communicate the statements of the deputation, which would no doubt be carefully weighed and considered. He could not say more than this at present. After a vote of thanks to his lordship, proposed by Dr. PASMORE and seconded by the Rev. H. WHITTAKER, M.D., the deputation withdrew.

No intimation has been received as to the decision of the Government up to the present time.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET-SURGEON S. W. VASEY has been placed on the retired list, with the rank of Deputy Inspector-General, September 1st. He was appointed Surgeon, June 4th, 1878; Staff Surgeon, June 4th, 1890; and Fleet Surgeon, December 19th, 1894. He landed with the Naval Brigade of the *Boadicea* during the Zulu war in 1879, receiving a medal with clasp; was present at the destruction of Batonga, West Coast of Africa, in 1890; and was Surgeon of the *Seagull* during the Egyptian war in 1882, receiving a medal and the Khedive's bronze star.

The following appointments have been made at the Admiralty: Staff Surgeon T. W. PHILIP, M.B., to the *Andromache*, on recommissioning, September 15th; Surgeon F. R. FEATHERSTONE to the *Racer*, additional, for the Royal Naval College, Osborne, August 31st; Staff Surgeon H. J. CRATER to the *Eurydice*, September 1st; Staff Surgeon H. L. NORRIS to the *Argonaut*, on recommissioning, September 14th; Surgeon T. R. L. JONES to the *Doris*, on completing, September 14th; Staff Surgeon W. G. WESTCOTT to the *Forth*, September 15th; Staff Surgeon P. F. ALDERSON to the *Excellent*, additional, for the *Revenge*, September 15th.

ROYAL ARMY MEDICAL COLLEGE.

MAJOR W. S. HARRISON, M.B., from an Assistant Professor, to be a Professor, vice Lieutenant-Colonel R. J. S. Simpson, C.M.G., M.B., August 22nd.

Captain J. C. KENNEDY, M.B., to be an Assistant Professor, vice Major W. S. Harrison, M.B., August 22nd.

CHANNEL ISLANDS MILITIA.

SURGEON-LIEUTENANT C. A. BOIS, the Royal Militia of the Island Jersey, Medical Corps, to be Surgeon-Captain, August 10th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL R. P. HEPBURN-BROWN, Half-pay List, is placed on retired pay, September 1st. His commissions are dated:—Surgeon, February 5th, 1880; Surgeon-Major, February 5th, 1893; and Lieutenant-Colonel, February 5th, 1901. He was placed on half-pay, April 19th, 1907. His war record include—the Egyptian war in 1882 (medal and Khedive's star); the Nile Expedition, 1884-5 (clasp); the Burmese campaign in 1891-2, with the Irrawaddy and North Eastern Columns (medal with clasp); and the South African war in 1899-1902, including operations in the Orange Free State and Cape Colony (Queen's medal with two clasps and King's medal with two clasps).

Lieutenant A. C. VIDAL to be Captain, August 29th. He was appointed Lieutenant, July 31st, 1905. He was placed on half-pay in January, 1908, but was restored to the establishment in August of the same year.

TERRITORIAL FORCE.

ROYAL ENGINEERS (ARMY MEDICAL CORPS).

SURGEON-CAPTAIN J. HOLMES, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Surgeon-Captain, Northern Command Telegraph Companies, with precedence as in the Volunteer Force, April 1st, 1908.

INFANTRY.

Surgeon-Major G. H. DARWIN, M.D., 6th Battalion the Manchester Regiment, resigns his commission, retaining his rank and uniform, July 12th.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel R. H. LUCE, M.B., F.R.C.S., from the 1st North Midland Field Ambulance, Royal Army Medical Corps, to be Colonel, on appointment as Administrative Medical Officer of a Territorial Division, April 19th.

ROYAL ARMY MEDICAL CORPS.

Colonel (HONORARY Captain in the Army) C. A. MACMUNN, M.D., Administrative Medical Officer, North Midland Territorial Division, resigns his commission, retaining his rank and uniform, April 10th.

Second West Lancashire Field Ambulance.—Lieutenant C. L. WILLIAMSON resigns his commission, July 1st.

Third London (City of London) Field Ambulance.—Captain W. S. SHARPE to be Major, January 11th.

Second Northumbrian Field Ambulance.—Lieutenant G. R. ELLIS, M.B., to be supernumerary to the establishment, May 1st.

For Appointment to Units other than Medical Units.—Lieutenant JOHN A. GIBB, from the 1st Home Counties Field Ambulance, Royal Army Medical Corps, to be Lieutenant, March 29th. JOSEPH D. WELLS, M.B., to be Lieutenant, August 14th. The following officers to be supernumerary to the establishment: Captain E. R. WILLIAMS, April 1st, 1908; Captain H. N. A. TAYLOR, M.D., April 1st, 1908; Lieutenant D. A. HUGHES, April 1st, 1908; and Lieutenant A. DICK, December 2nd, 1908. Captain L. P. DEMETRIADI, M.D., to be Major, June 19th. Surgeon-Lieutenant ASHLEY BIRD, from the 2nd Glamorganshire Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force, April 1st, 1908.

Welsh Border Mounted Brigade Field Ambulance.—Lieutenant D. C. L. ORTON, from the List of Officers attached to Units other than Medical Units, to be Lieutenant, July 9th.

First South Midland Field Ambulance.—Captain C. H. HOWKINS to be Major, June 4th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,147 births and 4,065 deaths were registered during the week ending Saturday last, September 4th. The annual rates per 1,000 in these towns, which had been 11·5, 11·8, and 12·9 per 1,000 in the three preceding weeks, was again 12·9 per 1,000 last week. The rates in the several towns ranged from 3·8 in Hornsey, 4·3 in Burton-on-Trent, 4·9 in Aston Manor, 5·3 in Walthamstow, and 5·9 in Wallasey, to 17·2 in Salford, 17·3 in Bootle, in Wigan, and in Middlesbrough, 17·8 in Liverpool, 18·1 in St. Helens, 18·4 in Nottingham, 18·7 in Tynemouth, and 28·1 in Swansea. In London the mortality was 12·4 per 1,000, while among the seventy-five other large towns it averaged 13·1 per 1,000. The death-rate from the principal infectious diseases averaged 2·4 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 2·0 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 5·2 in Wigan, 5·3 in Bootle, and in Newport (Mon.), 5·4 in Salford and in Middlesbrough, 5·7 in Grimsby, 5·8 in Rhondda, 6·3 in Devonport, and 9·0 in Swansea. Measles caused a death-rate of 1·1 in Swansea and 2·7 in Newport (Mon.); whooping-cough of 1·0 in Middlesbrough, in Cardiff and in Swansea, 1·2 in Derby, 1·3 in Coventry, and 1·6 in St. Helens; "fever" of 1·2 in Wigan; and diarrhœa of 4·0 in Wigan, 4·2 in Walsall, 4·5 in Middlesbrough, 4·8 in Nottingham, 5·0 in Rhondda, 5·5 in Bootle, 5·7 in Grimsby, 6·3 in Devonport, and 6·9 in Swansea. No fatal case of small-pox was registered in any of the seventy-six towns. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,518, 2,411, and 2,347 at the end of the three preceding weeks, rose slightly to 2,377 at the end of last week; 399 new cases were admitted during the week, against 298, 245, and 284 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, September 4th, 872 births and 494 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.6, 12.0, and 12.7 per 1,000 in the three preceding weeks, further rose last week to 13.8 per 1,000, and was 0.9 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the rates ranged from 10.8 in Paisley to 14.4 in Greenock and 16.3 in Dundee. The death-rate from the principal infectious diseases averaged 2.0 per 1,000 in these eight towns, the highest rates being recorded in Dundee and Glasgow. The 234 deaths registered in Glasgow included 3 which were referred to scarlet fever, 6 to diphtheria, 2 to "fever," and 24 to diarrhœa. Two deaths from measles occurred in Paisley, 2 from scarlet fever in Dundee, 2 from diphtheria and 5 from whooping-cough in Edinburgh, and 2 from whooping-cough in Aberdeen. Six fatal cases of diarrhœa were recorded in Dundee, 3 in Edinburgh, and 2 in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 4th, 589 births and 369 deaths were registered in the twenty-two principal urban districts of Ireland as against 627 births and 396 deaths in the preceding period. The annual death-rate in these districts which had been 14.0, 16.2, and 18.1 per 1,000 in the three preceding weeks fell to 16.8 per 1,000 in the week under notice, this figure being 3.9 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The rates in Dublin and Belfast were 19.0 and 16.1 respectively, those in other districts ranging from 3.9 in Galway and 4.0 in Dundalk to 25.3 in Waterford and 26.4 in Tralee, while Cork stood at 21.9, Londonderry at 15.7, and Limerick at 17.8. The zymotic death-rate in the twenty-two districts averaged 2.9 per 1,000 as against 4.3 per 1,000 in the preceding period.

Hospitals and Asylums.

ROYAL HOSPITAL FOR INCURABLES, DUBLIN.

THE report presented to the annual meeting of the Royal Hospital for Incurables, Dublin, held recently under the presidency of Mr. William Fry, stated that the wards had been occupied to their fullest capacity. The revenue amounted to £6,978, as compared with £7,008 in the preceding year. The Chairman mentioned that there had been 211 in-patients, while there were out-patients who received pensions. Nothing had been left undone which was thought to be for their advantage. The hospital was much popular, and the demand for beds was far greater than the space available. The institution was outside the scope of the Hospital Sunday Fund, as it was not a general hospital; but it had a great claim on the public, and he was bound to say that the public responded to that claim. On the motion of Mr. H. H. Connor, K.C., seconded by the President of the College of Physicians, the institution was declared to be worthy of the support of the public.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM EAR AND THROAT HOSPITAL.—House-Surgeon. Salary at the rate of £70 per annum.

BIRMINGHAM: GENERAL HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary at the rate of £50 and £40 per annum respectively.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) Two House-Physicians; (2) Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BOLTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £100 per annum.

BRADFORD.—Assistant Resident Medical Officer (male) for the Union Hospital and Workhouse. Salary, £130 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Anæsthetist. Honorarium, 25 guineas per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHELTENHAM GENERAL HOSPITAL.—Surgeon in charge of Branch Dispensary. Salary, £30 per annum, and £10 in lieu of cab hire.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary, £80 and £60 per annum respectively.

CORK COUNTY SANATORIUM.—Resident Medical Superintendent. Salary, £250 per annum.

COVENTRY CORPORATION.—Assistant Medical Officer of Health. Salary, £300 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon. Salary, £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Surgeon. Salary at the rate of £60 per annum. (2) Ten Clinical Assistants in the Out-patient Departments.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HALIFAX ROYAL INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon. Salary, £65 per annum.

JERUSALEM: BRITISH OPHTHALMIC HOSPITAL.—Assistant Surgeon. Honorarium, £300.

LONDON COUNTY COUNCIL.—Medical Officer to Certain Employees in District No. 24.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House-Surgeon. Salary, £75 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary, £150 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) Assistant Physician; (2) Resident Anæsthetist; (3) House-Physician; (4) House-Surgeon; (5) Assistant House-Physician; (6) Assistant House-Surgeon. Salary for (2) at the rate of £80 per annum and £10 on completion of report, for (3) and (4) £40 per annum, and (5) and (6) £20 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—(1) Senior Resident Medical Officer; (2) Junior Resident Medical Officer. Honoraria, £100 and £50 per annum respectively.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 for first year, rising to £180.

NEWCASTLE-ON-TYNE: EYE INFIRMARY.—Non-resident House-Surgeon. Salary, £100 per annum.

NEWPORT EDUCATION COMMITTEE.—School Medical Officer and Assistant Medical Officer of Health. Joint salary, £250 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons. Salary, £160 per annum each.

OLDHAM INFIRMARY.—Third House-Surgeon. Salary at the rate of £80 per annum.

PLAISTOW HOSPITAL FOR INFECTIOUS DISEASES, E.—Junior Assistant Medical Officer. Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £75 per annum.

PRESTWICH UNION.—Assistant Medical Officer for the Infirmary and Workhouse. Salary, £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN Hackney Road, E.—Resident Medical Officer. Salary, £100 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician; (2) Assistant House-Surgeon. Salary at the rate of £80 and £60 per annum respectively.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ROYAL EAR HOSPITAL, Soho.—Non-resident House-Surgeon. Salary at the rate of £60 per annum.

ROYAL EYE HOSPITAL, Southwark.—(1) Honorary Physician; (2) Honorary Assistant Surgeon; (3) Refraction Assistant; honorarium at the rate of £40 per annum; (4) Clinical Assistants.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Clinical Assistants.

ST. PANCRAS UNION.—Assistant Medical Superintendent of the South Infirmary and Assistant Medical Officer of the Workhouse. Salary at the rate of £135 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House-Surgeon (male). Salary, £80 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £65 per annum.

WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Resident Surgical Officer; (2) House-Surgeon. Salary at the rate of £125 and £80 per annum respectively.

YORK DISPENSARY.—Resident Medical Officer (male). Salary, £130 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Ollaberry, co. Shetland, and North Tawton, co. Devon.

APPOINTMENTS.

ADAMS, W. F., M.R.C.S., L.R.C.P., District Medical Officer of the Rochford Union.

CORNELIUS, J. M.B., Ch.B.Edin., Junior Medical Officer, English Mission Hospital, Jerusalem.

DUNN, W. J. R., L.R.C.P. and S.Edin., Medical Officer of the Deysbrook House Branch Workhouse of the West Derby Union.

HIGGINS, T. F., L.R.C.P.I., L.M., Certifying Factory Surgeon for the Shradbally District, Queen's County.

LAYMAN, E. M., M.B., B.S.Lond., Second Resident Assistant Medical Officer at the Hackney Union Infirmary.

MCDONNELL, E. T., M.D.Brux., L.R.C.P. and S.Edin., District Medical Officer of the Brownstown Union.

MAY, W. N., M.D.Lond., District Medical Officer of the Wokingham Union.

MULLANY, P., L.R.C.P.I., L.R.C.S.I., Certifying Factory Surgeon for the Kilmanevoge District, co. Kilkenny.

PRATT, C. C., L.M., S.S.A.Lond., District Medical Officer and Public Vaccinator, Morchard Bishop, Crediton Union.

SCHOLEFIELD, E. H., M.B., B.Ch.Oxon., School Medical Officer for Preston.

SUTHERLAND, Halliday G., M.D.Edin., Medical Superintendent of the Westmorland Sanatorium, Grange-over-Sands.

THOMSON, Eric A., M.B., Ch.B.St.And., Medical Officer of Health to the Dundee Parish Council.

A CORRECTION.—In the notice of the appointment of Medical Officer of Health to the Leek Sutton Urban District, published last week, the name and qualifications of the officer appointed were incorrectly given; they should have been W. A. Wilson Smith, M.D., D.P.H.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

WHITEHOUSE.—To the wife of A. Landon Whitehouse, M.R.C.S., L.R.C.P., L.D.S.Eng., 139, Victoria Street, S.W., a daughter.

MARRIAGES.

BENNETT—CANNING.—On September 2nd, at Emmanuel Church, Liverpool, by the Rev. Jules Clements Frazer, B.A., William Boase Bennett, M.R.C.S.Eng., L.R.C.P.Lond., younger son of the Rev. M. J. B. Bennett, M.A., Vicar of St. Simon's, Liverpool, to Minnie, daughter of the late Henry Canning, of Malin, Londonderry.

SPARKS—SINCLAIR.—At St. George's, Cullercoats, on September 7th, by the Rev. Edward Smith, M.A., and the Rev. H. Blount Fry, M.A., Vicar of the Parish, John Peel Sparks, M.D., second son of Mr. and Mrs. Sparks, Rockcliff, Whitley Bay, to Lilian Violet Sinclair, B.A., elder daughter of Mr. and Mrs. John Sinclair, Canonbury, Tynemouth. At home, Farringham House, Whitley Bay, October 12th, 13th, and 14th.

DEATHS.

GROSVENOR.—On the 6th inst., at The Tower, Priory Road, West Hampstead, after a long and patiently-borne illness, Charlotte Anne, the dearly beloved wife of Alfred Octavius Grosvenor, M.D. Service at St. Mary's, Kilburn, by the Rev. Dr. Noyes, on Friday, the 10th, at 1.30. Interment at Hampstead Cemetery at 2 o'clock.

MACKENZIE.—On September 3rd, at the residence of his son, Dr. Morton Mackenzie, Rose Hill, Dorking, in his 65th year, Sir Stephen Mackenzie, M.D., F.R.C.P., late of Cavendish Square, and for many years Senior Physician to the London Hospital, and Consulting Physician to the Royal London Ophthalmic Hospital and the Poplar Hospital for Accidents.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat.

RECENT PUBLICATIONS.

The Groundwork of Eugenics. By Karl Pearson, F.R.S. London: Dulau and Co. 1909. (Demy 8vo, pp. 39. 1s.)

A clearly worded, pleasantly written exposition of the subject by one of its principal authorities. Possibly not every reader will feel convinced of the entire soundness of the position taken up, but all will become interested in the subject and be tempted to pursue its study.

The Treatment of Disease. The Address in Medicine before the Ontario Medical Association, Toronto, June 3rd, 1909. By William Osler, M.D., F.R.S. London: H. Frowde (Oxford University Press). 1909. (Med. 8vo, pp. 26. 1s.)

A print in pamphlet form of the address published in the BRITISH MEDICAL JOURNAL of July 24th, p. 185.

La gastro-entérite des nourrissons. (Consultations médicales françaises, fascicule VIII). Par le Dr. André Moussous de Bordeaux. Paris: A. Poinat. (16mo, pp. 20. Fr.0.50.)

One of a series of clinical lectures issued as small pamphlets. Contains a number of formulæ for medicines and foods.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
SEPTEMBER.	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	LONDON: Organization Committee, 10.45 a.m.
15 WEDNESDAY	
16 THURSDAY ..	
17 FRIDAY ..	
18 SATURDAY ..	
19 Sunday ..	
20 MONDAY ..	
21 TUESDAY ..	
22 WEDNESDAY	
23 THURSDAY ..	
24 FRIDAY ..	
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, meeting of Committee, Dr. G. H. Smith's, Knutsford, 4.30 p.m.
30 THURSDAY ..	

Date.	Meetings to be Held.
SEPTEMBER *(Continued).*	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

The British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from the General Secretary, 429, Strand, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently-elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

GLASGOW AND WEST OF SCOTLAND BRANCH.

A MEETING of this Branch and of medical practitioners resident in Glasgow and District was held in the Hall of the Faculty of Physicians and Surgeons, 242, St. Vincent Street, on Friday, September 3rd, 1909, at 4 p.m. The objects of the meeting were to receive the report of a Conference with the Glasgow School Board, and a further consideration of part-time medical officers' appointments under that Board. Professor R. STOCKMAN, President of the Branch, was in the Chair.

Confirmation of Minutes.—The HONORARY SECRETARY (Dr. Macfarlane) read the minutes of the meeting held on Wednesday, August 25th, which were approved.

Conference with School Board.

The CHAIRMAN said he was away on holiday, and was unable to take part in the deputation to the School Board; he therefore called upon Dr. Grant Andrew to report the result of the conference with the School Board.

Dr. GRANT ANDREW went over some of the ground gone over at the last meeting, so that those who were not present might understand exactly the position taken by them as a profession and as a Branch of the British Medical Association. At the meeting held on August 25th a resolution was passed in the following terms:

> That the commencing salary of the whole-time medical officers be not less than £500 per annum, exclusive of travelling expenses, clerical assistance, stationery, postage, etc., and for the part-time medical assistants a system of payment based on the time devoted to the work, with the minimum of £50 per annum in respect of each school session of two hours per week.

A deputation was appointed at that meeting to approach the Board and to submit that resolution. The deputation consisted of Professors Glaisher and Stockman, Dr. Marion Gilchrist as representative of the Women's Vigilance Committee, two members of the profession who were not members of the Association, Dr. Young of Parkhead and Dr. Grieve, the secretary (Dr. Macfarlane), and Dr. Grant Andrew himself. In the absence of Professors Stockman and Glaisher, both of whom were on holiday, he (the speaker) was asked to explain to the subcommittee of the Board on August 30th exactly what they as a meeting had decided. The Board received them very courteously, and they told the Board exactly what the resolution was. They told the Board that it was asking part-time medical officers to work for 5s. 4d. per hour, and that these part-time medical officers elsewhere received a minimum salary of 10s. per hour. The Board was also told that the Education Act of England having come into force sooner than the Education Act of Scotland enabled the education authorities in England to come to terms with the medical men, largely through the influence and the help of the British Medical Association. Then they told the Board something about the British Medical Association, its size, its division into Branches, and told them that this resolution had not been hurriedly considered, but that it was submitted to a meeting at Sheffield a year ago, that it had been remitted to the Branches, and that afterwards in Belfast it was approved of and submitted to the Central Council, so that the Association had had about eighteen months to consider the resolution, and that they agreed in consequence that the minimum salary should be 10s. per hour. They also told the Board that they did not think it right that their English brethren should have a minimum salary of 10s. per hour and that the same work should be done in Glasgow for 5s. 4d. They also said that their contemporaries in Govan received 12s. 6d. per hour, and that the Board was asking them to do the same work for 5s. 4d. It was added that they had not come to fight or dictate what the Board was to do, but they asked it respectfully to reconsider the terms offered for the part-time medical appointments, and they would await its decision. He might say, at this point, that Dr. Macfarlane had received a reply from the School Board.

Dr. MACFARLANE read the communication, which was as follows:

> Having heard the report and interview between the deputation of the British Medical Association and the Committee of Medical Inspection of Scholars, the Board consider it unnecessary at this stage to give further instructions to the committee.
>
> JOHN CLARK,
> Clerk to the Glasgow School Board.

Dr. GRANT ANDREW (resuming) said the Board told them that it was surprised to see them, because it had thought it was really doing a service to the medical men of Glasgow by offering them these part-time appointments. They were further told that it was new to have medical men interesting themselves in such sublunary affairs as that of salary, and it was also hinted that their attitude savoured of trades unionism. It was also stated that they were not right

in assuming that the duties of these part-time medical officers would be similar to the duties elsewhere. When they asked the Board to define what those duties were, it could not tell them, as no scheme had then been formulated: but it seemed to him very strange that the medical inspection of school children should differ in any degree in Glasgow from what it was in Govan. What was to be the outcome of all this? Were they simply to retire now? Were they simply to enter their protest and do nothing more? If so, they would simply be like grandmamma shaking her fist at the errant schoolboy. They must do something more. At the meeting of the Branch Council a motion was submitted by the Council in the following terms:

> That this meeting of the Glasgow and West of Scotland Branch of the British Medical Association and of practitioners resident in Glasgow and district regrets that the School Board refuses to reconsider the terms of appointment of the part-time medical officers, and recommends that applicants for these posts in the meantime should withdraw their applications.

That was the logical outcome of their action, and he asked them to adopt this resolution for two reasons: First, for the help of others. They were establishing a precedent, if they acceded to these terms, for Scotland. No school board in Scotland had offered terms similar to those offered in Glasgow, and he thought it would be a downright shame if these terms were given out as accepted in Glasgow, and that, therefore, they were suitable for application elsewhere. For that reason he thought the motion should be the finding of that meeting. Then also for their own sakes he failed to see why they should accept the position. The British Medical Association had been told time and again that it had done nothing for practitioners. Even now men might say they did not see why they should withdraw their application for this appointment. If they could be unanimous on this occasion—and he did hope they were unanimous, because they were in earnest—they could compel, or they could make, the School Board reconsider its terms of appointment for part-time medical officers. He had, therefore, pleasure in submitting this resolution.

Dr. W. L. MUIR said he had been asked to second this, and those who were at the last meeting would know that he did so with great pleasure. That was the only logical outcome of their interview with the School Board. It would be very unfortunate if any members of the British Medical Association should not withdraw their applications. As Dr. Andrew had said, it would establish a precedent for cutting down the remuneration of the whole profession for the medical examination of school children throughout Scotland. Why Glasgow could not pay 10s. per hour for this onerous and exacting work while Govan paid 12s. 6d., and why Glasgow could only be able to pay 5s. 4d. was one of those mysteries of finance that no body could understand. Now the difficulty that he saw before them was that a very considerable proportion of the medical profession in Glasgow did not belong to the British Medical Association. They were met by these men with the question, What is done for the general practitioner of the profession by the Association? He admitted that in his early days, thirty-five years ago, the British Medical Association did very little except issue a weekly journal. Those days were gone. The Association had been wakening up and renewing strength, and for the last half-dozen years had been forging ahead with great activity. He had no doubt that the Association would be a power in the land so far as all public bodies were concerned, from Parliament downwards. As Dr. Andrew had said, if they were only unanimous they could persuade or show the Glasgow School Board that the voice of the profession in Glasgow would have to be considered in all these appointments. Then there arose another question. If they found that a certain portion of the profession had accepted these appointments; if they found, after having tried for a little, that in seven and a half hours per week questioning and clerking was most brain-exhausting work; if they found that £40 a year was too little, and if they came to ask for a reconsideration of the terms of appointment, he did not think that these men would dare to come before the British Medical Association to ask for help in making better terms. He for one, in the words of the old proverb, would leave them to stew in their own juice. For these and many other reasons, he had pleasure in seconding the resolution.

The CHAIRMAN having read the terms of the resolution, again invited any amendments to be offered.

Dr. BURGESS said he did not like the position of either the proposer or seconder. After the action they had already taken, he thought it would be very foolish, for this reason: he wished some one else had moved this amendment, for on a previous occasion some years ago he also opposed his private judgement to a meeting such as this on principles different from those of the present. This was a matter of salary, and salary alone—and it was a question that might bring an adverse judgement upon the medical profession. There were times when discretion was very much the better part of valour. They had not a trades union among them, and yet some of them were proposing to work as if there were such, and to exercise some of the most drastic functions without having such a union. Again, did this meeting represent the whole of the profession? He knew some men who had received no word of it.

Dr. MACFARLANE pointed out that a circular had been issued to all the members and to every member of the profession in Glasgow and district whose name was to be found in the *Glasgow Directory* and the *Medical Directory*.

At this point a gentleman present said he had got two, and another that he had not received any.

Continuing, Dr. MACFARLANE said that, to obviate any mistake in the matter, he had also inserted a notice in the *Glasgow Herald* stating the object of the meeting. They had done everything possible to let the profession know what they were doing.

Dr. BURGESS admitted there might have been some mistake. He went on to say that he admitted freely at the beginning that the Glasgow School Board had committed a great blunder in offering such a scale of remuneration, but doubtless, after a period of experience, it would improve. Last year, when the Govan Board was offering similar appointments, he was advised to apply, but he did not do so, because he did not consider the remuneration sufficient. He wished now he had applied for one. Now he had heard that the officers were very well satisfied, considering the work they had to do. They were agreed that £40 was not sufficient salary for the work, but did that warrant them in proclaiming a strike, for that was in effect what they were doing? He wished general practice could be remunerated at this rate. For instance, in the Southern Medical Association they had a scale of charges which was drawn out on a liberal scale. They considered it rather as an ideal scale, and in it they set down an hour as three visits, and they also laid down 2s. 6d. as the minimum for each visit. That was understood to be an ideal scale, but most of them were working on the 2s. scale.

Dr. J. P. DUNCAN, intervening, said that the scale was adopted formally year after year, and had been for some years past.

Dr. BURGESS was resuming discussion on the scale of charges, when

Dr. W. L. MUIR, on a question of order, asked the Chairman if Dr. Burgess ought not now to submit, and speak to his amendment.

The CHAIRMAN requested Dr. Burgess to be as brief as possible.

Dr. BURGESS said his amendment was this, that instead of declaring a strike, they should send a dignified and courteous letter to the School Board, regretting the fact that the Board had been so ill-advised as to offer so small a salary, and regretting that it had been unable to see with them; and that, as this was professedly an experiment, it would come to see that a more liberal scale was necessary. Discretion, as he said before, was the better part of valour. He was about to suggest that the scale, although too small, was not so small as many

of them were working for. They in the Southern Association had adopted an hour as three visits, on the basis of 2s. 6d. per visit. Most general practitioners in Glasgow were working in some districts where there was a scale of 1s. 6d. per visit to working people. This is 4s. 6d. per hour for those working on this basis, so that at 5s. 4d. per hour they were apparently overpaid. There was no discount for the wholesale order. True, 5s. 4d. was not sufficient for the work they were doing: but was it wise to take up this position? Again, let them compare the Poor Law officers in Govan. They alone got £90 without extras, and for that they had to sit in the rooms, as well as make visits, attend confinements, and get no extra for it. That was much better pay than most of the contract work in the city; but should they declare a strike? Was it worth while to put themselves in a position of direct antagonism to the Board? The Board was a legally constituted body; they were not. They were only talking about having a strike. If they did they would change their plans, or else some of the men who chose to defy them or were not connected with the Association would get this little sour plum with the capability of developing and ripening. Was it wise to bring the matter to a deadlock? Would it not be better to postpone the thing? and by next year they might arrange a union if they liked. He did not know that he was prepared to join it. He thought it was not safe. It was like a bull rushing against a wall. He should not wonder if their trades union broke its neck.

The CHAIRMAN suggested that Dr. Burgess should put his amendment into writing.

Dr. SEMPLE YOUNG said he thought Dr. Burgess took a very short-sighted view of the whole matter. It was not only a matter for the municipality of Glasgow, although it was really only Glasgow and the West of Scotland he had considered. It was that they were asked to take 5s. 4d. for the work that had been already decided was worth 10s. If the English members of the profession were to receive that sum of money, he did not see why they who were not in one whit behind them in professional skill should accept less.

Dr. J. P. DUNCAN said he thought they were getting a little bit off the rails, and he thought Dr. Grant Andrew did not say just quite as much as he intended to say in respect to the interview with the School Board. Putting the matter very briefly, from what he had heard from various sources, he understood the position was roughly this. The Board made four points: they contended, first, that the work was not hard; secondly, that it was not responsible work; thirdly, that it did not require men of experience; and fourthly, that the pay they offered was sufficient for young men and young women, and that they would be glad to take it. He understood that, roughly, was the contention of the Board, and they moved a direct negative, not only to the last point but to the other three also. He thought the work was hard—at least, he had heard that—the experience of the men in Govan was that it was hard. Then, if any work was responsible, surely it was the supervision of school children. Thirdly, if they wanted the work properly done, they could not expect it to be done by young men who had just completed their college course; and fourthly, the work was worth 10s. per hour. If they considered the question from all four points of view, it would be better than by simply confining their attention as to whether it should be 10s. or 5s. 4d. per hour. He maintained that it was hard and responsible work, that it was work that should be done by men of experience, and lastly he agreed with the contention that 5s. 4d. was too small a pay.

The CHAIRMAN read Dr. Burgess's amendment:

> That a dignified and courteous letter be sent to the School Board regretting that they have been led to offer such a small salary for the appointments of part-time medical officers—and that they have been unable to agree to the views of our deputation—and that they hope that after a year's work they will see their way to a more reasonable rate.

As the motion did not find a seconder, the CHAIRMAN declared it invalid.

Dr. JAMIESON asked how many members of the Board were present at the interview. He had heard from a Board member—he was not canvassing—that some of the Board thought they were not offering sufficient for the work, and he thought they should direct the matter to the whole Board and not to a subcommittee. He was also informed that this was put out as a feeler, and so he thought they should let them know that they felt the feeler.

Dr. MACFARLANE said the subcommittee of the Board consisted of six members of the Board, and that all this matter had been laid before the whole Board. His reply was from the full Board meeting. The reply was sent that morning, and the Board meeting was held on the previous day. The subcommittee said they could give them no definite reply until they had submitted it to the full Board meeting. That decision was a Board decision, not only the committee's.

Dr. BURGESS said Dr. Jamieson was not canvassing, neither was he. But he had learned that the matter might be arranged without any further action by the British Medical Association. He had been in communication with a number of men connected with the Board, and he knew that there were some men of weight and influence on the Board who thought that medical men were not being offered sufficient for the work. He was sure that if they "held their wind" and left the thing open it would be put right.

Dr. JAMIESON said that, seeing they had met there for the purpose of upholding the profession and their fees, might he ask if this Association would think it wise to communicate with the doctors who accepted these positions at the terms, and express their displeasure at them for so doing.

Dr. MACFARLANE read the minute of the last meeting showing that a resolution had been adopted that if an unfavourable reply were received from the Board, action should be taken to get applications withdrawn. Dr. Macfarlane also read the terms of a circular issued to that effect.

The CHAIRMAN pointed out that as this was a public meeting and press reporters were present, and that their proceedings would appear in the public press, the attention of every medical man, and of the general public as well, would be drawn to the matter. The Chairman then declared the resolution carried unanimously.

Dr. CASKIE moved:

> That the Branch and practitioners in the meeting request that the Glasgow School Board part-time appointments be placed on the warning notices of the BRITISH MEDICAL JOURNAL.

Dr. YOUNG seconded, as that was the only logical outcome of what had been already done.

A gentleman present asked what they expected to get as a result of this. They could now do nothing more than express their opinion on the matter.

Dr. W. L. MUIR instanced a case where the warning notice had been instrumental in keeping a certain appointment vacant for twelve months in a northern parish where the parish medical officer had been dismissed for no moral or professional fault.

The gentleman who had spoken said there was as much comparison as between a Highland stot and a Glasgow tramway car.

The CHAIRMAN said that it showed in the official journal of the Association that they disapproved of applicants for these underpaid positions. He did not know that they could do anything else, but he thought it was a great deal.

Dr. YOUNG thought the comparison was fair. They could not speak to these men any more forcibly. In the long run, if there was any trouble in the appointments, they could not come to the British Medical Association for help to get better terms.

Dr. GRANT ANDREW said that those men who withdrew their applications surely earned the respect of their professional brethren.

Another member asked why they presumed to dictate to these men what they should accept. He instanced the case of free dispensaries and other charitable organizations where services were given free or for less than 2s. 6d. per visit.

The Chairman said he did not think they were dictating in any way. All they said was that in England for similar work public bodies were paying out of public money at the rate of 10s. per hour, and that the Glasgow School Board proposed to pay the same work about half. They said that it was not a good thing on public grounds and on professional grounds that they should work for less than their *confrères* in England; and for this, that it should not be used as a precedent for other school boards in Scotland to offer so small a salary. He thought 10s. per hour for fairly hard and responsible work was fair, and they simply expressed their opinion. They did not dictate to anybody.

Dr. Duncan said the previous speaker seemed to indicate that the school medical officers should work in a kind of charitable fashion; but was that on a par with such institutions? That speaker wanted them to be charitable at the expense of the doctors. He did not think it was by any means a princely sum that was offered.

Dr. McIntosh said the matter of fees paid for charitable or general work had nothing to do with the British Medical Association. The School Board was supported by the rates. A practitioner could take 2s. or anything else he liked, but as medical men contributed to the rates, they could not be expected to be charitable also. This was in the interest of the profession in general, not of Glasgow alone, but Glasgow was representative of the profession.

Dr. Lawson pointed out that the Association had some years ago carried out extensive investigations into the remuneration for friendly society work. Along with others he had sent returns, and, by the effort of the Association, there had been an increase in the fees for such work. This showed what had been and could be done by the Association.

The resolution to insert in the "warning notices" was carried.

Dr. Macfarlane said, as Secretary of the Glasgow and West of Scotland Branch of the British Medical Association, he thought that this was a case in point, that they were unanimous, and that they were trying to help their medical brethren. He thought their aim should be to unite more permanently than they had ever done. He made an appeal to those gentlemen who were not members to send him their names, and they would help them if they could.

Dr. W. L. Muir supported that cordially. He had been a member for thirty-five years, and he admitted that for ten or fifteen years little was done. But for the last twelve years there had been a great deal done. If any one got the "contract" documents of the Association, he would be amazed at what was done for the profession by them. When any one asked him what the British Medical Association had done for him, he simply retorted, "What have you done for the British Medical Association?"

Dr. Jamieson said he felt something more could be done. He moved that they express very strongly by circular to the whole profession in the district that at a duly convened meeting of the Branch and of practitioners they unanimously agreed that any one accepting the very unfair terms for the supervision of school children as at present offered by the Glasgow School Board was in their opinion acting against the dignity of the profession.

Dr. Macfarlane suggested that Dr. Jamieson might leave the wording of this opinion to him for insertion in the circular. They had virtually agreed to do this with the unanimous decision of the meeting.

The Chairman said notice would be sent to the profession in these terms, and something like Dr. Jamieson's proposal could be incorporated.

Dr. Jamieson said that if it went forth as a resolution of the meeting, carried by unanimous acclamation, after being duly moved and seconded, it would have more force with the profession. He moved accordingly in the terms previously mentioned.

A written copy of Dr. Jamieson's motion having been read by the Chairman, Dr. Grant Andrew seconded, and the motion was carried.

Vote of Thanks to Chairman.—A vote of thanks to the Chairman concluded the proceedings.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[Seventh Notice.]

Frowde, and Hodder and Stoughton (Oxford University Press and 20, Warwick Square, E.C.). These combined firms had an attractive array of new books and new editions for an adequate account of which readers must be referred to the firms' own catalogue. Here we can only mention a few that we happened to note at Belfast. These included the first volume of the *System of Operative Surgery*, edited by Mr. F. F. Burghard, whose collaborators include a dozen or more of the best-known surgeons of to-day. It contains in its 736 pages 341 original illustrations, and leads off with a monograph on the principles and technique of wound treatment by Mr. C. B. Lockwood. In compiling the *System of Diet and Dietetics*, the editor, Dr. Sutherland, had equally distinguished assistance; the work opens with a discussion of general principles by Sir Lauder Brunton. Another important volume was Dr. James Mackenzie's *Diseases of the Heart*, illustrated by numerous charts and figures and by five coloured plates. In reviewing it we described it as the only modern textbook on the subject which could be regarded as in accordance with to-day's physiological teaching. Books of a different order, but equally useful kind, were the *Law in General Medical Practice*, by Mr. Stanley Atkinson, and Dr. Brockbank's *Life Insurance and General Practice*; a second edition of Edred Corner's very clearly written *Operations of General Practice*; Hogarth's *Medical Inspection of Schools*; a fourth edition of *Practical Pathology*, a manual for students and practitioners by Sims Woodhead, illustrated by some 240 coloured engravings; a treatise on the same general subject, the *Principles of Pathology*, by Professor Adami of Montreal, in two volumes; Still's *Common Disorders and Diseases of Childhood*; and last, but not least, *The Collected Papers of Lord Lister*, brought out by a committee as a tribute to him. The exhibit, of course, naturally included specimens of the firm's well-known Oxford Medical Manuals, and its almost equally popular monographs on various special subjects, such as Hunter Tod's *Diseases of the Ear* and Waggett's *Diseases of the Nose*.

Widenmann, Broicher, and Company (33, Lime Street, London, E.C.). This firm represents in England Messrs. Zimmers of Frankfort-on-Main, many of whose preparations, such as Validol and Eunquinine, have been favourably known in this country for a good many years. The latter is an ethyl carbonate of quinine and practically tasteless. In the hands of many practitioners it has proved itself a good substitute for quinine sulphate, and especially suited for the treatment of small children. It may be had either in powder or tablet form. *Validol*, a compound of valerianic acid and menthol, is a nerve sedative, which has acquired considerable repute in the treatment of train and sea sickness. On the other hand, Validol Camphoratum is favoured by many dentists as a local anaesthetic. *Eunatrol*, a chemically pure oleate of sodium, put forward as a cholagogue, was shown in pills and other forms, while there was a comparatively fresh preparation named *Allosan*, a derivative of Santalol, and stated to possess all the powers of that drug as an antigonorrhoeic remedy. Its special advantage lies in the fact that it can be made up in tablets, carried

about in the pocket and taken whenever desired without attracting attention. Another salt of some interest at the present time was *Eustenin*—the name represents the double salt theobromsodium-iodosodium, which some observers have found useful in dealing with arterio-sclerosis. Finally may be mentioned *Dymal*, a powder for application to open wounds, and stated to be both non-irritant and non-poisonous, but possessed of marked bactericidal power; and *Urosine*, a quinate of lithia.

G. VAN ABBOTT AND SONS (Baden Place, Crosby Row, Borough, S.E.). This firm devotes itself to the manufacture of foods for diabetics and persons of obese habit, and the majority of its preparations are already sufficiently well known. They include gluten bread and flour, almond bread, biscuits, and flour, and many other starch and sugar-free preparations, such as soups, jellies, glycerine jujubes. The bread is soft, and will therefore, like ordinary bread, only keep good for three or four days, but the biscuits retain their quality and flavour for any length of time if kept in a moderately dry place. The biscuits shown included a cocoanut-biscuit and a ginger biscuit, both of which were very palatable, and also what the firm terms "*Midolia*" biscuits, which are unusually cheap, and are intended for use more particularly by hospital patients; the "*Kalor*" biscuits for obese persons and hypophosphite of lime biscuits for delicate children may also be noted. The exhibit also included the *Abbott Versimetric Charts* for the conversion of metrical weights and measures into their British equivalents and vice versa. It is a well-contrived series, and those relating to heights should save school medical officers an immense amount of labour.

The DOWSING RADIANT HEAT COMPANY (24, Budge Row, Cannon Street, London, E.C.). The bed for giving radiant heat and light treatment exhibited and worked by this firm is now a familiar object in most hydropathic establishments. As shown in its latest form, there appeared to be one or two minor improvements. The regulating rheostat is fixed on a neat board attached to the head of the bed, and the loose wires from the lamps and reflectors are attached to insulators, and kept clear of the patient and nurse. The cover, which is made of a special cloth lined with asbestos, is thrown over the bed, and supported by bars fixed to the top of reflector. It is now divided into two parts, each side being removable, so that it is quite easy to open up the apparatus and observe the results of the treatment. The reflectors, which are fixed along the side of the bed, carry the heat lamps, which project the luminous heat rays on the patient in such a manner that each part of the patient's body is bathed by them. It is claimed that a large number of these rays penetrate the body, producing a very rapid sudation, and greatly increasing metabolism. Smaller appliances were shown for treating the hands and feet, as also for localizing the rays on any organ or part of the body. It is claimed that almost immediately the luminous heat rays are turned on pain is relieved. On the stand was to be seen a long list of branches, showing over one hundred places in England and abroad where the treatment can be obtained, the chief being in York Place, Baker Street, London, W. All of them, we understand are under direct medical supervision.

THE CITY OF BATH.—This most famous of all English spas had a stall at Belfast and endeavoured in various ways to give visitors some idea of its therapeutic sources. It was, perhaps, well that it did so, for the very earnest advice and trenchant criticism which its authorities received from a prominent medical authority not long ago may well have given rise to the idea that Bath from a scientific point of view has allowed its arrangements to fall behind its competitors. This, however, is of course not really the case; it has merely been too disposed to trust to the public remembering its fame and to allow its light to flicker somewhat dimly in the presence of the oxy-hydrogen torches employed by its rivals at home and abroad. All its arrangements for utilization of its valuable waters are excellent, and the town in itself is full of attractions of multiple kinds, more especially to those who have cultivated tastes and who prefer a sedative rather than the stimulating climate. The city is well provided with parks and gardens, the scenery around is beautiful, and there is plenty of golf and other exercise to be obtained. The latest development is the building of a colonnade, so that in summer time visitors can take their prescribed draught of water while promenading in the open air. It is an arrangement which will greatly add to the cheerfulness of this health resort and probably make it as popular in summer as it is already in winter.

BENDLE, Limited (41, Seething Lane, London, E.C.). The exhibit of this firm was a wine fortified in respect of dietetic qualities by the addition of nitrogenous matter, and vended under the name of *Bendle's Meat Port*. It appears to be a port wine of good quality, and though the fact that there is some addition is obvious to the palate, it is quite pleasant in flavour. It has been brought out as a useful form of stimulant to prescribe in cases in which the exhibition of alcohol is regarded as desirable—as, for instance, in convalescence from influenza. The nitrogenous matter is stated to be equal to an addition to the port of from 7 to 14 per cent. of fresh lean beef, and, judging from an independent analysis which we have seen, this would appear to be a not unfair estimate.

C. O. HOEFFTCKE, Limited (21, Woodstock Street, Oxford Street, London, W.). This firm had an exhibit of orthopaedic appliances, a form of manufacture in which it specializes. In all its exhibits a high degree of skill and good workmanship was manifest, and several of the devices shown were of a specially valuable character. A case in point is the splint which it makes for the treatment of fractures of the lower limb, and another is its apparatus for tuberculosis of the hip and knee joints. The same remark, too, might be made about its appliance for correcting the dislocation of the tibia backwards, which is so frequent a sequence of tuberculosis of the knee-joint, and for straightening the knee when the leg has become flexed on the thigh; also respecting its splint for maintaining the femoral head in the correct position after bloodless treatment of congenital dislocation. The same general principle underlies the appliances for fracture and tuberculous joint treatment, the weight being transmitted straight from the tuber ischii to the ground, while restoration of the limb to the normal length in the one case, and abolition of contact between the acetabulum and the head of the femur, is secured by counter-extension, which likewise has the tuber ischii as its initial resisting point. These appliances are intended to enable patients to walk about during treatment, and there is ample evidence that they meet the end in view. The firm's excellent artificial leg for use after high amputation, is made, it may be noted, on the same principle. As for the other appliances mentioned, the straightening of flexed knee cases, and the correction of tibial dislocations is brought about by steel bar traction. Notably successful instances of the application of this instrument have been described by Mr. Openshaw in the *Lancet*, and more recently by Mr. Battle in the Clinical Section of the Royal Society of Medicine.

JOHN MORGAN RICHARDS AND SONS, Limited (46, Holborn Viaduct). This firm of manufacturing chemists and druggists showed *Lactopeptine (Richards)*, which is nowadays a well-known compound for dealing with dyspepsias of all orders, as well as painless malassimilation in children and adults. It can be obtained either in powder or tablet form, its formula, we understand, being milk sugar 40 parts, pepsine 8 parts, pancreatin 6 parts, together with a proportion of vegetable diastase and lactic and hydochloric acids. It is claimed for this compound that it is capable of dealing efficiently with all ordinary foods, and that as regards coagulated albumen, such as habitually forms part of cooked meats and the like, it will digest from

three to four times a greater amount than will an equal quantity of pepsine. Another preparation was *Elixir Lactopeptine*, the special purpose of which appears to be to provide a good vehicle for the exhibition of drugs, such as the iodides, salicylates, chloral and morphine, which many persons find difficult to take. It is certainly a successful preparation pharmaceutically, and there would seem reason to believe that it is found to meet its object effectively.

The VACCA MILK COMPANY (Amsterdam). The product of this firm is comparatively a newcomer in these islands, though *Vacca Milk* appears to have been in use for a long time on the Continent and to be handled by a large company. The milk is put up in sealed bottles, and is natural in flavour in spite of having been, as we understand, sterilized. According to a report signed by Dr. Klein, it is entirely free from any addition which would inhibit the growths of organisms, and yet is quite sterile. It has also been the subject of a certain amount of investigation at the Belgrave Hospital for Children, and was found to suit children suffering from a variety of maladies accompanied by wasting and difficulty in absorbing nourishment. The character of the stools and other indications showed that it was well digested even when given undiluted. So far as these investigations go, they would seem to show that the milk is one of a desirable character. The milk can be obtained, we understand, from Messrs. Spiers and Pond, and at the Army and Navy Stores and other places.

Messrs. DOWN BROTHERS, Limited (St. Thomas's Street, London, S.E.). The two stalls of this firm proved, as usual, a centre of attraction to all hospital workers, for what between new instruments, improved forms of already popular patterns, and fresh devices for facilitating ward and consulting room work, there was something to interest every one. The firm's thoroughly efficient *Surgical Hand Motor* was shown equipped with a variety of saws, drills and burrs for general and special surgery, including the *Guarded Saw for Skull Work* used by Mr. J. H. Nicoll of Glasgow. Obviously useful, too, was a *Portable Scalpel Carrier* (Fig. 1) designed for Mr. D. M. Greig of Dundee.

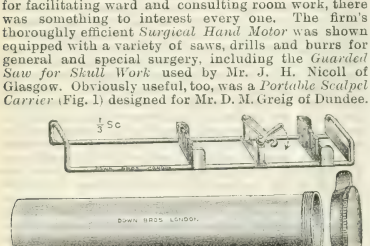


Fig. 1.

It consists of a rack to carry two or four scalpels firmly held in position by a lever clamp, scalpels and rack being placed in a neat metal box. This is filled with alcohol, thus ensuring the sterility of the knives without blunting their edges. Also, among the smaller instruments, were a good many new pattern forceps, these including Spencer Wells forceps, shaped like an aneurysm needle (Fig. 2), designed by Mr. J. E. Garner

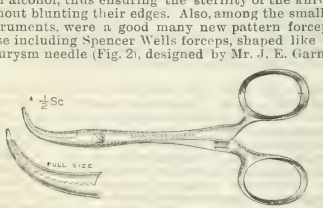


Fig. 2.

of Preston, and a pair made with ball points, so as to allow them to be slipped readily away from the ligature when tied, suggested by Dr. A. Z. Cressy of Wellington. In this connexion, too, may be mentioned Mr. Moynihan's clip forceps for holding towels close to the abdominal wall, but without getting in the way, and the *Probe-pointed Scissors* and instruments for excision of varicose veins used by the Mayos in their clinic at Rochester, U.S.A. Tropical medicine had some instruments devoted to it, these including the aspirating trocar with a flexible cannula for the evacuation of liver abscesses according to the method of Professor Leonard Rogers of Calcutta, and the appliance for saline irrigation in cases of cholera suggested by the same tropical authority. Among stone-operation instruments was a flexible steel searcher made for Mr. H. A. Ballance of Norwich, for use in operations on stone in the ureter, and the evacuator used by Dr. A. Lankester of Peshawar in dealing with calculus of the bladder in small children. The catheters are of suitable length, and the bulb of smaller capacity and more flaccid than usual. Other instruments for special surgery were Wyndham Powell's urethroscope, Bruening's appliances for bronchoscopy, a modification of Ballenger's cutting forceps for nasal work by Mr. H. A. Ballance, and the four-bladed retractor forceps (Fig. 3) used by Mr. Sidney

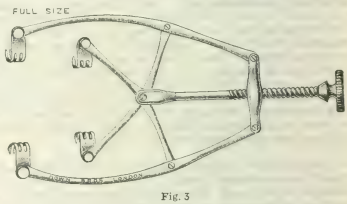


Fig. 3

Stephenson in extirpation of the lacrymal sac. The exhibit of aseptic ward, theatre, and consulting-room appliances was almost equally comprehensive. The firm's patent operation table was shown in its latest form, fitted with Sir Victor Horsley's head-rest for skull operations, leg-rest for the lithotomy position, shoulder supports for the Trendelenburg position, and an anaesthetist screen and several other useful adjuncts. This table may be seen in use at St. George's and St. Mary's Hospitals, and the advantage of having a table readily alterable in height will at once be noted. The swing-pattern table made for the Bristol Royal Infirmary and fitted with a Lilienthal bridge for kidney operations also possesses some valuable points. The utility of the Carshalton wash-stand basin for moving from bed to bed (Fig. 4) was also obvious; and the Newcastle irrigator, in which the reservoir is moved up and down by a windlass and automatically fixes itself at any point, seemed also a well-designed appliance of this order.

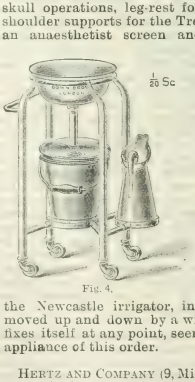


Fig. 4.

HERTZ AND COMPANY (9, Mincing Lane, London, E.C.). The principal exhibits of this firm were Jensen's Cod Liver Oil, Halitlor Toilet Soaps, and the arsenious iron waters known under the name of Levico. The latter is a health resort of growing popularity in Southern Tyrol, beautifully situated, some twelve miles from Trent on the Val Sugana line. It lies at an elevation of 1,700 feet, the springs on which its hydropathic repute depends rising in a grotto high up in the mountains above it. The waters are of two strengths, the stronger containing a considerable amount both of

arsenic and iron and some other metals, and the weaker, 0.37 per 1,000 iron sulphate, 0.059 iron bicarbonate, and merely a trace of arsenious acid. As exported, the waters are still of two strengths, but the weak water has had added to it a little of the strong water so that its arsenic contents are raised to 0.00095 per 1,000. Of this water, one or two tablespoonfuls are taken twice or thrice a day at meals for some weeks, and recourse is then had to the stronger water in corresponding doses. The season at Levico begins in April and ends in September, and, for those who prefer it, there is accommodation at Vetriolo, close to the grotto wherein the springs lie, at an elevation of close on 5,000 feet. It is only within the last few years that any particular effort has been made to find a market for these waters outside Austria Hungary, where they have long been in favour, and they appear to be making headway.

The SANITAS COMPANY (Locksley Street, Limehouse, E.C.). The whole ground of disinfection was fairly well covered by the exhibit of this firm, the liquid from which the firm derives its name figuring, in particular, in a great many different forms, these including a sanitas for household use and in powders and creams for household purposes; Kingzett's Sulphur Candles and Drain Testers, both of which are well known; while some polishes for preserving and disinfecting linoleum and wood floors were comparative novelties. Of the more powerful disinfectants of the firm, *Sanitas Okol*, a greyish emulsion of the odour more or less common to all tar derivatives, mixes well even with sea-water in all proportions, and does not stain linen. It is put up in bottles, drums, and casks, as a powder for sprinkling, and as a washing and toilet soap. Bactericidally it has, according to Klein, a carbolic coefficient of over 17 even in the presence of organic matter; while Thresh, testing it with agar slopes inoculated from broth, found that when the diluting fluid was 5 per cent. urine the coefficient was not lower than 10, and that when it was 5 per cent. milk the coefficient still remained as high as 4.5. Another exhibit was an apparatus for formaldehyde disinfection, to which we drew attention last year. It consists of a small tray standing inside a saucer over a thick candle which will burn for six hours. On the tray are a number of formaldehyde tablets the volatilization of which is calculated to produce sufficient formaldehyde vapour to disinfect a room of 1,200 cub. ft. capacity. After the room has been properly sealed the candle is lighted and can be left, it is stated, without risk for as long a time as the operator chooses. The apparatus is sent out charged, and is so cheap that each one in its turn may be thrown away when once it has been used. Hence when the inspector has completed the disinfection he has nothing to carry away with him. The appliance certainly has the attraction of simplicity and of saving much trouble.

The ANGLO-AMERICAN PHARMACEUTICAL COMPANY (Chichester Rents, Chancery Lane, London, W.C.). This firm showed Huxley's pharmaceutical preparations, and the biological products of the Pasteur Vaccine Company of Paris. The former exhibit was notable for its strength in glycero-phosphate remedies, both in liquid and dry forms. Amongst the latter was a tablet named *Nascent Glycero-phosphate Triturate*, in which the salts are present in a desiccated form. As they do not act on one another until swallowed, that freshness of the compound salt on the importance of which some authorities lay much stress is fully ensured. Into other glycero-phosphate formulas entered formic acid (making an attractive looking ruby-coloured syrup), pepsin, haemoglobin, and red marrow extracts. Other Huxley preparations shown were *Plasma Dusting Powder*, which contains, we understand, zinc oleate, boric acid, and a percentage of salol, and *Menthol and Winter-green Cream*, a pleasant-smelling non-greasy ointment for the alleviation of rheumatic pains. The exhibit of the Pasteur Company, besides various serums and vaccines, included tablets of *Fermenlactyl*. This is a desiccated ferment believed to represent a pure culture of *S. lebenis*, the organism which, according to some authorities, gives to Bulgarian sour milk, or Yaourt, its special qualities and flavour. It may be used either for milk modification or taken dry, with the idea of freeing the intestines from putrefactive organisms by the predominance of lactic-acid-forming bacilli. Among the antidiphtheric and other serums were some specimens put up in a specially ingenious fashion. One was a dragee containing ½ c.cm. of antidiphtheric serum, intended to be dissolved slowly in the mouth and to act as a prophylactic while dealing with diphtheria cases, or for the treatment of patients for whom injections are deemed no longer necessary. Diphtheric and tetanic serums were also shown in glass ampoules of two sizes, 5 and 10 c.cm., so made that they can be converted instantly into injection syringes. The liquid is thus injected without any risk of contamination, since it passes straight from the original container beneath the patient's skin.

H. AND T. KIRBY AND COMPANY, Limited (14, Newman Street, Oxford Street, W.). This firm of manufacturing chemists had a limited but somewhat taking exhibit of their specialities, among which tablets of compressed drugs and pills figured largely. As a manufacturer of pills—pearl, gelatine, and sugar-coated—this firm has long held a prominent position, its phosphorus pills in particular having been highly esteemed by medical men who furnish their patients with medicine as well as advice at least twenty-five years ago. The soft glycerine lozenges containing various combinations of drugs, and known as *Glyceeols*, are another production of the firm of long-established popularity with many medical practitioners, while its medicated pessaries, and especially its glycerine suppositories, are decidedly good examples of pharmaceutical art. The latter, made in four sizes and two shapes, contain, we understand, not less than 70 per cent. of glycerine, and are marked by their special clearness and finish. The firm also makes an excellent boat-shaped bottle for young babies—the *Ideal Valve Feeder*. The valve in question is of glass, and can neither fall out nor be pulled out by the child. It is a cleanly arrangement, and regulates the flow most conveniently. The bottle is fitted with a teat of good size, made with the idea of providing a teat which will not collapse when sucked or alter in colour with use. Another preparation worth mentioning is *Sal Mineralis*, an alkaline aperient, compounded of the sulphates of soda, magnesia, and potash.

SYDNEY LEE (51, Conduit Street, London). Generically the exhibit of this firm might perhaps be put down as a bronchitis kettle, but such a term would hardly indicate the ingenuity of its construction and only part of its possible utility. In principle it resembles a Bunsen burner fitted over a small, strong boiler and connected superiorly with a delivery tube movable in all directions. The boiler supplies steam under pressure, and this escaping upwards along the delivery tube, sweeps along with it a definite proportion of air, raising its temperature simultaneously, of course. The extent of this admixture of air with steam (medicated or otherwise), and consequently the humidity of the resulting vapour, is regulated by carefully proportioning the superficial areas of the steam vent, the air inlets, and the delivery tube. The humidity, we understand, is exactly 2 per cent., while the velocity at which the inhalation vapour moves can be varied at will from 250 ft. to 300 ft. per minute. Furthermore, the ratio of the boiler capacity to that of the rest of the appliance permits of the inhalation vapour being delivered medicated in the precise percentage that may be required by the addition of a given quantity of the drug to be used to the water in the boiler. The whole appliance is scientifically constructed and thoroughly deserving of examination by those who have bronchitis cases to deal with, or who are disposed to regard vapour inhalations as of utility in other respiratory disorders.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 27th, in the Council Room, at 429, Strand, London, W.C.

By Order,

September 16th, 1909. GUY ELLISTON.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Sherborne, Dorset, on Wednesday, October 20th. Members wishing to read papers, show cases, or exhibit specimens should communicate with JAMES DAVISON, Honorary Secretary, Streateplace, Bournemouth, not later than Thursday, October 7th.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Great Yarmouth on Thursday, October 7th. Members wishing to show cases or specimens or to read papers should communicate at once with Mr. H. A. Ballance, M.S., Norwich. —E. H. NICHOLSON, General Secretary.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION. —A meeting of the Committee will be held at Dr. G. H. Smith's, Knutsford, at 4.30 p.m., on Wednesday, September 29th. A general meeting of the Division will be held at Knutsford at 4.30 p.m. on Thursday, October 7th. Further particulars in future notice. — H. G. COOPER, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*— Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LARKIN, Branch Secretary, 54, Rodney Street, Liverpool.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of this Division will be held on Wednesday, September 29th, at the Red Lion Hotel, High Wycombe, at 2.30 o'clock. An address will be given by Mr. William Turner, Surgeon to the Westminster Hospital, on "Some Surgical Aspects of Master versus Man under the Present Acts." Afterwards a discussion will take place on "Medical Attendance at Isolation Hospitals. Who should pay?" The members and friends will lunch together previous to the meeting. The chair will be taken at 1 o'clock. Charge, 2s. 6d. each. The members at High Wycombe will provide wine, etc., at the lunch and also tea after the meeting. Members residing in the southern part of the county are specially asked to attend and to bring medical friends with them. All meetings are open to any members of the Association, and it is hoped that every medical man in the area of the Division (non-members included) will receive an invitation. Will those who intend to be present at the lunch please notify Dr. Reynolds, The Priory, High Wycombe, not later than September 28th? Any member wishing to bring any matter forward will oblige by giving me notice as soon as possible.— A. E. LARKING, Honorary Secretary.

TREATMENT OF SCHOOL CHILDREN FOUND DEFECTIVE ON INSPECTION.

TREATMENT BY POOR LAW DISTRICT MEDICAL OFFICERS.

DR. ROBERT A. LYSTER, County Medical Officer for Hampshire, informs us that in Hampshire, many of the districts being far from hospitals, the work of treating school children found defective on medical inspection has been thrown upon the Poor Law medical officers, causing in some instances a considerable amount of extra work, which is paid for at the miserably small remuneration usually given.

Dr. Lockhart E. W. Stephens, District Medical Officer, accordingly addressed the following letter to the Havant Board of Guardians:

Emsworth,
June 24th, 1909.

To the Chairman and Members of the Board of Guardians, Havant Union.

Gentlemen,

On behalf of my colleagues the Medical Officers of the other Districts and myself, I shall be glad if you will consider what course is to be taken in the case of children found to be defective as the result of the new order for Medical Inspection of School Children and whose parents are recommended (not ordered) to obtain Medical Attention.

A certain number of these children would in ordinary illness apply for, and rightly obtain, an order upon us from the Relieving Officer.

We feel strongly that cases selected by a skilled Medical observer do not come under the heading of ordinary illness and not within the usual meaning of our Contract, and, pending some step being taken by the Board of Education or the Local Government Board, we respectfully ask that the Relieving Officer be instructed not to grant an order for a "School Inspection" case for, say, three months from this date.

I may say that this matter of Payment for treatment of School Inspection cases is occupying the serious attention of County Medical Officers, and is to be fully discussed at the Conference by Poor Law Medical Officers, to be held at the Guildhall, London, on July 6th, 7th, and 8th next.

I shall be most happy to assist the Board, or any Sub-Committee they may appoint, by any means in my power.

I am, Gentlemen,
Your obedient Servant,
LOCKHART E. W. STEPHENS.

The board of guardians then laid the matter before the Local Government Board, and received the following reply:

Local Government Board,
Whitehall, S.W.

Sir,

I am directed by the Local Government Board to advert to your letter of the 25th ultimo with reference to the question raised by Mr. L. E. W. Stephens, District Medical Officer in the Havant Union, in regard to medical attendance upon school children.

In reply the Board direct me to state that it appears to them that if the children do in fact need medical attendance, though not for acute illness, and the parents cannot obtain it, the Relieving Officer's Order for the attendance of the District Medical Officer should not be refused.

The Board direct me to add that if any children should be found to require operation or specialized attention, they would be prepared to approve of payments to the Medical Officer or other special arrangements.

I am, Sir,
Your obedient Servant,
JOHN LITHBY,
Assistant Secretary.

The Clerk to the Guardians
of the Havant Union.

Commenting on this, Dr. Lyster expresses the opinion that this decision of the Local Government Board is important, and expresses the opinion:

1. That if children need medical attendance, though not for acute illness, and the parents cannot obtain it, an order for the attendance of the district medical officer should be given.

2. That if such children require "operation or specialized attention," then special payments may be made to the medical officer, or other special arrangements may be made by the guardians.

There is, he thinks, every reason to believe that, carefully developed, this ruling by the Local Government Board could solve, at all events, the greatest of our difficulties. "Operation or specialized attention" surely must include the treatment of adenoids, tonsils, ringworm, defective vision, discharging ears, etc., and, as guardians possess power to make "special arrangements" for the treatment of such cases if the parents are not in a position to obtain it, there can surely be no necessity for arrangements to be made by the local education authority for these cases to receive treatment at the expense of the medical profession.

Hospitals and Asylums.

WORCESTER ASYLUM.

THE annual report of Dr. Braine-Hartnell, the Medical Superintendent of County and City of Worcester Asylum, Powick, for 1908 shows that on January 1st, 1908, there were 1,024 patients in the asylum, and that on December 31st, 1908, there were 954, giving a decrease of 70 for the year. The opening of the new asylum at Barnsley Hall relieved the overcrowding which had existed for some years. The total number

of cases under care during the year was 1,107, and the average daily resident 979. During the year 83 were admitted, as compared with 258 in the previous year. Of the admissions, 70 were direct admissions and 13 transfers. Of the direct admissions, in 31 the attacks were first attacks within three and in 9 more within twelve months of admission: in 20 not-first attacks within twelve months, and in the remainder, with the exception of two, in whom the duration was unknown, the illness was of more than twelve months' standing on admission. As regards the duration of disorder, therefore, the admissions were not very promising, and we see that only 7 of the admissions were discharged as recovered during the year. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 36; melancholia of all kinds, 22; senile dementia, 4; general paralysis, 4; epileptic insanity, 3; confusional insanity, 1. As regards causation, alcohol was assigned in 8, or 11.4 per cent., syphilis in none, senility in 3, an insane heredity in 11, or 15 per cent., and no reliable history could be obtained in 21, or 30 per cent. During the year 50 were discharged as recovered, giving a recovery-rate on the direct admissions of 71.4 per cent., or of recoveries in the direct admissions on the direct admissions of 62.8 per cent., these high recovery-rates being due to the small number of admissions on which the percentages are calculated. Also 10 were discharged as relieved and 10 as not improved. During the year there were 69 deaths, giving a death-rate on the average numbers resident of 7.0 per cent. The deaths were due in 14 to nervous diseases, with 7 from general paralysis; 10 to diseases of the heart and blood vessels; in 3 to diseases of the respiratory system; in 6 to diseases of the digestive and urinary systems; and in the remainder to general diseases, including 12 from senile decay and 15, or 21.7 per cent. of the total deaths, from tuberculosis. There were 11 cases of epileptic fits and 4 of erysipelas, but otherwise the institution was free from zymotic diseases and the general health was good throughout the year. Serious but not fatal casualties were numerous, and two inquests were held, the jury in each case returning a verdict in accordance with the medical evidence.

SALOP AND MONTGOMERY ASYLUM.

In his annual report for 1908, Dr. Rambaut, the Medical Superintendent of this asylum, shows that on January 1st, 1908, there were 754 patients in the asylum and 118 more boarded out. On the last day of the year there were 780 in the asylum and the same number boarded out as at the beginning of the year. The asylum has accommodation for 751, so that on December 31st there were 21 patients in excess of the provided accommodation. As the increase for the year was 24, and as at one time in the year accommodation outside the asylum for no less than 145 had to be found, fresh accommodation is urgently needed, but there seems to be no prospect of this being provided. The total number of cases treated in the asylum during the year was 976, and the average daily number actually resident in the asylum 765. During the year 197 were admitted, of whom 180 were direct and 17 indirect admissions. In 77 the attacks were first attacks within three and in 13 more within twelve months of admission; in 61 not-first attacks within twelve months of admission and in the remainder the attacks were of more than twelve months' duration on admission. The total admissions were classified according to the forms of mental disorder into: Mania of all kinds 87, melancholia of all kinds 27, senile and secondary dementia 21, general paralysis 6, epileptic insanity 7, confusional insanity 10, primary dementia 2, stupor 9, insanity with gross brain lesions and acute delirium 1 each, and cases of congenital or infantile defect 11. With regard to the probable causation of the insanity in the direct admissions, the various etiological factors were assigned in the following numbers: Alcohol in 9, or 5 per cent.; syphilis in 2, tuberculosis in 11, and mental stress in 47. An insane heredity was ascertained in 28, and an epileptic and neurotic heredity in 1 each. An alcoholic heredity does not appear to have been ascertained in any of the 180 direct admissions. During the year 74 were discharged as recovered, giving a recovery-rate on the direct admissions of 41.11 per cent., or of recoveries in the direct admissions on the direct admissions of 38.36 per cent. Also 15 were discharged as relieved, and 7 as not improved. During the year 75 died, giving a death-rate on the average daily numbers on the registers of 9.49 per cent. The deaths were due in 18 to cerebro-spinal diseases, with 8 deaths from general paralysis; in 10 to chest diseases, excluding tuberculosis and pneumonia; in 4 to abdominal diseases; in 5 to trauma, and in the remainder to general diseases, including 21, or no less than 28 per cent., of the total deaths, from tuberculosis. The general health was good on the whole throughout the year, and, with the exception of influenza, no zymotic disease occurred among the patients.

DOWN DISTRICT ASYLUM, DOWNPATRICK.

FROM the annual report of Dr. M. J. Nolan, the Medical Superintendent of this asylum, it appears that there were 725 patients in the asylum on January 1st, 1908, and that on the last day of the year there were 752. The total cases under care during the year numbered 865, and the average number resident 739. During the year 143 were admitted, being 15 less than the admissions of the previous year. Of these, 111 were first, and 32 not-first, admissions. In 57 the attacks were first attacks within three, and in 22 within twelve, months of admission; in 31 not-first attacks within twelve months of admission, and in the remainder the attacks were either of more than twelve months' duration (20), or of unknown duration (4), or congenital cases (9). They were classified according to the forms of mental disorder into: Mania of all kinds, 41; melancholia of all kinds, 72; senile and secondary dementia, 15; general paralysis, 4; epileptic insanity, 4; and congenital or infantile defect, 6. As is usual in Irish asylums, the small proportion of general paralytics admitted is noteworthy. As regards probable causation, the following were the principal etiological factors assigned: Alcohol in 11, or 7.5 per cent.; venereal disease in 3, critical periods in 5, childbirth, etc., in 4, vicious habits in 28, and mental and emotional stress in 14. An insane heredity was ascertained in 55, and congenital defect in 3. During the year 70 were discharged as recovered, giving a recovery-rate on the admissions of 49.0 per cent., and 6 as relieved. There were 90 deaths, giving a death-rate on the average numbers resident of 6 8 per cent. The deaths were due in 9 to cerebro-spinal diseases, with only 3 from general paralysis: in 27 to chest diseases; in 1 to volvulus, and in only 3, or 7.5 per cent. of the total deaths, to tuberculosis. The general health was good throughout the year, and for the first time within the knowledge of the medical superintendent no case of dysentery occurred. Dr. Nolan is to be congratulated on being able to show a high recovery-rate and a low death-rate, and the Committee of Management upon a substantial reduction in the cost of maintenance.

STAFFORDSHIRE LUNATIC ASYLUMS.

AT the beginning of the year 1908 overcrowding existed at the Staffordshire County Asylum, Cheddleton, near Leek; but Dr. W. F. Menzies, the Medical Superintendent, says in his annual report for that year the excess was never more than 98, when relief was afforded by the opening of the new extensions. The new female block was opened in April, and the male in August, raising the total accommodation to 1,038. On January 1st, 1908, there were 709 on the asylum registers, and on the last day of the year there were 843, leaving vacant beds for 195. The total cases under care during the year numbered 1,029, and the average number resident 785. During the year 320 cases were admitted, of whom 210 were direct and 110 indirect admissions, mostly transfers from Burntwood Asylum. In only 61 of the direct admissions were the attacks first attacks within three, and in 28 more within twelve, months of admission. In 42 not-first attacks within twelve months of admission, in the remainder the attacks, whether first or not, being of more than twelve months' duration on admission (55), or congenital cases (26). As regards duration of disorder, therefore, the admissions were not of a promising order, and Dr. Menzies says that of the total 320 cases only 92 could be considered recoverable cases, the percentage of non-recoverable admissions thus amounting to 71.25. The year 1908 was, Dr. Menzies says, one of worse trade in the district than 1907, and in consequence there was (1) a fall in the number of cases of alcoholic insanity, but to such an extent as to lower the total admission-rate; (2) more congenital and epileptic cases were sent from workhouses, having been crowded out by ordinary paupers; and (3) the worry produced by slackness of trade and privation was shown to be a less important factor in producing insanity than that due to drunken husband. The total admissions were classified according to the forms of mental disorder into: Mania of all kinds, 94; melancholia of all kinds, 53; senile and secondary dementia, 35; delusional insanity, 10; general paralysis, 20; insanity with epilepsy, 26; primary dementia, 17; confusional insanity, 3; and stupor, 9; insanity with gross brain lesions and acute delirium 2 each; and cases of congenital or infantile defect, 55. As regards the probable and principal etiological factors, in the direct admissions, alcohol was assigned in 55 (73 in 1907), or over 26 per cent., acquired syphilis in 24, and congenital syphilis in 3, and stress in 32, other toxins in 23, critical periods in 30, bodily trauma in 19, diseases of the nervous system (including epilepsy, 34) in 45, other bodily affections in 46, and mental stress in 57. An heredity of insanity was ascertained in 65, or 30 per cent., of epilepsy in 18, of alcoholism in 32, of marked eccentricity in 3, and a neurotic heredity in 45. Further, moral deficiency was observed in 12, congenital defect not amounting to imbecility in 19, and eccentricity in 6. During the year 70 were discharged as recovered, giving a recovery-rate on the direct admissions of 33.33 per cent., of recoveries on the direct admissions on the direct admissions of 33.38; also 19 as relieved and 7 as not improved. During the year 90 died, giving a death-rate on the average number resident of 11.46 per cent. The deaths were due in 21 to diseases of the nervous system, including 14 deaths from general paralysis; in 6 to heart disease; in 7 to chronic nephritis; in 1 each to lymphadenoma, puerperal mania, and phosphorus poisoning; and in the whole remainder to general diseases, including no less than 33, or 36.6 per cent. of the total deaths, to tuberculosis. In referring to this high proportion of tuberculous deaths, Dr. Menzies noted in last year's report a high proportion of tuberculous cases, and in this year's report he states that tuberculous disease was diagnosed in 65 of the admissions, or in 20.3 per cent. As regards the general health during the year, there were 43 cases of dysentery with 2 deaths (55 cases with 3 deaths in the previous year), and a rather wide outbreak of enteric fever of obscure origin occurred which was not over at the end of the year. Two inquests were held during the year, one being on a general paralytic whose death was probably accelerated by

two broken ribs caused by falling about a padded room, and the other on a woman patient who had swallowed rat poison before admission.

The annual report for the year 1908 of Dr. J. W. Stirling Christie, the Medical Superintendent of the Stafford County Asylum, Stafford, shows that on January 1st, 1908, there were 911 patients on the registers, and on the last day of the year 881, giving a decrease of 30 for the year. The total cases under treatment numbered 1,130, and the average number daily resident 892. During the year 219 were admitted, of whom 177 were direct admissions, 14 transfers, and 28 statutory readmissions. In 115 the attacks were first attacks within three, and in 14 more within twelve, months of admission; in 4 it was unknown whether the attacks were first attacks or not, and in the remainder the attacks were either of more than twelve months (17), or of unknown duration (8), or of congenital origin (12). The total admissions were classified according to the forms of mental disorder into: Recent and chronic mania, 99; recent and chronic melancholia, 33; senile and secondary dementia, 31; delusional insanity, 11; general paralysis, 3; insanity with epilepsy, 15; confusional insanity, 10; moral insanity, stupor, and primary dementia, 1 each, and cases of congenital or infantile defect, 12. With regard to the probable etiological factors in the 177 direct admissions, alcohol was assigned in 37, or just over 21 per cent., acquired syphilis in 9, congenital syphilis in 2, influenza in 8, critical periods in 29, child-bearing in 14, bodily trauma in 8, diseases of the nervous system in 25, various bodily affections in 9, and mental stress in 53. An insane heredity was ascertained in 58, or 32.7 per cent., and a neurotic heredity and an heredity of eccentricity in 1 each. During the year 86 were discharged as recovered, giving a recovery-rate on the direct admissions of 41.95, or of recoveries in the direct admissions on the direct admissions of 40.0 per cent. Also 46 were discharged relieved and 117 died. The deaths, which gave a death-rate on the average numbers resident of 13.11 per cent., were due in 32 to cerebro-spinal diseases, with 10 deaths from general paralysis; in 57 to chest diseases, including 18 deaths from pulmonary tuberculosis; in 12 to abdominal diseases, and in the remainder to general diseases, including 8 deaths from senile decay and 1 from general tuberculosis. The general health was good throughout the year, serious casualties were few, and, with the exception of 3 cases of colitis, 1 of which proved fatal, no case of infectious disease occurred. One death of the subject of a coroner's inquest. This was the case of an aged woman who sustained an intracapsular fracture of her left hip from a fall, the shock accelerating her death from other causes.

The annual report for 1908 of Dr. J. B. Spence, the Medical Superintendent of the Borough of Burnley County Lunatic Asylum, Burntwood, shows that on January 1st, 1908, there were 919 patients on the registers and 888 on the last day of the year, giving a decrease of 31 for the year. The total cases under care during the year numbered 1,190, and the average numbers daily resident 884. During the year 271 were admitted, of whom 256 were direct and 15 indirect admissions. As regards duration of disorder, in 118 the attacks were first attacks within three, and in 43 more within twelve, months of admission; in 48 not-first attacks within twelve months of admission; in 3 it was unknown whether first attack or not, and in the remainder the attacks, whether first or not, were either of more than twelve months (27), or of unknown duration (5), or of congenital origin (15). The admissions were classified according to the forms of mental disorder into: Mania of all kinds, 158; melancholia of all kinds, 39; senile and secondary dementia, 19; general paralysis, 23; insanity with epilepsy, 19; congenital and infantile defect, 16; and not insane, 1. With regard to the supposed etiological factors, alcohol was assigned in 40 of the direct admissions, or in 15.6 per cent., acquired syphilis in 2, congenital syphilis in 3, puerperal sepsis in 3, critical periods in 33, diseases of the nervous system in 47, other bodily affections in 7, bodily trauma in 12, child-bearing in 14, and mental stress in 77. An insane heredity was ascertained in 74, or 28 per cent., an epileptic heredity in 3, a neurotic heredity in 3, an alcoholic heredity in 10, and of eccentricity in 1; also congenital mental defect, not amounting to insanity, existed in 14. During the year 89 were discharged as recovered, giving a recovery-rate on the direct admissions of 34.76 per cent., or of recoveries in the direct admissions on the direct admissions of 33.20 per cent. Also 38 were discharged as relieved, 25 as not improved, and 1 as not insane. During the year 149 died, giving a death-rate on the average numbers resident of 16.85 per cent. The deaths were due in 54 to cerebro-spinal diseases, including 29 from general paralysis and 18 from epilepsy; in 38 to chest diseases (excluding phthisis, pneumonia, and bronchopneumonia); in 6 to abdominal diseases; in 1 to accident; and in the remainder to general diseases, including 22 from tuberculosis, 12 from pneumonia and broncho-pneumonia, 3 from dysentery, and 10 from senile decay. Except for an outbreak of influenza during the early months of the year the general health was good. There were 6 cases of erysipelas and 10 of asylum dysentery, and one fatal accident, that of a melancholic female patient, who threw herself from a lavatory window, this being the subject of a coroner's inquiry.

MERTHYR GENERAL HOSPITAL.

At the half-yearly meeting of the governors of the Merthyr General Hospital, on August 12th, it was reported that the receipts during the half-year amounted to £911 13s. 2d., and this, with a balance at the bank on January 1st, made a total of £1,343 13s. 3d. The expenditure during the same period amounted to £1,494 4s. 7d., showing a sum withdrawn of £150 11s. 4d. An application had been made by the workmen employed at the Dowlais-Cardiff Colliery, Abercynon, for terms for the privilege of sending patients to the hospital. The question of an ophthalmic department had been under discussion, and the matter stood over so that a record of cases sent to Cardiff might be kept for guidance. An *x*-ray apparatus has been added to the hospital appliances.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Staff Surgeon R. W. G. STEWART, M.B., to the *Pembroke*, additional, for disposal, September 19th; Surgeon J. H. MCDOWALL, M.B., to Plymouth Hospital, September 19th; Staff Surgeon A. R. THOMAS to the *Mars*, September 19th; Surgeon S. L. MACBEAN, M.B., to the *Britannia*, September 19th; Surgeon P. D. MACI. CAMPBELL to Plymouth Hospital, September 19th; Surgeon F. E. ANLEY to the *Excellent*, additional, for the *Grafton*, September 19th; Surgeon S. F. DUDLEY to the *Sandpiper*, September 21st; Surgeon P. W. GRIFFITHS to the *Commonwealth*, September 21st; Staff Surgeons P. H. BOYDEN, M.B., and R. F. CLARK to the *President*, additional, for survey of medical stores at the Royal Victoria Yard, Deptford, October 1st; Surgeon B. S. ROBERTS, M.B., to the *Vivid*, additional, for disposal, September 1st.

GRENADIER GUARDS APPOINTMENT.

It is announced that, with the approaching retirement of Lieutenant-Colonel C. E. Harrison, C.V.O., M.B., Honorary Surgeon to the King, from the Grenadier Guards, the appointment of Brigade-Surgeon-Lieutenant-Colonel to the Guards is to cease.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-LIEUTENANT T. C. CRAWFORD, 8th Battalion the Duke of Cambridge's Own (the Middlesex Regiment), resigns his commission, July 20th.

ROYAL ARMY MEDICAL CORPS.

Third Home Counties Field Ambulance.—Captain G. A. EDSELL to be Major, August 20th.

Second South Midland Field Ambulance.—HANS F. W. BOEDDICKER, M.B., to be Lieutenant, July 1st.

Third Wessex Field Ambulance.—Lieutenant ALEXANDER MILNE-THOMSON to be Captain, August 4th. Major and Honorary Surgeon-Lieutenant-Colonel H. S. BROOK, M.D., to be Lieutenant-Colonel, August 18th.

For Attachment to Units other than Medical Units.—FRANCIS R. M. HEGGS to be Lieutenant, March 1st.

Attached to Units other than Medical Units.—Lieutenant J. A. PRESTON, from the 3rd Home Counties Field Ambulance, Royal Army Medical Corps, to be Lieutenant, June 22nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,762 births and 4,027 deaths were registered during the week ending Saturday last, September 11th. The annual rate of mortality in these towns, which had been 11.8, 12.9, and 12.5 per 1,000 in the three preceding weeks, was 12.8 per 1,000 last week. The rates in the several towns ranged from 4.9 in Hornsey, 5.0 in Barrow-in-Furness, 5.2 in Willesden, 5.7 in Burton-on-Trent, 5.9 in Southwick, 6.0 in King's Norton, and 6.6 in Wallasey, to 17.6 in Liverpool, 17.8 in Wigan, 18.0 in Bootle, in Newport (Mon.), and in Rhondda, 18.1 in Norwich, 18.5 in Great Yarmouth, 18.9 in Hanley (Staffs), and 19.6 in Tynemouth. In London the mortality was at the rate 1,000, while among the seventy-five other large towns it averaged 13.0 per 1,000. The death-rate from the principal infectious diseases averaged 2.3 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 2.2 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 4.5 in Hanley (Staffs) and in Wolverhampton, 4.6 in Rhondda, 4.7 in Tynemouth, 5.2 in Coventry, 5.3 in Bootle, 5.5 in West Ham, 5.8 in Warrington, and 6.9 in Wigan. Measles caused a death-rate of 1.3 in Newport (Mon.) and 3.3 in Coventry; scarlet fever of 1.9 in Tynemouth; whooping-cough of 1.1 in Walthamstow, 1.2 in Derby, 1.3 in Coventry, and 1.5 in Wolverhampton; and diarrhœa of 3.4 in Liverpool, 3.6 in Grimsby, 3.8 in Nottingham and in Rhondda, 4.3 in Warrington, 4.4 in West Ham, 4.5 in Bootle, and 5.8 in Wigan. No fatal case of small-pox was registered in any of the seventy-six towns. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,431, 2,347, and 2,377 at the end of the three preceding weeks, further rose to 2,436 at the end of last week; 411 new cases were admitted during the week, against 245, 284, and 349 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, September 11th, 852 births and 440 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.0, 12.7, and 13.8 per 1,000 in the three preceding weeks, fell last week to 12.3 per 1,000, and was 0.5 per 1,000 below the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the rates ranged from 9.7 in Leith, 10.0 in Edinburgh, and 10.3 in Aberdeen, to 15.3 in Paisley and 15.6 in Perth. The death-rate from the principal infectious diseases averaged 1.6 per 1,000 in these eight towns, the highest rates being recorded in Paisley, Glasgow, and Greenock. The 218 deaths registered in Glasgow included 2 which were referred to

measles, 5 to scarlet fever, 6 to diphtheria, 2 to whooping-cough, and 20 to diarrhœa. Four fatal cases of diarrhœa were recorded in Paisley, 3 in Aberdeen, and 2 each in Edinburgh, Leith, and Greenock. The two deaths from "fever" in Glasgow included one which was certified as cerebro-spinal meningitis.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, September 11th, 599 births and 390 deaths were registered in the twenty-two principal urban districts of Ireland, as against 589 births and 369 deaths in the preceding period. The annual death-rate in these districts, which had been 16.2, 18.1, and 16.8 per 1,000 in the three preceding weeks, rose to 17.1 per 1,000 in the week under notice, this figure being 5.0 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 16.8 and 16.7 respectively, those in other districts ranging from 4.9 in Kilkenny and 5.2 in Portadown to 37.0 in Tralee and 31.2 in Waterford, while Cork stood at 26.7, Londonderry at 8.5, and Limerick at 20.5. The zymotic death-rate in the twenty-two districts averaged 2.9 per 1,000, or the same as in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Male House-Surgeon. Salary, £100 per annum, rising to £120.

BIRMINGHAM: EAR AND THROAT HOSPITAL.—House-Surgeon. Salary at the rate of £70 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) Two House-Physicians; (2) Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BOLTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £100 per annum.

BOURNEMOUTH: ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Throat, Nose, and Ear Surgeon; salary, £75 per annum. (2) Surgical Registrar. (3) Honorary Assistant Dental Anæsthetist. (4) Resident Casualty Officer; salary at the rate of £50 per annum.

BRITISH LYING-IN HOSPITAL, Endell Street, W.C.—Resident Medical Officer. Salary at the rate of £50 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) Anæsthetist. Honorarium, 25 guineas per annum. (2) House-Surgeon. Salary, £70 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CITY OF LONDON UNION.—Assistant Medical Officer of the Infirmary and Workhouse. Salary, £150 per annum.

CORK COUNTY SANATORIUM.—Resident Medical Superintendent. Salary, £250 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum, rising to £350.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon. Salary, £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Surgeon. Salary at the rate of £50 per annum. (2) Ten Clinical Assistants in the Out-patient Departments.

EXMINSTER: DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £155.

FIFE DISTRICT ASYLUM, Cupar.—Junior Assistant Medical Officer. Salary, £120 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—(1) Resident Medical Officer; (2) Senior House-Surgeon; (3) Senior House-Physician; (4) Junior House-Physician; (5) Two Junior House-Surgeons; (6) Anæsthetist. Salary for (1) £120 per annum, for (2) and (3) at the rate of £45 per annum, (4) and (5) £35 per annum, and for (6) 10 guineas per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Salary at the rate of £120 per annum.

INVERNESS NORTHERN INFIRMARY.—House-Surgeon. Salary, £100 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Male Resident Medical Officer. Salary for first six months £40, and for second six months £50.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) Assistant Physician; (2) Resident Anæsthetist; (3) House-Physician; (4) House-Surgeon; (5) Second House-Physician; (6) Assistant House Surgeon. Salary for (2) at the rate of £80 per annum and £10 on completion of report, for (3) and (4) £40 per annum, and (5) and (6) £20 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—(1) Senior Resident Medical Officer; (2) Junior Resident Medical Officer. Honorarium, £100 and £50 per annum respectively.

NEWCASTLE-ON-TYNE: EYE INFIRMARY.—Non-resident House-Surgeon. Salary, £100 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons. Salary, £160 per annum each.

OLDHAM INFIRMARY.—Third House-Surgeon. Salary at the rate of £80 per annum.

RAINHILL: COUNTY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum, rising to £350.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland Street, W.—Resident House-Surgeon. Salary, £100 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Clinical Assistants.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House-Surgeon (male). Salary, £80 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Physician in Charge of Skin Out-patient Department.

WESTERN GENERAL DISPENSARY.—Junior House-Surgeon. Salary at the rate of £20 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Clinical Assistants.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Markinch, co. Fife; Marlborough, co. Wilts; and Ballaghaderrin, co. Roscommon.

APPOINTMENTS.

BRICK, M., M.B., B.Ch.Dub., Certifying Factory Surgeon for the Tralee District, co. Kerry.

BURGESS, W. Leslie, M.B., Ch.B.Edin., House-Surgeon to the Perth City and County Royal Infirmary.

CAMERON, Matthew, M.B., C.M., Medical Officer and Public Vaccinator for the Parish of Ceres, vice Dr. Orr.

DAVINSON, A., M.D., District Medical Officer of the Blofield Union.

DAVIES, Trevor Berwyn, M.B., B.S., B.Sc., House-Physician at the University College Hospital, Gower Street.

EMERSON, J. J., L.R.C.P. and S.Ire., Certifying Factory Surgeon for the Emo district, Queen's County.

GREIG, C. C., M.B., C.M.Aberd., Certifying Factory Surgeon for the Fyvie District, co. Aberdeen.

LEA, J., M.B., B.C.Camb., Certifying Factory Surgeon for the Chorley District, co. Lancs.

LUMSDEN, William, M.B., C.M.Aberd., Assistant School Medical Officer for Forfar.

MINCHIN, P. D., L.R.C.P. and S.Edin., Medical Officer of Health, Repton Rural District.

PEARSON, D. C., M.B., District Medical Officer of the Dewsbury Union.

STIDSTON, C. A., M.D., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Assistant Surgeon to the Wolverhampton and Staffordshire General Hospital.

WELLS, J. E. J., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Hoddesdon District, co. Herts.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

BEATTIE—FERGUSON.—On September 8th, at All Saints', Gosforth, by the Rev. T. A. Ainger, M.A., Thomas Beattie, M.D., M.R.C.P., eldest son of John Beattie, J.P., Summerhill Grove, Newcastle-upon-Tyne, to Edith Gwendolen, eldest daughter of James Ferguson, The Croft, Gosforth.

CADDICK—PEARMAN SMITH.—On September 9th, at Great Barr Church, by the Rev. T. A. Nock, M.A., Rector of Bressingham, Norfolk, cousin of the bride, assisted by the Rev. J. Lane Hoskin, M.A., and the Rev. W. Felton, B.A., Charles John Caddick, second son of Alfred Caddick, of Glenfield, Sutton Coldfield, to Winifred Emily Ellen, eldest daughter of W. J. Pearman Smith, of Park Hall, Walsall. At home 44, Bradford Street, Walsall, October 12th, 13th, 14th, and 15th.

MANWARING-WHITE—BARTLEET.—On September 15th, 1909, at Headless Cross, by the Rev. E. R. Manwaring-White, assisted by the Rev. S. Baber and the Rev. E. Crowley, Dr. Richard Manwaring, of Northwich, second son of the Rev. E. R. and Mrs. Manwaring-White, of Appleton, Yorks, to Evelyn Phyllis Harriet, second daughter of H. S. Bartleet, Esq., J.P., and Mrs. Bartleet, of Headless Cross, Worcestershire.

RUSTON-HARRISON—WEST.—On September 8th, at Hoylake Parish Church, by the Rev. H. E. Elwell, M.A., brother-in-law of the bride, and the Rev. Francis Sanders, M.A., F.S.A., Vicar of Hoylake, George Herbert Ruston-Harrison, M.B., C.M.Edin., youngest son of the late David and Wilhelmina Ruston-Harrison, of Stanwix, Carlisle, to Ella Maud, second daughter of the late Ernest Ekill West, of Waterloo, Liverpool, and of the late Blanche West, of Bebington, Cheshire.

DEATHS.

LONG.—On September 9th, at his residence, 177, Trinity Road, Upper Tooting, S.W., Alexander Long, M.R.C.P.L., M.R.C.S.E., Lieutenant-Colonel R.A.M.C. (retired), eldest son of the late James Long, F.R.C.S., formerly Senior Surgeon to the Royal Infirmary, Liverpool, aged 71.

TAYLOR.—On August 19th, suddenly, of heart failure, Frederic Taylor, L.R.C.P.Lond., M.R.C.S.Eng., and L.M., of 43, Beauchamp Road, S.W., formerly of Woodstock, Oxon., in his 79th year.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye.

RECENT PUBLICATIONS.

Official Guide to Cromer and District. Published by the Cromer Advertising and Advancement Association, under the auspices of the Urban District Council; to be obtained gratis from the Honorary Secretary.

An illustrated guide calling particular attenting to the advantages afforded by Cromer during September and October, when, the medical officer of health states, favourable weather conditions are generally experienced.

The Pocket Medical Dictionary. By W. A. Newman Dorland, M.A., M.D. Sixth edition. London and Philadelphia: W. B. Saunders and Company. (Fcap. 8vo, pp. 598. 5s.) And the Illustrated Medical Dictionary. Fifth edition. By the same author and from the same publishers. (Med. 8vo, pp. 876. 19s.)

These are new and revised issues of two long-standing friends, and both are of convenient size for their respective purposes. They appear to be well up to date; but the author sits somewhat quaintly on the fence in respect of the pronunciation of certain words. In the case of "tinnitus," the author plumps for the classical and correct accentuation in one volume and in the other gives the wrong accentuation also. The word "vertigo" receives the same treatment; but in this case the author would seem to prefer the incorrect version, as he places this first in the larger dictionary. We may add that we think it probable that few people will agree that "lik'er" correctly represents the pronunciation of the word liquor.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
SEPTEMBER.	
19 Sunday ..	
20 MONDAY ..	
21 TUESDAY ..	
22 WEDNESDAY	LONDON: Medico-Political Contract Practice Subcommittee, 2.30 p.m.
23 THURSDAY..	
24 FRIDAY ..	
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, meeting of Committee, Dr. G. H. Smith's, Knutsford, 4.30 p.m. BUCKINGHAMSHIRE DIVISION, *South Midland Branch*, Red Lion Hotel, High Wycombe, 2.30 p.m.; Lunch, 1 p.m.
30 THURSDAY..	

Date.	Meetings to be Held.
OCTOBER.	
1 FRIDAY ..	LONDON: Special Poor Law Reform Committee, 2.30 p.m. INVERNESS: Scottish Committee.
2 SATURDAY ..	
3 Sunday ..	
4 MONDAY ..	
5 TUESDAY ..	LONDON: Organization Committee, 10.45 a.m.
6 WEDNESDAY	LONDON: Medico-Political Committee, 2.15 p.m.
7 THURSDAY..	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford, 4.30 p.m. EAST ANGLIAN BRANCH, Autumn Meeting, Great Yarmouth.
8 FRIDAY ..	
9 SATURDAY ..	
10 Sunday ..	
11 MONDAY ..	
12 TUESDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently-elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 25TH, 1909.

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Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

SOUTH-EASTERN BRANCH:
MAIDSTONE DIVISION.

A MEETING of this Division was held at the Kent County Asylum, Maidstone, on September 13th, at 2 p.m., Dr. H. WOLSELEY LEWIS in the chair. There were also present: Drs. C. Pye Oliver, C. E. Hoar, Caesar, Douglas, Black, Parr Dudley, Forge, Peyton, Adam, Stewart, Leeper, Keith, Collier (who attended as a visitor), and Geo. Potts (Secretary).

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apologies for Non-attendance.—Letters of regret were read from Drs. Mapleton, Joyce, Falwasser, Howarth, and Killick.

Inspection of the Asylum.—The members inspected the asylum, and Drs. COLLIER, STEWART, and KEITH gave short accounts on acute mania, general paralysis of the insane, and paranoia, and showed interesting cases to illustrate same.

The Treatment of Insanity.—Dr. WOLSELEY LEWIS read an interesting paper on the progress in the treatment of insanity. A vote of thanks was unanimously passed to Dr. Wolseley Lewis and his assistants for their very interesting papers.

Letter from the Proprietor of the "Kent Messenger."—The SECRETARY read a letter from the proprietor of the *Kent Messenger*, and was instructed to send same to the Medical Secretary and ask him to place it before the Medico-Political Committee.

Tea.—Dr. Wolseley Lewis invited the members to tea.

Next Meeting.—The next meeting will be held on October 29th at 3.30 p.m., and the Secretary would be glad if the members wishing to move resolutions would kindly let him have them as early as possible.

SOUTH-EASTERN OF IRELAND BRANCH.

A MEETING of this Branch was held at the Adelphi Hotel, Waterford, on September 1st, at 3.30 p.m. J. W. H. JELLETT, M.D., M.Ch., occupied the chair. The other members present were: Drs. Geo. J. Mackesy, Wm. Morris, T. Laffan, Mary Strangman, R. B. Carey, and J. Quirke (Honorary Secretary).

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the Chairman.

Letters.—Letters of apology were read from Drs. Byrne and Russell.

Meeting of Waterford Division.—Dr. MACKESY proposed, and Dr. LAFFAN seconded:

That the meeting be adjourned for half an hour to give place to the meeting of the Waterford Division, as the Honorary Secretary *pro tem.* (Dr. Morris) was obliged to leave early.

Cases.—After the interval Dr. LAFFAN exhibited 2 cases of appendicotomy, one of which (in the case of a boy about 16 years old) was performed at dead of night under exceptionally trying circumstances. Dr. Laffan also read notes of a case of hernia recently operated on by him in an aged patient, who failed to appear at the meeting. Dr. MORRIS then exhibited a case of gastro-enterostomy recently operated on by him in the County and City of Waterford Infirmary.

Treatment of Tic Douloureux.—Dr. QUIRKE next demonstrated on a cranium carefully prepared and admirably adapted for the purpose, Schlösser's technique for the treatment of tic douloureux, and exhibited Dr. Purves Stewart's syringe for that purpose. Having briefly described the origin and distribution of the fifth cranial nerve, he lucidly demonstrated the routes and gave the necessary measurements for reaching the three divisions (the superior, middle, and inferior) as they make their exit from the skull through their respective apertures—namely, the sphenoidal fissure and the foramina rotundum and ovale: The *sphenoidal fissure*, 2½ cm. from the external depression in the rim of the orbit: *foramen ovale*, 2½ cm. in front of the descending root of the zygoma and 4 cm. directly down: *foramen rotundum* ½ cm. behind the posterior border of the orbital bone, produced down to the under border of the zygoma. Direct forward, towards nasal bones 5 cm. down. Solution: R Eucocaine, 2 grains; alcohol (76 per cent.), ℥ j; inject 2 to 2½ c.cm. every other day. Three injections generally suffice for cure. In the opinion of Dr. Purves Stewart—to whom Dr. Quirke said he was indebted for this demonstration—at the meeting of the British Medical Association at Belfast, this method of treatment should be given a full trial before resorting to the more serious operation of removal of the Gasserian ganglion. In edentulous patients it was strongly recommended to use a gag to keep the mouth open.

Postponement of Motion.—Dr. Laffan's motion *re* competitive system and Poor Law appointments was postponed until the next meeting.

Dinner.—The business of the meeting having ended, the members present dined together at the Adelphi Hotel.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held in the Assembly Room, George Hotel, Frome, on Thursday, October 7th, at 3.30 p.m. An address will be delivered by James Cantlie, Esq., M.B., F.R.C.S., Surgeon to the Seamen's Hospital, Greenwich, on The Influence of Vermin in the Spread of Disease. The lecture will be illustrated by limelight views. Messrs. Down Bros., Limited, and Oppenheimer, Son, and Co., Limited, have arranged to give an up-to-date exhibition of instruments and pharmaceutical preparations before and after the address. The Chairman and Mrs. Rattray will be glad to entertain members and their wives to tea after the address. R.S.V.P. before September 30th to Dr. Rattray, Rook Lane House, Frome.—JAMES FEARSE, M.D., 28, St. George's Terrace, Trowbridge. Honorary Secretary.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Great Yarmouth on Thursday, October 7th. Members wishing to show cases or specimens or to read papers should communicate at once with Mr. H. A. Ballance, M.S., Norwich.—B. H. NICHOLSON, General Secretary.

EDINBURGH BRANCH.—A meeting of the Branch Council will be held at 14, Randolph Crescent, on Friday, October 8th, at 4.15 p.m.—FRANCIS D. BOYD and MICHAEL DEWAR, Joint Honorary Secretaries.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A meeting of the Committee will be held at Dr. G. H. Smith's, Knutsford, at 4.30 p.m., on Wednesday, September 29th. A general meeting of the Division will be held at Knutsford at 4.30 p.m. on Thursday, October 7th. Further particulars in future notice.—H. G. COOPER, Honorary Secretary.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of this Division will be held on Wednesday, September 29th, at the Red Lion Hotel, High Wycombe, at 2.30 o'clock. An address will be given by Mr. William Turner, Surgeon to the Westminster Hospital, on "Some Surgical Aspects of Master versus Man under the Present Acts." Afterwards a discussion will take place on "Medical Attendance at Isolation Hospitals. Who should pay?" The members and friends will lunch together previous to the meeting. The chair will be taken at 1 o'clock. Charge, 2s. 6d. each. The members at High Wycombe will provide wine, etc., at the lunch and also tea after the meeting. Members residing in the southern part of the county are specially asked to attend and to bring medical friends with them. All meetings are open to any members of the Association, and it is hoped that every medical man in the area of the Division (non-members included) will receive an invitation. Will those who intend to be present at the lunch please notify Dr. Reynolds, The Priory, High Wycombe, not later than September 28th? Any member wishing to bring any matter forward will oblige by giving me notice as soon as possible.—A. E. LARKING, Honorary Secretary.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.—A meeting of the Division will be held in the Out-patient Room of the Northampton General Hospital at 2.30 on Tuesday, September 28th. The meeting will be preceded by luncheon at Franklin's Restaurant at 1.30. The Secretary will be obliged if members wishing to attend it will kindly notify him two days beforehand. Business: Minutes. Address: The Medical *versus* the Surgical Treatment of Appendicitis, by W. Osler, M.D., F.R.S., F.R.C.P.—P. S. HICHENS, Honorary Secretary.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.—The next meeting of this Division will be held at the Carlton Hotel, Broadstairs (opposite the bandstand on the sea front), on Thursday, September 30th, at 4 p.m., F. Brightman, M.R.C.S., in the chair. Tea will be served during the meeting. A matter of considerable local interest came up for discussion at the recent annual meeting. As the attendance was small, it was decided to postpone the discussion, which arose out of the question of the desirability of health officers being required to give their whole time to their work (SUPPLEMENT, BRITISH MEDICAL JOURNAL, January 23rd, 1909), to a meeting to be convened in October or November. It is hoped, therefore, that members will make a special effort to attend this meeting, at which also the specially-appointed deputation hope to present their final report on the negotiations with the Board of the Isolation Hospital. Agenda: Dr. Gosse will report on the recent meeting of Representatives at Belfast. Mr. A. H. Tubby, M.S., F.R.C.S., will read a paper on Lateral Curvature of the Spine in Adolescents and Adults, with especial reference to causation and treatment. Any other business.—HUGH M. RAVEN, Barfield House, Broadstairs, Honorary Divisional Secretary.

SOUTH-EASTERN OF IRELAND BRANCH.—The last meeting of this Branch, as also a meeting of the Branch Council and the local Division, will be held at the Victoria Hotel, Kilkenny, on Wednesday, October 6th, at 5.15 p.m. Agenda: (1) Minutes of the last meeting. (2) Letters of apology. (3) Dr. Laffan's motion *re* competitive system and Poor Law appointments. (4) Any other business.—J. QUIRKE, Piltown, Honorary Secretary.

SEVENTY-SEVENTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Belfast on July 23rd, 24th, 26th, 27th, 28th, 29th, and 30th.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[EIGHTH NOTICE.]

D. APPLETON AND COMPANY (25, Bedford Street, Covent Garden, W.). Among the many attractive volumes on the stall of this firm of medical book publishers, the new, or seventh edition of Osler's exceedingly satisfactory treatise on the *Principles and Practice of Medicine* at once caught the eye, while the three volumes on *Surgical Diagnosis*, by Dr. A. B. Johnson, Professor of Clinical Surgery, also proved enticing. They contain nearly 800 excellent illustrations in addition to seven coloured plates. Among books by English authors was *Minor Medicine*, in which Dr. Essex Wynter, of the Middlesex Hospital, deals with the treatment of the commoner ailments of life; while in *Minor Surgery*, Dr. E. M. Foote of the College of Physicians and Surgeons of Columbia University, discusses operations which every man in general practice is liable to be called upon to perform. Specialized surgery found a good representative in *Orthopaedic Surgery*, by Dr. H. L. Taylor, professor of that subject at the Post-Graduate Hospital in New York. It is very freely illustrated. The fifth edition of Emmet Holt's *Diseases of Infancy and Childhood* was also on view; its 1,200 pages contain some 240 illustrations, among which are eight coloured plates. Another notable work was the second edition of Howard A. Kelly's *Operative Surgery*. It is in two volumes, containing upwards of 700 original illustrations and a good many plates. The first edition of his work on *Medical Gynaecology* was also on view. In the same connexion may well be mentioned the *Textbook of Obstetrics* by Professor Whitridge Williams, whose 820 pages contain a considerable number of plates as well as 630 woodcuts. Finally may be noted a book entitled *Girl and Woman*, one written for mothers and daughters, by Dr. Caroline Latimer, formerly instructor in biology at the Women's College, Baltimore.

JOHN CLARKE AND COMPANY, LIMITED (8, Donegall Square, Belfast). This firm of surgical instrument manufacturers, with establishments both in Belfast and Dublin, had a neat display of appliances for use in the surgery and consulting room, including bandages, ligatures, and catheters. Special prominence was given to artificial limbs and orthopaedic instruments, which, like everything else shown, were entirely manufactured, we understand, by the firm itself. Among them we noted a well-designed leg-iron for the correction of knock-knee, provided with lateral as well as antero-posterior movement. A talipes shoe shown had likewise some excellent points. It was attached to a leg-iron by a joint which moved freely without the slightest gritting. Equally well turned out in every respect were the legs for use after amputation at various levels, high and low. There was no undue weight about them, the arrangements for the distribution of body pressure seemed adequate, and the foot movement provided in one of them was of an extremely natural character. In the other, the resilience essential to easy walking was provided by an india-rubber pad.

JAMES WOOLLEY, SONS AND COMPANY (Manchester). This well-known Northern company of chemical and surgical instrument manufacturers divided its large exhibit amongst two stalls, one being devoted to pharmaceutical preparations and the other to instru-

ments for operations and appliances for the surgery and consulting room. Among the former were a good many old-time friends, one being the firm's *Sanitary Rose Powder*, which thoroughly deserves the reputation it has held for some twenty years or more. It is excellent for all purposes for which dusting powders are commonly used, and it is in particular favour, we know, with a good many nurses who practise massage largely. It consists mainly, we believe, of very finely powdered boracic acid, and in any case it is entirely soluble. Another excellent preparation is *Sodium Phenate*, one which we have found very useful in the treatment of spongy gums, and as a mouth wash for habitual use at bedtime. It is highly concentrated, so merely a few drops suffice to make a solution of suitable strength. It would serve also, if need be, as an antiseptic solution for the washing of cuts or for application to gnat and other bites, and is thus useful as a travelling companion. Also to be commended as a good vehicle for the application of resorcin is the firm's *Ung. Resorcini Co.*, a pleasant-smelling homogeneous ointment containing bismuth and birch tar, as well as resorcin; while the *Tabellae Phenolphthalein* of the firm also appear to be popular with many medical men as an aperient in cases in which griping action is specially undesirable, as in pregnant women and nursing mothers. Among other useful preparations shown was *Linctus Creosoti Co.*, which contains codeine, terpin hydrate, as well as creosote, and is intended for the treatment of night cough amongst phthisical patients and of bronchial catarrh in old and other people. Among the surgery requisites, the *Crystal Label Bottles* of the firm were prominent. The letters, cut in clear glass, stand out in high relief on a hard white enamel ground, forming an easily washed and indelible label. A sterilizer presenting some novelty was also shown; the instruments are placed in glycerine, with the idea of securing uniformity of heat and avoiding blunting or spotting instruments. Also shown in embryo was an irrigator which is being constructed, we understand, to the order of Sir William Sinclair. Its chief object is to provide an easy means of maintaining irrigation fluids at a definite temperature. In the same connexion may be mentioned the firm's appliance for irrigation of wounds and artificial anuses; it is worth inspection by those who have such cases to deal with. The exhibit also included a good sterilizing outfit known as the Victoria, and intended especially for cottage hospitals and nursing homes; a good maternity bag, named the *Manchester Maternity Bag*, designed by Dr. Margaret Smith of the Manchester Public Health Office; the *Victoria Obstetric Bag*, and the firm's adjustable trusses, well known under the name of the *Boval Truss*. Their special point is the accuracy with which the pad can be adjusted so as to keep up pressure precisely in the right direction.

JOHN WEISS, LIMITED (287, Oxford Street, W.). This well-known firm of instrument makers showed a large number of recent models of instruments for various purposes; they included those used by Mr. Barker and Mr. Ryall respectively in the production of spinal analgesia, the instruments for orthopaedic surgery devised and used by Mr. Robert Jones, of Liverpool, and the outfit for litholapaxy as supplied to the Indian Medical Service. As a whole, the stall was specially strong in ophthalmological instruments and appliances, this being a department of work to which the firm has always paid special attention. It included Mr. Bishop Harman's new diaphragm test, Macnab's retinoscope, and a great many other devices of recent introduction.

WYLEY'S, LIMITED (Coventry). The exhibit of this firm covered the whole field of pharmacy, but prominence was given to a series of tinctures prepared with glycerine. It appears that not all tinctures can be prepared in this fashion, and only such were shown as the firm finds entirely represent ordinary alcoholic tinctures in point of active constituents. Apart from their freedom from alcohol, which in many connexions is a great advantage, we understand that they are less expensive. In addition to these *Non-alcoholic tinctures*, the firm also showed ordinary tinctures standardized to a definite strength. In respect of digitalis, squills, and some others, the method of standardization is physiological. Sodium sulphate and sodium phosphate were shown in small granular crystals, these salts being prepared by the firm in this form so as to save the dispenser's time when making solutions. Among specialities shown were *Wylettes*, these being a series of sterilized hypodermic injections in hermetically sealed capsules of amber glass. Among them were tubes of succinamide of mercury with cocaine, salicylarsenate of mercury, soluble arsenate of iron, and adrenalin and cocaine. *Ruscol* and *Capsicine Wool* were also shown. The former, an ointment claimed to be of special use in cases of eczema, etc., is, we understand, an organic compound of bismuth and birch tar; while the capsicine wool is stated to contain the equivalent of 50 per cent. capsicum. It can be used either wet or dry, and has been brought out as a stimulating application to the skin in cases of rheumatism, lumbago, sciatica, and the like. It seems a neat fashion of bringing capsicum to bear when its action is deemed to be indicated, and should therefore prove useful. To the firm's method of dispensing ointments for ophthalmic treatment we drew attention last year. The perforated wooden caps with which the tubes are fitted are conveniently shaped for the direct application of the ointment to the eye by drawing down the eyelid and gently squeezing the tube. The idea has been well carried out.

ARMOUR AND COMPANY, LIMITED (Atlantic House, Holborn Viaduct, E.C.). This firm, which specializes in preparations for organo-therapy and in digestive enzymes, showed pepsine in very numerous forms—scales, granules, powder, tablets, and glyceroles, and also in combination with lactic acid and with pancreatin. The display of other drugs prepared from animal tissues showed that the firm has dealt with practically all those to which any therapeutic property has been ascribed; the list comprising bronchial, cardiac, cerebral, mammary, myelin, orchitic, ovarian, parotid prostatic, and spleen substances, as well as preparations from the pituitary bodies, the thymus gland, the thyroid, and the adrenals. Its preparation from the latter the firm calls *Suprarenalin*, and showed it in four or five different forms—as a solution of 1 in 1,000, as a powder, in suppositories, and as an ointment for use in haemorrhoids. The solution can be obtained in a bottle with a special stopper, constructed so as to facilitate the dilution of fluid for hypodermic use, while to enable the ointment to be introduced into the rectum it is put up in a collapsible tube with a well-shaped nozzle. In the same connexion may be mentioned *Eucaprin*, this being a liquid combination of suprarenalin and beta-eucaine lactate. Its strength in beta-eucaine is 1 per cent., the suprarenalin present being 0·05 milligram per c.cm. It can also be obtained in the form of triturates of corresponding strength. The firm also showed *Red bone marrow* in three excellent forms—as a permanent glyceride of definite strength, in soluble gelatine capsules, each containing the equivalent of 15 grains of fresh bone marrow, and in perles, each containing in addition to the equivalent of half a teaspoon of crude bone marrow ½ grain of ferri arsenias. Finally may be mentioned the beef preparation to which the firm has given the name *Vigoral*. It is a semi-solid beef extract prepared from Armour's beef extract, and is intended to afford a ready means of preparing hot or cold bouillon for use in the sick-room and elsewhere. It is very palatable, and is stated to be economical in use, and appears to be regarded with favour by many practitioners.

GRAPE JUICE COMPANY, LIMITED (7, Great Tower Street, London, E.C.). This firm showed a liquid to which we drew attention last year under the name of *Mostelle*. It is stated to be prepared in Spain from fresh sun-dried grapes, and to contain no antiseptic nor preservative of any kind, the fact that the juice

remains unfermented being the outcome of the careful pasteurization which it has undergone. These statements would appear to be confirmed by an independent analysis which we have seen, and are further supported by the flavour and bouquet of the liquid itself. In short, no one who has lived in a wine-producing country and is familiar with wine-presses will be disposed to doubt that Mostelle really is grape juice, and to grape juice, it need scarcely be said, many important dietetic and therapeutic advantages have been ascribed. The firm's own suggestion is that it should be found especially useful in dealing with children, administering it for its antiscorbutic powers to bottle-fed infants and in cases of skin disease. They also point out that the high percentage of grape sugar—25 per cent.—entitles Mostelle to be regarded as a food. When we first tasted it, a year or two ago, it appeared to us to be too sweet for the palates of most adults, but a comparatively dry variety is now obtainable. Since the preparation was shown last year at Sheffield, it would appear from letters in the firm's possession to have been tried with satisfaction by a good many medical men in cases of albuminuria, and to have been found to have a slightly laxative action and to be easily digested by the dyspeptic. With the addition of soda water it makes a very pleasant beverage for ordinary purposes.

CHAMBERS MOTORS, LIMITED (Cuba Street Works, Belfast). This firm showed its standard car, which is entirely of Irish manufacture. It provides ample room for four persons, and is estimated to be of from 12 to 16-h.p. The engine has four cylinders cast *en bloc*, and has a direct spring drive. There is a special arrangement by which the engine can be overhauled from the side without recourse to a garage furnished with a pit, and the wheels are fitted with 760 × 90 heavy Dunlop tyres. The price is £310 net. We had no opportunity of trying the car, but it appeared to be well made, and, as we have pointed out on a previous occasion, it is a great advantage to deal with a firm which is in a position to put through any repairs required speedily and to supply missing or damaged parts without delay.

THE MIOL MANUFACTURING COMPANY (82, Southwark Bridge Road, S.E.). The exhibits of this firm consisted of an oleo-maltose compound brought out some three or four years ago as a substitute for cod-liver oil. It is a homogeneous mixture of palatable taste which is stated to be taken readily both by children and adults, and to cause neither nausea nor gastric irritability. We analysed it some three years ago, and found that it contained 22 per cent. olive oil, 0.04 per cent. nitrogen, which would represent 2.5 per cent. proteid, and 47 per cent. of reducing sugars, calculated as maltose. Free phosphorus was also found to exist and iodine in combination; while, tested with starch, it was found to have good diastatic power. The constitution of this preparation would therefore seem to make it worth trying in cases in which a combination of cod-liver oil with iodine and phosphorus would be indicated but cannot be taken owing to its objectionable flavour. By way of facilitating the use of its preparation the firm supplies a teaspoon with a capacity of exactly 1 drachm and a handle so long that it will reach the bottom of all bottles in which Miol is vended. It is made of aluminium, and thus, if wiped dry after use, always keeps its lustre. It is supplied gratis, we understand, to all purchasers of Miol. Since the preparation was shown at Exeter it has been tried by a good many medical men, and the firm, we are informed, is in possession of a large number of reports regarding its clinical use, and is prepared to show them to medical men interested.

PARKE, DAVIS, AND CO. (50, Beak Street, Regent Street, London, W.). The lantern demonstration which this firm of manufacturers gives is becoming a familiar feature at annual exhibitions. It illustrates the methods which the firm employs in the standardization of drugs and the preparation of serums and toxins, and is certainly of interest, since it affords a good idea of modern pharmaceutical methods. The firm's serum preparation is done at Detroit, where the work is on a very large scale, and subjected throughout its course to the inspection of the United States Government; but in this country the firm seems chiefly to deal in the vaccines prepared in the laboratories of St. Mary's Hospital, for which it is agent. *Chloretone*, which Dr. Essex Wynter described last year as almost specific in the treatment of chorea, *Iodalbin*, and several other drugs associated with the firm's name were on view, and several new compounds were to be seen. Among them was a combination of adrenalin and chloretone in the form of suppositories, adrenalin and novocain hypodermic tablets in two strengths, and an adrenalin inhalant for use with the firm's Glaseptic nebulizers. The latter can be obtained in two forms, one for surgery use, the other, a small portable appliance, intended to be carried about in the pocket by those who suffer from hay fever and nasal catarrh. Two new dressings shown were chloretone gauze and formidine gauze. *Formidine* we described a year or two ago. It is a compound of iodine, formic aldehyde, and salicylic acid. Quite new, too, were what the firm has named *Mercurettes*; these are small paper-covered blocks each containing 30 grains of mercury finely incorporated with 60 grains of cacao butter. They are intended for those undergoing mercurial inunction treatment, and being delicately perfumed and very portable should prove useful. A good selection of hypodermic cases, small medicine chests, and first-aid cases suitable for carrying in motor cars and the like were also shown.

FANNIN AND COMPANY, LIMITED (41, Grafton Street, Dublin). The exhibits on the stall of this Irish firm of surgical instrument makers were of a comprehensive character, though space did not permit of the furniture for hospital use which the firm manufactures being shown. A certain number of general operation instruments were on view, as well as anaesthetic medicines, pocket dressing-cases, and medical appliances, but outfits for various special branches of medical and surgical work, such as laryngoscopy, ophthalmology, and gynaecology, perhaps predominated. The midwifery outfits shown were those favoured at the Rotunda and Coombe Hospitals. Among the facilities for consulting room and surgery work we noted some well-thought-out urine-test cases and a sterilizer suitable for either instruments or dressings. The firm has an illustrated catalogue which gives a good idea of its manufactures, and which it is ready to forward to any practitioner on hearing from him.

OPPENHEIMER AND COMPANY (179, Queen Victoria Street, E.C.). Of the pharmaceutical preparations on this stall many were old friends, and the bi-palatinoids with which the name of the firm has been so long associated naturally took a prominent place. We regard them as one of the cleverest devices for drug administration ever introduced, though a much more recent invention of the firm comes a very good second. These have been christened *Pulverettes*, and in general appearance precisely resemble ordinary pills. On very slight pressure, however, they break with a click, and the contained drug is revealed in powder form. The external shell consists of a fine film of chocolate and sugar. We understand that all drugs and prescriptions commonly dispensed in the form of pills, cachets, and tablets can be put up if desired in this form. Also shown was the Universal Vaporizer, which can be used with any medicated solution, but is more especially intended for those which the firm prepares under the title of *Neboline Compounds*. The atomizer is certainly a very effective appliance, for the spray formed is so fine as to be practically invisible until condensed on some surface. A malt extract named *Hordine* was also shown. It is produced, we understand, by a comparatively novel process, its strong point being that it is very liquid, and thus easy to deal with. As in diastatic power it is stated to be equal to 100 Lintner, it would seem worth trial both by those who attach value to malt

preparations as an aid to digestion of starchy food, and those who use them for their own food value. The exhibit also included *Optis*, a pleasantly flavoured dentifrice, and stated to liberate peroxide of hydrogen during use, and a new food named *Roboleine*, put forward as a good substitute for cod-liver oil. It is palatable and contains, we understand, red bone marrow, malt extract, and the hypophosphites of lime, soda, and potash. Finally should be mentioned the serums and vaccines of the institute at Genoa of which the firm is sole agent. It is under the direction of Maragliano, and this investigator's own antituberele preparation was one of those exhibited.

EDWARD COOK AND COMPANY (Bow, London, E.). This firm of soap specialists had a large exhibit of its preparations, one of the most important being *Asepso*, an antiseptic soap with which the firm has, we understand, won a gold medal. It is made in three strengths—½ per cent., 1 per cent., and 3 per cent. The firm points out that when the hands are lathered and washed with the 3 per cent. Asepso soap 1 grain of biniodide of mercury is liberated in close conjunction with the interstices of the skin, and as the solution, if used with a brush, also penetrates under the finger-nails, the hands are rendered completely aseptic with one washing: furthermore, since the soap can be washed off the surface of the skin by rinsing the hands in water, no irritation, such as often occurs when the hands are soaked in disinfectant solutions, is liable to occur. This soap has also, we understand, been adopted for use by some school authorities in dealing with infected heads. Other soaps shown were *Anthrasol*, which contains coal tar; *Dorina*, a soap for babies; and a variety of toilet preparations, such as *Solace*, a very pleasant form of shaving cream. In addition to soaps the firm also showed a disinfectant, which, being guaranteed to be of high carbolic coefficiency, has been christened *Cofectant*; but we had no opportunity of testing its properties.

W. ERSKINE MAYNE (3, Donegall Square West, Belfast). This firm of medical and general booksellers is agent for a large number of publishers prominent in connexion with medical works, and showed examples of the more important books recently issued by Messrs. Churchill, Macmillan, Baillière, Tindall and Cox, Cassell and Co., Methuen and Co., and the Cambridge University Press. The selection was a good one, the stall being a kind of practical compendium of modern medical literature.

THE BAYER COMPANY, LIMITED (19, St. Dunstan's Hill, London, E.C.). The exhibit of this firm is always of interest, as it has been exceptionally successful in producing synthetic and other new compounds which have proved of real value. Veronal and aspirin are cases in point, and it need scarcely be said that when about to use any comparatively new drug, it is well to remember who was its original producer, and prescribe the particular form of it. The stall contained several drugs which were new to many visitors. Among these was *Thyresol*; it is the methyl ester of santalol, the active principle of sandalwood oil, and has been brought out as being preferable to it in that it is less toxic, less irritating to the stomach, and unproductive of eructation. It may be obtained in solution, in capsules, or in tablets, and the dose is from 5 to 10 grains three times a day. The tablets contain a certain proportion of magnesium carbonate, and therefore have some laxative action, which is of importance in the treatment of gonorrhœa. *Guaiacose*, a 5 per cent. solution of calcium guaiacol-sulphonate in liquid somatose, was also shown. The theory of its composition is that the form in which the guaiacol is present enables this often disturbing drug to be taken readily, that the inclusion of calcium in the molecule aids fibrosis in tuberculous conditions, and that the use of *Somatose*—a beef preparation of established repute—as a vehicle gives the compound an additional value. A modification of veronal on view was *Veronal-Sodium*. It is not claimed to be an improvement therapeutically on the older preparation, but is more convenient for use when solvents are not at hand, and it has been found useful, we were informed, in administering this well-known hypnotic by the rectum in cases in which the stomach is irritable. *Spirosal* was another new preparation shown. It is a derivative of salicylic acid, and is mainly for external application. Its action appears to resemble that of the firm's preparation, Mesotan, but it is entirely unirritating.

GRATTAN AND CO., LIMITED (Great Victoria Street, Belfast). This firm of mineral water manufacturers and importers pays special attention to those intended for medicinal use, and showed numerous specimens of its own productions. The water used by the firm is drawn from an artesian well, and also sterilized, and is then charged with a due proportion of carbon dioxide, and any salt which may be required to form the medicinal water. Potash water, lithia water, piperazine water, and a soda water prepared according to the formula of the *British Pharmacopœia* in 1885, and *Carrara*, or aërated lime water, were among those shown. Also on view was a sparkling quinine water, one prepared with kola, and a long list of ordinary beverages, such as ginger ale, lemonade, and lime juice. We sipped a few samples, and found the flavour palatable and the aëration excellent.

A. WANDER, Ph.D. (1 and 3, Leonard Street, City Road, London, E.C.). This firm exhibited two dietetic preparations, one of them being *Ovaltine*, a form of food to which we drew attention some two years or so ago. It is stated to be composed of malt extract, dry milk, eggs, and converted cocoa, and that it contains active lecithin, which as a phosphorus-containing, nitrogenous substance produced in the animal organism, is of high importance. An analysis which we made at the time bore out these statements. Lecithin was found to exist in a free state, for it could be extracted from the food merely by the action of solvents, and fat and proteid in considerable quantities. The food is a dry, granular powder, resembling chocolate in appearance, and is utilized much in the same fashion, namely, mixed with warm water, or milk and water. The resulting liquid forms a palatable beverage, with the general taste of malt extract and cocoa. It appears to be in favour in foreign sanatoriums, where overfeeding of the tuberculous is undertaken, and from its composition may be regarded as entitled to a good place among artificial foods. Malt extracts also figured largely, but in a dry form—*Wander's Dry Extract of Malt*—it looks and tastes much like brown sugar. It is very easy to take, either dry or mixed with water or milk, and would appear to be suitable for all cases in which malt extract is indicated. The same powder can be obtained combined with calcium phosphate and glycerophosphates, the iodide of iron and iron pyrophosphate. Also shown were *Formitrol Pastilles* and a series of compressed tablets and pills made according to various formulae. The formitrol pastilles are understood to contain ½ grain of formaldehyde. It is a form of medication in cases of sore-throat and unhealthy conditions of the mouth which of late years has become popular.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon W. J. BEARBLOCK to the *Ramillies*, September 16th; Surgeon J. GLAISTER, M.B., lent to the *Blanche*, temporarily, September 16th; Fleet Surgeons T. ADDEES, and H. E. TOMLINSON, Staff Surgeons A. H. JEREMY, M.B., M. H. KNAPP, C. H. ROCK, J. E. H. PHILLIPS, S. CRONEEN, F. ARKWRIGHT, M.B., W. H. POPE, R. ST.G. S. BOND, M.B., J. G. WARE, B. C. SAWDY, R. E. SCHINCKEL, O. K. NEX, M.B., and C. E. C. STANFORD, M.B., and Surgeons N. H. MUMMERY, S. S. H. SHANNON, A. DAVIDSON, M.B., W. N. BLATCHFORD, G. C. CROSS, and B. S. ROBSON, M.B., to the *President*, additional for three months' course at West London Hospital, October 1st; Fleet Surgeon A. H. L. COX to the *Achilles*, October 1st; Fleet Surgeon D'ARCY HARVEY, M.B., to the *Assistance*, October 1st; Fleet Surgeon O. S. WOODWRIGHT to the *Roxburgh*, October 1st; Staff Surgeon W. JACKSON, M.B., to the *Forward*, October 1st; Staff Surgeon H. C. ARATHOON to the *Hermione*, October 1st; Staff Surgeon G. C. C. ROSS, M.B., to Devonport Dockyard, October 1st; Staff Surgeon E. COX, M.B., to the *Hermione*, additional, for the *Leda*, October 1st; Staff Surgeon W. J. CODRINGTON, M.B., to the *Cornwall*, October 1st; Staff Surgeon J. ST. J. MURPHY to Haslar

Hospital, October 1st; Surgeon E. J. H. GARSTIN to the *Blenheim*' October 1st; Surgeon G. R. MCCOWAN, M.D., to the *Donegal*, October 1st; Surgeon C. J. O'CONNELL to the *Sutlej*, October 1st.

ARMY MEDICAL SERVICE.

COLONEL J. G. HARWOOD retires on retired pay, September 15th. His commissions bear date: Surgeon, March 6th, 1880; Surgeon-Major, March 6th, 1892; Lieutenant-Colonel, March 6th, 1900; and Colonel, June 29th, 1905.

Colonel G. W. ROBINSON has been appointed Administrative Medical Officer at Capetown, vice Colonel A. Peterkin, M.B.

ROYAL ARMY MEDICAL CORPS.

Lieutenant R. G ARCHIBALD, M.B., to be Captain, July 30th. He was appointed Lieutenant January 30th, 1906. He was attached to the Egyptian Army, February 25th 1908

Lieutenant-Colonel R. H. S. SAWYER, M.B., from Pretoria, has been appointed to the charge of Queen Alexandra's Military Hospital, Millbank.

Major W. S. HARRISON, M.B., has been appointed Professor of Tropical Medicine at the Royal Army Medical College, vice Lieutenant-Colonel R. J. S. Simpson, C.M.G., M.B.

INDIAN MEDICAL SERVICE.

THE undermentioned Captains are promoted to be Majors, from July 28th: J. W. F. RAIT, M.B., E. J. O'MEARA, S. HUNT, M.B., H. A. J GIDNEY. Their previous commissions were dated: Lieutenant, January 28th, 1898; Captain, January 28th, 1901.

TERRITORIAL FORCE.

ROYAL FIELD ARTILLERY.

SURGEON-LIEUTENANT-COLONEL AND HONORARY SURGEON-COLONEL T. F. YOUNG, M.D., 4th West Lancashire (Howitzer) Brigade, resigns his commission, July 15th; he retains his rank and uniform.

Surgeon-Captain J. W. LLOYD and Surgeon-Lieutenant JOHN OWEN, from the Mersey Division (Electrical Engineers) Royal Engineers (Volunteers), are appointed to the Lancashire (Fortress) Unit, with rank and precedence as in the Volunteer Force, April 1st, 1908.

ROYAL ARMY MEDICAL CORPS.

For Attachment to Units other than Medical Units.—HAROLD R. MOXON to be Lieutenant, June 18th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN C. T. D. URQUHART, M.B., London Companies, London District, resigns his commission, March 31st, 1908.

CHANGES OF STATIONS.

THE following changes of stations amongst the officers of the Army Medical Service have been officially reported to have taken place during August, 1909:

		FROM		TO
Colonel	A. Peterkin, M.B.	... Capetown	...	London.
,,	H. J. R. Moberly ...	... Darjeeling	...	Bangalore.
Lieut.-Col.	R. Caldwell, F.R.C.S.	... Devonport	...	Parkhurst.
,,	R. H. Hall, M.D. ...	... Colchester	...	Bedford.
,,	W. B. Day, M.B. ...	...	...	Beaumaris.
,,	H. M. Adamson, M.B.	... Cawnpore	...	Fyzabad.
Major	B. J. Inniss ...	... Shahjehanpur	...	Delhi.
,,	C. W. H. Whitestone, M.B.	... Peshawar	...	Cherat.
,,	W. G. Beyts	... Silchar	...	London.
,,	T. P. Jones, M.B. ...	... Windsor	...	Woolwich.
,,	W. J. Taylor, M.B. ...	... Ballykinler	...	Carmavey
		Camp	...	Lansdowne.
,,	S. W. Sweetnam ...	... Poona	...	Kirkee.
,,	R. J. Blackham	... Peshawar	...	Cherat.
,,	St. J. B. Killery ...	... Chaudittia	...	Rankikhet.
Captain	D. E Curme	... R.A.M.Coll.	...	Aldershot.
,,	H. K. Palmer	... Kandalla	...	Colaba
,,	A. O. B. Wroughton ...	... R.A.M. Coll.	...	Shorncliffe.
,,	L. F. F. Winslow ...	... Lincoln	...	Bradford.
,,	J. W. Langstaff ...	... —	...	Aldershot.
,,	L. W. Harrison, M.B.	... R.A.M.Coll.	...	Chatham.
,,	E. B Knox, M.D. ...	... ,,	...	Colchester.
,,	C. C. Cumming, M.B...	... ,,	...	London.
,,	F. F. Martin, M.B. ...	... ,,	...	Woolwich.
,,	F. S. Walker, F.R.C.S.I.	... ,,	...	Devonport.
,,	T. Biggam, M.B. ...	... ,,	...	Aldershot.
,,	R. O. Hyde, M.B. ...	... ,,	...	Dublin.
,,	G. J. Houghton ...	... ,,	...	Cork.
,,	J. Dorgan, M.B. ...	... Cork	...	Kinsale.
,,	C. H. Carr, M.D. ...	... R.A.M.Coll.	...	Tidworth.
,,	J. P. J. Murphy, M.B. ...	... ,,	...	Woolwich
,,	W. M. H. Spiller, M.B. ...	... ,,	...	Belfast.
,,	W. L. Bennett, M.B., F.R.C.S. Edin.	... Edinburgh	...	Lancaster.
,,	B. B. Burke	... Crownhill	...	Devonport.
,,	L. L. G. Thorpe ...	... R.A.M.Coll.	...	Netley.
,,	W. S. Crosthwait ...	... ,,	...	Cork.
,,	W. M. Power	... ,,	...	Tidworth.
,,	W. R. P. Goodwin ...	... ,,	...	Roy. Arsenal.
,,	A. C. Duffey, M.D. ...	... Ouasdi Camp	...	Dublin.
,,	H. A. Davidson, M.B. ...	... R.A.M.Coll.	...	Cork.
,,	H. G. Pinches	... ,,	...	Netley.
,,	S. B. Smith, M.D. ...	... ,,	...	Dublin.
,,	R. Mch. Skinner ...	... Lansark Camp	...	Glasgow.
,,	G. F. Sheehan	... Dublin	...	Curragh.
,,	E. Ryan	... R.A.M. Coll.	...	Devonport.
,,	A. H. McN. Mitchell ...	... Stamford	...	Crownhill.
,,	M. F. Foulds	... R.A.M. Coll.	...	Chatham.
,,	H. Rogers, M.B. ...	... ,,	...	Cork.
,,	W. Davis	... ,,	...	Dublin.
,,	H. W. Long, M.B. ...	... ,,	...	Belfast.
,,	M. G. Winder	... ,,	...	Dover.
,,	J. B. Meldon, M.B. ...	... Dublin	...	Kilbride.
,,	E. M. Pennefather ...	... Limerick	...	Clonmel.
,,	H. H. J. Fawcett ...	... Hilsea	...	Cosham.
,,	H. B Connell	... R.A.M. Coll.	...	Aldershot.
,,	G. S. C. Hayes	... ,,	...	,,
,,	L. V. Thurston	... Sangor	...	Jubbulpore.
,,	P. Power, M.B. ...	... Mauney Camp	...	Ballykinler Cp.
,,	D. De C. O'Grady ...	... Peshawar	...	Nowshera.
		FROM		TO
Lieutenant	E. D. Caddell, M.B. ...	... Bangalore	...	Umbala.
,,	C. Cassidy	... Netley ...	...	Colchester.
,,	H. H. Scott, M.B. ...	... Dalhousie	...	Ferozepore.
,,	T. McC. Phillips, M.B.	... Belfast	...	Colchester.
,,	H. S. Dickson ...	... Bulford	...	,,
,,	R. F. Todd, M.B. ...	... London Dist.	...	Annamford.
,,	R. G. S. Gregg, M.B.	... Oranmore Cp.	...	Dublin.
,,	J. C. L. Hingston ...	... Edinburgh	...	Barry.
,,	A. Hendry, M.B. ...	... Rollos Camp	...	Bulford.
,,	H. H. Blake, M.B. ...	... Edinburgh	...	Ayr.
,,	B. Varrill	... Burnhclere Cp.	...	Hilsea.
,,	J. W. Houston, M.B. ...	... Dublin	...	Curragh.
,,	W. J. Dunn, M.B. ...	... Ipswich	...	Colchester.
,,	F. B. Dalgliesh ...	... Durrington Cp.	...	Tidworth.
,,	T. S. Eves, M.B. ...	... Marybrough Heath Camp	...	Dublin.
,,	L. Murphy	... Weymouth	...	Cosham.
,,	E. V. Vaughan, M.B. ...	... Fermoy ...	...	Queenstown.
,,	A. N. R. McNeill, M.B. ...	... Lansrk Camp	...	Edinburgh.
,,	J. B. Jones, M.B.	... Magilligan Cp.	...	Londonderry.
,,	S. McK. Saunders ...	... Woolwich ...	...	Churn Camp.
,,	D. E. C. Pottinger, M.B.	... Dublin ...	...	Perth.
,,	A. W. Byrne, M.B. ...	... Church Stretton	...	Manchester.
,,	S. W. Kyle, M.B. ...	... Finner Camp...	...	Belfast.

Lieutenant S. G. Walker, M.B., appointed on probation February 4th, 1908, has been stationed at Netley; and Lieutenants J. A. Clark, M.B., and H. H. Leeson, appointed on probation August 1st, 1908, have been stationed at London and Woolwich respectively.

The following Lieutenants, appointed on probation January 30th, 1909, have been stationed as follows: E. W. Ranken, M.B., and E. C. Lambkin, M.B., London; J. A. Manifold, M.B., Fiershill; S. S. Dykes, M.B., and G. P. Taylor, M.B., Edinburgh; R. C. Priest, M.B., Colchester; P. S. Tomlinson, Tidworth; A. B. Stirling, M.B., Monmouth; R. C. Paris, Netley; A. W. Bevis, Chatham; O. W. McSheehy, M.B., Devonport; M. J. Williamson, M.B., Bulford; C. L. Franklin, M.B., Portland; M. Wilson, M.B., Miss Jennie, M.B., and R. H. Nolan, Aldershot; J. J. D. Roche, M.B., Curragh Camp; J. R. Hill, M.B., Preston; H. F. Jount, M.B., Woolwich; A. S. M. Winder, M.B., and P. M. Elvery, Dublin; J. R. Yourell, M.B., Belfast; J Beckton, Dover.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,016 births and 4,102 deaths were registered during the week ending Saturday last, September 18th. The annual rate of mortality in these towns, which had been 12.9, 12.9, and 12.8 per 1,000 in the three preceding weeks, rose again last week to 13.0 per 1,000. The rates in the several towns ranged from 4.2 in Walthamstow, 5.5 in Hornsey, 6.7 in Aston Manor, 7.0 in King's Norton, 7.4 in Smethwick, and 7.5 in Willesden and in Northampton, to 17.6 in Great Yarmouth and in Rotherham, 17.8 in Wigan, 18.0 in Swansea, 20.2 in Warrington, 20.6 in Merthyr Tydfil, and 21.8 in Bootle. In London the rate of mortality was 12.4 per 1,000, while it was 13.2 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 2.0 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was 1.7 per 1,000, while among the seventy-five other large towns it ranged upwards to 4.7 in West Ham and in Walsall, 5.3 in Newport (Mon.), 5.4 in Rhondda, 5.8 in Warrington, 6.0 in Bootle and in Merthyr Tydfil, and 6.4 in Rotherham. Deaths caused in Bootle of Measles, 1.6 in Swansea, 2.0 in Coventry, and 2.7 in Newport (Mon.); whooping-cough of 1.2 in Wigan and 2.0 in Merthyr Tydfil; "fever" of 1.0 in Portsmouth and in Walsall, 1.4 in Warrington, and 1.6 in Rotherham; and diarrhoea of 3.6 in West Ham and in Grimsby; 3.8 in Devonport, 4.0 in Hull, 4.2 in Rhondda, 4.5 in Warrington, 4.5 in Bootle, and 4.8 in Rotherham. The mortality from scarlet fever and from diphtheria showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,347, 2,377, and 2,436 at the end of the three preceding weeks, had further risen to 2,533 at the end of last week; 421 new cases were admitted during the week, against 284, 349, and 411 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, September 18th, 803 births and 431 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.7, 15.8, and 12.5 per 1,000 in the three preceding weeks, further declined last week to 12.1 per 1,000, and was 0.9 per 1,000 below the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scottish towns ranged from 5.5 in Leith and 9.6 in Paisley to 14.1 in Edinburgh and 14.5 in Dundee. The death-rate from the principal infectious diseases averaged 1.3 in the eight towns, the highest rates being recorded in Glasgow and Dundee. The 205 deaths registered in Glasgow included 4 which were referred to measles, 5 to scarlet fever, 3 to diphtheria, 3 to whooping-cough, 2 to "fever," and 13 to diarrhoea. Two fatal cases of whooping-cough and 2 of diarrhoea were recorded in Edinburgh; 2 of diphtheria and 3 of diarrhoea in Dundee; and 3 of diarrhoea in Aberdeen and 2 in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending September 18th, 561 births and 331 deaths were registered in the twenty-two principal urban districts of Ireland, as against 599 births and 349 deaths in the preceding period. The annual death-rate in these districts, which had been 18.1, 16.8, and 17.8 per 1,000 in the three preceding weeks, fell to 15.1 per 1,000 in the week under notice, this figure being 2.1 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 17.3 and 12.5 respectively, those in other districts ranging from 4.8 in Sligo and 8.4 in Newry to 21.9 in Limerick, and 22.9 in Newtownards, while Cork stood at 17.8, Londonderry at 10.9, and Waterford at 21.4. The zymotic death-rate in the twenty-two districts averaged 2.4 per 1,000, as against 2.9 per 1,000 in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Male House-Surgeon. Salary, £100 per annum, rising to £120.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £80 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House-Surgeons. Salary at the rate of £75 per annum.

BOURNEMOUTH: ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House-Surgeon. Salary at the rate of £80 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer (male) for Hospital and Workhouse. Salary, £150 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Throat, Nose, and Ear Surgeon; salary, £75 per annum. (2) Surgical Registrar. (3) Honorary Assistant Dental Anæsthetist. (4) Resident Casualty Officer; salary at the rate of £50 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon. Salary, per annum.

CARDIFF: UNIVERSITY COLLEGE OF WALES AND MONMOUTHSHIRE.—Assistant Lecturer and Demonstrator in Anatomy.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

CITY OF LONDON UNION.—Assistant Medical Officer of the Infirmary and Workhouse. Salary, £150 per annum.

COUNTY COUNTY SANATORIUM.—Resident Medical Superintendent. Salary, £250 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum, rising to £350.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

EXMINSTER: DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £155.

FIFE DISTRICT ASYLUM, Cupar.—Junior Assistant Medical Officer. Salary, £120 per annum.

GOVAN DISTRICT ASYLUM, Hawkhead.—Second Assistant Medical Officer. Salary not to exceed £105 per annum.

HEARTS OF OAK BENEFIT SOCIETY.—Medical Officer as Referee. Salary, £400 per annum.

HERTFORD COUNTY HOSPITAL.—Resident House-Surgeon and Secretary. Salary at the rate of £100 per annum.

HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Salary at the rate of £120 per annum.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTHOE DISPENSARY.—Senior House-Surgeon (male). Salary, £100 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House-Surgeon. Salary, £65 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KING EDWARD VII SANATORIUM, Midhurst.—Junior Assistant Medical Officer. Salary, £100 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—Two House-Surgeons. Salary at the rate of £50 per annum.

LEITH HOSPITAL.—Medical Registrar.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

MACCLESFIELD GENERAL INFIRMARY.—(1) Senior House-Surgeon; (2) Junior House-Surgeon. Salary, £100 and £60 per annum respectively.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Male Resident Medical Officer. Salary for first six months £40, and for second six months £50.

MANCHESTER JEWISH HOSPITAL, Cheetham.—Locumtenent for Resident Medical Officer. Salary, £2 2s. per week.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—(1) Assistant Physician; (2) Senior Resident Medical Officer; (3) Junior Resident Medical Officer. Honorarium, £100 and £50 per annum for (2) and (3) respectively.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—(1) House-Physician; salary, £80 per annum. (2) Male Assistant House-Surgeon; honorarium, £20 for six months.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons. Salary, £160 per annum each.

PAISLEY PARISH COUNCIL.—Resident House-Surgeon (female) for the Parochial Hospital, etc. Salary, £110 per annum.

RAINHILL: COUNTY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum, rising to £200.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at the rate of £40 per annum.

SEAMEN'S HOSPITAL SOCIETY, Dreadnought Hospital, Greenwich.—(1) Two House-Physicians; (2) two House-Surgeons. Salary, £50 per annum each.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Secretary and House Governor. Salary, £500 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £50 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary, £80 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Physician in Charge of Skin Out-patient Department.

WANDSWORTH UNION INFIRMARY.—Male Junior Assistant Medical Officer. Salary at the rate of £120 per annum.

WEST HAM HOSPITAL.—Junior House-Surgeon. Salary at the rate of £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Clinical Assistants.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Bishops Stortford, co. Hertford; Dysart, co. Fife; Normanton, co. York; and Dunoon, co. Ayr.

APPOINTMENTS.

CORFIELD, W. F., M.B., B.S.Lond., D.P.H.Camb., Medical Officer of Health for the Borough of Colchester.

EDINBURGH ROYAL INFIRMARY.—The following appointments have been made:

Assistant Physician for Diseases of the Skin: Frederick Gardiner, M.D., F.R.C.S.Edin. (reappointed).

Clinical Tutors: J. H. Douglas Webster, M.D., etc., to Dr. Byrom Bramwell; David Halliday Croom, M.D., etc., to Dr. Geo. A. Gibson; Ian Struthers Stewart, M.D., etc., to Dr. R. W. Philip; D. P. D. Wilkie, F.R.C.S.E., to Professor Caird; Denis Cotterill, M.B., Ch.B., to Mr. Cotterill; John Darling, M.B., C.M., to Mr. Cathcart; A. W. Beveridge, F.R.C.S.E., to Dr. Mackay; Dr. J. Stuart Ross, Instructor in Anæsthesia, to Mr. David Wallace (reappointed).

Resident Physicians: A. Gibson, M.A., M.B., Ch.B., to Professor Sir T. R. Fraser; G. E. G. Mackay, M.B., Ch.B., to Professor Greenfield; J. Langwill, M.B., Ch.B., to Professor Wyllie; J. Ware, M.B., Ch.B., to Dr. Bramwell; H. R. Lawrence, M.B., Ch.B., to Dr. Philip; J. M. Deuchars, M.B., Ch.B., to Dr. Russell.

Resident Surgeons: F. E. Jardine, M.B., Ch.B., to Professor Caird; R. C. Alexander, M.A., M.B., Ch.B., to Professor Thomson; S. Jackson, M.B., Ch.B., to Mr. Cotterill; F. R. Laing, M.B., Ch.B., to Mr. Hodsdon; A. White, M.B., Ch.B., to Mr. Wallace; R. C. Harkness, M.B., Ch.B., to Dr. Barbour.

Non-resident House-Surgeon: A. W. Burton, M.B., Ch.B., to Dr. Farquharson.

Clinical Assistants: J. J. M. Shaw, M.B., Ch.B., to Professor Sir T. R. Fraser; K. Fraser, M.B., Ch.B., to Professor Sir T. R. Fraser; J. K. M. Dickie, M.B., Ch.B., to Professor Greenfield; L. Leslie, M.B., Ch.B., to Professor Wyllie; H. F. Smith, M.B., Ch.B., to Dr. Bramwell; W. F. Christie, M.B., Ch.B., to Dr. Philip; R. W. L. Todd, M.B., Ch.B., B.Sc., to Dr. Russell; N. S. Carmichael, M.B., Ch.B., to Dr. Boyd (medical out-patient department); J. Hay, M.B., Ch.B., to Professor Thomson; J. M. M'Kean, M.B., Ch.B., to Mr. Cotterill; L. E. Barrington-Wood, M.B., Ch.B., to Mr. Hodsdon; W. M. Menzies, M.B., Ch.B., to Mr. Wallace; A. W. Young, M.B., Ch.B., to Mr. Cotterill; Miss M. Ross, M.B., Ch.B., to Dr. Sym; Miss L. K. Towers, M.B., Ch.B., to Dr. Sym.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6d., which sum must be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

CROUDACE.—At Himeville, Underberg, Natal, South Africa, on August 31st, the wife of W. H. Hugh Croudace, M.B., B.Sc., of a son.

VIVIAN.—On September 11th, at Flowest House, Floresfach, near Swansea, the wife of Chandler Campbell Vivian, of a daughter.

MARRIAGES.

HUNT—CRUIKSHANK.—On September 2nd, at Christ Church, Lancaster Gate, by the Rev. Canon Cruikshank, the Rev. R. W. Carew Hunt, M.A., Vicar of St. Giles's, Reading, to Mary Helen Cruikshank, M.D., younger daughter of Augustus W. Cruikshank, of Langley Park, Montrose.

SHARP—SUTCLIFFE.—On September 15th, at Bolton Abbey Church, by the Rev. T. F. Macnabb, Alexander Dunstan Sharp, F.R.C.S.E., of Park Square, Leeds, to Amelia Sutcliffe, M.B., Ch.M.Edin., daughter of the late Henry Sutcliffe, Esq., J.P., Beamsley, Ilkley.

TURNER—MACDOUGALL.—On September 15th, at King's College Chapel, Aberdeen, by the Very Rev. Sir James Cameron Lees, K.C.V.O., assisted by the Rev. P. W. Minto, Cannes, William Aldren Turner, M.D., F.R.C.P., 18, Harley Street, London, eldest son of Sir William Turner, K.C.B., Principal of Edinburgh University, to Helen Mary Mackenzie, third daughter of Dr. J. A. Macdougall, F.R.C.S.E., Ledgerwood, Aldens.

WHEAT—PARKER-BILLINGHAM.—On August 30th, at Germiston, Transvaal, S.A., Ernest Godfrey Wheat, M.A., B.C.Cantab., M.R.C.S., L.R.C.P., to Alice Magdalene Parker-Billingham, of East London, Cape Colony, S.A. papers, please copy.

DEATH.

RISS.—On September 20th, at Eastbourne, Hubert Riss, M.A., M.D., D.P.H.Cantab., 37. Funeral on Friday, at 2.15, at St. Anne's, Upperton Gardens, Eastbourne. Friends kindly accept this, the only, intimation.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
SEPTEMBER.	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	NORTHAMPTONSHIRE DIVISION, *South Midland Branch*, Out patient Room, Northampton General Hospital, 2.30 p.m.; Luncheon, Franklin's Restaurant, 1.30 p.m.
29 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, meeting of Committee, Dr. G. H. Smith's, Knutsford, 4.30 p.m. BUCKINGHAMSHIRE DIVISION, *South Midland Branch*. Red Lion Hotel, High Wycombe, 2.30 p.m.; Lunch, 1 p.m.
30 THURSDAY ..	ISLE OF THANET DIVISION, *South-Eastern Branch*, Carlton Hotel, Broadstairs, 4 p.m.
OCTOBER.	
1 FRIDAY ..	LONDON: Special Poor Law Reform Committee, 2.30 p.m. INVERNESS: Scottish Committee.
2 SATURDAY ..	LONDON: Science Committee.
3 Sunday ..	
4 MONDAY ..	LONDON: Naval and Military Committee, 2.30 p.m.
5 TUESDAY ..	LONDON: Organization Committee, 10.45 a.m.
6 WEDNESDAY	LONDON: Medico-Political Committee, 2.15 p.m. SOUTH-EASTERN OF IRELAND BRANCH, also Branch Council and Local Division, Victoria Hotel, Kilkenny, 5.15 p.m.
7 THURSDAY ..	LONDON: Hospitals Committee, 2.30 p.m. ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford, 4.30 p.m. EAST ANGLIAN BRANCH, Autumn Meeting, Great Yarmouth.
8 FRIDAY ..	LONDON: Central Ethical Committee, 2 p.m.
9 SATURDAY ..	
10 Sunday ..	
11 MONDAY ..	LONDON: Colonial Committee.
12 TUESDAY ..	LONDON: Public Health Committee, 3.15 p.m.
13 WEDNESDAY	
14 THURSDAY ..	
15 FRIDAY ..	
16 SATURDAY ..	CEYLON BRANCH, Ordinary Meeting, Colonial Medical Library, 2.30 p.m.
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	London: Journal and Finance Committee, 2.30 p.m. DORSET AND WEST HANTS BRANCH, Sherborne, Dorset.
21 THURSDAY ..	
22 FRIDAY ..	
23 SATURDAY ..	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	Central Council, 2 p.m., Council Room, 429, Strand, W.C.

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 2ND, 1909.

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Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BOMBAY BRANCH.

MEDICAL REGISTRATION.

A GENERAL meeting of the local medical profession was held under the auspices of the Bombay Branch of the British Medical Association, in the University Library, on August 19th, Lieutenant-Colonel H. P. DIMMOCK, I.M.S., the Vice-President, in the chair; 105 members of the profession were present.

The CHAIRMAN read letters from the Surgeon-General and Dr. Cawasjee Naoroji, an old and esteemed local practitioner, who regretted their inability to attend, the former as he was on tour and the latter on account of ill-health.

Lieutenant-Colonel H. P. DIMMOCK, I.M.S., then read the address which is published at p. 247. Its conclusion was greeted with applause.

Dr. TEMULJI B. NARIMAN, of the Faculty of Medicine of the Bombay University, who was on rising received with cheers in recognition of the fact that he had recently received the First Class Kasr-i-Hind Gold Medal for his varied services, more particularly in connexion with the Medical Congress, said that now that the question of registration was taken up by the Principal of the College and supported by the Surgeon-General, both of whom were on the Executive Council of the Bombay Branch of the British Medical Association, half their troubles were over and the question was in a fair way of settlement.

Dr. A. G. VIEGAS, while thanking Colonel Dimmock for the great interest he evinced in the welfare of the profession, said that if the object was to restrict unlicensed medical practice attention must be given to the paucity of medical schools in India and the very large population.

Dr. A. D. MODI, Secretary of the Grant College Medical Society, moved:

That in the opinion of this meeting the time has come when a Medical Registration Act should be instituted for medical practitioners in India and Burma.

His speech in support of the motion was applauded by the meeting.

Dr. M. R. SETHNA thought the proposal should be restricted to important towns only.

The motion was seconded by Dr. N. N. KATRAK, who said that the movement had for its object to separate and dissociate qualified practitioners from unqualified, and to raise the status of the qualified medical men, thus showing to the public the real difference between the two and leaving it to choose.

Sir BHALCHANDRA KRISHNA, Kt., went over the history of the registration movement in Bombay during the past twenty-five years, and proposed an amendment to refer the question to a committee to report on the whole subject of registration.

Dr. VIEGAS seconded the amendment, which was put to the meeting after some discussion, and lost by an overwhelming majority, only seven persons voting for it.

Dr. Modi's original motion was then carried *nemine contradicente*.

Dr. T. B. NARIMAN proposed, and Dr. SORAB NARIMAN seconded, and it was resolved:

That the following committee be appointed to give effect to the previous resolution, affirming the advisability of getting the Medical Registration Act for medical practitioners in India and Burma, and to report as to details of the scheme, etc., within two months: Surgeon-General Stevenson, I.M.S., Lieutenant-Colonel Dimmock, I.M.S., Dr. Shantaram Vithul, Dr. Sorab Nariman, Dr. T. B. Nariman, Sir Bhalchandra Krishna, Kt., Drs. A. H. Deane, N. F. Surveyor, Lieutenant-Colonel C. H. Meyer, I.M.S., Dr. A. D. Modi, Major A. Street, I.M.S., Dr. K. M. Dubash, Dr. K. E. Dadachanji, Dr. B. S. Shroff, Dr. Viegas, Lieutenant-Colonel Childe, I.M.S., Drs. J. Turner, R. Row, N. Choksey, Major Evans, I.M.S., Drs. S. H. Modi, Dadysett, Rajabali Patel, Miss Benson, R. Dadina, Sorab Engineer, N. N. Katrak, De Monte, M. R. Sethna, C. Fernandes, Assistant-Surgeon MacQueen, I.S.M.D., Mr. Maruti B. Oorunkar, and Dr. D. R. Bardi, the Honorary Secretary of the Bombay Branch.

After a very hearty vote of thanks to the Chairman, Lieutenant-Colonel H. P. Dimmock, I.M.S., the meeting was dissolved.

The Honorary Secretary, Dr. Bardi, received many congratulations on his success in bringing together so

large a meeting of medical men of divers schools of thought, but all imbued with one common object—the improvement of the status of the profession.

CAPE OF GOOD HOPE—EASTERN PROVINCE BRANCH:

Grahamstown Division.

A REGULAR meeting of this Division was held at 8 p.m. on August 20th, 1909, in the library of the British Medical Association.

Dr. G. E. FitzGerald was in the chair, and there were present Drs. Cowper, Drury, Lillie and Purvis.

Apologies for Non-attendance.—Apologies were presented from Drs. Mullins and Smith.

Malta Fever.—A letter from Dr. A. Garrow, of Stevlerville, on the subject of Malta fever, was read. It was resolved that Dr. Garrow's offer of a paper be accepted.

Durban Congress.—The SECRETARY reported briefly on the Durban Congress.

Papers.—Dr. LILLE read Dr. Walker's paper on small-pox and diseases resembling small-pox; Dr. FitzGerald read Dr. Grant's paper entitled "Amaas," and detailed the circumstances which led to its being written. In the resulting discussions all the members present joined. It was resolved that Dr. Darley-Hartley be asked to publish each of these papers, and that the thanks of the Branch be accorded to the writers of them.

Vaccination.—Resolved: "That in the opinion of this meeting the vaccination of the white population of this town is very insufficiently enforced."

CAPE OF GOOD HOPE—WESTERN PROVINCE BRANCH.

AN ordinary meeting of this Branch was held at Cape-town on July 30th; Dr. JASPER ANDERSON, President, occupied the chair, and fifteen members were present.

The Office of Vice-President.—By Dr. Eyre's resignation, the office of Vice-President was vacant. It was decided not to fill the vacancy till the Annual Meeting.

Resignation.—The resignation from the Branch of Dr. Luckhoff was received.

Amendment of Branch By-law.—The amendment of the Branch by-law relating to advertising was discussed; it was decided to instruct the Council to bring up an amendment making it more elastic.

Papers.—Dr. MACPHERSON (Stellenbosch) read a paper entitled A Few Remarks on Poisonous Mushrooms. He gave details of 17 cases of poisoning by the *Amanita phalloides*. Cases 1 to 5 were a family of Armenians, 2 died; 6 to 15 were Indians, 6 died; 16 and 17 were Indians, 1 died. Drs. ELLIOTT, KITCHING, MABERLEY, CURRIE, EVANS, and SHARP spoke. A hearty vote of thanks was passed to Dr. Macpherson. Dr. SIMPSON WELLS read a paper on a severe case of eclampsia.

NORTH OF ENGLAND BRANCH:

North Northumberland Division.

Annual Social Meeting.

THE annual social meeting was held at Alnwick on Thursday, September 9th. The occasion afforded an excellent opportunity of extending the facilities of social intercourse among members, so with this object in view invitations were issued by the Secretary to members of the adjoining Division of Morpeth, asking them, with their wives or friends, to be present as guests of the North Northumberland Division for the day.

A very successful and satisfactory meeting was the result, members and friends to the number of 38 assembled at Alnwick, and after being entertained to lunch by the local members, met at the Barbican of the famous castle of Alnwick, and, under the guidance of Mr. Pickford, examined the principal architectural features of this historic mansion. The extensive gardens and conservatories were then visited under the direction of Mr. Thompson, the head gardener, after which the party were driven in brakes through the beautiful Alnwick Park, a distance of some miles, to Hulne Abbey, where tea was provided.

Dr. Waterson photographed the gathering and the return journey to Alnwick terminated the day's enjoyment—a day which will be associated in the minds of members and their friends with pleasant memories.

Several of the guests took the opportunity of paying a visit to the new infirmary which has recently been opened in the town, and expressed their satisfaction with the up-to-date arrangement of its wards and operating theatre.

OXFORD AND READING BRANCH:

Reading Division.

A MEETING of the Reading Division was held in the Library of the Royal Berkshire Hospital on Thursday, September 23rd. There were twelve members present, including the Honorary Secretary.

Dr. May and the Wokingham Guardians.—It was moved by R. H. KING and seconded by GUY B. COURTNEY:

That this Division sympathizes with Dr. May, and considers that the action of the Wokingham Board of Guardians in reducing his salary within a few weeks of his appointment from £70 to £40 per annum is an extremely arbitrary one.

Practitioners and Nursing Associations.—It was moved by Dr. DICKSON and seconded by R. H. KING:

That, it having come to the knowledge of this Division that the relations between general practitioners of medicine and local nursing associations are strained and unsatisfactory, a general inquiry by an Executive Committee of the British Medical Association should be made into the system of working and general organization of nursing associations.

Chobham Nursing Association.—It was proposed by W. B. HOPE and seconded by E. W. ROWLAND:

That this Division, having debated upon the letters from Dr. Caldecott, condemns the conduct of the Chobham Nursing Association for allowing their nurse to attend medical and surgical cases whilst the patients were not under the care of a properly qualified man, and also for allowing her to attend midwifery cases without any wage limit to guide the selection of many of the cases.

Resignation of Representative.—Mr. J. H. WALTERS intimated his desire no longer to act as Representative of the Division. No member present was willing to act as such.

Branches and Capitation Fees.—The By-laws of the Association as affecting the control of the spending powers of the Branches with regard to their accumulated capitation fees, and also the action of the Central Executive in arbitrarily reducing the Branch capitation fee from 4s. to 2s., were discussed. It was agreed that if no other remedy was forthcoming, that of resignation of the membership of the Association was the simple course to take.

SOUTH WALES AND MONMOUTHSHIRE BRANCH

Monmouthshire Division.

A MEETING of this Division was held at the Asylum, Abergavenny, on Friday, September 24th. The Chairman, Dr. O. E. B. Marsh presided. The following were also present: Drs. J. Mulligan, J. Glendinning, N. R. Phillips, I. Crawford, J. L. Thomas, Owen W. Morgan, G. Arthur Brown, T. Morrell Thomas, Elmes Y. Steele, J. O'Sullivan, W. D. Steel, T. E. Lloyd, J. S. Townley, and W. Basset and R. J. Coulter, Honorary Secretaries. Drs. G. S. Hart and J. Lornie attended as visitors.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Report re Disputes.—The HONORARY SECRETARY reported developments in the Ebbw Vale dispute which indicate that there is hope that there will be progress towards a settlement in the near future.

Paper.—Dr. CRAWFORD read a paper on 1,000 cases of instrumental labour occurring in a practice extending over twenty years with only four deaths. The paper was discussed by Drs. E. Y. STEELE, MULLIGAN, COULTER, T. MORRELL THOMAS, LLOYD, O'SULLIVAN, TOWNLEY, J. L. THOMAS and the CHAIRMAN; Dr. CRAWFORD replied.

Tea.—Dr. Glendinning entertained the members to tea, and a hearty vote of thanks was passed to him for his hospitality.

An Address

ON

REGISTRATION FOR MEDICAL PRACTITIONERS IN INDIA AND BURMA.

Delivered before a General Meeting of the Medical Profession in Bombay,

BY

Lieut.-Col. H. P. DIMMOCK, I.M.S., M.D., M.R.C.S.,

PRINCIPAL, GRANT MEDICAL COLLEGE, BOMBAY.

THE subject of this address has for years been a matter of thought and consideration by many members of our profession who have its welfare and exaltation at heart, and who desire to see it placed on a similar and satisfactory basis to that of the profession in the United Kingdom. In the *Proceedings of the Medical and Physical Society* for July, 1883, there is an article by Assistant Surgeon Sakharam Arjun, giving a description of the various practitioners in medicine of all kinds which is well worth reading; it was written with a view to enlighten the members of the society, so that they might be able to form some opinion on the Pharmacy and Medical Registration Acts, which even at that time had been under consideration. An Act was drafted by Government and submitted to the Medical Faculty in 1889-90, but it was rejected by the Faculty, for what reasons is not stated.

Then perhaps some of you may remember the immense difficulty during the plague epidemic with regard to death certificates, and how the Plague Committee under General Gatacre called a meeting of the medical men of Bombay and instituted a system of registration at the Municipal Office of persons qualified to give such certificates. Dr. Turner could explain the importance of having a register of medical men empowered to give such certificates, to notify infectious diseases, and to perform other duties relating to hygienic and State medicine.

The numbers of qualified medical men in this country have increased, and are increasing. Our Indian Medical Schools are sending out well educated and qualified men every year; some of our young men are studying for and passing their examination in the United Kingdom. A certain number of European practitioners also come out to India to seek a livelihood. This increase in our ranks is going on from year to year, and there is no organized supervision over such a great and important body of men; any one can practise our noble art, legitimately or illegitimately, and there is no authority to bring an offender to book; there is no proper register of medical men to guide the public or the State, or to guide ourselves in the many important relations we have with each other.

For reasons that are well known, a great obstacle to a proper dealing with the subject, either by Government or any other authority, has been the difficulty of interfering with the superstitions and prejudices of the general masses of the population, who obtain the cheapest possible treatment of their ailments from untutored Hakims and Vaidyas. There is now, however, a strong feeling amongst many genuine medical men that the time has come for a beginning to be made in some direction, and they are strongly in favour of some legislation which would create a regular and orderly definition of their status and that of the profession at large. These words are addressed to you, not from the standpoint of the Indian Medical Service, but as one of yourselves. Looking to the chaos that exists in India from the great want of medical registration, we must, at the outset, be temperate and careful in our demand. We cannot hope to suppress unqualified medical practice all at once, but we may be able to put forward proposals which will, at any rate in the course of time, influence the people themselves to recognize the need for a restriction of such practice and lend grounds for the hope that these superstitious and ignorant usages will die a natural death. The great strides that have been made in this direction already encourages the belief that a system of registration would be more successful than at first sight might seem possible. The iniquitous way in which bogus degrees were hawked about in this country not so long ago is a grave reflection upon us as a self-respecting body of men, and there is a very strong feeling that such dangers to the public should be prevented and such injury to the prestige of our profession repressed. Until there is legal medical registration no action can be taken, and these things can be done with impunity. The recent action of the Secretary of State for India with regard to the advancement of the independent medical profession in India makes registration imperative. First and foremost, any movement that has this aim must take its rise from the body politic of the general medical practitioners of the whole country, and if they can present their requirements in a sufficiently clear and forcible way to the Government we may count on its aid and support. Our recommendations would have to follow in the main the Medical Acts 21 and 22 Vict., cap. 90, and 49 and 50 Vict., cap. 48. Section III of the former states: "A council which shall be styled the General Council of Medical Education and Registration of the United Kingdom, hereinafter referred to as the General Council, shall be established, and branch councils for England, Scotland and Ireland respectively, formed thereout as hereinafter mentioned." The whole precedure is effected by Government legislation, and all representations are made made through His Majesty's Privy Council.

We must remember that medical registration was, in the first instance, self-protective, and such a movement must be spontaneous, real, honest and resolute, and must come from the whole body of the medical profession in India and Burma; the rules and regulations must in the beginning be applied to themselves, be devised by themselves, and be in certain accordance with the general laws of the United Kingdom and her Colonies. Our next door neighbours, Ceylon and the Malaya States, have Medical Acts in working order which are giving satisfaction, and in all the big colonies the medical profession have united in moving for legislation to protect themselves, and also to render valuable service to the State by establishing, on a sound basis, the important relation that our profession bears to State service and the public and private requirements. All of you know how the medical profession as a whole is organized in the United Kingdom by the General Medical Council, which practically exercises a complete control of the profession in its varied aspects, from the registration of students and medical practitioners to determining the worthiness of recognition of all medical educational bodies. The preamble to the Medical Act of 1858 states that it is an Act "to regulate the qualification of practitioners in medicine and surgery"; further, that it is expedient "that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners," and we must make this the basis of a really great movement to improve our position and confer a benefit on the people of the country at large by the establishment of registration.

An attempt to apply these principles to India and Burma at once brings us face to face with the vastness of the Empire, the distance apart of the great cities, and consequently the impossibility of the general body of medical men in different parts of the realm being able to meet in conclave. These and other great difficulties must be met and overcome. From inquiries that have been made in Calcutta, Madras, the Punjab, and Burma, the profession there will be willing to consider a feasible proposition, and the Surgeon-General with the Government of Bombay has also asked for opinions upon the subject. He writes also in the following terms:

> My ideas generally on the subject of legislation for medical men in India are as follows: I think the time has come for the introduction of registration, but that we must be content at present with making a beginning, and not try to do too much at first; that registration should be instituted all over India and

that each Government should maintain its own register, which should be recognized by all other Governments; that each Government should establish its own General Medical Council representation and be endowed with the same powers as the General Medical Council at home; that the register should include all university graduates of recognized Indian universities, all men who are on the *Register* at home, and all men who receive authority to practise medicine and surgery from a Government medical school or from any examining board appointed by Government. Government should undertake to recognize only certificates from men on the *Register*, and they only should be entitled to recover fees due to them by process of law. Government also might annually publish in the *Gazette* the names of the registered practitioners.

The basis of any scheme must be the formation of local medical councils for the different presidencies and provinces, and we must be unanimous in whatever propositions we make; Bombay, Bengal, Madras, the Punjab, the North-West, the Central Provinces, and Burma may be approached with a draft Act and procedure through the proper medical authorities and their opinions fully elicited, which can be done by submitting it to a provisional committee, which would consider the terms and ask the local Government to constitute a Medical Act in accordance with the same. It would be as well if the petition were signed by as many qualified practitioners as possible who recognize the justice and advantage of the intention. At the same time the representative committee could submit a request to the Government of India praying that the several councils be recognized and that a General Medical Council for the whole of India be constituted from their members, with such other additions as may seem necessary and advisable. The Indian Medical Council (which would take the place in this country of the General Medical Council of the United Kingdom) would thus be the central authority of the scheme.

Each Branch would have its delegates to the Indian Medical Council, who would confer on any important matters that would not be carried out by the Branch Councils separately or by correspondence. The first consideration of the local committees would have to be the formation of the Branch Councils. The invitation of the members of each medical society in this city to this meeting is an indication of one way in which this formation could be carried out. We should also have Government nominees, nominees of University Faculties and Graduates, of Municipalities, and of Civil Surgeons of the Mofussil. The constitution of the Indian Medical Council would follow on the formation of the Branch Councils, or the Government of India might be asked in the first instance to inaugurate an Indian Medical Council, and at the same time to request the various local governments to arrange for the Branch Councils. In whichever way the system is worked out, we must have a central authority such as an Indian Medical Council. An influential body of this kind would have a far-reaching scope. It would be able to organize and regulate the conditions of the whole medical profession of India and Burma, and to enter into any important and authoritative communications with the General Medical Council of the United Kingdom, which are urgently needed; and the local registers would all be grouped in one publication by the Central Council. Colonel Crawford, of the Madras Medical College, writes:

> The register should have Government authority if it is to be successful, and that authority would best be represented by a Medical Council partly nominated and partly elected. Such a council could also deal with matters relating to recognition of courses and study, standard of preliminary education, and facilities to Indian students proceeding to the United Kingdom for further study and examination. There are many points at issue between the General Medical Council (United Kingdom) and Indian schools, and there is little to guide that body in deciding on application from Indian students. The result has been that very diverse decisions have been apparently given at different times. Again, with great improvement going on in medical education out here, changes must occur in the home regulations which concern students who study in India. The Colonial Register, too, seems to me to be out of date in its regulations, and it does not appear to subserve the purpose for which it was intended. The medical authorities, in fact, in England are to a great extent in the dark regarding medical matters in India, and there should be some central body vested with authority to look after the interests of Indian education as well as those of Indian students. The head of a college seems to be too much interested in matters concerning his own students for the General Medical Council o have full confidence in his impartiality.

These are weighty reasons for a Central Council, and will be fully accepted by all who have any experience in such matters. The Branch Councils would be principally concerned with registration matters in their own area, and this would require great care and prudence. Colonel Crawford says on this subject: "I presume the diplomates of Indian colleges and hospital assistants with recognized qualifications could find places in the register." Those are matters which would have to be settled in Council. The registration of medical students would of course be compulsory, and such registration should be, if possible, recognized by the General Medical Council. The same with medical practitioners. When once we have established a uniform system of registration throughout India and Burma the recognition of Indian diplomas or degrees by the General Medical Council (United Kingdom) on a reciprocal basis might be possible. This is a difficult subject, and cannot be dealt with here. Sufficient to say that the Colonial Committee of the British Medical Association has been in communication with different Colonial Governments on this subject, and the keynote of their deliberations and recommendations has been that only such qualifications as are registrable in Great Britain and Ireland should be registrable in the Colonies, and that in this respect there should also be reciprocity.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 27th, in the Council Room, at 429, Strand, London, W.C.

By Order,

September 16th, 1909. GUY ELLISTON.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held in the Assembly Room, George Hotel, Frome, on Thursday, October 7th, at 5.30 p.m. An address will be delivered by James Cantlie, Esq., M.B., F.R.C.S., Surgeon to the Seamen's Hospital, Greenwich, on The Influence of Vermin in the Spread of Disease. The lecture will be illustrated by limelight views. Messrs. Down Bros., Limited, and Oppenheimer, Son, and Co., Limited, have arranged to give an up-to-date exhibition of instruments and pharmaceutical preparations before and after the address. The Chairman and Mrs. Rattray will be glad to entertain members and their wives to tea after the address.—JAMES PEARSE, M.D., 28, St. George's Terrace, Trowbridge, Honorary Secretary.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Sherborne, Dorset, on Wednesday, October 20th. Members wishing to read papers, show cases, or exhibit specimens should communicate with JAMES DAVISON, Honorary Secretary, Streateplace, Bournemouth, not later than Thursday, October 7th.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Great Yarmouth on Thursday, October 7th. Members wishing to show cases or specimens or to read papers should communicate at once with Mr. H. A. Ballance, M.S., Norwich. —B. H. NICHOLSON, General Secretary.

EDINBURGH BRANCH.—A meeting of the Branch Council will be held at 14, Randolph Crescent, on Friday, October 8th, at 4.15 p.m.—FRANCIS D. BOYD and MICHAEL DEWAR, Joint Honorary Secretaries.

Fife Branch.—A meeting (in conjunction with the Fifeshire Medical Association) will be held at Dunfermline on Friday, October 8th, when the members will visit the Carnegie Baths and School of Hygiene and the Glen, Carnegie Park, and Abbey. Thereafter Dr. Lovell Gulland, Edinburgh (who will be present as a guest) will deliver an address on the diagnosis and treatment of chlorosis and secondary anæmias, and at 6 p.m. the Associations will dine together in the Royal Hotel—all as already notified in detail to each member.—R. Balfour Graham, Honorary Secretary.

Lancashire and Cheshire Branch.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the titles of the subjects they propose to deal with as soon as possible to F. Charles Larkin, Branch Secretary, 54, Rodney Street, Liverpool.

Lancashire and Cheshire Branch: Altrincham Division.—A general meeting of the Division will be held at Knutsford on Thursday, October 7th. Tea kindly provided at Dr. G. H. Smith's, Cranford House, Knutsford, at 4.30 p.m. Division meeting, Knutsford Workhouse Hospital, at 5 p.m. Dinner, 7 p.m., at the Angel Hotel.—H. G. Cooper, Honorary Secretary.

Metropolitan Counties Branch: Richmond Division.—The annual dinner of this Division will be held at the Trocadero Restaurant, W., on Wednesday, October 27th, 1909, at 8 p.m.—G. Cardno Still, Honorary Secretary.

North of England Branch: North Northumberland Division.—A meeting will be held on Wednesday, October 13th, at 2.30 p.m., in the Blue Bell Hotel, Belford. Business: (1) Confirmation of minutes. (2) Correspondence with Nursing Association *re* nurse midwives. (3) Dr. Macaskie will read a paper and open a discussion upon the question of the collection of overdue accounts. (4) Any other business.—C. Clark Burman, Secretary.

South-Eastern of Ireland Branch.—The last meeting of this Branch, as also a meeting of the Branch Council and the local Division, will be held at the Victoria Hotel, Kilkenny, on Wednesday, October 6th, at 5.15 p.m. Agenda: (1) Minutes of the last meeting. (2) Letters of apology. (3) Dr. Laffan's motion *re* competitive system and Poor Law appointments. (4) Any other business.—J. Quirke, Piltown, Honorary Secretary.

Hospitals and Asylums.

STIRLING DISTRICT ASYLUM.

The annual report for the twelve months ending May 14th, 1908, of the Board and of the Medical Superintendent of this asylum, which serves the counties of Stirling, Dumbarton, Linlithgow, and Clackmannan, has recently been issued. The medical report, prepared by Dr. G. M. Robertson (now Physician-Superintendent of the Royal Edinburgh Asylum), shows that on May 14th, 1907, there were 691 patients on the asylum register, and that on May 14th, 1908, there remained 675, or an actual decrease of 16. The average number daily resident was 697.3, and the total cases under care during the year, 924. During the year 235 were admitted, as compared with 251 for the previous year, or the average of 252 for the decade. Of the total admissions, 178 were first and 56 were first legal admissions. In 101 the attacks were first attacks within three, and in 25 more within twelve, months of admission; in 57 not-first attacks within twelve months of admission, and in the remainder the illness was either of more than twelve months' duration (16), or of congenital origin (8), or of unknown duration (26) on admission. The admissions were classified according to the forms of mental disorder into: Mania of all kinds, 39; melancholia of all kinds, 48; dementia, 39; delusional insanity, 27; general paralysis, 20; delirious insanity, 35; hallucinatory delirious insanity, 7; stupor, 7; and congenital mental deficiency, 8. With regard to the probable etiological factors in these cases, alcohol was assigned in 46, or just under 20 per cent., other toxic agents in 8, general paralysis in 20, critical periods in 58, previous attacks in 68, epilepsy in 9, organic brain disease in 7, congenital defect in 8, and in 25 no cause could be assigned. In only 1 case was any so-called "moral" cause assigned, in this case worry being given as the exciting cause. An insane heredity was ascertained in 44, or 18.8 per cent. During the year 95 were discharged as recovered, giving a recovery-rate on the admissions of 41.0 per cent., 78 as relieved, and 1 as not improved. During the year 75 died, giving a death-rate on the average numbers resident of 8.1 per cent. The deaths were due in 37 to cerebro-spinal diseases, including 21 deaths from general paralysis; in 22 to chest diseases, with only 5 deaths from pulmonary consumption; in 7 to abdominal diseases, and in 9 to general diseases, including 6 deaths from senile decay. The large number of deaths from general paralysis, and the comparatively small proportion, 6.6 per cent. of the total deaths from pulmonary consumption are referred to by Dr. Robertson, who shows that the number of deaths from general paralysis was four times greater than the average of sixteen years ago, whereas the deaths from consumption formed just one quarter of the number recorded before the opening of the sanatorium, four years before. In an interesting general retrospect, Dr. Robertson refers to the great value of the practice of boarding-out of quiet chronic cases; to the hospitalization of the insane and to the employment of female hospital nurses as matron and assistant matron on both female and male sides of the asylum. Dr. Campbell, of the Inverness Asylum, succeeded Dr. Robertson as medical superintendent last August.

DORSET COUNTY ASYLUM.

The annual report for 1908 of Dr. P. W. MacDonald, the Medical Superintendent of this asylum, shows that on January 1st there were 821 patients on the asylum registers, and on December 31st there were 847, giving an increase of 26 for the year, of whom 21 were Dorset county patients. The total cases under care during the year numbered 985, and the average numbers daily resident 841. During the year 164 were admitted, of whom 115 were received from unions in the county, or more than 13 per cent. of the admissions were over 70 years of age. On the other hand, over 70 per cent. were under treatment in the asylum within three months of the onset of the disorder, and over 40 per cent. within one month of the appearance of the mental symptoms. Thus of the direct admissions, of which there were 139, the attacks were first attacks within three months of admission in 81, and within twelve months of admission in 16 more; not-first attacks within three months of admission in 15: in 3 it was unknown whether the attacks were first attacks or not; and in 26 the attacks were of more than twelve months' duration on admission, including 10 congenital cases. The direct admissions were classified according to the forms of mental disorder into: Recent and recurrent mania 45, recent and recurrent melancholia 28, senile and secondary dementia 21, delusional insanity 8, confusional insanity 15, general paralysis 7, insanity with epilepsy 3, and cases of congenital or infantile defect 8. Also during the year 58 died, giving a death-rate on the average numbers resident of 6.89 per cent. The deaths, which were all from natural causes, were due in 1 case to cerebral congestion and in 7 to general paralysis, in 11 to diseases of the heart and blood vessels, in 5 to diseases of respiratory organs, in 6 to abdominal diseases, and in the remainder to general diseases, including 8, or 13.7 per cent. of the total deaths, from tuberculous disease, and 11 from senile decay. A new general health wave passed through the year, and no case of mechanical restraint or seclusion was recorded.

The asylum was visited early in the year by the Lunacy Commissioners, who left an exceedingly favourable report on its condition and management.

BELFAST DISTRICT LUNATIC ASYLUM.

In his report for 1908 Dr. William Graham, the Medical Superintendent of the Belfast District Lunatic Asylum, draws attention, as on previous occasions, to many of the problems of the insane which asylum authorities and the public generally are more and more in recent years called to face. In the examination of an asylum constituency three classes are found which should not be there: (1) The alcoholic, who should be sent to an inebriate home conducted on the best scientific lines; (2) the epileptic, who ought to be placed in colonies; and (3) the criminal insane. These latter interfere with the idea of a "hospital for the mind," and deepen the stigma attached to asylum life. He urges the adoption of an open-air agricultural occupation for those whose mental poise is unsteady, and of psychopathic wards in general hospitals where incipient cases might be treated. The laws of heredity are so complicated, that little can be hoped for the present in a practical sense from their study, but broad general rules can be laid down, such as the strict avoidance of alcohol in the neurotic, the necessity of sleep, and the shunning of hypnotics. Dr. Graham is never tired of teaching these general principles in his reports. He knows that by constant repetition he will eventually "suggest" to the public the high wisdom of his texts, and so will prove a force for good in remedying one of the great evils of the age. The admissions numbered 266, about the average for the last five years; 120 were discharged, of whom 82 had recovered, and 98 deaths occurred; there were no deaths from accident or suicide; the daily average number on the books was 545 males and 624 females. Many tenders for further work in the new villa system at Purdysburn have been accepted; the total amounts to nearly £69,000. The report of Dr. Courtenay, Government Inspector, is given in an appendix.

ROXBURGH, BERWICK, AND SELKIRK DISTRICT ASYLUM.

The annual report for the year ending May 15th, 1909, of Dr. J. Carlyle Johnstone, Medical Superintendent, shows that on May 15th, 1908, there were 333 patients on the register, and that on May 15th, 1909, there were 324. The total cases under care during the year numbered 405, and the average number daily resident 332.6. During the year 72 were admitted, of whom 55 were first and 17 not-first admissions. Of the total admissions, in 18 the attacks were first attacks within three, and

in 15 more within twelve, months of admission; in 11 not-first attacks within twelve months of admission, and in the remainder the attacks were of more than twelve months' duration on admission. They were classified according to the forms of mental disorder into: Mania of all kinds, 31; melancholia of all kinds, 25; senile and secondary dementia, 5; delusional insanity, 4; general paralysis, 1; insanity with gross brain lesion, 6; insanity with epilepsy, 1; and congenital defect, 1. As to probable causation, alcohol was assigned in 19, or 26.3 per cent., venereal disease in 2, cerebral periods in 21, and moral causes in 20. Hereditary influences were ascertained in 32, or 44.4 per cent., and congenital defect in 2 more. During the year 31 were discharged as recovered, giving a recovery-rate on the admissions of 43.0 per cent., 10 as relieved and 2 as not improved. During the year 38 died, giving a death-rate on the average numbers resident of 11.4 per cent. The deaths were due in 13 to cerebro-spinal diseases, including 7 deaths from general paralysis; in 17 to chest diseases, including 6 deaths from pulmonary tuberculosis; in 1 to tuberculous peritonitis; and in 7 to general diseases. The general health was good throughout the year, and no untoward incident occurred.

WONFORD HOUSE HOSPITAL FOR THE INSANE, EXETER.

AFTER twenty-five years of tenure of his office of Medical Superintendent of this registered hospital for the insane, Dr. F. Maury Deas resigned at the close of this year, being succeeded by Dr. W. B. Morton, till then resident medical officer at Brislington House, Bristol. The committee in its report expresses its great regret at Dr. Deas's resignation, and its sincere appreciation of the debt which the institution owes to him.

The medical report for 1908 shows that on January 1st there were 132 patients on the register, and on December 31st, 127. The total cases under treatment during the year numbered 155, and the average number daily resident 130. During the year 23 were admitted, 4 of whom were first and 4 not-first admissions. In 12 the attacks were first attacks within three, and in 1 more within twelve, months of admission; in 5 not-first attacks within twelve months, and in the remainder of more than twelve months' duration on admission. They were classified according to the form of disorder into: Mania of all kinds, 10; acute mania 2, recent, chronic, and recurrent melancholia 10, delusional insanity 2, confusional insanity 6, and senile dementia, general paralysis, and epileptic insanity 1 each. With regard to probable causation, alcohol was assigned in 3, syphilis in 1, cerebral periods in 7, bodily trauma in 2, and other bodily affections in 4. Mental stress was assigned in 10, and an insane heredity ascertained in 4. During the year 3 were discharged as recovered, giving a recovery-rate on the admissions of 13 per cent., 9 as relieved, and 10 as not improved. Also during the year 6 died, giving a death-rate on the average numbers resident of 4.15 per cent., the deaths being due to general paralysis, pneumonia, heart disease, senile gangrene, senile decay, and suicide. In this last case the patient, who had never shown any suicidal tendency in the asylum, committed suicide whilst on leave. The general health was good throughout the year, and the management of the house was favourably commented upon by the Commissioners at their visits. The institution does much good work by accepting patients of education and refinement at reduced payments, 55 being so assisted during the year 1908, the actual value of the assistance given amounting to over £2,000.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Fleet Surgeon E. A. PENFOLD, M.B., and Surgeon A. V. J. RICHARDSON, M.B., to the *Hindustan*, on recommissioning, October 5th; Staff Surgeon H. J. CHATER to the *Vernon*, additional, for the *Furious*, September 23rd.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned tour-expired officers serving in India in the Meerut Division have been allotted to the transports named: Lieutenant-Colonel F. J. Jessop, M.B., in medical charge of the *Plassey*, leaving Bombay November 5th; Major R. W. K. Beaks, also leaving by the *Plassey*; Major B. J. Taylor, to the *Dunedin* for Karachee, December 23rd; Lieutenant-Colonel W. T. Swan, M.B., in medical charge of the *Dover*, from Karachee, February 2nd; Lieutenant-Colonel F. W. G. Gordon-Hall, M.B., in medical charge of the *Rohilla*, from Karachee, February 11th; Major J. Greer and Captain M. C. Weatherill, M.D., also by the *Rohilla*; Major St. J. S. Hillary by the *Dongola*, leaving Bombay, March 2nd.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL F. P. PERRY, C.I.E., Bengal, is permitted to retire from the service, from June 14th. He was appointed Surgeon, March 31st, 1892, and became Lieutenant-Colonel, March 31st, 1899.

Lieutenant-Colonel S. Little, M.D., Bengal, also retires from the service, June 22nd. His commissions were simultaneous with those of Lieutenant-Colonel Perry. Lieutenant-Colonel Little was in the Afghan war in 1879-80, receiving a medal, and with the Mahsood Waizeree expedition in 1881.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THOMAS MCEWEN to be Lieutenant, Supplementary List (on probation), August 15th.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-MAJOR E. VAUDREY, M.D., 5th Battalion Sherwood Foresters (Nottinghamshire and Derbyshire Regiment), resigns his commission, August 24th; he retains his rank and uniform.

ROYAL ARMY MEDICAL CORPS.

Attached to Units other than Medical Units.—Lieutenant W. DYSON, M.B., to be Captain, July 10th. Lieutenant H. M. SYLVESTER resigns his commission, August 20th.

Attached List for the Territorial Force.—The announcement of the appointment to a Second Lieutenancy for service with the University of London Contingent, Senior Division, Officers' Training Corps, of ALFRED E. JOHNSON, M.B., which appeared in the *London Gazette* of July 16th, is cancelled. He is appointed Lieutenant for service with the Medical Unit of the University of London Contingent, Senior Division, Officers' Training Corps, July 1st.

GORDON C. MCKAY MATHESON, M.B., to be Lieutenant for service with the Medical Unit of the University of London Contingent, Senior Division, Officers' Training Corps, July 1st.

Second London Sanitary Company.—Captain P. C. SMITH, M.D., to be Major, September 8th.

Attached to Units other than Medical Units.—Lieutenant A. C. FARQUHARSON, M.D., to be Captain, August 17th. Lieutenant H. L. GREGORY, M.B., to be Captain, August 24th.

For Attachment to Units other than Medical Units.—G. B. GILL, M.B., to be Lieutenant, August 25th. Surgeon-Captain J. A. KENDALL, M.D., from the 9th Battalion The Durham Light Infantry, to be Captain.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-LIEUTENANT-COLONEL (HONORARY SURGEON-COLONEL E. J. LLOYD, M.D., 1st Carnarvonshire, resigns his commission, retaining his rank and uniform, March 31st, 1908.

CADET CORPS.

SECOND LIEUTENANT W. G. LEVERNE, Chapel Works (Montrose), resigns his commission, March 26th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,004 births and 4,394 deaths were registered during the week ending Saturday last, September 25th. The annual rate of mortality in these towns, which had been 12.9, 12.8, and 13.0 per 1,000 in the three preceding weeks, declined again last week to 12.6 per 1,000. The rates in the several towns ranged from 4.0 in Leyton, 4.5 in King's Norton, 4.9 in Hornsey, 5.9 in West Hartlepool, 7.2 in Tottenham, 7.4 in Handsworth (Staffs), and 8.0 in Walthamstow and in Aston Manor, to 16.2 in Burnley, 16.5 in Liverpool, 16.4 in Wolverhampton, 16.6 in Manchester and in Rhondda, 16.6 in Warrington, 16.7 in Hull, 17.4 in Rochdale, 17.5 in Oldham, and 17.8 in Middlesbrough. In London the rate of mortality was 12.2 per 1,000, while it averaged 12.7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.6 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was 1.7 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 3.2 in West Ham, 3.3 in Newport (Mon.), 3.4 in Hull, 3.5 in Middlesbrough and in Rhondda, 3.8 in Hanley, 4.0 in Brighton, and 6.0 in Stockton-on-Tees. Measles caused a death-rate of 1.3 in Coventry and in Newport (Mon.), and 2.3 in Hanley; diphtheria of 1.3 in Devonport and 1.4 in Warrington; whooping-cough of 1.2 in Derby and 2.0 in Great Yarmouth; and diarrhœa of 2.4 in West Ham and in Rotherham, 2.5 in Newport (Mon.), 2.9 in Hull, 2.9 in Stockton-on-Tees, 3.0 in Middlesbrough, 3.1 in Rhondda, and 3.2 in Brighton. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,536, 2,536, and 2,535 at the end of the three preceding weeks, had further risen to 2,686 at the end of last week; 438 new cases were admitted during the week, against 349, 411, and 421 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, September 25th, 810 births and 494 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 15.8, 12.3, and 12.1 per 1,000 in the three preceding weeks, rose again to 13.8 per 1,000 last week, and was 1.2 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 10.1 in Greenock and 10.9 in Edinburgh to 17.7 in Leith and 19.8 in Perth. The death-rate from the principal infectious diseases averaged 1.5 in these towns, the highest rates being recorded in Dundee and in Leith. The 241 deaths registered in Glasgow included 2 which were referred to measles, 2 to scarlet fever, 7 to diphtheria, 3 to whooping-cough, 5 to enteric fever, and 11 to diarrhœa. Four fatal cases of scarlet fever and 2 of whooping-cough were recorded in Edinburgh; and 4 of diarrhœa in Dundee and 3 in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 25th, 575 births and 371 deaths were registered in the 22 principal urban districts of Ireland, as against 564 births and 351 deaths in the preceding period. The annual death-rate in these districts, which had been 16.8, 17.8, and 15.1 per 1,000 in the three preceding weeks, rose to 16.9 per 1,000 in the week under notice, this figure being 4.3 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The rigures in Dublin and Belfast were 19.5 and 16.3 respectively, those in other districts ranging from 5.1 in Clonmel and 5.7 in Newtownards to 28.0 in Wexford and 29.5 in Kilkenny, while Cork stood at 19.9, Londonderry at 14.5, Limerick at 13.7, and Waterford at 7.8. The zymotic death-rate in the 22 districts was 2.9 per 1,000, as against 2.4 per 1,000 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £80 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Honorary Physician.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House-Surgeons. Salary at the rate of £75 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer for Northern Branch. Salary, £160 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—(1) House-Surgeon; (2) Third House-Surgeon. Salary, £120 and £50 per annum respectively.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—House-Physician. Salary, £70 per annum.

CHESTER CITY.—Assistant Medical Officer of Health. Salary, £250 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary, £80 per annum each.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Surgeon; (2) Assistant Surgeon: (3) Second Medical Officer (male) to Casualty Department. Salary at the rate of £40 per annum for (3).

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, E.C.—Resident Medical Officer. Salary commencing at £100 per annum.

GOVAN DISTRICT ASYLUM, Hawkhead.—Second Assistant Medical Officer. Salary not to exceed £150 per annum.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer Salary, £110 per annum.

HAMPSTEAD GENERAL HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary at the rate of £70 per annum each.

HERTFORD COUNTY HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Surgeon; salary, £50 for six months, and £2 10s. washing allowance. (2) Honorary Anæsthetist.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTHOE DISPENSARY.—Senior House-Surgeon (male). Salary, £100 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House-Surgeon. Salary, £65 per annum.

KING EDWARD VII SANATORIUM, Midhurst.—Junior Assistant Medical Officer. Salary, £150 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—Two House-Surgeons. Salary at the rate of £50 per annum.

LINCOLN MENTAL HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

LONDON HOSPITAL, Whitechapel, E.—(1) Surgeon: (2) Assistant Surgeon; (3) Medical Officer in Charge of Radiographic Department; (4) two Assistant Anæsthetists.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—(1) Assistant Physician; (2) Senior Resident Medical Officer; (3) Junior Resident Medical Officer. Honorarium, £100 and £50 per annum for (2) and (3) respectively.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons. Salary, £160 per annum each.

PAISLEY PARISH COUNCIL.—Resident House-Surgeon (female) for the Parochial Hospital, etc. Salary, £110 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £60 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £80 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—(1) Resident Medical Officer; salary at the rate of £120 per annum. (2) Assistant Physician.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland Street, W.—Resident House-Surgeon. Salary, £100 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at the rate of £40 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £50 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary, £80 per annum.

WANDSWORTH UNION INFIRMARY, St. John's Hill.—Male Junior Assistant Medical Officer. Salary at the rate of £120 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Keighley, co. York.

APPOINTMENTS.

BEVIR, G., M.R.C.S., L.R.C.P., District Medical Officer of the Clutton Union.

CARSON, J. T., M.B., Ch.B.Edin., Junior House-Surgeon in the Bolton Infirmary.

COLLYN-SMITH, R. C. M., M.B., B.C.Cantab., Medical Officer of Health for the Cromer Urban District.

DALGLEISH, C. A. S., M.D.Durh., B.S., Honorary Surgeon to the Sunderland and County Durham Eye Infirmary, Sunderland, vice Dr. Hopwood.

EYATT, Evelyn John, M.B., B.S.Durh., Chair of Anatomy, the Manitoba Medical College, Winnipeg, Canada.

FORREST, T. H., M.B., Resident Assistant Medical Officer, Birmingham Parish Infirmary.

GOUGH, William, B.Sc., M.B., B.S.Lond., F.R.C.S.Eng., Honorary Assistant Surgeon to the Hospital for Women and Children at Leeds.

LESLIE, J. G., M.B., C.M., District Medical Officer of the Newent Union.

MACINTYRE, John, M.B.Glas., Inspector for the Medical Examination and Supervision of School Children in the County of Lanark.

PARRY, T. Wilfred, M.B., Ch.B.Liverp., Assistant Medical Superintendent to St. Giles's Infirmary, Camberwell.

PICKUP, R. W., L.R.C.P. and S., etc., Honorary Surgeon to the Leigh Infirmary, Leigh, Lancs.

PRYTHERCH, J. R., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Llangefni District, co. Anglesey.

SHARPE, F. J., M.B., B.S., D.P.H., Senior Assistant Medical Officer of Health and Schools Medical Officer to County Borough of Derby.

SISSONS, A. T., M.B., Ch.B.Vict., District Medical Officer of the Kingston-upon-Hull Incorporation.

WYNNE, F. E., M.B., B.Ch.Durh., Medical Officer of Health to the Leigh Town Council.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

COLE.—On September 28th, at 25, Upper Berkeley Street, Portman Square, W., the wife of Robert Henry Cole, M.D., of a son.

MARRIAGE.

MAY—WILLIAMS.—On September 21st, at the Parish Church, South Bersted, by the Rev. H. Hesketh Prichard, William Norman May, M.D., of The White House, Sonning, Berks, younger son of Mr. and Mrs. Daniel May, Ashleigh, Reading, to Dorothy Louisa Williams, youngest daughter of Mr. and Mrs. Prescod Williams, Glenthorpe, Bognor.

DEATHS.

ALLEN.—On September 26th, at Scarborough, suddenly, John Edward Allen, M.D., F.R.C.S., B.Sc., of S. Nicholas House, York, aged 58.

PHILLIPS.—On September 25th, in London, George Richard Turner Phillips, F.R.C.S., M.S.A.

RHODES.—On September 25th, at his residence, Ivy Lodge, Didsbury, Alderman John Milson Rhodes, M.D., J.P.

DIARY FOR THE WEEK.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

THERAPEUTICAL AND PHARMACOLOGICAL SECTION, 20, Hanover Square, W., 4.30 p.m.—Discussion on the Teaching of Therapeutics in the Hospital Wards, to be opened by Sir Clifford Allbutt.

WEDNESDAY.

MEDICO-PSYCHOLOGICAL ASSOCIATION: SOUTH-EASTERN DIVISION, 12 noon, Brooke House, Upper Clapton, N.E.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, 11 a.m., to-day and 9 a.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 9 a.m., Thursday.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures, at 5.15 p.m. each day, will be given as follows: Monday, The Treatment of Senile Enlargement of the Prostate; Tuesday, Suppuration in the Accessory Cavities of the Nose; Wednesday, The Nose and Ear in School Medical Inspection; Thursday, A Series of Abdominal Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Thursday, 4 p.m., Opening Lecture by Mr. J. Bland-Sutton.

RECENT PUBLICATIONS.

Round About Morocco and the Canaries. By John Wright, M.R., C.M. Glasgow: The Grant Educational Company. 1909. (Cr. 8vo, pp. 59.)

A well-turned-out volume, containing a pleasantly-written account of a steamship tour to the coastal towns of Morocco and the Canaries. With the help of some excellent photographs, Dr. Wright, who has written one or two other volumes of the same general order, contrives to give a very clear idea of what can be seen on a brief visit to a land where the East touches the West and the past the present more closely perhaps, than in any other part of the world.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
2 SATURDAY ..	LONDON: Science Committee, 10 p.m. LONDON: Ophthalmia Neonatorum Committee, 12.30 p.m.
3 Sunday ..	
4 MONDAY ..	LONDON: Naval and Military Committee, 2.30 p.m.
5 TUESDAY ..	LONDON: Organization Committee, 10.45 a.m.
6 WEDNESDAY	LONDON: Medico-Political Committee, 2.15 p.m. SOUTH-EASTERN OF IRELAND BRANCH, also Branch Council and Local Division. Victoria Hotel, Kilkenny, 5.15 p.m.
7 THURSDAY ..	LONDON: Hospitals Committee, 2.30 p.m. ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford; Tea, Cranford House, 4.30 p.m.; Division Meeting, Knutsford Workhouse Hospital, 5 p.m.; Dinner, Angel Hotel, 8 p.m. EAST ANGLIAN BRANCH, Autumn Meeting, Great Yarmouth. TROWBRIDGE DIVISION, *Bath and Bristol Branch*, Assembly Room, George Hotel, Frome, 3 30 p.m.
8 FRIDAY ..	LONDON: Central Ethical Committee, 2 p.m. EDINBURGH BRANCH, Branch Council Meeting, 14, Randolph Crescent, 4.15 p.m. FIFE BRANCH, Meeting in conjunction with Fifeshire Medical Association, Dumfermline, 6 p.m.; Dinner, Royal Hotel.
9 SATURDAY ..	

Date.	Meetings to be Held.
OCTOBER *(Continued).*	
10 Sunday ..	
11 MONDAY ..	LONDON: Colonial Committee.
12 TUESDAY ..	LONDON: Public Health Committee, 3.15 p.m.
13 WEDNESDAY	NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Blue Bell Hotel, Belford, 2.30 p.m.
14 THURSDAY ..	
15 FRIDAY ..	
16 SATURDAY ..	CEYLON BRANCH, Ordinary Meeting, Colonial Medical Library, 2.30 p.m.
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	LONDON: Journal and Finance Committee, 2.30 p.m. LONDON: South-Eastern Branch Council, 3 p.m. DORSET AND WEST HANTS BRANCH, Sherborne, Dorset.
21 THURSDAY ..	
22 FRIDAY ..	
23 SATURDAY ..	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	**London: Central Council. 2 p.m.** RICHMOND DIVISION, *Metropolitan Counties Branch*. Annual Dinner, Trocadero Restaurant, 8 p.m.
28 THURSDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

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SUPPLEMENT

TO THE

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An Address

ON

RELIEVING OFFICERS AND THE REPORT OF THE ROYAL COMMISSION.

DELIVERED BEFORE THE METROPOLITAN RELIEVING OFFICERS' ASSOCIATION ON WEDNESDAY, SEPTEMBER 29TH, 1909.

BY MAJOR GREENWOOD, LL.B.Lond., M.D.Brux., L.R.C.P., M.R.C.S.,

HONORARY SECRETARY, POOR LAW MEDICAL OFFICERS' ASSOCIATION.

THE subject of my paper is one that must be of interest to all of you, and though some may be surprised and wonder why I, a member of another branch of the service, should come before you this evening to deal with your business, I think when you have heard me to the end you will acquit me of presumption and acknowledge that my purpose, at all events, is a worthy one, however unworthily I may succeed in carrying it out. My main object is to arouse all the members of a great public service to a sense of the critical position in which they stand, in consequence of attacks made against that service, and the far-reaching changes which may result from the reports of the late Royal Commission on the Poor Laws. I need not point out that many of these changes are of a revolutionary description. I will take it for granted that even in the cursory perusal which you have made of these reports you must have concluded that some of them could not be carried out in their entirety without bringing about the utter destruction of our present system.

It is hardly necessary for me to refer to the fact that we are all public officers, and that our offices were created for the public good, and not to provide us with salaries. But without losing sight of this truth, I hope I may be pardoned in saying that the present Poor Law Service in entitled to some consideration; I might even say to more than seems to be contemplated in either the Majority or Minority Report. Many of us have grown old in that service, and have given the best of our working years to it. We have seen great changes in our time, and had hoped that amelioration was surely, if slowly, taking place. Indeed, until the publication of the voluminous Blue Books that have appeared during the present year, we had no idea how bad that service would appear in the eyes of those appointed to investigate it. It is a strange but startling fact that, bad as that system has been reported, none of the existing officers—who, as a matter of fact, have been put upon their trial—have really been condemned. All the blame has been put upon the system, which, we are told, is one of the worst that can be imagined, and demands extinction at the hands of the Legislature as soon as Parliament can afford to give attention to it. This system, gentlemen, is the "great Poor Law settlement of 1834," so defined by no less a person than the well-known Liberal statesman, Sir William Harcourt, who refused to have a hand in unsettling it.

I do not wish to extenuate the faults of the present system. None of us can deny that it has many evils requiring to be redressed, which we would all gladly see amended. But looking at the complexity of the problem to be solved, I regret to say that I am not sanguine enough to imagine that any system that could be put up in its place would be without evils, possibly equal to and even greater than the present one. I do not scruple to say that this system, with all its faults, has for generations attended to the wants of the poor in this country. It is a working and practical system, and to say that it has utterly broken down is saying what is not true. Indeed, it is inconceivable to me how the needs of the destitute poor could possibly be met without some such machinery as our present system affords; and, speaking generally, the Majority Report recognizes the fact—for what is the transfer of all the duties of the present Poor Law authorities to the county councils to be administered by public assistance committees appointed by that body but the creation of boards of guardians under another name, who are elected by the county councils instead of by the ratepayers? These Public Assistance Committees, too, are to carry on their work by means of Poor Law officers, functionally the same as the present, but named differently.

This is a distinct departure from the practice of popular election, which may or may not be a good thing. In this scheme relieving officers appear under the name of Public Assistance officers, but in some respects their proposed duties differ from the present, and in my opinion for the worse. From a public point of view, no Poor Law officer is more important than the relieving officer. The destitute poor are largely in his hands. On him, in the first instance, largely depends whether or not urgent distress shall be promptly relieved. But this is not the only duty of prime importance to the community that is practically in his hands. He is the protector of the non-pauper portion of the nation; he is the officer whose duty it is to see that public money shall not be frittered away, and wasted on drunkards, loafers, and other wastrels of society; and in order that he may work efficiently for

this purpose it is necessary that the full control of all relief should be in his hands, as at present. I mention this in consequence of the mistaken recommendation—in my opinon—of the Majority that a radical distinction shall be drawn between medical and other Poor Law relief. According to a large amount of evidence on the part of those who should know best, it was proved before the Commissioners that in most cases the first step to pauperism was the application for medical relief, and it is the experience of all of us, how often the applicant for ordinary relief begins by applying for a medical order. If the relieving officer is to protect the public from false claims, it is clear that he should be in a position to have control over the first step in the downward path. To take this control away is largely to interfere with his other duties, and tends to destroy his efficiency in safeguarding the public from the grossest imposition. That a certain amount of suffering to the deserving poor must necessarily arise from such precautions is only stating a truism, but it would pass the wit of man to devise any system that would not entail some such suffering, unless every applicant for State assistance is to be taken at his own valuation, and given what he asks for. The latter is the principle favoured by the Minority, and although I am not prepared to admit that under their system the wants of the deserving poor would always be attended to, I am quite of opinion that their sufferings would sink into insignificance by the side of the harm done to the nation generally.

No doubt it is easy for an impostor to affect illness, and a relieving officer could not be expected to judge whether it is real or otherwise. But in any well-considered scheme of Poor Law medical relief there should always be a medical officer to appeal to, to prevent an applicant suffering from a mistake as to the nature of his case. But it is quite another thing to strike out medical relief from the control of the relieving officer and to leave it in the hands of men who have no criterion to guide them beyond the nature of the possible ailment the applicant may be suffering from.

An applicant may be seriously ill and yet in no sense a proper recipient of public relief; that is, unless we accept the axiom that every sick poor person is entitled to free medical relief.

With regard to the Minority Report, this being the principle behind their recommendations, we find, as might be expected, no place for the relieving officer. Possibly, among the hotch-potch of officials enumerated in the Report, they may intend to include some of the present staff of relieving officers; but, if so, it will not be in any sense as relieving officers. The reason is clear. Relieving officers are proper to a destitution authority, and the Minority propose to abolish destitution authorities. The Majority, on the other hand, although they seem loth to admit it, set up a destitution authority under another name.

In choosing between these two reports, I would specially draw your attention to this—that in the Majority scheme you are at least recognized, and there is a place for you in your own department. But in the other scheme, unless you change into sanitary inspectors, school officers, or some other kind of officer, there is no place for you, nor logically can be, according to the fundamental principles of the scheme.

At first, then, there seems to be little doubt as to which scheme you should support, if you have to choose between the two, and whichever scheme the Poor Law Service, as a whole, may ultimately favour, if either, I trust it will insist on this, that any authority that replaces it, however it may co-operate with other authorities, shall be essentially a destitution authority. In this respect the Majority is undoubtedly to be preferred.

From the time of Elizabeth to the present, the main object of our Poor Laws has been to afford a suitable provision for the destitute. No doubt since the sixteenth century the definition of "destitution" has been considerably amplified, and rightly so. It is even not unreasonable to expect that our present view of what is meant by "destitution" may have to undergo changes; but never until the issue of the Minority Report has it been suggested that "destitution" in some form or other should no longer be the test of the right to State assistance. I am well aware that the State has tacitly admitted the right of the non-destitute to State assistance in the case of notifiable infectious diseases, and the Minority Commissioners make no secret of their intention to treat patients with ordinary diseases in the same manner. But I protest against this attempt to confuse matters that should be clearly differentiated. The claim of a person with infectious disease for State treatment is one thing and the claim in ordinary sickness quite another. The infectious sick are an obvious menace to the public, and it is necessary for the latter to greatly curtail their liberty in treating themselves. For this reason and no other State assistance to the non-destitute may be justified in the case of infectious disease, and it is not true to say that the State is under the same obligation in the case of ordinary disease.

"Pauper" was the old word that accurately denoted the State poor—that is, those poor persons who, by reason of their destitution, had a legal claim to public assistance. But accuracy in the present day, despite the advice of the great lexicographer, is certainly little studied, for we have seen official injunctions from the upper Board, ordering this obnoxious word to be deleted and "poor person" put in its place.

This brings me to the crusade in both the reports against the "deterrent methods" of the present Poor Law. The reason why the term "pauper" has got such a bad character, is that it tends to deterrence. A destitute person will not apply—so we are told—if he is called a "pauper." But he has no objection to be called a "poor person." I have heard the term "stinking pride" applied to certain failings on the part of the well-to-do. This disinclination of the State poor to their proper appellation, if not the same thing, is certainly twin brother to it. It must never be forgotten that a "poor person," whether he accepts medical or other relief—not excepting even old-age pensions—is a pauper, whatever name you call him by. You may give him the suffrage, if you like, and there will be no difficulty in multiplying his class, if you remove all deterrents, and the end will be that he, and not you, will decide what relief the State ought to give. So much, then, for one form of "deterrence."

You, relieving officers, are another form of deterrence. Many of the respectable destitute would gladly apply to the doctor for medical relief, but they object to go to the relieving officer. Why? Because he wants to know, you know! It is his business to find out why they claim that assistance from the State which their neighbours have to pay for. It is quite true that this may be a deterrent to a good many besides the respectable destitute. Let us strip off some of the sentimental sham that wraps up and obscures much of the logic that is directed against the Poor Law methods of deterrence, and barely hides a charge against the relieving officers of the country, which, in my opinion, is in no wise borne out by the published evidence that has been given before the recent Royal Commission. If to insist that a poor person claiming State assistance should show to a proper officer the grounds of his claim be deterrent, then, I must maintain, notwithstanding all the adjectives applied to it, that the welfare of the State imperatively demands that this form of deterrence shall be enforced. If this be admitted—and all must admit it, except they who openly advocate indiscriminate relief to all poor applicants—why should it be less deterrent to the respectable poor to approach the doctor than the relieving officer? There is nothing in the Majority Report to suggest that the doctor is to attend indiscriminately all applicants for medical relief. Presumably, in his relieving officer capacity, he is to act like his brother relieving officer. The only definite reason expressed is the inaccessibility of the latter; but, gentlemen, would it not be easier, and wiser, to remedy this inaccessibility than to make all Poor

Law medical officers relieving officers as well as doctors?

I fear there is more vaguely expressed behind which you have a perfect right to resent—namely, that doctors, as a class, possess more humanity and regard the suffering poor with more sympathy than you. You know best whether this is so. I can only say that my class would be the last to arrogate to themselves such a claim.

Then a word or two as to the recommendation that the office of district medical officer should be made common to all practitioners. How would such a consummation affect you in carrying out your duties as public assistance officer? If the Poor Law doctor is also relieving officer *quoad* sickness claims, your duties would be so revolutionized that it would be next to impossible for you to express an opinion. But, pass that by for the moment, and imagine yourselves carrying on the same office you do now under another name. Would it interfere with your efficiency as public officers to have to consult a dozen doctors instead of one? Or, with regard to the lunacy laws, will the choice of the doctor you call in give you no difficulty? If for good reasons you call in the same doctor frequently to cases where the latter might be entitled to an extra fee, will it never happen that your motives will be misconstrued? Possibly in the coming revolution the lunacy laws will be repealed or amended, and you may get rid altogether of your irksome and arduous lunacy duties. But under anything like the present arrangement with the proposed multiplication of doctors, those duties will become more irksome and more arduous.

I would exhort you then to consider these reports for yourselves, and determine whether you can support the published resolution of the Poor Law Medical Officers' Association of England and Wales.

(*b*) That except in cases of emergency in sparsely inhabited rural districts, where access to the relieving officer is difficult, all persons requiring State aid, medical or other, must first make application to a special officer, with whom should always rest the responsibility of deciding as to the right of the applicant to State assistance.

In conclusion, there is one other matter that should not be lost sight of. The favourers of these schemes are never tired of repeating that no injustice would be done by carrying them out, that all existing Poor Law officers would be fully compensated. I would ask you to consider what these assurances are worth. After a long and laborious struggle, lasting many years, our service was able to procure the passing of the Poor Law Officers' Superannuation Act. This Act was undoubtedly a great boon to the service, and would continue to be so for any Poor Law Service organized on the lines of the present. Under the Minority scheme this Act would necessarily be repealed. It was special legislation for the Poor Law Service. The Poor Law Service under that scheme would have ceased to exist and its place would be filled by other authorities for whom this Act could not apply. But that is not the worst of it. Before being swept away, this same Act, which the Poor Law Service has regarded with so much pride, would be turned largely to the detriment of the present officers. For that Act would be made the measure of the compensation for the abolition of our offices, as it contains special sections framed for that purpose. When I say "framed for that purpose," I do not mean that at the passing of this Act any such revolutionary scheme as that contemplated by the Minority Commissioners was even dreamed of by the Legislature, but it was seen that in the local changes that were likely to arise throughout the coutry, it would be necessary from time to time to abolish certain Poor Law offices, and that, therefore, some machinery for compensation must be put into the Act. I have always thought that the compensation there ordered very inequitable in the case of officers whose tenure of office had been a limited one. But as in most cases under our present system it would be the older officers who would be mostly liable to forced retirement, the injustice would not be so appreciable. Think what gross injustice would arise, if the whole, or nearly the whole of a considerable class were compelled to accept compensation on these terms. Remember that the only compensation that can be claimed under the Superannuation Act by an officer under ten years' service, is the return of all the deductions made from his salary towards the Superannuation Fund, and after ten years' service, only ten-sixtieths, and so on, of his salary as a permanent pension. Unless the officer could show at least twenty years' service, his compensation for loss of office would be hardly worth considering. It seems to me that this is a point that requires to be considered most carefully, not only by you, but by all Poor Law officers, and that it is a stumbling block to the acceptance of the Minority recommendations, that has received little attention from any of the Commissioners.

It only remains for me to thank you, gentlemen, for the attention you have given me in putting before you certain considerations arising out of the report of the late Royal Commission on the Poor Laws, considerations which have seemed to me—a Poor Law officer of nearly thirty years' service—well deserving of the attention of all Poor Law officers. I put them before you this evening with the earnest hope that they may be of some assistance in guiding you in the path you should follow. One thing I must insist on: There must be union in our ranks if we are to do anything. The aphorism, "United we stand, divided we fall," was never truer than of our service at the present time. We must make up our minds as to what attitude we should take in this matter, and, while welcoming any and all reasonable reforms, stand firm, and resist to the utmost every attempt to mix up the care of the destitute poor of the country—our special charge—with any political propaganda, the first object of which is not the welfare of the destitute poor, but to use the machinery of the Poor Law as a means of revolutionizing the whole social system of the nation.

THE MEDICAL PROFESSION IN INDIA.

Memorial to the Secretary of State on the Formation of a Special Civil Medical Service.

At a meeting of members of the medical profession held under the auspices of the Bombay Medical Union on September 8th, 1909, under the presidency of Sir Bhalchandra Krishna, L.M., the following memorial to Lord Morley of Blackburn on the subject of the growth and promotion of an independent medical profession in India was unanimously adopted, and directed to be forwarded through the proper authorities:

To the Right Honourable
Viscount Morley of Blackburn,
Secretary of State for India,

The humble memorial of the Independent Medical Profession of the Bombay Presidency adopted at a public meeting held under the auspices of the Bombay Medical Union on the day of September, 1909.

Respectfully sheweth,—

1. That your Lordship's memorialists have read with feelings of the most lively gratification the correspondence relating to the measures to be taken for promoting the growth of an independent medical profession in India passed between your Lordship in Council and the Government of India, presented to Parliament on May 20th, 1909, and published in the local newspapers. Your Lordship's emphatic pronouncement that "the time has now arrived when no further increase of the civil side of the service can be allowed, and when a strong effort should be made to reduce it by gradually extending the employment of civil medical practitioners recruited in India," has especially evoked feelings of keen satisfaction and gratitude, going, as it does, to the very root of the

matter, and evincing an earnest determination to do justice to the claims of independent medical practitioners, and to remedy the acknowledged anomalies and abuses of the existing monopoly of the Indian Medical Service. Coming as your Lordship's present proposal does so closely on the heels of the beneficent scheme of political reforms which has been hailed with widespread and genuine enthusiasm throughout the country, it is rightly regarded as affording an additional proof of your Lordship's earnest desire to satisfy the reasonable demands and the legitimate aspirations of educated Indians in the various fields of activity for which they may be qualified. Your Lordship's memorialists venture to express the confident hope, now that your Lordship and the Government of India are in entire sympathy with the desire to promote the growth of an independent medical profession in India, that the reforms which have already been too long delayed to the detriment alike of the public interest and the cause of medical education, will be vigorously pursued and consummated in the generous and broad-minded spirit in which they have been conceived.

2. Your Lordship's memorialists are desirous of availing themselves of this opportunity to solicit the attention of your Lordship to the following *résumé* of facts connected with the monopoly of the I.M.S., which will show that the scheme of reform outlined in the despatch of your Lordship, in its main lines, is in entire consonance with the repeated demands of the profession and the public, that the most strenuous and, so far, successful opposition has been offered to the carrying out of any comprehensive scheme of reform, that the extent to which all the more important appointments have been, in a gradually increasing degree, absorbed by the Service has not only created grave dissatisfaction, but has also prejudicially affected the cause of Science and the public revenue, and that the most ceaseless vigilance and unbending firmness will be required in giving effect to the proposed reforms, which will come not a day too soon.

3. Whatever necessity or justification there might have been for confining the Medical College and Hospital and other appointments to the members of the I.M.S. in the earlier days of the introduction of Western medical education in India more than fifty years ago, that necessity and justification have long ceased to exist, an independent medical profession, having in its ranks members fully capable of holding these appointments with credit and distinction, having sprung up during the interval, but which, till now, has been jealously excluded from any appreciable participation in these coveted prizes of the close service. Both the medical profession and the Indian public are and will ever be grateful to the eminent and liberal-minded officers of the I.M.S., the promoters of Western medical education in India—men like Morehead and Pitt, Birdwood and Hunter, Cook and Carter—who did yeomen service to the cause of medical science, and rose above personal and class considerations. So far back as 1868 two of these distinguished members of the service, Sir George Birdwood and Sir William Guyer Hunter, strenuously resisted the proposal of Government to attach certain chairs in the Grant Medical College to appointments in the I.M.S., and what is still more noteworthy, the University of Bombay itself warmly supported the opposition, and submitted to Government, as your Lordship's memorialists have done more than once, that in the interests of learning and science, the Principal and Professors of Grant Medical College and the attached J. J. Hospital should be appointed solely on the grounds of scientific attainments and teaching powers, the choice not being limited to the Bombay Military Service, but the best candidates being accepted from whatever quarters they may offer themselves. An attempt made to treat the Grant Medical College—then and still the only teaching medical college in Western India—half as an educational and half as a military institution, provoked no less keen opposition, so much so that Government were obliged to issue a resolution emphasizing that it was an entire misapprehension to look upon it in any other light than as an educational institution, and that in that light, and that alone, it was the desire of Government that it should continue to be viewed.

4. Unfortunately, however, these liberal and statesmanlike principles were, in course of time, subordinated to a policy based on narrow considerations of the interests of a limited class, and with the rolling of time, the service monopoly became more and more firmly established, and all attempts of the outside medical profession, which was gradually receiving accession of professional strength, to break in upon the monopoly, to however small an extent, proved ineffectual. The system of appointing men to important college and hospital posts by the test of membership of the service and according to service exigencies, to the disregard of all other considerations, was carried so far that in the year 1889 Lord Reay, himself a distinguished educationist, was obliged to make a serious effort to arrest the growing mischief. Towards the end of that year was promulgated a scheme for development of instruction in Grant Medical College, based mainly on the report of the then Principal of the College, himself a distinguished ornament of the I.M.S. The Government Resolution enunciating the scheme recognized the necessity of securing a continuity of education, and an energetic and continuous devotion on the part of the teaching staff to the higher teaching and research in the subjects in which they had shown a special aptitude, and the principle that in making substantive or temporary appointments to the college staff the officer selected should be chosen with reference to his ability to teach one or more of the special subjects, and to continue to devote himself to them irrespective of his promotion in the college or his advancement in the medical service. The branches of instruction to be assigned to the whole college staff under the proposed scheme were:

Physiology and Histology.	Chemistry.
Medicine and Therapeutics.	Midwifery.
Theoretic Pathology and Morbid Anatomy.	Anatomy.
	Hygiene.
Materia Medica.	Botany.
Surgery and Clinical Surgery.	Medical Jurisprudence, and
Ophthalmic Medicine and Surgery.	Demonstrator of Anatomy.
Zoology and Comparative Anatomy.	

The scheme also sought to provide for the appointment of Honorary Physicians and Honorary Surgeons from the local medical profession, and Assistant holders of these Honorary appointments from among the fresh medical graduates.

5. These reforms, it will be seen, were conceived in a liberal spirit, and sought to give effect to sound principles, calculated alike to recognize and reward talent and merit wherever found, and to strengthen and improve the teaching of science. It was the first serious and earnest effort made by Government to dissociate themselves from the policy which had till then reserved appointments for members of the I.M.S., irrespective of fitness or aptitude, and as such it was hailed with satisfaction by the profession outside the service ranks and by the public. In some of the appointments which followed the promulgation of this scheme, effect was given to the principles underlying the policy which had dictated the Resolution, and its beneficent effects soon manifested themselves. Unfortunately, however, the spirit of reform proved but too short-lived; with the departure of Lord Reay the reform inaugurated by him was gradually allowed to sink into oblivion, and the policy on which the mischievous service monopoly was based and had thriven, once more gained sway, and again produced effects which were inevitable. The feeling of dissatisfaction and injustice to the growing body of independent practitioners was accentuated, and found expression in a memorial of the medical profession to Government embodying certain extremely important resolutions unanimously adopted at a public meeting held on November 12th, 1892. These resolutions were as follows:

1. That this meeting is of opinion that the system of making appointments in the Grant Medical College and the allied institutions, mainly with reference to departmental convenience and in the interests of a class, is mischievous in principle and practice, and that it is calculated to affect the interests of the public and important State departments no less than the status of the local medical profession and the advancement of higher medical education.
2. That this meeting is of opinion that for the advancement of medical science and scientific work and for raising the dignity and status of the local medical profession, and encouraging graduates of the local and other universities, appointments in the Grant Medical College and the J. J. Hospital should be thrown open to all who, by dint of special merit and fitness, should be qualified to hold the same, and not limited to any class or service irrespective of the necessary qualifications and fitness for the same, and that the time has come for modifying and improving the existing order of things, which is unsuited to the circumstances and requirements of the times.
3. That this meeting greatly regrets that the beneficent policy, recently enunciated by Government in their Resolution dated November 9th, 1889, and partially given effect to by Government, of appointing persons of special merit and fitness to places in the College and Hospital, and ensuring continuity and efficiency of teaching and practical work by retaining them in their special places, irrespective of rank and position in the service, should have been departed from, and thereby important reforms impeded and rendered nugatory.

6. Your Lordship's memorialists venture to say that the principles enunciated and the demands made in these resolutions are absolutely sound and unexceptional, and that if serious and earnest efforts had been made to give effect to them as circumstances admitted, they would have produced a most soothing and salutary effect, and obviated a great deal of just bitterness and sense of injustice and disappointment, at the same time that they would have materially improved the efficiency and high character of the instruction on which the Government of India rightly and properly lay great stress, and, moreover, considerably eased the public revenue. But this memorial remained unheeded, and the monopoly continued to flourish with added vigour. The question was then warmly taken up by the Indian National Congress, which, at its ninth sitting held at Lahore in 1893, passed the following Resolution, as voicing the feeling and demand of educated India:

> That this Congress is of opinion that the time has arrived when, in the interests of public medical education and the advancement of medical science and of scientific work in this country, as also in the cause of economic administration, the Civil Medical Service of India should be reconstructed on the basis of such services in other civilized countries, wholly detached from and independent of the Military Service, so as to give full effect to the educational policy of Government, which is to encourage education for its own sake in every branch, and to raise a scientific medical profession in India by throwing open fields for medical and scientific work to best talent available and indigenous talent in particular.

Successive sittings of the Congress have repeated and emphasized the grievances of the independent medical profession, the evils of the service monopoly, and the urgent need of reform in the directions indicated.

7. No substantial relief, however, having been afforded, or expected, in face of powerful and influential opposition to any project of real reform, the profession, in 1896, set on foot a movement for representing their just grievances in England, and a fund having been started for the purpose, the late Dr. K. N. Bahadhurjee, a most eminent member of the profession and a most successful and esteemed consultant who had taken the foremost part in the agitation for the proposed reforms, was deputed to England, where he gave important evidence before the Welby Commission, and succeeded in enlisting influential professional sympathy and support for his cause.

The agitation has since been kept up more or less vigorously, but has led to no substantial results. A few minor appointments in the junior teaching staff, carrying insignificant salaries, have indeed been created and given to non-service men, and only lately the claims of a distinguished Indian have been tardily recognized by his being appointed to the Chair of Bacteriology. But the large bulk of the more important and lucrative appointments, including those which might be thrown open to outsiders with due regard to administrative and military exigencies, still continues to be held by members of the I.M.S., and plurality of appointments held by the same fortunate individuals are by no means infrequent. The consequence, apart from the effect of such a system on the cause of medical education, is that while the highest appointments to which under existing conditions local graduates in Government service, however high their attainments or qualifications, might aspire are four minor Civil Surgeoncies allotted to places which afford little prospect of private practice, and carrying salaries of Rs. 250 only earned after fourteen years of service, rising to Rs. 500 after a service of twenty-one years, all the higher appointments in and out of the College and Hospital the holders of which draw salaries (including their service grade-pay) thrice or four times higher, and supplemented by large and lucrative practice, are still monopolized by the fortunate members of the I.M.S. Local medical graduates, generally first-class men, entering the service of Government as Assistant Surgeons on a salary of not more than Rs. 100 a month can not aspire to anything more than Rs. 250 after fourteen years of approved service—all except eight, four of whom get Rs. 350 a month, and the other four, under a recent arrangement, might be posted to the four minor Civil Surgeoncies already referred to; while tutors, who are fresh graduates passing their examinations with distinction in special and holding these places only for five years, have to be content with Rs. 100 and Rs. 75 a month, and the newly-created Registrarships or Fellowships, six in number, to which local graduates are appointed, are not worth more than Rs. 50 a month; the Demonstrator of Anatomy is an Assistant Surgeon who draws nothing more than his grade pay of Rs. 125, rising to Rs. 250 a month after fourteen years of service; the Lectureship in Dentistry is held by a non-service medical man, a European, drawing Rs. 200 per month; the professorships of Botany and Biology are held by a non-service man, a European, drawing Rs. 400 per month, and the present holder of the Lectureship in Ear, Throat, and Nose Diseases, endowed by His Highness the Gaekwar for five years, which will shortly expire, is held by a native of India drawing an honorarium of Rs. 1,000 per annum. These are the only appointments which members of the medical profession outside the Indian Medical Service have been able, after years of struggle, to secure under existing conditions, and it will be seen that they are neither numerous nor important and highly paid. What makes the situation peculiarly mortifying and intolerable is that, while the most distinguished outside medical graduates in Government service cannot hope to aspire to any higher post than one of the existing four Civil Surgeoncies carrying a maximum salary of Rs. 500 after twenty-one years of approved service, graduates in the Law Faculty, for instance, occupy the high and responsible and well-paid posts of District and Session Judges, and even Judges of the High Court on salaries of Rs. 4,000 a month, one of the most distinguished Indian Law graduates having only lately been officiating Chief Justice of the High Court of Bombay; and Indian graduates in Civil Engineering have likewise risen to the rank of Executive Engineers and even higher to the responsible post of Superintending Engineer of a Division with a salary of Rs. 1,500 a month. Similarly, in the Revenue Department, Indians, with or without University qualifications, have risen to the grade of First Class Deputy Collectors drawing Rs. 800 and upwards.

8. The disabilities and grievances of which your Lordship's memorialists complain would appear in a still more striking form when confronted with the large number of highly-paid appointments reserved for the I.M.S. Beginning with the senior teaching staff:—Of the thirteen Professorships in the Grant Medical College, no less than eleven are held by nine I.M.S. officers, the system of plurality of appointments accounting for this seeming anomaly

thus the Professor of Chemistry is also Chemical Analyser to Government, an office requiring the whole time and energy of a full-time worker, and he is, moreover, Professor of Medical Jurisprudence (and until very recently was also Professor of Physics), drawing two separate salaries for two appointments; the Professor of Physiology, supposed to be a special full-time officer, drawing a special salary, is also Professor of Hygiene, receiving a special additional salary for the latter post. (As another illustration of the same individual holding several appointments may be mentioned the Professor of Botany, an outsider and European, who is also Professor of Biology, and is, besides, the Police Surgeon, Coroner's Surgeon, Surgeon to the Port Trust and enjoys private practice.) Another anomalous and mischievous feature of the existing system—excluding as it rigidly does outsiders, however highly qualified—is the heterogeneous and incongruous combination of appointments held by the same individuals who cannot, in the nature of things, be expected to possess the necessary combination of qualifications for the posts, for example, the Professor of Midwifery and Diseases of Women and Children acted also as Professor of Botany, the Professor of Anatomy was deemed qualified to hold the Chair of Midwifery and Diseases of Women and Children; Pathology, Chemistry, and Medical Jurisprudence have found the same exponent, and one professor was deemed versatile enough to be capable of doing justice to such widely divergent subjects as Botany, Chemistry, Medical Jurisprudence, Materia Medica, Anatomy and Physiology, and Surgery at different times, and subjects like Zoology and Ophthalmic Medicine and Surgery have likewise formed a harmonious combination in the person of one and the same officer.

9. Nor does the service monopoly flourish deep and strong in the College and Hospital alone; the civil appointments throughout the Presidency tell the same tale. Of about twenty-seven Civil Surgeoncies, as many as twenty-four, and those the most important and best paid, with opportunities of lucrative private practice, are monopolized by the I.M.S.; the six high appointments in the Sanitary and five in the Jail Departments are likewise held by the Officers of the Service, as also the four Senior appointments in the Bombay Bacteriological Laboratory, and the Offices of the Chief and Deputy Assay Masters in the Bombay Mint are likewise held by service officers. There are two Presidency Surgeons. Both are I.M.S. officers, and all the Presidency Surgeons hold extra billets under the Factory Act. Both the Port Health officers of Aden and Bombay are I.M.S. men. The Chief Officer in charge of the Goculdas Tejpal Hospital, and the Senior Medical Officer and the Resident Surgeon of St. George's Hospital offer evidence of the same monopoly.

10. Your Lordship's memorialists respectfully submit that such a system as this which has so long prevailed can not but be regarded by all right-thinking men as indefensible and mischievous, and is no less opposed to policy than to reason and justice. Such a total and systematic exclusion of the sons of the soil, however qualified and deserving, from all high and important appointments in favour of the members of a particular service or class irrespective of the necessary qualifications, must be detrimental to the cause of medical education and the interests of science, must provoke feelings of discontent, and impose a needlessly grievous burden on the public revenue. *The Indian Medical Record* some time ago pointed out, in a series of carefully edited articles, the saving of several lacs of rupees per annum which might be effected by the abolition of the military service monopoly, and the creation of a purely civil medical service. Without desiring to place undue emphasis on the details of the proposals thus adumbrated, it may be interesting and useful to refer to the figures as furnishing at least materials for inquiry and examination. It was pointed out that of 639 military officers who formed the I.M.S. of the three Presidencies, 268 were in military employment, while 371 were in purely civil work, that the effective strength of the Service was only 532 officers, 107 being on leave, and that the cost of maintaining the effective working strength was 77 lacs of rupees. The 371 military officers in civil employment were disposed of as follows:

Surgeon-Major-General, India (Bombay and Madras)	...	1 cost	... Rs.	36,000
	...	2	,, ... ,,	60,000
Surgeon-Colonels	...	6	,, ... ,,	1,29,600
Brigade-Surgeon-Lieutenant-Colonels	...	32	,, ... ,,	4,80,000
Surgeon-Lieutenant-Colonels	...	61	,, ... ,,	7,32,000
Surgeon-Majors	...	137	,, ... ,,	13,15,200
Surgeon-Captains	...	119	,, ... ,,	6,42,600
Surgeon-Lieutenants	...	13	,, ... ,,	54,600
Totals	...	371		Rs. 34,50,000
Add, 35 % of total cost for staff allowance	...	...	... ... ,,	12,07,500
			Total Rupees	46,57,500

If a purely civil medical service were created from the uncovenanted medical service as follows:

3 Inspectors-General salary Rs. 1,500 a month	...cost...	Rs.	54,000
50 Civil Surgeons of over 15 years' service at Rs. 700 a month	... ... ,,	... ,,	4,20,000
150 Civil Surgeons of over 7 years' service at Rs. 500 a month	... ,,	... ,,	9,00,000
168 Civil Surgeons of under 7 years' service at Rs. 350 a month	... ,,	... ,,	7,05,600
Total ... 371 Staff and other allowances being *nil* the difference in cost equals	... ...	Total Rupees	20,79,600
			Rs. 25,77,900

the saving would be over 25 lacs of rupees.

11. Your Lordship's memorialists deem it necessary to refer to another anomaly of the existing system—namely, the dual control of the Surgeon-General and the Director of Public Instruction over the only two existing medical institutions in the Presidency—namely, the Grant Medical College and the J. J. Hospital. Principals after Principals have protested against this anomaly, but it still subsists, though nowhere else is the control of the educational authority, represented by the Director of Public Instruction, claimed to be shared by the Military Head of the Service.

12. Your Lordship's memorialists submit that this continued and practically total exclusion of medical men outside the ranks of the close service is more indefensible than ever, now that an independent and competent medical profession outside the service has sprung up, and has proved its capacity to hold the highest offices: and without any desire to make any invidious comparisons, it may be stated that the independent profession boasts of men whose professional and scientific attainments are at least equal to those of the large majority of the members of the Service. To mention only Indian cases: the Bombay Presidency can boast of an eminent practitioner holding the coveted degrees of M.D., D.Sc.Lond., the latter conferred by the world-renowned University of London for highly meritorious original research work in important domains of medical science — unique combination of distinctions not shared by any other medical man within or without the service ranks; two are F.R.C.S.Eng., over half a dozen F.R.C.S.Edin., five F.R.C.S.I., three M.R.C.P. Lond., one M.R.C.P.Edin., one M.B., B.S.Lond., one M.D. Cornell University, U.S.A.; five M.D.Bombay, and one M.D.Frieburg—a distinction conferred by a famous German University for original research work. Several Indian practitioners, again, control and administer, with a marked degree of success, important Maternity and other Hospitals; some Dispensaries in charge of Indian practitioners have special departments successfully managed by qualified experts trained in Europe, and only recently H. E. Sir George Sydenham Clarke found occasion to compliment the Indian gentlemen in charge of two of these Institutions on their efficient and successful

management. It is well known, moreover, that the administration of plague hospitals by local medical men has evoked enthusiastic eulogium, one of whom having earned the proud distinction of receiving special recognition from the University of Frieburg. It is again an undoubted fact that several important and progressive Native States manage most successfully their medical, jail, and sanitary departments exclusively by Indian agency, recruited from the local medical profession. Then, again, many Assistant Surgeons, local graduates, have held with credit and distinction the posts of Civil Surgeons. Local graduates have also furnished most efficient and successful teachers of scientific subjects—Biology, Physics, Chemistry, Botany, etc.—in different Indian Arts and Science Colleges up to the highest University Examinations, and their work has met with cordial recognition from European scientists. And yet the most distinguished of these practitioners, merely because they have not the hall-mark of membership of the I.M.S., cannot aspire to anything higher than four minor civil surgeoncies, carrying at the end of twenty-one years' service not more than Rs.500 per month, and quite minor and ill-paid educational appointments in the College and Hospital.

13. Your Lordship's memorialists venture to think that these anomalies and grievances have existed and flourished quite long enough, and that the time has arrived when the existing system should be thoroughly overhauled and placed on a just and satisfactory basis, and the claims of the independent medical profession should receive cordial and liberal recognition; and therefore it is that your Lordship's memorialists hail with great satisfaction your Lordship's emphatic determination to put a stop to the extensive and ever increasing encroachments of the I.M.S. on the civil side of the service, and to recognize the legitimate claims of the independent medical profession.

14. And, lastly, your Lordship's memorialists may be permitted respectfully to suggest the lines along which the proposed scheme of reform might be directed, so as to promote the growth of an independent medical profession in India, to do justice to the Indian claims, to advance the cause of education and science, and to relieve the public revenue of its present heavy burdens:

(*a*) That all appointments on the civil medical side be thrown open to proved merit and ability, wherever found, and that the sons of the soil should have an equal chance with their more fortunate brethren of the I.M.S. to compete for such appointments, their fitness being based on merit, qualifications, and other credentials alone, and not on any class membership or consideration of supposed service exigencies.

(*b*) That the I.M.S. may be turned into a purely Military Service like the R.A.M.C., and a special Civil Medical Service be instituted for civil purposes.

(*c*) That all control of the Grant Medical College and the teaching side of the J. J. Hospital should be vested in the Director of Public Instruction alone, and that the Surgeon-General should have no control over the Professors and the teaching staff of the College and Hospital.

(*d*) That effect should be given to the spirit and policy of Lord Reay's Resolution of 1889.

(*e*) That multiple Professorships be abolished.

(*f*) That the Professors in the College and the Physicians and Surgeons in the Hospital need not be the same individuals.

(*g*) That the status of the tutors be improved, and their remuneration fixed on a graded scale, with future prospects, and their designations changed to Lecturers.

(*h*) That the Civil Assistant Surgeons be more liberally treated, and should have a greater number of Civil Surgeoncies allotted to them.

Your Lordship's memorialists humbly pray that your Lordship will be graciously pleased to accord favourable consideration to this representation, which, though necessarily and mainly restricted to facts and circumstances obtaining in Bombay, is really typical of conditions existing in other parts of the country.

And your Lordship's memorialists, as in duty bound, will ever pray.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

EAST ANGLIAN BRANCH:

East Norfolk Division.

THE quarterly meeting of this Division was held on Wednesday, September 29th, at the General Hospital. There were present fifteen members of the Division.

Annual Representative Meeting.—Dr. A. C. MAYO, the joint Representative of the East Norfolk and North Suffolk Divisions, gave a very interesting report of the annual meeting at Belfast, and was accorded a hearty vote of thanks thereon.

Subcommitteee on Medical Inspection of Schools.—The subcommittee appointed to consider the subject of treatment of school children found defective after inspection, recommended that particulars of the defects from which children are found to be suffering, should be sent direct to the medical practitioner stated to be in attendance on the family. The subcommittee thought it advisable to await the result of this before making any further suggestions. The secretary was directed to write to the Education Committee and to ask them to make the necessary arrangements.

Great Yarmouth Friendly Societies' Medical Institute.—The meeting then discussed the subject of continuing the warning notice in the JOURNAL, *re* Great Yarmouth Friendly Societies' Medical Institute, that appointment presumably not being at present vacant. It was decided, on the motion of Dr. HENRY, seconded by Dr. DIX, that the warning notice be continued indefinitely. Carried unanimously. In the course of the discussion it was pointed out that there was no way of finding out beforehand when the appointment was likely to be vacant, and that the warning notice had been of use indirectly in other ways. The meeting concluded with a vote of thanks to the Chairman, Dr. A. H. Meadowes.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH:

Furness Division.

A CLINICAL meeting of this Division was held on September 29th in the Masonic Hall, Barrow-in-Furness, fifteen attending out of a membership of forty-two.

Specimens and Cases.—Dr. ALLAN showed the patient and specimen, and read notes on a case of complete extirpation of the stomach for malignant disease. Dr. BOWMAN showed an interesting case of a patient recovering from haematomyelia. Dr. J. A. REED showed a case of pseudo-hypertrophic paralysis.

Papers.—Dr. RUTHERFORD read a short paper on sympathetic ophthalmitis. Dr. HARPER gave a short account of current work in Edinburgh, and what impressed him most on a recent visit there. He gave a short account of the preparation of vaccines and mode of use. He then briefly described Killian's bronchoscope, and indicated its uses. Dr. LIVINGSTON read short notes on a case of multilocular ovarian cyst which he had removed from a patient aged 40. Specimen shown.

SOUTH MIDLAND BRANCH:

Northants Division.

A MEETING of the Division was held on September 28th in the board room of the Northants General Hospital after luncheon at Franklin's Restaurant. Dr. MAGUIRE, the Chairman of the Division, presided, and thirty-four members and guests were present.

Treatment of Appendicitis.—Dr. W. OSLER, Regius Professor of Medicine in the University of Oxford, then gave an address On the Medical *versus* the Surgical Treatment of Appendicitis. He stated that

50 to 70 per cent. of all cases got well without operation, and endorsed Aschoff's view that the disease was as common as tonsillitis. He divided the groups clinically into: (1) Simple, chronic, and often recurrent, no tumour; (2) moderate, no tumour, or only very slight tumour; (3) acute diffuse; tumour and often abscess formation. He considered that the first two groups were certainly suitable for medical treatment, though they might call for operation if there was recurrence if the patient was going to travel. He then discussed the medical treatment of appendicitis, and gave his opinion against the use of laxatives. As regards surgical treatment, he gave his opinion that all cases should be operated on in which the peritoneum is involved; certainly, therefore, all cases in Group 3, and expressed the opinion that the operation should take place on the second day. Dr. Osler's interesting lecture was discussed by Drs. MAGUIRE, INGRAM, HICHENS, ROBSON, and GREENFIELD. A hearty vote of thanks was accorded to Dr. Osler, on the motion of Dr. LINNELL, seconded by Mr. CROSSLEY.

Clinical Demonstration.—Dr. OSLER then went up to the wards and gave a clinical demonstration on a case of polyserositis under the care of Dr. Hichens.

Medical Library.—He afterwards proceeded to the Medical Library and discoursed on some of the valuable old books there. Much gratification was felt by the members of the Division for Dr. Osler's kindness in giving them a whole afternoon of his accumulated wisdom.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 27th, in the Council Room, at 429, Strand, London, W.C.

By Order,
September 16th, 1909. GUY ELLISTON.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Sherborne, Dorset, on Wednesday, October 20th.—JAMES DAVISON, Honorary Secretary, Streatleplace, Bournemouth.

LANCASHIRE AND CHESHIRE BRANCH.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. CHARLES LAKEIN, Branch Secretary, 54, Rodney Street, Liverpool.

METROPOLITAN COUNTIES BRANCH: NORWOOD DIVISION.—The next meeting of this Division will be held on Thursday, October 28th, at 4 p.m., at the Queen's Hotel, Upper Norwood, Dr. J. Curling Bates in the chair. The committee will meet at 3.45. As matters of importance connected with the organization of the Division will be discussed, the committee earnestly desire a full attendance.—J. A. HOWARD, Honorary Secretary, 40, Harold Road, Upper Norwood, S.E.

METROPOLITAN COUNTIES BRANCH: RICHMOND DIVISION.—The annual dinner of this Division will be held at the Trocadero Restaurant, W., on Wednesday, October 27th, 1909, at 8 p.m.—G. CARDNO STILL, Honorary Secretary.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—A meeting will be held on Wednesday, October 13th, at 2.30 p.m., in the Blue Bell Hotel, Belford. Business: (1) Confirmation of minutes. (2) Correspondence with Nursing Association re nurse midwives. (3) Dr. Macaskie will read a paper and open a discussion upon the question of the collection of overdue accounts. (4) Any other business.—C. CLARK BURMAN, Secretary.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—A meeting will be held at the Cock Hotel, Sutton, on Friday, October 22nd, at 4 p.m. Chairman, Mr. G. W. Cazalet. Agenda: (1) Minutes of previous meeting. (2) Report of Direct Representative (Dr. J. J. Macan) at annual meeting. (3) Paper: Dr. C. R. Verling-Brown: Enteritis in Infants. (4) Practical demonstration of the use of the Bronchoscope by Dr. Norman Patterson, F.R.C.S. Cases will be shown. (5) Other business. Dinner 6.15 p.m.; charge 5s., exclusive of wine. Members intending to stay are requested to intimate the same before October 20th.—E. HULSE WILLOCK, C. G. C. SCUDAMORE, Honorary Secretaries, 81, London Road, Croydon.

SOUTH-EASTERN BRANCH: GUILDFORD DIVISION.—The autumn meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, November 5th, at 4.30 p.m. Dr. A. Hope Walker, Chairman of the Division, will preside. Agenda: (1) Minutes of the annual meeting. (2) Paper: Mr. R. F. Rowlands, F.R.C.S., will give an address on "Some Mistakes in Diagnosis and their Teaching," to be followed by a discussion. (3) Any other business. Tea will be provided at 4.15. Dinner at 6.30 at the Lion Hotel. Charge 6s., exclusive of wine. The Honorary Secretaries will be glad to hear from any members willing to show cases or specimens.—H. B. BUTLER, Eastdale, Guildford, E. J. SMYTH, Maythorne, Guildford, Honorary Secretaries.

SOUTH-EASTERN BRANCH: MAIDSTONE DIVISION.—The next meeting of this Division will be held at the Kent County Ophthalmic Hospital on Friday, October 29th, at 3.30 p.m. Members wishing to move propositions will kindly communicate at once with the Honorary Secretary, GEORGE POTTS, Kent County Ophthalmic Hospital, Maidstone.

SOUTH MIDLAND BRANCH.—The autumnal meeting of the Branch will be held at Leighton Buzzard on Thursday, October 21st, at 2 p.m. The following papers are promised: Dr. Milligan (Northampton): "A Case of Resection of Intestine in Strangulated Hernia; Recovery." The specimen will be shown. Mr. H. Skelding (Bedford): "Some Cases of Ear Disease in Children." Mr. A. D. Odgers (Northampton): "Three Cases of Carcinoma of Naso-pharynx." Dr. Robson: "Some of the Pitfalls of Glycosuria."—E. HARRIES-JONES, Honorary Secretary.

YORKSHIRE BRANCH: BRADFORD DIVISION.—The opening meeting of the session will be held in the Great Northern Victoria Hotel, Bradford, on Tuesday, October 12th, at 8.45 p.m. Business: (1) Minutes. (2) Address by the Chairman (Dr. Metcalfe) on "Some of the Uses of *X*-rays in Diagnosis and Treatment." (3) Letter from the Secretary of the Sheffield Division. (4) Communication from the National Society to Promote the Break-up of the Poor Law. (5) Resolution in favour of the Lord Mayor of Bradford's efforts to promote the building of a new Royal Infirmary in Bradford; to be moved from the chair. (6) Other competent business. The Vicar of Bradford has kindly arranged to hold a service for medical men at the Bradford Parish Church on Sunday, October 17th, being the Eve of the Feast of St. Luke the Evangelist. This is a new and welcome departure in the medical history of Bradford, and it is sincerely hoped that there will be a very large gathering of the Faculty resident in Bradford and the surrounding district. —J. BEATTIE DUNLOP, J. WHERRY WILLSON, Honorary Secretaries.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON C. G. MATHEWS, M.B., is placed on the retired list at his own request, September 30th. His commissions are thus dated: Surgeon, February 21st, 1889; Staff Surgeon, February 21st, 1897; and Fleet Surgeon, February 21st, 1905. Whilst Surgeon of the *Sparrow* he was present at the bombardment and capture of the Sultan of Zanzibar's palace in 1896.

The following appointments have been made at the Admiralty: Fleet Surgeon J. CHAMBERS, M.B., to Cape Hospital, October 5th; Staff Surgeon A. R. THOMAS, to the *Mutine*, on recommissioning, October 15th; Staff Surgeon W. JACKSON, M.B., to the *Forward*, on recommissioning, October 15th; Surgeon F. G. H. R. BLACK, M.B., to the *Duke of Edinburgh*, October 7th; Surgeon C. F. BAINBRIDGE, M.B., to the *Patrol*, on recommissioning, October 19th; Surgeon C. H. DAWE, to the *Widgeon*, undated; Surgeon A. B. COX, M.B., to the *Britomart*, undated; Fleet Surgeon W. H. S. STALKARTT, M.D., to Plymouth Hospital, October 10th; Staff Surgeon R. R. HORLEY, to Haslar Hospital, October 7th; Surgeon W. N. HONEYMAN, to Bermuda Hospital and for Bermuda Yard, October 18th; Surgeon G. O. M. DICKENSON, M.B., to Haslar Hospital, October 19th.

M. T. DERRICK, M.B., civil practitioner, has been appointed Surgeon and Agent at Dysart, September 29th.

ARMY MEDICAL SERVICE.

LIEUTENANT-COLONEL E. BUTT, from the Royal Army Medical Corps, to be Colonel, vice J. G. Harwood, retired, September 15th. He was appointed Surgeon, February 5th, 1881; Surgeon-Major, February 5th, 1895; and Lieutenant-Colonel, February 5th, 1901.

INDIAN MEDICAL SERVICE.

The following promotions, which have been already announced in the BRITISH MEDICAL JOURNAL, have received the approval of the King:—To be Surgeon-General, dated January 11th, 1909—Lieutenant-Colonel

R. W. STEVENSON. Majors to be Lieutenant-Colonel, September 29th' 1908.—G. E. DRAKE-BROCKMAN, W. B. LANE, P. J. LUMSDEN, and S. E. JONES.—G. E. DRAKE-BROCKMAN, W. B. LANE, P. J. LUMSDEN, and S. E. PRALL, M.B. Captain to be Major, July 28th, 1909.—G. P. MURRAY. Lieutenant to be Captain, February 1st, 1909.—W. A. MEARNS, M.B.

The undermentioned gentlemen are appointed Lieutenants from January 30th, 1909:—HENRY C G SIMSON, M.B., M.R.C.P. ; ANDREW M. JUCKES, M.D. ; GWILYM G. JAMES, M.B. ; WILLIAM D. KEYWORTH, M.B. ; BERKELEY GALE, M.B ; JOHN H. HORNE, M.B. ; HAROLD H. KING, M.B. ; RICHARD E. FLOWERDEW, M.B. ; MOZAFFER D. A. KUREISHI ; JOHN G. B. SHAND ; ALFRED J. LEE, M.B.

Captain R. F. C. TALBOT, M.D., is transferred to the temporary half-pay lists, July 24th. He was appointed Lieutenant, September 1st, 1902, and made Captain, September 1st, 1904.

Lieutenant-Colonel T. H. SWEENY, Bengal, has retired from the service, from March 1st, 1909. He joined the department as Surgeon, September 30th, 1878, and became Lieutenant-Colonel, September 30th, 1898. He was in the Afghan war in 1879-80, and has a medal with clasp for the operations round Kabul in December, 1879.

Lieutenant-Colonel F. F. PERRY, C.I.E., Bengal, also retires from the service from June 14th, 1909. His commission as Surgeon bears date March 31st, 1879 : that of Lieutenant-Colonel, March 31st, 1899.

The retirement is also announced of Lieutenant-Colonel STEPHEN LITTLE, M.D., Bengal, dated June 22nd, 1909. His commissions were simultaneous with those of Lieutenant-Colonel Perry. Lieutenant-Colonel Little served with the Hissarik Expedition during the Afghan war in 1879-80, receiving a medal, with the Mahsood Wuzeeree Expedition in 1881.

Lieutenant Colonel R. J. BAKER, M.D., Bombay, has likewise retired from the service from June 14th, 1909. His first appointment is dated April 2nd, 1881; that of Lieutenant-Colonel, April 2nd, 1901. He was with the Zhob Valley Expedition in 1884.

The following Lieutenants are promoted to be Captains, from September 1st: J. TAYLOR, M.B., A. D. STEWART, M.B., C. H. CROSS, R. A. CHAMBERS, M.B., J. MORISON, M.B., S. G. S. HAUGHTON, M.B., F. W. CRAGG, M.B., J. S. LESLIE, M.B., H. B. SCOTT, G. MCG. MILLAR, M.B. Their first appointment is dated September 1st, 1906.

Lieutenant-Colonel R. J. BAKER, M.D., Bombay, is permitted to retire from the service from August 5th. He was appointed Assistant Surgeon, April 2nd, 1881, and became Lieutenant-Colonel April 2nd, 1901. He was with the Zhob Valley expedition in 1884.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

MORTON W. RUTHVEN to be Lieutenant (on probation) on the Supplementary List, August 12th.

TERRITORIAL FORCE.

YEOMANRY.

SURGEON-LIEUTENANT W. S. HENDERSON, M.D., King's Colonials, to be Surgeon-Captain, April 1st, 1908.

ROYAL ARMY MEDICAL CORPS.

First Welsh Field Ambulance.—Lieutenant THOMAS SMYTH resigns his commission, September 3rd.

Third Wessex Field Ambulance.—Captain H. J. GODWIN resigns his commission, August 25th.

First Western General Hospital.—LLEWELLYN A. MORGAN, M.D., to be Captain, whose services will be available on mobilization, September 22nd.

For Attachment to Units other than Medical Units.—JOHN O. HOLLICK, M.B., to be Lieutenant, August 12th.

Attached to Units other than Medical Units.—Lieutenant ALAN AYRE-SMITH, M.D., to be Captain, May 22nd. Captain E. P. I. COKE resigns his commission, September 15th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,626 births and 3,879 deaths were registered during the week ending Saturday last, October 2nd. The annual rate of mortality in these towns, which had been 12·8, 13·0, and 12·6 per 1,000 in the three preceding weeks, further declined last week to 12·3 per 1,000. The rates in the several towns ranged from 4·9 in Hornsey, 5·6 in Rotherham, 6·5 in Willesden, 6·9 in Walthamstow, and 7·0 in East Ham and in Kings Norton to 16·2 in Liverpool, 16·6 in Stockport, 16·7 in Wigan, 16·8 in Salford, 17·6 in Great Yarmouth, 18·7 in Hastings, 19·1 in Burnley, and 20·0 in Oldham. In London the rate of mortality was 11·6 per 1,000, while it averaged 12·5 in the seventy-five other large towns. The death-rate from the principal infectious diseases was 2·5 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 1·3 per 1,000, while among the seventy-five other large towns the rates ranged upwards from 2·5 in Southampton and in Middlesbrough, 3·1 in Smethwick (Staffs) and in Stockport, 3·2 in Swansea, 3·3 in Sunderland, 3·5 in Rhondda, and 5·3 in Hanley and in Bootle. Measles caused a death-rate of 1·1 in Swansea and in Hanley; whooping-cough of 1·0 in Stockport; diphtheria of 2·3 in Hanley; whooping-cough of 1·1 in Swansea and 1·2 in Wigan; and diarrhœa of 1·6 in Walsall and in Sheffield, 1·7 in Southampton and in Bolton, 2·2 in Handsworth (Staffs), 2·5 in Hull, 3·1 in Rhondda, and 4·5 in Bootle. The mortality from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,435, 2,553, and 2,686 at the end of the three preceding weeks, had further risen to 2,737 at the end of last week; 575 new cases were admitted during the week, against 411, 421, and 438 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, October 2nd, 814 births and 470 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12·3, 12·1, and 13·8 per 1,000 in the three preceding weeks, fell again to 13·1 per 1,000 last week, but was 0·8 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scottish towns ranged last week from 8·5 in Perth and 9·4 in Greenock to 17·6 in Paisley and 17·9 in Dundee. The death-rate from the principal infectious diseases averaged 1·3 per 1,000, the highest rates being recorded in Edinburgh and Leith. The 210 deaths registered in Glasgow included 2 which were referred to scarlet fever, 4 to diphtheria, 5 to cerebro-spinal meningitis, 2 to enteric fever, and 9 to diarrhœa. Two fatal cases of scarlet fever, 2 of diphtheria, 3 of whooping-cough, and 8 of diarrhœa were recorded in Edinburgh, and 3 of diarrhœa in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, October 2nd, 653 births and 354 deaths were registered in the twenty-two principal urban districts of Ireland, as against 575 births and 371 deaths in the corresponding period. The annual death-rate in these districts, which had been 17·8, 15·1, and 16·9 per 1,000 in the three preceding weeks, fell to 16·2 per 1,000 in the week under notice, this figure being 3·9 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 17·5 and 15·4 respectively, those in other districts ranging from 5·2 in Portadown and 9·6 in Sligo to 36·4 in Lisburn and 44·3 in Longford, while Cork stood at 21·2, Londonderry at 20·5, Limerick at 10·9, and Waterford at 19·5. The zymotic death-rate in the twenty-two districts averaged 1·9 per 1,000, or the same as in the preceding week.

Hospitals and Asylums.

CUMBERLAND AND WESTMORLAND LUNATIC ASYLUM.

THE annual report for the year 1908 of Dr. W. F. Farquharson, Medical Superintendent of the Cumberland and Westmorland Asylum, Garlands, near Carlisle, shows that on January 1st there were 800 patients on the register, and that on December 31st there were 832. The total cases under care during the year numbered 979, and the average numbers daily resident 819. During the year 179 were admitted, of whom 170 were direct admissions. Of the total admissions, 23 had been previously in this asylum, 21 had recovered at the time of their last discharge, the average length of time they had remained out of the asylum being six and a half years. Of the 170 direct admissions, in 70 the attacks were first attacks within three years, and in 21 more within twelve months of admission; in 31 not-first attacks within twelve months of admission; in 5 it was unknown whether the attacks were first attacks or not, and in the remainder, including 6 congenital cases, the illness was of more than twelve months' duration. They were classified according to the forms of mental disorder into: Mania of all kinds, 96; melancholia of all kinds, 43; senile and secondary dementia, 8; general paralysis, 1; epileptic insanity, 8; delusional insanity, 8; and congenital or infantile defect, 6. With regard to probable causation in the direct admissions, alcohol was assigned in 36, or 21·5 per cent., syphilis in 3, influenza in 9, and tuberculosis in 3, critical periods in 21, diseases of the nervous system in 15, other bodily affections in 11, childbearing in 7, and mental stress in 23. An heredity of insanity was elicited in 40, of epilepsy in 7, of neuroses in 2, and of eccentricity and alcoholism in 1 each. During the year 69 were discharged as recovered, giving a recovery-rate on the direct admissions of 40.6 per cent., or of recoveries in the direct admissions on the direct admissions of 40·0 per cent., and also 10 as relieved. There were 68 deaths during the year, giving a death-rate on the average numbers resident of 8.3 per cent. The deaths were due in 8 cases to cerebro-spinal diseases, with only 3 deaths from general paralysis; in 14 to chest diseases; in 6 to abdominal diseases; in 2 to accident (1 to suicidal cut-throat and 1 to asphyxia by drowning); and in the remainder to general diseases, including 16 deaths from lobar pneumonia, 5 from senile decay, and 11 from pulmonary tuberculosis. The proportion of tuberculous to total deaths (16.2 per cent.) is a considerable improvement on that of last year. The general health, except for a severe epidemic of influenza in the early part of the year, was satisfactory; and serious but non-fatal casualties were few and unimportant.

MONMOUTHSHIRE ASYLUM ABERGAVENNY.

THE annual report for the year 1908 of Dr. J. Glendinning, the Medical Superintendent of this asylum, shows that on January 1st, 1908, there were 929 patients on the asylum registers, and that on the last day of the year there were 937. The total cases that on the last day of the year there were 937. The total cases under care numbered 1,123, and the average number daily resident 932.11. During the year 194 were admitted, of whom 184 were direct and 10 indirect admissions. In no less than 78 the attacks were first attacks within three and in 30 more within twelve months of admission; in 31 not-first attacks within twelve months of admission; in 5 of more than twelve months' duration, but it was unknown whether first attack or not; in 22 the duration was unknown, and in the remainder the illness was either of more than twelve months' duration (13) or of congenital origin (10) on admission. The direct admissions were classified according to forms of mental disorder into:—Mania of all kinds, 96; melancholia of all kinds, 25; senile dementia, 13; general paralysis, 8; insanity with gross brain lesions, 8; insanity with epilepsy, 12; confusional insanity and delusional insanity, 5 each; acute delirium and stupor, 1 each; and congenital or infantile defect, 10. With regard to the presumed etiological factors in the direct admissions, alcohol was assigned in 31, or 16 8 per cent., syphilis in 10, tuberculosis in 3, various nervous diseases in 27, other bodily affections in 7,

critical periods in 18, child-bearing in 9, and mental stress in 17. An insane heredity was ascertained in 31, or 16.8 per cent., and an epileptic and an alcoholic heredity in 1 each. During the year 63 were discharged as relieved, giving a recovery-rate on the direct admissions of 34.2 per cent., or of recoveries in the direct admissions on the direct admissions of 34.2 per cent.; 18 as relieved and 17 as not improved. During the year 88 died, giving a percentage death-rate on the average numbers resident of 9.4. The deaths were due in 17 cases to nervous diseases, including 7 deaths from general paralysis; in 39 to chest diseases; in 5 to abdominal diseases; and in 26 to general diseases, including 3 deaths from senile decay; and in 11 to tuberculosis of some form, giving a ratio of tuberculous to total deaths of 12.5 per cent. There was also 1 death from exhaustion following burns. Three inquests were held during the year; in one death was from natural causes, in another from peritonitis following the swallowing of a twig, and in the third from exhaustion following self-inflicted burns before admission. With the exception of 2 cases of asylum dysentery, there were no diseases of an epidemic or contagious character.

BARNSLEY HALL ASYLUM, WORCESTERSHIRE.

THE second annual report for the year 1908 of Dr. Percy T. Hughes, Medical Superintendent, shows that on January 1st there were 284 patients on the registers and 409 in the last day of the year. The total cases under care during the year numbered 514, and the average numbers daily resident 352; the number admitted was 230, of whom 190 were direct admissions, 36 transfers, and 2 statutory readmissions. The character of these admissions, Dr. Hughes says, was unusually unfavourable; more than one-third of the first-attack cases were of 60 years of age or over, 6 being over 80 years of age, and at the time of his report there were in asylum only 16 male and 36 female patients with a fair prospect of recovery. As regards the duration of disorder on admission of the direct admissions, in 75 the attacks were first attacks within three, and in 24 more within twelve, months of admission; in 35 not-first attacks within twelve months; in 3 it was unknown whether the attacks were first attacks or not, and in the remainder the illness was of more than twelve months' duration, including 21 congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 31; melancholia of all kinds, 55; senile and secondary dementia, 50; delusional insanity, 9; general paralysis, 6; insanity with epilepsy, 3; admission of the deteriorated wife, 1; gross brain lesion, 1; and cases of congenital or infantile defect, 21. As regards probable causation, alcohol was assigned in 38, or 20 per cent.; acquired syphilis in 15; tuberculosis in 22, and other toxins in 14; critical periods in 84 (senility in 53); child-bearing in 9; and trouble in 41; other bodily affections in 162, cardio-vascular degeneration being noted in 73; and mental stress in 58. An heredity of insanity was ascertained in 40, or 21 per cent., of epilepsy in 8, of neuroses in 11, of eccentricity in 1, and of alcoholism in 27. Congenital mental defect not amounting to imbecility was also noted in 28. During the year 39 were discharged as recovered, giving a recovery-rate on the direct admissions of 20.1 per cent., or of recoveries in the direct admissions on the direct admissions of 18.0 per cent.; also 7 as relieved and 11 as not improved. During the year 51 died, giving a death-rate on the average numbers resident of 14.5 per cent. The deaths were due in 9 to cerebro-spinal diseases, including 6 deaths from general paralysis; in 14 to chest diseases; in 3 to abdominal diseases, and in the remainder to general diseases, including 11 deaths from lobar pneumonia and 6 from tuberculosis. The general health was good throughout the year; only 7 cases of dysentery had to be recorded, and 1 fatal case of enteric fever of unknown origin.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BECKENHAM URBAN DISTRICT.—Medical Officer of Health and School Medical Officer. Salary, £500 per annum.

BIRMINGHAM GENERAL HOSPITAL.—(1) House-Physician; (2) Anæsthetist. Salary at the rate of £50 per annum each.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—(1) Senior House-Surgeon; (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House-Surgeons. Salary at the rate of £75 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer for Northern Branch. Salary, £160 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—Third House-Surgeon. Salary, £50 per annum.

BRISTOL GENERAL HOSPITAL: (1) House-Surgeon; (2) Casualty House-Surgeon; (3) Assistant House-Physician. Salary, £60. Appointments for six months.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—House-Physician. Salary, £70 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

CARDIFF: UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Assistant Lecturer and Demonstrator in Anatomy.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary, £80 per annum each.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Assistant Surgeon; (2) Second Medical Officer (male) to Casualty Department. Salary at the rate of £40 per annum for (2).

EDINBURGH ROYAL ASYLUM.—Junior Assistant Medical Officer. Salary, £125 per annum.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer. Salary, £110 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House-Physicians, Honorarium, £25 for six months.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Surgeon; salary, £50 for six months, and £2 10s. washing allowance. (2) Honorary Anæsthetist.

KING EDWARD VII SANATORIUM, Midhurst.—Junior Assistant Medical Officer. Salary, £100 per annum.

LINCOLN COUNTY HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £100 per annum.

LIVERPOOL: STANLEY HOSPITAL.—Senior House-Surgeon. Salary, £100 per annum.

LONDON HOSPITAL, Whitechapel, E.—(1) Surgeon; (2) Assistant Surgeon; (3) Medical Officer in Charge of Radiographic Department; two Assistant Anæsthetists.

LONDON THROAT HOSPITAL, Great Portland Street, W.—(1) Assistant Surgeon; (2) Two Assistant Anæsthetists.

MERTHYR TYDFIL UNION.—Assistant Medical Officer for the Workhouse. Salary, £120 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Physician. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM CITY AND COUNTY.—Assistant Resident Medical Officer of the Workhouse Infirmary. Salary, £130 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary at the rate of 50 guineas a year each.

PADDINGTON INFIRMARY.—Second Assistant to Medical Superintendent of the Infirmary and Medical Officer of the Workhouse. Salary at the rate of £100 per annum.

PRESTON UNION.—Assistant Medical Officer for the Infirmary. Salary, £140 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—(1) House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon; (4) Junior House-Physician. Salary for (1) and (2) at the rate of £75 per annum, and (3) and (4) £40 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Assistant Resident Medical Officer. Salary, £75 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Assistant Physician.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at the rate of £40 per annum.

ST. LUKE'S HOSPITAL FOR MENTAL DISEASES, Old Street.—Clinical Assistant.

ST. PANCRAS UNION.—Assistant Medical Superintendent at the South Infirmary; Assistant Medical Officer of the Workhouse adjoining. Salary at the rate of £135 per annum.

SALFORD ROYAL HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

SHEFFIELD ROYAL INFIRMARY.—Assistant House-Physician. Salary, £50 per annum.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, W.—Resident Medical Officer. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Salford, co. Lancaster; Kirkpatrick-Durham, co. Kirkcudbright; Windermere, co. Westmorland; and Leslie, co. Fife.

APPOINTMENTS.

DREW, J. Harmer, M.B., B.S., Clinical Assistant to the Chelsea Hospital for Women.

HESKETHE, Y. G., M.R.C.S., L.R.C.P., First Resident Assistant Medical Officer, Bermondsey Parish Infirmary.

HOARE, E. F., M.D., Ch.B. Liverpool, L.S.A., Deputy Medical Officer and Vaccinator to the Daisybrook Schools of the West Derby Board of Guardians.

MACKINNON, W. Jones, M.D. Glas., Inspector for the Medical Examination and Supervision of School Children in the County of Lanark.

MAXWELL, H. B., M.R.C.S., L.R.C.P., District Medical Officer of the Guildford Union.

MORTON, Reginald, M.D. Lond., F.R.C.S.E. Medical Officer in Charge of the X-ray Department at the West London Hospital.

MOSTLD, R. J., M.R.C.S., L.R.C.P., District Medical Officer of the Melton Mowbray Union.

POIGNAND, R. N., M.B., B.C.Camb., Certifying Factory Surgeon for the Littleport District, co. Cambridge.

POLLARD, A. H., M.R.C.S., L.R.C.P., Junior Resident Assistant Medical Officer, Whitechapel Union Infirmary.

SHEPHERD, H. F., L.R.C.P.and S.Edin., L.F.P.S.Glas., Certifying Factory Surgeon for the South Shields Gas Company's Works at South Shields, co. Durham.

STONEY, Lawrence, M.B., Ch.B., Honse-Surgeon to the Dewsbury and District Infirmary.

THYNE, W., M.A., M.D.Edin., Medical Officer for the Workhouse and First District, and Public Vaccinator for the First District of the Bedford Union, vice T. Thyne, M.D., F.R.C.S., resigned.

WHITELE, E. Dennis, M.R.C.S., L.R.C.P., Assistant Medical Officer to the Lambeth Union Workhouse.

EDINBURGH ROYAL INFIRMARY.—The following appointments have been made:

Clinical Tutors: J. H. Harvey Pirie, M.D., etc., to Dr. Bruce; L. Beesly, F.R.C.S.Ed., to Mr. Hodsdon; J. W. Keay, M.D., etc., to Mr. Brewis.

Instructor in Anaesthesia: D. C. A. M'Allum, M.B., C.M., to Mr. Brewis.

Resident Physicians: K. Mackenzie, M.B., Ch.B., to Dr. Gibson; C. T. H. Newton, M.B., Ch.B., to Dr. Bruce.

Resident Surgeons: A. G. Hamilton, M.B., Ch.B., to Mr. Cathcart; A. L. Turnbull, M.B., Ch.B., to Mr. Brewis; R. C. Macqueen, M.B., Ch.B., and J. T. Simson, M.B., Ch.B., to Mr. Struthers (surgical out-patient department).

Non-Resident House-Physicians: A. Verge, M.B., C.M., F.R.C.S.Ed., to Dr. Stevenson Walker; L. F. Bianchi, F.R.C.S.Ed., to Dr. Lovell Gulland.

Non-Resident House-Surgeons: O. S. Bulloch, M.B., Ch.B., to Dr. W. G. Sym; W. T. Gardiner, M.B., Ch.B., to Dr. Logan Turner; Wm. B. Hendry, L.R.C.P.and S.Ed., to Mr. Miles.

Clinical Assistants: D. M. Ross, M.B., Ch.B., to Dr. Gibson; W. F. Buist, M.B., Ch.B., to Dr. Bruce; H. J. Dunbar, M.D., F.R.C.S.Ed., to Dr. Lovell Gulland (medical out-patient department); J. M. Fairbairn, M.D., etc., to Dr. Graham Brown (medical out-patient department); W. K. Macdonald, M.B., Ch.B., to Dr. Harry Rainy (medical out-patients department); B. S. Reid M.D., etc., to Dr. Chalmers Watson (medical out-patient department); T. C. Borthwick, M.B., Ch.B., to Professor Caird; J. M. Graham, F.R.C.S.Ed., to Mr. Struthers (surgical out-patients department); J. Lorimer, M.B., Ch.B., and H. B. Thomson, M.D., etc., to Dr. Logan Turner.

Resident Medical Officer to the Convalescent House, Murrayfield: H. B. Watson, M.A., M.B., Ch.B.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

ASHWORTH—JEFFERY.—On October 5th, at the Parish Church, Daybrook, by the Rev. T. G. Barker, M.A., Vicar of Hucknall, assisted by the Rev. J. W. Farrell, M.A., Vicar of Daybrook, Frank Henry Staunton Ashworth, M.D., of Hucknall-Notts, elder son of the Rev. J. R. and Mrs. Ashworth, Hartington, Buxton, to Norah Jeffery, youngest daughter of the late Mr. and Mrs. Jeffery, of Tring, Herts.

DICKSON—RHODES.—On September 29th, at St. Leonard's, Bridgnorth, by the Rev. W. L. O. Nootl, Vicar of St. John, Pendlebury, and the Rev. Arthur Nootl, B.A., Lecturer of Newland, Glos. (uncles of the bride), Louis Edington Dickson, M.D., B.S., son of S. J. R. Dickson, solicitor, of Chester, to Margaret Helen, only daughter of the late William Rhodes, M.R.C.S. and L.R.C.P., and Mrs. Rhodes, of Bridgnorth, and granddaughter of the late Rev. E. H. L. Nootl, M.A., late Vicar of St. John's, Dudley.

DEATHS.

DAVIS.—On October 4th, at Wimbledon, Colonel George McBride Davis, C.B., D.S.O., M.D., I.M.S. (ret).

MUSKETT.—On August 25th, 1909, at 143, Elizabeth Street, Hyde Park, Sydney, N.S.W., Philip Edward Muskett, L.R.C.P., et L.R.C.S. Edin., aged 52.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8 p.m.—General Meeting: 8.30 p.m.: (1) Incoming President's Address; (2) Mr. Hugh Lett (Paper), Two Cases of Perforation of the Small Intestine.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

SURGICAL SECTION, 20, Hanover Square, 5.30 p.m.—Paper: Mr. Rickman J. Godlee, Prognosis in Some Inflammatory Diseases of the Lungs and Pleura Commonly Treated Surgically.

WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, 8.30 p.m.—The First Hunterian Lecture: Dr. Sidney Martin, Certain Infective Processes on the Intestine, their Results and Treatment.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W., 8.30 p.m.—Paper: Lieutenant-Colonel F. J. Freyer-Reid, I.M.S., Total Enucleation of the Prostate: Practical Observations on the Operation.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 20, Hanover Square, 7.45 p.m.—(1) Presidential Address by Dr. H. Macnaughton Jones; (2) Papers: Dr. J. M. Munro-Kerr, A Case of Placenta Praevia in which it was deemed advisable to perform Caesarean Section; Dr. J. Curtis Webb, Points on the Use of, and Indications for, Electrotherapy in some Gynaecological Affections.

FRIDAY.

LONDON HOSPITAL MEDICAL COLLEGE, 4 p.m.—Opening of New Laboratories; 4.30 p.m., Scorstein Lecture on Syphilis and Aneurysm, by Professor Osler, F.R.S.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith: Specimens illustrating various forms of constrictions and occlusions found in the course of the alimentary canal.

ROYAL SOCIETY OF MEDICINE:

ELECTRO-THERAPEUTICAL SECTION, 20, Hanover Square, 8.30 p.m.—Presidential Address by Dr. Samuel Sloan, Electro-therapeutics in Gynaecology.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W., 8.30 p.m.—Discussion on Sleeping Sickness to be opened by Dr. Arthur G. Bagshawe by a paper on Recent Advances in our Knowledge of that Disease.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Lectures, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Monday, 3.15 p.m., Gouty Phlebitis. Thursday, 3.15 p.m., Cramp.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Ear, Nose, and Throat. Lectures, at 5.15 p.m. each day, will be given as follows: Monday, Treatment of Neuralgia. Tuesday, Rational Immunization from a Practical Standpoint. Wednesday, Moral Insanity. Thursday, the Diagnosis and Treatment of the More Serious Forms of Colitis.

NATIONAL HOSPITAL, Queen Square.—Lectures: Tuesday, Hereditary Ataxia; Friday, Disseminated Sclerosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Medical Out-patient Clinic; Nose, Throat, and Ear Diseases; X Rays; 4.30 p.m., Medical In-patient Clinic. Tuesday, 10 a.m., Medical Out patient Clinic; 2.30 p.m., Operations; Surgical Clinic; Gynaecological Clinic; 4.30 p.m., Lecture, The Incidence of Age in Disease. Wednesday, 2.30 p.m., Medical Out-patient Clinic; Diseases of the Skin; Diseases of the Eye. Thursday, 2.30 p.m., Gynaecological Operations; Medical Out-patient Clinic; Surgical Out-patients Clinic; X Rays; 3 p.m., Medical In-patient Clinic; 4.30 p.m., Lecture, The Surgery of the Blood Vessels. Friday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Operations; Medical Out-patient Clinic; Diseases of the Eye; 3 p.m., Medical In-patient Clinic.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W. The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics; X Rays; 2.30 p.m., Operations; Monday, Wednesday, and Thursday, at 2 p.m., Diseases of the Eye; Saturday, at 10 a.m.); Tuesday and Friday, Gynaecological Operations, 2 p.m. (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin; Wednesday and Saturday, 10 a.m., Diseases of Children; Wednesday, 2.30 p.m., Diseases of Women. Lectures: At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; at 12 noon, Pathological Demonstration (Thursday); at 12.15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine; at 5 p.m., Monday, Opening Address by Professor Theodor Schott; Tuesday, Symptomatology of Mental Diseases; Wednesday, X-ray Examination of the Thorax; Thursday, Dental and Oral Conditions Influencing the General Health; Friday, Clinical.

RECENT PUBLICATIONS.

Chemistry. Part II. Inorganic and Organic. Catechism Series. New edition. Edinburgh: E. and S. Livingstone. (Cr. 8vo, pp. 73. 1s.)

Questions, selected, presumably, because they are such as are often asked at examinations, with brief answers. The pamphlet might be useful to a student going up for examination after attending a course, if he had an intelligent friend to ask the questions and check his answers.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
10 Sunday ..	
11 MONDAY ..	LONDON: Colonial Committee, 2.45 p.m.
12 TUESDAY ..	LONDON: Public Health Committee, 3.15 p.m. BRADFORD DIVISION, *Yorkshire Branch*, Opening Meeting, Great Northern Victoria Hotel, Bradford, 8.45 p.m.
13 WEDNESDAY	NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Blue Bell Hotel, Belford, 2.30 p.m.
14 THURSDAY ..	
15 FRIDAY ..	
16 SATURDAY ..	CEYLON BRANCH, Ordinary Meeting, Colonial Medical Library, 2.30 p.m.
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	LONDON: Journal and Finance Committee, 2.30 p.m. LONDON: South-Eastern Branch Council, 3 p.m. DORSET AND WEST HANTS BRANCH, Sherborne, Dorset.
21 THURSDAY ..	METROPOLITAN COUNTIES BRANCH, Meeting of Branch Council, St. James's Vestry Hall, Piccadilly, W., 5 p.m. SOUTH MIDLAND BRANCH. Autumn Meeting, Leighton Buzzard, 2 p.m.
22 FRIDAY ..	CROYDON DIVISION, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m.; Dinner, 6.15 p.m.
23 SATURDAY ..	

Date.	Meetings to be Held.
OCTOBER *(Continued).*	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	**London: Central Council, 2 p.m.** RICHMOND DIVISION, *Metropolitan Counties Branch*. Annual Dinner, Trocadero Restaurant, 8 p.m.
28 THURSDAY ..	NORWOOD DIVISION, *Metropolitan Counties Branch*, Queen's Hotel, Upper Norwood, 4 p.m.; Committee, 3.45 p.m.
29 FRIDAY ..	MAIDSTONE DIVISION, *South-Eastern Branch*, Kent County Ophthalmic Hospital, Maidstone, 3.30 p.m.
30 SATURDAY ..	
31 Sunday ..	
NOVEMBER.	
1 MONDAY ..	
2 TUESDAY ..	
3 WEDNESDAY	
4 THURSDAY ..	
5 FRIDAY ..	LONDON: Special Poor Law Reform Committee, 2.30 p.m. GUILDFORD DIVISION, *South-Eastern Branch*, Autumn Meeting, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Tea, 4.15 p.m.; Dinner, Lion Hotel, 6.30 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 16TH, 1909.

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

METROPOLITAN COUNTIES BRANCH:

CITY DIVISION.

THE inaugural meeting of the session was held at the Great Eastern Hotel, Liverpool Street, on October 8th, at 4 p.m. Mr. A. WITHERS GREEN presided, and there were twenty members and visitors present.

Confirmation of Minutes.—The minutes of the annual general meeting were taken as read, confirmed, and signed by the Chairman.

Ethical Committee.—The Ethical Committee of the Division were elected as follows: The Chairman and Honorary Secretary (*ex officio*), Dr. A. T. Davies, Dr. M. Greenwood, Dr. J. W. Hunt, Dr. Southcombe, and Dr. Frederick Wallace.

Inaugural Address.—The inaugural address was then read by Mr. C. W. MANSELL MOULLIN, F.R.C.S., on Some of the Mistakes in the Treatment of Fractures from a Medico-Legal Aspect. He pointed out that mistakes commonly arose from "approaching a case with a fixed idea in one's head" and "by being misled by the statements and opinions of other people" that there was a fracture, and a fracture only. He advocated *x*-ray photographs in every case, if practicable, and in order to minimize the evil results of treatment by splints, to practise passive movements and massage at a very early stage, and he was strongly in favour of "wiring" the fragments in every case in which apposition was not easily obtained, and doing away with splints, as far as possible, in order to obviate the damage to the soft parts, of which they frequently were the cause. A discussion followed, in which several of the members took part.

Vote of Thanks.—A hearty vote of thanks was accorded to the lecturer for his very lucid and useful address.

SOUTH MIDLAND BRANCH:

BUCKINGHAMSHIRE DIVISION.

A MEETING of this Division was held at the Red Lion Hotel, High Wycombe, on Wednesday, September 29th. Twenty-five were present—namely, Drs. Baker, Bell, Benson, Bradbrook, Bradshaw, Carruthers, Fleck, Gardner, Graham, Larking, Perrin, Reynolds, E. O. Turner, Humphrey-Wheeler, Smith-Wynne, and Eva Meredith. The following were present as visitors: Drs. Bienemann, Dickson, Hogarth, Pocock, A. H. Turner, Simmence, Stolterforth, Harwood-Yarred, and Mr. Turner, the reader of the paper.

Luncheon.—Before the meeting a lunch took place, at which seventeen were present. The usual loyal toasts were drunk, and that of "The British Medical Association" was proposed by Dr. POCOCK, who urged the great need of combination, and gave instances where great benefits by way of increased fees had resulted. Dr. BAKER (Chairman) and Dr. BRADBROOK (Representative) responded. Dr. REYNOLDS proposed "The Visitors," and Mr. TURNER (Westminster Hospital) and Dr. HOGARTH (County Medical Officer of Health) responded.

Apology for Non-attendance.—An apology for non-attendance was sent by Drs. Woollerton and Morrison.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Master v. Man under the Present Acts.

Mr. WILLIAM TURNER (Westminster Hospital) then read a paper on Some Surgical Aspects of Master *v.* Man under the Present Acts. He said:

Owing to the close relationship between accidents and the law it is necessary for all medical men, and especially those who practise surgery and are in medical charge of works, etc., where many men are employed, to give opinions on many questions in connexion with accidents of all kinds, and the difficulties here encountered are not only numerous but vary greatly in every case.

It is most essential to have some knowledge of the present Acts, and some of the legal points in connexion with them. I have to thank the

First, then, what is an *accident?* It is something which happens suddenly and unexpectedly (so far as the person who is the subject of the accident is concerned) whereby some personal injury is suffered.

An accident may give rise to a claim for damages at common law, or for compensation, under the following Acts:

1. Employers' Liability Act, 1880.
2. Workmen's Compensation Act, 1907.

At common law, in order that a person injured may bring an action for damages, he has to prove that the person who caused the injury was guilty of *negligence*, to which he himself has not in any way contributed. Negligence means: Whenever two persons are brought into such relationship to one another that the one owes to the other a "duty to take care," and there has been a "breach of that duty," which results in damage being done.

This relationship may arise in a variety of ways—for example: (1) Where the two persons are using the public highway; (2) where a doctor undertakes to treat a patient, etc.

Thus in an action against one of the railway companies a man tried to prove negligence of the company's servants, whereby the platform was slippery, and in running across it to get into the train he slipped and sustained a very severe impacted fracture of the upper end of the femur; but it was shown that it was a foggy misty day, and all the pavements were in the same wet slippery condition; but it was allowed in another case where it was proved that a driver of a motor bus passed the wrong side of a double line of trams, collided with a stationary cart on the offside of the road, threw the driver of the cart to the ground, producing injuries to the head which resulted in permanent spinal cord changes and paralysis.

Again, the House of Lords held that it was negligent to allow the carriage doors of a train to be open when a train had started, an open door having struck a passenger, carried him on to the line, and the injuries sustained necessitated the amputation of one leg.

In another case a child crawled under the fence surrounding an isolation hospital and approached the building where infected children and their nurses were, and played with a hospital kitten; four days later she contracted diphtheria, and an action was brought by the parents against the hospital authorities; as the child could have caught the disease in a thousand different ways, it was held by the judge that there was no negligence.

Again, in London there have been numerous accidents caused by motor buses skidding, but it has been held that skidding of the bus does not mean negligence on the part of the driver, and so there is no cause for action.

Special damage as well as negligence must be proved in these actions—that is, expenses of illness incurred, what, if any, income has been lost by the plaintiff up to the time of the action, and the likelihood of permanent loss—and then the general damages, if negligence is proved, have to be stated by the jury, which includes the amount awarded to compensate for the accident, and for permanent injury, which may disable a man from following his former occupation, and so prevent him from earning the same wage, and also to compensate the plaintiff for the pain and suffering which he has already undergone and is likely to undergo.

Thus the medical witness has much important evidence to give; he will be examined and cross-examined on the nature, extent, and permanency of the injury, and its effect on the wage-earning capacity in the same or other occupation. He will be asked about the prospect of recovery from traumatic neurasthenia or hysterical symptoms when the anxiety of litigation is removed, and also on the exaggeration of symptoms and malingering. The medical man who has been attending the injured man will also be cross-examined as to his fees, as he is not allowed to charge an injured man more than his ordinary fees, merely because the company will eventually pay his company to have a greater burden thrown on them than the nature of the cause determines; hence the doctor will be asked about his visits and treatment, and, if unreasonable, they will be disallowed in the amount of the special damages.

I remember a case where a doctor visited a man daily for months, charging 5s. a visit, the total average earnings of the man being 42s. a week, and he lived in a house rented at 7s. a week; the patient was walking about all the time, and the doctor had to own on cross-examination that he usually charged 2s. 6d. to all this class of people, and less if they came to his house, and that the reason was that he knew the company would have to pay.

It is conduct like this that brings discredit upon our profession, especially when exposed in open court. An interesting case bearing on the subject of damages was brought to my notice recently; a medical expert gave his opinion when he examined an injured man that he would have no further trouble from a certain accident, but when months later the case came for trial it came out in court that since such opinion the plaintiff had undergone his third abdominal operation, and that it was not improbable that a further one would be necessary; and this uncertainty as to the future progress of the case materially increased the amount of damages awarded, so that in justice to the plaintiff the medical witness for the defendant employer should not press his opinion too strongly, as the damages awarded by the jury are final.

An employee who meets with an accident can sue for damages either at common law, as before mentioned, but I have already stated negligence must be proved against the employer, and "common employment," or *volenti non fit injuria* (that is, the employee knew the risk and was willing to take it), are allowed as the employer's defences to such an action: or for compensation under the Employers' Liability Act, 1880, which abolished the defence of common employment, and refers to certain cases in respect of which negligence leading to accident must be proved, and particularly to those occurring about railways; under this Act contributory negligence debars from compensation; or the employee may claim under the Workmen's Compensation Act, 1907, under which the employer is liable to pay compensation to a workman for personal injury by accident arising "out of" and "in the course of" his employment, provided the workman is disabled for one week, and the only defence is "serious and wilful misconduct of the workman," and this only if not followed by death or serious and permanent disablement of the said workman.

This Act includes all workmen (except non-manual workers earning more than £250 a year), seamen, domestic servants, and allows for a certain number of industrial diseases, and has also included illegitimate children as dependents.

An injured workman is bound to submit himself for examination by the employer's medical man, and also periodically, in accordance with certain rules approved by the Lord Chancellor, and if he refuses or in any way obstructs the same, his right to compensation and to take action under the Act is suspended until such examination has taken place.

In certain cases where the employer's medical man visits the patient, it is in accordance with medical etiquette to let the doctor attending the man know of the intended visit, but there is no liability on the company to pay the doctor's fee; it should come from the man, as the doctor is present in his interest.

If after the medical examination and report to the employers no agreement is come to as to the workman's condition or fitness for employment, both parties can refer to a medical referee, whose opinion shall be final.

Now, the first point of surgical interest is, What is a personal injury by accident? We call fractures, dislocations, lacerated or contused and poisoned wounds injuries, but the law has extended this question in many cases very much. In the case of Ismay Imrie and Co. *v.* Williamson, it was held by the [illegible] that the

man Williamson got heatstroke and died, shortly after shipping as a trimmer on the ss. *Majestic*.

Again, the Court of Appeal held that an ordinary seaman employed in painting a ship and getting *sunstroke* was entitled under the Act to compensation, sunstroke being an accident as much as heatstroke in the former case, though neither conditions are scheduled in the Act.

But, as against these, in the case of Brodrick *v.* the London County Council, the Court of Appeal held that a man working in the sewers must inhale noxious fumes, and therefore there must be some risk of poisoning to all men employed there, so that the case could not be said to be unexpected, or fortuitous, or unforeseen, and as this disease was not scheduled in the Act, it was not an accident; the man died of ptomaine poisoning and enteritis resulting from the sewer gas.

Following on these are some cases where the law has differed from our pathological ideas; thus, in the case of McInnes *v.* Jackson, a workman, while engaged in the course of his employment, had an attack of cerebral haemorrhage; four days later he had a second attack, which caused permanent paralysis, and although it was proved that the plaintiff's arteries were in a degenerate condition, yet the Court of Session considered it was an accident under the Act, just as a ruptured muscle was in a previous action.

Again, the Court of Appeal, in the case of Hughes *v.* Clayton and Co., held that the plaintiff, who, while engaged in tightening a spanner, strained himself and caused a rupture of an abdominal aneurysm, had met with an accident according to the Act, although the *post-mortem* examination showed that there was a very large aneurysm of the aorta, in such an advanced condition that it might have burst in his sleep, and very slight exertion or strain would have been sufficient to rupture it.

I have been told of a case of perforation of a gastric ulcer occurring while at work, which was considered an accident by a county court judge and compensation ordered.

In the case of another workman who received injuries to his chest, back, and neck, and who was unable to resume his work on account of tumours in his neck (I believe he had malignant disease of the stomach, and these glands were secondary deposits), the company had to pay compensation until he died, and it was only after an appeal to the House of Lords that they were able to get out of paying the extra compensation for death, which the dependents of the injured man claimed.

The employer, again, runs a great risk from the clause "Out of and in the course of the employment." A workman was employed in a stable where a stable cat was kept. One day he was having his dinner in the stable, and the cat sprang at him and bit him. The bite set up blood poisoning, and two fingers had to be amputated. It was held both by the county court judge and the Court of Appeal that this man was entitled to compensation. It would have been decided otherwise had the cat been a stray one and not belonging to the stables.

A workman was employed to watch trawlers as they lay in a harbour; he was on duty for twenty-five hours, and had to provide his own food, and at times had to go on to the quay. While on duty he went to a hotel near for refreshment, and on returning fell into the water and was drowned. The arbitrator held that it was an accident according to the Act; on appeal to the Court of Session this was reversed, but on further appeal to the House of Lords, by 4 to 2, it was held to be an accident arising "out of" and "in the course of" his employment. There are many other cases leading to difficulties of this nature, and though I hold no brief for the employer, still I have said enough to show how many cases end in litigation of a most expensive kind, which practically always falls on the employer or the insurance company with which he is insured.

There is a very common condition—hernia—which has for some time past caused much controversy among medical men as to its cause; but I have no doubt that there are two varieties—one where a sac is already present from non-obliteration at birth, and in adults this is an oblique, indirect inguinal hernia; and the second, which comes on from weakness and stretching of the abdominal walls, associated with chronic strain. I have had the opportunity of examining hundreds of men, and have performed at least 300 operations for hernia, and I have been surprised at the number of cases in young men of weakness in the groins with no definite hernia—that is, no true sac. These men are doing heavy work, and in many instances have been doing it from the age of 14 or 15; later on in life a bulge under the arched fibres of the internal oblique and transversalis muscles takes place, with stretching and atrophy of the conjoined tendon, the peritoneum and subperitoneal tissue bulge into the gap thus formed, the centre of this bulge being held in by the deep epigastric vessels passing across its centre, and both a direct and indirect inguinal bulge result. In old men with enlarged prostate, this type of hernia is also often seen. I have operated on two such cases within the last three months, and have seen similar ones on and off for years.

Now, rupture undoubtedly according to the law may lead to a personal injury by accident within the meaning of the Act, and it seems useless from the findings up to date to consider it otherwise. The effect of this Act on this question of rupture can be gauged from the statistics at the Dreadnought Hospital, Greenwich. For twelve years previous to 1907 (in July of which year this Act came into force), the average number of hernias admitted to the hospital was 58 per year, 72 being the greatest number in one year; in 1907 there were 95, and in 1908, 160. This, of course, means that the sailors are more carefully examined, and a man with a rupture cannot get employment until it is cured.

Let me quote one case bearing on this subject: a marine fireman stated that while cleaning a boiler he ruptured himself; he remained at work until the steamer arrived at Halifax, when he was advised that he was totally incapacitated. The shipowners contended that an operation or properly fitting truss would control the effect of the accident, but the judge found in favour of the fireman, and awarded compensation, although it was very far from clear that there had been any special strain to cause the hernia, or any symptoms to show that the rupture was an acute traumatic one.

I think these cases will show you that the employer of to-day is bound to employ men who are physically fit, though it is not always easy to draw a hard-and-fast line to apply to every case.

In the services there are other reasons why medical examination is so important, and one is to prevent shirking. If a man has a varicocele or varicose veins, how can we disprove that they ache and give pain? And another, to prevent going sick. For instance, a man with bad teeth or enlarged tonsils may suffer from acute attacks of inflammation, enlarged glands, and perhaps abscesses, and be constantly laid up, to say nothing of bringing on intestinal trouble from being unable to eat the rations served out on active service. With workmen, if there are physical disabilities and the workman should meet with an accident, however slight, the term of convalescence may be indefinitely prolonged, to the inconvenience and expense of the employer and the Friendly Societies to which the men belong. It seems to be quite certain that men remain off work longer now than ever before. I have seen two cases of cardiac dilatation following hypertrophy this year, where, after having slight accidents, the cardiac condition that was undoubtedly present before the accident prevented the men from starting their work again, and they had to be paid on account of the accident for many months longer than the accident alone could have incapacitated them, and, in fact, until a settlement was arrived at.

The law has quite rightly judged that in certain cases workmen must submit to an operation so that they can become fit for work, and it is only where there is greater risk than usual that he can refuse;

thus, a man with double rupture and Bright's disease was allowed to refuse to take the risk, but a perfectly healthy man with a piece of dead bone in his toe after injury had to submit or forego compensation.

Do not forget that should a man die under an anaesthetic which has been necessitated by an accident the employer may have to compensate for his death, as occurred in a case where a workman severely crushed his hand, and an anaesthetic was later on given to skin-graft it. The Court of Appeal held that the operation was a reasonable one, and that the widow was entitled to compensation.

The main defects which incapacitate, then, are:

Hernia, or a marked tendency to it, as if there is weakness in both groins (as I have mentioned before) it is most likely to be followed later by a hernia.

Varicocele, if quite definite, especially in services or for hot climates.

Varicose veins, if the disease is local, operation may cure them.

Misplaced testicle, which can be removed by operation and the hernia cured at the same time.

Hammer toe, scoliosis, or marked deformity.

Defective eyesight, hearing, or teeth, and general conditions, such as:

Cardiac or arterial disease;
Phthisis and kidney disease;
Bone or joint disease;
Nervous diseases, especially general paralysis of the insane, locomotor ataxy, or epilepsy;

for these may not only lead to accidents, but also to the prolongation of the time of convalescence and often to death following an accident.

The facts I have endeavoured to bring before you lead up to the responsibility which rests with our profession, and although in many points we may professionally and individually disagree with the Acts, it is our bounden duty to act fairly and with an unprejudiced mind in every case.

We should protest against the term "accident" being applied to a condition that all our pathology and experience teach us to be the natural course of the disease rather than the direct result of an untoward and unexpected event—I am, of course, referring to such cases as cerebral haemorrhage, perforation of a gastric ulcer, rupture of an aneurysm, internal strangulation, etc.—and as a profession take a firm stand on this subject.

Accidents affect people generally and locally, and injuries to local parts go through a regular pathological process—rupture, bruising, and the early stages of inflammation—if pyogenic micro-organisms get in suppuration, with its attendant and subsequent complications, and finally healing by means of scar tissue with or without deformity, and unless the accident is very severe, or the deformity produced very marked, the tendency of the surrounding parts is to become more efficient to counterbalance the weakness of the injured part. This is well exemplified by the man with only one arm, who can dress himself, put on a collar, and tie his tie perfectly. Most of us have had accidents, and have overcome. I may say, completely the disability left, the time taken depending on the personal equation of the individual and the incentive to work; and it stands to reason that the man who draws for sick pay and compensation for injury more than he gets in full work will take as long as possible. It is obvious that often, unless the part is worked and proper exercise indulged in, this adaptation does not take place; hence the importance of not allowing men to be too long idle.

Of the general effects of accidents, shock will in certain cases produce sudden death. Some years ago there was an explosion on one of our battleships; one of the men who died from its effects was in the other end of the ship, and there was no chance of being directly injured; he shortly after the explosion reported himself as feeling ill, and he died in 12 hours. *Post mortem* there was nothing pathological to account for this at all.

There are in particular two conditions which require great skill in treatment and great discrimination in giving a fair opinion about them. I mean traumatic neurasthenia and traumatic hysteria. Every one knows, and it has been in every one's practice, that men after severe head injuries, concussion, compression, fracture of base, etc., often suffer from certain symptoms which may interfere both with their work and their health, such as severe headaches, epilepsy, and at times melancholia, or they may alter in their mental, intellectual, or moral faculties, particularly if they take alcohol. It is quite common to hear these men say that they are not able to do what they did before; for instance, they cannot climb ladders, or look down from heights as before the accident; they appear to have lost what is called their nerve. I myself notice that I get giddy, and have a feeling of attraction to the ground, if I look down from even the top of my house, and this I never experienced before I had concussion during the South African war; hence, in cases of this kind our opinion must be a guarded one, and, if anything, in favour of the man injured, provided that the injury is a definite one.

Traumatic neurasthenia differs in no material respect from other cases of neurasthenia, save that it comes after some severe accident or shock, and unfortunately the worries connected with the legal and financial questions act as a further stimulus to the condition; and as the treatment of an ordinary case of neurasthenia is rest, good feeding, massage, and no worry, with often isolation from even their friends, it is clear that there is no hope for the recovery of the patient until the legal and financial matters are settled; thus the sooner the case is settled the better for all concerned.

Traumatic hysteria is not in the same category at all: here the hysterical tendency is the primary cause, and the accident may be the final factor, and often not even that: many cases border on the side of exaggeration of symptoms. Here the hysterical stigmata are usually able to be detected, especially a unilateral anaesthesia or analgesia, tender spots, and oftimes alteration in the field of vision; patches of cutaneous anaesthesia are absolutely diagnostic, and increased cutaneous reflexes are often found on the analgesic side of the body.

A case bearing on this subject came under my notice last year. A man was thrown from a conveyance and was concussed; the following day a bruise appeared in the upper part of the right side of the neck and complete facial palsy (Bell's paradysis) on the same side. This gradually improved, and six months after the accident he was seen by the company's medical officer, who found the face muscles working well, and giving the normal reaction to the faradic current, and he reported the man fit for work; the man, however, was advised by his doctor not to go to work, as a big company was going to pay him (he owned to this in court); and four months later this man had apparent complete palsy on the right side of the face, with spasm of the muscles of the left side screwing it up, spasm of the muscles of the left side of the tongue, drawing it over to that side, and a similar condition of the muscles of the left shoulder drawing it up.

He stated that he had pain in the right side of the neck, shoulder, face, and tongue. He had marked unilateral hyperaesthesia, was very rude and refused to answer questions, and when the faradic current was applied to his face, and all the muscles worked equally on the right side and the left, he got very angry and accused us of hurting him tremendously.

I may add that when given one pole of the battery to hold in his hand, every time the other one was applied to the right side of his face, he tilted it so that no current passed, and we only got the one contraction by holding the pole on his neck. This case went into court because the man refused to take less than £1,500 damages, but the jury only awarded £360, and the severe shaking and bruising sustained by his wife and child at the same time were taken in consideration in awarding these damages. The doctor in this action put himself quite in the wrong by having advised the man not to work; in fact, he owned that any other case of the same condition would have started work with his sanction more than six months before the trial came on.

Of course these hysterical symptoms and symptoms of exaggeration came on by doing nothing and waiting

to show his defects to the judge and jury; had the man worked he would never have had them. I heard afterwards that this man did a full day's work the day after the trial.

I have tried to bring before you some special points bearing on the subject of *accidents* and *compensation*, and to draw attention to the way in which the gulf between *true* accidents and *legal* accidents is ever being narrowed; and the more one looks into the subject the more convinced one is that, unless our profession stands firm, soon every abnormal condition will be put down as an *accident*.

Hard work must produce certain alterations in the human frame, and every "machine" shows signs of wear, most of all when there is a flaw in its manufacture.

One can almost see in the near future every porter or nurse suffering from flat feet, every navvy with weakness in the groins, every professional football player with a fully compensated hypertrophied heart, living on the proceeds of their "accidents arising out of, and in the course of, their employment."

For convenience I append the following summary of the Workmen's Compensation Act:

The Common Law and Acts dealing with Damages and Compensation for Accidents.

	Damages.	Defences.
Common law	Must prove negligence and special damage	Unlimited	Contributory negligence. Common employment. *Volenti non fit injuria* ("employee knew the risk and was willing to take it").
Employers' Liability Act	Must prove negligence; Act limited to special accidents and special workmen	Compensation: wages or proportionate to loss	Contributory negligence. Workmen can contract out of the Act. *Volenti non fit injuria.*
Workmen's Compensation Act	Must prove accident arising "out of" and "in the course of" employment. Applies to servants, seamen, etc.	Compensation: Up to 3 years, wages not less than £50 or more than £300. Half wages for incapacity up to £1 a week	"Serious and wilful misconduct" of the workman for partial temporary disablement only.

In the discussion that followed the interesting nature of the subject was made plain and its importance to the profession as well as to the public.

Dr. BRADBROOK gave several instances of the state of the law with regard to so-called accidents, and which were, from a medical point of view, ordinary diseases. He thought acute traumatic hernia very rare, and the disability caused by varicocele depended very much on the pluck and resolution of the patient. The *Board of Trade Gazette* gave all the cases coming before the courts under the Acts. He questioned whether these cases ought to be treated in hospitals free of charge when they got large compensation. Although it was desirable that the surgeon should always meet the usual medical attendant in consultation, it was not always possible.

Dr. GARDNER said that before these Acts came into force the employers used to send their men to their own medical man for treatment and pay him for it; now they say that as these men get compensation they must pay the doctor themselves, and the consequence is that in most cases medical men get no pay at all!

Dr. BRADSHAW agreed that patients who got compensation should not be treated in charitable institutions. In giving evidence, medical men should not take sides, but should act impartially and without prejudice. It would be an excellent thing if a medical referee could be appointed, and then medical men for each side argue the case before him.

Dr. HUMPHREY-WHEELER referred to a case of so-called traumatic pneumonia occurring six months after an accident.

Dr. REYNOLDS said there was a growing feeling of dissatisfaction about these Acts, and employers were beginning to complain. An employer had suggested to him that employers and medical men should combine. As the men only received half their wages they could not afford to pay hospitals or doctors.

Dr. FLECK deprecated the practice of certain firms of contracting with one medical man to attend all accidents on their premises whether they had a private medical attendant or not.

Dr. BENSON referred to the difficulty of defining the term "accident;" even judges differed with each other.

Drs. CARRUTHERS, DICKSON, POCOCK, GRAHAM, A. H. TURNER, and BAKER also spoke.

Reference was made to the great increase of certificates required since these Acts came into force. In certain districts the medical men were putting up notices in their surgeries that all certificates given under these Acts must be paid for, the minimum fee being 2s. 6d.

Mr. TURNER, in his reply, said that the financial part in general practice was difficult for him, a consultant, to deal with; but he thought that a guarantee for payment should be insisted on. With reference to acute traumatic hernia, the only cases were those occurring in lads of 15 or 16 years of age with an unobliterated canal. He gave many cases showing the difficulty in deciding as to what was an accident, and he thought it was time the medical profession made a stand in the matter and insisted on their definition of an accident being accepted and not that of the lawyers. If these patients could not afford to pay a private doctor, neither could they afford to pay the hospitals. He made a practice of never giving a certificate to hospital patients, and he found they had no difficulty in getting one from practitioners outside.

Vote of Thanks, etc.—A hearty vote of thanks to Mr. Turner for his paper was carried with acclamation.

Tea and refreshments were provided by the High Wycombe members, and the meeting was generally acknowledged to have been a great success. Such a meeting of medical men had never been held in the neighbourhood.

SOUTH-EASTERN OF IRELAND BRANCH.

THE last meeting of the session of this Branch was held at the Victoria Hotel, Kilkenny, at 5.30 p.m., on October 6th; Dr. J. H. JELLETT in the chair. Other members present were Drs. Geo. Mackesy, R. B. Carey, D. Walshe, E. Farmer, Chas. James; T. Laffan and J. Quirke, Honorary Secretaries.

Confirmation of Minutes.—The minutes were read, confirmed, and signed.

Apologies for Non-attendance.—Letters of apology for inability to attend were read from Drs. Hourigan and Morris.

Competitive System and Irish Poor Law Medical Service.—The following resolution, of which notice had been given, was proposed by Dr. LAFFAN, and seconded by Dr. MACKESY:

That that portion of Dr. Walshe's resolution which refers to the introduction of the competitive system into the Irish Poor Law Service or any part thereof be and is hereby rescinded.

After some discussion, the motion was put to the vote and lost.

Exodus of Paying Patients to Metropolis.—It was proposed by Dr. LAFFAN and seconded by Dr. WALSHE:

That the members present be appointed a committee, with power to add to their number, to consider the best means to prevent the present exodus of paying patients to the metropolis.

This was passed *nemine contradicente*.

Special Meeting.—It was proposed by Dr. CAREY and seconded by Dr. LAFFAN:

That the Honorary Secretary be requested to write to all members of the Branch for their views on the subject, and that a special meeting be held soon after Christmas to initiate active steps to attain the object in view.

The resolution was passed *nemine contradicente*.

Dr. William Shee.—It was proposed by Dr. WALSHE, seconded by Dr. MACKESY, and agreed:

That we regret the departure of Dr. William Shee, late of Duncannon, and we wish him every success and happiness in his new sphere of duty.

Dinner.—For want of time all scientific matters were held over until the New Year, and, the meeting having come to a close, all the members present dined together.

Association Notices.

COUNCIL MEETING.

A meeting of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 27th, in the Council Room, at 429, Strand, London, W.C.

By Order,

September 16th, 1909. Guy Elliston.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—A general meeting of the Division will be held at the Medical Institute on Wednesday, November 17th, to elect a Representative for the Division. Nominations for this office must be in the hands of the Honorary Secretaries by October 27th.—A. W. Nuthall, W. T. Lydall, Medical Institute, Birmingham.

Dorset and West Hants Branch.—The autumn meeting of this Branch will be held in St. John's Buildings, Sherborne, on Wednesday, October 20th, at 3.30 p.m. Agenda: (1) The minutes of last meeting. (2) Letters of apology for non-attendance. (3) The election of officers for 1910, namely, (*a*) President; (*b*) Two Vice-Presidents; (*c*) Honorary Secretary and Treasurer. (4) The place for the Spring meeting. (5) Mr. W. Burrough Cosens, Vice-President, will introduce a discussion on "Some Surgical Diseases occurring in the Right Inguinal Region." (6) Mr. Bernard Scott will read "Short Notes on an Improved Method of performing Prostatectomy." (7) Mr. H. A. R. E. Unwin will read "Notes on a Case of Pyonephrosis simulating Appendix Abscess." (8) Dr. Whittingdale will show some cases and pathological specimens, and read notes on them. A dinner will be held at the Half Moon Hotel, Sherborne, at 6 p.m., price 6s. per head, exclusive of wine, etc. Members intending to be present are requested to write to Dr. Whittingdale not later than Monday, October 18th, 1909.—James Davison, Honorary Secretary, Streatelpace, Bournemouth.

Gloucestershire Branch.—A general meeting of the Branch will be held at the General Hospital, Cheltenham, on Thursday, October 21st, at 7 p.m. Agenda: Dr. S. T. Pruen: An interesting case of Cancer of the Larynx. C. Nepean Langridge, M.D., F.R.C.S.: The Blood-tight Uterus and Involution. The Secretary will be glad to hear from those willing to read papers or demonstrations during the coming winter. There will be a supper afterwards at the Cosy Corner, Promenade (tickets 3s. 6d. each, exclusive of wine).—D. E. Finlay, Honorary Secretary.

Lancashire and Cheshire Branch.—*Science Committee.*—Gentlemen who would be willing to give addresses, demonstrations, etc., at Division meetings during the course of next winter will oblige by sending their names and the title of the subjects they propose to deal with as soon as possible to F. Charles Larkin, Branch Secretary, 54, Rodney Street, Liverpool.

Lancashire and Cheshire Branch: Warrington Division.—A scientific meeting will be held at the Infirmary, Warrington, on Tuesday, November 2nd, at 8 p.m.—T. A. Murray, Honorary Secretary.

Metropolitan Counties Branch: Norwood Division.—The next meeting of this Division will be held on Thursday, October 28th, at 4 p.m., at the Queen's Hotel, Upper Norwood. Dr. J. Curling Bates in the chair. The committee will meet at 3.45. As matters of importance connected with the organization of the Division will be discussed, the committee earnestly desire a full attendance.—J. A. Howard, Honorary Secretary, 40, Harold Road, Upper Norwood, S.E.

Metropolitan Counties Branch: Richmond Division.—The annual dinner of this Division will be held at the Trocadero Restaurant, W., on Wednesday, October 27th, 1909, at 8 p.m.—G. Cardno Still, Honorary Secretary.

Metropolitan Counties Branch: Walthamstow Division.—A meeting of the Division will be held on Thursday, October 21st, at 4 p.m., at Woodford Hospital. Agenda: (1) Minutes. (2) Letters. (3) Paper: The Value of Lumbar Puncture, by J. S. Risien Russell, M.D., F.R.C.P., Physician to University College Hospital. (4) Any other business.—A. Pottinger Eldred, Honorary Secretary.

South-Eastern Branch: Croydon Division.—A meeting will be held at the Cock Hotel, Sutton, on Friday, October 22nd, at 4 p.m. Chairman, Mr. G. W. Cazalet. Agenda: (1) Minutes of previous meeting. (2) Report of Direct Representative (Dr. J. J. Macan) at annual meeting. (3) Paper: Dr. C. R. Verling-Brown: Enteritis in Infants. (4) Practical demonstration of the use of the Bronchoscope by Mr. Norman Patterson, F.R.C.S. Cases will be shown. (5) Other business. Dinner 6.15 p.m.; charge 5s., exclusive of wine. Members intending to stay are requested to intimate the same before October 20th.—E. Hulse Willock, C. G. C. Scudamore, Honorary Secretaries, 81, London Road, Croydon.

South-Eastern Branch: Guildford Division.—The autumn meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, November 5th, at 4.30 p.m. Dr. A. Hope Walker, Chairman of the Division, will preside. Agenda: (1) Minutes of the annual meeting. (2) Paper: Mr. R. P. Rowlands, F.R.C.S., will give an address on "Some Mistakes in Diagnosis and their Teaching," to be followed by a discussion. (3) Any other business. Tea will be provided at 4.15. Dinner at 6.30 at the Lion Hotel. Charge 6s., exclusive of wine. The Honorary Secretaries will be glad to hear from any members willing to show cases or specimens.—H. B. Butler, Eastdale, Guildford, E. J. Smyth, Maythorne, Guildford, Honorary Secretaries.

South-Eastern Branch: Maidstone Division.—The next meeting of this Division will be held at the Kent County Ophthalmic Hospital on Friday, October 29th, at 3.30 p.m. Members wishing to move propositions will kindly communicate at once with the Honorary Secretary, George Potts, Kent County Ophthalmic Hospital, Maidstone.

South Midland Branch.—The autumnal meeting of the Branch will be held at Leighton Buzzard on Thursday, October 21st, at 2 p.m. The following papers are promised: Dr. Milligan (Northampton): "A Case of Resection of Intestine in Strangulated Hernia; Recovery." The specimen will be shown. Mr. H. Skelding (Bedford): "Some Cases of Ear Disease in Children." Mr. N. B. Odgers (Northampton): "Three Cases of Carcinoma of Naso-pharynx." Dr. Robson: "Some of the Pitfalls of Glycosuria."—E. Harries-Jones, Honorary Secretary.

South Wales and Monmouthshire Branch: Cardiff Division.—A meeting of this Division will be held on Wednesday, October 20th, at the Cardiff Infirmary at 3.30 p.m.—Cyril Lewis, Honorary Secretary, Cardiff Division.

THE COMMITTEE FOR THE BREAK-UP OF THE POOR LAW.

The National Committee to Promote the Break-up of the Poor Law held a meeting at St. James's Hall, Great Portland Street, London, W., on October 12th, to inaugurate its autumn campaign.

The chair was taken by the Bishop of Southwark, who, in opening the proceedings, paid a tribute of respect to the labours of the Royal Commission on the Poor Law. He said that the object of the meeting was to urge the necessity for reform as laid down in the Minority Report of the Commission. The present method of dealing with the poor by means of boards of guardians had been pronounced by the Royal Commission to be wrong in its machinery. It was necessary not only to remedy, but to prevent them. The children of the widow who had to leave them while she worked would have to be cared for, and the boy and girl would have to be taken in hand before they became hooligans. For him the Minority Report had for the first time thrown a gleam of light on the problem of unemployment and the organization of life, and he now saw what appeared to him to be a vigorous, coherent, and hopeful attempt to deal with a great and urgent problem. The report had a great attraction for him because he saw in it at last the possibility of a great economic liberation of moral hope and a great public encouragement of moral effort to help those who were poor, and to deal with evils which, unless they were dealt with, threatened the commonweal.

Sir John Gorst said the most remarkable thing about the reports of the Royal Commission was not the extent to which they differed, but the extent to which they agreed. The conclusion had been come to that the public machinery for the relief of distress in the country had completely broken down, that it had failed adequately to relieve the distress of the poor, and failed also to prevent the recurrence of that distress. Both reports recommended the entire sweeping away of the machinery of boards of guardians and their officers and also of workhouses, which were detested by the poor and condemned by philanthropic opinion. Dealing with the classes which were

at present the subject of Poor Law administration, he instanced first the helpless baby. The right of the child when born was to receive care and attention, so that in time it would grow up into a strong healthy man or woman; it was to the interest of the community that that right of the child should be observed. At present the practice of the public authority was to deter the father and mother as much as possible from seeking any assistance, with the result that numbers of babies were maimed and spoiled. Many were killed, but, far worse than that, many were so crippled that they could not grow up into hearty and strong people. The mortality among the infant children of the poor was enormous, and death resulted from preventable causes. In addition they suffered from diseases such as rickets, which destroyed all chance of the child becoming a healthy adult. The mothers, by the inadequate amount of Poor Law relief, were driven out to work, and, consequently, the infants were neglected and suffered from conditions which the care and attention of the mother would guard them against. Happily, however, the public health authorities in all great towns now watched over women who were about to become mothers through the means of health visitors, who saw that everything for the proper birth of children was provided, and that efficient medical assistance was called in where required; that assistance was given without any taint or suggestion of pauperism. The result had been that health visitors were already far more numerous than relieving officers, and the public authorities under whom they were acting were not only overlapping but destroying the Poor Law administration. If things remained as they were, in a very few years in all the great towns where the Public Health Act was put in force the work of the health visitors would supersede that of the Poor Law guardians. If the Poor Law guardians were swept away, the children would not be turned into the street, but would be far more effectively relieved than they had been by boards of guardians. Children in schools had within recent times been in a most miserable condition of degeneracy. The statement that that was the case had in the past been received with contempt by a great number of high public authorities and had been denied. Four years ago he had formed one of a party which visited a school in Lambeth not half a mile from the House of Commons. Included in the party were Dr. Macnamara, Lady Warwick, Dr. Hutchison, Physician to the Children's Hospital in Great Ormond Street, and himself, and within an hour or two Dr. Hutchison had picked out from the school children 20 boys as to whom he said he was prepared to go into a court and say they were actually in a state of hunger, and that they demanded immediate food and ought to be at once relieved. The condition of the children was brought to the notice of the Lambeth Board of Guardians, who were sitting at the time, but without success. He understood that this winter 65,000 children of the poorer classes would be fed by the London County Council. The authorities at present dealing with the children were the local education authority, the Poor Law guardians, and the police; but so imperfect were the arrangements of these authorities, that it was not difficult to find children of the same family being relieved by each authority. The education authority was rapidly superseding the others. By recent legislation it fed the children and provided for medical inspection of them. It relieved their physical wants and attended to their medical necessities, and by means of Children's Care Committees it was possible to look after all the children who attended school. It had been the doctrine of educational authorities some years ago to have no care for the bodies of the children and only for their minds, but that had been changed. Dealing with the sick poor, Sir John pointed out that they were under two rival authorities. It was to the interest of the State that a sick man should be cured as fast as possible, and turned as fast as possible from being a burden on the community into being a wage-earning self-maintaining citizen. The health authority acted upon an entirely different principle to the board of guardians. It tried to save life; it found out cases before the board of guardians could, and watched cases by means of health visitors. There was no stigma of pauperism attaching to it, and the health authority, if let alone, was quite capable of taking care of the whole of the sick of the country without any great increase of expenditure, and with great success. The feeble-minded were the great curse of the workhouses and Poor Law institutions. Two Commissions, one in Ireland and one in England, had dealt with the subject, and each had unanimously recommended the entire removal of the care of the feeble-minded from the Poor Law authority to the lunacy authority of the county. With regard to the aged and infirm, a new policy had been inaugurated of giving pensions, which was a much better and cheaper way of keeping an old person than by means of the poor-house. As to the able-bodied poor, they were being taken out of the care of the Poor Law authorities by steps recently taken for the establishment of local relief committees, who were dealing with them in a far better way than they had been dealt with in the miserable attempts at maintaining them under the Poor Law in stone yards and casual wards.

The Dean of Norwich (the Rev. Russell Wakefield), a member of the Royal Commission, spoke of the loss to the community involved in the present unsatisfactory method of dealing with the able-bodied unemployed, and advocated an extension of the colony system.

Mrs. Sidney Webb, also speaking as a member of the Royal Commission on the Poor Law, said that the great problem to be dealt with was the "morass of destitution." The roads leading to the morass were neglected children and infants, preventable sickness, feeble-mindedness, unemployment, and old age. Drink was a concomitant factor of each. To deal with destitution there were two ancient institutions: One, the Poor Law—some three or four hundred years old; and the other, charitable relief—much older still. Poor Law relief might be made so intolerable as to be prohibitive, or so inviting as to be an abuse, and either method was bad. With regard to charitable relief, the Charity Organization Society picked the person gingerly out of the morass, looked at him from top to toe, inquired by which "road" he came into the "morass," asked how many public-houses he had called at on the way, what he lived on at the commencement of the "road," and then, if it did not like him, put him back again. If he was a plausible person, and told a great many "tales" about his grandfather and grandmother, he was given a push on the road by which he had come, but he generally returned to the "morass." Such methods of dealing with destitution were old and out of date. Looking up the road of neglected infancy, a young authority some 60 years of age was to be seen, which was beginning to consider how to prevent infants running down to the "morass of destitution," that was the public health authority. It was neither empowered or required to deal with neglected infants, but in certain districts, where there was progressive administration, the public health authority was beginning to think that the road of neglected infancy ought to be stopped up, and it sent health visitors to places where children were born, who advised the mothers and awakened in them a sense of parental responsibility. Necessities, such as milk, were provided, for which the people paid, and there was no stigma of pauperism. The Minority Report of the Royal Commission recommended that the public health authority should be required and empowered to search out cases of neglected infants and bring pressure to bear on the mothers so that they fulfilled their maternal responsibilities. The Departmental Committee on the Care of Children under Five Years of Age received a good deal of evidence, and made a recommendation in favour of making the Public Health Committee supervise the lives of infants up to school age. It was extraordinary that so much money should be spent in looking after children over

5 years of age, when they were permitted to be entirely ruined before that age. With regard to neglected childhood, the education authority had hitherto only considered illiteracy, which was unimportant as compared with bodily welfare, and Mrs. Webb contended that that authority should deal with the latter. Further, supervision was required between the years of 14 and 18 in the difficult and dangerous period of adolescence. The public health authority dealt with sickness; seventy years ago typhus fever devastated whole towns, but that cause of destitution had been stopped. The signatories of the Minority Report said that the principle which had been applied to typhus, small-pox, and scarlet fever should be applied to phthisis and other diseases. All diseases, if taken early enough, were preventable; but under the Poor Law only destitute cases were dealt with. It was only when such people were in the "morass" that they could be touched by the Poor Law, and by that time they had probably infected their families. It was, therefore, suggested that the public health authority should be empowered and required to deal with all illness as it dealt with infectious disease, searching out sickness and treating it in the incipient stage. Such work need not be done gratuitously; the cost should fall on the people, in the same way as owners or occupiers of houses had to pay for making them a proper environment for the dwellers. At the beginning of the feeble-minded "road" to the "morass of destitution" was the lunacy authority, which was required and empowered to search out lunacy in order to isolate it and prevent it demoralizing the rest of the population. The Royal Commission on the Feeble-minded had said that the Poor Law was not a proper authority to deal with feeble-mindedness, but that another authority should search out the cases, segregating them and preventing them harming the community. The "road" to the "morass" of unemployment should also be stopped up by prevention of unemployment. The drunkard should not be allowed to reach the stage of delirium tremens, and if he did not respond to the pressure put upon him to mend his ways, should find himself in an inebriates' asylum. Concluding her speech with an earnest appeal for funds and support, Mrs. Webb said that the membership had grown from 900 in July to 9,000 at the present moment.

Mr. Bernard Shaw said that moralizing on the subject was useless. The reason why for a whole century the job had not been done was because people had moralized about it instead of tackling it in a practical way. People were too fond of sympathizing with poverty; they must learn to hate it and stamp it out.

Mr. G. P. Gooch, M.P., and Mr. George Barnes, M.P., having spoken in support of the Minority Report, Mr. Robert Harcourt, M.P., proposed a vote of thanks to the speakers, which was seconded and carried unanimously.

CENTRAL MIDWIVES BOARD.

A meeting of the Central Midwives Board was held at Caxton House, Westminster, on October 7th, with Dr. F. H. Champneys in the chair.

Payment to Doctors called in by Midwives.

A letter from the Clerk of the Privy Council, transmitting an Order of Council continuing the present Rules in force for a further period of one year from September 30th, 1909, was received. Before the Board directed this letter to be entered on the minutes, Mr. E. Parker Young said that, as no provision had been made for the payment of medical men called in by midwives, some protest should be made. Resolution after resolution had been sent up by the Board on the subject, but nothing had been done. A short bill could be passed through Parliament easily because the matter was non-contentious.

The attention of the Board having been called to the report of the Midwives Act Committee, it was decided to hold a special meeting of the Board on October 28th. The Chairman, in the course of his remarks, intimated that the question of payment of medical men called in by midwives was one of the important matters that should be considered.

Complaint Against a Midwife.

A letter was considered from Dr. W. J. Robertson, of Clapham, complaining of the conduct of a certified midwife was further considered. The Board decided to refer the matter to the local supervising authority.

Examinations at Leeds.

A petition signed by Dr. S. H. Smith, of York, and other persons interested in the training of midwives in Yorkshire, asking the Board to permit the written examination to be held at some recognized centre in the county was further considered.

The Board decided: (*a*) That Leeds be constituted one of the provincial examination centres. (*b*) That the Secretary be instructed to communicate with the Registrar of the University of Leeds as to holding the examinations at the university, and as to the best method of advertising locally for examiners.

Notification of Stillbirth.

A letter was considered from the county medical officer for Worcestershire proposing that in cases in which a certified midwife sends in a notification of a stillbirth under the Notification of Births Act, the notice required by Rule E 20 (c) of the Board's Rules should not be insisted upon. The Board decided that the reply be that the Board has no power to dispense with any of its rules.

Uncertified Women Practising as Midwives.

A letter was considered from the Clerk of the Hunts County Council suggesting that some means (for example, advertising in the local papers) should be taken to draw the attention of the public and of uncertified women who are still practising as midwives to the fact that after April 1st, 1910, they will be debarred from so practising. The Board approved the suggestion, and considered that it should be carried out by the local supervising authority.

Infectious Disease.

A letter was considered from the Secretary of the Miller Hospital for South-East London, inquiring what course should be adopted on an occurrence of an outbreak of infectious disease in the house of a parturient woman. The Board decided that the reply be that the Board does not see its way to advise on such cases as are not dealt with by their rules and regulations.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE THIRD QUARTER OF 1909.

Specially Reported for the British Medical Journal.

In the accompanying table will be found summarized the vital statistics of the City of London and of the metropolitan boroughs, based upon the Registrar-General's returns for the third quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the various boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 28,851 births registered in London during the three months under notice were equal to an annual rate of 24.0 per 1,000 of the population, estimated as 4,835,938 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 26.5, 25.2, and 25.0 per 1,000 respectively, the average rate for the same period of the ten years 1899-1908 being 27.5 per 1,000. The birth-rates last quarter ranged from 13.2 in the City of London, 13.9 in Hampstead, 14.1 in the City of Westminster, 16.8 in Chelsea, 17.5 in Lewisham, 18.2 in Paddington, and 18.3 in Stoke Newington, to 29.2 in Bethnal Green, 29.9 in St. Marylebone and in Stepney, 30.5 in Shoreditch and in Bermondsey, and 35.7 in Finsbury.

During last quarter the deaths of 13,059 persons belonging to London were registered, equal to an annual rate of 10.8 per 1,000, against 14.8, 11.5, and 11.9 in the corresponding quarters of the three preceding years; in the third quarter of the ten years 1899-1908 the death-rate averaged 15.4 per 1,000. The death-rates in the several boroughs last quarter ranged from 6.0 in Hampstead, 8.2 in Lewisham, 8.8 in Paddington and in Woolwich, and 9.1 in Stoke Newington and in Wandsworth to 12.9 in Holborn and in Poplar, 14.0 in Bermondsey, 14.1 in Bethnal Green, 14.7 in Finsbury, and 16.0 in Shoreditch.

The 15,039 deaths from all causes last quarter included 1,620 which were referred to the principal infectious diseases; of these, 204 resulted from measles, 79 from scarlet fever, 110 from diphtheria, 223 from whooping-cough, 26 from enteric fever, 1 from ill-defined

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Third Quarter of 1909.

Boroughs.	Estimated Population middle of 1909	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Deaths from Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric Fever.	Ill-defined Pyrexia.	Diarrhœa.	Phthisis.	Deaths of Children under 1 Year of Age to 1,000 Births.
COUNTY OF LONDON ...	4,833,938	28,861	13,009	24.0	10.8	1.33	1,600	—	204	79	110	223	—	26	1	957	1,276	109
Paddington	151,955	690	335	18.2	8.8	0.71	27	—	12	2	3	2	—	1	—	17	34	93
Kensington	183,693	794	370	17.3	10.3	1.35	63	—	14	2	7	7	—	1	—	31	37	128
Hammersmith	125,704	705	317	22.5	10.1	1.63	53	—	12	1	3	12	—	1	—	24	35	118
Fulham	176,826	1,040	444	23.6	10.1	2.40	109	—	25	2	4	8	—	2	—	64	43	128
Chelsea	79,286	315	195	16.8	10.4	0.86	15	—	2	—	2	3	—	—	—	9	21	111
City of Westminster ...	168,883	593	396	14.1	9.4	0.52	22	—	4	2	6	3	—	1	—	11	38	99
St. Marylebone ...	126,027	938	391	29.9	10.2	0.71	22	—	—	3	1	3	—	1	—	14	29	53
Hampstead	94,185	326	147	13.9	6.3	0.39	9	—	2	1	3	2	—	1	—	—	9	55
St. Pancras	237,422	1,360	672	23.0	11.4	0.80	47	—	6	6	4	3	—	1	—	27	74	105
Islington	354,202	1,936	899	22.1	10.3	0.78	68	—	11	2	4	5	—	3	—	43	99	97
Stoke Newington ...	54,424	348	153	18.5	9.1	0.43	6	—	1	—	1	3	—	—	—	1	13	57
Hackney	237,651	1,450	565	26.0	9.6	0.94	55	—	1	1	—	7	—	—	—	46	62	105
Holborn	55,302	332	127	24.8	13.9	1.19	16	—	1	—	1	8	—	—	—	6	25	87
Finsbury	95,299	597	360	35.7	14.7	2.78	69	—	15	3	8	10	—	1	—	31	33	89
City of London ...	18,195	60	56	13.2	12.3	0.66	3	—	—	1	—	1	—	—	—	1	5	117
Shoreditch	114,802	865	459	30.2	16.0	2.86	82	—	11	2	—	11	—	—	—	53	48	179
Bethnal Green ...	131,316	955	465	29.2	14.1	2.88	94	—	6	10	1	9	—	—	—	68	39	151
Stepney	211,525	2,133	974	39.2	17.5	1.78	138	—	25	6	10	16	—	1	—	69	101	135
Poplar	171,965	1,231	595	28.7	13.8	2.47	105	—	17	7	4	12	—	1	—	65	49	133
Southwark	211,125	1,435	721	27.2	13.7	1.89	99	—	4	2	7	13	—	1	—	72	75	144
Bermondsey	127,569	961	475	30.2	14.9	1.95	63	—	1	5	4	13	—	—	—	39	49	138
Lambeth	334,188	2,100	848	26.0	10.5	1.42	116	—	14	6	12	9	—	1	1	73	80	95
Battersea	185,056	1,027	417	25.1	9.6	1.11	52	—	12	2	2	9	—	2	—	25	47	93
Wandsworth	297,646	1,714	673	24.6	9.1	0.84	62	—	11	2	4	9	—	2	—	24	50	91
Camberwell	283,022	1,608	684	22.8	9.7	1.09	77	—	2	3	9	11	—	1	—	51	66	98
Deptford	118,583	716	321	24.2	10.9	1.58	47	—	3	—	1	21	—	1	—	22	29	102
Greenwich	127,034	638	288	23.0	10.4	1.35	37	—	1	2	3	1	—	3	—	17	25	105
Lewisham	160,749	891	328	22.2	8.2	0.69	28	—	—	1	4	7	—	—	—	16	22	73
Woolwich	153,374	724	291	21.8	8.8	0.69	23	—	5	3	2	6	—	—	—	7	52	62

pyrexia, and 857 from diarrhœa, but not any from small-pox or from typhus. These 1,600 deaths were equal to an annual rate of 1.33 per 1,000, or 1.81 less than the average rate for the corresponding period of the preceding years. The annual death-rates from these diseases last quarter were 0.39 in Hampstead, 0.43 in Stoke Newington, 0.52 in the City of Westminster, 0.66 in the City of London, and 0.69 in Lewisham and in Woolwich: the highest rates were 2.40 in Southwark, 2.86 in Bermondsey, 2.40 in Fulham, 2.47 in Poplar, 2.78 in Finsbury, 2.86 in Shoreditch, and 2.88 in Bethnal Green. The greatest proportional mortality from measles was recorded in Kensington, Hammersmith, Fulham, Finsbury, Shoreditch, Stepney, and Poplar: from scarlet fever in St. Marylebone, St. Pancras, Finsbury, Bethnal Green, Poplar, Bermondsey, and Deptford; from diphtheria in the Cities of London and Westminster, and in Kensington, Finsbury, and Lambeth; from whooping-cough in Hammersmith, Holborn, Finsbury, Shoreditch, Bermondsey, and Deptford; from enteric fever in Fulham, Hampstead, Finsbury, Battersea, and Greenwich; and from diarrhœa in Fulham, Finsbury, Shoreditch, Bethnal Green, Poplar, and Southwark.

During the three months under notice the deaths from phthisis among London residents numbered 1,276, and were equal to an annual rate of 1.06 per 1,000, against 1.25, 1.12, and 1.10 in the third quarters of the three preceding years; the average rate in the corresponding period of the ten years 1899-1908 was 1.25 per 1,000. The death-rates from this disease last quarter ranged from 0.38 in Hampstead, 0.55 in Lewisham, 0.81 in Kensington and in Wandsworth, and 0.90 in Paddington, in the City of Westminster and in Greenwich, to 1.91 in Stepney, 1.35 in Finsbury, 1.43 in Southwark, 1.54 in Bermondsey, 1.68 in Shoreditch, and 1.86 in Holborn.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 109 per 1,000 last quarter, against 137, 98, and 129 in the corresponding periods of the three preceding years; in the third quarters of the ten years 1899-1908 the rate averaged 124 per 1,000. The lowest rates of infant mortality last quarter were recorded in Paddington, St. Marylebone, Hampstead, Wandsworth, Lewisham, and Woolwich; and the highest rates in Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,920 births and 4,665 deaths were registered during the week ending Saturday last, October 9th. The annual rate of mortality in these towns, which had been 15.0, 15.0, and 15.0 per 1,000 in the three preceding weeks, rose again last week to 12.9 per 1,000. The rates in the several towns ranged from 5.9 in West Ham, 6.8 in Rotherham, 6.6 in Croydon, 7.1 in Tynemouth, and 8.2 in Huddersfield and in Willesden, to 17.0 in St. Helens, 17.2 in Burnley, 18.0 in Newport (Mon.), 20.0 in Wigan and in Salford, 19.3 in Huddersfield and in Merthyr Tydfil, 19.5 in Leeds, and 21.1 in Bury. In London the rate of mortality was 12.2 per 1,000, while it averaged 13.1 per 1,000 in the other English towns. The deaths referred to the principal infectious diseases averaged 1.5 per 1,000 in the seventy-six large towns; in London the death-rate from these diseases was 1.1 per 1,000. Among the remaining towns the rates ranged from 0.0 in other large towns to 2.8 in Gateshead, 2.9 in Great Yarmouth, 3.0 in West Bromwich, 3.4 in Walsall, 3.5 in Coventry and in Merthyr Tydfil, 3.9 in Middlesbrough, and 4.3 in Hanley. Measles caused a death-rate of 1.5 in Coventry and in Merthyr Tydfil and 2.0 in Newport (Mon.); diphtheria of 1.5 in Hanley; "fever" of 1.6 in West Bromwich; and diarrhœa of 2.1 in Walsall, 2.3 in Gateshead, 2.5 in Hull, and 2.9 in Great Yarmouth. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. One fatal case of small-pox was registered last week, having been admitted to the Metropolitan Asylums Board's Hospital at Joyce Green, from the Borough of Sheppey. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospital and the London Fever Hospital, which had been 2,555, 2,686, and 2,737 at the end of the three preceding weeks, had further risen to 2,745 at the end of last week; 524 new cases were admitted during the week, against 421, 438, and 373 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, October 9th, 902 births and 428 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.1, 13.8, and 13.1 per 1,000 in the three preceding weeks, further declined last week to 12.0 per 1,000, and was 0.9 per 1,000 below the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 7.2 in Greenock and 10.2 in Paisley to 12.7 in Glasgow and 14.8 in Dundee. The death-rate from the principal infectious diseases averaged 1.5 per 1,000 in these towns, the highest rates being recorded in Paisley and Leith. The 215 deaths registered in Glasgow included 3 which were referred to measles, 2 to scarlet fever, 8 to diphtheria, 2 to enteric fever, and 8 to diarrhœa. Three fatal cases of scarlet fever and 2 of diarrhœa were recorded in Edinburgh; 2 of scarlet fever in Aberdeen; and 3 of diarrhœa in Dundee, and 2 in Paisley and in Leith.

HEALTH OF IRISH TOWNS.

During the week ending October 9th, 581 births and 380 deaths were registered in the twenty-two principal urban districts of Ireland, as against 553 births and 354 deaths in the preceding period. The annual death-rate in these districts, which had been 15.1, 16.9, and 16.2 per 1,000 in the three preceding weeks, fell to 15.1 per 1,000 in the week under notice, this figure being 2.2 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 16.8 and 12.8 respectively, those in other districts ranging from 3.9 in Waterford and 5.1 in Clonmel to 25.0 in Cork and 32.7 in Drogheda, while Londonderry stood at 9.7 and Limerick at 19.1. The zymotic death-rate in the fourth weekly return averaged 1.7 per 1,000, as against 1.9 per 1,000 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon H. V. Burwell to the *Bacchante*, October 5th; Fleet Surgeon H. B. Hall, M.B., to the *Lancaster*, October 5th; Staff Surgeon J. Mowat, M.B., to the *Crescy*, on recommissioning, October 19th; Fleet Surgeon J. K. Rampsden, M.B., to the *Fearless*, temporarily, October 6th; Surgeon W. K. D. Bruce to the *Victory*, additional, for disposal, October 7th; Fleet Surgeon A. G. Wildey and Surgeon J. McCutcheon, M.B., to the *Indefatigable*, on commissioning, October 25th; Fleet Surgeon G. Holgate to the *Firedrake*, October 19th; Staff Surgeon J. D. S. Mills, M.B., to the *Hercules*, undated.

ARMY MEDICAL SERVICE.

Colonel L. E. Anderson, who is serving in India, on being relieved of his charge as Officiating Principal Medical Officer, 8th (Lucknow) Division, will return to his appointment at Ahmadabad.

ROYAL ARMY MEDICAL CORPS.

Captains F. J. BRAMBRIDGE and R. L. V. FOSBER, M.B., are restored to the establishment, September 27th. Both these officers were seconded for service with the Egyptian army, Captain Brakenridge on September 27th, 1899, and Captain Foster on January 17th, 1906.

Examination of Majors for Promotion.

Attention is directed to Army Order, No. 185, of July, 1909. It is notified, for the information of all medical officers who may be affected by it, that in the examination of the Medical History of the Russo-Japanese war they will not be expected to enter into the *details* of the medical and sanitary reports in the book recommended, but only to show a general knowledge of its medical history as may be gathered from them.

SPECIAL RESERVE OF OFFICERS.

ROYAL REGIMENT OF ARTILLERY.

SURGEON-LIEUTENANT-COLONEL JAMES RAWLINGS, Durham Royal Field Reserve Artillery, resigns his commission, October 15th; he retains his rank and uniform.

ROYAL ARMY MEDICAL CORPS.

Lieutenant W. M. BROWNE, from the Army Medical Reserve, to be Lieutenant on the Supplementary List, and to retain the rank and seniority he held in the Army Medical Reserve, September 23rd. JOHN C. HALL, M.B., to be Lieutenant on the Supplementary List, August 18th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Third London (City of London) Field Ambulance.—REGINALD M. VICK to be Lieutenant (to be Supernumerary), July 23rd.

For Attachment to Units other than Medical Units.—Lieutenant H. S. WALKER to be Captain, April 1st, 1908; Surgeon Major J. H. G. WHITEFORD, M.B., and Surgeon Captain JOHN ROWAN, M.B., from the Clyde Division (Electrical Engineers), Royal Engineers (Volunteers), to be Major and Captain respectively, with precedence as in the Volunteer Force, April 1st, 1908.

Hospitals and Asylums.

HEREFORD COUNTY AND CITY ASYLUM.

THE annual report for 1908 of Dr. C. S. Morrison, the Medical Superintendent of this asylum, shows that on January 1st, 1908, there were 531 patients on the asylum registers, of whom 477 were chargeable to Hereford, and that on the last day of the year there were 507 on the registers, of whom 497 were chargeable to Hereford. An increase of rate-paid cases, with a diminishing general population, Dr. Morrison says, is a recurring feature in his annual reports. The total cases under care during the year numbered 614, and the average number daily resident 518. During the year 83 were admitted, of whom 75 were direct admissions, 2 transfers, and 2 statutory readmissions. With regard to the duration of disorder in the direct admissions, in only 26 were the attacks first attacks within three and in 7 more within twelve months of admission; in 11 not-first attacks within twelve months; in 2 the duration was unknown, and in the remainder the attacks were either of more than twelve months' duration on admission (18) or congenital cases (12). These direct admissions were classified according to the forms of mental disorder into: Mania of all kinds 22, melancholia of all kinds 17, senile and secondary dementia 17, delusional insanity 7, primary dementia 3, insanity with epilepsy 4, acute delirium and confusional insanity 1 each, and congenital or infantile defect 14. As to probable causation, alcohol was assigned in 8, or 10.6 per cent., acquired syphilis in 2, influenza in 5, and "thyroid insufficiency" in 27, critical periods in 5, disease of the nervous system in 15, other bodily disorders in 65 (cardio-vascular degeneration in 21 and renal and vesical diseases in 15), malnutrition in 6, bodily trauma in 6, and mental stress in 12. An insane heredity was ascertained in 15, or 20 per cent., a neurotic and an alcoholic heredity each in 5, an heredity of epilepsy in 1, and of eccentricity also in 1. The above figures give a total neuropathic heredity in 54.6 per cent. of the direct admissions. During the year 19 were discharged as recovered, giving a recovery-rate on the direct admissions of 27.6 per cent., or of recoveries in the direct admissions on the direct admissions of 21.3 per cent.; also 51 as relieved and 3 as not improved. The low recovery-rate was evidently due to the unfavourable class of admissions, for we see that of the 75 new cases admitted during 1508 only 10 were discharged as recovered and 5 as relieved. No less than 60 of the year's admissions remained in the asylum at the end of the year. During the year 34 died, giving a death-rate on the average numbers resident of 6.5 per cent. The deaths were due in 12 cases to cerebro-spinal diseases with only 1 death from general paralysis, in 9 to diseases of the heart and blood vessels, in 5 to respiratory diseases, in 4 to abdominal diseases and in the remainder to general diseases, with only 2 deaths from tuberculosis. The general health was good throughout the year except for epidemic diarrhœa and dysentery which prevailed throughout the year. Dr. Morrison in his report draws attention to the impossibility of securing any form of isolation in his asylum, and the Commissioners in Lunacy in their report speak of the prevalence of dysentery as "a serious indictment of the sanitary condition of the asylum."

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Male House Surgeon. Salary, £100 for first year, increasing to £120.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—(1) Senior House-Surgeon; (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

BOURNEMOUTH: ROYAL DOSCOMBE AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BOURNEMOUTH: ROYAL NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer. Salary, £10 a month.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients.

CORK: UNIVERSITY COLLEGE.—Demonstrator in Physiology. Salary, £150.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House-Physicians. Honorarium, £25 for six months.

KING EDWARD VII. SANATORIUM, Midhurst.—Junior Assistant Medical Officer. Salary, £100 per annum.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.—Sambrooke Medical Registrar.

LEAVESDEN ASYLUM.—Male Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary, £100 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—(1) Assistant Surgeon; (2) Two Assistant Anæsthetists.

MAIDSTONE: KENT COUNTY ASYLUM.—Male Fourth Assistant Medical Officer. Salary, £175 per annum.

MERTHYR TYDFIL UNION.—Assistant Medical Officer for the Workhouse. Salary, £150 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Senior and Junior Resident Medical Officers. Honorarium, £100 and £50 per annum respectively.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary at the rate of 50 guineas a year each.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—(1) House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon; (4) Junior House-Physician. Salary for (1) and (2) at the rate of £75 per annum, and (3) and (4) £40 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Assistant Resident Medical Officer. Salary, £75 per annum.

ROYAL EAR HOSPITAL, Dean Street, Soho, W.—Honorary Assistant Anæsthetist.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Assistant Physician.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at the rate of £40 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Pathologist and Curator. Honorarium, £50.

SALFORD ROYAL HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

STAFFORDSHIRE COUNTY ASYLUM, Cheddleton.—Junior Assistant Medical Officer. Salary, £150 per annum.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, N.—Assistant Medical Officer (male). Salary, £100 per annum.

TAUNTON: TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £50 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, W.—Resident Medical Officer. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Llansawel, co. Carmarthen, and Barnet, co. Hertford.

APPOINTMENTS.

ADDERLEY, Miss Annie E., M.B., Ch.B., Assistant Medical Officer at Springfield Asylum of the Fife and Kinross Lunacy Board.

BOYD, William, M.B. Edin., Assistant Medical Officer to the Derby Borough Asylum.

CROWE, H. Neville, M.B., Ch.B., M.R.C.S., L.R.C.P., Assistant Surgeon, Ophthalmic Hospital, Worcester.

DESPREZ, H. S., L.R.C.P. and S. Edin., L.F.P.S. Glas., Certifying Factory Surgeon for the North Tawton District, co. Devon.

GRANT, Robert, M.D., Certifying Factory Surgeon to the Cromer District, co. Norfolk.

Macdonald, Angus, M.B., Ch.B., House-Surgeon to Mr. Struthers at the Surgical Out-patient Department, Edinburgh Royal Infirmary.

Sprawson, F. E., M.R.C.S., L.R.C.P., L.D.S., Joint Medical Superintendent, National Dental Hospital, Great Portland Street, W.

Steadman, F. St. J., M.R.C.S., L.R.C.P., L.D.S., Joint Medical Superintendent, National Dental Hospital, Great Portland Street, W.

Watson, C. Gordon, F.R.C.S., Surgeon to the Royal General Dispensary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

Neild.—On October 3rd, at 9, Richmond Hill, Clifton, Bristol, to Dr. and Mrs. Newman Neild, a daughter.

DEATH.

Howard.—On the 12th inst., at 219, Cromwell Mansions, S.W., Frances Lewin, the wife of Colonel Frank Howard (retired), Army Medical Staff.

PUBLISHERS' ANNOUNCEMENTS.

Mr. Murray's list of new books includes a work entitled *Mosquito or Man?* and the *Conquest of the Tropical World*, by Sir Rubert W. Boyce, in which a brief account of the movement for the better study of tropical diseases is given.

Messrs. Bailliere, Tindall, and Cox announce that they have ready for immediate publication a new edition of Jellett's *Manual of Midwifery*. This has been for the most part rewritten, and many new and original illustrations have been added.

Messrs. G. Bell and Sons have sent us the prospectus of a new book entitled *Southern Rhodesia*, by Mr. Percy Hone, who is a resident of Salisbury, and has been engaged for some years in farming, mining, and Government work in Rhodesia. The work is an attempt to record the administrative and industrial development of Southern Rhodesia since its occupation by the British South Africa Company. "It is hoped that the book will be of use as a work of reference to those who have invested money in Southern Rhodesia, to the settlers who take an active interest in the administration of their own territory, and to the people of the Southern Colonies who have considered the future relationship of Southern Rhodesia to the rest of United South Africa."

Messrs. Rebman, Limited, announce the following for issue in the course of the present month: A new work on *Naval Hygiene*, by Dr. James Duncan Gatewood, of the United States Naval Medical School; and a little book by Dr. Robert Park, entitled *The Case for Alcohol*, or *The Actions of Alcohol on Body and Soul*, based largely upon the researches and discoveries of the late Emil Duclaux, who succeeded Pasteur at the Pasteur Institute in Paris. The same publishers have also in the press a new edition of Sir John William Moore's well known book on *Meteorology, Practical and Applied*, which has been thoroughly revised and largely rewritten; and an authorised translation into English from the German of Dr. Max Joseph's *Short Handbook of Cosmetics*, with 151 recipes.

Messrs. George Allen and Son have nearly ready a book entitled *China: Its Marvel and Mystery*, by T. Hodgson Liddell, B.A., with 40 illustrations in colour by the author. Mr. Liddell was admitted to parts of the Imperial Palace never before opened to a European author or artist. His work there is absolutely unique. He describes with brush and pen Hong Kong, Canton, Macao, Shanghai, Soochow, and the Great Lake Districts, Hangchow and the West Lake, Tientsin, Peking, and many other places. He teaches in his text on the strange, wonderful river scenes, the Great Wall, the gorgeous palaces, and the life and character of the Chinese, and gives an impressive account of what occurred with the officials on the death of the Empress Dowager.

RECENT PUBLICATIONS.

Consultations médicales Françaises. Fascicules 1-7. Paris: A. Poinat. Editeur. 1909.

Brief monographs on sundry medical and surgical subjects by various more or less well-known authorities issued gratis to subscribers to the *Journal Médical Français*, and obtainable post free at about 6d. each. Being easily carried, they might prove useful to those desirous of studying medical French at odd moments.

Norwegian Self-taught. By C. A. Thim. (Marlborough's Self-taught series.) Fourth edition. Revised and enlarged by P. Th. Haussen. London: E. Marlborough and Co. 1909. (Cr. 8vo, pp. 128. 2s. 6d.)

Contains several hundred phrases and short sentences of a kind useful on ordinary tours or motor expeditions and in commerce, translated into their Norwegian equivalents, the words used being represented phonetically. There is also a section devoted to elementary grammar. The volume is one of a well-known series of primers which is certainly of assis-

DIARY FOR THE WEEK.

MONDAY.

Royal College of Physicians of London, Pall Mall East, S.W., 4 p.m.—Harveian Oration by Dr. G. H. Savage.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Shattock: Osteoma.

TUESDAY.

Royal Society of Medicine:

Pathological Section, 20, Hanover Square, 8.30 p.m.—(1) Presidential Address by Dr. F. W. Mott, F.R.S.: The Present Position of the Neurone Doctrine in Relation to Neuro-pathology. (2) Papers: Professor S. G. Shattock: Rhabdomyoma of Urinary Bladder; Mr. J. Burton Cleland: Eosinophile Cells in the Exudate from Tick Bites on a Horse.

THURSDAY.

Ophthalmological Society of the United Kingdom, 11, Chandos Street, Cavendish Square W., 8 p.m.—Card specimens. 8.30 p.m. (1) Introductory Address by the President (Dr. G. A. Berry); (2) Papers: Mr. Priestley Smith: (1) A Note on the making of Pedigree Charts; (2) A Pedigree of Congenital Discoid Cataract.

Royal Society of Medicine:

Dermatological Section, 20, Hanover Square, 5 p.m.—Dr. J. M. H. MacLeod: Cystic Rodent Ulcer treated by Radium. Dr. R. G. Adamson: (1) Small Follicular Syphilide; (2) Multiple Scars simulating Leucoderma Syphilitica.

FRIDAY.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith. Specimens illustrating various forms of Congenital and Acquired Diverticula of the Alimentary Canal.

Royal Society of Medicine:

Epidemiological Section, 20, Hanover Square, 8.30 p.m.—Presidential Address by Dr. James Niven: The Relation of Poverty to Disease.

Section of Diseases of Children, 20, Hanover Square, 4.30 p.m.—(1) Cases and Specimens. (2) Papers: Dr. A. Dingwall-Fordyce: Pathology of Some Liver Conditions in Childhood: Dr. J. Walter Carr: Case of Pneumococcal Infection in an Infant Simulating Generalized Tuberculosis.

POST-GRADUATE COURSES AND LECTURES.

Central London Throat and Ear Hospital, Gray's Inn Road, W.C.—Lectures: Tuesday, Middle Ear and Labyrinth; Friday, 3.45, Middle Ear and Labyrinth.

London School of Clinical Medicine, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.: Medical and Surgical Cases, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday: Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Tuesday, 3.15 p.m., Stone in the Kidney. Friday, 2.15 p.m., Jaundice.

Medical Graduates' College and Polyclinic, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day:—Monday, Skin; Tuesday, Medical; Wednesday, Surgical: Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, "Functional Paralysis"; Tuesday, "Malignant Ovarian Tumours"; Wednesday, "The Prognosis of Functional Nervous Disorders"; Thursday, "Heart Disease in Children."

National Hospital for the Paralysed and Epileptic, Queen Square, W.C.—Monday and Thursday, 4 p.m., The Anatomy of the Spinal Cord. Tuesday, 2.30 p.m., Paraplegia and its Treatment. Friday, 3.30 p.m., Cerebral Tumours.

North-East London Post-Graduate College, Prince of Wales's General Hospital, Tottenham.—Monday, Clinics. 10 a.m., Surgical Out-patient. 2.30 p.m., Medical Out-patient: Nose, Throat and Ear; X rays: 4.30 p.m., Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations: Clinics: Surgical, Gynæcological; 4.30 p.m., Demonstration of Selected Medical Cases. Wednesday, 10 a.m., Medical Out-patient, Skin and Eye Clinics. Thursday, 2.30 p.m., Gynæcological Operations: Clinics: Medical Out-patient; Surgical Out-patient; X rays; 3 p.m., Medical In-patient. Friday, Clinic: 10 a.m., Surgical Out-patient; 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient; 4.30 p.m., Lecture: Sepsis.

Post-Graduate College, West London Hospital, Hammersmith, London, W.—The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics; X Rays: 2.30 p.m., Operations; Monday, Wednesday, Thursday, and Saturday, 10 a.m., Diseases of the Eyes: Tuesday and Friday, 10 a.m., Gynæcological Operations; 2 p.m. (Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin: Wednesday and Saturday, 10 a.m., Diseases of Children: Wednesday, 2.30 p.m., Diseases of Women. Lectures: 10 a.m., Monday and Thursday. Demonstration by Surgical Registrar: Friday, Demonstration by Medical Registrar; at 12 noon, Pathological Demonstration; at 12.15 p.m. Tuesday, Wednesday, and Saturday, Practical Medicine: At 5 p.m., Monday, Undue Mobility of Kidneys, and Consequences; Tuesday, Clinical; We[illegible] Mr. [illegible] In-

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
16 SATURDAY ..	Ceylon Branch, Ordinary Meeting, Colonial Medical Library, 2.30 p.m.
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	London: Journal and Finance Committee, 2.30 p.m. London: South-Eastern Branch Council, 3 p.m. Cardiff Division, *South Wales and Monmouthshire Branch*, Cardiff Infirmary, 3.30 p.m. Dorset and West Hants Branch, Sherborne, 3.30 p.m.; Dinner, Half Moon Hotel, 6 p.m.
21 THURSDAY ..	Gloucestershire Branch, General Meeting, General Hospital, Cheltenham, 7 p.m.: Supper, Cosy Corner, Promenade, afterwards. Metropolitan Counties Branch, Meeting of Branch Council, St. James's Vestry Hall, Piccadilly, W., 5 p.m. South Midland Branch, Autumn Meeting, Leighton Buzzard, 2 p.m.
22 FRIDAY ..	Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m.; Dinner, 6.15 p.m.
23 SATURDAY ..	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	**London: Central Council, 2 p.m.** Richmond Division, *Metropolitan Counties Branch*, Annual Dinner, Trocadero Restaurant, 8 p.m.

Date.	Meetings to be Held.
OCTOBER *(Continued).*	
28 THURSDAY ..	Norwood Division, *Metropolitan Counties Branch*, Queen's Hotel, Upper Norwood, 4 p.m.; Committee, 3.45 p.m.
29 FRIDAY ..	Maidstone Division, *South-Eastern Branch*, Kent County Ophthalmic Hospital, Maidstone, 3.30 p.m. Tottenham Division, *Metropolitan Counties Branch*, Tottenham Hospital, 4.30 p.m.
30 SATURDAY ..	
31 Sunday ..	
NOVEMBER.	
1 MONDAY ..	
2 TUESDAY ..	Warrington Division, *Lancashire and Cheshire Branch*, Scientific Meeting, Infirmary, Warrington, 8 p.m.
3 WEDNESDAY	
4 THURSDAY ..	
5 FRIDAY ..	London: Special Poor Law Reform Committee, 2.30 p.m. Guildford Division, *South-Eastern Branch*, Autumn Meeting, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Tea, 4.15 p.m.; Dinner, Lion Hotel, 6.30 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	
10 WEDNESDAY	
11 THURSDAY ..	City Division, *Metropolitan Counties Branch*, Pathological Demonstration, St. Bartholomew's Hospital, 4 p.m.

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

The British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the British Medical Journal is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the British Medical Journal for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 23RD, 1909.

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

ABERDEEN BRANCH.

THE annual meeting of this Branch was held in the Grand Hotel, Aberdeen, on Saturday, October 16th, at 1.15 p.m. The PRESIDENT (Dr. George Williamson) occupied the chair, and there was a good attendance of members.

Confirmation of Minutes.—The minutes of the last meeting, and the Council's report for the past year, were read and approved.

Treasurer's Report.—The Treasurer's report, which showed a balance for the year of £23 13s. 10d., was also approved.

Election of Officers.—The following were then appointed office-bearers for 1909-10:—*President*, Dr. Patrick Mitchell, Old Rain; *President-elect*, Dr. John Gordon, Aberdeen; *Vice-Presidents*, Dr. Cran, Banchory; Dr. G. Williamson, Aberdeen; *Treasurer*, Dr. J. R. Levack; *Secretaries*, Dr. Thomas Fraser, 45, Elmbank Terrace, Aberdeen; Dr. F. K. Smith, 207, Great Western Road, Aberdeen; *Council (County)*, Dr. Rorie, Cults; Dr. Middleton, Peterhead; Dr. Davidson, Torphins; *(Town)*, Dr. Lister, Dr. Geddie, Dr. Dalgarno; Dr. Yule, Lerwick, Shetland; Dr. Bell, Kirkwall, Orkney; *Representative at Annual Representative Meeting*, Dr. Lawson, Nordrach-on-Dee, Banchory, was reappointed Representative to the Representative Meeting.

Summer Meeting.—The arrangements for the summer meeting were referred to the Council.

Vote of Thanks.—Dr. J. F. Christie, who resigned the post of Senior Secretary at this meeting, was warmly thanked for the excellent work he had done for the Branch.

Luncheon.—The members afterwards had lunch together in the hotel.

BATH AND BRISTOL BRANCH:
TROWBRIDGE DIVISION.

Chairman's Meeting.—An interesting innovation has been introduced in this Division in the form of a "Chairman's meeting," when a mixed audience is invited to listen to a more or less popular lecture on a scientific topic. The innovation commenced last year, when the then chairman, Dr. Tubb-Thomas, invited Dr. Macnaughton Jones to lecture on Pasteur.

Address.—On October 7th Mr. JAMES CANTLIE visited Frome, on the invitation of Dr. Rattray, and gave an extremely interesting address on the Influence of Vermin in the Spread of Disease. The assembly room of the George Hotel was filled by a considerable audience of ladies and gentlemen, twenty-four medical men being present. Mr. Cantlie commenced his address by dealing with the instinctive aversion felt towards vermin and reptiles, and explained this on the scientific basis of their influence as carriers of disease. The medium of the domestic animals was then explained, and it was shown how tuberculosis might be spread by the cow, glanders by the horse, trichinosis by the pig, and an interesting account was given of the spread of Malta fever by means of goat's milk, and the measures taken to control the disease. The lecturer then passed in review the influence of the house-fly in typhoid fever, of the louse in leprosy, of the tsetse-fly in sleeping sickness, and of the mosquito in malaria. The former incidence of plague in this country was then narrated, with the rôle of the rat and its attendant flea: and, in an interesting "aside," Mr. Cantlie explained the origin of the emblem of the snake as a healer of disease. An excellent series of limelight illustrations was then thrown upon the screen, showing the malarial parasite in its various stages, the guinea worm, filaria, and leprosy.

Votes of Thanks.—A hearty vote of thanks to Mr. Cantlie for his extremely interesting address was proposed by the CHAIRMAN (Dr. Rattray), and seconded by Dr. H. P. TAYLER. Dr. WILLCOX proposed and Dr. LOCKET seconded a vote of thanks to Dr. and Mrs. Rattray for all they had done to arrange a very successful meeting. Thanks were also accorded to Messrs. Down Bros., Limited, and to Messrs. Oppenheimer, Son, and Co., Limited, whose representatives attended the meeting, and showed an excellent series of the exhibits of their firms.

Tea.—The company was then entertained to tea by the kindness of Dr. and Mrs. Rattray.

BIRMINGHAM BRANCH.

A SPECIAL and ordinary meeting was held at the Medical Institute on Thursday, October 14th, at 3.30 o'clock. The PRESIDENT (Dr. Manley) was in the chair, and thirty-four members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

Organization Subcommittee.—The following resolution was moved by the PRESIDENT, seconded by Dr. LYDALL, and carried unanimously:

That an Organization Subcommittee be formed, consisting of the officers of the Branch and secretaries of the Divisions, with the view of arranging canvassing committees for each Division.

Annual Dinner.—It was resolved that the annual dinner be held this year on November 11th. It was resolved that Rule 12 be altered so that the Council may exercise their discretion in fixing the date of the annual dinner.

Dietetic Theories of America.—Dr. ALEXANDER BRYCE read a paper entitled, A Personal Investigation into the Dietetic Theories of America. The trip to America was undertaken with the object of reconciling the divergent and apparently hostile dietetic theories which had emanated from that country. Some time was spent in the research laboratories of the Battle Creek Sanatorium, the well-known vegetarian institution under the superintendence of Dr. J. H. Kellogg. The system of diet practised there was the low protein fleshless one, which seemed to be acceptable in the main alike to patients and attendants. It appeared specially applicable for giving endurance, as was demonstrated by the superior calibre of the men from that institution as compared with the selected meat-eating Yale athletes. Dr. Harvey Wiley, of Washington, while believing that the practice of medicine in the future would be largely a practice of dietetics, had no patience with fads in foods. Dr. Francis G. Benedict, of the Nutrition Laboratory, Boston, studied diet from the standpoint of the energy it evolved, and in all cases found that, based on this evidence, scanty diets were less common than was supposed. Professor Folin, of Harvard, believed that the average man could adapt himself to any form of diet. Chittenden, Mendel, Irving Fisher, and Anderson, of Yale, were all low protein, mixed food advocates. There were three classes of dietetic reformers: (1) Flesh abstainers; (2) purin-free feeders; (3) low protein feeders. These systems were contrasted and compared, and the conclusion reached that moderation in all things was the only sensible doctrine. Probably most men conformed more closely to the low protein diet than they were willing to admit. The healthy man could live on any system of diet by attention to moderation and regularity, but the unhealthy man must look to the dietetic expert to guide him in the selection of the best system or kinds of food to suit his case. The paper was discussed by Drs. ALFRED CARTER, MALET, WILKES, HENTON-WHITE, OAKES, MELSON, LYDALL, POTTS, KIRBY, PIETERSEN, and THOMAS WILSON. Dr. BRYCE replied.

CENTRAL DIVISION.

Payment to Medical Practitioners attending Midwives' Calls.

THE efforts of the Central Division to secure adequate remuneration for medical practitioners attending midwives' calls commenced soon after the Midwives Act became law, and at a general meeting of the Division in March, 1905, a scale of fees drawn up by the Executive Committee received the approval of the members, who expressed the opinion that the fees should be paid by some public authority in cases where the patient could not pay, and the local supervising authority rather than the guardians should make these payments.

Until it was decided through which authority payment should be made nothing more could be done, but when in July, 1907, the Local Government Board issued a circular letter to boards of guardians urging payment through the Poor Law authority, negotiations were at once opened with the Birmingham Board, which resulted in the adoption by that body of the Division's suggested scale. This arrangement was admittedly tentative, and was extended from quarter to quarter until August this year, when the Executive Committee received a letter from the clerk to the guardians asking a deputation to meet them with a view to the rearrangement of the scale. The executive appointed a deputation, who met the guardians and presented the following report to the executive on October 6th, 1909:

REPORT OF DEPUTATION TO THE GUARDIANS.

The deputation appointed by the Executive Committee on August 18th to meet the guardians with a view to the rearrangement of the scale of fees payable to medical practitioners called in to assist midwives in destitute cases within the parish of Birmingham attended at the parish offices on September 2nd, at 3.45 p.m. Dr. Neal was unfortunately prevented from attending, but the other three members of the deputation were present.

The principal point upon which the members of the Outdoor Relief and Dispensary Committee, the body to which this matter had been referred, seemed to require information was the fact that, out of 41 cases attended by medical men, in 33 claims had been sent in for the maximum fee. There was no suggestion made that the claim was in any single case unfounded, but the large preponderance of the more serious conditions struck the Committee as serious.

It was pointed out that it was only in the more serious cases that some midwives would send, and that in many cases the smaller fees would be met by the patients themselves.

The Committee seemed anxious to adopt some uniform fee to apply to all cases, but as your deputation had no authority to discuss such a proposal, no definite suggestion as to fee was made. It was then pointed out to the Committee that the Local Government Board Departmental Committee on the Working of the Midwives Act had recently presented its report, one recommendation of which is that the Local Government Board should itself fix a scale of fees.

The existence of this report came as a surprise to the Committee, and it was eventually decided under the circumstances to recommend that the present scale be continued until the end of the year.

At the same time the members of the deputation undertook to bring the question of a fixed fee to apply to all cases before this Executive for discussion.

(Signed) E. D. KIRBY, W. T. LYDALL, J. H. WHITE } Members of Deputation.

(W. R. J. Initialled by Chairman of Division.)

Scale of Fees.

Clause A.—5s. for first visit, and 2s. 6d. for any subsequent visits.

Clause B.—1. £2, to include five subsequent visits.

2.
3.
4.
5. } One guinea, to include five subsequent visits.

Clauses C and D.—5s. for first visit, and 2s. 6d. for subsequent ones, but if the case be one of puerperal septicaemia, the fee for the first visit to be 10s. 6d.

COVENTRY DIVISION.

Annual Dinner.—The annual dinner of this Division was held at the Masonic Hall on October 13th, when twenty-nine members and their guests attended. Dr. SNELL presided, in the regretted absence of Dr. Richardson Rice through illness. The visitors included Dr. Herbert Manley, President of the Birmingham Branch, and Dr. W. R Jordan, Chairman of the Central Division (Birmingham). Dr. MANLEY, in replying to the toast of his health by Dr. MILNER MOORE, discussed the effect that the adoption of the Poor Law Commission's report would have on the profession. He regarded such adoption in some shape inevitable, and urged the Association to be ready for the coming changes, and to use every influence to prevent the threatened extinction of the general practitioner. Dr. JORDAN, in replying for the visitors, which toast was proposed by Dr. J. ORTON, urged Coventry to maintain the fight on the dispensary question, and declared that the consultants of Birmingham would continue to give their sympathy and support as in the past. He assured the Division that two consultants who had inadvertently come to Coventry, in consultation with the medical officer of the dispensary, regretted their action, and that it would certainly not be repeated. Dr. PURSLOW also replied for the visitors. Music and bridge terminated the proceedings.

STIRLING BRANCH.

THE autumn meeting of the Branch was held on Thursday, October 14th, at 3 p.m., in the Queen Victoria Military School, Dunblane, by the kind permission of Colonel M. Grant Wilkinson, Commandant. Dr. J. ERNEST MOORHOUSE, Vice-President, was in the chair, and the other members who attended were Drs. Greig,

Sloan, Gardner, Dewar, Strachan, Highet, Currie, Wood, Buist, and the Honorary Secretary (Stewart). Drs. Balfour, Brown, Galbraith, Mitchell, and Johnstone were present as guests.

Apologies for Non-attendance.—Apologies for inability to attend were intimated from Drs. Griffiths and Hosack Fraser.

Confirmation of Minutes.—The Chairman signed the minutes of the previous meeting.

Letter from the President.—A letter was read from the President (Dr. Mitchell, Camelon) expressing his regret that, owing to illness, he was unable to be present. The Secretary was instructed to convey to Dr. Mitchell the sympathy of the Branch, and to express the earnest hope that he would soon be restored to health.

Annual Representative Meeting.—Dr. GEORGE GARDNER gave an able and interesting account of the proceedings of the Representative Meeting at Belfast. On the motion of the VICE-PRESIDENT (Dr. Moorhouse), seconded by Lieutenant-Colonel F. J. GREIG, it was resolved to award an honorarium to Dr. Gardner (who has proved one of the most enthusiastic Representatives the Branch has had the good fortune to possess) for his services.

Address.—Lieutenant-Colonel F. J. GREIG, R.A.M.C. (retired), late instructor, School of Instruction, R.A.M.C., Aldershot, and Honorary Consulting Surgeon to Queen Victoria Military School, Dunblane, gave an address on Medical Military Arrangements in Connexion with Home Defence. The lecturer expressed himself an enthusiastic advocate of national military service, and explained that the military status of the Territorial Force was immensely improved as compared with the Volunteer Force. With the aid of a diagram showing the normal distribution of the medical services to various formations, he gave a graphic account of the medical arrangements on active service. It is a severe test of the ability of a lecturer when he attempts to interest a professional audience on a subject which is in a measure foreign to their daily occupation and lines of thought. In the opinion of those who had the pleasure of listening to Lieutenant-Colonel Greig, he succeeded in his task to an eminent degree.

Vote of Thanks.—On the motion of Dr. MOORHOUSE, the lecturer was awarded the hearty thanks of the members for his instructive and enjoyable address.

Tea.—At the close of the meeting afternoon tea was served, and a vote of thanks to the Commandant, Colonel M. Grant Wilkinson, and Dr. S. M. Sloan, medical officer to the school, terminated a very successful meeting.

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 27th, in the Council Room, at 429, Strand, London, W.C.

By Order,

September 16th, 1909. GUY ELLISTON

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A general meeting of the Division will be held at the Medical Institute on Wednesday, November 17th, to elect a Representative for the Division. Nominations for this office must be in the hands of the Honorary Secretaries by October 27th.—A. W. NUTHALL, W. T. LYDALL, Medical Institute, Birmingham.

LANCASHIRE AND CHESHIRE BRANCH.—The Branch Ethical Committee will meet at the Liverpool Medical Institution at 4.30 p.m., on Wednesday, November 3rd. The Branch Organization and Finance Committee will meet at Onward Buildings, Deansgate, Manchester, at 4.30 p.m., on Wednesday, November 10th. The Branch Science Committee will meet in Manchester, at 4.30 p.m., on Wednesday, November 17th.—F. CHARLES LARKIN, Honorary Branch Secretary.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—A scientific meeting will be held at the Infirmary, Warrington, on Tuesday, November 2nd, at 8 p.m.—T. A. MURRAY, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH.—The Council of this Branch has made arrangements to hold a meeting, at which the three Direct Representatives of the Profession for England and Wales on the General Medical Council, Drs. Langley Browne, Latimer, and McManus, will address their constituents who are resident in the metropolis and its neighbourhood. The meeting will be held on Monday, November 22nd, at 4.30 p.m., at the St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus). All members of the profession are invited to attend, whether members of the Association or not.—E. W. GOODALL and W. GRIFFITH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: NORWOOD DIVISION.—The next meeting of this Division will be held on Thursday, October 28th, at 4 p.m., at the Queen's Hotel, Upper Norwood, Dr. J. Curling Bates in the chair. The committee will meet at 3.45. As matters of importance connected with the organization of the Division will be discussed, the committee earnestly desire a full attendance.—J. A. HOWARD, Honorary Secretary, 40, Harold Road, Upper Norwood, S.E.

METROPOLITAN COUNTIES BRANCH: RICHMOND DIVISION.—The annual dinner of this Division will be held at the Trocadero Restaurant, W., on Wednesday, October 27th, 1909, at 8 p.m.—G. CARDNO STILL, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—The next ordinary meeting of the Westminster Division will be held on Thursday, October 28th, at the Criterion Restaurant, the President, J. H. Dauber, M.A., M.B.Oxon, F.R.C.S.I., in the chair. At 7.30 p.m. the members will dine together (evening dress optional). The price of the dinner will be 5s. Members are cordially invited to bring guests, or if unable to attend the dinner, to come to the business meeting afterwards. 8.30 p.m., Ordinary business of the Association. Agenda: (1) Minutes. (2) Correspondence. (3) Report from Medical Secretary. (4) Report of Representative to the Annual Representative Meeting. 9.0 p.m., J. Bland-Sutton, Esq., F.R.C.S. will read a paper on Certain Aspects of Appendicitis. All members of the profession will be welcome at the meeting and at the dinner, if they will notify one of the Honorary Secretaries at least a day before the meeting.—J. HOWELL EVANS, 25, Berkeley Square, W.; W. A. MILLIGAN, 68, Park Street, Grosvenor Square, W., Honorary Secretaries.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting of this Branch will be held at Gray's Hospital, Elgin, on Saturday, October 30th, at 12.30 p.m. Members desirous of reading papers or showing cases will oblige by sending the name and title to the Honorary Secretary as soon as possible.—J. MUNRO MOIR, 4, Ardross Terrace, Inverness, Honorary Secretary.

SOUTH-EASTERN BRANCH: BROMLEY DIVISION.—A meeting of this Division will be held at the Bell Hotel, Bromley, on Thursday, October 28th, at 8.30 p.m. Agenda: (1) To read the minutes of the last meeting. (2) To decide where next meeting will be held. (3) Paper by Dr. Herschell: The Lactobacilline Treatment of Gastro-intestinal and other Diseases.—A. TENNYSON-SMITH, Orpington, Honorary Secretary.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A combined meeting of the East Kent Divisions will be held at the Victoria Hospital, Folkestone, on Wednesday, October 27th, at 3.15 p.m. Agenda: Minutes. A paper will be read by W. Bruce Clarke, F.R.C.S., Surgeon to St. Bartholomew's Hospital, on the Treatment of Gastric Ulceration, with lantern demonstration. Some Clinical Cases will be shown. Any other business. Luncheon at Hotel Wampach at 1.30 p.m., 2s. 6d. per head. All members of the South-Eastern Branch are invited to attend, and introduce professional friends.—P. VERNON DODD, Folkestone, Honorary Secretary.

SOUTH-EASTERN BRANCH: GUILDFORD DIVISION. — The autumn meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, November 5th, at 4.30 p.m. Dr. A. Hope Walker, Chairman of the Division, will preside. Agenda: (1) Minutes of the annual meeting. (2) Paper: Mr. R. P. Rowlands, F.R.C.S., will give an address on "Some Mistakes in Diagnosis and their Teaching," to be followed by a discussion. (3) Any other business. Tea will be provided at 4.15. Dinner at 6.30 at the Lion Hotel. Charge 6s., exclusive of wine. The Honorary Secretaries will be glad to hear from any members willing to show cases or specimens.—H. B. BUTLER, Eastdale, Guildford, E. J. SMYTH, Maythorne, Guildford, Honorary Secretaries.

SOUTH-EASTERN BRANCH: MAIDSTONE DIVISION.—The next meeting of this Division will be held at the Kent County Ophthalmic Hospital on Friday, October 29th, at 3.30 p.m. Members wishing to move propositions will kindly communicate at once with the Honorary Secretary, GEORGE POTTS, Kent County Ophthalmic Hospital, Maidstone.

WEST SOMERSET BRANCH.—The autumn meeting of this Branch is to be held on Tuesday, November 2nd, at the Taunton and Somerset Hospital, at 4 p.m., when the chair will be taken by the President, Mr. Charles Farrant. Mr. Walter G. Spencer, M.S., F.R.C.S., Surgeon to Westminster Hospital, has kindly promised to read a paper on Indications for Immediately Opening the Abdomen in Acute Cases. The West Somerset medical dinner will follow the meeting.—W. B. WINCKWORTH, Taunton, Honorary Secretary.

YORKSHIRE BRANCH.—The next meeting of this Branch will be held at the Royal Infirmary, Halifax, on Wednesday, November 17th, at 4 o'clock. Members intending to read papers, show specimens or cases, or to propose new members are requested to communicate at once with the Secretary. Members will dine together at 6.30.—ADOLPH BRONNER, 35, Manor Row, Bradford, Honorary Secretary.

Naval and Military Appointments

ROYAL NAVY MEDICAL SERVICE.

SURGEON F. L. J. M. DE VERTEUIL, M.D., has been allowed to withdraw from the service with a gratuity, October 14th. He was appointed Surgeon, November 21st, 1904.

The following appointments have been made at the Admiralty: Surgeon W. K. D. BRETON, to be lent to the *Bayard*, temporarily, undated; Fleet Surgeon Q. LEY and Surgeon J. GLAISTER, M.B., to the *Niobe*, for the voyage out, November 3rd, and to the *Kent*, on recommissioning; Fleet Surgeon F. A. BRICE, to the *Ariadne*, October 19th; Fleet Surgeon W. BUTT and Surgeon C. J. O'CONNELL, to the *Sutlej*, on recommissioning, November 3rd; Fleet Surgeon E. SUTTON, to the *Niobe*, for the voyage home, undated.

INDIAN MEDICAL SERVICE.

LIEUTENANT P. M. RUNNIE, M.B., Brigade Laboratory, Abbottabad, is appointed Specialist in the Prevention of Disease, from August 6th.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT R. MAGILL, M.B., Supplementary List, is confirmed in that rank.

CHANGES OF STATIONS.

THE following changes of stations amongst the officers of the Army Medical Service have been officially reported to have taken place during September, 1909:

		FROM	TO
Lieut.-Col.	R. H. S. Sawyer, M.B., I.M.S.	Pretoria	London.
,,	H. J. Barratt	Shorncliffe	Straits Settlements.
,,	C. W. Johnson, M.B.	Sheerness	Gibraltar.
,,	G. G. Adams	Salisbury	Cosham.
,,	W. B. Day, M.B.	Beaumaris	Chester.
,,	H. M. Adamson, M.B.	Fyzabad	Irish Comd.
,,	R. Holyoake	Aubiet	Sheerness.
,,	F. S. Le Quesne, V.C.	Lucknow	Dinapore.
Major	B. H. Scott	Edinburgh	Barry Camp.
,,	W. L. Gray, M.B.	Winchester	Bulford.
,,	C. R. Elliott, M.D.	Dublin	India.
,,	J. Thomson, M.B.	Woolwich	South Africa.
,,	A. Pearse	—	Woolwich.
,,	J. E. Brogden	Caterham	Gibraltar.
,,	N. Tyacke	Devonport	Bulford.
,,	W. J. Taylor, M.B.	Carnaway Cp.	Belfast.
,,	H. C. French	Woolwich	Malta.
,,	C. M. Fleury	Tidworth	Bulford.
,,	J. V. Forrest, M.B.	Woolwich	Egypt.
,,	E. C. Hayes	Netley	Bulford.
,,	T. H. M. Clarke, C.M.G., D.S.O., M.B.	Plymouth	Salisbury.
Captain	W. H. Houghton, M.B.	—	London.
,,	L. W. Harrison, M.B.	Chatham	,,
,,	E. W. Siberry	Aldershot	South Africa.
,,	C. S. Smith, M.B.	Glen Imaal Cp.	Curragh.
,,	W. L. Baker	Dublin	Malta.
,,	G. J. Houghton	Cork	Queenstown.
,,	F. McLennan, M.B.	Fort George	Surry.
,,	F. P. Lauder	—	Aldershot.
,,	L. L. G. Thorpe	Netley	Durrington Camp.
,,	W. S. Crosthwait	Cork	Cabir.
,,	R. F. Ellery	Okehampton	Devonport.
,,	W. J. Waters	Devonport	Plymouth
,,	W. M. Power	Tidworth	Bulford.
,,	T. B. Unwin, M.B.	Lichfield	Aldershot.
,,	E. F. M. Fawcett	Cosham	Bulford.
,,	H. McK. Skinner	Glasgow	Perth.
,,	R. A. Fransbury	Warley	Northampton.
,,	R. N. Woodley	Belfast	Cork.
,,	J. Ryan	Devonport	Aldershot.
,,	D. L. Harding, F.R.C.S.I.	Conway Camp	Chester.
,,	H. Rogers, M.B.	Cork	Queenstown.
,,	J. Cotterill	Stobs	Edinburgh.
,,	P. Davidson, D.S.O., M.B.	Mudford	Netley.
,,	R. L. V. Foster, M.B.	Egypt. Army	Irish Comd.
,,	T. S. Coates, M.B.	Brancaster Moor Camp	Manchester.
,,	J. B. Meldon, M.B.	Kilbride	Dublin.
,,	J. H. Duguid, M.B.	Barry Camp	Fort George.
,,	T. S. Dudding	Chapelnay Cp.	Shrewsbury.
,,	H. J. Fawcett	Cosham	Parkhouse Cp.
,,	T. J. Wright	Maymyo	Cork Dist.
,,	G. S. C. Hayes	Aldershot	London Dist.
,,	P. Power, M.B.	Ballykinlet Camp	Armagh.
,,	W. R. Galwey, M.B.	Willsworthy Camp	India.
Lieutenant	A. B. Heslop, M.B.	Gharial	Barian
,,	W. I. Thompson, M.B.	Lucknow	Naini Tal
,,	A. H. Jacob	Rawul Pindi	Campbellpore.
,,	A. Fortescue, M.B.	Netley	India.
,,	F. H. M. Chapman	Tidworth	,,
,,	W. G. Avliss	York	,,
,,	F. Casement, M.B.	Naini Tal	Lucknow.
,,	R. E. Todd, M.B.	Aunsanford	Pembroke Dk.
,,	G. Pratt	Larkhill	HamiltonCamp.
,,	H. Gibson	Wool Camp	Cosham.
,,	W. R. O'Farrell	London	Egypt.
,,	J. A. Bensham	Dublin	India.
,,	D. B. McGrigor, M.B.	Maristone	,,
,,	R. G. S. Gregg, M.B.	Dublin	,,
,,	A. Hendry, M.B.	Bulford	,,
,,	J. R. Lloyd	Ross	,,
,,	J. F. Grant, M.B.	Fermoy	,,
,,	F. Worthington	Colchester	Somaliland.
,,	F. H. Bradley, M.B.	Edinburgh	Barry Camp.
,,	F. B. Daldish	Tidworth	Netley.
,,	J. S. McCombe, M.B.	,,	Bulford.
,,	C. McQueen	Cork	South Africa.
,,	D. E. C. Bottinger, M.B.	Perth	Barry Camp.
,,	A. W. Byrne, M.B.	Manchester	Preston.
,,	S. W. Kyle, M.B.	Belfast	Omagh.
,,	J. W. Lane, M.D.	Dublin	Galway.
,,	S. S. Dykes, M.B.	Edinburgh	Barry Camp.
,,	P. S. Tomlinson	Tidworth	Werbach Park Camp.
,,	G. P. Taylor, M.B.	Edinburgh	Glasgow.
,,	C. L. Franklin, M.B.	Portchawl	Pembroke Dock.

Lieutenants W. G. Wright, M.B., and A. T. J. McCreery, M.B., who were appointed on probation August 1st, 1908, have been stationed at Netley.

Vital Statistics.

ENGLISH MORTALITY IN THE THIRD QUARTER OF 1909.

(SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.)

In the accompanying table will be found summarized the vital statistics for twenty-six of the largest English towns, based upon the Registrar-General's weekly returns for the third quarter of the year. The 103,855 births registered in these towns during the quarter under notice were equal to a annual rate of 25·3 per 1,000 of the population, estimated at 16,445,281 persons in the middle of the year; in the corresponding quarter of the three preceding years the rates were 27·9, 26·5, and 26·9 per 1,000 respectively. In London the birth-rate last quarter was equal to 23·9 per 1,000, while it averaged 25·9 in the seventy-five other large towns, and ranged from 14·6 in Hastings, 15·1 in Hornsey, 16·5 in Halifax, 17·0 in Bournemouth, 18·2 in Bradford, 18·3 in Northampton, 20·3 in Reading, and 20·9 in Brighton, to 31·7 in Rotherham, 32·1 in St. Helens, 32·2 in Newport (Mon.), 32·4 in Warrington, 33·0 in Swansea, 33·8 in Merthyr Tydfil, and 35·3 in Rhondda.

The 48,329 deaths registered in these towns last quarter were equal to an annual rate of 11·8 per 1,000, the rates in the three preceding third quarters having been 16·2, 12·7, and 13·2 per 1,000 respectively. The death-rate in London last quarter was equal to 10·8 per 1,000, while it averaged 12·2 in the seventy-five other large towns, and ranged from 5·8 in Hornsey, 6·4 in King's Norton, 7·5 in Walthamstow, 8·0 in Willesden, 8·1 in East Ham, and 8·3 in Burton-on-Trent, in Handsworth (Staffs), and in Barrow-in-Furness, to 15·0 in Great Yarmouth, 15·2 in Wigan, 15·4 in Bootle, 15·5 in Tynemouth, 15·6 in Middlesbrough, 15·8 in Newport (Mon.), 16·5 in Liverpool, and 17·7 in Swansea.

The deaths in the seventy-six towns last quarter included 6,517 which were referred to the principal infectious diseases; of these, 852 resulted from measles, 577 from scarlet fever, 453 from diphtheria, 704 from whooping-cough, 166 from "fever" (principally enteric), and 3,940 from diarrhœa, but not any from small-pox. These 6,517 deaths were equal to an annual rate of 1·59 per 1,000, the death-rates from the same diseases in the corresponding quarters of the three preceding years being 4·43, 1·47, and 2·35 per 1,000. In London the death-rate last quarter from these principal infectious diseases was 1·35 per 1,000, while it averaged 1·70 in the seventy-five other large towns, and ranged from 0·25 in Hornsey, 0·49 in King's Norton, 0·50 in Bournemouth, 0·53 in Hastings and in Ipswich, 0·57 in Southport, and 0·58 in Barrow-in-Furness, to 2·92 in West Ham, 2·93 in Middlesbrough, 3·10 in Walsall, 3·17 in Warrington, 3·24 in West Bromwich, 3·25 in Rhondda, 3·51 in Swansea, 3·75 in Bootle, and 4·29 in Newport (Mon.). The 852 deaths from measles were equal to an annual rate of 0·21 per 1,000 in London the death-rate from this disease was 0·17 per 1,000, while it averaged 0·23 in the seventy-five other large towns, and was highest in Wolverhampton, Walsall, West Bromwich, Coventry, Salford, Stockport-on-Tees, and Newport (Mon.). The 377 fatal cases of scarlet fever corresponded to an annual rate of 0·09 per 1,000; in London the rate was 0·07, while the mean rate was 0·10 in the seventy-five other large towns, among which this disease was proportionately most fatal in Birmingham, Warrington, Manchester, Salford, Blackburn, South Shields, and Tynemouth. The 453 fatal cases of diphtheria were equal to an annual rate of 0·11 per 1,000; the death-rate in London from this disease was 0·09, while it averaged 0·11 in the seventy-five other large towns, among which it showed the most proportional mortality in Devonport, Hanley, King's Norton, Salford, Rochdale, Barrow-in-Furness, and Tynemouth. The 704 fatal cases of whooping-cough corresponded to a rate of 0·17 per 1,000; in London this disease caused a death-rate of 0·19 per 1,000, and in the seventy-five other towns a mean rate of 0·17; the highest rates in these towns were recorded in West Ham, Walthamstow, Great Yarmouth, Hanley, Walsall, Coventry, Derby, Wigan, Middlesbrough, and Swansea. The 166 deaths referred to different forms of "fever" were equal to an annual rate of 0·05 per 1,000; in London the "fever" death-rate was 0·02, while it averaged 0·06 in the seventy-five other large towns, the highest in Portsmouth, Devonport, Grimsby, Warrington, Salford, and Rotherham. The 3,940 fatal cases of diarrhœa corresponded to a death-rate of 0·96 per 1,000; in London the death-rate from this cause was 0·79, while in the seventy-five other large towns the mean rate was 1·05, the greatest proportional mortality being recorded in West Ham, Nottingham, Liverpool, Bootle, Warrington, Sheffield, Rhondda, and Swansea.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 119 per 1,000 last quarter, against 209, 169, and 145 in the third quarters of the three preceding years. In London the rate of infant mortality

Analysis of the Vital Statistics of Seventy-six of the Largest English Towns during the Third Quarter of 1909.

Towns.	Estimated Population middle of 1909.	Births.	Deaths.	Annual Rate per 1,000 Living.			Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.	Principal Infectious Diseases.										
76 Towns	16,445,281	103,855	48,329	25.3	11.8	1.59	6,517	—	862	377	438	701	196	3,948	119	0.7
75 Provincial Towns	11,611,543	74,994	35,320	25.9	12.2	1.70	4,917	—	658	298	328	481	169	2,983	122	1.0
London	4,833,938	28,861	13,009	23.9	10.8	1.33	1,600	—	264	79	110	223	27	957	109	0.1
Croydon	161,078	995	349	24.8	8.7	0.57	23	—	2	4	4	4	—	9	67	—
Willesden	141,598	1,188	319	24.7	8.0	1.04	41	—	1	5	—	3	—	32	84	0.6
Hornsey	95,628	361	139	15.1	5.8	0.25	6	—	—	—	1	2	—	3	50	—
Tottenham	129,464	924	287	28.6	8.9	0.80	26	—	1	1	4	3	—	17	77	—
West Ham	321,767	2,088	966	26.0	11.6	2.32	214	—	18	8	7	43	—	158	147	—
East Ham	149,575	866	303	23.2	8.1	1.23	46	—	4	6	6	6	—	24	100	—
Leyton	129,614	784	281	24.3	8.7	1.30	42	—	8	5	6	7	2	14	96	—
Walthamstow	136,602	777	257	22.8	7.5	1.27	43	—	7	1	5	18	1	11	76	0.4
Hastings	68,165	249	176	14.6	10.4	0.53	9	—	1	1	2	—	—	5	104	—
Brighton	130,926	682	380	20.9	11.6	0.91	30	—	—	—	4	6	2	18	82	0.8
Portsmouth	214,726	1,454	625	27.2	11.7	0.94	50	—	1	3	10	5	11	20	83	0.6
Bournemouth	72,568	506	181	37.0	10.0	0.50	9	—	—	—	—	2	—	7	98	—
Southampton	124,667	725	339	23.3	10.9	1.82	57	—	—	—	6	10	2	39	112	—
Reading	82,995	421	190	20.3	9.2	0.82	17	—	—	1	—	—	1	15	112	3.7
Northampton	87,752	452	240	18.5	9.8	0.73	18	—	1	2	1	—	1	13	104	1.3
Ipswich	74,889	459	184	24.6	9.9	0.53	10	—	1	2	1	—	—	6	52	—
Great Yarmouth	53,430	312	200	23.4	15.0	1.21	16	—	1	—	—	10	—	5	147	—
Norwich	124,136	717	384	23.2	12.4	2.27	70	—	17	4	4	—	3	42	137	1.3
Plymouth	124,180	696	353	22.5	11.4	1.51	47	—	—	2	5	8	2	30	139	—
Devonport	83,103	510	213	24.6	10.3	1.08	41	—	1	—	7	2	3	26	110	—
Bristol	377,642	2,126	994	22.6	10.6	1.18	111	—	14	6	12	10	3	66	103	0.1
Hanley	68,831	495	242	28.8	14.1	2.74	47	—	12	2	9	7	—	17	156	0.4
Burton-on-Trent	54,453	294	115	21.7	8.5	0.59	8	—	—	—	1	—	—	7	78	1.7
Wolverhampton	104,633	595	346	27.0	13.3	2.64	69	—	40	1	4	5	—	19	174	0.6
Walsall	99,399	668	304	27.0	12.3	3.10	77	—	21	1	2	10	3	40	151	—
Handsworth	70,186	391	149	22.3	8.5	1.03	18	—	1	2	1	3	—	11	87	0.7
West Bromwich	70,457	505	233	28.7	13.3	3.24	57	—	32	3	3	1	2	13	140	1.3
Birmingham	563,629	3,723	1,717	26.5	12.2	1.82	255	—	21	28	13	22	7	164	145	2.8
King's Norton	81,632	484	131	23.8	6.4	0.49	10	—	—	1	8	—	—	1	43	3.1
Smethwick	70,377	504	161	28.7	9.3	1.76	31	—	3	—	3	3	2	20	91	0.6
Aston Manor	85,257	498	197	23.4	9.3	1.46	31	—	3	4	1	2	1	20	127	0.5
Coventry	80,163	624	258	31.2	12.9	2.50	50	—	27	2	4	8	—	9	85	2.7
Leicester	244,255	1,366	659	22.4	10.8	1.90	116	—	2	8	3	16	1	86	144	0.6
Grimsby	73,036	559	269	30.4	14.1	1.85	34	—	—	—	1	1	7	25	101	2.0
Nottingham	263,443	1,625	887	24.7	13.5	2.48	162	—	17	2	4	1	3	135	177	0.1
Derby	129,411	817	358	25.3	11.1	1.77	57	—	5	—	7	23	1	21	120	—
Stockport	103,706	651	312	25.2	12.1	1.31	34	—	—	5	1	1	—	27	134	—
Birkenhead	121,123	926	393	30.7	13.0	1.51	46	—	4	1	1	1	1	38	146	0.3
Wallasey	71,009	439	173	24.8	9.8	0.80	14	—	3	3	—	—	1	9	75	1.2
Liverpool	760,357	5,779	3,087	30.5	16.3	2.71	514	—	73	26	23	18	10	364	155	2.3
Bootle	69,393	495	266	28.6	15.4	3.75	65	—	12	3	1	—	1	48	158	3.8
St. Helens	96,161	761	317	32.1	13.4	1.57	37	—	3	4	—	9	3	18	159	3.8
Wigan	90,678	678	344	30.0	15.2	2.56	58	—	2	3	—	10	3	40	168	0.3
Warrington	72,275	583	262	32.4	14.5	3.17	57	—	1	7	4	2	3	40	129	3.1
Bolton	187,824	1,181	598	25.2	12.8	1.46	68	—	6	3	5	6	5	43	145	0.8
Bury	59,234	309	171	20.9	11.6	1.09	16	—	—	—	1	1	1	13	113	1.2
Manchester	655,435	4,535	2,352	27.8	14.4	1.85	303	—	46	35	16	16	13	177	131	0.6
Salford	241,350	1,583	881	26.2	14.6	2.83	171	—	45	23	22	4	11	66	142	0.2
Oldham	143,301	975	531	27.3	14.9	1.16	41	—	7	2	4	5	2	22	86	0.2
Rochdale	89,653	530	287	23.7	12.8	0.84	19	—	1	1	6	2	1	8	92	1.7
Burnley	106,267	662	346	25.0	13.1	1.52	40	—	1	5	1	5	2	26	151	0.6
Blackburn	136,959	815	411	23.9	12.1	1.21	31	—	4	9	4	3	4	17	105	0.5
Preston	118,519	747	310	25.3	11.5	0.67	20	—	2	1	1	4	3	9	112	3.5
Barrow-in-Furness	62,996	405	133	25.8	8.5	0.58	9	—	—	—	5	—	2	2	52	1.5
Huddersfield	94,739	605	328	25.6	13.9	1.19	28	—	—	1	3	9	—	15	101	0.3
Halifax	111,911	455	285	16.3	10.2	0.79	22	—	—	5	5	3	2	7	62	0.7
Bradford	293,083	1,331	803	18.2	10.9	0.66	48	—	5	1	7	7	4	24	102	0.7
Leeds	494,012	2,814	1,433	23.3	11.9	1.11	156	—	21	3	11	22	6	73	136	0.2
Sheffield	470,958	3,269	1,501	27.8	12.8	2.02	238	—	5	6	3	4	7	213	143	0.9
Rotherham	65,070	514	190	31.7	11.7	1.78	29	—	—	—	—	1	5	23	115	2.6
York	87,004	497	195	22.9	9.2	0.66	14	—	1	1	—	—	1	11	77	—
Hull	275,552	2,015	868	29.3	12.6	2.01	138	—	8	—	7	15	3	105	120	0.7
Middlesbrough	105,255	772	409	29.4	15.6	2.93	77	—	—	2	6	21	3	45	154	1.0
Stockton-on-Tees	53,417	336	161	25.2	12.1	1.66	22	—	10	2	—	—	1	9	126	0.6
West Hartlepool	79,686	427	183	21.5	9.2	0.60	12	—	1	2	1	2	1	5	98	—
Sunderland	159,378	1,074	507	27.0	12.8	1.34	53	—	7	4	5	6	5	26	114	2.8
South Shields	117,627	797	379	27.2	12.9	1.56	46	—	10	7	3	8	—	18	143	2.9
Gateshead	131,024	903	338	27.6	10.3	0.97	32	—	7	4	4	4	—	13	86	4.7
Newcastle-on-Tyne	281,584	1,909	905	27.2	13.9	1.30	92	—	12	10	12	14	3	41	120	—
Tynemouth	55,808	440	215	31.6	15.5	1.80	25	—	2	3	5	—	—	15	125	2.3
Newport (Mon.)	78,336	629	309	32.2	15.8	4.29	84	—	61	1	1	2	18	141	0.3
Cardiff	195,303	1,246	556	25.6	11.4	1.44	70	—	4	2	5	17	3	39	141	—
Rhondda	135,894	1,377	503	40.6	14.8	3.25	110	—	16	6	4	3	—	81	169	0.6
Merthyr Tydfil	78,365	661	280	33.8	14.3	1.73	34	—	6	3	2	3	2	18	145	—
Swansea	98,308	810	434	33.0	17.7	3.51	86	—	10	1	—	12	1	62	172	—

during the three months under notice was 109, while in the seventy-five other large towns it averaged 122, and ranged from 43 in King's Norton, 50 in Hornsey, 52 in Ipswich and in Barrow-in-Furness, 62 in Halifax and 67 in Croydon, to 154 in Middlesbrough, 155 in Liverpool, and 156 in Hanley, 158 in Rhondda, 159 in Rhondda, 168 in Wigan, 172 in Swansea, and 177 in Nottingham.

The causes of 360, or 0·7 per cent., of the deaths registered in the seventy-six towns last quarter were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Newcastle-on-Tyne, Cardiff, Croydon, and eighteen other smaller towns; the highest proportions of uncertified deaths were 3·1 in King's Norton and in Warrington, 3·5 in Preston, 3·7 in Reading, 3·8 in Bootle and in St. Helens, and 4·7 in Gateshead.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,852 births and 3,845 deaths were registered during the week ending Saturday last, October 16th. The annual rate of mortality in these towns, which had been 12·6, 12·3, and 12·9 per 1,000 in the three preceding weeks, declined again last week to 12·2 per 1,000. The rates in the same towns ranged from 6·0 in Hornsey, 6·7 in Handsworth (Staffs), 6·8 in Willesden, 7·1 in Croydon, and 7·2 in Leyton, in Warrington, and in West Hartlepool to 16·3 in Smethwick and in Middlesbrough, 17·2 in Salford, 17·3 in Wigan, 17·5 in Liverpool, 17·8 in Grimsby, 18·6 in Merthyr Tydfil, and 18·9 in Oldham. In London the rate of mortality was 12·0 per 1,000 while it averaged 12·3 in the seventy-five other large towns. The deaths registered from the principal infectious diseases averaged 1·2 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 1·0 per 1,000, while among the seventy-five other large towns the death-rates ranged upwards to 3·0 in Middlesbrough, 3·1 in South Shields, 4·3 in Rotherham, 5·6 in Rhondda, 5·9 in Merthyr Tydfil, and 6·1 in Hanley. Measles caused a death-rate of 1·5 in Rhondda; diphtheria of 3·0 in Hanley; whooping-cough of 2·0 in Great Yarmouth; "fever" of 1·4 in Grimsby; and enteric fever of 2·0 in Middlesbrough, 2·1 in Grimsby, 2·2 in South Shields, and 3·9 in Great Yarmouth. The mortality from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,686, 2,777, and 2,745 at the end of the three preceding weeks, had further risen to 2,810 at the end of last week; 371 new cases were admitted during the week, against 458, 375, and 324 in the three preceding weeks. Two small-pox patients were admitted to the Metropolitan Asylums Hospitals during the week.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, October 16th, 838 births and 456 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 13·8, 13·1, and 13·2 per 1,000 in the three preceding weeks, rose last week to 14·2. It was equal to 12·8 per 1,000, and was 0·6 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 8·7 in Leith and 9·6 in Paisley to 13·9 in Dundee and 15·6 in Perth. The death-rates from the principal infectious diseases averaged 1·3 per 1,000 in these eight towns, the highest rates being recorded in Aberdeen, Dundee, and Paisley. Deaths registered in Glasgow included 7 from measles, 3 from scarlet fever, 8 from diphtheria, 3 from enteric fever, and 6 from diarrhœa. Two fatal cases of diphtheria and 2 of diarrhœa were recorded in Edinburgh, and 3 of diarrhœa in Dundee, and 2 in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 16th, 597 births and 334 deaths were registered in the twenty-two principal urban districts of Ireland, as against 581 births and 428 deaths in the preceding period. The annual death-rate in these districts, which had been 16·9, 16·2, and 15·1 per 1,000 in the three preceding weeks, rose to 15·2 per 1,000 in the week under notice, this figure being 3·0 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 16·0 and 14·0 respectively, those in other districts ranging from 4·8 in Sligo and 6·9 in Armagh to 23·2 in Limerick and 24·6 in Londonderry, while Cork stood at 21·2, Londonderry at 14·5, and Waterford at 15·6. The zymotic death-rate in the twenty-two districts averaged 1·3 per 1,000, as against 1·7 per 1,000 in the preceding period.

Hospitals and Asylums.

ROYAL EDINBURGH ASYLUM, MORNINGSIDE.

The annual report for the year 1908 contains the first medical report of Dr. G. M. Robertson as Physician Superintendent. On January 1st, 1908, there were in the asylum 735 patients, and on that day of the year 741. The total cases under care during the year numbered 982, and the average number daily resident 733·8. During the year 239 were admitted, or 78 fewer than in the previous year. The admission rate, Dr. Robertson says, has been steadily falling for the past three years, owing to the fact that the parish of Edinburgh has been sending an increasing number to Bangour Village asylum instead of, as formerly, to the Royal Edinburgh Asylum. Of the total admissions, 199 were first admissions. In 95 the attacks were first attacks within three, and in 35 more within twelve months of admission; in 39 not-first attacks within twelve months, and in the remainder the attacks were either of more than twelve months' duration (57) or of congenital origin. The total admissions were classified according to the forms of mental disorder into: Mania of all kinds, 93; melancholia of all kinds, 94; senile and organic dementia, 14; general paralysis, 32; acquired epilepsy, 4; and congenital or infantile defect, 2. With regard to probable causation, alcoholic intemperance was assigned in 54, or 14·2 per cent., of whom 26, or 10·8 per cent. of the total admissions, were diagnosed as cases of alcoholic insanity; syphilis in 6 and influenza in 11; critical periods in 46; nervous diseases in 7; bodily trauma in 3; various bodily diseases in 12; mental and moral stress in 9, and in 120 no cause could be assigned. Hereditary influences were ascertained in 66, or 27·6 per cent., and congenital defect existed in 2. Previous attacks had occurred in 77. During the year 75 were discharged as recovered, giving a recovery rate on the admissions of 31·3 per cent.; 65 as relieved, and 28 as not improved. Also during the year 64 died, giving a death-rate on the average numbers resident of 6·5 per cent. The deaths were due in 35 to nervous diseases, including 18 deaths from general paralysis; in 17 to thoracic diseases, including 9 deaths, or 14 per cent. of the total deaths, from pulmonary consumption, and 12 from general diseases.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BRISTOL: COSSHAM MEMORIAL HOSPITAL, KINGSWOOD.—House-Surgeon.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—House-Surgeon. Salary, £80 per annum.

CHICHESTER: WEST SUSSEX AND EAST HANTS GENERAL INFIRMARY AND DISPENSARY.—Male House-Surgeon. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, increasing to £120.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—House-Surgeon (male). Salary at the rate of £75 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road, S.E.—House-Physician. Salary at the rate of £60 per annum.

GLASGOW UNIVERSITY.—Additional Examiner for the Degree Examinations in Zoology and Anatomy.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—(1) Physician. (2) Surgeon to the Ear and Throat Department.

HAMPSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary, £250 per annum.

HANLEY, STOKE, FENTON, AND LONGTON JOINT HOSPITAL BOARD.—Resident (Lady) Assistant Medical Officer. Salary, £100 per annum.

HULL: ROYAL INFIRMARY.—Casualty House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon. Salary, £85 per annum.

LINCOLN.—Assistant Medical Officer of Health. Salary at the rate of £250 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL ROYAL INFIRMARY.—Honorary Physician.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Medical Registrar. Honorarium, 40 guineas per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—(1) Assistant Surgeon. (2) Two Assistant Anæsthetists.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MAIDSTONE: KENT COUNTY ASYLUM.—Male Fourth Assistant Medical Officer. Salary, £175 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Surgeon for Children.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Senior and Junior Resident Medical Officers. Honorarium, £100 and £50 per annum respectively.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—(1) House-Surgeon. Salary, £100 per annum, increasing to £120. (2) Assistant House-Physician. Salary, £60 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Medical Officer for Out-patient Department. Salary at the rate of £60 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary, £50 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—(1) Assistant House-Surgeon; (2) Pathologist and Curator. Salary for (1) £20 for six months, and (2) £50 per annum.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Surgeon.

ST. MARY'S HOSPITAL, Paddington, W.—Assistant Physician to Out-patients.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary, £82 per annum.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, N.—Assistant Medical Officer (male). Salary, £100 per annum.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

THROAT HOSPITAL, Golden Square, W.—Resident House-Surgeon. Salary, £75 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Salary, £30 for six months.

WAKEFIELD: CLAYTON HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Lauder, co. Berwick; Longford, co. Longford; and Airdrie, co. Lanark.

APPOINTMENTS.

ALLAN, Kenneth Bruce, M.B., B.S.Durh., Assistant House-Surgeon to the Norfolk and Norwich Hospital.

ANDERSON, W., M.B., Medical Officer of Laindon Workhouse of the Poplar Borough.

BERGIN, W. Marmaduke, M.B., B.S.Lond., F.R.C.S.Edin., Assistant Surgeon, Royal Eye Hospital, Southwark, S.E.

CONNOLLY, T. J., M.B., B.Ch.R.U.I., Certifying Factory Surgeon for the Kinvara District, co. Galway.

DODDS, H. Bonar, M.D.Edin., District Medical Officer, St. Vincent, West Indies.

GLASHAN, Herbert W., M.B.Aber., Assistant Medical Officer to the Natal Government Asylum, Pietermaritzburg.

HEWAT A. Middleton, M.B., D.P.H.Edin., Assistant Medical Officer of Health for the County Borough of Derby.

HOGG, Miss Kate, M.D., Ch.B., Clinical Assistant to Dr. Norman Walker at the Edinburgh Royal Infirmary.

HUME, J., M.S., C.M., D.P.H., Clinical Assistant to the Chelsea Hospital for Women.

JUDAH, D., M.B., B.S., Clinical Assistant to the Chelsea Hospital for Women.

LAPAGE, C. P., M.D., M.R.C.P., Lecturer in the Observation of Children and School Hygiene to the Manchester University.

MCNEIL, Charles, M.D., Clinical Assistant to Dr. R. A. Fleming in the Medical Waiting Room, Edinburgh Royal Infirmary.

NEWTON, F. M., M.R.C.S., L.R.C.P., Resident Medical Officer, Stoke-upon-Trent Union Workhouse.

POLLARD, Reginald, M.B., M.R.C.S., Clinical Assistant to the Chelsea Hospital for Women.

PRATT, C. C., L.S.A., District Medical Officer of the Crediton Union.

STEWARD, S. J., M.B., B.C., Second Resident Assistant Medical Officer, Islington Parish Infirmary.

WOODFORDE, A. W. G., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer, Mile End Old Town Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

WATKINS.—On October 15th, at Stone-Leigh, Newton-le-Willows, Lancashire, the wife of Harold E. Watkins, M.R.C.S.Eng., of a daughter.

MARRIAGES.

GABE—MORRIS.—On October 12th, at Libanus Chapel, Morriston R.S.O., Glamorganshire, by the Rev. Dyfodwg Davies, assisted by the Rev. W. Ranilyn Jones, William Gabe, M.R.C.S., L.R.C.P. Lond., to May, elder daughter of William Morris, Bryntawe, Morriston R.S.O., Glamorganshire.

ODELL—MOORE.—On the 14th inst., at St. Mary Magdalene's, Torquay, by the Rev. Canon Rainsford, M.A., Vicar of St. Paul's, Upper Norwood, assisted by the Rev. E. P. Gregg, M.A., Vicar of the parish, and the Rev. R. W. Odell, M.A., Vicar of St. Matthew's, Brighton, cousin of the bridegroom, William Odell, M.D., F.R.C.S., of Ferndale, Torquay, to Ruth Annie, younger daughter of Joseph Moore, Esq., of Culross, Torquay.

PAGE—SHILLITOE.—On the 14th inst., at St. Mary's Church, Hitchin, by the Rev. R. C. Page, M.A., Rector of Trimingham, Norfolk, brother of the bridegroom, the Rev. Charles Thorneby, M.A., Vicar of St. Philips, Dalston, and the Rev. A. H. Wells, B.A., Curate of the parish, Cecil Herbert Winter Page, M.A., M.D. Cantab., of North Walsham, fourth son of Charles Fountain Page, of Heigham Cottage, Norwich, to Violet Mary, only daughter of Richard Shillitoe, M.R.C.S., of Bancroft, Hitchin.

SWANN—CASSELS.—At the Grand Hotel, Glasgow, on 18th October, by the Rev. Thos. Currie, M.A., Langside Hill, U. F. Church, assisted by the Rev. David H. Tweeddale, M.A., New Leeds U.F. Church, Alexander James Thompson Swann, M.B., Ch.M.Glasg., West African Medical Staff, Northern Nigeria, to Effie Jemima Cassels, L.R.C.P. and S.Edin., L.F.P.S., elder daughter of A. B. Cassels, 12, Campbell Avenue, Langside.

DEATH.

MOORE.—On August 20th, 1909, at Napier, Ellen, beloved wife of W. W. Moore, M.D.(N.Z.), M.R.C.P.Lond., F.R.C.S.Eng., Superintendent of the Napier Hospital, aged 32 years.

RECENT PUBLICATIONS.

Why Worry? By G. L. Walton, M.D. The Simple Life Series. London: W. Heinemann. 1909. (Cr. 8vo, pp. 275. 2s. 6d.)
A reissue as part of the "Simple Life Series," in a cheaper but well-printed form, of a book which was commended in a review published on July 25th, 1903, p. 203.

Stories of the Rabbis. By J. M. Myers. London: Kegan, Paul, Trench, Trübner and Co. 1909. (Cr. 8vo, pp. 402. 1s.)
A collection of stories of Jewish rabbis, written, it may be assumed, by a believing Jew, and designed to bring out the best side of the Jewish character—its simple piety, its practical sympathy for the poor and distressed, and its respect for learning and learned men.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Paper: Dr. F. W. Hewitt, M.V.O.: The Need for Legislation in Regard to Anæsthetics, and the Lines upon which it should take place.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Shattock: Adenoma and Papilloma.

ROYAL SOCIETY OF MEDICINE:
ODONTOLOGICAL SECTION, 20, Hanover Square, 8 p.m.—(1) Paper: Mr. A. Hopewell Smith: Case of Infective Disease of the Jaws associated with Absorption of the Teeth. (2) Casual Communications. (3) Presidential Address by Mr. William Hern.

TUESDAY.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W., 8.15 p.m.—(1) Presidential Address: (2) Notes on the *Post-mortem* Examinations of Bodies found in the River, by Dr. F. G. Crookshank.

ROYAL SOCIETY OF MEDICINE:
MEDICAL SECTION, 20, Hanover Square, 5.30 p.m.—Paper: Dr. Robert Maguire: On Oxaluria and the Treatment of Calcium Oxalate Deposit from the Urine, with a Method for the Solution of Calcium Oxalate Calculus whilst in the Urinary Passages.

WEDNESDAY.

HUNTERIAN SOCIETY, 17, Finsbury Circus, E.C., 8.30 p.m.—Clinical and Pathological evening

THURSDAY.

ROYAL SOCIETY OF MEDICINE:
NEUROLOGICAL SECTION, 20, Hanover Square, 8.30 p.m.—Presidential Address by Professor Sherrington, F.R.S.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith: Specimens illustrating Malformations of the Abdominal Wall and Irregularities in the Fixation of the Viscera.

ROYAL SOCIETY OF MEDICINE:
BALNEOLOGICAL AND CLIMATOLOGICAL SECTION, 20, Hanover square. 5 p.m.—(1) Presidential Address by Dr Leonard Williams. (2) Paper: Dr. Eyre: The Hygiology of Naples.

POST-GRADUATE COURSES AND LECTURES

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Pharynx and Naso-pharynx; Friday, 3.45 p.m., Pharynx and Naso-pharynx.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 4 p.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Wednesday, 3.30 p.m., Some Frequent Mistakes in Ophthalmic Diagnosis. Thursday, 2.30 p.m., Three Recent Cases of Pleurisy. Friday, 3.15 p.m., Some Points in the Surgical Treatment of Chronic Intestinal Obstruction.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear. Lectures at 5.15 p.m. each day will be given as follow: Monday, "Some Complications of Nasal Sinus Disease"; Tuesday, "The Prognosis and Etiology of Mitral Incompetence"; Wednesday, "Notes on Tuberculin Treatment"; Thursday, "On the Examination of the Chest"; Friday.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday and Thursday, 4 p.m. The Anatomy of Medulla Oblongata and Pons Varolii. Tuesday, 3.30 p.m., Myatonia Atrophica. Friday, 3.30 p.m., Myatonia Congenita and Its Relations to the Myopathies.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m. Surgical Out-patient, 2.30 p.m., Medical Out-patient: Nose, Throat and Ear, 3 p.m., 4 p.m. Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Clinics: Surgical, Gynæcological; 4.30 p.m., Demonstration of Selected Skin Cases. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye Clinics. Thursday, 2.30 p.m., Gynæcological Operations; Clinics: Medical Out-patient; Surgical Out-patient; X rays; 3 p.m., Medical In-patient; 4.30 p.m., Lecture: Perforated Gastric Ulcer. Friday, Clinic: 10 a.m., Surgical Out-patient; 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, London, W.—The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics; X Rays: 2.30 p.m., Operations; Monday, Wednesday, Thursday, 2 p.m., Saturday, 10 a.m., Diseases of Eyes: Tuesday and Friday, 10 a.m., Gynæcological operations; 2 p.m. (Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose and Ear; 2.30 p.m., Diseases of the Skin; Wednesday, 2.30 p.m., Diseases of Women. Lectures: 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar; at 12 noon, Pathological Demonstration; at 12.15 p.m. Tuesday, Wednesday, Thursday, and Saturday, Practical Medicine; at 5 p.m., Monday, Practical Surgery; Tuesday, Clinical Pathology; Thursday, Common Diseases of the Nasal Cavities and the Pharynx; Friday, Peripheral Neuritis.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	**London: Central Council, 2 p.m.** FOLKESTONE DIVISION, *South-Eastern Branch*, Combined Meeting of East Kent Divisions, Victoria Hospital, Folkestone, 3.15 p.m.; Luncheon, Hotel Wampach, 1.30 p.m. RICHMOND DIVISION, *Metropolitan Counties Branch*, Annual Dinner, Trocadero Restaurant, 8 p.m.
28 THURSDAY ..	BROMLEY DIVISION, *South-Eastern Branch*, Bell Hotel, Bromley, 8.30 p.m. NORWOOD DIVISION, *Metropolitan Counties Branch*, Queen's Hotel, Upper Norwood, 4 p.m.; Committee, 3.45 p.m.
29 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m. MAIDSTONE DIVISION, *South-Eastern Branch*, Kent County Ophthalmic Hospital, Maidstone, 3.30 p.m. TOTTENHAM DIVISION, *Metropolitan Counties Branch*, Tottenham Hospital, 4.30 p.m.
30 SATURDAY ..	NORTHERN COUNTIES OF SCOTLAND BRANCH, Clinical Meeting, Gray's Hospital, Elgin, 12.30 p.m.
31 Sunday ..	

Date.	Meetings to be Held.
NOVEMBER.	
1 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
2 TUESDAY ..	WARRINGTON DIVISION. *Lancashire and Cheshire Branch*, Scientific Meeting, Infirmary, Warrington, 8 p.m. WEST SOMERSET BRANCH, Autumn Meeting, Taunton and Somerset Hospital, 4 p.m.; West Somerset Medical Dinner to follow meeting.
3 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Branch Ethical Committee, Liverpool Medical Institution, 4.30 p.m.
4 THURSDAY ..	
5 FRIDAY ..	LONDON: Special Poor Law Reform Committee, 2.30 p.m. GUILDFORD DIVISION, *South-Eastern Branch*, Autumn Meeting, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Tea, 4.15 p.m.; Dinner, Lion Hotel, 6.30 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	
10 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Branch Organization and Finance Committee, Onward Buildings, Deansgate, Manchester, 4.30 p.m.
11 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. CITY DIVISION, *Metropolitan Counties Branch*, Pathological Demonstration, St. Bartholomew's Hospital, 4 p.m.
12 FRIDAY ..	
13 SATURDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 30TH, 1909.

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British Medical Association

ANNUAL REPRESENTATIVE MEETING, 1909.

SYNOPSIS OF PROCEEDINGS.

In accordance with an undertaking given to the Annual Representative Meeting at Belfast, the Chairman of Representative Meetings has directed the issue of the following Synopsis of the proceedings of that Meeting:

Composition and General Proceedings.

Of one hundred and ninety-nine Constituencies throughout the Association entitled to appoint Representatives, one hundred and sixty-three made returns, and one hundred and forty-one Representatives were present. Of sixty-three members of the Central Council, eight were present as Representatives of Divisions and twenty-five others took part in the work of the Meeting.

The Meeting sat on Friday, July 23rd, from 12 noon until 10 p.m.; on Saturday, from 9.30 a.m. till 5.0 p.m.; on Monday, from 10 a.m. until nearly 7 p.m., with the usual intervals for meals on each day; Tuesday, from 11 a.m. to 1 p.m., and in the afternoon for about an hour.

Decisions of the Meeting.

In the following Sections of the Synopsis all the decisions of the Meeting, other than simple expressions of approval of Reports, are stated, being classified under the various Committees of the Association to whose departments they severally relate. Under each Committee the Decisions are grouped as follows:

(1) Declarations of policy of the Association.
(2) Instructions to the Council to take action.
(3) References to the Council for consideration and report.
(4) Matters referred direct to the Divisions.

The Synopsis concludes with the decisions which affected only the internal business of the Meeting itself. In all cases in which a decision of the Meeting resulted from the consideration of a Report previously published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL a reference to the SUPPLEMENT is given.

JOURNAL AND FINANCE COMMITTEE.

Declaration of Policy.

Title "General Secretary."

(Minute 55.)

That the title of the office formerly known as that of "General Secretary and Manager" be henceforth "Financial Secretary and Business Manager."

Instructions to Council.

Duties of Secretaries.

(Minute 56.)

To define the duties of the office of Financial Secretary and Business Manager, and of that of Medical Secretary, in accordance with the principles set forth in Minute 544 of the Annual Representative Meeting of July, 1908.

544. That Recommendations 11 and 12 be adopted, namely:

General Arrangement of the Work of the Central Staff.

11. That the whole work of the Association be arranged in three co-ordinate departments: (*a*) Financial, (*b*) Editorial, and (*c*) Medical and Professional.

Heads of Departments.

12. That these Departments be respectively under the following officers: (*a*) Financial Secretary; (*b*) Editor; and (*c*) Medical Secretary, who shall hold equal official position in the Association.

Motions before Representative Meeting involving Expenditure.

(Minute 59.)

That before submitting, in accordance with the recommendation of the Council approved by the Meeting, a special report on any motions before the Meeting involving special expenditure, the Council consult, when possible, the Branch or Division which has placed the motion on the Agenda.

Referred for Consideration of Council.

Desirability of not issuing the Supplement to Non-Members.

(Minute 20.)

Censorship of Advertisements in "British Medical Journal."

(Minute 32.)

The desirability of appointing a Subcommittee for the systematic revision of advertisements appearing in the JOURNAL with a view to the exclusion of advertisements of certain undesirable kinds.

Accident Policy in Connexion with "Journal."

(Minute 33.)

The desirability of providing an Accident Policy in connexion with the BRITISH MEDICAL JOURNAL.

CENTRAL ETHICAL COMMITTEE.

Declaration of Policy.

Duty of Medical Authors.

(Minute 35.)

That it is a professional duty of Medical Authors of Articles in Medical Journals to co-operate with the

Declaration of Policy.—*Continued.*

proprietors and Editors of those Journals in preventing any improper use of those Articles for purposes of advertisement.

Instruction to Council.

Amendment of Report on Ethics of Consultation.

(Minute 38.)

To amend the second paragraph of the Report on the Ethics of Medical Consultation (approved by the Annual Representative Meeting at Sheffield) in accordance with the Recommendations contained in Paragraph 3 of the Supplementary Report of the Council (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, July 10th, 1909, p. 43).

Reference to Council to Consider and Report.

Ethical Position of Practitioners Examining Patients of Others.

(Minute 40a.)

To submit to the Divisions a report on the position of medical practitioners who are called upon to examine on behalf of employers, insurance companies, and persons similarly interested, patients who are under the care of other practitioners.

Reference to Divisions.

Special Class of Consultants.

(Minute 37.)

The report on the recognition of a special class of Consultants (SUPPLEMENT, July 10th, 1909, p. 42) to be referred to the Divisions; Council to consider and report to the Representative Meeting on the replies.

MEDICO-POLITICAL COMMITTEE.

Declarations of Policy.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

(See SUPPLEMENT, May 15th, 1909.)

Employment of Medical Inspectors under the Guise of Assistant Medical Officers of Health.

(Minutes 60-61.)

That the duties of the office of Assistant Medical Officer of Health and the general arrangements should be such as to enable a holder of a post to claim an appointment elsewhere as Medical Officer of Health upon the experience gained; that a person, the greater part of whose time during the school session and during school hours is taken up with medical inspection of school children, should not be designated Assistant Medical Officer of Health, but School Medical Officer or some similar title, and should be paid as such whether under the supervision of the Medical Officer of Health or not.

Systems of Payment of School Medical Officers.

(Minutes 60-67.)

That the following systems of payment be approved:

(i) By fixed salary, or, in the case of part-time Officers, by payment for time devoted to the work.

(ii) In sparsely populated districts, by special systems of capitation payment, such as those adopted in Hertfordshire and Derbyshire.

System *not approved*—payment per child examined.

If for any special reason this is adopted in any district, the fees should be not less than 2s. 6d. per child.

That for School Medical Officers having supervisory as well as inspection duties a rate of salary should be fixed above the minimum adopted by the Association for Officers engaged in inspection only.

Duties of School Nurse.

(Minutes 68-74.)

That the duty of a School Nurse should be:

(*a*) In medical inspection simply to assist the School Medical Officer at the time of his inspection of the children.

Declarations of Policy.—*Continued.*

(*b*) In treatment to act under the inspection and supervision of the practitioner in charge of the patient, receiving as far as possible written instructions from him.

That the duties should be defined in written rules, including the foregoing provisions.

Treatment of School Children.

(Minutes 75-87.)

(a) By Medical Charities.

That the Association should oppose the reference of school children, found upon medical inspection to be defective, to public medical charities for treatment, whether or not accompanied by payment or subsidies.

(b) Treatment by Provident Organizations.

That there is no objection to treatment by provident dispensaries or other contract practice organizations, of children found upon inspection to be defective, provided that the remuneration of the practitioner is adequate for the work done, and that effect is given to the principles of the Contract Practice Report of the Association.

(c) Treatment by Poor Law.

That the Association shall oppose any scheme of provision for the treatment of school children, found upon inspection to be defective, which rests on the reference of such children to the Poor Law, pending such reforms as may result from the consideration of the Reports of the Royal Commission on the Poor Law.

(d) Treatment by Private Practitioners.

That, under existing conditions, the most satisfactory provision for the treatment of school children, found upon inspection to be defective, is by placing them under the care of private practitioners. In order to do this, the method of procedure should be as follows:

The Medical Inspector should report each case to the Education Committee, stating in writing all the defects found.

The Education Committee should notify the parent or guardian that the defects must be at once attended to.

When the parent or guardian shows that he is unable to pay the fees required, the Education Committee should give a voucher for the payment of the fees on a fixed scale (after the manner in which payments are made for soldiers on furlough in districts where there is no available officer of the Royal Army Medical Corps).

When application for treatment is made, this voucher should be handed to the practitioner along with the Medical Inspector's report.

A free choice should be left to the parent or guardian to select for himself the practitioner to carry out the treatment; but it should be distinctly enacted that charitable institutions should not be made use of in this connexion.

That the foregoing scheme be approved as applicable to many districts, but not as excluding other methods of procedure which may hereafter be approved by the Association.

Centres for Treatment.

(Minutes 88-93.)

That in sparsely populated districts the surgeries of private practitioners might be recognized as places at which treatment could be obtained at the public expense, while in towns the work might be done at convenient centres called "School Clinics," which might be situated in schools or in independent buildings.

Rates of Payment for Treatment.

(Minute 95.)

That payment under any scheme should be made upon a scale agreed upon by the medical profession, as represented by the local Branch or Division of the British Medical Association, and the local Education Authority.

Declarations of Policy.—*Continued.*

Security of Tenure of School Medical Officers.

(Minutes 97-98.)

That the appointment of the School Medical Officer should only be terminable with the consent of the Board of Education.

Model Rules for District Nursing Associations.

(Minutes 121-128.)

The following Model Rules for District Nursing Associations were approved as amended:

(1) The nurse shall in every case carry out the directions of the Registered Medical Practitioner in attendance.

(2) The nurse, when requested in an emergency, may visit and render first aid to any person without awaiting instruction from a doctor.

(3) If in the nurse's opinion the attendance of a doctor is necessary, she must insist that he be sent for; and if for any reason his services are not immediately available, she must, if the case be still one of urgency, remain with the patient and do her best until he arrive or until the emergency is over.

Should the patient refuse to have a doctor the nurse must at once leave and report the case to her Secretary.

(4) Should any further attendance be requested by the patient after the emergency is over, the nurse must explain that the doctor will decide whether or not this is necessary.

(5) No attendance after a first visit shall be given by a nurse unless she has received directions with regard to the case from a doctor.

(6) Apart from her duties as a certificated midwife, no nurse is allowed to administer on her own responsibility or prescribe any sort of drug for internal use.

(7) The Association shall consist of all Subscribers of ..... and donors of ..... to the Association, together with all registered medical practitioners resident and practising in the area of the Association.

(8) No midwife in the employment of a nursing Association should accept an engagement without first asking the patient to state, and herself registering, the name of the doctor to be called in, should any emergency arise.

(9) A nurse shall in no case attempt to influence a patient in the choice of a doctor.

(Minute 129.)

A Rule to be added by the Council to provide that a midwife or woman employed by a Nursing Association to be trained as a midwife, should enter into a bond not to practise midwifery for a certain period of time, and within a certain radius, after leaving the service of her employers.

Central Midwives Board: Representation of the Association.

(Minute 105.)

That the action of the Council, in seeking representation of the Association on the Central Midwives Board, be approved.

Representation of the Profession in the House of Lords.

(Minute 112.)

That in reply to a letter from Earl Wemyss suggesting an arrangement whereby representatives of the British Medical Association and other bodies representative of professions and business, should be represented in the House of Lords, the opinion be expressed that the medical profession should be represented in the House of Lords as part of the Legislature.

Instructions to Council.

Arrangements for Treatment between Education Authorities and Hospitals.

(Minutes 99-104.)

That there be forwarded to each member of the Staffs and to all Medical Committees of London Hospitals, and to the Education Committee of the London County Council, a copy of the resolution of the Meeting expressing regret that the Education Committee of the London County Council has made arrangements with the Committee of Management of some London Hospitals for the treatment of a small number of children, and an expression of the hope that the Medical Staffs will do all in their power to prevent such abuse of voluntary charities and inadequate provision for a public evil.

That a similar communication be sent, subject to the wish of the local Divisions, to the Borough and County Education Authorities, and to the Staffs of Provincial Hospitals in the United Kingdom.

That copies of the report on the Medical Inspection of School Children and Treatment of those found Defective be forwarded to the Chairmen and Secretaries of Divisions and Members of the Representative Meeting, together with a Memorandum on the importance of the Divisions taking prompt action on the lines indicated in the Report.

Nurses' Registration.

(Minute 114.)

To secure adequate representation of the medical profession through the British Medical Association on any Board created under a Registration of Nurses (Scotland) Bill.

References to Council for Consideration and Report.

Unqualified Practice.

(Minutes 114-116.)

The advisability of asking the Government to take steps to appoint a Royal Commission to inquire into the evil effects produced by the unrestricted use of medicine and surgery by unqualified persons.

Public Medical Services.

(Minutes 117-118.)

The preparing of a scheme for a Public Medical Service to embrace Philanthropic Dispensaries and Medical Services, School Clinics, the Poor Law Medical Service, Provident Dispensaries, and the Medical Services of Friendly Societies and Clubs.

Contract Practice.

(Minute 119.)

Formulation of Resolutions expressing the main principles affecting contract practice.

Federated Societies' Medical Benefit Association.

(Minutes 272-3.)

The attitude of the British Medical Association towards the Federated Societies' Medical Benefit Association.

Overcrowded State of the Medical Profession.

(Minute 131.)

The advisability of drawing the attention of head masters of schools to the overcrowded state of the profession and the small income received by many medical men.

Subsidizing of Midwives.

(Minute 132.)

The following Motion, upon which the Divisions are to be consulted:

That the subsidizing of midwives by Public Authorities, Nursing Associations, and similar bodies is undesirable in districts where adequate medical attendance is available, and that in the interests of the parents and child any assistance rendered should take the form of partially or entirely providing a registered Medical Practitioner and nurse.

Promulgation of Policy of the Association.

(Minute 271.)

The best means of bringing before members those conclusions of the Representative Meeting which

References to Council—*Continued.*

define the policy of the Association, with a view to their general acceptance and adoption throughout the Association.

Instruction in Hygiene, etc.

(Minutes 275-277.)

The advisability of practitioners ceasing to give gratuitous lectures in hygienic subjects for Societies which are undertaking work which should be done and paid for by County Councils.

Conditions of Service of Pathologists and Bacteriologists who are Registered Medical Practitioners and attached to Public Institutions and Bodies.

(Minute 172.)

HOSPITALS COMMITTEE.

Declarations of Policy.

Certificates of Suitability for Hospital Treatment.

(Minute 141.)

That a Medical Certificate of suitability for Hospital Treatment be required as a condition of Hospital Treatment, except in a case of casualty at its first attendance.

Definition of a "Nursing Home."

(Minute 142.)

That the following definition submitted by the Council be approved:

A "Nursing Home" is an institution in which patients are received for medical care under the attendance of medical practitioners selected by themselves, and where the patients are responsible to the home for charges for maintenance and nursing, and to the medical practitioners for their fees.

Payment for Compensation Certificates.

(Minutes 148-9.)

That any member of an honorary or paid medical or surgical staff of a hospital who signs any certificate or gives any report on any case under the Workmen's Compensation Act ought to receive personally the usual fee in full, it being referred to the Council to consider and report what fees would be suitable.

Fresh Public Medical Institutions.

(Minute 150.)

That no fresh public medical institution should be opened without previous consultation with the local medical profession through some organized body, such as the local Division of the British Medical Association.

Representation of Local Medical Profession on Boards of Hospitals and Similar Bodies.

(Minutes 157-8.)

That the association of officially recognized representatives of the local medical profession in the general management of hospitals and other medical charities is desirable in the interests of those institutions, as well as of the profession, and that for the appointment of such representatives use should be made of the machinery afforded by a Division of the British Medical Association, and that the Council prepare a scheme for nomination and election of such representatives to be submitted to the Divisions.

Contributions to Hospitals by Employers and Employees.

(Minute 159.)

That contributions to Hospitals by employers and employees should not be regarded as premiums of insurance against the cost of treatment of sickness or accident, but purely as charitable contributions to be expended at the discretion of the managers of Hospitals.

Instructions to Council.

Hampstead Hospital.

(Minute 169.)

That, as the Council has permitted the publication of the Warning Notice with reference to the Hampstead Hospital, it should secure its observance, and that the Council consider forthwith the ethical questions involved and take all steps in the power of the Association to redress the injustice which has been occasioned, as its long-continued existence is conducive to the disintegration of the Association.

Instructions to Council.—*Continued.*

King's College Hospital.

(Minute 171.)

To communicate with the South London Hospital Medical Committee, and in conjunction with that body to take all possible steps to obtain acceptance at an early date by the medical profession in South London of a scheme which, while safeguarding their interests, will prove acceptable to the Committee of King's College Hospital.

OPHTHALMIA NEONATORUM COMMITTEE.

(For Report see Supplement, May 8th, 1909.)

Declarations of Policy.

The following conclusions and recommendations were approved subject to the consideration by the Council of the amendments indicated to Paragraphs (*a*) and (*b*), Section II.

(Minutes 178-191.)

Conclusions and Recommendations.

I. *Prevalence.*

1. Ophthalmia Neonatorum accounts for upwards of 10 per cent. of all cases of blindness.

2. Cases of ophthalmia show a slight but steady decrease so far as can be judged by returns from British Lying-in Hospitals and Departments, and Eye Hospitals.

3. Ophthalmia Neonatorum is still (as it has been for many years) the cause of at least one-third of the blindness in inmates of British Blind Schools.

4. Cases of ophthalmia have been found to occur amongst cases attended by medical practitioners, as well as amongst those attended by midwives.

II. *Prevention.*

A. *Administrative and Educative Measures.*

(*a*) *Notification.*—It is advisable to urge upon the Local Government Board that notification of Ophthalmia Neonatorum should be compulsory.

(*b*) *Inspection and Treatment.*—It should be the duty of the Local Sanitary Authority, upon receipt of notification, to inquire as to the facilities for treatment, and, if these be deficient, to arrange for the efficient treatment of the disease. The treatment of infantile Ophthalmia should not involve separation of mother from child if this can be avoided.

(*c*) *Bacteriological Examinations.*—It is suggested that the bacterioscopic examination of vaginal or conjunctival discharges should be undertaken, free of charge, by the Local Sanitary Authority, when such a request is made by a qualified medical practitioner.

(*d*) *Educative Measures.*—Notices regarding the dangers of Ophthalmia Neonatorum should be issued by Local Sanitary Authorities. They should also be exhibited in Post Offices and other public places. Such notices should be periodically distributed by the Local Supervising Authority to every midwife whose name appears on the roll of midwives for the particular area concerned.

(*e*) *Central Midwives Board.*—The presence of purulent vaginal discharges should be included by the Rules of the Midwives Board among the conditions for which medical help should be summoned.

(*f*) *Maternity Hospitals.*—It is recommended that, among the members of the medical staff, every Maternity Hospital should include an ophthalmic surgeon. The maintenance of accurate records concerning Ophthalmia Neonatorum is suggested as a means of keeping the disease constantly under the notice of all concerned.

Declarations of Policy.—*Continued.*

B. *Medical Measures.*

DIRECTIONS TO MIDWIVES AND NURSES.

I.—*Treatment of Cases presumably Normal as regards danger of Ophthalmia Neonatorum.*

Child.—In every case in which a medical practitioner is not in attendance the midwife or nurse should adopt the following routine procedure:

(i) Directly the head is born, and before the eyes are opened, the lids and the surrounding skin should be wiped clean on each side with a separate piece of sterilized wool.

(ii) Nothing should be dropped into the baby's eyes.

(iii) The face and the body should not be washed in the same water. Fresh water should be taken for each.

II.—*Treatment of Cases in which the Mother suffers from a Purulent Vaginal Discharge.*

(*a*) *Mother.*—If there is a purulent vaginal discharge, whether in pregnancy or labour, medical help must be obtained.

(*b*) *Child.*—If a doctor is not already present when the child is born, he should be sent for immediately, in order that any necessary application to the child's eyes may be made.

III.—*Procedure where an Affection of the Child's Eyes is Observed.*

If there is any inflammation of the baby's eyes, however slight, shown by redness, swelling, or discharge, the midwife or nurse must explain that the case is one in which the attendance of a Registered Medical Practitioner is required, and medical help must be obtained in accordance with the Rules of the Central Midwives Board.

AMENDMENTS TO SECTION IIA APPROVED BY MEETING.

(Minutes 177-185.)

(*a*) That on the Notification Form should appear a column in which must be stated (1) name and address of midwife who attended, and (2) name and address of Registered Medical Practitioner.

(*b*) That a copy of the certificate be sent to the Central Midwives Board if a midwife has been in attendance.

(*c*) That steps be taken at once to induce the Central Midwives Board to make the necessary addition to their Rules.

Treatment by Public Authorities.

(Minute 185.)

That in the matter of the treatment of Ophthalmia Neonatorum, Public Authorities should not be relieved, at the expense of the charitable and of the medical profession, of duties which appropriately belong to such Public Authority.

ORGANIZATION COMMITTEE.

Declaration of Policy.

Application for Royal Charter: Concessions to Opposing Bodies.

(Minute 207.)

That the Organization Committee be accorded full power to act on behalf of, and in the name of, the Representative Meeting of the British Medical Association in respect of the consideration by the Privy Council of the following points concerning the Charter now before the Council:

(1) Register of Members of the Profession.

(2) Adjudication between Members of the Medical Profession who are not also Members of the British Medical Association.

Declaration of Policy.—*Continued.*

(3) Right of all Members of the Medical Profession, whether Members of the Association or not, to approach or appeal to the various Ethical bodies and authorities of the Association.

(4) Establishment of a Benevolent Fund in competition with existing Funds, provident or otherwise.

(5) To grant that thirty Members of Council present and voting may determine a Referendum by postal vote.

That the Association do not go to a Hearing before the Privy Council on the application for a Charter.

Amendments of By-laws.

Election of Council.

(Minute 260.)

That the present By-laws as to the election of Council be rescinded, and the corresponding By-laws contained in the draft Charter substituted therefor, subject to the alterations deemed necessary by the legal advisers of the Association to adapt them to the present Regulations.

Standing Committees.

(Minute 265.)

That the Schedule to the By-laws as to Standing Committees be so amended as to bring it into conformity with the corresponding Schedule under the draft Charter.

Instructions to Council.

Amendments of Regulations in the Event of the Petition for a Charter being Unsuccessful.

(Minutes 216-217.)

That, in the event of the Petition for the Charter being refused, and in respect that the powers now possessed by the Association do not entitle it to grant the most important requirements of the South African Branches, this Meeting instructs the Council to take into consideration how, with the least possible delay, the Association may acquire such additional powers as will enable it to do so: and to prepare such alterations of the Articles and By-laws as are necessary to bring all the Regulations of the Association into accordance with those which have been approved by the Association in the draft Charter, and to submit such amended Articles and By-laws for the approval of a Representative Meeting, and, as regards the Articles, of the Statutory General Meetings required by the Companies Acts.

References to Council for Consideration and Report.

Capitation Grants to Divisions.

(Minutes 194-5.)

The question whether all Capitation Grants to Divisions should in future be made direct to the Divisions by the Central Council, without the intervention of the Branch Councils.

British Medical Students' Union.

(Minute 197.)

The feasibility of forming some such body as a British Medical Students' Union under the auspices of the Association, with Branches in all towns, and acting as a nursery for the Association.

Official Maps.

(Minute 198.)

The advisability of preparing a complete set of official maps, showing, in the case of town Divisions the street boundaries.

Affiliation of Kindred Associations.

(Minute 192.)

Whether arrangements could be made for the affiliation to the Association of Associations of medical men in certain Public Services.

References to Council—*Continued.*

Addresses to Medical Students.

(**Minute 200**)

The provision of addresses by members of the Association to students in the Medical Schools on Medico-Political and Medico-Ethical questions.

Election of Representatives in Representative Meetings.

(**Minute 276**)

Whether the By-laws should be so amended as to provide that, instead of, as at present, each Constituency electing one Representative in the Representative Meeting, Constituencies having more than 50, 75, or 100 members (as might be decided), should be entitled to elect an additional Representative for every 50, 75, or 100 (as might be decided) above that number.

PUBLIC HEALTH COMMITTEE.

Declarations of Policy.

Salary of Assistant Medical Officers of Health.

(**Minute 225.**)

That the minimum salary of whole-time Assistant Medical Officers of Health should be £250 a year.

Whole-time Medical Officers of Health.

(**Minute 234.**)

That in the interests of the Public Health and in view of the multiplicity of duties thrown upon Medical Officers of Health by recent enactments, it is desirable that, in future appointments, Medical Officers of Health should be required to devote their whole time to the duties of their office, and be debarred from private practice, except as consultants; that they should be adequately paid, and, if necessary, districts should be grouped for the purpose; and that it is further desirable that Medical Officers of Health should be protected in carrying out their duties and be secured from capricious dismissal or reduction of salary, and that they be allowed to participate in any superannuation scheme approved by a Local Government Board.

SCIENCE COMMITTEE.

Instruction to Council.

Participation of Divisions in Section Work of Annual Meeting.

(**Minute 238.**)

That with a view to further interesting Divisions and Branches in the Section work of the Annual Meeting they be encouraged to nominate one or more members to take part in the discussions of any subject arranged for, which has previously been considered by the Division or Branch.

Reference to Council for Consideration and Report.

Hours of Admission to Library.

(**Minute 240.**)

The advisability of the Library being open from 10 a.m. to 8 p.m.

Central Research Laboratory.

(**Minute 242.**)

The advisability of the provision of a Central Pathological and Bacteriological Laboratory for the use of members.

THERAPEUTIC COMMITTEE.

Reference to Council for Consideration and Report.

(**Minute 247.**)

The advisability of appointing a Materia Medica Committee to investigate and pronounce on the uses and properties of drugs and the question of excluding certain advertisements of drugs and other preparations from the JOURNAL.

INTERNAL BUSINESS OF MEETING.

Standing Orders.

The Meeting adopted the system of proportional representation by transferable vote in the election of its Chairman and Deputy Chairman, and resolved that, except with regard to *ex-officio* membership of Council and Committees, the Chairman and Deputy Chairman shall not assume their functions until the close of the Annual Meeting.

Votes of Condolence.

The Meeting directed that an expression of sympathy and regret should be sent to the relatives of the following deceased Representatives: Dr. Harrison Mitchell (English Division, Border Counties Branch), Dr. J. D. Hillis (East Leinster), Dr. H. K. Ramsden (Chelsea).

Election of Officers.

H. A. Ballance, M.S., F.R.C.S., of Norwich, was elected Chairman: and E. J. Maclean, M.D., M.R.C.P., of Cardiff, was elected Deputy-Chairman of Representative Meetings for the year 1909–10.

Election of Committees.

The following were elected to represent the Meeting on the Medico-Political and Ethical Committees:

MEDICO-POLITICAL COMMITTEE.

England and Wales.

Armit, H. W. | Nash, E. H. T.
Fothergill, E. R. | Todd, D. F.

Scotland.

Lawson, D.

Ireland.

Fullerton, A. R.

ETHICAL COMMITTEE.

England and Wales.

Bateman, A. G. | Langdon-Down, R. L.
Maclean, Ewen, J.

Scotland.

Goff, Bruce.

Ireland.

Lee, Philip G.

United Kingdom Hospitals Conference.

The following were elected to represent the Meeting at the United Kingdom Hospitals Conference, if such should be held during the year.

England and Wales.

Armit, H. W., Hampstead.
Bushnell, F. G., Brighton.
Dauber, J. H., Westminster.
Davies, J. E. P., South-West Wales.
Fothergill, E. R., Wandsworth.
Goodall, E. W., City.
Horsley, Sir V. H., Council.
Jackson, George, Plymouth.
Kirby, E. D., Birmingham (Central).
Langdon-Down, R. L., Richmond.
Macdonald, J., South Shields, Tyneside.
Macdonald, J. A., West Somerset.
Morison, Rutherford, Newcastle-on-Tyne (not a Representative).
Nash, E. H. T., Derby.
Sansome, T., jun., West Bromwich
Smith, Walter, St. Pancras and Islington.
Smyth, W. Johnson, Bournemouth.
Taylor, J. H., Salford.
Williams, A. H., Watford and Harrow.

Scotland.

Lawson, D., Aberdeen, Orkney, Shetland.
Livingston, G. R., Scottish Division, Border Counties Branch.
Muir, W. L., Glasgow (East).

Ireland.

Fullerton, A., Belfast.
Laffan, T., Carlow, Kilkenny, and Waterford.
White, Professor A. H., Council.

Vote of Thanks to Retiring Chairman.

The Meeting tendered its most cordial thanks to Dr. J. A. Macdonald for his great services as Chairman during the past three years.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BOMBAY BRANCH.

A MEETING of the members of this Branch was held in the University Library on September 23rd, at 5.30 p.m., Dr. SORAB NARIMAN, M.D., Vice-President, occupying the chair. The following were also present: Drs. Sorab Engineer, H. J. Dadysett, M. P. Kerrawalla, Miss Engineer, Major S. Evans, I.M.S., Drs. Rodriques, D. H. Nayak, F. R. Parekh (a visitor), and the Honorary Secretary, Dr. D. R. Bardi. Half an hour was spent in social entertainment, during which tea was served to those present.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed by the Chairman.

Paper.—Dr. M. P. KERRAWALLA read a paper on the milk factor in infant mortality. In the discussion which followed Drs. DADYSETT, ENGINEER, Major EVANS, and the CHAIRMAN took part.

Vote of Thanks.—After a hearty vote of thanks to Dr. Kerrawalla for his interesting paper the meeting was dissolved.

EDINBURGH BRANCH:
SOUTH-EASTERN COUNTIES DIVISION.

A SPECIAL meeting of this Division was held at St. Boswells on October 21st.

The Medical Inspection of Schools.—The meeting was convened to consider the question of the medical inspection of schools as affecting the position of the general practitioner. After a full discussion the following motion was unanimously passed:

> In making the appointment of medical inspector of schools for this district, the inspector should be debarred from private practice, and that steps should be taken to safeguard the legitimate interests of the general practitioners practising in the district.

To further the latter part of the motion a subcommittee, consisting of the Chairman (Dr. Tyrrell, Galashiels), Dr. Muir, Selkirk, and the Secretary (Dr. Jeffrey), was appointed. The Honorary Secretary was instructed to forward the resolution to the Secretary of the Education Committee of the county.

ULSTER BRANCH:
PORTADOWN AND WEST DOWN DIVISION.

THE autumn meeting of this Division was held in Portadown on October 13th. The number present was seventeen.

The late Dr. Vesey.—Dr. AGNEW, the outgoing Chairman, moved:

> That the expression of our deepest sympathy be sent to Mrs. Vesey and family at the death of Dr. Vesey, our Chairman-elect.

This was seconded by Dr. TAYLOR and supported by Dr. H. SINCLAIR, and passed in silence.

Election of Chairman.—Dr. C. C. DEANE, Loughgall, was unanimously elected Chairman, and took the Chair.

Pneumothorax.

Dr. B. H. STEEDE (Rostrevor Sanatorium) read the following paper:

In these observations, I intend to refer only to those cases of pneumothorax which occur during the course, and as a consequence, of pulmonary tuberculosis. This cause, however—pulmonary tuberculosis—is stated to account for 90 per cent. or more of all cases. Fortunately, pneumothorax is a complication which seldom occurs, at least amongst patients who are undergoing sanatorium treatment, and who are, as a rule, improving. In somewhat over 2,000 such patients, I have only known pneumothorax to occur in six instances while the patient was in the sanatorium. There were, however, four more cases in which the complication had occurred some time previously, and in whom the pneumothorax was only discovered on making the ordinary routine examination after the patient was admitted.

The remarks, then, that I have to make have been suggested mainly by these ten cases of pneumothorax. Of these, I am sorry I have only fairly complete notes of one which occurred a few months ago in Rostrevor. All the others were patients in the National Hospital for Consumption while I was there as resident physician, and the treatment followed was approved, if not directed, by one of the two visiting physicians—Dr. Parsons and Dr. Coleman. These ten cases have included instances of all degrees of severity. In a few the pneumothorax caused little or no inconvenience, the symptoms while the patient was under observation being almost entirely due to the primary disease. On the other hand, in two of the cases the complication directly caused death within a few hours of the onset of the first symptom. All except these two fatal cases lived for months or years. One at least, who got complete left-sided pneumothorax five years ago, is now, according to the statements of her friends, very well.

Every pneumothorax must be either open, valvular, or closed. This classification would be very important if we could say in any given instance with much confidence when the pneumothorax ceases to be open or valvular, and becomes closed. A grave objection to the performance of aspiration ceases to exist if once we are sure the former opening from lung to pleural cavity is securely closed, but, unfortunately, this is often a matter of conjecture.

I think a more practically useful classification may be made if based not on the pathological condition but on the clinical symptoms. These vary enormously, both in their severity and in the suddenness or comparative slowness with which they develop, afford great divergency as to prognosis, and marked differences in treatment.

Clinically, then, I would divide cases of pneumothorax into three groups, each, of course, not rigidly defined, but having at the same time well marked characteristics:

First, that in which the symptoms come on suddenly and with great severity.

Secondly, that in which the symptoms develop less quickly and do not attain their maximum urgency until some days have elapsed—from two or three days to a week.

Thirdly, that in which the symptoms are slight or absent.

The ten cases I have referred to afford examples of all three groups, and I should wish to consider very shortly each group in turn.

First, when the symptoms come on suddenly and with great severity. In these cases death from shock and collapse may be almost immediate. At any rate, pain, dyspnoea, and cyanosis are so pronounced that at any time within the first twenty-four or thirty-six hours from the onset of the first symptom there is obviously great danger of a speedy termination. In the worst cases symptoms of collapse predominate, and there may be no rise of temperature, nor may there be time for the development of any marked physical signs. In my experience, however, there has always been a sharp rise of temperature in the case of any patient who did not die within the first twenty-four hours.

This group includes a large proportion of all the cases that prove fatal. It includes the only two cases that I have seen in which the pneumothorax was the direct cause of death.

In one of these cases the patient was going about as usual in the morning. I was absent, and when I returned to the hospital about two hours later he had just died. I felt justified in making the diagnosis of pneumothorax, partly from description of symptoms and partly from some increase in resonance and increase in area of resonance over the right lower chest—the side on which was the better lung of the two.

The other fatality occurred at night in an advanced case who was already very weak. The symptoms were chiefly those of collapse. One must, of course, remember that in these very acute cases the fistula is certainly not closed. It is possible that it may be valvular, but in the majority of cases it is nearly sure to be open.

Consequently, in the great majority of these very acute cases the pressure in the pleural cavity cannot be positive. There can only be a tendency for the negative pressure to disappear and for the degree of tension to approach, or in the case of a very free opening to become equal to, that of the atmosphere. We know that rapid respiration can be produced by stimulation of the fibres of the vagus, and physiologists assert that this is very largely the cause of dyspnœa in pneumothorax. Certainly the early symptoms are specially reflex. They may be extreme before any large quantity of air has had time to collect in the pleural cavity, and certainly before there is any positive pressure. In such cases paracentesis is plainly not indicated. In many instances any treatment is quite useless or at least powerless to save life. Fortunately most of the cases that I have seen, and most, I believe, of all those that occur, are not of this class. They belong to one or other of the following two groups in which the symptoms are less acute.

Secondly, we have a large class in which the symptoms develop with comparative slowness, and do not attain their maximum urgency until some days have elapsed—from two or three days to a week.

The prognosis is much more favourable. Judging from any cases I have seen, and as well as I can gather from what statistics I have at hand, I should say that most cases of pneumothorax that survive the first week or ten days have a good chance of living for months or years if the primary disease permits.

The pneumothorax may be complete or partial. At first open, it becomes later, in a favourable case, closed. But it is important to remember that it is scarcely conceivable that it can suddenly become closed. There must be a transitional state in which the opening is for all practical purposes a valvular one, allowing the passage of air only at those times when there is great difference of pressure in the lung and pleural cavity. It is possible that the pneumothorax may be valvular from the first, but it seems to me necessary that it must pass through a valvular stage before it becomes subsequently closed, and so that a valvular pneumothorax, far from being generally the most serious and infrequent form, is but a normal phase through which every favourable case must pass. If this is so, as I believe it must be, it is a point which has obviously an important bearing on the question of performing paracentesis. Only with this view, too, can I reconcile the clinical course of the typical case, in which after a few days the pressure in the pleural cavity is certainly positive.

I am aware that mere loss of negative pressure may cause some displacement of viscera—the lung, as Douglas Powell and others remind us, being in that case pulled over by the relatively great negative tension on the opposite side of the thorax; but this comparatively feeble traction power is not sufficient to explain the great displacement which is the rule in any instance of complete pneumothorax, except in the very early stages before the valvular action has had time to take effect, and except at a considerably later stage when the pneumothorax has become closed and much of the air has been absorbed.

Of this class of pneumothorax, in which the symptoms take at least some days to develop, I have had the opportunity in four cases of observing the orderly sequence of symptoms and physical signs from the onset of the complication. In all pain was the first symptom, with, or followed by, more or less stomach disturbance; then increasing distress and difficulty of breathing, or dyspnœa of a kind that I think, in the earlier stages, might not improperly be described as chiefly subjective. If the other lung is fairly good and the pulse good, the patient's condition is not always. I think, as serious as it appears from the great distress in breathing. All had a sharp rise of temperature, and all had this characteristic, which I think is the rule, and to which I should like to direct attention, namely, that the symptoms attained their maximum urgency while as yet there was but moderate displacement of viscera, and before the physical signs of the pneumothorax reached their fullest development. By the time that the largest amount of air had collected and the greatest displacement of viscera had taken place, the patient was already easier and more comfortable, although there was no diminution in the actual frequency of respiration, which was in some cases even higher than it had been when the patient was in greater distress.

In the textbook descriptions of pneumothorax symptoms gastric disturbance is usually omitted, but vomiting may be troublesome and may, with pain in the lower costal region, be one of the earliest symptoms—so much so that I think the combination may in the earlier stages be misleading in a case where the more special symptoms and signs of pneumothorax are slow in developing. In a case of pneumothorax that I have seen the gastric symptoms began early, and were so pronounced that nothing whatever could be retained by the stomach. The patient had to be nourished during the greater part of the first week entirely per rectum. In this case, however, there was also a fairly early development of unequivocal symptoms and signs of pneumothorax.

All these cases recovered—at least as far as the acute symptoms were concerned—and were discharged. One died some weeks after discharge—more, however, from kidney disease than directly from the pneumothorax. He had a large quantity of albumen in the urine, with much general dropsy. The second was not heard of after her discharge. The third, after the acute symptoms subsided, was going on well for several months before he was discharged, with no symptoms whatever except some shortness of breath on exertion. I heard later, however—nearly two years after the occurrence of the complication—that empyema developed, and that an Estlander's operation was performed, but without any good result. The fourth, who got pneumothorax five years ago, seems now, from the reports of her friends, to be keeping, I am glad to say, very well. She has no cough, is going about every day, and frequently cycles.

These were all cases of hydro-pneumothorax. Although after the acute symptoms subside such cases may get on fairly well for an indefinite time, still there must be a risk of the fluid ultimately becoming purulent, as happened in one of the instances I have just mentioned.

Another case illustrates this. A patient with hydropneumothorax was admitted to the National Hospital at Newcastle in 1897. The condition had evidently existed for a considerable time before her admission. She improved both at Newcastle and subsequently at the Whitworth Hospital under Dr. Coleman's care. But more than five years later the patient was readmitted to Newcastle after operation for empyema. In the interval she must have been feeling well, as she was doing duty as a hospital nurse. After the operation for empyema, an occasionally discharging fistula persisted, and the patient's condition gradually became hopeless.

Treatment of pyopneumothorax by occasional aspiration instead of by a more radical operation is sometimes remarkably successful. Dr. O'Carroll mentioned to me that he has under his care a patient in whom pneumothorax occurred six years ago. Pyopneumothorax followed, but the patient is better now than he has been for years, with no treatment beyond some infrequent aspirations.

In the third group are those cases of pneumothorax which give rise to slight or no symptoms, and which cause little or no inconvenience. What proportion these cases form of the whole it is impossible to say, but that there are many such is certain. Without any examination of case-books I can myself remember having met with three. The complication was only discovered in the ordinary routine examination after the patient was admitted to the consumption hospital, and the history showed no more than some rather indefinite symptoms, from which one could only

surmise when the pneumothorax occurred. All three did well.

In such cases the lung has been previously badly damaged. Its movements have been limited by disease and adhesions, and the pneumothorax is more or less partial.

A word as to treatment. There are two indications about which there can be no question: First, to nourish and stimulate the patient; secondly, to quiet him, and, as far as possible, prevent coughing.

In pneumothorax, during quiet breathing, little or no air may enter the pleural cavity. During ordinary expiration the air pressure in the lung is only slightly higher than that of the atmosphere, and, even with a valvular opening, a positive pressure in the pleural cavity, or at most anything more than a very slight positive pressure, would be physically impossible, for it is evident that the pressure in the pleural cavity can never be greater than the pressure in the lung which caused the air to pass through. But in the act of coughing the air pressure in the lung is suddenly and, relatively speaking, enormously increased, so that with each cough air enters the pleural cavity, and is commonly retained there, partly, no doubt, from the physical conditions of the opening, but chiefly because the impulsive force—the coughing—only acts in the one direction.

It seems, then, perfectly clear that in order to have any high positive pressure in the pleural cavity not only must the opening act in a valvular way, but also the patient must have had more or less coughing, as under no other common conditions will the air pressure in the lungs be much raised except by coughing.

Sometimes there is a third indication—namely, to relieve pressure by paracentesis—but if what I have said is correct, I think it follows that this procedure can only rarely be of use. In some of the most acute cases it is useless, because the patient may be *in extremis* before there is any positive pressure to relieve. On the other hand, the favourable cases must usually pass through a stage in which the pneumothorax is valvular and the pressure positive before the pneumothorax becomes closed, and the pressure subsequently diminished by absorption of air. In such cases aspiration, or rather paracentesis, only interferes with the normal course by which the patient passes from a serious to a comparatively safe condition, and often by the time the pressure is greatest the patient has already got over the worst.

No doubt there will remain some cases in which the positive pressure develops early and very quickly and the symptoms are so urgent that allowing some air to escape affords the only hope. This will afford relief, but usually only temporary relief. In such cases I believe it would often be probably better, instead of allowing a temporary outflow of air, to make a more permanent opening, and so keep the pleural cavity pressure the same as that of the atmosphere.

In connexion with pneumothorax there are many other points of interest, but I fear this paper is already too long.

In conclusion, may I summarize the points which I have tried to make?

First, that pneumothorax is, I believe, relatively rare amongst patients undergoing sanatorium treatment. As far as my experience goes, out of more than 2,000 such patients, only 6 developed the disease while they were undergoing treatment. Dr. Samuel West puts the mortality from the complication at 75 per cent. Fortunately in the few cases I have seen the percentage mortality was much less.

Secondly, that we can not have positive pressure in the pleural cavity unless the pneumothorax is valvular, and no very high pressure unless there has at the same time been more or less coughing.

Thirdly, that in the typical case progressing favourably we must expect a stage in which the opening is valvular and the pressure high—that is, in which the pneumothorax is closed except at those moments when there is excessive pressure in the lungs—for instance, on coughing.

Fourthly, that a high positive pressure, although a necessary condition, is not of itself a sufficient condition to warrant the performance of paracentesis, as often the patient has already got over his most dangerous state by the time the pressure has reached its maximum.

The paper was discussed by Dr. H. SINCLAIR and others.

Treatment of Unobstructed Labour.

Mr. R. J. JOHNSTON read a suggestive paper on the treatment of unobstructed labour, advocating earlier delivery by forceps in some cases where, through previous ill health, there was danger of a nervous breakdown or where muscular power was lessened as the result of numerous pregnancies.

Most members present took part in the discussion which followed, and the CHAIRMAN warmly thanked Mr. Johnston, who was elected an honorary member of the Division.

With tea a pleasant meeting came to an end.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A general meeting of the Division will be held at the Medical Institute on Wednesday, November 17th, to elect a Representative for the Division.—A. W. NUTHALL, W. T. LYDALL, Medical Institute, Birmingham.

BORDER COUNTIES BRANCH.—The autumn meeting of this Branch will be held in the Crichton Royal Institution (First House) on Friday, November 26th, at 3 p.m. Council will meet at 2.45 p.m.—G. R. LIVINGSTON, Honorary Secretary, Dumfries.

LANCASHIRE AND CHESHIRE BRANCH.—The Branch Ethical Committee will meet at the Liverpool Medical Institution at 4.30 p.m., on Wednesday, November 3rd. The Branch Organization and Finance Committee will meet at Onward Buildings, Deansgate, Manchester, at 4.30 p.m., on Wednesday, November 10th. The Branch Science Committee will meet in Manchester, at 4.30 p.m., on Wednesday, November 17th.—F. CHARLES LARKIN, Honorary Branch Secretary.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—A scientific meeting will be held at the Infirmary, Warrington, on Tuesday, November 2nd, at 8 p.m.—P. A. MURRAY, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH.—The Council of this Branch has made arrangements to hold a meeting, at which the three Direct Representatives of the profession for England and Wales on the General Medical Council, Drs. Langley Browne, Latimer, and McManus, will address their constituents who are resident in the metropolis and its neighbourhood. The meeting will be held on Monday, November 22nd, at 4.30 p.m., at the St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus). All members of the profession are invited to attend, whether members of the Association or not.—E. W. GOODALL and W. GRIFFITH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—An ordinary meeting will be held at the Midland Grand Hotel, King's Cross, N., on Wednesday, November 10th, at 9 p.m. Dr. G. F. Blinn will give an address on "Town Practice *v.* Country Practice." W. GRIFFITH, Honorary Secretary.

MIDLAND BRANCH: BOSTON AND SPALDING DIVISION.—A meeting of this Division will be held at the Johnson's Hospital, Spalding, on Friday, November 5th, at 2.45 p.m. Agenda: (1) Minutes. (2) Cases and Specimens. (3) Any other business. Dr. Galloway has very kindly invited members to take tea with him, at his house, after the meeting. The Honorary Secretary will be glad if members will let him know by November 3rd if they are able to be present.—A. E. WILSON, Honorary Secretary.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting of this Branch will be held at Gray's Hospital, Elgin, on Saturday, October 30th, at 12.30 p.m. Members desirous of reading papers or showing cases will oblige by sending the name and title to the Honorary Secretary as soon as possible.—J. MUNRO MOIR, 4, Ardross Terrace, Inverness, Honorary Secretary.

SOUTH-EASTERN BRANCH.—A combined meeting of the Brighton, Chichester and Worthing, and Eastbourne Divisions will be held on Wednesday, November 3rd, at the Dispensary, 115, Queen's Road, Brighton. The chair will be taken by Mr. A. J. Martineau at 4.30 p.m. Tea and coffee will be provided at 4 p.m. Dr. James Mackenzie will give a demonstration of his Polygraph for taking tracings of the Cardiac Cycle. Mr. A. J.

Martineau will read a paper on the Mastoid Operation for Middle-ear Disease. Dinner will be served at 6.30 p.m. at the Grand Hotel, Brighton; charge 6s., exclusive of wine. The Honorary Secretary of the Brighton Division would like members who can conveniently do so to let him know, on the day before the meeting, of their intention to attend and to stay for the dinner.—G. F. MARSH, Brighton. H. C. L. MORRIS, Chichester and Worthing. W. MUIR-SMITH, Eastbourne.

SOUTH-EASTERN BRANCH: GUILDFORD DIVISION.—The autumn meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, November 5th, at 3.30 p.m. Dr. A. H. Walker, Chairman of the Division, will preside. Agenda: (1) Minutes of the annual meeting. (2) Paper: Mr. R. P. Rowlands, F.R.C.S., will give an address on "Some Mistakes in Diagnosis and their Teaching," to be followed by a discussion. (3) Any other business. Tea will be provided at 4.15. Dinner at 6.30 at the Lion Hotel. Charge 6s., exclusive of wine. The Honorary Secretaries will be glad to hear from any members willing to show cases or specimens.—H. B. BUTLER, Eastdale, Guildford, E. J. SMYTH, Maythorne, Guildford, Honorary Secretaries.

SOUTH-EASTERN BRANCH: REIGATE DIVISION.—The autumn meeting and dinner will be held at the White Hart Hotel, Reigate, on Saturday, November 6th, at 5.30 p.m. Dinner at 7 p.m., Dr. W. A. Berridge in the chair. Agenda: (1) The minutes of the last meeting. (2) Dr. Caldecott's report as Representative of the Division at the Annual Meeting at Belfast. (3) Dr. St Clair Thomson, Professor of Laryngology and Physician for Diseases of the Throat, King's College Hospital, will give an address on "The Diagnostic Significance of Pus in the Nose," illustrated with photographs, diagrams, and sections. (4) Mr. Sewill will report the progress of the agitation for reform in medical law and the traffic in quack medicines. (5) Any other business. All members of the South-Eastern Branch are invited to attend and to introduce professional friends. Dinner at 7 p.m., charge 7s. exclusive of wine. The Honorary Secretary will be glad if members will inform him if they will be able to attend the meeting and whether they will stay to dinner.—JOHN G. OGLE, Honorary Secretary, Tower House, Reigate.

WEST SOMERSET BRANCH.—The autumn meeting of this Branch is to be held on Tuesday, November 2nd, at the Taunton and Somerset Hospital, at 4 p.m., when the chair will be taken by the President, Mr. Charles Farrant. Mr. Walter G. Spencer, M.S., F.R.C.S., Surgeon to Westminster Hospital, has kindly promised to read a paper on Indications for Immediately Opening the Abdomen in Acute Cases. The West Somerset medical dinner will follow the meeting.—W. B. WINCKWORTH, Taunton, Honorary Secretary.

YORKSHIRE BRANCH.—The next meeting of this Branch will be held at the Royal Infirmary, Halifax, on Wednesday, November 17th, at 4 o'clock. Members intending to read papers, show specimens or cases, or to propose new members are requested to communicate at once with the Secretary. Members will dine together at 6.30.—ADOLPH BRONNER, 33, Manor Row, Bradford, Honorary Secretary.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Staff Surgeon P. H. BOYDEN, M.D., to the *Fisgard*, November 4th; Staff Surgeon E. T. F. EVANS, to the *Endymion*, October 20th; Surgeon J. H. BURDETT, to the *Victory*, additional, for disposal, November 2nd; Fleet Surgeon M. L. B. RODD, to the *Niobe*, November 3rd, and to the *Forth*, reconstituting, and, until relieved; Staff Surgeon J. C. ROWAN, M.B. to the *Mars*, November 3rd.

TERRITORIAL FORCE.

ROYAL ENGINEERS.

SURGEON-MAJOR HENRY WADE, from the Unattached List for the Territorial Force, to be Surgeon-Major Northern Command Telegraph Companies, Royal Engineers (Army Troops), October 4th.

ROYAL ARMY MEDICAL CORPS.

First Highland Field Ambulance.—Lieutenant PETER HOWIE, M.B., to be Captain, September 18th.

Second East Lancashire Field Ambulance.—Lieutenant ALEXANDER CALLAN to be Captain, September 28th.

Third Wessex Field Ambulance.—ELLIOTT B. BIRD to be Lieutenant, August 23rd.

Second Scottish General Hospital.—Captain J. D. COMRIE, from Third Lowland Field Ambulance, Royal Army Medical Corps, to be Major, July 22nd.

Third Lowland Field Ambulance.—Lieutenant J. H. H. PIRIE to be Captain, October 1st.

First South Midland Field Ambulance.—Lieutenant H. F. W. BODDICKER, M.B., from the Second South Midland Field Ambulance, Royal Army Medical Corps, to be Lieutenant, September 29th.

First Wessex Field Ambulance.—Lieutenant L. R. TOSSWILL to be Captain, September 24th.

First North Midland Field Ambulance.—Captain W. J. REID to be Major, April 19th, 1909.

Colonel R. H. LUCE, M.B., V.D., has been appointed Administrative Medical Officer, North Midland Division, vice Colonel C. M. MACMUNN, M.D., V.D.

Attached to Units other than Medical Units.—Captain WILLIAM ROXBURGH, M.B., to be Major, January 13th, 1909.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,180 births and 3,771 deaths were registered during the week ending Saturday last, October 23rd. The annual rate of mortality in these towns which had been 12·9 and 12·2 per 1,000 in the two preceding weeks, further declined last week to 12·0 per 1,000. The rates in the several towns ranged from 5·2 in West Hartlepool, 5·6 in Ipswich, 5·7 in Walthamstow, 6·5 in Willesden, 6·7 in Norwich, and in Handsworth (Staffs), 6·8 in Leyton, and 7·0 in King's Norton, to 17·0 in Liverpool, 17·8 in Tynemouth, 18·2 in Hanley, 18·8 in Bootle, 18·9 in Oldham, 19·2 in St. Helens, 19·5 in Huddersfield and in Middlesbrough, 19·5 in Great Yarmouth, and 20·6 in Merthyr Tydfil. In London the rate of mortality was 11·5 per 1,000, while it averaged 12·1 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·0 per 1,000 in the seventy-six towns: in London these diseases caused a death-rate of only 0·7 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2·5 in Wolverhampton, 2·6 in Coventry, 2·8 in Salford, 3·0 in Hanley and in Hull, and 3·4 in Burnley. Measles caused a death-rate of 1·1 in Hornsey and 1·3 in Birkenhead; scarlet fever of 1·3 in Coventry and 1·5 in Blackburn; diphtheria of 1·1 in Hornsey and 1·5 in Handsworth; whooping-cough of 1·3 in Merthyr Tydfil; and diarrhœa of 1·6 in St. Helens, 1·7 in Wigan and in Hull, and 1·9 in Devonport and in Tynemouth. The mortality from enteric fever showed no marked excess in any of the large towns. Two fatal cases of small-pox were registered in Hull, but none in any other of the seventy-six towns. Two small-pox patients remained under treatment in the Metropolitan Asylums Hospitals on Saturday, the 23rd, but no new cases were admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2,795, 2,745, and 2,736 at the end of the three preceding weeks, had declined again to 2,799 at the end of last week: 345 new cases were admitted during the week, against 373, 324, and 371 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, October 23rd, 886 births and 470 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 15·1, 12·0, and 12·8 per 1,000 in the three preceding weeks, again rose to 13·1 per 1,000 last week, and was 1·1 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 10·2 in Paisley and 10·4 in Aberdeen to 14·8 in Glasgow and 17·0 in Perth. The death-rate from the principal infectious diseases averaged 1·5 per 1,000 in these eight towns, the highest rates being recorded in Dundee and Perth. The 247 deaths registered in Glasgow included 5 which were referred to measles, 3 to scarlet fever, 6 to diphtheria, and 14 to diarrhœa. Two fatal cases of measles, 3 of diphtheria, and 2 of diarrhœa were recorded in Edinburgh; 2 of whooping-cough in Greenock; and 5 of diarrhœa in Dundee, 3 in Aberdeen, and 2 in Leith.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £80 per annum.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary at the rate of £100 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES. Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

BURNLEY UNION.—Resident Assistant Medical Officer. Salary, £150 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Assistant Anæsthetist. Honorarium, 25 guineas per annum.

CHARTHAM: KENT COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £145 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—House-Surgeon. Salary, £80 per annum.

CHICHESTER: WEST SUSSEX AND EAST HANTS GENERAL INFIRMARY AND DISPENSARY.—Male House Surgeon. Salary, £90 per annum.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £100 per annum, increasing to £120.

DUMFRIESSHIRE EDUCATION COMMITTEE.—Two Medical Assistants. Salary for Senior, £250, rising to £300; for Junior, £250.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—House-Surgeon (male). Salary at the rate of £75 per annum.

GLASGOW EYE INFIRMARY.—Surgeon.

GORDON HOSPITAL FOR FISTULA, Vauxhall Bridge Road, S.W. —House-Surgeon. Honorarium, £25 for six months.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—(1) Physician. (2) Surgeon to the Ear and Throat Department.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KINGSTON-UPON-HULL CORPORATION.—Resident Medical Officer for the Workhouse and Infirmary. Salary, £225 per annum, rising to £250.

LINCOLN COUNTY HOSPITAL. Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, S.W.—(1) Two Assistant Bacteriologists. Salary, £250 and £230 per annum respectively. (2) Jenner Memorial Studentship. £150 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Medical Registrar. Honorarium, 40 guineas per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Senior and Junior Resident Medical Officers. Honorariums, £175 and £75 per annum respectively.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum, increasing to £120.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Resident Medical Officer for Out-patient Department. Salary at the rate of £60 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary, £50 per annum.

ST. MARK'S HOSPITAL FOR FISTULA, City Road, E.C.—House-Surgeon. Salary, £50 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Assistant Physician to Out-patients.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £70 per annum.

SHEFFIELD ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.

STAFFORDSHIRE COUNTY ASYLUM, Cheddleton.—(1) Senior Assistant Medical Officer. (2) Junior Assistant Medical Officer. Salary, £250 and £200 per annum respectively.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY.—Assistant Medical Officer (male). Salary, £100 per annum.

THROAT HOSPITAL, Golden Square, W.—Resident House-Surgeon. Salary, £75 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary, £80 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—(1) Surgical Registrar. (2) Resident Medical Officer.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Salary, £30 for six months.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Lonsdale, co. Lancaster.

MEDICAL REFEREE.—The Home Secretary announces a vacancy as Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 6, to be attached more particularly to Southport and Ormskirk County Court.

APPOINTMENTS.

MACKENZIE, James, M.D., M.R.C.P., Assistant Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead and Northwood, Middlesex.

PRICE, E. W., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Narberth District, co. Pembroke.

STARK, A. Campbell, M.B., B.S. Lond., Assistant Surgeon to the British Skin Hospital.

UNIVERSITY COLLEGE HOSPITAL.—The following appointments have been made:

House-Physicians: T. B. Davies, M.B., B.S., M.R.C.S., L.R.C.P.; F. Clayton, M.D., M.R.C.S., L.R.C.P.

Obstetric Assistant: F. G. Sergeant, M.B., B.S.

House-Surgeon: G. G. Alderson, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

MARRIAGE.

ELLIS—SANDERS.—On October 19th, at St. Leonard's Church, Colchester, by the Rev. Canon Sanders, uncle of the bride, assisted by the Rev. J. M. Evans, Rector of Lexden, Frederick William Ellis, M.D., F.R.C.S.Eng., youngest son of the late Christopher Ellis, of Penpol, Hayle, Cornwall, to Constance Maude Frances, eldest daughter of Edwin J. Sanders, of Lexden Park, Colchester.

DEATHS.

BRICKWELL.—On October 24th, at Pinwell, Slough, the residence of his son-in-law, John Smith Brickwell, M.R.C.S., L.S.A., in his 74th year.

CLAYTON.—On October 25th, at Elmsleigh, Lytham, James Simpson Clayton, M.D., F.R.C.S.Edin., aged 49 years.

MYERS.—On October 21st, at Kent Cottage, Cleveland Road, Ealing, Henry Reynolds Myers, V.D., late Surgeon-Colonel 10th, late 57th, Middlesex (Bloomsbury) Rifle Volunteers, in his 73rd year. Friends, please accept this (the only) intimation. Colonial and Egyptian papers, please copy.

PUBLISHERS' ANNOUNCEMENTS.

IN Mr. John Murray's quarterly list of forthcoming works, dated October, we find the following volumes by Professor Ronald Ross: *The Prevention of Paludism*, which is said to contain a short history of paludism (malaria), a compendium of facts about the disease, its distribution, discussions on various points, details, descriptions and comparisons of the various antipaludic measures, a discussion of the cost, the antipaludic strategy and State policy, accounts of work done in various parts of the world and its results, and condensed accounts of the parasites, the mosquitos, and the necessary technique; and *Philosophies*, a series of verses written in India between 1881 and 1889, mostly in connexion with the author's researches on paludism.

The *Power of Speech* is the title of a new work on the speaking voice, by Miss Gordon Lawrence, Director of the Lawrence School of Acting of New York, which will shortly be issued by Messrs. Hinds, Noble, and Eldredge.

Messrs. Rebman, Limited, have just published a work entitled *Progressive Redemption*, which deals with the Catholic Church, its functions and offices in the world, reviewed in the light of the ancient mysteries and modern science. The author is the Rev. Holden E. Sampson, author of *Progressive Creation*. The present book is described as "eminently indispensable to the practical labourer in the many fields of effort for the betterment of mankind, and for 'reform' in human conditions, in which every individual soul who is not entirely selfish cannot help being employed."

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Shattock: Sarcoma.

TUESDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—Bradshaw Lecture by Dr. J. A. Lindsay Darwinism and Medicine.

ROYAL SOCIETY OF MEDICINE:

THERAPEUTICAL AND PHARMACOLOGICAL SECTION, 20, Hanover Square, W., 4.30 p.m.—Papers:—Dr. David B. Lees: The Physical Signs of Incipient Pulmonary Tuberculosis, and their Treatment by Continuous Antiseptic Inhalations, with the Results in 50 Cases. Dr. H. H. Dale: The Action of some Diuretics.

PATHOLOGICAL SECTION, Royal Army Medical College, Millbank, 8.30 p.m.—Laboratory Meeting.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital Tottenham, 4.15 p.m.—Cases and Specimens.

ROENTGEN SOCIETY, 20, Hanover Square, W., 8.15 p.m.—Delivery of the Presidential Address by Mr. C. E. S. Phillips, F.R.S.Edin.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—First FitzPatrick Lecture, by Sir T. Clifford Allbutt, K.C.B.: Greek Medicine in Rome.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

LARYNGOLOGICAL SECTION, 20, Hanover Square, W., 5 p.m. —Cases and Specimens.

SECTION OF ANÆSTHETICS, 20, Hanover Square, W., 8.30 p.m.—Paper:—Dr. Vivian Orr: Heart Massage in Chloroform Syncope. Demonstration: An Apparatus for the Administration of Ether by the Open Method.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C. —Lectures: Tuesday and Friday, 3.45 p.m., Accessory Sinuses.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Monday, 4 p.m., Post-nasal Catarrh; Wednesday, 2.15 p.m., Aortic Disease.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin: Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follow: Monday, Puerperal Eclampsia; Tuesday, Facial Hemispasm; Wednesday, Intestinal Obstruction, Internal and Artificial; Thursday, Some Nervous Affections in Children.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday, 4 p.m.: The Cerebellum and the Mid-Brain. Tuesday, 3.30 p.m.: Tabes. Friday, 3.30 p.m.: Surgery of the Nervous System.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient. 2.30 p.m., Medical Out-patient: Nose, Throat, and Ear; X rays; 4.30 p.m., Medical In-patient. Tuesday, Clinics: 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Clinics: Surgical, Gynæcological. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye. Clinics: Thursday, 2.30 p.m., Gynæcological Operations; Clinics: Medical Out-patient; Surgical Out-patient; X rays; 3 p.m., Medical In-patient. Friday, Clinics: 10 a.m., Surgical In-patient: 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—Daily, 2 p.m., Medical and Surgical Clinics; X Rays; 2.30 p.m., Operations: Monday, Wednesday, and Thursday, 2 p.m., and Saturday, 10 a.m., Diseases of the Eye: Tuesday and Friday, 10 a.m., Gynæcological Operations; 2 p.m. (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of Skin: Wednesday and Saturday, 10 a.m., Diseases of Children: 2.30 p.m., Diseases of Women (Wednesday only). Lectures: At 10 a.m., Monday and Thursday, Demonstration of Surgical Cases by Surgical Registrar; Friday, Demonstration of Medical Cases by Medical Registrar. At 12 noon, Thursday, Pathological Demonstration; at 3.15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine; at 5 p.m., Monday, Anæsthetics; Tuesday, Gynæcological Cases; Wednesday, Examination of Blood in Tropical Diseases; Thursday, Clinical Lecture; Friday, Cases of Skin Disease.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
30 SATURDAY ..	NORTHERN COUNTIES OF SCOTLAND BRANCH, Clinical Meeting, Gray's Hospital, Elgin, 12.30 p.m.
31 Sunday ..	
NOVEMBER.	
1 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
2 TUESDAY ..	WARRINGTON DIVISION, *Lancashire and Cheshire Branch*, Scientific Meeting, Infirmary, Warrington, 8 p.m. WEST SOMERSET BRANCH, Autumn Meeting, Taunton and Somerset Hospital, 4 p.m.; West Somerset Medical Dinner to follow meeting.
3 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Branch Ethical Committee, Liverpool Medical Institution, 4.30 p.m. SOUTH-EASTERN BRANCH, Combined Meeting of Brighton, Chichester and Worthing, and Eastbourne Divisions, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.; Tea and Coffee, 4 p.m.; Dinner, Grand Hotel, 6.30 p.m.
4 THURSDAY ..	
5 FRIDAY ..	LONDON: Special Poor Law Reform Committee, 2.30 p.m. BOSTON AND SPALDING DIVISION, *Midland Branch*, Johnson's Hospital, Spalding, 2.45 p.m. GUILDFORD DIVISION, *South-Eastern Branch*, Autumn Meeting, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Tea, 4.15 p.m.; Dinner, Lion Hotel, 6.30 p.m.

Date.	Meetings to be Held.
NOVEMBER *(Continued).*	
6 SATURDAY ..	REIGATE DIVISION, *South-Eastern Branch*, Autumn Meeting, White Hart Hotel, Reigate, 5.30 p.m. Dinner, 7 p.m.
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	
10 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Branch Organization and Finance Committee, Onward Buildings, Deansgate, Manchester, 4.30 p.m. ST. PANCRAS AND ISLINGTON DIVISION, *Metropolitan Counties Branch*, Midland Grand Hotel, King's Cross, N., 9 p.m.
11 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. CITY DIVISION, *Metropolitan Counties Branch*, Pathological Demonstration, St. Bartholomew's Hospital, 4 p.m.
12 FRIDAY ..	
13 SATURDAY ..	
14 Sunday ..	
15 MONDAY ..	
16 TUESDAY ..	
17 WEDNESDAY	CENTRAL DIVISION, *Birmingham Branch*, General Meeting, Medical Institute. LANCASHIRE AND CHESHIRE BRANCH, Branch Science Committee, Manchester, 4.30 p.m. YORKSHIRE BRANCH, Royal Infirmary, Halifax, 4 p.m.; Dinner, 6.30 p.m.
18 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 13TH, 1909.

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Association Intelligence.

PROCEEDINGS OF COUNCIL.

At a meeting of the Council held at 429, Strand, London, W.C., on Wednesday, October 27th, 1909.

Present:

Mr. EDMUND OWEN, LL.D., London, Chairman of Council, in the Chair.

Mr. H. T. BUTLIN, D.C.L., LL.D., London, President-elect.

Dr. SINCLAIR WHITE, Sheffield, Past-President.

Mr. H. A. BALLANCE, M.S., Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. FORD ANDERSON, London
Dr. GRANT ANDREW, Glasgow
Inspector-General BENTHAM, R.N. ret., London (Representative of Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D.Sc., London
Dr. DAVISON, Bournemouth
Mr. E. J. DOMVILLE, Exeter
Mr. A. J. DREW, Oxford
Dr. YOUNG EALES, Torquay
Dr. GEORGE EDMOND, Aberdeen
Dr. DAVID EWART, Chichester (New Zealand Branch)
Mr. J. H. EWART, Eastbourne
Dr. A. C. FARQUHARSON, Bishop Auckland
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Dr. H. A. FRANCIS, London (Brisbane and Queensland Branch)
Mr. T. W. H. GARSTANG, Altrincham
Dr. GOYDER, Bradford
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern Provinces; Cape of Good Hope, Western Provinces; and Cape of Good Hope, Border Branches)
Dr. W. HALL, Lancaster
Dr. G. E. HASLIP, London
Sir VICTOR HORSLEY, F.R.S., London
Dr. MCKENZIE JOHNSTON, Edinburgh
Mr. HERBERT JONES, Hereford
Colonel C. H. JOUBERT DE LA FERTÉ, I.M.S., Weybridge (Representative of the Indian Medical Service)
Mr. HUGH KER, London
Mr. R. H. KINSEY, Bedford
Mr. F. C. LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. J. A. MACDONALD, Taunton
Dr. CHARLES MACFIE, Bolton
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. EWEN J. MACLEAN, Cardiff
Dr. HERBERT MANLEY, West Bromwich
Dr. C. J. MARTIN, F.R.S., London (Sydney and New South Wales Branch)
Dr. J. M. MASON, London (New Zealand Branch)
Dr. C. G. D. MORIER, London (South Australian and West Australian Branches)
Dr. MUNRO MOIR, Inverness
Dr. T. G. NASMYTH, Edinburgh
Dr. B. H. NICHOLSON, Colchester
Dr. F. M. POPE, Leicester
Dr. T. WHITEHEAD REID, Canterbury
Dr. JONES ROBERTS, Penygroes
Mr. W. ST. A. ST. JOHN, Derby
Dr. CECIL SHAW, Belfast
Dr. LAURISTON SHAW, London
Lieutenant-Colonel SIMPSON, C.M.G., London (Griqualand West, Natal, and Transvaal Branches)
Dr. MITCHELL STEVENS, Cardiff
Mr. C. R. STRATON, Wilton
Mr. G. A. SYME, M.S., London (Melbourne and Victoria Branch)
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Dr. ALEXANDER TROTTER, Perth
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly
Lieutenant-Colonel WILSON, C.M.G., South Farnborough (Representative of the Army Medical Service)

MINUTES.

The Minutes of the last Meeting, held at Belfast, July 29th, 1909, having been printed and circulated, and no objections having been received, were confirmed.

APOLOGIES.

Letters of apology for non-attendance were read from:—The President (Sir William Whitla), Mr. J. Ward Cousins, Dr. Edward Cureton, Mr. R. J. Johnstone, Dr. C. H. Milburn, Major O. L. Robinson, and Mr. Jenner Verrall.

DEATHS.

The Chairman reported the deaths of Dr. Thomas Bridgwater and Dr. H. Radcliffe Crocker. Vice-Presidents of the Association; and of Dr. Rayner Batten, a former Member of the Council.

Dr. Bridgwater.

Resolved; That the Council learns with profound regret of the death of Dr. Thomas Bridgwater, and desires to record its recognition of his unselfish and faithful services to the Association during the time that he was a Member of the Association (nearly 40 years) and President of Council (1887–1890).

Dr. Radcliffe Crocker.

Resolved: That the Council desires to express its sense of sorrow in the loss which it has sustained in the death of Dr. H. Radcliffe Crocker, who was an active Member of the Council and of its Committees for many years, acting as Treasurer of the Association from 1905–1907, and taking a deep interest in the Sectional work of the Annual Meetings.

Dr. Batten.

Resolved: That the Council desires to place on record its deep regret at the loss the Association has sustained by the death of Dr. Rayner W. Batten, of Gloucester, who for many years represented the Gloucester Branch on the Central Council.

Resolutions Passed in the Sections at Belfast.

The Resolutions passed in the Sections at Belfast were read and were referred for report to the appropriate Committees.

Annual Meeting, 1910.

By formal Resolution the Annual General Meeting delegated to the Council all powers under Article XVIII to appoint a President-elect and to make all arrangements for the holding of the Annual General Meeting in 1910.

Arising out of this, the Chairman reported he had received from the Council of the Metropolitan Counties Branch a cordial invitation for the Association to meet in 1910 in London. The Council accepted the invitation with much pleasure, and on the motion of Dr. Ford Anderson, seconded by Sir Victor Horsley, Mr. H. T. Butlin, D.C.L., President of the Royal College of Surgeons of England, was unanimously appointed President-elect.

Dr. Ford Anderson, in presenting Mr. Butlin to the Chairman, expressed the hope that he might have health and strength to carry out the duties of this office.

Mr. Butlin expressed his thanks and assured the Council he would use every endeavour to make the London Meeting a complete success.

Arrangements Committee.

The Council delegated to the Arrangements Committee full powers to make all arrangements for the Annual Meeting in 1910, to select the Readers of the Addresses, and the Officers of Sections, and to decide upon a Provisional Programme.

The Belfast Meeting.

The best thanks of the Association were accorded for much generous hospitality and valuable help rendered in connexion with the Annual Meeting at Belfast as follows, to:

The Chairman, Honorary Secretaries, and Members of all Local Committees, for their indefatigable labours in making the Belfast Meeting so pronounced a success.

The following firms, for permitting Members and Visitors to inspect their Works:

The York Street Flax Spinning and Weaving Works.

Gallaher's Tobacco Factory.

Messrs. Workman and Clark.

Messrs. Harland and Wolff.

Messrs. Dunville and Co.

Messrs. J. Shaw Brown and Co.

The Belfast Rope Works.

Messrs. Wm. Ewart and Sons.

The following institutions, for permission to visit and inspect their buildings:

The Municipal Technical Institute.

The Harbour and Docks Commissioners.

The Forster Green Hospital and Sanatorium.

The Belfast Charitable Institution, Clifton Street.

The Young Men's Christian Association.

The Central Presbyterian Association.

Mr. Robert Thompson for providing tea to Members visiting the Harbour and Docks.

Dr. Robert Hall, for providing Tea to the visitors to White Abbey Sanatorium.

The President, Mr. Kirk, and Members of the Ulster Medical Society, for presenting the handsome silver trophy, to be known as "The Belfast Cup," for competition at each Annual Meeting.

Mr. and Mrs. Kirk, for providing Luncheon on the occasion of the Golf Competition.

Dr. R. L. Bell, of Newcastle, County Down, for providing Tea on the occasion of the Golf Competition.

The following Golf Clubs for extending hospitality to Members of the Association visiting Belfast:—Royal County Down, Dunmurry, Lisburn, Holywood, Royal Belfast, Ormeau, Knock, Fortwilliam, Greenisland, Donaghadee, Malone and Bangor.

The Belfast Bowling Club, for the use of their beautiful grounds.

Dr. John Rusk, for arranging Matches in connexion with the Club.

The Belfast Boat Club, for the use of their commodious Club House and for making Members of the Association Honorary Members during the Meeting.

The Committee of the Union and Reform Clubs, for extended Honorary Membership to Members of the Association while at Belfast.

Dr. W. W. Glenny, of Warrenpoint, for looking after the Members upon their visit to Warrenpoint.

Mr. Joseph Carroll, Chairman of the Warrenpoint Urban District Council, for his labours in connexion with the Excursion to Warrenpoint.

The Right Honble. the Lord Mayor and Lady Anderson, for their Reception in the City Hall.

The Mater Infirmorum Hospital, for their Afternoon Reception.

Mr. James Davidson, for his Reception at the Royal Victoria Hospital.

The President, Dr. Alex. Dempsey, and Members of the Ulster Branch, for their Reception and Fête in the Botanic Gardens.

The President and Local Members, for the Ladies' Reception at the Opera House.

Sir William and Lady Whitla, for their Garden Party at Lennoxvale House.

The President and Council of the Ulster Medical Society, for the use of the Medical Institute.

The Town Clerk (Mr. Robert Meyer) and City Chamberlain (Mr. F. W. Moneypenny, M.V.O.), for their valuable assistance in arranging the various public functions.

The Commodore and Members of the Royal North of Ireland Yacht Club, for their Garden Party at Cultra.

Mr. and Mrs. R. J. M'Mordie, for their Garden Party at Cabon Hill, Knock.

The Lord Mayor and the City Corporation of Belfast, for use of the Ulster and Exhibition Halls, and Botanic Gardens Park.

The Belfast Corporation, for allowing Members to inspect the Sewage Works.

The Rev. H. D. Murphy, D.D., for his Address at St. George's Parish Church.

Dr. Haydn Mulholland, Mus. Bac., for his Organ Recital in the Assembly Hall.

Mr. Traill, for his assistance in explaining the geological and historical characteristics in connexion with the Excursion to the Giant's Causeway.

The Dean of St. Anne's, for arranging special Sunday Service in the Cathedral.

The Bishop of Down, Connor, and Dromore, for officiating at the Service at the Cathedral, and for his most appropriate Sermon on that occasion.

The Clerk of the Belfast Presbytery Assembly's Hall, Belfast, for arranging a special service for Members of the Association, and to the Rev. David Purves, D.D., for officiating on that occasion.

Councillor M'Cullagh, for conducting Members round the Belfast Sewage Works.

The Vice-Chancellor and Senate of the Queen's University, for the use of the College Buildings, etc.

Mr. Robert J. Johnstone, F.R.C.S., for his literary labours in compiling the very useful "Handbook and Guide to Belfast and North-East Ireland."

Dr. Joseph Nelson, for his valuable assistance in connexion with the Treasurership of the Belfast Meeting.

Dr. H. L. McKisack, Dr. Cecil Shaw, and Mr. Howard Stevenson, for their untiring and successful management of the Belfast Meeting, and to

The President and Lady Whitla, for their great kindness and hospitality throughout the Belfast Meeting.

Journal and Finance Committee.

The Treasurer presented the Minutes of the Journal and Finance Committee of October 20th, 1909.

The accounts for the quarter ending September 30th last, amounting to £13,699 10s. 6d., were received and approved, and the Treasurer empowered to pay those remaining unpaid, amounting to £3,845 17s. 4d.

In view of the success of the publication of *Secret Remedies*, the Council ordered a further issue.

The Council placed on record its high appreciation of the energy and ability which the Editor and the Financial Secretary had displayed in the successful issue of the publication *Secret Remedies*; and tendered its best thanks to the Analyst for his able report upon the composition of the various preparations.

The remainder of the Minutes were approved.

Irish Committee.

Dr. Cecil Shaw presented the Report of the Irish Committee of July 26th, 1909, which was received and approved.

Organization Committee.

Mr. Andrew Clark presented the Report of the Organization Committee of September 14th and October 5th, 1909.

A Conference of Honorary Secretaries of Divisions and Branches was authorized to be held in connexion with the Annual Meeting of 1910, and it was referred to the Organization Committee to make the necessary arrangements.

The scheme for the formation of the South African Committee, submitted by the South African Branches, was approved by the Council in so far as it is compatible with the Memorandum, Articles and By-laws of the Association, and subject to the amendments recommended by the Organization Committee.

The South African Committee was duly constituted in accordance with the scheme as amended, and the South African Branches will be requested to proceed forthwith to the election of Members of the Committee in the manner provided by the scheme.

Arising out of the application for a Royal Charter, Mr. Domville drew attention to the fact that any proposed compromise put forward by him in the Representative Meeting was advanced in his individual capacity, and not as a Representative of the South-Western Branch.

The remainder of the Report, excepting certain matters referred back for further consideration, was approved.

Special Poor Law Reform Committee.

Dr. Macdonald presented the Report of the Special Poor Law Reform Committee of July 9th and October 1st, 1909.

It was decided that in the opinion of the Council any system of medical assistance to prove satisfactory to the ratepayers, the beneficiaries, or to the medical profession, must include the following principles:

(1) That medical services rendered to the State should be paid for by the State.

(2) That the payment should be adequate and in direct accordance with the professional services rendered.

The remainder of the Report, excepting certain matters referred back for further consideration, was approved.

Scottish Committee.

Dr. Buist presented the Report of the Scottish Committee of October 1st, 1909.

The Council agreed to defer the consideration of a Recommendation relating to the Warning Notice, and refer it to the Medico-Political Committee for consideration in connexion with other questions affecting the matter which are now before that Committee.

The remainder of the Report was approved.

Science Committee.

Dr. Pope presented the Report of the Science Committee of October 2nd, 1909.

The Council will report to the next Annual Representative Meeting, in reference to Minute 242 of the Annual Representative Meeting at Belfast, that, having regard to the considerable facilities for research which at present exist in various parts of the country and the heavy financial requirements of such an undertaking, it is, in the opinion of the Council, inadvisable for the Association to attempt to establish a Central Research Laboratory.

The Council will report to the next Annual Representative Meeting, in reference to the first part of Minute 248 of the Annual Representative Meeting at Belfast, that a Therapeutic Committee is at present in existence.

The remainder of the Report, excepting certain matters referred back for further consideration, was approved.

Ophthalmia Neonatorum Committee.

Dr. Martin presented the Report of the Ophthalmia Neonatorum Committee of October 2nd, 1909.

The Recommendations of the Report of the Ophthalmia Neonatorum Committee, previously approved by the Council and submitted to the Representative Meeting, were amended as follows:

(1) That the following addition be made to paragraph (*a*) of the Recommendations in Section (A):

That on the Notification Form should appear a column in which must be stated (i) name and address of midwife who attended, and (ii) name and address of registered medical practitioner.

(2) That the following addition be made to paragraph (*b*):

That a copy of the certificate be sent by the Medical Officer of Health to the Local Supervising Authority if a midwife has been in attendance.

The suggestions to Medical Practitioners are to be deleted from the Report, but the attention of the Divisions of the Association is to be drawn to the importance of the subject and of the Report issued.

The Divisions will be urged to use every effort to secure the carrying out of the suggestions contained in paragraphs (*b*), (*c*), (*d*), and (*f*) of the Recommendations, as finally approved.

All necessary steps are to be taken to secure the periodical distribution of the circular to Midwives, on the subject of Ophthalmia Neonatorum, which the Central Midwives Board has prepared.

The reference to the Special Ophthalmia Neonatorum Committee was discharged, and it was referred to the Medico-Political Committee to give effect to the findings of the Report.

The best thanks of the Council were accorded to Mr. Sydney Stephenson for the valuable services he has rendered as Chairman of the Ophthalmia Neonatorum Committee.

The remainder of the Report was approved.

NAVAL AND MILITARY COMMITTEE.

Colonel JOUBERT DE LA FERTÉ presented the Report of the Naval and Military Committee of October 4th, 1909, which was received and approved.

MEDICO-POLITICAL COMMITTEE.

Dr. MACDONALD presented the Report of the Medico-Political Committee of October 6th, 1909, which was received and approved.

HOSPITALS COMMITTEE.

Dr. WHITEHEAD REID presented the Report of the Hospitals Committee of October 7th, 1909.

The Council will report to the Representative Meeting that the fee for a certificate of the kind referred to in Minute 148 of the Representative Meeting, 1909, should not be less than one guinea.

The remainder of the Report was approved.

ETHICAL COMMITTEE.

Dr. MACLEAN presented the Report of the Central Ethical Committee of October 8th, 1909, which, subject to certain matters referred back, was approved.

COLONIAL COMMITTEE.

Dr. MORIER presented the Report of the Colonial Committee of October 11th, 1909, which was received and approved.

PUBLIC HEALTH COMMITTEE.

Mr. DOMVILLE presented the Report of the Public Health Committee of October 12th, 1909.

The Council decided on the following expressions of opinion:

(i) That inasmuch as Tuberculosis is a communicable disease, notification to the local sanitary authority is desirable.

(ii) That the notification should be compulsory in those cases in which the existence of tuberculosis is proved by the presence of tubercle bacilli in the sputum, but that, in order that this notification should be of the greatest public benefit, it is essential that means of isolation and treatment should be provided by public authority.

(iii) That every sanitary authority should be required to accept voluntary notification of cases of pulmonary tuberculosis on the same terms as other cases of infectious diseases notified under the Infectious Disease (Notification) Act, 1889.

It was decided to inform the Metropolitan Counties Branch Council that in the opinion of the Council the public appreciation of the risks of infection has not yet reached the point at which the systematic Home Visitation of possibly infected persons would be practicable.

The thanks of the Association were accorded to the Earl of Harrowby, to the Earl of Lytton, to Sir Walter Foster and to other Members of Parliament for their assistance in the matter of the Housing and Town Planning Bill.

The Council authorized the Public Health Committee to redraft the Public Health Officers Bill of the Association, so that it will provide security of tenure for whole-time Officers only.

The Council authorized the Public Health Committee to draft a Bill for introduction into Parliament dealing with the superannuation of Medical Officers of Health.

The remainder of the Report was approved.

TERRITORIAL FORCES COMMITTEE.

A Special Committee of the Council was appointed to report to the Council on matters affecting the Medical Department of the Territorial Force. The Committee consists of: Colonel Andrew Clark, Major Jones Roberts, Lieutenant-Colonel Munro Moir, Major Todd, Colonel Milburn, and Lieutenant-Colonel Sinclair White.

CANDIDATES FOR ELECTION.

The thirteen candidates whose names appeared on the circular convening the Meeting were elected Members of the British Medical Association.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BATH AND BRISTOL BRANCH.

THE first ordinary meeting of the session was held in the Medical Library, University of Bristol, on October 27th. Mr. G. MUNRO SMITH, President, was in the chair. Sixty-nine members were present.

Specimens.—Dr. J. MICHELL CLARKE brought forward various pathological specimens of cerebral disease, giving a short abstract of the clinical history, and discussed them. (1) Cerebellar tumour. In this patient the left lateral cerebellar lobe, containing a cyst, was removed by Mr. R. G. P. Lansdown, with complete relief of symptoms for two years. (2) Intracranial aneurysm. (3) Tuberculous tumour of the brain, with unusual symptoms. (4) A specimen showing pontine haemorrhages in nephritis. Dr. J. R. CHARLES showed a case with cerebellar tumour, probably tuberculous, and under treatment with tuberculin.

Papers.—Dr. A. FELLS read two papers: (1) Three Cases of Pneumonia. (2) An Epidemic Form of Jaundice. The following members joined in the discussion: Dr. J. O. SYMES, Dr. W. A. SMITH, Dr. CAVE, Dr. J. MICHELL CLARKE, Dr. NEWMAN NEILD, Dr. CHARLES, Dr. WALDO, Dr. GEO. PARKER, and Dr. ALEXANDER.

Other Communications.—Dr. J. A. NIXON showed numerous microscopical specimens prepared by Professor WALKER HALL from a case of aneurysm of the abdominal aorta in a girl aged 20, a congenital syphilitic. Dr. Nixon gave an interesting account of the clinical history, showing the difficulty of diagnosis during the early stages. The case was discussed by Dr. J. MICHELL CLARKE and Dr. CAREY COOMBS. Mr. E. W. HEY GROVES read a note on section of the posterior nerve roots in tabes dorsalis. Unfortunately, adequate discussion of this paper was prevented by the lateness of the hour.

EDINBURGH BRANCH:

SOUTH-EASTERN COUNTIES DIVISION.

Annual Dinner.—The annual dinner was held in the King's Arms Hotel, Melrose, on October 29th. Dr. TYRRELL was chairman, and Dr. OLIVER croupier. The following members of the Division were present: Drs. McMillan, Henderson, Hamilton Hume, Cullen, Calvert, Muir, Stevenson, Young, Carlyle Johnston, and Jeffrey. There were present as guests: Messrs. Kinnaird, Mannheimer, Small, Currie, Shillinglaw, Fleming, and the Rev. J. L. King. The CHAIRMAN gave the loyal toasts, which were duly honoured: and the CROUPIER "The Army, Navy, and Territorial Forces," to which Major SMALL replied. "The British Medical Association" was proposed in an eloquent manner by Mr. FLEMING, to which Dr. CALVERT replied, emphasizing the necessity of professional unity and mutual help among the members. In a speech the vein of which was partly humorous and partly serious, Dr. CARLYLE JOHNSTON proposed "The Kindred Professions," to which the Rev. J. L. KING replied, his remarks eliciting loud applause. Other toasts included "The Chairman," "The Croupier," "The Secretary," and "The Guests." Interspersed between the speeches were songs and recitations, the contributions of Dr. Muir and Mr. Shillinglaw being much appreciated. In every way the dinner was most enjoyable, and much of the credit was due to Dr. Calvert, who kindly made himself responsible for all the arrangements.

SOUTHERN DIVISION.

Smoking Concert.—A most enjoyable and successful smoking concert of the Division was held in the Carlton Hotel on Saturday, November 6th, presided over by Dr. LUNDIE, Chairman of the Division. There were over forty gentlemen present. An excellent pro-

gramme was submitted, taken part in by Messrs Logan (piano), Vanden Bergh and Wood (violin), James Craig and Arthur Moffatt ('cello), John Allsop, Porter, Tom Craig, and Drs. Johnson, J. A. H. Duncan, John M. Darling, Keppie Paterson, and Paul. During a short interval the CHAIRMAN took the opportunity of offering the hearty congratulations of the profession to Dr. Matheson Cullen on his appointment the preceding day as one of the magistrates of the city. Bailie CULLEN, in reply, thanked the Chairman for his appreciative and encouraging remarks, and the meeting for the way in which they had responded to the toast, and spoke of the field which was open to many members of the profession who had the ability and the will to do their share in carrying on the municipal business of the city. The meeting was closed with the toast of "Floreat Res Medica."

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.

A MEETING of this Division was held in Belgrove U. F. Church on November 2nd. Dr. JOHN PATRICK, Chairman of the Division, presided, and the following members were present: Drs. Miller Semple, Sinclair, P. S. Buchanan, Service, W. L. Muir, and Bryce, Honorary Secretary.

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the Chairman.

Report on Annual Representative Meeting.—Dr. W. L. MUIR reported on the Annual Representative Meeting at Belfast. He went over the various subjects which had been dealt with in detail, indicating what action he had taken, and drawing special attention to other matters he had initiated in connexion with finance and accident insurance. The CHAIRMAN moved that the report be received and the Representative thanked. This was carried *nemine contradicente*.

Appointment of Representative.—On the motion of Dr. JOHN PATRICK, seconded by Dr. MILLER SEMPLE, it was unanimously agreed that Dr. W. L. Muir be reappointed Representative to the next annual meeting.

Organization of the Division.—In connexion with the organization of the Division, the Secretary was instructed to issue a circular to those medical men practising within the confines of the Division who were not members of the Association, showing them the benefits to be derived from membership, and inviting them to join.

Hospitals and Medical Inspection of School Children.—A letter was read from Dr. Wishart Kerr, drawing attention to the relationship between the Glasgow School Board and the Glasgow Eye Infirmary in regard to attendance on school children. After discussion, it was moved by Dr. MILLER SEMPLE, seconded by Dr. SINCLAIR, and carried:

> That the matter be remitted to the Branch Council, with a recommendation from the Division to inquire into the practice of rate-collecting bodies in Glasgow giving subscriptions to public charities.

Appointments under Glasgow School Board.—The SECRETARY reported as to the action taken by the Branch Council in the case of those gentlemen who had accepted part-time appointments under the Glasgow School Board, and this was homologated by the meeting. This was all the business.

GLOUCESTERSHIRE BRANCH.

A GENERAL meeting of this Branch was held at the Cheltenham General Hospital on October 21st at 7 p.m. The PRESIDENT was in the chair, and twenty-seven members were present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The late Dr. Rayner Batten.—Dr. CARTER referred to the death of Dr. Rayner W. Batten, and the action taken by the council in absence of a general meeting.

Specimens.—Dr. H. BRAMWELL showed three pathological specimens: A uterus with large polypus; a thyroid gland; and partly bony, partly cartilaginous growth from outer ridge of bicipital groove of humerus.

Papers.—Dr. S. T. PRUEN related a most interesting case of cancer of the larynx. It was discussed by the PRESIDENT, and Messrs. COX, BRAMWELL, COODE, and AFFLECK. Dr. C. NEPEAN LONGRIDGE read an original paper, entitled, The Blood-tight Uterus and Involution. A discussion followed by the PRESIDENT, Mrs. STEWART-BILLINGS, and Messrs. PRUEN, CARDEW, BRAMWELL, AFFLECK, SCOTT, and JOHNS.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.

A SCIENTIFIC meeting of this Division was held at the Infirmary, Warrington, on Tuesday, November 2nd, Dr. JOSEPH, J.P., in the chair. This meeting was attended by Drs. Peacocke, Smith, Langdale, Naden, J.P., Ferguson, G. H. Joseph, Hutt, and Murray. Drs. Hodgkinson and Manson were also present.

Apologies for Non-attendance.—The SECRETARY read apologies for absence from Drs. Burrowes, Mercer, and Edwards. Dr. Schofield, J.P., sent a telegram saying he was unable to come and read a short paper he had promised.

Paper.—Dr. HUTT, Medical Inspector of Schools, Warrington, read a very interesting paper upon "Enlarged thyroid glands in children." In the discussion afterwards Drs. JOSEPH, JAGO, PEACOCKE, LANGDALE, and others took part.

Vote of Thanks.—A vote of thanks to Dr. Hutt for his paper at this the first meeting for scientific purposes was unanimously passed.

Monthly Scientific Meetings.—It was also resolved to have monthly scientific meetings during the winter months, the next meeting to be on Tuesday, December 7th, at 5 p.m.

A JOINT meeting of this Division and the Warrington Medico-Ethical Society was held at the Infirmary, Warrington, on Tuesday, November 2nd. There were present: Drs. Binns, Bowden, Hodgkinson, Geary, Adams, Hutt, Ferguson, E. J. Fox, Nadem, J.P., Manson, Langdale, Jago, G. W. Joseph, J.P., G. H. Joseph, Peacocke, Smith, Law, Robinson, and Murray.

Apologies for Non-attendance.—Drs. Burrowes, Mercer, Edwards, and Schofield sent apologies for their absence.

Appointment of Chairman.—Dr. G. W. Joseph, J.P., Chairman of the Division, was unanimously requested to take the chair.

An Advertisement.—The SECRETARY of the Division read letters from the Medical Secretary *re* an advertisement tendered for insertion in the BRITISH MEDICAL JOURNAL. He read the copy of the advertisement, which was asking for applications for a medical officer to the sick club and accident societies connected with certain local works. The Secretary explained that, owing to insufficient information as to the basis of payment, the advertisement had not been inserted, and that he had had an interview with the president and secretary of the society, from whom he learnt the rate of pay was 3s. per member per annum. After hearing from the Secretary more details of his interview and discussion thereon, the following resolution was unanimously passed:

> That the Manager of the BRITISH MEDICAL JOURNAL be requested not to insert the sick club advertisement in question, as the scale of payment is below the minimum agreed upon by the Warrington Medico-Ethical Society some ten or twelve years ago.

This scale of payment adopted by the Warrington Medico-Ethical Society was not retrospective, but it was agreed should be recognized by all its members when any appointments were vacated by the then holders.

Notification of Births Act.—As it is understood that the Warrington Corporation is about to adopt this Act, the following resolution was passed, to be sent to the Town Clerk:

> That the Health Committee be asked to pay a fee of 2s. 6d. for each notification sent in by a medical practitioner.

METROPOLITAN COUNTIES BRANCH:
Ealing Division.

Members and friends to the number of 28 met at dinner in Ealing on October 20th, as a prelude to the work of the session. Dr. Savery, Chairman of the Division, presided.

Proposed Annual Dinner.—The dinner was held to be a great success, and its annual recurrence was voted.

First Meeting of Session.—The first meeting of the winter session was held at Ealing, on November 3rd; Dr. Savery presided. Eleven other members were present.

Tuberculous Glands of Mesentery.

After the usual formal business, a paper was read by Mr. C. B. Lockwood, Surgeon to St. Bartholomew's Hospital, on tuberculous glands of the mesentery.

Using the analogy of tuberculous glands in the neck, Mr. Lockwood showed that there were four clinical stages of the disease:

1. Inflammation, with pain and tenderness.
2. Caseation, with blending or welding into a tumour, not necessarily painful.
3. Softening and spreading beyond the capsule to the surroundings—peritonitis, etc.
4. Calcification, as a fortunate condition.

As instances of these stages, he described the following cases:

Stage of Inflammation and Welding into a Tumour.—Girl, aged 17, in apparently good health: A tumour was found, painless, movable, not apparently associated with any organ, situated beneath the left semilunar line. On opening the abdomen a large mass of mesenteric glands was found; also some behind the root of the mesentery, and others in the ascending mesocolon. Histologically they proved to be inflamed, degenerating, tuberculous glands. Dr. O'Meara reported complete recovery, and her marriage some years later.

This case was seen at the most favourable stage—before caseation.

Stage of Caseation, and Possibly Softening.—Man, aged 21. Sudden violent abdominal inflammation, diagnosed as appendicitis; high temperature, rapid pulse, distension, vomiting, and constipation. But the tumour was above and to the left of the umbilicus. He recovered from this crisis, the lump decreased and became painless, and gave so little trouble that he was able to carry on an active life. At length another attack occurred. When it subsided, the suspicion of tubercle being entertained, old tuberculin was given. Two doses caused no reaction. A third dose was given, but the ensuing disturbance was not recognized as due to the dose, and Mr. Lockwood opened the abdomen and found a mass in the mesentery and other enlarged glands. One gland was dissected out, and another was emptied, its lining cauterized, and the peritoneum sutured over it. (Here the lecturer advised that all *softened* glands should be emptied and efforts made to destroy the bacilli left behind.)

The patient recovered and was now under new tuberculin. Recovery at this stage was more doubtful than in the earlier stage.

As to the question of complete removal, Mr. Lockwood narrated the case of a young woman in hospital with a mobile tumour beneath the right semilunar line, some pain, and slight tenderness. Operation showed a tuberculous cyst with yellow and caseous contents. It was dissected out. Other mesenteric glands were found enlarged, and the presence of tubercle was proved. Three years later she was quite well.

Stage of Softening and Spread Beyond Capsule.—A child of 3, with acute abdominal inflammation, taken for intussusception, as it occurred suddenly after eating some sweets.

Operation showed a collapsed portion of the small intestine and a distended colon, and a bunch of inflamed tuberculous glands causing obstruction. The intestine was opened and emptied. The patient recovered, and was well for sixteen months; then there was a recurrence, and the abdomen was found full of pus. In another case, also taken for intussusception, there was a tumour beneath the right semilunar line, but the patient did not look as ill as is usual. There was noticed a slight retraction of the head, and Dr. Gee concurred in the diagnosis of tubercle. Enemata relieved the abdominal symptoms, but the patient ultimately died of tuberculous meningitis.

The Stage of Calcification.—It is common to find calcified glands *post mortem*. A man had violent abdominal pain which, he said, was associated with flatus, and a tender spot near the appendix. There was a history of foreign residence, dysentery, typhoid, etc., and a trace of albumen was present with some granular casts. ("But," observed Mr. Lockwood, "I have often noticed such cases in cases of grave illness.") X rays showed two black shadows under the right rectus, and a diagnosis of calcified glands was given. On operation large calcified glands were found in the mesentery. Three were removed. There were old adhesions and 3 in. from the ileo-caecal valve was a sharp bend in the ileum with hypertrophy above it. This confirmed the patient's own statements. It is early to speak yet, but the patient is apparently cured.

In another case another surgeon had to operate on a girl for sudden obstruction, and found the ileum strangled by a band near the ileo caecal valve and also felt some calcified glands. The loop of ileum gangrened and a fistula resulted. Mr. Lockwood operated for that and confirmed the previous surgeon's finding.

The lecture was listened to with the greatest interest. A few remarks were made by members, to which Mr. Lockwood replied, and the meeting closed with a hearty vote of thanks to the lecturer for this most interesting paper.

Walthamstow Division.

The inaugural meeting of the 1909–10 session was held at the Woodford Hospital on Thursday, October 21st, at 4 p.m. Dr. C. F. Harford presided, and twenty members were present.

Lumbar Puncture.—The Chairman introduced the lecturer (Dr. Risien Russell) in a short speech, and Dr. Russell at once proceeded to read his paper on the value of lumbar puncture. The paper was excellent and well delivered, and evidently appreciated by the hearers. Dr. Russell shortly outlined the history of lumbar puncture, the details of the method adopted in performing the operation, its value in diagnosis, prognosis, and treatment. An interesting discussion followed the paper, in which Drs. Harford, R. Jones, Todd-White, Price, and Coutts took part, and several questions were asked. Dr. Russell having replied to the questions, a vote of thanks to the lecturer was proposed by Dr. Shadwell, seconded by Dr. Coutts, and carried with enthusiasm. Dr. Russell then left, and several matters of business were considered, at the conclusion of which the meeting ended.

SOUTH-EASTERN BRANCH:
Reigate Division.

The autumn meeting was held at the White Hart Hotel, Reigate, on Saturday, November 6th, at 5.30 p.m., Dr. W. A. Berridge (Redhill) in the chair.

Address.—Professor St Clair Thomson (King's College) gave a most interesting address on the Diagnostic Significance of Pus in the Nose, illustrated with numerous photographs, diagrams and sections. He also gave a demonstration on a patient. Mr. H. Sewill, Dr. John Walters, Dr. Caldicott, and Dr. C. Owen Fowler took part in the discussion, to which Dr. St Clair Thomson replied.

Reform of Medical Law.—Mr. Henry Sewill reported that the agitation for reform in medical law and in the traffic in quack medicines had made considerable progress. A question had been asked in the House of Commons.

Report of Annual Representative Meeting.—Dr. C. Caldicott gave a serious and important report of the proceedings at the meeting of Representatives at Belfast.

Dinner.—Sixteen members and friends dined together after the meeting. A most cordial vote of thanks was proposed to Dr. St Clair Thomson in an interesting speech by Dr. J. T. Rawlings. To Dr. John Walters, J.P., who has recently retired from active practice, and who has done strenuous work for the Association and for the Reigate Division for many years, a toast was proposed by the Chairman, seconded by Dr. L. Adeney, J.P., of Tunbridge Wells, and carried by acclamation:

"Tis sweet to pause as on we creep
Up life's precipitous ascent,
And turn to view from summit steep
A new race go, where once we went.

SOUTHERN BRANCH:
PORTSMOUTH DIVISION.

A clinical meeting of this Division was held at 5, Pembroke Road, Southsea, on November 4th. Dr. Colt, Chairman, presided, and twenty members were present.

Cases.—Dr. Barford showed a case of maxillary antrum, ethmoidal cell, and frontal sinus suppuration cured by operation. Dr. Cole Baker showed a case of epithelioma of the nose, in which flaps from the cheek had been employed to repair the breach of surface caused by its removal; also a case of large ventral hernia cured by operation. Dr. L. Maybury showed a case of uterus duplex separatus cum vagina separata, and made remarks on the developmental origin of the condition; also two cases of torticollis cured by Rowland's operation. Mr. Ridout showed a case of thickening of the nasal bones, probably an early case of leontiasis ossium.

Papers.—Mr. Childe read a paper on the symptoms, diagnosis, and treatment of uterine carcinoma by Wertheim's abdominal panhysterectomy, based on a series of 16 cases. Dr. Routh read notes of a case of acute pyelitis complicating pregnancy, due to infection by the *Bacillus coli*, in which a vaccine had been used with success, and the pregnancy had been allowed to continue, with ultimate recovery.

Specimens.—Dr. Blackman showed a fragment of tooth dislodged from the left bronchus seven months after a tooth extraction. Dr. Holmes showed a submucous fibromyoma of the uterus (with microscopical section) becoming polypoid and cystic, removed by subtotal hysterectomy.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—A general meeting of the Division will be held at the Medical Institute on Wednesday, November 17th, to elect a Representative for the Division.—A. W. Nuthall, W. T. Lydall, Medical Institute, Birmingham.

Border Counties Branch.—The autumn meeting of this Branch will be held in the Crichton Royal Institution (First House) on Friday, November 26th, at 3 p.m. Council will meet at 2.45 p.m.—G. R. Livingston, Honorary Secretary, Dumfries.

Border Counties Branch: English Division.—The next meeting of the English Division of the Border Counties Branch will be held at Carlisle on Friday, December 10th. Any member wishing to read a paper or show specimens will kindly communicate as early as possible with S. E. Rigg, 1, Alfred Street North, Carlisle, Honorary Secretary, English Division of Border Counties Branch.

Burma Branch.—The annual meeting of this Branch will be held at the New General Hospital, Rangoon, during the first week in February, commencing on Wednesday, February 2nd, and ending on Saturday, February 5th, 1910. Arrangements will be made by the Managing Committee to put up members coming from the districts. *Programme.*—Wednesday, February 2nd, at 9.30 p.m., address by the President, followed by inspection of museum. On Thursday, February 3rd, at 5 p.m., in the Medical Section, a discussion on the "Spread of Tuberculosis in Burma" will be opened by the President. Members intending reading papers on some point in connexion with tuberculosis are asked to communicate with the Honorary Secretary, and limit the length of their papers to ten minutes, informing him the subject of their paper. The Museum will be open from 9 a.m. to 6 p.m. to all medical men, of all grades down to the hospital assistant class, who are cordially invited to visit the Museum. The annual dinner will take place on Friday, February 4th, at 8.15 p.m., Honorary Dinner Secretary, Dr. Pedley. It has been decided to allow each member one visitor's ticket. The cost of the dinner, including wines, which is estimated to come to about Rs. 10 each, will be equally divided amongst members attending the dinner. Attendance at this dinner is optional. Members are requested to intimate their intention of being present at this dinner to Dr. Pedley. During this day it is proposed to arrange visits to places of interest to the Association. On Saturday, February 5th, 5 to 8 p.m., in the Surgical Section, a discussion on "Compound Depressed Fractures of the Skull" will be opened by Major Duer, F.R.C.S. Papers from members on this subject should be limited to ten minutes. Members intending to read a paper on some point in connexion with this subject are asked to communicate with the Honorary Secretary, mentioning the particular point they wish to bring forward, so as to avoid overlapping. Committee of Management: Chairman, Major Barry; Dinner Secretary, Dr. Pedley; General Secretary, Major Rost. Museum: Major Rost (Foods and Drugs), Captain Williams (Instruments), Captain Whitmore (Pathology). It is hoped that members will communicate with the Museum Committee any specimens, photos, microscopic slides, drawings, plans, or anything of interest they have to show, and dispatch these so that they reach Rangoon at least one week before the meeting. A full description must accompany each specimen.—E. R. Rost, Major, I.M.S., General Hospital, Rangoon.

Cambridge and Huntingdon Branch.—The next meeting of the Branch will be held at the Medical Schools, Downing Street, Cambridge, on Friday, December 3rd, at 2.30 p.m. Gentlemen having communications to make are requested to write to the Honorary Secretary before November 20th.—H. Buckley Roderick, Honorary Secretary, 19, Trumpington Street, Cambridge.

Edinburgh Branch: Edinburgh Divisions.—In accordance with Rule 14 of the Edinburgh Branch, a meeting of the three Edinburgh Divisions will be held in the Society of Arts Hall, 117, George Street, on Monday, November 15th, at 8.15 p.m., to consider the question of the Treatment of School Children found Defective on Medical Inspection under the Education (Scotland) Act, 1908. The discussion will be opened by Dr. Alex. Walker.—Alexander James, President of the Branch.

Gloucestershire Branch.—The first general meeting of the Branch for the Session 1909-10, will be held at the Infirmary, Gloucester, on Thursday, November 18th, at 7 p.m. Agenda:—1. Adjourned motion from Dr. W. Milligan: "That no Rural Nursing Association be recognized by members of the British Medical Association, unless Rule 9, Queen Victoria's Jubilee Institute for Nurses, be included among the rules." Rule 9 is as follows: "In all cases of general sick nursing the attendance of the nurse must be sanctioned by the medical man, it being understood that her attendance on such cases does not interfere with her engagements to living-in women. When she has anything to communicate to the doctor she shall do so in writing, and it is hoped the doctor will do the same to avoid leaving verbal messages with patients or their friends. The nurse may attend a patient on application or in emergency, but must not continue to visit without a medical man being informed. Should the nurse advise the patient to have a doctor and the patient refuse, the nurse may no longer attend this patient except in case of urgency. She must in any case report the matter to her Secretary." 2. President's (Mr. A. B. Davies) address: "Some Abdominal Emergencies occurring in General Practice." There will be a supper afterwards at the Wellington Hotel; tickets 3s. 6d. each, exclusive of wine. The election of a Representative for the Branch for the Annual Representative Meeting, 1910, will take place at the December meeting. The Branch Council propose the name of the Secretary, Dr. D. E. Finlay, for election. Members are requested, if they wish to nominate any other candidate for election, to send in the name to the Assistant Secretary before November 30th.—H. Macleod Munro, Assistant Honorary Secretary.

Lancashire and Cheshire Branch: Altrincham Division.—A general meeting of this Division will be held at Altrincham at 4.30 p.m. on Wednesday, December 1st. Further particulars in future notice.—H. G. Cooper, Honorary Secretary.

Lancashire and Cheshire Branch: Leigh Division.—A general meeting will be held at the Co-operative Offices, Ellesmere Street, on Thursday, November 18th, at 8.30 p.m. Agenda: 1. Minutes. 2. Report of Dinner Committee. 3. Consideration of the offer of Dr. B. Jones to commence the formation of a library for the Leigh Division by the presentation of his books. 4. The Nature and Treatment of Fractures. 5. Any other business.—G. H. Shaw, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH.—The Council of this Branch has made arrangements to hold a meeting, at which the three Direct Representatives of the profession for England and Wales on the General Medical Council, Drs. Langley Browne, Latimer, and McManus, will address their constituents who are resident in the metropolis and its neighbourhood. The meeting will be held on Monday, November 22nd, at 4.30 p.m., at St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus). All members of the profession are invited to attend, whether members of the Association or not.—E. W. GOODALL and W. GRIFFITH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A meeting of this Division, to which visitors are especially invited, will be held at the Kensington Town Hall on Thursday, November 25th, at 4.30 p.m. Mr. F. W. Morris, Secretary of the London Hospital, has kindly consented to give an address on Hospital Administration, and this will naturally raise many points of especial interest to all members of the profession whether in general practice or not. The efforts made by the authorities to prevent abuse will be especially referred to, and it is hoped that an interesting and useful discussion will follow.—H. BECKETT-OVERY, Honorary Secretary, 24, Alexander Square, South Kensington, S.W.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—A meeting of the Division will be held at St. Thomas's Hospital, on Thursday, November 25th, at 4 p.m. Agenda: 1. Minutes of last meeting. 2. The annual report of the Representative at the Representative Meeting in Belfast. 3. To discuss the recommendation of the Representative Meeting as to the procedure to be adopted during parliamentary elections. 4. Paper by Cyril A. R. Nitch, M.S., F.R.C.S., The Treatment of Varicose Veins. 5. A Demonstration of Cases by the Resident Assistant Surgeon. 6. Other business if necessary.—H. CHARLES CAMERON, Honorary Secretary, St. Thomas Street, S.E.

METROPOLITAN COUNTIES BRANCH: WALTHAMSTOW DIVISION.—A meeting of this Division will next take place on Thursday, November 18th, at 4 p.m., at Livingstone College, Leyton, when a paper entitled "Appendicitis," illustrated by lantern slides, will be given by Mr. McAdam Eccles, M.S., F.R.C.S. Visitors are invited.—A. POTTINGER ELDRED, Honorary Secretary.

SOUTH-EASTERN BRANCH: CHICHESTER AND WORTHING DIVISION.—A meeting of this Division will be held at the Beach Hotel, Littlehampton, at 3.30 p.m., on Friday, November 19th. Mr. W. S. Simpson (Worthing) will preside. There will be a dinner at the hotel after the meeting. Agenda: 1. Minutes of the last meeting. 2. To appoint the place of next meeting. 3. Matters referred to the Division. 4. Papers (*a*) Dr. Walter Broadbent (Brighton): Pulsation in the Neck; (*b*) Dr. Ewart (Chichester): On the Operative Treatment of Chronic Gastric and Duodenal Ulcers; (*c*) Dr. Barford (Chichester) will show cases of Suppuration of the Maxillary Antrum, and of Facial Paralysis caused by Suppurative Otitis Media. Members wishing to show cases or specimens are invited to communicate at once with the Honorary Secretary, H. C. L. MORRIS, Bognor.

SOUTH MIDLAND BRANCH: BEDFORD AND HERTS DIVISION.—A clinical meeting of this Division will be held on Tuesday, November 23rd, at 3 p.m., at 39, Castle Street, Luton. Members wishing to read papers or exhibit specimens, etc., will please communicate with the Honorary Secretary not later than the 19th.—E. H. COBB, Belmont, Stevenage.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—A meeting of members of the medical profession will be held under the auspices of the above Division of the British Medical Association in the Newport and Monmouthshire Hospital, on Monday, November 15th, at 3.15 p.m., when Mr. J. Smith Whitaker, Medical Secretary of the British Medical Association, will deliver an address on "The Report of the Royal Commission on the Poor Laws in its relation to the Medical Profession."—R. J. COULTER, W. BASSET, Honorary Secretaries, Newport.

STAFFORDSHIRE BRANCH.—The first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 25th. The President, Dr. Lowe, will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Papers:—Henry Rosoce: Alcoholic Heredity and its Ethical Bearing on the Therapeutic Use of Alcohol. W. D. Prendergast: A Plea for the Classification of Symptoms of Lead Poisoning. (5) Exhibition of pathological specimens, etc. Dinner, 6.30 p.m.; charge, 5s. Council meeting: A meeting of the council will be held at 5.30 p.m. for election of members, etc.—G. PETGRAVE JOHNSON, Honorary General Secretary.

ULSTER BRANCH.—The autumn meeting of the Branch will be held in Belfast on Thursday, November 18th. Members having communication to make are requested to send particulars not later than November 8th to CECIL SHAW, M.D., Honorary Secretary, 29, University Square, Belfast.

YORKSHIRE BRANCH.—The next meeting of this Branch will be held at the Royal Infirmary, Halifax, on Wednesday, November 17th, at 4 o'clock, when the following business will be transacted, and papers read:—1. Proposed change of boundaries. 2. Cases (*a*) Dr. Robertson (Doncaster): A Knee Case; (*b*) Dr. Samuel Lodge (Bradford): A Case of Laryngostomy, and A Case for Diagnosis. 3. Papers (*a*) Dr. Priestley Leech (Halifax): The Result of 100 Operations for Carcinoma Mammae; (*b*) Dr. Neech (M.O.H., Halifax): Scarlet Fever and Hospital Isolation; (*c*) Dr. Hellier (Leeds): On the Operative Treatment of Severe Puerperal Uterine Sepsis; (*d*) Dr. Burich (Bradford): Notes on Some Cases of Tabes. Council meeting at 5 o'clock. Members will dine together at the White Swan Hotel at 6.30. Members intending to stay for dinner are requested to communicate at once with Dr. Hodgson, Trafalgar House, Halifax.—ADOLPH BRONNER, Honorary Secretary.

YORKSHIRE BRANCH: LEEDS DIVISION.—A meeting will be held in the Board Room of the Leeds General Infirmary, on Tuesday, November 16th, at 4 p.m. Members who have any communication to make or specimens to show, should communicate with Dr. Sharp, 9, Cavendish Road, Leeds.—JAMES ALLAN, Honorary Secretary.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,350 births and 4,180 deaths were registered during the week ending Saturday last, November 6th. The annual rate of mortality in these towns, which had been 12.2, 12.0, and 12.0 per 1,000 in the three preceding weeks, increased to 13.3 per 1,000 last week. The rates in the several towns ranged from 5.2 in Leyton, 5.8 in Barrow-in-Furness, 6.7 in Handsworth (Staffs), 6.8 in Willesden, 7.2 in Bournemouth, and 7.3 in East Ham, to 16.7 in Wigan and in Oldham, 17.6 in Liverpool, 18.2 in Burnley, 18.6 in Grimsby, 19.4 in Bury, 20.8 in Middlesbrough, and 22.7 in Hanley. In London the rate of mortality was 13.4 per 1,000. The death-rate from the principal infectious diseases averaged 0.9 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 0.8 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 1.8 in Preston and in South Shields, 1.9 in Portsmouth, 2.0 in Burnley and in Sunderland, 2.1 in Ipswich, 2.3 in Hull, 2.6 in Walsall, 2.9 in Wallasey, and 9.1 in Hanley. Measles caused a death-rate of 1.4 in Ipswich, 1.6 in Hornsey, and 4.5 in Hanley. "Fever" of 1.5 in Hanley; and diarrhoea of 1.2 in Rhondda, 1.3 in Preston and in Newport (Mon.), 1.5 in Wallasey, 2.1 in Walsall, and 3.0 in Hanley. The mortality from scarlet fever, from diphtheria, and from whooping-cough showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Swansea, but none in any other of the seventy-six towns. The Metropolitan Asylums Hospitals contained 3 small-pox patients at the end of last week; one new case was admitted during the week. The number of scarlet fever cases in these hospitals and the London Fever Hospital, which had been 2,810, 2,793, and 2,743 at the end of the three preceding weeks, had further fallen to 2,703 at the end of last week; 356 new cases were admitted during the week, against 371, 345, and 288 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, November 6th, 790 births and 547 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.8, 13.1, and 12.9 per 1,000 in the three preceding weeks, rose again to 14.1 per 1,000 last week, and was 2.0 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 9.5 in Perth and 11.6 in Leith to 15.9 in Greenock and 18.2 in Glasgow. The death-rate from the principal infectious diseases averaged 1.9 per 1,000 in these eight towns, the highest rates being recorded in Glasgow and Greenock. The deaths registered in Glasgow included 18 which were referred to measles, 3 to scarlet fever, 9 to diphtheria, 6 to whooping-cough, and 7 to diarrhœa. Five fatal cases of measles were recorded in Edinburgh, 2 of diphtheria, 3 of scarlet fever, 3 of whooping-cough in Greenock, and 4 of diarrhœa in Dundee and 2 in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 30th, 614 births and 359 deaths were registered in the twenty-two principal urban districts of Ireland, as against 613 births and 325 deaths in the preceding week. The annual death-rate in these districts, which had been 15.1, 15.2, and 14.8 per 1,000 in the three preceding weeks, rose to 16.4 per 1,000 in the week under notice, this figure being 4.4 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 16.9 and 15.6 respectively, those in other districts ranging from 3.9 in Galway and 4.9 in Kilkenny, to 20.4 in Drogheda and 22.9 in Newtownards, while Cork stood at 19.2, Londonderry at 15.7, Limerick at 19.1, and Waterford at 11.7. The zymotic death-rate in the twenty-two districts averaged 1.2 per 1,000, as against 1.0 per 1,000 in the preceding week.

During the week ending Saturday, November 6th, 608 births and 381 deaths were registered in the twenty-two principal urban districts of Ireland, as against 614 births and 359 deaths in the preceding week. The annual death-rate in these districts, which had been 15.2, 14.8, and 16.4 per 1,000 in the three preceding weeks, rose to 17.4 per 1,000 in the week under notice, this figure being 4.1 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 18.6 and 15.6 respectively, those in other districts ranging from 3.9 in Galway and 5.1 in Clonmel, to 31.8 in Lisburn and 35.6 in Sligo, while Cork stood at 22.6, Londonderry at 15.7, Limerick at 13.7, and Waterford at 7.8. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, as against 1.2 per 1,000 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon E. R. D. Fasken and Surgeon E. Cameron, M.B., to the *Argonaut*, October 15th; Staff Surgeon F. H. Nimmo, to be lent for three months' study at West London Hospital, to reside at Greenwich College, November 1st; Staff Surgeon P. T. Nicholls, to the *Victory*, November 2nd; Surgeon J. R. A. Clark-Hall, to the *Excellent*, November 2nd; Surgeon G. V. Nicholl, M.B., to the *Victory*, additional, for disposal, October 31st; Surgeon A. R. Schofield, M.B., to Hong Kong Hospital, November 3rd; Surgeon J. E. Johnston, M.B., to the Fleet Mail Office, November 3rd; Surgeon C. Phipps, to the *Pembroke*, for the Royal Naval Barracks, November 8th; Staff Surgeon R. W. Stanistreet, to the *Persens*, on recommissioning, undated; Surgeon T. W. Myles, M.B., to the *Hawcraft*, November 9th; Surgeon W. F. Archibald, M.B., to Chatham Hospital, November 9th; Surgeon A. McCloy, M.B., to the *Pembroke*, for the Royal Naval Barracks, November 16th.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

The following Captains are promoted to be Majors, October 28th: Brian Watts, H. G. Martin, F. F. Cardwell, J. D. G. Macpherson, M.B., W. P. Gwynn, S. de C. O'Grady, M.B., A. H. O. Young, E. A. Bourke, M. M. Lowsley, G. B. Carter, M.B., and S. H. Ross, M.B. Their previous commissions were dated: Surgeon-Lieutenant, January 28th, 1898; Captain, January 28th, 1901. Majors Watts, Macpherson, Bourke, Lowsley, and Carter have no war record in the Army Lists. Those of the others cited are as follow: Major Martin—South African war, 1899–1902, including the actions at Elandslagte, Rietfontein, and Lombard's Kop, the defence of Ladysmith, in action of January 6th, 1900, and subsequent operations in Natal, Cape Colony, and the Orange River Colony (medal with four clasps and King's medal with two clasps). Major Carroll—Operations in the interior at Aden, 1903–4. Major Gwynn—Operations in Somaliland, 1904, including the action at Erigabo (medal with two clasps). Major O'Grady—Operations in Somaliland, 1904 (mentioned in dispatches, medal with clasp). Major Young—South African war, 1902 (Queen's medal, according to the *Official Quarterly Army List*). Major Bourke—South African war, 1899–1900, including the defence of Ladysmith (Queen's medal with clasp).

Captain C. H. O. Gill, M.B., from the Seconded List, is restored to the establishment, October 25th. He was seconded for service in Uganda, February 4th, 1904.

Captain F. S. Inverz, M.B., from the Seconded List, is restored to the establishment, October 15th. He was seconded on appointment as Adjutant, Medical Corps, Transvaal Volunteers, October 19th, 1906.

Lieutenant W. E. Marshall, M.B., is seconded for service with the Egyptian army, October 27th.

Lieutenant-Colonel R. H. Firth is appointed Brevet Colonel, under the provisions of Articles 35 and 307 of the Royal Warrant for Pay and Promotion, 1907, his appointment to bear date November 10th. He entered the service as Surgeon, August 4th, 1883, becoming Lieutenant-Colonel, August 4th, 1903. He was with the Tirah Expeditionary Force during the campaign on the North-West Frontier of India in 1897–8, receiving a medal with two clasps. He has been Professor at the Army Medical School, at the Medical Staff College, and at the Royal Army Medical College. He is at present Instructor of Army Sanitation at the Royal Army Medical Corps School of Instruction at Aldershot.

INDIAN MEDICAL SERVICE.

The undermentioned Captains to be Majors, dated July 28th: J. W. Forbes-Ratt, M.B., E. A. Hearn, F.R.C.S., S. Hunt, M.B., and H. A. J. Gidney, F.R.C.S.E. They were appointed Surgeon-Lieutenants, January 28th, 1898, and made Captains, January 28th, 1901. Major Ratt was in the Tirah campaign of 1897–8. Major Gidney was also in the China war in 1900, being present at the relief of Pekin and the action at Peitsang, receiving a medal with clasp. Majors O'Meara and Hunt have no war record.

The following Lieutenants to be Captains, dated September 1st: J. Taylor, M.B., A. D. Stewart, M.B., C. H. Cross, R. A. Chambers, M.B., J. Mair, M.B., S. G. S. Haughton, M.B., F. W. Cragg, M.B., A. S. Leslie, M.B., H. B. Scott, and G. JC. Millar, M.B. Their first appointment dates from September 1st, 1905.

Lieutenant A. J. H. Russell, Brigade Laboratory, Bangalore, is appointed Specialist in the Prevention of Disease, from August 21st.

Lieutenant A. B. Zorab, M.B., is permitted to resign the service, from September 25th. He was appointed to the department, July 27th, 1907.

Lieutenant-Colonel R. W. S. Lyons, M.D., Bombay, having arrived in Kohat, assumed charge of the duties of Officiating Principal Medical Officer on October 14th.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supplementary List.—The undermentioned to be Lieutenants (on probation): Edward A. Gregg, July 30th; Arthur H. Habgood, September 22nd.

TERRITORIAL FORCE.

Royal Field Artillery.

Surgeon-Lieutenant L. T. Price, M.B., from the 1st Forfarshire Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant, 2nd Highland Brigade, with precedence as in the Volunteer Force, April 1st, 1908.

Royal Army Medical Corps.

South Wales Mounted Brigade Field Ambulance.—Captain J. Griffiths, from the List of Officers attached to Units other than Medical Units, to be Captain, August 5th, 1907.

Third Highland Field Ambulance.—Lieutenant S. W. Smith, M.B., resigns his commission, June 15th; Henry J. Gorrie, to be Lieutenant, September 10th.

Second West Lancashire Field Ambulance.—G. C. E. Simpson, to be Lieutenant, October 4th.

Second Lowland Field Ambulance.—Lieutenant J. A. H. Aitken, M.B., to be Captain, October 28th.

Second North Midland Field Ambulance.—Captain M. S. W. Canning resigns his commission, September 1st.

Second Welsh Field Ambulance.—Owen L. Rhys, M.B., to be Lieutenant, September 25th.

First Scottish General Hospital.—Captain W. A. I. Fortescue, M.B., resigns his commission, October 9th.

Attached to Units other than Medical Units.—Lieutenant H. A. Robinson, M.D., to be Captain, September 28th. The transfer of Surgeon-Lieutenant L. T. Price, M.B., from the 1st Forfarshire Royal Garrison Artillery (Vols.), which was announced in the *London Gazette* of November 6th, 1908, is cancelled.

Mr. W. Elder, M.B., civil practitioner, has been appointed Surgeon and Agent at Anbam, October 26th.

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Lieutenant-Colonel G. D. Hunter, D.S.O., Royal Army Medical Corps, to be Commandant, vice Lieutenant-Colonel C. E. Nichol, D.S.O., M.B., November 1st. Lieutenant-Colonel Hunter entered the service as Surgeon, August 2nd, 1884, and became Lieutenant-Colonel, August 2nd, 1900. He was Principal Medical Officer in the Egyptian Army from March 1st, 1905, to July 4th, 1908, and his war record includes: The Soudan Expedition, 1884–5 (medal with clasp, bronze star); Soudan, 1885–6—Operations on the Frontier Field Force; Soudan, 1888–9—Action of Gamaizah (clasp); Expedition to Dongola, 1896—Operations of June 7th and September 19th (dispatches, *London Gazette*, November 3rd, 1896; D.S.O.). Egyptian medal with two clasps; Nile Expedition, 1898—Battle of Khartoum (dispatches, *London Gazette*, December 9th, 1898; clasp to Egyptian medal, British medal).

Hospitals and Asylums.

WEST HAM COUNTY BOROUGH LUNATIC ASYLUM.

Dr. David Hunter, the Medical Superintendent of this Asylum, in his report for the year 1908 gives his usual tables relative to the growth of pauper lunacy in West Ham. These show that since 1901 the ratio of pauper lunatics in this district per 10,000 of population has risen from 26.5 to 31.53 in 1908, as compared with the increase in England and Wales during the same period of from 30.27 to 32.55 per 10,000. Thus, although the increase has been greater in West Ham, the actual proportion is still less than that of England and Wales. Considering only first admissions to population, the proportion of these to 10,000 of population has fallen in West Ham since 1902 from 11.76 to 4.54 in 1908, indicating, probably, that the occurrence of insanity in West Ham is not markedly increasing. On January 1st, 1908, there were 864 patients on the asylum registers and on the last day of the year 875. The total cases under care during the year numbered 1,097, and the average number daily resident 867. During the year 233 were admitted, of whom 208 were direct admissions, 24 transfers, and 1 a statutory readmission. Of the direct admissions, in 60 the attacks were first attacks within three, and in 24 more within twelve months of admission; in 26 not-first attacks within twelve months of admission and in the remainder the attacks were more than twelve months, (28) or of unknown duration, (61) or congenital cases (19). The direct admissions were classified according to the forms of mental disorder into: Mania, of all kinds, 98; melancholia of all kinds, 54; senile and secondary dementia, 31; general paralysis, 23; insanity with gross brain lesions and primary dementia, each 9; insanity with epilepsy, 7; delirious insanity, 6; stupor, 6; confusional insanity, 5; and congenital or infantile defect, 13. As to probable causation in the same direct admissions, alcohol was assigned in 26, or 12.5 per cent.; acquired syphilis in 6 and influenza in 2, critical periods in 66, bodily trauma in 6, nervous diseases in 15, other bodily affections in 3, and mental stress in 39. An insane heredity was ascertained in 74, or 34.6 per cent., an epileptic heredity in 13, and an alcoholic heredity in 29, giving a total neuropathic heredity in 114, or 54.8 per cent. During the year 80 were discharged as recovered, giving a recovery-rate on the direct admissions of 38.46 per cent., or of recoveries in the direct admissions on the direct admissions of 36.53 per cent., also 36 were discharged as relieved and 13 as not improved. During the year 93 died, giving a death-rate on the average numbers resident of 10.73 per cent. The deaths were due in 32 to nervous diseases, including 18 deaths from general paralysis, in 14 to diseases of the heart and blood vessels, in 3 to respiratory diseases, in 4 to Bright's disease and uraemia, in 23 to senile decay, and in the remaining 17 to general diseases, including 10 from tuberculosis. The tuberculosis death-rate (1.7 per cent. of the total deaths) was thus not high. The general health was good throughout the year, and, except for one or two cases of dysentery, the asylum was free from zymotic disease.

COUNTY BOROUGH OF MIDDLESBROUGH BOROUGH ASYLUM.

The annual report for the year 1908 of Dr. John W. Geddes, the Medical Superintendent of this asylum, shows that on January 1st, 1908, there were 390 patients on the registers, and on the last day of the year 425. During the year the Middlesbrough patients increased by 11, and out-county cases by 25. The total cases under care during the year numbered 524, and the average number daily resident 406. During the year 134 were admitted, of whom 123 were direct admissions. In 57 the attacks were first attacks within three, and in 12 more within twelve months of admission; in 21 not-first attacks within twelve months of admission; and in the remainder, including 9 congenital cases, the attacks were of more than twelve months or of unknown duration. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 51; melancholia, 16; senile and secondary dementia, 15;

delusional insanity, 7; general paralysis and epileptic insanity, 11 each; insanity with gross brain lesions, 2; acute delirium, stupor, and primary dementia, 1 each; and congenital or infantile defect, 9. As to probable causation, alcohol was assigned in 24, or 19.5 per cent., acquired syphilis in 5, and other toxins in 5; critical periods in 10; physiological defects in 20; nervous diseases in 18; bodily trauma in 8, and mental stress in 20. An insane heredity was ascertained in 30, of alcoholism in 2, and of eccentricity in 1, giving a unrecognised heredity in 33, or 26.8 per cent. During the year 28 were discharged as recovered, giving the low recovery-rates of 22.76 per cent. on the direct admissions, and 21.77 in the direct admissions calculated on the direct admissions. Also 2 were discharged as relieved and 15 as not improved. During the year 51 died, giving a death-rate on the average numbers resident of 12.56. All deaths were from natural causes, with only 6, or 11.7 per cent., of the total deaths from tuberculous diseases. The general health was good throughout the year, casualties were small in number, and neither mechanical restraint nor seclusion had to be resorted to.

GLAMORGAN COUNTY LUNATIC ASYLUM, BRIDGEND.

AT this asylum the conversion of the temporary blocks for 150 male patients at Angelton and for 100 female patients at Parc Gwyllt into permanent buildings has been completed, and both are now in occupation. The accommodation is now estimated to be sufficient in day space for 1,548 and in night space for 1,695. Considerable overcrowding, however, still exists, and plans for an additional block at Parc Gwyllt have been approved. The annual rate of increase, however, is high, and the Commissioners in their report urge the removal of the Swansea patients, 152 in number, and say that this borough should take immediate steps for the selection of a site for its asylum. Dr. D. Findlay, the Medical Superintendent of the Glamorgan County Asylum, in his report for 1908, shows that on January 1st of that year there were 1,716 patients in the asylum, and on December 31st there were 1,737. The total cases under care during the year numbered 2,113, and the average number daily resident 1,751.2. During the year 397 were admitted, of whom 382 were direct admissions, 15 statutory and 2 statutory readmissions. As regards duration of disorder on admission, in 149 the attacks were first attacks within three, and in 61 more within twelve months of admission; in 62 not-first attacks within twelve months; and in the remainder the attacks, whether first attacks or not, were either of more than twelve months' duration in 77, or of congenital origin in 35. The direct admissions were classified, according to the forms of mental disorder, into: Mania of all kinds, 169; melancholia of all kinds, 80; senile and secondary dementia, 16; general paralysis, 42; insanity with epilepsy, 24; insanity with gross brain lesions, 11; delusional insanity, 7; and congenital or infantile defect, 33. From the table of etiological factors and associated conditions in the direct admissions we see that alcoholism was assigned in 65, or 17.0 per cent., acquired syphilis in 34, influenza in 13, and other toxins in 6 more; critical periods in 35; diseases of the nervous system (including epilepsy in 28) in 47; other bodily affections in 7; bodily trauma in 16; and mental stress in 72. An insane heredity was ascertained in 107, or 28.0 per cent., of epilepsy in 5, of neuroses and eccentricity in 5, and of alcoholism in 44, giving a total neuropathic heredity in 159, or 41.6 per cent. During the year, 118 were discharged as recovered, giving a recovery-rate on the direct admissions of 30.8 per cent., or of recoveries in the direct admissions on the direct admissions of 30.6 per cent.; also 47 as relieved, and 4 as not improved. During the year 207 died, giving a death-rate on the average numbers resident of 11.9 per cent. These deaths were due in 59 to nervous diseases, including 40 from general paralysis; in 28 to diseases of the heart and blood vessels; in 4 to respiratory diseases; in 3 to diseases of the digestive system; in 17 to nephritis; in 23 to senile decay, and in the remainder to general diseases, including 16 from influenza, and 36, or 17.3 per cent. of the total deaths, from tuberculosis.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—Male House-Surgeon. Honorarium, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident House-Surgeon (male). Salary, £100 and fees.

BIRMINGHAM: GENERAL HOSPITAL.—Resident Medical Officer. Salary, £70 per annum.

BLACKPOOL COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £250 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Salary at the rate of £50 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary, £250 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) Assistant Surgeon. (2) House-Surgeon. Salary, £70 per annum.

CARDIFF INFIRMARY.—(1) House-Surgeon; (2) House-Surgeon for Ophthalmic and Ear and Throat Departments. Honorarium, £10 for six months.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—Ophthalmic Surgeon.

GLASGOW EYE INFIRMARY.—Assistant Surgeon.

GLOUCESTERSHIRE ROYAL INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum.

HALIFAX COUNTY BOROUGH EDUCATION COMMITTEE.—Schools Medical Officer. Salary, £250 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Fourth Anæsthetist. Honorarium, £15 15s., and £6 6s. allowed for substitute during holiday.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

LEICESTER INFIRMARY.—Assistant House-Physician. Salary at the rate of £60 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Medical Protozoologist.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead, N.W.—(1) Senior and Junior Resident Medical Officers. Honorarium, £175 and £75 per annum respectively. (2) Clinical Pathologist. Honorarium, 100 guineas.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 per annum, rising to £180.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer. Salary, £140 per annum, rising to £160.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon at once. Salary, £160 per annum. In December, Resident Surgeon. Salary, £200 per annum.

PEMBROKESHIRE COUNTY COUNCIL.—Medical Officer of Health. Salary, £400 per annum, and £50 for travelling and other expenses.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—(1) Member of Court of Examiners; (2) Examiner in Midwifery.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—Joint Morning House Anæsthetist. Honorarium, £25 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £70 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician for six months.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—Junior House-Surgeon. Salary at the rate of £80 per annum.

WHITECHAPEL UNION INFIRMARY.—First Assistant Resident Medical Officer. Salary, £130 per annum, rising to £150.

WINDSOR: KING EDWARD VII HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £100 per annum.

WISBECH: NORTH CAMBRIDGESHIRE HOSPITAL.—Male Resident Medical Officer. Salary, £150 per annum.

WORKSOP DISPENSARY AND VICTORIA HOSPITAL.—Medical Officer and House-Surgeon. Salary, £150 per annum.

YORK COUNTY HOSPITAL.—House Physician. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Slough, co. Buckingham; Clondalkin, co. Dublin; Donington, co. Lincoln; and Wombwell, co. York.

APPOINTMENTS.

ADAMS, J. E., M.D., B.S.Lond., F.R.C.S., Assistant Surgeon to the East London Hospital for Children, Shadwell, E.

BEATY, A. Russell, M.B., Ch.B.Edin., House-Physician at the Hampstead General Hospital.

BENNEE, Albert E., M.B., Ch.B.Edin., of Edinburgh, Senior House-Surgeon at the Blackburn and East Lancashire Infirmary.

BLACK, J. A., M.B., B.Ch., B.A.O.R.U.I., Resident Medical Officer to the Mater Infirmorum Hospital, Belfast.

BLAYNEY, N. J., M.B., B.Ch.R.U.I., Certifying Factory Surgeon for the Merrybrook District, Queen's County.

BOWEN, W. H., M.S., F.R.C.S., Surgeon to the East London Hospital for Children, Shadwell, E.

BRUHAN, Thomas, M.B., Ch.B.Edin., of Edinburgh, Senior House Surgeon at the Blackburn and East Lancashire Infirmary.

BYLES, J. B., M.B. Lond., Medical Superintendent of the Gore Farm Hospital of the Metropolitan Asylum District.

CAMPBELL, Thomas, M.B., Ch.B., Non-resident House-Surgeon to Dr. George Mackay at the Edinburgh Royal Infirmary.

CATES, Joseph, M.D.Lond., D.P.H.Camb., Assistant Medical Officer of Health to the City of Coventry.

CLARK, Alfred, F.R.C.S.E., Honorary Radiologist to the Auckland Hospital, New Zealand.

CLARKE, Henry J., jun., M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P. Lond., Honorary Surgeon to the Doncaster Royal Infirmary.

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HEY, Wilson H., F.R.C.S.Eng., M.B., Ch.B.Vict., Resident Surgical Officer of the Manchester Royal Infirmary.

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LISHMAN, Frederick, M.D., District Medical Officer and Public Vaccinator to Parishes of Rottingdean, Ovingdean and Telscombe, of the Newhaven Union.

MCLAREN, Maud V. Everett, L.R.C.P. and S.Ed., L.F.P.S.Glasg., Part-Time Medical Officer, School Board of Glasgow.

MAURICE, W. B., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Marlborough District, co. Wilts.

NEVIN, A. McDonald, M.B., C.M.Glasg., Medical Officer of Health, Maudlev Rural District.

PEARCE, J. Cuthbert, M.B., B.S.Dunelm., Honorary Assistant Surgeon to the Sunderland and Durham County Eye Infirmary.

PHILLIPS, Rees, M.B., B.S.Lond., Surgeon, P. and O. Steam Navigation Co.

RICE, T. W., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Mountmellick District, Queen's County.

ROLLAND, Wm., M.D.Glasg., Honorary Medical Referee in Bolton and District for the Mount Vernon Hospital for Consumption.

ROLLESTON-WHITAKER, R. H., F.R.C.S., Anæsthetist at the General Hospital, Birmingham.

ROSCOE, Henry, M.R.C.S., L.R.C.P., D.P.H., House Governor of the North Staffordshire Infirmary and Eye Hospital.

ROYLE, Miss Elsie Marsh, M.B., D.P.H., Assistant Medical Officer, City of London Infirmary, Bow.

SANDIFORD, R. B., L.R.C.P. and S.Edin., L.F.P.S.Glas., Certifying Factory Surgeon for the Normanton District, co. York.

SKINNER, E. F., M.B., B.C.Camb., Honorary Medical Officer in charge of the X-ray and Electrical Department of the Sheffield Children's Hospital.

SLEIGH, B. P., M.B., Ch.B.Aberd., Medical Officer of Health, Samford Rural District.

SMITH, G., M.D., District Medical Officer of the Leicester Parish.

SMITH, R. R., M.R.C.S., L.R.C.P., Resident Medical Officer to the British Lying-in Hospital, Endell Street, W.C.

VERDON, W. G. H. M., M.R.C.S., L.R.C.P., District Medical Officer of the Luton Union.

WALKER, Arthur S., M.B., Ch.B.Edin., Medical Officer under the Leith School Board.

WHITTLE, E. D., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer to the Renfrew Road Workhouse of the Lambeth Parish.

WIGHT, R. R., M.B., C.M.Edin., Certifying Factory Surgeon for the Leslie District, co. Fife.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BARBER.—On November 6th, at 45, Friar Gate, Derby, to Dr. and Mrs. Hugh Barber, a daughter.

GRAHAM.—On November 4th, 1909, at Gwydir House, Mill Road, Cambridge, the wife of J. C. W. Graham, M.A., M.D., B.C.Cantab., of a son.

IRELAND.—On November 1st, at "Birkdale," Shoreham, Kent, to Dr. and Mrs. Aubrey Ireland, a son.

VOLLER.—On November 5th, at 2, Alexandra Avenue, Battersea Park, S.W., the wife of Frank Voller, M.R.C.S.Eng., of a daughter.

MARRIAGE.

BROWN—BURGESS.—On November 6th, at All Saints' Church, Hove, by the Right Rev. the Bishop of Lewes (Dr. Hedley Burrows), assisted by the Rev. Canon J. S. Flynn, Vicar of St. John's, Hove, and the Rev. G. E. H. Theophilus, Vicar of St. James's, Tredegar, Horace George Brown, B.A.Cantab., M.R.C.S., etc., elder son of G. A. Brown, J.P., M.R.C.S., etc., Tredegar, to Muriel Evelyn Rosalie, eldest daughter of Mr. and Mrs. H. W. Burgess, of 24, Palmeira Square, Hove.

DEATH.

WYLIE.—On November 6th, at Craigmore, Leaphill Road, Bournemouth, E., Adam Howie Wylie, M.D.

RECENT PUBLICATIONS.

The Case for Alcohol or, The Actions of Alcohol on Body and Soul. By Robert Park, M.D. London: Rebman, Limited. 1909. (Crown 8vo, pp. 85.)

The subtitle, as indicating what the author probably intended to discuss, is useful: the pamphlet itself is not. It is uninforming to the expert, and may mislead ordinary readers.

The Shadows of the Valley. By the Rev. A. G. Mortimer, D.D. London: Skeffington and Son. 1909. (Cr. 8vo, pp. 275. Price 5s.)

A devotional guide for the sick by an American clergyman who has written similar books for mourners and for those of advancing years.

John Thorndyke's Cases. Related by Christopher Jervis, M.D.: edited by R. Austin Freeman. London: Chatto and Windus. 1909. (Crown 8vo, pp. 288. Price 6s.)

A volume of detective stories, supposed to be related by a medical man who is the companion and partner of a medico-legal expert. The two together solve a number of criminal mysteries by the application of scientific methods. All the stories are interesting, and the points so well worked out that many readers will be disposed to consider that in future Sherlock Holmes must take a second place.

DIARY FOR THE WEEK.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

PATHOLOGICAL SECTION, 20, Hanover Square, 8.30 p.m.—Cases and specimens.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

DERMATOLOGICAL SECTION, 20, Hanover Square, 5 p.m.—Dr. Arthur Whitfield: Localized Sclerodermia.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

ELECTRO-THERAPEUTICAL SECTION, 20, Hanover Square, 8.30 p.m.—Dr. Reginald Morton: The Treatment of Naevi and other Cutaneous Lesions by Electrolysis, Cautery, and Refrigeration, with a Demonstration on the Use of Solid Carbon Dioxide.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, 8.30 p.m.—(1) Dr. Wolferstan Thomas (of the Liverpool School of Tropical Medicine): Epidemic dermo-hydatidosis. (2) Papers by Dr. J. Numa Rak: The so-called Guinea-Worm of the Island of Nevis.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45, Nose; Friday, 5.45, External Ear.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thursday, 4 p.m., Pyelitis in Infancy.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday: Radiography, 4 p.m., Thursday. Special Lectures: Monday, 4 p.m., Testing the Ear for Deafness; Wednesday, 2.15 p.m., Cirrhosis of the Liver; Friday, 2.15 p.m., Nephritis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 5 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be as follows: Monday, Tuberculous Diseases of the Skin and their Treatment; Tuesday, On some Cases and Specimens of Unusual Diseases of the Heart; Wednesday, Operative Treatment of Fractures; Thursday, Backward Children and their Training.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 4.30 p.m., Clinical Lecture. Friday, 3.30 p.m., Optic Neuritis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient. 2.30 p.m., Medical Out-patient: Nose, Throat, and Ear; *X* Rays; 4.30 p.m., Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Clinics: Surgical, Gynæcological. 4.30 p.m., Clinical Conditions of the Male Bladder which produce Bleeding. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye Clinics. Thursday, 2.30 p.m., Gynæcological Operations: Clinics: Medical Out-patient; Surgical Out-patient; *X* Rays; 3 p.m., Medical In-patient. Friday, Clinic: 10 a.m., Surgical Out-patient; 2.30 p.m., Operations: Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, London, W.—The following are arrangements for next week:—Daily, 2 p.m., Medical and Surgical Clinics; *X* Rays. 2.30 p.m., Operations: Monday, Wednesday, and Thursday, 2 p.m., and Saturday, 10 a.m., Diseases of Eye: Tuesday and Friday, 10 a.m., Gynæcological Operations: 2 p.m., Diseases of Throat, Nose, and Ear (and Wednesday and Saturday, 10 a.m.); 2.30 p.m., Diseases of Skin; Wednesday and Saturday, 10 a.m., Diseases of Children: Wednesday, 2.30 p.m., Diseases of Women. Lectures, at 10 a.m., Monday, Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar. At 12 noon, Thursday, Pathological Demonstration: at 12.15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine: at 5 p.m., Monday, Practical Surgery; Tuesday, *X*-Ray Examination of Digestive System, illustrated by Lantern Slides; Wednesday, Medicine; Thursday, Stiff Joints; Friday, a Common Cold.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	NOVEMBER.
14 Sunday ..	
15 MONDAY ..	EDINBURGH DIVISIONS, *Edinburgh Branch*, Society of Arts Hall, 117, George Street, 8.15 p.m. MONMOUTHSHIRE DIVISION, *South Wales and Monmouthshire Branch*, Newport and Monmouthshire Hospital, 3.15 p.m.
16 TUESDAY ..	LEEDS DIVISION, *Yorkshire Branch*, Board Room, Leeds General Infirmary, 4 p.m.
17 WEDNESDAY	CENTRAL DIVISION, *Birmingham Branch*, General Meeting, Medical Institute. LANCASHIRE AND CHESHIRE BRANCH, Branch Science Committee, Manchester, 4.30 p.m. YORKSHIRE BRANCH, Royal Infirmary, Halifax, 4 p.m.; Council Meeting, 3 p.m.; Dinner, White Swan Hotel, 6.30 p.m.
18 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m. GLOUCESTERSHIRE BRANCH, General Meeting, Infirmary, Gloucester, 7 p.m.; Supper, Wellington Hotel, afterwards. LEIGH DIVISION, *Lancashire and Cheshire Branch*, Co-operative Offices, Ellesmere Street, 8.30 p.m. WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Livingstone College, Leyton, 4 p.m. ULSTER BRANCH, Autumn Meeting, Belfast.
19 FRIDAY ..	CHICHESTER AND WORTHING DIVISION, *South-Eastern Branch*, Beach Hotel, Littlehampton, 3.30 p.m.; Dinner, after the Meeting.
20 SATURDAY ..	CEYLON BRANCH, Pathological Meeting, Colonial Medical Library, 2.30 p.m.
21 Sunday ..	
22 MONDAY ..	METROPOLITAN COUNTIES BRANCH, St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus), 4.30 p.m.
23 TUESDAY ..	BEDFORD AND HERTS DIVISION, *South Midland Branch*, Clinical Meeting, 39, Castle Street, Luton, 3 p.m.
24 WEDNESDAY	BATH AND BRISTOL BRANCH, Bath. RICHMOND DIVISION, *Metropolitan Counties Branch*, Clinical Meeting, Royal Hospital, Richmond, 8.30 p.m.
25 THURSDAY ..	KENSINGTON BRANCH, *Metropolitan Counties Branch*, Kensington Town Hall, 4.30 p.m. LAMBETH DIVISION, *Metropolitan Counties Branch*, St. Thomas's Hospital, 4 p.m. STAFFORDSHIRE BRANCH, General Meeting, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p.m.; Dinner, 6.30 p.m.
26 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m. BORDER COUNTIES BRANCH, Autumn Meeting, Crichton Royal Institution (First House), 3 p.m.; Council, 2.45 p.m. HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, 8.30 p.m.
27 SATURDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 20TH, 1909.

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British Medical Association.

TUBERCULOSIS CONFERENCE AT OXFORD.

UNDER the auspices of the Oxford and Reading Branch and the Oxford Medical Society, a conference of the whole of the medical profession of Oxford City and County was held at Oxford on Wednesday, November 10th.

Tuberculosis in Children, with Special Reference to School Inspection.

The subject in the afternoon meetings was tuberculosis in children, with special reference to school inspection. Dr. C. THEODORE WILLIAMS (London), who occupied the chair, said that he considered it a great honour to take the chair that day. He thought there was a general feeling that the question of tuberculosis in children did not receive that amount of attention which it ought to receive. They had learnt by their textbooks, and many of them in practice, that tuberculosis, and especially pulmonary tuberculosis, was not so common in childhood, but was most prevalent from the ages 15 to 25. That had, however, been the subject of considerable dispute. From the accounts of *post-mortem* examinations in recent years, however, they would gather that tuberculosis was much more common in childhood than was suspected. He quoted the results of experiments made by eminent medical men, thinking that these had drawn attention to the subject. The feeling now was, why could not they treat it in a practical form, on the basis of the results of the inspection of school children? Coming to their own schools, they found a state of affairs which made one think: so it was natural that attention should be drawn to the question. He trusted that some important evidence about that state of things, particularly about the schools, would be forthcoming that day. He called upon Dr. Kerr of London to contribute the first paper.

Dr. KERR, Medical Officer, London County Council Education Committee, who opened the discussion, said the prevalence of tubercle, and more particularly pulmonary tubercle, at school ages was always of the greatest interest to a school doctor. During the first half-dozen years of professional life much out-patient experience and plenty of laboratory work had given him an idea of the all-prevailing distribution of tubercle, and some statistical observations as to the death-rates of children at school age, compared with younger and older age-groups and also comparing boys and girls, led to the publication of a statement based purely on statistics:

> That there appears an increased death-rate from phthisis associated with increased school attendance.

Regarding the school, then, as probably a hotbed for diffusion of the tuberculosis which was so prevalent amongst out-patients, he began to hunt, simply because results were to be expected which would be demonstrable to the man in the street and would show the necessity of medical control in the elementary schools. A school in an extremely poor district was selected, and each child underwent a careful clinical examination. After going over a department of some 300 girls, he gave the work up as not worth the time, considering the purpose in view. There was only one very suspicious case and one undoubted case in a girl, who was subsequently found to sleep with a phthisical elder sister. There were, however, a large class of children who were debilitated, suffering from morning headaches, anorexia and various nervous disturbances intimately related to school attendance; they were, as a rule, badly nourished, even in the midst of plenty, and he connected these with overpressure symptoms and the foul school air. The conclusions published at the time were that "actual phthisis is not a great evil in school; that in later life it is predisposed to by debilitating conditions set up during childhood, and partly due to urban life, partly to bad school conditions, of which the chief was insufficient ventilation." Three years ago two London colleagues of his—Drs. Squire and Gowdey—studied the schools of a poor

district of London to find the amount of reputed tubercle. Taking all the children on or off the school rolls who were supposed by either their parents or teachers to have tuberculosis they found that 5.5 per 1,000 were returned as consumptive and 4.4 per 1,000 as having other, including surgical, forms of tuberculosis. Out of 1,670 cases exhaustively examined by recognized clinical methods those competent observers definitely diagnosed 4.7 per 1,000 as pulmonary tuberculosis, 8.0 per 1,000 were doubtful, and 28.0 per 1,000 had morbid chest conditions of a non-tuberculous nature. Those results had been amply confirmed by other observers, although statistics required careful scrutiny. Internal evidence sometimes revealed a considerable personal equation, as in tables, where the cases assigned to phthisis outnumbered those recorded as adenoids. Going further afield, they got such records as those of Fraenkel, showing 3.99 per 1,000 of Berlin elementary school children with tuberculosis of the lungs; and of 6,200 under medical observation for doubtful health, only 4.03 per 1,000 were found to be phthisical. So that, as far as school was concerned, evident phthisis among the children was not a great danger, nor was it a serious cause of dissemination of tuberculosis. As regarded other forms, they found that among the 2,500 children in the invalid schools of London 43 per cent. were there owing to past and present tuberculous disease; and it had to be remembered that, as far as possible, active cases were excluded. There were, however, physicians who went beyond the diagnostic signs which were generally relied on in England, and who declared that those revealed only advanced disease, and that the disease had to be detected at earlier stages. The late Professor Grancher of Paris devoted much time to elaborating and refining the early diagnosis of tuberculosis in the chest, and ultimately adopted the rule that in children any permanent alteration found on auscultation meant tuberculosis in the lungs or the tracheo-bronchial glands. When Calmette of Lille introduced his method of diagnosing the existence of tuberculous foci by instilling a tuberculin solution into the conjunctiva and observing whether an inflammatory reaction took place, Grancher looked to this as a means of confirming his own diagnostic rules. During the past year Drs. Méry, Dufestel, and De Lille, three of Grancher's pupils, had examined a girls' school in Paris, when 447 children were clinically examined as to chest conditions, and 109 recorded as suspicious, while 10 had obvious disease. So far as permission could be obtained, those children were then submitted to the ophthalmic tuberculin test; of 82 children thus tested 67 had been noted as affected, and 15 recorded as normal were used as controls. Of the affected children, 76 per cent. gave a positive result, whilst of the controls only 20 per cent. reacted. These results fully confirmed the value of Grancher's test, but showed that at the same time Calmette's ophthalmo-reaction was too delicate for school purposes.

Selection made solely on the ocular reaction or analogous proceedings will be much too comprehensive, and will include subjects who have no special need of treatment. The clinical examination is sufficient.

With the analogous but much more delicate method of seeking a cutaneous reaction, introduced by von Pirquet, there had been a great deal of work done, especially in Germany and Austria. Von Pirquet's method was to scratch the skin in one place as a control, inoculating the scratch with some material like dilute glycerine, and then to make another scratch inoculating tuberculin. An inflammatory reaction was noted after twenty-four hours, sometimes very slight, but at other times so violent that it might resemble a vaccination vesicle. He himself found that in apparently healthy children out of 693, 18 per cent. reacted. In the first and second year of life 2 or 3 per cent., in the third and fourth years 13 per cent., in the fifth and sixth 17 per cent., from 7 to 10 years old 35 per cent., and above 11, 55 per cent. Since then it had been shown that von Pirquet did not get his full value as it were out of his test and that results should have been much higher. Hamburger, of the Children's Clinic in Vienna, described tuberculosis as "a true children's disease; just as everybody goes through measles, and this is acquired in childhood, so we can say to-day almost every one acquires tuberculosis sometime, and mostly during their earlier years." He published a chart of reactions at different ages in 509 children. Of 21 under 12 months old not one reacted; then there was a regular increase at each age-group till above 11, when more than 90 per cent. reacted. In each case which did not react he used tuberculin injections, and actually got *96 per cent.* of the elder children reacting. At Prague another observer with similar methods got reaction to tuberculin in 97 per cent. This autumn the results of an unselected series had been published by the school doctor in Altona. Dr. Herford tested 2,594 children last winter. He said 200 could be treated daily. The reactions varied from 55 per cent. in one school to 78 per cent. in another. It appeared that in social classes whose living and food were good, there were just as many opportunities of infection as among the poor. The reactions obtained by Dr. Herford were not as uniformly concordant with clinical findings as the Parisian observations, or else they had included as tuberculosis many cases which the Altona doctor rejected. On the other hand, the reaction often failed when the reverse would be expected; thus, of 70 children with hereditary tendencies, 29 failed to react and 14 of these had tuberculous parents. Those cases showed that tuberculous infection did not always follow a theoretical scheme. Such was a broad outline of facts as far as time permitted their being followed. Tubercle was like the other infectious diseases—there were all grades of dosage and reaction to its attack. It was only the severest cases, possibly the minority numerically, that ever came to clinical recognition. Pulmonary tubercle was scarcely an affair of school. The phthisical child was probably the result of a massive infection, and more often of a continually repeated infection that had at last passed the outposts; the child was probably related to an affected adult, and the home had to be investigated. The home could be beneficially reached through the school. That "windows were made to open and mouths to be kept shut," could be taught to infants. In dense populations special schools for training children from tuberculous environments were suggested. But every phthisical adult could be taken out of his family surroundings and relieved of his family responsibilities until he was cured. That was the cheapest and most economical way of attacking the whole tuberculosis problem. But, apart from phthisis, there was the large group of children in whom tubercle was not demonstrable during life, although in some degree *post mortem*. These were the children who were pale and nervous, ill-nourished or anaemic, many with lymphatic enlargements of tonsils and adenoids, sometimes with some of those signs of collapse about the lung margins. It was just possible that tubercle might not be wholly and entirely an evil. There seemed to be some chemical product of its activity which had a very stimulating effect on some of the highest nervous centres, so that a high degree of intellectual development was associated with many of the cases; and this made the tuberculous child well worth saving, merely as an economic result. Schools generally had no direct effect in disseminating tubercle. For this reason, however desirable daily or hourly disinfection of the floors might be in public-houses, it was not worth the cost in schools. Ventilation was the chief desideratum in nearly every school from its effect in stimulating metabolism by the removal of heat and aqueous vapour; but the growing child needed more than this—it required feeding, and not in a way which made feeding difficult, but in the easiest and freest way possible. But there was more than food wanted, there should be *room to live*, cleanliness, school baths, freedom from vermin, healthy mouths, healthy conditions of eyes and ears; free dental and medical treatment, was the need of every child in the State school. The child who was tuberculous, or

likely to become so, required treatment in open air schools. The treatment of chronic and subacute tuberculosis in our hospitals was almost a scandal, but yet appeared all that they could do. Out-patients as long as possible, then in-patients as short as possible, and so on till the disease ended. They could scarcely hope at present to look forward to the extermination of the tubercle bacillus. Massive cases of tubercle, like the expectorating phthisical case, should be removed from the community, saturated, environments cleaned out, and tuberculous children should all have a special means for their recovery. For the others the school should become of great use indirectly in establishing the sanitary conscience, making healthy homes, and aiding the growth of individuals whose tissues should be able to deal with any dose of the *Bacillus tuberculosis* which they were likely to encounter.

Dr. KELYNACK said Professor Osler's picturesque and scientific application of the parable of the sower to the vicissitudes of the tuberculous seed and the characteristics of the tuberculous soil had always seemed to him to epitomize the chief points in the tuberculosis problem. Certainly, the tissue soils of infancy and childhood afforded "good ground" for the seed and seedlings of tubercle. Tuberculosis exacted heavy toil on life's opening years. A speedy bankruptcy of vital resources was common. Even when the debt was allowed to accumulate, payment sooner or later was usually demanded. Much of the death harvest of adult life was but the reaping of a tuberculous seed sown in early days. Pathological and clinical evidence was accumulating, and went far to show that no inconsiderable amount of the tuberculosis prevailing in adolescence and mature life was really dependent on the recrudescence of tuberculous lesions which had been slumbering since childhood. So long as infants and children were left inadequately protected against invasion by tuberculosis so long would the great medico-sociological problem of tuberculosis confront them. Few, if any, infants entered the world with the tuberculous seed already sown, and yet by the end of the first year something like 8 per cent. of all infants dying were found to be tuberculous. Some observers gave much higher returns, as, for instance, Botz, who showed that of 2,576 autopsies made on children, 27.8 per cent. who died in the first year were tuberculous. From infancy upwards to maturity there was a steady increase in the frequency with which tuberculosis was met with. Returns from different countries and based upon the observations of widely separated experts gave very similar results, showing that among all children submitted to *post-mortem* examination under 15 years of age tuberculosis was found in something like 40 per cent. of the cases. And when they came to life's most valuable period—the days of childbearing—they found that more than one-third of all deaths were due to the pulmonary form of tuberculosis. On the present occasion they were to restrict their consideration mainly to the influence of school life in regard to the development of tuberculosis in childhood. And at the outset he would urge that their outlook should be of the widest. They must break away from preconceived opinions, and discard the fetters of an obsolete or artificial terminology. It was no doubt admissible to speak of "open" and "closed" tuberculous cases, but to classify cases as "revealed" and "unrevealed" was to make use of a grouping which must necessarily differ according to the powers, methods, and industry of each "revealer." The words "latent," "quiescent," and the like were also apt to be misleading, especially in clinical work. Tuberculous children in schools should be conspicuous by their absence. In their public schools for boys this would, indeed, seem to be generally the case. An open tuberculous case in a school was an evidence of either ignorance or neglect. In the elementary schools of well-organized educational authorities, like London and their large provincial centres, the number of active cases of tuberculosis met with was comparatively insignificant. Judging from the evidence presented to him in hospital work, teachers, health visitors, sanitary inspectors, and the like, as well as medical examiners, were now so keen in hunting out open tuberculosis cases that probably few escaped detection. From all he could learn, the case was very different in some country districts. There was no conclusive evidence to show that tuberculous infection occurred to any great extent in well supervised schools. He believed that, as regards children, tuberculosis was mainly, if not entirely, home born and home grown. As Dr. Leslie Mackenzie well put it, "You cannot extirpate tuberculosis in the schools until you deal with the home conditions that foster infection and destroy personal resistance." But while manifest, tuberculosis was by no means common in their elementary schools; he was convinced, both from his pathological and clinical experience, that large numbers of children of all ages, and especially of school-going age, were not only "predisposed" by inherited and acquired conditions, but were actually the subjects of a low-lying tuberculosis. Dr. R. W. Philip, in his carefully prepared study of *Tuberculosis among Children in Scotland*, puts the position plainly. "The most remarkable, truly astounding fact which seems fairly deducible is the part which the school life of the child seems to play in increasing liability to and mortality from tuberculosis." And he proceeded to speak of "the extraordinary rise in the death-rate from pulmonary tuberculosis when we pass from the group five to nine years of age to the group ten to fourteen years of age." Dr. Philip adds: "It is a fact of which I had no true conception until I undertook the analysis of the statistics on the present occasion." They must admit that a large proportion of their school-going children, as matters stood at present, were doomed to die before maturity of tuberculosis. Many had the tuberculous seed slumbering somewhere in their systems. As Dr. Newsholme said: "Notwithstanding the small amount of revealed tuberculosis among school children, such children, if they die of other diseases, show in a very high percentage evidences of tuberculosis, especially in the bronchial glands." Moreover, as Sir William Whitla dogmatically put it:

> Hereditary predisposition cannot be doubted.

As medical adviser to the National Children's Home and Orphanage, with over 2,000 children always under its care, I have good evidence of the truth of this. Something like 25 per cent. of our cases have been orphaned by tuberculosis, and these oftentimes manifest their consumptive parentage, and not a few fall victims. One word must be said in regard to the teacher. The teacher, he feared, was often sacrificed for the sake of the scholar. Tuberculosis was prevalent among teachers. He had had a number of teachers under his care who had succumbed in following their profession in public schools in London and elsewhere while the disease was active. Tuberculosis was the chief cause of mortality among teachers. Their mortality returns from phthisis was heavier even than that of their own profession. He was convinced that the incessant strain and all too common non-hygienic conditions of school life had led to recrudescence of old tuberculous trouble, or had predisposed to a new tuberculous infection. When an undoubted diagnosis of tuberculosis could be made by a school doctor employing such methods as were permissible and available in an ordinary inspection, one might be sure that the disease had made considerable progress. The recognition of such a case was desirable for the sake of others, but it would avail but little for the individual concerned. For the present, at least, the chief duties of a school doctor seemed to be the old-fashioned one of detecting disease. Some day he would be allowed to foresee and protect and prevent. But that day was not yet. A beginning might well be made with tuberculosis. If real good was to be attained the children must be hygienically managed in the stage which had been spoken of as the "pretuberculous." Tuberculous-prone children must be recognized early and followed up into their home life. In this the services of a tactful and experienced school

nurse would be invaluable. As to the use of specific methods in the diagnosis of tuberculosis in school children much caution was necessary. In this country at all events the time was not ripe for employing tuberculin in school work as a routine procedure. Where school clinics were established special methods might be adopted under skilled supervision. His time was up, but he might be permitted to add one word in regard to the rôle of the school in the prevention of tuberculosis. They could not rest satisfied by saying that the school influence was not on the side of infection. It must be a force making for protection. The hygiene of school life, instruction in antituberculosis measures during school days, and the far-reaching influence of a medically supervised childhood and youth should accomplish much towards the extermination of this pestilence that walketh in darkness.

In the discussion which followed, the CHAIRMAN referred to the position of the teacher with regard to the inspection of schools. It seemed to him necessary that he should undergo an examination, for supposing a tuberculous teacher had access to a class he would do a great deal of harm.

Dr. GRIFFIN (Banbury) said teachers had to be examined when they came to a school. He raised the question of what to do with children who had large glands, a large number of whom were healthy and strong.

Dr. BROOKS (Oxford) said he had had experience of children in schools of a higher grade, and it struck him how little pulmonary tuberculosis there was to be found in a public school. In a school of 200 or 300 boys he could not remember one breaking down, although there were a number of suspicious cases.

Dr. REYNOLDS (Reading) said his experience had been that enlarged glands were due to lice and bad teeth, which he found to be very prevalent, and also to bad mouths. It was difficult to see whether tuberculous glands had any connexion or not. He thought family life had a good deal to do with the condition of many children.

After some remarks from Dr. RHODES, Dr. KERR regretted that he had said nothing about teachers. He pointed out that the death-rate of girls was increasing far beyond that in regard to the boys.

The CHAIRMAN expressed the thanks of those present to Dr. Kerr and Dr. Kelynack for the addresses they had given, and the company then adjourned to tea.

The Notification of Tuberculosis.

The notification of tuberculosis formed the subject of a discussion, which was opened by Dr. NIVEN (M.O.H., Manchester) and Dr. SCURFIELD (M.O.H., Sheffield).

Dr. NIVEN said it was a matter for rejoicing that the prevention of tuberculosis was receiving increased attention within the precincts of that great university. If he was privileged to speak to the medical men of Oxford on the notification of tuberculosis it was because he came from Manchester—a city in which tuberculosis had exhibited exceptional intensity, but had also aroused exceptional effort. The real beginning of the modern movement dated from the publication of Villemin's great book about the year 1865. From that time onward the lamp was not extinguished. In 1882 came Koch's splendid research, in which he announced the discovery of the tubercle bacillus and demonstrated it to be an essential factor in the production of tuberculosis. The various materials concerned in the propagation of tuberculosis assumed their proper magnitude and importance. In 1886 Cornet published his research on the infectivity of dust in rooms inhabited by consumptives, in which he showed that such dust derived from positions not accessible to direct coughing was, in the case of private houses, infective in 21 out of 56 instances investigated. He proceeded to give a brief outline of the long effort made in and near Manchester to deal directly with tuberculosis as an infectious disease. Continuing, he said it was a matter of experience that phthisis did not appear to be conveyed from person to person unless exposure be intimate and prolonged. But such exposures were only too common. In what sense could a disease be said to be other than highly infective which caused among the inhabitants of common lodging-houses a death-rate of 20 per 1,000, of which about three-fourths might be assumed to be generated in the class of house referred to. In what sense could a disease be said not to be highly infective which *post-mortem* examination showed to have produced lesions in the bodies of all persons over 20 years of age submitted to *post-mortem* examination, active, quiescent, or healed in proportions varying from 40 to 90 per cent., increasing in frequency as age advanced? Another form which opposition took was to insist that there were numerous adjuvant factors in the production of the disease, and that these were far more important and far more easily dealt with than the infectious process which required watching over prolonged periods. It was true that poverty aided the spread of phthisis—whether by poverty they meant that a certain standard of living was unattainable, or whether they meant the complex of unwholesome conditions which poverty usually connoted. Overcrowding, bad housing, dirt, deficiency of light, dusty occupations, inherent feebleness, physical injury, intemperance, attacks of other disease, mental depression, and other factors, did, in fact, each and all help to cause the implanting and the progress of infection. It was, however, easy to produce instances in which each and all of these factors was present, but where either infection was absent or the circumstances were unfavourable to its action. In such cases phthisis did not ensue. But each of these factors must be absent where exposure to infection was intense and prolonged, and infection followed. Let them by all means remove as many of these favouring conditions as they could, but they must not fail to study the modes in which the disease was conveyed, or to stop its conveyance as and how they might. But they could only make such a study or take direct preventive action if they had access to the consumptive at his own home. Nowhere else could they form an adequate picture of the family or form a true conception of habits and circumstances, or pursue amongst neighbours and neighbouring houses the inquiries suggested at a personal interview. Perhaps the best way to convey what he thought they might do was to tell them what they at Manchester did. Their scheme started in full completeness, though it had received many improvements. They had at first a medical officer, a veterinary surgeon, and a clerk, to whom were allocated a separate office. Their choice of each of the three was highly fortunate. They invited at first notifications only for public institutions, including the consumption hospital. The name and address of each notified case was entered on an inquiry form, which his previous work in Oldham enabled him to frame, and provided with this the medical inquirer visited the home, elicited the facts of each case, advised as to the precautions to be adopted, and took note of insanitary conditions. He then handed his form to the clerk, Mr. Lock, by whom they were transmitted to the medical officer of health, and examined and annotated by him. They were then returned to the clerk, who examined them, took any necessary action, collected them in parcels of 100, and had them bound. Disinfection was carried out according to the directions of the medical officer given on his inquiry form. The theory was that disinfection having been carried out, and the patient and his relatives having been instructed in the measures of personal precaution to be carried out, there need be no great risk of infection in the future if the instructions continued to be obeyed. The methods of disinfection pursued were various, the disinfection of surfaces by the Corporation being generally carried out by Professor Delépine's method, namely, by the application of a weak solution of chlorinated lime of guaranteed strength. But the matter was not left here. Following on the visit of the skilled inquirer, the health visitor of

the district or the sanitary inspector paid fortnightly visits to see that the precautions were carried out, and that the house was kept clean. In many cases the interval had since been extended to a month. Thenceforth the patient was kept under constant observation, when practicable, for the rest of his life. Every three months the householder was expected to clean down the walls with dough, and thoroughly to wash the floors, and a report was made on the subject. In a few months their methods improved, and became organized when notifications were invited from medical practitioners. Another medical assistant was provided, and the arrangement of the material became imperative. Mr. G. H. Lock, the clerk engaged for this work, showed excellent organizing faculty, and the materials were arranged in three sets of letter cards according to name, address, and occupation, with cross references and references to the books of inquiry forms. They owed much to Mr. Lock, much also to the succession of able assistants who now filled important positions in the public health service. But the inquiry work of this department was now chiefly done by two sanitary inspectors, men of good ability, who had been taught enough to enable them to carry on the necessary inquiries. These gentlemen were more likely to be permanent, and it was impossible to tie down medical assistants to this one disease to the exclusion of other public health work. But in addition to the administrative work there had been accumulated an arsenal of carefully observed facts, which were available for the investigation from the clinical side of many of the questions which arose. Of these the most important was the question of infection. It had been possible, from the details accumulated, to fix, with a fair amount of definiteness, the limits of the latent period of tuberculous phthisis,[1] as well as of the duration of the disease amongst artisans and poor persons. In successive annual reports on the health of Manchester particulars had been given as to the histories of infection, which served to place in their due proportions the different sources and places of infection. But, above all, there was brought home to the inquirer and, through him, to the community, a conviction that phthisis was an infectious disease, such as no experimental data or statistical reasonings could by themselves convey. The inquirers and the local community were enabled, as it were, to see the hidden processes of infection going on. Might he make some general remarks on the establishment of tuberculosis as a notifiable disease in any given locality? He had never urged that phthisis should be made notifiable all over the country, whether voluntarily or under compulsion. In fact, one viewed such establishment with some apprehension. It was not easy to carry on a successful inquiry into the history of individual cases, or to apply usefully the information obtained. To do so required considerable knowledge of the disease, an exacting standard of precision, a special faculty for etiological inquiry, a special training, and a patient faith in the earlier stages. Success had to be built up. It was not immediately attained. It was needful, therefore, that a good scheme should be drawn up to start with. Were a scheme established in Oxford, it would be a good thing if the inquirer could receive a two years' studentship. Less would be useless, as, no matter who he was, it would take him from three to six months to acquire the needful skill. Such scholarships, if established, should therefore overlap the six months. If it was desired to have a permanent element, a clever sanitary inspector might be engaged and trained by the medical officer or skilled inquirer. A good organizing clerk would be needed. The policy pursued in New York was the sound one. Notification should be voluntary at first, afterwards compulsory. It should have proved its efficiency and power of adaptation before becoming part of the public health service. There should be no compacts. If the rules of the game were not observed play would soon cease. In his judgement, before a scheme of notification was put forward the public should be prepared by handbills on the prevention of tuberculosis distributed to every house. It was necessary also to secure the co-operation of medical practitioners, and the subject should therefore be fully discussed in the local medical society, and the co-operation of practitioners secured. But it was no less important to secure the adhesion of the town council, and he would suggest that individual members should be approached beforehand, and every opportunity taken to make the position both clear and familiar to them before the medical officer presented a report to his council.

Dr. SCURFIELD spoke next. He gave particulars of the compulsory notification of tuberculosis in operation in Sheffield. The Health Committee were of opinion that it should be continued, because they considered that the system was a great benefit to the community. The system was as follows: (1) In order to facilitate early notification the Corporation paid the Bacteriological Department of the University of Sheffield to examine sputum for medical practitioners free of charge. When a case was notified special inspectors visited to obtain particulars with regard to the history of the case, left a copy of printed advice, and supplied the poorer patients with pocket spittoons free of charge. The inspectors revisited at intervals and disinfected the rooms occupied by patients. (2) The Corporation provided sanatorium treatment for 20 males and 20 females for short periods of about four weeks. Those patients who appeared to be curable were sent away for prolonged treatment; £1,000 was provided in the estimates for that purpose. The principal objects of the short period of treatment were as follows: (1) For the purpose of teaching the patients to live an open-air life, to use pocket spittoons, and generally to take such precautions as would minimize the danger of the spread of infection when they returned home. (2) For the purpose of giving the relatives a rest, and enabling the homes to be thoroughly disinfected. (3) For selecting such cases as might be found suitable for sending to a sanatorium. (4) Where a patient was unsuitable for such treatment every effort was made to persuade him or her to go into the workhouse hospital, where separate wards were provided for open-air treatment. When compulsory notification was begun, 25 per cent. of the deaths from consumption occurred in the workhouses. During 1908, 38.3 per cent. occurred in the same institutions. (5) All cases of consumptives who were at work at factories or workshops were reported to the inspector, who took precautions in the matter, and remedied any sanitary defects. In cases where the patient was doing unsuitable work—for example, milk vending—he was stopped. (6) Delicate children in the families of consumptives were reported to the schools medical officer, and were sent to the open-air school.

The cost per annum of notification of tuberculosis of the lung was £4,119, made up of—

	£
Fees to medical practitioners for notification...	95
Fees for examination of sputa	210
Maintenance in the Corporation hospitals of 40 patients, at (say) 23s. per week each ...	2,600
Expenses sending selected patients to sanatoriums, and maintenance	1,000
Salaries of inspectors (£120, £78)	198
Pocket spittoons, provided free	16

To the above had to be added a sum for proportion of expenses of administration and for disinfectants, etc.

Compulsory notification was introduced in November, 1905. It had been in operation without incurring the opposition of the general public or of the medical practitioners. He was convinced that a considerable amount of good had already been done by those efforts. The objections were: (*a*) That a notified person became a leper; (*b*) that he lost his work; and (*c*) that cases were concealed for fear of notification. Visits by the inspector were favourably received, especially after the object had been explained. He could only recall one or two cases where work had been lost; in fact, it was said that the principal cutlery works in Sheffield had never discharged a hand owing to his or her having consumption. The objection was raised with regard to persons suffering

[1] British Medical Journal, 1908, vol. ii, p. 561.

being told that they were consumptive. Probably, if the term "tuberculosis of the lung" were used instead of the word "consumption," there would be no objection. He found that nearly all the patients dreaded the word "consumption." He found that employers gave every facility for obtaining information; no resentment was shown at the visit. In all 514 cases had been visited since July 6th, 1905, most of the patients being in sick clubs in which it was the usual thing to receive twenty-six weeks' full pay and twenty-six half pay.

The following table was distributed amongst those present:

adherents both in this country and in others, and it appeared to be rather the popular doctrine at the present time, and the older experimental evidence which supported the inhalation theory seemed in danger of being forgotten. Sir William Whitla and Professor Symmers had repeated and extended some of the experiments of Calmette and his pupils and strongly supported his conclusions. Calmette went so far as to state that in his opinion the immense majority of cases of pulmonary tuberculosis was contracted by bacilli absorbed from the intestine and not by direct inhalation. The question of the portals of entry of the tubercle bacilli, which caused phthisis,

CITY OF SHEFFIELD.

Tuberculosis of the Lung. Notifications 1899-1908.

(Voluntary Notification was introduced November, 1899, and Compulsory Notification November 1st, 1903.)

Year:	1899 (One Month).	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Examination of sputum	(?)	566	649	734	906	936	904	1,029	1,264	1,518
Notifications received	33	585	648	739	918	1,216	1,057	1,122	1,238	1,299
(1) New cases belonging to City	29	369	282	326	519	826	741	698	779	793
(2) Cases previously recorded:										
(*a*) Under voluntary system	—	30	41	62	168	97	20	19	12	14
(*b*) Under local Act	—	—	—	—	32	278	286	393	442	473
Notification of cases whose addresses were not in the City (charitable institution cases chiefly)	1	17	20	16	9	15	7	9	4	19
Revised diagnoses	—	—	—	—	—	—	3	3	1	—

The CHAIRMAN (Dr. Norris, Eton), Dr. DUIGAN (Oxford), Dr. BENSON and Dr. ESTHER CARLING (Peppard) all contributed to the discussion, the last-named pointing out that the patients who came to Peppard Sanatorium were a continual help to the staff there, and were a means of imparting knowledge of the way to combat the disease amongst their fellows.

The CHAIRMAN proposed a vote of thanks to the speaker, and the proceedings then came to a conclusion.

Avenues of Infection.

At the evening meeting, Dr. PERCY KIDD (London) occupied the chair, and the subject was "Avenues of Infection in Tuberculosis."

The CHAIRMAN said the question before them that evening, as they all knew, had occupied considerable attention during the last few years. They were all agreed as to the source of tuberculosis, but on the question of the avenues of infection there had been considerable difference of opinion. He dealt with possible avenues of infection, and trusted that points which he had not alluded to would be touched on by the speakers.

Dr. COBBETT (Cambridge), whose remarks were illustrated by lantern slides, said phthisis had been held, almost universally until the last few years, to be primary tuberculosis of the lung, and to be caused by inhaled bacilli which had reached that organ directly along the air passages. That opinion was strongly upheld by Koch at the London Tuberculosis Congress in 1901, and was supported by a large mass of experimental evidence carried out in the rival schools of Cornet and Flugge. Chauveau as long ago as 1868 seemed to have thought that the alimentary tract might be a portal of tuberculous infection of the lungs, even more commonly than the air passages, and in more recent years this view was upheld by Behring, Calmette, Vallée, and others. What one might, perhaps, call the intestinal origin of phthisis was strongly opposed in Germany when first put prominently forward by Behring, but it had since found many greatly interested him when he was working for the Royal Commission on Tuberculosis. He read carefully the work of Calmette and his followers, and was struck by the sweeping character of his conclusions and the excessively small amount of support which the experimental results afforded them. He personally investigated the subject: (1) By experiments with carbon; (2) with *B. prodigiosus*; (3) with *B. tuberculosis*, the last two being divisible into (*a*) inhalation experiments, (*b*) feeding experiments. Calmette and his followers made a great point of the alleged difficulty of inhaled particles penetrating deeply along the air passages, and even beyond the glottis. And they believed that pigmentation of the lungs in coal-miners and others was not due to direct inhalation but to the swallowing of particles of carbon and to their absorption, and so through the mesenteric glands into the thoracic duct and the right side of the heart. They believed that a single feeding of a guinea-pig with 1 c.cm. of Chinese ink would produce well-marked pigmentation of the lungs, easily visible to the naked eye, and this in twelve hours, or even less. Sir William Whitla even spoke of "the almost ebony blackness" of the lungs produced in that way. The speaker's guinea-pigs were fed with Indian ink repeatedly, but never did he see pigmentation of the lungs in guinea-pigs under 600 grams in weight, and in older animals only such traces as were to be found in control animals. They would now pass on to experiments on guinea-pigs with *B. prodigiosus*. Twenty-six guinea-pigs and a rabbit, a rat, and a mouse were exposed at different times in a box into which a fine spray containing *B. prodigiosus* was blown. The animals were sprayed for some minutes and killed after various intervals of time. From every one cultures of *B. prodigiosus* were obtained from the lungs, provided the intervals did not exceed fifteen hours. After that period they were no longer capable of being cultivated. They appeared in the lung cultures of three guinea-pigs who were sprayed after the oesophagus had been divided between ligatures, and they appeared in the lung cultures of animals which were only sprayed for a minute and immediately put under chloroform. He thought those experiments

showed conclusively that fine particles suspended in the air breathed penetrated deeply and almost instantly into the lungs of those small animals. That brought them to the inhalation experiments with *B. tuberculosis*. In these guinea-pigs were exposed to a spray of tubercle bacilli in the same way as when *B. prodigiosus* was used. After some minutes or a few hours they were killed and their principal organs and glands taken and emulsified and injected into other guinea-pigs. When these were killed, a month or more later, they showed where tubercle bacilli had been present in the emulsions which they had received. The experiments, in short, confirmed those made with *B. prodigiosus*, and showed, moreover, that some bacilli might be swallowed and absorbed from the intestine and reach the mesenteric glands. This absorption had been clearly shown to take place in dogs by the work of Ravenel in America and Griffith in this country. Another series of guinea-pigs were sprayed with tubercle bacilli and were allowed to live for a period long enough to develop tuberculous disease. The results showed that tuberculosis never developed in the mesenteric glands, and tubercle bacilli were only found there once. They were not infrequently found in small numbers in the glands of the neck. In the large and bronchial glands they were always found on and after the fifth day, and here the first visible tuberculosis appeared as early as the ninth day. Up to the fifteenth day no tuberculosis visible to the naked eye or magnifying glass appeared elsewhere than in the lungs, except in one case in a bronchial gland, this on the ninth day. After three weeks tuberculosis became general, the mesenteric and ileo-colic glands, however, remaining exempt. Now, it was quite inconceivable that tuberculosis which developed in the lungs of those guinea-pigs exposed to the spray was caused by bacilli which passed through the mesenteric glands, because (1) those glands never became affected, and (2) when tubercle bacilli got absorbed from the intestine, they did not pass through those glands without causing lesions there, and when they passed through they did not specially attack the lungs. That brought them to the results of feeding guinea-pigs with tubercle bacilli. The bacilli were found in the mesenteric and cervical glands. The earliest visible lesions appeared in the latter. The lungs were not affected until the tuberculosis had become generalized, and sometimes not even then. He wished to make his position clear. He believed that phthisis could and did usually develop as the result of direct inhalation of tubercle bacilli into the lungs. At the same time, he readily admitted that tubercle bacilli could be absorbed from the intestine. He was convinced that many cases of tuberculosis in children which he saw whilst working for the Tuberculosis Commission commenced in that way. The mesenteric glands were always affected, and often the intestine also. He held that it had not been proved that tubercle bacilli absorbed from the intestine could cause phthisis without lesions in the mesenteric glands. He admitted the possibility of some cases of limited tuberculosis, possibly in bones and joints, arising in that way.

Dr. Whipham (London), who spoke next, said the question of the avenues through which tubercle might enter the body was a large and important one, for on it depended the means which they should take to ensure prophylaxis against the disease which caused 10.7 per cent. of the deaths in this country. Of recent years a change of opinion had occurred as to which was the chief mode of entrance of the infection. The possible avenues of infection appeared to be five in number: (1) Through the lungs themselves, as the result of the inhalation of tubercle bacilli, either in the form of dust, or suspended in droplets of moisture, the exhalation or expectoration of infected beings; (2) through the mucous membrane of the mouth, nose, or pharynx; (3) through the intestinal tract, as the result of the ingestion of infected milk or other food, or of the swallowing of mucus or saliva infected with bacilli from the nose or mouth; (4) through other mucous membranes, such as the conjunctival, or that of the urino-genital tract, or through the skin; (5) by means of the placental circulation from a tuberculous mother. First of all, he would like to say something about infection through the mouth. There was, according to Grober's experiments, a direct route to the pleura and lungs from the tonsils by way of the cervical lymphatic glands, and this, by observation he might mention, had led that investigator to suggest that to a tonsillar infection had to be attributed the fact that it was the apices of the lungs rather than the other parts which were chiefly attacked by the tubercle bacillus. If, then, the tonsils played a part in the infection by tubercle, it was possible that other structures in the mouth and pharynx might also serve as an entrance for the bacillus—for example, adenoid vegetations, which were associated with abnormal tonsils; and carious teeth, in conjunction with which pulmonary tuberculosis was often found. Thus Cornet had recorded cases in which the mucous membrane of the nasal and buccal cavities was said to be the entrance of the infection. In those cases where the mouth and pharynx were said to be at fault infection probably occurred by means of food, though the possibility that it might be airborne could not be excluded; and Cornet in particular laid stress on dust and dried particles as important factors in infection. By those who held that pulmonary infection arose through the cervical glands, various routes by which the tubercle bacilli reached the lung had been suggested: (1) That from the cervical glands they entered the lymph stream, and by means of the lymphatic vessels entered the venous system, and so were conveyed to the lungs; (2) that that path was from the cervical to the supraclavicular glands, and thence to the apex of the lung; (3) that from the cervical they passed to the bronchial glands, from which they reached the blood stream and the pulmonary tissues. As every one knew, pulmonary tuberculosis was formerly considered to be a primary disease of the lungs, set up by the inhalation of the tubercle bacillus; and as the bacillus had been found to be almost universal, it was not to be wondered at that inhalation was at first supposed to be the chief, if not the only, means of entrance. The inhalation theory was supported by the conditions known as anthracosis, siderosis, silicosis, etc., in which minute particles of metal, stone, and such like material were found in the parenchyma of the lungs as the result either of an occupation which involved living in a dusty atmosphere, or of experimentally causing animals to breathe air ladened with such particles. Having quoted the opinion of several authorities on the subject, the speaker said it might be taken for granted that tuberculosis was caused by inhalation in one of the ways which he had described. In what form, however, was the infected material conveyed to the lungs? Here again authorities differed. Flugge believed that infection was caused by the inhalation of air containing minute droplets of fluid in which the tubercle bacilli were suspended; the other argument in favour of the inhalation theory was put forward by Findel, who found that 5,000,000 tubercle bacilli when inhaled by a dog caused extensive pulmonary tuberculosis, whereas 1,220 times that dose when given by the stomach produced no effect; and again, when experimenting with guinea-pigs, he found that as small a number as twenty was sufficient to cause pulmonary disease when inhaled, but the animals were able to withstand 382,000 times that dose when given by the stomach. That brought them to an intestinal source of infection, which had been mooted before 1903, when von Behring reopened the question, and since that time a good deal of work had been done on the subject. Now the gastric juice, though it was inhibitory to the growth of the tubercle bacillus, was not bactericidal—at least during the usual period of gastric digestion—so that bacilli in an active state could pass on to the intestines. Tubercle bacilli administered in fatty food to dogs, guinea-pigs, and other animals, had been found in the chyle within a few hours, the intestinal surface being left intact. Calmette, in conjunction with Guérin and Breton, injected into

the stomach through a tube emulsions of living bacilli in linseed, with the result that the bacilli were absorbed through the intestine and gave rise to tuberculous deposits in the mesenteric glands, lungs, and the viscera. In animals which lived beyond thirty days the lungs and the mediastinal glands were always affected, while in guinea-pigs surviving fifty or sixty days the deep cervical glands were nearly always tuberculous; and even after ten days the entire lymphatic system was found to be infected, other guinea-pigs dying from generalized tuberculosis when injected with the substance of the inguinal glands from such cases. These experiments proved that tuberculosis of even the cervical glands might have an intestinal origin and not always be infected from the mouth, as often supposed. Young and adult animals showed the same difference in their reactions to infection by the tubercle bacillus as in the case of carbon particles. It had to be remembered that the introduction of tubercle bacilli into the intestinal tract was not necessarily followed by tuberculosis, even in the most susceptible animals. The bacilli might pass straight through, and if absorbed might be destroyed. But, on the other hand, if the bacilli were absorbed by the intestinal mucous membrane, they might enter the system without leaving a trace at the site of their entrance. When generalized tuberculosis was produced the lungs were usually affected. The other portals of infection, namely, the skin and the mucous membranes of the eye and urino-genital tract, needed only a passing comment, as they were of less importance than the two main ones. Lupus vulgaris and other affections of the skin might possibly afford an entrance for the bacillus into the system, and a tuberculous orchitis as the result of injury was not uncommon. The lesions in the urino-genital tract might thus be the starting point of a dissemination of the disease throughout the body. Pulmonary phthisis was shown to be much more prevalent in adult life than in childhood, the most fatal period being between the ages of 25 and 45. Indeed, in his experience at a children's hospital chronic pulmonary tuberculosis, pure and simple, was by no means a common event. Dr. Mary Williams, however, recently stated in one of the medical journals that 15.4 per cent. of the school children in Worcestershire were afflicted with the disease, but he was glad to see that her statement was not allowed to go unchallenged, and her refutation was also contained in James Millar's statement that "tuberculosis is not limited to the lung in children, but is generally disseminated—that is, it is a blood infection." Pulmonary tuberculosis, pure and simple, therefore, was essentially a disease of adult life, while, as he had just shown, children succumbed to meningeal, abdominal, or probably more often to a generalized tuberculosis. He maintained that the distribution of the disease in early life could be best explained by the results of Calmette and his fellow workers—that is, that it was a disease caused by the ingestion of tubercle bacilli and thus absorption through the intestinal tract. In adults also this might be true, but the possibility that many cases were caused by inhaling the bacillus had yet to be disproved, and some significance was attached to the fact that there were countries, such as Japan, where tuberculosis was rife but milk, the common carrier of infection, was but little consumed. He would say nothing about the respective rôles of the human and the bovine bacillus, but even if ingestion tuberculosis was admitted to occur in childhood it did not follow that the bovine bacillus was the cause, as children had many opportunities of swallowing the human variety. It must be remembered, however, that bovine tubercle bacilli had been frequently isolated from human subjects, and especially was that the case with the child. They were found, moreover, generally in abdominal tuberculosis with or without tuberculous ulceration of the intestines.

Professor DREYER dealt with the question of infection through cattle, and gave the results of his own experiments; and Dr. COBBETT having replied, the conference came to a close.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.]

BIRMINGHAM BRANCH.

A MEETING of this Branch was held at the Medical Institute on November 11th. The PRESIDENT, Dr. Herbert Manley, was in the chair, and there were forty-one members present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

Rodent Ulcer.—Dr. ARTHUR LOXTON showed a case of inoperable rodent ulcer of the cheek which was undergoing treatment by high frequency. The patient came under observation at the end of last July. The cheek was perforated by an ulcer the size of a florin. The malar and superior maxillary bones showed signs of erosion. The edges and deeper parts of the ulcer were covered with evil-smelling débris and pus. Since the beginning of August Dr. Russell Green, the radiographer to the Skin Hospital, had treated the case by ten-minute séances three times a week with the vacuum tube. At first the tube was applied directly to the walls of the ulcer, but after a few sittings the tube was held a short distance away, so that mild sparking occurred. The foul wound immediately closed up after the sparking was commenced. There had been no extension of the wound since treatment was inaugurated, but in places well-marked cicatrization had set in, and the ulcer at the present time looked as if it would heal. It was proposed to exhibit the case at the end of the session, so that members might have an opportunity of judging for themselves whether the treatment had been successful or otherwise.

Gangrenous Cholecystitis and Gall Stones.—Professor J. T. J. MORRISON showed a girl, aged 16, with a closing biliary fistula, after partial cholecystectomy on April 19th last. She was admitted into the Queen's Hospital about midnight on that date with acute abdominal symptoms of two days' duration supervening on months of chronic dyspepsia. There was no history of jaundice or enterica. The patient was extremely ill on admission, the pulse-rate being 136; and this fact, together with the distension and acute tenderness of the upper abdomen, precluded an exhaustive examination, but perforation of a gastric ulcer was suspected. On opening the abdomen, however, the stomach was found intact, and the clear fluid filling the peritoneal cavity was alkaline. To the right of the stomach there was a mass of inflamed adherent omentum, and on separating this a small pool of dark alkaline fluid was opened. The omentum was glued to the gall bladder, which was distended nearly to the umbilicus, and the fundus was gangrenous, and leaking into the above-mentioned pool. The gall bladder was packed off with gauze and freely opened; it contained fourteen gall stones and some ounces of very dark altered bile. The cavity was emptied, and the greater part of the gangrenous wall removed. Due provision having been made for drainage, the rest of the abdominal wound was closed. During the operation the patient's condition was critical, but great improvement was effected by the infusion of four pints of saline solution into the chest wall and the administration of adrenalin and strychnine. Recovery was uninterrupted, and the remaining biliary fistula was steadily contracting.

Paper.—Dr. O. J. KAUFFMAN read a paper on experiences with the von Pirquet tuberculin test. This was discussed by the PRESIDENT, by Drs. HARRISON BUTLER and KIRBY, and by Mr. F. MARSH, Mr. MORRISON, and Mr. JAMESON EVANS.

COVENTRY DIVISION.

A GENERAL MEETING was held on November 10th at the Coventry Hospital. Dr. SNELL took the chair, and there were twenty-three members present.

Contract Practice.—A discussion on certain aspects of contract practice in the city took place. A unanimous decision was arrived at.

Communications.—Dr. HARRISON BUTLER showed a modified strabismus hook, a forked tonsillotome, and described a method of reaching the antrum through the outer nasal walls. He next read a paper on miner's nystagmus, and showed a marked case. Mr. Butler held that bad lighting of mines, combined with the glittering black surface of the coal, was the cause of the disease, as in electrically-lighted coal mines the occurrence of the disease was rare, and it was not found amongst metallic miners. The disease was a "central" one, but nothing was known of its true pathology. The affected miner must never enter a mine again.

LANCASHIRE AND CHESHIRE BRANCH:
St. Helens Division.

A MEETING of this Division was held in the Fleece Hotel, St. Helens, on Wednesday, November 10th, at 8.45 p.m. It was attended by Drs. Jackson, Kerr, Dowling, J. S. Fox, and Buchan. Dr. J. Donnellan was present as a visitor.

Apologies for Non-attendance.—Apologies for absence were intimated from Drs. Reid, Bassett, Challenor, Wilson, and Paterson.

Chairman.—It was resolved that Dr. Jackson take the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and adopted.

Medical Officer for Recruiting Purposes.—A letter was read from the Chairman of the Naval and Military Committee regarding this subject, and the Division resolved that in view of the opinion expressed no further action be taken in the matter.

Nomination of New Member.—One member was proposed for nomination to the Branch Council.

METROPOLITAN COUNTIES BRANCH:
Chelsea Division.

A GENERAL meeting of this Division was held at the Chelsea Town Hall on Tuesday, November 2nd, Dr. BUTLER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Editorial Articles in the Journal.—Dr. WILLIAMS called attention to instances in which editorial articles and comments in the JOURNAL had been inimical to the interests of the majority of the profession. He quoted an article in a recent issue which disapproved of medical men dispensing their own medicine—a view which Dr. Williams contended was not shared by the majority of the members of the Association—and moved the following resolution:

> That the Council instruct the Journal Committee to insert on the leader page of every issue of the JOURNAL a disclaimer stating that the views expressed in the articles therein only emphasize the opinions of the writer, and not necessarily those of the general body of the British Medical Association.

A rider to the above was accepted by Dr. Williams as follows:

> And that all articles be signed.

The resolution was seconded, and carried unanimously, and it was decided that the Representative of the Division should submit it to the next Representative Meeting.

Rules and Laws of the Division.—Dr. GALLARD moved:

> That rules for the Division be drafted and submitted to the next meeting.

Dr. P. H. PARSONS pointed out that the Bradford Rules had already been adopted. Dr. GALLARD remarked that every member ought to have a copy. Dr. PARSONS moved:

> That the matter be referred to the Executive Committee.

This was seconded and agreed to *nem. con.*

The Treatment of School Children under L.C.C. Found Defective.—Dr. WILLIAMS suggested that the Public Medical Service which had been organized in this Division should offer to undertake this work on conditions somewhat similar to those which some of the hospitals were prepared to accept. Considerable discussion took place concerning the details of this scheme, which terminated in the appointment of a subcommittee, consisting of Drs. Parsons, Bedford, Williams, and Gallard, to consider the proposal and report to a future meeting.

Dis Guardians and Emergency Calls by Midwives.—Dr. FLETCHER gave a detailed statement of one of these cases in which the Fulham Board of Guardians declined to pay his fee on the grounds:

1. That the husband of the person for whom medical assistance was required was in employment earning 26s. a week.
2. That he (the doctor) did not apply for it within the stipulated time.

He thought that this Division should make some immediate and public protest against the action of the guardians in this matter. Considerable discussion ensued, and Drs. LEE, YOUNG, and GALLARD, said that they had also been unable to obtain their fees in similar cases. Dr. FLETCHER moved:

> That a meeting of the medical practitioners of Chelsea and Fulham be summoned at the Fulham Town Hall on Wednesday, November 10th, to consider the following resolution:
>
> > That the medical practitioners of Chelsea and Fulham refuse in future to attend any emergency calls by midwives in confinement cases unless the guardians of Chelsea and Fulham themselves guarantee to pay the fee for the attendance of the medical man; and that the recovery of the fee, if recoverable, shall be made by the guardians, and not by the medical attendants, several of whom have occasion to complain of refusal on the part of the guardians to pay this fee.

This was seconded and carried unanimously. It was decided to invite the Press to send representatives.

Paper.—Dr. WILLIAMS pointed out the difficulties of describing the characters of a substance without classification. He quoted examples from the *British Pharmacopoeia*. In one case the smell was described as "a very strong diffusible penetrating persistent odour." Why not classify smells in the same way as colours and taste, so that a substance might be said to have "yellow colour, beta smell, and sweet taste"? He dealt with the idiosyncrasies of individuals with respect to odours, flavours, and taste. He ascribed the more complete classification existing in the case of colours and sound (music) to the fact that these gave the greater pleasure. For classification of smells he suggested certain definite chemical bodies of distinctive smells as primary odours, to each of which a concrete name should be assigned, as was done in respect of colours. For universal diffusion of their knowledge he suggested sets for elementary schools to familiarize the young with them and their names, as was done in the case of colours.

Vote of Thanks.—A cordial vote of thanks was passed to Dr. Williams for his interesting paper, and with that the meeting terminated.

Meeting of the Medical Practitioners of Chelsea and Fulham.

A meeting of the medical practitioners of Chelsea and Fulham was held at Fulham Town Hall on November 10th.

Dr. GALLARD moved, and Dr. BUTLER seconded, that Dr. P. H. Parsons do take the chair. Carried *nem. con.*

The CHAIRMAN remarked that the meeting was regarded as a sequel to a number of maternity cases in which the guardians had declined responsibility for payment for emergency medical calls for midwives.

Dr. FLETCHER said that two years ago the Fulham Board of Guardians circularized the local members of the profession, asking them if they were prepared to render assistance in maternity cases which the midwives in attendance certified were too serious for them to undertake unaided. The medical man was to

attend at once on receiving the midwife's certificate, and was to receive the sum of one guinea for his services. Dr. Fletcher said that he had recently attended one of these emergency cases, and that when he applied to the guardians for his fee, he was informed that, as the patient's husband was in employment (earning 26s. per week), and he (the doctor) had not applied for his fee within the stipulated time of seven days, they (the guardians) declined to pay it. This was not the first case in which this had occurred, and he thought that it was time that the local Division of the Association should take some energetic action to protect the interests of the profession in this matter. He moved the following resolution:

> That the medical practitioners of Chelsea and Fulham refuse in future to attend any emergency calls by midwives in confinement cases unless the guardians of Chelsea and Fulham themselves guarantee to pay the fee for the attendance of the medical man, and that the recovery of the fee, if recoverable, shall be made by the guardians, and not by the medical attendants, several of whom have occasion to complain of refusal on the part of the guardians to pay this fee.

Dr. H. J. Butler seconded the resolution, and reminded them that the British Medical Association was not only a scientific body, but that its members were bound as a brotherhood to protect the profession to which they belong. The time had arrived when they should combine to form a trade or professional union.

Dr. Edwards, a member of the Fulham Board of Guardians, said that since the Local Government Order of 1907, there had been only 49 such cases in the district, and in only 7 of these had payment been refused by the guardians. He pointed out that the guardians had no legal right to relieve an able-bodied man who was in work. They were bound down by Acts of Parliament, and the ratepayers' money could not be given away indiscriminately. As a medical man, he would like to see the fee increased, but the question was whether the Local Government Board would sanction it.

Dr. Millar moved an amendment with reference to maternity homes, but the Chairman ruled it out of order.

Dr. Millar remarked that from the outset he had not been satisfied with the conditions of the offer made by the guardians, and had therefore declined to attend such cases.

Dr. Young gave particulars of a case in which he was unable to recover his fee, as did Dr. Lindsay also.

Dr. Tanner, late Chairman of the Division, speaking as a visitor, regretted their action in this matter, and thought if the resolution were passed it would be of no benefit to them.

Dr. Gallard said they could not accuse the Fulham Board of Guardians of bad faith in this matter, as they made the local practitioners a certain offer attaching certain conditions which most of them accepted. They acted unwisely in so doing, and now desired to withdraw from their contract. He trusted that that meeting and the necessity for it would convince medical men in the neighbourhood of the advantages to be gained by union.

Dr. Cooney moved the following amendment:

> That the medical practitioners of Chelsea and Fulham refuse any emergency calls by midwives to attend any women in or immediately after childbirth, or in respect of puerperal maladies or affections, unless the respective boards of guardians of Chelsea and Fulham guarantee to pay the fee for such attendance.

With Dr. Fletcher's and Dr. Butler's consent this was put as a substantive motion and carried *nem. con.*

Dr. Fletcher moved:

> That copies of the resolution be sent to the Chelsea Board of Guardians, the Fulham Board of Guardians, the President of the Local Government Board, and the Central Midwives Board.

This was seconded and agreed to.

A hearty vote of thanks was passed to the Chairman.

St. Pancras and Islington Division.

An ordinary meeting of this Division was held on November 10th at the Midland Grand Hotel, King's Cross, Dr. Glinn presiding.

Town and Country Practice.—Dr. Glinn read an interesting paper on Town *versus* Country Practice, drawing on his experience of twenty years—ten in the country and ten in London. The paper was illustrated by numerous humorous anecdotes and interesting references to country folk-lore. Attention was drawn to the prevalence of enteric fever in many country districts where wells and cesspools abounded, and to the freedom of London from the disease. The difficulties that country practitioners had to contend with owing to their isolation, the physical risks they had to run in long night journeys in storms and floods, and the resourcefulness of character which they developed as the result of having to cope unaided with unexpected emergencies in isolated districts were described. Afterwards Dr. Glinn contrasted the conditions that existed in London.

Vote of Thanks.—A cordial vote of thanks was accorded to Dr. Glinn for his very humorous and instructive address.

Medical Inspection of Schools.—On the motion of Dr. Sykes it was resolved:

> That the attention of the Metropolitan Branch Council be drawn forthwith to the fact that school medical inspectors are already officially designated school medical officers, and that in some localities these officers have already developed into officers who undertake the treatment as well as the inspection of school children.

Additional Honorary Secretary.—Dr. Alexander Brown, 1, Bartholomew Road, N.W., was unanimously elected an additional Honorary Secretary.

Northern Counties of Scotland Branch.

A clinical meeting of the Branch was held on October 31st, at Gray's Hospital, Elgin, nineteen members being present.

Cases.—Dr. Geo. Hunter, Inverness, showed (1) a case of tubercle of the cornea and iris treated by tuberculin; (2) a case of choroiditis treated by antidiphtheria serum. The results obtained in both these cases were very marked. In the discussion which followed mention was made by some of the members present as to the possible application of the anti-diphtherial serum in other cases of disease besides diphtheria, on the ground that its antitoxic action might have a beneficial effect on disease. Dr. MacHardy (Cullen) showed a very interesting specimen of intestinal calculus, being the fourth which the patient had passed during the past ten years. The part of the small intestine containing the calculus was resected, and the patient made a good recovery, but died some months later from phthisis. Dr. Stephen (Elgin) showed a case of acute osteomyelitis of the humerus in which a remarkable growth of new bone had occurred. Dr. Stephen also showed several pathological specimens. Dr. Campbell (Elgin) showed a very interesting case in which he removed a malignant growth of the orbit and used the upper eyelid as a covering after enucleating the eyeball.

Specimens.—Dr. Taylor (Elgin) showed several interesting cases in the wards and several pathological specimens. Dr. Munro Moir (Inverness) showed a case of Brodie's abscess in the end of the radius, and several *x*-ray photographs of bone injuries. Dr. Alexander (Elgin) showed several pathological specimens, one being an ovarian dermoid tumour which obstructed labour, and was delivered per vaginam before the child.

Gray's Hospital.—Before the clinical meeting the members present had an opportunity of inspecting Gray's Hospital, on which a considerable amount of money has been spent lately. A new operating theatre, with sterilizing room, has been built, the theatre being fitted in up-to-date style. This hospital will compare very favourably with any provincial hospital in the country.

SOUTH-EASTERN BRANCH:

CANTERBURY AND FAVERSHAM DIVISION.

A MEETING of this Division was held on November 4th at St. Ann's Home, Herne Bay, Dr. C. KESSICK BOWES presiding. There were present Drs. T. A. Bowes, C. K. Bowes, Bruce, Duke-Evers, Gosse, Heggs, Henchley, Reid, and Wigglesworth.

Confirmation of Minutes.—The minutes of the July meeting were read and confirmed.

Report of Executive Committee.—A report of the Executive Committee, which met on August 11th, concerning the medical treatment of the school children of Canterbury, was read and its action confirmed.

Next Meeting.—The next meeting was fixed for the second Thursday in January, 1910, at Sittingbourne.

Eastchurch Medical Benefit Society.—Correspondence was read concerning the Eastchurch Medical Benefit Society. The Honorary Secretary was instructed to communicate further with the Medical Secretary of the Association.

Annual Representative Meeting.—Dr. GOSSE gave an interesting summary of the work done at the recent Representative Meeting.

Cases.—Dr. C. KESSICK BOWES and Dr. T. A. BOWES showed interesting clinical cases.

Patent Milk Vessel.—Dr. HEGGS showed a patent milk vessel (Warlow's) for retail shop use, having a cover for protection from flies and dust, and an ingenious mixing contrivance for ensuring an even distribution of the cream throughout the milk before being withdrawn from the vessel.

St. Ann's Home.—Members were kindly shown over this seaside home of the Metropolitan Asylums Board by the medical officer, Dr. C. K. Bowes, and expressed themselves delighted with what they saw.

Luncheon.—Members were entertained to luncheon and tea by the Chairman (Dr. C. K. Bowes).

Votes of Thanks.—Hearty votes of thanks were accorded the Chairman for presiding and for his hospitality, and to Dr. Gosse for his report upon the Representative Meeting.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The autumn meeting of this Branch will be held in the Crichton Royal Institution (First House) on Friday, November 26th, at 3 p.m. Council will meet at 2.45 p.m.—G. R. LIVINGSTON, Honorary Secretary, Dumfries.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The next meeting of the English Division of the Border Counties Branch will be held at Carlisle on Friday, December 10th. Any member wishing to read a paper or show specimens will kindly communicate as early as possible with S. E. RIGG, 1, Alfred Street North, Carlisle, Honorary Secretary, English Division of Border Counties Branch.

BURMA BRANCH.—The annual meeting of this Branch will be held at the New General Hospital, Rangoon, during the first week in February, commencing on Wednesday, February 2nd, and ending on Saturday, February 5th, 1910. Arrangements will be made by the Managing Committee to put up members coming from the districts. *Programme.*—Wednesday, February 2nd, at 9.30 p.m., address by the President, followed by inspection of museum. On Thursday, February 3rd, at 5 p.m., in the Medical Section, a discussion on the "Spread of Tuberculosis in Burma" will be opened by the President. Members intending reading papers on some point in connexion with tuberculosis are asked to communicate with the Honorary Secretary, and limit the length of their papers to ten minutes, informing him the subject of their paper. The Museum will be open from 9 a.m. to 6 p.m. to all medical men, of all grades down to the hospital assistant class, who are cordially invited to visit the Museum. The annual dinner will take place on Friday, February 4th, at 8.15 p.m., Honorary Dinner Secretary, Dr. Pedley. It has been decided to allow each member one visitor's ticket. The cost of the dinner, including wines, which is estimated to come to about Rs. 10 each, will be equally divided amongst members attending the dinner. Attendance at this dinner is optional. Members are requested to intimate their intention of being present at this dinner to Dr. Pedley. During this day it is proposed to arrange visits to places of interest to the Association. On Saturday, February 5th, 5 to 8 p.m., in the Surgical Section, a discussion on "Compound Depressed Fractures of the Skull" will be opened by Major Duer, F.R.C.S. Papers from members on this subject should be limited to ten minutes. Members intending to read a paper on some point in connexion with this subject are asked to communicate with the Honorary Secretary, mentioning the particular point they wish to bring forward, so as to avoid overlapping. Committee of Management: Chairman, Major Barry; Dinner Secretary, Dr. Pedley; General Secretary, Major Rost. Museum: Major Rost (Foods and Drugs), Captain Williams (Instruments), Captain Whitmore (Pathology). It is hoped that members will communicate with the Museum Committee any specimens, photos, microscopic slides, drawings, plans, or anything of interest they have to show, and dispatch these so that they reach Rangoon at least one week before the meeting. A full description must accompany each specimen.—E. R. ROST, Major, I.M.S., General Hospital, Rangoon.

CAMBRIDGE AND HUNTINGDON BRANCH.—The next meeting of the Branch will be held at the Medical Schools, Downing Street, Cambridge, on Friday, December 3rd, at 2.30 p.m. Gentlemen having communications to make are requested to write to the Honorary Secretary before November 20th. — H. BUCKLEY RODERICK, Honorary Secretary, 19, Trumpington Street, Cambridge.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION. —A general meeting of this Division will be held at Altrincham at 4.30 p.m. on Wednesday, December 1st. Further particulars in future notice.—H. G. COOPER, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—The quarterly meeting of this Division will be held on Tuesday, December 7th, at the Warrington Infirmary, at 4 p.m. Ordinary business of the Division. A scientific meeting will be held after the business meeting at 5 p.m.—T. A. MURRAY Honorary Secretary.

METROPOLITAN COUNTIES BRANCH.—The Council of this Branch has made arrangements to hold a meeting, at which the three Direct Representatives of the profession for England and Wales on the General Medical Council, Drs. Langley Browne, Latimer, and McManus, will address their constituents who are resident in the metropolis and its neighbourhood. The meeting will be held on Monday, November 22nd, at 4.30 p.m., at the St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus). All members of the profession are invited to attend, whether members of the Association or not.—E. W. GOODALL and W. GRIFFITH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A meeting of this Division, to which visitors are especially invited, will be held at the Kensington Town Hall on Thursday, November 25th, at 4.30 p.m. Mr. E. W. Morris, Secretary of the London Hospital, has kindly consented to give an address on Hospital Administration, and this will naturally raise many points of especial interest to all members of the profession whether in general practice or not. The efforts made by the authorities to prevent abuse will be especially referred to, and it is hoped that an interesting and useful discussion will follow.—H. BECKETT-OVERY, Honorary Secretary, 24, Alexander Square, South Kensington, S.W.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—A meeting of the Division will be held at St. Thomas's Hospital, on Thursday, November 25th, at 4 p.m. Agenda: 1. Minutes of last meeting. 2. The annual report of the Representative at the Representative Meeting in Belfast. 3. To discuss the recommendation of the Representative Meeting as to the procedure to be adopted during parliamentary elections. 4. Paper by Cyril A. R. Nitch, M.S., F.R.C.S., The Treatment of Urethral Stricture. 5. A Demonstration of Cases by the Resident Assistant Surgeon. 6. Other business if necessary.—H. CHARLES CAMERON, Honorary Secretary, St. Thomas Street, S.E.

SOUTHERN BRANCH.—The autumn general meeting of the Branch is appointed to be held at the South-Western Hotel, Southampton, on the afternoon of Wednesday, November 24th, at 2.45. Dr. William Hill, Surgeon to St. Mary's Hospital, has kindly consented to give a demonstration of Bronchoscopy and Oesophagoscopy, and to make some remarks upon recent work with radium in malignant disease of the oesophagus. If members have any cases suitable for bronchoscopy or oesophagoscopy, which they wish to be examined by Dr. Hill,

they are invited to signify their intention to Dr. Purvis, 14, Carlton Crescent, Southampton, as soon as possible. Dr. Hill's demonstration will probably occupy about an hour. Dr. J. Ward Cousins will open a discussion entitled, What is the Present Position of Tuberculin Treatment in Tuberculosis? Tea will be provided at the hotel at 5 o'clock.—H. J. MANNING, Honorary Secretary, Salisbury.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.—The next meeting of this Division will be held at the General Hospital, Ramsgate, on Thursday, November 25th, at 3.30 p.m., F. Fisk, M.D., in the chair. Agenda: To receive the report of the members of the deputation appointed to negotiate alterations at the Thanet Isolation Hospital. Adjourned consideration of the report of the Public Health Committee on the desirability of health officers being required to give their whole time to the work. (See SUPPLEMENT, BRITISH MEDICAL JOURNAL, January 23rd, 1909.) Two members have framed resolutions for discussion on future local arrangements. Consideration of the subject of the treatment of school children found defective by medical school inspection. Any other business. Tea will be served during the meeting. Members will have an opportunity of viewing the new hospital. All members of the Association are invited to attend these meetings and to introduce professional friends.—HUGH M. RAVEN, Honorary Divisional Secretary, Broadstairs.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—The next meeting of the Norwood Division will be held at the Stanley Hall, South Norwood Hill, on Thursday, November 25th, at 4 p.m., Dr. E. F. S. Green in the chair. The following papers will be read: Mr. W. Arbuthnot Lane: Intestinal Stasis. Mr. W. Shenton: The Diagnosis of Bone Disease by means of X-rays.—J. A. HOWARD, Honorary Secretary.

SOUTH-EASTERN BRANCH.—A meeting of the Branch Council will be held at 429, Strand, on Wednesday, December 15th, at 3 p.m. Agenda: To consider the election of candidates. Any other business.—E. A. STARLING, Tunbridge Wells.

SOUTH MIDLAND BRANCH: BEDFORD AND HERTS DIVISION.—A clinical meeting of this Division will be held on Tuesday, November 23rd, at 3 p.m., at 39, Castle Street, Luton.—E. H. COBB, Belmont, Stevenage.

STAFFORDSHIRE BRANCH.—The first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 25th. The President, Dr. Lowe, will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Papers:—Henry Roscoe: Alcoholic Heredity and its Ethical Bearing on the Therapeutic Use of Alcohol. W. D. Prendergast: A Plea for the Classification of Symptoms of Lead Poisoning. (5) Exhibition of pathological specimens, etc. Dinner, 6.30 p.m.; charge, 5s. Council meeting: A meeting of the council will be held at 3.30 p.m. for election of members, etc.—G. PETGRAVE JOHNSON, Honorary General Secretary.

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UNDER BY-LAWS 2 AND 3.

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McArthur, W. P., M.B., Royal Victoria Hospital, Belfast
McComb, S. W., M.B., Royal Victoria Hospital, Belfast
McCutcheon, O., M.B., Riveen, Bawnmore Road, Belfast
McNabb, H. J., M.B., Castlewellan, co. Down
Moore, A. P. B., M.D., Ashley House, Albert Bridge Road, Belfast
O'Doherty, P., M.B., The Asylum, Omagh
Power, Captain P., M.B., R.A.M.C., Victoria Barracks, Belfast
Steven, W. S. R., M.B., Royal Victoria Hospital, Belfast
Todd, J. J., Esq., Omagh
Whitaker, Henry, M.D., Antrim House, Belfast
Wbyte, S. H., M.B., 132, Ravenhill Road, Belfast

Western Australian Branch.

Blanchard, D. F., Esq., Perth
Crooke, A. A., M.B., Lawlers
Good, R. N. S., M.B., Children's Hospital, Perth
Nutting, P. H., Esq., Wagin

West Somerset Branch.

Caldwell, M. F., M.B., Taunton and Somerset Hospital, Taunton

Worcestershire and Herefordshire Branch.

Roberts, H. B., St. C., Esq., 1, Castle Street, Worcester

THE COMMITTEE FOR THE BREAK-UP OF THE POOR LAW.

THE second public meeting of the National Committee to Promote the Break-up of the Poor Law was held at St. James's Hall, Great Portland Street, London, W., on November 16th, the Right Hon. the EARL OF LYTTON being in the chair.

At the outset of the proceedings, Mrs. SIDNEY WEBB, having made some remarks with regard to absentees, and as to literature touching the movement, said that the membership had increased from 900 in July last to 13,500 at the present moment.

The EARL OF LYTTON prefaced his speech by commenting upon the magnificent public service rendered by the Poor Law Commission as a whole, and said it was impossible to exaggerate the debt of gratitude owed by the public to the members of the Commission, who had devoted four years to their labours. Dealing with the Minority Report, he said that Mrs. Sidney Webb was its inspirer. By her work she had done credit to her sex, and had shown that women were as able and as competent as men in such work. Both reports were unanimous in condemnation of Poor Law administration. The facts disclosed with regard to the Poor Law system were a disgrace to any civilized community. The Report had shown that there were two millions of people forced every year to apply for Poor Law relief: of that number one-third were children, another third were the sick, and the remaining third was made up of widows, feeble-minded, aged, infirm, and able-bodied; the last class—the able-bodied—constituted one-tenth of the whole. Attributable to them all was the common characteristic of poverty; consequently they came under the administration of one authority, and they were relieved, wisely or unwisely, by the Poor Law guardians. The fallacy of that system was that it only dealt with existing poverty, and did nothing to remedy its causes. At the same time in other ways, apart from private charitable organizations, public funds provided for people who came within the jurisdiction of the Poor Law guardians; for instance, the educational authorities supplied the needs of the children; the public health authority gave relief, advice, and assistance to the sick; the lunacy authority attended to the feeble-minded; for the aged there were the old age pensions; and for the unemployed there were set up under the Unemployed Workmen's Act distress committees to administer relief. It would be noticed that those authorities and the Poor Law guardians were dealing with the same problems, only at different stages, the Poor Law system being limited to the stage when destitution was reached. The result, however, was overlapping, which was condemned by both the Majority and Minority Reports. The difference between the Reports of the Majority and the Minority was a question of administration. The Majority, while they proposed to do away with the Poor Law guardians, yet proposed to set up in their place an authority of very much the same kind, which would only concern itself with those who had reached the stage of destitution, and would do nothing to prevent destitution. The Minority regarded the prevention of destitution as of infinitely greater importance than its relief, and their attention had, therefore, been concentrated upon its causes and circumstances. They proposed to hand over the children to the education authorities, the sick to the medical or public health authority, the aged to the new pensions authority, the feeble-minded to the public lunacy authority, and the able-bodied to the new central public authority foreshadowed by the Labour Exchanges Act.

Mr. SIDNEY WEBB (London County Council) said that in 1838 the Government set up the Local Health Authority, which at first only concerned itself with such things as drainage and water supply, but ultimately went into the question of health, and now had its own medical service, with the result that there were, in many parts of the country, two sets of rate-supported doctors, who were, to a greater or lesser degree, competing with one another. That Local Health Authority had gone on until it had, at the present time, 700 municipal hospitals wholly maintained out of rates and taxes. In London it was customary to think of hospitals as supported voluntarily, but up and down the country there were 700 municipal hospitals wholly maintained by the Local Health Authority. He argued that the Poor Law Authority and the Local Health Authority overlapped, and if a poor drunken labourer fell and broke his leg it depended upon the intelligence of the local policeman which hospital he was taken to. In 1870 Parliament had said that destitute children must be sought out and educated; and now, at least, there was legislation by which suffering children were searched out and treated. The Education Authority did the work, and was actually in competition with the Poor Law authorities. More than that, however, local education authorities were required by Parliament to

do the work the Poor Law Authority was supposed to do —namely, to feed the children. At the present moment in London the Poor Law authorities were maintaining about 25,000 children of school age, and the London County Council, in March last, was feeding 55,000; out of that 55,000, between 1,000 and 2,000 children were being simultaneously fed at the ratepayers' expense by both authorities. That state of things was not peculiar to London, but was occurring all over the country, and it meant not only waste of money, but demoralization of the parents. Mr. Webb also drew attention to the overlapping of relief between the Old Age Pension Authority and the Poor Law Authority, and pointed out that the same anomaly existed with regard to the unemployed. The Minority Report went upon the plan of using existing authorities for dealing with factors creating destitution before the stage of destitution was reached.

The Right Rev. Monsignor Parkinson, D.D., said that the Minority Report was not revolution, but evolution, and it was a restoration of failing humanity.

The Very Rev. the Dean of Worcester thought the Majority Report only recommended a new form of boards of guardians, and advocated the recommendations of the Minority Report. He pointed out that a transfer of duties to the present existing authorities was quite easy, and instanced the medical inspection of school children by the Education Authority, a measure which was being attended with most beneficent results.

Mr. Bernard Shaw was understood to support the Minority Report.

Mrs. Sidney Webb said Lord George Hamilton, the Chairman of the Royal Commission, had criticized the Minority Report as providing no deterrent for destitution, but, she asked, did the Majority Report make for deterrence? The Poor Law could not search out the parent who neglected his children, and could not touch the children until they were destitute. It was only when the parent chose to come into the workhouse that the guardians would deal with the matter, and when the parent chose to go out they were helpless. The Poor Law system actually encouraged parents to neglect their children. The methods suggested by the Minority Report would act as a deterring factor, as was evidenced by the work of the authority already empowered to search out cases of neglected children and bring home to the parents a sense of their responsibility. For instance, last year the Education Authority had taken steps to deal with parental neglect in the case of verminous children. Fifty nurses were enlisted for the purpose, and they discovered 30,000 children with dirty heads. A "white card" was sent to the parents, with the result that 24,000 heads were cleaned. A second warning resulted in 5,800 heads being cleaned; and in due course the small number of parents ultimately remaining who had done nothing were prosecuted. The public health authority also deterred owners of property from allowing it to remain in an insanitary state. In Brighton Dr. Newsholme had instituted an isolation hospital for phthisis, thereby deterring disease. He had asked all the medical men in Brighton to notify the disease, and he invited all cases to come into hospital. If the patients could pay they did, and she had seen a young lady who paid 2 guineas a week sitting side by side with a destitute man who paid nothing. After the patients were discharged they were visited by health visitors and deterred from living the sort of life which led to tuberculosis. That was the system upon which the Minority Report proceeded. Destitution must be deterred in the incipient stages. The Majority Report sought to set up two authorities, one a public assistance authority and the other a voluntary aid committee, the deserving folk being relieved by the latter and the undeserving by the former. That system she disagreed with. The solution of the problem lay in the prevention of destitution.

Mr. Arthur Ponsonby, M.P., proposed a vote of thanks, which seconded and carried unanimously.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon J. F. Hall, M.B., to the *Terrible*, for medical charge on passage home from Colombo, undated; Fleet Surgeon V. G. Thorpe, Staff Surgeon J. O'Hea, and Surgeon W. D. Bretton to the *Terrible*, November 23rd, and to the *Powerful*, on recommissioning, undated; Surgeons H. C. Devas, A. A. Sanders, M.B., K. H. Hole, M.B., H. F. Briggs, M.B., and W. Millen, M.B., to the *Victory*, additional, for disposal, December 4th; Surgeon H. W. Nicholls and R. F. M. Robertto the *Wildfire*, additional, for disposal, December 4th; Surgeon A. G. Malcolm, M.B., and G. A. Jackson, M.B., to the *Pembroke*, additional, for disposal, December 4th; Surgeons C. F. Syms, M.B., T. Fitzgerald, M.B., J. Hadwen, M.B., J. S. Orwin, M.B., and J. Barrett, M.B., to the *Ward*, additional, for disposal, December 4th; Staff Surgeon M. P. Sones to the *Hogue*, on commissioning, November 15th; Staff Surgeon M. C. Langford to the *President*, additional, for service at the Medical Department, Admiralty, November 22nd; Staff Surgeon A. W. L. Livesay, M.B., to the *Devonshire*, November 22nd.

The undermentioned Staff Surgeons have been promoted to be Fleet Surgeons, dated November 14th: J. W. W. Stanton, T. D. Halahan, M.B., J. C. Dobinson, M. C. Lamond, F. H. Boyden, M.D., and A. H. Jeremy, M.B. The dates of their appointments were as follows: Surgeon, November 14th, 1893; Staff Surgeon, November 14th, 1901. As Surgeon of H.M.S. *Pigeon*, Fleet Surgeon Stanton served in the Persian Gulf in 1896, when that ship co-operated with the *Sphinx* for the reduction of the rebellious tribe of Al Bin Ali, which was threatening the Island of Bahrein (the ships earned the thanks of the Government of India); as surgeon of the *Algerine* he had medical charge of the military base at Sinho, North China, in 1900, till the arrival of the Army Medical Officer (medal with clasp); he was awarded Sir Gilbert Blane's Gold Medal for the Journal of H.M.S. *Suffolk*, 1905. Fleet Surgeon Boyden, whilst Surgeon of the *Thrush*, was present at the capture of the Sultan of Zanzibar's palace in 1896 by the Admiral Rawson under Rear-Admiral Rawson, and for which he was mentioned in dispatches. Fleet Surgeon Jeremy was Staff Surgeon of the *Fox* during the Hodeida and Hemam incidents, 1905 and 1906. The other officers had had no war service.

Inspector-General H. J. McC. Todd has been appointed to Plymouth Hospital, vice H. T. Cox, December 5th.

ARMY MEDICAL SERVICE.

Surgeon-General W. Donovan, C.B., retires on retired pay, November 17th. His commissions are thus dated: Assistant Surgeon, March 30th, 1872; Surgeon, March 30th, 1875; Surgeon-Major, March 30th, 1884; attained the rank of Lieutenant-Colonel, March 30th, 1892; Brigade Surgeon Lieutenant-Colonel, June 24th, 1896. He served in the Afridi Expedition in 1878-80, receiving a medal, and with the Chitral Relief Force in 1895 (mentioned in dispatches, medal with clasp). During the South African war in 1899-1902 he was Principal Medical Officer of a Cavalry Division, and was present at the relief of Kimberley and in operations in the Orange Free State, the Transvaal, and Cape Colony, including actions at Paardeberg, Poplar Grove, Dreifontein, Karee Siding, Zand River, near Johannesburg, Pretoria, Diamond Hill, Reit Vlei, Belfast, and Colesberg; he was mentioned in dispatches, appointed C.B., and awarded the Queen's medal with six clasps, and the King's medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

Colonel E. Butt, who is serving in India, has been appointed Principal Medical Officer, Presidency and Assam Brigades, vice Colonel J. G. Harwood, retired.

INDIAN MEDICAL SERVICE.

Lieutenant J. F. James, M.B., is promoted to be Captain from September 1st (provisionally, subject to passing the departmental examination in October). He joined the department as a Lieutenant, September 1st, 1906.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supplementary List.—Lieutenant R. A. O'Donovan to be Captain, September 24th. Lieutenant R. J. Stirling to be Captain, October 1st.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Third Home Counties Field Ambulance.—Hector G. G. Mackenzie, M.B., to be Lieutenant, October 20th.

First North Midland Field Ambulance.—Henry G. W. Dawson, M.B., to be Lieutenant, October 7th.

First London (City of London) Sanitary Company.—Lieutenant R. H. B. Carthew, M.D., resigns his commission, October 14th.

Attached to Units other than Medical Units.—Captain John Rowan, M.B., to be Major, dated December 27th, 1908.

CHANGES OF STATIONS.

The following changes of stations amongst the officers of the Army Medical Service have been officially reported to have taken place during October, 1909:

		FROM	TO
Lieut.-Col.	C. R. Tyrrell	London	Bordon.
,,	A. T. I. Lilly	Canterbury	India.
,,	S. Powell, M.D.	Secunderabad	Rangoon.
,,	R. H. Hall, M.D.	Bedford	Colchester.
,,	M. T. Yarr, F.R.C.S.I.	Malta	Dublin.
,,	J. S. Davidson, M.B.	Woolwich	India.
,,	Sir J. Fayrer, Bt., M.D., F.R.C.S.Edin.	London	Hong Kong.
Major	W. L. Grey, M.B.	Bulford	Winchester.
,,	J. C. Morgan	Kilworth Camp	Cahir.
,,	N. Tyacke	Bulford	Devonport.
,,	J. D. Alexander, M.B.	Cahir	India.
,,	W. J. Taylor, M.B.	Belfast	Holywood.
,,	C. M. Fleury	Bulford	Tidworth.
,,	C. B. Morgan, M.B.	Egypt	Ireland.
,,	E. C. Hayes	Bulford	Netley.

		FROM	TO	
Captain	M. M. Lowsley	Aldershot ...	India.	
,,	G. J. S. Archer, M.B. ...	Belfast ...	,,	
,,	A. E. Thorp	Portland ...	Cosham.	
,,	C. W. Mainprise	Aldershot ...	India.	
,,	W. B. Winkfield	Gosport ...	Portland.	
,,	R. A. Cunningham, M.B. ...	Netley ...	India.	
,,	E. E. Ellery	Devonport ...	Dawlish.	
,,	F. S. Irvine, M.B.	Johannesburg	Aldershot.	
,,	C. S. Smith, M.B.	Curragh ...	Belfast.	
,,	W. C. Croly	Cork ...	Queenstown.	
,,	B. R. Dennis, M.B.	Cosham ...	Straits Settlements.	
,,	F. S. Walker, F.R.C.S.I. ...	Devonport ...	Cornhill.	
,,	G. J. Houghton	Queenstown ...	Limerick.	
,,	A. D. Warne, M.B.	Chatham ...	Hong Kong.	
,,	C. H. Carr, M.D.	Portland ...	Oxford.	
,,	W. L. Bennett, M.B., F.R.C.S.Edin.	Lancaster ...	Warrington.	
,,	L. L. G. Thorpe	Durrington Camp	Netley.	
,,	W. J. Waters	Plymouth ...	Devonport.	
,,	W. M. Power	Portland ...	Tidworth.	
,,	H. A. Davidson, M.B.	Cork ...	Queenstown.	
,,	S. B. Smith, M.D.	Dublin ...	Kilbride.	
,,	R. McK. Skinner	Perth	Straits Settlements.	
,,	H. A. Brassbury	Northampton ...	Woolwich.	
,,	A. H. McN. Mitchell	Crownhill ...	Plymouth.	
,,	J. B. Clarke, M.B.	Edinburgh ...	Cork.	
,,	R. C. Wilson, M.B.	Cosham ...	Netley.	
,,	H. W. Legg, M.B.	Belfast	W. Coast of Africa.	
,,	W. F. Tyndale, C.M.G., M.B.	Tidworth ...	Bulford.	
,,	R. L. V. Fesser, M.B.	,, ...	Fermoy.	
,,	H. V. Bagshawe	,, ...	Woolwich.	
,,	L. M. Beauchaler	Clonmel ...	Fermoy.	
,,	A. C. R. Gray, M.B.	Tipperary ...	Aldershot.	
,,	H. H. J. Fawcett	Parkhouse Cp. ...	Gosport.	
,,	T. J. Wright	,, ...	Tipperary.	
,,	G. R. Panton	Aldershot ...	West Coast of Africa.	
,,	P. Power, M.B.	Armagh ...	Belfast.	
,,	H. Stewart, M.B.	Upper Toppa	Peshawar.	
,,	V. C. Honeyhourne	Ubna	Upper Topa.	
Lieutenant	W. H. Forsyth, M.B. ...	Middelburg, Cape Colony	Bloemfontein.	
,,	T. McC. Phillips, M.B. ...	Colchester ...	India.	
,,	G. Petit	Hamilton Cp. ...	Bulford.	
,,	J. B. Hanahn, F.R.C.S.I. ...	Glenbeich Cp.	Cork.	
,,	H. Gibson	Colchester ...	Portsmouth.	
,,	W. A. Spong, M.B.	York	India.	
,,	H. W. Carson, M.B.	Manchester ...	,,	
,,	H. P. Hart, M.B.	Woolwich ...	,,	
,,	F. T. Dowling, M.B.	Wedgen'ck Cp. ...	,,	
,,	R. F. O'T. Dickinson	Limerick	,,	
,,	A. E. B. Jones, M.D.	Canterbury ...	,,	
,,	G. P. O'Brien Butler	Limerick	,,	
,,	H. B. Blake, M.B.	Ayr	,,	
,,	R. M. Dickson, M.B.	Glencorse ...	Glasgow.	
,,	J. W. Houston, M.B.	Curragh	Dublin.	
,,	W. J. Dunn, M.B.	Colchester ...	Warley.	
,,	P. M. Hewson	Kilbride Camp	Newbridge.	
,,	A. H. T. Davis	Lichfield ...	India.	
,,	W. E. Marshall, M.B.	London Dist ...	Egypt. Army.	
,,	E. V. Vaughan, M.B.	Queenstown ...	Cork.	
,,	A. N. S. McNeill, M.B.	Limerick	Ayr.	
,,	S. McK. Saunders	Churn Camp ...	Woolwich.	
,,	F. H. Somers-Gardner, M.B.	Cosham	Reading.	
,,	D. E. C. Pottinger, M.B...	Barry Camp ...	Glencorse.	
,,	G. S. Parkinson	Dunree Camp...	Belfast.	
,,	A. W. Byrne, M.B.	Preston... ...	Wrexham.	
,,	J. W. Lane, M.D.	Galway	Dublin.	
,,	P. S. Tomlinson	Wedgenock Park Camp...	Birmingham.	
,,	A. D. Stirling, M.B.	Monmouth ...	Brecon.	
,,	A. W. Bevis	Chatham ...	Gravesend.	

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE Registrar-General has just issued his return relating to the births and deaths in the third quarter of the year, and to the marriages during the three months ending June last. The marriage-rate during that period was equal to 16.1 per 1,000, or 0.1 per 1,000 less than the average rate during the corresponding quarter of the ten preceding years.

The 228,619 births registered in England and Wales during the quarter under review were equal to an annual rate of 27.8 per 1,000 of the population, estimated at 35,755,615 persons in the middle of the year; the birth-rate last quarter was 2.5 per 1,000 below the average for the corresponding period of the ten preceding years, and is the lowest birth-rate recorded in the third quarter of any year since civil registration was established. The birth-rates in the several counties ranged from 19.1 in Sussex, 20.3 in Huntingdonshire, 20.9 in Herefordshire, 20.9 in Carnarvonshire, 21.0 in Devonshire, 21.3 in Kent, and 21.4 in Dorsetshire, to 28.9 in Northumberland, 29.6 in Nottinghamshire, 31.6 in Carmarthenshire, 34.8 in Durham, 34.9 in Glamorganshire, and 35.1 in Monmouthshire. In seventy-six of the largest towns, including London, the birth-rate averaged 25.5 per 1,000; in London the rate was 23.9 per 1,000, while it averaged 25.9 in the seventy-five other large towns, and ranged from 14.1 in Hornsey, 16.3 in Halifax, 17.0 in Leyton-outh, 18.2 in Bradford, and 18.5 in Northampton, to 32.1 in St. Helens, 32.2 in Newport (Mon.), 32.4 in Warrington, 35.0 in Swansea, 35.8 in Merthyr Tydfil, and 40.6 in Rhondda.

The excess of births over deaths during the quarter was 123,878, against 105,266, 123,715, and 125,197 in the third quarters of the three preceding years. From returns issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 74,905 persons. There was an outward balance of 30,546 English passengers, 986 Welsh, 11,994 Scottish, and 7,718 Irish passengers, while there was an inward balance of 2,100 British Colonial passengers; among foreigners there was a net balance outward of 25,779 passengers.

During the three months under notice the deaths of 101,741 persons were registered, equal to an annual rate of 11.6 per 1,000, against an average rate of 15 0 per 1,000 in the corresponding period of the ten preceding years. The lowest county death-rates last quarter were 9.1 in Huntingdon and in Buckinghamshire, 9.2 in Northumberland, 9.6 in Dorsetshire, 9.7 in Kent, and 9.9 in Essex; the highest rates were 13.0 in Staffordshire, 13.1 in Northumberland, 13.3 in the North Riding of Yorkshire and in Glamorganshire, 13.4 in Lancashire, and 15.1 in Carmarthenshire. In seventy-six of the largest towns, with an aggregate population estimated at 16½ millions, the corrected death-rate averaged 12.5 per 1,000; in the remaining towns, containing an aggregate population of over 5 millions, the rate was 11.8 per 1,000; while in the remainder of the country it was 10.9 per 1,000. The crude death-rates in the seventy-six towns ranged from 8.8 in Hornsey, 6.4 in King's Norton, 7.5 in Walthamstow, 7.9 in Willesden, and 8.4 in East Ham, to 15.4 in Bootle, 15.5 in Tynemouth, 15.6 in Middlesbrough, 15.8 in Newport (Mon.), 16.3 in Liverpool, and 17.7 in Swansea; in London the rate of mortality was 13.8 per 1,000.

The 104,741 deaths from all causes in England and Wales last quarter included 10 953 which were referred to the principal infectious diseases; of these, 5,827 were attributed to diarrhœa, 1,793 to measles, 1,297 to whooping-cough, 917 to diphtheria, 642 to scarlet fever, and 459 to "fever" (principally enteric), but not any to small pox. The aggregate mortality from these diseases was equal to 1.22 per 1,000, the average rate from the same diseases in the corresponding period of the ten preceding years being 2 76 per 1,000; the mortality from each of the specified diseases was below the average.

The rate of infant mortality, measured by the proportion of deaths under 1 year of age to registered births, was equal to 102 per 1,000, or 64 per 1,000 less than the average rate during the corresponding quarters. Among the several counties the rates of infant mortality last quarter ranged from 50 in Dorsetshire, 51 in Hertfordshire, 54 in Buckinghamshire, 56 in Suffolk and in Wiltshire, and 58 in Bedfordshire, to 117 in Staffordshire, 118 in Warwickshire and in Carmarthenshire, 120 in Lancashire, 122 in Glamorganshire, and 131 in Nottinghamshire. In seventy-six of the largest English towns the mean rate was 119 per 1,000, in London it was 109 per 1,000, while it averaged 126 in the seventy-five other large towns, and ranged from 43 in King's Norton, 59 in Hornsey, 52 in Ipswich and in Barrow-in-Furness, 62 in Halifax, and 67 in Croydon, to 156 in Hanley, 160 in Bootle, 159 in Rhondda, 168 in Wigan, 172 in Swansea, and 177 in Nottingham.

The death-rate among persons aged 1 to 60 years was 5.9 per 1,000 of the population estimated to the middle of the quarter, as against 6.7 per 1,000 below the mean rate in the corresponding period of the ten preceding years. In the seventy-six large towns the mean death-rate at this group of ages was 6.4; in London it was 5.6, while in the seventy-five other large towns it ranged from 2 9 in Hornsey, 3.2 in King's Norton, 3.6 in Reading, and 4.0 in Handsworth (Staffs), to 8.8 in Tynemouth, 9.0 in Liverpool, 9.6 in Bootle, and 10.1 in Swansea.

Among persons aged 60 years and upwards the rate of mortality was 50.2 per 1,000 last quarter, against an average rate of 52.8 in the ten preceding third quarters. In the seventy-six large towns the mean death-rate at this age-group was 51.2 per 1,000; in London it was 46.6, while among the seventy-five other large towns it ranged from 36.7 in Smethwick, 37.4 in York, 37.6 in Leyton, and 38.9 in Aston Manor, to 66.5 in Bootle and in Stockton-on-Tees, 69.7 in Wigan, 71.2 in St. Helens, 75.7 in Oldham, and 81.6 in Warrington.

The mean temperature of the air last quarter was below the average, and the actual duration of bright sunshine was considerable; while the rainfall was in excess, as regards frequency and amount, in all but the south-western parts of the country.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,097 births and 4,355 deaths were registered during the week ending Saturday last, November 13th. The annual rate of mortality in these towns, which had been 12.0 and 13.3 per 1,000 in the two preceding weeks, further rose to 13.8 per 1,000 last week. The rates in the several towns ranged from 3.9 in West Hartlepool, 5.0 in Reading, 5.2 in East Ham, 5.4 in York, 7.1 in Hornsey, 8.0 in Leyton, and 8.9 in King's Norton, to 17.8 in Wigan and in Liverpool, 18.0 in Merthyr Tydfil, 18.3 in Gateshead, 18.6 in St. Helens, 19.0 in Blackburn, 19.2 in Burton-on-Trent, 20.5 in Bootle, 23.1 in Stockport, and 24.2 in Hanley; in London the rate of mortality was equal to 13.9 per 1,000. The deaths from principal infectious diseases averaged 0.8 per 1,000; in London these diseases caused a death-rate of 0.6 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2.0 in Merthyr Tydfil, 2.2 in Smethwick, in Bolton, and in Preston, 2.7 in Newport (Mon.), 3.5 in Rhondda, and 6.1 in Hanley. Measles caused a death-rate of 1.1 in Newport (Mon.), 1.3 in Newport (Salop), 1.4 in Ipswich, and 5.3 in Hanley; scarlet fever of 1.0 in Willesden; whooping-cough of 1.1 in St. Helens and 1.3 in Plymouth; fever of 1.1 in Bolton; and diarrhœa of 1.8 in Devonport and 2.3 in Rhondda. The mortality from diphtheria showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The Metropolitan Asylums Hospitals contained 4 small-pox patients at the end of last week, against 3 on the previous Saturday; 5 new cases were admitted last week, against 1 in the preceding week. The number of scarlet fever patients under treatment in these hospitals and in the Fever Hospital at the end of last week was 2,765, 2,763, and 2,716 at the end of the three preceding weeks, had further declined to 2,624 at the end of last week; 284 new cases were admitted during the week, against 315, 288, and 356 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, November 13th, 794 births and 466 deaths were registered in the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.9 and 15.3 per 1,000 in the two preceding weeks, further rose last week to 15.8 per 1,000, and was 2.6 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scottish towns ranged from 8.5 in Perth and 12.9 in Aberdeen to 17.6 in Paisley and 18.0 in Glasgow. The death-rate from the principal infectious diseases averaged 1.8 per 1,000 in these eight towns, the highest rates being recorded in Glasgow and in Edinburgh. The 300 deaths registered in Glasgow included 21 which were referred to measles, 7 to scarlet fever, 4 to diphtheria, 3 to whooping-cough, 4 to enteric fever, and 5 to diarrhœa. Two fatal cases of scarlet fever and 7 of diarrhœa were recorded in Edinburgh; 2 of diarrhœa in Dundee; and 2 of diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 13th, 564 births and 420 deaths were registered in the twenty-two principal urban districts of Ireland as against 608 births and 381 deaths in the preceding period. The annual death-rate in these districts, which had been 14.8, 16.4, and 17.1 per 1,000 in the three preceding weeks, rose to 19.2 per 1,000 in the week under notice, this figure being 5.8 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 21.7 and 17.5 respectively, those in other districts ranging from 4.1 in Drogheda and 5.1 in Clonmel to 29.4 in Newry and 31.0 in Portadown, while Cork stood at 20.5. Londonderry at 12.1, Limerick at 25.2, and Waterford at 21.4. The zymotic death-rate in the twenty-two districts averaged 0.9 per 1,000 as against 1.0 per 1,000 in the preceding period.

Hospitals and Asylums.

CITY OF CARDIFF MENTAL HOSPITAL.

In its first annual report the Medical Superintendent, Dr. Edwin Goodall, gives a general account of the construction of this new asylum, of the aim of its governing and directing officers, and of the result of its first year of working. The buildings, which have been constructed on the block system, are grouped about a main long corridor, the "line of patients," containing the patients' wards and dormitories radiating from the outer side of the corridor, the administrative buildings, heating and power plant, shops, etc., being inside the horse-shoe. The accommodation at present is for 750 patients, but the administration buildings allow for the ultimate extension of 250 additional to the usual administrative apparatus, laboratories for clinical, pathological, and bacteriological work have been provided, as also rooms for *x* rays and electro-therapy. In providing the above accommodation the committee have had regard for the consideration that their asylum is for the use of patients. In his report Dr. Goodall points out that the accommodation provided at Cardiff and at other similar institutions is too good for chronic senile cases on the one hand, and for idiots and imbecile children on the other; and we note that the committee are in communication with the Cardiff Board of Guardians with a view to representing the expediency of provision by the guardians of suitable accommodation for these two classes. The asylum was opened for the reception of patients on May 1st, 1908, and for some time the collecting of Cardiff patients from the various separate areas in which they were boarded out was carried on, the distances which the patients had to be transported occasioning a good deal of delay. The statistics furnished by Dr. Goodall and his assistant medical staff are from May 1st, 1908, to the end of the year, but in consulting these it is well to bear in mind the built of the recoverable cases were only received after June of that year. Altogether, 764 were admitted during the last eight months of 1908, and of these there remained 684 on December 31st. The average daily number resident was 585. Of the admissions, 161 were direct admissions and 625 were transfers. Of the transfers, 159 were cases of chronic, 6 of recent, and 3 of recurrent mania; 63 were cases of chronic, 16 of recent, and 2 of recurrent melancholia; 185 were cases of secondary and senile dementia; 41 of delusional insanity; 20 were general paralytics; 40 were cases of insanity with epilepsy; and 84 cases of congenital infantile defect. The 141 direct admissions were classified into: Mania of all kinds, 30; melancholia of all kinds, 48; senile and secondary dementia, 18; delusional insanity, 12; general paralysis, 15; insanity with epilepsy, 7; and cases of congenital or infantile defect, 13. With regard to the probable cause in the direct admissions, alcohol was assigned in 27, or 19.1 per cent., acquired syphilis in 5, and other toxins in 4; critical periods in 5; child-bearing also in 5; epilepsy in 10; other bodily diseases in 4; bodily trauma in 7, and mental stress in 13. An insane heredity was ascertained in 30, or 21.2 per cent. Alcoholic heredity in 12, of epilepsy in 2, of neuroses in 7, and of eccentricity in 1, giving a total neuropathic heredity in 52, or 36.8 per cent. With regard to duration of disorder on admission in the direct admissions, in 27 the attacks were first attacks within three and in 32 more within twelve months of admission; in 16 not-first attacks within twelve months of admission; in 4 it was unknown whether the attacks were first attacks or not; and in the remainder the attacks were either of more than twelve months' duration (30), or congenital cases (12), or of unknown duration (18) on admission. The cases considered recoverable among the direct admissions numbered 79, or 56 per cent., of whom 13 were discharged as recovered before the end of 1908. Altogether during the period under review, 28 were discharged as recovered, giving a total recovery-rate on the direct admissions and of recoveries in the direct admissions on the direct admissions of 19.85 per cent. The reason for this low recovery-rate has been already mentioned. Also 13 were discharged as relieved and 8 as not improved. During the year 31 died, giving a death-rate on the average numbers resident of 5.29 per cent. These deaths were due in 12 to pulmonary diseases, including 9 deaths from general paralysis; in 5 to cardio-vascular disease; in 2 to lobar pneumonia, and in 1 to broncho-pneumonia; in 3 to colitis, in 1 each to nephritis, perforating gastric ulcer and osteo-malacia, and in 5 to tuberculosis. The general health was very good, although they had the misfortune to receive some patients who had had attacks of colitis in other asylums, with the result that 18 patients were attacked, of whom 4 died. The asylum was visited in October by the Lunacy Commissioners, who reported very favourably on all they saw.

WEST RIDING LUNATIC ASYLUM, WAKEFIELD.

The annual report for 1908 of Dr. W. Bevan Lewis, the Medical Superintendent of this asylum, shows that on January 1st, 1908, there were 1,887 patients in the asylum, and on the last day of the year 1,970. The total number of cases under care during the year was 2,533; the average number daily resident was 1,913. During the year 651 were admitted, of whom 551 were first admissions. The transfers to the asylum during the year numbered 134, this large number being due to the first allocation of unions for the several asylum districts consequent upon the opening of the main blocks at Storthes Hall Asylum. For the same reason the proportion of cases of long duration was high. In 194 the attacks were first attacks within three, and in 60 more within twelve, months of admission; in 130 not-first attacks within twelve months of admission; in 157, whether first or not, the attacks were of more than twelve months on admission; in 57 the duration was unknown, 4 were not insane, and 49 were congenital cases. The admissions were classified according to the forms of mental disorder into: Mania of all kinds, 132; melancholia of all kinds, 155; senile, secondary, and organic dementia, 85; delusional insanity, 69; general paralysis and epileptic insanity, 50 each; primary dementia, 41; stupor, 15; confusional insanity, 9; moral insanity, 7; acute delirious mania, 6; dotbl, 1; imbecility, 5, 52; and not insane, 4. As to causation, and considering in this relation only the 256 first-attack cases of the 391 direct admissions, alcohol was assigned in 57, or 22.2 per cent., acquired syphilis in 21, and other toxins in 9 more; critical periods in 7; bodily trauma in 9; nervous diseases in 5; other bodily affections in 42 (cardio-vascular degeneration, 22); and mental stress in 58. An insane heredity was ascertained in 76, or just under 30 per cent., an alcoholic heredity in 27, and of epilepsy, neuroses, and eccentricity in 9, giving a total neuropathic heredity in 112, or 43.7 per cent. During the year 230 were discharged as recovered, giving a recovery-rate on the admissions of 35.33 per cent.; 131 as relieved and not improved, and 5 as not insane. Also during the year 202 died, giving a death-rate on the average numbers resident of 10.56 per cent. The deaths were due in 77 to cerebro-vascular diseases, including 37 from general paralysis; in 72 to thoracic diseases, including 38 from pulmonary tuberculosis; in 11 to abdominal diseases, with 3 deaths from intestinal tuberculosis, and in the remaining 42 to general diseases, including 2 from fractures, 18 from general arterio-sclerosis, and 1 from pyæmia and senility. The deaths from tuberculosis amounted, therefore, to 20.7 per cent. of the total deaths. Influenza prevailed widely in the asylum early in the year; also two nurses and two patients contracted typhoid fever, which was found to have been imported into the asylum by one of the nurses; but not a single case of enteric fever has occurred. In former years we have called attention to the steadily diminishing number of cases of colitis in this asylum since Dr. Bevan Lewis put in practice his system of dosing the whole number of patients periodically with saline aperients. In the last three quarters of the year 1902 there were 48 cases of colitis with 11 deaths; in 1905 there were 57 cases with 18 deaths; in 1904 there were 8 cases with 1 death; in 1905 there were 3 cases and no death; in 1906 there were 6 cases and 4 deaths; in 1907 there was 1 case which died, and in 1908 no case whatever. During the year there were 8 coroner's inquests, in none of which was any carelessness or fault attributed to the officials concerned.

As usual, sinusoidal and static baths were employed by Dr. Birt in the electro-therapeutic department, 38 patients being treated, and yielding 18, or 47 per cent. of recoveries, whilst 16 underwent improvement. In the male department Dr. Parker treated 12 patients by electro-therapy, of whom 5 recovered and 3 were relieved, and in the out-department *x*-ray, Finsen light, and ionization were applied to numerous cases. The number of attendances amounted during the year to a total of 374 sittings in Dr. Parker's division.

KESTEVEN COUNTY ASYLUM.

"This is a well-ordered institution, and, apart from one or two small matters, exceedingly well kept. This states concisely the impression which we formed after a very careful inspection." This quotation forms the opening lines of the Lunacy Commissioners' report on the Kesteven Asylum. From the annual report for 1908 of Dr. J. A. Bewan, the Medical Superintendent, we see that on January 1st there were 373 patients on the registers, and on December 31st there were 380. The total cases under care during the year numbered 448, and the average number daily resident 381. During the year 75 were admitted, of whom 66 were direct admissions. In 30 the attacks were first attacks within three and in 10 more within twelve months of admission; in 13 not-first attacks within twelve months; and in the remainder the illness was of more than twelve months' duration, including 4 congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 21; melancholia of all kinds, 13; senile and secondary dementia, 8; delusional insanity, 7; volitional insanity, 5; confusional insanity, 3; general paralysis, 2; insanity with epilepsy, 1; and congenital defect, 6. The table of etiological factors in the same class of admissions shows that alcohol was assigned in only 5, influenza in 10, and syphilis in 1; critical periods in 17; privation and starvation in 9, and over-exertion in 7; diseases of the nervous system and other bodily diseases in 10; and mental stress in 24. An insane heredity was ascertained in 32, or 48.4 per cent., and hereditties of alcoholism, neuroses, and

eccentricity in nine more. Of the total admissions, recovery was considered likely in 26, and of these 17 did recover before the end of the year. During the year 27 were discharged as recovered, giving a recovery-rate on the direct admissions of 40.91 per cent., or of recoveries in the direct admissions on the direct admissions of 39.39 per cent. Also 7 were discharged as relieved and 5 as not improved. During the year 31 died, giving a death-rate on the average numbers resident of 8.13 per cent. The deaths were due in 6 to diseases of the nervous system, with only 1 from general paralysis; in 13 to diseases of the heart and blood vessels; in 2 to respiratory diseases; in 1 to acute nephritis; in 2 to senile decay; and in the remainder to general diseases, including 6 deaths, or over 19 per cent., from tuberculosis. The general health was good throughout the year and no serious accident occurred.

JOINT COUNTIES' ASYLUM, CARMARTHEN.

THE annual report for 1908 of Dr. John Richards, the Medical Superintendent of this asylum, shows that on January 1st there were 682 patients in the asylum, and that on the last day of the year there were 672. The total cases under care during the year numbered 820, and the average number daily resident 667. During the year 138 were admitted, of whom 125 were direct admissions. Of these latter in 40 the attacks were first attacks within three, and in 19 more within twelve months of admission; in 35 not-first attacks within twelve months of admission; in 3 it was unknown whether the attacks were first attacks or not; in 24 of more than twelve months, including 1 congenital case, and in 4 the duration was unknown. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 59; melancholia of all kinds, 38; senile and secondary dementia, 13; delusional insanity, primary dementia, insanity with epilepsy and general paralysis, each 3; and confusional insanity, stupor and congenital defect, each 1. With regard to probable causation, alcohol was assigned in 10, or 7 per cent.; influenza in 2, and acquired syphilis in 1; critical periods in 18; privation and starvation in 10; epilepsy in 7, and other nervous diseases in 2 more; and mental shock in 48. An insane heredity was ascertained in 39, or 31.2 per cent., an epileptic heredity in 3, an eccentric heredity in 3, a neurotic heredity in 5, and one of alcoholism in 4, giving a total neuropathic heredity in 54, or 43.2 per cent. During the year 30 were discharged as recovered, giving a recovery-rate on the direct admissions of 24.0 per cent., or of recoveries in the direct admissions on the direct admissions of 12.8 per cent. Also 25 were discharged as relieved, 33 as not improved, and 60 died. The deaths, which give a death-rate on the average numbers resident of 8.99 per cent., were due in only 9 to nervous diseases, including 2 deaths from general paralysis; in 14 to diseases of the heart and blood vessels, in 4 to diseases of respiratory organs, in 3 to Bright's disease, and in 1 each to gastric ulcer, pancreatic haemorrhage, and suicide by hanging. The remaining 27 deaths were due to general diseases, including 12 from tuberculosis and 8 from senile decay. The deaths from tuberculous disease thus formed 20 per cent. of the total deaths, and general paralysis only 3.3 per cent.

In May, 1908, the removal of some out-county patients afforded some relief to the overcrowding which has existed at this asylum for some time. Dr. Richards says that it is very obvious that something will have to be done in the near future, but we see from the Commissioners' Report on this asylum that matters are still at a deadlock, owing to disputes between the various local authorities concerned. In these circumstances the Commissioners propose to approach the Secretary of State with a view to his taking action in the matter.

WEST SUSSEX COUNTY ASYLUM.

THE annual report for 1908 of Dr. H. A. Kidd, Medical Superintendent of the West Sussex Asylum, Chichester, shows that on January 1st there were 779 patients in this asylum and at the end of the year the same number. Notwithstanding this, the increase in the West Sussex patients during the year (39) was the greatest for any year since the opening of this asylum in 1898, being nearly equal to the increases for the preceding six years taken together. The total cases under care during the year numbered 950, and the average numbers daily resident 766. During the year 171 were admitted, 133 being from West Sussex —that is, 20 more than in the previous year. Of the admissions 157 were direct admissions and 14 transfers. In 42 the attacks were first attacks within three and in 29 more within twelve months of admission; in 26 not-first attacks within twelve months of admission and in the remainder the attacks were of more than twelve months' duration, including 3 congenital cases. The direct admissions were classified according to their forms of mental disorder into: Recent and chronic mania, 52; recent and chronic melancholia, 57; senile and secondary dementia, 20; general paralysis, 12; insanity with gross brain lesions, 5; insanity with epilepsy, 3, and congenital or infantile defect, 8. As to probable causation, alcohol was assigned in 41, or 26.1 per cent., acquired syphilis in 10; congenital syphilis in 2; influenza in 7 and tuberculosis in 5; critical periods in 45, including old age in 22; diseases of the nervous system in 9; other bodily affections in 6, and mental stress in 6. An insane heredity was ascertained in 52, or 33.1 per cent.; an alcoholic heredity in 6; and an epileptic and a neurotic heredity in 1 each. The above statistics are taken from the tables dealing with the direct admissions, but Dr. Kidd in his report says, with regard to the total admissions, that 18 showed mental deficiency dating from birth, and that in 70, or nearly 41 per cent., a history of parental or collateral insanity was ascertained. Of the total 171 admissions recovery was deemed probable in only 28. In 76 mental symptoms had existed for over a year before admission, and 36 had had previous attacks. Altogether a decidedly unfavourable lot of admissions. During the year 35 were discharged as recovered, giving, naturally, a low recovery-rate—namely, 21.87 per cent., calculated on the direct admissions—14 as relieved, and 54 as not improved. Also during the year 68 died, giving a death-rate on the average numbers resident of 8.87 per cent. The deaths were due in 19 to cerebro-spinal diseases, including 7 deaths from general paralysis; in 7 to diseases of the heart and blood vessels; in 16 to respiratory diseases, including 11 from congestion of the lungs; in 1 each to peritonitis, exhaustion, and Graves's disease; and in the remainder to general diseases, including 7 deaths, or 10 per cent. of the total deaths, from tuberculosis. All deaths were from natural causes, and no inquest was held during the year; the general health was good, and, beyond sporadic influenza, no cases of zymotic disease occurred.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYR COUNTY COUNCIL.—Assistant Medical Officers for Medical Examination of School Children. Salary, £250 per annum.

BETHLEM HOSPITAL.—Two Resident House-Physicians. Honorarium, £25 each per quarter.

BIRKENHEAD BOROUGH HOSPITAL.—Senior and Resident House-Surgeons (males). Salary, £100 and £80 per annum and fees respectively.

BURY ST. EDMUNDS: WEST SUFFOLK EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary, £250 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) Assistant Surgeon. (2) House-Surgeon. Salary, £70 per annum.

CARDIFF INFIRMARY.—(1) House-Surgeon; (2) House-Surgeon for Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, E.C. —Honorary Physician.

GLASGOW CANCER HOSPITAL.—Director of Research Department. Salary, £250 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Remuneration at the rate of £80 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) House-Physician. Honorarium, 30 guineas for six months. (2) Assistant Resident Medical Officer. Salary, £100 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Medical Protozoologist.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £60 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Physician for Diseases of Children.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—(1) Registrar; (2) Pathologist. Honorarium, £10 each per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho Square, W.—Honorary Radiographer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Nervous Diseases Research Scholarship, value £150 per annum.

NEWARK-ON-TRENT HOSPITAL AND DISPENSARY.—Resident Medical Officer. Salary, £100 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon at once. Salary, £170 per annum. In December Resident Surgeon. Salary, £200 per annum.

OLDHAM INFIRMARY.—Second and Third House-Surgeon. Salary, £100 and £80 per annum respectively.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—Clinical Assistant to the Throat, Nose, and Ear Department.

PEMBROKESHIRE COUNTY COUNCIL.—Medical Officer of Health. Salary, £400 per annum, and £50 for travelling and other expenses.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Milroy Lecturer for 1911.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Bacteriologist. Salary at the rate of £120 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN. —Junior Resident Medical Officer. Salary at the rate of £40 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Surgeon-in-Charge of Out-patients.

SEAMEN'S HOSPITAL SOCIETY, Albert Dock Hospital, E.—(1) Senior House-Surgeon. Salary, £75 per annum and £25 per annum for acting as registrar. (2) House-Surgeon. Salary, £50 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £50.

SHOREDITCH: PARISH OF ST. LEONARD.—Second Assistant Medical Officer for the Infirmary. Salary, £100 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician for six months.

WINDSOR: KING EDWARD VII HOSPITAL AND DISPENSARY. —House Surgeon. Salary, £100 per annum.

WISBECH: NORTH CAMBRIDGESHIRE HOSPITAL.—Male Resident Medical Officer. Salary, £150 per annum.

YORK COUNTY HOSPITAL.—House-Physician. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Ballina, co. Mayo; and Llanrwst, co. Denbigh.

APPOINTMENTS.

ANGUS, W., M.B., Ch.B.Aberd., Senior Resident Assistant Medical Officer, St. Pancras Parish Infirmary, Dartmouth Park Hill.

BALLANTYNE, Arthur J., M.D., F.F.P.S.Glasg., Surgeon to the Eye Infirmary, Glasgow.

BRIDE, J. W., M.B., B.S.Lond., M.B., Ch.B.Vict., Senior House-Surgeon to the Manchester Children's Hospital, Pendlebury.

BROWN, W. G. S., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer, Bradford Union Workhouse.

COATS, George, M.D.Glasg., F.R.C.S.Eng., Assistant Surgeon to the Royal London Ophthalmic (Moorfields) Hospital.

COEN, J. A., L.R.C.P. and S.Irel., Certifying Factory Surgeon for the Ballaghaderrin District, co. Roscommon.

CONNOLLY, D. J., M.B., Ch.B.Vict., Assistant House-Surgeon, Staffordshire General Infirmary, Stafford.

DAVIDSON, Miss D. R. J., M.B., B.S.Edin., Resident Assistant Medical Officer, Oldham Union Workhouse Infirmary.

DENNING, A. F. W., M.R.C.S., L.R.C.P., Assistant Medical Officer, Southwark Union Infirmary.

DICKS, E. J. C., M.B., B.S.Lond., Assistant Medical Superintendent at the Fulham Parish Infirmary.

DOCKRAY, J. S., M.D.Vict., Certifying Factory Surgeon for the Bishops Stortford District, co. Hertford.

FERNIE, J. F., M.R.C.S., L.R.C.P., Medical Officer of Health for the Stone Rural District.

FITZGERALD, F. C., L.R.C.P. and S.Irel., Certifying Factory Surgeon for the Newtownbutler District, co. Fermanagh.

HAMILTON, Archibald, M.A., M.B.C.S., L.R.C.P., House Surgeon at the Chelsea Hospital for Women.

HAROLD, J. M., Jic Med., Lic.Surg.Dub., Second Resident Assistant Medical Officer, Leicester Parish Infirmary.

HOUGHTON, F. E. C., M.R.C.S., L.R.C.P., District Medical Officer of the Atcham Union.

JOHNSTON, G. L. H., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer, Wandsworth Union Infirmary.

MUMFORD, Wilfred G., M.B.Lond., F.R.C.S.Eng., appointed Honorary Assistant Surgeon to the Royal United Hospital, Bath.

MURCHISON, A. G., M.B., B.S.Edin., Resident Assistant Medical Officer to the Halifax Union Poor Law Hospital.

NEWTON, F. M., M.R.C.S., L.R.C.P., Resident Medical Officer, Stoke-upon-Trent Union Workhouse.

PATTERSON, T. C., M.B., Ch.B.New Zealand, Resident Assistant Medical Officer to the Shoreditch Parish Infirmary.

PRICE, J. T., M.D.Dub., Certifying Factory Surgeon for the Llansawel District, co. Carmarthen.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

CRIDLAND.—On November 10th, at 52, Waterloo Road, Wolverhampton, the wife of Arthur Bernard Cridland, F.R.C.S.E., of a son.

DAWSON.—On November 8th at Goodlands, Gladstone Road, Broadstairs, the wife of E. Rumley Dawson, L.R.C.P.Lond., etc., of a daughter.

FRANCIS.—On October 27th, 1909, at 1, Gwydr Crescent, Swansea, the wife of T. Evans Francis, M.D., B.S.Lond., D.P.H., of a son.

MARRIAGE.

PORTEOUS—RAYNER.—On November 13th, at St. Mary's Church, Hornsey, by the Rev. C. E. Simpson, M.A., William James Porteous, M.B., Ch.B., of Dunedin, New Zealand, to Edith, third daughter of Mr. and Mrs. Richard Rayner, "Cintra," Hornsey.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.:—Discussion on the Treatment of Trigeminal Neuralgia, to be opened by Mr. Jonathan Hutchinson, jun., and Dr. Wilfrid Harris.

ROYAL SOCIETY OF MEDICINE:

ODONTOLOGICAL SECTION, 20, Hanover Square, 8 p.m.—(1) Paper:—Dr. J. Eyre and Mr. J. Lewin Payne: Observations on the Bacteriology of Pyorrhœa Alveolaris, and the Results of Treatment by Bacterial Vaccines. (2) Casual Communications.

TUESDAY.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W., 8.15 p.m.—Paper:—Dr. Risien Russell: The Effect of Traumatism upon the Nervous System.

ROYAL SOCIETY OF MEDICINE:

MEDICAL SECTION, 20, Hanover Square, 5.30 p.m.—Paper:—Dr. F. Craven Moore and Mr. A. L. Ferguson: The Rôle of Fats in the Treatment of Functional Disorders of the Stomach.

WEDNESDAY.

HUNTERIAN SOCIETY, London Hospital, 4 p.m.—Clinical meeting.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, W., 8.30 p.m.—Paper:—(1) Dr. Alexander Morison: Nature and Treatment of Angina Pectoris. (2) Mr. Gay French: Sequelæ and Treatment of Chronic Middle-Ear Suppuration.

ROYAL SOCIETY OF MEDICINE:

NEUROLOGICAL SECTION, 20, Hanover Square, 8.30 p.m.—Hughlings Jackson Lecture: Sir William Gowers, F.R.S., Special Sense Discharges in Organic Disease.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

EPIDEMIOLOGICAL SECTION, 20, Hanover Square, 8.30 p.m. —Papers:—Mr. H. G. Armstrong: Nine Epidemics of Measles at a Public School. Dr. Robert Milne: Scarlet Fever—Its Home Treatment.

SECTION OF DISEASES OF CHILDREN, 20, Hanover Square, 4.30 p.m.—Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45, Tracheoscopy; Friday, 3.45, Clinical Pathology.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thursday, 4 p.m., The Minor Surgery of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Monday, 3.15 p.m., Gouty Phlebitis; Tuesday, 3.15, Tuberculous Disease of the Kidney; Wednesday, 3.30 p.m., Common Syphilitic Affections of the Eye.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose and Throat. Lectures at 5.15 p.m. each day will be given as follows:—Monday, Demonstration on the Methods of Suturing a Ruptured Perineum. Tuesday, Diagnosis of Insanity. Wednesday, The Diagnosis of Thyroid Inadequacy. Thursday, Disease of the Cerebral Arteries.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday: 4 p.m., Surgical Diagnosis and Treatment of the Nervous System. Tuesday, 3.30 p.m., Traumatic Epilepsy and Its Treatment. Friday, 3.30 p.m., Multiple Neuritis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham.—Monday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Medical Out-patient Clinic; Nose, Throat, and Ear Diseases; X Rays; 4.30 p.m., Medical In-patient Clinic. Tuesday, 10 a.m., Medical In-patient Clinic; 2.30 p.m., Operations; Surgical Clinic; Gynæcological Clinic; 4.30 p.m., Lecture, The Influence of the Menopause in Gynæcology. Wednesday, 2.30 p.m., Medical Out-patient Clinic; Diseases of the Skin; Diseases of the Eye. Thursday, 2.30 p.m., Gynæcological Operations; Medical Out-patient Clinic; Surgical Out-patient Clinic; X Rays; 3 p.m., Medical In-patient Clinic. Friday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Operations; Medical Out-patient Clinic; Diseases of the Eye; 3 p.m., Medical In-patient Clinic.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, London, W.—The following are the arrangements for next week: Daily: Medical and Surgical Clinics; X Rays, 2 p.m.; Operations 2.30 p.m. Monday, Wednesday, and Thursday, 2 p.m., and Wednesday, 10 a.m., Diseases of Eyes. Tuesday and Friday, 10 a.m., Gynæcological Operations; 2 p.m., (Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of Skin. Wednesday 2.30 p.m., Diseases of Women. Wednesday and Saturday, 10 a.m., Diseases of Children. Lectures: 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar. At 12 noon, Thursday, Pathological Demonstration. At 12.15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine. At 5 p.m., Monday, Practical Surgery; Wednesday, Insects as Carriers of Disease in the Tropics; Thursday, Unreduced Dislocations; Friday, Head Injuries. At 3 p.m., at Claybury Lunatic Asylum, Types of Mental Diseases.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
21 Sunday ..	
22 MONDAY ..	METROPOLITAN COUNTIES BRANCH, St. James's Vestry Hall, Piccadilly, W. (close to Piccadilly Circus), 4.30 p.m.
23 TUESDAY ..	BEDFORD AND HERTS DIVISION, *South Midland Branch*, Clinical Meeting, 39, Castle Street, Luton, 3 p.m.
24 WEDNESDAY	LONDON: Conference of Secretaries Subcommittee, 2 p.m. LONDON: Capitation Grants Subcommittee, 2.30 p.m. LONDON: Organization of Medical Students Subcommittee, 4.30 p.m. BATH AND BRISTOL BRANCH, Bath. RICHMOND DIVISION, *Metropolitan Counties Branch*, Clinical Meeting, Royal Hospital, Richmond, 8.30 p.m. SOUTHERN BRANCH, General Meeting, South-Western Hotel, Southampton, 2.45 p.m.; Tea, 5 p.m.
25 THURSDAY ..	ISLE OF THANET DIVISION, *South-Eastern Branch*, General Hospital, Ramsgate, 3.30 p.m. KENSINGTON BRANCH, *Metropolitan Counties Branch*, Kensington Town Hall, 4.30 p.m. LAMBETH DIVISION, *Metropolitan Counties Branch*, St. Thomas's Hospital, 4 p.m. NORWOOD DIVISION, *South-Eastern Branch*, Stanley Hall, South Norwood Hill, 4 p.m. STAFFORDSHIRE BRANCH, General Meeting, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p.m.; Dinner, 6.30 p.m.

Date.	Meetings to be Held.
NOVEMBER *(Continued).*	
26 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m. BORDER COUNTIES BRANCH, Autumn Meeting, Crichton Royal Institution (First House), 3 p.m.; Council, 2.45 p.m. HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, 8.30 p.m.
27 SATURDAY ..	
28 Sunday ..	
29 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
30 TUESDAY ..	
DECEMBER.	
1 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Altrincham, 4.30 p.m.
2 THURSDAY ..	
3 FRIDAY ..	LONDON: Medico-Political Life Insurance Subcommittee, 10.30 a.m. LONDON: Special Poor Law Reform Committee, 2.30 p.m. CAMBRIDGE AND HUNTINGDON BRANCH, Medical Schools, Downing Street, Cambridge, 2.30 p.m. TOTTENHAM DIVISION, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, 9.15 p.m.
4 SATURDAY ..	
5 Sunday ..	
6 MONDAY ..	

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association exists for the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession.

The Annual Subscription to the British Medical Association is £1 5s. 0d., and the BRITISH MEDICAL JOURNAL is supplied weekly, post free, to every member of the British Medical Association, wherever he may reside.

Forms of application for membership can be obtained from 429, Strand, London, W.C.

The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Article III.—Any Medical Practitioner registered in the United Kingdom under the Medical Acts and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualifications as shall, subject to the regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the By-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every candidate for Membership of the Association shall apply for election in writing, addressed to the Association, and stating his agreement, if elected, to abide by the Regulations and By-laws of the Association, and the Rules of such Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By law 2.—Every candidate who resides within the area of a Branch shall forward his application to the Secretary of such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Branch Council at any meeting thereof held not less than seven days (or such longer period as the Branch may by its Rules prescribe) after the date of the said Notice. A Branch may by special Resolution require that each candidate for election to the Association shall furnish a certificate from two Members of the Association to whom he is personally known. Officers of the Navy, Army, and Indian Medical Services on the Active List are eligible for election through the Council or a Branch without approving signatures as laid down in By-law 3.

By-law 3.—Every candidate whose place of residence is not included in the area of any Branch shall forward his Application to the General Secretary of the Association, together with a statement signed by three Members of the Association, that from personal knowledge they consider him a suitable person for election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council, and the Candidate, if not disqualified by any Regulation of the Association, may be elected a Member of the Association by the Council at any meeting thereof held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom, and £1 15s. 0d. for abroad.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs. BY ORDER.

MATTERS REFERRED TO DIVISIONS.

CENTRAL ETHICAL COMMITTEE.

RECOGNITION OF A SPECIAL CLASS OF CONSULTANTS.

The following Report was submitted for consideration to the Annual Representative Meeting at Belfast, which referred it to the Divisions. It is now reprinted for convenience of reference by Members.

REFERENCE.

The Representative Meeting (1908) resolved:—

That it be an instruction to the Central Ethical Committee to prepare a special Report as to consultants in accordance with paragraph 5 of the Annual Report of the Committee. (*Minute* 630.)

The clause of paragraph 5 of the Annual Report thus referred to is as follows:—

"The Committee recommends that . . . . the Representative Meeting should give instructions for a special Report to be prepared upon the desirability of the recognition of a special class of medical practitioners under the title of "consultants," distinguished by the fact that they confine their practice to the treatment of patients in co-operation with other practitioners, and upon the best means to be taken to bring about such recognition, if considered advisable."

REPORT.

In submitting in accordance with the instructions of the Representative Meeting to the further consideration of the British Medical Association through the Divisions, the question of the recognition of a class of pure consultants, it seems desirable to deal separately with the following points:—

(1) The desirability of such recognition in the interests of the community;
(2) The influence of such recognition upon the interests of existing branches of the profession;
3) The possible means of formal recognition of such a class;
(4) The relations that should subsist between the members of such a class and other practitioners.

I. The extraordinary development of specialism in medicine during the last 25 years ought, if properly organised, to be of the greatest advantage to the community. Without proper guidance, however, it is doubtful whether a patient is able, except in rare instances, himself to select the form of specialism best suited to his requirements. His difficulties are great, since medical specialism is determined not only by considerations of particular study given to different parts of the body (as the eye, the ear, &c.) and to different therapeutic measures (surgery, pharmacology, electricity), but also by the special study of different pathological processes (bacteriology and chemical pathology) and different methods of diagnosis (hæmatology, radiography). It becomes, therefore, for every sick person a very perplexing question what sort of practitioner can best assist in finding out what is the matter with him, and if and when that is known, can best assist in curing him. These questions should be more easily answered if a certain proportion of the profession who are specialising would act as pure consultants and treat patients only in co-operation with other medical attendants. On the one hand, the ordinary attendant would much more freely confer in the diagnosis and treatment of a difficult case with colleagues who could not in any case become his active competitors in practice. On the other hand, the ordinary attendant should be a much better judge than the patient and his lay friends of whether the special study given to any subject by a member of the profession rendered him truly an authority in the particular direction needed. By the establishment of a class of pure consultants in all specialities, the following risks, which are at present very material, should be minimised to the undoubted advantage of the community:—

(*a*) The undue restraint by the general practitioner of a patient from seeking special advice.
(*b*) The choice by a patient of a form of specialism unsuited to his condition.
(*c*) The choice by a patient of a practitioner as a specialist whose experience and capacity do not justify him in assuming the position.

II. With regard to the influence of the establishment of a class of pure consultants upon the interests of different branches of the medical profession it must be admitted that

such exclusive methods of practice are rare and seem to be only very gradually extending. But without definite organisation this is hardly to be wondered at. A vicious circle has become established and concerted action such as the Association can secure is needed to overcome it. The fact that specialists of all sorts, from the most eminent leaders of the profession to those whose claim to the position has no real basis, are in nearly every instance accessible to the direct call of the public, must of necessity restrain their colleagues in general practice from seeking their consultative advice; on the other hand, the fact that this restraint exists and that the specialists' special powers of diagnosis and treatment are not freely asked for by their colleagues makes it difficult for such men to refuse all work which is not thus brought to them.

In existing conditions specialists are necessarily often doing the work which could just as well be done by general practitioners or better done by specialists in another department, whilst they are deprived of opportunities of using their special knowledge for the benefit of many suitable cases. In short, the objects for which a specialist limits the scope of his practice and perfects his study and experience are defeated by want of organisation. The particular scheme of organisation now proposed would prevent the general practitioner from being deprived of the scientific and pecuniary advantage of sharing in the treatment of his case by a specialist and would secure for the specialist an increase in his proper work, while at the same time preventing the narrowing influence of specialism by providing constant association with men working in other branches of the profession. So far as the question of remuneration is concerned there should be no difficulty in making up for any loss sustained in abandoning non-consultative or direct work, by an increase in the number of true consultations, and if necessary by an increase in the fees charged. In this regard it is worthy of consideration that under such a system it would be much easier for the specialist, following the custom prevalent at the bar, gradually to raise his fee as he became more busy. For this reason and because the choice of consultant would usually be influenced by the general practitioner and not made solely by the patient, consultative work would be more evenly distributed amongst junior and senior men forming the consulting branch of the profession than is the case at present.

This plan might therefore be expected

(1) To cause a considerable increase in the number of consultations between general practitioners and those who are devoting themselves to the study of limited branches of professional work, and to distribute such consultations more evenly amongst the consultants.

(2) To provide the specialist with difficult and interesting cases worthy of his consideration whilst freeing him from trivial and unsuitable work interfering with the prosecution of his scientific researches.

(3) To protect the general practitioner against the loss, temporary or permanent, of his more interesting cases, and to keep him in touch with the development of all branches of specialism.

(4) To check the development in large cities of a class of practitioner who, without obvious benefit to the public, himself, or his profession, endeavours to combine general and consulting practice without proper opportunity of perfecting his knowledge in any special department of practice.

III. With regard to the possible means of formal recognition of pure consultants it appears that at first it must be an entirely voluntary arrangement. The analogy of Barrister and Solicitor is tempting, but the legal profession has always been able to control and organise its affairs in a way which has not been open to the profession of medicine. Eventually it may come to be arranged that Royal Colleges of Physicians and Surgeons shall confer their fellowship or other high grade diplomas only on those who are willing to conduct their practice on purely consultative lines. Similarly, certain University or Hospital appointments may come to be regarded as entailing upon their holders the necessity of practising in this manner. Meanwhile, the only practical proposal seems to be that any legally qualified medical practitioner who desires to practise on these lines, and is willing to comply with certain prescribed requirements, should be afforded an opportunity of officially making this fact known to his professional colleagues. If the British Medical Association believes that the establishment of a class of pure consultants is desirable, it might further this end by prescribing regulations for such a class, and by making known to the profession in such manner as it may deem fit the names of those members of the Association who conduct their practice according to the regulations.

IV. The actual relations which should subsist between a class of pure consultants and their professional brethren must ultimately be defined by "Regulations" which need not be drawn up until the proposal to recognise such a class has been approved by the Association. Meanwhile certain general principles must be laid down in order to prevent misapprehensions. As will be seen from the terms of the Reference from the Representative Meeting to the Committee, the essential feature of the practice of a member of this special class of consultants is that he does not undertake the treatment of patients except in co-operation with some other practitioner. It must therefore be recognised that a member of this class is not to be debarred from actual personal treatment of any case. As a surgeon or a vaccinist he may himself perform the necessary operation or injection and any subsequent dressing that may be needed, but he must do this in co-operation with some other practitioner, just as in fact all consultants do now in the case of patients brought or sent to them by their usual medical attendants. The interpretation of "co-operation" must be left to the good sense of the two practitioners concerned, with confidence that when the possibility of competition between them is eliminated no material difficulty will be found. It will sometimes happen that the patient applying for advice or treatment has no regular medical attendant, and in some cases co-operation with the usual medical attendant may be impracticable. In either of these cases it would be necessary for the consultant to secure the co-operation of some other practitioner.

It should also be noted that although highly desirable it is not essential that the other medical practitioner should come with or even introduce the patient to the consultant. In view of the purely voluntary character of the arrangement, such a regulation might at any rate at the outset defeat the object aimed at. The public, many of whom now resent the action of certain members of the profession in refusing to treat them except in co-operation, would not unnaturally protest against any increased restraint upon their freedom in obtaining without any conditions a second opinion from any practitioner of their choice. Some specialists of good standing sympathising with this view of the public, might be disposed to remain outside the special class of consultants if such a provision were insisted on. It would therefore be expedient for the present to arrange that a consultant practising on these lines should, before an interview with any patient, obtain consent to communicate with the usual medical attendant, or if there is no usual medical attendant, with some other practitioner, in order to secure his co-operation with subsequent treatment. The regulations to be drawn up to define the position of the special class of consultants need not be numerous or complicated. They would be entirely independent of the regulation already adopted for the conduct of consultation between colleagues who must of necessity be more or less in competition with each other for practice

Conclusion.

In submitting this Report, the Central Ethical Committee desires to emphasise the fact that from its experience of difficulties that are frequently brought to its notice, some such definition as is here proposed of the scope of the work of the two chief branches of the profession, would do much to lessen friction and jealousy, and would enable medical men to unite together more cordially for the advancement of the honour and interests of the profession.

Whatever criticisms or resolutions the various Divisions of the Association may make after consideration of this Report, it would be convenient if in addition they would answer the following questions :—

A. Is the Division in favour of the recognition of a special class of consultant on the lines indicated in this Report?

B. Is the Division in favour of the Association prescribing Regulations for the conduct of the practice of such a class?

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BIRMINGHAM BRANCH:
CENTRAL DIVISION.

A GENERAL meeting of the Division was held on Wednesday, November 17th, at the Medical Institute, at 3.30 p.m. Dr. W. R. JORDAN, Chairman, presided, and there were seventy-nine other members present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

Canvassing Committee.—The HONORARY SECRETARY announced that two meetings of the Canvassing Committee had been held, which had been well attended. As a result of their efforts, eight new members had been secured, with the prospect of several more next year.

Report of Annual Representative Meeting.—Dr. KIRBY presented his report of the Representative Meeting at Belfast. This was discussed by Drs. WALTER JORDAN, WHITE, BRANSON, DONOVAN, GEORGE BRYCE, and Messrs. MORRISON and GAMGEE. A resolution that the report be adopted and Dr. Kirby thanked for his services as Representative was carried unanimously.

Election of Representative.—Drs. John Notley and Southall were appointed Scrutineers, and the election of Representative for the Division proceeded with. Drs. Kirby and Neal having been nominated for the office. The CHAIRMAN announced that Dr. Neal was duly elected, the voting being: Dr. Neal 50, Dr. Kirby 22.

Medical Practitioners and Midwives.—A proposal by the Birmingham Board of Guardians to substitute for the existing scale of fees a fixed fee, to apply to all destitute cases to which practitioners are called by midwives, was next considered. The HONORARY SECRETARY gave a short account of the present position of affairs, and of the reception by the guardians of a deputation appointed by the Executive, and pointed out the importance of the matter in view of the recent report of the Local Government Board Departmental Committee. The question was discussed at length by Drs. ROBERTSON (M.O.H.), WHITTOME, BURTON, GIBBS, DAIN, DONOVAN, KIRBY, WHITE, and Mr. MORRISON, who moved the following resolution:

> That the Chairman and Honorary Secretaries be instructed to submit, on behalf of the Division, to each of the local Parliamentary candidates a statement of the views of the Division as to the scale of fees payable for emergency midwifery practice, and to inquire if these views will be supported by the candidate.

This was seconded, but on being put to the meeting was lost by a considerable majority. Mr. NUTHALL moved:

> That this Division wishes to express its opinion that the present scale of fees be maintained, and empowers the Executive to take the necessary steps to come to a definite arrangement with the guardians and other authorities.

This was seconded and carried *nemine contradicente*.

West Bromwich Hospital and Elementary School Children.—The CHAIRMAN, on the plea of urgency, asked permission to introduce some fresh business, which had arisen too late for inclusion in the agenda paper. Leave having been given, he explained that the President of the local Branch (Dr. Herbert Manley) had written asking for assistance in dealing with a matter which had occurred in West Bromwich. He reported that the board of the district hospital to that town had applied to the Education Committee to make a grant to the institution in recognition of work done for elementary school children. This was discussed by Drs. WALTER JORDAN, PURSLOW, LYDALL, BELCHER, KIRBY, GIBBS, and Mr. NUTHALL, and the following resolution unanimously carried:

> That, having regard to the repeated pronouncements of the British Medical Association, and especially to the report of the Medico-Political Committee which was considered and approved by the Representative Meeting last July, the Central Division now expresses its strong disapproval of the action contemplated by the Board of the West Bromwich Hospital; and pledges itself to do all in its power to oppose the principle of the payment of public funds to charitable institutions in return for work which will be performed gratuitously by the medical staff.

The Honorary Secretary was instructed to forward a copy of the resolution to Dr. Manley, and the meeting terminated.

DUDLEY DIVISION.

A MEETING of this Division was held at the Institute, Market Street, Stourbridge, on November 17th, Dr. H. H. R. CLARKE (Chairman) presiding. There were present Drs. A. Freer, H. Wilberforce Freer, J. Howard Wilkinson, Ethel A. Waldron, G. J. Dudley, S. K. Vines, and L. A. Taylor (Secretary). The following non-members also attended: Drs. W. Ayres, W. Kirkpatrick, and G. L. Webb.

Ambulance Classes.—The question of ambulance work in connexion with proposed ambulance classes and the British Red Cross Society was discussed. It was proposed by Dr. WILKINSON and seconded by Dr. KIRKPATRICK:

> That the fee for conducting ambulance classes should not be less than three guineas and not more than five guineas for each course.

This was carried unanimously.

British Red Cross Society.—It was also agreed that members would, if requested, be at liberty to give their services as officers of the voluntary aid detachments of the British Red Cross Society without remuneration.

Special Class of Consultants.—The report of the Central Ethical Committee on a special class of consultants was considered. It was decided to answer the questions A. and B. submitted to the Division in the negative. Dr. WILKINSON proposed and Dr. A. FREER seconded a resolution:

> That the present time is not opportune for the creation of such a special class of consultants as indicated in this report, and that it would be impracticable to work out such a scheme.

This was carried unanimously.

West Bromwich School Children.—A letter from Dr. Herbert Manley, Medical Officer of Health and Medical Inspector of Schools for West Bromwich, concerning the treatment of school children at West Bromwich was read. No decision concerning this matter was arrived at, as all the facts were not before the Division.

Apology for Non-attendance.—An apology was received from Mr. M. A. Messiter.

ULSTER BRANCH.

THE autumn meeting of this Branch was held in the Medical Institute, Belfast, on Thursday, November 18th, Dr. DEMPSEY, and subsequently Dr. MOORHEAD, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Installation of New President.—Dr. DEMPSEY said that it afforded him much pleasure to introduce as his successor in the presidential chair Dr. Moorhead, of Cootehill, co. Cavan, who was known to them not only as an able practitioner, but also as a champion of the cause of the Irish Poor Law medical officers. He thanked them for all the help and kindness extended to him during his year of office, and called on Dr. Moorhead to take the chair.

Vote of Thanks to Retiring Chairman.—Dr. ANDREW (Lurgan) moved that the best thanks of the Branch be accorded to Dr. Dempsey. This was seconded by Dr. CALWELL, and passed unanimously.

Report of Council.—The report of Council was read by the HONORARY SECRETARY, Dr. Cecil Shaw. Its adoption was seconded by Dr. DARLING (Lurgan), and carried. It stated that three meetings of Council had been held since the last general

meeting, and that twenty-five new members had been elected. Accounts to the amount of £15 had been passed, and the arrangements made by the Honorary Secretary for the meetings during the session had been confirmed.

President's Address.—The PRESIDENT delivered his inaugural address, taking as his subject, The Fate of the Irish Dispensary Doctor. After some introductory remarks he went on to say: I knew that it would be presumption for me, a mere country practitioner, to address a city audience on a medical subject about which most of you probably know far more than I do, but I know there is one subject I can speak upon, for it has been the work of my life, and that is the amelioration of the condition of the Irish Poor Law Medical Service. For my purpose I shall divide the members of that service into three classes. The workhouse medical service stands apart. The remuneration of the workhouse doctor is not large, but I consider that the money value of their post is the smallest part of their remuneration if they choose to avail themselves of the advantages conferred by a hospital appointment, advantages greatly increased of late years by the Nursing Order of 1898, which gives these officers entire control of their own staff. The next class are those dispensary officers whose district includes a town. These number about 1 in 3.5 of the dispensary staff. Their pay is small for the work they have to do, but town practice is better than rural, and they are not shut out from the society of people of their own class. But my object in speaking to-day is to ask your sympathy for the rural dispensary doctors, than whom I do not know any class of professional men more deserving of it. The condition of the average rural dispensary doctor is to my mind deplorable. He is for the most part at least an hour, often far more, from a town. He is surrounded by a peasant population with no society of his own class except the priest or parson. He is at the beck and call of all classes at all hours and in all weathers. I have always held that dispensary practice is demoralizing. As a student he has been taught scientific practice of medicine and surgery, but, planted in a rural dispensary, he finds his science of little use. The area he has to cover renders proper attendance upon his patients impracticable, and the dense ignorance of the people make scientific treatment useless, as he cannot get his instructions carried out. If in time some should degenerate into mere mixers of drugs, is it to be wondered at? But the greatest of his grievances is that he gets no reward for long service. The salary he gets when he takes the dispensary remains unincreased, and no good work that he can do will bring him any reward, and possibly, when his days of labour are past, he will be told, as Dr. Carr was in my union, to go into the workhouse. Under such conditions what stimulus is there for a dispensary doctor to do more than will preserve him from censure by his masters. Owing to the persistent efforts of the Irish Medical Association, the Local Government Board have for some years been pressing upon unwilling guardians the granting of graded scales of salary to their medical officers, but with small success. I observe by the last report of the Local Government Board that of 149 unions these graded scales have been adopted by 28 unions in Munster, 24 in Leinster, 6 in Connaught, and 6 in Ulster—only 6 out of the 43 unions in that province—and yet Ulster prides herself in being the most progressive province of the four; but I regret to say the salaries paid to dispensary doctors in Ulster are lower than even in poverty-stricken Connaught. It may be, and often is, objected by boards of guardians that doctors are not compelled to take these miserable salaries, but that is not correct. The men who take them are generally the sons of poor parents who have pinched themselves to make a doctor of their son, and when he is qualified he is forced to take the first post he can get to earn his living. Perhaps you will say, Why does he not go to England as an assistant? Well, I have practised in England and have had Irish assistants, and I know that there is often a lot of unreasonable prejudice against Irish assistants. Now, gentlemen, these being the facts of the case, I would ask you what is going to be the fate of the dispensary doctor under a reformed Poor Law which we are bound to get before long? No provision for the amelioration of his lot has been made in the Viceregal or Royal Commission reports. The figures I have given you show that, short of compulsion, few of the Ulster Boards of Guardians will give him a living wage, and I very much fear that unless considerable pressure is put upon whatever Government passes a new Poor Law, the dispensary doctor will be left out in the cold unless our powerful organization comes to his aid. Little can be expected of him personally. The isolation of the individual member and the apparent failure of the efforts hitherto made to improve his condition have, I fear, induced a feeling of hopelessness, so that it is hard to get him to move in his own interest. He is like the victims of sweated industries—afraid to move lest a worse thing befall them. Gentlemen, I have put before you—most imperfectly, I fear, and far from the way I would like to—the hardships of the rural dispensary doctor's lot, and I ask you, Shall we, the members of this Branch, stand by with folded hands when the Poor Law goes into the melting-pot and leave him to his fate? He may not be a very eminent practitioner—perhaps he is not often heard of outside the bounds of his own union—but we know he is doing from day to day invaluable work for an ungrateful community under most unfavourable circumstances, and above all he is one of us, a professional brother, whose very poverty increases his claim upon us. I ask you, Are you ready to rise to the occasion, you and I whose lot is cast in easier circumstances? and if I know anything about my Irish brethren, I don't think I shall ask in vain. You will very properly ask me how I propose that we should help him. One way that suggests itself is through the Irish Committee. It should be an instruction to the committee to organize the Irish Branches in respect to this pressing matter, so that we may be able to show a united front when the Poor Law Reform Bill is introduced, and I don't think such organization should be delayed until the bill is actually in print. I feel sure the Irish Medical Association and the Poor Law Association, of which I have had the honour of being President for the past three years, will send delegates to Westminster to watch the progress of the Bill. It is a matter of great importance to select the right man for that purpose, and, if such a course is decided upon, now is the time to make that selection. As individuals, there is another way in which many of us can help: in constituencies where there is a parliamentary contest, members of our Association can, if they choose to set the profession before party, refuse to vote for any candidate who will not pledge himself to do his best to secure justice—bare justice—for the Irish dispensary doctors. I thank you, gentlemen, for having afforded me the opportunity of pleading before you for the submerged fifth of our profession, and my hope and belief is that now this matter has been ventilated, my year of office will not expire until the status and prospects of the dispensary doctors of Ireland has been put upon a satisfactory footing.

Vote of Thanks to President.—On the motion of Professor LINDSAY, seconded by Dr. DARLING, a vote of thanks was accorded to the President for his address. Dr. Darling mentioned that the action suggested by the President in his address was already being taken by the Irish Committee of the Association, who had the matter in hand.

Prostatectomy.—Mr. A. B. MITCHELL read notes of a series of cases of prostatectomy. They numbered 18 hospital cases, of which 2 were malignant; and 12 private cases, of which 3 were malignant. Four of the former set, and three of the latter, died. The ages of his cases varied from 62 to 86, the three oldest being 80, 84, and 86, all making excellent recoveries. At first his chief trouble was with deposits of phosphates in the wound, but this had ceased to trouble him since he had begun to use peroxide of hydrogen,

which he poured direct into the bladder and pouch from the second day onwards. Mr. FULLERTON said that his experience extended to 27 cases, of which 5 were malignant. He considered the average mortality about 8 to 10 per cent. He avoided deposits of phosphates by giving abundant fluid to drink. The PRESIDENT described a case of his which had been operated upon and which proved fatal after sixteen days' anuria. Mr. MITCHELL replied.

Pupil Reflex in Tuberculous Meningitis.—Dr. J. L. RENTOUL (Lisburn) read a short paper on peculiar pupil reflex in tuberculous meningitis. He had observed this in a boy, aged 13, and his sister, aged 6, who were ill at the same time, and died within about a week of each other, an older brother dying of phthisis in the same week. In all the children, as they became comatose, he found that the pupils, which were of normal size, dilated widely when the lids were opened, even though a bright light were held in front of the eye. Remarks were made by Drs. CECIL SHAW and DARLING.

Outbreak of Scarlatina in Lurgan.—Dr. AGNEW (Lurgan) read a short paper on an alarming outbreak of scarlatina in Lurgan. The outbreak in question occurred last spring, and in the five weeks during which it lasted about 60 cases were notified, most of them in a small area of the town. The milk supply, at first suspected, was proved innocent, and after careful inquiry Dr. Agnew traced the cases to two of the principal handkerchief factories of the town. From these factories bundles of several dozen handkerchiefs are taken by children to be hemmed at home by mothers and sisters, and after being returned to the factory they are passed through at least three hands before going to the laundry. When once the source of infection had been discovered the outbreak was quickly got under.

Pictorial Museum.—Dr. CALWELL explained the use of the new pictorial museum, illustrating his remarks with illustrations of gigantism and dwarfism and of diseases of the nails. The cabinets for this museum have been provided by the Belfast Division of the British Medical Association, and are housed by the Ulster Medical Society in the Medical Institute. The nucleus of the collection had been formed by Dr. Calwell, who appealed for help in filling the cabinets with drawings and photographs of interesting cases. He acknowledged the assistance of Dr. Ross Thompson, medical officer of the Ballymoney Infirmary, who sent him some curious specimens of nails.

Ruptured Duodenal Ulcer Treated by Suture and Gastro-enterostomy at the Same Sitting.—Mr. FULLERTON read a paper on this subject. He said while all surgical authorities recommended immediate operation in cases of ruptured duodenal and gastric ulcer, the same unanimity did not exist in reference to the exact procedure to be adopted when the abdomen was opened and the ruptured ulcer sewn up. Some contented themselves with suturing the perforation, mopping up whatever fluid could be reached from the abdominal wound, and closing the abdomen without further interference and without drainage. Others adopted similar lines, but placed a drain in the pelvis through a separate incision. Others again drained not only from the pelvis, but also from the upper abdominal wound, and perhaps from additional openings made in the flanks and elsewhere. A large proportion flushed out the abdominal cavity in the hope of getting rid of every trace of the escaped fluid and placed one or more drains in the abdominal cavity. A few proceeded to deal radically with the condition by performing gastro-enterostomy, or perhaps by excising the ulcer. In order that a correct estimate of the value of any of these proceedings might be arrived at, it was well to publish the results obtained by the various methods, so that when reviewed in a large number of cases a definite line of treatment might be laid down for the student and those who were less experienced in the management of these cases. With this object in view he begged to lay before the Branch the results in a very few cases of a line of treatment open, he would at once admit, to adverse criticism. The fact that in the three cases he was about to refer to recovery took place without complication in all was not sufficient evidence that this was the best method to adopt. Cases treated by others must be added until a sufficient number is obtained to dogmatize.

CASE I.—A. C., aged 40, was admitted to the Royal Victoria Hospital for fracture of the olecranon, which was wired. She had been lying in bed recovering from the operation for a week or more, when, on April 26th, 1907, at 5 a.m., ten hours after her last meal, she took a sudden pain in the upper abdomen. She had suffered from her stomach for eighteen years, and had on several occasions vomited blood. She says she was always worse at night. Her abdomen became rigid, and she vomited blood-stained fluid. Mr. Fullerton operated at 9 a.m., four hours after perforation. On opening the abdomen a perforated ulcer was found at the junction of the stomach and duodenum at the upper border. This was dealt with in the usual way by several layers of suture. When this was done the abdomen was mopped out as gently as possible, and gastro-enterostomy by the posterior no-loop method performed. The abdomen was closed without flushing and without drainage. The patient made an uninterrupted recovery. Her stomach, which was much dilated, diminished in size, but did not completely recover. Mr. Fullerton saw her a few days ago. She is 1½ stone heavier, and has not suffered at all from stomach symptoms since the operation, now more than two years ago. She does, however, suffer from constipation. Her stomach is still somewhat dilated.

CASE II.—William N., aged 40. Had been suffering for three years from pain in his stomach, coming on about one and a half to two hours after food, and relieved by food or soda and buttermilk, a favourite remedy in this part of the country. He vomited blood once about a fortnight before his admission to hospital. He never noticed that his stools were black. He was engaged in a shipyard as fitter's helper. On January 9th, 1909, he had a meal of bread and butter at 12.30 p.m. He then went for a walk and had two drinks—a small whisky and a bottle of stout. At 5.40—that is, about five hours after his last meal—he took a sudden pain in his stomach, and vomited three times. The pain radiated to his right shoulder tip and into his haunch. Mr. Fullerton operated on him the same day at 11.30 p.m.—about six hours after perforation. He found a ruptured duodenal ulcer in the first part on the anterior surface near the pylorus. He adopted exactly the same procedure as in the last case. He saw the patient on October 22nd, and he reports that he is almost quite free from pain, but gets a little still when he is hungry. He has put on 1½ st. in weight. He was back at his work in five weeks and three days after his operation.

CASE III.—James R., aged 49, plasterer. Has been troubled with his stomach since he was a boy. In April, 1909, he took pains in the epigastric region. He had had pains in the same region on previous occasions, but not so bad. After taking food he had relief for about an hour and a half. About the beginning of September he began to vomit. On October 1st he took a very severe pain about 1 p.m., five hours after a meal of coffee and bread. His right rectus muscle was rigid when admitted to hospital. Mr. Fullerton saw him and operated on him eight hours after perforation. The ulcer was situated at the junction of the stomach and duodenum, and the perforation was about the diameter of a slate pencil. Here again he contented himself with swabbing out the peritoneal cavity. He performed gastro-enterostomy as in the two previous cases, and closed the abdomen without drainage. The patient made an uneventful recovery, and when last seen, a few days ago, was apparently quite well.

The after-treatment of these cases was conducted on the usual lines—nothing but sips of water for the first twenty-four hours and salines per rectum in the old-fashioned way. He did not in any of them use the continuous method of rectal irrigation to which Mr. Mitchell attributed, somewhat extravagantly Mr. Fullerton thought, his remarkable series of successes reported at the recent meeting of the British Medical Association. Five years ago Mr. Fullerton treated a case of ruptured duodenal ulcer just as he did these three, minus the gastro-enterostomy. The patient was neither flushed out nor drained. He made a good recovery, and is now quite fat and well. He denied all history of pain or discomfort previous to the rupture. At the operation, about twelve hours after the accident, he found a small ulcer with no thickening around it, quite unlike the usual ulcer with hard and thickened edges. The rupture occurred during some gymnastic feats which he was performing during his dinner hour. Since then he had treated three ruptured gastric ulcers in this way. All of these had been seen and operated on within twelve hours of the perforation, and all have recovered. In cases in which a longer time had elapsed he had not dared to omit the washing out or the drainage, or both. The results had not been so good in these. He lost one on the fourteenth day from haemorrhage, due to another ulcer eroding the

pancreas; another, a duodenal ulcer in a woman, from a subphrenic abscess; a third, also a duodenal ulcer, in a gentleman aged 73, from shock on the second day. He believed the prolonged irrigation was too much for him. The man had been perforated for over twenty-four hours. A fourth died, after a ruptured duodenal ulcer had been dealt with, from haemorrhage on the second day. He had been over twenty-four hours ruptured. In a case of hour-glass stomach, in which rupture occurred at the junction of the two segments, Mr. Fullerton had to do a gastro-gastrostomy after suturing the perforation. She did very well for some weeks, but uncontrollable vomiting set in, and carried her off about a month after the operation. The stomach was found *post mortem* to be bound down by numerous adhesions. A careful study of these cases showed, Mr. Fullerton thought, that in early cases at least neither flushing nor drainage was necessary, and also that gastro-enterostomy added very little to the risk of the operation. He might add that if there was one symptom more than another that indicated immediate laparotomy, that symptom was rigidity of the abdominal muscles. Mistakes would sometimes be made, but in the large majority of cases the operator would be rewarded by finding a perforative lesion.

Cases.—Mr. ROBERT CAMPBELL: Showed (1) a patient on whom thoracoplasty and decortication of the lung was performed for chronic empyema; and (2) a large gall stone removed from the common bile duct. He also read notes of a case of chronic spinal meningitis treated by operation.

Collapse after Anaesthesia.—Dr. FIELDEN read notes of an unusual case of collapse after administration of an anaesthetic. The case referred to appeared to be unique. Briefly, the case was this: He was recently asked to give chloroform for the removal of tonsils and adenoids. Although he usually gave ethyl chloride for that operation, chloroform was chosen in this case because it was intended to enucleate the tonsils instead of using the guillotine. The patient, a girl of about 6 years old, was anaesthetized, and during the operation $CHCl_3$ vapour was pumped into the mouth. After removal of the tonsils and adenoids the anaesthetic was withdrawn, and the operator, on wiping out and examining the throat, decided to snip off the uvula. Without further administration of anaesthetic the uvula was caught by a pair of forceps, pulled forwards, and snipped. Immediately collapse, with pallor, dilated pupils, and cessation of breathing, occurred, but tongue traction and artificial respiration for a couple of minutes completely restored the patient. This case seemed to the author to be analogous to those which had been met with in which collapse had occurred on producing a painful impression before the patient had been fully anaesthetized, causing a reflex inhibitory effect upon the heart. In his case the administration of $CHCl_3$ had ceased for a minute or two when filaments of the superior maxillary nerve in the uvula were stimulated, producing the reflex effect—which seemed but a slight cause for such an alarming condition. The moral was that even slight procedures should not be conducted whilst a patient was regaining consciousness from chloroform anaesthesia, but that surgical anaesthesia should be reinduced.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—A meeting will be held at 8.30 p.m. on December 7th. Business: To consider a reference from the Annual Meeting with regard to the definition of the functions of a consultant. To consider a letter from the Birmingham Branch relating to the medical treatment of elementary school children in voluntary hospitals. Mr. Leedham-Green will read a paper on Stone in the Kidney and Ureter. Mr. W. Bennett will show some kidney specimens.—V. PENDRED, Honorary Secretary.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The next meeting of the English Division of the Border Counties Branch will be held at Carlisle on Friday, December 10th. Any member wishing to read a paper or show specimens will kindly communicate as early as possible with S. E. RIGG, 1, Alfred Street North, Carlisle, Honorary Secretary, English Division of Border Counties Branch.

CAMBRIDGE AND HUNTINGDON BRANCH.—The next meeting the Branch will be held at the Medical Schools, Downing Street, Cambridge, on Friday, December 3rd, at 2.30 p.m. Gentlemen having communications to make are requested to write to the Honorary Secretary before November 20th.—H. BUCKLEY RODERICK, Honorary Secretary, 19, Trumpington Street, Cambridge.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A general meeting of this Division will be held on Wednesday, December 1st, at the board-room of the Altrincham Hospital. 4.30 p.m., afternoon tea; 5 p.m., business; 6 p.m., paper by Dr. Loveday on Vaccine-therapy; 7 p.m., leave by tram for dinner at the Brooklands Hotel (members intending to dine should acquaint the Honorary Secretary as soon as possible). Agenda: (1) Minutes of October 7th. (2) Apologies for absence. (3) Circular from Medical Secretary *re* the report of the British Medical Association on Special Class of Consultants." (4) Report of Committee meeting, November 4th. (5) Declarations of policy of the British Medical Association issued in the SUPPLEMENT for October 30th. (6) Letter from Dr. Luckmann *re* wage limit for admission to the Altrincham Provident Dispensary. (7) Any other business.—H. G. COOPER, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—The quarterly meeting of this Division will be held on Tuesday, December 7th, at the Warrington Infirmary, at 4 p.m. Ordinary business of the Division. A scientific meeting will be held after the business meeting at 5 p.m.—T. A. MURRAY Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—The next ordinary meeting of the Division will be held on Thursday, December 2nd, at the Criterion Restaurant, the President, J. H. Dauber, Esq., M.A., M.B.Oxon., F.R.C.S.I., in the chair. At 7.30 p.m. the members will dine together (evening dress optional). The price of the dinner will be 5s. Members are cordially invited to bring guests, or if unable to attend the dinner to come to the business meeting afterwards. 8.30 p.m., Ordinary business of the Association. Members are requested to return the post-card sent them, stating whether they intend to be present at the dinner and whether they will bring guests.—J. HOWELL EVANS, 25, Berkeley Square, W.; W. A. MILLIGAN, 11, Upper Brook Street, Grosvenor Square, W., Honorary Secretaries.

SOUTH EASTERN BRANCH.—A meeting of the Branch Council will be held at 429, Strand, on Wednesday, December 15th, at 3 p.m. Agenda: To consider the election of candidates. Any other business.—E. A. STARLING, Tunbridge Wells.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of this Division will take place on Wednesday, December 8th, at 3.30 p.m., at the Royal Bucks Hospital, Aylesbury. Agenda of meeting: (1) Confirm minutes of last meeting. (2) Business arising therefrom. (3) A case of Acromegaly, with paper and photographs, by Dr. J. Shaw. (4) Receive Representative's report of Belfast meeting. (5) Question of ambulance lectures in the county, and the attitude to be taken by the members with regard to them. (6) Discussion and voting on the question as to the Association favouring the formation of a special class of "consultants." (7) Resolution *re* the Aylesbury and District Medical Association. (8) Discussion on the club question. Members who are unable to attend the meeting are requested to notify the Chairman or Secretary as to their views and their willingness to co-operate in this matter. The annual dinner (morning dress) will be held afterwards at the Crown Hotel at 6 p.m. sharp (charge 3s. 6d.). Members intending to be present will please notify Dr. Baker by Monday, December 6th.—A. E. LARKING, Honorary Secretary.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.—A meeting of the Division will be held in the board-room of the Northampton General Hospital on Tuesday, December 7th, at 2.30. The meeting will be preceded by a luncheon at Franklin's Restaurant at 1.30. Members wishing to attend the luncheon should notify the Secretary at least two days beforehand. Business: Minutes. The president and chairman of committee of the Northamptonshire Amateur Athletic Club will attend as a deputation to ask for the approval of gymnastic training generally; also to suggest the adoption of a system of physical exercises, under the guidance of the medical profession, to suit special cases. Dr. Baxter's report of the Annual Representative Meeting. Consideration of report on special class of consultants. Clinical cases.—Dr. HICHENS, Honorary Secretary, 45, Sheep Street, Northampton.

DIRECT REPRESENTATIVES FOR ENGLAND AND WALES.

ADDRESSES TO THE METROPOLITAN COUNTIES BRANCH.

On Monday evening, November 22nd, 1909, a meeting under the auspices of the above Branch was held at the St. James's Vestry Hall, Piccadilly, W., for the purpose of hearing addresses from the three Direct Representatives for England and Wales on the General Medical Council.

Dr. J. Ford Anderson (President of the Branch), who occupied the chair, said that he did not think anything but good could come from such a meeting, as it would afford the Representatives and their constituents an opportunity of exchanging views. Before asking Dr. Langley Browne to address the meeting, he desired to say that there were two subjects on which Dr. Langley Browne was specially qualified to speak. The first was the question of the additional seat on the General Medical Council. With regard to that, Dr. Langley Browne had taken the initiative, and had put the machinery in motion which would probably lead to the appointment of the fourth Representative for England and Wales in the year 1911. Dr. Langley Browne's endeavours he knew as a fact had been ably supported by his colleagues in the direct representation not only of England and Wales, but of Ireland and Scotland. There was another matter on which Dr. Langley Browne was particularly capable of giving information, and that was as to the working of the Unqualified Practice Committee, of which he was the Chairman.

Dr. Langley Browne.

Dr. Langley Browne said that he first of all wished to thank the members of the Metropolitan Counties Branch most cordially for the compliment they had paid to their Direct Representatives by inviting them to address the meeting. The opportunities the Direct Representatives had of making the acquaintance of their constituents were few and far between, and in the five years during which they held office they could not hope to become personally known to more than a very few of them. It was rather curious to find how very little was known of the Council and its position, its duties, and its responsibilities outside the profession, and many inside, indeed, had but a very vague idea of what the General Medical Council was, and confused it with the council of the colleges and with that of the British Medical Association. Up to 1858 each university, the Royal Colleges of Physicians and Surgeons and the Apothecaries' Hall laid down its own regulations for study and examination, and granted its degree or licence without any State supervision. In 1858 the Medical Act established the General Council of Medical Education and Registration, consisting of 23 members, of whom 17 were appointed by the different licensing bodies or the universities and 6 by the Crown. This Act of 1858 purported "to regulate the qualifications of practitioners in medicine and surgery," because it was expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners. To this end the *Medical Register* was established, on which no person could be inscribed who did not hold a diploma or licence from one or more of the licensing bodies after examination. After the Act of 1858 there were other short Acts passed in 1859 and 1860, extending the time at which its provisions were to come into force, and amending and slightly altering some of the clauses. Another in 1862 gave the sole right to the General Medical Council of publishing, printing, and selling the *British Pharmacopœia*. Another in 1868 extended the provisions, or some of them, to the Colonies. There were several others which referred to the colleges or universities. There was one in 1876 removing any disqualification in respect of sex in regard to registration. The Dentists Act of 1878 extended the regulations to dental practitioners. There was, lastly, the Act of 1886, with which he was most concerned, where for the first time direct representation was granted, and the registered practitioners of England returned three representatives, and Scotland and Ireland one each, to the General Medical Council, while subsequently the right to choose a member was conferred upon the Universities of Birmingham, Liverpool, Leeds, and Sheffield. The Direct Representatives were elected every five years, and every registered practitioner residing in either of the three divisions of the kingdom had a vote for that division only. That meant that in England and Wales each man could vote for three candidates, but in Scotland and Ireland only for one. The register of voters was the *Medical Register* issued for the year in which the election took place, and, as the register was an alphabetical one, the task of making out a separate list for each division fell upon the candidate and the Election Committee. In Scotland a candidate would, if he wished to send his address to each voter, have to send to 3,845, but an English candidate to 25,168, as that number were actually resident in the English Division which included Wales. Should not England be divided into equal electoral districts? When a vacancy, either from resignation or from the expiration of office, occurred, notice of the election was published. A precept was issued by the returning officer. The day for receiving nomination papers was fixed, and a meeting of each Branch Council was held to see if the nomination papers were valid. The voting papers were issued by the Registrar, a day was fixed for the return of the voting papers, and the votes were counted, and another meeting of each Branch Council was held to certify the result of the election; the poll was then declared by the Returning Officer. Although the clearest instructions were sent out with each voting paper, 1,503 of the returned papers were invalid, owing to the regulations of the Privy Council not being complied with. Out of the total number of voting papers sent out for the English Division—namely, 24,650—11,752, or 47.66 per cent., were returned within the proper time, and 11,831, or 47.98 per cent., were not returned at all. If 12.61 per cent. of papers were invalid when filled in by educated professional men, what would the average be if an election were held under an adult suffrage? Of course, it was very disappointing to anybody who might be fighting for improved recognition of the services of the medical profession to find that so many would not trouble to vote. It had a bad effect, because when a Direct Representative put forward certain views as being those of the profession, he was met with the objection that the medical profession only cared to be let alone, and that half of them did not trouble to vote. He hoped, however, that the medical profession would use the vote when next the quinquennial election came round, and that for future candidates matters might be made easier and less expensive by the more equal division of the electoral districts. The powers of the Council and its limitations he would leave to be dealt with by his colleagues, only referring in passing to the ambiguity of Clause 40 of the Medical Act of 1858, which had for years prevented action so necessary in the interests of the public as well as that of the profession. Some recent resolutions of the Council had been of much interest to every member of the profession. The first, relating to unqualified practice, was by far the most important. The great injury inflicted upon the public and upon qualified practitioners by the unchecked amount of unqualified practice was brought to the notice of the Council by their representatives, and a Committee was appointed to inquire into the matter. That Committee, called the Unqualified Practice Committee, recommended the Council to inquire into the rules in other countries as to unqualified practice and its restriction. The result was most interesting. The Lord President of the Council (Lord Crewe), the Privy Council, the Foreign Office, and the Colonial Office took much interest in the inquiry, and the result was that within a year information was obtained from every country almost that had a government of any kind, either through their

Embassy, or through the Consuls, and the whole of that was put together in a digest of the laws existing in the British Empire and in foreign countries. The evidence was overwhelming that in almost every other country except our own medical practice was most strictly regulated and unqualified practice was not allowed to exist. The regulations in some countries were very strict indeed. In this country he held that there were powers under the Medical Act of 1858 by which unqualified practice could be stopped. The references he had made to the work of the Council would show that as a whole it was not forgetful of the general interests of the body of the profession. It had done its very best lately to do the things it had been asked to do, and so far had been successful and had progressed.

The Chairman, in calling upon Dr. Latimer, said that they ought to be indebted to Dr. Latimer for being there that evening, as he had just recovered from a bad illness.

Dr. Latimer.

Dr. Latimer, having expressed his obligations to the Chairman for his kindly reference to the illness which he had had lately, said that with regard to the Council's work, as Dr. Langley Browne had remarked, it had its limitations. It was able to do certain things, and it was not able to do others. When he was a candidate at the last election he received letters from different practitioners asking him if he were returned whether he would do this and that which as a matter of fact it was quite out of his power to do. For instance, one gentleman asked him what his views were as to a new motor Act, and another asked him if he would go in for a pension scheme, and a third asked him what his religious persuasion was—was he a member of a dissenting community, and if so of what, and finally what were his political views. He had never kept his political or religious opinions under a bushel, but at the same time he felt that he was warranted in returning plain answers to medical questions and passing by those that had to do with other matters, because the General Medical Council might come under the same designation as the makers of a famous soap, who advertised that their wares would not wash clothes, while at the same time they claimed that the special work their soap was set to perform it could do to the satisfaction of the users. That matter of the powers of the Council had already been touched upon by Dr. Langley Browne. Many men held, and held very strongly, that the Council was of no use to the profession; but he hoped to show that it was of the greatest use if medical men would only take more interest in it, and come forward and claim that this, that, and the other, within the limits and powers of the Council, should be done—all would be the better for it. The Council had already done great things for their calling, and when it had failed to do more it had been by reason of its statutory obligations and by its limitations of function. The Medical Act of 1858, which was its charter of existence, was faulty, and failed to protect the medical profession. Under Clause XL, if any person abstained from assuming titles implying that he was registered under the Act, or that he was recognized by the law as such, he could do pretty much as he liked in the matter of practising. The Act, in fact, gave the Council no power to suppress quackery. The law was so loose that, provided a man did not use medical titles, he could practise unhindered; he was simply restrained from giving evidence as a medical man in courts of law, and from obtaining and holding certain public appointments. And in courts of law the restriction seemed to apply only to scientific evidence, for he had himself seen a masseur from a bath called to give evidence of fact as to a person's ailment and inability to work, while many could call to mind instances in which bonesetters were called as witnesses in cases where they had been in attendance. Some of the British Colonies and Dependencies had passed enactments which went much further than the British Act. For instance, in Bermuda an Act assented to in 1906, after stating, "It shall be unlawful for any person to practis medicine or surgery within the Colony unless such person is registered under the Act," proceeds:

> A person shall be deemed to practise medicine within the meaning of the Act who for pecuniary or other valuable consideration treats, heals, cures, or relieves or attempts or holds himself out as being able to treat, heal, cure, or relieve persons suffering from pain, injury, deformity, or disease, whether of mind or body, by the administration of drugs or any other substance whatever possessing or alleged by the person administering or applying it to possess, whether inherently or as administered or applied by such person, any curative efficacy.

That was followed by a similar enactment as regards surgical treatment, and the Act ended by imposing substantial penalties on those who infringed it. Newfoundland also penalized those who falsely took or used any name, title, or addition implying a qualification to practise medicine, surgery, or midwifery or dentistry, or receive any payment for practising the same under heavy penalties for infraction of the law. But the best clause in any of the ordinances was that passed in the British Central Africa Protectorate, which ran thus:

> Any person who shall wilfully and falsely pretend to be a duly qualified medical practitioner, or shall take or use any name or title implying or calculated to lead people to infer that he is duly registered under this Ordinance, and any person who shall practise or shall do anything or perform any such acts as specially belong to the profession of a medical practitioner without such registration as aforesaid, shall on conviction be liable to a fine not exceeding £100 for each offence, or in default of payment thereof imprisonment, with or without hard labour, for any period not exceeding one year.

How excellent it would be if some of the peripatetic quacks who infested the United Kingdom came under legislation of that sort! The fact was, as Sir Donald MacAlister had pointed out in the admirable address he delivered at Manchester University in 1906, the Act of 1858 was passed, as its preamble stated, not so much for the protection of medical men, but as a guide to the public to distinguish qualified from unqualified practitioners. Apparently a different spirit had arisen of late as regards this matter, for, recognizing the dangers to the public from the attendance of ignorant and dirty midwives, women who carried on this work were restrained from doing so by the Midwives Act, and only those who complied with certain conditions were to be allowed in future to carry on the work. It was the duty of the medical profession to collect a mass of evidence respecting the evils wrought by quacks, and to present them to the proper quarter to show the Legislature that as much evil was wrought by them as resulted from dirty and ignorant midwifery. Although the General Medical Council had little power to suppress unqualified practice by individuals, it had successfully resisted its establishment in corporate form. For instance, the British Optical Association, a body of tradesmen selling spectacles and testing sight, applied to the King and the Privy Council in 1906 for a charter of incorporation, in which they imitated the Medical Act in various particulars. A central board was to be created to grant qualifications after examination, and it was proposed to provide that "no person shall be entitled to recover any fee or charge in any court for giving any evidence or advice, or acting in any manner as a sight-testing optician unless he is registered," etc. The body also asked for penal powers restricting sight-testing to its members (it kindly excluded legally-qualified medical practitioners from this prohibition) under a money penalty, and it asked for powers to "decide as to the proper title or titles to designate fitly the practice of sight-testing opticians." That petition having been referred to the General Medical Council for its consideration by the Privy Council, the former body adopted and sent to the latter a resolution stating that, in its opinion, it was dangerous in the public interest to confer the powers and privileges contemplated therein on persons other than those duly qualified in medicine and surgery. The Privy Council had advised His Majesty not to grant the Charter prayed for and it was not granted. It was obvious that as drugs had to be used to paralyse accommodation in many cases, it was inadvisable to entrus

those to the hands of unqualified persons. He noted that those sight-testing men put a long string of letters after their names over their shop fronts, such as F.B.O.A. and F.S.M.C. He supposed it would not be long before they had a draper designating himself by letters such as F.M.S., which, he took it, might mean a fellow from Marshall and Snelgrove's. Yet another example of the usefulness of the Council in that direction was shown by its action in the case of the application to the Privy Council for a charter of incorporation by a body styling itself the "National Association of Medical Herbalists of Great Britain, Limited." As a matter of fact the majority of these people were engaged in carrying on quack businesses which really ought not to be allowed by the State; for medical men and pharmaceutical chemists were compelled to undergo proper training for their respective avocations, and it was an absurdity that ignorant people should be allowed to treat disease or to sell medicines when all could do that who qualified themselves for so doing through the proper channels. As for the results of the medical herbalists' work and of their failures, the public never heard of the latter, for their dupes remained silent. He had brought these two instances forward because he thought it would be seen that the General Medical Council had been very successful in dealing with them. He did not believe the existence of herbalists was for the benefit of the community at large. As things stood, by Clause XXIII of the Medical Act of 1858, no body entitled under this Act to grant qualifications could impose upon any candidate offering himself for examination, an obligation to adopt or refrain from adopting the practice of any particular theory of medicine or surgery as a test or condition of admitting him to examination or of granting a certificate. Thus a man might be a homoeopathist, for instance, but he must first of all have been properly educated to get on the *Medical Register*. As long as he had satisfied his examiners and had got on the *Register* he was not to be debarred from practice because he adopted any peculiar theory as to practice. He wished, in justice to the public and themselves, that the General Medical Council possessed powers to deal with individual quacks and with quack medicines, by which so much injury was done, but it did not. Measures to curb and restrain these abuses had long been called for, and he hoped they would be obtained in the end. The remarkable book issued by the British Medical Association on *Secret Remedies*—a book which he was glad to see sold at the bookstalls—would open the eyes of the public to the injury which was being done to the community by these various nostrums. The Home Secretary had stated, in reply to Captain Craig in August last, that he was "disposed to think that this matter may be one of sufficient importance for an inquiry by a Select Committee next session"; and, when further pressed, he said "he was disposed to think it was desirable." The General Medical Council, largely constituted as it was of men representative of the universities and corporations of the kingdom, kept a very jealous eye on medical education, and he doubted whether any corporate body in the land had made fewer mistakes in its action than had the Council in regard to its penal powers. Under the able guidance of a series of eminent presidents, among whom they might count Sir Donald MacAlister as by no means the least distinguished, and with the advice of the eminent counsel and lawyers it had employed, it had through a series of years drawn up and put into action rules which had been very aptly described by Sir Donald MacAlister as the "Common Law of Medicine." So carefully had those rules been formulated and so justly had they been enforced that although attempts had been made from time to time to upset individual decisions, those attempts had invariably failed. The matter of principals and assistants had been set on a firm basis, and the unqualified assistant who was so essentially a part of contract practice in the past had almost disappeared owing to the Council's rules concerning "covering." Undoubtedly some hardships were inflicted in the matter, for there were a large number of men formerly employed as assistants who were unqualified and who from some cause or other were unable to become qualified, but a long notice of the intention of the Council was given, so that the rule was brought into force with as little disturbance as possible. One good result had certainly followed this action of the Council. Directly a medical man had become qualified, he had found it easy to get a living, and so young men had started very well. The Council had legislated in that way so that the profession of medicine might be above suspicion as an honourable one, and he felt sure that when the time came for some effective action to be taken against quackery, the fact that it had suppressed unqualified practice within its ranks would help it very materially in its public action. In that, as in other matters of ethics, its action had been slow but sure. For in ethics, as in other domains of thought, there was change and progress. They were living in an age of progress, when awakened consciences were resulting in changed conditions of the life of the members of the community. No longer were they contented to allow the poor to live in insanitary houses or children to be neglected or ill treated by unnatural parents. A considerable amount of the work of the Council was "penal," under which it exercised its functions as a court trying various misdemeanours, technically known as "infamous conduct in a professional respect." The only punishment the Council could inflict was removal of the name of the offender from the *Register*, and at first sight it would seem as if the Council should possess some modified powers of punishment—such, for instance, as those possessed by the Board of Trade, when the certificate of an officer of the Mercantile Marine was suspended for a certain period. He confessed that when he first went on the Council it troubled him to think that a man who had committed some professional misdemeanour should lose his livelihood, but, as a matter of fact, the regulation did not work in that way at all. If it was not a very clear case and there were extenuating circumstances, the individual received a strong reprimand or he was told, if the Council could not acquit him, that he must come up at the next session for judgement, and in the meantime must conduct himself properly and must bring certificates that he has led a correct professional life. In that way sentence hangs over him for six months and it was no light thing for a man to have a sentence of that kind hanging over his head. As to what the present Representatives had done on the Council he thought they must be satisfied with the fact that they had done two of the things they had gone there to do. They had got an additional Representative granted to them for the next election and the Unqualified Practice Committee had called for a Royal Commission to consider the matter of unqualified practice. He desired also to draw attention to the matter of constituencies. He did not think the present way of electing Direct Representatives was fair either to the electors or to the Representatives. What would be thought of a constituency of 25,000 men who never saw their representative, and yet he and his colleagues were proposing to appeal to the whole body of England and Wales for support: they could not go north, east, south, and west through England to appear before various meetings. Time was very precious, and it was too expensive a process. If the General Medical Council was to have increased powers, and was to do more in the future than it had in the past, it would lie largely with the British Medical Association in its general action to see that they should have those powers.

Dr. McManus.

Dr. McMANUS, after thanking those present for the opportunity afforded him of giving an account of his stewardship, said that he could thoroughly endorse all that Dr. Latimer had said as to the numerous cranks who had written to him on various subjects. He had been asked his nationality, his religion, his politics, and various questions which had nothing whatever to do with the election. Dr. Langley Browne had led them with the greatest skill, and it was largely owing

to his tact, courtesy, and intimate knowledge of both men and matters that they had obtained the large concessions he had mentioned, and which were, he (Dr. McManus) believed, unprecedented. When he first went on the Council he had been told that the elected representatives were treated with scant consideration, and that it would be simply knocking one's head against a stone wall to expect anything from the Council as then constituted, but he had found that was far from the case. They were treated with courtesy, they were listened to attentively, and their suggestions and resolutions were seriously debated and considered. But having said all, the conviction remained that the constitution of the Council was radically wrong, and it was likely to remain so unless pressure was brought to bear from outside. He sketched the feelings of a young practitioner just starting on his professional career. He believed he belonged to a powerful craft, which would defend his rights if they were attacked, but he speedily became disillusioned. He found he had no privilege, except the one of working eighteen hours a day for a minimum and sometimes a mythical wage. He found he was bound hand and foot by certain ethical customs, which were as unchangeable as the laws of the Medes and the Persians. Was it to be wondered that he ultimately looked on the Council with dislike and dread? If, however, by any chance he was brought before that body, he had an absolute guarantee that his case would be fairly tried. The Council was not a court of morals; the offence must be a professional one, and there was only one penalty, that of being struck off the *Register*. On the whole he felt certain that the Council was most anxious to be perfectly just, and treat each case on its merits. He maintained that reform ought to proceed from within. The franchise of the corporate bodies ought to be enlarged, so that every diplomate could have a voice in the election of the Representative of his particular university or college. As regards the elected Representatives, England should be divided into three districts, and Wales should have the fourth. This would curtail the heavy expenses of election, and they would be more likely to get thoroughly representative men on the Council. An Act of Parliament should be passed enlarging and making more elastic the powers of the Council and enabling it to deal with quacks of all sorts. There was much spade work before their Representatives, but they would be encouraged by their successes in the past.

Questions having been invited from the body of the meeting,

Dr. MAJOR GREENWOOD desired to know whether their Representatives could give them their views with regard to several matters, which he specified, dealt with by the Report of the Royal Commission on Poor Law as affecting general medical practitioners

Dr. WILLIAM H. DAY complained of the manner in which he had been called upon to take the oath on the Testament in court, and asked whether it was a subject on which he could appeal to the British Medical Association.

The CHAIRMAN, in reply to the latter question, stated that Dr. Langley Browne was not prepared to answer the question, but thought that the British Medical Association ought to be the proper body to which to refer the matter.

Dr. LANGLEY BROWNE, in reply to Dr. MAJOR GREENWOOD, said he was not yet prepared to say much about the Report of the Poor Law Commissioners. He could only say that the position of the union medical officers all through the Black Country was one that could not be worse. He sympathized a good deal with the Minority Report.

Dr. LATIMER, in reply to a question which was handed up, said he believed the General Medical Council thoroughly represented the views of the profession in thinking that the prescribing chemist ought to be stopped.

The CHAIRMAN: I should like to ask Dr. Latimer, Is there an early prospect of the suppression of the sale of patent drugs?

Dr. LATIMER: I am afraid not.

Dr. S. H. CURRY asked what would happen on increased representation in Parliament—would the General Medical Council still exist?

Dr. MCMANUS: It would not affect the Council so much as the interests of the profession at large if we had some medical men in Parliament.

Sir VICTOR HORSLEY moved a vote of thanks to the three Representatives who had addressed the meeting, and said that if anything was calculated to improve the position of the profession at large in the minds of the members of the General Medical Council it could be secured best by returning the Representatives whom they had before them that evening under the leadership of Dr. Langley Browne.

Dr. PARAMORE seconded the vote of thanks, which was carried amidst applause and duly acknowledged.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1909.

Tuesday, November 23rd, 1909.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

NEW MEMBERS.

DR. JOHN DIXON MANN, as Representative of the Victoria University of Manchester, was introduced by Dr. CATON. Sir Christopher Nixon, M.D., LL.D., as Representative of the National University of Ireland for a period of three years from November 11th, 1909, was introduced by Sir THOMAS MYLES.

PRESIDENT'S ADDRESS.

Increased Direct Representation.

GENTLEMEN,—His Majesty the King in Council has been graciously pleased to approve and give effect to the representations which, on May 25th, you directed to be made, and which I duly communicated to the Privy Council. An Order has accordingly been issued, which confers on the registered practitioners resident in England and Wales the power, at the next general election, of returning an additional member to this Council. Thus, in about two years' time the directly elected representatives of the practitioners of England and Wales will number four, instead of three, as at present. Our respectful acknowledgements are due to the Privy Council for their good offices in commending our request to His Majesty's favourable consideration.

Honours to Members.

You will have learnt with much pleasure that His Majesty has bestowed the dignity of a Baronetcy on our Treasurer, Sir Henry Morris, and on our late Treasurer, Sir Dyce Duckworth. The Council will be at one with me in wishing that both our colleagues may long wear these merited honours in health and happiness.

Death of Judicial Assessor.

The tragic death of Mr. Sydney G. Lushington, in the prime of his active powers, has deprived the Council of an adviser by whose legal skill and practical wisdom it has constantly profited during the past five years. When, in 1904, the Council lost the services of Mr. Muir Mackenzie, owing to his official promotion, it felt deeply the withdrawal of an adviser on whose guidance it had confidently relied for some twenty-five years. On his recommendation we invited Mr. Lushington to act on occasion as Assessor. We recognize to-day that in thus advising us Mr. Muir Mackenzie rendered us a service which deserves our warmest gratitude. Session by session Mr. Lushington gained an ever surer place in our esteem, not only for his professional but for his personal qualities. He knew how to combine special

knowledge with sound common sense, firmness with courtesy, and respect for precedent with open-mindedness in presence of new conditions. Many who knew intimately his character and attainments thought him destined for high office in his profession. To these friends, and to the members of this Council which he served so well, his untimely death brings more than regret for the interruption of a distinguished career; it brings also a sense of sorrow as for a personal loss. Acting on what I believed would be your desire, I arranged that the Council should be represented at Mr. Lushington's funeral; and I sent a message of sympathy and regret to his relatives, which has been gratefully acknowledged by them.

New Judicial Assessor.

As it was necessary to instruct Counsel to advise us with reference to certain penal cases, and to act as Assessor at inquiries to be held during the present session, I consulted Mr. Muir Mackenzie and our Solicitor, Mr. Winterbotham, on the subject. By their advice, Mr. A. H. Bodkin has been requested to give us his assistance during this week. Mr. Bodkin is familiar with the procedure of the Council, and he holds a public legal appointment under the Attorney-General similar to that previously held by Mr. Muir Mackenzie and Mr. Lushington. It should perhaps be explained, for the benefit of new members, that the Council has not hitherto made any permanent appointment to the office of Judicial Assessor. Counsel is simply instructed from time to time in the customary way, as need arises. Before the end of this meeting I shall take occasion to ascertain your wishes as to future arrangements in this respect.

Death of Sir William Thomson.

Another distinguished man, who for ten years was honourably associated with the Council as the Direct Representative from Ireland, has passed away during the present month. Sir William Thomson, C.B., had won a prominent place among his brethren for his manifold services to the profession and to the State. Those who sat with him in this chamber will long cherish the memory of his impressive bearing and his helpful interest in the Council's work. On your behalf I have sent a letter of condolence to Lady Thomson and her family.

New Members.

We have to welcome, as a new member, Dr. John Dixon Mann, whom the Victoria University of Manchester sends to the Council in the place of Professor Young. He will find that his fame as a medical jurist has preceded him, and that the Council reckons with confidence on his ability to assist it in dealing with the questions, partly medical, partly juridical, which come before it. He will find also that the associations left by Professor Young are of so happy a character that it is already a recommendation to be his successor.

We receive back Sir Christopher Nixon in a new guise, but with the old cordiality. In May he sat as the member for the Royal University of Ireland, of which he was Vice-Chancellor. The Royal University expired a few days ago, and with it his membership. But the National University of Ireland and the Queen's University of Belfast has now arisen in its stead. Sir Christopher returns with undiminished lustre as member for the National University, in which he is both Professor of Medicine and Vice-Chancellor.

Under recent Acts of Parliament the Queen's University of Belfast and the University of Bristol have each acquired the right to appoint a member of the Council. The Registrar has not yet received intimation that the appointments have actually been made.

Reciprocity with Canada.

The movement for the application to the Provinces of the Dominion of Canada of Part II of the Medical Act, 1886, initiated in Nova Scotia and Quebec, continues to make progress. The province of Prince Edward Island has now petitioned His Majesty in Council that the benefit of medical recognition on reciprocal terms may be extended to it. Negotiations on the question are proceeding, and, as the provincial law appears to afford due facilities for the local registration of all practitioners registered in the United Kingdom, it may be expected that a satisfactory agreement will speedily be reached.

A recent alteration in the Provincial law of Quebec appears to the Executive Committee to have the effect of limiting, in a manner which was not contemplated during the original negotiations, the recognition in Quebec of qualifications that are registrable in this country. As the question raised concerns in the first instance the Privy Council rather than the Medical Council, the attention of the Lord President has been called to it, and I have reason to believe that inquiries will be made through the proper official channels. We shall no doubt be informed of the result in due course.

Legislation as to Anaesthetics.

The Committee appointed to consider various proposals for legislation on the subject of anaesthetics were informed officially that no progress was likely to be made with these proposals during the present session of Parliament. I therefore refrained from summoning the Committee to meet during the recess; but a meeting will be held during the present week, and a report on the subject will be prepared for your consideration. Meanwhile I was asked, as your President, to appear before a Departmental Committee, appointed by the Home Secretary, and give evidence regarding the action taken by this Council to promote the practical study of anaesthetics by candidates for medical qualifications. I did so on November 19th, and laid before the Committee the relevant extracts from your Minutes. The Chairman of the Committee expressed the desire that any further resolutions on the question, which the Council may adopt during the present session, might be communicated to him.

Draft Charter of the British Medical Association.

The objections taken last May by the Council, on legal grounds, to certain provisions in the proposed draft Charter of the British Medical Association, were communicated to the Lord President of the Privy Council for his information. There is reason to believe that our criticisms, and those offered by various other bodies, have been brought by His Lordship to the notice of the Association. It is probable that an amended draft, in which account is taken of these criticisms, will in due course be substituted by the Association for the original proposal.

Report of Education Committee.

The Report of the Education Committee on the distribution of the medical student's time, as between the several parts of the curriculum, will in accordance with your resolution be discussed to-day. Its terms have been long before the Council, and have no doubt been carefully considered by members individually. It is to be hoped that the Council is now ready to discuss and to decide upon the important and yet simple proposals it contains for the improvement of medical education, more especially in regard to the branches of knowledge on which professional competence mainly depends.

The Pharmacopoeia Committee.

The Pharmacopoeia Committee held a two days' meeting last month for the consideration of the suggestions for the revision of the *Pharmacopoeia*, made by the several medical authorities with respect in particular to the omission or inclusion of specified drugs and preparations. With the assistance of the Secretary, Dr. Tirard, the Committee were able to arrive at provisional conclusions in a large number of instances. These will form the basis for further inquiry, and at a later stage will come up for definitive settlement. Meanwhile the Committee of Reference in Pharmacy continues its labours for the improvement, from a pharmaceutical point of view, of the several monographs in the present issue of the *Pharmacopoeia*.

Disciplinary Cases.

The November Session is understood to be set apart especially for disciplinary inquiries. Owing perhaps to the more systematic notification by the civil authorities of offences and convictions in which professional men are concerned, we have on this occasion a considerable number of such cases to deal with. Some of these are of a novel character, and will call for your special attention. But all have been patiently studied by the Penal Cases Committee, with the help of our Legal Adviser, and in the light of the documentary evidence submitted. In every instance the Committee has satisfied itself that there is a case which prima facie calls for an answer, and it has accordingly authorized the institution of an inquiry by the Council, before which alone the case and the answer can be fully stated and supported by oral or other testimony.

The question whether it is practicable in medical cases, as it is in dental cases, to delegate such inquiries, so far as the facts are concerned, to any body of members short of the full Council, has been occupying the attention of the Executive Committee. But in view of certain difficulties, as yet unsurmounted, the Committee are not at present prepared to offer definite proposals for your consideration. In so important a matter it is necessary that the statutory responsibilities of the Council should first be fully ascertained and discharged. Even serious considerations of convenience and economy cannot be allowed to outweigh considerations of legal obligation, should these prove to be in conflict. Personally I express the hope that the Executive Committee may discover some way by which they may be reconciled.

RESULT OF EXAMINATION FOR INDIAN MEDICAL SERVICE.

A table showing the degrees, diplomas, and licences of the candidates for commissions in the Indian Medical Service at the examination, July, 1909, showing the numbers that did and did not pass and distinguishing the qualifications, was received and entered upon the Minutes, and a vote of thanks to the Under Secretary of State for India adopted.

It appeared that at this examination there were 21 vacancies, and 21 commissions were granted; in addition 19 candidates obtained the qualifying marks. Of the 21 candidates who obtained commissions, 14 held the diplomas of the Conjoint Board of England; 1 of these had in addition the diploma of F.R.C.S. and the degree of M.B.Liverpool, 2 others degrees of M.B. of the University of Edinburgh, 4 of the University of London, 1 of the University of Cambridge, 1 that of L.M. and S.Bombay, and 1 the degree of M.D.Brux. Of the other 7 successful candidates, 1 held the qualification of the University of London, 1 of the University of Edinburgh, 4 of the University of Glasgow (1 of whom also held the degree of the University of Edinburgh), and the sixth that of L.M. and S.Punjab.

RESTORATION TO DENTISTS' REGISTER.

The Council went into camera, and on resumption the PRESIDENT announced that by a resolution of the Council the Registrar had been directed to restore to the *Dentists' Register* the name of William MacGregor Veitch.

REPORT OF EDUCATION COMMITTEE.

Dr. MACKAY, Chairman of the Education Committee, brought up again the report of the Committee presented to the Council in November, 1908,[1] together with a supplementary report (on various proposals submitted to the Committee referring to the curriculum in medicine) presented to the Council in May, 1909.[2] The reports were not discussed in May, owing to want of time, and Dr. Mackay now moved that the Council should adopt the following conclusion of the supplementary report presented in May:

> The Committee accordingly advise that the following be added to the "Recommendations of the Council in regard to Professional Education":
>
> For the purposes of this recommendation the subjects of the curriculum are arranged in two groups, the earlier group comprising the Preliminary Sciences and Anatomy and Physiology, the later group embracing all the remaining subjects, exclusive of Pharmacy.
>
> The Regulations of the bodies should be so framed as to secure (1) for the study of the subjects of the later group the reservation of a period equivalent in value to two and a half academic years (twenty-seven months) of undivided study, half time value being allowed for periods of work in which studies in the earlier and later groups overlap; and (2) the reservation of a period of two academic years (twenty-one months), in which the studies of the later group shall have the undivided attention of the student.

Dr. MACKAY said it would be seen that the committee in its report had divided the curriculum into two groups, an earlier group for the first period, which embraced all the subjects up to and including anatomy and physiology, and a later or second group which included all the remaining subjects, exclusive of pharmacy. It would be observed that the conclusion stated that the regulations of the bodies should be so framed as to secure for the study of the subjects of the later group the reservation of a period equivalent to twenty-seven months; that was to say, that half the course, practically, could be given to the study of the subjects of the final examination; but there were two methods by which this condition could be satisfied. The student could give the whole twenty-seven months of absolutely undivided study to the subjects which constituted the final examination, or he might complete anatomy and physiology in the middle of his course, giving himself seventeen months of undivided study for the final. On the other hand, the committee recognized that in many bodies there are periods of overlapping study, and the best possible method was that the student should have twenty-one months; that is to say, two full years of absolutely undivided study for his final examination, and twelve months for the study of anatomy and physiology. In either of those two ways the student would be able to fulfil these requirements should they be adopted by the Council. Proposals had been made from time to time to the Education Committee which came chiefly from clinical teachers, and from those whose life-work lay in connexion with the subjects of the latter part of the curriculum. Dr. Lindsay Steven, Sir Henry Morris, Dr. Bruce, Sir John Batty Tuke, Dr. McCall Anderson, and Sir John Williams had brought up motions to the Education Committee dealing with the curriculum. The proposals which the Council was asked to discuss seriously that day were proposals which had to do with the extension of time for the curriculum. There was another proposal which had to do with the teaching of science in the schools of the country; that question had been discussed on several occasions, and the Education Committee had reported to the Council at the last May session upon the subject. He urged the Council not to go into the matter that day, as it would complicate the real issue, which was as to the length of the curriculum, as to whether it should be extended, and the best method of extending it. If the Council thought the curriculum should be extended to six years, then would be the time to discuss the question whether one of those years should be spent in schools. But, until the Council came to that decision, he thought the time would be saved if it were left aside for the moment. The Council had two definite proposals before it as to the extension of the curriculum. One was a proposal that the curriculum should be extended to six years, and the other that the curriculum should be extended by means of a block introduced at a certain place, and the student should be prevented from passing that block until the earlier subjects had been completed. The proposal to lengthen the curriculum to six years was exceedingly important, and if the Council found there was a consensus of opinion on the part of experts in medical education that there was not enough time at present to teach the subjects properly, then the question would be settled definitely, and no statistics could really stand against an argument of that kind. A statement had been drawn up by the Committee showing the curriculum as it was

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, December 5th, 1908, p. 305 et seq.
[2] Ibid., June 5th, 1909, p. 364 et seq

carried on in all the different schools of the country. There had also been sent out a copy of a suggested arrangement of the medical curriculum which was drawn up by the speaker for the university which he represented, but the university had not yet had an opportunity of considering it, and it was not its proposal. It was simply a suggestion of his own. His object in bringing these documents before the meeting was to show that all the subjects of the medical curriculum could be taught within five years, and that in the fifth year nothing need be included but clinical work, and that there was abundance of time left in the fifth year for all the clinical work that was necessary. The speaker thought that on looking at the proposal most of the members of the Council would agree that there was ample time within the five years' curriculum for the inclusion of all the subjects demanded by the Medical Council. According to the report of the Victoria University of Manchester, 72 per cent. of the students passed within five and a half years, and, according to that of the University of Glasgow, 56 per cent. passed in five and a half years. He could have taken other figures from other reports, but he thought that he had quoted sufficient to show that the teaching work was done well in many of the schools, and it would be a very serious hardship if the Council were to delay men passing examinations who apparently were well qualified. He found from statistics that the average age at which a student commenced medical studies, taking the whole of the three kingdoms, was 19½ years; the average course was seven years, and, therefore, the average age of graduation was 26½ years; 34 per cent. of the men qualified in five and a half years, and 66 per cent. of the men qualified in six years or more. The Education Committee considered that the Council should lay down a fixed minimum period for final study, and the Committee had suggested twenty-seven months. It wanted to lay down the proposition that half the course should be given to the final subjects. This would not affect the average student at all; the man it would affect was the man who had got on too quickly. The Committee came to the conclusion, after a careful study of the percentages that the facts were not strong enough to warrant anything further in the way of lengthening the course. At the same time it thought the proposal very important. It had been suggested to the Committee that there should be a block at two stages, but in view of the fact that all blocks tended to lengthen the course, and in view of the fact that some of the subjects were very closely related, the Education Committee came to the conclusion that it would be unjust and inadvisable to introduce a second block.

Sir Christopher Nixon (National University of Ireland) seconded the adoption of the recommendation, reserving his right to make a speech until later.

Dr. McVail inquired what the "block" meant, or what it involved.

Dr. Mackay replied it meant that if a student had not passed the examinations in anatomy and physiology by the middle of his third year, and he had not commenced his final study before the beginning of the third year, his course would be lengthened.

Sir Hugh Beevor (Apothecaries' Society of London) inquired what percentage of students would be affected by this.

Dr. Mackay said about 3 or 4 per cent.

Dr. Norman Moore (Royal College of Physicians of London), as a member of the Committee, agreed generally with the report. A factor of much greater importance in the later than in the earlier period of study was that the student must instruct himself, and the reason for recommending a long period for the final studies was that that acquisition must necessarily be by way of very slow and gradual methods. There was a danger of permitting the imperfectly-prepared medical student to qualify. He thought that could be prevented by insisting upon a long period of study by the medical student himself. That was the whole purport of the report under discussion, and if the Council accepted it it would be doing no more than saying that it was of opinion that a long period ought to be given to the final study, and that that period ought not to be invaded by any other subject whatever. He trusted that, without regard to any minute details, the Council would strongly support the view that the final studies, owing to the way in which the subjects had to be studied, ought to be allowed a certain definite and uninvaded period in the regulations of every qualifying body.

Sir Charles Ball (University of Dublin) said that there had been a custom in Dublin for many years for a large number of students to become resident pupils in a hospital for four or six months, and the education which they received during that time was far and away better than could be obtained by any attendance during two or three hours a day. With regard to the proposed block, the difficulty of preventing the examinations in anatomy and physiology being taken so late in the student's career that they interfered with his practical work, was fully realized in Dublin, where, during the last year or two, a block system had been introduced, which, so far as his experience went, worked satisfactorily. A candidate was required to pass the examinations which nominally should be passed at the end of the second year before he commenced any of the practical courses of his fourth year. In practice, this arrangement was found to work extremely well.

Sir Thomas Myles (Royal College of Surgeons in Ireland) thought that the recommendation erred, if at all, on the side of moderation, but fully agreed that the student should not be tied up in a series of watertight compartments.

Sir John Moore (Royal College of Physicians in Ireland) illustrated the way in which the second year of medical study was used for hospital instruction in Dublin.

Professor Saundby (University of Birmingham), while not more opposed to the particular changes than the previous speakers, did not like watertight compartments from which there was no escape. The curriculum was greatly crowded, and it was difficult to get the whole of the instruction into the five years. He regretted that after all the years which the Committee had considered the subject, it had only been able to bring forward so insignificant a recommendation. In his opinion a great many men were allowed to enter the profession whose preliminary education was obviously extremely defective. Another defect was the growing practice of allowing students to take their examinations piecemeal. That had tended to encourage cramming, and to prevent students from gaining a proper knowledge of the subjects.

Dr. Kidd inquired whether the Council was asked to vote on the question of time—five or six years.

The President pointed out that the motion before the Council was one by Dr. Mackay—that the recommendation of the Committee should be adopted by the Council. The recommendation practically meant that the regulation should be so formed as to secure two things: (1) That the study of the later group of professional subjects—pathology, therapeutics, medicine, surgery, and midwifery—should extend over not less than two and a half academic years; and (2) that of the earlier two and a half years two should be devoted specifically to anatomy and physiology.

Sir Thomas Fraser (Edinburgh University) said that he was in the happy position of representing a body which, after a careful consideration of the report, had expressed its general concurrence with it. His university had a large number of men from the Colonies, and also from the great Dependency of India, and it was found that a large number of these men, certainly of those from India, had already attended, for three or four years, reputable institutions, and went to the university in order to get a degree. They studied for a certain time, and had to pass all the examinations; he thought it would be very hard if those men were required to wait four or five years longer in order to fulfil the requirements of the university as to the duration of the curriculum, and this university agreed with the recommendation of the Committee. It was important that such subjects as Physiology, Chemistry, should be insisted upon, and that the intellects of

men should be so trained that they would afterwards be better able to acquire the knowledge necessary for them to carry on their profession.

Sir HENRY MORRIS (Royal College of Surgeons of England) thought the time had come when all the numerous resolutions passed recommending that there should be a very considerable revision of the subjects of the curriculum should be taken into account. The proposer of the resolution, however, desired that the discussion should not traverse that portion of the recommendations. He therefore turned to the statement made that 56 per cent. of students took five and a half years in one university, and 74 per cent. in another; that was not consistent with the statement contained in the report that the average length of the curriculum throughout the country at the present time was seven years. Was the Council to be guided by the suggestions from the different parts of the country, or by the exceptional instances mentioned? He thought that was a matter of great importance, because it went to the root of the statement that there had not been sufficient evidence before the Committee that the length of the curriculum was too short. He was not going to say whether the curriculum was too short or too long, but he considered that the number of subjects contained within the curriculum was too great for the time in which the student had to study them. There was no mistake about that, and there was also no mistake that the recommendation contained in the report would obviate that, for it proposed a curriculum which the evidence showed would be carried out within the time allotted to it. The Council, if it adopted the report, was declaring that it had not got evidence that the curriculum was overcharged and was also suggesting to the students that it was possible to get qualified by following their education for a period of five years, when they had in the report in question proved that only 13.8 per cent. could do it. The Council, therefore, was tending to encourage those teachers, parents, and guardians, who were unacquainted with the work of the medical curriculum to suppose that by providing money for their boys they could get them educated in five years, when the Council itself knew that the majority of the men required six years. He did not think that that was a position which the Council ought to hold. The curriculum should be relieved of some of its subjects and not added to from year to year.

Sir CHRISTOPHER NIXON said the object of the report was to try to provide the public with reliable practitioners in medicine and surgery. He himself had somewhat different views from the recommendations made by the Committee, although he thought at the present stage those recommendations were the most practicable and most likely to be passed by the Council. He would be glad that the subjects of the first year—that is to say, botany, zoology, chemistry, and physics—should be eliminated from the medical curriculum. They should be regarded as really subjects of preliminary education, and he would be in favour of the first block being introduced until the student had passed in all those preliminary subjects. The student would then commence his true medical course, and would have all the subjects in that medical course leading up to the final subject, the knowledge of which was essentially necessary to the taking of a degree. Let there be a five years' curriculum for the men who could pass in that time, and let there be a seven or eight years' curriculum for the men who could not pass the examination in five years. He could see no advantage in laying down an absolute rule. If a man passed the preliminary subjects, let him then take as long as might be necessary to acquire a thorough knowledge of medicine, surgery, and midwifery. On that point he would like to express his very strong dissent from what Sir Thomas Fraser had said. It was most important that a student should commence early to know his hospital work. There was not a day that a student attended a hospital or dispensary when he would not see cases treated which he would have to deal with in after-life. He wished to support what Dr. Mackay had said. He was a Chairman who had discharged his duties in a magnificent way, and he did not think that he had ever sat under a more able chairman, or one who had more conscientiously discharged his duty. He had compiled his very valuable figures with immense labour. For that reason he was particularly anxious to press upon the Council that the best way to solve the difficulty at present was to adopt the recommendations of the Committee.

Dr. NORMAN MOORE moved the adjournment of the debate until a time to be fixed by the Business Committee.

Sir CHRISTOPHER NIXON seconded, and

The Council adjourned.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

COLONEL O. E. P. LLOYD, V.C., is promoted to be Surgeon-General, vice W. Donovan, C.B., retired, November 17th. Surgeon-General Lloyd entered the service as Surgeon, August 4th, 1878; became Surgeon-Major, August 4th, 1890; Lieutenant-Colonel, August 4th, 1898; and Colonel, April 22nd, 1905. He served in the Boer war in 1879, and was at the storming of Sekukuni's stronghold and at the capture of King Cetewayo (medal with clasp), and at the subsequent defence of Standerton. He was in the Kachin Expedition in 1892-3, part of the time as Senior Medical Officer with the force, and was at the attack on the Sima Post, on which occasion he took command after Captain Morton, the officer in command, was killed (mentioned in dispatches, V.C., and medal with clasp). He was awarded the Victoria Cross for conspicuous bravery under the following circumstances: "During the attack on the Sima Post, by Kachins, on January 6th last (1893), Surgeon-Major Lloyd, on hearing that the commanding officer, Captain Morton (who had left the fort to visit a picket about eighty yards distant), was wounded, at once ran out to his assistance under a close and heavy fire, accompanied by Subadar Matab Singh. On reaching the wounded officer, Surgeon Major Lloyd sent Subadar Matab Singh back for further assistance, and remained with Captain Morton till the Subadar returned with five men of the Magwe Battalion of Military Police, when he assisted in carrying Captain Morton back to the fort, where that officer died a few minutes afterwards. The enemy were within ten or fifteen paces, keeping up a heavy fire, which killed three men of the picket and also Buglar Purna Singh."

Brevet Colonel T. P. WOODHOUSE, from the Royal Army Medical Corps, to be Colonel, vice O. E. P. Lloyd, V.C., November 17th. Colonel Woodhouse's previous commissions are thus dated: Surgeon, February 5th, 1881; Surgeon-Major, February 5th, 1893; Lieutenant-Colonel, February 5th, 1901. He served in the South African war in 1899-1902, being present at the relief of Ladysmith, and in operations in Cape Colony, the Orange River Colony, and the Transvaal: he was mentioned in dispatches, and received the Queen's medal with three clasps and the King's medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT C. CASSIDY is seconded for service with the Egyptian army, October 14th.

Lieutenant-Colonel M. W. RUSSELL has been appointed Staff Officer to the Principal Medical Officer, Eastern Command, vice Lieutenant-Colonel C. R. Tyrrell.

The undermentioned officers, who are serving in India, are appointed Specialists in the subjects stated: Captain J. H. CAMPBELL, M.B., Brigade Laboratory, Allahabad, Prevention of Disease, from September 14th; Captain A. H. SAFFORD, Brigade Laboratory, Fyzabad, Prevention of Disease, from September 16th; Major H. F. C. HOLD, D.S.O., 3rd (Lahore) Division, Advanced Operative Surgery, from October 11th.

Lieutenant-Colonel H. J. FLETCHER, M.B., who is serving in India, is appointed to officiate as Principal Medical Officer, Abbottabad and Sialkot Brigades, from October 15th.

INDIAN MEDICAL SERVICE.

CAPTAIN T. H. DELANY, M.D., is promoted to be Major, from July 28th. He was appointed Surgeon-Lieutenant, January 28th, 1898, and made Captain, January 28th, 1901. He was in the China war in 1900, receiving a medal.

Lieutenant-Colonel E. H. BROWN, M.D., Bengal, is permitted to retire from the service, from November 14th. His commissions are dated: Surgeon, September 30th, 1886; Major, September 30th, 1898.

The King has approved the promotion of the undermentioned Majors to be Lieutenant-Colonels, dated September 30th, and which has been already announced in the BRITISH MEDICAL JOURNAL, namely: H. B. MELVILLE, M.B., J. C. S. VAUGHAN, M.B., A. L. DUKE, M.B., J. CHAYTOR-WHITE, M.D., J. B. SMITH, M.B., H. F. CLEVELAND, and C. H. BEDFORD, M.D.

Lieutenant-Colonel J. C. C. SMITH, M.B., Bengal, has retired from the service from August 7th. He was appointed to the department March 31st, 1879, and became Lieutenant-Colonel March 31st, 1899. He was in the Afghan war in 1879-80, receiving a medal, and with the Burmese Expedition 1886-8, for which he has a medal with two clasps.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Eastern Mounted Brigade Field Ambulance.—MEREDITH S. DOUBBLE to be Lieutenant (to be supernumerary), October 30th.

London Mounted Brigade Field Ambulance.—Major M. A. COOKE, from the list of officers attached to units other than Medical Units, to be Major, June 20th.

Attached to Units other than Medical Units.—Lieutenant-Colonel and Honorary Surgeon-Colonel R. I. SPARROW resigns his commission, and is granted permission to retain his rank, and to wear the prescribed uniform, October 31st.

Highland Mounted Brigade Field Ambulance.—JOHN M. GRANT, M.B., to be Lieutenant, October 19th.

Third London (City of London) Field Ambulance.—Lieutenant G. L. L. HAWSON to be Captain, August 22nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,566 births and 4,606 deaths were registered during the week ending Saturday last, November 20th. The annual rate of mortality in these towns, which had been 12.0, 13.5, and 13.8 per 1,000 in the three preceding weeks, further rose last week to 14.0 per 1,000. The rates in the several towns ranged from 6.5 in Hornsey, 6.7 in Burton-on-Trent, 8.2 in Reading, 8.6 in Bournemouth, 8.8 in Walthamstow, and 9.1 in Croydon, in Wilkinson, and in Barrow-in-Furness, to 20.2 in Bury, 20.5 in Middlesbrough, 20.8 in St. Helens, 21.1 in Birkenhead, 21.3 in Sunderland, 21.8 in Bootle, 23.3 in Merthyr Tydfil, 24.9 in Swansea, and 26.5 in Hanley; in London the rate of mortality was 14.7 per 1,000. The death-rate from the principal infectious diseases averaged 0.9 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was 0.8 per 1,000, while the rate in the seventy-six towns ranged from zero in the rates ranged upwards to 2.5 in Middlesbrough, 2.6 in Bury, 3.0 in Tynemouth, 3.0 in West Bromwich, 3.2 in Northampton, and 3.8 in Hanley. Measles caused a death-rate of 0.8 in West Bromwich, 3.0 in Hanley, and 3.2 in Northampton; scarlet fever of 1.8 in Bury; diphtheria of 1.0 in Stockport and 1.4 in Warrington; whooping-cough of 1.3 in Coventry and 1.5 in Middlesbrough; and diarrhoea of 1.3 in Merthyr Tydfil, and 1.8 in Aston Manor and in South Shields. The mortality from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 2, 3, and 4 at the end of the three preceding weeks, had further risen to 5 on Saturday last, November 20th; 1 new case was admitted during the week, against 3 cases in the previous week. The number of scarlet fever patients in these hospitals and the London Fever Hospital, which had been 2,743, 2,716, and 2,624 at the end of the three preceding weeks, had further declined to 2,606 at the end of last week; 308 new cases were admitted during the week, against 288, 356, and 284 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, November 20th, 768 births and 708 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 12.9, 15.3, and 15.8 per 1,000 in the three preceding weeks, further rose last week to 19.8 per 1,000, and was 5.2 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rate further declined from 21.4 in Leith and 14.8 in Edinburgh to 17.6 in Paisley and 24.9 in Glasgow. The death-rate from the principal infectious diseases averaged 2.2, the highest rates being recorded in Glasgow and Greenock. Of 46 deaths registered in Glasgow included 34 which were referred to measles, 7 to scarlet fever, 7 to diphtheria, 10 to whooping-cough, and 3 to diarrhoea. Two fatal cases of measles and 2 of diphtheria were recorded in Edinburgh; 3 of diarrhoea in Aberdeen, and 2 in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 20th, 595 births and 439 deaths were registered in the twenty-two principal urban districts of Ireland, as against 564 births and 420 deaths in the preceding week. The annual death-rate in these districts, which had been 16.4, 17.4, and 19.2 per 1,000 in the three preceding weeks, rose to 20.0 per 1,000 in the week under notice, this figure being 5.4 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 23.6 and 18.1 respectively, those in other districts ranging from 9.9 in Galway and 4.1 in Drogheda, to 29.5 in Kilkenny and 32.7 in Wexford, while Cork stood at 21.9, Londonderry at 25.0, Limerick at 17.8, and Waterford at 11.7. The zymotic death-rate in the twenty-two districts averaged 0.8 per 1,000, as against 0.9 per 1,000 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYR COUNTY COUNCIL.—Assistant Medical Officers for Medical Examination of School Children. Salary, £250 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary, £250 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Physiological Chemist to the Cancer Institute. Salary, £350 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

EDINBURGH SCHOOL BOARD.—Two Assistant Medical Officers. Salary, £250 per annum each.

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, E.C. —Honorary Physician.

GLOUCESTERSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Remuneration at the rate of £80 per annum.

HAMPSTEAD GENERAL HOSPITAL, N.W.—Physician to Out-patients.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) House-Physician; honorarium, 30 guineas for six months. (2) Assistant Resident Medical Officer; salary, £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Ophthalmic Surgeon. (2) Resident Medical Superintendent. (3) House-Surgeon. (4) Assistant Casualty Medical Officer. Salary for (2) 100 guineas per annum and £5 washing allowance; for (3) and (4), £30 for six months and washing allowance £2 10s.

HUDDERSFIELD INFIRMARY.—(1) Senior Assistant House-Surgeon. (2) Junior Assistant House-Surgeon (males); salary, £60 and £50 per annum respectively.

LEEDS GENERAL INFIRMARY.—House-Physician.

LEEDS INFECTIOUS DISEASES HOSPITAL AND SANATORIUM. —Resident Medical Officer to act as second assistant. Salary, £120 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Medical Protozoologist.

MANCHESTER CORPORATION: MONSALL FEVER HOSPITAL.—(1) Second Assistant. (2) Third Assistant; salary at the rate of £125 and £100 per annum respectively.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho Square, W.—Honorary Radiographer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—(1) Resident Medical Officer. (2) Junior House-Physician; salaries, £100 and £50 per annum respectively. (3) Nervous Diseases Research Scholarship, value £150 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Physician to Out-patients.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Bacteriologist. Salary at the rate of £120 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Curator and Librarian. Salary, £120 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary, £40 per annum.

SEAMEN'S HOSPITAL SOCIETY, Albert Dock Hospital, E.—(1) Senior House-Surgeon; salary, £75 per annum and £25 per annum for acting as registrar. (2) House-Surgeon; salary, £50 per annum.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician; salary, £50 per annum each.

SHEFFIELD ROYAL INFIRMARY.—Assistant House-Physician. Salary, £60 per annum.

SOUTHWARK UNION.—Medical Officer of the Children's Receiving Homes. Salary, £50 per annum.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer (male). Salary £160 per annum, rising to £180.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Sutton Bridge, co. Lincoln.

APPOINTMENTS.

BATES, T., Jun., M.B., B.S.Lond., F.R.C.S.Eng., Honorary Surgeon to the Worcester General Infirmary.

DENNING, A. F. W., M.R.C.S., L.R.C.P., Assistant Medical Superintendent, Southwark Union Infirmary, Landor Road (notice.)

KIDD, F. S., M.B., B.C.Cantab, F.R.C.S.Eng., Assistant Demonstrator of Anatomy at the London Hospital Medical College.

LOW, V. Warren, M.D., B.S., F.R.C.S., Surgeon to St. Mary's Hospital, Paddington.

MILLER, A. H., M.D., M.R.C.P., Physician to the Out-patient Department, the City of London Hospital for Diseases of the Chest, Victoria Park, E.

MILLER, Archibald, M.D.Lond., M.R.C.P., Assistant Physician to Out-patients, St. Mary's Hospital, W.

MOXON, Frank, M.B., B.S.Durham, Chief Clinical Assistant to the Royal London Ophthalmic (Moorfields) Hospital.

SLEIGH, H. P., M.B., Ch.B., Medical Officer of Health to the Samford Rural District Council, Suffolk.

SOUTTAR, H. S., M.B.Oxon., M.R.C.S., L.R.C.P., Assistant Demonstrator of Anatomy at the London Hospital Medical College.

WARING, H. J., M.S.Lond., F.R.C.S., Surgeon to St. Bartholomew's Hospital.

WATERSTON, David, M.D., F.R.C.S.Edin., Professor of Anatomy at King's College, London.

WILSON, A. J., F.R.C.S.Edin., Certifying Factory Surgeon for the Airdrie District, co. Lanark.

UNIVERSITY COLLEGE HOSPITAL.—The following appointments have been made:

House-Physicians.—F. Clayton, M.D., B.C., M.R.C.S., L.R.C.P. R. L. Crabbe, Esq., M.B., B.S., M.R.C.S., L.R.C.P.

House-Surgeon.—L. B. Trotter, M.B., C.B.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

WARREN.—On November 20th, at 15, Lansdowne Crescent, W., the wife of Alfred C. Warren, M.D.Cantab., of a daughter.

MARRIAGE.

ODELL—LONGMORE.—On November 18th, at Christ Church, Bengeo, Hertford, by the Rev. Percy Robson, assisted by the Rev. C. F. Rainsford and the Rev. E. Killin Roberts, Robert, son of the late Robert Odell, of Liverpool, to Marion, youngest daughter of the late Matthew Skinner Longmore, of Hertford.

DIARY FOR THE WEEK.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales Hospital, Tottenham.—4.15 p.m., Clinical Meeting.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF ANÆSTHETICS, 20, Hanover Square, 8.30 p.m.—Paper: Mr. Bellamy Gardner and Dr. Salusbury Trevor: Lymphatism, with Specimens and Lantern Illustrations.

LARYNGOLOGICAL SECTION, 20, Hanover Square, 5 p.m.—Cases and Specimens.

SATURDAY.

ROYAL SOCIETY OF MEDICINE:

OTOLOGICAL SECTION, 20, Hanover Square, 10 a.m.—Cases and Specimens:—Demonstration: Mr. W. Milligan, Hayes's Pharyngoscope. Papers:—Mr. Richard Lake: Post-operative Tests in Cases of Labyrinthine Disease. Dr. Albert Gray: The Pathology of Deafmutism, and other cases.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Anæsthetics. Thursday, 4.30 p.m., Cancer of the Throat, its Prevention and Treatment. Friday, 3.45 p.m., Mouth and Teeth.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thursday, 4 p.m., Recurrent Family Periodic Jaundice.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday Special Lectures: Monday, 2.15 p.m., Late Complications following Operation: Tuesday, 2.15 p.m., Practical Applications of Pathology to Clinical Medicine; Friday, 3.15 p.m., Prostatic Enlargement and its Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Fractures of the Lower End of the Humerus in Children. Tuesday, Treatment of Hernia in Infants and Young Children. Wednesday, Appendicitis in the Female. Thursday, The Causes and Treatment of Indigestion.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday, 4 p.m., Surgical Diagnosis and Treatment of Diseases of the Nervous System. Tuesday, 3.30 p.m., Osteoplastic Operations on the Skull. Friday, 3.30 p.m., Diseases of the Brain Stem.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Medical Out-patient Clinic; Nose, Throat, and Ear Diseases; X Rays; 4.30 p.m., Medical In-patient Clinic. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Surgical Clinic; Gynæcological Clinic; 4.30 p.m., Lecture, New Methods for the Estimation of Sugar. Wednesday, 2.30 p.m., Medical Out-patient Clinic; Diseases of the Skin; Diseases of the Eye. Thursday, 2.30 p.m. Gynæcological Operations; Medical Out-patient Clinic; Surgical Out-patient Clinic; X Rays; 5 p.m., Medical In-patient Clinic. Friday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Operations; Medical Out-patient Clinic; Diseases of the Eye; 5 p.m., Medical In-patient Clinic.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, London, W.—Daily: 2 p.m., Medical and Surgical Clinics; X Rays, Monday and Thursday and Wednesday, 2 p.m. (and Saturday at 10 a.m.), Diseases of the Eyes. Tuesday and Friday, 2 p.m. (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of Skin. Wednesday and Saturday, 10 a.m., Diseases of Children. Wednesday, 2.30 p.m., Diseases of Women. Tuesday and Friday, 10 a.m., Gynæcological Operations. At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar; Friday, Demonstration by Medical Registrar. At 12 noon, Thursday, Pathological Demonstration. At 12.15 p.m., Tuesday, Wednesday, and Saturday, Practical Medicine. At 5 p.m., Monday, Practical Surgery; Tuesday, Serum Diagnosis of Syphilis; Wednesday, Medicine; Thursday, Surgical (Clinical); Friday, Head Injuries.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
28 Sunday ..	
29 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
30 TUESDAY ..	
DECEMBER.	
1 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Board Room, Altrincham Hospital, 4.30 p.m.; Dinner, Brooklands Hotel, 7 p.m.
2 THURSDAY ..	LONDON: Special Meeting Metropolitan Counties Branch Council, 4.30 p.m. WESTMINSTER DIVISION, *Metropolitan Counties Branch*, Criterion Restaurant, Dinner, 7.30 p.m.; Business Meeting, 8.30 p.m.
3 FRIDAY ..	LONDON: Medico-Political Life Insurance Subcommittee, 10.30 a.m. LONDON: Special Poor Law Reform Committee, 2.30 p.m. CAMBRIDGE AND HUNTINGDON BRANCH, Medical Schools, Downing Street, Cambridge, 2.30 p.m. TOTTENHAM DIVISION, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, 9.15 p.m.
4 SATURDAY ..	
5 Sunday ..	
6 MONDAY ..	

Date.	Meetings to be Held.
DECEMBER *(Continued)*.	
7 TUESDAY ..	COVENTRY DIVISION, *Birmingham Branch*, 8.30 p.m. NORTHAMPTONSHIRE DIVISION, *South Midland Branch*, Board Room, Northampton General Hospital, 8.30 p.m.; Luncheon, Frankin's Restaurant, 1.30 p.m. WARRINGTON DIVISION, *Lancashire and Cheshire Branch*, Warrington Infirmary. Business Meeting, 4 p.m.; Scientific Meeting, 5 p.m.
8 WEDNESDAY	LONDON: Medico-Political Contract Practice Subcommittee, 2 p.m.
9 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m.
10 FRIDAY ..	CITY DIVISION, *Metropolitan Counties Branch*, Clinical Meeting, Manor Lodge, Upper Clapton Road, 9.15 p.m. ENGLISH DIVISION, *Border Counties Branch*, Carlisle.
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	
15 WEDNESDAY	RICHMOND DIVISION, *Metropolitan Counties Branch*, Medico-Political Meeting, Royal Hospital, Richmond, 8.30 p.m. SOUTH-EASTERN BRANCH, Meeting of Branch Council, 429, Strand, 3 p.m.
16 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 4TH, 1909.

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BATH AND BRISTOL BRANCH.

THE second ordinary meeting of the session was held at Bath on November 24th, Mr. G. MUNRO SMITH (President) in the chair. There were thirty-eight members present.

Papers, etc.—Dr. G. PARKER read a paper on Ulceration of the Intestine in Nephritis, which was discussed by Dr. MICHELL CLARKE. Dr. WHITBY read notes on a case of Psychasthenia, and criticisms were made by Dr. LAVERS and Dr. MONRO. Dr. WATERHOUSE described a case of Diaphragmatic Hernia, and in the discussion which ensued Mr. PRICHARD and Dr. MICHELL CLARKE joined. Mr. COSTOBADIE read a paper on Hypnotism, and remarks were made by Dr. MICHELL CLARKE, Mr. MUNRO SMITH, Mr. FLEMMING, Dr. MONRO, Colonel LEE, and the PRESIDENT.

GLOUCESTERSHIRE BRANCH.

THE first general meeting, session 1909–10, was held at the Gloucester Royal Infirmary on November 18th, at 7 p.m. The PRESIDENT was in the chair, and thirty-three members present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Rural Nursing Associations.—A discussion followed on the adjourned motion of Dr. W. MILLIGAN, and finally the following motion was carried:

> That no rural nursing association be recognized by members of the British Medical Association unless Rule 9, Queen Victoria's Jubilee Institute for Nurses, or rule expressing the same purpose, be included among the rules of the nursing association.

President's Address.—The PRESIDENT for the Session 1909–10 then took the chair, and gave his presidential address on Some Abdominal Emergencies Occurring in General Practice, drawing attention to cases of gastric ulcer, appendicitis, and intussusception.

Vote of Thanks.—The thanks of the Branch to the President was tendered by Dr. Kirkland, Mr. Dykes-Bower, and Mr. Ellis.

Dinner.—Twenty members afterwards sat down to dinner at the Wellington Hotel.

METROPOLITAN COUNTIES BRANCH:

LAMBETH DIVISION.

A MEETING of this Division was held at St. Thomas's Hospital on November 25th at 4 p.m.; present, Dr. STODDART, Chairman, in the chair, and twenty-four members.

Confirmation of Minutes.—The minutes of the previous meeting were read and signed.

Report of Annual Representative Meeting.—The report of the Representative at the Annual Representative Meeting was read, and a vote of thanks to Dr. Esler for his services as Representative was carried unanimously. It was agreed to discuss later means by which the Representative might be instructed with regard to the opinion of the Division on matters likely to be discussed at the Representative Meeting.

Urethral Stricture.—A paper upon the treatment of urethral stricture was read by Mr. Cyril A. R. Nitch. After classifying the varieties of stricture, he gave the indications for the different methods of treatment available. He showed a large number of instruments, and explained their use. In the discussion which followed, Dr. CAPES, Dr. SANGSTER, the CHAIRMAN, Dr. DENNING, and the HONORARY SECRETARY took part.

Appointment of Subcommittee.—A subcommittee was appointed to take any steps deemed advisable in the forthcoming general election.

Demonstration of Cases.—A most interesting series of cases was shown from the wards of the hospital by the Resident Assistant Surgeon.

Votes of thanks were accorded to Mr. Nitch for his interesting paper, to the Resident Assistant Surgeon for his demonstration, and to the Treasurer and Governors of the hospital for their kind entertainment.

The meeting adjourned at 6.20 p.m.

RICHMOND DIVISION.

A MEETING of this Division was held at the Royal Hospital, Richmond, on Wednesday, November 24th, Dr. PERCIVAL L. LANGDON-DOWN presiding.

Cases.—Dr. C. S. BLAIR reported on two ophthalmic cases which he showed. Mr. J. R. JOHNSON read the notes of four interesting cases: (1) A pyonephrosis which ruptured during labour; (2) a tuberculous appendix; (3) extensive carcinoma of the kidney which gave rise to comparatively little discomfort; (4) a unique case of cancer of the caecum in a

husband and wife, the cases being operated on simultaneously.

Vote of Thanks.—A vote of thanks was accorded to Dr. Blair and Mr. Johnson.

SOUTH-EASTERN BRANCH:
Chichester and Worthing Division.

A meeting of this Division was held at the Beach Hotel, Littlehampton, on November 19th. Mr. W. S. Simpson took the Chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Next Meeting.—It was decided to hold the next meeting at Worthing.

Special Class of Consultant.—The report of the Central Ethical Committee on Special Class of Consultants was, on the motion of Dr. Ewart (Chichester), seconded by Dr. Cameron (Worthing), referred to the Medico-Political Committee of the Division to consider and report on.

Printing of Papers Read at the Meetings.—Dr. Eustace (Arundel) raised this question, and after some discussion the matter was referred to the Medico-Political Committee.

Papers, etc.—Dr. Walter Broadbent (Brighton) read a paper on Pulsation in the Neck, in which he referred to abnormal pulsation in the neck caused by cervical ribs, and emphasized the importance of jugular pulsation in the diagnosis and prognosis in cardiac disease. He showed Mackenzie's polygraph for registering the jugular pulsation, and pointed out the important features in the tracings registered by this instrument. In connexion with this paper Dr. Ewart showed a woman on whom he had operated for a cervical rib. Dr. Ewart (Chichester) read a paper on the Frequency of the Presence of the Appendix in the Sac of Inguinal Herniae, in which he quoted the published records of its occurrence and read the notes of cases in which he had found the appendix in the sac whilst operating. Dr. Barford (Chichester) showed two cases: one a case of facial paralysis caused by mastoid disease, and the other a case of suppuration in the frontal sinus on which he had operated successfully.

Dinner.—After the meeting the members dined together at the Beach Hotel.

Guildford Division.

A meeting of this Division was held at the Royal Surrey County Hospital on Friday, November 5th. Dr. A. H. Walker took the chair at 4.30. There were present Drs. E. J. Smythe, R. W. Winstanley, B. H. Kingsford, F. E. Pearse, H. F. Parker, H. B. Butler, E. G. A. Morshead, F. Boxall, E. W. Sheaf, W. B. de Jersey, C. W. Booker, N. F. Kendall, G. B. Collett, George Hall, A. M. Mitchell, C. P. Lankester, F. K. Weaver, and P. Levick. The visitors present were Dr. Arthur Hertz (London), Mr. R. P. Rowlands (London), Dr. A. H. Fardon, Dr. B. H. Pain (Leatherhead), and Dr. Gifford.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Mistakes in Diagnosis.—Mr. R. P. Rowlands read an interesting and instructive paper entitled, "Some Mistakes in Diagnosis and their Teaching," in which he pointed out the danger of failing to make use of all the available aids to diagnosis. Dr. Hertz followed, and especially pointed out the value of the history of the case if properly taken. The following gentlemen also took part in the discussion: Drs. Walker, Pearse, Boxall, Mitchell, Parker, Butler, and Weaver.

Enuresis.—Dr. Fardon read an interesting account of a case of enuresis in a girl which resisted all efforts in treatment until he discovered an error of refraction. The enuresis was cured when he corrected the error.

Maidstone Division.

A meeting of this Division was held at the Kent County Ophthalmic Hospital, Maidstone, on October 29th, at 4 p.m., Dr. H. Wolseley Lewis in the chair. The following were also present: Drs. Parr-Dudley, G. Baynton Forge, Sharpin, Falwasser, Wood, Shaw, Ground, Oliver, Douglas, Travers, Killick, T. Ryan, Sander, Hoar, Peyton, G. Potts (Secretary), Schüller (visitor).

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apologies for Non-attendance.—Letters of regret for non-attendance were read from Drs. Mapleton and Joyce.

Letter.—The Secretary read a letter from Dr. Startin.

Cases, etc.—Mr. Killick showed a patient from whom he had removed a rodent ulcer of the left lower lid. He also read notes of an interesting case of accident to the eyeball.

Scale of Fees for Attendance on Hop-pickers.—Dr. Forge moved and Dr. Sander seconded:

> That a scale of suitable fees be drawn up for recommendation of medical men for attendance on hop-pickers, and that these fees be accepted as a minimum.

It was unanimously resolved that a subcommittee be formed to consider the motion, the subcommittee to consist of the Chairman, Drs. Falwasser, Forge, Parr-Dudley, Sander, Wood, Mapleton, and the Secretary.

Kent Nursing Association.—Mr. Caesar called attention to a circular issued by a committee of ladies in connexion with the Kent Nursing Association, and moved a resolution that the Division object to the fees on the circular. Mr. Travers proposed and Mr. Falwasser seconded the following amendment, which was carried:

> That as it appears from the circular that the expenses of the Nursing Association are partly defrayed by voluntary subscriptions, and the work is therefore of the nature of a charity, the members of this Division are of opinion that Classes 5 and 10 as defined in the prospectus, especially the latter, are not proper subjects for charitable assistance.

Report on Annual Representative Meeting.—The Representative (Dr. Douglas) read the report of the Representative Meeting at Belfast.

SOUTH MIDLAND BRANCH:
Bedford and Herts Division.

A meeting of this Division was held at 3 p.m. on Tuesday, November 23rd, at 39, Castle Street, Luton, through the kind invitation of Dr. J. W. Bone, Chairman.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Report of Central Ethical Committee.—The report of the Central Ethical Committee of the Association having been read, Dr. Bone briefly explained the scheme. A discussion followed, in which Messrs. Nash, Sworder, Lloyd, and Ross took part. The following resolution was proposed by Dr. Sworder, and seconded by Mr. Nash:

> That the members of this Division do not feel in a position to answer the questions until they have further information on the subject.

An amendment proposed by Dr. Ferrier and seconded by Dr. Ross was lost, and the original resolution was passed.

Papers.—Mr. W. Gifford Nash read a paper on the "Treatment of the appendix in cases of suppurative appendicitis." A discussion followed, in which Drs. Blake, Bone, Lloyd, Ross, and Sworder took part. Dr. A. Conning Hartley (Bedford) read a paper on "The new scheme for the organization of voluntary aid in England and Wales." Dr. J. W. Bone discussed the subject.

Specimens.—Mr. Nash showed some specimens of gall stones removed by operation.

Tea.—The members then adjourned for tea, which was provided by the generosity of the President.

YORKSHIRE BRANCH.

A meeting of this Branch was held at the Royal Infirmary, Halifax, on Wednesday, November 17th, at 4 o'clock, Dr. Godfrey (Scarborough) presiding.

Confirmation of Minutes.—Dr. Bronner (Bradford) (Honorary Secretary) read the minutes of the last meeting, which were adopted.

Boundaries of Branches.—A communication was read by the HONORARY SECRETARY in reference to a change of boundaries, proposing that the portion of the county of Nottingham lying to the north of East Retford and Worksop, and to the west of the Great Northern Railway Main Line, be transferred from the area of the Nottingham Division of the Midland Branch to the area of the Sheffield Division of the Yorkshire Branch. A resolution approving of this change was carried unanimously.

Papers.—Papers were down on the agenda to be read by Mr. Priestley Leech (Halifax), Dr. Neech (Halifax), Dr. Hellier (Leeds), Dr. Eurich (Bradford), and Dr. Metcalfe (Bradford). On account of want of time it was only possible to take those of Mr. Priestley Leech and Dr. Eurich. A summary of these will appear in an early issue of the JOURNAL.

The Charter and the Referendum.—Dr. GOYDER (Bradford) proposed, and Dr. PYE-SMITH (Sheffield) seconded, the following resolution:

> That this meeting of the Yorkshire Branch of the British Medical Association entirely concurs in the terms of the memoranda of the South-Western and Edinburgh Branches with respect to the proposed vote and the proposed amendment of the Ordinances in the Charter as to the method of obtaining the Referendum, and it welcomes any negotiations by which agreement can be arrived at between the petitioning parties and the Privy Council.

The meeting further appointed as delegates to a conference to be held in London to promote these ends Dr. Pye-Smith, Dr. Swanson (York), and Dr. Goyder. Dr. GOYDER pointed out that it would be quite impossible to obtain the attendance of thirty members of Council in favour of a Referendum on any specific question. According to the scheme in the Charter there would only be twenty-four members elected by the Branches in the United Kingdom, and seven by Branches outside the United Kingdom. Dr. METCALFE said that the Representative Meeting at Belfast had authorized the Organization Committee to grant that thirty members of Council present and voting may determine a Referendum by postal vote. No other arrangement had, however, been authorized, and he did not see how the Organization Committee could make any promises at a conference without the consent of the Representative Body. Dr. EDDISON (Leeds) and Dr. PYE-SMITH having spoken, the resolution was agreed to unanimously.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—A meeting will be held at 8.30 p.m. on December 7th. Business: To consider a reference from the Annual Meeting with regard to the definition of the functions of a consultant. To consider a letter from the Birmingham Branch relating to the medical treatment of elementary school children in voluntary hospitals. Mr. Leedham-Green will read a paper on Stone in the Kidney and Ureter. Mr. W. Bennett will show some kidney specimens.—V. PENDRED, Honorary Secretary.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The next meeting of the English Division of the Border Counties Branch will be held at Carlisle on Friday, December 10th. Any member wishing to read a paper or show specimens will kindly communicate as early as possible with S. E. Rigg, 1, Alfred Street North, Carlisle, Honorary Secretary, English Division of Border Counties Branch.

BURMA BRANCH.—The annual meeting of this Branch will be held at the New General Hospital, Rangoon, during the first week in February, commencing on Wednesday, February 2nd and ending on Saturday, February 5th, 1910. Arrangements will be made by the Managing Committee to put up members coming from the districts. *Programme.*—Wednesday, February 2nd, at 9.30 p.m., address by the President, followed by inspection of museum. On Thursday, February 3rd, at 5 p.m., in the Medical Section, a discussion on the "Spread of Tuberculosis in Burma" will be opened by the President. Members intending reading papers on some point in connexion with tuberculosis are asked to communicate with the Honorary Secretary, and limit the length of their papers to ten minutes, informing him the subject of their paper. The Museum will be open from 9 a.m. to 6 p.m. to all medical men, of all grades down to the hospital assistant class, who are cordially invited to visit the Museum. The annual dinner will take place on Friday, February 4th, at 8.15 p.m., Honorary Dinner Secretary, Dr. Pedley. It has been decided to allow each member one visitor's ticket. The cost of the dinner, including wines, which is estimated to come to about Rs. 10 each, will be equally divided amongst members attending the dinner. Attendance at this dinner is optional. Members are requested to intimate their intention of being present at this dinner to Dr. Pedley. During this day it is proposed to arrange visits to places of interest to the Association. On Saturday, February 5th, 5 to 8 p.m., in the Surgical Section, a discussion on "Compound Depressed Fractures of the Skull" will be opened by Major Duer, F.R.C.S. Papers from members on this subject should be limited to ten minutes. Members intending to read a paper on some point in connexion with this subject are asked to communicate with the Honorary Secretary, mentioning the particular point they wish to bring forward, so as to avoid overlapping. Committee of Management: Chairman, Major Barry; Dinner Secretary, Dr. Pedley; General Secretary, Major Rost. Museum: Major Rost (Foods and Drugs), Captain Williams (Instruments), Captain Whitmore (Pathology). It is hoped that members will communicate with the Museum Committee any specimens, photos, microscopic slides, drawings, plans, or anything of interest they have to show, and dispatch these so that they reach Rangoon at least one week before the meeting. A full description must accompany each specimen.—E. R. ROST, Major, I.M.S., General Hospital, Rangoon.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—The quarterly meeting of this Division will be held on Tuesday, December 7th, at the Warrington Infirmary, at 4 p.m. Ordinary business of the Division. A scientific meeting will be held after the business meeting at 5 p.m.—T. A. MURRAY Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.—The next meeting of the Division will be held at 4 p.m. on Tuesday, December 7th, at the Town Hall, Dr. P. H. Parsons in the chair. Agenda of meeting: (1) Confirm minutes of last meeting. (2) Letters, including one from the Medical Officer of Health for Fulham *re* unqualified practice by midwives in the borough. (3) A medical martyr—an appeal. (4) Will Fletcher please move the following resolutions: (*a*) "That this meeting recognizes the necessity for a union of medical practitioners with Parliamentary representation, and requests the Executive of the British Medical Association to ascertain the wishes of members by referendum at an early date." (*b*) "That a copy of the above resolution be sent to the Branch Council, requesting them to take the necessary steps to have it carried into effect." (5) Any other business. In view of the importance of the above resolutions, members are particularly requested to attend this meeting, to which the members of the Branch Council have also been invited.—J. R. GALLARD, Honorary Secretary, 512, Fulham Palace Road, S.W.

SOUTH EASTERN BRANCH.—A meeting of the Branch Council will be held at 429, Strand, on Wednesday, December 15th, at 3 p.m. Agenda: To consider the election of candidates. Any other business.—E. A. STARLING, Tunbridge Wells.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of the Division will be held on Wednesday, December 8th, at 3.30 p.m., at the Royal Bucks Hospital, Aylesbury. Agenda of meeting: (1) Confirm minutes of last meeting. (2) Business arising therefrom. (3) A case of Acromegaly, with paper and photographs, by Dr. J. Shaw. (4) Receive Representative's report of Belfast meeting. (5) Question of ambulance lectures in the county, and the attitude to be taken by the members with regard to them. (6) Discussion and voting on the question as to the Association favouring the formation of a special class of "consultants." (7) Resolution *re* the Aylesbury and District Medical Association. (8) Discussion on the club question. Members who are unable to attend the meeting are requested to notify the Chairman or Secretary as to their views and their willingness to co-operate in this matter. The annual dinner (morning dress) will be held afterwards at the Queen Hotel at 6 p.m., sharp (subscription, 5s.). Members intending to be present will please notify Dr. Baker by Monday, December 6th.—A. E. LARKING, Honorary Secretary.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.—A meeting of the Division will be held in the board-room of the Northampton General Hospital on Tuesday, December 7th, at 2.30. The meeting will be preceded by a luncheon at Franklin's Restaurant at 1.30. Members wishing to attend the luncheon should notify the Secretary at least two days beforehand. Business: Minutes. The president and chairman of committee of the Northamptonshire Amateur Athletic Club will attend as a deputation to ask for the approval of gymnastic training generally; also to suggest the adoption of a system of physical exercises, under the guidance of the medical profession, to suit special cases. Dr. Baxter's report of the Annual Representative Meeting. Consideration of report on special class of consultants. Clinical cases.—Dr. HICHENS, Honorary Secretary, 45, Sheep Street, Northampton.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1909.

Sir Donald MacAlister, K.C.B., President, in the Chair.

The Report of the Education Committee.

Dr. Norman Walker (Direct Representative for Scotland), in resuming this debate, said that it was only during the last eighteen months that he could say—as a member of a Committee who had been considering the medical curriculum in Edinburgh—that he had become immersed in the subject. He had learnt how easy it was to criticize the medical curriculum, and how difficult to fit in the different parts of it one with another. The question was one on which there was a considerable difference of opinion. At one time he had been in favour of the relegation of certain subjects to an earlier examination, and he still thought there was a good deal to be said for that. If the earlier subjects were properly taught, they were of immense value in medical education. The Council did not require botany and zoology. A man might be an admirable physician or surgeon without knowing the natural orders. The Council did require an elementary course of biology, and no one would deny that that was an admirable introduction to anatomy, and the amount of apparatus now involved in the teaching of practical physiology made it exceedingly important that the student should have a more thorough acquaintance with physics than perhaps his school teaching had given him. Chemistry could be taught in such a way as to be perfectly useless to a medical student; but, on the other hand, it could be taught so as to be extremely valuable, and thus prove an admirable introduction to the subjects of physiology and pharmacology. Much depended on the way the subjects were taught. The importance of early training in physics it was impossible to gainsay. He agreed with Sir Thomas Fraser when he spoke of the importance of a sound groundwork being laid in the case of every student, whatever the subjects were with which he had to deal. The State required the Council to put upon the *Register* only men with a thoroughly efficient training. The report of the Committee of which he had spoken had recommended that during the last three years of the medical curriculum the hours from 10 to 1.30 every day should be spent in the wards of a hospital. This was a step, he considered, towards efficiency; but, again, no binding rule could be laid down, as some schools would be at a disadvantage as regards hospitals when compared with others. As to the proposal in the motion before the Council, he was entirely in agreement with that, and hoped it would be passed as an instalment of what needed still to be done in medical education.

Dr. Finlay (University of Aberdeen) could not agree with what had been said with regard to individual injustice, because every teaching body must be at liberty to consider individual cases. He thought a good deal of complexity had been introduced into the recommendation owing to overlapping, and if overlapping could be done away with it would be to the interest of the students as well as the teachers. He had no alternative to propose to the resolution, and he was not prepared to propose any amendment.

Sir Clifford Allbutt (University of Cambridge) thought that the remarks that had been put before them by Professor Thompson were very important. It appeared to him that totally different things were being mixed up. It was quite open to the great corporations to fix such a standard as they pleased. The duty of the Council was to fix an irreducible minimum below which a man must not fall. It had not to consider the complete training of the students from an ideal point of view, nor what could with advantage be added to the curriculum, but what was the case of a father with a small income who wished to educate his son, not to be a consulting physician, but to follow him in a comparatively modest practice at £600 or £700 a year. If that man's education was to occupy him more than five years at a cost of some £900 or £1,000 it was a serious thing to a father, especially if he had other children to educate. To say that a man could not be adequately educated in five years was to make a very grave statement. He thought that teaching was at fault in respect of the first year; too much was being asked. Under the present crowded curriculum students were seen every day who were in ignorance of the rudiments. The Council ought to influence the secondary schools to deal properly with those subjects. The University of Cambridge had taken that step, and gave the men of the class an opportunity of showing that they could begin the medical subjects at the beginning of their career. If a man in his first year were set to work on anatomy he would feel that he had really started his career, and would not be guilty of that slackening of which so much was heard. If he sat down to his anatomy practically straight off to begin with, with some more advanced chemistry, and then took in the second year anatomy and physiology, he would then have a first-rate foundation, and he would be able to go on with the three years' course—a year for each of the three subjects—during which time the pathological work would go on.

The President said he would ask the Council to keep quite clearly in mind what was proposed by the Education Committee. It had practically confined itself to the one point of what was to be done to safeguard the second half of the curriculum. The proposal, briefly, was that the Council should represent to the Licensing Bodies that their regulations, however varied they were, should be so framed that the study of the final subjects should extend over not less than two and a half academic years, and in any case should extend over two years after anatomy and physiology had been done with. That, apart from the question of overlapping, was the practical result. If the Council for the first time announced in favour of that, it would be taking a definite step forward to indicate to the Licensing Bodies what most of them were aware of—the importance the Council attached to the final subjects. Sir Clifford Allbutt had clearly put to the Council that it was legislating not for the ideal curriculum, extending to six, seven, or eight years, but the absolute minimum curriculum at which it was possible to guarantee to the public that a man who had passed through it was a safe practitioner. The Council, therefore, need not take into account the elaboration which might be introduced into a curriculum of six or seven years; it need only take into account what in a minimum curriculum of five years should be the minimum amount of time devoted to the most important practical subjects. If the Council passed this regulation it would enable the various bodies to adjust the distribution of time between the various preliminary sciences as they by experience thought fit, and it would leave it open to them also to make experiments in the way of providing a sufficient time for the earlier sciences; the experience thus acquired would be valuable. The Council was not asked to come to a conclusion upon the question of whether one particular method was better than another. He himself thought the time was not ripe for a final decision on that, and he would go further and say that he did not think it desirable that there should be absolute uniformity between the several bodies. The Council should say to all the Licensing Bodies that the last two and a half years should be occupied with the study of the final subjects, and that in any case the period should extend over two years after anatomy and physiology had been dealt with. With regard to the question of overlapping, there was a difficulty, and he thought in the interests of the medical bodies themselves and of the medical students to whom Sir Clifford Allbutt had referred, the greater simplicity of

any regulation the better. He proposed that the Council should resolve that in its opinion the regulations of the Licensing Bodies should be so framed as to ensure that the study of the final group of subjects of the medical curriculum should be pursued for not less than two and a half academic years, and should extend over not less than two years after the examination in anatomy and physiology.

Dr. MACKAY (Chairman of the Education Committee) remarked that they did not go quite so far as the recommendation of the Committee.

After some discussion, on the motion of Dr. NORMAN MOORE, seconded by Dr. SAUNDBY, the debate was adjourned to a convenient opportunity.

The discussion was resumed when the Council reassembled on Friday, November 26th.

Mr. HODSDON (Royal College of Surgeons of Edinburgh) said that the information in the possession of the Committee showed the present state of affairs was evidently unsatisfactory. The Council legislated for duly qualified practitioners and not for specialists. Fifteen years ago the curriculum had been extended to five years with the intention that the extra years should be devoted to clinical work. It was found that only 13.8 per cent. of students now qualified in five years, and that was not satisfactory. The primary subjects had encroached upon the final to a very great extent, and a man rejected in the primary examination devoted time which should be given to the final subjects to what was primary work. The remedy was to lengthen the curriculum or to adopt some such proposal as that put forward by the Education Committee. That proposal, however, was a new departure, and therefore the Council should proceed cautiously and do nothing hastily, but he was sure the adoption of the proposal would have beneficial effects.

Mr. THOMSON (University of Oxford) said hardly any speaker had gone into the details of the recommendation of the Committee. The President, for the benefit of the Council, had paraphrased the Committee's recommendation, and Mr. Thomson understood that it meant that for two and a half years the student should give his undivided attention to particular studies and would not be allowed to be examined in them for two years after passing in anatomy and physiology. He understood, however, that Dr. Mackay dissented from that, and he was confirmed in that belief by reference to a document in the hands of the Council, which, though marked "private" he craved leave to refer to. That suggested that the examination in the final subjects might be taken at the end of the fifteenth term, or end of the fifth year, but that eight terms at least must intervene between the examination in anatomy and physiology and the final, or, in other words, two and a half years. There was no mention of "blocking" when Dr. Mackay introduced the matter, and Mr. Thomson was very anxious that the Council should realize that an application of the recommendation might be harmful. Dr. Mackay had advanced evidence that five years was sufficient for the curriculum, and had referred to the report of 1908, which showed that a certain percentage of men at Victoria University obtained their qualification within that time. It would be noticed that at Glasgow twenty men out of fifty-six passed after a fifty-seven months' course. The same part of the report showed that 34.2 months was the length of time occupied by the first examination and that the additional time given to medicine, surgery, and midwifery, was only 22.8 months. From that he inferred that men who were retarded by the first examinations were able by their own energies to recover lost ground and acquire a sufficiency of knowledge to qualify. He desired to point out that that was a proof of the hardship of insisting on the lapse of twenty-seven months after passing in anatomy and physiology, because men of industry and energy would be penalized.

Dr. KNOX (Faculty of Physicians and Surgeons, Glasgow) would have liked to have seen a little more progress and boldness in the Committee's proposal. He thought it ought to have proposed to lighten the student's work so as to secure greater attention on his part to the final subjects. He deprecated a block in the curriculum.

Dr. TAYLOR (University of London) urged the necessity for a period of undivided study. He thought the Council should fix a minimum period for the early subjects and a minimum period intervening between the examination in anatomy and physiology on the one hand and the final examination on the other.

Dr. LATIMER (Direct Representative, England) said that if there were to be a block, it should be at the commencement of the curriculum, and the preliminary education should go further. The student should be allowed to carry on the mixed education in anatomy and physiology with the later subjects in his third year. If there was one thing more important than another, it was that anatomy should be studied with regard to its application to medicine.

Dr. MCVAIL (Crown nominee) asked whether universities and colleges were requiring too much knowledge of biological and chemical subjects. He was not aware of any complaints in that direction, and nothing had come before the Council or the Examination Committee to show that those subjects were examined upon too severely. The only difficulty lay in the five years, which had become too short a time for the average student. It was no evidence of failure in the system of teaching throughout the country generally that so few qualified in five years, and any man who desired to occupy a reasonably good position in his profession should take six or seven years if possible. That being so, it was no part of the Council's business to impress on the examining authorities or the students that the matter should be completed in five years. Its duty was to see that persons added to the *Register* had been adequately taught and adequately examined. Hence he was entirely against a "block" being introduced. Such great teaching centres as St. Bartholomew's, Guy's, the London, King's College, and University College Hospitals were perfectly fit to advise their students without the Council's interference: and he therefore could not support the Committee's recommendation.

Dr. MCMANUS (Direct Representative, England) thought if there were fewer lectures and more practical work it would be better for the rank and file of the profession.

Dr. ADYE-CURRAN (Apothecaries' Hall, Ireland), speaking as one who had entered four sons in the profession and was entering a fifth, thought more consideration should be shown to students and their parents. He had heard members advocating additions to the curriculum, and no one knew where it would end. The result would be that the curriculum would last ten years instead of five or six, and the cost would be correspondingly increased. The end would be that there would be no medical students left, because parents would not be able to afford the expense entailed. The medical profession was the only one which needed such a long time for qualification. Under the circumstances he could not vote for the recommendation of the Committee: he hoped the five years' curriculum would be fixed once and for all, and not left in the unsettled state it was at present.

Dr. CATON (University of Liverpool) thought that the medical students were not sufficiently disencumbered of the earlier subjects to enable them to do justice to the important subjects of medicine, surgery, and midwifery. The recommendation of the Committee would ensure that the student had nothing to interfere with the study of those very important subjects.

Dr. MANN (Victoria University, Manchester) thought that if the study of subjects like biology and chemistry, which were daily increasing in their scope and applicability to the healing art, were limited to the period before the student commenced his medical course, the profession would eventually suffer.

Dr. MACKAY (Chairman of the Committee), replying on the debate, said he was sure the Council was wiser than at the commencement of the discussion. The Committee had been strongly assailed on one side for having gone too far, and, on the other hand, it was told its action was not bold enough, and should

have gone further. He defended the action of the Committee in taking a *via media*. He thought the members of the Council had had a little difficulty in grasping all the details which the Committee had set before them, but the Committee had endeavoured to take out of the mass of findings those which seemed to indicate the most pressing necessity of the time, and had addressed itself to them. The conclusion which had been put forward referred to the length of the curriculum, but other matters remained in the report which were not quite ready to be taken up. The student hurrying through his clinical work fell back on the very simple and natural course of grinding up for the final examination, which had the most serious effect on the medical curriculum. That was an evil which ought to be avoided. He proposed a new form of motion as follows:

That, in the opinion of the Council, the regulation of the Licensing Bodies should be so framed as to ensure that the study of the final group of subjects in the medical curriculum, including Pathology, Medical Jurisprudence, Public Health, Therapeutics, Midwifery, Surgery, and Medicine, should be pursued (*a*) throughout a period of not less than two and a half academic years (twenty-seven months) following upon the completion of the examination in Anatomy and Physiology; (*b*) alternatively throughout a period of not less than three academic years (thirty-three months), two of which (twenty-one months) shall be subsequent to the completion of the above examination.

Sir Henry Morris (Royal College of Surgeons of England) moved as an amendment that there should be a two years' limit of undivided study after the passing of the anatomy and physiology examinations.

Sir Christopher Nixon (National University of Ireland) seconded.

Sir Henry Morris, speaking to his amendment, said he did not wish to imply that two and a half years was too short, but he was thinking of practical policy. It would be more convenient, more workable, and more feasible if the Council suggested two years instead of two and a half.

Dr. Norman Moore (Royal College of Physicians of London) supported the amendment.

The amendment was carried.

It was subsequently put and carried as a substantive motion.

Dr. Mackay moved that the two years should be defined as being twenty-four months.

Dr. Norman Walker (Direct Representative for Scotland) seconded, and the motion was carried.

Sir Henry Morris asked leave to move a resolution arising out of the discussion. It had been decided that there should be a definite period of study allotted to the final subjects that would result ultimately in a rearrangement of the subjects of the earlier part of the curriculum. He moved:

That it be referred to the Education Committee to consider further the place in the student's career which the preliminary sciences should occupy, and that the Committee be requested to frame and submit to the Council a pattern scheme of medical education whereby the required minimum of the several subjects to be included in the curriculum can be adequately studied and the requisite examinations thereon passed by the average student within the period prescribed by the curriculum.

Sir Henry Morris said that Sir John Williams, who had desired to second the resolution, had asked him to put in the first words of the resolution because he was very emphatic with regard to preliminary science. It was important to define what part of the student's career should be so occupied. For instance, it might be desirable that chemistry and physics should be taught before the curriculum of medicine was entered upon. He thought there was a misunderstanding with regard to the following passage in the Education Committee's Report: "It is to be said that the secondary and higher grade schools of the country are not yet in a position to undertake the control of the instruction in the preliminary medical sciences." He had had investigations made with regard to that in connexion with the Conjoint Board, and the figures showed that those boys who had been trained in those subjects in the general schools of the country passed in greater proportion than those who had been trained in those subjects in the various medical schools of the country, to the extent of 6 or 8 per cent. better. With regard to the rest of the resolution, he had endeavoured to frame it in the very widest possible way. He did not wish to make any definite suggestions, or that the curriculum should be lengthened, but he desired that the Education Committee should consider the subject broadly, with a view to standardizing the minimum required in the curriculum, so that the subjects might be studied adequately by the average student, who should be examined in them within a period to be decided upon.

The resolution having been seconded,

Dr. McVail objected to the resolution being put on the ground that no notice had been given of it.

The President asked the leave of the Council to put the resolution, which was accorded, whereupon it was carried.

Dr. McVail called for the names and numbers, which, being taken, showed that 17 had voted for the resolution, 5 against, 10 members did not vote, and 2 were absent.

The Apothecaries' Hall, Ireland.

Dr. McVail moved:

That the report from the Examination Committee on the Final Examination of the Apothecaries' Hall, Dublin, held in January, 1909, be received and entered on the minutes.

The resolution was seconded by Dr. Saundby, and agreed to.

Dr. McVail moved, and Dr. Saundby seconded:

That the report from the Examination Committee on the Final Examination of the Apothecaries' Hall, Dublin, held in April, 1909, be received and entered on the minutes.

Dr. Adye-Curran, after explaining that some correspondence from the Apothecaries' Hall of Ireland had been omitted from the report, moved as an amendment:

That the report of the Final Examination of the Apothecaries' Hall of Ireland be further postponed until the May Session, in order that the remarks of the Body concerned may be included.

Dr. McManus seconded, and the debate was then adjourned. It was resumed on the following day (November 27th), when

Dr. McVail, Chairman of the Examination Committee, said that when it met in May it had two reports by the Assistant Examiners to deal with—for January and April, 1909, respectively. At that time the returns of exemptions granted by various bodies had been before the Council, and among the exemptions granted by the Apothecaries' Hall, Ireland, was the case of a particular candidate who had not passed in January or April, but who passed in October, 1908. The candidate had been granted an exemption in midwifery, and a diploma was given. Correspondence had passed between the Council and the Apothecaries' Hall of Ireland. Mr. Mason, Secretary and Registrar of the Apothecaries' Hall, wrote on October 2nd, 1908, to the Registrar of the General Medical Council, inquiring as follows:

Will you please inform me if there is any ruling of your Council which prohibits a Licensing Body examining a candidate in one or more subjects of the final examination, he having passed the remaining subjects elsewhere?

To which the Registrar replied:

I have to say that there is no rule of the Council on the subject, but all exceptions have to be reported to the Council at the end of the year. You will see what I mean if you refer to p. 27 of the volume of minutes for last year.

The Committee, however, felt that the Apothecaries' Hall had received an answer which might be variously interpreted, and the Registrar wrote, in answer to a further letter from Mr. Mason dated April 13th, 1909, as follows:

I must express my regret that my letter of October 3rd, 1908, should have misled you in any way. What I should have more clearly stated is that it is not any ruling of the Council which governs the question, but Section 3 of the Medical Act, 1886.

The Committee, having the correspondence before it, remembered a similar occurrence in 1903 with regard to the Apothecaries' Hall of Ireland, which the

Committee had reported to the Council, and a resolution had then been passed which meant that the candidate's diploma was not only irregular but illegal, and he should not have been registered. The Apothecaries' Hall, therefore, knowing what had occurred in 1903, asked in 1908 to be allowed to do the same thing. Looking into the matter, which they regarded as very serious, the Committee referred to the following passages in the Examiners' report of the January, 1909, examination:

> At this examination six candidates presented themselves—three candidates for the first time, and three who had previously entered for the examination and passed in some of the subjects, but who had not completed the examination.

The only way to read that was that if any other than the three got exemptions, the exemptions must have been obtained by passing elsewhere. The statement had been deliberately made by the Assistant Examiners, and the Committee had tried to get at the heart of the matter. A long correspondence had ensued with the Hall, from which it appeared that two of the three had been properly exempted, but after long consideration the Committee reported:

> The Examination Committee regrets that again a procedure should have been adopted by the Apothecaries' Hall which in the opinion of legal counsel is illegal. . . .
>
> The Committee is further of opinion that the Council should again call the attention of all the licensing bodies to this opinion. The Committee regards the reports of the Assistant Examiners to the Apothecaries' Hall as not sufficiently full and definite, and it suggests that in future the Assistant Examiners be supplied with a form of schedule to be filled in by them in the case of each candidate.

The amendment, Dr. MCVAIL said, was that the report should be postponed, but he did not think it should. The Committee had dealt most considerately with Apothecaries' Hall, but the Council was practically responsible with that body and the matter must be put upon a proper footing.

Dr. ADYE-CURRAN said that after Dr. McVail's very rambling and confused statement, which he had not been able to follow, he would like to say that whatever had been done by the Apothecaries' Hall had been done bona fide, and he had not gathered whether Dr. McVail wished to "run in" the Hall, or the Registrar. Considering the matter was purely a mistake, made in good faith, the question need not have been elaborated to such an extent. He (Dr. Adye-Curran) had to exonerate the body he represented. It was true, as he learnt then for the first time, that a similar incident had arisen before, but those who lived the other side of the water were not supposed to be conversant with the whole of the Council's minutes for years gone by. Dr. McVail had fished out the incident from the annals of the past, but Dr. Adye-Curran asserted with confidence that not a word of it was known to Apothecaries' Hall, otherwise it would not have been so silly as to write as it did to the Registrar. It had been the endeavour of Apothecaries' Hall to obey the behest of the Council and its wishes in every possible way. As there was some little doubt about the matter, the Hall had written the letter of October 2nd, 1908, and had received the reply of October 3rd. The two cases which Dr. McVail had tried to confuse and interchange and elaborate hung exactly on the one peg. Dr. Adye-Curran, too, had had counsel's opinion upon the matter, and the point was doubtful. Then came the letter of April. Section 3 said nothing about the examinations being all passed in one place, but if the President said that was the ruling he must bow to it. If there was any blame, which he did not think there was, it was on the Council's staff for misleading the Apothecaries' Hall. He said that with very great regret, but he had to exonerate his own body.

Sir HENRY MORRIS inquired if there were any reason why the report should not be postponed in order that the remarks of the party concerned might be appended to the report.

The PRESIDENT said the only remarks were some correspondence with regard to individual candidates, and not with regard to any matter reported upon or recommended by the Committee.

Dr. ADYE-CURRAN said the letters involved matters of great importance, and he could not see why they should have been omitted.

After some discussion, Dr. MCVAIL read the whole correspondence.

Dr. ADYE-CURRAN, with the consent of his seconder, modified his amendment, as follows:

> That the report of the Examination Committee be received and entered on the minutes, and that the documents now read to the Council be printed as an appendix to that report.

The amendment was then put and carried.

Dr. MCVAIL then moved:

> The Examination Committee regrets that again a procedure should have been adopted by the Apothecaries' Hall, Ireland, which, in the opinion of legal counsel, is illegal.

The recommendation referred to two particular candidates, and whatever it might be to Apothecaries' Hall, it was not a trifle to the Council, because it was involved with the Hall; the examination was a conjoint examination by the Hall and the Council's Assistant Examiners.

Dr. NORMAN WALKER seconded.

Dr. ADYE-CURRAN said that after the explanation he had given the motion was rather a slur. Under the circumstances it was a very severe animadversion on the Hall which was not merited. He asked the Council not to pass such a severe censure when the mistake was equally divisible between the Hall and the Council.

Dr. NORMAN MOORE did not clearly understand what was the mistake. The Apothecaries' Hall appeared to have contemplated a particular step, and had taken that step, which, referring to a previous case, the legal adviser of the Council considered illegal, and which from a natural reading of the Act was illegal. Where did the mistake come in?

Dr. ADYE-CURRAN said the Apothecaries' Hall were doubtful as to the correct procedure to adopt, and after discussion it was decided, before admitting the candidates to examination, to ask the advice of the Council. Nothing was known to them then of the ancient correspondence which had been raked up. He did not know when the perpetual onslaught on the unfortunate Apothecaries' Hall would cease; it seemed to be a sort of crescendo business, each year worse than the year before. The Hall had tried to keep within the words of the Council, and had asked the advice of the Council, and yet there was before the Council a very severe proposition by the Committee because as good obedient children the Apothecaries' Hall had adopted and obeyed the mandate of the Council.

Sir HENRY MORRIS asked if the case would not be sufficiently met by eliminating three paragraphs of the report.

The PRESIDENT said the only question was whether the Council endorsed them.

Dr. MCVAIL said the Examination Committee was appointed in 1887 to advise the Council on all matters with reference to examinations. The action taken by the Apothecaries' Hall had given grave concern to the Examination Committee. The Council had before it two cases of deliberate setting aside of the opinions of the Council's legal adviser, by which it had to be guided. In 1903 a resolution had been passed drawing the Hall's attention to the matter, and yet the same procedure was being followed at the present time. The Apothecaries' Hall could not have forgotten what happened in 1903. The unanimous findings of the Examination Committee, arrived at after full consideration, were before the Council, and he, for one, would not consent to any withdrawal of them in any form.

The resolution being put, Dr. MCVAIL asked, as the matter was a serious one for all bodies in the profession, that names and numbers should be taken.

The voting was 19 for, 4 against, 4 did not vote, and 7 were absent.

Dr. MCVAIL moved:

> The Examination Committee is of opinion that the Council should draw the attention of the Apothecaries' Hall to the opinion given by the Council's legal adviser on July 18th, 1890, regarding what constitutes a qualifying examination.

The resolution was carried. Dr. MCVAIL then moved:

The Committee is further of opinion that the Council should call the attention of all the Licensing Bodies to this opinion.

The recommendation was carried, whereupon Dr. MCVAIL moved:

The Committee regards the reports of the Assistant Examiners to the Apothecaries' Hall as not sufficiently full and definite, and it suggests that in future the Assistant Examiners be supplied with a form and schedule to be filled in by them in the case of each candidate.

The paragraph was adopted.

Dr. MACKAY moved that the following report of the Education Committee be received and entered on the Minutes:

The Committee, having considered an application from the Apothecaries' Hall, Dublin, regarding the recognition of its preliminary examination, passed the following resolution:

That the application be refused, and that, for the reasons, the applicants be referred to the decision of the Council as reported in the Minutes for 1894, appendix vii, p. 80, and for 1907, p. 157.

Dr. Mackay, reviewing the past action of the Council with reference to the question of the Apothecaries' Hall holding a preliminary examination, said the Council had refused recognition of such an examination because it was considered undesirable on the part of a body whose sole interest was the admission of students to a medical examination. The Apothecaries' Hall need have no difficulty with reference to the matter, because there were two bodies in Ireland which held preliminary examinations open to all students, including those intending to enter the Apothecaries' Hall.

Mr. HODSDON seconded the resolution.

Dr. ADYE-CURRAN felt that, after what had occurred, any appeal to the Council was rather a forlorn hope, but the Apothecaries' Hall, remembering what had been said by the President last session, thought that there was a ray of hope for the application, and that if it were made in due form that, perhaps, the Education Committee might be coaxed to pass it. He represented a body nearly 400 years old, which, as a licensing body, owed its existence to a charter of George III. Further, by a section of an Act of Parliament, no one could be admitted as a licentiate of Apothecaries' Hall unless the directors should have satisfied themselves as to his education. Therefore they had a mandate by Act of Parliament to examine. The Council, on the other hand, was merely empowered to issue from time to time a list of examining bodies, and it was *ultra vires* of the Council to say whether the examination was sufficient or otherwise. The Apothecaries' Hall was a body whose qualiiications were registrable, and whose duty it was by Act of Parliament to hold a preliminary examination, and yet the Council deliberately said it would not recognize it. Dr. Mackay had carefully avoided referring to the College of Physicians and the College of Surgeons, which, notwitbstanding that they had promised to give them up, still held examinations.

The PRESIDENT having put the resolution,

Dr. ADYE-CURRAN asked that names and numbers should be taken.

The voting was, 27 for and 1 against. There were no abstentions from voting; 6 members were absent.

LEGISLATION AS TO ANAESTHETICS.

The PRESIDENT, as Chairman of the Anaesthetics Committee, appointed at the Council on May 29th last, brought up a report dated November 25th, and moved that it be received and entered on the minutes.

The motion was seconded by Sir HENRY MORRIS.

The instruction to the Committee was to consider proposals for legislation on the subject of anaesthetics which have been or may hereafter be put forward, and in this connexion the recommendation of the Executive Committee and the report of the Education Committee on the subject were referred to it.

The recommendation of the Executive Committee was that the General Medical Council should advise the Lord President as follows:

That in the opinion of the Council the administration of general anaesthetics for the purpose of producing unconsciousness during medical, surgical, obstetrical, or dental operations or procedures should in future be restricted to persons possessing a medical qualification.

The Council further express the opinion that Clause 4 of the bill, as at present drawn, creates, and imposes a serious penalty for, an offence whose precise nature is not sufficiently defined.

Clause 4 is as follows:

4. *Penalty for giving Death Certificate in case of Persons Dying under Anaesthetics.*—Any registered medical practitioner who gives a certificate of death in the case of any person dying while under the influence of an anaesthetic shall be liable, on summary conviction, to a penalty not exceeding *five pounds*.

The Education Committee advised the Council to adopt the following resolution:

That the requirements of the Licensing Bodies with regard to instruction in the administration of anaesthetics should include—

1. Attendance on lectures and demonstrations.
2. The practical administration of anaesthetics under the supervision of recognized teachers or the members of the staff of a recognized hospital.

The Anaesthetics Committee now reported that it had before it the text of a bill entitled the Anaesthetics Bill, 1909, which was introduced in the House of Commons on June 22nd, 1909, and which as they understand has been substituted for the bill transmitted to the Council by the Lord President of the Privy Council, and printed in the Minutes of the Executive Committee of May 24th, 1909.

This bill was published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of July 10th, 1909, p. 61. The memorandum prefixed to it states that the object of this Bill is to require a medical practitioner or a dentist applying for registration on and after January 1st, 1912, to submit evidence of having received practical instruction in the administration of anaesthetics, and to prohibit any person not a registered medical practitioner or a registered dentist administering an anaesthetic except under certain conditions. To prohibit any certificate of death being given in the case of any person dying under an anaesthetic.

The Anaesthetics Committee reported that it had arrived at the following conclusions, which it advised the Council to transmit to the Lord President of the Privy Council for his information:

"1. That the statutory powers with regard to medical education exercised by the Council, and in case of need exercisable by the Privy Council, are sufficient to secure that candidates for medical or dental qualifications shall have received adequate practical instruction in the administration of anaesthetics, and that the Council has already taken steps, and is prepared to take further steps, to secure the end in view.

"2. That it is inexpedient to provide by Act of Parliament that evidence of such instruction should be raised to the status of an 'additional qualification,' without which no person shall be entitled to registration.

"3. That in the exercise of its statutory powers with regard to medical education the Council is enabled to take account from time to time of the advances of medical science in regard to the methods of procuring anaesthesia, and to vary its *Recommendations* to the Licensing Bodies accordingly, in a manner which would not be practicable under the terms of the proposed bill, should that pass into law.

"4. That it is desirable in the public interest that the administration of anaesthetics for the purpose of inducing unconsciousness or insensibility to pain during medical, surgical, obstetrical, and dental operations or procedures should be restricted by law to duly qualified medical practitioners, due provision being made for the practical instruction of students and for cases of emergency.

"5. That having regard to existing conditions it is also desirable in the public interest that duly qualified dental practitioners should be authorized to administer certain specified anaesthetics, such as nitrous oxide gas, for the purpose of inducing

unconsciousness or insensibility to pain during dental operations or procedures.

"6. That the specification of the anaesthetic substances or drugs which may thus be employed by duly qualified dental practitioners during dental operations or procedures should be made in a schedule to the proposed Act of Parliament, power being reserved to the Privy Council, on the recommendation of the General Medical Council as the authority charged with the publication of the *British Pharmacopoeia*, to add to or vary the specified list from time to time as occasion arises.

"7. That it is expedient in the public interest to provide that the person who administers the anaesthetic for the purpose of inducing unconsciousness during any medical, surgical, or dental operation or procedure should not be the person who performs the said operation or procedure, due provision being made for cases of emergency.

"8. That it is inexpedient to create, as proposed in Clause 4 of the bill, a new penal offence, the precise nature of which is not defined, inasmuch as the words 'dying while under the influence of an anaesthetic' are capable of several interpretations varying with the circumstances of each particular case.

"9. That if it should be deemed desirable to make provision for duly recording the cases contemplated in Clause 4 a system of notification to the proper authority, similar to that which is applicable to births, or to infectious diseases, would be sufficient for the purpose.

"10. That for the present it should be left to the Licensing Bodies to determine the precise form of the evidence as to 'adequate practical instruction in the administration of anaesthetics' which they require to be produced by candidates for their medical or dental qualification.

"11. That the following addition should be made to the Council's recommendations on dental education and examination—namely:

"(v) (*c*) Administration of the anaesthetics usually employed in dental practice."

The PRESIDENT said the conclusions of the Committee divided themselves into three groups. The first had reference to the powers of the Council in regard to education, and therefore with regard to enforcing instruction in anaesthetics. The Committee and the Council on the previous occasion were satisfied that those powers, supervised by the Privy Council, were sufficient to provide that according to the needs of the profession from time to time, steps could be taken to ensure that students applying for medical or dental qualification should be practically instructed in the administration of anaesthetics. The Committee, therefore, thought it unnecessary that a special clause in an Act of Parliament making that an additional qualification should be passed into law. It was believed that the machinery of the General Medical Council was capable of being adapted to the advancement of science from time to time, and that was better than a hard and fast clause in an Act of Parliament, which was not easily alterable, and easily adaptable to changing circumstances. The next question was, whether it should be made a provision of the law that anaesthetics for producing uncousciousness or insensibility to pain during medical, surgical, obstetrical, and dental operations or procedures should or should not be limited to duly qualified persons. The Council on a previous occasion, and the Committee now, were of opinion that that change in the law was desirable, and they would even go further and say that the administration of anaesthetics during medical, obstetrical, and dental procedures should be restricted to duly qualified surgeons. It would be recognized that that was a step which the Anaesthetics Committee put before the Council as a matter that had not yet been before it. Further, with regard to certain specified anaesthetics, described as such, duly qualified dentists, whether before or after the passing of the Act, should be authorized to use such anaesthetics during dental operations. The means by which those anaesthetics should be specified had caused some trouble, because, although nitrous oxide were put in an Act of Parliament, yet, perhaps, five years hence something better might be discovered, and therefore machinery was required by which advantage could be taken of the advance of science from time to time, and additional anaesthetics added if desirable. The method suggested was one for Government departments to consider—namely, that the schedule should be added to from time to time in a manner analogous to the poison schedule in the Pharmacy Act; that was to say, with the authority of the Privy Council, the General Medical Council might be entrusted with the duty of recommending from time to time what anaesthetics should be added. There were certain precautions, however, which it seemed worth while for a body charged with the interests of the medical and dental professions on the one hand and the interests of the public in relation to the profession on the other to consider; it might endeavour to procure that the anaesthetist should be distinct from the operator, except in cases of emergency or otherwise. The chief danger of a person unskilled in medicine or surgery acting as anaesthetist during a dental operation in which unconsciousness was produced arose from an emergency happening which he could not deal with. The danger would be minimized if the anaesthetist had his attention undiverted from the condition of the patient by not having himself to perform an operation in haste. The fourth clause of the bill seemed to create a new offence of a highly penal character, which offence only members of the medical profession were capable of committing. The Committee thought it proper that the Council should protest against the creation of that offence because it seemed to be unnecessary in the sole interest which seemed to be contemplated. The chief object seemed to be that of obtaining correct death registration statistics, but that would be achieved by a system of notification such as that which was in force in the case of infectious diseases. Lastly, the Education Committee made a suggestion with regard to defining precisely what the Licensing Bodies should require as to evidence of adequate practical instruction in the administration of anaesthetics. After consideration, it was thought undesirable for the Council at that stage to lay down a precise definition. As long as those bodies were impressed with the necessity of instruction being obtained, the matter might be left without further definition. In order to justify the Council's admission of dental practitioners to the privilege—if such it could be called—of administering anaesthetics, supposing the law to be changed in the direction suggested, it was highly necessary that they should have adequate practical instruction in anaesthetics, as was suggested. Therefore, the Committee made the definite proposal that it be added to the curriculum as recommended by the General Medical Council.

Dr. KNOX suggested the following addition should be made to the recommendation that duly qualified dental practitioners should be authorized to administer anaesthetics: "That due provision should be made for the practical instruction of dental students." To this the Council agreed.

Sir CHARLES BALL having spoken in support of the recommendations, the President's motion was carried.

PHARMACOPOEIA COMMITTEE.

On the motion of Sir JOHN MOORE, the report of this Committee was adopted.

The report stated that the number of copies sold in the preceding twelve months had been 1,050, that the total number of copies of the last edition of the *Pharmacopoeia* sold was 41,366 and of the *Indian and Colonial Addendum* 4,458, leaving in hand 1,664 copies of the *Pharmacopoeia* and 1,876 copies of the *Addendum*. At the meetings on October 22nd and 23rd the Committee had considered in detail the suggestions made by the Licensing Bodies and other medical authorities at home and abroad for the improvement of the *Pharmacopoeia* with a view to its forthcoming revision. Provisional decisions were

arrived at concerning the omission or inclusion of particular drugs and preparations. On a number of points it appeared that further inquiries were necessary if more definite conclusions could be reached. Meanwhile the Committee has resolved that the matter now included in the *Indian and Colonial Addendum*, or such part of it as after due revision is retained, shall be incorporated with the text of the next *Pharmacopœia*. In this way practitioners and pharmacists throughout the empire will be provided with a comprehensive *British Pharmacopœia* in one volume, in which due account is taken of local conditions and requirements.

STUDENTS' REGISTRATION COMMITTEE.

On the motion of Sir HUGH BEEVOR, the Committee's report was received, approved, and entered on the minutes.

It recommended *inter alia* that the Transvaal University College, Johannesburg, the Municipal Technical School, Rochdale (Day Classes), and the Municipal Technical School, Gloucester (Day Classes), be added to the list of recognised institutions approved by the Council.

DENTAL EDUCATION AND EXAMINATION.

Mr. TOMES moved the adoption of the report of the Dental Education Examination Committee. Its chief point was an appeal to the Privy Council against the action of the Registrar in refusing to register a person, and an answer had to be returned justifying his action. The only question was whether a man being registered on some register, the Council could go behind the circumstances by which he got there. For that, however, there was precedent. The Council had declined to consider registration upon a Colonial register as entitling a man to be registered upon the General Medical Council's *Dentists Register* when he had got upon the Colonial register by being in practice prior to a certain date. The particular case in question was curious because it was an instance of piled up exemptions, each of the diplomas having been obtained under circumstances of considerable exemption, and there was no evidence of a preliminary examination having been passed nor of any prescribed curriculum having been followed. The Committee were not deciding anything upon the adequacy or inadequacy of the diplomas when obtained in the regular course. The Committee, therefore, recommended the Council to reply to the Privy Council:

> That in connexion with this case they do not consider that the possession of the diplomas tendered affords "a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of dentistry or dental surgery."

Dr. KNOX having seconded, the resolution was carried.

FINAL EXAMINATIONS.

On November 26th Dr. SAUNDBY proposed

> That in the opinion of this Council the practice of allowing candidates to pass separately the subjects of the Final Examination in Medicine, Surgery, and Midwifery is adverse to the interests of medical education, and that the Council remits the subject to the Examination Committee for consideration and report.

He expressed the hope that the motion would be accepted without discussion. The Examination Committee could then consider what was to be said for and against the practice.

Mr. HODSDON seconded.

The motion was put to the Council and carried.

DISCIPLINARY CASES.

The Council then further considered the case of Mr. Thos. Torrens McKendry, registered as of 39, Wellwood Road, Goodmayes, Ilford, Essex, M.B., Ch.B., 1894, R.U.I., the charge being:

> That you have knowingly and wilfully on various occasions, and in particular on the 20th day of February, 1909, assisted one E. C. Dalby, a person not registered as a dentist, in carrying on practice as a dentist by administering anæsthetics on his behalf to persons coming to him for treatment, and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The facts of the case were proved when the case was before the Council on May 28th, 1909, and the PRESIDENT, then addressing Mr. McKendry, said: "The Council has postponed judgement till the November session, when you will be required to attend in person and to produce evidence, more particularly from medical colleagues in your neighbourhood, as to your professional good conduct generally in the interval, and in particular that you have not repeated the offence of which complaint has been made."

Mr. McKendry was present; the complainant, Mr. Victor Albert Chaplain, did not appear, but the Council's Solicitor read a letter from him, stating that he had no further evidence to tender to the Council.

Mr. McKendry tendered himself as a witness on his own behalf, and put in testimonials as to character from three medical practitioners, Mr. A. J. Pattison, and Mr. H. W. Garden, of Goodmayes, and Dr. T. R. Atkinson, of Chadwell Heath. He also answered questions put to him by the Council's Solicitor, and undertook not to administer anæsthetics for unregistered persons in the future.

The Council having deliberated *in camera*, the PRESIDENT announced its decision as follows:

> Mr. McKendry, the Council have taken into consideration the evidence which you have produced, and does not see fit to direct the Registrar to erase your name from the *Medical Register*.

The next case was that of Robert Wiseman Cunningham, registered as of King's Island, Tasmania, M.B., M.S., 1895, M.D. 1904, Univ. Edin., who had been summoned to appear before the Council on the following charge as formulated by the Council's Solicitor:

> That you abused your position as a medical man by committing adultery and eloping with Alice Mary Wigram, whose husband you had been attending professionally and while you were under the said attendance of the family, of which adultery you were found guilty by the decree of the Probate, Divorce and Admiralty Division (Divorce) of the High Court of Justice, dated June 11th, 1909, in the case of Wigram *v.* Wigram and Cunningham, in which you were the co-respondent, and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The SOLICITOR read the notice which was served on the accused practitioner on July 26th, 1909. Mr. Cunningham did not appear.

The SOLICITOR stated that the divorce proceedings were undefended. He then read certain parts of the evidence given in the divorce proceedings. He further stated that he had received a letter from the accused practitioner, in which he said he was not guilty of the charge of adultery preferred against him in the Divorce Court.

The Council having deliberated *in camera*, the PRESIDENT announced its judgement as follows:

> I have to announce that the Council has judged Robert Wiseman Cunningham to have been guilty of infamous conduct in a professional respect, and has directed the Registrar to erase from the *Medical Register* the name of Robert Wiseman Cunningham.

The next case to be considered by the Council was that of Mr. John L'Estrange McGrane, registered as L.R.C.S.I. 1884, and L.K.Q.C.P.I. 1885.

The charge as formulated by the Solicitor to the Council was read as follows:

> That, while holding the appointment of ship's surgeon on the ss. *Trafford Hall* on her voyage beginning at Liverpool on June 22nd, 1909, and ending at Birkenhead, Liverpool, on September 18th, 1909, you were repeatedly drunk and incapable of performing the duties which as a registered medical practitioner you had undertaken to perform, and that on various occasions you were fined in respect of such dereliction under the regulations in force on the ship for maintaining discipline and were too drunk for the entries to be read over to you.
>
> And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The original information upon which the charge was based was laid before the Council by the Board of Trade. In the absence of any complainant, the Council's Solicitor opened the case, and read a statutory declaration of Mr. F. H. Southern, in the employment of the manager of the Hall Line, and numerous extracts from the log of *Trafford Hall*.

Mr. George Wallace, instructed by Mr. Reginald Hingston, solicitor, appeared for the accused practitioner.

Mr. JOHN KEARLEY produced the ship's log containing the entries which formed the basis of the charge.

Mr. WALLACE called Dr. ARTHUR D. O. C. FINEGAN, who had known the respondent for twenty years. Dr. McGrane had consulted him with reference to his health, and it was upon the witness's advice that the respondent undertook the voyage in question. The witness was aware of his taking morphine to relieve the disease from which he was suffering, and had never seen him the worse for liquor. The entries in the log were quite consistent with morphine taking.

The respondent, Dr. MCGRANE, examined by his Counsel, said he undertook the voyage on medical advice. His habits were temperate and he was practically a teetotaler. To relieve insomnia he had taken morphine. At the beginning of the voyage he had been seasick for two or three days, but after he recovered from that he performed all his duties. His wine bill for the voyage was 7s. 4d., which included tobacco lime juice, and one bottle of whisky, from the last of which he and a friend had had two drinks, and he was unaware what had become of the remainder. In cross-examination by the Solicitor, he emphatically denied the accuracy of the entries in the log. In answer to questions by the Legal Assessor, Mr. Bodkin, the respondent said he did not know he had been fined; he had not checked the items of the money paid him for the voyage.

By the COUNCIL: He took ½ grain of morphine a day on the voyage. Its effect was to make him drowsy and heavy. He had never ordered alcohol on board the ship and been refused.

Mrs. MCGRANE, the wife of the respondent, testified that her husband was almost a teetotaler.

Mr. WALLACE addressed the Council on behalf of the respondent. The SOLICITOR replied.

Strangers and parties withdrew, and upon their readmission the PRESIDENT announced the judgement of the Council as follows:

Mr. John L'Estrange McGrane, I have to announce to you that the Council has come to the following decision upon your case—namely, that the facts alleged against you upon the notice have not been proved to the satisfaction of the Council.

The Council also considered the case of Frederick Morrish Pierce, registered as M.R.C.S.Eng., L.S.A., 1867, L.R.C.P.Lond., M.D., Q.U.I., 1868, now of 50, Gordon Square, W.C. The respondent did not appear, but was represented by Mr. GRIFFITHES, Solicitor, who read a medical certificate as to Dr. F. M. Pierce's inability to attend.

The SOLICITOR TO THE COUNCIL, after stating that the original information was laid by the Home Office, read the charge, which had been formulated as follows:

That, being a Certifying Surgeon appointed by the Secretary of State under the Factory and Workshops Act, 1901, you, for the purpose of evading the conditions under which you were appointed, which required the personal fulfilment of the duties prescribed by the Act (except under the circumstances and on the conditions laid down in the Instructions issued by the Secretary of State), knowingly and wilfully employed another registered medical practitioner (namely, Edward Arthur Burgess) to perform your duties; and that, in order to carry out this system of evasion you committed the following offences—namely:

(a) t being your duty as such Certifying Surgeon to examine young persons under 16 and children for certificates of fitness for employment in Factories and Workshops and to grant certificates in suitable cases, you allowed the said Edward Arthur Burgess to conduct the examination for you and to sign your name to certificates that you had personally examined certain persons on certain dates named and that they were fit to perform the work on which they were engaged.

(b) It being your duty as such Certifying Surgeon to investigate and report upon certain accidents, you allowed the said Edward Arthur Burgess to visit the works and the injured persons for you, and you thereafter signed certificates that you had personally investigated the causes of such accidents and had personally taken the evidence of such injured persons, when in fact you had made no such personal investigation and had not personally taken such evidence, but the certificates were subsequently filled up by you upon information furnished to you by the said Edward Arthur Burgess.

(c) It being your duty as such Certifying Surgeon personally to examine and certify persons employed in certain dangerous processes, you allowed the said Edward Arthur Burgess to examine such persons on your behalf and to insert the necessary particulars in the Health Register, which you afterwards signed; and in other cases you signed the said Register in advance, the necessary particulars being afterwards filled in by the said Edward Arthur Burgess when he visited on your behalf.

And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The COUNCIL'S SOLICITOR then, in the absence of a complainant, opened the case, and referred to certain entries in the health register of a Manchester firm, in a register of persons under 16 years of age certified fit for employment by another firm, and in reports as to injured persons, and referred to letters written by Dr. Pierce. The Solicitor then called Dr. Whitelegge, M.D., C.B., His Majesty's Chief Inspector of Factories, and examined him with reference to correspondence between the Home Office and the respondent. Dr. Whitelegge was cross-examined by Mr. Griffithes, and answered questions put to him by the Legal Assessor (Mr. Bodkin). He was re-examined by the Solicitor to the Council, answered further questions by Dr. Griffithes and the Legal Assessor, and others put to him through the Chairman by members of the Council.

Mr. JAMES EDWARD ASHWORTH, His Majesty's Inspector of Factories in charge of the Manchester District, produced registers containing entries by Drs. Pierce and Burgess, and certificates. He said the fact of a medical inspector living out of the district would be reported in the ordinary course to the Home Office.

Cross-examined by Mr. GRIFFITHES, the witness said respondent might have to examine a couple of hundred hands and attend to about twelve accidents a week. Dr. Burgess was perfectly competent so far as witness knew, and he had always been allowed to act as deputy to Dr. Pierce.

In answer to the LEGAL ASSESSOR, he said the district was not large, and had, since the respondent's resignation, been merged in others. In case of emergency a deputy certifying surgeon could be appointed within a day.

The COUNCIL'S SOLICITOR called Dr. EDWARD ARTHUR BURGESS, who testified to the truth of a statutory declaration he had made which had been laid before the Council, and deposed to certain letters which had passed between himself and the respondent. He had on various occasions signed the registers kept at factories with Dr. Pierce's name, putting his own initials to the signature, in accordance with a request made by the respondent six years previously. This was only done when he was not acting as a properly appointed deputy. When acting in the latter capacity he signed his own name. In some cases Dr. Pierce had signed the register before or after the witness's visit. On one occasion the register was signed by Dr. Pierce before the visit of Dr. Burgess. The latter put "*pro*" after the signature.

In cross-examination by Mr. GRIFFITHES, Dr. BURGESS said that Dr. Pierce had lived in London for about nine years, and was in Manchester for two or three days a week, living in lodgings there. His reason for saying some signatures were written before and some after visits was the similarity of the signatures. He might have received £45 2s. 9d. in 1907 and £33 in 1908 from Dr. Pierce. He had handed the correspondence to Mr. Ashworth because Dr. Pierce had accused witness of doing things which he had not done, and had carried on correspondence with Mr. Ashworth, which he (the witness) knew nothing about, instead of consulting him, who had done his work and acted as his deputy.

Mr. GRIFFITHES, for the respondent, wished to read a statutory declaration made by Dr. Pierce. This declaration was allowed to be read as a letter, and was to the following effect: Dr. Pierce during the time he had held his office, from 1872 to 1909, had never had any complaint about his conduct. Having to visit on the average 50 factories a week, equal to examining 100 hands, he had to get aid to enable him to fulfil his duties. Also he suffered from acute

gout, which rendered him incapable at sometimes less than an hour's notice. Owing to these circumstances he was compelled to have a deputy, and Dr. Burgess had always performed his duty competently and with thorough efficiency. He (the respondent) never signed the health register in advance, except on two occasions when he signed on the wrong line and let the signature stand for the next examination. He admitted that he had broken in a slight degree the regulations, and expressed his regret for so doing.

Mr. GRIFFITHES having addressed the Council on behalf of Dr. Pierce, and the SOLICITOR having replied, strangers and the parties were directed to retire.

Upon their return the PRESIDENT announced the judgement of the Council as follows:

Mr. Griffithes, I have to announce that the Council have judged Frederick Morrish Pierce to have been guilty of infamous conduct in a professional respect, and have directed the Registrar to erase from the *Medical Register* the name of Frederick Morrish Pierce.

The next case to be considered by the Council was that of Robert Orr, registered as of Ceres, Fifeshire, M.B., B.S.Glasg.

The SOLICITOR TO THE COUNCIL read the charge, which was as follows:

That you were on October 1st, 1907, convicted at the Sheriff Court of Fife at Cupar of the following offence—namely, of assaulting a constable of the Fifeshire Constabulary, while engaged in the execution of his duty.

And that you were on July 6th, 1909, convicted of the following offence—namely, of breach of the peace and of assaulting James Arthur, Helen White or Arthur, Catherine Dempsey or Kerr, and Catherine Quin.

The RESPONDENT, who appeared in person, said, with regard to his first conviction, that he had been arrested for going to the assistance of a man who had been knocked down by a police constable, and in the second case through acting as a peacemaker, and he expressed his sincere regret for what had occurred.

Strangers and parties then withdrew. On readmission, the PRESIDENT announced the decision of the Council, as follows:

Mr. Orr, the Council has given careful consideration to the question of your convictions and the circumstances connected therewith, and have decided to postpone judgement thereon till the May session, when you will be required to be present, and it will be in your interest to produce on that occasion testimony from persons of position in your own neighbourhood as to your character and conduct in the interval.

The Council considered the case of Charles Frederick Dillon Shaw-Mackenzie, registered as M.B., C.M.Ed., 1885. The COUNCIL'S SOLICITOR read the charge, which was:

That you were on February 8th, 1908, convicted of the following misdemeanour at the Petty Sessions at Whitby, in the county of York—namely, of being unlawfully guilty, while drunk, of disorderly behaviour at Ruswarp. And that you were on January 25th, 1909, convicted of the following misdemeanour at the Petty Sessions at Wigton, in the County of Cumberland—namely, of being drunk and incapable in Eden Street, Silloth.

The respondent did not appear, nor was he represented. The COUNCIL'S SOLICITOR read letters from Mr. Shaw-Mackenzie stating that his first arrest was due to mistaken identity, and that of the second charge he was entirely innocent

The Council having deliberated *in camerâ*, the PRESIDENT announced the decision of the Council as follows:

I have to announce that the Council has found that Charles Frederick Dillon Shaw-Mackenzie has been found to have been convicted of the misdemeanours alleged against him in the Notice of Inquiry, and that the Council has decided to postpone judgement thereon till the May session, when he will be required to be present, and to produce on that occasion testimony from persons of position as to his character and conduct in the interval.

The case of William Shaw, registered as of Larne, Antrim, L.R.C.P. and S.Ed., 1886, was next considered. The charge, as stated by the COUNCIL'S SOLICITOR, was as follows:

That you were convicted on March 24th, 1908, and again on March 23rd, 1909, at the Larne Town Court, of being found drunk in a public street, and on August 24th, 1909, at Larne Petty Sessions, of the following misdemeanour—namely, of being found on licensed premises in contravention of the provisions of the Licensing Acts.

The respondent did not appear, and was unrepresented.

The SOLICITOR read letters which Mr. Shaw had written in answer to the request for an explanation and in answer to his notice. In one letter the respondent, while admitting having had some spirits, denied being drunk. A medical certificate by Samuel W. Hill, M.B., B.Ch., and a letter from Mr. John Campbell, M.A., M.D., F.R.C.S., asking that the Council would postpone action till the May session, were also read.

The Council deliberated on the case *in camerâ*.

The PRESIDENT announced the judgement of the Council as follows:

I have to announce that William Shaw having been proved to have been convicted of divers misdemeanours alleged against him in the Notice of Inquiry, the Registrar has been directed to erase his name from the *Medical Register*.

The next case was that of Harry Robert Emms, registered as of Birmingham, M.R.C.S.Eng., L.R.C.P. Lond., 1896. The charge was read by the COUNCIL'S SOLICITOR, and was as follows:

That you were on June 16th, 1909, convicted at the Cambridge Borough Police Court of having on May 29th, 1909, feloniously stolen a bicycle belonging to one Debendra Mohan Bose, and on June 7th, 1909, of having feloniously stolen a New Chesterton bicycle belonging to one Alfred Conway, and a Standard Triumph bicycle belonging to one Thomas James Mudd.

The respondent did not appear, and was unrepresented.

The Council deliberated on the case *in camerâ*.

The PRESIDENT announced the judgement of the Council as follows:

I have to announce that Harry Robert Emms having been proved to have been convicted of the felony alleged against him in the Notice of Inquiry, the Registrar has been directed to erase his name from the *Medical Register*.

DENTAL DISCIPLINARY CASES.

The Council proceeded to consider the case of William John Watson. The complaint had been referred to the Dental Committee to ascertain the facts. The case was before the Committee on former occasions. Mr. Watson attended personally before the Council, the complainants being the British Dental Association, represented by Messrs. Bowman and Curtis Hayward, solicitors. The Committee found upon the evidence that:

William John Watson has since the date of the last hearing of this case observed his undertaking to discontinue all advertising and to have no connexion with unqualified practitioners, and no objection has been taken to the mode in which his profession has been carried on.

The said William John Watson further undertakes not to advertise in future or to have any connexions direct or indirect with unqualified practitioners.

The REGISTRAR having read the report, strangers were directed to withdraw, and on their readmission, the PRESIDENT announced that the Council had not directed the Registrar to erase from the *Dentists Register* the name of William John Watson.

The next case, that of Charles Morgan, had been before the Dental Committee twice. Mr. Morgan then appeared in person, the complainants, the British Dental Association, being represented by Mr. R. W. Turner, counsel, instructed by Messrs. Bowman and Curtis Hayward, solicitors. The Committee found upon the evidence:

That Charles Morgan has since the date of the last hearing of the case observed his undertaking to discontinue all advertising, and he further undertakes not to advertise in future.

After the Council had deliberated *in camerâ* the PRESIDENT announced that the Council had not directed the Registrar to erase from the *Dentists Register* the name of Charles Morgan.

The Council also considered the case of Alexander Riddle Stower. The Registrar read the report of the Dental Committee on the case as follows:

The complaint against Alexander Riddle Stower, having been referred to the Dental Committee to ascertain the facts, the Dental Committee beg to report as follows:

On November 25rd, 1909, the inquiry was held.

The said Alexander Riddle Stower attended personally, and was represented by Mr. Cannot, instructed by Mr. Angiers, solicitor. The British Dental Association, the complainants, appeared by counsel, Mr. Hart, instructed by Messrs. Bowman and Curtis Hayward, solicitors.

The Committee find that the following facts were established by the evidence:

The said Alexander Riddle Stower was registered in the *Dentists Register* on July 19th, 1879, as "in practice before July 22nd, 1878," and his address in the *Register* for the current year is 80, Shaftesbury Avenue, London, W.

The said Alexander Riddle Stower has advertised his professional practice:

(*a*) By advertisements carried by two sandwich men parading Oxford Street.

(*b*) By the issue and circulation of leaflets and a calendar adorned with a female portrait, and

(*c*) By advertisements in the public newspapers describing himself as "Stower's Dental Association," and asking for agents.

(*d*) By various conspicuous notices on the front of 80, Shaftesbury Avenue, where he carries on his profession, consisting of notices in six windows, a swinging sign at the entrance, a show-case illuminated with electric lights, and other notices both outside and inside the premises.

These advertisements and leaflets are of a highly objectionable character.

The said Alexander Riddle Stower stated that some of the advertisements complained of had been withdrawn, and that it was not his intention to employ sandwich men or to advertise in the newspapers in future.

The evidence before the Committee consisted of the following:

1. The oral evidence of the said Alexander Riddle Stower.

The following depositions and statements:

2. A statutory declaration by Brathwaite Cheveley Rayner, dated April 19th, 1909.

3. The *Evening News* of April 4th, 1909.

4, 5, 6, and 7. Two leaflets, a calendar, and a card, marked respectively A, B, C, and D.

8. Letters from the said Alexander Riddle Stower to the Registrar respectively dated May 5th and June 16th, 1909.

Mr. CANNOT, instructed by Mr. Angiers, addressed the Council on behalf of the respondent. Mr. HART, on behalf of the British Dental Association, replied. The Council having deliberated *in camera*, the PRESIDENT announced the judgement of the Council as follows:

Alexander Riddle Stower, I have to inform you that on facts proved in the report of the Dental Committee, it has been held that you have been guilty of infamous or disgraceful conduct in a professional respect, and that the Registrar be directed to erase from the *Dentists Register* the name of Alexander Riddle Stower.

The Council considered the case of James Alexander Pettigrew, of Whitehaven, registered on the *Dentists Register* as in practice before July 22nd, 1878. The respondent did not appear and was unrepresented.

The Registrar read the report of the Dental Committee as follows:

The said James Alexander Pettigrew was registered in the *Dentists Register* on November 5th, 1883, as "in practice before July 22nd, 1878," and his address in the *Register* for the current year is 11, Lowther Street, Whitehaven, Cumberland.

The said James Alexander Pettigrew did not attend. Service of the Notice of Inquiry was proved by the Solicitor.

The Committee find that the following facts were established by the evidence:

That on January 4th, 1909, the said James Alexander Pettigrew was convicted at the Lancaster Quarter Sessions of unlawfully and wilfully neglecting certain children under the age of 16 years in a manner likely to cause them unnecessary suffering and injury to their health, and was sentenced to six months' imprisonment with hard labour.

The evidence before the Committee consisted of the certified copy of the said conviction.

The Council deliberated on the case *in camera*.

The PRESIDENT announced the judgement of the Council as follows:

I have to announce that James Alexander Pettigrew, having been proved to have been convicted of the misdemeanours alleged against him, the Registrar has been directed to erase from the *Dentists Register* the name of James Alexander Pettigrew.

PENAL PROCEDURE.

On Friday, November 26th, the Council considered *in camera* a report of the Executive Committee with regard to penal procedure.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on November 25th, with DR. F. H. CHAMPNEYS in the chair.

Representation on the Board.

Mr. PARKER YOUNG moved:

That one member of the Central Midwives Board be elected as a direct representative by the registered medical practitioners in England and Wales, in the same manner and at the same time as the direct representatives on the General Medical Council are elected.

He said that there were three direct representatives of the medical profession on the General Medical Council, and in the future there was going to be a fourth. In regard to the representatives on the Central Midwives Board, the medical representatives were sent up to the Board through the examining bodies by a small number of persons. It was clear there was no direct representation on the Central Midwives Board, and if such representation was good for the General Medical Council surely it must be good for the Central Midwives Board.

Mr. ATKINSON, in seconding the motion, pointed out the advisability of the general practitioner voting at the same time for the General Medical Council and the Central Midwives Board.

The resolution was put to the vote and carried.

A letter was received from the National Association of Midwives claiming to appoint a representative on the Board. The Board approved of the reply sent by the Secretary stating that the Board had no power in the matter.

Dismissal of Midwife by Doctor.

The Standing Committee reported that a letter had been received from the Medical Officer of Health for Bolton as to the dismissal of a midwife from further attendance on a case by a registered medical practitioner, who had been summoned on her advice. The committee recommended that the reply be that, on the facts stated, the Board considers: (*a*) That it would not have been right for the midwife to have disobeyed the instruction of the medical man, and to have kept on with the case until she had received notice from the Local Supervising Authority; (*b*) that the medical man being responsible for the case, his orders, however ill considered, must be obeyed (Rule E, 6); (*c*) that the suspension of the midwife to avoid spreading infection was not necessary.

Miss R. PAGET protested against the recommendation, because in her opinion it set up a precedent giving the right to doctors to send away midwives from their cases.

Sir GEORGE FORDHAM objected to the recommendation because he did not think it was necessary to lay down rules of conduct.

On the motion of Mr. ATKINSON, the previous question was put and carried and the subject dropped.

Advertising a Secret Medicine.

A letter was considered from the Secretary of the British Medical Association, complaining of the action of a certified midwife in giving a testimonial to be used for advertising a patent medicine. A letter to the same effect was received from the Secretary of the Medical Guild, Manchester. The Board decided that the midwife be asked for an assurance that she will forthwith discontinue the use of the letters "C.M.B.," as appended to her name, and that she be informed that, in the opinion of the Board, it is unprofessional for a midwife to sign an advertisement as such.

Administration of Drugs by Midwives.

A letter was considered from Miss F. Bernard-Boyce, Inspector of Midwives for Norfolk, as to the extent of the right of a midwife to administer drugs. The Board decided that a reply be sent embodying the principles laid down in a circular letter to the examiners dated June 8th, 1907, on the subject of the administration of drugs by midwives, giving details as to the rules authorized for the proper administration

of drugs by midwives under safeguards. In the course of discussion on this matter Mr. Golding Bird stated that he did not consider that the term "administering a drug" meant prescribing one.

Payment of Doctors called in by Midwives.

A letter was received from the Honorary Secretary of the Chelsea Division of the Metropolitan Counties Branch of the British Medical Association, forwarding a copy of a resolution passed at a meeting of the medical practitioners of Chelsea and Fulham, refusing to attend women in, or immediately after, childbirth, or in respect of puerperal maladies, in response to emergency calls by midwives, unless the Boards of Guardians of Chelsea and Fulham guaranteed to pay the fee.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

WITH reference to the notice in the *London Gazette* of October 15th, 1909, the withdrawal of Surgeon F. L. J. M. DE VERTEUIL, M.D., with a gratuity, had been post-dated to October 20th, 1909.

The following appointments have been made at the Admiralty: Surgeon H. F. BRIGGS, M.B., to be lent to the *Excellent*, temporarily, December 4th; Staff Surgeon F. F. LOBB, to the *Victoria*, additional, for disposal, December 3rd.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL W. L. GUBBINS, C.B., M.V.O., M.B., Deputy Director-General, Army Medical Service, is appointed an Honorary Surgeon to the King, vice Brigade Surgeon-Lieutenant-Colonel and Brevet Colonel C. E. Harrison, C.V.O., M.B., retired, October 19th. The commissions and services of Surgeon-General Gubbins were fully detailed in the BRITISH MEDICAL JOURNAL of July 11th, 1903, on the occasion of his appointment to be Deputy Director-General of the Army Medical Service.

The under-mentioned officers, on transfer from the 8th (Lucknow) Division, are appointed Specialists in the subjects named: Lieutenant C. H. Bryan, 5th (Mhow) Division, Dentistry; Captain P. S. O'Reilly, 9th (Secunderabad) Division, Ophthalmology.

Major G. W. Tate, M.B., from Dundalk, has been appointed Recruiting Medical Officer at Dublin.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL R. J. BAKER, M.D., Bombay, is permitted to retire from the Service, to which he was appointed April 2nd, 1881, becoming Lieutenant-Colonel April 2nd, 1901. He took part in the Zhob Valley Expedition in 1884.

Lieutenant-Colonel A. T. Bown, Bengal, is also permitted to retire, from December 18th. He was appointed Surgeon, October 1st, 1884, and became Lieutenant-Colonel, October 1st, 1904. His war record includes the Hazara Expedition, 1888 (medal with clasp); the Hazara Expedition, 1891 (clasp); with the Chitral Relief Force in 1895, including the storming of the Malakand Pass and the action near Khar (medal with clasp); and the campaign on the North-West Frontier of India in 1897-8 (clasp).

Captain R. S. Matson, Brigade Laboratory, Jhansi, is appointed Specialist in the Prevention of Disease, from September 20th.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Supplementary List.—The undermentioned to be Lieutenants (on probation): GEORGE ROLLASON, October 25th; JOHN FRASER, M.B., November 1st.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-CAPTAIN J. W. NICHOLSON, 5th Battalion Lincolnshire Regiment, to be Surgeon-Major, January 28th.

ROYAL ARMY MEDICAL CORPS.

Third North Midland Field Ambulance.—Lieutenant G. J. S. ATKINSON resigns his commission, October 23rd.

Attached to Units other than Medical Units.—Captain J. H. HUNTER, M.D., resigns his commission, October 15th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,648 births and 5,167 deaths were registered during the week ending Saturday, the last November 27th. The annual rate of mortality in these towns, which had been 15.5, 13.8, and 16.6 per 1,000 in the three preceding weeks, further rose to 16.9 during the week. The rates in the several towns ranged from 8.2 in Reading, 8.8 in Bournemouth, 8.9 in Handsworth, Smethwick, and in Barrow in Furness, 10.1 in Leyton, 11.1 in Wallasey, 11.6 in Willesden, 11.8 in Hornsey and in Hendon, and to Surbiton, Tynemouth, 23.0 in Salford, 23.2 in Liverpool, 23.4 in Great Yarmouth, 23.6 in Huddersfield, 23.7 in Birkenhead, 24.0 in Oldham, 26.5 in Wigan, 27.3 in Preston, and in Merthyr Tydfil, and 29.2 in Swansea. In London the rate of mortality was 15.6 per 1,000, while it averaged 16.7 in the seventy-six other large towns. The death-rate from the principal infectious diseases averaged 0.9 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 0.8, the lowest rate among the seventy-five office-town towns, the rates last week having ranged from 0.7 in Tynemouth, Barrow, Aston Manor and in South Shields, 1.9 in Kings Norton, 2.3 in Hanley and in Rhondda, 3.2 in Swansea, 3.7 in Northampton, and 4.0 in Merthyr Tydfil. Measles caused a death-rate of 1.6 in Swansea, 2.3 in Hanley, and 2.7 in Northampton; scarlet fever of 1.2 in Wigan and 1.3 in Merthyr Tydfil; diphtheria of 1.3 in King's Norton; whooping-cough of 1.2 in Aston Manor, 1.3 in Merthyr Tydfil, and 1.5 in Hastings; "fever" of 1.3 in Newport (Mon.); and diarrhœa of 1.5 in Rhondda. No fatal case of small-pox was registered last week in any of the seventy-six towns. Four small-pox patients were under treatment in the Metropolitan Asylums Hospitals at the end of last week, against 2, 3, 4, and 5 at the end of the four preceding weeks; one new case was admitted during the week, against 3, 2, and 1 in the two preceding weeks. The number of scarlet fever cases in these hospitals and the London Fever Hospital, which had further declined to 2,518 at the end of last week, 264 new cases were admitted during the week, against 336, 284, and 308 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, November 27th, 849 births and 568 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 15.3, 15.8, and 19.8 per 1,000 in the three preceding weeks, further rose to 24.2 per 1,000 last week, and was 7.8 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 11.5 in Greenock and 13.4 in Leith, to 18.8 in Edinburgh and 32.7 in Glasgow. The death-rate from the principal infectious diseases averaged 2.7 per 1,000, the highest rates being recorded in Glasgow and Edinburgh. The 547 deaths registered in Glasgow included 45 which were referred to measles, 5 to scarlet fever, 6 to whooping-cough, 3 to enteric fever, 3 to diarrhœa, and 235 to diseases of the respiratory system. Four fatal cases of measles, 4 of diphtheria, and 4 of diarrhœa were recorded in Edinburgh; 2 of diphtheria in Aberdeen; and 2 of diarrhœa in Paisley.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 27th, 563 births and 463 deaths were registered in the twenty-two principal urban districts of Ireland, as against 598 births and 439 deaths in the preceding period. The annual death-rate in these districts, which had been 17.4, 19.2, and 20.0 per 1,000 in the three preceding weeks, rose to 21.0 per 1,000 in the week under notice, this figure being 4.6 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 20.7 and 22.3 respectively, those in other towns ranging from 5.5 in Tralee and 10.3 in Portadown, to 27.3 in Lisburn and 28.6 in Newtownards, while Cork stood at 26.0, Londonderry at 13.5, Limerick at 16.4, and Waterford at 25.3. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, as against 0.8 per 1,000 in the preceding period.

Hospitals and Asylums.

WILTS COUNTY ASYLUM.

THE Medical Superintendent of the Wilts County Asylum, Dr. J. Ireland Bowes, in his report for the year 1908, says that the statistics were in every way disappointing, presenting no favourable or redeeming feature. The admissions were the highest on record, the discharges were few, and the death-rate exceeded any former record by 20. On January 1st, 1908, there were 962 patients in residence, and on the last day of the year 969. The total cases under care during the year numbered 1,146, and the average number daily resident 959.9. During the year 181 were admitted, of whom 162 were first admissions. In 80 the attacks were first attacks within three, and in 35 more within twelve months of residence, but in 2 only of districts within twelve months; in 2 the duration was unknown, and in the remaining 26 the attacks were of more than twelve months' duration on admission. The total admissions were classified according to the forms of mental disorder into: Mania of all kinds, 58; melancholia of all kinds, 31; senile dementia, general paralysis, and insanity with epilepsy, each 4; insanity with gross brain lesions, 2; stupor, 1; and cases of congenital or infantile defect, 11. As to age, 18 were over 70 years, 22 between 35 and 40, and 40 between 45 and 55 years of age on admission. In 19 there was a history of previous attacks; epilepsy was a complication in 15, and suicidal tendencies existed in 85. As regards the probable etiological factors, alcohol was assigned in 13, or 8.1 per cent.; acquired syphilis in 2 and influenza in 4; critical periods in 21; bodily trauma in 9; nervous disease in 12; other bodily affections in 10, and mental stress in 58. In 52, or 28.7 per cent., an heredity of insanity was ascertained, in 9 of epilepsy, and in 1 a neurotic, and in 11 an alcoholic heredity. During the year 43 were discharged as recovered, giving the low recovery-rate on the admissions of 23.7 per cent., 9 as not improved, and 1 as not insane. Also 129 died, giving a death-rate on the average numbers resident of 13.4 per cent. This high death-rate was due in part, Dr. Bowes says, to the abnormally low death-rate of 7.3 per cent. during the years 1902-7, leading to an accumulation of aged and infirm patients; but also for the most part, the high death-rate was due to an unusual number of deaths (25) from tuberculous disease, giving a percentage to total deaths of 19.3 per cent. The deaths were due in 27 to nervous diseases, including 15 from general paralysis; in 19 to diseases of the heart and blood vessels, in 8 to respiratory diseases, in 9 to diseases of the digestive and urinary systems, in 1 to suicide by drowning, and in the remainder to general diseases, including 16 from senile decay, 17 from pneumonia, and, as already stated, 25 from tuberculosis. No epidemic occurred, and the general health was satisfactory.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

COLCHESTER ESSEX COUNTY HOSPITAL.—House-Physician Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Medical Officer (male) to Casualty Department. Salary at the rate of £100 per annum.

ENFIELD AND EDMONTON JOINT HOSPITAL BOARD.—Resident Assistant Medical Officer at the Isolation Hospital. Salary at the rate of £150 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £50 per annum.

HANLEY EDUCATION COMMITTEE.—School Medical Officer (female). Salary, £250 per annum.

HARROGATE BOROUGH.—Medical Officer of Health and Medical Inspector of School Children. Salary, £400 per annum, increasing to £500

HAYWARD'S HEATH: BRIGHTON COUNTY BOROUGH ASYLUM.—Temporary Third Assistant Medical Officer for six months. Salary, 12 guineas a month.

HÔPITAL FRANÇAIS, Shaftesbury Avenue, W.C.—Resident Medical Officer. Salary, £50 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) House-Physician; honorarium, 30 guineas for six months. (2) Assistant Resident Medical Officer; salary, £100 per annum

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Ophthalmic Surgeon, (2) Resident Medical Superintendent. (3) House-Surgeon, (4) Assistant Casualty Medical Officer Salary for (2) 100 guineas per annum and £5 washing allowance; for (3) and (4), £30 for six months and washing allowance £2 10s.

HUDDERSFIELD INFIRMARY. (1) Senior Assistant House Surgeon, (2) Junior Assistant House-Surgeon (males); salary, £80 and £60 per annum respectively.

INCORPORATED NATIONAL UNION FOR CHRISTIAN SOCIAL SERVICE.—Female Resident Medical Officer at the Homes for Epileptic Children, Lingfield. Salary, £75 per annum.

KENT COUNTY ASYLUM, Chartham.—Third Assistant Medical Officer (male). Salary, £200 per annum.

KINCARDINESHIRE COUNTY COMMITTEE ON SECONDARY EDUCATION.—Assistant School Medical Officer (male). Salary, £250 per annum.

LANARK COUNTY COUNCIL.—Junior Assistant Medical Officer of Health. Salary, £170 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer. Salary commencing £150 per annum.

LIVERPOOL ROYAL INFIRMARY.—Honorary Assistant Physician.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Medical Protozoologist.

LONDON HOSPITAL, Whitechapel, E.—Anæsthetist.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Demonstrator of Physiology. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Fourth House Surgeon. Honorarium, £25 for six months.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Dental Surgeon.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—(1) Resident Medical Officer, (2) Junior House-Physician; salaries, £100 and £50 per annum respectively. (3) Nervous Diseases Research Scholarship, value £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Physician. Salary at the rate of £60 per annum.

ROYAL FREE HOSPITAL Gray's Inn Road, W.C.—(1) Surgical Registrar. (2) Clinical Assistants. (3) Junior Obstetric Assistant (resident).

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Curator and Librarian. Salary, £120 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary, £40 per annum.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Assistant Surgeon.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician Salary, £50 per annum each.

SHEFFIELD ROYAL INFIRMARY.—Assistant House-Physician. Salary, £60 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon (male) Salary, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Rugeley, co. Stafford, and Ballylesson, co. Down.

APPOINTMENTS.

ADAMS, J., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of Health for Govan (Govan).

CROCKET, John, M.B., Ch.B., Clinical Assistant to Mr. Miles at the Edinburgh Royal Infirmary.

EDMONDSTON, C. G., M.B., B.S.Edin., Second Resident Assistant Medical Officer, Paddington Parish Workhouse and Infirmary.

FRASER, Mark S., M.B., Ch.B., D.P.H., F.R.C.S.Edin., House-Surgeon to Paddington Green Children's Hospital.

GEE, O. A., M.B., C.M.Edin., District Medical Officer of the Gloucester Union.

GIRDLESTONE, G. R., M.B., B.Ch.Oxon., Medical Officer of Health, Borough of Oswestry.

HARRIS, W. R., M.R.C.S., L.R.C.P., Assistant Medical Officer, Lewisham Union Workhouse.

JONES, E. J. T., M.D.Brux., M.R.C.S., L.R.C.P., District Medical Officer of the Merthyr Tydfil Union.

KIRKLAND, J., L.R.C.P.Edin., L.F.P.S.Glasg., Medical Officer to the New Monkland Parish Council, vice Hugh Arthur, M.D.Glasg.

LARKHAM, E. T., M.D.Brux., M.R.C.S., L.R.C.P., District Medical Officer of the Prestwich Union.

LEE, Septimus, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer to the Wye House Asylum, Buxton.

LINNELL, J. W., B.A., M.B., Resident Medical Officer, Mount Vernon Hospital for Consumption, Hampstead, N.W.

MCMURTRIE, A. C. B., M.B., Ch.B., D.P.H., F.R.C.S.Edin., House-Physician to Paddington Green Children's Hospital.

MACRAE, D., M.R.C.S., L.R.C.P., Resident Medical Officer of the Poplar Borough Workhouse.

MAHON, W. A., L.R.C.P. and S.Irel., District Medical Officer of the Woodbridge Union.

MURCHISON, Miss A. G., M.B., B.S.Edin., Assistant Medical Officer, Halifax Union Poor Law Hospital.

PATTIE, Miles F., M.B., Ch.B., Resident House-Surgeon to Mr. Miles at the Edinburgh Royal Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BRADDON.—On Friday, November 26th, at 283, London Road, Thornton Heath, Surrey, the wife of William V. Braddon, M.B., B.C.Cantab., of a daughter.

LLOYD-WILLIAMS.—November 23rd, at Sandon, the wife of R. V. Lloyd-Williams, of a daughter.

MARRIAGE.

WILKINSON—SIEVEKING.—On December 2nd, at St. James's Church, Sussex Gardens, W., by the Rev. Marcus Rainsford, M.A., Vicar of Heath, Surrey, Matthew Hasen Wilkinson, second son of the late M. A. Eason Wilkinson, M.D.Edin., F.R.C.P.Lond., President of the British Medical Association in 1877, of Greenbeys, Manchester, and Middlethorpe Hall, York, to Emmeline, youngest daughter of the late Sir Edward Sieveking, M.D., Hon. LL.D.Edin., and Lady Sieveking.

DEATH.

BLAIR.—November 29th, suddenly, at Anglesey House, Goole, aged 62 years, Robert Blair, M.D., J.P.

PUBLISHERS' ANNOUNCEMENTS.

WE are informed that Messrs. J. and A. Churchill have a new edition of vol. i of *Allen's Commercial Organic Analysis* just ready for publication. The volume has been re-written under the editorship of Dr. H. Leffmann and Mr. W. A. Davis, B.Sc. The subjects and authors are as follows: Introduction by W. A. Davis, alcohols by G. C. Jones, malt and malt liquors by Julian L. Baker, wines and potable spirits by G. C. Jones, yeast by Emil Schlichting, neutral alcoholic derivatives by Henry Leffmann, sugars by E. Frankland Armstrong, starch and inosite by E. F. Armstrong, paper and paper-making materials by R. W. Sindall, acid derivatives of alcohols by Henry Leffmann.

RECENT PUBLICATIONS.

Questions Set at the Fellowship Examination. Edinburgh: John Currie. 1909. Crown 8vo, pp. 48. Price 1s. net.

This booklet covers all papers set for several years at the examinations for admission to the Fellowship of the Royal College of Surgeons of Edinburgh, and should give candidates a good notion of the extent of the book knowledge required in the compulsory and optional subjects.

Medical Examination Questions. Edinburgh: John Currie. 1909. Crown 8vo, pp. 96. Post free, 1s. 3d.

Contains reprints of the papers set during the past few years by the examining boards of the Universities of Edinburgh and Glasgow, the Conjoint Board for the triple qualification and D.P.H., the Royal College of Physicians of Edinburgh for admission to the membership, and the Royal College of Surgeons of Edinburgh for the ordinary licence and the licence in dental surgery. The three or four thousand questions should be useful in directing attention to points of importance to students.

Consultations [illegible] Diagnosis [illegible] 7/11. Paris: A. Poinat, Graveur. 1909.

To these monographs on medical and surgical subjects attention has already been drawn. Four more have now been published. They are obtainable post free for about 6d. each.

DIARY FOR THE WEEK.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

PATHOLOGICAL SECTION.—Meeting at the Cancer Research Laboratory, Middlesex Hospital, W., 8.30 p.m.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION, 20, Hanover Square, W., 4.30 p.m.—Papers: Drs. Reginald G. Hann and R. A. Veale: A Fatal Case of Poisoning by Phosphorus, taken as an Abortifacient, with Unusual Subcutaneous Haemorrhage. Discussion: The Therapeutic Value of the Lactic Acid Bacillus. To be opened by Dr. Herschell.

WEDNESDAY.

HUNTERIAN SOCIETY, 17, Finsbury Circus, E.C., 8.30 p.m.—Paper: Mr. E. Hurry Fenwick: Surgical Aspects of Kidney Disease.

ROYAL SOCIETY OF MEDICINE:

PALAEOLOGICAL AND PHARMACOLOGICAL SECTION, 20, Hanover Square, W., 5.30 p.m.—Papers: Dr. Chippingdale: The Chiltern Hills. Dr. Mahomed: Atmospheric Electricity.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W., 8.30 p.m.—Paper: Fleet Surgeon F. H. A. Clayton, R.N.: Notes on Seven-day Fever of Eastern Ports: Its Occurrence in the Navy and its Relationship to Dengue.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

NEUROLOGICAL SECTION, 29, Hanover Square, W., 4.30 p.m. —Clinical Meeting. Demonstration and Cases illustrative of Syphilis of the Nervous System (excluding tabes and general paralysis of the insane).

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 20, Hanover Square, W., 7.45 p.m.—(1) Exhibitions and Specimens. (2) Short Communications: Dr. P. D. Turner: On a Case of Hysterectomy Sixty-three Hours after Labour for a Suppurating Fibroid. Dr. A. H. Lowers: On a Case of Cystic Tumour apparently Developed from Gaertner's Duct.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W., 8 p.m.—Card Specimens. Papers: Mr. R. W. Doyne: (1) Description of a Form of Conjunctivitis; (2) A Note on Family Choroiditis (with patient); (3) A Note on Myopic Degeneration of the Lens (with patient); (4) Note on a Form of Iritis. Mr. M. S. Mayou: Congenital Sarcoma of Orbit. Messrs. G. F. L. Wells and M. S. Mayou: A Round-celled Sarcoma of the Lacrymal Gland.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 20, Hanover Square, W., 8.30 p.m.—Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thursday, 4 p.m., Some Abdominal Conditions.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively: Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: December 7th, 2.15 p.m., Points in Cardiac Pathology; December 9th, 2.30 p.m., Paralysis in Children in its Clinical Aspects.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. will be given as follows: Monday, The Etiology and Treatment of Tabes. Tuesday, Some Fractures about the Wrist-joint (with lantern illustrations). Thursday, Some Points in the Surgery of the Biliary Passages. Friday, Some Results of the Comparative Biological and Experimental Study of Cancer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday, 4 p.m., Surgical Diagnosis and Treatment of the Nervous System. Tuesday, 3.30 p.m., Cerebral Syphilis. Friday, 3.30 p.m., Muscular Atrophy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Medical Out-patient Clinic; Nose, Throat, and Ear Diseases; X Rays; 4.30 p.m., Medical In-patient Clinic. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Surgical Clinic; Gynaecological Clinic; 4.30 p.m., Lecture, the Status Lymphaticus and some other Anaesthetic Dangers. Wednesday, 2.30 p.m., Medical Out-patient Clinic; Diseases of the Skin; Diseases of the Eye. Thursday, 2.30 p.m., Gynaecological Operations; Medical Out-patient Clinic; Surgical Out-patient Clinic; X Rays; 3 p.m., Medical In-patient Clinic; 4.30 p.m., Lecture, Exophthalmic Goitre. Friday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Operations; Medical Out-patient Clinic; Diseases of the Eye; 3 p.m., Medical In-patient Clinic.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	DECEMBER.
5 Sunday ..	
6 MONDAY ..	LONDON: Organization Committee, 10.45 a.m.
	LONDON: Territorial Forces Committee, 3.30 p.m.
	CHELSEA DIVISION, *Metropolitan Counties Branch*, Fulham Town Hall, 4 p.m.
	COVENTRY DIVISION, *Birmingham Branch*, 8.30 p.m.
7 TUESDAY ..	NORTHAMPTONSHIRE DIVISION, *South Midland Branch*, Board Room, Northampton General Hospital, 2.30 p.m.; Luncheon, Franklin's Restaurant, 1.30 p.m.
	WARRINGTON DIVISION, *Lancashire and Cheshire Branch*, Warrington Infirmary, Business Meeting, 4 p.m.; Scientific Meeting, 5 p.m.
	LONDON: Medico Political Life Insurance Examinations Subcommittee, 11 a.m.
8 WEDNESDAY	LONDON: Medico-Political Contract Practice Subcommittee, 2 p.m.
	BUCKINGHAMSHIRE DIVISION, *South Midland Branch*, Royal Bucks Hospital, Aylesbury, 3.30 p.m.; Annual Dinner, Crown Hotel, 6 p.m.
9 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m.
	CITY DIVISION, *Metropolitan Counties Branch*, Clinical Meeting, Manor Lodge, Upper Clapton Road, 9.15 p.m.
10 FRIDAY ..	ENGLISH DIVISION, *Border Counties Branch*, Carlisle.

Date.	Meetings to be Held.
	DECEMBER *(Continued).*
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	
15 WEDNESDAY	RICHMOND DIVISION, *Metropolitan Counties Branch*, Medico-Political Meeting, Royal Hospital, Richmond, 8.30 p.m.
	SOUTH-EASTERN BRANCH, Meeting of Branch Council, 429, Strand, 3 p.m.
16 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.
17 FRIDAY ..	LONDON: Journal and Finance Subcommittee, *re* Secretariat, 2 p.m.
	HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, 4.30 p.m.
18 SATURDAY ..	CEYLON BRANCH, Annual General Meeting, Colonial Medical Library, 2.30 p.m.
19 Sunday ..	
20 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
21 TUESDAY ..	
22 WEDNESDAY	
23 THURSDAY ..	
24 FRIDAY ..	
25 SATURDAY ..	*Christmas Day.*
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 11TH, 1909.

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.]

METROPOLITAN COUNTIES BRANCH:

CHELSEA DIVISION.

A MEETING of this Division was held at the Town Hall, Fulham, on December 7th, Dr. P. H. PARSONS being in the chair.

Amongst other business was the following motion by Dr. FLETCHER:

(*a*) That this meeting recognizes the necessity for a Union of Medical Practitioners with parliamentary representation, and requests the executive of the British Medical Association to ascertain the wishes of members in the United Kingdom by referendum at the earliest possible date. (*b*) That a copy of the above resolution be sent to the Branch Council requesting them to take the necessary steps to have it carried into effect.

Dr. Fletcher said they were met to discuss their wrongs, and, if possible, suggest remedies. The British Medical Association was a great instrument for that purpose, but it lacked a mouthpiece in that it had no parliamentary representative. The General Medical Council was powerless to help the medical profession; its sympathies were purely academic, and it was wasting time to appeal to that body. Nothing would save medical men but a union and parliamentary representation. As showing the inroads made upon the practice of the general practitioner, he instanced the agreement between the London County Council and eight London hospitals to treat 16,000 children next year for a sum of £4,000. Six other hospitals had offered to treat children, and it was hoped so to extend the system that ultimately 44,000 children would be under treatment. The hospital staffs were to be augmented by men paid the magnificent salary of £50 or so, which was nothing short of sweating, and rates paid by the general practitioners were to be used to undermine the source of his livelihood. With those facts he contrasted the solicitude shown by the London County Council for the welfare of workmen engaged on the Deptford Creek Bridge, and said that, while workmen's interests were considered, medical men's were absolutely ignored. Redress was only possible through united protest and organized resistance. The London County Council should build its own hospitals and pay proper fees for work done, and not try to get it done on the cheap, and by using public charities. The London County Council's procedure was analogous to applying the rates to supply people with free coal and asking the coal merchant who suffered thereby to make up his losses by overcharging his remaining customers. Clubs were a further matter to be considered. Ten thousand slate clubs, after sweating their doctors for the last twelve months, were about to share out £1,500,000 for Christmas festivities. Such clubs were well organized, and met any request for increase of fees on the part of the medical man by saying that he was receiving the market value of his services, and refusing to recognize any wage limit. The proposed remedies were a public medical service and provident dispensaries, as recommended by Dr. McVail, the expert selected by the Poor Law Commission, who, however, said it was impossible to enforce a wage limit. Three years ago a club patient had died worth £80,000, and that showed the remedy was worse than the disease. His (the speaker's) advice was to leave club work entirely alone. The Poor Law guardians had, further, to be considered. The huge organization of the Poor Law had control of £16,500,000 annually, two-thirds of which was spent in officials' salaries. It sweated its doctors, and gave one-third of that sum to the relief of the poor. The conditions for Poor Law doctors in England were bad. In Scotland they were scandalous, and in Ireland they were demoralizing. The Local Government Board had urged the guardians to treat doctors better, but the guardians had defied the Government. Could not medical men defy the guardians and enforce better treatment? The only cure for the Poor Law system was its total abolition. Hospitals were charities, supposed to be supported by voluntary gifts of money, but they dishonestly received fees from poor patients, and yet were so lax in making searching inquiries that many well-to-do people resorted to them habitually. At Blackpool a hospital was in debt to the tune of £3,000. Its Chairman

pleaded for support on the ground that unless it were efficient, visitors would not come to a town where they could not get free treatment in case of illness, and the prosperity of the town would suffer. The interests of every one—shopkeepers, lodging-house keepers, amusement caterers, and so on—were to be considered, but the medical man was to be neglected. Like the education question, the water question, the sewering and paving question, the charity question would have to be considered by the nation. Schemes which had grown too big to be dealt with by individuals must be taken in hand by municipalities or the nation. The national drink bill was over £3 a head, and that showed that the poor could afford to pay their share towards nationalizing the whole hospital system. Board hospitals would have to be established to suit the needs of each area—hospitals staffed by medical men, paid as board school masters were paid—and central special hospitals, where special cases only would be treated, and where patients would be treated by true specialists, in accordance with the scheme recommended by the British Medical Association. How were medical men to force the nation to listen to them in those matters? The only possible way was by the formation of a medical union, with, if possible, parliamentary representation, but the union was first and foremost; representation was a luxury which would come later, but was not essential to the scheme. With regard to parliamentary candidature, the average expenses of candidates at the 1906 election were £162. The scheme involved the provision of funds, but 10,000 members of the British Medical Association guaranteeing 10s. each for three years would be ample to send two men to Parliament at £750 each, and, after paying the expenses of one or two elections, in the second year there would be about £5,000 and in the third about £7,000 in hand. The scheme would be then afloat, and no medical man in the kingdom would fail to see the advantage of it and remain outside the union. There would have, however, to be no professional jealousy, which was the curse of the medical profession. The surplus funds could be devoted to genuine cases of charity, and members present had only to read the BRITISH MEDICAL JOURNAL to see how many such there were. The opponents of the scheme would probably say that the Charter was at hand, and that that would accomplish everything. The Association had, however, been in existence 77 years and still had not got its Charter. The Charter was bitterly opposed by the corporate bodies, and especially the Royal College of Physicians. Those bodies took the medical students' fees, educated them, turned them loose, and then did not care how they made their living. If medical men did not fight for themselves, no one else would, and the only way to fight was to form a union. Working men had formed their unions, and sent men to Parliament. Could not the medical profession do the same? It was the only considerable body in the United Kingdom unrepresented in Parliament. If medical men did not unite and form one solid body with a united voice, nothing remained but absolute extinction and social damnation.

Dr. HARVEY HILLIARD said in the Westminster Division he had foreshadowed that the logical consequence of free medical inspection of children would be free treatment. It seemed a pity not to utilize existing institutions for that purpose, but if people were able to pay they should. He rejoiced that the London County Council was subsidizing hospitals, because the people would then insist on having a voice in their control, and would prevent the abuses arising from the lack of outside supervision. Municipalization of hospitals should mean a distribution of the work among local practitioners, and their being properly paid for it. There was no real reason why a ratepayer should not go to the hospital providing he paid according to his means, and this system existed in Canada.

Dr. BUTLER said that, whether hospitals were municipalized or not, the medical profession would have no control over positions in them unless it was organized as a union body. He maintained that the parents of 50 per cent. of the thousands of children attended at the hospitals were able to pay fees. What was to become of the general practitioners? Vaccination was taken from them, and midwifery cases went to the midwives. Now diseases of children were taken from them and sent to the hospitals. He had been a member for the last two years of the British Medical Association, and his previous objection to joining had been that it had done so little for the general practitioner. Sir Victor Horsley said, Wait for the Charter. Would the Charter stop hospital abuse? The only way to enforce the opinions of the medical profession was by forming themselves into a united body. Other professions, like the legal profession, had their union, and why should not the medical profession have theirs? Medical men had no voice in saying what should be the salaries of medical officers appointed by the Local Government Board or Poor Law Guardians, and medical men were quite under the thumb of the latter bodies, and would so continue until they had a union to back them up. When the General Medical Council saw they had their union, and were getting parliamentary representation, general practitioners would be found worthy of consideration. The grievances from which they suffered would be remedied only by union and parliamentary representation.

Dr. GOODALL said the point was that the British Medical Association did not represent the whole, or anything like the whole, of the profession. Of 4,600 medical men in the metropolitan counties area, only 2,800 belonged to the Association. What should be done was to increase the membership of the Association and make it a stronger body.

Dr. FOTHERGILL said the Charter made provision for aiding a candidate for Parliament in his election, but unfortunately did not enable the Association to support him if elected. The British Medical Association had done a great deal of work on behalf of medical men, as was shown by its work in the South Wales dispute, the Midwives' Act, the Jubilee Nurses' Committee, and the Coroners' Departmental Committee. If the rank and file of the Association's members got more into touch with the Association, its work would be better appreciated.

The next speaker pointed out that parliamentary representation had been discussed by the British Medical Association as long back as 1904 at the meeting at Oxford, and the Association had gone as far as it could. He did not think there was any use in starting a union, even inside the British Medical Association, because such an organization would need funds, and, as shown by the meagre contributions to the Central Emergency Fund, the collection of funds within the Association was not likely to be very successful. More useful than parliamentary representation would be the election of medical men on the boards of local authorities, where the interests of the profession could be urged.

Dr. TANNER thought it was hardly possible to start a union within the British Medical Association, but by increasing the membership of that body they could make it more representative of the profession.

Dr. FLETCHER, in reply, said that the discussion emphasized the necessity for union. Medical men would not join the Association because it lacked a union and could not enforce its demands. Municipalization of hospitals had to come, and the present chaotic state of things must be remedied and put upon a proper basis. Parliamentary representation was far from impossible, and the Association's representative would be their mouthpiece in the House. The British Medical Association now had no power to enforce its views, and could only rely upon persuasion. That was shown by the treatment of medical men under the Midwives Act—they had to go down on their knees and beg for their fees. The only thing was union, and when that was obtained, securing parliamentary representation would be child's play.

The motion was then put and carried *nem. con.*

EALING DIVISION.

THE second sessional meeting was held at Paul's, Ealing, on Wednesday, December 1st; Dr. F. SAVERY, chairman, presided, and nine other members were present.

Special Class of Consultants.—The SECRETARY read the communication from the Central Ethical Committee on a special class of consultants, but the meeting unanimously concluded that it was premature to attempt any regulations.

Communications.—Dr. REGINALD MORTON read a paper on the treatment of naevi by solid carbon dioxide. He reviewed the methods usually employed, and showed that for rapidity of treatment, simplicity, economy, security, and success, carbon dioxide was superior to other methods in cases not suitable for excision. He explained also that the method was practically painless in application, the only real pain occurring during the thawing out. Dr. Morton stated that it was also admirable for warts: and that the only after-dressing—after evacuating blisters—was simple boric ointment. Dr. CHILL then read a brief paper on certain interesting cases, most of which had already been published: Bullet extracted from the calf forty-two years after its entry in the hip; labour obstructed by unruptured hymen; fissura abdominalis and double genitalia; appendicitis twenty-four hours after labour. In relation to the last case a member suggested that possibly some such catastrophe might explain some cases of supposed puerperal fever. Dr. Chill then exhibited a case of erythromelalgia in a girl aged 19 of nearly three years' duration, and almost confined to the lower extremities. A discussion followed. Dr. OGIER WARD then demonstrated the delicacy and reliability of tests by tablets of salicyl-sulphonic acid for albumen and nitropropiol for sugar. He had had a very neat pocket case made up by Messrs. Allen and Hanburys for these tests, which has the merits of cleanliness and reliability after disuse for at least many months. It was approved by those present.

Votes of Thanks.—The proceedings ended with the usual votes of thanks.

HAMPSTEAD DIVISION.

THE first meeting of the session took place at the Hampstead Conservatoire on Friday, October 22nd, Mr. H. W. ARMIT in the chair.

Annual Representative Meeting.—The report of the Representative of the Division was received and a vote of thanks was accorded to him for the able and faithful manner in which he had carried out the wishes of the Division as their Representative at the Representative Meeting.

Chairman's Address.—In accordance with the usual practice, Mr. ARMIT delivered the Chairman's address. He chose as his subject, The Medico-Political Matters now Engaging the Attention of the British Medical Association, and was listened to with great interest. He was requested to publish his address, but he thought this course inadvisable, in view of the fact that in several places the information which he had given was still of a confidential nature. It was then ordered to enter the address *in extenso* upon the minutes, and a vote of thanks was accorded to him.

Hampstead Hospital.—The HONORARY SECRETARY reported the occurrences in the Hampstead Hospital controversy, and it was resolved to postpone further consideration of the Hampstead Hospital question until the matters under consideration by the Ethical Committee of the Branch had been settled.

The second meeting of the session was held on Friday, November 25th, at the Central Library, Arkwright Road, N.W.

Hampstead Public Medical Service.—Mr. Armit and Dr. Oakley were elected British Medical Association representatives upon the committee of the Hampstead Public Medical Service.

Treatment of Gastric Ulcer.—Dr. C. BOLTON read a paper on some points in the treatment of gastric ulcer. The reading was illustrated by many beautifully executed lantern slides, and was followed with great interest and appreciation by the large number of members present and a few visitors. In the discussion which succeeded Drs. OPPENHEIMER, CLAUDE TAYLOR, PERCY EVANS, COHEN, and ARMIT took part. Dr. Bolton was thanked for his interesting and able address, and Dr. Cunnington for his kindness in lending and managing the magic lantern, as well as for the excellent arrangements he had made for the meeting, the room being lent by the Libraries Committee of the Hampstead Borough Council.

The Blood in Addison's Disease.—Dr. CLAUDE TAYLOR showed a blood preparation, and made some remarks on a case of Addison's disease from which the blood had been taken. The slide illustrated the difficulties which sometimes occur in separating Addison's disease from pernicious anaemia in the diagnosis.

Branch Council Proceedings.—Miss DOBBIE presented a report of the Branch Council proceedings.

The meeting terminated shortly after ten o'clock.

NORWOOD DIVISION.

A MEETING of this Division was held at the Stanley Halls, South Norwood, on November 25th, Dr. E. F. S. GREEN in the chair. There were present twenty-six members and nine visitors.

Next Meeting.—It was decided that the next meeting should be held on Thursday, January 27th, 1910, at the Sydenham Home for Sick Children, and that Dr. Umney should be invited to take the chair thereat.

Subdivision of Norwood Division.—The HONORARY SECRETARY announced that in accordance with a resolution passed at the previous meeting, postcards had been sent out to all the members of the Division; that 148 replies had been received favouring the subdivision, and 1 only opposing it.

Paper.—Mr. W. ARBUTHNOT LANE read a paper on intestinal stasis and its treatment by the removal of the large intestine. An interesting discussion followed, in which Drs. and Messrs. BATTEN, STEEDMAN, HETLEY, BURGESS, GREEN, LAYTON, and CHAPPLE took part.

WALTHAMSTOW DIVISION.

A MEETING of this Division was held on Thursday, November 18th, at Livingstone College, Leyton, at 4 p.m. Twenty-six members and visitors were present. Dr. HARFORD presided.

Diseases of Appendix.—The meeting commenced with Mr. MCADAM ECCLES's paper on diseases of the appendix, which was illustrated with lantern slides supplied by the lecturer. The following is a synopsis of the paper: (1) Normal anatomy of appendix. (2) Bacterial infection: (*a*) *Bacillus coli*; (*b*) staphylococci. (3) Foreign bodies and calculi: (*a*) pin; (*b*) solder; (*c*) varieties of calculi. (4) Results of inflammation: (*a*) obliteration of lumen; (*b*) perforation. (5) Actinomycosis. (6) Cyst. (7) Papilloma. (8) Carcinoma. (9) Hernia of the appendix: (*a*) inguinal; (*b*) femoral. The paper was much appreciated by all present, and lasted for over an hour, many slides being shown. A discussion followed the paper, and several questions were asked. Drs. TODD-WHITE, MACGREGOR, WIGRAM, HARFORD, PRICE, and ALEXANDER took part in the discussion. Mr. ECCLES replied to the questions as they arose.

Vote of Thanks.—At the conclusion of the discussion, Dr. R. JONES proposed and Dr. PANTING seconded a votes of thanks to Mr. Eccles. This was given with great enthusiasm.

Confirmation of Minutes.—The minutes of the previous meeting were then read and confirmed.

Report of Central Ethical Committee.—The report of the Central Ethical Committee was then considered and the Secretary instructed to forward the replies without comment or criticism. The meeting then ended.

SOUTHERN BRANCH:

GUERNSEY AND ALDERNEY AND JERSEY DIVISIONS.

A CONJOINT meeting of the Guernsey and Alderney and the Jersey Divisions was held at the Grand Hotel,

Jersey, on Tuesday, November 30th, for the election of a Representative at the Representative Meeting. Eight members were present—namely, three from Guernsey and five from Jersey. Lieutenant-Colonel Duke, I.M.S., was voted to the chair.

Re-election of Representative.—Dr. J. F. Carruthers was re-elected Representative.

Report of the Representative Meeting.—Dr. J. F. Carruthers addressed the meeting on the work done by the Association during the past year, laying particular emphasis on the completion of the Draft Charter; the proposed recognition of a special class of consultants; and the recommendations of the Association with regard to the inspection of schools.

Dinner.—At the conclusion of the meeting twenty-seven members of both Divisions and their friends sat down to dinner, and a very delightful evening was spent in social intercourse.

☞ *To ensure the insertion of notices in this column, they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

NOTICE OF CHANGES OF BOUNDARIES OF DIVISIONS AND BRANCHES.

The following change has been made in accordance with the Regulations of the Association, and takes effect from the date of publication of this notice:

That the portion of the county of Nottingham lying to the north of East Retford and Worksop and to the west of the Great Northern Railway main line, be transferred from the area of the Nottingham Division of the Midland Branch to the area of the Sheffield Division of the Yorkshire Branch.

BRANCH AND DIVISION MEETINGS TO BE HELD

Burma Branch.—The annual meeting of this Branch will be held at the New General Hospital, Rangoon, during the first week in February, commencing on Wednesday, February 2nd, and ending on Saturday, February 5th, 1910. Arrangements will be made by the Managing Committee to put up members coming from the districts. *Programme.*—Wednesday, February 2nd, at 9.30 p.m., address by the President, followed by inspection of museum. On Thursday, February 3rd, at 5 p.m., in the Medical Section, a discussion on the "Spread of Tuberculosis in Burma" will be opened by the President. Members intending reading papers on some point in connexion with tuberculosis are asked to communicate with the Honorary Secretary, and limit the length of their papers to ten minutes, informing him the subject of their paper. The Museum will be open from 9 a.m. to 6 p.m. to all medical men, of all grades down to the hospital assistant class, who are cordially invited to visit the Museum. The annual dinner will take place on Friday, February 4th, at 8.15 p.m., Honorary Dinner Secretary, Dr. Pedley. It has been decided to allow each member one visitor's ticket. The cost of the dinner, including wines, which is estimated to come to about Rs. 10 each, will be equally divided amongst members attending the dinner. Attendance at this dinner is optional. Members are requested to intimate their intention of being present at this dinner to Dr. Pedley. During this day it is proposed to arrange visits to places of interest to the Association. On Saturday, February 5th, 5 to 8 p.m., in the Surgical Section, a discussion on "Compound Depressed Fractures of the Skull" will be opened by Major Duer, F.R.C.S. Papers from members on this subject should be limited to ten minutes. Members intending to read a paper on some point in connexion with this subject are asked to communicate with the Honorary Secretary, mentioning the particular point they wish to bring forward, so as to avoid overlapping. Committee of Management: Chairman, Major Barry; Dinner Secretary, Dr. Pedley; General Secretary, Major Rost. Museum: Major Rost (Foods and Drugs), Captain Williams (Instruments), Captain Whitmore (Pathology). It is hoped that members will communicate with the Museum Committee any specimens, photos, microscopic slides, drawings, plans, or anything of interest they have to show, and dispatch these so that they reach Rangoon at least one week before the meeting. A full description must accompany each specimen.—E. R. Rost, Major, I.M.S., General Hospital, Rangoon.

Gloucestershire Branch.—A general meeting of the Branch will be held at the General Hospital, Cheltenham, on Thursday, December 16th, at 7 p.m. Agenda: (1) Minutes of last meeting. (2) Election of Representative for Representative Meeting, 1910. (3) Dr. H. Bramwell: A few Practical Remarks on Enlargement of Thyroid Gland, with clinical cases and specimens. (4) Dr. Norman Pike: Case of Cerebro-spinal Rhinorrhœa. (5) Dr. Wayland Ancrum: Some Short Notes on Abdominal Cases. (6) Mr. C. L. Coode: "An Abdominal Emergency." There will be supper afterwards at Cosy Corner. Promenade (tickets 3s. 6d. each, exclusive of wine).—D. E. Finlay, Honorary Secretary.

Lancashire and Cheshire Branch: Burnley Division.—A meeting of this Division will be held at the Bull Hotel on Thursday, December 16th, at 9 p.m. Agenda: (1) Confirm minutes of last meeting. (2) Receive Representative's report of Representative Meeting held at Belfast. (3) Discussion and voting on the questions submitted to Divisions as to the Association favouring the formation of a special class of "consultants." (4) Any other competent business.—A. Edward Bird, Honorary Secretary.

Metropolitan Counties Branch: Walthamstow Division.—A meeting of the Walthamstow Division will be held on Thursday, December 16th, at 4 p.m., in St. Catherine's Church School Room, Hainault Road (nearest station, Leytonstone, G.E.R.), at which a paper entitled Acute Intestinal Obstruction will be read by H. Betham Robinson, M.S., F.R.C.S., Surgeon to St. Thomas's Hospital.—A. Pottinger Eldred, Honorary Secretary.

South Eastern Branch.—A meeting of the Branch Council will be held at 429, Strand, on Wednesday, December 15th, at 3 p.m. Agenda: To consider the election of candidates. Any other business.—E. A. Starling, Tunbridge Wells.

BRITISH MEDICAL ASSOCIATION LIBRARY.

Books Needed to Complete Series.

The Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Climatological Transactions. Vols. 1, 4, 5, 6.
——— Dermatological Association Transactions. Vols. 5, 7, 8, 11, and 29.
——— Journal of the Medical Sciences. New series. vols. 4, 5, 1842–3; vols. 14, 15, 1847–8; vols. 18–30, 1850; vol. 35, 1857; vol. 46, 1864–5; vol. 59; or any parts of these vols.
——— Journal of Ophthalmology. Vols. 1–9.
——— Laryngological Association. Transactions. Vols. 1–6, 8–9.
——— Medical Association. Transactions, 2, 4, 6, 7, 11, 12, 14, 15, 16, 19, 20, 22, 31, after vol. 33, and the *Journal*.
——— Otological Society. Transactions. Vol. 3, part 2. 1883.
——— Public Health Association. Transactions. Any vols.
Analyst. Vols. 1–24.
Archiv für Dermatologie und Syphilis. 1892 and 1893.
Annals of Surgery. Vols. 14, 25, 27.
Archives Générales de Médecine. Third new series 7–8 (1839–40); 4th series, 10–17, 20–25, 1852–55, 1858–64, 1872–1897; 1846–55 inclusive; 1857–64 inclusive; 1871.
——— of Ophthalmology. Vols. 1–3, 6, 7, 14, 15, 16 and 20.
——— of Otology. Vols. 1–7, and 20–22.
——— de Parasitologie. Vols. 1–8.
——— of Pediatrics. Vols. 1–11.
Asylum Journal of Mental Science. Vol. 1, 1854.
Bentley and Trimen. Atlas of Medicinal Plants.
British Journal of Dermatology. Vol. 2, part 3.
British Laryngological and Rhinological Association. 1896–7–8–9, 1900–01–02, and since 1905.
Caledonian Medical Journal. Vol. 1 prior to 1894.
Carmichael Essays. Rivington, 1879.
Centralblatt für Augenheilkunde. Hirschberg. All prior to 1891; Index to 1891.
Centralblatt für Bakteriologie. Bound volumes prior to 1899.
——— für medicinischen Wissenschaften. Vols. 1–19.
Congrès Français de Chirurgie. Transactions 1, 2, 3, 6, and 10, and all since 11th.
——— Internat. d'Obstétrique et de Gynécologie. 3. Amsterdam, 1899.
Congress für Innere Medicin, Verhandlungen. 1–12, 14, and since 18.
Dermatological Congress. Vienna, 1892.
Dublin Quarterly Journal of the Medical Sciences. Vols. 1, 10, 17, 20, 28, and 35–40.
Edinburgh Obstetrical Transactions. Vol. 5.
Glasgow Medical Journal. 1833–1868.
——— Pathological Society. Transactions 1 and 2.
Guy's Hospital Gazette. Nos. 1 and 5. 1872.
Indian Medical Gazette. 1868–1884.
International Congress of School Hygiene. Transactions of First Congress, Nuremberg.

International Congress of Hygiene. Transactions of Congresses 1–6 and 10–12.
——— Ophthalmological Congress. Transactions of Fifth: New York, 1876.
Johns Hopkins Hospital Bulletin. Vols. 1 to 10.
Journal of Laryngology. Vols. 1 to 9.
New York State Journal of Medicine, 1906.
Ophthalmic Review. January, 1882.
Pediatrics, prior to 1902.
Provincial Medical and Surgical Journal. March to September, 1841, and May 11th, 1852.
Recueil d'ophtalmologie, prior to 1893.
Revue générale d'ophtalmalogie, prior to 1893.
St. Bartholomew's Hospital Gazette. Vols. 1 6.
St. George's Hospital Gazette. Vols. 1-7.
St. Mary's Hospital Gazette. Vols. 1-5.
Sei-i-kwai Medical Journal. Vols. 1-11.
Semaine Medicale, prior to 1884. Titles for 1884 and 1892.
South African Medical Journal. February, April, 1895. Titles, Vols. 3 and 4.

CENTRAL MIDWIVES BOARD.

SPECIAL meetings of the Central Midwives Board were held on December 1st and 2nd at Caxton House, Westminster, with Dr. F. H. CHAMPNEYS in the chair.

MIDWIVES STRUCK OFF THE ROLL.

The Board considered the following charges amongst others against the midwives whose names are given below, and ordered them to be struck off the Roll:

Mercy Glew, that notwithstanding repeated warnings she persistently neglected to provide herself with a clinical thermometer, or to take any steps to render herself competent to read the same; and that having been duly suspended from practice by the Local Supervising Authority on account of having been in contact with a case of puerperal fever, she nevertheless continued to attend the women as before without having disinfected herself, her clothing, and her appliances, to the satisfaction of the Local Supervising Authority.

Mary Ann Richardson, that being in attendance as a midwife at a confinement, the patient suffering from an offensive discharge and having complained to her that she felt very ill, she did not send for a doctor.

Elizabeth Taylor, that being in attendance as a midwife at a confinement, the patient suffering from puerperal fever, she did not send for a doctor.

Georgina Martha Winfield, that being in attendance as a midwife at a confinement, the patient suffering from continual sickness and from diarrhœa, with a temperature of 105°, she did not send for a doctor.

Jane Booth, that being in attendance as a midwife at a confinement, the patient being ill suffering from scarlet fever, she did not send for a doctor.

Emily Bussey, that being in attendance as a midwife at a confinement, the patient being ill suffering from suppressed lochia and headache, she did not send for a doctor.

Jane Philpot, that being in attendance as a midwife at a confinement, the patient being seriously ill with symptoms of puerperal mania, she did not send for a doctor.

Louisa Blendell, Jane Finnegan, Mary Jane Rowlands, and *Mary Ann Massey*, that they were uncleanly, and did not take with them to confinements the appliances and antiseptics required by the rules of the Board.

DECISIONS DEFERRED.

Charges alleged against the following midwives were considered and decision deferred: Mary Elizabeth Cornwall, Mary Morrall, Mary Jane Whittle, Catherine Williams, Elizabeth Gazey, and Susannah Morgan.

MIDWIVES CENSURED.

The following midwives were censured after charges alleged against them had been considered: Maria Penfold (severely), Agnes Smith, Caroline Maria Wills, Beatrix Inscoe, and Hephzibah Tracey.

MIDWIVES CAUTIONED.

Jane Borthwick, Annie Field, Emily Mary Foster, Annie Marian Palmer, Sybil Mary Rosaria Pope, and Jane Taylor, were cautioned after charges alleged against them had been considered.

MIDWIVES ALLOWED TO RESIGN.

Elizabeth Nash and Mary Ann Taylor were allowed to resign after charges alleged against them had been considered.

APPLICATIONS FOR RESTORATION TO ROLL.

The applications of Alice Hilton, Sarah Holmes (late Hartley), and Annie Twynam for restoration to the Roll were refused

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following qualified candidates for the Naval Medical Service have been appointed surgeons in his Majesty's Fleet, dated November 5th: MARTIN H. LANGFORD, RODERICK J. G. PARNELL, ARTHUR G. V. FRENCH, CHARLES D. BELL, M.B., ARCHIBALD FAIRLEY, M.B., JOHN P. BERRY, M.B., FRANK L. SMITH, WALTER E. LLOYD, FRANCIS C. SEARLE, ALBERT C. RUSACK, M.B., JOHN H. B. MARTIN, M.B., CECIL G. SPRAGUE, THOMAS C. PATTERSON, M.B.

The following appointments have been made at the Admiralty: Fleet Surgeon J. E. COAD, M.B., to the *Renown*, on recommissioning, November 26th; Staff Surgeon R. F. CLARK, to the *Brilliant*, on recommissioning, December 11th; Surgeon J. DUNCAN, to the *Pembroke*, additional, November 27th; Surgeon W. P. HINGSTON, to the *Europalus*, December 6th; Surgeon J. C. F. D. VAUGHAN, to Haulbowline, December 6th; Surgeon H. G. DEVAS, to the *Cornwall*, December 6th; Staff Surgeon W. H. S. SEQUEIRA, M.B., to the *President*, additional, to be lent to Yarmouth Hospital, temporarily, December 6th; Surgeon H. W. W. TOWNSEND, to the *Pembroke*, for the Royal Naval Barracks, December 1st; Staff Surgeon A. WOOLCOMBE, to the *Charybdis*, on recommissioning, December 11th; Fleet Surgeon J. A. MOON, to the Royal Marines, Portsmouth, December 17th; Fleet Surgeon E. B. PICKTHORN, to the *Prince of Wales*, December 17th; Fleet Surgeon M. C. LANGFORD, to the Medical Department at the Admiralty, December 17th.

ROYAL NAVAL VOLUNTEER RESERVE.

ALBERT D. EDWARDS, gentleman, is appointed a Surgeon, November 30th.

ARMY MEDICAL SERVICE.

COLONEL F. B. MACLEAN, who is serving in India, is appointed Principal Medical Officer, 7th (Meerut) Division.

Colonel M. W. KERIN, serving in India as Principal Medical Officer, Bareilly and Garhwal Brigades, is appointed as Principal Medical Officer, 8th (Lucknow) Division.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT G. H. BAREFOOT, who is serving in India, is appointed to officiate as Principal Medical Officer, Bareilly and Garhwal Brigades, and to command the Station Hospital at Bareilly.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Supplementary List.—Lieutenant W. RANSON to be Captain, November 26th.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-MAJOR AND HONORARY SURGEON-LIEUTENANT-COLONEL G. M LOWE, M.D., 4th Battalion the Lincolnshire Regiment, resigns his commission, retaining his rank and uniform, November 3rd.

ROYAL FIELD ARTILLERY.

Second South Midland Brigade.—Surgeon-Lieutenant G. MACKIE to be Surgeon-Captain, August 24th.

ROYAL ARMY MEDICAL CORPS.

Second Home Counties Field Ambulance.—JAMES DUNDAS, M.B., to be Lieutenant, October 20th.

Lowland Mounted Brigade Field Ambulance.—Lieutenant R. B. CARSLAW, M.B., to be Captain, October 7th.

Second London (City of London) General Hospital.—Major W. H. WHITE, M.D., to be Lieutenant-Colonel, November 9th; Captain H. P. HAWKINS, M.D., to be Major, November 9th.

For Attachment to Units other than Medical Units.—Lieutenant C. H. BULLEN, from the 3rd North Midland Field Ambulance, Royal Army Medical Corps, to be Lieutenant, October 1st. Captain (Honorary Lieutenant in the Army) E. W. HERRINGTON, from the 3rd London (City of London) Field Ambulance, Royal Army Medical Corps, to be Captain, October 18th. KENNETH MACKINNON, M.B., to be Lieutenant, April 1st. PERCY B. SURGIS to be Lieutenant, November 16th.

Attached to Units other than Medical Units.—Lieutenant A. A. BEERS to be Captain, May 26th, 1908; Lieutenant-Colonel J. W. ELLIS resigns his commission, retaining his rank and uniform, November 6th; Lieutenant JOHN HOBBS, F.R.C.S.(I.), to be Captain, November 7th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,056 births and 5,196 deaths were registered during the week ending Saturday last, December 4th. The annual rate of mortality in these towns, which had been 15.8, 18.6, and 16.4 per 1,000 in the three preceding weeks, further rose to 16.5 per 1,000 last week. The rates in the several towns ranged from 7.7 in East Ham, 8.0 in Walthamstow, 8.4 in Hastings, 9.1 in Croydon, 10.0 in Gateshead, 10.1 in Wallasey, and 10.9 in Hornsey, to 21.3 in Middlesbrough, 21.5 in Walsall, 21.7 in South Shields, 21.9 in Manchester, 22.1 in Burnley, 22.5 in Bolton, 23.1 in Brighton, 25.5 in Stockport, and 28.0 in Hanley and in Oldham. In London the rate of mortality was 16.0 per 1,000, while it averaged 16.7 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 0.9 per 1,000 in the seventy-six towns; in London the death-rate from these diseases was equal to 0.8 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2.1 in Ipswich, 2.2 in West Bromwich and in Birkenhead, 2.5 in Oldham and in Barrow-in-Furness, 2.7 in Blackburn, 2.9 in Burnley, 3.8 in Hanley, and 4.0 in South Shields. Measles caused a death-rate of 1.1 in Northampton and in Swansea, 1.2 in York, 2.0 in Burnley, and 2.3 in Hanley; diphtheria of 1.1 in St. Helens and 1.5 in Hanley; whooping-cough of 1.1 in Oldham and 1.4 in Ipswich; "fever" of 1.5 in Smethwick; and diarrhœa of 1.3 in Reading, 1.5 in Blackburn

and 2.2 in South Shields. The mortality from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals had declined to 3 at the end of last week, having been 5 and 4 on the two preceding Saturdays; no new case was admitted during the week. The number of scarlet fever patients under treatment in these hospitals and the London Fever Hospital, which had been 2,624, 2,606, and 2,518 at the end of the three preceding weeks, had further fallen to 2,488 at the end of last week: 281 new cases were admitted during the week, against 284, 308, and 264 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

DURING the week ending Saturday last, December 4th, 800 births and 497 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 15.8, 19.8 and 24.2 per 1,000 in the three preceding weeks, declined again last week to 22.3 per 1,000, but was 1.6 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scottish towns the death-rates ranged from 12.0 in Aberdeen and 13.4 in Leith to 27.5 in Glasgow and 35.9 in Perth. The death-rates from the principal infectious diseases averaged 2.5 per 1,000 in the eight towns, the highest rates being recorded in Glasgow and Dundee. The 457 deaths registered in Glasgow included 40 which were referred to measles, 5 to scarlet fever, 4 to diphtheria, 8 to whooping-cough, 2 to enteric fever, and 4 to diarrhœa. Three fatal cases of scarlet fever, 3 of whooping-cough, and 4 of diarrhœa were recorded in Edinburgh; 2 of diphtheria, 3 of whooping-cough, and 2 of diarrhœa in Dundee; and 2 of whooping-cough in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, December 4th, 568 births and 441 deaths were registered in the twenty-two principal urban districts of Ireland, as against 563 births and 460 deaths in the preceding period. The annual death-rate in these districts, which had been 19.2, 20.0, and 21.0 per 1,000 in the three preceding weeks, fell to 20.1 per 1,000 in the week under notice, this figure being 3.6 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 22.1 and 19.8 respectively, those in other districts ranging from 5.2 in Portadown and 8.9 in Lurgan, to 27.3 in Galway and 31.7 in Tralee. The Cork stood at 25.3, Londonderry at 25.0, Limerick at 13.7, and Waterford at 19.5. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, or the same as in the preceding period.

Hospitals and Asylums.

SOMERSET AND BATH ASYLUM, WELLS.

THE annual report for 1908 of Dr. G. Stevens Pope, the Medical Superintendent of this asylum, shows that on January 1st there were 790 patients on the asylum registers, and on the last day of the year 814. The total cases under care during the year numbered 965, and the average numbers daily resident 809. During the year 175 were admitted, of whom 161 were direct and 14 indirect admissions. With regard to the duration of disorder on admission among the direct admissions, in 55 the attacks were first attacks within three, and in 24 more within twelve months of admission; in 35 not-first attacks within twelve months, and in the remainder the duration—excluding 1 in whom it was unknown—was of more than twelve months, including 17 congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 49; melancholia of all kinds, 34; senile and secondary dementia, 17; delusional insanity, 13; general paralysis, 11; insanity with epilepsy, 5; confusional insanity, 8; insanity with gross brain lesions and stupor, 1 each; and congenital or infantile defect, 17. As to the probable causation of the disorders in these cases, alcohol was assigned in 21, or 13.0 per cent.; influenza, also 21; and acquired syphilis in 5; bodily trauma in 6; critical periods in 26; child-bearing in 8; diseases of the nervous system in 10 (epilepsy, 6); other bodily affections in 35; and mental stress in 10. During the year 59 were discharged as recovered, giving a recovery-rate on the direct admissions of 36.64 per cent., or of recoveries in the direct admissions on the direct admissions of 34.78 per cent.; also 22 were discharged as not improved. During the year 70 died, giving a death-rate on the average numbers resident of 8.65 per cent. The deaths were due in 14 to nervous diseases, with only 3 deaths from general paralysis; in 13 to heart diseases; in 5 to bronchitis; in 5 to diseases of the digestive and urinary systems; in 17 to senile decay; and in the remaining 18 to general diseases, including 12, or 17.1 per cent., of the total deaths from pulmonary tuberculosis. The general health was good throughout the year, though several cases of dysentery occurred, principally on the female side.

HERTFORDSHIRE COUNTY ASYLUM.

AT this asylum, which is situated at Hill End, St. Albans, extensions and alterations were in progress throughout 1908. The new wards on both sides were opened in March, 1909, affording accommodation for 100 males and 134 females. The extensions comprised two new blocks, one on each side, a nurses' block and general bathrooms, with the necessary dressing rooms. These extensions have been provided at a cost not to exceed £100 per bed. The annual report for 1908 of Dr. A. N. Boycott, the Medical Superintendent, shows that on January 1st there were 572 patients in residence, of whom 557 were Herts patients, and on the last day of the year 624, of whom 606 were Herts patients. The total cases under care during the year numbered 717, and the average number daily resident 604. During the year 145 were admitted, of whom 134 were direct admissions. Of these latter in 29 the attacks were first attacks within three, and in 20 more within twelve, months of admission; in 29 not-first attacks within twelve months, and in the remainder the attacks were either of more than twelve months' duration (58) or congenital cases (17). The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 32; melancholia of all kinds, 22; senile and secondary dementia, 21; delusional insanity, 15; insanity with epilepsy, 11; confusional insanity, 6; primary dementia, 5; general paralysis, 3; insanity with gross brain lesions, 2; and congenital or infantile defect, 17. As regards causation, alcohol was assigned in 23 of the direct admissions, or in 17.1 per cent., acquired syphilis in 1, and other toxins in 5; critical periods in 41; diseases of the nervous system in 22 (epilepsy 15), other bodily affections in 28, and mental stress in 11. An insane heredity was ascertained in 50, or 37.3 per cent.; an heredity of epilepsy in 4, of alcoholism in 10, and of eccentricity and of neuroses in 10 also. During the year 42 were discharged as recovered, giving a recovery-rate on the direct admissions of 31.5 per cent., or of recoveries in the direct admissions on the direct admissions of 29.1 per cent. There were also 8 discharged as relieved and not improved, and 43 died. The deaths, which give a death-rate on the average numbers resident of 7.12 per cent., were due in 10 to nervous diseases, including 6 from general paralysis; in 5 to diseases of the heart and blood vessels; in 5 to pulmonary diseases; in 3 to diseases of the digestive system; in 2 to senile decay, and in the remainder to general diseases, including 8, or 18.6 per cent. of the total deaths, from tuberculosis. The general health was good throughout the year, and, except for a few cases of influenza, no zymotic disease occurred.

NOTTINGHAM CITY ASYLUM.

THE annual report for 1908 of Dr. Evan Powell, the Medical Superintendent of this asylum, at Mapperley Hill, shows that on January 1st there were 829 patients on the registers, and that on the last day of the year there were 817. The total day accommodation is for 747, so that some overcrowding was present, but plans of new buildings have been submitted to rectify this. The total number of cases under care during the year was 1,000, and the average number daily resident 827. During the year 171 were admitted, of whom 164 were direct admissions. In these latter in 107 the attacks were first attacks within three and in 9 more within twelve months of admission; in 36 not-first attacks within twelve months of admission; in 9 the attacks were of more than twelve months' duration, and 3 were congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 41; melancholia of all kinds, 63; senile and secondary dementia, 17; primary dementia, 2; delusional insanity, 8; general paralysis, 13; insanity with epilepsy, 8; insanity with gross brain lesions, 4; acute delirium and confusional insanity, 2 each; stupor, 1, and congenital or infantile defect, 3. With regard to causation, alcohol was assigned in 31, or 18.9 per cent.; tuberculosis and influenza in 6 each, and other toxins in 6; critical periods in 25; diseases of the nervous system in 21 (epilepsy 11); other bodily affections in 13; mental stress in 37; and in 15 no cause was assigned. In 40, or 24.3 per cent., an insane heredity was ascertained. During the year 64 were discharged as recovered, giving a recovery-rate on the direct admissions of 39.02 per cent., or of recoveries in the direct admissions on the direct admissions of 38.41 per cent. Also 9 were discharged as relieved, 29 as not improved, and 1 as not insane. During the year 80 died, giving a death-rate on the average numbers resident of 9.67 per cent. The deaths were due in 24 to nervous diseases, including 18 from general paralysis; in 9 to diseases of heart and blood vessels; in 1 to bronchitis; in 1 to anæmia, and in 6 to chronic Bright's disease; in 1 to suicidal poisoning by spirits, and in 2 to senile decay; and in the remainder to general diseases, including 11, or 17.4 per cent. of the total deaths, from tuberculosis. The suicidal act above mentioned was committed before admission.

NORWICH CITY ASYLUM.

THE annual report for the year 1908 of Mr. David Rice, who has succeeded Dr. Sykes as Medical Superintendent, shows that on January 1st, 1908, there were 457 patients on the register, and that on the last day of the year there were 484. The total cases under care during the year numbered 580, and the average numbers daily resident 466. During the year 123 were admitted, of whom 99 were direct admissions, 21 transfers, and 2 statutory readmissions. Of the direct admissions, in 42 the attacks were first attacks within three and in 14 more within twelve months of admission; in 16, not-first attacks within twelve months; and in the remainder the attacks were either of unknown (8) or of more than twelve months' duration (16), or congenital cases (4). They were classified according to the form of mental disorder into: Mania of all kinds, 29; melancholia of all kinds, 20; senile and secondary dementia, 12; delusional insanity, 8; general paralysis, 7; confusional insanity, 11; stupor, 4; primary dementia, 2; insanity with epilepsy, 2; and congenital defect, 4. As to probable causation, the principal assigned etiological factors were: Alcohol in 16, or 16.1 per cent.; acquired syphilis in 5; and other toxins in 7; critical periods in 15; diseases of the nervous system in 4; various bodily disorders in 15; and mental stress in 23

An insane heredity was ascertained in 27, or 27.2 per cent., an alcoholic heredity in 14, and of other forms of neuropathy in 8, giving a total neuropathic heredity in 49, or 50 per cent. During the year 35 were discharged as recovered, giving a recovery-rate on the direct admissions of 35.35 per cent., or of recoveries in the direct admissions on the direct admissions of 19.19 per cent.; also 1 as relieved, 10 as not improved, and 1 as not insane. During the year 49 died, giving a death-rate on the average numbers resident of 10.51 per cent. The deaths were due in 21 to cerebro-spinal diseases, including 14 deaths from general paralysis; in 4 to respiratory diseases; in 9 to abdominal diseases; and in the remainder to general diseases, including 8 deaths from senile decay and only 1 death from tuberculosis. During the year there were 9 cases of dysentery, of which 2 proved fatal, but otherwise the general health was good and the progress of the institution uneventful.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon (male). Salary, £80 per annum and nolification fees.

BIRMINGHAM: GENERAL HOSPITAL.—(1) Resident Medical Officer. (2) Two House-Physicians. (3) House-Surgeon and a House-Surgeon to Special Departments. (4) Two Assistant House-Surgeons. Salary at the rate of £70 per annum for (1), £50 for (2) and (3), and £40 for (4).

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House-Surgeon for Western Branch. Salary, £130 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 for six months.

DERBYSHIRE ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salary for (1) and (2) £100 per annum, and (3) at the rate of £50 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

EALING PROVIDENT DISPENSARY.—Twelve medical men.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Medical Officer (male) to Casualty Department. Salary at the rate of £100 per annum.

ENFIELD AND EDMONTON JOINT HOSPITAL BOARD.—Resident Assistant Medical Officer at the Isolation Hospital. Salary at the rate of £150 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Ten qualified Clinical Assistants in the Out-patient Departments.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HÔPITAL FRANÇAIS, Shaftesbury Avenue, W.C.—Second Resident Medical Officer. Salary, £50 per annum.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, S.W.—Senior Assistant in the Bio-chemical Department. Salary, £350 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—(1) Resident House-Surgeon. (2) Resident House-Physician. Salary at the rate of £60 per annum each.

LONDON HOSPITAL, Whitechapel, E.—Anæsthetist.

LONDON LOCK HOSPITAL.—(1) House-Surgeon for Female Hospital, Harrow Road. (2) House-Surgeon to Male Hospital, Dean Street, W. Salary, £100 per annum each.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Anæsthetist. Honorarium, £15 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer on Mental Diseases.

MIDDLESEX HOSPITAL, W.—Assistant Ophthalmic Surgeon.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Northwood.—House-Physician.—Salary, £75 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum, rising to £100.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Radiographer.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Physician. Salary at the rate of £50 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—(1) Honorary Medical Officer. (2) Honorary Surgeon.

SHEFFIELD CHILDREN'S HOSPITAL.—House-Surgeon for East-end Branch. Salary, £70 per annum.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £50 per annum each.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Physician. Salary, £50 for six months.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon (male). Salary, £80 per annum.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Salary, £75 per annum.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith Road, W.—(1) Clinical Assistants. (2) Three Casualty Officers.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Goole, co. York; Harpenden, co. Hertford; and Holywell, co. Flint.

APPOINTMENTS.

BRENDO, W. A., M.B., Barrister-at-Law, Lecturer in Forensic Medicine, Charing Cross Hospital.

COGHILL, W. D., M.B., B.S.Edin., Assistant Medical Officer of the Workhouse and Medical Officer of the Cottage Homes at Wolverhampton Union.

DESPREZ, H. S., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the Okehampton Union.

EDMOND, G. M., M.D.Aberd., Medical Officer to the Aberdeen Post Office.

FALCONER, A., M.B., C.M.Edin., Medical Officer of Health, Earby Urban District.

GRIFFITHS, J. Howell, M.D., B.S.Lond., M.R.C.S., L.R.C.P.Lond., D.P.H., Medical Superintendent, Gore Farm Hospital, Dartford.

JACKSON-LEVY, Miss B. J. F., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer, Nottingham Parish Workhouse infirmary.

MEGGS, T. H. E., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Slough District, co. Buckingham.

PEPPER, A. J., M.S.Lond., F.R.C.S., Consulting Surgeon to St. Mary's Hospital.

PRICE, Frederick W., M.D., M.R.C.P., Physician to the Great Northern Central Hospital.

ROBERTS, C. Hubert, M.D.Lond., F.R.C.S.Eng., M.R.C.P.Lond., Physician to In-patients, Queen Charlotte's Lying-in Hospital, London.

SCOTT, J., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District and Workhouse Medical Officer of the Leominster Union.

SNEYD, G. C., L.R.C.P. and S.Irel., House-Surgeon to the North Ormesby Hospital.

THACKRAH, C. H., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the West Ward Union.

THOMAS, T. G., M.R.C.S., L.R.C.P., D.P.H.Lond., Medical Officer to the Metropolitan Asylums Board's Ophthalmic Schools, Swanley.

TODRICK, Archibald, M.B., Ch.B., House-Physician, Mount Vernon Hospital for Consumption, Hampstead, N.W.

TRAILL, A. K., M.B., Ch.B.Edin., Medical Superintendent of the Saltcoats Grange Sanatorium of the Birmingham City Council, vice Dr. Mathews, resigned.

WATT, Ernest, M.D., D.P.H., Medical Officer of Health for Partick, Superintendent of the Knightwick Hospital and Police Surgeon.

WILLIAMS, Gwynne, M.S., F.R.C.S., Surgical Registrar to University College Hospital, London.

MANCHESTER ROYAL INFIRMARY.—The following officers have been appointed:

Assistant Medical Officer: A. Ramsbottom, M.D., M.R.C.P. (re-appointed).

House-Physicians: A. A. Smalley, M.B., Ch.B.Vict.; N. Tattersall, M.B., Ch.B.Vict.; G. E. E. Nicholls, M.B., Ch.B.Vict.

Senior House-Surgeons: N. Booth, M.B., Ch.B.Vict.; T. M. Popple, M.B., Ch.B.Vict.

Junior House-Surgeons: G. Jefferson, M.R.C.S., L.R.C.P.; H. Platt, M.B., Ch.B.Vict.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

CLARKE.—On November 12th, the wife of A. J. Fairlie-Clarke, M.C., F.R.C.S., of Sussex Lodge, Horsham, of a daughter.

DE ZILWA.—On November 14th, 1909, at Taprobane, Ward Place, Cinnamon Gardens, Colombo, Ceylon, the wife of Lucian Arnold Emmanuel de Zilwa, M.D., B.Sc.Lond., of a daughter.

MARRIAGES.

DAVIDSON—DARBYSHIRE.—On Tuesday, November 30th, at Holy Trinity Church, Brompton, by the Rev. Canon Beaumont, Vicar of Holy Trinity, Coventry (assisted by the Vicar of the parish), Duncan Davidson, M.B.Oxon., M.R.C.S., L.R.C.P., of Coventry, to Beatrice Alice, daughter of Mr. and Mrs. Darbyshire, of Pietermaritzburg.

SIMPSON—LANDELLS.—On November 5th, at St. John's Church, Calcutta, Frank Tomisman Simpson, M.B., Jamadoba, Jharia, Bengal, to Maude Belle Landells, of Newcastle-on-Tyne.

DEATH.

CLARK.—On November 28th, after an operation for appendicitis, Mildred Mary Christie, the loved wife of Percy J. Clark, M.R.C.S., L.S.A., of 2, Spital Square, Bishopsgate, E., aged 43. Cremated at Golders Green.

PUBLISHERS' ANNOUNCEMENTS.

WE are informed by Messrs. T. and T. Clark that the *Encyclopædia of Religion and Ethics*, edited by Dr. James Hastings, is making steady progress. They announce that the second volume, including articles, Arthur—Bunyan, will be published simultaneously in Edinburgh and New York on the 18th of this month. Amongst articles of interest to scientific men generally are Professor J. Young Simpson's article on biology, Professor J. Arthur Thomson on atavism and biogenesis, Dr. W. B. Drummond on blindness, and Mr. Bland-Sutton on atrophy. Closely associated with these are psychological and philosophical articles, among which are contributions by Professor De Wulf on beauty, Professor W. T. Marvin on attraction and repulsion, Mr. Schiller on automatism, Mr. J. L. McIntyre on brain and mind, Professor Poynting on atomic theory, and Messrs. Bartland, Pinches, Deubner, and Lane-Poole on birth.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Papers: (1) Professor Arthur Keith: Recent Researches on the Anatomy of the Heart; (2) Dr. Thomas Lewis: Auricular Fibrillation.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

MEDICAL AND SURGICAL SECTIONS, 20, Hanover Square, W., 5.30 p.m.—Joint Debate on The Diagnosis and Treatment of Duodenal Ulcer, to be opened by Mr. B. G. A. Moynihan.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

DERMATOLOGICAL SECTION, 20, Hanover Square, W., 5 p.m. —Cases and Specimens.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

ELECTRO-THERAPEUTICAL SECTION, 20, Hanover Square, W., 8.30 p.m.—Paper: Dr. N. S. Finzi: Radium in the Treatment of Malignant Growths.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—(1) Discussion on Tick Fever, to be opened by Sir William Leishman. (2) Paper:—Dr. Andrew Balfour and Captain Douglas Thomson, R.A.M.C., Khartoum: Two Cases of Non-Ulcerating Oriental Sore, better termed "Leishman Nodules."

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C. Thursday, 4.30 p.m., Nasal and Aural Haemorrhage.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thursday, 4 p.m., Epilepsy.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient demonstrations, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Monday, 3.15 p.m., On the Diatheses; Thursday, 3.15 p.m., The Use of the Thermo-Cautery in Surgery; Friday, 2.15 p.m., Nephritis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat. Lectures at 5.15 p.m. each day will be delivered as follows: Monday, Some Diseases of the Larynx, with Special Reference to Hoarseness and Loss of Voice. Tuesday, Some Points in the Clinical History of Pneumonia. Wednesday, The Physiology of the Appetite, with Special Reference to the Arrangement of Meals and the Use of Tonics. Thursday, Some Conditions which Simulate Dyspepsia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Monday, 4 p.m., Surgical Diagnosis and Treatment of Diseases of the Nervous System. Tuesday, 3.30 p.m., Clinical Lecture. Friday, 3.30 p.m., Hysterical Paralysis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient. 2.30 p.m., Medical Out-patient: Nose, Throat, and Ear; *X* Rays; 4.30 p.m., Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic: 2.30 p.m., Operations; Clinics: Surgical, Gynaecological. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye Clinics; Lecture: The Treatment of Ringworm by *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical Out-patient; Surgical Out-patient; *X* Rays; 3 p.m., Medical In-patient; Lecture: Idiocy and Allied Conditions in Children. Friday, Clinic: 10 a.m., Surgical Out-patient; 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.—The following are the arrangements for next week:—Daily, 2 p.m.: Medical and Surgical Clinics, *X* Rays. 2.30 p.m.: Operations. Monday, Thursday, and Wednesday, 2 p.m., and Saturday, 10 a.m.: Diseases of the Eyes. Tuesday and Friday, 10 a.m.: Gynaecological Operations. 2 p.m. (and Wednesday and Saturday 10 a.m.), Diseases of Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin. Wednesday and Saturday, 10 a.m.: Diseases of Children. Wednesday, 2.30 p.m.: Diseases of Women. Lectures:—At 10 a.m.: Monday and Thursday, Demonstration of Surgical Cases by Surgical Registrar; Friday, Demonstration of Cases by Medical Registrar. At 12 noon: Monday, Pathological Demonstration. At 12.15 p.m.: Tuesday, Wednesday, and Saturday, Practical Medicine. At 5 p.m.: Monday, Practical Surgery; Tuesday, *X*-Ray Examination of the Urinary System; Wednesday, Bacterial Infections of the Urinary Organs; Thursday, Purulent Conjunctivitis; Friday, Clinical Lecture.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	
15 WEDNESDAY ..	RICHMOND DIVISION, *Metropolitan Counties Branch*, Medico-Political Meeting, Royal Hospital, Richmond, 8.30 p.m. SOUTH-EASTERN BRANCH, Meeting of Branch Council, 429, Strand, 3 p.m.
16 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m. BURNLEY DIVISION, *Lancashire and Cheshire Branch*, Bull Hotel, 9 p.m. GLOUCESTERSHIRE BRANCH, General Meeting, General Hospital, Cheltenham, 7 p.m.; Supper, Cosy Corner, Promenade, afterwards. WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, St. Catherine's Church Schoolroom, Hainbault Road, Leytonstone (nearest station, Leytonstone, G.E.R.), 4 p.m.
17 FRIDAY ..	LONDON: Journal and Finance Subcommittee, *re* Secretariat, 2 p.m. HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, 4.30 p.m.
18 SATURDAY ..	CEYLON BRANCH, Annual General Meeting, Colonial Medical Library, 2.30 p.m.
19 Sunday ..	
20 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
21 TUESDAY ..	

Date.	Meetings to be Held.
DECEMBER *(Continued).*	
22 WEDNESDAY ..	LONDON: Midwives Subcommittee, 10.30 a.m. LONDON: Special Poor Law Reform Committee, 2.30 p.m.
23 THURSDAY ..	
24 FRIDAY ..	
25 SATURDAY ..	*Christmas Day.*
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	
30 THURSDAY ..	
31 FRIDAY ..	
JANUARY, 1910.	
1 SATURDAY ..	SUBSCRIPTIONS to the British Medical Association for 1910 become due.
2 Sunday ..	
3 MONDAY ..	
4 TUESDAY ..	
5 WEDNESDAY	
6 THURSDAY ..	
7 FRIDAY ..	LONDON: Organization Committee, 10 a.m. LONDON: Central Ethical Committee 2 p.m.
8 SATURDAY ..	
9 Sunday ..	
10 MONDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 18TH, 1909.

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Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

METROPOLITAN COUNTIES BRANCH:

NORWOOD DIVISION.

Medical Treatment of School Children.

A WELL-ATTENDED meeting of the Norwood Division and of the local medical profession was held at St. Aubyn's Hall, Upper Norwood, on December 14th for the purpose of considering the provision to be made in that district for the medical treatment of school children found upon inspection to be defective. Dr. T. D. GREENLEES, Chairman of the Norwood Division, took the chair by the request of the meeting. Mr. BLAIR, Chief Education Officer of the London County Council, and Dr. KERR, Chief Medical Officer in the Education Department of the Council, attended and explained the position to the meeting. The MEDICAL SECRETARY was also present, and stated the general view of the Association on the subject.

It appeared from the statements made by Mr. Blair that the arrangement at present made by the County Council for the medical treatment of school children in most other parts of the metropolis, namely, by making use of charitable organizations, was inapplicable to the Norwood district, inasmuch as there was no hospital sufficiently near. As a result of an interview with Dr. Howard, the Honorary Secretary of the Division, and Dr. Swayne, the Representative of the Division in Representative Meetings, Mr. Blair and Dr. Kerr were led to believe that it was possible that the medical profession of the district could and would undertake to organize a School Clinic staffed on lines satisfactory both to the County Council and to the profession.

Details as to the scope of work of the Clinic, the number of children probably requiring attention, and the payments that would be made by the County Council having been explained, the meeting decided to take the matter up, and appointed a Committee, composed of the Executive Committee of the Norwood Division, with four members of the medical profession who were not members of the Association, to negotiate with the County Council and draw up a scheme for approval at a future date.

The CHAIRMAN, in conclusion, pointed out to those present who were not members of the Association the advantage resulting both to themselves and to the general interests of the profession from their becoming members.

MIDLAND BRANCH:

DERBY DIVISION.

A MEETING of this Division was held on December 10th at the Derbyshire Royal Infirmary. Dr. F. R. CASSIDI, Chairman, presided.

Special Class of Consultants.—The report of the Central Ethical Committee on the possibility of the recognition of a special class of consultants was considered. The Division was unanimously against such a scheme, and the Secretary was instructed to reply to the questions in the negative, and to add the criticism:

That such a recognition is quite inapplicable to this Division; and, although the report may form a useful basis for the discussion of abuses, this Division does not approve of any attempt to fit the medical profession to a system.

Exhibit.—There was an exhibit of pathological specimens, which were informally discussed, when the business was concluded.

OXFORD AND READING BRANCH:

OXFORD DIVISION.

THE autumn meeting of the Division was held on December 8th in the Pathological Theatre at 3.15 p.m., Dr. CAUDWELL, of Woodstock, occupying the chair. Thirty-five members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

The late Dr. Slade-Baker.—It was resolved, on the motion of Dr. COLLIER, that a vote of condolence should be forwarded to the widow of the late Dr. Slade-Baker, of Abingdon, who was president of the old Oxford and Reading Branch in 1889.

British Medical Benevolent Fund.—At the CHAIRMAN'S suggestion a collection was made for the British Medical Benevolent Fund, a sum of 25s. being raised.

Proposed Scheme of Dealing with Tuberculosis.—The meeting terminated after a business discussion on a proposed scheme of dealing with tuberculosis in the City and County of Oxford. It was decided to resume the discussion at a further meeting next week.

SOUTH-EASTERN BRANCH:

BRIGHTON, CHICHESTER AND WORTHING, AND EASTBOURNE DIVISIONS.

A COMBINED meeting of the Brighton, Chichester and Worthing, and Eastbourne Divisions was held on November 3rd at the Dispensary, Queen's Road, Brighton. Mr. A. J. MARTINEAU was in the chair. There were thirty-one members present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Cases.—Dr. HOBHOUSE showed three children suffering from pseudo-hypertrophic paralysis. He also showed a patient suffering from cystic disease of the liver.

Demonstration.—Dr. JAMES MACKENZIE gave a very interesting and practical demonstration of his polygraph. Several members, including Drs. BROADBENT and HOBHOUSE, congratulated Dr. Mackenzie on the great work that he had done in elucidating many obscure points in connexion with heart disease. A very cordial vote of thanks to Dr. Mackenzie was passed by the meeting, who, having answered several questions, expressed his pleasure in finding that his demonstration had proved of so much interest to the members present.

Paper.—Mr. A. J. MARTINEAU read a paper on the mastoid operation for middle-ear disease, laying special stress on the indications for performing the operation. After some remarks from Messrs. GREENFIELD and HUTCHISON, Mr. MARTINEAU replied. This concluded the business of the meeting.

Dinner.—In the evening seventeen members dined together at the Grand Hotel.

MAIDSTONE DIVISION.

A MEETING of this Division was held at the West Kent General Hospital, Maidstone, on Friday, December 10th, at 3.30 p.m. Dr. R. WOLSELEY-LEWIS was in the chair, and the following were also present: Drs. Ground, Hallowes, Caesar, Oliver, Falwasser, Gibb, Sander, Bernard, Sharpin, Whitestone, Killick, Grey, Howarth, Forge, Captain Dill, R.A.M.C., Joyce, Roberts, Ryan, Charles Heath, and G. Potts, Honorary Secretary.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apologies for Non-attendance.—Letters of regret for non-attendance were received from Drs. Douglas, Parr-Dudley, and Brett.

Bearsted and Thornham Nursing Association.—Communications from the Medical Secretary, and the Honorary Secretary of the Bearsted and Thornham Nursing Association were read.

Training of Proposed Voluntary Aid Detachments.—Dr. JOYCE moved the following resolution:

> That it is the opinion of this meeting of the Maidstone Division of the British Medical Association, that the training of the personnel of the proposed voluntary aid detachments being work for the State, should not be given gratuitously, but should be paid for according to the rate of the St. John Ambulance Association, namely, one guinea per lecture and subsequent instruction.

Dr. GROUND seconded, and the proposition being put by the CHAIRMAN, it was carried by a majority of 10 votes, the voting being 12 for the resolution and 2 against. It was resolved that the Honorary Secretary should have the resolution printed and issued to each member of the Division.

Conservative Mastoid Operation.—Mr. CHARLES HEATH kindly gave a most interesting address on the prevention of deafness and the mortality that results from aural suppuration. An interesting discussion followed, in which the CHAIRMAN, Dr. HOWARTH, Mr. KILLICK, and Dr. GIBB joined. Mr. Heath showed a patient, and demonstrated the instruments he uses in his operation for the conservative treatment of mastoid disease, and explained his operation. On the motion of the CHAIRMAN, seconded by Mr. HALLOWES, a very hearty vote of thanks was accorded Mr. Heath for his able address and for his great kindness in coming to deliver it.

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A CLINICAL meeting of this Division was held on Thursday, December 9th, at 5, Pembroke Road, Portsmouth. Dr. COLT, Chairman, presided, and twenty-two members were present.

Clinical Cases.—Dr. BLACKWOOD and Dr. COLE-BAKER showed a patient in whom subtotal hysterectomy had been performed for rupture of the uterus during labour. Mr. RIDOUT showed a case of very large ventral hernia in a man. Mr. MONTAGUE WAY showed a specimen of gangrene of the glans penis produced by a thread, in which spontaneous amputation had occurred.

Communications.—Dr. BANKART described a new method of estimating the quantity of sugar in urine, and a new method of preparing sputum for examination for tubercle bacillus, the bacilli being concentrated in a portion of the liquid to be examined, and being thereby readily found. Dr. HOLMES described a case of oblique presentation and dystocia due to ventrifixation of the uterus; also a case of retro-peritoneal cyst with haemorrhage into it, simulating extrauterine gestation. Dr. L. MAYBURY read an account of a case of moist gangrene of the foot, in which treatment by antistreptococcus serum resulted in great improvement in the patient's condition, enabling a successful amputation through the knee-joint to be performed.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD

BURMA BRANCH.—The annual meeting of this Branch will be held at the New General Hospital, Rangoon, during the first week in February, commencing on Wednesday, February 2nd, and ending on Saturday, February 5th, 1910. Arrangements will be made by the Managing Committee to put up members coming from the districts. *Programme.*—Wednesday, February 2nd, at 9.30 p.m., duties by the President, followed by inspection of museum. On Thursday, February 3rd, at 5 p.m., in the Medical Section, a discussion on the "Spread of Tuberculosis in Burma" will be opened by the President. Members intending reading papers on some point in connexion with tuberculosis are asked to communicate with the Honorary Secretary, and limit the length of their papers to ten minutes, informing him the subject of their paper. The Museum will be open from 9 a.m. to 6 p.m. to all medical men, of all grades down to the hospital assistant class, who are cordially invited to visit the Museum. The annual dinner will take place on Friday, February 4th, at 8.15 p.m., Honorary Dinner Secretary, Dr. Pedley. It has been decided to allow each member one visitor's ticket. The cost of the dinner, including wines, which is estimated to come to about Rs. 10 each, will be equally divided amongst members attending the dinner. Attendance at this dinner is optional. Members are requested to intimate their intention of being present at this dinner to Dr. Pedley. During this day it is proposed to arrange visits to places of interest to the Association. On Saturday, February 5th, 5 to 8 p.m., in the Surgical Section, a discussion on "Compound Depressed Fractures of the Skull" will be opened by Major Duer, F.R.C.S. Papers from members on this subject should be limited to ten minutes. Members intending to read a paper on some point in connexion with this subject are asked to communicate with the Honorary Secretary, mentioning the particular point they wish to bring forward, so as to avoid overlapping. Committee of Management: Chairman, Major Barry; Dinner Secretary, Dr. Pedley; General Secretary, Major Rost. Museum: Major Rost (Foods and Drugs), Captain Williams (Instruments), Captain Whitmore (Pathology). It is hoped that members will communicate with the Museum Committee any specimens, photos, microscopic slides, drawings, plans, or anything of interest they have to show, and dispatch these so that they reach Rangoon at least one week before the meeting. A full description must accompany each specimen.—E. R. ROST, Major, I.M.S., General Hospital, Rangoon.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the President and General Council of King Edward's Hospital Fund for London, for the purpose of awarding grants to the hospitals, convalescent homes, and consumption sanatoriums, was held at Marlborough House on December 15th. His Royal Highness the PRINCE OF WALES presided.

The minutes of the last meeting having been confirmed, the Treasurer of the Fund, LORD ROTHSCHILD, stated that the amount received up to December 9th was, after payment of expenses, £133,977 5s. 4d. Speaking for the League of Mercy Sir HENRY BURDETT stated that, although it had not been a good year for small contributions, and there had been various other difficulties, the League would be able to renew its contribution of £19,000. The amount distributed by the League to hospitals in the home counties had been increased to £1,980, thus making a total of practically £21,000.

THE DISTRIBUTION COMMITTEE.

The report of the Distribution Committee showed that this year it had a sum of £147,000, as against £135,000 in 1908, while the number of hospitals applying for grants had been 103, as against 105 last year. The report did not make any fresh suggestions with regard to principles of distribution or hospital administration, but contained various comments on hospital projects which have come under notice, and on the progress of schemes which the Fund itself has either initiated or advocated.

Amalgamation Schemes.

Note was made of the fact that the Royal National Orthopaedic Hospital had been opened during the year, and that 130 out of the 200 beds for which the building is designed are already available for use. The amalgamation of the Hampstead and North-West London Hospitals was now complete. The out-patient department, with a few beds for emergencies, would be maintained in the poor districts of Kentish Town formerly served by the North-West London Hospital, while the in-patient department of the combined institutions was situated upon the higher grounds of Hampstead. In addition to making a maintenance grant, a sum of £3,000 had been set aside by the committee on account of the grants promised in connexion with the reconstruction of the out-patient department. With regard to the throat, nose and ear hospitals, the committee was unaware of any steps having been taken during the year in the direction of amalgamation.

Unused Grants.

Last year it was recommended that the sums set aside for amalgamation projects in past years should not be held over indefinitely, and the time had now come to apply to these awards the rule that grants for special purposes should be reconsidered every two years if they remained unapplied. Hence, while setting aside the sum of £2,500 as the grant this year towards the amalgamation of the throat hospitals, it was recommended that the grants of £1,000 made in 1906, and £2,000 made in 1907, should now lapse. Other grants for special purposes remaining unapplied concerned the East London Hospital for Children (balance of £1,000 for improvements), Miller General Hospital (balance of £1,250 for extension), and the Royal Hospital for Diseases of the Chest (£1,000 granted to open a fund for a country sanatorium). In the case of the two former the unpaid balances should be renewed, but the grant to the Chest Hospital should lapse, the committee having been informed that the governing body had been unable to see its way to undertake the provision of a country sanatorium.

New Building Schemes.

In connexion with the resolution of the General Council requesting hospitals contemplating extension or reconstruction to submit their proposals to the Fund, the committee had again had before it several schemes of greater or less magnitude. To some of these it had raised no objection, in some it had suggested modifications, while two or three were still under consideration. In two cases, however, the schemes appeared to be open to such serious objections on general grounds that the committee felt compelled to recommend that the approval of the Fund should be withheld. In one case, that of the National Hospital for Diseases of the Heart, it was proposed to rebuild and enlarge the hospital at a cost of £25,000. The present building was certainly unsuitable for the purposes of a hospital, but considering the demands now made upon the charitable public for the maintenance and improvement of hospital accommodation, heavy expenditure in making special provision for cases which could be equally well treated elsewhere was not to be commended.

Suburban Hospitals.

The other case raised the question of the proper method of supplying the need for a general hospital in Woolwich. In its last report the committee emphasized the policy of assisting in the provision of hospital accommodation in outlying districts, and it considered that the special circumstances of Woolwich gave that neighbourhood a strong claim upon the Fund. The scheme laid before it contemplated the gradual evolution of a hospital out of general wards connected with and subordinate to a small institution primarily designed for the training of midwives; but the committee considered that the first step towards meeting the needs of Woolwich should be the formulation of a scheme for the provision of an independent general hospital of fair size to which any other kindred objects should be subordinate. It had announced its readiness to afford substantial assistance in the event of a representative movement in this direction. The committee was also of opinion that the needs of Wimbledon would be better served by one adequate hospital than by two independent institutions, for which separate building schemes were at present proposed.

Finally it was mentioned that the sum of £5,000 voted this year towards the removal of King's College Hospital to South London raised the total amount contributed by the Fund to this object to £32,000.

Awards.

The awards recommended by the two committees together amount to £150 000, being made up as follows: Grants to hospitals, £141,500; grants to sanatoriums and convalescent homes, £3,000; special grants set aside for the amalgamation of hospitals, £5,500. As usual, the Distribution Committee prefaced its report by a statement that the absence of a grant did not necessarily imply dissatisfaction with the institution concerned. The following excerpts from the list covers the principal hospitals, large and small, and shows the ground on which, when stated, awards were made or withheld.

Belgrave Hospital.—£1,000, to reduce debt, on the understanding that if no substantial improvement is effected within the next year in the financial position of the hospital the Fund will not make another grant.

Bolingbroke Hospital.—£1,600.

British Lying-in Hospital.—£300.

Cancer Hospital.—The committee are glad to see that no assistance from the Fund is required. The committee regret that the regulations of the Revised Uniform System of Accounts are not observed.

Central London Ophthalmic Hospital.—£50.

Charing Cross Hospital.—£4,000, of which £1,500 to reduce debt.

Chelsea Hospital for Women.—£500.

City of London Hospital for Diseases of the Chest, Victoria Park.—£4,000. The committee trust that public support will be received to maintain the beds recently opened.

City of London Lying-in Hospital.—£1,000, of which £500 to reduce debt.

Clapham Maternity Hospital.—£200. The committee will be prepared to recommend substantial assistance towards an approved scheme of reconstruction.

Dreadnought Hospital.—£4,000, o which £1,000 to renewal of floors.

Ealing Cottage Hospital.—£1,000, to rebuilding scheme.

East End Mothers' Lying-in Home.—£1,000, of which £750 to reduce debt.

East London Hospital for Children.—£1,750.
Eltham and Mottingham Cottage Hospital.—£150, towards provision of casualty accommodation.
Evelina Hospital.—£150.
French Hospital.—£200.
General Lying-in Hospital.—£300.
German Hospital.—£200.
Gordon Hospital for Fistula, etc.—£25.
Great Northern Central Hospital.—£5,000, of which £2,500 to reduce debt.
Grosvenor Hospital for Women.—£400, of which £50 to reduction of overdraft.
Guy's Hospital.—£9,000.
Hampstead General Hospital.—£3,000, of which £1,500 to reduce debt and £1,500 maintenance grant, as agreed upon amalgamation with North-West London Hospital.
Home for Mothers and Babies, Woolwich.—£100, to improvements.
Hospital for Consumption, Brompton (including Sanatorium at Frimley).—£5,000.
Hospital for Epilepsy and Paralysis.—£750.
Hospital for Incalid Gentlewomen.—£500. To rebuilding.
Hospital for Sick Children.—£2,500, of which £1,000 to reduce debt on recent improvements.
Hospital for Women, Soho Square.—£1,000, towards purchase of adjacent site secured during the present year. The committee has extended the period for the collection of the balance of the sum required for the reconstruction scheme, laid down as a condition of last year's grant, from October 31st, 1909, to March 31st, 1910.
Hospital of St. John and St. Elizabeth.—£500, of which £150 to *x*-ray apparatus.
Infants' Hospital.—£25.
Italian Hospital.—£400.
Kensington and Fulham General Hospital (late Queen's Jubilee Hospital).—*Nil.*
King's College Hospital.—£6,250, of which £5,000 to removal fund.
London Fever Hospital.—*Nil.*
London Homœopathic Hospital.—£550.
London Hospital.—£12,000.
London Lock Hospital.—£5,500, of which £500 to maintenance of Harrow Road Hospital, and £5,000 to the rebuilding of the out-patient department in Dean Street, on condition that the work is put in hand at once. The committee trust that the sum still needed for the Nurses' Home at Harrow Road will soon be subscribed by the public.
London Temperance Hospital.—£2,000, of which £1,000 to reduce debt.
Metropolitan Hospital.—£5,000, of which £3,000 to structural improvements.
Middlesex Hospital.—£4,000.
Middlesex Hospital Cancer Charity.—The committee is glad to see that no assistance from the Fund is required this year.
Mildmay Mission Hospital.—£400, of which £50 to overdraft.
Miller General Hospital for South-East London.—£2,000, of which £1,500 to extension, subject to scheme being approved.
Mount Vernon Hospital for Consumption (including Sanatorium at Northwood).—£2,500, of which £1,000 to reduction of mortgage debt.
National Antivivisection Hospital.—*Nil.*
National Dental Hospital.—£150.
National Hospital for the Paralysed and Epileptic.—£1,500.
New Hospital for Women.—£500.
Norwood Cottage Hospital.—£100.
Paddington Green Children's Hospital.—£2,000, of which £1,250 to reconstruction of out-patient department, subject to approval of scheme.
Passmore Edwards East Ham Hospital.—£25.
Poplar Hospital.—£500.
Prince of Wales's General Hospital.—£4,000, of which £1,500 to reduce debt.
Queen Charlotte's Lying-in Hospital.—£750.
Queen's Hospital for Children.—£2,750, of which £1,000 to reduce debt.
Royal Dental Hospital of London.—£500.
Royal Eye Hospital.—£750.
Royal Free Hospital.—£4,000.
Royal Hospital for Diseases of the Chest, City Road.—£1,000.
Royal Hospital, Richmond.—£250, of which £150 to improvements.
Royal London Ophthalmic Hospital.—£2,500.
Royal National Orthopædic Hospital.—£6,500, of which £5,000 to reduce building debt.
Royal Waterloo Hospital for Children and Women.—£1,500.
St. George's Hospital.—£1,500.
St. John's Hospital for Diseases of the Skin.—£300, of which £400 to reduce building debt.
St. John's Hospital, Lewisham.—£250, of which £50 to recent improvements.
St. Luke's House.—£25.
St. Mark's Hospital.—£200, of which £100 to improvements in nursing accommodation.
St. Mary's Hospital.—£5,000, of which £1,000 to reduce debt.
St. Mary's Hospital for Women and Children, Plaistow.—£1,500, of which £1,000 to building.
St. Peter's Hospital for Stone.—£150.
St. Saviour's Hospital, Osnaburgh Street.—£200.
St. Thomas's Hospital.—*Nil.*
Samaritan Free Hospital.—£1,000.
University College Hospital.—£4,250.
Victoria Hospital for Children.—£1,500, of which £300 to reduce building fund deficit.
West End Hospital for Diseases of the Nervous System.—£250.
Western Ophthalmic Hospital.—*Nil.*
West Ham and East London Hospital.—£2,000, of which £1,500 to building.
West London Hospital,—£3,000, of which £1,000 to reduce maintenance debt.
Westminster Hospital.—£3,500, of which £500 to reduce debt.

SANATORIUMS AND CONVALESCENT HOMES.

The Convalescent Homes Committee reported that the sum at its disposal this year was altogether £4,000, and that the number of eligible applicants were 37 convalescent homes, and 4 consumptive sanatoriums, as against 33 and 5 respectively last year. The grants recommended included a certain number to independent institutions which had received London patients, but in the main the committee adhered to its original policy of giving special consideration to convalescent homes directly connected with London hospitals. Regret was expressed that so few consumption sanatoriums had applied for grants, and that few opportunities had hitherto presented themselves of assisting patients in London hospitals who urgently needed country treatment, by making grants for the provision of additional beds for their immediate accommodation.

The committee had under consideration proposals for securing for patients in London hospitals the right to admission to a certain number of beds at a sanatorium now in course of erection. In cases where a larger number of beds could be opened at a sanatorium without proportionately increasing the expense of the administrative section, or the fixed charges, such an arrangement might result in greater economy in the management of the sanatorium and also save the extra cost of erecting and maintaining separate establishments for London patients. The grants actually made to sanatoriums were only three in number: £500 to the Children's Sanatorium at Holt, Norfolk; £500 to the Benenden Sanatorium, conducted by the National Association for the Establishment and Maintenance of Sanatoriums for Workers; and £50 to the Kelling Sanatorium.

EVENTS OF THE YEAR.

In moving the adoption of the reports the PRINCE OF WALES said that the largest donation received during the year was one of £4,775, which represented one-half of the available surplus of the profits of the Franco-British Exhibition. Legacies had not equalled the exceptional amounts received in the two previous years, but by continuing the practice adopted in those years of distributing a proportion based approximately on a five years' average of the income from legacies, it had been possible with due regard to the future to distribute this year a sum of £150,000. That amount had more than once been publicly referred to as the aim of the Fund. It was mentioned in the King's letter inaugurating the Fund, and was alluded to by Lord Mount Stephen when he made his last munificent donation of £100,000 to capital. Its attainment, therefore, represented, like the distribution of £50,000 in 1900 and £100,000 in 1903, a landmark in the history of the Fund. On this achievement His Majesty the King had empowered him to offer the Council his hearty congratulations. A distribution of £150,000 could not be maintained without effort; the income from investments was not yet £70,000, and there had been a regrettable diminution in annual subscriptions. While the awards were made in respect of work done in the current year, the financial statistics on which they were based were necessarily derived from audited accounts of the previous year. A study of these accounts showed that while the year 1908 had not proved so bad as was anticipated the demands on the Fund were considerably greater than in 1907. In three or four cases the Distribution Committee had recommended specially large grants to hospitals in pecuniary difficulty and hampered by debt, and the power of assisting, after due inquiries, institutions in exceptional difficulty was of the greatest benefit to hospitals generally. The examination of various schemes for the extension or improvement of hospital accom-

modation, to meet improvements in medical science or the growth or shifting of population, had been continued, and no scheme of any magnitude was ever passed without a visit and report by specially deputed members of the committee. He trusted that managers of existing or future sanatoriums within reach of London would appreciate the readiness of the committee to enter into negotiations to secure beds for the accommodation of patients from metropolitan hospitals. A subcommittee had collected evidence as to charity entertainments, and presented a report, which was circulated in the hope of assisting hospitals to frame regulations to safeguard their interests and at the same time to elicit their views as to further action by the Fund in the matter. Last year the appointment of a committee of inquiry into the out-patient question was postponed pending the issue of the report of the Poor Law Commission. Much of the evidence taken by that Commission on the question of medical relief was now available, and it might be possible to appoint the committee in the coming year. His Royal Highness concluded his speech by expressing the thanks of the General Council to its honorary officials and to members of the League of Mercy, as also to Mr. Maynard, the efficient and hard-working Secretary of the Fund. The late Mr. Clutton and Mr. Marcus Gunn, men both eminent in their profession, had for many years rendered invaluable service as members of the Board of Visitors, and their death was a great loss to the Fund.

The adoption of the report was seconded by the BISHOP OF LONDON, who said that it was impossible to overestimate the encouragement which grants made by the Fund afforded to struggling institutions and the way in which they drew forth subscriptions from other sources. Apart from this, the Council was filling a long-felt need as a central board for improving hospital management. Over and over again he had found improvements that he wished to see put into force accomplished by means of the Fund.

ARRANGEMENTS FOR 1910.

The reports having been adopted, the PRINCE OF WALES said that he intended later on to reappoint the committees with very few changes of membership. He then suggested that the delegation resolutions as amended last year should be readopted, a clause being added to enable the executive committee to provide for the expense of the out-patient inquiry. The necessary resolutions having then been moved and passed, the LORD MAYOR moved a vote of thanks to his Royal Highness. In seconding it, Sir WILLIAM COLLINS, M.P., said that as an honorary official of the League of Mercy he would like to thank His Royal Highness for the handsome praise bestowed by him on the work of the League. It was now carried on in a larger number of districts than before and during the ten or eleven years that it had been at work had handed over to the King's Fund £135,000.

The PRINCE OF WALES having briefly acknowledged the vote of thanks the proceedings terminated.

OATHS ACT, 1909.

AN ACT to amend the Law as to Oaths.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. *Short Title, 51 and 52 Vict., c. 46.*—This Act may be cited for all purposes as the Oaths Act, 1909; and the Oaths Act, 1888, and this Act may be cited together as the Oaths Acts, 1888 and 1909.

2. *Manner of Administration of Oaths.*—(1) Any oath may be administered and taken in the form and manner following:

> The person taking the oath shall hold the New Testament, or, in the case of a Jew, the Old Testament, in his uplifted hand, and shall say or repeat after the officer administering the oath the words, "I swear by Almighty God that . . .", followed by the words of the oath prescribed by law.

(2) The officer shall (unless the person about to take the oath voluntarily objects thereto, or is physically incapable of so taking the oath) administer the oath in the form and manner aforesaid without question:

Provided that, in the case of a person who is neither a Christian nor a Jew, the oath shall be administered in any manner which is now lawful.

3. *Definition.*—In this Act the word "officer" shall mean and include any and every person duly authorized to administer oaths.

4. *Commencement and Extent.*—(1) This Act shall come into operation on the first day of January nineteen hundred and ten.

(2) This Act shall not apply to Scotland.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON C. K. BUSHE, M.D., has been promoted to be Staff Surgeon, December 9th. He was appointed Surgeon, June 9th, 1902.

The following appointments have been made at the Admiralty: Surgeon T. CREASER, M.B., to the *Victory*, additional, for the *Cronopus*, on paying off, December 8th; Surgeon G. D. BATTEMAN, to the *Mercury*, additional, for the *Hazard*, December 7th; Surgeon G. A. BRADSHAW, to the *Formidable*, December 7th; Surgeon E. L. ATKINSON, to the *Pembroke*, additional, for disposal, December 9th; Surgeon W. MILLER, M.B., to the *Achilles*, December 9th; Surgeon H. D. DRENNAN, M.B., to the *Hermes*, additional, for the *Odin*, December 7th, and on recommissioning, undated; Fleet Surgeon O. W. ANDREWS, M.B., to the *Prince George*, on commissioning, December 29th; Fleet Surgeon H. E. TOMLINSON, to the *Acheron*, December 29th; Staff Surgeon R. J. MACKEOWN, M.B., to the *Iphigenia*, December 7th; Staff Surgeon A. J. WERNER, M.B., to the *Thetis*, December 7th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL R. D. HINDON is placed on retired pay, December 14th. He was appointed Surgeon, August 5th, 1877; Surgeon-Major, August 5th, 1889; and granted the rank of Lieutenant-Colonel, August 5th, 1897. He was in the Afghan war in 1878–80, receiving a medal; and in the South African war in 1899–1900, being present in operations in Cape Colony, and receiving the Queen's medal with clasp.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Supplementary List.—WILLIAM H. L. MCCARTHY, M.B., to be Lieutenant (on probation) November 17th.

1st West Lancashire Field Ambulance.—ARTHUR J. EVANS (late Surgeon Royal Naval Volunteer Reserve), to be Captain, December 15th.

For Attachment to Units other than Medical Units.—DUDLEY W. C. JONES to be Lieutenant, October 26th. JOSEPH H. DONNELL, M.B., to be Lieutenant, November 5th.

Vital Statistics.

THE REGISTRAR-GENERAL'S ANNUAL REPORT (ENGLAND AND WALES).

THE seventy-first Annual Report of the Registrar-General, which has just been issued, shows with considerable detail the vital statistics of England and Wales for the year 1908. A general statement of the principal statistical facts, based on the quarterly returns made by the local registrars, appeared in the Annual "Summary" published in May last: but the voluminous tables now presented are compiled mainly from the registers deposited at the General Register Office. The tables of International Vital Statistics are continued from recent reports, with the addition of tables showing the death-rates at all ages and the corrected death-rates in the principal European countries and in Australia.

The possibility of an important change being made in the form of future reports is foreshadowed by the Registrar-General. This change would consist principally in showing statistics for *administrative* areas instead of for *registration* areas, as at present, and in correcting local rates of mortality by the assignment

to their proper areas of deaths in institutions. If the practical difficulties in carrying out this much-needed reform can be overcome, the change would probably be introduced in the report for the year 1911.

MARRIAGE-RATE.

The number of marriages registered in England and Wales during 1908 was 264,940, which was equal to a rate of 14·9 persons married per 1,000 of the population, estimated at 35,348,780 persons in the middle of the year. Comparing the marriage-rate in 1908 with that in 1876–80, after correction for variations in the proportion to total population and in the age-constitution of the marriageable population, there appears to be a decline of 15·4 per cent. The mean age at marriage continues to rise, almost equally in the two sexes: the proportion of church marriages declined from 842 per 1,000 in 1851–55 to 606 per 1,000 in 1908, while civil marriages rose from 46 to 204 per 1,000, and Nonconformist marriages from 62 to 132 per 1,000.

BIRTH-RATE.

The 940,383 births registered in England and Wales last year were equal to a rate of 26·5 per 1,000, which slightly exceeded the rate in the previous year, but was 1·6 per 1,000 lower than the average for the ten years 1898–1907. There is no present indication of any real check in the decline of the birth-rate, the slight rise in the rate for 1908 being possibly due to a temporary recovery in the marriage-rate during the years 1905–7. Since 1876–80, when the birth-rate in this country was at its highest, there has been an almost continuous decline, the total fall being 8·82 per 1,000, of which 8·20 is due to a decreased rate of legitimate births, and 0·62 to a decreased rate of illegitimate births: these figures, however, do not fully represent the decline in *fertility*, because the ratio of women aged 15–45 years to the total population has increased.

DEATH-RATE.

The number of deaths registered in England and Wales during 1908 was 520,456, corresponding to a rate of 14·7 per 1,000: this rate was 1·7 per 1,000 below the average rate for the ten years 1898–1907, and was the lowest death-rate on record. After correction for differences in the sex and age constitution of their respective populations, the death-rates in the several counties ranged from 9·5 in Radnorshire, 10·7 in Huntingdonshire, 10·9 in Buckinghamshire, and 11·0 in Wiltshire, in Dorsetshire, and in Somersetshire, to 17·1 in Northumberland and in Carmarthenshire, 17·5 in Durham and in Monmouthshire, 17·8 in Glamorganshire, and 18·7 in Lancashire. The proportion of deaths among children under 1 year of age to registered births was equal to 120 per 1,000: this rate is slightly above that recorded for 1907, but is 22 per 1,000 less than the average for the ten years 1898–1907. Comparison of the death-rates of each sex at several ages in 1908 with the average rates in 1876–1880 shows that the mortality of males has decreased by 25·2 per cent., and that of females by 26·7 per cent. This improvement, however, is very unequally spread over the several ages, being much greater in both sexes up to 35 years than at the later ages.

Of the 520,456 deaths the causes of 476,359 were certified by registered medical practitioners, inquests were held in 36,620 cases, while for the remaining 7,477 deaths the causes were uncertified.

CAUSES OF DEATH.

The causes of death in England and Wales are fully dealt with in the letter addressed by Dr. Stevenson to the Registrar-General, which forms part of the report. It is observed that a large proportion of the whole number of deaths is due to a few diseases—thus, tuberculosis, bronchitis, pneumonia, and cancer together account for nearly one-third of the total mortality. The low death-rate of 1908 represents a saving of life which is due principally to reduced mortality from diarrhoeal diseases, pneumonia, bronchitis, and tuberculosis, the mortality from phthisis being the lowest on record; on the other hand, influenza and cancer showed increased mortality. All the principal epidemic diseases were below the average, the mortality from measles and from scarlet fever being lower than in any other year on record.

The deaths attributed directly to influenza last year numbered 10,112, equal to a rate of 285 per million, which is higher than in any other year since 1900. The mortality from pneumonia was equal to 1,383 per million among males and to 988 per million among females. From phthisis the rate in the year under notice was 1,310 per million among males, and 931 per million among females; since 1851–60 there has been a decline amounting to 70 per cent. in the mortality from this disease among persons under 25 years of age, but above that age the fall has been less marked. Cancer was the assigned cause of 32,717 deaths, the mortality among males being equal to 813 per million, and among females to 1,027 per million; compared with the preceding quinquennium, the cancer mortality at all ages in 1908 showed an increase of 7 per cent. for males, and of only 1 per cent. among females, the increase among women being limited to those over 55 years of age.

The deaths of 49,219 persons were attributed to causes that could not be classified with precision. In about 5,000 such cases inquiries were sent to the certifying practitioner asking for further information; these inquiries related chiefly to cases of peritonitis, tumours of various organs, septicaemia, pyaemia, hydrocephalus, cerebro-spinal meningitis, paralysis, convulsions, and eclampsia.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,613 births and 5,238 deaths were registered during the week ending Saturday last, December 11th. The annual rate of mortality in these towns, which had been 15·4 and 16·5 per 1,000 in the two preceding weeks, further rose last week to 16·6 per 1,000. The rates in the several towns ranged from 6·4 in King's Norton, 7·1 in Hornsey, 8·2 in Handsworth (Staffs) and in Smethwick, 8·4 in East Ham, 8·5 in Willesden, 9·6 in York, and 9·7 in Croydon, to 22·4 in Liverpool, 22·8 in Swansea, 22·9 in Preston, 23·0 in Wigan, 23·6 in Sunderland, 24·4 in Ipswich, 24·8 in Barrow-in-Furness, and 25·4 in Coventry. In London the rate of mortality was 16·6 per 1,000. The death-rate from the principal epidemic diseases averaged 0·8 per 1,000 in the seventy-six towns; in London these diseases caused a death-rate of 0·7 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2·0 in Sunderland, 2·1 in Northampton, 2·7 in Rhondda and in Merthyr Tydfil, 3·0 in Birkenhead, 3·2 in Swansea, 4·1 in Barrow-in-Furness, and 4·2 in Ipswich. Measles caused a death-rate of 1·1 in Swansea, 1·3 in Birkenhead, 1·6 in Northampton, and 2·1 in Ipswich; diphtheria of 1·1 in Walthamstow; whooping-cough of 1·1 in Walthamstow and in Swansea, 1·3 in Sunderland and in Merthyr Tydfil, 1·4 in Ipswich, and 1·7 in Barrow-in-Furness; and diarrhoea of 1·3 in Merthyr Tydfil, 1·5 in Rhondda, and 1·7 in Barrow-in-Furness. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 5, 4, and 3 at the end of the three preceding weeks, was again 3 on Saturday last. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 2,475, against 2,606, 2,518, and 2,488 at the end of the three preceding weeks: 266 new cases were admitted during the week, against 308, 264, and 281 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

During the week ending Saturday last, December 11th, 790 births and 351 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 24·2 and 22·3 per 1,000 in the two preceding weeks, rose again last week to 23·8 per 1,000, and was 7·2 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scottish towns ranged from 15·3 in Greenock and 15·2 in Leith, to 19·8 in Perth and 31·7 in Glasgow. The death-rate from the principal infectious diseases averaged 3·4 per 1,000, the highest rates being recorded in Glasgow and Edinburgh. The 529 deaths registered in Glasgow included 60 which were referred to measles, 4 to scarlet fever, 8 to diphtheria, 7 to whooping-cough, 7 to enteric fever and 9 to diarrhoea. Four fatal cases of measles, 4 of scarlet fever, 2 of diphtheria and 3 of whooping-cough were recorded in Edinburgh; 3 of whooping-cough in Dundee; 2 of whooping-cough and one of cerebro-spinal meningitis in Aberdeen; and 2 of diphtheria in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, December 11th, 532 births and 508 deaths were registered in the seventy-six principal urban districts of Ireland, as against 568 births and 461 deaths in the preceding period. The annual death-rate in these districts, which had been 20·0, 21·0, and 20·1 per 1,000 in the three preceding weeks, rose to 25·2 per 1,000 in the week under notice, this figure being 6·6 per 1,000 higher than the mean

annual death-rate in the seventy-six English towns for the corresponding period. The figures in Dublin and Belfast were 22.0 and 20.4 respectively, those in other districts ranging from 5.1 in Clonmel and 5.2 in Portadown to 34.4 in Armagh and 38.3 in Ballymena, while Cork stood at 18.5, Londonderry at 19.4, Limerick at 17.8, and Waterford at 11.7. The zymotic death-rate in the twenty-two districts averaged 1.4 per 1,000, as against 1.0 per 1,000 in the preceding period.

Hospitals and Asylums.

STIRLING DISTRICT ASYLUM.

THE annual report for the year ended May 15th, 1909, of Dr. R. B. Campbell, the medical superintendent of this asylum, shows that on May 15th, 1908, there were 675 in the asylum, and on May 15th, 1909, 712, with 4 more absent on probation. The total cases under care during the year numbered 902, and the average number daily resident 705. During the year 227 were admitted, of whom 174 were first and 53 not-first admissions. A few of these readmissions, Dr. Campbell says, were patients who had been boarded out but had to be returned to the asylum owing to their mental symptoms becoming too acute for residence outside. Of the total admissions, in 84 the attacks were first attacks within three, and in 92 more within twelve months of admission; in 48 not-first attacks within three months of admission, and in the remainder the illness was of more than twelve months' duration, including 15 congenital cases. As regards duration of disorder, therefore, the admissions were not of an unfavourable character. Only 16 per cent., however, were in average bodily health, the remainder being either in indifferent or exhausted condition. They were classified according to the forms of mental disorder into: Mania of all kinds, 86; melancholia of all kinds, 47; dementia, 21; acute and subacute delirious insanity, 13; delusional insanity, 26; stupor, 10; emotional insanity, 2; general paralysis, 13, and congenital mental defect, 9. Altogether, 146 of the admissions were suffering from acute forms of insanity. With regard to probable causation, alcohol was assigned in 38, or 16 per cent., and other toxic causes in 12; epilepsy in 69; pregnancy, lactation, and the puerperium in 12; epilepsy in 10, general paralysis in 13, and organic brain disease in 7, bodily trauma in 5, and mental stress in 12. An insane heredity was ascertained in 50, and congenital defect in 15. During the year 77 were discharged as recovered, giving a recovery rate on the admissions of 33.9 per cent., and 45 as unrecovered. With regard to these last, 33 were either sent to the care of their friends or boarded out. Dr. Campbell in his report alludes to the fact that during the past ten years 649 patients have been so discharged from this asylum as unrecovered, in very few cases, he says, was the trial unsuccessful, and a very small percentage had to be returned as unsuitable for family care. During the year 64 died, giving a death-rate on the average numbers resident of 7.3 per cent. The deaths were due in 19 to cerebro-spinal diseases, including 10 from general paralysis; in 27 to chest diseases, with only 6 from pulmonary consumption; in 4 to abdominal diseases and in 12 to general diseases, including 2 deaths from shock due to injuries received prior to admission. The general health was good throughout the year, and since the opening of the sanatoriums a marked decrease in the death-rate from phthisis has been noted. Open-air and sanatorium treatment are now freely applied to all forms of insanity at this asylum, with the result that the patients' physical comfort is greatly increased and the use of sedatives considerably reduced.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon, male. Salary, £80 and nomination fees.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House-Surgeon for Western Branch. Salary, £130 per annum.

BRISTOL ROYAL INFIRMARY.—Honorary Dental Anæsthetist.

CANCER HOSPITAL, Fulham Road, S.W.—Assistant Anæsthetist. Honorarium, 25 guineas per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

DERBYSHIRE ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salary for (1) and (2) £100 per annum, and (3) at the rate of £60 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. Resident Medical Officer. Salary, £100 per annum.

DUNDEE COMBINATION POORHOUSE AND HOSPITAL.—Senior and Junior Resident Medical Officers. Salary, £120 and £100 per annum respectively.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Physician (male). Salary at the rate of £45 per annum.

EDMONTON UNION.—Resident Medical Superintendent at the new Infirmary. Salary, £400 per annum, rising to £500.

GRIMSBY AND DISTRICT HOSPITAL.—House-Surgeon. Salary, £120 per annum.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Honorarium £20 for six months.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HOPITAL FRANÇAIS, Shaftesbury Avenue, W.C.—Second Resident Medical Officer. Salary, £30 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House-Surgeon. Salary, £30 for six months and £2 10s. washing allowance.

HULL: ROYAL INFIRMARY.—Casualty House-Surgeon. Salary at the rate of £60 per annum for six months, or £80 for twelve months.

KENT COUNTY ASYLUM, Chartham.—Third Assistant Medical Officer. Salary, £145 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Dental Surgeon.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer on Mental Diseases.

MONTREAL: ROYAL VICTORIA HOSPITAL.—Pathologist.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum, increasing to £100.

OXFORD UNIVERSITY.—Philip Walker Studentship in Pathology. Annual value £200.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Woman Assistant Doctor.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer for four months, and then to succeed to Senior. Salary as the rate of £50 and £60 per annum, respectively.

ROYAL EYE HOSPITAL, Southwark.—Honorary Assistant Surgeon.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland Street, W.—Honorary Radiographer.

ST. MARK'S HOSPITAL FOR FISTULA, ETC., City Road, E.C.—Three Clinical Assistants.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—(1) Honorary Medical Radiographer. (2) Honorary Surgeon.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £50 per annum each.

SOMERSET COUNTY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Physician. Salary, £30 for six months.

WANDSWORTH UNION.—Assistant Medical Officer at the Home for Aged and Infirm, Tooting. Salary, £130 per annum, rising to £150.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Salary, £75 per annum.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith Road, W.—Clinical Assistants.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies at Polmont, co. Stirling; Littleport, co. Cambridge; Westport, co. Mayo; and Pewsey, co. Wilts.

APPOINTMENTS.

AHERN, Richard, M.B., B.A.O., R.C.I., D.P.H.Cantab., Resident Medical Superintendent of the Cork County and City Sanatorium.

ARNOLD-WALLINGER, R. N., L.R.C.P., M.R.C.S., District Medical Officer of the Chelmsford Union.

BUNTING, Dora, M.D.Lond., D.P.H.Cantab., School Medical Officer, Blackpool Education Committee.

BURLAND, C., M.D.Brux., L.R.C.P. and S.Edin., Senior Medical Officer to the Board of Trade, Liverpool.

COATS, George, M.D.Glasg., F.R.C.S.Eng., Ophthalmic Surgeon to the Hospital for Sick Children, Great Ormond Street.

COLDICUTT, C. E. A., M.D., Assistant Medical Officer of Health for County Borough of Leicester.

COLLINS, G. F., L.R.C.P.I., M.R.C.S., District Medical Officer of the Helbeach Union.

COMPTON, T., M.R.C.S., L.R.C.P., District Medical Officer of the Uxbridge Union.

EAGLE, H. G., B.A.Cantab., Joint Lecturer in Biology, Middlesex Hospital Medical School.

EBRYS-JONES, F., B.A.Cantab., L.M.S.S.A.Lond., Medical Officer (conjoint) in charge of the X-Ray and Finsen Light Department; at the General Hospital, Birmingham; Medical Officer in charge, X-Ray Department at the Queen's Hospital, Birmingham; and Radiographer to the Guest Hospital, Dudley, and Dental Hospital, Birmingham.

HILL, A. J., L.R.C.P. and S.Edin., L.F.P.S Glas., Certifying Factory Surgeon for the Llanrwst District, cos. Carnarvon and Denbigh.

HUNTER, G. F., M.B.Aberd., Junior Assistant Physician to the Ayr District Asylum.

KEATA, A., L.M.S.S.A., Resident Assistant Medical Officer at the Renfrew Road Workhouse of the Parish of Lambeth.

MACINTYRE, David D. F., M.B., Ch.B.Glasg., Medical Officer to the Board of Trade at Liverpool.

MURRAY, Charles, M.A., M.D., D.P.H.Aberd., Senior Assistant Medical Officer of Health and School Medical Officer for the County of Dumfriesshire.

OUINE, A. E., M.B., Ch.B.Vict., Senior Assistant Resident Medical Officer to the Whitechapel Union Infirmary.

ROWNTREE, Cecil, M.B., B.S., F.R.C.S., Assistant Surgeon to the Cancer Hospital.

WILKINSON, W. J., M.R.C.S., L.R.C.P., District Medical Officer of the Louth Union.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—The following appointments have been made:

Physician to In-patients: C. Hubert Roberts, M.D., F.R.C.S.

Physician to Out-patients: R. D. Maxwell, M.D., F.R.C.S.

Surgeon (Non-obstetric): Thomas Crisp English, M.B., F.R.C.S.

ST. THOMAS'S HOSPITAL.—The following house appointments have been made:

Senior Obstetric House Physician: F. L. Fyffe, M.B., B.S.Lond., M.R.C.S., L.R.C.P.

Junior Obstetric House-Physician.—J. L. Graham Jones, B.A.Cantab., M.R.C.S., L.R.C.P.

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BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

EYRE.—On December 8th, at Holmdale, Wandsworth Common, to Dr. and Mrs. Eyre, a son.

WOOD.—On December 11th, at Woolpit, Suffolk, to Dr. and Mrs. Orby R. M. Wood, a daughter.

MARRIAGE.

NESHAM—GALLAGHER.—On Tuesday, November 9th, at St. Mary's Church, Hyde, Isle of Wight, by the Right Rev. Bishop Cotter, Robert Anderson Nesham, M.R.C.S., L.R.C.P., of Newcastle-on-Tyne, to Giacinta M. Gallagher (widow of the late Mr. J. H. Gallagher).

DEATHS.

HARVEY.—On December 8th, at 85, Approach Road, Bethnal Green, E., William Harvey, M.P.S., in his 77th year, who for nearly fifty years faithfully discharged the duties of Dispenser at the City of London Hospital for Diseases of the Chest (Victoria Park Hospital).

RANSOM.—On December 9th, at 48, The Ropewalk, Nottingham, William Bramwell Ransom, M.A., M.D., F.R.C.P., aged 48.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, 10 a.m., Surgical Out-patient Clinic; 2.30 p.m., Medical Out-patient Clinic: Nose, Throat, and Ear Diseases; X Rays; 4.30 p.m., Medical In-patient Clinic. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Surgical Clinic; Gynæcological Clinic. Wednesday, 2.30 p.m., Medical Out-patient Clinic; Diseases of the Skin: Diseases of the Eye. Thursday, 2.20 p.m., Gynæcological Operations; Medical Out-patient Clinic; Surgical Out-patient Clinic; X Rays; 3 p.m., Medical In-patient Clinic.

RECENT PUBLICATIONS.

Verhandlungen des Vereins Deutscher Laryngologen. Würzburg: A. Stuber's Verlag. 1909. (Pp. 180.)

These are the transactions of the German Laryngological Association at its sixteenth session at Freiburg last May. The volume contains an account of some twenty-three papers, demonstrations, and discussions, in which Brunings, among German laryngologists best known in this country, took a prominent part. The transactions have been prepared for publication by Dr. Felix Blumenfeld, of Wiesbaden.

Taschenbuch der Therapie. Edited by Dr. M. T. Schnirer. Würzburg: A. Stuber. 1910. (Imperial 32mo; pp. 408. M.2.)

This is a sixth and revised edition of a pocket formulary drawn up by the editor of a Viennese journal dealing with therapeutics. It contains an index of diseases and appropriate treatments, lists of watering places, brief notes on various drugs, and copies of prescriptions in common use in leading Vienna, Berlin, and German hospitals.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
19 Sunday ..	
20 MONDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m.
21 TUESDAY ..	
22 WEDNESDAY	LONDON: Midwives Subcommittee, 10.30 a.m. LONDON: Journal and Finance Subcommittee, 1 p.m. LONDON: Special Poor Law Reform Committee, 2.30 p.m.
23 THURSDAY ..	
24 FRIDAY ..	
25 SATURDAY ..	*Christmas Day.*
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	
30 THURSDAY ..	
31 FRIDAY ..	
JANUARY, 1910.	
1 SATURDAY ..	(SUBSCRIPTIONS to the British Medical Association for 1910 become due.
2 Sunday ..	
3 MONDAY ..	
4 TUESDAY ..	
5 WEDNESDAY	LONDON: Medico-Political Committee, 2 p.m.

Date.	Meetings to be Held.
JANUARY *(Continued).*	
6 THURSDAY ..	LONDON: Hospitals Committee, 2.30 p.m.
7 FRIDAY ..	LONDON: Organization Committee, 10 a.m. LONDON: Central Ethical Committee, 2 p.m. LONDON: Territorial Forces Committee, 3 p.m.
8 SATURDAY ..	LONDON: Science Committee, 12 noon.
9 Sunday ..	
10 MONDAY ..	LONDON: Colonial Committee, 2.45 p.m.
11 TUESDAY ..	LONDON: Public Health Committee, 3 p.m.
12 WEDNESDAY	LONDON: Special Poor Law Reform Committee, 2.30 p.m.
13 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m.
14 FRIDAY ..	
15 SATURDAY ..	
16 Sunday ..	
17 MONDAY ..	
18 TUESDAY ..	
19 WEDNESDAY	LONDON: Journal and Finance Committee, 2.30 p.m. CARDIFF DIVISION, *South Wales and Monmouthshire Branch*, Cardiff.
20 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.
21 FRIDAY ..	TOTTENHAM DIVISION, *Metropolitan Counties Branch*, 6, Crescent Road, Crouch End, 9.15 p.m.

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Readers in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Eye, Ophthalmia and Vision, etc.

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AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Heart and Nervous Symptoms.

G. RHEINER (*Correspondenz-Blatt für schweizer Aerzte*, April 1st, 1909), in an article on the connexion between heart disease and mental disease, dwells on the impossibility of distinguishing in every case between purely psychogenic heart symptoms with a sound heart and heart symptoms due to cardiac changes. A help to diagnosis may sometimes be found in the fact that a sound heart must more readily accommodate itself to increased demands upon it than can a heart with weak or diseased muscles. Heart symptoms may be secondary to any continuous mental irritation; thus psychoses with conditions of terror may call forth heart symptoms either subjective, such as cardiac pain, palpitations, etc., or objective heart changes. In primary anomalies of the heart with secondary psychoses a psychopathic heredity is of significance. The author describes a case in which the psychic symptoms improved as soon as treatment directed to the heart was instituted. The patient was a woman, 66 years of age, who, except for winter bronchitis, had been of sound health; she had never suffered from any noticeable neurasthenic symptoms, but the nervous system was always excitable: there was a tendency to sleeplessness and a history of psychoses in the family. There had never previously been any subjective heart symptoms, nor had any abnormality been detected either of the heart or the other organs. In the illness under consideration, after a long period of sleeplessness, the patient began to suffer from depression, with delusions as to the financial position of the family, fears, and attacks of crying alternating with laughter; she had also a constant feeling of constipation and pressure, although there were daily evacuations of the bowel; attacks of precardial oppression, complete lack of self-confidence, a sense of great weakness in spite of an abnormally strong pulse, etc. At the beginning of the attack a weak but clear systolic murmur could be heard at the apex, but the heart was not enlarged. The pulse tension was extraordinarily high, and the pulse full; the pulse-rate, even during sleep, was from 120 to 140, occasionally irregular. For seven weeks treatment was altogether unsuccessful, and the prognosis appeared bad. The idea then presented itself that the nervous excitement of the heart might be the cause of the psychosis. Treatment by digitalis was then begun, with striking results. There was a lessening of the pulse, with a corresponding clearing up of the psychosis. After eight days' treatment, when 4.5 grains of the inf. herb. digit. had been given, the pulse-rate had dropped to from 72 to 80, the pulse was regular and normally strong, the mental condition clear. The improvement continued, and the bodily strength gradually returned. The patient has now been in a completely normal condition for months. A second similar case has also come under the author's care. It may, of course, be held that the mental condition improved spontaneously and independently of the digitalis, yet it undoubtedly appears from these cases that the possibility of a causal connexion between the heart and the mental symptoms should nor drop out of mind when the condition corresponds to that described.

2. Vomiting.

VITALE (*La Pediatria*, April, 1909) publishes an analysis of the different types of vomiting as seen in different diseases. Whilst admitting that no type of vomiting, taken absolutely by itself, can be said to be pathognomic of any given disease, he properly points out that a study of the phenomenon in relation to other symptoms may set one on the right track towards diagnosis. The physiology and pathology of vomiting is first treated, and then follows pretty full analyses of special types of vomiting. Very little seems to be overlooked, so that it is not possible to do more than refer to one or two of the types discussed by the author. The vomit of chronic gastritis is usually of a thick, ropy, mucoid character (the morning vomit of alcoholics is, however, more watery, consisting as it does for the most part of saliva swallowed during sleep), comes on one or two hours after food, and is preceded by nausea. Vomiting of gastric cancer is differentiated by the abundance of lactic acid and the absence of hydrochloric acid; the extent of the vomiting depends to a large extent on the proximity of the growth to the pylorus. The vomiting from hyperchlorhydria is discussed, and especially in relation to round ulcer of the stomach, and it is pointed out that the vomiting in hyperchlorhydria is usually further away from the ingestion of food than in the case of gastric ulcer. Cerebral vomiting is, of course, discussed, and some of its chief characteristics pointed out. The periodic vomiting of children is treated as a neurosis, and the stigmata of nervous degeneration can usually be made out in the subjects of this complaint. Various types of hæmatemesis are discussed, with special stress on carcinoma and simple ulcer. The value of the article, however, depends more on the excellent synthesis of the many causes and types of vomiting than on the detailed examination of each separate example. Adequate treatment is given to each subject, but it would be obviously impossible to discuss with fullness every possible cause and case of vomiting in a magazine article, however long.

3. Renal Influence upon Blood Pressure.

R. M. PEARCE (*Journ. of Exper. Med.*, May, 1909), with the object of throwing light on internal secretions of the kidney and the relations between cardio-vascular disturbance and renal disease, records an experimental study of the influence of kidney extracts, and of the serum of animals with renal lesions, upon the blood pressure. He finds that extracts of the rabbit's kidney when injected into the rabbit cause only a slight increase in blood pressure which is little more than that due to the mechanical effect of the injection. Extracts of the dog's kidney when injected into the dog cause a decided fall in pressure. But this is no more than the fall caused by the dog's urine, and control experiments indicate that the fall caused by the kidney extract may be due to the urinary salts which it contains. On the other hand, extract of cat's kidney cause a rise in pressure. As the cat's urine causes a fall, this rise in pressure indicates the possibility of a kidney extract containing a pressor substance which cannot be influenced by the depressor substance of the urine. Rabbit's kidney, which in the rabbit produces a slight rise, when injected into the dog causes a drop comparable to that caused by the dog's kidney itself. Similarly, the dog's kidney, which injected into the dog causes a drop, produces in the rabbit a rise analogous to that produced by rabbit's kidney. Hence it is evident that these pressor and depressor substances of the kidneys in question do not exert a constant effect on all animals as do the extracts of the adrenal gland. Extracts of kidneys which are the seat of various forms of nephritis cause the same effect as extracts of normal kidneys. The serum of dogs with considerable reduction of kidney substance causes a slight fall in pressure; but the serum of dogs with spontaneous nephritis gives divergent results, as does also the serum of rabbits with various forms of acute nephritis.

SURGERY.

4. The Modern Treatment of Aneurysms.

SENCERT (*Arch. gén. de chir.*, No. 4, 1909), who has recently treated with good results a traumatic aneurysm of the femoral artery by suture, bases on a study of all cases of arterial suture that have hitherto been recorded a review of the modern operative indications in the treatment of aneurysms of the limbs. From this point of view large arterial trunks are divided into two categories: reliable (*liables*) and dangerous arteries. The first includes all the secondary arteries, as, for instance, the ulnar, radial, and tibials, together with some of the more important vessels, such as the brachial and the superficial femoral, ligature of which is not likely to compromise to any serious extent the vitality of the parts which derive from these vessels their supply of blood. The category of the so-called dangerous arteries is represented by the carotids, the common femoral and iliac trunks, and the popliteal, the occlusion of any of which by ligature is a cause of anxiety to the surgeon by reason of the risk of gangrene. The results of his study of recent acquisitions in vascular surgery are summed up in the following propositions. In a case of recent traumatic aneurysm involving a reliable artery, double ligature is indicated. If the aneurysm be connected with an arterial trunk of the dangerous class, and the collateral circulation is evidently unfavourable to any preliminary exploration,

the treatment should consist, if the opening be a small one, in lateral suture, and, if the opening be a large one, in Carrel's method of circular suture. A spontaneous aneurysm of a reliable artery is best treated by extirpation of the sac, preceded or followed by double ligature of the affected vessel. If extirpation seems to be impossible, the surgeon should practise obliterating endoaneurysmorrhaphy. If the aneurysm be seated on a dangerous artery, and the collateral circulation in such a case be clearly insufficient, it would be advisable to resect the involved segment of the vessel and to perform circular suture. The treatment indicated in arterio-venous aneurysm involving a reliable artery is, in recent cases, incision of the sac, followed by quadruple ligature in the immediate vicinity of the wounds in the vessels, or, in old cases, extirpation of the whole of the sac, preceded by quadruple ligature. If the wounded artery be of the dangerous category, and the collateral circulation be inadequately developed, it becomes necessary after incision of the sac to practise lateral suture of both artery and vein, or lateral suture of the artery with double ligature of the vein, or circular suture of the artery, or of both artery and vein. In the choice of one or other of these procedures the surgeon would be guided by the conditions of facility of execution.

5. Forster's Operation for Spastic Paralysis.

Pathological disturbances affecting the cortico-spinal tracks frequently lead to spastic contractures. Förster noticed that when the posterior spinal columns became affected in these conditions, the spastic contractures disappeared. He further found that when the cortico-spinal track became affected in diseases characterized by flaccid paralysis, no contractures were formed at all. Reasoning from these observations, he came to the conclusion that in cases of disease of the cortico-spinal system the division of the reflex arc should remove the spasms and contractures. The only isolated portion of the sensory part of the reflex arc is to be sought in the posterior nerve roots, and as he found that one group of muscles derived innervation from three contiguous roots, it became clear that the division of one root would not destroy the reflex arc *in toto*, but would merely diminish it sufficiently to remove the abnormal reflex processes. Gottstein (*Berl. klin. Woch.*, April 26th, 1909) has operated on two patients for the removal of spastic contractures, with good result. The first patient was a young man, aged 24 years, who had suffered ten years previously from an illness characterized by severe headache and fever, followed by pains in both legs and in the left arm and slowly setting in contractures. The diagnosis made was cerebral paraplegia due to meningoencephalitis. Both legs and the left arm were paralysed, and severe contractures of both hip-joints, knees, and ankles were present. The operation proved comparatively easy. The patient stood the operation well. The only striking phenomenon in connexion with it was a marked acceleration of the pulse. Soon after the spasms ceased, while sensation remained intact. The legs could be moved actively and passively. The contractures of the joints and the shortening and atrophy of the muscles rendered movement slight. To improve matters the flexors were divided at the knees, and the knee-joint was gradually straightened in a plaster jacket; the patient was then enabled to walk, although with difficulty. Some difficulty is being experienced on account of the objection offered to massage, which is still painful. The second patient was a girl of 19 years. Five years previously she had been taken ill with fever, trembling, and spasms in the right arm and leg. The diagnosis was meningitis. Treatment with apparatus failed. The patient left the hospital for a year, and when she returned she presented all the signs of a spastic paraplegia. Examination of the blood gave a negative reaction with Wassermann's syphilis test. The operation was then undertaken and was well tolerated. Serological examination was made with the cerebro-spinal fluid gained at the operation, and proved positive. Soon after the operation the spasms ceased, but a flaccid paralysis of the right leg set in. Twitchings of all extremities and total aphasia further complicated the case. On account of the result of the test with the cerebro-spinal fluid she was treated with mercury, and the aphasia, paralysis, and headache soon disappeared. She was then able to move the legs actively, and improvement is still going on. Hitherto Förster's operation has only been carried out on children, but these cases may incite others to extend its application to adults.

6. Modified Operation for Inguinal Hernia.

Sellenings (*Amer. Journ. of Surg.*, March, 1909) holds that the usual technique of isolation of the sac and transplantation of the cord in operations for the radical cure of hernia has no advantages, and should therefore be characterized as an unnecessary refinement. In his own practice the author, after he has incised and emptied the sac, the relations of which to other structures of the canal are left undisturbed, closes the neck as high up as possible by a purse-string suture, and obliterates the cavity from above downwards by a continuous suture. The formation of a new anterior wall is effected in the usual way—by suture with kangaroo tendon of the internal oblique and the conjoint tendon to the border of Poupart's ligament. The cord is left undisturbed beneath the new anterior wall. The author claims for this modified operation the following advantages: (1) Rapidity of performance and diminished period of anaesthesia; (2) no dissection of sac and consequent bruising of tissues; (3) preservation of nerve distribution; (4) avoidance of troublesome venous bleeding; (5) no manipulation of the cord or the testes.

OBSTETRICS.

7. Puerperal Fever.

In discussing the etiology of puerperal fever and the questions bearing on them, F. Ahlfeld believes that the most important problem to be settled is whether there are any specific puerperal streptococci, and whether the streptococci met with in puerperal infections are one or various (*Dent. med. Woch.*, May 6th, 1909). The extraordinary diligence of Menge and Krönig laid the foundation for the further knowledge on this matter. After a long time, however, it was discovered that the work of these investigators was not correct, and that the conclusions based on it were misleading. They never found streptococci or other disease germs in the genital canal of parturient women. Ahlfeld challenges the correctness of this find. A parturient woman who cannot deliver her full-time child in spite of the fact that no examination is made always dies of sepsis if the uterus is not ruptured. Every woman who remains in the second stage of labour for a considerably longer time than usual, even if she is not touched by any one, gets fever during the lying-in. In this Ahlfeld recognizes that autoinfection would be the rule were it not for the fact that a normal labour only occupies a comparatively short time. Apart from these considerations, other investigators have actually found streptococci in the vagina of normal parturient women. The doctrine that, while instruments, fluids, and dressings could be absolutely sterilized and yet puerperal infections take place, the hands of the accoucheur must be held responsible was met with a powerful objection based on experiments which showed that alcohol is capable of rendering the hands free from micro-organisms. The doctrine built up by Menge and Krönig of the absence of pathogenic germs in the vagina, together with the assumption that hands cannot be sterilized, led to a third false doctrine—namely, that the prevention of puerperal fever lay in the use of rubber gloves or no vaginal examination at all. This teaching Ahlfeld and Leopold could by disproved by their own experience. Von Herff has published a summary of collected statistics in which he proves that the use of rubber gloves has not reduced the morbidity, while the experiences of the Breslau and Marburg clinics support this and extend it by showing that the use of the gloves has produced a higher mortality in the treatment of the umbilical cord than the treatment with disinfected hands and no gloves. He claims that the hand is not the carrier of the infection. Having come to the conclusion that every woman harbours the causal microbe of puerperal fever in her vagina, he discusses the question of predispositiou, which must play a part. The reason why some women do not become infected is explained on the basis of a marked resistance. The author believes that there is a general and a special predisposition toward the infection. The future must still decide whether the cocci vary in their virulence, and whether there are several forms of cocci or only one. He pleads for a thorough disinfection of the vagina by douching with soap-cresol solution before each partus or operation, a method which has yielded him excellent results for twenty-five years. His hot water-alcohol method of disinfecting the hands, he claims, removes all dangerous micro-organisms and practically secures sterile hands.

8. Tubal Pregnancy or Appendicitis.

Bogdanovics (*Zentralbl. f. Gynäk.*, No. 19. 1909) dwelt, at a recent meeting of a learned society, on the extreme difficulty of diagnosis of early tubal rupture or tubal abortion, even in a subject who has already suffered from a complication of that kind. A woman, aged 34, who had been four times pregnant, was seized with severe hypo-

gastric pain and loss of consciousness. Her doctor correctly diagnosed rupture of a tubal sac and sent her into a hospital. On admission it was found that she had undergone an operation for extrauterine pregnancy five years previously. The periods had recently been regular; the last occurred four weeks before admission. There was no bleeding from the os externum, no resistance on palpation in the neighbourhood of the uterus, and no external evidence of pregnancy, but the pulse was thin, soft, and very rapid. The abdomen was distended and tender all over on touch, but especially so in the region of the caecum. Perforating appendicitis was diagnosed. At the operation two and a half pints of fluid blood were found free in the peritoneal cavity, and the vermiform appendix was found to be perfectly healthy. The haemorrhage was traced to a ruptured tubal sac on the left side: it contained an ovum of about the fourth week, and the membranes had actively eaten through the walls of the tube. Recovery was speedy.

GYNAECOLOGY.

9. Primary Sarcoma of Fallopian Tube.

GOSSET (*Annales de gynéc. et d'obstét.*, May, 1909) reports a case of some importance, where a perithelioma, or plexiform angio-sarcoma of Waldeyer, developed in the left Fallopian tube of a woman aged 44, producing very definite symptoms. The patient came under Gosset's care in the Hopital Necker, troubled for three years with free discharge of a watery or slightly glairy and odourless fluid, unattended by any pain. The periods were quite regular, abdominal distension had been noted for a year and had recently increased. The patient had borne three children, all living: the youngest was 12 years old. Gosset could define in the left iliac fossa a smooth, firm, very movable, and quite painless tumour, distinct from the uterus. It simulated a pedunculated subserous fibroid. When the abdominal cavity was opened a bulky tumour, sausage-shaped, and occupying the place of the left Fallopian tube, was exposed. The ovaries and uterus were normal, the right tube was converted into a hydrosalpinx. The tumour adhered to a coil of intestine which was separated; the bowel did not appear to be infected, but a metastatic growth of the size of a nut was detected in the great omentum and removed. The tumour was removed, and then Gosset performed supravaginal hysterectomy, taking away the right appendages with it. The patient was discharged from hospital on November 1st, 1908; there is as yet no after-history. The diseased tube formed an unusually big tumour, over 8 in. in length and 14 lb. in weight, a medullary mass which had seemingly developed in the substance, not the mucosa, of the tube. Herrenschmidt and Borrel considered, after careful examination of sections, that the growth was a sarcoma and not a papillomatous epithelioma.

10. Galactorrhoea after Severe Burn.

VOGT (*Zentralbl. f. Gynäk.*, No. 23, 1909), after referring to Arnheim's case, where galactorrhoea lasted for four years and a half after a normal puerperium, resisting all remedies, relates a case where it was set up by a burn. The patient was a workman's wife. She gave birth to her third child at the end of January, 1908, and weaned it within six weeks, when the catamenia returned, and became quite regular and rather free, as usual. On June 16th, in the same year, the patient, when only dressed in a nightgown, burnt herself badly by filling a lighted spirit lamp from a can full of methylated alcohol. The burn was of the third degree, extending over the whole chest, the arms to the elbows, and the thighs to the knee. On August 10th, as healing was progressing favourably, boracic ointment was freely applied to the granulating surface. At the first change of the dressings the bandages were found to be soaked with milk, which flowed freely from the nipples. On July 21st the period had appeared in due time, but it was very scanty and lasted only a day. The galactorrhoea, which began in August, continued, and at the date of the publication of the report was very free; when the periods, which were threatening to cease altogether, were due the secretion became thin, clear, and of a peculiar odour. Vogt gives reasons for believing that the amenorrhoea was not due to the shock of the burn and the protracted convalescence, but to antagonism between the functions of the breast and the ovaries. The secretion of milk was set up by great local hyperaemia due to the granulating process during the healing of the burn.

THERAPEUTICS.

11. Tumour of the Trachea Cured by X Rays.

M. JAUGEAS (*Bull. Soc. de Radiol. Méd. de Paris*, May, 1909) states that certain malignant tumours are so constituted as to yield readily to radio-therapeutic action, and he recalls cases mentioned by Kienböck and Schwarz in which a large sarcomatous tumour in the mediastinum completely disappeared under the action of the *x* rays. M. Jaugeas has had occasion to treat a patient, a lady aged 41, for tumour of the trachea. In May, 1906, the patient began to experience difficulty in respiration. Breathlessness and some pain in the region of the larynx were noted, and after fatigue the patient was subject to prolonged fits of coughing. Wheezing was a prominent symptom. Ordinary medical treatment did not relieve this condition, and in October, 1907, a radiological screen examination of the pulmonary field was made with a negative result, suggesting the probable existence of an obstacle in the passage of the trachea or the bronchi. Bronchoscopic examination revealed the presence of a considerable tumour near the bifurcation of the trachea. Histological information was wanting owing to the tumour's position, but the result of treatment made the case an interesting one. Radiotherapy was commenced, and weekly *séances* were given from October 12th to December 29th, 1907. Each of the *séances* comprised two irradiations of 3 H., one upon the anterior thorax and the other upon the posterior, at the height of the third dorsal vertebra. From the early *séances* the objective signs, wheezing and breathlessness, were diminished, and in the course of the treatment these completely disappeared, together with the pain. A further bronchoscopic examination showed that the tumour had quite gone, its site only being indicated by the whiteness and cicatricial aspect of the posterior wall of the trachea. The cure was maintained, and the patient returned to her usual occupations. The observer lays stress upon the value of radio-therapy in deep-seated sarcomas, particularly in the mediastinum, where the difficulties attending surgical intervention are so great.

12. Properties of Papain.

POZERSKI (*Ann. de l'Inst. Pasteur*, March and April, 1909) has made an extensive study of the physiological properties of papain. He finds that, under certain conditions, this ferment can digest albuminoid material with remarkable rapidity. It is only necessary to bring to the boil a mixture of ovalbumen or serum with a suitable quantity of the ferment in order to transform most of the albuminoids into albumoses or peptone. This reaction he has studied in detail. Its essential characteristic is that it is only produced at a high temperature and in the short space of time during which the mixture is raised from 80° C. to 95°. It therefore seems that papain has the special property of attacking albuminoid substances at the moment when the latter are losing their natural properties. At ordinary temperatures papain in the presence of egg albumen or serum is progressively attenuated. Animal tissues, when taken in their natural condition, and vegetable albuminoids also undergo a rapid digestion under the action of this ferment at a high temperature. At ordinary temperature egg albumen, though not digested by papain, immediately loses, by contact with this substance, its natural viscosity. The author has also attempted to immunize animals against papain. He finds that the serum of animals thus treated is quite as susceptible to the ferment as the serum of untreated animals, and he therefore concludes that the treatment is not productive of antiferment. He has, however, observed that the serum of inoculated rabbits acquires new properties, in that it exhibits a specific precipitin and an antibody capable of deviating the complement. He has also shown that the guinea-pig, after repeated injections of very small doses of papain, presents a characteristic condition of anaphylaxis.

13. Veratrum Viride in Eclampsia.

FABRIS (*Gazz. degli Osped.*, May 16th, 1909) speaks favourably of the action of veratrum viride in eclampsia, and quotes 5 cases where good results followed its use. Of the 5 cases, 1 occurred after labour, 2 during gestation, and 2 during induced labour. The drug was given hypodermically. If the pulse was over 120, 20 m. of the fluid extract were injected: if under 120, a smaller dose (10 to 20 m.) was given. The drug is well borne and rarely causes unpleasant symptoms. A marked lowering of the

pulse-rate quickly follows, the convulsions cease, the temperature may also be lowered. The pulse tension is reduced. Another result frequently observed is the vomiting of greenish fluid and the passage of abundant stools per rectum. Diuresis is increased and albumen diminished. As the preparations of veratrum are apt to differ, it is important to secure a reliable preparation; the one used by the author was prepared by Zamicbetti.

14. Instillation of Normal Saline Solution into the Rectum.

MCPHERSON (*Bulletin of the Lying-in Hospital of the City of New York*, December, 1908) has devised a simple method for rectal instillation of normal saline solution by which the flow is regulated to enter the rectum drop by drop and at a greater uniform heat than can be maintained by the usual methods. The apparatus, as figured in the text, consists of a portable stand which can be set at any desired height, and upon this an ordinary iron laboratory tripod supporting a flask of normal saline solution is placed. The flask is fitted with a rubber stopper containing two holes, one for a short glass air tube, and the other for the glass conduction tube, which latter reaches to the bottom of the solution, and is connected with a rubber tube of convenient length. This is connected with a small catheter, a short length of glass tube intervening. Some absorbent cotton-wool is placed inside this short glass tube, and by increasing or decreasing the quantity of this the flow of the solution can be regulated. A spirit lamp beneath the flask maintains the solution at a suitable temperature. The flow is started by syphonage, and the catheter is inserted well up into the rectum, the edge of the tube being fixed to the under sheet by a safety pin to prevent traction on the catheter. By this means a continuous flow is kept up without trouble to the attendant or discomfort to the patient; and since much of the value of rectal saline instillation lies in the temperature at which it is administered, a simple method is thus provided for its maintenance.

PATHOLOGY.

15. A New Method of Detecting Tubercle Bacilli.

L. LANGE AND P. NISCHE found in the course of some experiments that a considerable difference exists between the surface tensions of tubercle bacilli and of the watery media (*Deut. med. Woch.*, March 11th, 1909). On mixing tubercle bacilli with a non-acid-fast strepto-bacillus in physiological salt solution, and then shaking the mixture up with a hydrocarbon, they were able practically to separate the two forms of bacilli almost quantitatively. As soon as the hydrocarbon had separated from the watery medium, and had risen to the surface of the same, it was found that the tubercle bacilli had been carried upward with the light fluid, and only the other bacteria were left in the water. This led to the idea of utilizing the action of hydrocarbon for the detection of tubercle bacilli in sputum, urine, pus, etc. The principle consisted in shaking up sputum in a homogeneous condition with a suitable hydrocarbon, and allowing the tubercle to adhere to the latter as it rises over the level of the watery medium. The best form of hydrocarbon for the purpose proved to be ligroin. Carbon tetrachloride, which is heavier than water, acts in a similar manner, but inasmuch as it has a dissolving action on the bacilli, it is less satisfactory. In order to render the sputum homogeneous, the authors recommend a normal solution of caustic potash—that is, 5.6 per cent. One volume of the sputum is shaken up in a stoppered measure glass with ten times the volume of the alkali. This is then allowed to stand for three hours at room temperature, or shorter in the incubator. The mixture should be quite fluid. Ten volumes of tap water are then added and the mixture again shaken. Next 2 c.cm. of ligroin to each 100 c.cm. of mixture is added and vigorously shaken. A dense emulsion is thus formed. The measure glass is then warmed in a water bath to 60° or 65° C., which accelerates the separation of the hydrocarbon. As many loopfuls of ligroin, taken from the lower level just above the water, are placed on a warmed slide as may be required, and as the ligroin evaporates the bacilli which remain are fixed and stained as usual. When diphtheria, pseudo-diphtheria bacilli and gonococci are present the separation is not quite quantitative; but with other micro organisms, as far as the observers have determined, it is complete. In the ligroin only tubercle bacilli can be found when ordinary secondary organisms or chance contaminations are present. The method is, according to the authors, simple and satisfactory.

16. Congenital Obliteration of Bile Ducts with Cirrhosis of Liver.

R. S. LAVENSON (*Proc. Path. Soc. Philadelphia*, 1907), in a contribution to which is appended a very complete list of references, examines the evidence as to the actual cause of congenital cirrhosis of the liver with obstruction of the bile ducts, whether the condition is primary in the liver or in the bile ducts. In favour of the view that the cirrhosis is the primary condition induced by some poison being excreted by the liver and setting up in that organ a cholangitis that subsequently descends to the larger bile ducts and there sets up an inflammation that later leads to organization, there are four chief arguments used by Rolleston: (1) The almost constant occurrence of cirrhosis in these cases of bile duct obstruction in infants as compared with the infrequency and irregularity with which cirrhosis follows obstruction of the larger bile ducts in later life. In 24 of the 62 cases the author has collected he found that obstruction was in the duodenal portion of the ducts and the hepatic portion was patulous, whereas in only 10 of the cases was the obstruction more marked in the hepatic end than in the duodenal end. If this obstruction were the result of a descending cholangitis it would be more natural for the involvement to be in those portions nearest to the liver rather than in those portions furthest removed. Also there have been cases of obliteration of the ducts in those dying very shortly after birth, and in which, as far as the organ was described, only the earliest stages of cirrhosis of the liver have been found. The deduction is that the biliary stasis had not existed long enough to have produced more advanced changes. (2) The large size of the liver, resembling hypertrophic biliary cirrhosis. The author is of opinion that the cases do not live long enough for contraction to result. (3) The large size of the spleen, a phenomenon not met with in uncomplicated biliary obstruction. The author maintains that this cannot have any bearing upon the subject, for the cases are practically all complicated by hepatic cirrhosis, and in cirrhosis resulting from biliary obstruction in the adult there may be very considerable enlargement of the spleen. (4) Several cases of this rare disease have occurred in the same family. In a very thorough search through the literature the author has been able to find but one instance in which more than one member of the same family was shown by autopsy to have had an obliteration of the ducts, and it is not improbable that both cases were instances of congenital syphilis. Other reported cases, in which several infants in one family have died of jaundice, had few of the symptoms of biliary obstruction, but as no autopsies were performed, however suggestive the cases may be, they cannot be considered. Furthermore, would it not be rational to expect inflammatory lesions in other organs if we consider the cirrhosis to be primary and caused by the circulation through the liver of irritating substances? In support of the claim that the obstruction is the primary condition is the great weight of evidence that in both adults and children biliary stasis has resulted in the same chain of events and the same pathological findings as are presented in these cases. The fact that the bile ducts are originally solid cords, Remak's fibres, and that subsequently these have lumina formed within them, suggests that obliteration may be the result of a simple failure of lumination in some portion of the biliary tract, and speaks strongly in favour of an anomaly of development as the primary cause. A feature lending weight to this view is the occurrence of other undoubted anomalies of development in the liver and its appendages and the association of impervious bile ducts with congenital defects in other portions of the body. In regard to the possibility of an organization of a non-specific inflammation of the ducts there are a few reported instances of haemorrhagic and catarrhal inflammation as supposed causes, and there is no rational basis for looking upon the condition as syphilitic if definite lesions of congenital syphilis are lacking. In the majority of instances the obliteration of the ducts is the result of an anomaly of development, a failure to form a lumen, and the cirrhosis a result of the ensuing biliary stasis. As regards treatment, there is hope from surgical intervention on the chance of obstruction being low in the ducts and anastomosis feasible. The measure is justified, since the outlook without operation is absolutely hopeless.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

17. Bronchiectasis in Young Children.

Z. CAPUZZO (*Il Morgagni*, Milan, 1908, L, p. 789) gives details of 10 cases of bronchiectasis in children aged from 1½ to 6, the diagnosis being confirmed *post mortem* in 4 of them, aged 1½, 2, 4, and 5. The condition is most often secondary to acute inflammatory process, usually broncho-pneumonia; *post mortem* almost complete destruction of the elastic and muscular tissue in the walls of the affected bronchi is found, with dilatation of the tubes and destruction of the lung tissue in their immediate vicinity. Less often the bronchiectasis may be secondary to pneumonia, bronchitis, tuberculosis, syphilis, or pleurisy; but it is not a common event in any of these conditions. Occasionally it follows the inhalation of a foreign body, and lesions of the vagus and sympathetic have been given as the cause of bronchiectasis in two children by French authors. The dilatation of the tubes is a direct consequence of their loss of muscular and elastic tissue, the weakened walls yielding to the inspiratory negative pressure in the lungs. In Capuzzo's 10 cases the left side was affected in 5, the right in 3, both sides in 2; cylindrical dilatation was found in the medium-sized and small tubes, and this is the commonest form of ectasis to be found in the bronchi of children. The chief symptom is paroxysmal cough with the production of abundant sputum. The sputum settles into three layers when stood in a conical glass, and it was fetid in 7 of the cases. Haemoptysis occurred in 6 of the patients. It may often happen, however, that the symptoms point to nothing more than chronic bronchitis. The pulmonary physical signs in children are often ambiguous and vary very widely with the position, size, and contents of the bronchiectatic cavities. Clubbing of the finger tips was present in 7 of the 10 children. The course and duration of the disease are very variable; 4 of Capuzzo's 10 patients died of acute bronchopneumonia: 1 had a pyopneumothorax, and recovered without operation in a month. The surgical treatment of bronchiectasis, often advocated, has been almost uniformly disappointing, and is applicable only to a few cases.

18. Pirquet's Tuberculin Test in Infants and their Mothers.

FOTEN AND GRIEMERT find that the divergent results which various observers have obtained with Calmette's and Pirquet's new tuberculin tests are explained partly by the fact that different strength solutions of tuberculin were used by different investigators and partly by the fact that the class of cases in which the tests were applied varied considerably (*Deut. med. Woch.*, June 3rd, 1909). It appears, however, to be generally accepted that every tuberculous person reacts to these tests, provided (1) that the disease is not too severe or far advanced; (2) that the patient is not under the influence of large quantities of tuberculin; (3) that the patient has not got a measles rash; and (4) that the patient has not a very low reaction capability. In the last-named case the test usually proves positive when it is repeated. On the other hand, it can be shown that persons who harbour a latent tuberculous focus may fail to react, although the lesion can be recognized as tuberculous *post mortem*. In order to clear up the question still further the authors sought to test Pirquet's reaction on individuals who are certainly not affected with tuberculosis. The only available individuals of this kind are newborn babies. Tuberculosis may, it is true, be transmitted from mother to child, but in this case the former must be suffering from a disseminated form of the disease. In any case congenital tuberculosis has been proved to be of extreme rarity. They have therefore applied the test in 53 infants of ages varying between 1 and 14 days and 4 in the third and fourth weeks of life. The method used was that described by Petruschky. The arm is scratched with a needle in the form of two small crosses without injuring the cutis. One of the two crosses is moistened with glycerine and the other with undiluted old tuberculin. Not a single infant showed a trace of reaction; 20 of the 57 infants were tested again after an interval of at least one week, but the result remained negative. The mothers of the infants were also tested. Two of them, both young women from the country, failed to react, while all the rest gave a positive reaction. This appears to show that a perfectly healthy person—that is, free from all traces of tuberculosis—does not react to Pirquet's test. The test is, however, not of practical importance in the diagnosis of tuberculosis, since a positive reaction can be caused by an absolutely unimportant focus, which is not and will not become active. But the extreme susceptibility to tuberculin may gain practical importance. If the test is applied to young children, the earliest infections may be recognized. The authors believe that the possibility of attacking the newly-grafted disease is greater than that of attacking the disease after it has gained a firmer hold of the organism.

19. Poisoning by Benzene.

BENZENE is a constituent of petroleum, boiling at between 70° and 90° C., and consisting of various hydrocarbons, of which the only pure series are hexans and heptans. Commercial benzene contains, besides, certain impurities such as pentan, propylen, butylen, amylen, etc. H. Wichern, who deals with poisoning by this substance, points out that benzene must not be confounded with benzole (C_6H_6) (*Munch. med. Woch.*, January 5, 1909). The toxic effects of benzole are similar to those of benzene, but are usually far more intense and produce more lasting changes in the organs. Benzene can prove toxic when drunk or when inhaled. The author cites cases of attempted suicide which illustrate the effect of drinking varying quantities of benzene. In the first case only a small quantity was swallowed, and vomiting occurred soon after. No benzene smell was detected when the stomach was washed out on admission into hospital. Slight traces of albumen were found in the urine for three days. The second case was that of a pregnant girl who swallowed 100 c.cm. of benzene after taking a heavy meal of herring salad. The taste was so nasty that she immediately passed her finger down her throat and vomited. When her stomach was washed out, one and a half hours later, there was still a distinct odour of benzene. During the following days she complained of severe headache, and there were slight signs of cardiac weakness. The third case was that of a young woman who drank ½ litre of benzene, and was found unconscious within a short time by her mother. She was still unconscious when admitted into hospital some two and a half hours later, and some convulsive twitchings were noticed. The pulse was slowed to forty-five beats in the minute. During the night she improved, and on the following day she had regained full consciousness and complained of headache and pain in the throat; swallowing was difficult, and the soft palate was somewhat reddened. No further symptoms were seen. When death occurs from drinking benzene, this takes place late and is due to inhalation pneumonia. Children, however, stand benzene less well than adults do, and death has taken place after comparatively small quantities within a short time. Poisoning by inhaling benzene vapour has been observed in connexion with the cleaning out of benzene tanks and the working in factories where quantities of the liquid are dealt with. Instances of such poisoning are also given. In the first case a workman was cleaning a benzene reservoir containing the remains of the last distillate of the benzene, into which some 400 litres of water had been poured. On climbing through the narrow opening he felt ill, and almost immediately fell. A comrade tried to pull him out, but failed, and when he was got out by others he was unconscious. The pupils were dilated and fixed, the arms and legs were spastic, the colour was cyanotic, and the skin cold. The pulse was scarcely perceptible, irregular, and rapid. Shortly after admission he had a severe rigor. Consciousness was partly regained after oxygen was administered and camphor injected. On the following day he had improved considerably, and during the following days complained of recurrent severe headache. Traces of albumen were found in the urine at first. He recovered completely within a short time. The second case was that of a man who was found unconscious in a room where a considerable quantity of benzene vapour had collected over-night. He recovered consciousness after receiving an injection of camphor and after artificial respiration had been performed. On admission into hospital he was cold, suffered repeatedly from rigors, and was delirious. No albuminuria was found, but indican was present for a short time in the urine. He recovered completely within a few days. The author adds a few remarks on the apparent acquired tolerance to benzene vapour in experiment animals, and on a chronic form of poisoning.

SURGERY.

20. Fulguration in Cancer.

IN opening a discussion on Keating-Hart's method of treating cancer by fulguration, Tuffier reported to the Société de Chirurgie of Paris (*Bull. et mém.*, No. 18, 1909) the results of his investigations, both experimental and clinical, on the extent and nature of the action of high-frequency sparks on malignant growths. Fulguration, he concludes, has no very intense action on cancerous tissues, and its destructive effects on such tissues do not extend deeper than 2 mm. below the surface to which the sparks are applied. The fulgurated surface is speedily covered by a remarkably supple cicatrix. The method acts more by favouring cicatrization than by destroying the tissue of new growths, and for this reason, it is held, should be applied only to palliative operations, in which total removal of the disease by the knife is anatomically impossible. Thiéry, who has had but little experience of fulguration in his own practice, has received from several colleagues unfavourable reports, which indicates that this method often fails, and is not always safe. With Tuffier he believes that the high-frequency spark has no special and exclusive action on cancer cells. Legueu, who also agrees that the spark acts on both the healthy and the morbid tissues of a cancerous region, holds that fulguration does not deserve the enthusiasm which its early trials excited. This surgeon supports the opinion that the Keating-Hart treatment is not free from risk, and he refers to a case in his own practice of death within twenty-four hours after fulguration of a malignant growth involving the forearm of a young woman. This patient, however, though in good health at the time of the operation, had previously suffered from an attack of uraemia. Marion has been led by his experience of the fulgurating treatment in 7 cases of malignant disease of the bladder to take favourable views of the method. It does not, he believes, seriously influence the operative prognosis, and it permits a further extension of the range of operation in cases in which the whole of the disease cannot be removed by ordinary surgical methods. There can be little doubt, as was pointed out in the course of this discussion, that fulguration, by necessitating an open wound and by its usual sequence of profuse lymphorrhoea, tends to disturb the conditions of a strict aseptic treatment. In a further discussion on May 26th (*Bull. et mém.*, No. 10) Ricard, who has practised fulguration in 37 cases of malignant disease of more or less severity and extent and involving different parts of the body, passed a very unfavourable judgement on this method. The disastrous mortality in 27 per cent. of these cases he attributes, however, not so much to the treatment as to the extent of the disease and the exhausted condition of the patients in many of his cases. This surgeon concludes that the electro-surgical method called "fulguration" does not extend the range of operative action; that by its tendency to excite septic reaction it adds to the risk of operative intervention, and that it does not diminish the percentage of recurrences.

21. Local Anaesthesia in Reduction of Dislocations.

QUÉNU (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 14, 1909) states that more recent experience has confirmed the favourable opinion he expressed last year of the effective aid afforded by local anaesthesia in the reduction of dislocations. Five additional cases are here recorded in which different forms of this class of injury were, after the injection of cocaine, treated with marked success in regard to the exceptional facility of reduction and the diminution of pain. In 2 of these cases the injury, which was a simple dislocation at the elbow, did not, it is acknowledged, present any difficulty to the usual treatment of swift and easy reduction. The good effects, however, of local anaesthesia in enabling the surgeon to reduce more of the more stubborn and complicated forms of dislocation are shown in the other 3 cases—1 of dorsal displacement of the thumb, 1 of infracoracoid dislocation of the shoulder of thirty-six hours' duration, and 1 of dislocation of the hip. To these 5 cases are added 2 others in which the thumb and the shoulder were dislocated, reduction having been readily effected in each after the injection of cocaine. These results have led the author to think that there is probably no variety of dislocation which cannot be reduced under the influence of local, in substitution for general, anaesthesia. Stress is not laid on the choice of cocaine as an exclusive anaesthetic. Novocain was used with good results in the case of dislocation of the hip. The solution containing 1 per cent. of cocaine or $\frac{1}{2}$ per cent. of novocain is injected, under strict aseptic conditions, directly into the joint and around the ligaments and the periarticular tendons. Quénu holds that the painful muscular reaction occurring in dislocation has its source not so much in compression of the soft parts by the displaced bone as in the laceration and contusion of the articular capsule.

22. Foreign Bodies Left in Wounds.

KRETSCHMER (*Ann. of Surg.*, June, 1909) reports a case of removal of a gauze sponge from the scrotum two and a half years after an operation for inguinal hernia. The foreign body, which during almost the whole of this period had not caused any trouble, was removed after a fortnight's suppuration through a sinus in the upper part of the scrotum. While attention has been directed to foreign bodies left in the abdominal cavity after laparotomy, like inclusions in extraperitoneal wounds have not, it is stated, been studied. In addition to the instance observed by the author, 5 other cases are reported in this paper. In 2 of these cases gauze pads were removed; in one six weeks, in the other eighteen months after partial thyroidectomy. In the third and fourth cases similar foreign bodies were extracted from the suprapubic space after high cystotomy, and the fifth instance was one of removal of a metal probe from the closed wound after an operation for osteo-myelitis of the femur. The unfortunate accident discussed in this paper is usually due, as has been pointed out by Heuglauer, to one or more of the following difficulties occurring in an operation: ineffective anaesthesia, want of good light, unfavourable position of the patient, scanty and poor help from assistants, working in a deep cavity, and profuse bleeding. In concluding, Kretschmer expresses the opinion that as much care should be taken in keeping an accurate count of small sponges in both intraperitoneal and extraperitoneal wounds as is exercised in noting the number of the large gauze pads used in the abdominal cavity.

OBSTETRICS.

23. Internal Haemorrhage in a Pregnant Woman.

BRINDEAU AND JEANNIN (*L'Obstét.*, February, 1909) report a case of death in a woman, due to haemorrhage by uterine perforation. The patient was a young woman, pregnant for the fifth time; she was in her eighth month, and was suddenly seized with acute abdominal pain, which became worse and necessitated her removal to hospital. Her first pregnancy had been normal, during the second she aborted as the result of an accident, during the third she aborted in the sixth month, whilst her fourth child was born alive, but only lived three days. This pregnancy appeared to have been normal, no consultation or examination having taken place. On admission she was suffering severely from shock, and complaining of acute pain in the lateral abdominal region. The abdomen presented no unusual appearance, except some tenderness on the left side. Shortly after admission the uterine outline was less well defined, and the fetal parts could not be clearly made out; further, she stated that since the previous night she had experienced no fetal movements. There was no vaginal discharge of any kind, the cervix was soft, and the os slightly dilated, so that the head presentation could be distinguished. There was no cardiac or renal disturbance, the diagnosis therefore rested between a uterine rupture or a detachment of the placenta. The patient was placed under anaesthesia, the membranes ruptured, and a dead child extracted without delay. The hand was then passed into the uterus, the placenta was discovered detached, and was withdrawn with the membranes attached to it. Some blood followed, but no clots. A careful manual examination of the interior of the uterus, which had contracted up well, revealed nothing abnormal. An intrauterine douche was given, and the uterus and vagina were packed firmly with tampons. The patient rallied a little, but the improvement did not last, and she died fourteen hours after the operation and thirty hours after the onset of her pain. An hour later the tampons were removed and the uterus explored without finding any explanation. At the autopsy the abdominal cavity was found filled with blood; the viscera were normal, except the uterus, which showed a small circular orifice on its posterior surface. This perforation, which measured the size of a franc, had regular and very thin edges, while the uterine tissue all round it was thin. That the lesion was an old one was evident from the cicatricial tissue round the margin, while its position behind the placental surface explained the reason of the negative manual examination. Uterine perforation of this sort may be the result of abscesses, of a localized gangrene,

or may arise from the use of instruments. The two former were contraindicated, as there was no history of any infectious trouble. The lesion had probably been caused by trauma, either from curettage, on which point she had unfortunately not been interrogated, or in the procuration of abortion. It is not unusual for a fistula to remain latent for some years, so that it possibly dated from one of the abortions previously mentioned. Obviously, when the early uterine contractions occurred, the placenta became a little detached, and the blood, instead of accumulating behind it, flowed through the opening into the abdomen. Had her general condition been better on admission a laparotomy could have been performed with successful results, the uterus either being removed or stitched up firmly.

24. Abdominal Pregnancy: Operation in Eleventh Month: Recovery.

ALBERT MARTIN of Rouen (*Arch. prov. de chir.*, March, 1909) operated on a patient in December, 1908. Pregnancy began in January, in March ectopic gestation was diagnosed, at the end of June fetal movements were felt, which ceased immediately after a bad attack of abdominal pain with vomiting on October 6th. Pains came on again in the middle of November. On December 12th Martin opened the abdomen. Immediately the peritoneum was incised a lemon-coloured fluid escaped; it was clearly amniotic; then a thick umbilical cord, only 4 in. long, was discovered. The membranes were very friable; they adhered to the parietal peritoneum, the great omentum, and the intestine. Then the fetus, which lay in the left flank and iliac fossa, was removed. The membranes, much torn, did not allow of marsupialization; they were removed entire; this was effected mainly by resection of the omentum, with which they were fused. The placenta lay to the right (the whole tumour before the operation formed a bilobed swelling). It lay almost free in the peritoneal cavity, except that its lower border was attached to the right ovary and upper border of the adjacent broad ligament, which formed a kind of pedicle. Hence the placenta was easily and safely removed by transfixion and section of the broad ligament. The uterus was small, the left appendages normal. The lower end of the abdominal incision was drained with gauze. The patient recovered without any complication. The placenta included an enormous haematoma, and altogether weighed over 3½ lb.; this condition explained the attack of pain in October. The child weighed 4 lb. As is not rare in ectopic fetuses, there were deformities which would hardly have allowed it to live had delivery by operation been undertaken at term. The face was asymmetrical, the ossification of the cranium defective, and these malformations were due to amniotic bands pressing on the head.

GYNAECOLOGY.

25. The Treatment of Vaginal Discharge.

IN discussing the treatment of discharge from the vagina, MAX NASSAUER (*Muench. med. Woch.*, April 13th, 1909) finds that it is necessary to distinguish between those cases in which a constitutional anomaly produces the symptom and those in which the discharge is caused by a local disturbance. The chief constitutional diseases which are associated by "the whites" are chlorosis, tuberculosis, and constipation. The discharge ceases when the anaemia or constipation is cured, so that in these cases it is evident that as the constitutional disturbance is the sole acting cause, no local treatment is required at all. Pathological changes affecting the genital organs are considered next. Submucous myomata, ovarian diseases, and the like often produce a discharge from the vagina. The character of the discharge is important for diagnostic purposes. Evil smelling discharges, especially if blood stained, usually indicate the existence of myomata or malignant tumours of the uterus. Inflammatory conditions of the uterus call forth increased secretion. Gonorrhoeal cervical discharges are purulent, yellow or greenish in colour, and are often more certain as diagnostic signs than the search for gonococci. Ulcers of the genital canal, no matter of what origin, are frequently first made evident by the existence of a vaginal discharge. It is possible to add a large number of other conditions to the list of causes of vaginal discharge, but the author is content merely to mention in addition foreign bodies in the vagina, masturbation, excessive douching, cauterization, and the like. Before undertaking the treatment of discharge, it is necessary to determine the cause, and in a number of cases, this cause being removed, the symptom requires no further treatment. But in many cases the cause is difficult to cure, and it is in the interest of the patient to treat the discharge independently. Nassauer criticizes the illusionary and illogical use of cauterization of the cervical mucous membrane, of intrauterine douching, of medicated tampons applied in the vagina, of ointments, pastes, yeast, and the like, and of vaginal douches. These methods presumably are intended to wash away the discharge, and to kill the bacteria causing the inflammation. He further takes up a strong position against the practice of giving female patients instruments like "the lady's friend," and other patent irrigators, which he condemns as the most unhygienic and unappetizing apparatus imaginable. He considers that it is quite impossible to obtain a useful antiseptic action which could reach all the folds and crevices of the vagina in the three minutes during which the irrigated fluid remains in the vagina. The reason why these methods fail is not only that the chemicals do not lie long enough in the vagina, but that they are based on a false principle. Antiseptic principles would require that the bactericidal agent should be applied without damaging the mucous membrane. In modern treatment, the infected wound is kept dry, and this should apply to gynaecology as well as to general surgery. The author has come to the conclusion that the nature of the drying agent is of small importance, and therefore that direct antiseptic action can in this case be dispensed with. He therefore sought a means of drying the vagina without causing irritation and pain, as is the case when a packing with gauze is undertaken. He found that *bolus alba* (white clay) is absolutely indifferent, is easily applied to every crevice of the vagina, adheres well to the surface and absorbs moisture greedily. *Bolus alba*, being a very finely divided powder, envelops bacteria, and renders them motionless and incapable of living. In order to apply the powder equally to all parts of the vagina, he found it necessary to blow the vagina up. For this purpose he constructed an insufflator, which is provided with a glass pear-shaped nozzle, which is capable of occluding the vulval entrance to the vagina. The apparatus is especially constructed, and is sold in Munich under the name of the *siccator*. Each patient is supplied with her own nozzle, so that it is not necessary to have a large supply of siccators in the consulting room. Various sized nozzles are necessary. Nassauer states that the application of *bolus alba* by means of his apparatus checks the discharge almost at once. The patients appreciate the relief afforded by the removal of a most disturbing symptom. Naturally he admits that the removal of the discharge does not cure the cause in many cases. As a rule he applies the powder once in five to eight days. Before the process is repeated it is necessary to remove the paste-like secretion which consists of bolus, epithelial cells and bacteria. This is easily done by douching. He further claims that the drying action has a prophylactic value. By absorbing an irritating discharge, the production of erosions is prevented, and existing erosions get a chance of healing. He recommends the gynaecologist to give this method a trial, on the ground that the patients have always appreciated its effect greatly.

THERAPEUTICS.

26. Effect of Fulguration Spark on Nerves.

BERGONIÉ AND TRIBONDEAU (*Arch. d'élec. méd.*, May 25th, 1909) report upon their experiments undertaken with the object of finding out the effects of the fulguration spark upon the nerves. As a result of some tests in which the spark was applied directly on the sciatic nerve of rabbits, they state that within a very short time a relatively slender nerve branch may be almost completely destroyed, involving great disturbance of the motor functions. In an experiment with a dog under chloroform, the spark was applied for ten seconds to a portion of the pneumogastric nerve. The current intensity was 400 ma. and the spark length 6 or 7 cm. Acceleration of respiratory movements took place on commencement of fulguration. After the operation many signs, including trouble in deglutition, bore witness to a severe lesion. These signs continued until the death of the animal, which was due to another cause. At the *post-mortem* examination it was found that the parts of the nerve fulgurated had degenerated very considerably, the whole consistence of the nerve being affected for a length of several centimetres. In another case the pneumogastric nerve in a dog was fulgurated for six seconds with 300 ma. and 6 or 7 cm. spark length, and subsequently a weak faradic current was applied to the part treated. The high frequency itself did not appear to have any marked cardiac influence, but the application of the faradic current immediately produced

a diminution of the pulse. Turning to the clinical side of the question and the destructive action of fulguration on the nerve trunks in the human subject, the authors express conservative opinions, and state that in one case, when some of the branches of the brachial plexus were subjected to the sparking, no signs of paralysis or neuritis were observed. The pneumogastric nerve had had special attention because of the number of cases of tumours in the neck in which the difficulties of complete extirpation by other means had rendered the fulguration treatment justifiable. De Keating-Hart thought that if the pneumogastric were touched by the spark grave cardiac trouble might be provoked. The authors, however, are rather of the contrary opinion, if it is permissible to argue from the case of the dog to that of the man. They admit that Second may have been right in attributing a death to fulguration of the pneumogastric, but when ordinary prudence is exercised in fulguration of the neck there is not great need for alarm. The risks are greater in the case of children, where special caution is urged.

27. The Treatment of Gastric Ulcer.

AT the German Congress of Medicine this year, Lenhartz read a paper on the treatment of gastric ulcer to which W. von Leube took exception. As he was only able to argue briefly on the point, the latter now amplifies the discussion by setting forth his views in some detail in the *Deut. med. Woch.* of June 3rd, 1909. The treatment which he pleads for has been employed in his practice for upwards of thirty years, although in the course of time he has been able to improve the results by small modifications. The patient under all circumstances is kept in bed at absolute rest for one or two weeks. This he considers to be absolutely essential. He does not consider that a longer rest is necessary. In ordinary cases, he gives small quantities of Carlsbad water (about threequarters of a tumblerful). This is taken warm during fasting. While he is not prepared to assert that this water has a curative effect on the ulcer, he is not prepared to deny that such an action may take place. The third part of the treatment is the application of heat to the epigastrium. The best forms are linseed poultices or the thermaphore. He prefers the former, and applies them as follows: The skin of the epigastrium is first scrubbed with soap and water and with perchloride of mercury solution, and washed with alcohol. The region is then covered thickly with a borax wax ointment. Over this a compress is laid, and on the compress a poultice is applied. The poultices are renewed every fifteen minutes. He employed a metal box fitted with a false bottom containing water, so that the poultices can be kept moist and hot by means of a spirit flame. At night time a cold-water compress is applied instead of the poultices. He does not discontinue the poultices even if blisters form, as the skin is kept sterile and therefore no harm can come. When haemorrhage occurs no poultices may be applied. He always uses ice to the epigastrium under these circumstances. The next point in the treatment is the diet. He describes the diet which he advises as a "Schonungsdiät" (a diet which avoids doing any harm), which gradually increases in nutritive value. The effect of this diet is exemplified by the results obtained since 1897 as compared with those obtained before that year. Originally he had found that 13 per cent. of the patients died. His treatment yielded him a mortality of 2¼ per cent., and since his improved diet has been used he has still further reduced the mortality to 0.3 per cent. This series includes 627 cases, of which 566 were cured completely, 53 were much improved, 6 remained uncured, and 2 died; 475 were cured under five weeks. His haemoptysis cases numbered 72, and 2 of these died—that is, a mortality of 2¾ per cent.; these cases were included in the 627 cases. Haemoptysis requires complete withholding of food by mouth. The tendency to vomiting and renewed bleeding is treated with one 30-drop dose of adrenalin, absolute rest in bed, bismuth, and quieting the stomach with an injection of morphine. He discusses the *rationale* of this treatment as contrasted with the treatment advocated by Lenhartz, who does not realize the necessity of fasting, but believes that one egg and 200 grams of milk can be given on the first day, two eggs and 200 grams of milk can be given on the second day, and so on. The suggestion is that the eggs and milk bind some of the free acid, and thus prevent the gastric juice from irritating the ulcer. Von Leube points out that the fasting stomach has but little free acid to bind, and that the egg and milk will certainly produce a greater flow of gastric juice, so that the balance will be to increase the total quantity of acid. Food is supposed to keep the stomach quiet, but the author considers that this effect can be obtained with greater safety by a morphine injection. He gives nutrient enemata during the first three days, which, if half absorbed, would supply the body with as many calories if not more than the two eggs and 200 grams of milk. From the fourth day onward his diet consists of 1½ litres of milk, a half of a bottle of meat juice, and 200 grams of rusks, yielding a total caloric value of over 1,800. This has proved sufficient in the majority of cases to sustain the body weight, while in a certain number weight has actually been put on under this régime. Naturally, some patients have lost weight at first. The haemoglobin tends to increase steadily during the treatment. He never gives iron during the treatment of gastric ulcer. The reason for this is that, until the ulcer is healed, iron only irritates and does no good. After the healing, it may be necessary to give it, but, as a rule, the steadily increasing dietary renders all medication unnecessary. No aperient is given during the time following haemoptysis. Motions of the bowels can be obtained by enemata.

28. The Use of Fibrolysin.

FIBROLYSIN, a combination of sodium salicylate with thiosinamine, also known as allylthiocarbamide, was introduced by Mendel in 1905, and was believed to soften and to promote the absorption of cicatricial fibrous tissue. Since that date it has been widely used, often with satisfactory results. G. Define (*Giorn. Internaz. d. Sci. Med.*, Naples, 1909, xxxi, p. 193) has employed it in 16 patients, the dose being 2.3 c.cm. (= 0.2 gram allylthiocarbamide), given by deep subcutaneous injection every other day or daily, and repeated from twenty to forty times. The injections were without effect in a case of generalized sclerodermia, another of fibrosis of the corpora cavernosa, a third of scrotal elephantiasis. But in 13 cases of urethral stricture the injections seemed to facilitate dilatation (by the passage of bougies) very considerably, particularly when the strictures were hard and tough, or the patients unusually sensitive. No ill effects follow the injections of fibrolysin; in a few patients they gave rise to a slight and transient sweetish or alliaceous taste in the mouth: in others who were emaciated they seemed to improve the nutrition considerably.

29. Monotal.

MONOTAL, a new derivative of guaiacol, is devoid of toxicity, and has been employed extensively by Barbier (*Echo méd. du Nord*, November 22nd, 1908). It possesses the same therapeutic properties as guaiacol. The author has used it with marked success in cases of neuralgia, and as an antipyretic he has found it of great value when all other antipyretics had failed. In orchitis of gonorrhoeal origin he has found the drug to have both an antiseptic and antiphlogistic effect. For an adult he gives it in doses of 4 to 5 grams.

PATHOLOGY.

30. Antiformin in the Detectio of Tubercle Bacilli.

O. SEEMANN (*Berl. klin. Woch.*, April 5th, 1909) has employed antiformin for the purpose of facilitating the detection of tubercle bacilli in pus, urine, exudations, stools, and organs. Antiformin is a mixture of eau de Javelle and sodium hydrate, and owes its action to oxidation processes. The author has found that it acts best in 15 per cent. solution. If sputum is diluted with fifteen to twenty times its volume of this solution, the pus soon becomes homogeneous, and in from ten to forty-five minutes a clear fluid with a sediment, which can be removed by centrifugalization, is obtained. If there is no special hurry to obtain a specimen, it is wise to wash the sediment with distilled water, to remove the excess of alkali, so that the bacilli may adhere to the slide better. If any difficulty is experienced in getting the specimen to adhere, a little of the fresh sputum may be applied to a clean slide or some albumen water (1 part of beaten up egg white to 10 of distilled water and 1 per cent. formaldehyde solution) may be employed. Tubercle bacilli are not killed in 15 per cent. antiformin after one hour, so that the method can be used for animal injection as well as for microscopical specimens. The method can further be applied to examine blood for tubercle bacilli. This may prove of use in differentiating between typhoid fever, miliary tuberculosis, and sepsis. The bacilli obtained from the antiformin fluid are found in pure culture, all other bacilli having been dissolved.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

31. Chronic Diarrhoea.

A. SCHMIDT (*Allw's Sammlung Abhand. d.r Gebiete der Verdauungs und Stoffwechsel Krank.*) points out the necessity of a correct and exact diagnosis of these cases. This can only be obtained by a careful investigation of the whole case, including the examination of the faeces when the patient is put upon a standard diet. Schmidt's method of examination is now well known and recognized. Its greatest advantage is that it requires no laboratory and can be performed in a few minutes. The first question to be answered in any case is, Is there any organic disease of the intestinal wall? If so, in what part of the intestines is the lesion situated? There are three factors in the answer to these questions: (1) Mucus, when present in macroscopical quantities, always indicates organic lesions. If in large quantity and not intimately mixed with the faeces it indicates colitis of some kind. If in small particles, intimately mixed with the faeces and stained with bilirubin (green reaction with the sublimate test), it comes from the lower part of the small intestine. Mucus from the upper part of the alimentary tract is digested in the lower portion, and so does not appear in the faeces. No definite conclusion as to the severity of the lesion can be drawn from the quantity of the mucus. (2) Pus and fresh blood come from the large intestine, and the lesion can usually be inspected by means of the sigmoidoscope. Blood from the upper part of the tract requires Weber's test for its recognition. (3) When the stools are persistently fluid and foul there is usually some organic lesion: for the fluid stools with a foul odour found in some cases of dyspepsia and due to a secondary enteritis are not so persistent. The foulness is due to the decomposition of an albuminous fluid secreted by the inflamed mucosa. Excluding those cases due to some specific infection (tubercle, dysentery, etc.), or to some general disease (uraemia, sepsis, Graves's disease, etc.), and those due to a special anatomical lesion, such as carcinoma or amyloidosis, we come to a special class of case where the diarrhoea is the outstanding feature. There are three well-defined groups of cases: (1) Fermentation dyspepsia due to fermentation of undigested carbohydrates. Subjective symptoms are trifling. The motions are passed several times a day, are bright in colour, acid, contain bubbles of gas, and on incubation show signs of fermentation. Microscopically, there are many starch grains. The diarrhoea ceases when the patient is put upon a diabetic diet, and usually returns when carbohydrates, especially cellulose, are taken. Sooner or later an enteritis is set up, and there is faulty digestion of proteids and fats with the appearance of mucus in the stools. At this stage of the disease the only feature which will give a clue to the correct diagnosis is the predominance of undigested starch in the stools. (2) The gastrogenic diarrhoeas. Here the causal factor is faulty gastric digestion, as a result of which connective tissue in half-cooked meat, smoked meat, and pickled meat is not digested. As a secondary result there is putrefaction in the meat particles, which are protected from the digestive action of trypsin by the connective tissue. This sets up irritation, leading to diarrhoea, and very soon to enteritis. The diagnostic feature of these cases is the finding of undigested connective tissue in the stools, usually accompanied by the finding of achylia or subacidity in the gastric contents after a test meal. (3) Under the heading of "independent catarrhs in the region of the ileo-caecal valve" Schmidt includes a group of cases which he thinks may be due to some unrecognized infections by yeasts, protozoa, etc. There is slight distension in the region of the appendix. Hence the common diagnosis of chronic appendicitis, which is not confirmed by recovery when the appendix is removed. The motions are fluid and offensive, but the food is well digested in the upper parts of the intestine and so does not appear in the faeces. As regards *treatment*, the most important factor is the institution of a proper diet based upon general principles, and on an exact diagnosis. Each case must be treated on its merits, and a certain amount of intelligent experimentation is necessary in most cases as regards particular articles of diet. So many cases are due to gastric disturbance that an examination of the stomach contents should be made as a preliminary, and in case any fault is demonstrated we should endeavour to give all food in such a form as most nearly approximates to the normal contents which pass the normal pylorus. Hence the *first rule* should be to give food warm, finely divided or soluble, and containing no irritating chemical substances. *A second cardinal rule is*, Away with all raw, half-cooked or smoked meat from the dietary of the gastric or intestinal patient! The popular idea that raw meat is easily digestible and more nutritious is without foundation. Red meat is as good as white meat. Pork is indigestible, and should be avoided. The meat from old animals, which contains much connective tissue, is also to be avoided. *Eggs* should be lightly boiled. Raw egg albumen is dependent on gastric secretion for its digestion, whilst hard boiled eggs offer mechanical difficulty. The above rules have reference mainly to gastric digestion: if the intestine is also affected, we must try to relieve it of some of its work. In regard to *proteids* this is difficult. We have only the albumoses and peptones, which are apt to disagree. The various preparations may be tried tentatively. *Cellulose* should never be given. It can be digested only in the intestines, and it is remarkable how in many cases of fermentation dyspepsia the smallest amount of cellulose will start the diarrhoea. *Farinaceous foods:* The author's own experience has placed them in about the following order of digestibility: Finest wheatmeal, finest maize meal (mondamin, maizena), rice meal, arrowroot Zwieback (toast), sago, vermicelli, rice, white bread and potato "brei." All must be well cooked to break up the grains, and it is often an advantage to have them malted or dextrinized, as in many of the patent foods. *Sugar:* There are great individual differences which appear to depend more on the intestinal flora than upon the secretion. *Milk:* There are great individual differences here. The intestinal secretion of the curdling contains lactase, which often disappears when milk is removed from the diet. Its reappearance when the adult is placed on a milk diet is subjected to individual differences, which may explain the varying tolerance to milk. As it is very difficult to give a proper diet to intestinal invalids without milk, Schmidt attempts to "immunize" the patient by giving small increasing doses of salicylized milk (see later). *Fat:* Milk fat is the best, and may be given in the form of fresh, unsalted butter. *Condiments are strictly prohibited.* In the gastrogenic forms little protein and much carbohydrate, in the fermentation cases the reverse, should be the rule. Sterilization of the food is not of much value when we remember that it must all pass through the mouth. In the endeavour to prevent putrefactive changes in the intestines he uses milk to which salicylic acid has been added (0.2 gram per litre). The acid is added to a little of the milk and rubbed down, then add to the rest of the day's milk. Very good results are claimed for this. *Drink:* Boiled water and weak tea are the only ones allowable. Gassy mineral waters are tabooed. Fresh lemonade may be tried tentatively. Warm and dilute red wine may be allowed in small quantity. *Drugs:* Opium is rarely used, as it merely stops the increased peristalsis, which is only a symptom. Vegetable astringents are given in the form of decoctions and powders, never as pills. Bismuth and tannin are given in combination with albumen as bismuthose and tannalbin. Silver nitrate may be useful for gastric lavage in gastrogenic cases (1,500–5,000). The so-called alimentary antiseptics are worse than useless, the irritation they set up being worse than any antiseptic results which may be produced. He thinks, however, that the preparation of peroxide known as "Oxygar" may be useful in disinfecting the upper part of the small intestine. The various mineral water cures are not of much use, and may do much harm if not taken under skilled supervision. Local applications are not of much value. Cold may intensify the condition. Warm fomentations and packs are useful during the acute exacerbations. He does not believe in flannel body-belts.

32. Recent Clinical Methods for the Estimation of Pepsin.

FURINI (*Gazz. degli Osped.*, April 1st, 1909) discusses some of the recent methods of estimating pepsin. He first mentions that of Jacoby, which depends on the fact that the addition of pepsin to a saline solution rendered turbid by 1 per cent. of castor oil, quickly and completely clarifies it. Both his method and that of Ford and Levison (with

edestin) depend on the fact that primary globulin no longer exists in these solutions, but some proteid between globulin and acid-albumen, which is precipitated by neutral salts. Gross's method is based on the fact that whilst normal casein is precipitated by acetate of soda, the product of digestion is no longer similarly affected. All these tests fulfil the object aimed at, but in the author's experience the edestin solution is the one to be preferred. There is no constant relation between the pepsin and the hydrochloric acid present in the gastric juice, hence a separate estimation of these two ingredients is advisable.

SURGERY.

33. External Urethrotomy.

C. POSNER (*Berl. klin. Woch.*, April 19th, 1909) believes that when the surgeon, in performing the operation of external urethrotomy, fails to find the posterior end of the urethra, it is wiser to adopt an expectant treatment and not to perform retrograde catheterization by the suprapubic method, provided that no retention of urine is present. He bases this opinion on the experience which he has made, and gives the details of a case in support of the same. This case illustrates the difficulty which may present itself when the central end of the urethra has to be sought among the cicatricial fistulous tissue surrounding a complicated stricture. External urethrotomy, without a guide in the shape of a sound passed into the bladder, becomes immensely difficult under these circumstances. Usually, the central end can be found in time, but, in the mean time, the patient has to be kept under the anaesthetic, and it can happen that the surgeon does not feel justified in prolonging the operation. In the case in point the patient was febrile, weak, and in great pain. Urine was only passed in drops, and the perineum was riddled with scars, and the subcutaneous tissue as far as the gluteal region was suppurating as a result of repeated operative interference. After having sought for the central end of the urethra for about an hour and a half, Posner was obliged to give up the search. He was then faced with the question what to do next. The objections to suprapubic lithotomy were that this meant a second severe operative undertaking, the technique when the bladder cannot be filled before is difficult, retrograde catheterization is never easy, and, lastly, the operation necessitates a prolonged lying-up afterwards. He therefore determined to leave the patient for a time and watch him closely. The worst that could happen was that the urine would pass out through the fresh wound. Within a few hours the patient passed urine, for the most part through the wound, but also through the urethra. Later, more and more urine passed naturally. After seven days Posner was able to pass a filiform catheter, after all fever had cleared off. Later on, the stricture was dilated up to 19 or 20 Charier, and the patient left the hospital five weeks after the operation cured, with healed fistulae.

34. Pulsatile Cancer of Sternum.

BOINET (*Bull. de l'Acad. de Méd.*, No. 13, 1909), in his comment on a case of renal cancer with secondary growths in the brain and the anterior wall of the thorax, points out the resemblance between the clinical signs of a vascular and pulsatile growth of the sternum and those of an extra-thoracic aneurysm of the arch of the aorta. In making a differential diagnosis of the two morbid conditions, the following points, it is held, should be taken into consideration: (1) The patient's age is usually more advanced in cases of cancer than in cases of aneurysm; (2) the diagnosis of malignancy is favoured by the absence of any history of antecedent infective diseases, particularly syphilis, which usually precedes the development of aortic aneurysm; (3) in malignancy also there is likely to be an absence of signs of cardio-aortic disturbance, and of pre-aneurysmal aortitis; (4) varicose dilatation of the subcutaneous veins is less frequent and, when present, far less marked in aneurysm than in cancer; (5) the more diffused and less ovoid cancerous swelling usually involves the middle of the sternum, whilst an aneurysm of the aortic arch projects by preference at the right half of the bone and the inner part of the second intercostal space on the same side; (6) on palpation a vascular cancer of the sternum gives a violent, intense, and sharp pulsation, but this is not accompanied by the well-marked expansion of the whole swelling, which is characteristic of an aneurysmal sac, and, moreover, is not followed by any movement of collapse. As was pointed out by Stokes, when an aneurysm of the aortic arch projects externally, not only is there a double bruit, but also a double impulse appreciable by the touch. In the malignant growth the second bruit is missing, and the extent of the dullness bears no relation to the force of the pulsation; (7) in pulsatile cancer of bone, auscultation reveals a deep systolic murmur which is localized in the tumour, and does not extend to the aorta and the carotid arteries; (8) in cancer of the sternum symptoms of intramediastinal compression are exceptional, and, when they exist, not so complex as those so frequently observed in aortic aneurysm; (9) finally, the existence of multiple growths in the viscera and other bones, progressive cachexia, and the rarity of pleuro-pulmonary complications, which are so frequent in aortic aneurysm, complete the list of diagnostic elements.

35. Haematopneumothorax after Gunshot Wound Cured by Suture of Lung.

GULBRANDSEN (*Tidskrift for den Norske Laegeforening*, No. 8, 1909) operated on a boy, aged 9, who had received a gunshot wound through the right lung three and a half hours previously. A round hole, of the size of a pea, with blackened edges, was found in the sixth intercostal space in the anterior axillary line. There was constant oozing from the wound, and air was passing in and out during respiration. The percussion note was dull and respiration almost absent over the posterior surface of the lung, and the heart was displaced to the left. There had been no coughing of blood. Under a light chloroform narcosis the pleural cavity was opened by resecting 6 cm. of each of the fifth and sixth ribs, when a large quantity of fluid and coagulated blood escaped. The blood was coming from a wound in the tip of the middle lobe of the lung, 3 cm. above its lower border, and on the tip of the lung being dragged out of the opening both the way of entrance and exit of the bullet was found. The bleeding was stopped by means of a ligature of thick catgut and the pleural cavity dried with sterilized gauze. The external wound (of horseshoe shape, with the base in the mid-axillary line) was closed with worm-gut suture and a drainage tube inserted in its lower angle. The bullet, removed later, could be felt subcutaneously to the right of the fifth spinous process. No suppuration occurred, and eight days after the operation the drainage tube was removed, and three weeks after it the respiration was normal over the right lung and the boy well. The author gives a review of the literature on this subject, and mentions that Schülte (*Muench. med. Woch.*, 26, 1908) has only found 12 published cases of suture of the lung, the first being done by Oruboni in 1884.

OBSTETRICS.

36. Inversion of the Uterus following Delivery.

BASEIL (*Rev. med. de l'Est*, April, 1909) reports two cases of total inversion of the uterus occurring is his practice within a short time of each other. In the first case the patient was a woman of the chlorotic type, she was delivered of her second child after a rapid labour, the child being born with the cord round its neck. Whilst the cord was being separated haemorrhage was observed, this was attributed to the detachment of the placenta, and the midwife attending the case sought to express it in the usual way. She became aware of a depression in the region of the fundus, but continued to express making slight traction on the cord; finally the patient made some expulsive efforts herself and the placenta appeared at the vulva presenting its fetal surface, the after-following membranes being filled with blood like a huge bladder. When the blood was washed away, a large tumour was discovered about the size of an ordinary carafe to which the entire lower part of the placenta was firmly adherent; the midwife detached the placenta, but as the bleeding continued she recognized the condition and sent for medical assistance. As this aid did not arrive for two hours great difficulty was experienced in restoring the patient who collapsed several times, finally before the arrival of the doctor she succumbed. In the second case labour lasted for many hours and was complicated by prolapse of the cord, a loss of greenish fluid and a breech presentation delivery. The child was born in an asphyxiated condition with the cord twisted round the neck and also round the feet. Immediately after delivery the uterus inverted completely. It formed a tumour the size of a child's head with the placenta adherent to its surface. The midwife turned it back again with her hand leaving the fist inside and promoting contraction by friction with the free hand. After ten minutes the haemorrhage ceased.

The child was resuscitated and did well. The mother complained of slight abdominal pains and loss of blood, the placenta detached itself slowly and was finally removed about twelve hours after delivery. A fortnight later the patient was able to leave her bed, she made a good recovery and had a subsequent confinement without any complication. In both cases the inversion was no doubt due to traction on the cord—in the first case by the midwife, in the second by the twisting of the cord round the neck and feet of the fetus. The writer considers spontaneous inversion not possible. The predisposing cause is found in uterine inertia and an atonic condition of the muscle which yields readily to the weight from below, and the pressure of the abdominal muscles above. In all cases of inversion the placenta is found adhering firmly to the uterine wall, while haemorrhage is taking place from the rest of the uterine surface: this haemorrhage has no connexion with the placenta, but is due to the absence of muscular contraction after the child has been delivered. The diagnosis is simple: the abdomen is found empty of the uterine tumour, while from the vulva a large mass, pyriform in shape and somewhat like raw meat in appearance, protrudes. The patient complains of pain and dragging, the placenta is seen still attached to the surface, and when the finger is passed into the vagina it meets with a cul-de-sac after passing up a few inches. The most urgent point in treatment is to arrest the bleeding; the best means is by replacement. In order to accomplish this, the closed fist should be placed against the middle of the tumour, and pressure should be made upwards in an axis parallel to the axis of the body; the hand and forearm follow the uterus up into the abdomen, thus helping to push it high into the pelvis, and thus to stretch the vessels and press them against the osseous brim of the pelvis, while the hand is manipulating the entire mass internally. This massage excites a tonic effect upon the organ, which causes the haemorrhage to stop and the uterus to contract firmly. The placenta will subsequently be detached and expressed in the normal way. It is wiser to replace at once, and not to waste time in first detaching the placenta, since this would give a second bleeding surface and increase the risks of collapse. Manual compression and intrauterine douches are recommended as further aids in the prevention of haemorrhage. The author considers it necessary that midwives should have better instruction to assist them in dealing with these emergencies.

GYNAECOLOGY.

37. Atmokausis.

FRANKENSTEIN (*Sem. méd.*, March 3rd, 1909) sums up the result of seven years' employment of atmokausis on 223 patients, in 192 of whom the after-history has been ascertained, the average length of the observation period being three and a half years. The treatment has been used principally for the menorrhagia of the menopause, but in 11 younger women it has been effectual in arresting intractable haemorrhages. In these young patients, however, it should be employed only as a last resource, for it is impossible to regulate the caustic action of the steam, and the effect on subsequent pregnancy may be inadvisable. In one case, where pregnancy occurred five years after the operation, both the first and also a subsequent conception resulted in miscarriage, a curettage which followed caused perforation, and eventually hysterectomy was performed. As far as infection is concerned, only 5 cases out of 223 showed any rise of temperature, and in 2 of those the operation was not to blame. Vaginal injections after the operation were never employed, from the fear of introducing germs into the uterine cavity. The mortality of the operation is only 1.5 per cent. With regard to the remote results, there have been 15 failures in the 192 cases followed up—that is, 7 or 8 per cent. The existence of a myoma is not always a contraindication for the treatment, especially if the menopause is approaching; for even a partial success may precipitate the climacteric and avert a more serious operation. In 42.7 per cent. the menopause followed immediately upon the vaporization; in 24 per cent. there was a temporary cessation, followed by a more or less normal reappearance of the menses, and in the rest of the cases menstruation went on regularly, if somewhat less profusely. Subjectively, 177 patients expressed themselves satisfied with their general condition of health, whilst the remaining 15 complained of symptoms produced by the artificial menopause, such as various pains and feelings of weakness, but it is not fair to attribute all these to the atmokausis. In 91 cases which he examined Frankenstein found the length of the uterus reduced by 2 cm. to 4 cm., but senile involution was in some cases responsible for the change. There was stenosis in 2 cases, and in 17 the cervix would not admit the finest probe; in no instance, however, was haematometra found. On the whole, the results of atmokausis are satisfactory, but it is advisable to observe carefully the technique recommended by those who have had the greatest experience. Frankenstein lays special stress on the gradual withdrawal of the tube, so as to avoid partial obliteration; on the shortness of the sitting, which should not exceed 30 to 45 seconds; on the necessity of a preliminary curetting; and, finally, on the importance of using the best instruments.

THERAPEUTICS.

38. The Action of Strophanthin.

C. A. CRISPOLTI (*Il Policlinico*, Rome, 1909, xvi, p. 248) has made numerous experiments with Merck's and also with Böhringer's strophanthins. By the mouth, the dose is 1 to 4 mg., and up to 4 mg. a day; by intramuscular injection, 1 mg. and up to 3 mg. a day; by intravenous injection, ½ to 1 mg., and up to 2 mg. a day. Signs of an overdose are headache, a sense of tightness in the chest and praecordia, marked slowing or bigeminy of the pulse, marked rise in the blood pressure, cardiac arrhythmia, insomnia, nausea, and vomiting. Such signs are least marked and most transient when the drug is given intravenously: when the drug is given by the mouth it is often ill tolerated, and strychnine (1 to 3 mg. in the day) is the best antidote. Strophanthin is indicated in cases of heart failure with arrhythmia and low blood pressure, or in infective processes or myocarditis where the heart is giving out, and when an immediate effect is required. Given intravenously, it should make the pulse slower, fuller, more regular; dyspnoea and cardiac oppression should be relieved, diuresis should set in, and the general condition of the patient should improve markedly within a few hours. The dose should be ½ mg., or 1 mg. in cases of severe heart failure: one injection a day is usually enough, but two may be given (1 mg. each) in the twenty-four hours in bad cases; and four or five of these intravenous injections usually suffice. The intramuscular injection of ½ to 1 mg. of strophanthin once a day is indicated in the less severe cases of heart failure, or up to three times a day in the severe cases when intravenous injection is impracticable. The single daily injection may be continued almost indefinitely, so long as it seems to do good. Crispolti has had no success in giving strophanthin by the mouth: small doses are without effect, large doses (2 to 3 mg.) rapidly produce symptoms of intolerance. Patients in whom the use of strophanthin is contraindicated are those with high blood pressure and marked arterio-sclerosis, and those with acute or chronic nephritis, or granular kidney. Crispolti believes the drug has a great future before it in the treatment of cases of chronic or acute (shock, haemorrhage) cardiac failure; it is believed to act by stimulation of the intracardiac ganglia and vaso-constrictor nervous centres.

39. Meyer-Bergell's Serum for Typhoid Fever.

W. HOFFMANN (*Deut. med. Woch.*, April 1st, 1909) points out that although Pfeiffer and Kolle have succeeded in many respects in the introduction of their protective inoculations against typhoid fever, there is no doubt that there is a need for a better method, and, in response to this need, Meyer and Bergell introduced a new typhoid serum in 1907, which is supposed to be characterized by an anti-toxic component. It must be recognized that typhoid bacilli do not produce true toxins, but nevertheless they, in common with dysentery bacilli and cholera vibriones, produce a poison which acts to a certain extent as an antigen. The method employed for preparing the serum is explained, and the author then passes on to describe his experiments in testing the efficacy of the same. This was done with care, and attention was paid to the claims which the introducers made for the serum. He found that the presence of agglutinins, precipitins, and substances which accelerate phagocytosis can be demonstrated. Bactericidal substances are also to be found, but these are not present in large quantities. This, however, would not matter, provided that antitoxic substances could be found which would be capable of neutralizing those products which are set free when the bacteria are killed. No anti-toxin components, however, are present; indeed, a slight trace of toxin was found. The serum was found in animal experiment to possess a slight degree of prophylactic action, which is ascribable to the substances which accelerate phagocytosis. This value is not high, but

might, he thinks, be raised, if the horses were immunized for longer periods. He therefore comes to the conclusion that Meyer-Bergell's serum has no claims at present to fill a therapeutic rôle.

40. Scopolamine-Morphine Inhalation Narcosis.

E. ZADRO (*Wien. klin. Woch.*, April 1st, 1909) records his experiences in 770 cases of the action of a single injection of 0.0005 scopolamine, and 0.01 morphine as a preparation for the induction of an inhalation narcosis. The following was the method of procedure: On the night before the operation 0.5 to 1.0 of veronal was administered to the patient; on the next morning, from three-quarters of an hour to one hour before the time of operation, the subcutaneous injections of the scopolamine and morphine were made; the inhalation anaesthetics employed were Billroth's mixture until the stage of tolerance was reached, and later, ether. In order to avoid danger of disintegration of the preparation, and the formation of apoatropine or atroxyne, a fresh solution of 0.005 scopolamini hydrobromici inactivi (Merck), and 10.0 aqua was prepared every other day. The results of the injections were favourable. The beginning of the narcosis was marked by absence of psychical irritation and of the stage of excitement. Usually the patient, half an hour after the injection, fell into a sleepy condition, but in some cases, especially in those of young strong men, the injection only caused quietness and peacefulness, without inducing sleep. When the inhalation was begun the patient was found to pass quickly into complete unconsciousness without any sense of dread or of impending suffocation, and on a small quantity of anaesthetic—10 to 15 grams of Billroth's mixture on an average. The course of the narcosis was marked by quietness, sparing of the ether, freedom from asphyxia, collapse, vomiting, salivation, and tracheal rales. The amount of anaesthetic needed was distinctly less after the injection: for an operation of one hour's duration, 25 grams of Billroth's mixture and 80 grams of ether sufficed instead of 60 grams of Billroth's mixture and 100 grams of ether without the injection. The administration of the anaesthetic could be stopped before the operation was over without danger of difficulties arising from vomiting or straining, and after the operation the patient relapsed into the same sleepy state as before the operation, and continued in it for from two to four hours, being very seldom disturbed either by pain or vomiting. Vomiting only occurred during the operation in 9 out of the 770 cases, and in 2 of these there had been errors of diet. Post-operative vomiting occurred in only 19.2 per cent. of the cases, instead of in 33 per cent., the average after chloroform or ether, and in 11.1 per cent. of the cases the vomiting occurred late, and was therefore less dangerous. There were only 8 cases of post-anaesthetic pneumonia, or 0.9 per cent., instead of 3.3 per cent., which had been the average of 5,031 operations from 1901–7. Moreover, in the year 1908, in which 785 operations were performed, 206 without and 579 with the preliminary injection, pneumonia occurred in 4.8 per cent. of the former cases, and only in 0.8 of the latter. The comparative freedom from pneumonia is to be explained by the action of the scopolamine in lessening the secretions of sputum and mucus and in preventing vomiting, so that aspiration occurs less frequently and an accumulation of bronchial secretion is prevented. There was a complete absence of any unfavourable side-effects in all the cases, perhaps because of the small dose of scopolamine and morphine. Owing to a mistake 0.06 scopolamine and 0.01 morphine was administered to one patient suffering from carcinoma ventriculi with advanced cachexia; in this case all symptoms of intoxication had disappeared after twenty-four hours, except dryness of the throat and tongue and mydriasis, which persisted for three days. Such cases, as well as experiments on animals, exclude the possibility of fatal scopolamine poisoning from doses as small as those employed in this series of cases. In alcoholic cases the injections had not the same sedative effect as in ordinary cases, and they were not found helpful for neurasthenic and hysterical patients, nor for those suffering from Basedow's disease. The effect of the injections varied very much in different cases. It was found possible with one injection and the use of a local anaesthetic to carry out resection of the stomach in 5 cases, gastro-enterostomy in 4, gastrostomy in 2, colostomy in 1; the patients were quiet, free from pain, bore the operation well, and on the next day had no remembrance of the operation.

41. Scarlet R and the Regeneration of the Skin.

THE dye known as "Scarlet R" (Michaelis) when injected under the skin in oily solution gives rise to a carcinoma-like proliferation of the epithelium (Fischer, 1906). A. Cernezzi (*Gazz. d. Osp.*, Milan, 1909, No. 14), following Schmieden and others, has used the drug with success as an external application where the growth of new skin is desired, in place of skin grafting by the methods of Thiersch or Reverdin. Scarlet R (or toluol-azotoluolazo-β-naphthol), supplied by Grübler, is made up into a 5 or 8 per cent. ointment with lanoline and vaseline. This is applied to the clean granulating or skinless surface that it is desired to see covered with skin. It is reapplied twenty-four to forty-eight hours later, the raw area being delicately cleaned up before the new dressing is applied. The quantity of ointment used should not be great, and a weaker ointment may be employed after a few days' time if much irritation occurs. The ointment is painted on to the growing margin of the skin in a very thin layer, and the raw area is covered with gutta-percha tissue pierced with small holes to allow the escape of secretions, the whole being covered with a gauze and wool dressing. The author has seen no ill-effects from this treatment, which has proved most successful in his hands.

PATHOLOGY.

42. The Atrophic Senile Kidney.

MUCH confusion exists in the literature of the subject between the arterio-sclerotic kidney frequently found *post mortem* in the aged and the senile atrophic kidney. A. Furno (*Lo Sperimentale*, Florence, 1909, lxiii, p. 99) brings this confusion clearly into evidence by discussing the literature, and then details his own investigations into the matter. He has examined the kidneys of 29 men and 41 women dying between the ages of 60 and 87, and divides them into four categories. (1) In 46 cases the kidneys were arterio-sclerotic, small and red, weighing 70 to 100 grams (normal = 170 grams), granular, with densely adherent capsules, many small cysts, much shrunken fibrous cortex, marked arterio-sclerosis and phlebo-sclerosis: the heart was always enlarged, and the arteries (other than those of the kidneys) showed advanced sclerosis. (2) In 9 cases the kidneys weighed 135 to 150 grams, and exhibited a similar but much less advanced arterio-sclerotic degeneration. The heart and arteries were much as in (1). (3) In 5 cases the kidneys showed hydronephrosis or nephritis. (4) In 10 cases typical senile atrophic kidneys were found in patients aged 70 to 85. They weighed 70 to 100 grams, measuring 3 or 4 in. in length; their capsules stripped readily, leaving a smooth surface, and no retention cysts were seen. Their pelves contained excess of fat, and were a little dilated. Both cortex and medulla showed atrophy: the arteries did not appear to be thickened. Microscopically, few glomeruli exhibited any fibrosis, but they appeared crowded together, the intervening tubules being shrunken, the inter-tubular connective was but little increased in quantity: the renal vessels might or might not display some arterio-sclerosis, the heart and large arteries showed, as a rule, but little. Furno discusses the various types of kidney described by other authors as senile atrophic: that of Ballet (1881), the typical small, red granular kidney, was found in no single one of his 70 cases; that of Demange (1886) is the arterio-sclerotic kidney, Furno's type (1). Furno proceeds to attack Metchnikoff's phagocytic theory of old age, and his view that macrophages are responsible for the atrophy of the senile kidney; none of his microscopical sections gave any support to Metchnikoff's theory.

43. The Passage of Micro-organisms through the Bladder.

MILONE (*Rif. Med.*, April 19th, 1909) has carried out certain experiments with a view of determining the conditions under which certain micro-organisms may traverse the bladder wall. The organisms used were the *B. prodigiosus*, *B. mesentericus*, *Sarcina lutea*, *Staphylococcus aureus*, and *B. coli*. Cultures of these were injected into the bladder, through a sterilized sound, and the results tested (1) in the healthy bladder, (2) in the healthy bladder with subsequent ligature of the urethra, (3) in the bladder previously irritated by a solution of NaH and the urethra ligatured. In the first case no passage of organisms occurred, nor was the bladder wall affected in any way. In the second case some alteration in the bladder wall occurred, and migration of bacilli occurred more or less in proportion to the length of time the urethra was closed and the amount of distension of the bladder. In the third case even the saprophytic organisms were able to pass through the bladder and find their way into the peritoneum.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

44. Flint's Murmur in Aortic Insufficiency

THE apical presystolic murmur in aortic insufficiency was described by Flint in 1860. Its occurrence has received many explanations, which are discussed very thoroughly by E. Cedrangolo (*Giorn. internaz. d. Sci. Med.*, Naples, 1909, xxxi, pp. 385, 433), who adds details of 9 cases in which the murmur was heard. In general, Flint's murmur is best heard at or a little above the apex beat of the heart, usually over a small area only. With the phonendoscope Ciccardoni has been able to hear it also in the left vertebro-scapular region, just as the mitral stenotic presystolic murmur may be heard in the same area. Most authors are now agreed that Flint's murmur is presystolic, but many have held that it is a systolic murmur, contemporaneous with the first thrust of the apex beat. Thayer, examining the exact period of the murmur in 74 cases, found it was presystolic in the majority, middiastolic in a few. The murmur may come and go, according to the vigour of the patient's heart, reappearing during periods of improvement in one of Cedrangolo's patients. It may be accompanied by a presystolic thrill, in which case mitral stenosis will in all probability be diagnosed. The endeavour should always be made to ascertain the size of the left auricle (which will be enlarged in mitral stenosis) by percussion of the retrocordia—the back—where the cardiac dullness is a triangular area, with its base from the fourth to the ninth dorsal vertebrae, lying entirely to the left of the middle line normally. Enlargement of the left auricle increases the area of the dullness here at the level of the third and fourth dorsal vertebrae. The so-called functional pseudo-stenosis of the mitral valve, said to produce a presystolic murmur in nervous chlorotic young persons, Cedrangolo has never met with. Presystolic murmurs may be cardio-pulmonary in origin, and they also may be due to pericardial adhesions, and to a few other rare abnormal conditions to which Cedrangolo refers. He discusses the various explanations of Flint's murmur that have been given: Flint believed there was a functional mitral stenosis; Baumgarten that the overdistension of the left ventricle by the refluent blood caused the mitral valves to be partially closed at the moment of auricular systole; Guiteras that the presystolic murmur indicated that it was the posterior cusp of the aortic valves that was mainly diseased and incompetent, the refluent blood then striking against and deforming the aortic flap of the mitral valve; Thomayer that the mitral orifice becomes deformed and elongated in the process of dilatation and hypertrophy of the left ventricle, and in this way relatively stenosed; de Renzi that Flint's murmur is due to the eddies set up by the meeting of the two streams of blood from the aorta and the left auricle. These and other views are discussed, and the fact is noted that a presystolic murmur may be heard at the apex when there is no valvular disease at all, and the murmur is not generated outside the heart; such murmurs may be presystolic, and are myocardial in origin, indicating disease or exhaustion of the myocardium. Cedrangolo believes that Flint's murmur is in many cases of myocardial origin, and best heard when the heart is much hypertrophied and its muscle degenerating.

45. Diphtheria Originating in Unseen Parts.

M. ADRAND (*Annales med. et chir. infantiles*, June, 1909) says that not infrequently diphtheria arises in those parts of the air passages which are not often examined. This type of the disease is known as crypto-diphtheria. The parts affected by the membrane may be the nasal passages, the larynx, the oesophagus, or the bronchial tubes. The endoscope should be used. The chief signs suggestive of diphtheria in any of these parts are: (*a*) Extreme fatigue coming on rapidly without apparent cause; (*b*) rapid pulse; (*c*) considerable enlargement of glands, with or without fever; (*d*) rapid breathing or dyspnoea without obvious cause. These cases demand special treatment, and it should be more energetic to make up for the loss of time in arriving at a diagnosis. In this way, in spite of an unfavourable prognosis, the general results of a number of these cases may not be much less favourable than others. The author relates 6 cases to support his view. The following may be cited as an example: A woman, aged 27, for two days felt very tired; rapidly got worse, with dysphagia, due to enlarged glands in the neck; temperature, 37.8° C. She took to bed, and, when seen, looked ill, very pale; neck swollen by inflamed glands below and above the sterno-mastoid; pulse 120. In answer to questions she only complained of a slight cold in the head. The patient had large tonsils, and, in the absence of other signs, sinusitis might have been expected to exist; hence an examination was made with the mirror. After an application of cocaine with adrenalin a little suspicious white mass was discovered at the lower part of the right tonsil. That evening 20 c.cm. of serum was injected, although the further examination of the fauces was negative. Next day a beautiful culture of Loeffler's bacillus was made. Each day a large amount of membrane formed in the nose, pharynx, and bronchi. In the course of ten days 150 c.cm. of serum was injected. Membranes also developed on the conjunctivae and on the nasal excoriations. There subsequently followed paralysis of the face, eyes, oesophagus, and neck; also of the four limbs and trunk. The author urges that a fresh dose of 10 c.cm. of serum should be given each time fresh paralysis appears.

46. Bronchial Asthma.

R. VON DEN VELDEN (*Medizin. Klinik*, March 7, 1909), in an article on bronchial asthma, passes in review the experimental and clinical facts which bear upon the nature and causation of the disease, and arrives at the conclusion that bronchial asthma in all its different forms—the essential, the symptomatic, the nervous, the spasmodic, etc.—is to be considered as a neurosis whose peripheral projection falls upon the respiratory system, and that apart from the general or local nervous predisposition there is also in most cases an organic predisposition which shows itself in an inflammatory irritation of the bronchial mucous membrane. Although all forms may be united in this formula, it is often a matter of great difficulty to find out the exciting cause, and whether we have to deal with a peculiarly sensitive organ to which a normal irritant becomes pathological, or what circumstances are affecting the general nervous condition, and whether a bronchitic element enters into the case. The diagnosis is more easy if the case is seen early, before psychical factors or co-ordinate or secondary changes in the organs have appeared. In advanced cases it may be difficult to decide whether or not a cardial asthma has established itself. The state of the pulse is a help to diagnosis; in nervous asthma the pulse tends to be slowed, either absolutely or relatively, to the dyspnoea, while in pronounced cardiac asthma it is usually thin, frequent, often irregularly unequal, but in either case the pulse tension may, of course, be affected by the lack of oxygen or the overloading of the blood with carbonic acid. The presence of albumen and tube casts in the urine during and for a few days after an attack of asthma does not necessarily denote a latent nephritis nor a cardiac affection. In dealing with treatment the author considers the general methods, the physical methods, and the drug treatment. As with the cause, so with the treatment, the most important consideration is the general nervous condition. In some cases local treatment applied to the nose has had a permanent effect. Change of climate, according to the author, has on the whole been overrated. Many of the methods of treatment recommended, such as changes of diet and physical methods of various kinds, are beneficial if they can be employed for a long time, and often they should be continued for years: this is well seen in hospital patients, who relapse when they go out of hospital. For the attack itself the various customary remedies are considered. Breathing exercises, whether as a result of suggestion or otherwise, may give a thoroughly good result. If morphine is given it is recommended that the dose should not be too small (2 cg.), and should be combined with camphor. The author strongly recommends diuretin given in dose of 2 grams at the beginning of an attack; in the majority of cases where it is tolerated by the stomach he has found it to give excellent results without unpleasant side-effects, and in any case as a symptomatic treatment it is in the long run less dangerous than the morphine syringe. Treatment of the emphysema or the rigid thorax has not any direct influence on the asthma; in one case in which Frend's thoracolysis was performed for a rigid dilated thorax the attacks stopped, but only for a short time.

SURGERY.

47. Volkmann's Ischaemic Paralysis.

FROELICH (*Arch. gén. de chir.*, Nos. 4 and 5, 1909) discusses at length the anatomical and histological characters, the causation, and the treatment of the post-traumatic deformity of the hands and fingers known as Volkmann's ischaemic paralysis. This affection, the special clinical characters of which were first described by the German surgeon in 1881, consists in degeneration and persistent contraction of the flexor muscles of the forearm. As a rule it is met with in children as a result of tight compression of the limb by bandages or splints applied in the treatment of fracture of the radius and ulna. The author publishes 8 cases that have come under his care. The age of the patients varied from 3 to 11 years. The deformity followed tight bandaging and splinting for double fracture of the forearm in 7 cases and tight constriction of the limb for controlling haemorrhage in the eighth case. The treatment of most of these cases by open operation, and also examination of an affected limb after amputation, have afforded the author good opportunities of studying the nature of the muscular lesions that are to be found in this deformity. He has thus been led to the conclusion that the ischaemic paralysis of Volkmann is due to a partial and more or less extensive myositis of the flexor muscles of the fingers, which has been set up by forcible compression of these structures. This myositis leads to sclerosis of the muscular tissue, varying in extent and density in different cases. The affected muscles are partially transformed into tough fibrous tissue, which takes the place of the extensible and contractile muscular fibres, and are shortened, while the sound or much less involved fellow muscles adapt themselves to this contraction. The view that this form of paralysis is caused in the first place by a nervous lesion is opposed, the author suggests, by the fact that the deformities of nervous origin are usually developed much less rapidly, and that the soft, lax, and fatty muscular tissue in club-foot and other paralytic affections contrasts strongly with the hard and almost ligneous condition of the muscles in this form of ischaemic paralysis. The clinical fact that this contracted affection of the fingers occurs almost exclusively in children may, the author points out, be explained by the fact that fracture of both bones of the forearm is a very frequent injury in young subjects, and a relatively rare one in adult age. Moreover, the complaints of a grown-up patient of the intense pain caused by such degree of constriction as might be likely to cause myositis would attract more attention from the surgeon than the usual crying of a young child. Another probable explanation is the frequent presence in the growing osseous tissues of the infant of infective germs, particularly the yellow and white staphylococci. In discussing the treatment of the deformity, the author states that the orthopaedic method, consisting in gradual extension of the affected muscle by instrumental appliances and manipulation, and also elongation of the contracted muscles and their tendons by open operation, are neither of them suitable, except in cases in which the contraction is slight and the number of affected muscles is limited. The operation of choice is, it is held, shortening of the forearm by partial resection of both radius and ulna. Certainly, from an aesthetic point of view, the perfection of this operation may be open to question, but it is capable, the author asserts, of affording a functional cure, and of restoring to the patient a useful limb.

48. The Removal of Goitre.

TRUFFI (*Gazz. degli Osped.*, No. 23, 1909) describes the operative technique as practised by Tausini, and draws attention to its simplicity and rapidity, the average time of removal varying from three to seven minutes counting from the commencement of the incision to the complete removal; a further five or ten minutes is occupied in ligature of the vessels and suture; this last may be omitted if urgent symptoms arise. One of the most important practical questions is as to whether a general anaesthetic should be given or not. Many goitrous subjects suffer from heart trouble, and cardiac failure is one of the chief causes of death in connexion with this operation. The only fatal case in the 59 operated upon by Tausini was that of a girl who survived the operation successfully, but died the next day of cardiac paralysis. In the last 8 cases local anaesthesia alone has been used (chloride of ethyl spray), with uniformly good results hitherto, thus avoiding the dangers of a general anaesthetic, which are especially to be feared in these cases, and availing oneself of the advantages that may be derived from the help of the patient.

49. Prognosis and After-History of Operations for Rectal Cancer.

VON HERCZEL (*Wien. klin. Woch.*, February 11th, 1909) gives his experience of the results obtained by the sacral or coccygeal method of excision of rectal carcinoma. The prognosis depends largely on the variety of growth, and is best in cases of adeno-carcinoma. One of his patients is alive and well fifteen years after excision of a growth of this nature. Solid carcinomata with cubical or round cells infiltrate more deeply and are the most prone of all types to recur after removal and to produce metastases. The view held by certain French and English surgeons that removal is only a palliative measure is erroneous. If a diagnosis is made early, a radical cure is possible by operation. If there are symptoms of ulceration with partial stricture of the rectum, but nothing is palpable digitally, a bimanual examination—if possible under an anaesthetic—should be made. Next Strauss's "recto-romanoscope," which permits of direct inspection of the rectum as far as the sigmoid flexure, should be employed. The writer has frequently diagnosed a tumour by the recto-romanoscope which would otherwise have remained undetected. Its chief disadvantage is the amount of practice requisite to interpret correctly the appearances. The technique of rectal operations has recently so advanced that cases previously hopeless may now have a prospect of cure. If the growth is too high to be thoroughly exposed by the sacral method, the sigmoid flexure may be exposed by laparotomy. After ligature of the large vessels and removal of the growth, the operation may be concluded by the sacral method, the stump of the colon being brought down and fixed in the sacral opening. Whenever the growth and rectum are movable, a radical operation, including the removal of all lymphatic glands within the concavity of the sacrum, together with the growth, is indicated. Even in cases complicated by infiltration of the small intestine, bladder, prostate gland, uterus, or vagina, and in which there is the greatest difficulty in dissecting out the tumour, a radical operation, including removal of all diseased parts, may give good results. The writer does not perform a preliminary colotomy, which he reserves for cases otherwise inoperable. Left inguinal colotomy especially complicates any subsequent operation. Resection of the rectum is more dangerous than simple amputation. The writer no longer chisels through the sacrum, as he finds resection of the coccyx, with division of the right (if the patient lies on the left side) sacro-sciatic ligament sufficient to expose completely and to remove the largest and most fixed growths. Whenever possible the sphincter and anus should be preserved, and the stump of bowel brought down and sutured to them; but if they are involved in the growth a sacral anus gives fairly satisfactory results. The mortality of the operation, based on 881 cases in German hospitals, is 19.4 per cent. The writer lost 12 of 82 patients—that is, 14.6 per cent. The most common causes of death were cardiac failure and shock, pulmonary complications, and sepsis. From his 82 cases 18 must be deducted for statistical purposes, as the operation was performed within the past three years, and only those patients can be regarded as radically cured who survive the operation a longer period. Of the remaining 64 patients 15 died of the disease within three years. The primary mortality of the operation in these 64 cases was 8. Thus the total mortality was 15 + 8 = 23. The result in 7 of the 64 cases could not be ascertained. Deducting these, 57 cases remain. At the end of three years 34 of these 57 patients, or 59.7 per cent., were living, or, deducting 8 immediately fatal cases from the 57, 69.4 per cent. Of the 49 patients whose fate is known, 24, or 48.9 per cent., have exceeded the three years limit by periods varying from 1 to 12 years, are still alive and well, and may be regarded as permanently cured.

OBSTETRICS.

50. Prophylactic Version.

THEODOR VON WENCZEL (*Pester medicinisch-chirurg. Presse*, April 4th, 1909) points out the present-day tendency of substituting in midwifery active and more dangerous methods for the older, tried, and milder measures; in particular he compares the modern hebeostomy with the older method of prophylactic version. An examination of the literature on hebeostomy shows that along with advantages to the child go many dangers for the mother. Thus Herff collects records of 664 hebeostomies with the following complications: In 510 births, in 15 per cent. there was severe haemorrhage: of 664 women 0.3 per cent. died of haemorrhage. Of 510 cases, in 17 per

cent. haematomata formed, in 15.4 per cent. severe tears, in 18 per cent. simple injuries to the soft parts of the genital passages, in 12 per cent. injuries to the bladder, in 8 per cent. phlebitis. One hundred and twenty of the women were questioned afterwards, and it was found that in 7 per cent. herniae had developed in the space between the bones, in 24 per cent. prolapse of the uterus had occurred, in 4 per cent. incontinence of the bladder. The mortality among the 664 mothers was 4.9 per cent. Moreover, 9.6 per cent. of the children in Herff's collection of cases died. In the light of such facts the author looks upon hebeostomy as a proceeding whose technique is quite simple, but whose results are doubtful; and he is convinced that the operation will not continue to be performed as frequently as at present, and that it will always remain one better suited for the clinic than for private practice. He records a case in which the advisability of hebeostomy was considered, but in which he decided to perform version. The patient was a woman with a generally narrowed, flat, rachitic pelvis, the narrowing being of the second grade, the conjugata vera measuring 8.5 cm. The patient was a 4-para. Four years before there had been an abortion at three months. In the second labour perforation of the head had been necessary after unsuccessful attempt at a high forceps extraction. The weight of the child without the brain had been 3,225 grams. The third labour had resulted in the birth of a dead child. When the patient came to the clinic in her fourth labour she was having frequent intense pains, the temperature was 37.5° C. (99.1° F.), pulse 64; the head was high above the brim, the cervix admitted four fingers, the membranes were unruptured. Prophylactic version was carried out, and after it extraction of the child followed with astonishing ease. The child was 49 cm. in length, and weighed 3,500 grams; the circumference of the head was 35.5 cm. The child was born alive and sound except for a shallow impression in the neighbourhood of the coronal suture. Mother and child left the clinic well ten days after the birth.

51. Retroversion of Gravid Uterus: Rupture of Bladder.

ALBERT MARTIN (*Annales de gynéc. et d'obstét.*, May, 1901) was consulted about a woman aged 25, a primipara, in the middle of the third month of pregnancy, who had been seized with violent pains in the abdomen after a fit of sneezing. Her doctor had already detected retroversion of the gravid uterus, but saw that the patient was so collapsed that some worse complication must have followed the displacement. The pregnancy had proceeded normally until a few days previously, then dysuria set in, and the doctor found out the displacement. The sneezing occurred in the middle of the night. Vomiting was incessant, the pulse 130. A tumbierful of bloody urine was drawn off by the catheter; abdominal section was performed three hours after the fit of sneezing which had caused the attack of pain. On opening the peritoneum about three pints and a half of urine, at first mistaken for ascitic fluid, escaped. A rent about two inches long was discovered in the bladder. The peritoneum was dried by sterilized compresses; then the bladder was drawn to the level of the abdominal wound and the laceration closed by a continuous catgut suture including all the coats, and a similar suture through the serous coat alone. Reduction of the uterus proved unexpectedly difficult. A. Martin could not raise the fundus by manipulation through the abdominal wound alone. The midwife pushed on the uterus from the vagina and the organ was reduced, but it slipped back and had to be once more raised by the same combined method. The vagina was then packed closely to support the uterus. A. Martin objecting to fix the gravid organ to the parietes. Three strips of iodoform gauze were passed into the lower angle of the wound and a catheter retained in the bladder. The vomiting ceased at once and urine came away freely through the sound, but there were unfavourable clinical symptoms for some time. The gauze drain was removed on the fourth day. The retained catheter set up cystitis followed by pyelonephritis. After appropriate treatment the symptoms subsided. At the time that A. Martin wrote the report the patient was in the eighth month of pregnancy and in good health.

GYNAECOLOGY.

52. Uterus Didelphys or Bicornis Bicollis: Pyocolpos.

SCHILLER (*Monatsschr. f. Geb. u. Gynäk.*, April, 1909) recently reported before the Gynaecological Society of Breslau a case where there was manifest malformation of the genital tract. The vagina was double, but the left was occluded, and although the right os uteri, that is, the orifice in the right cervix, was open, a sound could not be passed so as to aid in determining the nature of the malformation. The vaginae and uteri were removed entire by abdominal section and the patient recovered. There was a right and left uterus each with a cervix. There was also a right and left vagina. There was besides a complication not teratological, as the left vagina, which was occluded from below up to the level of the right portio vaginalis, was full of pus above that level, and further communicated by a distinct channel with the canal of the right cervix. Had the blind left vagina been simply laid open from below, the precise degree of malformation, Schiller remarks, could hardly have been defined in this case.

53. Prolapse Cured by Obliteration of Douglas's Pouch.

MARION (*Rev. de gynéc. et de chir. abdom.*, March-April, 1909) recently reported before the Société de Chirurgie de Paris two cases of extreme prolapse of the posterior wall of the vagina in youth. Both patients were 19 years of age, virgins, and suffering from prolapse produced suddenly by a strain. The perineum was entire, the uterus retroverted, and the prolapsed vaginal wall bulged through the hymen. Marion suspected when examining the first patient that the primary condition was abnormal development of Douglas's pouch constituting a hernia. He therefore opened the abdominal cavity and passed four horizontal purse-string sutures under the peritoneum of Douglas's pouch. When the sutures were tied the posterior vaginal wall and the posterior aspect of the cervix were found to lie in their normal relation to the anterior wall of the rectum. The uterus lay naturally anteflexed. Marion, however, to make sure that the anteflexion should be maintained, folded and sutured the round ligaments. Four years later there was no sign of recurrence of the prolapse. The second patient was more recently operated on, and so the after-history remains incomplete. Marion has also obliterated Douglas's pouch in three cases of prolapse in older women, where he also performed perineorrhaphy and shortening of the round ligaments. In discussing these cases and the merits of the new operation Faure considered that it was only justifiable in cases where the prolapse was so chronic as to warrant so relatively extreme a step as the opening of the peritoneal cavity through the abdominal walls. Posterior colporrhaphy alone gave excellent results in such cases as those where Marion operated.

THERAPEUTICS.

54. X-ray Treatment of Acne.

PAUL GASTOU (*Arch. d'électricité méd.*, April 23rd, 1909), in a paper read before the second Congress of Physio-Therapeutists in Paris, records his experience of *x*-ray treatment of various forms of acne. It must be remembered, however, that in France the term "acne" has a wider significance than in this country. Dr. Gastou has found the *x*-rays to be useful and effective in many cases, and preferable to any other therapeutic method for certain varieties, such as keloid in scars. He distinguishes between the treatment indicated for young polymorphic acne of the face and acne keloid, which has its seat principally at the neck. The *x*-rays seldom heal the acne without reaction. Their application to acne of the face is, he says, an exceptional treatment, only to be advised in tenacious and obstinate forms of the affection after other medications have failed. It should be preceded by an antiseptic treatment of the parts with lavages and lotions, and the doses must be mild—for example, 2 or 2½ H. If more than one sitting is necessary, an interval of five or six days should elapse between the séances and the total dose of 5 to 6 H. must not be exceeded in one week. The age of the patient and the condition of his skin must be taken into account. He does not advocate repeated séances in this case, and he warns against the irradiation of the same parts. The technique for the careful regulation of the dose is fully given. It includes a reading of 4 or 5 on the radiochronometer scale, 0.5 to 0.7 on the milliampèremeter, with the anticathode at a distance of 15 centimetres (6 inches). Such a treatment does not seem to have a manifest action on the comedones, but it appeared to diminish the seborrhoeic secretions. On the subject of the *x*-ray treatment of acne keloid of the neck Dr. Gastou speaks more unreservedly. The quantity of rays to be given by degrees in the milder conditions of localized induration is about 5 H., but in the severe tumorous stage he recommends 8 H. in a single séance. The quality of the required rays is similar to that already prescribed for acne of the face. Séances must be repeated after ten or

fifteen days until the production of a radio-dermatitis, the duration of which varies from three to six weeks, when the lesions weaken and disappear without further trouble. Particularly in regard to acne of the face Dr. Gaston urges caution. The curative action of the rays cannot be definitely determined beforehand, and there is always the possibility of accident and of legal proceedings threatening the radio-therapeutist, even when he has acted with the best intentions in the world, in the interest, and often at the request, of the patient.

55. Dietetic Treatment of Severe Cases of Diabetes.

It is now generally recognized that success in the treatment of diabetes does not depend simply on the restriction of the carbohydrates. Weintraud (*Therap. Monats.*, December, 1908) gives directions for the dieting of severe cases. The first rule is never to remove the carbohydrates from the diet at one step. It is best gradually to withdraw the carbohydrate and to test the tolerance at the same time. To aid estimation of tolerance give the usual quantity of carbohydrate in one form. White bread (60 per cent. carbohydrate when new) should be given up to 200 or 300 grams at the commencement. The twenty-four hours urine should be examined daily, and every three to four days the bread diminished by about 50 grams. So long as the urine gives no reaction for diacetic acid the carbohydrate may be removed until the patient is on a carbohydrate-free diet. In slight cases the urine at one stage or other becomes free from sugar. In severe cases, however, the difficulties begin when this restriction gives rise to the appearance of acetone bodies in the urine. This indicates the possibilty of coma and should be met by the administration of large doses of sodium bicarbonate. All cases which show signs of acid production are not, however, hopeless, for we know that some cases may live for years in spite of the continued production of acetone bodies. Weintraud states that the acidosis is only dangerous when it is accompanied by a disturbance of nitrogenous equilibrium, when more nitrogen is being excreted than is being absorbed. This fact, hitherto not sufficiently recognized, gives the clue to treatment. The nitrogen balance must be controlled. The nitrogen of the food can be estimated from tables; the nitrogen of the urine estimated by the Kjeldahl method and about 1 gram allowed for the nitrogen excreted unabsorbed in the faeces. These data are sufficiently accurate for clinical work, because the addition of 1 to 2 grams per diem is of no import for clinical purposes. For years Weintraud has been in the habit of controlling his patients in this manner, even the ambulatory cases. So long as there is a slight nitrogen addition to the body it is safe to diminish the carbohydrates in spite of acidosis. How is the nitrogen balance to be preserved or restored? Reduction of the sugar to the lowest limits consistent with security aids by diminishing the diuresis. Nitrogenous equilibrium is impossible with a diuresis above 1200-1500 c.cm. (corresponding to about 1½ per cent. of sugar). The next step, paradoxical as it may seem, is to diminish the proteid elements. Excessive proteid intake acts injuriously by increasing the diuresis, and by inducing an abnormally rapid splitting up of the proteid within the body. The nitrogen in the food should be diminished till 100, 80, or even 60 grams of proteid are being ingested. The deficit in calories should be made up by adding fat to the diet. The prognosis should not be given until the results of the attempt to obtain nitrogen equilibrium is known. Aids to obtaining nitrogenous equilibrium are rest in bed, hunger days, and small doses of codeia or opium. In some cases the addition of small amounts of carbohydrates may be of use. To control the progress of the case, it is sufficient to determine the nitrogen and carbohydrate of the urine for two to three successive days every four to six weeks. Treatment in an institution is an advantage in the early period when nitrogenous equilibrium is being established.

56. Extracts of Leucocytes in Acute Infectious Diseases.

Lambert (*Amer. Journ. of Med. Sciences*, April, 1909) records several cases of acute infectious disease treated by leucocyte extracts after the method first suggested by Professor Hiss, in which subcutaneous injections were given of an aqueous extract of leucocytes taken from rabbits. The leucocytes were secured in a bacteria-free condition from the pleural cavities of the animal under the stimulus of the injection of aleuronat, the exudates after centrifugalization being washed free from serum with saline solution and then extracted with distilled water equal in quantity to the original amount of the exudate. The leucocyte extract was generally made from normal rabbits, but in a few instances the rabbits were previously immunized to the bacterial cause of the disease to be treated; and with these exceptions the same remedy was applied to all the infectious diseases treated, irrespective of the causative agent, the action being on the toxins and not on the bacteria themselves. Neutralization of the toxins takes place, and the patient's leucocytes are thereby assisted in their phagocytic action, the patient becoming thus protected against the bacterial poisons pending his own action to destroy the bacterial cause of the disease. it being a therapeutical fact that a single antitoxic animal product can influence the toxaemia of a number of bacterial causes of disease. The treatment was found to act in a marked manner in cases of meningitis, pneumonia, ulcerative endocarditis, malaria, chronic furunculosis, erysipelas, and other forms of septicaemia, acting in varying degrees in different diseases and in different cases of the same disease. All the cases treated presented a severe type of the particular disease, and the results were judged quite as much from the effects upon symptoms and the daily course of the case as from the mortality statistics. The effects of treatment in febrile disease were best seen in a case of tertian malaria, but the most brilliant results were obtained in the group of the pyogenic cocci, 6 cases of recurring boils in the course of a chronic furunculosis and 2 cases of erysipelas affording the most striking examples. This line of treatment is based upon the observations of Hiss that the phagocytic power of the leucocyte varies independently of the opsonic contents of the serum, and that consequently in some diseases immunity depends upon the activities of the purely cellular elements of the blood, which is contrary to the assumption of Wright that such phagocytic power depends entirely upon the opsonins in the serum. Applicable to cases of obscure bacterial cause or lesions, the remedy influences the toxaemia, and gives opportunity to the body cells to overcome the infection by temporarily relieving them of the necessity of immediately attacking the endotoxins of the bacteria. Beyond the pain of the hypodermic injection there is no other local complication in its application, and the urticaria which sometimes follows the use of serum has not been noted.

PATHOLOGY.

57. The Opsonic Power of Serous Exudates.

F. Schupfer (*Il Policlinico*, Rome, 1908, xv, pp. 477, 536) has tested the opsonic power of the serous exudates in 15 patients with pleurisy or ascites, using staphylococci, streptococci, pneumococci, and tubercle bacilli, and employing the methods advised by Wright and by Simon. He also examined the opsonic power of the serum of these patients, and found that in tuberculous pleurisy the opsonic index was very variable; in staphylococcal pyaemia the index was high for the staphylococcus; in two grave cases of diplococcal pyaemia it was high for the diplococcus in one, low in the other. As a rule, value of the opsonic index for the different bacteria was the same in these 15 patients, and its variations from the normal were not limited to the specific bacterium giving rise to the disease. No parallelism was observed between the indices for the exudate and for the serum in the cases of tuberculous pleurisy or peritonitis; the variations in the opsonic index of the tuberculous exudate were not specific for the *B. tuberculosis*, but extended to the other bacteria employed. The greater the number of cells in the exudates, the smaller was their opsonic power; a purulent exudate having none at all. Addition of a pathological serum or exudate, with low opsonic index to a normal serum, might increase or diminish its opsonic power, or leave it unchanged; addition of an exudate of higher opsonic index to a serum might give a mixture with an opsonic index lower than that of either of the constituents. The addition of living cellular elements from an exudate to a serum might leave its index unchanged; the index would be lowered, however, by the addition of cells that were dead or breaking up. The addition of a constant quantity of normal saline to a serum might alter its index in the most variable manner, even with normal serums having equal indices. Schupfer explains these and other opsonic irregularities by the assumption that the phagocytosis observed in the determination of opsonic indices demands the co-operation of two substances, analogous to but not identical with complement and amboceptor; certain serums containing substances able to unite with complement will do so, and thus prevent the occurrence of phagocytosis. Schupfer also differs from Wright in holding that the opsonins are not specific bodies.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

58. The Harmful and the Beneficial Action of Raised Temperature in Infective Fevers.

E. ROLLY discusses at some length the various views which have been and are held with regard to the effect of raised temperature in fever, and examines the evidence which has been adduced in favour of the heightening of the body temperature being harmful to the organism and of it being helpful in overcoming the causes of the infective process (*Muench. med. Woch.*, April 13th, 1909). Although the problem is a very old one, and one which attracted Hippocrates's attention, exact work which is calculated to determine what influences the raised temperature is capable of exercising is of comparative recent date. Naunyn experimented on rabbits, keeping them in a well-ventilated chamber with a body temperature of 41.5° C., and could not find any pathological changes in the organs after death. Werhovsky, on the other hand, described parenchymatous degenerations affecting various organs as a result of artificial pyrexia in rabbits. Rolly, working with Meltzer, has also studied the question. They kept five rabbits in a well-ventilated incubator, with sufficient moisture, etc., for from four to twenty days, during which time the body temperature rose to between 39.5° and 42.5° C. The animals were killed after a given number of days, but in no case could any "intense damage" of the parenchyma be found on minute microscopical examination. He therefore concludes that a prolonged heating of rabbits to fever temperature does not cause any change in the organs. The changes found in the organs of rabbits early after an artificial infection are therefore to be ascribed to the cause of the infection—that is, the toxins and bacteria. That this applies to man also is rendered probable, since it is a frequent experience to find the most extensive parenchymatous changes in the organs *post mortem* in cases in which but little fever was present during life. On analysing the evidence available with regard to the changes in metabolism during febrile conditions, he finds that it is justifiable to state that an increased breaking down of albumen takes place in infective processes, which is chiefly due to the cause of the infection, but also due to the raised temperature, especially if this has been over 104° F. Increased destruction of albumen is largely due to loss of appetite, compelling the body to draw on its stored-up proteids. In his experiments on rabbits, he found that the animals with artificially-raised temperature eat well, so that he is of opinion that the loss of appetite is due to the cause of the infection. Further experimental evidence is adduced to show that although pneumococci and streptococci are damaged by fever temperature on artificial nutrient media, the same organisms are not so damaged in the body by the same temperature. The author believes that he was able to determine a beneficial effect of fever temperature in rabbits which he infected in such a way as to nearly imitate the natural form of infection. The animals were infected with sublethal quantities of various bacteria several times on several days. The course of the illness seemed to him to be more favourable when the temperature rose to fever height. He has found that phagocytosis is enhanced by a raised temperature, the maximum amount of phagocytosis taking place at about 104° F. Above this temperature leucocytes take up bacteria less readily. He therefore finds that since phagocytosis plays an important part in assisting the body to overcome an infection, this is supported by a raised temperature, provided that this does not exceed 104° F. Still further experiments are detailed to show that agglutinins, antitoxins, and bacteriolysins are produced more freely under the influence of increased temperature than at normal or subnormal temperatures. From these and a few other considerations Rolly comes to the conclusion that raised temperature, provided that the degree is a moderate one, effects a more beneficial than a harmful action. The practical deduction to be drawn therefrom is that raised temperature should not be reduced artificially by treatment unless high fever is present, and that antipyretic medicaments should only be used when general disturbances, especially of the nervous system, are pronounced.

59. The Origin of the Heart's Contraction.

IN a research on the "*ultimum moriens*" of the human heart Walter Koch (*Ziegler's Beitrage*, xlii, 1) has used some ingenious methods. After a general review of the "myogenic" theory he attacks Wenckebach's statement that the striped muscle of the large caval openings is separate from the musculature of the auricle, being only connected with it by a narrow band of muscle. Koch states that neither by careful dissection, by examination of specimens cleared in xylol, nor by microscopical examination of serial sections, could he make out any definite separation of the true auricular muscle from that of the caval funnels. Further, by examination of the living human heart (in the non-viable fetus) and of the rabbit's heart, he was able to satisfy himself and the onlookers that (1) the last part of the heart to stop rhythmically beating was the opening of the coronary veins, (2) that after complete excision of the caval funnels the auricles and ventricles went on beating, but that (3) after cutting the bundle of His the ventricles, and in some cases the auricles, stopped beating. In order to make these observations he split open the vena cava, the auricles, and the ventricles. He concludes that the last part to stop beating is the part from which the stimulus originates, and that this is situated in a triangle formed by the opening of the coronary sinus, by the sinus fold, and by the attachment of the tricuspid valve. This corresponds, roughly, with the "*Reizleitung-System*" of Tawara.

60. Icterus of the Newborn.

BUR (*Nord. méd.*, November 1st, 1908) describes the different varieties of jaundice to be met with in practice among infants. Dividing the subject into the two varieties of idiopathic and symptomatic, he considers the latter first, remarking that these forms may be caused by (1) obstruction of the biliary ducts, and (2) infection, hereditary syphilis being the most common. (1) Obstruction has been caused by gall stones, congenital obliteration and spasm of the common bile duct; and the jaundice caused by retention comes on immediately after birth, and gradually increases; the stools are colourless, the urine contains bile pigment, the little patient is seized with vomiting, and dies with or without haemorrhage. (2) Infective jaundice, which is found in all degrees of gravity, is caused by micro-organisms, which may reach the liver either from the umbilicus or from the intestine. The umbilical route is becoming more and more rare, depending, as it did, upon a septic condition of the liquor amni; but the intestinal, from the presence of the *Bacillus coli*, and aggravated by defective nutrition, is found pretty often. The infectious cases are all biliary in nature, bile pigment being found in the urine and in the liquor sanguinis, whilst other symptoms vary according to the clinical form, from the light catarrhal variety to those very serious cases which invariably end fatally. But more frequently the family physician finds himself called upon to treat idiopathic icterus, and the question that arises is whether it is of a biliary or a sanguineous origin. Many writers have given many views, but the most generally accepted is that a change in the composition of the blood is the constitutional cause. The exciting cause is variously believed to be delay in the evacuation of the meconium, the administration of chloroform during delivery, delay in tying the cord, the effect of cold, and general debility on the part of the infant. Three periods may be recognized: (1) Preicteric or erythrodermic, characterized by redness of the uncovered parts of the skin and an almost violet tint about the ears, lake coloration of the blood, from the presence of dissolved haemoglobin, and a change in the globules showing fragility and the presence of granular masses, and a reddish-yellow colour of the urine, from pigments which are not biliary. (2) Periods of declared icterus, preceded by a short phase of transition, and passing off gradually, the skin remaining jaundiced after the urine has ceased to be yellow. (3) Period of decline, all manifestations coming to an end in from ten to fifteen days from the onset. In ordinary cases there are no digestive troubles or changes in the pulse, the stools appear normal, and the general condition is good. The prognosis of idiopathic icterus is as favourable as that of the symptomatic variety is grave. The pathology of the disease resolves itself into a citation of the views of different observers, and depends upon the place assigned in certain cases of icterus, to the excessive destruction of red corpuscles and to the retention and subsequent absorption of bile respectively. The early stage of rubefaction is caused, apparently, by the chilling of the child's body,

producing a diminution of the corpuscular resistance. If this diminution is not great, jaundice is not produced; but if it is considerable, the red corpuscles perish and the blood becomes lake-coloured, an active process of regeneration being set up, which shows itself in the appearance of haematic granulations. In the yellow period the haemoglobin dissolved in the serum is changed into pigment and icterus appears on the skin, diminishing gradually during the period of decline, until it passes away from both skin and urine. The disease has to be diagnosed from the earthy tint of premature infants, the blueness of the skin in imperfect closure of the foramen ovale, and the localized ecchymoses which sometimes take on a yellowish hue. Examination of the blood gives an indication in doubtful cases. Treatment is chiefly prophylactic, consisting of strict cleanliness of the umbilical region, proper feeding, and, when indicated, antisyphilitic treatment of mother and child. Idiopathic jaundice generally cures itself in a short time.

SURGERY.

61. Splenectomy in Banti's Disease.

A. ZANCAN (*Il Policlinico*, Rome, 1909, xvi, p. 5) describes the case of a married woman aged 27, with no history of malaria, syphilis, or any previous illness of importance, who for about two years had suffered from epistaxis leading to marked anaemia and debility, together with pains in the left side of the abdomen. On examination, she proved to be of thin, pale woman, with a loud haemic murmur over the heart, and a much enlarged movable spleen; the liver was moderately enlarged and palpable. The urine was normal; the blood showed 3½ million red cells, 3,200 white, and 12 per cent. of haemoglobin. The differential white count gave 66 per cent. of polymorphonuclears, 8½ per cent. of eosinophiles, 2.8 per cent. of mast cells, 2.8 per cent. of large mononuclear cells, 5.7 per cent. of large and 14 per cent. of small lymphocytes. Iron and arsenic were given for six weeks, but no improvement followed. Splenectomy was then performed. After removal, the spleen weighed 51 oz. and was 11 in. long, and on section appeared rather fibrous, the Malpighian corpuscles being inconspicuous. Microscopically these corpuscles were seen to be atrophic, and the lymphoid elements throughout the organ were scanty, while the connective tissue generally was hypertrophied; the small arteries showed much circumvascular sclerosis, and there was considerable endothelial proliferation; no giant cells and no cells containing pigment granules were seen. The liver was seen to be finely granulated on the surface, and had a thickened margin, and felt unduly firm. The patient made a good recovery; ten days after the operation her red cells were 4½ million, her haemoglobin 40 per cent., and the white count had risen to 80,000, with 74 per cent. of polymorphonuclears; but at this period there was some sepsis about the laparotomy wound, and a bronchopneumonic focus clearing up in the lower lobe of the left lung. Six weeks later the white count was 18,000, with 61 per cent. of polymorphonuclears, and two months after that had fallen to 10,000. Four months after the operation the liver had returned to the normal dimensions, and was no longer palpable. Two years after it the woman was in excellent health, and had gained 22 lb. in weight; her blood count showed 5½ million red cells, 8,000 white, and 80 per cent. of haemoglobin. It may be added that numerous cultures and inoculations into animals, made from the spleen on removal, proved uniformly sterile.

62. Open-air and Hyperaemic Treatment in Surgical Tuberculosis.

MEYER (*Amer. Journ. Med. Sci.*, February, 1909) urges the combined use of open-air and Bier's hyperaemic methods in the treatment of bone tuberculosis in adults, which, either from their situation or from the nature of the case, cannot be cured by operation alone. Although much may be accomplished by filling a cold abscess cavity after evacuation with iodoform emulsion, and the persistent use of hyperaemia for the diseased bone or joint in tuberculous disease affecting the sacrum and pelvis, an addition to the treatment of open-air methods may be the means of effecting a cure. Notes of three cases are given illustrating this point, in the first of which, a man aged 40, suffering from tuberculosis of the sacrum involving both ilio-sacral joints and the fifth lumbar vertebra with its articulation, marked improvement and an almost complete return to health resulted after two years' persistence in treatment on these lines. The second case, a male aged 16, suffering from recurrent tuberculous inflammation of the tibio-tarsal joint, after astragalectomy with extirpation of the synovial membrane, rapidly improved under persistent hyperaemic treatment in conjunction with residence in the fresh air. In the third case, that of a man aged 36, there was tuberculosis of the right hip-joint, with multiple sinus formation. Disarticulation at the hip-joint was performed, and the pelvis was found to be involved, but resection of the iliac bone was refused. After ten years of outdoor life, during which time he had been able to attend to his business with daily packing of the sinuses, some of these were healed, while others still persisted. The packing was stopped, and Bier's suction cups used for three months, by which time the discharge had greatly decreased and his general health was improved. Seeing that these instances were in private practice among patients who could afford to carry out the necessary treatment, it is urged that two special surgical wards, male and female, should be set aside in sanatoriums for consumption, where poorer patients can receive the benefit of the open-air treatment combined with Bier's hyperaemic methods, since under existing circumstances no adult patient afflicted with suppurative tuberculous bone mischief can gain admission to such sanatoriums, these being at present exclusively designed and intended for internal tuberculous affections and not for surgical cases.

63. Prolonged Intubation in Laryngeal Stenosis.

SIMPSON (*Amer. Journal of Surgery*, April, 1909) publishes a case of laryngeal stenosis which was successfully treated by prolonged and continuous intubation. The patient, a female, aged 32, after wearing for five months a tracheotomy tube which had been inserted for urgent dyspnoea, became desirous of dispensing with its use on account of much local irritation and disturbance of general health caused by incessant coughing. A hard intubation tube was passed, the tracheotomy tube being removed and the tracheal fistula subsequently closed by operation. The intubation tube would be retained, with only one very temporary removal, for four years, at the end of which period its reintroduction was found to be quite unnecessary. At the last observation of this case twelve months, after the final removal of the tube, the breathing was normal in character and the patient had gained in flesh and strength. The author at the end of his report emphasizes the following points: (1) The tolerance by the larynx of long-continued pressure. (2) The superiority of continuous pressure in causing absorption over the older methods of the temporary introduction of dilating instruments. (3) The comparative comfort with which an intubation tube may be indefinitely worn. (4) The improved general condition of the patient while wearing the intubation tube, in contrast to the debilitating influence and local annoyance of the tracheotomy cannula.

OBSTETRICS.

64. Fetal Hydrocephalus and Parturition.

BOISSARD (*Annales de gynec. et de obstét.*, April, 1909) records an instance where hydrocephalus was diagnosed in pregnancy and labour induced, with the best results, whilst a little later a disastrous case, where death occurred after delivery of a hydrocephalic fetus, came under his notice. The first patient was under his care. She had already given birth to a hydrocephalic fetus, and instruments had been required for its delivery. The patient was now in the seventh month; there was excess of liquor amnii, and the fetal head could be defined as very bulky and wider than the inlet. The heart sounds were audible but weak. Antisyphilitic treatment was tried, and the patient was kept under observation. The fetal head continued to enlarge, so that close upon term, before any signs of labour set in, it was perforated, and a great quantity of cerebro-spinal fluid came away. The dilating bag was then applied, and the patient was delivered of a fetus nearly 7 lb. in weight. The puerperium was quite normal. A few days after this artificial labour a midwife sent into the same maternity a woman who had been for forty-eight hours in labour. Just before she left her home a doctor succeeded in extracting a fetus papyraceous. On admission the patient was found to be in a very septic condition, with a temperature over 102°. The fetal head was clearly hydrocephalic; it was perforated, and then the child was delivered artificially, but general septic infection followed, the temperature rising to 105°, yet the patient lived to the seventeenth day, with the extra complication of puerperal mania.

65. Operation for Extrauterine Pregnancy in a Cottage.

E. WORMSER (*Correspondenz-Blatt für schweizer Aerzte*, March 15th, 1909) describes a case which supports the view expressed by Leopold, that in cases of extrauterine pregnancy with haemorrhage into the free abdominal cavity, it may involve less risk to the patient to operate at her own house than to remove her to a hospital, and perhaps lose the most favourable time for operation. In the case described in the present article the patient had been suddenly seized with faintness during the afternoon, and was found by her doctor to be almost pulseless. When Wormser saw her at 9 o'clock at night she had somewhat recovered, but she was very anaemic, and the pulse was small and weak; the abdomen was slightly distended, and in the lower part was dull on percussion: fluid blood was present in the vagina; the uterus was increased in size: a firm mass could be felt in Douglas's pouch, and there was resistance and tenderness on both sides of the uterus. The diagnosis, which was confirmed at the operation, was of free haemorrhage into the abdominal cavity, the result of rupture of a tubal pregnancy. Since the patient was an hour's journey from the hospital, it was decided to operate upon her at her own home. A request was sent by telephone to the theatre sister of the hospital for instruments and sterile aprons, dresses, sponges, etc., while a room was emptied of furniture, except for three small tables, one for use as an operating table. Sufficient light was obtained by petroleum lamps and by two acetylene lamps, one fastened to the wall, the other held by an assistant. The basins for disinfectants were disinfected by means of burning spirit. The operator and the assistant both wore indiarubber gloves. The anaesthetic given was chloroform, ether being inadmissible because of the fear of an explosion. The operation was successfully performed and the patient made an uninterrupted recovery. In such a case of "inondation peritoneale," as the French describe it, a long journey could not but have had the effect of stimulating haemorrhage if there had been any tendency for the bleeding to stop spontaneously, while it is a fact, liable to be forgotten, that, so long as ready prepared sterile operation material is obtainable, cases can be operated upon successfully under the most primitive conditions.

GYNAECOLOGY.

66. Pyosalpinx Opening into Bladder.

VIOLET AND CHALIER of Lyons (*Rev. de gyn. et de chir. abdom.*, January-February, 1909) report three cases of tuberculous pyosalpinx opening spontaneously into the bladder. The main clinical symptom which they were able to define was the appearance of pus in the urine *without any evidence of cystitis*. None of the subjects were young girls with general tuberculous peritonitis. The first was a phthisical woman 37 years of age, married twelve years and sterile. Salpingitis had been diagnosed three years before she came under the two reporters' observation. Recently there had been abdominal pains; urine full of pus was passed freely and without difficulty. The appendages and the uterus were amputated, the walls of the bladder were trimmed freely around the fistulous tract, and the orifices carefully closed by suture. Nearly three years later the patient, whose pulmonary symptoms had improved, was free from any hypogastric or pelvic trouble, and the urinary functions were normal. The second patient was 48 years of age and, as in the first case, sterile though married for many years. The symptoms of pelvic inflammation were of long standing, but the urine was free from pus until shortly before the patient came under observation. The internal organs were removed entire. There were tuberculous deposits on the wall of the bladder, and the actual orifice of communication could not be detected. The peritoneum was carefully sewn over the bladder, and a sound retained in the vesical cavity. Two years later the patient reported herself as in perfect health. There was no after history of urinary trouble. The third patient was 32 years of age, with a strong tuberculous history, but there is no mention in the report of marriage, pregnancy, or catamenial trouble. An incomplete abdominal operation was performed and the incision drained, a left pyosalpinx being removed in part. A troublesome sinus developed, discharging freely. At length pyuria was observed, without any complaints on the part of the patient of frequent micturition or pain when passing urine. This symptom continued for weeks, and at length Violet, who also had operated in the two other cases, removed the internal organs entire. The fistulous tract was found to be constituted by the remains of the left Fallopian tube. The right tube formed a big abscess closely adherent to the bladder, yet the reporters are careful to note that the aperture of communication in the vesical wall could not be discovered, although there were two big patches of tuberculous deposit on the outer surface of the bladder. The vermiform appendix was removed with the right tube, to which it adhered very closely. There were some large tuberculous glands in the iliac region, only one of which could be extirpated. A catheter was passed into the bladder and retained. The operation was very difficult, and a vesico-vaginal fistula developed. Three months after the operation the patient passed urine rather frequently, and not without slight pain, but the fistula had closed, and the general health had much improved. In all these cases there was clinical evidence of tubercle and of salpingitis with pyuria, but without cystitis. There was no history of an acute attack of pain, or a sudden sense of relief from pelvic discomfort preceding the pyuria: nor, according to these cases, must the symptom be taken to signify the spontaneous cure of an abscess by rupture, as is common elsewhere. The pyuria indicates invasion and yielding of the vesical wall by tubercle originating in the coats of the adherent Fallopian tube. Though the patient does not feel the worse for passing pus in the urine, the symptom implies that the tuberculous process is extending. Hence, unless there are grave general symptoms implying extension of tubercle beyond the genital tract, immediate surgical intervention is indicated in every case of pyuria associated with tuberculous pyosalpinx. This intervention must be thorough. Vaginal hysterectomy, with removal of the tubes, is out of the question; it is operating in the dark amidst viscera glued together by tuberculous deposit. Drainage of the opened pyosalpinx through an abdominal incision is insufficient, as the tuberculous disease will continue. The uterus must be removed with the appendages; the cervix may be saved when the uterine tissue appear free from tuberculous disease. Drainage from the vagina is imperative. As for the breach in the walls of the bladder, the experience of Violet and Chalier teaches that, although a big hole may be discovered and closed by suture after excision of its diseased edges, it may happen that the aperture is too small for detection. Two surgical precautions are, then, demanded—the peritoneum must be sewn over the bladder and a catheter retained for awhile in the vesical cavity.

THERAPEUTICS.

67. The Treatment of Malaria.

NOCHT (*Deut. med. Woch.*, March 25th, 1909) points out that the action of quinine on the malaria protozoa has been studied closely both in the test tube and in the body, and that certain deductions may be derived from these studies. It appears that one, two, or even three doses of quinine cannot be expected to cure an infection. Schaudinn has shown that the female sexual forms, the *macrogametes*, may persist in the spleen long after all other forms have disappeared. These forms resist the action of quinine. Under certain conditions, they may cast off their envelopes and form *schizontes;* from this the young parasites are developed which penetrate into the blood corpuscles: and, lastly, new young forms are thrown out. The macrogametes represent the long-sought-for latent form between the primary infection and the occurrence. Now since macrogametes form early, usually after the second or third attack, and at times even after the first attack, the chances that the patient may be protected from recurrent attacks become less the later the treatment is begun. In other words, the treatment cannot be begun too early. The best time for quinine treatment is therefore immediately before and during the period following the shivering of the attack. Then the majority of the parasites are to be found in the schizontes stages. Taking these considerations as a basis for treatment, he describes the methods which have been tried and have yielded good results in the Institute for Marine and Tropical Diseases in Hamburg. The methods of applying quinine vary very considerably. The dose of quinine chosen is 1 gram (that is, approximately 15½ grains), and this dose is applied once a day. The treatment is begun a few hours before a fresh attack is expected, or, in the case of tropical fever, soon after the fall of temperature of the last attack. This gram dose, given once a day, is continued for several days (Ruge suggests at least six or seven), and then increasing pauses are introduced. At first an

interval of three days is followed by quinine on two successive days, then the interval is lengthened to four days, five, six, and lastly seven days. The author lays special stress on the necessity of giving quinine on two successive days. Recently it has been found advisable in certain stubborn cases to use the quinine on three successive days during the second part of the course. Children naturally take doses corresponding to their age. A further modification which has proved useful is to give the gram of quinine in five daily doses of 0.2 gram each. The action is increased and blackwater fever and other complicating effects of the treatment were thus avoided. Next he deals with the form of quinine which answers best. The Hamburg observers have learnt that, of the usual preparations, free quinine bases and the hydrochloride are the most reliable. The former is nearly tasteless, and in spite of its insolubility in water, is very rapidly absorbed from the stomach. The bisulphate is also good, but it contains 22 per cent. less quinine than the hydrochloride, and 27 per cent. than the free alkaloid. The tannate has been recommended on account of its slight taste, and its qualities for children and those who do not tolerate quinine well. The disadvantage of this salt is that the preparations offered for sale vary considerably in alkaloid content. The tannate, like the other salts, produces blackwater fever, in spite of Celli's contention to the contrary. The idea of giving quinine in cigarette papers cannot be advocated, since the passage of the wholly unaltered powder happens in the paper in the faeces is not uncommon. Tablets and pills may only be used if they form powdery precipitates within a few minutes on being placed in a glass of water. Gelatine capsules are useful, but must be kept dry, and excluded from air if used in the tropics. Of the derivatives of quinine, only euquinine has proved of value, but even this preparation is not as good as the ordinary salts or alkaloid, the dose required being half as much again as the hydrochloride, and the preparation being four times as dear. There is no substitute for quinine which acts as well. Methylene blue acts more slowly and less certainly. It produces blackwater fever less frequently than quinine does. Arsenic does not affect the parasites. When vomiting or other conditions render it difficult or impossible to give quinine by the mouth, subcutaneous or intramuscular injections may be resorted to. Among the preparations advised for this purpose, Nocht advises Giemsa's formula: Quinin. hydrochlor. 10 grams, aq. dest. 18 grams, and ethyl urethane 5 grams. The urethane favours the solution, and the volume of the solution thus prepared is 30 c.cm., so that 0.5 gram is contained in 1.5 c.cm. of solution. When contraindications against quinine exist, methylene blue must be given. Some other points in the general treatment are dealt with, and Nocht concludes by stating that the alpha and omega of malaria treatment is quinine. To be efficient this must be thoroughly carried out.

68. Action of d-, l-, and dl- Suprarenin.

ABDERHALDEN and others working with him (Hoppe-Seyler's *Zeitschr. für Phys. Chemie*, 1909) have been investigating the physiological action of suprarenin and its optical isomers. The earlier part of their work was done in ignorance of Cushny's results published in the *Pharmaceutical Journal* and the *Journal of Physiology* for 1908. Artificial suprarenin has the same chemical formula as the active principle of the suprarenal gland, commonly called adrenalin; its chemical name is o-dioxyphenylethanol-methylamin, prepared by reduction of methylaminoaceto-pyrocatechin, and patented as artificial suprarenin by Meister Lucius and Brüning. So prepared it is optically inactive, and has to be separated into the d- and l- variety, the laboratory product being in the first instance the racemic or dl- variety. Working with dogs, Cushny came to the conclusion that synthetic suprarenin owed its activity to the l- variety, though this appeared to be opposed to clinical and experimental evidence, the explanation of the discrepancy being that the variety prepared from the active gland was so impure as to appear weaker than the racemic compound, which can be obtained tolerably or quite pure. Abderhalden (*Zeitschr. für Phys. Chemie*, vol. lviii, p. 190) and his pupils obtained specimens of the three varieties—namely, d-, l-, and dl-. They were obtained by Flächer by the method of crystallization from the mixed solutions, the process being started by adding a minute fragment of the crystals obtained from the variety extracted from the suprarenal body itself. As regards the influence of the different varieties on the dilatation of the pupil and the rise of blood pressure after intravenous injection, the laevo-rotatory variety is the active substance: the dextro-rotatory variety, when obtained pure, is practically inert. The racemic variety, as might be expected, has a value intermediate between the other two. The pupillary action was tested on excised eyes of frogs. For the determination of the influence on blood pressure dogs were employed under A.C.E. anaesthesia, with the vagi severed. In rabbits sugar was excreted in the urine after subcutaneous, but not after intravenous, injection of l- or dl- suprarenin. In frogs the injection of suprarenin into the lymph sac causes contraction of the pigment cells, according to the quantity of l- suprarenin injected. Subcutaneous injection into mice causes convulsions, paralysis, marked fall of temperature, and death (0.1 mg. of l- suprarenin will kill a mouse of 10 to 15 grams in weight). In similar doses d- suprarenin has little or no effect, and the mouse always recovers. A curious fact discovered is that the injection of increasing amounts of d- suprarenin into mice for four or five days in succession renders them less susceptible to the toxic effect of l- suprarenin, so that they are able to stand a dose ten or eleven times the ordinary fatal dose without untoward results. The results obtained in the case of the three varieties of suprarenin are analogous with those obtained by Cushny for the optical varieties of hyoscine and hyoscyamine. Abderhalden and Cushny both hint at the possibility of learning something of the constitution of the receptive portion of the organism from a knowledge of the chemistry of therapeutic agents, such as suprarenin, hyoscyamine, etc., where a reversal of optical behaviour (rotatory power) abrogates all therapeutic value, but at present such speculation does not seem likely to lead to any tangible result.

PATHOLOGY.

69. The Suprarenals and Rickets.

JOVANE AND PACE (*La Pediatria*, An. 17, No. 3, May, 1909) have carried out a series of experiments on dogs and rabbits with a view of determining what influence the suprarenal capsules have upon the processes of rickets. They find that injections of a 1 in 1,000 solution of adrenalin (from $\frac{1}{2}$ to 1 c.cm.) administered to rickety infants causes definite increase and strengthening of muscular tone, increases appetite, improves nutrition, and promotes tissue change generally. On the other hand, no definite changes were found in the suprarenals of rickety children, and the suprarenals of rabbits rendered artificially rickety remained unchanged. Unilateral capsulectomy in young dogs, unless very robust, is often fatal, so that it is difficult to keep the animals alive long enough to observe the results on the bones. Bilateral capsulectomy is invariably fatal in these animals within twenty-four hours. Of those animals who survived unilateral capsulectomy (one series eighteen days, and another sixty days), no true histological lesion could be made out in the skeleton; the only change noted was a vaso-dilatation of the blood capillaries in the medullary spaces of the bone, more marked in the second series of experiments. Finally, whatever effect the suprarenals may have on rickets, it is not by way of any direct effect on the bones, but at all through those obscure processes of bio-chemistry whereby other internal secretions produce their effects on the organism.

70. Choline in Animal Tissues and Fluids.

MOTT AND HALLIBURTON and others have identified choline as a substance to be found in increased quantities in the blood or cerebro-spinal fluid in animals or patients with degenerative processes going on in their nervous systems. W. Webster (*Bio-Chemical Journal*, London, 1909, iv, p. 117) points out the various errors on which these and similar statements are based, and shows that with our present methods of chemical analysis there is little hope of detecting the very minute quantities—small fractions of a milligram—of choline that might be set free from degenerating nervous tissue, and so get into the circulating blood of man or of animals, in disease of or after operations on the nervous system. He finds that no choline can be detected in normal blood provided that the lecithin in it is prevented from decomposing; it may be noted that Kaufmann in 1908 could isolate no choline from a litre of cerebro-spinal fluid collected from various patients with nervous disease. Webster further finds that the amounts of choline or of potassium salts that might be set free into the circulation by even sudden processes of degeneration in the nervous system would be too small for detection; and that the micro-chemical reactions given for choline occur irregularly but equally freely by both normal and pathological cerebro-spinal fluid, while it is doubtful whether any of the micro-chemical tests in use are specific for choline.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

71. Gonococcal Septicæmia.

Dieulafoy (*Bull. de l'Acad. de Méd.*, May 18th, 1909) related details of two cases of gonococcal septicæmia which presented somewhat remarkable features. The first case was a young man of 23, admitted after eight days' illness with diarrhœa, headache, fever, splenic enlargement and rose spots. The diagnosis of typhoid made on admission was rendered doubtful by the oscillations of the temperature with profuse sweats and by the negative results of the Widal test. There was a urethral discharge containing gonococci, and blood cultures showed the presence of gonococci but not of *B. typhosus*. There was polyglobulism (7,100,000) due to the sweats and the diarrhœa. A leucocytosis of 16,000 was mainly due to polynuclears. Broncho-pneumonia developed and gonococci were found in the sputum. During the illness a loud almost musical mitral systolic murmur appeared. Under general treatment combined with vaccine treatment, convalescence ensued, but was interrupted by a typical attack of typhoid with positive Widal reaction, blood cultures giving both *B. typhosus* and gonococci. The patient left the hospital in good health although his blood still contained gonococci. The second was a case of gonorrhœal rheumatism with fever and rigors. The gonococcus was cultivated from the blood. At one period the case had some of the features of typhoid, but there was no Widal reaction and the blood did not contain the bacillus. In this case also convalescence was interrupted by a typical attack of typhoid with positive blood cultures and Widal reaction. Dieulafoy remarks that these cases illustrate the important facts that a patient with a slight urethral discharge may suddenly become the victim of an acute invasion by the gonococcus and that this may accurately mimic typhoid even to the rash. There may be no joint symptoms whatever, even when there is endocarditis. Both cases were treated with vaccine, but the author refrains from expressing himself on this question, which he will deal with in a future communication. With regard to the onset of typhoid, he thinks that it is possible that they were both carriers whose resistance had been lowered by the previous illness so that the bacillus was enabled to invade the blood from its habitat in the gall bladder. The vaccine was tested but was found sterile. There were no other cases of typhoid in the wards. Both cases on discharge, although in good health, still harboured the gonococcus in the blood.

72. The Meaning of Haematemesis.

W. F. Cheney (*Amer. Journ. Med. Sci.*, April, 1909) points out that the discovery of the cause of haematemesis is the all-important factor in the question of the prognosis and treatment of the case. The possible causes to be borne in mind are: (1) Cirrhosis of liver; (2) gastric ulcer; (3) cancer of stomach; (4) splenic anæmia; (5) acute pancreatitis; (6) uræmia; (7) toxic gastritis. Of these, the first three are the common causes, while the rest are all more or less rare. In regard to cirrhosis of liver the typical case is that of a middle-aged individual with alcoholic history, who suddenly and without pain brings up a large quantity of unaltered blood. The first haemorrhage is rarely fatal, and there is usually no other for some months or years. There are no physical signs beyond increase or decrease of the liver dullness and an enlargement of the spleen. Later, alimentary disturbances and failure of nutrition occur, and ascites may be present. The bleeding may, however, occur for the first time late in the disease, and may be repeated through several days, and so become the direct cause of death. Moreover, the bleeding, which is usually from a leaking vein in the œsophageal varix, may be small in amount, and the blood may then pass on into the bowel instead of being vomited. Hence, melæna, long continued or frequently repeated, does not preclude the possibility of cirrhosis being the underlying condition. With regard to gastric ulcer, Cheney considers that the importance of haematemesis as a symptom of the condition has been exaggerated, the blood more commonly passing on into the bowel. When the two *are* associated the patient is usually under middle age, and has suffered for long from acid dyspepsia with much pain, the vomiting of blood coming after a long period of ill health. The bleeding is usually from erosion of a good-sized vessel in the base of the ulcer, and the blood is unaltered. In gastric cancer the typical form of the haematemesis is the frequently repeated vomiting of small quantities of altered blood. Since bleeding occurs only when the growth has begun to ulcerate, there is often a palpable tumour, and free hydrochloric acid is absent from the gastric contents. Among the rarer causes of haematemesis is splenic anæmia. In this condition the vomiting of blood may be the first alarming symptom. With it will be found splenic enlargement, chlorotic anæmia, leucopenia, and finally hepatic cirrhosis and ascites. Acute pancreatitis is rare, but the author relates one case in which one of the most prominent symptoms was repeated profuse vomiting of blood, sometimes altered and sometimes almost pure. In uræmia profuse and repeated vomiting of blood has been observed, due presumably to haemorrhagic weeping from the mucous membrane, since no other cause could be discovered *post mortem*. The gastritis resulting from the swallowing of corrosive poisons is commonly associated with haematemesis, and the history supplies the diagnosis. The author, however, has also seen one case where the cause was a gastritis resulting from chronic mercurial poisoning.

73. Disappearance of the Argyll Robertson Sign.

Aurelis da Costa-Ferreira (*Journ. des praticiens*, April 24th, 1909) relates the following case: A man had been subject for several years to frequent headaches, accompanied by loss of hair, and although no history of primary syphilis could be obtained, antisyphilitic treatment was carried out and the headaches ceased, also the falling out of hair. The patient married and had three children, all healthy: the wife had no miscarriages. One day there appeared an inequality of the pupils, the patient felt ill and complained of lumbar pain and supraorbital neuralgia, and the urine contained a trace of albumen. The left pupil was larger than the right, and the left pupil did not react to light. The right pupil reacted well, and the crossed reaction was well obtained. The reflexes were normal. An intensive mercurial treatment was begun, and at the end of a month the left pupil reacted well, and the pupillary inequality had disappeared.

SURGERY.

74. Functional Diagnosis in Renal Surgery.

Realization of the fact that the human organism has been endowed with about four times the amount of kidney substance necessary for the excretion of waste products has led to great advances in renal surgery, it being now admitted that nephrectomy may be performed when both kidneys are diseased, provided that the kidney left in the body, though actually diseased, is doing its work properly. A great deal of valuable work has been done in the last few years on the testing of the renal functions. Barth (*Berliner Klinik*, November, 1908) gives a review of this work based on his own experience of the methods evolved. The limitations of these methods must first be recognized if we are not going to be disappointed. Even a careful estimation of the nitrogen intake and output can only measure the work done by the kidneys, which is not the same thing as the work of which each kidney is capable. The simple methods applied in clinical surgery are less accurate, but still they are extremely useful. Catheterization of the ureters has shown that the two kidneys in health secrete approximately the same amount of urine and of solid constituents. In disease the passage of blood or pus from one kidney is of great significance, and at once localizes the side of the disease. Cryoscopy is the measurement of the depression of the freezing point and is only a measure of the molecular concentration of the *urine*. The freezing point of a twenty-four hours specimen of the urine varies from $-0.9°$ to $2.2°$. It varies with the total quantity of urea. As with urea determinations, little reliance can be placed on deductions drawn from the freezing point of the total urine, because it varies very much even on a test diet. The freezing point of the *blood* is more constant. It varies in health between $-0.55°$ and $-0.57°$. In renal insufficiency it may be $-0.58°$, or even $-0.60°$. The fact that cases of heart

disease and of cancer of the abdomen may have this amount of depression and that cases of nephritis and even of uræmia may have a normal index detract from the value of this method. Barth thinks it unwise to put off an operation of urgency, such as a nephrectomy, on account of a difference of one-hundredth part of a degree in an observation where the technical difficulties are great. Cryoscopy of the specimens from the two ureters is very useful. If the freezing point of the two differs very much, then the side with the least depression is probably diseased. If both sides are diseased, then the side with the lowest is the most diseased side. He gives details of 7 cases illustrating the value of this method. A marked depression on the side which is obviously diseased points to there being a large amount of renal parenchyma still active. This was seen in some cases of adrenal tumours. This method is also useful in the differential diagnosis of renal disease (calculus) from duodenal ulcer, etc. The method is valueless when for any reason there is a profuse secretion of very dilute urine; then the depression is equally small on each side. In cases where there is insufficient urine for the determination of the freezing point the electrical conductivity may be of service, but the possibility of error is here still greater. The above methods give no information in cases of bilateral disease as to the extent of the lesion in the least affected kidney. Two other tests have been elaborated to assist in solving this difficulty. The injection of phloridzin causes glycosuria with healthy kidneys; 0·01 gram of phloridzin injected into the buttock will cause the excretion of grape sugar in fifteen minutes after the injection. In extensive disease of the kidneys the excretion is either much delayed or absent. Barth says that in health it may be delayed up to thirty minutes. In case there is no sugar within sixty minutes, he always repeats the test with a fresh solution of phloridzin. An early reaction on one side is certain evidence that the kidney is functionally healthy, whilst a reaction in the total urine indicates the same thing, and may be very useful where catheterization of the ureters is impossible. The indigo-carmine test is carried out in a similar manner. An intragluteal injection of 4 c.cm. of a 4 per cent. suspension of indigo-carmine should be followed in six to twelve minutes by the excretion of coloured urine. If delayed later than fifteen minutes, especially if from half an hour to an hour, there is great probability of severe damage to the renal functions, and, if this is bilateral (in the bladder urine), the prognosis is very bad. Chromocystoscopy (direct observation of the coloured urine coming from the ureters) is a material aid to diagnosis of the side affected.

75. Diffuse Painful Lipoma of the Foot.

Tubby (*Amer. Journ. Orthop. Surg.*, May, 1909) directs attention to a painful affection of the foot which, he believes, has been hitherto undescribed. Of some examples observed by the author during the past ten years, one is here recorded which came under his notice at the Westminster Hospital in 1905. The patient was a nurse, aged 25, who for three months had suffered from pain in the soles and along the inner surfaces of both feet, which was excited and increased by walking, and instantaneously relieved by rest. On the inner side of each foot there was a soft oval swelling which encroached on the weight bearing surface of the sole; each measured 1 in. by 1½ in. The characters of these swellings were those of indolent growths. Though painful to the touch, and particularly so to deep pressure, they presented no signs of inflammation; the feet were not flat in the ordinary sense of the word. The swellings on removal by operation were found to be of a fatty nature. Though not encapsuled, each growth could be readily distinguished from the darker and more compact tissue of the surrounding normal fat, and there was no difficulty in dissecting it away. The tumours, it was noticed, were highly vascular and bled freely. Another case is recorded of a painful fatty growth which was removed from the left foot of a girl aged 16 years, and presented the same fatty and vascular characters. The author points out that these cases of acquired painful lipoma are clearly distinguishable from the form known as congenital diffuse lipoma. The microscopical characters of these two forms of lipoma are different, and clinically the latter is akin to sarcoma, as it has a tendency to recur very rapidly after removal. In the acquired and painful form of diffused lipoma of the foot the blood vessels are extremely numerous and somewhat hypertrophied. The author gives some clinical evidence in support of his idea that such growths may possibly be due to the degeneration of nucvoid tissue. It is an important matter to distinguish this condition from flatfoot, as any pressure from the employment of a pad to the inner part of the sole would in the case of acquired lipoma render the patient quite unable to get about on account of the pain.

OBSTETRICS.

76. Eclampsia and Albuminuria in Pregnancy: Subsequent Dementia Paralytica.

Meyer of Konigsberg (*Monats. f. Geb. u. Gynäk.*, April, 1909) dwells on certain difficulties in diagnosis where fits occur in pregnancy. Even when associated with distinct albuminuria, convulsions may mean some malady other than the familiar eclampsia of pregnancy. Jolly, he observes, reported an instance of where the cause of the two cardinal symptoms proved to be dementia paralytica, mental disturbance developing before the first fit. Meyer publishes a much more puzzling case, where a woman, aged 36, was seized in the fourth month of her second pregnancy with convulsions involving the whole body and extremities, and was unconscious for several days. Her doctor found that the urine was loaded with albumen, and at once induced abortion. The convulsions then ceased and the albuminuria diminished. The patient's first pregnancy was gemellar, and one of the twins was living and healthy; there was no history of any nervous or constitutional disease. Three months after the induced labour a sudden attack of universal tremors occurred, the patient's speech became incomprehensible, and she became for a time unconscious three days running, and irregular paralyses, not observed by her doctor, set in. There was vomiting, and during convalescence the patient's memory was found to have deteriorated. Two months later another attack took place, the convulsions were milder, and there was no vomiting, but the speech and memory failed greatly, and all the symptoms of dementia paralytica ultimately appeared.

77. Extramembranous Uterine Gestation: Metrorrhagia.

Garipuy and Berny (*Annales de gynèc. et d'obstét.*, April, 1909) report the case of a multipara, aged 32, recently troubled with free uterine haemorrhages. Fibroid disease was diagnosed, as the uterus was hard and irregular, the periods had not ceased, and no fetal heart sounds could be detected. The fundus was over 6 in. in breadth. Five days after the examination the patient was delivered of a dead fetus over ¾ lb. in weight, neither malformed nor macerated. No membranes presented, and no liquor amnii escaped at any stage of the labour. The placenta came away within four hours. Hardly a trace of membrane could be found attached to the placenta, and what was found appeared as a collar of membrane ¾ in. in depth with a thickened border. In short, there was no evidence of recent rupture, whilst the appearances indicated a yielding of the membranes of old date with subsequent thickening and cicatrization. The uterus was curetted, but no fragments of membrane came away. Authorities would rank this case as an instance of premature rupture of the membranes in an ovum implanted on a uterus subject to endometritis. Garipuy and Berny admit that hydrorrhœa was not reported, and that nearly all authors note that it is the most prominent symptom of rupture of the membranes before labour, but they consider that it was masked by the haemorrhages. As regards treatment, labour should not be induced when the condition in question is diagnosed as pregnancy has been known to go on to term.

78. Caesarean Section.

McPherson (*Bulletin of the Lying-in Hosp. of the City of New York*, December, 1908), from the experience of 186 cases of abdominal Caesarean section as performed at the Society of the Lying-in Hospital of the City of New York, discusses the indications and choice of time for the operation, together with its technique and results. The operation is indicated in all cases where obstruction, either on the part of the mother or child, is such that a viable child cannot be delivered per vaginam, and where the mother's condition gives a good chance of recovery; and such indications may arise from the presence of a deformed pelvis or vagina, placenta praevia, eclampsia with rigid cervix, neoplasms, or an excessively large child. Just before, or at the beginning of, labour is the best time for its performance, but the fact that the patient has been in labour for some time need not of itself prevent the possibility of a successful issue. A high median incision is made over the fundus, 12 cm. in length, extending from above downwards to the umbilicus, and the abdominal cavity is walled off with moist gauze pads, so that only a small area of the

anterior surface of the uterus is exposed to view, and the uterus is not delivered from the abdominal cavity. While an assistant, by pressure with a hand on either side the abdominal wall, retains the uterus *in situ* this is opened by a median incision commencing well up at the fundus, care being taken not to open the amniotic cavity. By sweeping the hand quickly between the membranes and the inner surface of the uterus the lower extremity of the child is grasped and a breech extraction performed, the cord being clamped and cut by an assistant. In order to prevent the uterus from slipping down into the wound a double tenaculum is placed on either edge of the uterine wound and the placenta and any clots are removed, deep interrupted sutures of heavy chromic catgut being then inserted and a continuous one of fine catgut used to bury the first row of sutures. The abdomen is then closed in layers in the usual manner and a dry dressing applied, which is left undisturbed till the eighth day, when the sutures are removed. Excluding those cases that would have proved fatal, whether they had been operated upon or not, the results show a mortality of about 4 per cent., with a still-birth percentage of almost nil.

GYNAECOLOGY.

79. Dangers of Curette: Utero-Intestinal-Appendicular Fistula.

PÉRAIRE (*Bull. de la Soc. Anat. de Paris*, March, 1909) reports that a primipara, aged 29, was delivered by forceps on January 21st last; septic infection followed and the curette was applied on February 13th, but the patient's condition became worse, symptoms of severe pelvic peritonitis developing. These symptoms became chronic and the patient wasted steadily. There seemed to be, according to physical signs, a left pyosalpinx. Péraire operated. The uterus was enveloped in strongly adherent coils of intestine. The caecum was firmly soldered to a wounded spot on the left side of the fundus posteriorly, so that the bowel was displaced, occupying in part the left iliac fossa. The vermiform appendix was yet more intimately adherent, whilst its free end, which contained pus, communicated by inoculation with a coil of small intestine which adhered firmly to the uterine wound. The appendix was divided in the usual manner near its caecal attachment and the stump turned into the caecum. The free end of the appendix was turned into the coil of small intestine through a small laceration made in the gut when it was separated from its adhesion to the uterine wall. The edges of the gut around the laceration were closed over the free end of the appendix by a purse-string and a superficial Lembert suture. The wound behind the uterus was closed by suture. The Fallopian tubes and ovaries had escaped infection, being perfectly healthy. On the second day the patient, who ultimately recovered, vomited a big lumbricus.

80. Fibro-Sarcoma of Vagina in Infancy.

SCHILLER (*Monats. f. Geb. u. Gyn.*, April, 1909) reports an instance of a solid tumour of the vagina which developed in a child 2½ years old. As usual with new growths in that canal in infancy, it proved to be highly malignant. It sprang from the posterior vaginal wall, and small racemose polypoid growths were found attached to the free border of the hymen. The tumour recurred after removal, and then was once more excised; later on the cautery was applied to the seat of operation, but, on account of the narrowness of the infantile vagina, this procedure was difficult. Another growth was developing in the anterior wall, and a third on the posterior wall. The child was still robust, and Schiller proposed to dissect away both growths from the vagina, and, should that prove impossible or clearly insufficient, he would take away the entire genital tract by a Wertheim's operation. Radical measures now freely practised for malignant disease of the uterus seem indicated for these equally or more malignant new growths lower down in the genital tract. The tumour in Schiller's case was a fibro-sarcoma.

81. Transduodenal Operation in Pregnancy for Obstruction of Common Duct by Calculus.

RISSMANN (*Zentralbl. f. Gynäk.*, No. 20, 1909) reports a case where a woman, aged 31, became pregnant for the second time in September, 1908. She had been jaundiced a year, and subject to attacks of colicky pains for a yet longer period. By February 1st in the present year the uterus had reached the level of the umbilicus, the fetal movements had been felt, and the jaundice was intense. The stools were quite colourless. There had recently been an attack of biliary colic. Rissmann operated on February 4th. The liver was rather small and the gall bladder shrunken. A solitary stone could be felt in the duodenal end of the common duct, firmly impacted. The duodenum was laid open through its posterior surface, and a calculus over ⅔ in. long, ½ in. broad, and 1½ in. in circumference was extracted by means of forceps from the diverticulum of Vater. The longitudinal incision in the duodenal wall was closed transversely with continuous catgut and two layers of silk suture. The bulky uterus, rising high up in the abdomen, greatly impeded the necessary manipulations. The jaundice began to diminish slowly, the faeces became, though more slowly, coloured by bile pigment. When the report was written (April, 1909) the patient was in good health and the pregnancy was progressing favourably. Rissmann gives references (see also Potocki, Cholécystite et puerpéralité, *Annales de gynéc. et d'obstét.*, vol. lix, 1903; and Cocking, a Case of Persistent Jaundice of Fifty Years' Standing, *Quarterly Med. Journal for Yorkshire*, etc., vol. xi, 1903. Cocking's patient had borne several children).

82. Vesical Haemorrhage from Incarceration of Retroflexed Pregnant Uterus.

BAISCH (*Sem. méd.*, March 3rd, 1909) relates the case of a patient in the fourth month of her fifth pregnancy, in whom micturition suddenly became painful and difficult. At first she obtained relief by pressing both hands on the hypogastrium, but the urine, after becoming blood-stained, finally appeared to consist of nothing but blood, mixed with clots. A typical incarceration of the retroflexed uterus was made out, the cervix being fixed at the upper edge of the symphysis pubis. After removing from the bladder, by catheterization, a large quantity of sanguineous urine, the uterus was reduced under chloroform, and a further quantity of clots pressed out of the bladder. The very next day the urine was sufficiently clear to permit of a cystoscopic examination, when no sign of cystitis was to be found. On the other hand, the blood vessels, and especially the veins, were greatly congested, and some bullous oedema was seen at the fundus, indicating a condition of venous stasis, from pressure of the cervix against the vessels entering the posterior wall of the bladder, which had subsequently caused haemorrhage. The pregnancy pursued its course without further complication.

THERAPEUTICS.

83. The Treatment of Syphilitic Ulceration with Roentgen Rays.

A. BUSCHKE (*Therap. der Gegenwart*, January, 1909) states that *x* rays have been recommended for bubo by Herxheimer, but the author has not found the method of value. At the last Dermatological Congress held at Rome several observers denied that *x* rays have any therapeutic effect on syphilitic affections. Buschke, however, has made experiments, and is able to show that in certain cases the treatment is of considerable use. In one case, that of a coachman of 22 years, the primary chancre occurred on the upper lip and gradually extended. In spite of energetic treatment with mercury, iodide of potassium, arsenic, and other remedies, the ulceration increased until the whole upper lip was destroyed, the nasal septum was attacked, the nasal mucosa, the right nostril and right cheek had been involved. At first the skin of the trunk and extremities showed some ulcerations typical of malignant syphilis. These yielded to the treatment. As all means failed, and more than eight months had elapsed since the onset of the sore, he tried *x* rays. In the course of six months the patient was treated by the rays during forty sittings. The result was a gradual but complete healing of the ulceration, so that the patient could be discharged cured after he had been watched for five further months and no fresh ulceration took place. In a second case the primary affection occurred on the vulva, and gummatous ulcers were found on the forehead, nose, and left eye. The latter healed up under the influence of mercury, but the primary sore did not. Cauterization also failed. X rays, however, were applied, and healed the ulceration up in four weeks. The third case was one of penile ulceration, which resisted mercury treatment. Here, too, healing took place after four weeks' *x*-ray treatment. In a case of soft sore no benefit could be attained, and extirpation had to be resorted to. The histological examination revealed advanced endarteritis, which may have been due to the Roentgen rays. Some observers ascribe *x*-ray carcinoma to the contraction of the vessels

produced by this endarteritis. Two other cases of successful x-ray treatment of malignant syphilitic ulceration are also mentioned. The author therefore advises a trial of x-ray treatment in obstinate ulceration of syphilitic origin.

84. Treatment of Alopecia in Children.

UNDER the term "alopecia" Perier and Gaujoux (*Ann. de méd. et chirurgie infantiles*) include all cases of hair falling out, whether it be local or general. First treat the cause, if it be eczema or impetigo; in all cases due to contagion cut the hair short to the roots. Except where it is contraindicated by a delicate skin, shampoo with black soap night and morning, after which dry the hair well, then use one of the following prescriptions. Apply the remedy with a good deal of friction.

℞ Liq. ammoniae ... ... 5 parts
Baume Fioraventi } ... ... āā 75 ,,
Sp. camphor. }
Misce.

Or

℞ Liq. Hoffmann. ... ... 250 parts
Liq. ammoniae ... ... 4 ,,
Aq. destil. ... ... 25 ,,
Pilocarpin chlorhydrate ... ... ½ part
Sp. lavandulae ... ... 25 parts
Misce.

Or

℞ Tr. jaborandi ... ... 25 parts
Tr. cantharides ... ... 25 ,,
Lin. sap. ... ... 100 ,,
Misce.

Or

℞ Sulphur precip. ... ... 1 part
Ol. cadi ... ... 10 parts
Vaselini } ... ... āā 15 ,,
Lanolini }
Misce.

Or

℞ Acidi acetici ... ... 2 parts
Ol. cadi ... ... 20 ,,
Misce.

85. Effects of Fulguration on Micro-organisms.

J. BERGONIÉ AND L. TRIBONDEAU have been following up the experiments of Wasielewski and Hirschfeld upon the effect of the fulguration spark on micro-organisms (*Archives d'électricité médicale*, May 10th, 1909). Wasielewski and Hirschfeld, after examining effects upon various classes of micro-organisms—particularly the *Micrococcus neoformans* of Doyen and the *Saccharomyces neoformans* of Sanfelice, because of the theory which connects them with the development of tumours—on agar media, concluded that fulguration does not exercise very good bactericidal action. The present investigators have endeavoured to test the matter under more normal conditions, choosing for the purpose of experiment the *Bacillus coli*, because of the rapidity of its cultures and its easy identification. For purposes of exposure, small cubes of potato, properly sterilized, were taken, and a pin's-head portion of the bacilli-bearing material rubbed on the surface to the extent of three or four square millimetres. The cubes were immediately placed in position on an electrotherapeutic electrode having earth connexion, fulgurated for a definite time, the vital portion afterwards being detached with a bistoury, plunged in a tube of bouillon, and left at a temperature of 37° C. Every precaution was taken to avoid the effect of heat upon the culture. The authors detail the results of twenty-three experiments under varying conditions:

Intensity.	Length of Spark.	Results after Different Periods of Fulguration.		
		Rapid Culture.	Slow Culture.	No Culture.
100 m.a. ...	1 to 2 cm.	10', 20	30'	1, 2
120 m.a. ...	1 to 2 cm.	15'	20'	30', 1', 2
200 m.a. ...	1 to 2 cm.	2'	5', 10	20', 30', 1'
400 m.a. ...	1 to 2 cm.	—	—	5", 15", 30'
400 m.a. ...	7 to 8 cm.	—	—	2', 5', 15', 30

From these experiments they conclude that (1) the microbicidal effect is increased with the greater current intensities; (2) absolute sterilization is easily brought about on the surface, and (3) under the ordinary conditions of therapeutic fulguration—that is, 400 m.a. and 7 to 8 cm. spark—it takes place very rapidly. Seven similar experiments were carried out with a culture of *coli* under certain special conditions upon the laminated muscle fibre in the lumbar region of a rabbit. A uniform intensity of 400 m.a. and a 7 to 8 cm. spark gave results as follows:

Rapid Culture.	Slow Culture.	No Culture.
5', 15"	30', 2', 3'	1'

In this case also microbicidal action was augmented with increased doses, but absolute sterilization was difficult to obtain in the deeper tissues, and the results were somewhat paradoxical and uncertain owing to the fact that some tissue elements are better conductors than others. On the whole question the authors affirm that, while fulguration only possesses a limited microbicidal action, it is one, nevertheless, much more pronounced than earlier experiments led us to suppose. They support de Keating-Hart in thinking that this microbicidal action of the spark explains the therapeutic effects of fulguration to some extent and in some cases. The extreme diffusibility of the spark makes it possible to compass the complete destruction of the innumerable micro-organisms spreading out on the surface from the centre actually treated. The authors are not able to say exactly which property of this treatment—mechanical shock, heat, ionization, or ultra-violet radiation—plays the greatest part in the results obtained, but the effect of heat they declare to be very important. In discussing the special series of experiments carried out on mice by Wasielewski and Hirschfeld with the object of showing the resistance of cancer cells to the fulguration spark, they suggest that the persistence of neoplastic power is due, not to the robustness of the cells, but to the existence of a pathogenic agent in their interior, and they think that fulguration furnishes an unexpected argument, but a very interesting one, in favour of the parasitic theory of cancer.

PATHOLOGY.

86. Lesions Produced by Experimental Alcoholic Poisoning.

HENRY J. BERKLEY (*Johns Hopkins Hospital Bulletin*, May, 1909) says that the effect of ethyl alcohol differs slightly from that of spirituous liquors. A moderate dose causes a drop of 15 to 20 beats in the rate of the pulse with a hardening in its quality, and a feeling of muscular lassitude and mental confusion. When taken over long periods the effects produced are cardiac irritability, palpitation, precordial anxiety, difficulty of respiration, increased pulse tension, and dilatation of the peripheral arteries—indications of fatty changes in the heart and vessels; also digestive disturbances and mental impairment. Taken over still longer periods profound loss of memory for recent events, delusions, with cutaneous anaesthesia and loss of deep reflexes were produced. Very large amounts—a litre a day—caused great cardiac depression, complete cutaneous anaesthesia, and loss of deep reflexes, visceral paraesthesias and rapid dementia with death from syncope. The account of the minute pathological effects of alcohol on the tissues is taken from the result of observations on animals, since it is impossible to obtain the material fresh enough in cases of death from acute alcoholic poisoning in human beings. The most marked effects are produced on the blood vessels. The nuclei of the endothelium are swollen and fragmentary, and the protoplasm is undergoing retrograde changes. In the muscular coat the nuclei are degenerate or absent, and the protoplasm is swollen, turbid, and stains badly. The adventitia contains numerous swollen necrotic leucocytes. The perivascular lymph space is either obliterated or else choked with disintegrated leucocytes and granular detritus all undergoing fatty change. Some of the capillaries, too, are completely blocked by plugs of white blood corpuscles. In the veins this plugging with leucocytes is still more marked, both in the lumen and in the coats of the vessels, and in some places is so complete as to have caused back pressure enough to rupture the vessel walls. In the arteries the amount of degeneration in the walls is in direct proportion to the extent of this lymphoidal plugging of the arterioles and capillaries. The increased pressure consequent on this plugging increases the effect of the alcoholic poison in the circulating plasma in bringing about the degeneration of the tissue elements of the implicated vessels. The absence of vaso-constrictor nerves in the cerebral arteries makes the effect of the poison more marked on the cerebral arteries than elsewhere, in the nervous system the damage is less marked than in the vessels; it is shown by an absence of the normal Nissl staining, and the presence of swellings on the lateral branches of the dendrites.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

87. Tuberculosis in Children.

HEINRICH ALBRECHT (*Wien. klin. Woch.*, March 11th, 1909) discusses the relative frequency of primary intestinal tuberculosis and of infection by inhalation in the light of the pathological and anatomical facts observed by him in the course of 3,213 *post-mortem* examinations made upon children during the last six years. Of the 3,213 children, 1,060 (or 33 per cent.) proved to have suffered from tuberculosis in some form or other. Of the tuberculous cases, 191 (or 18 per cent.) were children under a year old, 691 (or 65.2 per cent.) were between 1 and 6 years old, and 178 (or 17 per cent.) were between 6 and 12 years. In the article under consideration the term "primary intestinal tuberculosis" is limited, as in Henle's definition, to an isolated tuberculosis of the intestinal mucous membrane or of the mesenteric glands in which the most careful examination fails to reveal the smallest doubtful scars at the apices of the lungs or hardenings in the bronchial lymph glands. Only 7 (or 0.66 per cent.) of the whole number of cases proved to be cases of primary intestinal tuberculosis, 5 of the cases being in children aged from 1 to 12 years, and 2 under 1 year. Heller of Kiel and von Beitzke of Berlin found primary intestinal tuberculosis in at least a quarter of the tuberculous children upon whom they made *post-mortem* examinations; the differences in the two sets of figures may depend either upon the small number of cases upon which some of the statistics are based or upon the prevalence of different local conditions at Vienna, or upon a combination of the two causes. Albrecht describes the pathological condition which he found to be typical, starting from the cases in which the tuberculosis was an accidental condition found at the autopsy but was not the cause of death. In these early cases the condition was a chronic caseating tuberculosis of the tracheo-bronchial glands, usually of one side only, the remaining groups of glands being either normal or only affected to a slight degree. In later stages the path of infection could be traced either to one or both sides of the trachea, or to the lymph nodes of the anterior mediastinum, or downwards to the lymph nodes on the diaphragm. Careful examination of the lung tissue also showed in nearly every case one or more isolated caseous areas, varying in size from a millet seed to a hazel nut. A fissure in the centre of this area corresponded to the bronchiolus. Such areas were seen at different stages; thus a process of calcification at the centre and fibrous shrinking from the periphery inwards might reduce the area to a small scar, or it might spread by the eruption of fresh tubercles at the periphery, and more alveoli might be affected. The caseous lymph glands always corresponded in position to these tuberculous areas on the lungs, which are, according to the author, the seat of the primary infection. The few instances in which such areas could not be detected are to be explained either by the supposition that such an area had been present but had diminished and practically disappeared, or that the bacilli had gained entrance to the lymph stream through the lungs without causing an essential change at the point of entry. Most probably these primary lung areas are situated on the smallest lymph nodules of the bronchi, and the method of infection is aërogenous. Two other modes of infection are theoretically possible—the haematogenous and the retrograde infection from the tracheo-bronchial glands. The haematogenous method is negatived because it is opposed to the conditions found in the child organism, for which the law enunciated by Cornet in the case of guinea-pigs holds good—the law, namely, that wherever tuberculosis breaks out it localizes itself in the first place in the lymph glands of the region, whether or not a tuberculous affection arises at the point of entry. The second or retrograde mode of infection is negatived by the fact that the anatomical changes in the areas in the lungs were always older and more advanced than those in the lymph glands. The next point dealt with is scrofula of the lymph glands of the neck. Except in three cases the author has never found tuberculosis of these glands without some affection of the lungs and without either a more advanced tuberculosis of the tracheo-bronchial lymph glands or one on the way to recovery. The three exceptions were, two of tuberculous ulcer of the face and one of caseous affection of the tonsil. In considering the spread of tuberculosis by the haematogenous method the fact is emphasized that the author has never examined *post mortem* a case of tuberculosis of bone without being able to find signs of old or healed tuberculous changes in the lungs or bronchial glands, nor a case of tuberculous meningitis without some old tuberculous area being present somewhere in the body, especially in the lymph glands—facts which speak against the probability that during childhood tubercle bacilli can frequently escape from the intestine into the blood without inducing any characteristic change on the intestine or the mesenteric glands. The predisposition to phthisis which results from infantile tuberculosis may be due to the injury to the lymph circulation caused by the destruction of lymph glands, or it may be partly due to the production of a state of tuberculo-toxicosis; or, hypothetically at least, it may be suggested that the widespread tuberculous lymphadenitis of childhood may be the cause of the gradual development of the habitus phthisicus.

88. Intussusception in Purpura.

MORSE AND STONE (*Arch. of Ped.*, April, 1909) report a case of intussusception in purpura, and give references to other similar reported cases. A girl, aged 7, with unimportant family history and no previous personal history of bleeding, developed purpura on the legs and thighs, which entirely disappeared in three days. The legs and feet were swollen, and at the end of the three days diarrhoea set in, and in a few hours the motions consisted almost entirely of blood, with very little mucus. There was considerable vomiting of a greenish-yellow fluid, containing mucus and occasional streaks of blood. No other haemorrhages had occurred, but there had been some pain in the right side of the abdomen. Two days later (five days in all since the first sign of purpura) she was admitted to hospital, her general condition being good, and the general physical examination negative. The abdomen was flat and tympanitic, except over a sausage-shaped tumour, which could be felt on the right side, just above the brim of the pelvis. The mass was slightly tender, and varied a little in shape from time to time. There was a leucocytosis of 21,000. Under ether the tumour could be distinctly felt and resembled a thick-walled appendicular abscess, but, upon incision directly over the mass through the outer border of the right rectus, it was found to be an intussusception into the caecum, the ileo-caecal valve being the advancing point. The intussusception had become rotated as a whole, so that the small bowel entered the large from above at a point just beneath the liver. Upon reduction the head of the caecum and ileo-caecal valve was found to be swollen and congested, and the peritoneum covering the head of the caecum was dark and roughened. Seven days after operation the pulse and temperature rose and there was considerable vomiting, with three severe intestinal haemorrhages. There was marked pain and slight distension in the right side of the abdomen, and the incision was opened, but everything was found to be normal. A fresh eruption of purpuric spots appeared on both ankles at the time of the haemorrhages: 30 c.cm. of rabbits' serum were give subcutaneously soon after this second operation, and 15 c.cm. on each of the two following days, gelatine being administered by the mouth. There were no more haemorrhages, but a few more purpuric spots appeared about the ankles during the next few days, and three weeks later there was a recurrence of the purpura on the arms and legs; 10 c.cm. of human serum were given subcutaneously, and recovery was slow but uneventful. In such cases it is supposed that the intussusception is due to the local absence of peristalsis, resulting from the haemorrhage into the intestinal wall, but this explanation is not accepted by some authorities, since haemorrhages into the intestinal wall in other conditions are not followed by intussusception. Döbeli considers that the purpuric symptoms are secondary to some intestinal disease, and that when an intussusception occurs it is the primary condition. The diagnosis of intussusception must rest entirely upon the presence or absence of a palpable tumour, as all other symptoms may be caused by the purpura, and on this account it is better to defer operation in purpura with abdominal symptoms unless a definite tumour can be felt. It must, however, be borne in mind that in rare instances haemorrhage into the intestinal wall alone may produce a palpable tumour without there being any intussusception.

SURGERY.

89. Diaphragmatic Hernia.

BELL (*Amer. Journ. of Med. Sciences*, April, 1909) records a case of diaphragmatic hernia in a man, aged 40, in whom a small portion of the liver projected through the diaphragm. The hernial portion was continuous with the main mass of the liver in the abdominal cavity, and no other organ was involved in the hernia. The previous history was not obtainable, and the condition was discovered in the dissecting-room, the patient having died apparently from a tuberculous pneumonia. There was no pleural or peritoneal sac, and the opening in the diaphragm was elliptical in shape, with its long axis coinciding with the direction of the muscle fibres, which were apparently torn apart and not ruptured transversely. The opening was much smaller than the hernial mass, round the neck of which it fitted so closely that there could hardly have been any interference with respiration, and its situation was in the muscular part of the diaphragm on the edge of the tendinous portion in the angle between the middle and right leaflets of the central tendon. The case was looked upon as an acquired hernia of long standing, though without any previous history the distinction between an acquired and a congenital origin may be difficult. The edges of the opening are said to be much smoother in the congenital form than in the traumatic. All hernias in the newborn in which there is no record of any injury during birth are regarded as congenital, and most of the acquired forms give a definite previous history of traumatism. Both the congenital and the acquired forms are about five times as frequent on the left as on the right side. In the case recorded, which was regarded as acquired, it is possible that some congenital weakness may have existed in the diaphragm at the place of rupture, and after such rupture the inspiratory negative pressure in the thorax would cause the liver to be gradually drawn into the thoracic cavity.

90. Rectal Narcosis.

DUMONT (*Corr.-Bl. f. schweizer Aerzte*, December 15th, 1908) holds that the method of inducing general anaesthesia per rectum has undeservedly fallen into oblivion. Though the inhalation method is superior in ordinary cases, rectal anaesthesia has great advantages in operations in which the anaesthetist would otherwise be in the way of the surgeon, that is, in those on the mouth, nose, larynx, eyes, and tongue, and for plastic procedures on the face. This view is shared by Dudley Buxton (*Anaesthetics*, London, 1909). Ether has been generally used for rectal narcosis, and the only attempts to employ chloroform, as far as the writer knows, are those of Dubois, who experimented unsuccessfully on animals. The following technique is recommended: The rectum is first thoroughly emptied by an enema the day before and again on the morning of the operation. It is then irrigated with tepid normal saline solution. The apparatus for the administration of ether should be so constructed as to prevent the entrance of liquid ether into the rectum. The simplest and most satisfactory is that of Dudley Buxton. A graduated glass tube containing ether is placed in a reservoir of water at 48° or 50° C. The ether vapour is conducted from the glass tube through an india-rubber pipe to a glass globe, which in turn is connected by a second piece of india-rubber tubing with a glass tube for insertion into the rectum. Any condensation of ether vapour immediately becomes apparent in the glass globe, and the condensed ether is removed by temporarily detaching the rubber tube from the globe. In Dudley Buxton's original apparatus the rectal tube is provided with rubber rings to seal the intestine. In the writer's modification these rings are omitted. They prevent the escape of flatus and are unnecessary. As ether is excreted more slowly when administered per rectum than in the inhalation method, the administration should be frequently interrupted to allow flatus and unabsorbed ether to escape. If too much ether is given the abdomen becomes distended and the anaesthesia is too profound. The writer has had excellent results in operations on empyema of the maxillary antrum, and in subcutaneous resection of the deflected septum nasi. In one case the rectal administration was continued for more than two hours without any unpleasant consequences. It is advisable to give 15 drops of laudanum as a routine practice before the rectal administration of ether. Intestinal diseases, whether acute or chronic, are absolute contraindications.

91. Traction in the Treatment of Hip Disease.

BRADFORD AND SOUTTER (*Amer. Journ. of Med. Sciences*, December, 1908), from a statistical comparison of results obtained by the traction treatment of hip disease as adopted at the Boston Children's Hospital, and those recorded in other institutions under other lines of treatment, clearly show the superior advantage of the former. For the last three years a traction splint was employed which had considerable advantages, both in efficiency and simplicity, over the kind generally used. It resembles a Thomas's knee splint with an additional attachment of a perineal half-ring to press on the sound side and determine the amount of abduction, and also a windlass arrangement to furnish traction. It possesses the advantages of being cheap, easily made, requiring no skilled nursing, and producing less perineal chafing than when straps are used. Traction is needed during the stage of exaggerated muscular spasm, and its object should be to check undue bone crowding, efficiently fix the joint, and protect it from jars, results which can be obtained by the use of the splint described. During the last thirty years treatment has included some form of effective traction during the acute and subacute stages, and, in order to more accurately determine the ultimate results, inquiries were made among upwards of 400 patients, whose records showed that the affection was sufficiently severe to demand attention for a year or more, and all the patients communicated with had come under treatment at least nine years previously to the inquiry. Notes of 5 cases are given, pointing to the value of traction in cases in which the final observations were made several years after the end of treatment, and also 2 cases illustrating the value of splint protection of the hip.

OBSTETRICS.

92. Parturition complicated by Uterine Myomata.

As a rule uterine myomata do not endanger a woman in parturition. Max Jacoby (*Deut. med. Woch.*, May 27th, 1909) states that it is not infrequent that these tumours are entirely overlooked or are only detected during the expression of the placenta, and are not further taken notice of. Even large multiple tumours may be harmless, and he is convinced that the size is far less important than is the situation of these myomata. When attached to the lower portions of the uterus, they usually recede into the abdomen with the lower uterine segment during the early stages of the labour and thus get out of the way. On the other hand, myomata attached to the cervical mucosa form obstructions to labour. They influence the presentation of the child. It has been determined that vertex presentations only occur in 54 per cent. instead of 95 per cent. of the cases, while transverse presentations occur much more frequently than is normal (19 per cent. as against 0.6 per cent.). Even small growths may so narrow the pelvic passage that the fetal head cannot pass intact. In such cases the obstetrician may be compelled to perform Caesarean section to avoid having to perforate a living child's head and to save the patient from a miserable death from rupture of the uterus. It is, however, possible for a tumour situated in the pelvis to be pushed upwards into the false pelvis by the action of the uterine contractions. As an illustration of this the author cites a case to which he was called by a midwife. The patient was a primipara, and in spite of good pains the head would not enter the pelvis. Realizing that there was imminent danger of rupture of the uterus, he merely made an external examination at first, and felt two large nodules at the fundus. Just above the symphysis he felt a hard tumour, about the size of two fists. The midwife declared that she had felt the head in the os, and that the tumour had not been present over the symphysis one hour before. Under these circumstances he made a cautious internal examination, and found the head just above the brim of the pelvis. The os was widely dilated, and he therefore considered that a high forceps operation might lead to satisfactory results. With some difficulty he succeeded in applying the blades of the forceps. The tumour caused a pressure on the right blade, but after this had been applied he was able to extract a living child in a condition of asphyxia. The child responded to the usual methods of resuscitation. A not inconsiderable haemorrhage took place some ten minutes after the delivery, and he was therefore compelled to express the placenta according to Credé. The myomata at the fundus rendered the uterine muscle little disposed to contract. The lying-in was a normal one, but the infant died nine weeks later of ætes, probably caused by the long compression of the head by the tumour. He considers that the myoma was pressed out of the pelvis after obstructing the course of the birth for a considerable time. In other cases the myomatous tumours undergo such changes in

consistence that they become easily compressible, and the head may pass while they are still in the pelvis. An instance of this is given. Submucous myomata lead to placenta praevia in a certain number of cases. The placenta in these cases is found to be inserted at the inner surface of the myoma. As a result of changes in the endometrium a further complication occurs not infrequently. A pathological adhesion of the placenta to the uterine wall takes place. He gives the details of a case which illustrates this.

GYNAECOLOGY.

93. Pelvic Haematocele Independent of Ectopic Gestation: Rupture of Haematic Cyst of Ovary.

JAYLE (*Rev. de gynéc. et de chir. abdom.*, March-April, 1909) admits that retrouterine haematocele is, in the great majority of cases, associated with ectopic gestation, whilst in a few other instances the haemorrhage proceeds from large ovarian cysts or from uterine fibroids, where big vessels have given way, usually, but not always, from axial rotation. He has succeeded, however, in collecting seventeen reports, including one in his own practice, where pelvic haematocele was traced to the rupture of a blood cyst in an ovary not the seat of a true new growth. Jayle publishes full abstracts of the cases related by others. His own patient was a single lady aged 42. There was a history of regular, but occasionally painful, menstruation. In October, 1907, pelvic pains set in after a period, recurring with the periods in November, December, and January, 1908. On the latter occasion they were severe and associated with vomiting and constipation; the pains extended all over the abdomen, and a very sharp attack took place during defaecation on January 9th, the third day of the period. The patient became anaemic. Palpation was difficult, as the hymen was sclerosed, but a mass simulating a uterine fibroid could be defined filling the pelvis. Jayle operated at once. The mass proved to be a collection of over a pint and a quarter of fluid blood and more or less organized clot; the uterus was small as in a virgin. The right Fallopian tube was found free from any gestation sac; it was removed, but the right ovary, quite healthy in appearance, was left behind. There was distinct oozing from one of a pair of small cysts on the surface of the left ovary. It was removed with the left Fallopian tube. The uterus was suspended to the parietal peritoneum by four catgut sutures; the pelvic cavity was drained by four strips of gauze, removed within forty-eight hours. The patient recovered. The two Fallopian tubes were minutely examined, and not a trace of any product of conception could be detected by the naked eye or microscope. There were dilated and hypertrophied capillaries in the stroma of the left ovary, many of which had given way; their blood had become extravasated into the stroma, and at two points a blood cyst had developed. One of these cysts had ruptured and the blood extravasated into the peritoneal cavity caused the pains following the three periods immediately preceding the operation. As it was in Jayle's case, so was it in that writer's sixteen, in the sixteen remaining reports, so that haematocele from a blood cyst of the ovary is a well-defined, although rare, pathological condition.

94. Cystic Tumour of Vermiform Appendix.

WEINHOLD (*Monats. f. Geb. u. Gyn.*, April, 1909) recently discussed before a medical society a case where a tumour of the vermiform appendix was removed from a woman 74 years of age. Before operation it had been diagnosed as a pedunculated myoma projecting from the right side of the uterus. On palpation a hard, sausage-shaped body could be felt, nearly 8 in. in length and as thick as a man's fist. At the operation it was found to be quite distinct from the uterus, and only connected with the genital tract by an adhesion to the posterior layer of the right broad ligament. Its pedicle was seen to be ¾ in. of normal vermiform appendix, and the mesentery of that process ran on to the tumour and conveyed to it its blood vessels. The tumour was cystic and tense, with a white-skin coloured surface and clear though slightly turbid contents. It was amputated, together with the remainder of the vermiform appendix. The cyst wall was found to be made up of a muscular coat with transverse and circular layers, as in the normal condition. Hence it was a dilatation of the appendix, the result of very chronic inflammation. Asch, in discussing Weinhold's case, stated that he once operated on a woman suffering from pains due to adhesions around the uterus, ovaries, and tubes. A surgeon had already operated for disease of the appendix. Asch detected a tender, hard mass, as big as a walnut, at the site of the appendix, and he took it for exudation around ligatures. When the abdomen was opened the mass was seen to be the stump of the vermiform appendix, which had been incompletely removed. There was no sign of malignancy, and Asch therefore simply trimmed away the surrounding walls of the caecum, together with the stump, which was neither converted into a new growth nor into a true cyst with clear contents. Its dilatation was due to a mass of faecal calculi in its lumen.

THERAPEUTICS.

95. Scopolamine-Morphine Injections.

BETWEEN December, 1906, and March, 1908, 600 out of a total of 929 labours have been conducted at the Freiburg Clinic with the help of injections of scopolamine and morphine. Josué A. Beruti (*Medizin. Klinik*, April 4th and 11th, 1909) gives the details of these 600 cases, and also some of the corresponding figures for the 1,000 cases previously reported from the same clinic by Gauss. Different reasons prevented the use of the injections in 329 of the total number of cases; some refused them, in others the patient came to the hospital at too late a stage of labour, in others there was no possibility of obtaining sufficient quiet, in others definite contraindications were present, as, for instance, primary weakness of the pains, a general weak and somnolent condition, fever, a history of anaemia or of mental disease, or high grade narrowing of the pelvis. Of the remainder, 48.5 per cent. were primiparae and 51.5 per cent. were multiparae. The larger operative procedures amongst these cases included hebosteotomy once, internal version and extraction three times, application of forceps to the head thirty-seven times, manual separation of the placenta seven times. In 430 of the cases Merck's sterilized scopolamine solution was employed, and proved to be the most satisfactory preparation. Ethyl chloride was used as the child's head was born in 195 cases, usually those in which for some reason a satisfactory amnesia was not to be expected at the end of labour, or cases in which the patient was especially sensitive to pain. Beruti considers that the use of ethyl chloride is free from danger, but that it is in most cases unnecessary, and will become increasingly so with improvement in technique. The dose of scopolamine employed was smaller than where complete narcosis is required. Not more than 0.00045 gram of scopolamine and 0.01 of morphine was ever injected at one dose. The largest amount given to any one patient was 0.00675 gram of scopolamine, to a patient accustomed to large doses of morphine and veronal; the length of the narcosis was 45 hours 15 minutes. The second highest dose, of 0.00405 gram, corresponded to a 59-hour narcosis. Neither of these doses caused any unpleasant side-effects. The mean amount in the 600 cases was 0.00112 gram scopolamine and 0.01041 gram of morphine. There were very few side-effects; 42 of the cases showed slight motor unrest, and 8 a typical condition of excitement. The progress of the first stage appeared to be to some extent interfered with in 174 cases, but only in 37 seriously interfered with, and as in any case the light sleep can be disturbed if necessity arises, a practical unfavourable effect at this stage does not need consideration. In 9 of the cases during the second stage abdominal pressure was only brought to bear if it was suggested; in 3 of the cases the pressure was only moderate, and in 4 bad. The induced sleep was purposely disturbed in 3.5 per cent. of the whole number of cases during the first stage of labour, and in 0.85 per cent. during the second. The effect of the injections was good in 390 cases (= 65 per cent.). A better indication of the results obtained is given if the patients are divided into classes, of which the first two were treated as private or semi-private patients, and had quiet rooms and a doctor experienced in the use of scopolamine injections. In the first class the action was good in 81.81 per cent. of the cases: in the second class in 70.15 per cent. In 131 cases, or 21.83 per cent., sleep was not fully obtained, and the pain was only lessened. In 79 cases, or 13.16 per cent., in which the injection had no effect, the patients came to the hospital too late in labour. The average duration of the first two stages of labour was 19 hours 22 minutes for primiparae, and was thus not materially lengthened. Two out of the 600 mothers died, 1 from haemorrhage—the case being one of placenta praevia—the other from sepsis; in neither instance was the death attributable to the injections. The morbidity among the mothers was in no way greater than the average. Among the children there was no death which

could in Beruti's opinion be in any way connected with the use of the injections. The conclusions arrived at from a study of these cases are that scopolamine-morphine sleep may be obtained without danger of injury to the mother or child, and without any substantial effect upon the physiological processes of labour. Also that the scopolamine-morphine sleep is the only method by which in about 80 per cent. of labour cases the pains of labour can be altogether abolished.

96. Treatment of Chronic Nasal Catarrh.

ALTHOUGH chronic nasal catarrh used to be regarded as an incurable affection, the advances in rhinology have discovered the causes of this form of affection, and as a direct result many forms are now readily curable. A. Hartmann points out that improved methods of examination of the naso-pharynx, the pharynx, the larynx, and the nose itself, render it, as a rule, easy to determine the cause, and the uselessness of applying old-fashioned general remedies becomes at once self-evident (*Deut. med. Woch.*, March 4th, 1909). When the examination reveals local changes of the tissues—such as hypertrophy, neoplasm, or mechanical obstruction—the local or operative treatment required to remove the cause will stop the catarrh. If, on the other hand, the circulation is disturbed or constitutional symptoms of disease are detected and are shown to be associated with the catarrh, the primary step in the treatment is to attempt to remove these causes. Mechanical obstructions tend to prolong the catarrh by imprisoning the discharges. The retained secretions undergo decomposition, and the products irritate the mucous membranes of the nose and naso-pharynx. In cases of simple swelling of the mucous membranes, irrigation with some indifferent fluid—for example, a 2 per cent. salt solution—acts sufficiently. At times it is wise to spray the parts with cocaine solution beforehand to reduce the swelling and thus to enable the fluid to reach all the parts. In a similar manner, when the catarrh is due to adenoid vegetations, the removal of the same suffices to cure the catarrh. Nasal polypi, papillomatous overgrowths of the inferior turbinated, and "raspberry" hypertrophy of the posterior end of the lower turbinated bone, are frequently responsible for the continuation of the catarrh, but are easily overlooked. The last named does not necessarily impede respiration. Spurs, deflections of the nasal septum, etc., also act in this way. The operative removal of all these leads to the cure of the catarrh. Narrow nostrils which offer resistance to the free entrance of air, and are often associated with a narrow pyriform aperture, have a similar effect, and should be treated by dilatation, preferably by means of Feldbausch's instrument. Secretion may further be retained when the nasal cavity is too capacious. Examples of this are met with in true ozæna and in syphilis with destruction of the septum, etc. Indirectly the presence of nasal obstructions causes pharyngeal, laryngeal, and bronchial catarrh, by producing mouth breathing and the drying and irritating of the mucous membranes of these air passages. In determining the diagnosis of hypertrophy of the tissue in the naso-pharynx, the occurrence of chronic cough in children should rouse a suspicion, and necessitate further examination. The cavities of the nose require special examination. This is carried out by probing, by irrigating, and by illuminating. The secretion of these forms of catarrh is offensive. The secretion may escape by the naso-pharynx, and thus simulate a pharyngitis or bronchitis. At times the condition may resemble phthisis. The tonsils may be the seats of the disturbance brought about by the catarrh. The secretion may be thick, plugging the follicles, or may be muco-purulent, and can be demonstrated by pressing the anterior pillar of the fauces. The treatment consists in repeatedly squeezing the tonsils, incising the follicles, and removing the tonsils either by means of a tonsillotome or of the author's conchotome. The causes of catarrh situated in the fauces are granulations, varicose conditions of the veins at the base of the tongue, and laryngeal polypi. These can usually be removed by means of the galvano-cautery. Among the constitutional causes, syphilitic and tuberculous ulcerations are mentioned. Foreign bodies in the nose, including sequestra, produce catarrh, and the catarrh disappears after the removal. The author deals also with disposition to catching cold. Good air, especially at the seaside, air baths, hydrotherapeutic measures, gymnastics, and improvement of the general condition of health, form the treatment. In speaking of the treatment of ozæna, he states that the crusts can be removed by irrigation or by applying a wad of cotton-wool or strip of gauze soaked in some fluid. He uses either common salt solution or solutions of sodium bicarbonate, boric acid, permanganate of potassium, chlorate of potassium, etc. The secretion may be diminished by a powder consisting of zinc sozoiodolate or alum, with boric acid or borax, to which hydrochlorate of cocaine (0.1 gram) or menthol (0.1) is added. For dry pharyngitis he uses Lugol's solution or vibration massage, or better still, painting with menthol. Hyperæmic swelling of the pharynx of long standing does well with painting with a 10 per cent. solution of silver nitrate. Laryngeal catarrh often does not need special treatment, as it disappears when the nose, naso-pharynx, and fauces are treated. If local measures are necessary, he uses a spray of sodium perborate, while when he needs an astringent powder, he uses the sozoiodolate of zinc.

97. Subconjunctival Injections in Eye Diseases.

SIGNORET (*Ann. de med. et de chir. infantiles*, April, 1909) holds that subconjunctival injections in certain ocular diseases are strongly to be recommended. A maximum result may be obtained in syphilitic and tuberculous affections of the eye, also in traumatism and post-operative complications. They can also be successfully employed in keratitis, in affections of the uveal tract and in optic neuritis. The method is useful in gonococcal affections whilst other treatment is being continued. The agents usually employed are the mercurial salts, particularly the cyanide in solution, strength 1 in 2,000. Salicylate of soda can be used in rheumatic affections, preparations of iodine in cataract, and, lastly, tuberculin T.R. in tuberculosis of the eyes, but in the latter disease the reaction to tuberculin is at times violent, so that it must be used with caution.

98. Prophylaxis of Recurring Tonsillitis.

CAMPANI AND FORMIGGINI (*Gazz. degli Osped.*, May 11th, 1909), partly as the result of personal experience and partly from bacteriological examination, recommend careful oral disinfection with bicarbonate of soda as a preventive of frequently recurring tonsillitis. They found that the flora of the mouth are particularly apt to flourish during sleep, when none of the mechanical and detergent effects of mastication, salivation, and speech are in operation. But this nocturnal growth could be much checked by brushing the teeth, gums, and especially the base of the tongue with a toothbrush moistened and dipped into bicarbonate of soda. Under this careful regimen of cleansing, in addition to the local effect on the teeth, it was found that the recurrence of attacks of tonsillitis was very much lessened.

PATHOLOGY.

99. Experimental Alcoholic Paralysis.

CH. AUBERTIN AND J. LHERMITTE (*Zentralblatt für Inn. Med.*, March 13th, 1909) describe the condition found on section in a rabbit which had suffered from paralysis of the hind part of the body together with local wasting and a necrosis of the thigh, the symptoms being due to poisoning by small doses of absinthe experimentally administered during a period of ten months. In this case the changes on which the paralysis was based were altogether medullary except for isolated degenerative changes in the peripheral nerves which were presumably connected with the considerable changes in the cells of origin. The changes in the cells consisted of considerable decrease in volume, with granular degeneration, shrinking of nuclei, pigment atrophy, disintegration of a large number of elements, and at the same time marked overgrowth of neuroglia, all this being independent of the acute infectious changes which usually characterize an experimentally produced poliomyelitis, and independent also of alterations in the vessels, and therefore of a pure chronic toxic poliomyelitis. The cerebral lesions were much less marked, and the process had not here progressed to regular cell destruction; the fact that the cerebral lesions had not produced any secondary changes in the spinal cord suggests that they were not the cause of the paralysis. In the case of a guinea-pig which had been experimentally poisoned for eight months without the onset of paralysis, the authors found (1) intact peripheral nerves; (2) changes in the grey matter of the cord similar to that described above, but less intense and not having progressed to atrophy of the cells; (3) granular degeneration of some cells of the cortex together with slight neurogliar reaction. These experiments showed that chronic alcoholic poisoning may go on to paralysis whose cause is to be found only in a destruction of the spinal motor cells, the peripheral nerves being almost altogether intact.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

100. Hernia of Lung.

Eugen Polya (*Pester Medicin.-Chirurg. Presse*, March 28th, 1909) describes a case of congenital defect of the thoracic muscles with hernia of the lung. The patient was a workman, 51 years of age, who stated that the defect had been present since his birth, and had never prevented his work. On examination of the chest, the right half of the thorax was markedly depressed and the left half prominent; the change came at the left border of the sternum, where the left rib cartilages projected like a wall. At the anterolateral part of the chest wall on the right side the ribs were immediately under the skin, and the pectoralis major and serratus anterior muscles could not be made out. There was a skeletal defect of the thoracic wall; the third and fourth ribs, at a distance of 5 and 4 cm. respectively from the edge of the sternum, suddenly changed their directions so as to form obtuse angles which, in the case of the third rib, looked upwards and to the left; the fourth looked downwards and to the left; a piece of the fourth rib, about 4 cm. in length, was lacking, and replaced by a sharply angular thin band. Corresponding to this defect the skin, during deep inspiration, was drawn in about 1 cm., while during forced expiration, as in coughing, there was a small, soft, air-cushion like tumour, about the size of an apple. The condition may be summarized as of absence of right pectoralis major and minor, and probably also of the serratus anterior, defect of the thoracic wall with hernia of the lung, elevation of the scapula, syndactylia, and defective growth in length of the forearm. Most other cases of defect of the pectoral muscles which have been described are accompanied by other anomalies, which can be divided into five groups: (1) Defects of other muscles (2) anomalies of the skin and mamma; (3) anomalies of the bony wall of the thorax; (4) changes of the upper extremity; (5) congenital anomalies of other parts of the body. Defects of the bony wall, such as was present in the author's case, is comparatively rare. Much discussion has taken place as to whether these muscular defects are simple congenital anomalies or whether they are cases of a progressive dystrophy which has come to an end in early childhood or in intrauterine life. In any case, the combination of the muscular defect with other inborn anomalies, especially of the bony wall of the thorax and of the upper extremity, shows that at least in some cases a true congenital anomaly is present. In the case in point, the most plausible explanation is that, with increased intrauterine pressure, due to deficiency of liquor amnii, pressure of the arm on the chest wall *in utero* brought about the defect. The syndactylia and shortening of the hand and forearm speak in any case for an increased intrauterine pressure. At the same time the author does not believe that there is any uniform explanation of all these defects.

101. Hereditary Haemorrhagic Telangiectasia.

Frederick Hanes (*Johns Hopkins Hospital Bulletin*, March, 1909) gives a description of this affection based on the study of 8 cases which have come under his own observation, and others which he has collected from the literature. His definition of it is that it is "an hereditary affection manifesting itself in localized dilatation of capillaries and venules, forming distinct groups, or telangiectases, which occur especially upon the skin of the face, nasal and buccal mucous membranes, and give rise to profuse haemorrhage, either spontaneously or as the result of trauma." The factor in the etiology of this affection of prime importance is heredity. With the exception of haemophilia there is no disease in which this factor is so powerful. There is no instance of a patient suffering from this affection and having children all of whom were free from the disease. The sexes are equal in their liability to being affected by the disease and in power of transmitting it. In addition to heredity repeated traumatism and abuse of alcohol seem to have some etiological influence. Microscopical examination of one of the characteristic red spots shows it to consist of an aggregation of relatively enormously dilated capillaries, whose walls consist only of endothelium, covered only by a very attenuated epidermis. The one constant symptom of the disease is haemorrhage. This most commonly takes the form of epistaxis, bleeding from the lips and buccal mucous membrane coming next in order of frequency. The bleeding is very profuse, and always originates in one of these telangiectases. Secondary anaemia with its attendant symptoms follows in due course. The sole characteristic sign of the complaint is the presence of these multiple telangiectases. They occur in the nose and mouth and on the lips most frequently, but are also found on the skin of the face, hands, and feet, on the scalp and conjunctivae, and have been observed once *post mortem* on the gastric mucous membrane. When they first appear they are bright red, but become more purplish later. They begin in early childhood, and cause increasing annoyance until in late adult life they constitute a serious menace to health. They never attain a greater size than that of a split pea. The treatment of the affection consists in repeated destruction by cauterization of the offending telangiectases, the author finding a bead of chronic acid fixed on a probe the best means to employ for this purpose.

102. Incontinence of Urine.

Perrin (*Prov. méd.*, March 6th, 1909) describes the different varieties of urinary incontinence, which, he points out, ought to be distinguished from one another, incontinence being only a symptom and not a pathological entity. The most frequent form is enuresis, generally occurring in infants and young children. In this form the incontinence is confined to night and the period of sleep, no inconvenience being experienced during waking hours. The only exciting cause which is present at night and absent during the day is the condition of profound sleep in which the subjects of this symptom are usually found. This sleep is of the nature of stupor, and it may be explained by the fact that it generally coexists with adenoids, nasal polypi, goitre, etc., and is cured when these are removed. Insufficient aëration of the blood produces a state of lethargy in the patient, the cerebral centre being rendered less sensitive. In that condition the call to empty the bladder gets no farther than the medulla, where it is translated into action without the restraining influence of the brain. If the removal of the obstructing cause is not sufficient, the faradic current will succeed in re-establishing the forgotten connexion between the brain and the bladder. Incontinence occurring during the day as well as at night is generally found to depend on some amount of cystitis, caused either by microbes or by a mechanical cause, such as phimosis. In the adult the symptom may arise from an enlarged prostate, locomotor ataxy or general paralysis, intraurethral tumour, hyperdilatation of the urethra, displacement of the bladder, or injury to the vesical sphincter.

SURGERY.

103. Chronic Inflammation of the Omentum (Epiploitis).

Péraire (*Bull. et mém. de la Soc. Anat. de Paris*, March, 1909) notes that Walther in 1906 reported 24 cases of epiploitis, and showed that they were often overlooked, even during abdominal operations. Péraire himself was recently consulted by a lady 31 years of age, subject for twelve years to abdominal pains, which never ceased entirely. There was no history of disease of the pelvic viscera or vermiform appendix, nor any evidence of traumatism. Abdominal section was performed. The omentum was found to be converted into a rigid sheet, full of big tuberous masses. It adhered to the parietes, especially on the right side, and its separation was troublesome; many ligatures had to be applied. The appendix, retrocaecal in position, was very long, deep red, and highly vascular; the caecum showed signs of acute inflammation, and adhered, like the omentum, to the parietes. The appendix was removed. The patient was completely cured by the operation. The omentum when examined showed sclerotic changes, the appendix was much diseased, the follicles were the seat of chronic inflammation, the mucous membrane was ulcerated, and there was evidence of subserous lymphangitis. Péraire therefore considered that the inflammation of the omentum was consecutive to the inflammatory changes in the appendix.

104. Acute Multiple Periostitis.

R. v. Jaksch (*Med. Klin.*, April 18th, 1909) described in 1901 a case which ran a chronic course and ended fatally, characterized by periostitis, tumour of the spleen and progressive myelocythaemia combined with progressive oligocythaemia rubra. The author looked upon this case as being an example of a disease not hitherto described, and suggested that there might be slighter and more favourable forms of the disease; observations of French authorities have supported this view. In the present article v. Jaksch describes a case which he considers to be the same disease but in a more acute form and ending favourably. The course of the disease was very suggestive of acute rheumatism, but was distinguished from it clinically by the condition of the blood, by the presence of multiple periostitis, by the localization of the pains and swellings in the whole of the limbs rather than in the joints only, and therapeutically by the complete failure of action of antirheumatic remedies. The patient was a girl 16 years of age. The presence of multiple periostitis was demonstrated by the use of Roentgen rays, the bones affected being the bones of both forearms and the right fibula. The periosteal affection ran its course with fever from March 29th to May 2nd, 1908. At the beginning an examination of the blood showed a considerable polynuclear eosinophilia, as marked as in the first case described by the author, together with the presence of isolated, preponderatingly cosinophilic, myelocytes; there was also a marked leucocytosis which reached its height on April 15th and dropped by June 3rd from 19,500 to 8,000. The explanation of the less marked myelocythaemia in this as compared with the earlier case is that the periosteal changes were less widespread and less intense, and that they disappeared in the course of a few weeks. In acute rheumatism a polynuclear neutrophile leucocytosis is found, but never an eosinophilia; nor are changes of the kind described above found in the periosteum in cases of articular rheumatism. Three further points are emphasized: (1) Examination of the urine showed that no serious alteration of metabolism was present: (2) cardiac murmurs were heard during the course of the disease over the mitral and pulmonary areas and were suggestive of endocarditis, but by the time the patient was discharged no cardiac abnormality could be detected on the most careful examination, and v. Jaksch therefore considered the murmurs as due to the fever: (3) pains in the ileo-caecal region were suggestive of perityphlitis.

105. Varix of a Papilla of the Kidney Causing Persistent Haematuria.

Cabot (*Amer. Journ. of Med. Sci.*, January, 1909) reports a case of persistent haematuria caused by a condition of varicose veins in the mucous membrane covering the tips of one or two of the papillae of the kidney, and this, together with six others of a similar nature previously reported by Hurry Fenwick, constitutes all the reported cases of this rare condition. A man, aged 50, strained his back thirty years previously while lifting, and immediately afterwards he passed bloody urine. Several times since, often at long intervals, he passed blood without any subjective symptoms. Latterly the haematuria became more frequent, and five weeks prior to admission to hospital he had a sudden sharp colicky pain in the left side at about the level of the iliac crest. This lasted three hours, tended to shoot upwards and inwards, and was accompanied by vomiting, and the case was regarded as one of stone in the ureter. X-ray examination was negative, and as he showed gradually increasing anaemia the left kidney was exposed and, after consultation, removed, though nothing abnormal could be detected by palpation either in it or in the upper part of the ureter. Seven months later the patient reported himself as having been perfectly well since the operation. One or two of the papillae were reddened and spongy at the ends, and microscopically the small venules were found to be irregularly dilated to twice or three times their normal size, being covered with the finest film of connective tissue and a single layer of epithelial cells here and there projecting as varicose knuckles above the surface, and the conditions were such that the slightest violence must have caused rupture. Although nephrectomy seems an unduly radical method of treatment, it was justified by the results in this case, and decapsulation and nephrotomy are likely to be valueless, and could only afford relief by diminishing the general congestion. Since the pelvis of the kidney is readily accessible by operation, a free incision and exploratory pyelotomy might enable the lesion to be directly seen and dealt with by a properly constructed electro-cautery. Thus a condition which future investigation may prove to be a not uncommon cause of haematuria may be able to be dealt with without sacrificing the kidney.

OBSTETRICS.

106. Post-mortem Lesions in Eclampsia and Toxaemic of Pregnancy.

Welch (*Bulletin of the Lying-in Hospital of the City of New York*, December, 1908) compares the *post-mortem* findings in 12 cases in which a diagnosis of eclampsia or toxaemia of pregnancy had been made from the clinical manifestations during life. Haemorrhages occurring in and about the portal spaces have been long demonstrated in the livers of persons dying from eclampsia—degeneration, necrosis, and disintegration being found about the central vein of the lobule with extension outwards towards the periphery. From a study of the 12 cases observed haemorrhagic changes in and about the portal spaces were noted in half, 3 of the others showing necrosis in the centre of the lobule, 2 cloudy swelling of the parenchyma only, and 1 a general swelling of the cells with autolysis. Lesions of the kidney were similar in all, the parenchyma being markedly affected, but some portions of a given kidney present more destruction than is seen in other parts of the same organ. As to etiology the condition found in the parenchyma cells points to the action of some dissolving poison, and most of the cases show considerable haemolysis. The numerous haemorrhages present throughout the body may be explained on the assumption that there is a poison circulating in the blood causing agglutination of the red cells with the formation of emboli, these haemorrhages being more numerous in the liver when the toxin in the blood is reinforced by those found in the liver. The increased blood-pressure during convulsions would account for the large brain haemorrhages occurring in young subjects free from arterio-sclerosis. Such poison is probably an enzyme, or combination of enzymes, and it is possible that the enzymes performing normal cell metabolism may become so disturbed as to set up autolysis. The kidneys and the intestinal tract are possible sources of this poison, which may arise from the slight putrefactive and bacterial growth taking place in the colon, while it may be possible that enzymes emanate from the fetus and placenta, or that some toxin is derived therefrom, which perverts the action of enzymes normally present in the maternal cells. That under apparently similar conditions one individual will develop eclampsia while another will not may be explained by the side-chain theory of immunity, enough being formed to neutralize the poison in one instance, while in another this capacity is exhausted and the cell is destroyed.

107. Fixed Retroflexion of the Gravid Uterus.

M. Henkel (*Muench. med. Woch.*, April 27th, 1909) offers some advice with regard to the detection and proper treatment of fixed retroflexion of the gravid uterus. He illustrates his meaning by a typical case. The patient was three months pregnant, and complained of pain in the left side of the pelvis and obstinate constipation. There were no symptoms of implication of the bladder. The existence of a retroflexed gravid uterus was easy to determine by examination. Cautious attempts to replace the uterus under anaesthesia proved unavailing, and coarse band-like adhesions could be felt through the posterior vault of the vagina. He thereupon determined to operate, and carried out Pfannenstiel's laparotomy. The operation proved extremely difficult, but he succeeded in dividing a number of dense adhesions and in replacing the uterus in an anteflexed position. The patient stood the operation well, and all her symptoms disappeared within a few days. Retroflexion of the gravid uterus forms a highly dangerous complication. It may lead to gangrene of the bladder and certainly threatens the safety of the fetus. It appears to Henkel that the fact that a gravid uterus may adhere to the neighbouring structures and thus become fixed in a disadvantageous position is not commonly recognized. When a retroflexion is met with, the obstetrician should seek to determine whether the uterus is fixed or reducible. The possibility of adhesions should always be borne in mind. First of all, the bladder should be emptied, and a suitable colpeurynter (vaginal dilator) should be introduced and filled. Subsidiary means, such as raising the pelvis, placing the patient in the knee-elbow position, and the like, may also be tried. If the retroflexed uterus does not then pass into the abdomen, great caution must be exercised, since the uterine walls are friable, and any excess of force would mean a serious complication by the tearing of the tissues. Bands of fibrous tissue should be felt for. If the diagnosis

or probable diagnosis of fixed retroflexion is made, there can be do doubt that the only treatment left is laparotomy. Henkel prefers Pfannenstiel's operation, as it is less likely to lead to ventral hernia than transverse incisions. He raises the question whether ventrifixation should be undertaken at the operation. In deciding against it, and for the most rapid and least disturbing operation, he is guided by experience, which shows that a uterus when gravid does not tolerate much handling. The nearer to the uterus the operative procedure goes, the greater is the risk of abortion. Further evidence is required with regard to the advisability of shortening the round ligaments to prevent a recurrence of the retroflexion. As far as Henkel is aware, the number of cases in which an operation for the breaking down of adhesions fixing the gravid uterus in a retroflexed position has been performed is fifteen. In all these save two, the pregnancy was not disturbed, and he considers that with good technique and simple procedure the dangers of the operation are very small.

108. Hemeralopia during Pregnancy.

Godske (*Tidskrift for den Norske Laegeforeningen*, July 15th, 1909) reports 3 cases of night blindness in pregnant women. In the first 2 cases the symptom came on in the seventh and in the third case in the eighth month. The first patient had been similarly affected in the latter part of her two previous pregnancies, and the symptoms disappeared shortly before delivery. The second patient had suffered from hemeralopia in the second month of a previous pregnancy, the symptom lasting a month. In none of the cases could anything abnormal be detected in the eyes. The author did not see any of these patients after once examining them, and hence does not doubt that they were of an equally transient nature.

GYNAECOLOGY.

109. Melanosarcoma of Vulva.

Littauer (*Zentralbl. f. Gynäk.*, No. 23, 1909) finds that 47 cases of melanosarcoma of the female organs have been reported, and adds 2 in his own practice. His first patient was 58 years old. In 1901 the left breast was amputated for an apparently innocent growth. On September 23rd, 1903, Littauer excised a black growth of the size of a hazelnut from above the clitoris, with about two-thirds of the labia majora. On October 21st, in the same year, he removed the remains of the right labium majus, which showed signs of pigmentation, dissecting away much fatty tissue. Three years later, on September 6th, 1906, he excised the left labium minus, on which a pigmented spot had recently developed. He employed lumbar anaesthesia on this occasion, as the patient refused to be put under ether or chloroform; but, although the left inguinal glands were dissected away, the right glands could not be thoroughly cleared, as the anaesthesia proved insufficient. On September 21st, 1907, a melanotic sarcoma of the size of a walnut was removed from the right groin, with some glands and fatty tissue. On April 2nd, 1908, the right breast was amputated, being full of melanotic sarcomatous growths as big as cherries. The patient died in January, 1909, melanotic disease was distributed all over the body, but the uterus and tubes showed no pigment, whilst there were small melanotic patches in the substance of both ovaries. The growth in this case was, after all, of relatively low malignancy; there was immunity for three years after the first operation, and Littauer reminds us that the second recurrence coincided with a pregnancy which proceeded and terminated normally. Gestation favours pigmentation. In the second case the patient was only 36 years old. The new growth was as big as a plum, occupying the right labium majus, and the inguinal glands were invaded by melanotic growths. Two months and a half after the removal of the diseased structures there was extensive recurrence in the iliac glands. Littauer considers that in a case like the first when he undertook the first operation, it would be best to remove the labia majora and minora and the clitoris, and also to dissect away the inguinal glands and the fat around them.

110. Atresia of the Vagina.

Oliver C. Smith and Paul H. Waterman (*Med. Record*, July 3rd, 1909) relate a case of atresia of the vagina in which there was an imperforate hymen, with no vagina except a fibrous cord, while the other genital organs were normal. The retained menstrual blood was contained in the dilated cervical canal. Operation was done by opening the abdomen to relieve the blood cyst, and later an attempt was made to prepare the way for the formation of an artificial vagina. This was probably a case of acquired atresia as a result of some intrauterine inflammation. The authors say that the preponderance of opinion is that all simple vaginal atresias, with other genital organs normal, are acquired conditions. They analyse 37 published cases, and conclude that uterine defects occur in about one-half of the cases. More extreme defects occur with more extensive atresias; in cases occupying the upper vagina the percentage of uterine defects is about the same. In atresias of the lower vagina severe defects higher up are less likely to be present. The first operative indication is relief of the dammed-up blood condition; the second is the establishment of conditions resembling the normal sexual life. When the uterus is absent there is a definite indication for oöphorectomy. If the uterus and tubes are present there is strong possibility that they may become useful if left in place. Since haematosalpinx occurs in one-third of the cases and may be fatal, early operation is demanded. If the diagnosis be made before puberty, operation may prevent serious complications.

THERAPEUTICS.

111. The Treatment of Gonorrhoea.

Bruck (*Deut. med. Woch.*, March 18th, 1909) has repeatedly failed to isolate a true toxin from gonococci which is capable of immunizing, notwithstanding the statements of de Christmas that he had succeeded in doing this. Bruck regards it as a distinct advance that Müller, Oppenheim and himself found in the serum of patients suffering from gonorrhoeal affections of the uterine appendages and arthritis, an antibody which, as it deflects complement, may be regarded as a gonococcal amboceptor. The same antibody was found by Bruck in the serum of animals treated with gonococci and gonococcal extracts. The idea that this amboceptor might be employed therapeutically induced him to try the serum of the pretreated animals, but the result was negative. On the other hand, the American observers, Rogers and Torrey, believed that gonorrhoeal epididymitis, prostatitis and arthritis could be benefited by gonococcal antiserum. All accounts of experiments controlling their results, however, have led to the conclusion that no beneficial effect follows the use of the serum. Bruck holds that it is neither proved nor even probable that gonorrhoeal processes can be influenced by passive immunizing. Active immunizing experiments have been carried out chiefly in America. The treatment of gonorrhoea by a gonococcus vaccine depends, according to Wright, on the increased production of specific opsonins. All authors agree that acute and chronic gonorrhoea in the male is not influenced by vaccines. Some observers claim that epididymitis, prostatitis and acute gonorrhoeal processes in young female children can be cured rapidly by this means. In criticizing the method, Dr. Bruck first points out that the positive phase in the opsonic curve is not an original idea of Wright's. Ehrlich, Pfeiffer, Brieger, Wassermann and Kolle regarded the positive phase in immunizing processes as important before Wright described his method. Next, he considers it extremely doubtful whether there is any essential difference between Wright's immune opsonins, bacteriolytic amboceptors and Neufeld and Rimpau's bacteriotropic substances. He agrees with Neufeld, who warns practitioners against attaching too much importance to the therapeutic significance of the opsonin doctrine. Theoretically, gonorrhoea is the disease *par excellence* in which least should be expected from this form of treatment. The fact that gonococci lead an intracellular life, and that the germ and the cell form a sort of symbiosis, renders it doubtful whether it would be wise to attempt to increase the aptitude of the cells to take up more germs. Leaving the question of opsonin aside, Bruck experimented with active immunizing methods, and regulated the doses by means of the reactions produced by the injections of vaccine. While he does not consider that his experiments have been made on a sufficiently large scale up to the present, he believes that he is justified in concluding that acute and chronic gonorrhoea in the male could not be influenced by this method at all. So far he has obtained only negative results in prostatitis. Gonorrhoeal epididymitis (13 cases) behaved differently. In 8 the inflammatory signs disappeared rapidly and completely; in the remaining 5 the process was either not influenced at all, or the acute signs disappeared, leaving a certain amount of fibrosis behind. In a case of gonorrhoeal arthritis and one of vulvo-

vaginitis of a young girl, the process appeared to be benefited by the treatment. Leaving the question undecided at present whether active immunizing injections of dead cocci are of use in the complicating processes of gonorrhœa, he thinks that further therapeutic experiments should be conducted on a wide scale. He has satisfied himself that the injections are free from danger, and can therefore be given in all cases in which the process threatens to become the starting-point of a severe general infection.

112. Overfeeding and Underfeeding.

L. KUTTNER (*Med. Klin.*, May 9th, 1909) deals with the definite indications which should be present to justify a course of treatment by overfeeding or by underfeeding, and with the dangers of continuing such treatment for indefinite periods of time. In the case of adults, overfeeding is instituted as a rule either in certain forms of anæmia and chlorosis, for nervous and hysterical patients, in malposition of the abdominal organs which depend on constitutional asthenia, for convalescents, and especially in the early stages of tuberculosis. In cases of anæmia and chlorosis, an overfeeding cure is indicated only where the condition of nutrition has been previously bad, or has suffered during the course of the illness, and the cause of the faulty nutrition must first be determined. Overfeeding is indicated where an ordinary mixed diet does not lead to an increase in weight, especially where sufficient rest cannot be obtained. The most suitable method is to give an increased amount of easily digestible fat, as in buttermilk or butter, which can easily be taken in sufficient quantities with the carbohydrates and vegetables, while the proteid contents of the diet should be high—according to v. Noorden, not less than 100 grams per day. If the case is complicated by disease of the stomach, for example, gastric ulcer, overfeeding may obviously be impossible at first, but functional disorders of the stomach are directly benefited by a methodical increase in the amount of food taken. In each individual case the diet must be varied according to the secretory and motor power of the stomach, and the functional activity of the intestinal tract, and for a good result the tolerance of the organism for carbohydrates and for fat respectively must be estimated. The condition of the circulatory system and the danger of inducing in certain cases cardiac insufficiency and apoplexy has also to be considered, as well as the condition of the excretory organs. The amount of proteid must be modified according to the age, calling, and habits of the patient, and according to the nature of the disease; in general, the proteid should be gradually increased from the minimum necessary for equilibrium up to the upper limit of the normal. Obviously on these principles the systematic use of the Weir Mitchell treatment in its customary form is not indicated, and indeed Kuttner holds that for neurasthenics, and for most other patients for whom overfeeding is indicated, muscular activity is urgently needed for proteid digestion and strengthening the cardiac muscle. The danger of carrying too far the overfeeding cure is a real one. The most important end of the cure is not the formation of fat, but the replacing of the lost organic proteid, the strengthening of the muscular and nervous systems, and the improvement of the condition of the blood, etc., and the longer the overfeeding lasts the smaller becomes the addition of proteid, the greater the addition of fat. In phthisical patients the immoderate overfeeding cures may lead to serious symptoms of cardiac weakness in addition to the minor evils of obesity and of lessened capacity for work and lessened power of resistance. In severe cases of diabetes the excessive quantities of proteid which are often given increase the amount of sugar, while even in slight cases, or those of medium severity, limitation of the proteids is beneficial; Naunyn puts the maximum of proteids for diabetic cases at 120 grams per day. Underfeeding is usually employed in the cure of obesity. A too sudden reduction of weight by an energetic cure may result in the production of low power of resistance to disease or in diffuse inflammation of the kidney. Cases of myocarditis with an arterio-sclerotic basis are often benefited by limitation of food and drink, but cases of heart disease accompanied by parenchymatous nephritis and very weak pulse are not suitable for the treatment. Of kidney diseases the condition of contracted kidney is especially the indication for underfeeding and limitation of fluids. Injury is often, however, done by treating all cases of albuminuria on these lines, especially cases of orthotic albuminuria in childhood. In considering diseases of the digestive tract Kuttner shows the injury done by reducing the amount of food in cases which suffer from slight atony of the stomach and intestine, general splanchnoptosis and asthenia, in which they are purely functional digestive disturbances. He does not consider a long course of underfeeding justifiable in chronic cases of cholelithiasis in the stage of latency.

PATHOLOGY.

113. Atypical Forms of Human Tubercle Bacilli.

DUVAL (*Journ. of Exper. Med.*, May, 1909) has investigated the cultural characters of tubercle bacilli from four cases of primary cervical adenitis in man, three of which developed into rapidly fatal, disseminated miliary tuberculosis. The first case was of exceptional interest. It progressed to a fatal end with remarkable rapidity; the bacilli were found in the tissues in enormous numbers, and frequently occurred in dense conglomerations, like leprosy bacilli. Experimental work showed that the bacilli were of high virulence alike for rabbits and guinea-pigs, and that they produced lesions in chickens; they were easy to cultivate, and retained their vitality for a very long period. In some of these respects they suggested avian characteristics, and though for some years the cultures were atypical, when submitted to Theobald Smith's glycerine broth test, they subsequently changed completely to the reaction-curve of the typical avian bacillus. The cultures from the second and third cases belonged to the human type of bacilli, but it was a long time before their identity could be established by means of the glycerine broth test. The culture from the fourth case corresponded in growth and reaction to a bovine strain, but presented the exceptional feature of low virulence for rabbits. The author is not able to confirm the statement that bovine bacilli are thicker and shorter in culture than bacilli of the human type. He found that the morphological characters of the bacilli which he cultivated were so inconstant that no reliance could be placed on morphology as an aid to differentiation. Striking variations were also found both in the nature and in the rapidity of growth of the same cultures when treated under apparently identical conditions. For differentiation between human, bovine, and avian types of tubercle bacilli the author relied on Smith's glycerine broth test. This test he also found to be of value in the determination of degrees of adaptation in man for bacilli of the lower host species, and in the recognition of "intermediate" types. "The test to be of differential value requires repeated application and careful control over a period of months. Some freshly isolated cultures may produce their specific reaction curve in glycerine bouillon within a few weeks. On the other hand, the same culture may fail to give its characteristic reaction or any alteration in the glycerine bouillon for several months, though the growth has been luxuriant and complete." From various experiments, including experiments with dead bacilli, devised to explain the nature of the glycerine broth reaction, the author concludes that the rise in acidity that occurs for the human type is due to a specific action on the glycerine of the products of disintegration of bacilli (autolysis); with the bovine and avian types the products of bacillary disintegration have no action on the glycerine. The fall in acidity which occurs for all three types of the tubercle bacillus is due to the products of metabolic activity.

114. Bovine Tuberculosis.

TEDESCHI AND LORENZI (*La Pediatria*, May, 1909), whilst recognizing the value of the results obtained in the laboratory with reference to human and bovine tuberculosis, feel that there are many small differences between this kind of work and things as they occur in life. They have therefore attempted a statistical and clinical examination of a certain district in the mountains where, owing to the conditions of life, the people were peculiarly subject to any possible infection from bovine tuberculosis. Generally speaking their results agree with those of Koch. They accept the dualism of the two types of tuberculosis. They believe that infection through milk (unboiled) is comparatively rare, and that, as far as adults are concerned, the resulting tuberculosis is of a mild type. In children infection is easier, but rarely takes the form of pulmonary tuberculosis. In children the type is more that of glandular osseous tubercle, or joint lesions—possibly some forms of generalized tuberculosis (meningitis, miliary) may also be of bovine origin (but Tedeschi does not believe this to be the case). In any case in children the evidences of bovine infection are easily seen, and can be more quickly avoided. Thus, though bovine infection is a real danger, it is not a serious risk, it has little tendency to spread, and is for the most part characterized by localized lesions.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

115. Irregular Forms of Tuberculous Meningitis in Children.

IN the evolution of tuberculous meningitis in children it is usual to distinguish certain well-known stages, such as the prodromal period, the period of excitement, that of tremors, lastly the paralytic stage. Without changing the classification or adding to the subdivisions, Goujoux of Montpellier and Jusephovitch of Odessa describe certain forms which do not come under these headings (*Ann. de med. et de chir. infantiles*, April, 1909). One form starts quite suddenly without any prodromal period; this is the acute or apoplectic form. The second group consists of those cases where the chief characteristic is the presence of local symptoms. The third group consists of those cases in which a single symptom, such as sleep or delirium, preponderates, or in which there are general symptoms such as typhoid. In the *acute or apoplectic* form the child suddenly vomits, or has convulsions without apparent cause, delirium rapidly comes on and death follows. The rapid destruction of part of the cortical substance of the brain explains the characteristic signs of this variety. In tuberculous meningitis with *local signs* the clinical signs are not reflected by the anatomical lesions. Whether they can be accounted for by the lesions proved at the necropsy, or are due to cortical compression by excess of fluid within the membranes, is an open question. But whatever the pathological interpretation, this variety occurs as often in adults as in children, whether the signs come on suddenly or by degrees. These signs are hemiplegia, monoplegia, aphasia, convulsions, attacks of Jacksonian epilepsy, or tetanus. More complex still are the forms associated with chorea and athetosis. Spinal and cerebro-spinal meningitis is characterized by the intensity of the contractions, radiating pains, and exaggerated knee reflexes; but one typical case is referred to in which there was retention of urine, with total loss of ankle and knee jerks. When sciatica is present it is double. When the affection starts at the lower end of the spinal cord, there may be paralysis of sphincters: fever follows, the lesion ascends, causing death with the many signs of basilar meningitis. In the third group, in which one symptom or one group of symptoms preponderates, the frequency of the symptoms occurs in the following order: Somnolent, delirious, gastro-intestinal, typhoid types. The somnolent form is said to be characteristic during the first year of life, but the authors insist that it occurs not less frequently in the second and third years; it is usually described as the form which occurs towards the end of chronic phthisis; but as a matter of fact it may be the prevailing symptom in any form of tuberculous meningitis; it may occur alone or associated with headache, vomiting and constipation: there may be laryngeal spasm, hemiplegia, or diarrhœa. The delirious form occurs chiefly in summer. The patient talks much, but unintelligibly. There are hallucinations: he sees animals such as flies, which he tries to catch; there is a wild look in the eyes. All these signs make the nature of the case unmistakable. The form accompanied with diarrhœa should be classified with the typhoid variety.

116. Causes of Arterio-sclerosis.

HUCHARD (*Journ. des prat.*, May 22nd, 1909), out of a very large number of cases of arterio-sclerosis, deduces the following as the principal causes in their order of frequency: Gout, rheumatism, syphilis, dietetic causes, tobacco, infectious diseases, diabetes, alcohol, malaria, the menopause, and moral and nervous causes. According to Ambard and Beaujard, retention of chlorides is a factor in the production of arterio-sclerosis, and heredity may also play a part, as admitted by Broadbent. Sometimes also hereditary gout and hereditary syphilis may act as causes. There is no proof that arterio-sclerosis is of suprarenal origin. Naturally several of these possible causes may be found to occur together, and it is especially when two or more are combined, and particularly when a predisposing cause is present, that arterio-sclerosis is likely to develop. For example, gout and diabetes may occur in a patient of an arthritic diathesis, and those three factors may give rise to the development of arterio-sclerosis. Excessive intellectual work, the author believes, may give rise to arterio-sclerosis, also mental worry and violent and repeated mental emotions. On many of these causes, as the author points out, one has no rein, and they cannot be prevented from exerting their baneful effect: some of them, however, can be dealt with, particularly dietetic and hygienic causes.

117. Ligneous Phlegmon.

CAPASSO (*Rif. Med.*, June 21st, 1909) publishes three cases of this comparatively rare affection, first described by Reclus in 1893. The commonest situation is the neck and after that the abdomen. It does not appear to be due to any specific organism; the germ most commonly found, either alone or in association with others, is the staphylococcus, and, on the whole, it seems most probably due to an association of attenuated germs. It is certainly not a syphilitic or actinomycotic lesion. The first sign is an increase in size of the part affected, then the skin becomes a dull red; in the early stages the swelling is movable, but later may become fixed, and eventually fluctuation may occur, but this is not necessary, and, when it does appear, is usually not *en masse* but in parts. The swelling, as the name implies, is of a wooden hardness, which persists more or less throughout the course of the disease. The process is a very chronic one, and either ends by slowly fading away, by localized suppuration, or becomes serious to life from mechanical pressure. There is little, if any, fever, and the general health is not affected in ordinary cases. It has to be distinguished from actinomycosis, gumma, cancer, sarcoma, lymphadenoma, scleroderma, favus, etc.; and the author mentions some of the differentiating signs. In the early stages warm fomentations may do good, in spite of the current of modern opinion against their use in similar conditions; surgical interference should be postponed as long as possible. If a specific bacillus is discovered (for example, *B. pseudo-diphtheriae*), then a suitable antitoxin should be tried.

SURGERY.

118. A New Mycosis.

AUVRAY (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 20, 1909) describes a case of chronic purulent swellings of the neck and face which, regarded at first as tuberculous, were, after careful investigation, held to be due to the presence of a mycotic parasite previously unrecognized as a cause of disease in the human subject. The affection in this instance, which occurred in a robust man, aged 33, quite free from other indications of tuberculosis and with no history of syphilis, commenced as a soft and tender swelling just below the left angle of the lower jaw. This swelling, which, after gradual enlargement, suppurated and resulted in an open sore with a persistent fistula, was found during a minor operation for the removal of the morbid structures to be quite superficial and exclusively confined to the skin. After an interval of about five months the cure of this primary lesion was followed by the appearance on the left cheek of two small suppurating nodules. Microscopical examination of part of the small collection of very thick greenish-yellow fluid contained in one of the facial swellings, while it failed to reveal both Koch's bacillus and the actinomyces, enabled the author to find a very delicate mycelium, which suggested at once that he was dealing with an affection of a parasitic nature and of mycotic origin. Cultures of the pus in saccharine media resulted in the tardy formation of small brown colonies presenting a distinct fungus, which were brought under the notice of Caraven, a distinguished interne who was then studying a new form of mycosis. This observer reported that the cultures were absolutely identical with those recently obtained by himself from a case of suppurative osteitis of the tibia, and that they were derived from a fungus which was first described by Vuillemin in 1906 under the name of *Hemospora stellata*. The fungus in question, which belongs to the group of oospora, was taken by Vuillemin from vegetable débris and soft pear, but is evidently a widely distributed and abundant organism, as it has been found in Paris waters, on the top of Mont Blanc, and in glacier streams. Auvray describes with full detail the morphology of this fungus, which derives its name from a disposition in star-shaped masses of its dusky

brown conidiophores. It is an anaërobic fungus, and does not liquefy gelatine. Caraven has cultivated it on many different media, the most favourable being gelose or potato, each with the addition of glucose and glycerine. Irregularly shaped layers, of indefinite extent, and presenting a smooth or a slightly dimpled surface of a dark brown colour, were usually observed for the first time about the fifteenth day. It was found difficult to effect a satisfactory culture at a temperature higher than that of the laboratory. Caraven, in his experiments with the *Hemospora stellata* on animals, has inoculated the parasite into the blood vessels, the peritoneum, the cellular tissue, and bones, and succeeded in the rabbit in setting up an osteo-periostitis analogous to that observed by him in man. He has also produced by his inoculations subcutaneous nodules, abscesses, peritonitis, and persistent inflammatory neoplasms. Auvray finds it difficult to determine the source of the parasite with which his patient had been inoculated, but points out that the subject of Caraven's case of osteo-periostitis of the tibia had lived in a damp room, the wall-paper of which was covered by an extraordinary abundance of mould. There can be no doubt, it is stated, that in regard both to clinical characters and to the nature of the structural changes there is a striking analogy between the lesions caused by *Hemospora stellata* and those resulting from tuberculosis or syphilis. In the case reported in this paper it was only by examination of the pus that Auvray was enabled to remove all doubt and to attribute the lesions to their true cause.

119 Liver Abscess and Appendicitis.

Leo Schredl (*Wiener klin. Rundschau*, March 14th, 21st, and 28th, 1909) describes a case of multiple abscess of the liver, following acute perforative appendicitis. The patient, a man aged 46, had been suddenly seized with nausea and vomiting, and, after three days, had taken to bed; there were slight pains in the stomach and liver regions, fever, constipation, and jaundice. Eight days later he suffered from repeated rigors, the abdominal pain became more severe, and a tumour was detected in the middle abdominal region. The patient was admitted into hospital three weeks after the beginning of the illness. At this time the abdomen was found to be somewhat distended, and there was diffuse tenderness. The liver felt hard and was moderately enlarged. To the left, in the middle and upper abdominal region, there was a sausage-shaped area of resistance, very sensitive to pressure. The temperature in the rectum was 38.9° C. (102° F.). Two days after admission slight dullness with crepitation developed over the lower lobe of the right lung; the abdomen became more distended, and the liver dullness had partially disappeared. The next day the patient had a rigor, and the temperature rose to 40.5° C. (104.9° F.). During the next two days the condition became worse, the pulse-rate went up to 140, the abdomen became greatly distended and very tender, a systolic cardiac murmur developed, and finally free fluid could be detected in the abdomen; the dullness over the lungs disappeared. A median laparotomy was performed, when the tumour in the left middle and upper abdomen proved to be made up of matted coils of small intestine. After separating the adhesions an abscess of the size of an egg was found, filled with pus, which appeared to originate from two perforated abscesses in the mesentery of the small intestine; the mesentery of the matted coils of intestine was infiltrated and hard; the lymph glands were swollen. The clinical diagnosis was of peritonitis and lymphadenitis suppurativa; but the condition could not be thoroughly investigated, partly because of the extensive adhesions and partly because of the patient's general condition. The patient died the day of the operation. At the autopsy the diagnosis was as follows: Purulent appendicitis with two perforations into the retrocaecal tissue; thrombosis of the veins of the appendix, extensive thrombosis with purulent softening of the mesenteric veins and multiple abscess formation in the mesentery; abscesses of the liver with signs of necrosis of the liver; purulent peritonitis; oedema of the lungs. The organisms found were streptococci and *Bacterium coli*. The complete absence of symptoms of appendicitis made a diagnosis during life difficult and indeed impossible. A peculiarity of the case was the absence of any perityphlitic abscess in the neighbourhood of the perforation; the explanation of this is doubtful, but it might be either that the contents of the appendix which escaped through the perforation had not the same virulence which they obtained later in the thrombi of the mesenteric veins, which formed a nutritive material favourable to the development of bacteria, or that the perforation only occurred shortly before death, or that the pus was discharged directly into a vein. According to Sonnenburg, the pleurisies which follow appendicitis last only for a short time, relapse easily, and are usually of a serous nature. In this case the signs referable to the lungs and pleura had already disappeared at the time of the autopsy. Two other cases of appendicitis running a similar course, and both recorded by von Sozo Nishiyama in his dissertation on liver abscess in the course of appendicitis, are described in the present article.

OBSTETRICS.

120. Puerperal Fever.

Zangemeister (*Beihefte zur Med. Klinik*, Heft 5, 1909) defines puerperal fever, deals with its causes, with the different paths by which the infective processes may spread, and with the diagnosis, prognosis, and treatment of the different forms of the disease. The most important forms of lymphangitis puerperalis, for the diagnosis of which the distinguishing signs are given, are (1) endometritis puerperalis, (2) parametritis exsudativa, (3) the most severe form leading quickly to peritonitis and general sepsis; it is to be remembered that with peritonitis there is often no very high temperature, and the most severe cases may end fatally without rise of temperature. The diagnosis of thrombo-phlebitis depends usually in the beginning on the presence of high fever without any localization or pain; the subjective condition is in contrast with the high temperature. Bacteriological investigation is of great interest in the proof of puerperal infection. Although it has now been shown that streptococci are present in the uterus in three-quarters of the cases of normal puerperium, and that these streptococci may be haemolytic, yet in 70 per cent. of the cases in which typical haemolytic streptococci are found in the lochia in the first days of the puerperium fever will be present, while in cases in which during the first days they are found in masses and in pure culture, fever is almost invariable. The examination of the blood may also show the presence of infection, if the organisms are found in large numbers and on repeated examinations; the blood culture gives, if positive, conclusive evidence as to the bacteriological etiology of the disease, and also shows the severity of the infection. In discussing the prognosis, Zangemeister dwells upon the importance of the signs at the beginning of the puerperium, and considers that absolute sleepiessness on the first night almost always goes before the outbreak of a severe infection. The greatest importance amongst prophylactic measures is given to the limitation as far as possible of internal examinations and of operations during labour; where these are necessary, rubber gloves are to be worn. In addition to the avoidance in every way of infection, the measures of prophylaxis include the absence, as far as possible, of anything tending to lower the resistance of the organism, as, for instance, long-lasting narcosis, severe loss of blood, intense chilling of the body, etc. The uterus after labour should be empty, it be kept empty, but if part of the membranes are retained their presence is less dangerous than exploration of the uterus to remove them. Zangemeister looks upon active local treatment as not only useless but dangerous; where symptoms of infection show themselves it is to be remembered that the bacteria are either already limited in the endometrium, in which case such measures as washing out, curetting, etc., are useless, or that they have already spread beyond the limit of the endometrium, and local treatment holds out no prospect of altogether removing them and may lead to their further spread. Where there is retention of placental remains, together with fever, Zangemeister advises that if the infection be recent a conservative treatment should be adopted, if possible, until either the uterus spontaneously empties itself or at least until the infection has limited itself and the danger of propagation of the infection from operative interference is reduced to a minimum. From experiments on animals it appears that in the severe cases which might be expected to end fatally something is to be hoped from the method of extirpation of the uterus, if the cases can be diagnosed sufficiently early. When abscesses form the pus is to be evacuated, but the indication is not to incise before an unmistakable abscess has formed; special caution is to be observed before operating where there is an infectious pyosalpinx. The author finds that incision and drainage in recent puerperal peritonitis has not been successful. Benefit is to be obtained in suitable cases from compresses, cataplasms, painting with iodine, hot air, etc. The hot-air treatment is useful in aiding the

resorption of older exudates, but is not to be used until the inflammatory process has altogether quieted down. General treatment is of great value. The serum treatment is considered. Fresh human normal serum has been found to have a good effect in cases of staphylomycosis and streptomycosis. Large quantities of fluid are helpful. Water is to be given either subcutaneously in large amounts or is to be slowly injected, ½ litre at a time, into the rectum many times a day. Alcohol is to be recommended in small doses to meet symptoms only. The food must be easily assimilable; milk is especially useful; deficiency in food is less dangerous than an excess leading to dyspepsia. Adrenalin is to be given in cases of peritonitis to combat the vasomotor paralysis. In view of the fact that a rise of temperature aids the organism in its fight against infection, antipyretics are to be excluded if the general condition admits of it.

GYNAECOLOGY.

121. The Hair and the Ovaries.

HOFBAUER (*Monatsschr. f. Geb. u. Gyn.*, May, 1909) demonstrated at Königsberg last February a woman, aged 46, the subject of hypertrichosis. Not only was there a free growth of strong hair on the entire trunk and extremities, but a well-marked beard, with moustache and whiskers, had developed. The menopause had set in as early as the age of 34. The growth of hair began at 43, together with a gradual increase in the size of the abdomen. A big ovarian tumour was detected and removed, axial rotation had occurred. The opposite ovary was also taken away. The tumour was carefully examined; it was a cyst, free from any kind of malignant growth. The other ovary was remarkable for the total atrophy of all the normal elements associated with ovulation. Hofbauer noted that the coincidence of hypertrichosis with new growths of the ovary was rare. Peaslee, Olshausen, and Alberti could not show that cases in their own experience were necessarily dependent on malignancy. Nor is the relation between heterogeneous hypertrichosis and other ovarian disease, pregnancy and hermaphroditism, clearly understood.

122. Acetone in Inoperable Cancer of the Uterus.

GELLHORN (*Amer. Journ. Obstet.*, May, 1909) has freely made use of acetone in the St. Louis Skin and Cancer Hospital, where the majority of patients are admitted after all other means for the treatment of malignant disease have been tried in vain and cachexia has reached an advanced stage. Acetone is a transparent, colourless, mobile, and volatile liquid of a characteristic ethereal odour. It penetrates very quickly into the tissues. The treatment should always be preceded by a thorough excochieation of the ulcerating area so that none of the acetone is wasted in hardening dead necrotic tissue. The emptied cavity is then carefully dried with cotton sponges, and from ½ oz. to 1 oz. of pure acetone is poured into the wound through a tubular speculum. The patient must be placed in the Trendelenburg position during the application of the compound, and left with the pelvis elevated for from fifteen to thirty minutes afterwards, the narcosis being suspended. Lastly, the acetone is made to run out through the speculum by the lowering of the patient's pelvis, and the cavity is packed with a narrow strip of gauze soaked in acetone. The healthy mucosa of the vagina and vulva are cleansed with sterile water and dried, and a cotton tampon is inserted in the vagina to absorb any excess acetone. After this operation the acetone is applied again on the fifth day, and thenceforward administered two or three times weekly. This is done at the patient's home without narcosis, or in the consulting room. The pelvis is raised and a tubular speculum inserted to expose the cancerous cavity. Smaller specula are employed as the cavity diminishes in area. The speculum is filled with acetone, and held in place by the patient's hand for half an hour, and is then emptied as at the operation. A thick layer of vaseline is applied to the vulva, lower third of the vagina, and outside of the speculum, and after the acetone has run out of the speculum the cavity is dried, and a large cotton tampon coated with vaseline is introduced into the vagina before the speculum is withdrawn. By these precautions the vulva and perineum are protected from the acetone. The cotton tampon is removed by the patient within a few hours. There is no pain, save an intense burning sensation if the acetone has accidentally touched the vulva; this, however, passes rapidly away if the affected parts be washed with cool water. In no instance has Gellhorn been compelled to employ any anodyne. The discharge, which at first becomes more watery, gradually disappears, and with it all fetor; as a rule the haemorrhages cease. In only one case did the patient absorb so much of the acetone as to cause constitutional symptoms, sickness, and free elimination of the compound in the urine. Gellhorn insists that acetone is not a panacea, but is certain that its application has accomplished more than former methods. In a still limited number of cases it has relieved the most loathsome symptoms of inoperable uterine cancer, it has checked haemorrhages otherwise uncontrollable, and has in a simple and harmless way restored a large percentage of patients to a period of comparative ease and bodily comfort. In inoperable cancer of the uterine cavity, and still more in cancer of the vulva or lower part of the vagina, acetone is not applicable. Then acetone bisulphite proves of much value. It is a white powder, which may conveniently be applied in large quantities by means of an insufflator, then the secretions from the curetted surface act on the salt, setting acetone free. Although the bisulphite may be freely applied, care must be taken to protect the parts from the freshly formed acetone, and to retain it, so that it may act on the diseased tissues. Gellhorn admits that as yet his experience with the bisulphite powder is very limited, but he finds that it does not cause pain, and that its action in the few cases under his treatment seemed to be but little inferior to that of pure liquid acetone.

THERAPEUTICS.

123. Vegetarian Diet in Health.

H. DETERMANN (*Beihefte zur Med. Klinik*, Heft 3, Jahrgang v) discusses the effect of a vegetarian diet upon people in ordinary health. The two questions which especially need answers are: (1) Does the vegetarian diet suffice to the maintenance of health? (2) on a vegetarian diet are injuries to the health avoided which are incurred on a mixed diet? Three classes of vegetarians are distinguished: those who eat only raw vegetable food: those who eat cooked and uncooked vegetable food; and those who allow of the use of milk, cheese, butter, honey, and some few, even eggs. The question of the amount of proteid necessary in daily food is considered and Chittenden's work reviewed. The author finds that an amount of proteid smaller than that which was previously considered necessary is not only allowable but is compatible with a condition of sound health and with all the manifestations of the same, and further he inclines to the opinion that it is not only possible, but that it is also useful, to moderate the amount of proteid consumed. Vegetarians maintain that the vegetable proteids of the food are specifically different in their action from the animal proteids, and that they have a different effect, not only on the body but also on the character and *morale*. In the present state of our knowledge of the breaking down of the food proteids in digestion it is extraordinarily difficult to believe, however, that the minute biological peculiarities of the food proteid molecules are preserved: the specific nature of the organized proteid body is probably chiefly dependent on the specific activity of the different tissues. Moreover, the point is not necessarily a favourable one for vegetarians to raise, for it is possible that the animal proteids need a less complete breaking down before absorption than the less nearly akin vegetable proteids, and therefore call for less energy in digestion. The individual tolerance of the nuclein bodies, the precursors of uric acid, varies very greatly, and absolute certainty as to the significance of these bodies has not been reached, but it is, at any rate, in accordance with much experience that a large consumption of them is injurious in a majority of cases: this does not, however, show that their use should be altogether discontinued. It follows from the article that a preponderating amount of vegetarian food is to be recommended to almost every one. The Japanese exemplify the fact that a people on such a diet may be possessed of the greatest bodily and mental strength and activity. The cheapness of vegetarian food is a great recommendation, and the author gives a table of relative costs which brings out this cheapness clearly. The volume of a vegetarian diet may be diminished by a suitable choice of the items, and the addition of animal fat has nothing against it but the cost, while milk and cheese are in no sense harmful, and are comparatively cheap. On a raw vegetarian diet an enormous percentage of the nutritive material is unabsorbed. The practical difficulties of a vegetarian diet are considerable, but the

diet is not necessarily monotonous. Moreover, on the author's view, it is not necessary to do away altogether with meat, nor in truth is our digestive apparatus at present suited to a purely vegetable diet. The author's conclusions are: That the vegetarian diet, including milk, milk preparations, and eggs, supplies everything needful for health; that it has no disadvantage as compared with a preponderatingly meat diet; the proteid contents of the vegetarian diet are sufficiently great. Probably no specific difference exists between the use made by the body of vegetable or animal proteid material. On the other hand, too high proteid contents in the diet probably is injurious to the health; the uric acid forming bodies which are present in specially large amounts in meat are most probably injurious. It is not necessary altogether to avoid meat, but it is well to considerably limit the amount taken. The vegetable-milk diet is much cheaper than the preponderatingly meat diet, but its absorption by the intestine is less complete. The change to a vegetable-milk diet can only be gradually effected. Careful preparation and cooking renders the vegetarian diet digestible and easy of absorption.

124. Fulguration in Cancer.

THE fulguration treatment of cancer by the Keating-Hart method consists really of two processes: first, the total removal, if possible, of the whole of the cancerous tissue, and secondly, the application to the surface of the wound and to the neighbouring cutaneous areas of sparks from a high frequency current; the latter procedure is to prevent a recurrence of the growth. According to Lucas-Championnière (*Journ. de méd. et de chir.*, March 10th, 1909), this method of treatment sometimes gives surprising results in cases of cancer where the conditions are such that ordinary surgical operations seem unlikely to be of much good, and where the patients wish for something to be done. The diseased tissues are replaced by reparation tissue, which leaves a very supple cicatrix. Amongst patients treated in this way the author has observed that in some who suffered from a recurrence of their disease the recurrent growth was of feeble vitality, spread with difficulty, and was easy to destroy, showing that the electrical treatment had modified the tissues in such a way as to make it difficult for cancer to grow there. Further, in cases of inoperable cancer with far distant infected lymph glands, the application of the fulguration method to the primary disease was followed by an arrest of the cancerous process in the lymph glands, from which it seems that the arrest of the cancer process extends beyond the region in which the action of the electrical application was made. Keating-Hart considers that the electrical sparks have a specially selective action on the cancerous tissue, which has a less resisting power than healthy tissue. Fulguration of the thoracic walls has a irritating the intercostal nerves caused a slowing of the pulse, and a certain number of cases of rapid death have been observed after treatment by fulguration, but possibly this was simply due to the fact that these patients were suffering from advanced stages of their disease. In most of the cases, however, this method of treatment is well borne, but general anaesthesia must be employed. After fulguration there is seen to be excreted by the wound a considerable amount of liquid, and it is also found that pain disappears. Keating-Hart has obtained very good results by his method in cases of large ulcerated cancers of the face. With recurrent growths of the breast the results have varied, and he has employed his method in cases of epithelioma, carcinoma, lympho-sarcoma, and melano-sarcoma.

125. Epidural Puncture in the Essential Enuresis of Children.

ALLARIA (*Gazz. degli Osped.*, April 27th, 1909) gives his experience of the above method of treatment in 22 cases of essential enuresis (that is, where no organic lesion of the urino-genital system, no pathological condition of the urine, and no organic nervous disease were present). The technique is as follows: A needle about 6 cm. long is used and from 2 to 20 c.cm. of physiological saline solution injected at a level with the transverse processes of the fifth sacral vertebra. The needle is introduced for about 4 cm. so as to reach the roots of the cauda equina without injuring the dural sac. The results were as follows: Of the 22 cases, 8 were definitely cured, 3 improved, 9 showed no improvement, and 2 were cured spontaneously: no bad effects were observed. The author believes that the *modus operandi* of the cure was almost, if not entirely, due to the influence of suggestion (the faith in the treatment, the effect of hospital surroundings, fear of the little operation, etc.) Thirty-seven punctures were given in all, varying from 1 (10 cases) to 4 (2 cases).

PATHOLOGY.

126. Infection with Trypanosoma Brucei.

RAISING the question of whether trypanosomes undergo sexual multiplication within the fly, Kleine (*Deut. méd. Woch.*, March 18th, 1909) points out that Koch, and also Gray and Tulloch, saw a definite generative process in *Glossina fusca* and *palpalis*, distinguishing various male and female forms of the *Trypanosoma gambiense*. Minchin, on the other hand, found parasites of the type of *gambiense* in *Glossina* which had never come into contact with animals suffering from trypanosome diseases. Other observers doubt whether the latter were developmental forms of trypanosomes, and suggested that they were probably flagellates belonging to the *Herpetomonas* group. These consider that the fly merely carries the trypanosomes mechanically from infected animal or man to another animal or man. Kleine criticizes the experiments on which these observers base their opinions adversely, on the ground that five days is not long enough pause between the sucking and reinfecting. The object of his own experiments was to show that flies which had ten days previously sucked animals infected with trypanosome (he chose *brucei*) would be incapable of infecting; while, after the trypanosomes had developed further, the possibility of infection would return. The flies were collected after much trouble from the chrysalis stage, and kept under conditions which excluded accidental infection. These flies were fed once or twice a day. As a rule they sucked blood well, but occasionally they refused for twenty-four hours. They much preferred the blood of warm-blooded animals to that of cold blooded animals, although, when put to it, they did suck crocodile's blood. Great care was taken with regard to the choosing of the place to keep the flies and the manner in which they were kept. In one experiment some sheep and a mule, which had been infected with *Trypanosoma brucei* from *Glossina morsitans* at a distance of seven days' march, were imported, and the *Glossina palpalis* were allowed to suck three of these infected animals on three different days. From the fourth day on they were put to suck healthy animals, a fresh one being supplied every day. After eighteen days the same sheep was used for one week, and for the following fortnight one ox was used. None of the earlier animals showed any sickness, but the last-mentioned sheep and ox showed numerous trypanosomes in their blood fourteen days after the sucking. It was thus shown that flies which had remained incapable of infecting sheep and oxen for eighteen to twenty-four days succeeded in infecting after this time. The flies were further found by later experiments to retain the infectivity, several goats, calves, and sheep being subsequently infected by them.

127. The Influenza Bacillus and Meningitis.

COHEN (*Ann. de l'Inst. Pasteur*, April, 1909) discusses the relationship of the influenza bacillus to certain forms of cerebro-spinal meningitis. He has made an extensive bacteriological study of three cases of septicaemic cerebro-spinal meningitis in children, which yielded bacilli resembling the bacillus of Pfeiffer in morphological and cultural characters, but differing from that organism in other respects. Many observers have previously recorded similar cases of cerebro-spinal meningitis from which they isolated an organism regarded by them as identical with Pfeiffer's bacillus. The present writer thinks that his own researches justify him in disputing the bacteriological accuracy of this view. The form of meningitis in question is septicaemic in character and is accompanied by a generalized infection. The bacillus is found in the blood, and, in addition to meningeal lesions, produces purulent effusions in the serous cavities. The clinical course of the disease can be reproduced experimentally, and it is evident that the bacillus enters the body by way of the respiratory tract. The experimental characteristics of the microbe are different from those of Pfeiffer's bacillus. When inoculated into guinea-pigs or rabbits the bacillus produces a fatal septicaemia, characterized, as in man, by the production of purulent serous effusions. Animals can be vaccinated against fatal infection by inoculation with progressively increasing doses of the bacillus. The serum of well-vaccinated animals possesses a very considerable preventive power and, moreover, is capable of saving the life of animals inoculated one or two days previously with a lethal dose. On the other hand, the serum of animals vaccinated against Pfeiffer's bacillus does not possess any preventive or curative efficacy.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

128. Acute Alcoholic Poisoning in an Infant.

TUBERTANCY (*Ann. de méd. et de chir. infant.*, June, 1909) report a case of intoxication in a girl aged 22 months, through taking 120 c.cm. (about 4 oz.) of kirsch, or cherry brandy, administered in three doses in the space of two hours and a quarter. The child was severely comatosed for five hours; the accelerated pulse lasted for twenty-four hours. Kirsch contains alcohol and a small quantity of hydrocyanic acid. The patient was well developed and healthy. On February 6th, 1909, during the night, she was troubled with a little indigestion, and at 7 a.m. she complained of thirst; 30 c.cm. of the contents of a bottle which was supposed to contain Evian water, the child's usual drink, were given. The bottle really contained kirsch, but the error was not perceived. The child fell into a heavy sleep. After two hours she awoke, and asked for a drink. A second dose, this time 40 c.cm., of kirsch was given. It then became slightly restless, but did not complain nor seem to suffer. Ten minutes later she persisted in asking for something to drink, and 50 c.cm. more was given. The child immediately put her hand to her tongue as if burnt; then the error was discovered. Three doses of ipecacuanha were given, a third five minutes after the last quantity of kirsch. But the infant became limp and comatose; the mouth was open; anaesthesia was complete; the corneal and pupillary reflexes were abolished. Urine was not passed. Respiration was accelerated but regular, 40 to 45 per minute. The breath smelt strongly of kirsch. The pulse was over 180. The child vomited at 10.15; the odour of ipecacuanha preponderated; alcoholic odour was feeble: a second attack of vomiting occurred in a quarter of an hour. Every quarter of an hour the child was plunged into a hot bath for three or four minutes, at 38° to 39° C. At the same time cold water was applied to the chest. Ammonia was inhaled. At 11.30 there was feeble corneal reflex; pulse 170; temperature 37.7° C.; respirations 40. In four to five hours after the accident the child began to show signs of consciousness; but she remained very drowsy till the evening. Baths were given at intervals, and a little coffee. At 3 o'clock the child vomited a little bile. At 7 p.m. she moved her arms, and the odour disappeared from the breath. At 8 p.m. there was deep yellow diarrhœa, and a little urine was passed. During the night the child began to talk, and complained of burning in the hands. At 2 a.m. she vomited again. Next day the pulse fell to 150 at midday, and 130 in the evening. A little food was taken well. At 9 p.m. the child got up, and moved about without staggering. With the exception of slight nervous irritability and a quick pulse, the subsequent history was uneventful. The authors estimate that the child took altogether 2 oz. of alcohol and one-thirteenth of a grain of hydrocyanic acid. The only two symptoms not mentioned by standard authors resulting from intoxication by alcohol and hydrocyanic acid are tachycardia and persistent shortness of breath. It seems that hydrocyanic acid at its outset added its action to that of alcohol, but either owing to insufficiency of dose or greater tolerance on the part of the infant, it does not appear to have played an important part.

129. Myatonia Congenita.

SILVESTRI (*Gazz. degli Osped.*, May 9th, 1909) records an interesting case of myatonia congenita, first described by Oppenheim about nine years ago. The child was 45 days old when seen, had been born naturally, and was well nourished. As far as could be ascertained at that age, the mental faculties were unimpaired. The ocular muscles were intact, and the child could smile and suck easily; general sensation, sight, and hearing normal; ocular and pharyngeal reflexes present, knee-jerk absent, no Babinski reflex; thoracic movements much limited; no signs of rickets, scurvy, or syphilis; there was complete flaccid paralysis of all the voluntary muscles, the bulbar group excepted; the neck, trunk, and limbs quite inert, and the limbs, when lifted, fell in positions simply according to the laws of gravity: passive movements were free and extensive; no reactions could be obtained with the faradic current. The father was healthy; a maternal uncle and aunt had died of Addison's disease and progressive muscular atrophy respectively. The mother had been well up to this pregnancy—the fifth—when at the eighth month she developed osteomalacia of a moderately severe type. The eldest son was born with similar paralysis, but had partially recovered, and now at 16 years presents the typical symptoms of Erb's juvenile paralysis. The second and third children were rickety; the fourth child was also myxœdematous. Mother and child were treated by paraganglin (Vassale), 1 to 5 minims daily in the case of the infant and 50 minims in three doses for the mother. In both cases the ultimate result was excellent. The mother was cured in one month, and when last seen the child was able to move all its limbs, but somewhat more slowly than normal.

SURGERY.

130. Genuine Luxations in Hip-joint Disease.

NOVÉ-JOSSERAND AND DELORME (*Rev. d'orthop.*, No. 3, 1909) direct attention to a variety of luxation complicating tuberculous coxalgia, which usually consists in displacement of the head of the femur, and so differs from the much more frequent complication of so-called false luxation, in which the distortion is due to the absorption of the osseous structure of the head and neck of the femur, and of the cotyloid cavity. Five cases are reported, which prove, the authors believe, that in the course of hip-joint disease a true luxation may occur without advanced destruction of the articular surfaces, such luxation, from its relatively frequent occurrence in an early stage of the disease and before any disorganization of the joint, being comparable with the luxations that are sometimes suddenly developed in the course of an acute disease. This complication, which is of rare occurrence, has been met with, as a rule, in very young subjects. It is almost invariably produced in an early stage of the articular disease, and in cases in which, owing to absence of signs of coxalgia or to carelessness, there has been neglect of early treatment. Intra-articular effusion and muscular contraction play, according to the authors, but a secondary part in the development of this lesion. The chief cause, they believe, is softening of the capsule in consequence of tuberculous infiltration. In some cases the luxation is effected suddenly, but in most instances, it is held, it occurs insidiously and without warning, and probably goes through a progressive development. The head of the femur is always displaced upwards, but at the same time it is carried forwards in some cases, backwards in others. The most characteristic and constant feature of the objective symptoms in these luxations is external rotation of the limb. This distortion is associated with flexion and adduction, which vary in degree in different cases. Radiographic observations made in five of the cases reported by the authors revealed considerable displacement of the head of the femur outwards and upwards. The shadow of the head and the adjacent part of the neck of the bone covered the shadow of the ilium, a picture being presented which resembles that of posterior forms of congenital luxation. In all these cases the contour of the upper extremity of the femur was sufficiently distinct to allow the authors to assert that the luxation was not the result of deformity from destruction of bone. The paper concludes with the following suggestions as to treatment: (1) No attempt at reduction should be made except in cases in which there are no signs of suppuration; (2) in these cases reduction should be made by gentle manipulation, which is always adequate and reduces to a minimum the risk of abscess. In regard to the remote results of such treatment, the authors state that of three of their cases which permitted definite conclusions on this point, the head of the femur remained in its normal position in two, while in the third there was secondary displacement.

131. Post-operative Enterospasm.

MORONE (*Rif. Med.*, May 10th, 1909) records the case of a man, aged 57, suffering from pyloric cancer for which a gastrectomy was done, which was followed by enterospasm and death. The operation was well borne (16 c.cm. of CHCl$_3$ used) and no untoward symptoms appeared until thirty-six hours after, when spontaneous easy vomiting came on. The vomit was moderate in quantity, blackish

(blood and bile), and persisted in spite of the cessation of oral feeding, and finally became faecal. There was a good deal of moderately severe pain generalized over the whole abdomen and of a colicky type. In spite of his condition the patient did not seem ill; the general condition was good, the tongue moist, pulse and respiration normal, the abdomen not distended and not tender. There was one slight rise of temperature on the second day, but otherwise no fever. There was absolute constipation and no flatus passed per anum. Lavage of the stomach showed no evidence of retention of food. A noteworthy fact in the vomiting was the presence in the vomit of food that had been introduced per rectum. As no improvement followed treatment, an exploration (under local anaesthesia) was made twenty days after the operation; the bowel was then seen to be reduced to a cylindrical cord, the spasm was spread over the whole length of the intestine; no other abnormal condition was discovered. A duodenostomy was performed in the hope of relieving symptoms, but the relief was only temporary, and the patient died a few days later. Experiments with charcoal in the rectal injections showed that this appeared at the duodenal opening about two hours later. The prognosis of post-operative entero-spasm (commonest after operation on the uterus or kidney) is bad. Some cases recover spontaneously, some after the use of belladonna and opium, and where the spasm is localized surgical interference may do good. Other things being excluded, the diagnosis depends partly on the fact that the patient is not so ill as he might be expected to be with the symptoms.

OBSTETRICS.

132. Infanticide or Self-delivery?

PUPPE of Königsberg (*Monats. f. Geb. u. Gyn.*, May, 1909) discussed this question at a meeting of a society in February. In one case there was concealment of birth, and the injuries of the fetus suggested more than forcible extraction by the mother, who was sentenced to one year and a half's imprisonment for homicidal negligence. Puppe added a most remarkable instance of self-delivery almost in public. A housemaid, taken with labour pains, was placed in an ambulance cart, which struck against a heavy wagon, so that one of its axles was broken. The girl was shot off her seat on to the floor of the cart just as the head and shoulders of the fetus were being delivered; she appears to have sat on the child to keep it back, and as that manœuvre failed, she dragged it out by the neck. A new ambulance cart was now ready, but the patient temporized a little, begging to left alone. At length she stepped into the cart, leaving a trail of blood behind her. On her arrival at the lying-in hospital she produced from under her jacket the child, which was still living, but died very soon. It was a fairly well-developed male. A row of punctiform scratches was detected on the left side of the trunk, and similar marks on the neck and nape. The blood on all of the marks was dry or partly dry, and some of the marks on the neck were distinctly semilunar, evidently produced by the mother's nails. The spinal column was broken between the third and fourth dorsal vertebrae. Several of the ribs on both sides and the left clavicle were fractured, and there was a row of indentations on both parietals. Meningeal haemorrhages and infarction of the pia mater with blood were noted. It was clear that these numerous injuries had been the cause of death, but the circumstances of the case and the evidence of witnesses tended to show that the patient had not intended to kill her child, but had delivered it herself to put an end to her sufferings in the broken-down ambulance cart. The nail marks were very characteristic of forcible extraction by the mother, a process always liable to involve much graver injuries.

133. Combined Tubal Rupture and Abortion.

BUCHÉ of Breslau (*Zentralbl. f. Gynäk.*, No. 21, 1909) examined a gravid tube removed from a woman seized with colicky pains, giddiness, and ultimately loss of consciousness, all symptoms indicating rupture of a tubal sac, being far more acute than the symptoms so frequently observed in the more common tubal abortion. On careful inspection of the tube and ovum, the latter was found to have reached the third week, and was in good condition; it was invested with cilia on one side, and with long villi in thick tufts on the other. The Fallopian tube was as thick as a finger and sinuous. It was clearly ruptured, and the edges of the rupture were thickened, everted, and reddened by incipient inflammatory changes. There remained one condition of much importance—the rent extended to the free edge of the infundibulum. Thus the tubal walls at the seat of the implantation of the ovum in the infundibulum had become thinned and softened in the usual manner by the ingrowth of chorionic villi, and had yielded, as in an ordinary pure rupture of a tubal sac, but in this instance the rent had extended as far as the ostium itself. In consequence, the ovum had escaped, as in pure tubal abortion, through the ostium, which in this particular case was widened by the pathological laceration of the tubal walls.

GYNAECOLOGY.

134. Hydrorrhoea: Large Cysts of Gartner's Ducts.

UNTERBERGER (*Monats. f. Geb. u. Gyn.*, May, 1909) publishes a full report, with illustrations, of the case of a woman, aged 45, who consulted him for what she took to be profuse menorrhagia. A swelling developed in the hypogastrium to the right of the middle line. It occasionally grew smaller and less tense, and at the same time greasy, sanious, purulent fluid escaped from the vagina. Unterberger examined the patient under anaesthesia. There was a pelvic as well as a hypogastric tumour pushing up the uterus, and when he pressed it sanious, fetid, watery fluid escaped from the os uteri. Great quantities of the fluid came away afterwards for several days, and the pelvic tumour became flaccid. Unterberger, opening Douglas's pouch through the posterior fornix, found that the pelvic tumour was retroperitoneal. He afterwards performed an abdominal section. The uterus, Fallopian tubes, and ovaries were free from any new growth. The tumour on the right side was enucleated through an incision made in the right broad ligament; its innermost portion had to be separated from the uterus by the scalpel. The left cyst was enucleated from behind Douglas's pouch; it was found during the operation that it communicated with the right cyst. The uterus was amputated above the vaginal cervix. The patient died a fortnight later; there was no general peritonitis, but suppurative paranephritis. The right cyst communicated direct with the canal of the cervix by a duct, the left cyst indirectly by a duct which joined that of the right cyst before it entered the walls of the cervix on the right side. Thus the left cyst, like the right, had developed from a diverticulum of the right duct of Gartner. The microscopic appearances of the cyst walls and the ducts confirmed their origin, and there were no cysts traceable to the left duct of Gartner. Unterberger refers to Sfameni's case of free hydrorrhoea from a dilated duct of Gartner in the stump of a cervix after hysterectomy following a Caesarean section. At first it was feared that the ureter had been wounded.

135. Ovarian Cyst in a Girl of Sixteen.

H. W. CHENEY (*Pediatrics*, March, 1909) records the following case: The patient commenced to menstruate at the age of 14, and continued in a normal condition until within two months of seeking advice, when a swelling was noticed on the left side of the abdomen. It had been diagnosed as an enlarged spleen, and treated with *x* rays with negative results. Physical examination showed that the tumour extended from the ribs to the pelvis, and from the left side to the umbilicus, but the lower portion extended beyond the mesial line into the right iliac region. Vaginal examination showed that the uterus was normal, except that in position it had been pushed downwards and backwards. There was no family history of tuberculosis, but, as the patient had had a cough for six months, it was thought probable that the tumour was a sacculated tuberculous peritonitis. The abdomen was opened on October 10th, 1908, when the condition was found to be due to a cyst of the left ovary. The tumour and fluid weighed 9¼ lb. The right ovary was normal. Recovery was uneventful.

THERAPEUTICS.

136. Cerebro-spinal Meningitis treated by Serum.

SILVY AND E. TERREIN record (*Bull. de la Soc. de Pédatrie*) a case of cerebro-spinal meningitis completely cured by serum. The patient had improved after lumbar puncture, but the efficacy of the serum was none the less manifest; after its use all the symptoms rapidly disappeared, leaving no trace of the disease. The patient was a child aged 5½ years. The disease began on a Friday. After playing as usual it was put to bed. On waking at 6, he complained of his legs, felt ill and cold; then followed convulsions. On Saturday, in the morning, after having three attacks of

convulsions, of which the second was very severe, the child was in a state of collapse. The pulse was imperceptible, the temperature 37° C., eyes sunken, face cadaverous. The child had the appearance of immediate death; 50 c.cm. of physiological serum was injected, one puncture of camphorated oil, and the child was kept warm. Soon the alarming symptoms disappeared. The pulse and colour returned. But the patient vomited and remained somnolent, the eyes remained wide open, a few plaintive cries but no speech, and nystagmus was elicited. There was no constipation, no photophobia, Kernig's sign absent, no headache, but stiffness of the neck. The next two days the patient remained in the same state. Lumbar puncture was performed, but before penetrating the membranes there flowed a drop of fluid; on lightly aspirating with the hypodermic syringe there came a quarter of a centimetre of thick pus; the flow then continued through the needle left *in situ*, but it quickly became obstructed. The fluid that had come spontaneously was liquid; that which came by the aspirator was thick and purulent; 35 c.cm. was finally obtained in which there was pus, which separated on standing. There was external strabismus and some opisthotonos. The diagnosis of cerebro-spinal meningitis was confirmed. On the following days lumbar punctures were continued; four hot baths daily, at a temperature of 37° C. Milk diet. Punctures of camphorated oil. The prognosis appeared very bad. The effect of the first lumbar puncture was remarkable—the child was greatly relieved, commenced to speak, shut its eyes better; strabismus and nystagmus disappeared. On Wednesday lumbar puncture was repeated and 29 c.cm. of liquid removed. Microscopic examination of the fluid revealed a number of polynuclear leucocytes, altered and agglutinated with fibrin. The diplococcus of Weichselbaum was present. The next day a third lumbar puncture was performed, and, without aspirating, 59 c.cm. of liquid came away. One hour later a fourth puncture was made, and through the needle 15 c.cm. of Flexner's serum was injected very slowly. The night that followed was excellent; the child slept well, the temperature was normal, the stiffness of the neck diminished so that the child could turn its head from side to side. On the following day another puncture withdrew 45 c.cm., and 15 c.cm. of serum was injected. The child became interested in its surroundings and turned itself towards the light. The next day a third injection of 15 c.cm. was made after withdrawing 60 c.cm. of fluid. It continued to improve. It bent its head forward, and looked intelligent. There was neither heart nor lung complications. On the 25th the child remained well. There was only a slight urticarial rash. Three examinations of the fluid withdrawn after the serum injections were made, from which it was easy to see the transformation produced by the serum. The following are the results: *First examination:* Liquid slightly yellowish, fibrin settled on the sides of the tube, very few diplococci; cultures of the liquid gave fine colonies of the diplococci of Weichselbaum. *Second examination:* Liquid a little opaque, some flakes floating in it, a number of altered polynuclear leucocytes, very few lymphocytes, no microbes, cultures did not grow. *Third examination:* Liquid clear, the same leucocytes present as before, no microbes, and cultures proved sterile.

137. The Action of Diuretics.

ASHER (*Therap. Monats.*, December, 1908) reviews our knowledge of the action of diuretics in the light of recent researches. That the secretion of urine is due to a specific action of the renal cells and not to mere filtration processes is shown by various facts. (1) The molecular concentration of the urine is different to that of the blood, usually higher but sometimes lower. It has been calculated that the work necessary to produce this is greater than could be derived from the blood pressure. (2) The secretion of the normal acid urine with its free H ions from the neutral blood also requires us to assume some specific processes in the cells. (3) The non-excretion of sugar from the sugar-containing blood cannot be explained by assuming that it only occurs in the blood in some colloid form not suitable for filtration. (4) The synthesis of hippuric acid in the kidney. (5) The dependence of the excretion of sodium chloride on the nutrition of the renal epithelium is shown by some of Asher's experiments. The infusion of a starving animal with the blood of either another starving animal or that of a well-fed animal is not followed by increased excretion of NaCl, whilst in the case of a well-fed animal there is a well-marked increase. He then considers diuretics in three groups: (1) The specific diuretics, caffeine, diuretin, theobromin, theophyllin, and other purin bodies; (2) the so-called saline diuretics: (3) increased intake of water. That both the specific diuretics and the salines act directly on the renal cells is shown by (1) increased absorption of oxygen and excretion of carbon dioxide (Barcroft and Brodie); (2) the urine is warmer than the arterial blood; (3) temporary occlusion of the renal artery inhibits the action of diuretics, although the vascular dilatation still occurs; (4) the artificial diuresis is aided by an increase of blood pressure, but it still persists when the pressure is abnormally low; this is best shown in the case of the diuretic substance recently discovered in the pituitary by Schäfer; (5) the diuresis cannot be explained by the vascular dilatation which occurs, because either can appear without the other and there is no quantitative relation between the two. The specific diuretics increase the elimination of urea, chlorides, and of phosphates. The excretion of these substances is noteworthy, as they are presumably the substances which help to retain water within the organism. In some cases the chloride concentration of the urine is greater than that of the blood. When diuresis is artificially kept up for a long time there are pains in the kidney regions, and the kidneys lose their power to excrete soluble constituents. The saline diuretics cause a marked change in the constituents of the blood. It has been assumed that they act by withdrawing water from the tissues, and that the diuresis is due to this "hydraemic plethora." This is not so, for infusion of isotonic blood leads to no diuresis. The latter says that they act by checking reabsorption from the convoluted tubes is destroyed by many facts. Bock, by infusing an isotonic solution of KCl, kept the blood with a content of 0.03 per cent. KCl. There was profuse diuresis of urine with 0.9 per cent. KCl. On the reabsorption hypothesis the glomeruli must have excreted twenty to thirty times the amount of the urine: this seems impossible. Further, a renal cell stimulated to an increased production of hippuric acid excretes more NaCl than otherwise. Increased intake of water has possibly other effects than a diuretic increase in the watery contents of the plasma. It washes out the tissues, and in this manner may cause the appearance in the blood of substances which act on the kidneys as "hormones." Possibly the discovery of the diuretic substance in the pituitary will have far-reaching practical results.

138. Disinfection of Linen of Tuberculous Patients.

ROEPKE AND BUSCH (*Zeits. f. Tuberk.*, Bd. viii. Heft 3) give the result of their experimental examination of the action of pure lysoform as a disinfectant for the linen of tuberculous patients, and found that tubercle bacilli in sputum were destroyed by the action of a 1 per cent. solution for twenty-four hours, or of a 2 per cent. solution for twelve hours. These results were disputed by Kaufmann and Mietzsch, who used sputum in masses of the size of a thaler and of medium thickness (1 to 2 mm.), and found that the virulence of the bacilli was scarcely weakened by the antiseptic, and was not destroyed. Roepke and Busch (*Zeits. f. Tuberk.*, April, 1909) therefore made a further series of investigations with samples of lysoform from different sources and with different amounts of sputum. At first, sputum was used which was obtained from two far-advanced cases of phthisis, the sputum being applied to handkerchiefs either in a thin layer or in masses about 1 cm. in circumference; the handkerchiefs were soaked in the different preparations of lysoform for twelve or twenty-four hours, according as the solution was of 2 per cent. or 1 per cent. strength. The sputum was then introduced either into the peritoneal cavity of the test animal, or was washed off the handkerchief with sterile salt solution, and a subcutaneous injection of the fluid made. The only essential difference between these experiments and those of Kaufmann and Mietzsch was in the amount and mass of the sputum used. The result of the experiments was that in none of the animals treated with the disinfected sputum could any trace of tuberculous change be found on section. In the next series of experiments a double mass of sputum was employed, and it was found that steeping for twelve hours in 2 per cent. lysoform solution resulted only in a weakening of the virulence of the bacilli, not in their destruction; while steeping in 1 per cent. solution for twenty-four hours had an even less marked result. The question of practical importance is whether the action of lysoform can be depended on for the conditions met with in practice, and this question the authors answer in the affirmative, on the ground that under natural conditions masses of sputum the size of a thaler and 1 to 2 mm. in thickness are scarcely ever met with. Yet the experiments of Kaufmann and Meitzsch suggest the advisability of using a stronger solution of lysoform, and Roepke and

Busch therefore experimented further with solutions 1½ to 2 per cent. in strength, applied for a period of twenty-four hours. These solutions were found effective both against staphylococci and streptococci and against tubercle bacilli: more sputum, in the form of coin like masses, was used than in the earlier experiments; but, with a 1½ per cent. solution of lysoform, in only one instance were there signs of slight inflammation round the test object, while with a 2 per cent. solution the sputum was rendered sterile in all cases; control animals were used to test the virulence of the bacilli. These experiments show that steeping in 1 per cent. lysoform solution for twenty-four hours, or in 2 per cent. solution for twelve hours, suffices for the disinfection of the bed and body linen of phthisical patients, but that a 2 per cent. solution for twenty-four hours was needed to insure the disinfection of heavily-infected handkerchiefs. The difficulties of separation might, however, be considerable, and since the use of the stronger solution for twenty-four hours in no way harms the linen and is not too costly, it can be recommended for sanatoriums. Comparing the value of lysoform, as tested by experiments on guinea-pigs or by use in practice, the authors call attention to the fact that the conditions of the experiment are the more severe, both because guinea-pigs are more sensitive than human beings to the action of tubercle bacilli, because comparatively large amounts of sputum are used at each injection in the case of guinea-pigs, while in man only minimum doses are taken in at any one time, and finally in the experiment the test object is introduced into the abdominal cavity of the guinea-pig, from which it cannot afterwards be eliminated. The authors conclude that steeping of clothes in 2 per cent. solution for twenty-four hours is absolutely safe as a means of disinfection for all grades of tuberculous disease met with in institutions or private houses, and, further, that the bactericidal action of raw lysoform on staphylococci recommends it for use in infectious illnesses other than tuberculosis.

139. The Treatment of Boils.

JACKSON (*Amer. Journ. of Med. Sciences*, June, 1909), while recognizing the value of opsonins and vaccines in the treatment of extensive cases of furunculosis, outlines a simple method that has always met with success in his hands. Directly the boil has pointed its softened point should be bored into with a piece of stick sharpened to a fine point round which a little absorbent cotton-wool has been wound, and which has been dipped into a 95 per cent. solution of carbolic acid. By this method the cavity of the boil is thoroughly disinfected, and it should not be squeezed. The neighbouring skin is then washed over with peroxide of hydrogen, or 1 in 1,000 solution of bichloride of mercury, and the whole covered for a week with several thicknesses of gauze spread with salicylic ointment. As a rule, this effects a cure; but if the boil is a very large one, the treatment with carbolic acid may have to be repeated the next day. Should fresh boils appear in the neighbourhood as the result of infection of the surrounding skin follicles, they should be treated in the same way. If the boil has not pointed when first seen, it may be aborted by injecting into it a drop or two of a 5 to 10 per cent. solution of carbolic acid, or by touching its top with the 95 per cent. solution, using the salicylic ointment dressing afterwards. Hot boracic fomentations may be used to relieve pain, but they are not necessary, as the acid produces anaesthesia in a few seconds. Seven cases illustrating the value of this method are quoted, and it is claimed that by leaving a hardly appreciable scar it has an advantage over the usual surgical plan of incision.

PATHOLOGY.

140. Primary Tumours and Papillomatous Excrescences of Heart Valves.

SMALL papillomatous growths on the heart valves are often found after death, having produced no clinical symptoms. E. Koechlin (*Frankfurter. Zeit. f. Path.*, Wiesbaden, 1908, ii, p. 295) describes three such cases, the tumours being discovered only *post mortem* in three women aged 19, 60, and 55; in two instances the pulmonary, in one the aortic, valves were involved. The tumours formed little polypoid, shaggy-looking masses, attached to the ventricular surfaces of the affected valves near their lines of contact; their surfaces were smooth, they were up to 10 mm. in length, more or less pedunculated, greyish-yellow or greyish-red in colour, somewhat translucent. Under the microscope, and cut in serial sections, they all showed a more or less similar structure; they were covered with a single layer of endothelium, and consisted of fibrous and elastic tissue, infiltrated in places with small round cells. In the central parts of two were found homogeneous degenerated masses and broken-down elastic tissue. All the tumours were free from blood vessels, as were the valves from which they grew: the elastic fibres of the valves could be seen passing up from the valve tissue into the tumours. Koechlin quotes a number of similar observations from the literature, from that of Lambl (1856) onwards; and describes the tumours as Lambl's excrescences. He gives some details about 35 other similar cases he has examined, the aortic valves showing the excrescences in 34, the mitral in 1. He believes that more or less well-developed Lambl's excrescences can be found in about 20 per cent. of adult cadavers: out of 31 cases, only 2 were under 50, 25 were from 60 to 80 years old, and most of the patients showed more or less arterio-sclerosis. They can be distinguished from endocarditic deposits by the absence of lamination and of blood vessels, and the presence of elastic tissue in them. He believes that they are neither true tumours nor normal growths of the valves, but are growths due to mechanical or toxic-mycotic irritation of the valve tissues. Some of them contain myxomatous tissue, and this is to be regarded not as a tumour formation (myxoma), but as a product of degeneration. The semilunar valves of normal adults contain no blood vessels, and only the basal third of the atrio-ventricular valves is normally vascular. Koechlin believes that any vascular growth on the heart valves is either of inflammatory origin or a true tumour; and he says that no case has yet been recorded in which a primary tumour of a heart valve has been found. Many references to the literature and seven figures are given.

141. A Colour Reaction in Serum of Syphilitics.

W. SCHÜRMANN describes a colour reaction between a reagent containing phenol and perchloride of iron and the serum of syphilis patients, which he regards as specific and reliable for diagnostic purposes (*Deut. med. Woch.*, April 8th, 1909). He considered that as an extract with which he was working, and which contained lactic acid, gave a positive Wassermann test, this acid might play an important part in the reaction. He therefore tried Uffelmann's reagent for lactic acid, but did not obtain satisfactory results. Following the suggestion of Neuberg, he therefore utilized an oxidizing substance, and found that he obtained workable results. The reaction is carried out as follows: 0.1 of serum is diluted with physiological saline fluid to 3 or 4 c.cm., and one drop of Merck's perhydrol is added. The mixture is then well shaken, and 0.5 c.cm. of the reagent is then added. The reagent contains 0.5 gram of phenol, 0.62 gram of perchloride of iron, and 34.5 grams of distilled water. It should be prepared fresh for each test. The reagent is bluish-violet in colour. When brought into contact with normal serum, a slight green colouring of the upper layers is caused. On shaking, the colour either pervades the whole fluid or disappears, but in either case the fluid remains quite clear. Syphilitic serum, however, immediately turns a dark brown, and on shaking, the mixture assumes a turbid, thickish appearance. Syphilitic serum, in contrast to normal serum, causes a marked frothing of the mixture. His results tallied with the Wassermann test. Schmincke and Stoeber have tested the reaction, following Schürmann's directions closely (*Deut. med. Woch.*, May 27th, 1909). They tested 98 different serums, some of which were derived from syphilitic patients, while others were derived from patients suffering from other diseases, or from normal persons. The serum of the syphilitic patients, all of which reacted to Wassermann's deflection test, as well as the serum of one scarlatina patient, which also gave a positive Wassermann test, yielded all colour tones from pale yellow to a dark green with Schürmann's reagent, save in two cases, which gave the characteristic dark-brown colour. In the serum of other cases, a few gave positive iron perchloride reactions; but the results of their experiments were such as to compel the authors to conclude that Schürmann's test possesses no specificity for syphilis. Meirowsky has also controlled the results (*Deut. med. Woch.*, May 27th, 1909), and also comes to the conclusion that the reaction is not characteristic for syphilis. His cases showed a positive reaction with syphilitic serums in 14.9 per cent., and with non-syphilitic serums in 15.9 per cent. The author offers some suggestions with regard to the probable explanation of the test.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

142. Nervousness.

A. CRAMER (*Wien. med. Klin.*, May 23rd and 30th, 1909) discusses the causes, endogenous and exogenous, of nervousness—that is, of neurasthenia, of endogenous nervousness, and of hysteria—together with the methods of dealing with the condition. In considering the causes of nervousness a most striking point is the extreme variability of the individual in the power of resistance to harmful influences, whether they are endogenous or exogenous in character. Of endogenous causes the most important are those which affect the parent before conception takes place, and which lead to a lowered resistance in the child, as, for instance, a state of cachexia in the parent due to whatever cause. The exogenous causes are extraordinarily numerous, and may begin to operate at birth. Many depend on the ordinary customs of life. The fact that rest is necessary for children and adolescents is not sufficiently recognized. Overstrain at school is probably not so common as is supposed; it would, however, be diminished if more individualization were possible, and children were not kept at work for which they were not adapted. In adults, the influence of hysterical or nervous people, the reading of impure literature, hypnotism, sexual irregularities and excesses, the difficult struggle for existence, the action of acute and chronic poisons—for example, alcohol, narcotics, lead, mercury—infectious toxins, and trauma, are among the many causes. It is evident that, as a rule, not one single cause but a combination of causes leads to nervousness, the exogenous causes being less conspicuous the greater the predisposition of the patient. The endogenous causes injure the vital energy of the neurone initially, so that the normal biotonus is easily lost, while the exogenous causes either injure through chronic overfatigue the self-regulation of metabolism in the neurones or injure the biotonus by the action of poison, or directly as in shock or trauma. In dealing with this, as with so many other conditions, prophylaxis is the most effective measure. As regards the endogenous causes it is not possible to improve the race by marrying only suitable individuals, nor is our knowledge of the laws of heredity adequate for the purpose. Hygienic measures and the fight against tuberculosis and venereal disease are methods of dealing with some of the endogenous causes. Cramer considers also that the army and the marine service raise the standard of health, and that an increase of nervousness would be observed if life in the services were done away with. The measures directed against the exogenous causes are suggested by the list given. When nervousness is already present, but to a slight degree, rest and change are usually sufficient to restore the normal equilibrium of metabolism in the neurones, and bring about recovery. Unfortunately for the poorer classes this treatment is difficult to put in practice, and the author suggests the possibility of some form of insurance by which it could be brought within the reach of poor people. In the severer cases, and where a marked predisposition exists, treatment must be continued for many months, even from one to two years, before the patient, after many relapses, is again fit to earn a living. For richer people there are many private sanatoriums in which, if the treatment is not too rigidly after a pattern, a good result is to be expected. There is a great lack of such sanatoriums for poor patients. Sanatoriums, under medical supervision and supplied with all the requisite neurological health apparatus, and above all with plentiful opportunity for gymnastics and occupation, may become a source of regenerative strength for nervous patients.

143. Gastric Crises.

TRIA AND LANDREFI (*Rif. Med.*, June 21st, 1909), having had some typical cases of gastric crisis in tabetic patients under their care, have taken the opportunity to study the chemical changes going on in the stomach during the attacks. Like other observers they find no uniformity in their cases; each case is a law to itself, the same case even varying with itself from time to time. The commonest condition during the crisis was an excess of acidity; in one of their 6 cases there was a diminution of acidity below the normal, but even in this case at the time of the crisis the amount of acid was raised above that usually seen in this patient. No single cause will explain the gastric crisis: it cannot be explained on purely chemical or on purely nervous grounds, as a result of hyperchlorhydria, of the action of the sympathetic, the vagus, etc. It is of complex origin, fundamentally reflex in character, and due to the combined changes in the secretory, motor, or sensory systems of the stomach. And according as one or other or all of these systems are affected so the type of gastric crisis varies. In one case there may be the classical triad of symptoms—pain, vomiting, and affection of the general health; in another there may only be the motor nerves affected, and the predominant symptom is vomiting; or, again, secretion alone may be affected, giving rise to one of the anomalous forms of gastric crisis (the authors publish one such case), the sensory nerves may alone suffer, producing the purely gastralgic form, and so on through the various possible combinations. It seems clear, moreover, that the sympathetic system of nerves is also a participant in the group of factors making up the etiological elements in an attack.

144. Metabolic Osteo-Arthritis.

NATHAN (*Amer. Journ. of Med. Sciences*, June, 1909) discusses the nature, diagnosis, and treatment of metabolic osteo-arthritis, believing that the results of his investigations are sufficiently definite to afford some intelligent conception of the disease. Muscular atrophy is always a very early symptom, and in no other joint affection does it arise so soon or so markedly, while its progress is more rapid and out of all proportion to the other joint manifestations, and it is quite improbable that it is due to the joint disease alone. Stiffness is the earliest subjective symptom, most pronounced when the disease begins in the hands, and especially in those engaged in fine manual adjustments. It is worst in the morning and gradually diminishes during the day, but the period of its persistence tends to become longer in duration until it is constant. Passive motion is scarcely limited at all, and the stiffness is in reality a gradually increasing weakness. Pain, both as to its character and intensity, is a most variable symptom, but when present it is always increased by pressure on the bone near the joint. The peculiar nodular swelling when present is very characteristic, but it may be masked by joint effusion and muscular contraction and joint deformity accompanying it. The most typical palisade deformities occur in the fingers, due to flexion of the middle and extension of the terminal phalangeal joints, deviation of the fingers to one side, and flexion of the phalangeal and phalangeal-metacarpal joints. This deformity is caused by muscular contraction and tissue degeneration, the former operating alone in the early stages, but in combination with the bone destructive later, and rarefaction and softening of the articular ends of the bones is concomitant with the earliest joint symptoms. While in advanced cases the characteristic deformity of the fingers renders diagnosis easy, these symptoms are not so definite in other joints, and are absent in the early stages. Insidious in onset and always polyarticular and symmetrical, the peripheral joints are attacked first, and a number are usually affected simultaneously. Progress is usually very gradual with, in the milder cases, long periods of quiescence. In the earliest stages and before there is deformity rarefaction of the bones, particularly of the small joints of the extremity, can be detected radiographically, and these *x*-ray findings, combined with the characteristic clinical phenomena, form a pathognomonic symptom-complex. At first the bone atrophy is subchondral, gradually advancing, until it finally involves the whole epiphysis, and the cartilage shows no changes in the early stages, but as the subchondral changes increase its nutrition becomes impaired, it loses its lustre, ulcerates, and finally disappears. The disease is due to a metabolic derangement, seriously impairing joint nutrition. Uniformly good results have followed the use of thymus gland extract, two 5-grain tablets being given three times a day, increasing to three tablets in a fortnight, and after a few months three tablets four times a day, the patient being kept at rest until all active joint symptoms have subsided, when passive motion of all the affected joints should be commenced. This is carefully and gradually increased until an arc of free motion is obtained, only limited by the shortened tendons. As soon as the patient is able to be on his feet and use his joints without irritation, all contracted tissues should be divided and the deformity corrected.

Immobilization for three or four weeks is secured with light plaster-of-Paris bandages, and in a few days the patient is usually able to get about on crutches until the bandages are removed. The thymus extract does not act as a specific as far as the original constitutional condition is concerned, but it acts simply as a stimulant to the nutritive processes, thereby in some measure counteracting the causative influence.

145. Diffuse Interstitial Hepatitis in Acquired Syphilis.

It is generally recognized that acquired syphilis may produce a diffuse but irregularly distributed interstitial fibrosis in the liver that results in the much-scarred *hepar lobatum*. A. Fabris (*Arch. per le Sci. Med.*, Turin, 1908, xxxii, p. 471) argues that in certain cases a diffuse uniform interstitial fibrosis (or cirrhosis) of the liver is due to acquired syphilis, quite distinct from the similar cirrhosis commonly recognized as a consequence of inherited syphilis, and quotes 5 cases to support his view. In each the liver was harder and tougher than normal, and its acinous structure was made conspicuous on section by a uniform interlobular cirrhosis: the vessels and bile ducts showed nothing abnormal; in two instances the liver was a little enlarged, in the third its size was natural. The general hepatic parenchyma was not apparently influenced by the interstitial fibrosis, and showed no degeneration, and no formation of new bile ducts. The chronically inflamed interstitial tissue appeared to contain numerous minute miliary gummata, particularly in some patients: the amount of the intralobular fibrous tissue was increased, particularly towards the periphery of the lobules, but the great bulk of the fibrosis was interlobular and periportal. Only exceptionally did a few of the liver cells appear to suffer compression by the newly formed connective tissue. The process was not one that could properly be called a cirrhosis. In one patient, who showed no sign of tuberculosis, numerous large multinuclear giant cells were found in the lobules, and were clearly of epithelial origin, similar to those occasionally found in the hepatic parenchyma in congenital syphilis. Fabris remarks that such giant cells have not previously been noted in the hepatic lesions of acquired syphilis, and gives a figure of them.

SURGERY.

146. Radical Treatment of Genital Tuberculosis.

Pauchet (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 21, 1909) publishes five cases in support of his opinion that in genital tuberculosis involving, together with the epididymis and vas deferens, the seminal vesicle and prostate, the rational treatment would, in the absence of pulmonary and other remote complications, be the total extirpation of the affected organs. Such treatment, it is held, is safe and not very difficult, while the prospects of a spontaneous cure, after castration, of secondary tuberculous lesions of the seminal vesicle and the prostate are very bad. The operation is performed in three stages at one sitting. In the first stage the vas deferens, with its blood vessels, is isolated and removed through a free inguinal incision resembling that made in the operation for the radical cure of hernia. In the second, or scrotal, stage the epididymis, if simply indurated and not adherent to the skin, is exposed at the lower part of the inguinal incision and curetted. On the other hand, if adherent to the skin and connected with an external fistula, a separate incision circumscribing the thickened and perforated integument is made in the scrotum in order to permit the free removal of diseased parts and, if it be found necessary, of the whole testicle. In the final stage the seminal vesicle and the remaining portion of the vas deferens, together with a part of the prostate, are removed through a transverse perineal incision. In this stage of the operation there is a risk of wounding the ureter. This accident, the author states, would not indicate direct suture, as any bad results might be readily prevented by free drainage of the external wound for from six to eight days. The results of this operation have, in the author's practice, been very favourable. There was slow but decided and progressive improvement in the general condition, and the urinary troubles if due to lesions of the seminal vesicles and the prostate, and not to tuberculosis of the bladder, were effectually relieved. This method is recommended when the seminal vesicle is swollen or when, after removal of the epididymis and the vas deferens, the vesicle in course of some months or even years becomes affected. It is indicated also in cases of irritability and suppuration of the bladder due solely to disease of the vesicle and the ejaculatory ducts, and also in cases of perineal fistulæ associated with tuberculous disease of the vesicle or the prostate.

147. Non-Tuberculous Suppurative Affections of the Kidney.

In a paper on non-tuberculous suppurative affections of the kidney, von Frisch of Vienna (*Zentralbl. für Chir.*, February 24th, 1909) arrives at the following conclusions: (1) Pyelitis in both its acute and chronic forms originates in infection of the kidney or the renal pelvis, derived from the circulating blood, or from an ascending inflammatory process starting in the bladder. It has not been proved that infective germs can be directly transmitted to the renal pelvis from the intestine. (2) The development of pyelitis and of pyelonephritis is favoured by a predisposition set up by such local conditions as congestion of the mucous membrane of the kidney and its pelvis, and some obstruction to the free excretion of urine. (3) The tendency to an ascending infection is also favoured by a diminished resistance of the ureters to a reversed flow of the urine from the bladder, to over-distension of the bladder, and to nervous atony of the ureters due to spinal disease. (4) The prognosis of pyelitis and pyelonephritis is influenced by the anatomical condition of the affected kidney, and the nature and virulence of the infecting organism. (5) It is desirable that further experimental research carried on under control of clinical observation should be made, with the aim of explaining the frequent presence of the *B. coli* as the infective agent, and the path by which this germ travels to the renal pelvis. (6) Further research also is needed in order to explain the contradictory results of experiment on the relative virulence of the different bacterial forms, and their etiological relations, on the one hand to pyelitis, and on the other to pyonephrosis. (7) Cystoscopy and catheterism of the ureters are regarded as absolutely essential measures in the diagnosis of a case of suspected renal suppuration. (8) Although pyelitis, in both its acute and chronic forms, may occasionally yield to medicinal and dietetic measures, direct surgical intervention takes the first place in treatment. (9) In acute febrile pyelitis, ureteral catheterism should be promptly performed, with the object of removing retained inflammatory products from the renal pelvis and of allowing the injection of antiseptic solutions into this cavity. (10) Chronic pyelitis should also be treated by repeated removal of inflammatory secretions from the pelvis and by the instillation of medicated solutions. (11) Such local treatment gives best results in cases of infection by the *B. coli* and the gonococcus: in cases in which the renal affection is due to the infective action of the organisms of decomposed urine the prognosis is much less favourable. (12) The direct treatment of pyelitis by ureteral catheterism is contraindicated in cases of suspected tuberculosis, and in cases of infected hydronephrosis and of pyonephrosis it is useless. (13) Failure of this method of treatment and the persistence of fever and other signs of serious general reaction should be taken as indications of nephrotomy. (14) This operation should also be practised in cases of acute and chronic pyelitis in which there is any difficulty in ureteral catheterism. (15) Infected hydronephrosis and also pyonephrosis present decided indications for nephrotomy, and, it may be, for primary nephrectomy. A persistent renal fistula or extensive and severe lesions following nephrotomy demand nephrectomy. The paper was read at the meeting of the German Society of Urology, and in discussing it Barth of Danzig insisted on the value of ureteral catheterism in the diagnosis and treatment of suppurative affections of the kidney, and expressed the opinion that nephrotomy should be reserved for cases in which the former method had failed, and when the development of parenchymatous abscesses was suggested by persistent local pain and a general septic condition.

OBSTETRICS.

148. Gangrene of the Vulva, Vagina, and Cervix following Abortion at the Sixth Month.

Markoe (*Bulletin of the Lying-in Hospital of the City of New York*, December, 1908) reports a case of gangrene of the vulva, vagina, and cervix following abortion at the sixth month. Ten days prior to admission to hospital the patient, aged 22, two-para, began to bleed without apparent cause. She was six months pregnant, and after the haemor-

rhage had continued for about nine days she gave birth to a fetus, and was attended by a doctor. The following day she was admitted to hospital with a condition of moist gangrene of the vulva, vagina, and cervix, which could not be accounted for by the use of any strong douches or other procedure likely to have caused the trouble. Her condition resembled that of a patient in the third week of typhoid, with anxious face, lips and teeth covered with sordes, and the tongue dry and coated. The temperature was slightly subnormal, pulse 70, spleen not enlarged, the Widal test negative, and nothing abnormal in the chest or abdomen. The whole birth canal was bathed in a very foul, acrid discharge, and a putrid, muco-purulent discharge flowed from the uterus. Urine constantly dribbled from the distended bladder through a urethro-vaginal fistula about 1 cm. posterior to the meatus. The urine contained a faint trace of albumen, a marked excess of indican, a few hyaline casts, epithelium, and a quantity of pus. There was a sacral bedsore. A ten-gallon uterine and vaginal douche of hot normal saline solution was given, and the whole of the gangrenous tissue was cut away, care being taken not to invade the normal tissue beneath. After a douche of weak iodine solution the vagina was packed with balsam of Peru gauze. The patient was kept in the open air on the roof of the hospital day and night, and given a large amount of nourishment. Healing of the genitals rapidly took place, and was practically complete in a month, but the cystitis became worse, and the sacral bedsore became a sloughing wound of considerable size, and bedsores of the elbows and shoulders developed. These gradually healed, but the cystitis was obstinate, and, though improved, it persisted to the date of her discharge. Other than urinary antiseptics, bladder irrigation, and occasionally some of the bitter tonics, together with iron and arsenic, her sole treatment consisted in being continuously in the open air and taking as much food as she could digest, and from being almost a skeleton on admission, she returned home at the end of four months practically well, having gained her former weight, her only trouble being the cystitis, which was, however, much improved. Notes of another similar case (reported in the *Centralbl. für Gynaek.*, No. 18, 1906) are recorded, in which no interruption in the pregnancy occurred, the patient being about two months pregnant when she fell in such a way that her bare heel struck against the external genitals, resulting in a severe phlegmonous gangrene of the vulva.

GYNAECOLOGY.

148. Acute Post-operative Dilatation of Stomach.

EGBERT GRAUDIN (*Amer. Journ. of Obstet.*, June, 1909) reports 2 cases of this highly perilous complication, one of which ended fatally. He performed total abdominal hysterectomy for multiple fibroids and double "sterile" pyosalpinx on one patient whose age he does not report. The operation lasted for about an hour; the raw area in the pelvis was covered with sterilized gauze carried into the vagina. Tympanites and violent vomiting occurred within twelve hours. Although the patient had received but a few ounces of water, a quart of dark, non-odorous fluid was removed by lavage. The tympanites apparently involved the entire intestinal tract, and high enemata of ox-gall and later of alum failed to relieve the paresis of the bowel. Three doses of one-fiftieth of a grain of hyoscin were given hypodermically at intervals of an hour, and gastric lavage was repeated every two hours, much dark fluid coming away. At the end of six hours the intestinal spasm relaxed, and at the end of twenty-four hours the vomiting ceased and the patient recovered. The second patient was a widow aged 42, nearly 18 st. in weight. Graudin had performed multiple myomectomy: two years later the uterus had grown very large and was tender on the left side. Owing to the great thickness of the abdominal walls the limits and consistence of the swelling could not be accurately defined. The uterus contained a three months fetus as well as fibroid growths. Supravaginal hysterectomy was performed; the cervix was not removed, being healthy. The patient lay in the Trendelenburg position for over an hour. After the operation there was some "bubbling over" of the contents of the stomach, with little or no retching or vomiting. At the end of twenty-four hours tympanites developed, but yielded to three doses of hyoscin. The bowels also acted after a high glycerine enema. The "bubbling over," however, continued. The stomach was washed out and over two quarts of blackish fluid came away. This lavage was repeated every two hours, but the patient went from bad to worse, and died in thirty hours with signs of systemic toxaemia. J. Osborne Polak of Brooklyn noted that this complication occurred 8 times in a series of 1,000 abdominal sections. All the patients were placed in the Trendelenburg position, and all were under general anaesthesia; 2 had low haemoglobin percentages with low red-cell counts; 6 were septic before operation; 1 had gastroptosis. Vomiting began from twenty-four to fifty hours after operation. There was diffuse abdominal pain and thirst, with continuous and persistent regurgitant vomiting without peritoneal irritation. Lavage, starvation, the right latero-prone posture, irrigation by the Murphy method, and nutrient enemata were, he considered, appropriate treatment.

150. Traumatic Rupture of a Pyosalpinx.

PROUST AND MASCARENHAS (*Bull. et mem. de la Soc. Anat. de Paris*, May, 1909) report an authentic case of this condition, which is not so common as it was until recently supposed to be. A married woman, aged 40, fell down when engaged in household duties, great abdominal pains immediately followed, and then subsided until two days later, when they recurred and grew worse and worse. By the sixth day the suffering became intolerable, the abdomen gradually distended, and severe vomiting set in. The patient was admitted into hospital in a state of collapse, with a rapid, weak pulse and relatively low temperature. A very tender mass could be defined in Douglas's pouch, and it appeared to be the right Fallopian tube. Rupture of a tubal sac or peritonitis was diagnosed, the former seemed probable, as the last periods were slightly delayed. Yet there was no history of old-standing pelvic disease; indeed, the patient had always enjoyed good health, and had been delivered at term on two occasions, fifteen and seven years before the attack of abdominal pain. At the operation no blood, but some turbid, fetid fluid, was found in the peritoneal cavity. On raising the sigmoid colon, the pelvic cavity appeared full of pus, and its walls were lined with false membranes. There was also a big pyosalpinx, which nearly filled Douglas's pouch, and was ruptured along its postero-inferior aspect, its purulent contents escaping freely. It was carefully liberated from its adhesions, and removed; the uterus and opposite appendages, which, strange to say, were healthy, were saved, as the patient's condition did not allow of a total hysterectomy. Douglas's pouch was freely drained with strips of gauze and a big tube passed into the abdominal wound. There was but little increase of shock after the operation, but 1,000 grams of serum were injected. The drainage was maintained for five days. The report of the case was published on the tenth day after the operation, when the patient was in good health, and the pulse and temperature were normal.

THERAPEUTICS.

151. Mediastinal Tumour Cured by X Rays.

DARBOIS (*Bull. de la Soc. de Radiol. Méd. de Paris*, June, 1909) brings forward the case of an infant, aged 3½ months, who had been subject to wheezing and respiratory troubles since its first week of life. Dyspnoea, and cyanosis also, becoming more evident, a radioscopic examination was made. With the tube in position directly in front of the chest, the screen revealed the presence of a large, opaque mass at about the level of the usual position of the heart, and partially obscuring that organ. On placing the infant in the oblique position and dissociating the superimposed shadows it became clear that there was a tumour in the mediastinum. It was almost the size of a hen's egg, round in shape, and with a distinct border. According to Dr. Darbois, this tumour had slightly displaced the heart and had also produced a curve of the vertebral column. Radio-therapeutic treatment was instituted, the dosage being 2 H. units with rays of 6 to 7 on the Benoist scale, first to the right and then to the left of the vertebral column, and 3 H. to the sternal region. Ten days after this single séance there were signs of distinct improvement: the dyspnoea had diminished and the cyanosis almost completely disappeared. Fifteen days after the first application of the rays a second was given, identical with the first, and the pathological phenomena progressively cleared up, so that forty days after the commencement of the treatment the dyspnoea and cyanosis had vanished, the heart had returned to its normal position, the vertebral column had straightened, and the original ganglion had lessened until it was no larger than a small hazel-nut. Dr. Darbois thinks the case is instructive, not so much

from the point of view of the therapeutic result obtained as from that of the radioscopic diagnosis. It is exceptional, he says, to see a ganglion or tumour in the mediastinum displace the heart and the vertebral column.

152. Almateine.

Heinrich Tennenbaum (*Zentralb. f. inn. Med.*, March 27th, 1909) has found that almateine, a synthetic product prepared by Dr. Lepetit from the action of formaldehyde on haematoxylin, gives excellent results in the treatment of diarrhoea. Almateine is a fine powder, of a brick-red colour, soluble in alkalis but insoluble in acid solutions, altogether without taste or smell. Its formula, according to Roland Scholl, is $C_{16}H_{10}O_{14}$. Almateine is a good antiseptic for the treatment of wounds. Tennenbaum has made use of almateine in 50 cases of diarrhoea, and found that it was willingly taken and well borne by all the patients. The dose was from 2-6 grams per day, given in tablets, powders, capsules, or in a mixture; the most convenient form of administration was in capsules; the single dose was from 0.5-1.0 gram. The powder being insoluble in acid solutions passes unchanged through the stomach, and it was never found to give rise to any signs of intestinal irritation nor to any general intoxication. In most cases in which almateine was given after a preliminary evacuation of the bowel, it was found that the number of stools diminished, the consistency improved, they lost their offensiveness, while painful peristalsis ceased. Almatein possesses the peculiarity of staining the motions red, and it is possible to locate the seat of the catarrh by the time of the appearance of the discoloration of the stools. The drug was not only efficacious in cases of catarrhal diarrhoea, but also where there was a bacillary affection of the intestinal mucous membrane, and especially Tannenbaum came to the conclusion that it was beneficial in some cases of intestinal tuberculosis. In the case of several patients who had been taking opiates for some time, almateine was substituted, with prompt result. Notes of 10 of the cases are given in the article.

153. Salts of Bismuth in the Treatment of Fistulae.

P. Aubourg (*Bull. de la Soc. de Radiol. Méd. de Paris*, June, 1909) has a paper on the treatment of fistulae by injections of subnitrate of bismuth, after the method of Beck of Chicago. As an aid to the radiographic examination of the extent and direction of the fistulae tracks, Beck injected by the orifice a mixture of bismuth and vaseline liquefied by heat, and found to his surprise that the passages closed up rapidly. M. Aubourg describes a case of coxalgia with multiple fistulae in a patient 15 years of age in which this method was tried. One hundred cubic centimetres of a liquefied solution of one part subnitrate of bismuth to two parts vaseline, warmed in a vessel immersed in boiling water, was injected into the tracks, causing sharp pain and some fever. The pain did not last long and the fever had subsided by the following morning, but the suppuration was not quite cleared up by means of a single injection. In order to avoid the well known toxic action of subnitrate of bismuth, he suggests the substitution of some other bismuth salt, such as the carbonate, which he has employed without difficulty up to a dose of 100 grams in the radiological examination of the stomach.

154. Urotropin in Meningitis.

Crowe (*Johns Hopkins Hosp. Bull.*, April, 1909) records the results of his investigations upon the excretion of urotropin in the cerebro-spinal fluid, and its consequent value in the treatment of meningitis. A boy, aged 13, in whom a cerebro-spinal fistula (from sloughing of one of the flaps) had occurred after a suboccipital operation for a cerebellar tumour, and in whom the discharging fluid became purulent, was given 10 grains of urotropin by mouth, and a few hours later the drug was present in the cerebro-spinal fluid. Thirty grains daily, well diluted with water, were continued for a week, after which the temperature slowly fell to normal, and in three weeks from the commencement of treatment the boy was well. Further investigations in cases in which lumbar puncture had been performed showed that on the average, after a 15-grain dose of urotropin, the maximum concentration was reached after half to one hour, and when given in therapeutic doses the drug appears in the cerebro-spinal fluid in sufficient amounts to be of a decided bactericidal value. With a view to studying the effect when administered in artificially produced meningitis experiments on rabbits were conducted, with the result that those receiving urotropin usually survived two or three days longer than the control animals, and the clinical symptoms were longer deferred in their onset. Forty experimental observations were made, and these proved that animals which had received several doses of urotropin before the cerebro-spinal space had been inoculated with pathogenic organisms will survive longer than those which have been given the urotropin after inoculation, and much longer than those to which none of the drug had been administered, thus showing that the most marked therapeutic value of the drug is for prophylaxis, or at least for cases of early infection. The prompt administration of urotropin is therefore advised in all clinical cases in which meningitis is a possible or threatened complication, or even in cases where meningeal infection has actually occurred.

PATHOLOGY.

155. Tubercle Bacilli in Caseous Lymphatic Glands.

Koch pointed out, in his work on the etiology of tuberculosis, that when lymphatic glands were enlarged in cases of glandular tuberculosis, but did not contain epithelial cells or giant cells, bacilli were not to be found. In caseous glands he only found tubercle bacilli by Ziehl's staining twice out of twenty-one times. L. Weiss considered that this failure to find the bacilli might indicate that the bacilli were in a latent condition (*Muench. med. Woch.*, March 2nd, 1909). Much has rendered the study of obscure tubercle bacilli possible by discovering that a granular form exists which is not stainable by Ziehl's method. Much's method of staining consists in treating the specimens for two days at room temperature in a concentrated alcoholic solution of methyl violet, decolorizing with Lugol's iodine solution for ten to fifteen minutes, then washing in 5 per cent. nitric acid for one minute and 3 per cent. hydrochloric acid for ten seconds, decolorizing in equal parts of acetone and alcohol until no more colour comes off, and counter-staining with 1 per cent. saffranine solution for from five to ten seconds. The specimen is then washed in water, dried, and examined. The preparations thus obtained are not permanent; but if they pale after a time the whole process can be repeated, so that the specimen is permanent, and when obtained offers the same picture indefinitely. Weiss considers that the technique of Much's staining is difficult, and even in the hands of one who has learnt the difficulties by experience may at times fail. He therefore advises the making of several specimens of the same gland each time, so that an erroneous negative find may not be recorded. The granulated rodlets or free granules may be difficult to find, and for this reason much patience has to be exercised in looking through the specimens. The granules frequently lie at different levels; they are quite round, possess sharp contours, and stain deeply. They vary in size, but are always smaller than the smallest cocci. At times they look like dust particles. While they may lie separately, they usually form clumps. Weiss examined glands from 5 cases of lymphatic tuberculosis. These glands belonged to the mesenteric and bronchial systems, and were found as accidental complications at the *post-mortem* examination. The specimens were preserved in the Eppendorf pathological institute. Three further cases were also examined, in which the glandular affection formed part of a tuberculosis of other organs. The specimens were examined after staining by Ziehl-Neelsen's and Much's methods. In each case Ziehl-Neelsen's method led to negative results, and in each case Much's modification of Gram-staining led to positive results. This, he contends, marks the utility of Much's method. It is applicable in those cases in which Ziehl-Neelsen fails to disclose tubercle bacilli. He was able by this means to demonstrate the presence of granulated tubercle bacilli, which are not stainable by Ziehl-Neelsen's method, in all cases of caseous infiltration of lymphatic glands. In 2 cases he stated that the virulence of the bacilli was tested and they were found to belong to the bovine type. Much is of opinion that the acid-fast envelope is possessed by the human type, but that virulent bovine bacilli not infrequently divest themselves of this characteristic. Weiss is inclined to regard the bacilli which stain by Much's method and not by Ziehl-Neelsen's as bovine bacilli. He deals with the possibility of these localized infections forming an immunity, which protects the individual from a further infection with other tubercle bacilli.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

156. Symptoms of Descending Thoracic Aneurysm.

HEWLETT AND CLARK (*Amer. Journ. of Med. Sciences*, June, 1909) record 6 cases of aneurysm of the descending thoracic aorta, and point out how frequently signs and symptoms may be wanting, or when present, may be misinterpreted. It is only very exceptionally that a diagnosis can be made from signs alone previous to erosion of the bony thorax. Pain is the most frequent symptom and was present in 5 of the 6 recorded cases, but was entirely absent in the sixth, in which the aneurysm was accidentally discovered from an *x*-ray plate taken to determine the heart outlines, the condition apparently producing no symptoms whatever. In none of the cases was any murmur detected over the site of the aneurysm. In one case, in which a large aneurysm was situated directly behind the heart, the cardiac sounds were unusually distinct over the site of the aneurysm, and slight pulsation with some dullness over the left back was also present. Two of the cases gave indications of pulmonary compression, but as both had large hearts it was impossible to say that the aneurysm was the sole cause of the signs. In three of the cases diminished mobility of the left side of the thorax was noted and in one the fluoroscope showed a lessened excursion of the left side of the diaphragm. Sensitiveness of the dorsal spines was present in two of the cases, and in three there was a zone of disturbed sensation round the left side of the body. The great value of *x*-ray examination in such cases is borne out, and it is frequently astonishing to see the size of the aneurysm that has escaped detection by the ordinary methods of physical examination. The probable diagnosis of aneurysm should be considered in cases presenting unexplained symptoms of persistent pain of long duration resisting all methods of treatment, and especially when such symptoms present special characteristics, such as a fixed location, or diminished severity in certain attitudes, and if no tumour is perceptible the *x* rays should be invoked in order to obtain certain proof.

157. Irregularities of the Pupil in General Paralysis of the Insane.

RODIER (*Rec. d'ophtalmologie*, April, 1909) confirms the views of Joffroy and Schrameck, who see in irregularity of the pupil an early symptom of the parasyphilitic diseases, tabes dorsalis, craniotabes, and general paralysis of the insane. It is the first stage of those changes which ultimately end in typical reflex iridoplegia, and sometimes in complete paralysis of the pupil. Every example of the Argyll Robertson pupil has at some time or other shown irregularities in its contour. A pupil which has once shown irregularity may become modified in shape, but it never again becomes truly circular. Atropine intensifies the irregularities, which are due to localized islets of paresis of the sphincter iridis. The deformity is generally at first monolateral. It may be detected simultaneously with the disordered reflex, which it may only precede by a short interval of time. The commonest changes in shape are the oval and ellipsoidal. The two pupils do not always show the same kind of deformity.

158. Alcoholic Myositis.

ROBERT BING (*Medizin. Klinik*, April 25th, 1909) describes one of two cases of polymyositis alcoholica which have come under his own observation, and differentiates between this condition and that of polyneuritis with secondary muscular changes. Senator twenty years ago showed that the muscles may be attacked primarily and independently of a peripheral neuritis; at the height of the disease examination of excised muscle tissue showed increase of round cells in the trabecular connective tissue and the vessel walls, followed later by the new formation of connective tissue between the muscle fibres, the pathological diagnosis being one of myositis interstitialis with commencing cirrhosis. Other workers have demonstrated in a series of cases the presence of myopathic processes where characteristic signs are (1) cellular infiltration in the perimysium, (2) progressive proliferation of connective tissue with consecutive shrinking; in some cases also parenchymatous lesions were present. An acute and a chronic stage of myositis are described in the literature; in the acute stage myalgia is the dominant symptom. Sometimes there is subcutaneous oedema over the affected muscles. Later the muscles diminish in volume. The reaction of degeneration is not present if neuritis is absent, but the electrical irritability of the muscle is almost always depressed. In the case described by the author the patient was a man 42 years of age, who was admitted into the Bâle medical clinic four days before his death, suffering from chronic nephritis, fatty liver, tuberculosis of the lungs, and myodegeneratio cordis, and from polyneuritis; the nerve stems of the right arm could be felt to be thickened and firm, but were not especially sensitive to pressure; in the left arm only the ulnar nerve showed a corresponding change. Certain muscles of the upper extremities showed changes independent of the characteristic changes of multiple neuritis; a moderate myalgia had been the initial symptom, and had been followed by a gradual shrinking and hardening of the muscles. The changes were most advanced in the right biceps muscle, which felt hard and almost tendinous, while extension of the arm beyond a right angle was impossible. Other muscles affected were the pectoralis and latissimus. On the left side the same muscles were affected, but not so severely. Histologically, in addition to the changes due to neuritis multiplex, there were found in the affected muscles signs of myositis at different stages, the fresh infiltrative stages being seen in proximal and distal parts of the muscle, and the chronic and cirrhotic areas in the middle. There was no history of syphilis nor any sign of it at the autopsy. Certain points are especially of interest in the case. First, the myositis showed a clear autonomy within the disease: thus, although of all the arm nerves the musculo-cutaneous were least changed, the biceps muscles were those most affected. Secondly, the muscular changes were inflammatory, not degenerative, changes. The changes, like the alcoholic changes in the liver, kidneys, etc., should be ascribed to a direct toxic action of the alcohol. The muscles affected, namely, the biceps, pectoralis major, latissimus dorsi, and deltoid, could not be grouped together by a common function, even although the right side was more severely affected than the left. In by far the majority of the cases in the literature the leg muscles were the ones affected; the localization in the shoulder girdle muscles, and the intensity of the muscular contraction, are distinguishing features of the present case.

159. Diabetic Lipaemia and Lipoidaemia.

THE amount of fat in the blood never rises above 5 per cent., except in cases of diabetes mellitus; it may reach 20 per cent. (Neisser and Derlin) in this disease. C. Frugoni and G. Marchetti (*Il Policlinico*, Rome, 1909, xvi, p. 49) record the case of a youth of 13 with diabetes of four months' duration, whose blood count was $3\frac{1}{2}$ million red cells, 7,000 white, 65 per cent. of haemoglobin, and whose blood was alkaline and contained 25½ per cent. of fatty substance—$3\frac{1}{2}$ per cent. of fatty acids, 22 per cent. of neutral fat—and, in addition, over 1 per cent. of cholesterin and $\frac{1}{2}$ per cent. of lecithin. The urine contained 1.7 per cent. of glucose, 0.025 per cent. of albumin, nearly 0.8 per cent. of β-oxybutyric acid, and 0.09 per cent. of fat; in quantity it was about 5 pints a day. The diet at the time of these examinations had consisted for a fortnight of meat and greens, with very little carbohydrate; and large amounts of sodium bicarbonate were also given—½ oz. a day (?). Death in coma occurred two days later: blood taken *post mortem*, after a certain amount of inevitable sedimentation, contained 5 per cent. of fatty acids, 27 per cent. of neutral fat, and 2 per cent. of cholesterin and lecithin. The cerebro-spinal fluid was milky: the pancreas was small, soft, atrophic, but under the microscope seemed perfectly normal, but for extensive fatty infiltration. Most of the tissues examined showed a similar infiltration with fat: the brain exhibited nothing pointing to fat-embolism. The kidneys showed a slight acute nephritis. The authors discuss the genesis of lipaemia and lipoidaemia at some length: no investigation of the lipolytic power of the blood was made in their case; but they believe that hypolipasia, or deficiency of the fat-splitting ferment, of the blood, is the cause of any marked diabetic lipaemia: further, such lipase as is present cannot act in the presence of accumulated products of its activity—hence a vicious circle is established.

SURGERY.

160. Fractures of Astragalus with Displacement of Fragments.

MAUCLAIRE AND PETITEAU (*Arch. gén. de chir.*, No. 6. 1909) have been led by a clinical study of fractures of the astragalus with luxation of the fragments to the following conclusions. These injuries, which it is held are relatively rare, result from violent force acting indirectly on the seat of the traumatism. From an anatomical point of view they may be arranged in three varieties, the distinction being based on the relation of the fractured portion of the bone to the interosseous ligament. There are (*a*) prefigamentous fractures with luxation of the head of the astragalus on the dorsal surface of the foot; (*b*) retroligamentous fractures with luxation of the posterior fragment either forwards on the dorsum of the foot or backwards towards the tendo Achillis; and (*c*) complex fractures in which both fragments, having lost their connexions with the interosseous ligament, are simultaneously displaced. The functional troubles caused by these injuries of the foot are very serious, and the prospects of a good local recovery are unfavourable. In most cases the surgeon has to deal with an intra-articular fracture, and when, as often occurs, there is an external wound, the patient is exposed to the danger of septic complications. The after-prognosis in old cases to which proper surgical treatment was not applied in the first instance is also very bad, as the function of the injured foot is likely to become permanently impaired. With regard to treatment, the authors hold that total removal of the fractured astragalus is the method of choice. This operation, which is unquestionably indicated whenever the skin is wounded, is regarded as preferable to other plans of treatment in cases of simple fracture. The results of attempts to reduce the fragments by manipulation have, as a rule, been very unsatisfactory, while, on the other hand, ablation of the whole of the injured bone has, when practised under complete aseptic conditions, usually been followed by success. Total astragalectomy is to be preferred, the authors argue, both to reduction of the fragments after incision of the skin and soft parts and also to partial removal of the bone.

161. A Case of Error in the Radiographic Diagnosis of Fractured Skull.

CHATUT (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 24, 1909) directs attention to an instance in his surgical practice of faulty interpretation of the signs afforded on radiographic examination of a case of severe head injury. A young man, aged 19, after a brief and mild concussion caused by a fall from his bicycle, suffered from persistent headache, and presented, in addition to Kernig's sign, some indefinite indications of serious intracranial injury. A radiographic examination made on the fifth day after the date of the accident, showed a dark fissure about 8 cm. in length, which, starting from the bregma, followed the auriculo-bregmatic line. The author, acting on the assumption that the case was one of depressed fracture of the cranial vault, laid open two large haematomata involving the scalp on both sides, and freely exposed both parietal bones. After careful examination, however, he failed to find any osseous lesion. The dark line distinctly presented in the radiographic picture corresponded, he believes, with one of the grooves of the middle meningeal artery.

162. Ochsner Treatment of Appendicitis.

BARNHILL (*Amer. Journ. of Surgery*, July, 1909) endeavours to remove what he regards as a serious and unfounded misconception among many American surgeons with regard to the principles and scope of the method of dealing with appendicitis that pass during the last eight years been advocated and practised by Dr. Ochsner. It has been wrongly assumed, he states, that this treatment, by substituting expectant measures for prompt surgical action, tends to encourage those who are opposed to operation, and to result very often in fatal delay. In a brief review of this method it is stated that in every case of acute appendicitis the taking of any kind of food, of water, and of cathartics by the mouth is rigorously prohibited. If nausea persists, gastric lavage is practised once, and if necessary again after an interval of from two to four hours. In every case first seen within the first thirty-six hours of the attack which presents no evidence of perforation or diffused peritonitis immediate or early operation should be performed. In cases in which recovery seems doubtful the operation should be postponed, and the patient prepared for later intervention by strict starvation. In such cases a late operation should be practised, with complete removal, if infection be confined to the appendix, and, if circumscribed abscesses have developed, these should be opened and drained. The results of such treatment are, Barnhill states, very satisfactory, the patients being promptly cured, while suffering is reduced to a minimum, and complications are not liable to occur. Ochsner, it is held, is not timidly conservative in his treatment of appendicitis. In cases of chronic recurrent attacks the affected organ, he acknowledges, should be removed during a quiet interval, and patients suffering from an acute attack should be operated upon as soon as the diagnosis is made, provided they come under treatment while the infection is still limited to the appendix. The distinctive feature of the Ochsner method is that in cases of perforative and gangrenous appendicitis indicating, in the opinion of most practical surgeons, immediate operation as the only means of giving the patient a chance, the use of the knife should be postponed until the infective area has been circumscribed, the treatment in the course of the delay consisting in strict starvation. This form of treatment, the results of which have been very encouraging in Ochsner's practice, cannot, it is pointed out, supplant the operative treatment of acute appendicitis, but it can be used to reduce the mortality by changing the class of cases in which the death-rate is very high into another class in which a fatal result seldom follows surgical intervention.

OBSTETRICS.

163. Eclampsia.

LUDWIG SEITZ (*Wien. med. Klin.*, June 20th, 1909) reviews the different attempts which have been made, on many different lines and without success, to discover the causes of eclampsia. Lubarsch and Schmorl have shown that the pathological anatomical condition in eclampsia is characteristic of the disease, and sufficient by itself to enable a diagnosis to be made. The condition points to the action of a poison, and it is generally agreed that the disease is of the nature of an intoxication. The bacterial theory of origin has been for the most part abandoned. The fetal theory of eclampsia advocated by Fehling has been put into the background by the placental theory of Veit. Veit's examination of the blood of the fetus and the mother shows that the blood in the two cases differs in molecular concentration, and as regards cells and serum, and that the fetus and the mother are two distinct individuals in this respect; Halban and Landsteiner's investigations as to haemolysis and agglutination, precipitation, etc., support Veit's view. Veit's theory of eclampsia is that in pregnancy antibodies are formed in the maternal blood which render harmless chorionic cells with fetal derivatives which pass into the maternal circulation, and that if the maternal organization is suddenly flooded with placental cells the antibodies are inadequate for the work, and albuminuria, haemoglobinuria, and, in cases of a high grade, eclampsia, result. Many workers have tried to demonstrate the presence of the antibodies, and to obtain an immunizing serum, but without success. Of earlier date than experiments such as these are attempts to show the presence of a poison by animal inoculation. Graf and Landsteiner were able to show that the urine of eclamptic patients was poisonous, but not more so than in many other diseases. Intraperitoneal injection of an emulsion of placental tissue Liepmann found to be often harmless in the case of a healthy placenta, and poisonous in the case of an eclamptic placenta; the degree of poisonousness, however, varied considerably in different cases. Intravenous injections gave still more contradictory results, possibly as a result of the many factors which, in the case of intravenous injections, the most careful technique does not avail to exclude. One of the latest theories of eclampsia is that it is due to the action of placental ferments. While it cannot be denied that the histopathological changes in the liver might be due to autolytic processes, the presence of the specific ferment has not been proved; nor is it clear why such a ferment, if during pregnancy it normally exists, should suddenly be produced in such large quantity, or should pass over from the placental cells into the maternal organism. Zweifel has investigated the chemical constitution of the urine, the blood, and the cerebro-spinal fluid, and Hofbauer also that of the liver. They find a diminished alkalinity of the blood and an increase in the acid products of regressive proteid metabolism. Zweifel considers eclampsia to be an acid intoxication, but it appears to be doubtful whether the acids formed are the cause or the effect of

the disease. It has been customary to judge of the severity of the disease by the number of convulsions: but the view has been modified, in consideration of the fact that in the most severe and fatal cases convulsions may be absent or few in number, while recovery may take place after 100 or more fits: long-lasting deep coma, marked cyanosis, stertorous breathing, small quick pulse, sinking of the blood pressure, and icterus are trustworthy signs of the gravity of the attack. The author finds that treatment has been to some extent modified by recent observations: that somewhat less importance than formerly is given to treatment of the convulsions as such: chloroform is given with more caution on account of its injurious action upon the cells, and morphine is no longer given in the heroic doses recommended by Veit. In accordance with the advice of Dührssen, which is supported by Zweifel and Bumm, the author recommends the evacuation of the uterus as early as possible, even as early as after the first convulsion. Cases should be treated in hospital, where, if the cervix is undilated, a hysterotomia vaginalis or an extraperitoneal or classical Cæsarean section can be carried out. After delivery, the indication is to get rid of the poison in the body and treat symptoms. Seitz finds that sweat-inducing procedures are being less used, partly because of the absence of results, partly because of the probability on theoretical grounds that the toxin of eclampsia is of a colloid or large molecular constitution which cannot pass out through the skin. Zweifel has revived the treatment by bleeding and injection of physiological salt solution. Edebohls and Sippel and Opitz have carried out decapsulation of the kidneys, in order to do away with the heightened intracranial tension, which has been considered the cause of the quick setting in of kidney insufficiency. The theory of acid intoxication has led to treatment by administration of alkalis: the most convenient and quickly-acting method is the subcutaneous injection of an alkali in the form of 5 per cent. of sodium bicarbonate in physiological salt solution; the author advises that frequent use should be made of this method. Cyanosis and inadequate breathing continuing after a convulsion is to be treated, according to Bumm, by long-continued artificial respiration. For heart failure injections of camphor and digitalin are to be tried. No case is to be considered as hopeless.

GYNÆCOLOGY.

164. Resection of Kidney in a Case of Supernumerary Ureter opening in Vulva.

A CASE of some interest has recently been reported by Josephson of Stockholm (Ein Fall von Ausmündung eines überzähligen Ureters in die Vulva, durch nierenresektion geheilt, *Zentralbl. f. Gynäk.*, No. 24, 1909, p. 836). The patient was a girl aged 18, subject to intolerable annoyance from incontinence of urine. She had been under Josephson's observation since infancy. Her mother brought her to see him when she was 8 years old, complaining that the child was always wet, although she appeared to micturate naturally. Josephson detected a minute opening to the left of the meatus urinarius, whence issued a few drops, or occasionally a thin stream of clear fluid. The cystoscope was employed; the orifices of the two ureters were in every respect normal, and so was the urine. Methylene blue was injected into the bladder; the fluid from the fistula, however, did not become stained. The same colouring medium was given internally, then the urine in the bladder became deeply, that from the fistula moderately, coloured. The child then seemed too young for an operation. Phthisis with softening developed, but the disease seemed thoroughly arrested after residence in a sanatorium. When this patient had reached the age of 18, Josephson found the condition of the genito-urinary tract unchanged, as might have been expected. The orifice of the abnormal ureter looked like a punctum lacrymale, and the duct itself could be traced by palpation of the vaginal wall, running along the left side of the urethra as far as the left fornix. The cervix, body of the uterus, and vagina showed no deformity, and menstruation was normal. The clinical tests above related were applied once more, and it seemed evident that there was a supernumerary ureter, which did not arise in the normal pelvis of either kidney. Abnormal ureters have been known to open on the opposite side to that of the kidney whence they originated, but that condition seemed improbable in this case. Josephson operated after introducing a catheter into the left kidney, then he exposed that organ through an oblique lumbar incision. The catheter could be felt with its end in the normal renal pelvis. The kidney bore a kind of accessory kidney, or, more correctly speaking, a lobe imperfectly blended with the rest of the organ. This lobe lay on the upper pole, separated by a shallow groove which was symmetrical antero-posteriorly. The accessory ureter was seen to arise from this lobe, and it was dilated, being over ½ in. broad. The abnormal duct was ligatured and divided, and two small vessels which ran into the same lobe were tied. The lobe was then excised along the line of the groove. As the divided tissues were parenchymatous rather than glandular, there was not much bleeding, and the wound in the upper pole of the kidney was easily closed with catgut. The excised lobe was nearly as big as a hen's egg, but it was dilated by a cavity containing pus; the pelvis whence the extra ureter sprang was small. The patient made a good recovery.

THERAPEUTICS.

165. Treatment of Bronchial Asthma.

POSSELT (*Wien. med. Klin.*, June 13th, 1909), in one of a series of articles dealing with chronic bronchial diseases other than tuberculosis, discusses the treatment of bronchial asthma. The first principle in treatment is that of individualization, and the methods employed are materially affected according as the bronchitic or the spasmodic element is more prominent; the causes in each case are to be discovered if possible. Posselt mentions with approval Brügelmann, who lays the greatest stress on the importance of psychotherapy in asthma, and has recommended direct sanatorium treatment, and Avellis, who advises that sanatoriums should be erected for patients suffering from non-tuberculous lung and bronchial disease, and especially from asthma. The remedies for acute attacks are well known. Analysis of the patent remedies in widest use shows that they are for the most part simply combinations of these well-known drugs. According to Bertram's analysis, Tucker's fluid consists of natr. nitrosum, atropine (1 in 100) dissolved in water containing some glycerine, and Einhorn found also that 1 per cent. of cocaine was present. The well-known American preparation of Hayes was found in the Hamburg analysis to contain potassium and ammonium iodide. Among the different mixtures mentioned for use as sprays or inhalations is that recommended by Fürbringer: Solut. cocain. mur., 0.3 in 90, morph. mur., 0.1–0.2, aq. amygd. ad 10.0. A small teaspoonful to two tablespoonfuls of water as an inhalation. A good combination is that of the asthma spray "Eupnoma": 100 parts straonium liquor, 1 part anaesthesine (Ritsert), 2 parts subcutine (Ritsert), 0.5 parts methylatropine brom. The author has found F. Krans's mixture of caffein natr. salicyl 0.2 and antipyrine 0.8 useful in several cases with severe attacks in which the spasmodic component was the prominent one. He finds that dispnon (theobromin-quebracho tablets) do good service in bronchial asthma, and are especially suited to cardiac asthma and angina pectoris. Against the asthmatic constitution we have potassium iodide (arterio-sclerosis?), arsenic (dermato-urticarious type), and atropine (spastic secretory type). For long use sodium iodide may be substituted at times for potassium iodide, as well as substitutes such as sajodin and iodipin; in some cases iodipin answers where potassium iodide fails. Another iodine preparation worth a trial is iodival, which contains 47 per cent. of iodine. Fraenkel has used with success as a substitute for atropine eumydrine (atropine methyl-nitrate), giving it for not longer than three to four weeks. Amongst the methods of physical treatment is especially to be mentioned incandescent light baths given between attacks; the bath lasts five to six to eight to ten minutes, temperature 53 to 60°. Von Strümpell maintains that light baths form the most effective treatment for asthma known to him. Strasser recommends a combination of the incandescent light baths and hydriatic treatment. Roentgen rays have been tried in asthma, but Posselt agrees with Strümpell in considering them to be much too dangerous for use. Hydriatic measures to treat the neurotic element in the disease are recommended. In the attacks themselves Posselt has repeatedly found that hot hand and foot baths and compresses, as warm as can be managed, round the thorax, have a considerable effect in lessening the severity of the attack. Other methods of treatment mentioned are hot-air treatment, hot baths followed by cold douching of the abdomen and neck, breathing exercises, the pneumatic treatment, and gymnasium exercises.

166. Curdled Milk and Intestinal Decomposition.

COMBE (*Wien. med. Klin.*, May 9th and 16th, 1909) describes the different methods of introducing into the intestinal tract microbes antagonistic to the proteolytic

decomposition microbes. The treatment of specific proteolytic intestinal infection is still only a method for the laboratory, and is not capable of introduction into general practice. As a rule, intestinal infection is caused by many different proteolytic microbes, and Metchnikoff advises that, to combat the condition, saccharolytic bacilli should be acclimatized in the intestine, so that by producing lactic acid *in statu nascendi* they may destroy the proteolytic microbes which cause nitrogenous decomposition in the intestine. This acclimatization may occur in one of three ways: (1) From the use of a milk or flour diet, which converts the culture medium, which was favourable to proteolytic anaërobes, into one favourable for saccharolytic anaërobes; (2) by the introduction of the natural milk ferments into the digestive tract; (3) by the introduction of artificially cultivated milk-curdling products. The first method is already well known. For the second method, ordinary curdled milk is not applicable, because the *Bacterium lactis* which is contained in ordinary curdled milk is easily destroyed and does not reach the large intestine. The Oriental curdled milk, however, is not only a food, but is a bacterial culture containing a considerable number of different saccharolytic bacilli, among others the bacillus of Massol, which is extraordinarily effective in combating the proteolytic microbes and is usually found still present in the stools. The best known of the Oriental kinds of milk is the Bulgarian curdled milk or Yoghourt, and this is the one described in the article. The coagulation in this preparation is due to a special ferment called "Maya" which is found on examination to contain in addition to innumerable other microbes three specific aërobe and facultative anaërobe milk microbes—the Massol bacillus, a diplococcus, and a streptobacillus. Yoghourt needs to be freshly prepared and bears transport badly, but Maya can be obtained in powder form, or under the name of "lacticose" in fluid form. A great advantage of Yoghourt is its pleasant taste, which is never objected to even by patients who dislike milk. Yoghourt is more nutritious than milk in equal volumes, it is easily digestible and has a slight laxative and diuretic action. In autointoxication from the intestine Yoghourt is one of the best of the foods, and is most antagonistic to intestinal decomposition. Yoghourt can be used for an indefinite time without harmful results if the dose be not too large, 1 kg. a day should not customarily be exceeded. Sour milk prepared with natural ferments has the disadvantage that it contains along with the useful milk bacilli also other microbes which may be harmful. Metchnikoff has, therefore, changed the method of preparation of Yoghourt, and has treated the milk with pure cultures of Oriental milk bacilli, instead of with Maya; other workers have followed on the same lines, and the chief preparations belonging to this, the third group of our series, are the lactobacilline of Metchnikoff, the biolactyl of Fournier, the paralactic bouillon of Tissier. Metchnikoff's fluid lactobacilline is a pure culture of the Massol bacillus in milk serum in symbiosis with the *Bacillus acidi lactis acrogenes*, which belongs to the European flora, is harmless, and obviates the unpleasant taste which would be given to the milk by the use of the Massol bacillus alone. Curdled milk obtained by the use of lactobacilline is superior to Yoghourt as ordinarily prepared, in that it is a constant product, completely harmless, and having a similar, but a more powerful, action on proteolytic microbes. Of the different forms in which lactobacilline can be obtained, the most effective is the fluid lactobacilline, or the bouillon of lactobacilline, if this can be obtained sufficiently fresh. Combe has found Fournier's biolactyl as effective as Metchnikoff's lactobacilline; large doses are, however, needed. He has also used in many cases Tissier's paralactic bouillon, and has found it gives good results for constipation and has the same effect as biolactyl and lactobacilline on intestinal autointoxication; Tissier prescribes special regulations as to diet when using the bouillon, and altogether forbids meat or eggs, but Cohendy in a recent work shows that this diet is unnecessarily strict, and that a rational diet, poor in nitrogenous products, suffices to obtain the action of the bacilli.

PATHOLOGY.

167. Absence of Right Kidney: Right Suprarenal Body Present: No Urinary Disease.

HALLER (*Bull. et mém. de la Soc. Anatom. de Paris*, May, 1909) recently made a *post-mortem* examination on a man subject, aged 52, who had died of subacute pulmonary oedema. There had been no suspicion of any anomaly during lifetime. Haller found that the right kidney and ureter were totally wanting. The left kidney lay in its normal situation, free from any sign of malformation, lobulation, etc., but it was distinctly hypertrophied (weight 12 oz., vertical measurement over 5½ in., breadth over 3 in. in the middle, thickness about 2 in.). The left suprarenal body lay on its upper pole. There was one renal artery and one vein; the artery lay anterior and superior to the vein. The ureter ran its normal anatomical course. Haller took great pains to make sure about the right kidney, but it was not to be found either in the loin, iliac region, or pelvis. The right suprarenal body lay in its normal position surrounded by a mass of fat. There was no trace of a right ureter. The bladder was laid open: there was no malformation excepting that a blind depression, covered with the usual crescentic fold, represented the orifice of the missing right ureter. The genital tract showed no evidence of disease or malformation, and the abdominal viscera, with the exception of the missing kidney, were naturally developed. This remarks Haller, was a perfect instance of complete suppression of one kidney as distinguished from a "horseshoe" variety; the right renal vessels were wanting. Haller insists that his case is a warning to all who contemplate any kind of surgical intervention in renal disease without catheterization of the ureters.

168. Experimental Chronic Tuberculosis with the Formation of Cavities.

P. H. RÖMER is of opinion that one tuberculous infection influences the organism in its resistance toward a new infection (*Berl. klin. Woch.*, May 3rd, 1909). This alteration, he states, is of the nature of an immunity, and he believes that he is justified in applying the experience obtained in animals to man. The reasons why he argues by analogy are to be sought in the clinical, epidemiological, pathological, and biological evidence. Von Behring has shown that pulmonary consumption is the result of an infantile infection. He does not enter into a discussion of the question whether the primary infection is through the intestinal track or by inhalation. Several clinicians have failed to produce a single case of undoubted infection during adult life, while the "family" nature of the disease has been recognized for a long time. Tuberculosis has been recognized as a disease of habitations, and Römer argues that if this disease affects many members of one family, and is particularly prevalent in one dwelling, it is especially likely that infection takes place in childhood. Not only is the child brought into more intimate contact with the consumptive parents in infancy than later in life, but it is certain that young children are more susceptible to the infection than adults. Anatomically it has been shown that practically every adult is tuberculous. Römer further argues that the cutaneous and percutaneous tuberculin reactions demonstrate the extent of adult invasion by tubercle bacilli. Römer now brings forward some experimental evidence in support of this contention. He remarks that the experiment is often reported to that the tuberculosis which he produces in guinea-pigs is not like that met with in human beings. He attempts to show that this is due to the difference between primary infection, which leads to an acute course, and secondary infection, which runs a chronic course, and in which the formation of cavities in the lungs is a marked characteristic. A tuberculous infection in guinea-pigs can be made to run a chronic course, lasting for one to one and a half years, when bacilli of slight virulence, or such as have been artificially attenuated, are injected cutaneously or subcutaneously. Rarely such a tuberculosis leads to the formation of cavities in the lungs. If a guinea-pig infected in this way is reinfected with small quantities of bacilli no effect is produced, while if a fresh infection with large numbers takes place cavities are produced with something approaching regularity. Römer describes some experiments of this kind which he has carried out. The tuberculosis produced in this way corresponds closely to human phthisis. From the results of his experiments he deduces that the appearance of cavernous tuberculosis must be regarded as a phenomenon of a certain degree of immunity. The practical importance of this view, if accepted, is evident. He points out that persons who have been infected with tubercle bacilli in early life are capable of dealing with fresh infections of small quantities of bacilli without difficulty. The resistance toward an infection is raised as compared with that of a person who has never been infected. It therefore becomes necessary to study the problem more closely in its relation to the new infection which leads to phthisis. He claims that his work corroborates von Behring's doctrine of infantile infection.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

169. Visual Disturbances in General Paralysis.

After referring to the discrepancies in the results noted by various observers with regard to the frequency with which changes in the fundus of the eye are observed in general paralytics, Rodiet and Pansier (*Arch. gén. de méd.*, May, 1909) quote their own results in 29 cases of general paralysis. Of these cases they found optic atrophy present in 6—that is, 20 per cent. In 9 cases they noted pallor of the papilla, in 1 there was hyperaemia, and in 3 the papilla was "whitewash" in appearance. The authors rightly insist that fundamental changes met with in early stages of general paralysis may not be the result of the nervous disease but may be the result of abuse of alcohol and tobacco or due to plumbism or syphilis, and therefore these possibilities ought first to be excluded before considering the fundal changes to be the result of the meningo-encephalitis. Optic atrophy may occur during the onset of general paralysis, but is rare; more often it is found during the second and third stages. Optic neuritis may be due to blood stasis in the papilla or to a simple papillitis. In the former condition the papilla markedly projects, there is excessive dilatation of the vessels, and the edges of the papilla look "soft." In simple papillitis the papilla does not project much, the colour is uniformly red, the edges of the papilla are only slightly swollen, and they are sharp. Of 35 general paralytics observed by the authors in 8 there was more or less advanced optic neuritis, and in 6 there was optic atrophy. In 4 of these cases vision, however, was perfect. In 5 other cases in which visual disturbances were detected (amblyopia, narrowing of the visual field, etc.) together with optic neuritis, alcoholism or syphilis were proved as antecedents. The authors agree with Raviart and Caudran in believing that amblyopia, not the result of intoxication, in a general paralytic is caused by a chronic progressive retro-ocular neuritis which ends in atrophy of the papilla. In general paralysis the first signs of ocular troubles due to optic atrophy may, as in tabes, precede the general symptoms of the disease, but this is rare. Diminution in visual acuity occurs more slowly than in tabes.

170. Acute Thyroiditis.

Edmond Weber (*Rev. méd. de la Suisse romande*) discusses the symptoms, diagnosis and treatment of simple acute thyroiditis in connexion with a primary case which came under his own observation. The cases may be either primary or secondary. Secondary thyroiditis may accompany typhoid fever, cholera, diphtheria, rubeola, influenza, articular rheumatism, and occasionally erythema nodosum, parotitis, orchitis, angina, and even erysipelas, puerperal infection, and malaria. So-called primary thyroiditis is more rare, and de Quervain in his monograph on the subject described about twenty cases. It is scarcely possible that direct infection of the thyroid can occur, and it must therefore be supposed that infection occurs by the vascular route and that these cases are probably in reality secondary to some unrecognized condition such as a slight angina, catarrh of the respiratory tract, or that microbes absorbed from the intestinal tract may be the cause. Thyroiditis is more frequent in women than in men, possibly as a result of the suggestive changes in the thyroid during menstruation and pregnancy. The age of attack is usually between 30 and 40 years; the author's case was unique in that the patient was 63 years old. Acute thyroiditis has usually an abrupt onset, with a rigor. The symptoms are usually severe, and life may seem to be threatened; fortunately there is a tendency for the different lobes to be attacked in succession, and not together, so that a fraction of the gland is always able to perform its function. The chief symptoms are: severe neuralgic pains, radiating especially in the ear to the nape of the neck, to the maxilla, and even to the shoulder; pain on deglutition and respiratory pain; sometimes there is hoarseness caused by paresis of the recurrent nerve, sometimes a painful cough, and even signs of compression of the sympathetic. In the author's case there was also rapid loss of flesh and a yellowish discoloration of the skin without jaundice, irresistible somnolence, although sleep, especially at night, could not be obtained, and pains in the limbs. The whole illness usually lasts from three to six weeks. The prognosis is simple and favourable: the disease always ends in recovery. The cases should not be treated indiscriminately with iodine applications, because of the possibility of the development of Basedow's disease. In rheumatic thyroiditis the salicylates are given, and quinine if the affection be secondary to malaria. For the rest, the treatment is symptomatic, and consists in the local application of compresses, cold or lukewarm if the case be prolonged, and especially in the administration of antipyretics, such as aspirin, phenacetine, or the salicylates. In several instances the symptoms have been so severe that puncture or an exploratory incision has been undertaken, and it is important that an early diagnosis should be made to relieve the patient from the danger of unnecessary surgical intervention of this kind.

171. Leucocytes in Pulmonary Diseases of Children.

Wile (*Arch. of Pediatrics*, March, 1909) discusses the diagnostic value of the leucocytes in pulmonary diseases of children. In pertussis there is an increase in the number of leucocytes, commencing in the catarrhal stage, reaching its height, which may be 50,000, in the paroxysmal stage. The leucocytosis may appear before there is any "whoop," and indeed before the cough is attracting attention. The chief characteristic of bronchitic asthma is eosinophilia, which may reach 54 per cent.; cardiac or renal asthma is unattended with eosinophilia. Polynuclear neutrophilic leucocytosis is most marked in capillary bronchitis; it is less marked when the large bronchial tubes alone are affected. Pleurisy presents neutrophilic leucocytosis, an average of 20,000. In empyema it reaches an average of 73 per cent. The absence of neutrophilic leucocytosis is opposed to pleurisy or pneumonia. Pneumonia in all its forms presents neutrophilic leucocytosis, but lymphocytosis is rare. The neutrophiles average 75 per cent., and may form 95 per cent. of the leucocytes. Their decrease commences just before the crisis. If their number persist in remaining high after the crisis, complications may be suspected, such as empyema, gangrene, or delayed resolution. During an attack of pneumonia the eosinophiles disappear. When they reappear convalescence is about to begin. Tuberculosis of the lungs causes no alteration in the number of leucocytes unless secondary infection occurs. When secondary infection takes place there is an increase in the neutrophilic leucocytes, but the eosinophiles decrease in number. An improvement in the general condition is attended by an increase in the eosinophiles and a decrease in the neutrophiles. A decrease in the percentage of eosinophiles indicates an advance in the tuberculous toxaemia and a poor prognosis. In all cases of pulmonary diseases of children the relative leucocytosis is of more importance than the absolute number; thus in pertussis the lymphocytes are increased, the eosinophiles are not; in asthma the lymphocytes are not increased, but the eosinophiles are greatly. In health there is a decrease in the percentage of lymphocytes as age advances, but an increase in the polynuclear neutrophiles. After quoting the figures of other authorities, the author gives his own results as follows:

Age.	Polynuclear Neutrophiles.	Lymphocytes.
Up to 1 year	36 per cent.	56 per cent.
1 year to 2 years	35 ..	58 ..
2 years to 3	38 ..	59 ..
3 .. 4	42 ..	47 ..
4 .. 5	47 ..	41 ..
5 .. 6	58 ..	39 ..
6 .. 7	59 ..	37 ..
7 .. 8	75 ..	25 ..
8 .. 9	64 ..	33 ..
9 .. 10	68 ..	31 ..
Over 10 years ...	70 ..	30 ..

SURGERY.

172. Embolism of the Pulmonary Artery Treated by Trendelenburg's Method.

KRÜGER (*Zentralb. für Chir.*, No. 21, 1909) puts on record a case of post-operative embolism of the pulmonary artery which he treated according to the method first proposed and practised by Trendelenburg, by subjecting the patient to thoracotomy, and exposure and incision of the front of the obstructed vessel. The patient was a woman, aged 33, who, when recovering with most favourable prospects after an operation on a small inguinal hernia, was suddenly seized after a hasty movement in bed on the eleventh day of the after-treatment, by very intense and alarming symptoms, which distinctly indicated obstruction of the pulmonary artery. The author at once exposed this vessel by making an osteoplastic flap, including the second and next two costal cartilages on the left side, and by opening the pericardium; and, after an incision through its anterior wall, succeeded with much trouble and delay, owing to profuse haemorrhage and repeated collapse of the patient, in removing separate masses of clot. After recovery from the immediate effects of the operation, the enfeebled patient presented symptoms of septic infection, and died on the fifth day. This result, the autopsy showed, was due to pericarditis and pleurisy and to purulent infiltration of the posterior mediastinum. The operation, which Trendelenburg would advise only in desperate cases and when the patient is *in extremis*, has hitherto been performed three times. In the first case death occurred on the operating table, and in the second the patient survived for fifteen hours. In the author's case there were some favourable conditions, as the nature of the attack was diagnosed at the first appearance of the symptoms, and the operation was performed with the least possible delay. On the other hand, the necessity for very prompt action barred a proper attention to aseptic precautions, and, in consequence of the absence of the special haemostatic appliances devised and used by Trendelenburg, the length of the operation was much extended, and the vitality of the patient much reduced by very free bleeding. The author holds that in his case Trendelenburg's treatment was fully justified, and that under better conditions in regard to operative technique and protection against infection there would have been good prospects of ultimate recovery.

173. The Operative Treatment of Pulmonary Tuberculosis.

FRIEDRICH of Marburg (*Annals of Surgery*, American Surgical Association Number, July, 1909) advocates in certain unilateral forms of pulmonary phthisis total ablation of the bony chest wall on the affected side, and functional suppression of the diseased lung. The arguments in support of such treatment are based on the results of both laboratory and clinical work. The author's experimental studies have shown that the ablation of one lung is readily tolerated by animals immediately after this interference, and that later these animals present an excellent condition in regard to increase in body weight and further growth. It was also proved, after some of these animals had been killed after intervals of from twelve to eighteen months, that the cavity in each case had become perfectly compensated, the pulmonary defect being made up by the displacement of the heart, by elevation of the diaphragm on the affected side, and by increased volume of the remaining lung. When engaged in these experiments the author, in treating, in his former clinic in Greifswald, a patient with extensive tuberculosis of the lungs and ribs, was much impressed by the favourable influence upon the pulmonary disease by ablation of almost the entire bony wall of the thorax on one side. By the results obtained in this case, he was led to carry out in his subsequent surgical work the suggestions made by Quincke and others, that in all cases of unilateral phthisis showing a tendency to shrinkage of the lung, and over cavernous lung segments in general, the natural mechanism of the shrinking process and the tendency of the lung to collapse should be favoured by removal of the ribs. Ablation of the osseous portion of the chest wall, which must be carried out rapidly and yet accurately, leads at once in most cases to a very complete collapse of the lung. Immediate retraction is not so evident when the organ contains calcified or dense fibrous masses, or when by the results of former pleuro-mediastinitis its movement in a mesial direction is hindered, but at any rate, the author asserts, the intervention in every case leads to (1) collapse of the cavernous lung tissue; (2) extensive occlusion of the lung on the side of the operation from the respiratory function; (3) retardation of the pulmonary circulation in the lung; and (4) as a consequence of the arrest of breathing in this lung, an essential diminution of the lymphatic circulation and absorption. It is asserted that a compensatory increase of volume is very promptly developed in the opposite lung. Whether this increase in volume be subsequently developed into a compensatory emphysema, or whether the increased functional activity is followed by genuine hypertrophy of lung tissue, cannot yet be positively determined. The question rests at present on the results of experiment, as none of the patients thus surgically treated by the author have died after long intervals. The author has recently gone a step further in the mobilizing and loosening of the lung tissue, by detaching in the course of the operation the pulmonary apex together with the overlying costal pleura from all the surroundings, or by removing the first rib also, thereby rendering the apex of the lung more shrinkable. The direct mechanical effect upon the heart from collapse of the diseased lung may, it is recognized, constitute a serious feature of the operation. Sudden cardiac dislocation would in many cases be prevented by old pleural and mediastinal adhesions serving as a guarantee of a certain stability of the intrathoracic topical relations. The author has succeeded in guarding against this danger of the thoracoplastic operation by raising the arm of the affected side above the horizontal plane, and still keeping the lung of the side of operation in the balance, as it were, through the traction of the scapula and its muscles, so that the effect on the heart may manifest itself but gradually. For the operative treatment discussed in this paper selection must be rigorously restricted to such cases of unilateral phthisis in which the other side is not simultaneously affected with active progressive foci. The patient on whom it is thought of operating must be free from evidently recent tuberculous process in other regions of the body, more particularly the intestine. It is of the greatest importance, the author points out, to see to it in the selection of cases for the operation that the patient has not yet passed his 40th year, and that the general condition either is fairly good or rendered as favourable as possible prior to the surgical intervention by climatic treatment, rest in bed, and dietetic measures. The immediate effects of this treatment on the course of the disease have, in the author's practice, been found, he states, particularly impressive. Defervescence follows rapidly, the amount of sputum is enormously reduced, and the irritative cough diminishes. In all his cases an increase in the body-weight and improvement in the subjective condition were noted after the operation. In conclusion, the author acknowledges that the surgeon who interferes with advanced pulmonary phthisis by means of a radical operation should bear in mind that success cannot be guaranteed, and is necessarily but relative. The treatment here discussed may serve, however, he points out, to lengthen the lives of a certain percentage of otherwise doomed consumptives, and to effect a more or less positive amelioration of both the general condition and the local lesions. In a subsequent paper on the treatment of tuberculosis of the apex of the lung by resection of the ribs, Freeman concludes that the healing of stubborn tuberculous lesions is favoured by collapse of the lung. This may be obtained by (*a*) artificial pneumothorax; (*b*) extensive extrapleural resection of all the ribs, with removal of their periosteum; (*c*) local costal resections, especially over the apex of the affected lung. The first of these methods, it is pointed out, is not always easily applicable, owing to adhesions and to induration of lung tissue, while the second is difficult and dangerous, and should be employed only under exceptional conditions. The third method, it is held, is applicable to obstinate troubles at the apex, and can be employed alone or in association with an artificial empyema, according to circumstances.

OBSTETRICS.

174. Treatment of Rupture of Uterus.

T. W. EDEN (*Journ. of Obst. and Gyn. of the Brit. Emp.*, June, 1909) describes three cases of rupture of the uterus which came under his care, and discusses the treatment of the condition. In two of the cases rupture occurred during version, in the third rupture was spontaneous towards the end of the second stage of labour. In the first case the rupture was a complete one. An attempt was made to plug the rent with iodoform gauze, but, owing to the absence of resistance, the gauze passed into the peritoneal cavity. Fourteen hours after delivery it was clear that haemorrhage had recurred, and laparotomy was performed; haemorrhage

from venous sinuses in the torn wall of the uterus was proceeding. The injury to the uterus was too extensive for repair, and supravaginal amputation of the uterus carried out. After the abdominal wound had been closed the rents in the portio vaginalis and vaginal wall were plugged per vaginam to arrest any oozing which might otherwise occur. The patient ultimately made an uninterrupted recovery. The operation gave the clearest possible demonstration of the uselessness of trying to arrest haemorrhage from a complete laceration of the uterus by packing it from below with gauze. In the next case operation was performed as soon as possible after the rupture occurred, and the patient made a good recovery. In the third, in which rupture occurred spontaneously, the fetus had passed through the tear; the fetal head lay in what appeared to be an extension of the uterine cavity to the left, and was thought to have passed into the left broad ligament. The fetus was delivered by podalic version, and it was then found that the hand could be passed through the vagina into the peritoneal cavity. Laparotomy was performed, and the injury found to be very extensive. The uterus was removed by supravaginal amputation. The patient's condition after the operation was bad, but she rallied, and in two or three hours had greatly improved. A little later, however, she became restless and the pulse became more rapid and feeble, and, in spite of an injection of strychnine and infusion of saline solution, she died. The cause of death proved to be recurrent haemorrhage, the source of the bleeding being a deep laceration of the posterior wall of the bladder extending through the muscular coat, but not including the mucosa; this injury had not been observed previously. But for this undiscovered injury it appeared that the patient would have recovered, as did the other two. In all 3 cases intravenous or subcutaneous saline transfusion was performed during the operation, or if necessary afterwards, and Eden looks upon this as essential to success. In treating cases of uterine rupture there are three symptoms to meet: shock, haemorrhage, and sepsis, of which haemorrhage and sepsis are of by far the greatest importance. Whatever line of treatment is adopted the mortality is of necessity high. For statistical purposes the most valuable record is that collected by Kolomenkin, in 1903, of 140 comparatively recent cases of rupture occurring in series in lying-in institutions. Of these 140 cases 97 were treated conservatively—that is, without operation—with a mortality of 61 per cent.; in 35 cases the uterus was removed, with a mortality of 36.3 per cent. The following are the conclusions as to treatment at which the author arrives: "(1) Incomplete rupture of moderate severity, involving only the lower half of the broad ligament, may be treated expectantly by drainage or packing. (2) Abdominal section for exploration of the injury and arrest of haemorrhage will, as a rule, be required. (3) According to circumstances, this may be followed (*a*) by packing and drainage: (*b*) by subtotal hysterectomy. (4) In most cases of extensive rupture, whether complete or incomplete, removal of the uterus is required. (5) In the less serious cases of extensive rupture not attended by serious bleeding vaginal hysterectomy may be performed, but this operation has been practised in comparatively few cases. (6) Suture of the rent is, in the present state of our knowledge, not to be recommended," except that small lacerations unaccompanied by continued bleeding and accessible in position may be successfully sutured (free vaginal drainage being at the same time provided for) in cases in which the aseptic management of the labour can be relied upon.

GYNAECOLOGY.

175. Electrical Treatment of Menstrual Disorders.

Laborderie (*Journ. des praticiens*, April 3rd, 1909) emphasizes the utility of static electricity in the treatment of various gynaecological disturbances, especially amenorrhoea. He has found that the electric bath regulates the menstrual period, and prevents the occurrence of dysmenorrhoea. He begins with daily sittings of twenty minutes' duration, finishing with about five minutes' "sparking" in the lumbar region, to induce congestion of the pelvic organs. He greatly prefers this treatment to that of ordinary emmenagogues, and prescribes at the same time general hygienic measures, Swedish gymnastics, suitable exercise, and change of air.

176. Lecithin in Menorrhagia.

Wielczinski (*Sem. méd.*, April 7th, 1909) has employed lecithin in several cases where menstruation has been too frequent or too profuse, and has found it efficacious in all but one of the twenty patients to whom he has given it. In chlorosis, commencing tuberculosis, and the like affections, when the frequency of the catamenia tends to aggravate the anaemia and weaken the patient's resistance, he has found that doses of 10 to 20 cg. (1½ to 3 grains) of lecithin three times a day have converted a fortnightly menstruation to a normal one; or, if the period was of the usual length, but too profuse, have delayed its appearance for seven or fourteen days. The drug must be administered during the intermenstrual period, and must be continued for some time. No objectionable consequences have been found to result from its administration.

THERAPEUTICS.

177. Therapeutics of Blood Diseases.

Erich Meyer (*Therap. Monats.*, December, 1908), in a general review of the treatment of blood diseases, discusses the treatment of pernicious anaemia and the leukaemias. As regards pernicious anaemia, he claims that difficulties have been caused by the varying conceptions of what diseases should be called "pernicious anaemia." He also thinks that the type of disease varies in different places. In Munich the type seems very resistant to treatment. Cases which can be definitely called "pernicious" should show a high colour index with leukopenia and relative lymphocytosis; there is often diminished coagulability of the blood and diminution of the platelets. Some cases are probably due to increased haemolysis, which has been demonstrated in bothriocephalus anaemia and in some other forms (Talqvist). It having been found that one haemolytic poison—namely, cobra venom—was rendered inactive by cholesterin, this drug has been tried in pernicious anaemia; 100 grams of a 3 per cent. solution in olive oil has been given daily, and Reicher believes that it has caused some improvement. The sovereign remedy so far, however, has been arsenic, and the old Fowler's solution has not been replaced by atoxyl. It is especially valuable in cases with a high colour index. These cases are probably the most benign, for a high index is a sign of active blood regeneration. With a lower index the haemolytic poison is so virulent that blood production is inhibited, and some of these cases are undoubtedly cases where the injury to the marrow is primary (the so-called anaplastic or myelophthisical anaemias). Some authorities have tried the *x* rays, but no beneficial results have been produced. Cases of polyglobulism are common in Munich. In the space of one year they have seen 18 cases of polycythaemia hypertonica—cases with no enlargement of the liver and spleen, with raised blood pressure and a tendency to apoplexy, *post mortem* the chief change being hyperplasia of the bone marrow. It is not a compensatory change to remedy a deficiency of haemoglobin. Treatment consists of copious blood letting and possibly by a vegetable diet. As regards *x* rays the difficulty is that erythrocyte formation is only injured after prolonged irradiation, and that when once destroyed, it is very slowly, if at all, regenerated. The treatment of leukaemia has been revolutionized by the use of *x* rays. To apply the treatment rationally it is necessary to be acquainted with the pathology of the different classes of cases. Sternberg has shown that in the myeloid form, together with the increase of myelogenic tissue, there is also an increase in the erythroblastic tissue. This accounts for the fact that apart from haemorrhages there is not usually severe anaemia in these cases. In the lymphatic form, however, as soon as the lymphatic tissue invades the bone marrow it destroys the erythroblastic tissue and the patient is very much like a pernicious anaemia case. The erythroblastic tissue is not regenerated after the destruction of the lymphatic tissue. These considerations show that the chronic leukaemias are the only cases which derive marked benefit from irradiation. All the cases treated in Munich during the last few years have benefited by the rays. For a time they have been able to return to work. Great care must be taken with the dosage, which must be controlled by estimation of the red cells and haemoglobin as well as of the leucocytes. As soon as the haemoglobin begins to fall the rays must be stopped. A case excessively treated elsewhere was admitted, and in the course of a few days the leucocytes fell to 175 from 2,920 and the haemoglobin from 80 per cent. to 67 per cent. *Post mortem* the bone marrow was empty, as if it had been brushed out. This case shows well the danger of destroying the erythroblastic tissue by excessive doses, and other cases have been published. The chronic lymphatic and acute leukaemias have not benefited. There has been some transient improvement in cases of lymphatic pseudo-leukaemia.

178. The Treatment of Epilepsy.

KELLNER (*Deut. med. Woch.*, June 24th, 1909) regards it as fundamentally wrong to classify epileptics whose mental condition remains good, and merely visit their medical practitioner when they want more bromides, as mild cases of illness. The fact that a fit occurs from time to time renders the lives of these persons peculiarly intolerable. There is scarcely a calling which can be followed by an epileptic, since no employer is willing to run the risk of one of his employees having a seizure. Kellner estimates that there are from 30,000 to 35,000 epileptics in Germany. For the past eighteen years he has been an adherent of Flechsig's opium-bromide treatment, and he claims that by its means he has succeeded in curing a not inconsiderable number of cases. In a previous communication he reported the results obtained in 85 cases. In 20 per cent. of these cases the treatment had to be discontinued on account of the inability on the part of the patients to tolerate the opium. In 7.5 per cent. no improvement resulted; in 22 per cent. there was a distinct improvement, which, however, was scarcely better than that achieved by bromides alone; while in 16 per cent. the fits only took place after intervals of many months, or were entirely replaced by attacks of giddiness. In 27.5 per cent. no further fits occurred during periods varying between two and six years. Since this report he has treated a further 61 patients in this way; of these, 5 have been dealt with during recent months, and 21 were referred to Kellner's institution for two months only. It therefore appears that only 35 of the 61 patients can be used for statistical purposes. Among the 61 patients he has not been compelled to discontinue the treatment once, as he has found that the loss of appetite and vomiting which forced him to break off the treatment in the first series can be easily overcome by keeping the patient in bed for a few days and in forbidding all warm meats, as well as in giving salicylate of bismuth. The results were: No improvement in 40 per cent., improved 14 per cent., much improved 14 per cent., and fits entirely stopped 31 per cent. The author pleads for institutional treatment of epilepsy, but insists on the necessity of keeping these mentally unaffected patients away from the insane. The treatment should, in his opinion, be repeated once, or several times, even when there does not appear to be a tendency to recur. In conclusion, he recommends the following ointment as a remedy for bromide acne: Resorcin, starch, zinc oxide, āā 4 grams, vaseline 12 grams.

179. Insular Sclerosis Ameliorated by X Rays.

TWO cases of insular sclerosis (*sclérose en plaques*) which were ameliorated by *x* rays are recorded by G. Marinesco (*Arch. d'élec. méd.*, June 10th, 1909). The writer states that he was led to apply this method because hydrotherapy and the mercurial and other treatments had not proved very successful, and also because favourable results had been obtained by Raymond and others with the *x* rays in cases of syringomyelia. The number of sittings given in each of the sclerosis cases varied between fifteen and forty. The rays were applied, at intervals of two or three days, on the superior cervical and the lumbar regions. The times of exposure were from seven to ten minutes; the intensity was 1 milliampère; the distance of the patient from the focus of the rays was 15 cm.; the quantity of rays corresponded to 5 H. The first case was that of an innkeeper, aged 29 years. His history showed that when 12 years of age he was subject to fits of dizziness, and at 16 he contracted blenorrhœa, but recovered. There was no history of syphilis, but there was some history of alcoholism, and it was to his alcoholic indulgences that the doctors attributed his subsequent condition. In December, 1907, following upon a prickly sensation experienced all over the body, he was in a such a state of feebleness as to make unaided walking almost impossible, and the upright position not easy to maintain. The act of walking became progressively more difficult in the months that followed. On examining the patient, the osseous and muscular systems were found well developed, and the respiration, circulation, and digestion presented nothing abnormal. There was a slight lateral nystagmus. Speech was difficult and the voice feeble. The resistance that the patient could oppose to passive movements of the arm and hand was a little diminished. On attempting to carry a glass of water to the mouth the oscillations became increasingly violent, and when the mouth was reached the head also was in a state of tremor. There was great loss of power in the legs; the active movements of flexion and extension in the toes were much diminished, and the patient could rarely lift his foot above the level of the bed. He had trouble in micturition, and suffered occasionally from constipation. No loss of objective sensibility was noted, but involuntary laughter and crying were frequent. The radio-therapeutic treatment was instituted on September 1st, 1908, under the conditions already stated, and lasted one month. At the end of that time the patient's condition was evidently ameliorated; food could be brought to the mouth with less difficulty; involuntary laughter and crying were rare; speech was improved, and the syllables succeeded one another with normal rapidity, although there was occasional hesitation; more remarkable still, the patient recovered his ability to write, which he had previously entirely lost. The gait, however, was still spastic. In the second case the results of the treatment were much the same, and the patient was so well pleased with her progress that a further series of *séances* lasting for five weeks was given after an interval of two months, and the improvement was well maintained. In a third case of very advanced disease, the patient being immobile in bed, the treatment apparently had no particular result. Benefits in such cases are problematical, but in cases taken at an earlier stage the rays undoubtedly exert a beneficial action on the lesions. Professor Marinesco hopes that his cases may form a point of departure for future research.

PATHOLOGY.

180. Myasthenia Gravis.

THE pathology of myasthenia gravis pseudo-paralytica, so named by Jolly in 1891, is still a matter of dispute. The latest writer on the subject, A. Knoblauch (*Frankfurter Ztschr. f. Pathologie*, Wiesbaden, 1908. ii, p. 57), goes very thoroughly into the literature and pathological anatomy of the disease, gives details of a case of it, and draws particular attention to the large number of "pale" fibres mixed with the normal "red" fibres of the affected muscles in it. Weigert in 1901 first noted the aggregations of small round cells ("thymoma metastases") that may occur in the myasthenic muscles, and since then many writers have recorded the presence of such aggregations, or of circumvascular infiltrations with small round cells, in similar cases. Kauffmann in 1906 attributed myasthenia gravis to chronic intoxication with lactic acid, which he found in abnormally large amounts in both the blood and the urine of a myasthenic patient. In Knoblauch's case there was no excess of lactic acid in the urine, but a piece of the left biceps removed during life showed marked circumvascular collections of round cells about parts of the perimysium internum; the distribution of these collections was extremely irregular, so that their presence might readily have passed unobserved. In addition, the muscles of Knoblauch's case, and preparations of muscle tissue from seven other patients with myasthenia gravis, all showed an abnormally large proportion of "pale" muscle fibres. Knoblauch considers at some length the nature, distribution, and importance of these "pale" muscle fibres in the human economy. They occur in larger or smaller numbers in all voluntary muscles; they react speedily to faradism, and are as speedily exhausted, while the "red" fibres react slowly to faradism, but show no fatigue on prolonged stimulation. Their number is undoubtedly increased in myasthenia gravis, and their preponderance in any muscle gives rise to the myasthenic reaction (rapid exhaustion on faradization), which has been observed in all cases of myasthenia gravis, and in a few instances of diseases such as poliomyelitis, disseminated sclerosis, tabes, neuritis, Graves's disease, and a few other disorders. The infiltration of the myasthenic muscles with small round cells is described by Knoblauch as a chronic inflammatory process, very possibly secondary to the chronic fatigue of the unduly large number of "pale" fibres in the muscle. Many myasthenic patients exhibit tumours of various kinds, and also congenital malformations; probably some developmental defect or anomaly of the voluntary muscles underlies myasthenia. In Thomsen's disease, myotonia congenita, it is possible that there is a numerical defect of the "pale" muscle fibres; in several ways Thomsen's disease appears to be just the opposite of myasthenia gravis. As regards treatment, inhalations of oxygen or ozone seem to be indicated; Knoblauch has seen real improvement follow the exhibition of Weichardt's "fatigue antitoxin" (Kalle and Co., Biebrich-am-Rhein), with rest and open-air treatment. Over fifty references to the literature are given.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

181. The Nasal Crises of Tabes.

KLIPPEL AND LHERMITTE (*Sem. méd.*, February 17th, 1909) divide the nasal crises occurring in tabetic patients into three forms—the sensory, the secretory, and the spasmodic. The usual appearance of a sensory crisis is as follows: During digestion or on awaking, and sometimes without apparent cause, the patient notices a pricking sensation at the root of the nose and a tickling sensation in the nasal mucous membrane; then follows the sensation of a very strong smell, generally like that of rotten fish or meat. In some patients the crisis is not preceded by any particular sensation, but comes on unexpectedly. In rare cases the crisis may come on during sleep, and disappears when the patient is completely aroused. These sensory nasal crises in tabes may occur either alone or they may be associated with crises of a spasmodic nature, and this is the more frequent. Spasmodic nasal crises may make their appearance in patients with advanced tabes, or they may occur as early symptoms of the disease. The first thing noticed by the patient is a tingling sensation in the cheeks, and this is followed by a series of sneezings, which may last several minutes, and which may or may not be accompanied by lacrymation or rhinorrhœa. The attack may be repeated several times a day or it may never recur. During the sneezing stage, and after it has passed, there can be detected objective signs of disturbed sensation in the region of distribution of the olfactory or trigeminal nerves. Whilst a spasmodic nasal crisis may occur without any vasomotor or secretory phenomena showing themselves, most frequently it is accompanied by a more or less abundant nasal discharge (the secretory crisis), and the latter may even occur as an isolated condition, showing itself by the sudden and intermittent discharge of a more or less abundant serous secretion. The diagnosis of the tabetic origin of spasmodic and secretory nasal crises may be very difficult; they have to be distinguished from attacks occurring as a result of hysteria. Excessive nasal secretion, which sometimes occurs in Bright's disease, is accompanied by signs of kidney affections. Serous meningitis and cerebral basal tumours can be excluded as possible causes of the rhinorrhœa by examining the optic discs and by the absence of signs of increased intracranial pressure. Local disease of frontal or maxillary sinuses, polypi, and inflammatory troubles of the nasal mucous membrane can be excluded by local examination. In the tabetic cases there will be some of the classical signs of tabes. The sensory nasal crises have to be differentiated from similar attacks occurring in hysterical or neurasthenic subjects and from the nasal aura of epilepsy. Gross brain disease and local disease of the nasal or accessory cavities must be excluded, and also various mental states in which attacks of parosmia may occur. In one case of tabes, in which sensory nasal crises had occurred, one of the authors found partial degeneration of the olfactory bulbs. The degenerated fibres could be traced as far as the roots of the olfactory tract, and there were also slight but definite lesions to be found in the convolutions of the hippocampus, the temporal lobe, and in the corpus callosum. Alterations in the trigeminal nerve are always to be found. Although they lack definite anatomical proof, the authors believe that in patients suffering from spasmodic or secretory nasal crises of tabes, the sensory fibres of the trigeminal nerve are involved, and most probably also the fibres of the sympathetic system.

182. Typhoid Bacilluria.

CONNELL (*Amer. Journ. of Med. Sciences*, May, 1909) from observations based upon his own experience and from those reported by others, discusses the occurrence and the control of typhoid bacilli in the urine. Of all cases of typhoid fever, 24 per cent. show the presence of the bacilli in the urine sometimes in such numbers as to render the urine turbid. Their presence is detected most frequently in the declining stage of the disease, at about the time when the temperature becomes normal, and this finding is more constant in relation to the temperature curve than with reference to the day of the disease. From an analysis of reported cases, the first appearance of the bacilli in the urine is usually from one week before to two weeks after the temperature reaches the normal, but most commonly this occurs within a few days of the first day of normal temperature. Although the bacilli are usually present in the urine for several weeks before they disappear spontaneously, in a considerable number of cases they persist for much longer, and even for years, thus rendering the patient a grave menace to public health. On account of their number and long persistence, it is generally accepted that the urine, after becoming infected from the blood through the kidney by a few organisms, serves as a culture medium, and this theory is supported by the fact of the relatively small number of bacilli circulating in the blood even at the height of the disease, together with the fact that their presence in the urine occurs when no organisms can be detected in the blood, and that such a bacilluria may be cured by antiseptic bladder irrigation. They are usually localized to the bladder and do not persistently infect the entire urinary tract, and it has been found that the urines in which growth takes place to the best advantage are those of an alkaline, neutral, or only weakly acid reaction. From these observations and from experimental evidence the inhibition of the growth of the bacilli appears to be due to the acid contents of the urine, but the degree of inhibition was found not to bear a constant relation to the degree of acidity, and it is the organic acidity in the urine which is the inhibitory factor, seeing that when there is an excess of organic acidity the growth is prevented. Since typhoid bacilluria gives rise to no typical symptoms and is unaccompanied by complications the condition is not a menace to the patient, but to the general public it is a real danger, and of all the excretions containing typhoid bacilli the urine of the declining and post-febrile stage is the most dangerous, and because of the frequency and promiscuousness of urination as compared with defaecation such urine is the greatest spreader of the disease. In all stages of the disease the urine is highly infectious and should be subjected to the same stringent disinfection as the faeces. Directly the fever approaches the normal every typhoid fever patient should be given half a gram of urotropin three times a day for three consecutive days of each week, and if bacilluria becomes established the drug should be administered for continuous periods of a week. This intermittent method of treatment should be continued for four weeks into convalescence, and if the organism is not eradicated by this means the bladder should be washed out daily with 1 in 5,000 silver nitrate solution or some other antiseptic, while the rare chronic ulcerative cases should be drained by cystotomy.

183. Eye Symptoms in Insular Sclerosis.

KAMPHERSTEIN (*Arch. f. Augenheilkunde*, vol. xlix) summarizes the ocular symptoms in 37 cases of multiple sclerosis. In 23 of the cases the diagnosis was certain, in the remainder very probable. In 18 patients the disc showed temporal pallor; partial atrophy was present in 5, and complete atrophy in 1 case. Optic neuritis was detected once. Complete blindness is rare in insular sclerosis, even when the disc is apparently completely atropic. In 5 cases an absolute central scotoma was present, in 5 a relative scotoma. In 3 a central scotoma was associated with peripheral contraction of the field. In 1 green was not perceived at all. The pupil changes are unimportant in insular sclerosis. Ocular paralyses were present in 10 cases. The sixth nerve is the nerve most often affected. Nystagmus was present in 30 cases, but of these 26 only showed it in extreme positions of the eye.

184. Eosinophile Leucocytosis in Hepatic Hydatid Disease.

THE great majority of authors are agreed that eosinophilia is almost constant in hydatid disease of the liver, disappearing when the hydatid cyst has been removed. The percentage of eosinophile leucocytes is given as varying up to 57 per cent. G. Palazzo (*Giorn. Internaz. d. Sci. Med.*, Naples, 1909, xxxi, p. 19) describes the case of an otherwise healthy married woman of 47 who had had indefinite febrile symptoms on and off for two and a half years, and presented all the signs of a large hydatid in the right lobe of the liver. Before operation her blood had 20,200 white cells per c.mm., and the differential count showed 68.5 per cent. of eosinophiles, 1.6 neutrophiles, 0.4 basophiles, 17.6 small and 12.1 large lymphocytes. On June 1st, three

days after the operation, which was straightforward and perfectly successful, the leucocytes numbered 17,000, the percentages being 68.1 eosinophiles, 5.3 neutrophiles, 6.4 basophiles, 11.7 small and 8.5 large lymphocytes. Four days later the leucocyte count was 15,500, the percentages being eosinophiles 38.5, neutrophiles 42.2, basophiles 4.8, small lymphocytes 3.6 and large 10.8. Three days afterwards the total count was 13,400, the percentages being eosinophiles 20.8, neutrophiles 51.9, basophiles 5.2, small lymphocytes 15.6 and large 6.5. On June 11th the total count had fallen to 10,500, the differential showing the percentages to be eosinophiles 10.7, neutrophiles 65.2, basophiles 1.0, with 15.6 small and 7.5 large lymphocytes. Two days later the total count was 7,500, with 4.1 per cent. eosinophiles, 84.5 neutrophiles, no basophiles, 7.2 small and 4.2 large lymphocytes. On June 15th the total count was 7,500, with 3.2 per cent. eosinophiles, 75.4 neutrophiles, 2.1 basophiles, 13.2 small and 6.1 large lymphocytes. Palazzo remarks that 68.3 is the highest percentage of eosinophiles yet recorded in hydatid disease; he believes that the eosinophile cells are formed from the neutrophile, the transformation being effected by the toxins of the hydatid cyst.

SURGERY.

185. Intestinal Anastomosis by Invagination.

MAYLARD (*Ann. of Surg.*, May, 1909) describes a new method of anastomosing one segment of the intestinal canal into another, which was first adopted with the object of saving time in an operation for enterectomy, and has been practised by the author in four cases with good results. In two cases the invagination was of the ileum into the ascending colon, in one of the ileum into the descending colon, and the fourth of colon into colon. Perfect union, it is asserted, was obtained in each case. The description of this operation, which is made clear by three illustrations, refers to a supposed case of excision of the caecum. After removal of the diseased parts, the proximal end of the ascending colon is stitched up, and at a short distance above this occluded end a longitudinal incision is made through the intestinal wall, the length of this opening being determined by the size of the ileum. The patent end of the small intestine is surrounded by a purse-string suture. After this has been done both ends of the suture are passed through the eye of the needle, so that the end of the ileum is now secured as by a sling. The needle is next introduced into the colon through the longitudinal opening and is directed up the intestinal canal for about 2 in., when it is made to perforate the wall of the bowel from within outwards. By dragging on the two ends of the suture the end of the small intestine is drawn through the incision and made to pass for a short distance along the canal of the colon. While traction is being kept up on the sling the ileum is fixed to the colon by a series of interrupted Lembert sutures passed around the circumference of the lateral opening in the large intestine. The needle is then detached, and by pulling on one end of the sling suture the other is withdrawn from the invaginated end of the ileum. Finally, for safety sake, a ligature is applied to the puncture in the colon. It is unnecessary in this operation to apply a double row of sutures, and thus the duration of the operation is shortened. There is only the free margin of one orifice, and this is sutured to the intact wall of the invaginated bowel, so that the line of sutures corresponds to the outer series employed in the ordinary methods. In invagination the unimpaired continuity of the bowel wall as it passes through the colonic aperture allows the contents of the proximal segment to be freely propelled into the canal of the distal segment with little or no obstruction at the line of suture, and therefore with practically no possibility of leakage. There is, the author acknowledges, a possibility that the invaginated segment of gut might lead to intussusception, just as happens in cases of a free Meckel's diverticulum. The analogy, however, it is pointed out, is not complete, and the risk may be reasonably regarded as slight.

186. Pulmonary Calculi.

TUFFIER (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 15, 1909) records the following case: A hysterical young woman, about twelve days before she came under the notice of this surgeon, had shot herself with a revolver in the region of the heart. The patient had not suffered from any pulmonary or cardiac disturbance, but a careful radiographic examination revealed the presence of what was assumed to be a small foreign body near the posterior surface of the lung at a point diametrically opposite to the fourth costal cartilage on the left side. The author, influenced by the urgent entreaty of his neuropathic patient, resorted to what he acknowledges to have been the very unusual practice of removing this body by resection of the thoracic wall and pneumectomy. The supposed bullet proved after removal to be an irregularly shaped calcareous mass of the size of a large pea. The patient made a good recovery, and subsequent examinations with the *x* rays failed to show any traces of the projectile. Intrathoracic calculi capable of being revealed by radiography, and of giving rise to diagnostic errors, are, it is pointed out, of three kinds. The rarest form is the pulmonary calculus which is embedded in the parenchyma of the lung, closely adherent at every part of the surface, and having no communication with the larger bronchial branches. The other forms are small calcareous deposits in the pleura resulting from interlobular pleurisy, and similar masses formed by the calcification of tuberculous tracheo-bronchial glands.

187. Gonorrhoeal Phlebitis.

ZESAS (*Arch. gen. de chir.*, No. 7, 1909) states that although phlebitis may be regarded as an infrequent complication of gonorrhoea, the clinical and histological features of the gonococcic infection of veins may be formed from the number of cases hitherto recorded. It is not mentioned that this form of infective phlebitis has ever been observed in other veins than those of the pelvis and the lower extremity. The affection is seldom met with in women, and of the male subjects constituting 87 per cent. of collected cases, it occurred mostly in those employed in active and fatiguing work. It is associated more frequently with acute than with chronic attacks of gonorrhoea. In regard to the pathogeny of the phlebitis, the author believes that the infective agents are carried directly from the veins of the penis to the secondarily affected veins and not by way of the arterial circulation. It is a mild form of venous inflammation, and does not give rise to suppuration. In most instances it is developed at a late period, and in the course of the decline of the primary urethral attack. It is usually marked almost exclusively by local signs, but in some few instances has been preceded by rigors and fever. It is rarely an isolated complication, being usually associated with one or more of the many other complications of urethral gonorrhoea, particularly epididymitis and gonococcic arthritis of the knee. The average duration of the venous lesion is from four to six weeks, but the swelling in some instances lasts over a period of four months. In cases of relapse the same vein is almost always affected. The prognosis is favourable, the long duration and the tendency to relapse, and also, as has been shown by one record, the probable risk of pulmonary embolism, have to be considered. The disappearance of the swelling is often followed by persistent pain along the course of the affected vessel, and by consequent impairment of the action of the corresponding limb. The special treatment should consist in immobilization of the limb by splint and bandage, and, if there be any oedema, in its elevation or suspension, the usual treatment being applied at the same time to the primary seat of the infection.

OBSTETRICS.

188. The Effect of Vaginal Fixation on Parturition.

WHILE he does not regard the operation of vaginal fixation of the uterus, if properly performed according to Dührssen's directions, by any means as a useless operation, C. Knoop (*Münench. med. Woch.*, June 1st, 1909) considers that much greater caution should be exercised than is usually done. In order to emphasize this he records a further case of difficulties during parturition depending on the fixation of the uterus. The patient was a 3-para, aged 29 years. Two years previously she was subjected to Dührssen's operation on account of pains in the pelvic region and in the back, and severe menorrhagia. The operation was in so far unsuccessful that severe bladder disturbances followed, and pains in the left side continued right through the pregnancy now under consideration. The labour began on July 22nd, but the pains ceased on the following morning. The medical practitioner, who was called in on account of the want of progress, could not determine the exact nature of the obstruction, but realizing that this was probably connected with the operation, sent the patient into hospital. On examination the cervix was only felt on the introduction of the whole hand into the vagina. The anterior uterine wall was nearly 1 in.

in thickness. A spur of tissue was felt, shaped like a crescentic sail, placed at the anterior wall of the cervical canal. As it was impossible to gain a view of the os or of the spur with the help of the speculum and vulsella, and since he realized that there was great risk of rupture, he immediately determined to perform abdominal Cæsarean section and to remove the uterus, etc. This was carried out. On opening the abdomen the portion of the uterus looking forward consisted of what was actually posterior wall and fundus, and only below the state of fixation was there any real anterior wall. The posterior wall of the uterus was extremely thin. The uterus was opened cautiously high up, but the walls were so thin that the knife touched the fetus. Both mother and child did well. The author remarks that there were no signs of any pelvic inflammation which would account for the firm binding down of the uterus. The alternatives for this method of procedure were to incise the spur, and thus free the uterus from its abnormal position. This he could not make up his mind to risk. Dilatation by means of the rubber bag, perforation of the living child, and vaginal Cæsarean section were inapplicable, on account of the risk of rupture of the thin uterus. As the midwife and the doctor outside had repeatedly examined the patient, and as she had been tortured by pains and disturbances of the bladder, he decided to remove the uterus.

189. The After-care of Lying-in Women.

K. Holzapfel (*Muench. med. Woch.*, May 18th, 1909) recognizes two causes of pendulous belly—namely, faulty muscles, either as a developmental defect or as a want of proper exercise, and permanent increased pressure within the abdominal cavity. The want of proper exercise of the abdominal muscles and the increased intra-abdominal pressure both act in pregnancy and during the puerperium, and for this reason pendulous belly not infrequently arises after a labour. The author discusses at some length the measures which he finds satisfactory in the prevention of this condition. In the first place, he deals with a support. This may take many forms, but he believes that a suitable binder can be applied with advantage while the patient is still in bed: and when she is getting about he prefers a special corset, which has, among various characteristics, those of fitting exactly by means of a staylace without constricting in any part, of setting on the trochanters, and being held down by means of properly-adjusted suspenders, of being narrow and rationally flexible. He deals in detail with the iniquity of tight lacing, either by means of tight corsets or of constricting tapes or bands. Having described in every particular the various articles of dress which he considers hygienic and proper, he proceeds to deal with the other means of preventing the giving way of the abdominal muscles. First he takes exercise. He begins his exercises after three weeks, since early activity may, he believes, lead to retroversion. The position of the uterus must be determined before the exercises are begun, and these should at first be very gentle. The exercises which he finds advisable are: (1) the raising of the extended leg, the patient being in the dorsal position; (2) rotation of the legs, small circles being described; (3) raising of the pelvis, the patient still lying on her back. The exercises should be continued for at least six months. Next, he discusses the question of the proper time for puerperal women to get up. After examining in detail the claims put forward in favour of early getting up by various observers, he comes to the conclusion that, since the patient is usually no longer taken care of and nursed after she has got out of bed, and often insists on doing household work, it is better to keep her in bed for ten days to a fortnight. He objects strongly to the practice of allowing the patient to get up on the first or second day. Under any circumstances the belly must be firmly supported when she gets up.

GYNÆCOLOGY.

190. Fibromata Uteri.

Ellice Macdonald (*Journ. of Obstet. and Gynæc. of the British Empire*, August, 1909) sends a report of 700 cases of fibromyomata of the uterus which he has studied statistically and pathologically. The trend of his investigations has been to discredit the traditional or so-called conservative treatment of these tumours. The most important changes or complications studied by him in connexion with fibroid tumours is their association with malignant degeneration either in the tumour itself or in its host the uterus. He shows that a malignant change does occur in a large percentage of the cases, and thus establishes a weighty argument in favour of radical treatment and removal. The other more grave complications and degenerations of fibroid tumours are haemorrhage and necrosis, with their attendant risk of infection resulting from their presence. In the course of his investigations the writer found that the greatest number of tumours came to operation between 40 and 50 years of age, less than 5 per cent. of his cases being under 30 years of age. The tumours were single in about one-third of all the cases and there was more than one tumour in the uterus of two-thirds of the cases. This is contrary to the usual belief that myomata are as a rule solitary, and is an argument against myomectomy unless it can be definitely shown that the uterus is not the host of other tumours than the one removed, as in a number of cases recurrence of the growth of fibroid tumour after operation has been reported. The size varied from 4 cm. up to 50 lb.. 234 of the growths measuring more than 8 cm. in diameter. Thus one-third of these tumours do not come to operation until they have reached a large size. Hyaline degeneration occurred in 18 per cent. of the cases, and was most frequently found in patients between 40 and 60 years of age. Calcareous degeneration was noted in 9 per cent., it was found most frequently between 40 and 50 years of age, and showed a tendency to decrease as the patient got older. Three per cent. proved to be cystic, which is especially interesting from the fact that many cases of cystic degeneration become sarcomatous. All stages of necrosis and inflammation were noted, the former occurring mainly in large tumours in which, from the size or some other cause, the circulation was disturbed, as was evidenced by brownish-yellow areas. This degeneration was present in 8 per cent., and was found with increasing frequency as age advanced. It is one of the most serious forms of degeneration in fibroid tumours, bringing as it does haemorrhage, inflammation, toxaemia, and peritoneal infection. Adenoma was present in 5 per cent., adeno-carcinoma in 2·3 per cent., and squamous-carcinoma in 0·8 per cent., the two latter increasing as the age rose, while 7 cases of sarcoma were found in the whole 700 cases of fibroid tumours. This form of degeneration occurred in no case below 40 years of age. It was constantly associated with haemorrhage and necrosis. The presence of these two conditions should be made an indication for the careful examination of all suspicious spots in these tumours. The total number and percentage of malignant complications of 700 fibroid tumours were 5 per cent., only 1 being below the age of 40. In many of the cases were present ovarian cysts, cystic ovaries, salpingitis, appendicitis, or peri-appendicitis, a mild inflammation due to pressure and bruising. There is no proof that there is any definite or specific influence of a fibroid tumour upon the heart or blood vessels other than that produced through anaemia or blood changes. The influence of pregnancy is generally an evil one, and if miscarriage occurs it is probable that particles of placental tissue may adhere to the uterine wall. If abortion does not occur increase of the growth is a common result, and this is frequently associated with other disturbances, such as necrosis or haemorrhage into the substance of the tumour. The statistics show that fibroid tumours are largely subject to changes and complications, the dangers of which increase with the age of the patient. This is particularly true of the malignant and fatal degenerations. The menopause does not bring a cure but exposes the patient to more grave dangers. In view of the large percentage of serious degenerations and complications of fibroid tumours, and of the grave increase of malignant and other complications with age, patients having such tumours should be advised to have them removed. The expectant treatment offers nothing towards the cure of these tumours save the hope that the menopause will obliterate some of the symptoms. The use of ergot and electricity has fallen into disuse, and it is safer that all fibroids should be removed as early as possible. A thorough examination should be made of all tumours for evidence of malignancy, and any indication of this should lead to an immediate and complete hysterectomy.

THERAPEUTICS.

191. Aspiration of Secretions in Phthisis.

H. Erni (*Correspondenzblatt für schweiz. Aerzte*, April 15th, 1909) describes an article by Huguenin which appeared in Nos. 18, 19, and 20 of the *Correspondenzblatt für schweizer Aerzte* of the year 1908, of which the main idea is that the spread of disease in tuberculous lungs, if the apices are affected, is mainly brought about by mechanical means, and especially by the aspiration of the secretion through

the bronchi to the periphery. The aspiration of the secretion is aided by anything which interferes with coughing, and especially by anything which lessens the adequate contraction of the bronchi. Local causes may also tend towards aspiration of lung secretions. Thus, as a result of shrinking of the apex, the bronchi of the upper lobe of the lung may be mechanically affected, and the secretion may be only with difficulty expelled. Expectoration also is more easy or difficult according to the position of the lobe affected. The aspiration of secretion, whether it comes, as occasionally happens, from a puriform softened bronchial gland or, as is usual, from an apical cavity, or from a diseased bronchus, plays the chief part in the secondary processes in the course of a lung tuberculosis. Erni describes Huguenin's article at length because it is in complete agreement with earlier articles of his own, published in 1895 and 1896, upon the treatment of phthisis, which have been persistently opposed by certain of the Swiss authorities. The basis of Erni's treatment is the necessity for removal of the lung secretion—that is, the drainage of the lungs. For this purpose the "Klopfkur" was introduced as being the best means of obtaining free expectoration. The "high air cure" acts in the same way, and leads in most patients in the course of three to five days to an abundant expectoration which continues for about fourteen days, then gradually diminishes, and either disappears or sinks to its first level in from five to six weeks. Erni also recommends the use of the following ointment: Acid. salicyl. 15.0, ol. terebinth. 15.0, lanolin 15.0, cera alba 7.5, adipis suilli 77.5, curcuma q.s. ad colorem. The turpentine and salicylic acid are chosen for their antiseptic action, and when rubbed into the skin appear in the urine, though not in the sputum: whatever may be the cause, the patients feel benefit from the daily rubbing with the ointment. The author during 1904 treated on these lines 82 patients, 81 of them suffering from phthisis with changes in both lungs, 1 only from a one-sided affection. As evidence of the favourable effects of the treatment is given the number of cases in which contraction of the lung occurred during the cure. Before the cure on the right side there was contraction of the lung in 66 cases, the contraction being very marked in 20 cases. After the treatment the number has increased to 78, the very marked cases to 41. Similar figures are given for the left-sided lesions. The cirrhotic scar changes were therefore very noticeable, and show that the treatment was not only theoretically but practically justified.

192. Sand Baths.

BOUTIN (*Gaz. hebd. des sci. méd. de Bordeaux*, March 28th, 1909) indicates the uses of baths of sea-sand for various affections. Speaking generally, hot sand serves to get in the same way as hot water or vapour, only more energetically, and with the additional advantage of the iodides and bromides of the sea-water with which it is saturated. Sand baths may be administered at any time and in any locality, but their effect is much more satisfactory when they are taken on the seashore itself, in sand heated by the direct rays of the sun. The temperature is then more uniform, and the mineral constituents of the sand run no risk of being decomposed or otherwise altered by the action of artificial heat. At Royan, where Boutin has made his observations, he has found that the temperature of the dry sand is 6° or 7° C. (12° or 13° F.) higher than that of the surrounding air. On July 1st, 1908, with the general temperature standing at 73° F., the wet sand registered 85° and the dry sand 87°, at 11 o'clock in the morning. Two hours later, the readings were respectively 80°, 92°, and 94°, and after that time, the sand bath was ready to be taken with a maximum of efficacy. The patient's head must be covered with a large straw hat, or shaded by an umbrella, and if the bath includes the whole body, the face should be bathed occasionally with fresh water. Towards the end of the time, moreover, the pulse, respiration, and general condition of the patient should be carefully observed, and the treatment discontinued at the first sign of faintness, vertigo, or dizziness. After a hot sand bath the skin may be wiped down at once, and the sudorific action continued in bed; or the patient may proceed to a sea bath or a douche of fresh water, in which case a little brisk exercise should follow. The sand bath may be taken cold or hot, moist or dry, but cold sand baths are always moist. In employing these the cold wet sand takes the place of the wet sheet in a pack, and it is not of long duration. It is used in cases where there is sufficient reaction and no organic lesion, principally in some nervous affections, such as hysteria and neurasthenia; and it is a valuable method of nervous and vascular stimulation. Hot moist sand favours the determination of blood to the skin and the relief of internal congestion; it also opens the pores of the skin to admit the alkaline iodides and bromides of the sea-water with which the sand is impregnated. These baths have been found useful in ganglionic enlargements of doubtful origin, and for such they have chiefly been prescribed. A bath of hot, moist sand can be borne for a longer time than a water bath of the same temperature; the skin does not redden so much as in water, nor does it become shrivelled. It should be followed by dry rubbing of the skin and by exercise to avoid chill. Dry hot sand baths are those which are found most generally useful; they stimulate perspiration, and their action is very like that of hot air. Free diaphoresis results with a temperature of 30° to 40° C. (86° to 104° F.), and it is not often necessary to go higher. If this temperature should not be reached by ordinary sun heat, local baths may be had by warming the sand artificially, or the sun's rays may be concentrated on the particular tract of sand desired, by means of portable burning glasses, and a higher temperature thus obtained. Such baths may be used in rheumatism, gout, obesity, intoxications of lead, morphine, or mercury, neurasthenia, spinal curvature, and the like. Local treatment is more easy of application, and may be resorted to in cases of articular affections and oedema, chronic rheumatism, stiff joints, sprains, some neuralgias, and even certain skin diseases.

193. Action of Certain Drugs on Trypanosomiasis.

FUSCO (*Rif. Med.*, June 14th, 1909) has experimented *in vitro* and *in vivo* (on guinea-pigs) with certain blood poisons and trypanosomes. The drugs used were aniline chlorhydrate, aniline chlorhydrate and arsenious acid mixed, arseniated hydrogen, phenylhydrazin, saponin, pyrogallic acid, chromic acid, ammonium chloride, potassium chlorate, glycerine, toluol and toluylendiamin. Each of these substances proved more or less germicidal for the *Trypanosoma brucei*. *In vivo*, given in non-lethal doses, the most efficacious in prolonging the life of infected animals were chlorate of potash and saponin (½ c.cm. of a 1 in 10,000 solution of saponin, used for injection, and 2 to 3 cgr. of pctassium chlorate. By injecting 1 mg. of arsenious acid and ½ c.cm. of 5 per cent. solution of aniline chlorhydrate in a 300 gramme guinea-pig every other day for ten days, the trypanosomes were made to disappear permanently, but the author does not venture to say how far his can be called a definite cure. A similar result could be obtained by using the serum of normal rabbits treated with his mixture.

PATHOLOGY.

194. The Blood in Chronic Myeloid Leukaemia.

BÉCLÈRE (*Arch. des mal. du coeur, des vaisseaux et du sang*, June, 1909) has examined the blood of 30 cases of chronic myeloid leukaemia. In these the average number of red corpuscles per cubic millimetre of blood was 2,500,000 and 290,000 white. Blood films were fixed for half an hour in absolute alcohol, rapidly dried and stained in 10 per cent. Giemsa's stain for two hours, washed with water, and dried. In one of the cases in which for every 9,500 white cells 500 nucleated red cells were seen the varieties of nucleated reds were in the following proportion: Normoblasts (pyknotic), 55.6 per cent.; normoblasts, 28.8 per cent.; megaloblasts, 13.8 per cent; karyokinetic normoblasts, 1.6 per cent.: karyokinetic megaloblasts, 0.2 per cent. The author finds that the megaloblasts can undergo division. The nucleus rolls up, the nuclear membrane disappears; at the same time the protoplasm becomes granular, the granules being small, equal in size, and intermediate in size between neutrophile and eosinophile granulations; these stain blue, like the protoplasm of the megaloblast. The chromatic filament becomes thickened and then fragments; the chromosomes separate and pass to the two poles of the cell. The cell protoplasm soon becomes constricted midway between the two nuclei, and two cells are formed, each of which is in size equal to a normoblast. The normoblasts so formed may in their turn divide indirectly, but their protoplasm remains homogeneous, and does not become granular, as in the first case. At the moment of division of a normoblast the daughter nuclei undergo a marked chromatic condensation, and these nuclei belong to "pyknotic" normoblasts; the nucleus of the pyknotic normoblast, which is without structure, can occupy various parts of the cell, and may escape altogether from the cell. In conclusion, one may say that this case allows one to follow the uninterrupted changes of a megaloblast first into a normoblast, then to a pyknoblast, and then to a normal red corpuscle.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

195. General Paralysis.

R. Thomsen (*Beihefte zur Med. Klinik*, Heft 4, 1909) discusses progressive paralysis as it affects general practice, and points out the necessity of early diagnosis. Examination of the causation of the disease leads him to the two following conclusions: (1) That a doctor may, with much conviction, assure any patient who fears a development of paralysis that he may dismiss the fear from his mind if he has never suffered from syphilis; (2) that any patient who is, or has been, syphilitic, should be cautioned against injuries which especially affect the nervous system—such as accidents, mental and physical overstrain, excesses, etc., and that this advice is all the more necessary in people such as officers, engine drivers, and others, whose occupation in life predisposes to such injuries. As a preventive treatment, specific cures of syphilis should continue to be carried out, or may be discontinued according to the presence or absence of Wassermann's reaction. In syphilitic patients the serum reaction, possibly also combined with the result of lumbar puncture, should decide the question as to the possibility of marriage. Great stress is laid on the importance of the diagnosis of general paralysis from neurasthenia. The diseases have many symptoms, especially subjective symptoms, in common. Without significance in making a diagnosis are—mere difference in the size of the pupils on the two sides, slight myosis or mydriasis without impairment of power of motion, general increase in the reflexes (apart from foot clonuses and Babinski), slight impairment of speech on long use, especially if this is more evident to the patient than to others, tabetic symptoms; diminished potency is of little value towards a diagnosis. Distinctive points against neurasthenia are—insensitiveness to light of one or both pupils, with normal patellar and Achilles reflex, the peculiarities of speech, and, in certain cases, of writing. A history of temporary paralysis of the eye muscle, of aphetic or peripheric attacks of short duration, occasional impairment of power of normal walking, severe headaches, frequent sleeping during the day, attacks of faintness, intense digestive disturbance, with much loss of weight, occasional fever at night, all support a diagnosis of paralysis. The observation of an epileptiform or apoplectiform attack would be of considerable value. Another important sign is the occasional sudden appearance of weakness of the sphincter vesicæ or recti, especially at night. The psychical condition is, of course, an essential feature. In paralysis as opposed to neurasthenia there is a change of character and loss of individuality. The wife of the patient will often have observed that he has become "quite different" from himself. Early psychical changes are not, however, absolutely distinctive, and similar changes may be met with in other conditions, as, for instance, in dementia præcox, or imbecility. The safe rule in making a diagnosis is never to diagnose paralysis in the absence of clear physical signs or of a decisive history. The question of a previous attack of syphilis is obviously one of great importance, and the history with regard to it is often misleading. Help may be obtained from cyto-diagnosis of the cerebro-spinal fluid and from sero-diagnosis, but a specialist experienced in the method is required. A positive Wassermann's reaction, together with a marked pleocytosis and increase in the globulin contents of the cerebro-spinal fluid (Nonne's reaction, Phase 1) is unmistakable evidence of a syphilitic inflammatory affection of the pia spinalis and cerebralis—that is, against neurasthenia and for paralysis. The duration of the disease is difficult to estimate; the average of from two and a half to three years has no bearing on the individual case. On the whole, the duration depends chiefly on the frequency of the paralytic attacks. The cases of so-called tabo-paralysis, in which slight tabetic symptoms may precede the onset of paralysis by years, often run a mild and very protracted course. The diagnosis between paralysis and other diseases of the brain may be difficult in the early stages, and is considered in the article. The diagnosis between paralysis and the arterio-sclerotic psychoses may be impossible except on long observation. The treatment only concerns the general practitioner as long as the physical symptoms are the prominent ones. On the outbreak of the psychosis the patient should be treated in an institution both for his own protection and that of other people. The form of simple dementia may be treated at home for a long time or in sanatoriums, but there is always a possibility of the patient becoming suddenly dangerous. Where the diagnosis is doubtful or there is a positive Wassermann reaction, an energetic inunction cure or the administration of the iodides is indicated, the latter especially if arteriosclerosis is present.

196. Korsakoff's Psychosis following Influenza.

Dufour (*Rev. méd. de la Suisse romande*, June 20th, 1909) reports a case which agrees essentially with Korsakoff's description of the condition named by him *psychose polynévritique*. A woman, aged 56, was admitted to hospital on March 25th. She had had three children—two sons who died of tuberculosis, and a daughter living. She had always had good health, except for "nervousness," until the February before admission, when she had a severe attack of influenza with bronchitis. Early in March the bronchitis improved, but attacks of repeated vomiting, with headache and vertigo, but without gastric pain, occurred. On March 20th her ideas became confused, and she forgot completely and immediately anything communicated to her. The legs became extremely weak, and she could sit up in bed with difficulty. Coincidently with the onset of these symptoms the vomiting ceased and appetite returned. The diagnosis on admission was paraplegia with amnesia. The mental condition was then not characteristic. Towards the end of April the patient could use neither the upper nor lower limbs owing to paresis. The muscular power was fairly well maintained, but there was such incoordination that she was completely helpless. If she attempted to cross the legs they were jerked over violently, exactly as in locomotor ataxy. There was considerable cutaneous hypæsthesia, which was especially marked over the external aspects of the legs. Deep (bony) sensibility was also diminished, and the stereognostic sense was almost entirely wanting. The patellar and Achilles reflexes were absent, and the plantar reflex was feeble, the toes being flexed. There was insignificant spontaneous pain, but compression of the nerve trunks and muscles was painful. The paresis was most marked in the legs, and especially the left leg. The muscles of the antero-external aspect were markedly atrophied, and the feet were usually in an equinous position. Similarly in the upper limbs the extensors of the hands were chiefly involved. There was no ophthalmoplegia. The cerebro-spinal fluid, obtained by lumbar puncture, and the urine were normal. The psychical condition in April was characteristic of Korsakoff's symptom-complex. Amnesia was complete for all recent events. Thus the patient remembered the date of her birth and many incidents which occurred anterior to her illness; but she could not say the date of the present year, and had no idea where she was or how she came there. While in hospital she was informed of the death of her son. She showed genuine grief and wept, but the tears suddenly ceased, and beyond the fact that some one had spoken of a funeral she remembered nothing. Her judgement was fairly sound, and she was able correctly to calculate simple sums. She was invariably placidly happy. In addition to amnesia, she exhibited false reminiscences. Thus, she was constantly recognizing strangers as old friends and relating as facts things which had never occurred. When the contradictory nature of her statements was pointed out she was never at a loss for an explanation—often most plausible. In addition, she had delusions—for instance, she was only 28 and hoped shortly to marry—and hallucinations—for instance, she affirmed she saw an old woman in the adjacent bed give birth to a child. She never imagined that she saw animals—a common form of hallucination in cases of alcoholic origin. Finally, at long intervals there was incontinence of fæces. This was not due to paralysis of the sphincters, but simply to inattention. A close investigation failed to reveal any history of alcoholism, and several facts support the view that the condition, which was a typical *psychose polynévritique*, and not simply a chance association of multiple neuritis with insanity, was of infective origin. Thus in hospital there was a constant though irregular pyrexia (100.5° to 102.2° F.). The onset occurred abruptly during convalescence from influenza. The unusual etiology—Korsakoff's psychosis is almost always due to alcoholism

—the predominance of ataxic symptoms, and the peculiar nervous symptoms endow this case with unusual interest. At the onset the symptoms of inco-ordination suggested those of the last stage of locomotor ataxy, and the mental condition resembled that of general paralysis of the insane. The diagnosis was of importance from a prognostic standpoint, as in Korsakoff's psychosis complete recovery, or at least great improvement, is the rule. In this case the ataxic symptoms have diminished, the general health has improved, and hallucinations no longer occur, but the patient is still helpless, amnesic, and inventive. Larroussinie has reported a fatal case of Korsakoff's psychosis following influenza. Perrin saw two non-alcoholic cases; one occurred after facial erysipelas and one in a puerperal woman. Korsakoff himself mentions puerperal fever as one of the causes of the condition he described. In a case reported by Soukhanoff the disease followed typhoid fever. These are the only cases known to the writer which were of infective origin.

SURGERY.

197. Mammary Cancer.

FIORI (*Rif. Med.*, July 19th, 1909) has made a clinico-statistical study of the cases of mammary cancer treated at the hospital in Genoa between 1888 and 1908. These number 206 in all. The greater part of them were examined histologically. The age of the patients varied from 24 to 78 years, the largest number (42) being between 46 and 50 years, showing the influence of the climacteric period. As regards heredity, mammary cancer only appeared twice in the ancestors, 8 times in collateral branches of the family (in all 4.8 per cent.). Cancer of other viscera was found 10 times in the relatives. There were 2 males in the 206 cases; 7.2 per cent. were unmarried, the rest married or widowed. Evidence of previous mastitis was found in 5.3 per cent. of the cases; probably the percentage is really higher, as the slight degrees of mastitis are overlooked. The author is inclined to doubt the influence of traumata in causing breast cancer, but relates in detail 2 cases where injury seems to act as a definite starting point. If traumata were as potent a cause as some have taught, one would expect cancer to be commoner amongst poor women as compared with the rich, but the latter, with a greater immunity from injury, do not acquire any greater protection against cancer. In 5 out of the 206 cases carcinoma developed in pre-existing benign tumours. The right breast was affected in 113, and the left in 91 cases; in each case the superior quadrant was the part most frequently attacked. Axillary metastasis was often found by operation when it had not been detected clinically. The skin was adherent in 90 per cent. In the early diagnosis a careful comparison between the levels of the two nipples may be useful. In the author's cases adhesions to the pectoral muscle occurred in 32 per cent., and skin ulcerations in 20 per cent. The metastatic growths mostly attacked the liver, pleura, and lungs. Alveolar, scirrhus, adeno-carcinoma, and medullary cancer were the types of growth found in their order of frequency. Dividing his cases into two groups (1888–95 and 1895–1908), in the first group 40.9 per cent. were alive and well three or more years after operation, and 59.1 per cent. dead. In the second group 38.4 per cent. were alive and well. The more modern operations tend to prevent local relapses, and possibly cases of a more advanced character are operated upon more than formerly, which would tend to explain the lower percentage of recoveries in the second group of cases. The author is not in favour of the very extensive operations proposed by Halsted, as he does not believe the advantages are sufficient to make up for the additional risk.

198. Spinal Curvature in Children.

M. NAGEOTTI-WILBOUCHEWITCH describes a form which is difficult to treat successfully (*Arch. de méd. des enfants*, April, 1909). In a normal back the maximum curvature occurs at the sixth or seventh dorsal vertebra; this is the part most frequently affected by curvature in the adult. On inspection the back bone of a normal infant is indicated not by a prominence but by a furrow, the seventh cervical alone being prominent. When the child bends forward, however, the vertebrae appear in the form of a series of small eminences. But in spinal curvature the spines of the affected vertebra appear as eminences in a child whilst in the upright position. The most common site for this affection is at the lower angle of the scapula, the sixth and seventh or eighth dorsal. It may be that the seventh cervical and the seventh dorsal are alone visible. When the curvature occurs at the ninth or tenth dorsal, then the curvature is more general but not so apparent and not so inflexible. In spinal curvature the mobility of the part is always impaired, and sometimes the stiffness is considerable, and has been mistaken for Pott's disease. When one tries to straighten the back of the child by pressing with the hand against the prominence, the neighbouring parts are seen to give, but one continues to feel the little bony prominences, which are not quite effaced. However, this is no real ankylosis, as in Pott's disease; the part can be straightened little by little, but the child cannot remain in that straightened position; when the pressure is removed the part regains its former position like a spring. This short, rigid deformity is really part of a larger curvature which is more mobile. The larger curvature increases with age, and masks the smaller curvature of youth. The deformity may start as early as 5 or even 3 years of age, then the parents often date the trouble from the commencement of walking. The trouble is not due to the spinous processes being too long and therefore prominent; they become prominent because the vertebrae are out of line. The condition is, therefore, a bony curvature; it may be congenital, as the condition may appear in several members of a family: it may be rachitic. It is desirable to recognize this condition at an early date, or the deformity will become permanent. Ordinary curvature, caused by muscular weakness, need not cause so much anxiety; it can be cured by resting on the back and appropriate muscular exercise; this is readily adopted when the aesthetic sense is alarmed. But in the form of interscapular curvature there is much pain; it gives rise to weakness. When made straight the patient will always have to struggle against a tendency to curvature. He can only overcome the condition by preserving the mobility of the spinal column and the strength of the back muscles. Treatment must be by suspension, by straightening the patient against a post, by the exercise of the respiratory muscles to develop the chest. Correct attitude must be taken during work, and there must be repose on the back. When cured the treatment must not be abandoned until the youth has stopped growing.

199. Recovery from Penetrating Injury of the Brain.

GILLS (*The Va. Medical Semi-Monthly*, May 7th, 1909) reports a case of penetrating gunshot wound of the head which presents some interesting features. The patient was a man, aged 30, who had shot himself with a 32-calibre revolver. The ball had entered the right side of the skull 2 in. behind the temporal ridge and 1 in. above the zygoma, and, after having traversed the frontal region, passed through the cranial wall of the opposite side, where it rested under the skin at a point midway between the frontal eminence and the superciliary ridge. Penetration of the skull was proved by the fact that the cranial wall was perforated at the seat of entrance and of exit of the ball and also by the presence of brain substance on the face. After the shock had subsided the patient presented very slight and transient symptoms of brain injury. He made a speedy and complete recovery, and when carefully examined fourteen months after the injury he was apparently in good health and presented no indications of physical or mental impairment. The recovery in this case is explained by the low velocity of the missile which was fired by the revolver used by the patient. On account of this low velocity there is, the author points out, usually little lateral displacement of energy, and most of the bone and tissue destruction is confined to the track of the ball.

OBSTETRICS.

200. Roentgen Rays in Obstetrics and Gynaecology.

THE idea of inducing premature labour by means of *x* rays is no longer quite new, but hitherto only one case has been reported in which the pregnancy was terminated after the application (Fränkel). Doubt has even been expressed with regard to this case, and it is not proved that the abortion was due to the rays; it may have followed the application independently. H. E. Schmidt (*Deut. med. Woch.*, June 17th, 1909) gives the details of a case which was sent to him for the purpose of terminating the pregnancy by this means. The patient was suffering from advanced phthisis. The disease had lasted for ten years, and had progressed markedly during her married life. She had borne two full-time children, had aborted once, and had artificial abortion performed twice. Another child

was born in the eighth month. All three viable children had died of tuberculosis. The treatment was conducted with hard tubes, and the dose chosen was 1½ Sabouraud-Noiré's normal dose, divided over three sittings. No erythema was produced, but the skin over the exposed part showed thirteen days after the application, a distinct follicularly arranged punctate haemorrhage. The haemorrhages became confluent and gave place to a dermatitis, which, however, healed up completely later. The pregnancy was not affected. The patient had to be transferred to the obstetric clinic for induction of abortion by the more usual method. It is, of course, possible that had he waited longer, the abortion might yet have taken place, but for practical purposes this would not be of any use, since, when the physician determines to terminate a pregnancy, he wishes to complete it within a reasonably short time. Schmidt therefore comes to the conclusion that *x* rays are not suitable for this purpose. Albers Schönberg (*Munch. med. Woch.*, May 11th, 1909) deals with the uses of Roentgen rays in gynaecology. The rays are applied to produce an artificial menopause for the following reasons: (1) To diminish the size of myomata; (2) to lessen or prevent haemorrhages arising from myomata: (3) to remove pain due to myomata; (4) to remove preclimacteric haemorrhages or pain; (5) to remove postclimacteric haemorrhages. They are further applied to improve or cure the disturbances due to myomata, which arise independent of bleeding, and to treat menstrual disturbances either with or without sterilization. The attainment of the artificial menopause, and in this way the diminution of the size of myomata, depends largely on the technique, and on the situation of the tumour and its kind. Intramural tumours are more suitable than subserous or pedunculated tumours. Very large old myomata, and especially if they are undergoing calcareous and other forms of degeneration, are not amenable to the treatment. The diminution in size takes place as a rule very slowly, and the patient herself usually notices the difference before the gynaecologist can determine it. Full absorption has not yet been achieved, although it has been possible to diminish the size of a myoma from that of a fetal head to that of a small apple after sixty-eight and a quarter minutes' exposure to the rays. The author reports of cases in which the symptoms—for example, dyspnoea, swelling of the feet, etc.)—were entirely removed by means of the treatment. He has never observed a myoma to increase in size during the treatment, although diminution in size does not always take place. With regard to the haemorrhages, the result of the first and second sittings is usually that the bleeding increases. The patients frequently report that the periods set in early and are more profuse than before. Intermenstrual haemorrhages do not, as a rule, increase after the first application, and frequently disappear earlier than the menstrual bleeding. Great care must be taken with women who are blanched by previous losses or whose hearts show signs of degeneration. The application of the rays may in these cases even lead to a fatal haemorrhage. The menopause is achieved more readily in women over 50 years than in young women. Albers Schönberg states that the haemoglobin content of the blood often increases rapidly under *x*-ray treatment. He finds that hard tubes and a water cooling apparatus yield good results. He has constructed two types of the latter, which have given him satisfaction.

GYNAECOLOGY.

201. Sarcoma of the Ovaries.

Lockhart (*Journ. Obst. and Gynaec. of the Brit. Empire*, August, 1909) recalls the definition of a sarcoma as "a richly cellular tumour of the connective tissue type, the cells being of the vegetative or imperfectly differentiated order." These tumours must have the "clinical significance of infiltrated growth and be possessed of malignant characters," malignancy depending not only on the form of the cell but also upon its origin. The proportion of malignant tumours of the ovary is high. Cohn found malignant disease in 16 per cent. of 600 cases of ovariotomy performed by Schroeder, while Leopold states that 26 out of 116 cases were similarly affected. Of all the malignant tumours of the ovary sarcomata are the least frequently met with. These tumours are divided into cystic and solid, each of which is again classified according to its histological structure. Melanotic sarcoma, when primary, is the rarest form of malignant disease affecting the ovary, being generally observed in the external genitals. Ovarian sarcoma in the early stages has few symptoms; it has little or no effect upon menstruation, but when this is affected the flow is increased in amount, and becomes more or less painful. It attacks multiparae and nulliparae equally, and may be met with at any age. The very young are specially susceptible to it. Doran reported a case of a 7-months fetus where both ovaries were involved. The first period of exceptional liability ends at puberty and the second extends from 25 to 45 years. It is usually bilateral in children and unilateral in adults. Pain may be an early symptom but is not complained of in all patients. Vesical irritation occurs, probably due to disease of the fundus uteri. The woman complains of an increasing abdominal swelling, weakness and emaciation, usually cachexia is marked before the sarcoma had been present many months. A thin leucorrhoeal discharge is often present, though there is nothing characteristic of the disease about it. The growth will produce ascites, and exerts pressure upon the bladder and rectum, or it may infiltrate the broad ligaments and cause such constriction of one or other ureter that hydronephrosis follows. Glandular enlargement is not marked until late in the disease, but secondary deposits may form in the lungs, giving rise to symptoms of consolidation. The only effectual method of treatment is to remove these growths *in toto*. Not only should the diseased ovary itself be taken away, but the uterus and appendages of the opposite side, whether they present any evidences of disease or not, if one ovary is left it is liable to become infected sooner or later. Great care should be taken to remove the diseased organ entire, and not to allow any of its contents to escape into the peritoneal cavity, as this would be sure to be followed by a speedy recurrence. While the above is the only treatment which holds out any hope, it is possible that some form of radiotherapy will be found which will replace it, or which may be used after operation to prevent recurrence. Serums such as Coley's are unreliable, but can be used in inoperable cases. If the growth is not interfered with, the patient dies from rapid spread of the disease, even after complete removal the rate of recurrence is high. Judging from our present knowledge, all ovarian tumours ought to be removed as soon as discovered; they should then be carefully examined microscopically for any sign of malignancy. Should any such indication be found, the uterus and the ovary of the opposite side must be removed at as early a date as possible, so as to give the patient the best chance of a cure.

THERAPEUTICS.

202. The Action of X Rays on the Thymus.

Aubertin and Bordet (*Arch. des maladies du coeur, des vaisseaux et du sang*, June, 1909) give the results of their experiments with *x* rays with regard to changes induced in the thymus gland. In their first series of experiments kittens 5 days old were employed: one was radiated on two occasions and killed six hours after the last radiation; the second received six daily radiations and was killed on the eleventh day; the third was used as a control and was killed on the eleventh day. The thymus of the control animal exhibited the following structure: The cortical zone was formed of lymphocytes without any follicular arrangement; a few mononuclear cells of large size were seen, but polynuclears, eosinophiles, nucleated red cells, and myelocytes were absent; capillaries were scant in number; the medullary zone was very distinct, and the reticulum plainly marked; Hassall's corpuscles were fairly numerous and of rather large size, and were formed of concentric vesicular and swollen cells; the limits of the thymus gland were plainly outlined. In the thymus of the animal that received two radiations the following changes were seen: The fatty tissue surrounding the capsule of the gland contained a number of large elongated or rounded connective tissue cells; the lymphoid tissue is rarefied; a large number of macrophages filled with nuclear débris or with entire lymphocytes are present; Hassall's corpuscles were increased in number and also in size, and were filled with nuclear detritus coloured with haematin; the elements contained in the reticulum were seen to be of two kinds, the more numerous ones being nuclear débris or pyknotic nuclei, the other less numerous elements consisting of cells with large rounded or kidney-shaped nuclei which are vesicular; in some of the lobules the macrophages are very numerous; the vessel walls appeared to be slightly thickened. In the thymus of the animal receiving six radiations are noted the following: The thymus region is occupied by fat and connective tissue and traversed by large thick-walled vessels.

The thymic lobules are greatly reduced in size and are formed of enormous corpuscles of Hassall absolutely filled with nuclear débris and surrounded by a lymphoid tissue. Some of the Hassall's corpuscles are so large as to occupy the entire field of the microscope, and they are formed of débris coloured with haematin of pyknotic nuclear débris, etc. There are no signs of macrophages. The cavity of the enlarged Hassall's corpuscles is bordered with three or four layers of flattened cells with elongated nuclei; as one proceeds from the corpuscle these cells become larger and their nuclei become more rounded and larger, and some are enormous in size. Here and there in the tissue formed by these large cells one sees small nuclei the size of lymphocytes. Similar changes were found to occur in the thymus glands of puppies on radiation with *x* rays. From these experiments it appears that radiation of the thymus gland produces the following phenomena: Soon after radiation the lymphocytes undergo changes, the nuclei retract and lose their chromatin structure, then they fragment and become necrotic. This débris may or may not be taken up by macrophages. The corpuscles of Hassall increase very rapidly in size, become filled with coloured débris, and with chromatin remains. Later these Hassall's corpuscles become enormous in size and their débris assumes a homogeneous and amorphous appearance. After repeated radiations another change manifests itself. The thymus tissue is gradually changed, the destroyed lymphocytes are replaced by large epithelioid cells which, towards the outer part of the gland, become transformed into ordinary fusiform connective tissue cells.

203. The Diet in Typhoid Fever.

STROUSE (*Amer. Journ. of Med. Sciences*, May, 1909) urges a more liberal dietary than that usually allowed in typhoid fever, seeing that experiments performed during the febrile period show that the absorption of most easily digested foods, including milk, averages 5 to 10 per cent. less than in a normal person. Observations show that the death-rate is lower and perforations and haemorrhages are fewer in those fed liberally on diets varying from the addition of soft eggs or toast to one containing meat, and, with the exception of a slight increase in relapses, the results all favour a more liberal diet. Exclusive of foods with a vegetable residue, it is impossible to prove that an egg or a piece of meat will reach the inflamed Peyer's patches in more solid form than milk, which enters the stomach as a liquid and leaves it as a solid. It is obvious that no dogmatic rules of dietary can be prescribed, but the principle underlying the feeding of typhoid patients should be to furnish the same amount of food energy as that required by a healthy resting person. Shattuck's dietary is as follows: Milk, hot or cold, with or without salt, with lime water, soda water, apollinaris, vichy; peptogenic or peptonized milk: cream and water; milk with white of egg and slip; buttermilk; koumiss; matzoon; whey; milk with tea, coffee, cocoa. Soups: Beef, veal, chicken, tomato, oyster, mutton, pea, bean, squash, carefully strained and thickened with rice, arrowroot, flour, milk, egg, cream, barley. Horlick's, Mellin's, malted milk, carnipeptone, bovinine, somatose, beef juice. Gruels: Strained cornmeal, crackers, flour, barley water, toast water, albumin water, lemon water. Ice cream. Eggs: soft boiled, raw, egg-nog. Finely-minced lean meat, scraped beef, soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, blanc-mange, wine jelly, apple sauce, macaroni.

204. The Therapeutic Value of Calcium Chloride.

CARLES (*Nord médical*, April 1st, 1909) enumerates the various conditions under which chloride of calcium may be beneficially administered. After its first employment, early in the nineteenth century, in cases of scrofula and phthisis, it fell into disuse for a time; but has now been prescribed for some years in an increasing number of affections. Its haemostatic properties have been useful in cases characterized by a diminution in the coagulability of the blood, such as chilblains, urticaria, acute oedema, certain forms of headache, serous eruptions, and nephritic disorders. When the blood contains too little lime it does not coagulate; the addition of a small quantity increases coagulability, but an excess renders it again incoagulable. Large doses, therefore, may be dangerous, whilst smaller ones are very useful. Carnot was one of the first to recognize its haemostatic properties, and it is now employed daily in obstinate epistaxis, repeated haemoptysis, purpura, bleeding piles, metrorrhagia, haemophilia, and the like, where it acts by favouring the production of fibrine. In albuminuria it acts partly by virtue of its anti-haemolytic properties, and partly by the direct influence which calcium salts exert on the kidney. A third use of the drug is as a moderator to the nervous system, for which reason it is employed in spasms of the glottis, laryngismus stridulus, convulsions, and tetanus, and it has been found useful even in epilepsy. Lander Brunton was the first who employed it as a cardiac tonic, and in the same way it proves useful in pneumonia. The dose is 1 to 4 grams daily (15 grains to 1 gram), given in milk, beer, syrup, or cordial, to disguise the rather disagreeable taste. It is contraindicated in old people, as it tends to favour calcification of the arteries, having a strong affinity for the blood vessels.

PATHOLOGY.

205. The Parasitic Nature of Cancer.

PROFESSOR CARL LEWIN (*Deut. med. Woch.*, April 22nd, 1909) has lately discussed the parasitic theory of cancer. The parasitic hypothesis, he says, is based on clinical grounds. Clinicians think that cancer presents an analogy with some of the infective diseases. There is wasting of the tissues and body forces even when the tumour is small; there is dissemination through the whole body; lastly, there are the so-called *cancer à deux*, inoculation cancer and the like. Certain investigators—for instance, Sanfelice, Plimmer, and von Leyden—have described what they believed to be causal parasites, but these proved to be merely cell inclusions. Professor Lewin does not consider that cancer cachexia can be accepted as a proof of the parasitic nature of the disease. The waste is caused by toxic substances, which are formed in the disintegration of the cancerous tissue. He speaks of these substances as ferments which act heterolytically. Discussing the conditions which must be fulfilled to prove the parasitic nature of cancer to make it probable, he says that the production of the causal parasite would fulfil these conditions, but, in the absence of direct proof, he believes that indirect proof may be regarded as satisfactory. Before discussing these points he turns to the work of Sanfelice and O. Schmidt. The former has brought forward a *saccharomyces*, derived from fruit juice, which, when injected subcutaneously, is said to have produced malignant tumours. This has been challenged, and, in the absence of further evidence, these microbes cannot be accepted as the causal parasites of cancer. Schmidt described a special form of protozoon which he gained from cultures of a fungus derived from cases of carcinoma and sarcoma. The parasite is said to grow in the mucor of these fungi. The specificity of these parasites, however, has not been proved. Dr. Lewin next turns to the malignant granulomata, which are produced by attenuated tubercle bacilli and which show a structure often distinguishable from spindle-celled sarcoma. Brandi has shown that lymphosarcoma which had no likeness to tuberculous growth when inoculated in guinea-pigs produced true tuberculosis. Jensen has experimented with pseudo-tuberculous enteritis of oxen. The acid bacilli of this affection produce tumours which have all the characteristics of sarcomata. He further quotes von Hansemann in support of the contention that syphilitic tumours may show all the structure of sarcoma. Having proved to his own satisfaction that tumours indistinguishable from sarcomata can be produced by infective organisms, Dr. Lewin proceeds to discuss some experiences which have been made in the cancer research laboratories. Clowes and Gaylord found in a cage three rats affected with fibro-sarcoma. The cages had been used by Loeb one year previously for his experiments on rat sarcoma. Thorel observed an epidemic outbreak of tumours in about sixty mice, which had proved themselves to be refractory toward inoculation. The tumours appeared at a different site from that at which the inoculation attempts had been carried out. He points out that Hauser and Orth have expressed the opinion that, if inoculation of material could produce a primary tumour having characters, not of the growth from which the material was taken, but of the tissue into which the transplantation has been carried out, a high degree of probability that a parasite is an acting cause would be given. The author regards the transition of carcinoma into sarcoma in Ehrlich's mice and the confirmation of this occurrence by Loeb, Liepmann, Bashford, and himself as supplying this condition. After producing evidence of a similar nature, he sums up by claiming that experimental investigations have brought facts to light which cannot be explained in any other way than by the assumption of a casual parasite of the tumours.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

206. Diagnosis of Aortic Aneurysms by Broncho-oesophagoscopy.

GUISEZ (*Arch. des maladies du coeur, des vaisseaux et du sang*, April, 1909) points out that an endoscopic examination of the normal thoracic oesophagus shows the following: The lumen of the oesophagus is widely open (thanks to the intrapleural vacuum), and its walls are excited by two kinds of movements, one respiratory the other pulsatile, the latter due to the movements communicated from heart and aorta. When the oesophagus is dilated a little, one sees on its left wall a kind of curved line corresponding to the upper part of the thoracic region, and situated 21 or 22 centimetres from the teeth. This is where the tube is crossed by the arch of the aorta, and in this part the movements due to the heart beat are very evident. In the case of dilatation of the aorta, with compression of the oesophagus, one sees a kind of forcing back in a curved line of one of the walls of the oesophagus, generally the left, reducing the lumen of the oesophagus to a semilunar one. On examining carefully the curved wall, one notices that it is animated by beatings and expansile movements which are quite characteristic. Sometimes this wall appears to be quite healthy, but generally it shows a red inflammatory coloration with abnormal vascularity, and in one case observed by the author it presented an ecchymotic tint. These appearances the author states, are absolutely characteristic of stenosis from aortic dilatation. The diagnosis of aortic dilatation compressing the oesophagus from that of mediastinal tumour compressing the oesophagus may be difficult to make. In the first place, however, tumours of the mediastinum are much less common than the former; the situation of the compression at the upper or lower parts of the oesophagus which are crossed by the aorta favours the diagnosis of aortic dilatation; and further, in dilated aorta the compressed part of the oesophageal wall shows movements of expansion which never appear in cases of mediastinal tumour. In practising oesophagoscopy the author points out that the greatest care should be taken, and that in cases of dilated aorta the tube ought always to be kept a certain distance above the part pretended by the aneurysm. With regard to tracheo-bronchoscopy the author states that he has not had much opportunity of employing this method of examination in cases of aortic aneurysm. In 5 cases however, in which he employed it, in 1 the trachea was seen to be flattened from before backwards, the anterior wall showing beating movements, and being raised by an expansile tumour, which could only be an aneurysm of the transverse arch of the aorta. In the second case the trachea was compressed from left to right by a tumour which made a notch on its anterior wall, and by inclining the tube slightly to the left one could detect an almost complete obstruction of the lumen of the left bronchus. In the third case tracheoscopy confirmed the results of oesophagoscopy, showing a pulsatile compression of the left wall of the trachea. In the first 2 cases *x*-ray examination confirmed the diagnosis, but in the third no definite conclusion could be arrived at from *x*-ray examination.

207. Complications of Herpes Zoster Ophthalmicus.

OPHTHALMIC herpes is frequently complicated by iritis and corneal ulceration leaving opacities, but these complications as a rule only occur in cases where the nasal division is affected, as shown by a crop of herpes on the lower half of the nose. Fage (*Rec. d'ophtalm.*, July, 1909) says that the iritis is usually plastic, not severe, and leaves few adhesions, but that the reaction of the pupil tends to be sluggish after recovery. Serous irido cyclitis with hypertension is less common, and of this he had a case last year in a man aged 66, where the irido-cyclitis appeared ten days after the onset of the herpes; he does not say that the nasal nerve was implicated, though he relates a second case with serous iritis, hypertension, and where the aqueous humour became turbid and the eye painful and inflamed, where there was no herpetic eruption on the nose. Rarer complications are oculo-motor paralyses and optic neuritis, corresponding with analogous lesions in herpes of other parts. According to de Wecker and Landolt the third nerve is affected in 7 per cent. of cases. Hutchinson first drew attention to these paralyses in 1860; a case occurred in a man of 57 years whose third nerve became totally paralysed on the fifth day of an attack, from which he ultimately recovered. The paralyses in these cases need not be total—for example, the levator palpebrae superioris and sphincter of the pupil may be paralysed, or the levator and internal rectus or the levator alone. Fage had a case in a girl eight years ago, the right half of the forehead, the nose, and lower portion of the cornea being the seat of the vesicular eruption. At the second visit there was complete third nerve paralysis, which has persisted to the present time. The same paralysis has occurred in a second case of his which he saw a few months ago, where the onset was accompanied by rise of temperature, loss of appetite, lassitude, sharp continuous pain on the left side of the head, herpetic vesicles on the left side of the nose, but no corneal or iritic complication. Ptosis appeared on the third day. The fourth nerve is said to have been found paralysed by Lesser once in ophthalmic herpes; the onset was fifteen days after the eruption, and the paralysis disappeared in five days. The sixth nerve is only paralysed half as frequently as the third. Bowman first reported optic neuritis as a complication in 1865: it occurred in a man aged 44 who had an eruption on the left temple and forehead and at the root of the nose, which he found he could not see with the left eye; optic neuritis was diagnosed, and atrophy of the papilla ensued. Similar cases, according to Fage, have been reported since. Ophthalmic herpes is a toxic disease with general symptoms in some cases, and the cerebro-spinal fluid shows a lymphocytosis; there is neuritis, and the Gasserian ganglion is inflamed; the anastomosis between the third and fifth nerves in the cavernous sinus and that between the third and optic nerve via the ophthalmic ganglion may play some part in the production of the ocular paralyses. By way of treatment he recommends, without giving details, the use of the continuous current, which he says relieves congestion and pain, acts electrolytically on the vesicular eruption, and may prevent the subsequent nerve atrophy.

208. The Typhoid Cutaneous Reaction.

DEEHAN (*Univ. of Pennsylvania Med. Bull.*, August, 1909) gives a preliminary report of his investigations with a typhoid toxin, which, when applied to the skin of typhoid patients, furnishes a characteristic reaction. The method is safer than the ophthalmic reaction suggested by Chantemesse, and gave a positive reaction in 12 cases in which it was tried, with negative results in all cases other than typhoid. It is simple: applicable at the bedside; free from danger or discomfort to the patient; giving results in from fifteen to twenty hours; and, being frequently obtainable several days before the Widal reaction, is valuable for early diagnosis. The method of preparing the solution is as follows: A stream of virulent typhoid bacilli is grown on plain agar-agar slants for twenty-four hours, the organisms being then washed from the media with physiological saline solution and an emulsion prepared by shaking in a test tube, followed by incubation for four days at 37.5° C. The solution is then sterilized at 60° C. for half an hour and, after centrifugalization for from two to six hours, the clear supernatant fluid is pipetted off into sterile tubes. By Wright's method of standardizing vaccines the number of bacilli per cubic centimetre is determined, and a strength of three billions to the cubic centimetre of saline solution was found to give the most reliable results. The fluid is then tested as to its sterility, as it is most important only to use sterile solutions. The technique of the cutaneous reaction is similar to that of vaccination against small-pox, and consists in putting a drop of the solution upon the skin and making a slight abrasion under the drop, only the superficial lymph channels being opened. Under a drop of sterile physiological saline solution about 1 in. away a control abrasion is made, care being taken not to carry to the control any of the typhoid solution on the instrument. Three grades of positive reaction were distinguishable: (1) Feeble reaction (x): hyperaemic zone 2 mm. to 4 mm. in diameter, with central papule, and the skin slightly swollen and hard. (2) Medium reaction (xx): hyperaemic zone 4 mm. to 8 mm. in diameter, with numerous prominent papules and the skin sometimes oedematous. (3) Strong reaction (xxx): hyperaemic zone extending from 2 cm. to 3 cm., with very resistant sensation to the touch, and sometimes an urticarial appearance, and an exudate of serous fluid at the

point of scarification. Of the 12 cases tested, all of which had been previously diagnosed clinically as typhoid, a positive reaction was obtained one or more days before any Widal reaction was present, while in 2 the Widal reaction was negative throughout. Eight control tests were made upon patients suffering from other diseases than typhoid and who had never had typhoid, and in all of these there was no reaction at all. The reaction is a specific one due to the cutaneous susceptibility to the typhoid toxin, and these cases prove its diagnostic value and usefulness in doubtful cases.

SURGERY.

209. The Search for Perforating Ulcer of the Stomach.

EWALD, of Vienna (*Zentralbl. für Chirurgie*, No. 37, 1909), points out the great difficulty often experienced in laparotomy for perforating ulcer of the stomach in finding what is usually but a minute orifice. On testing the accuracy of the statement given in textbooks—that the perforation is situated on the anterior surface of the stomach in the pyloric region and near the short curvature—the author has been convinced that the opening is almost always situated from 1 to 2 cm. above or below the pyloric ring, and can be revealed by slightly elevating the lower margin of the liver. It may be found either in the pyloric end of the stomach or in the duodenum, near the small or the great curvature, but, as a rule, in a definite space, the extent of which in every direction does not exceed 4 cm. The results of *post-mortem* examination have been confirmed by the author's clinical experience. Reference is made to the research of Lieblein, who in 223 cases of perforating gastric ulcer found the opening in five instances only in the middle of the stomach, and in twelve instances near the cardiac end of the organ. The external incision in laparotomy for perforation of the stomach by an ulcer should, it is held, be made not in the middle line, but through the rectus muscle on the right side. The parietal peritoneum having been carefully incised from below upwards, and the falciform ligament pressed inwards, the seat of the perforation may, as a rule, be readily exposed on gently raising the margin of the left hepatic lobe and removing exuded matter and any adherent lobules of fat. By this method the posterior as well as the anterior surface of the pylorus may be made readily accessible. By this procedure the surgeon, it is held, is enabled in operating for perforating ulcer to expose and close the opening quickly and without serious difficulty through an external incision not more than 4 in. in length, and thus to avoid any undue disturbance of the stomach.

210. Radiographic Localization of Foreign Bodies in the Eye.

T. NOGIER (*Arch. d'élec. méd.*, September 10th, 1909) has a paper on the advantages of extra-rapid radiography for the localization of foreign bodies in the eye. He employs the generating apparatus known as the "Grissonnator," of Berlin, and with this instrument, using six, eight, or twelve condensers, he can obtain radiographs of the skull in eight, four, or two seconds respectively. The rays should have a penetration equal to No. 7 Benoist. The patient is made to lie on a radiographic couch, his shoulder resting on a pillow, and his head supported on a little stool 12 cm. in height. The head should be inclined in such a manner that the sagittal plane of the skull and the plane of the plate form an angle of 30 degrees. When the external orbital apophysis touches the plate the position is good. At the level of the occiput there is a bag partly filled with sand. Above the patient, supported by Guilleminot-Bécère's framework, is the Roentgen apparatus, with a pneumatic compressor. In the upright of the frame a pin is inserted, and a rapid radiograph is made while the patient's gaze is fixed at this point. Then the pin is placed at the other side of the frame and a second exposure is given. If both pictures show one or more spots clearly abnormal in the orbit the diagnosis of one or more foreign bodies is made. Various procedures exist in radiography for determining the exact site of the foreign body. The simplest is that of judging by its displacements when shown at parallactic angles of the eye and the object. In this method a third radiograph is taken under the same conditions as the preceding ones, except that the eye regards a point at the centre and not at the sides of the radiographic frame. One has therefore three pictures: (1) The eye regarded from above; (2) the eye regarded from below; (3) the eye regarded from directly in front. If, when the first picture is compared with the third, the object shows no alteration in position, it may be that it is intraocular but coincides with the centre of rotation, or—which is much more likely—that it is extraocular, and is to be found in the orbit. But when the object is shown to have been displaced it is evidently intraocular, and by judging its position in the third picture as compared with the first, a little thought will enable one to ascertain whether it is in the posterior or the anterior segment. The author points out that all *x*-ray tubes are not equally good for this work. Extreme fineness of focus is the essential requirement, and certain tubes that are excellent in radiotherapy are of no value for radiography of precision. What, he asks finally, is the value of this method as compared with the ordinary procedure in ophthalmology? If the eye is transparent, and the foreign body visible to the ophthalmoscope, the radiograph can add but little; if, however, the eye is not clear—if there is haemorrhage, for instance—the radiograph has a value of the first order. Moreover, while the sideroscope is excellent when fragments of steel, etc., are in the anterior segment of the eye, it is useless when they are in the posterior, but extra-rapid radiography gives good results whatever the position, dimension, and nature of the foreign body.

211. Radical Cure of Inguinal Hernia in Children.

ANDREI (*Rif. Med.*, July 12th, 1909) has analysed all the cases of radical cure of hernia operated upon in the children's hospital at Florence between January 1st, 1899, and December 31st, 1907. They number 430 operations on 395 children—357 male, 38 female. The hernia was right-sided in 259 cases, left-sided in 99, and double-sided in 36. The ages varied from 26 days to 10 years. Wherever any reasonable hope of cure by means of a truss was entertained, this was advised, but where, either for reasons concerned with the hernia itself or on account of the environment of the child, one seemed unlikely, an operation was advised. Children at the breast stand operation well. General anaesthesia was used; under 4 years of age ethyl or chloride of ethyl was used, after that chloroform alone. The type of operation was that described by Bassini, and the sac was always opened, and silk sutures used. The wound became septic in 2 cases only. The mortality was 1.77 per cent., mostly due to bronchopneumonia or delayed chloroform poisoning. In 14 cases the herniae were strangulated (strangulation was only seen in very young patients, mostly under 1 year). Relapse is rare in infancy, and only occurred once in the author's cases. In 2 cases the hernia was direct, and contained in one case the naked bladder and in the other omentum. An inguinal ectopia of the testes was observed 11 times. In the majority of the cases the sac was found empty at the time of operation; in about a third of the cases the small intestine, either alone or together with other organs, was seen in the sac. Evidence of tuberculosis of the sac was found 6 times. The caecum and appendix were observed in the sac 16 times, and the author treats these cases separately; unless the appendix is diseased, he does not advise its removal. The bad effects of strangulation develop more slowly in children than in adults.

OBSTETRICS.

212. Auxiliary Operations in Obstetrics.

IN dealing with the accessory operations which the obstetrician has at his disposal in cases of abnormal narrowness or incomplete dilatation of the soft parts, J. Pfannenstiel (*Muench. med. Woch.*, May 11th, 1909) starts by defining the absolute indication for artificial delivery. Although complete dilatation of the soft parts and advanced condition of the labour are regarded as necessary preliminaries for forceps and other means of artificial delivery, and inasmuch as the forceps are the instruments which free the parturient woman from her pain, too much advantage is frequently taken of their use. On the other hand, he points out that Nature always works more skilfully than the human hand, and unless real need is present, artificial delivery should not be resorted to. The absolute indication is danger for the life of the mother or of the child, while a relative indication is to be sought in the inability of some women to complete the birth spontaneously. There are, he says, many women who are normally made, whose genital organs are normal in function, and yet who are ill adapted to overcome the bodily exertion and mental excitement associated with a confinement. But before the forceps are applied to these anaemic, weakly, nervous, or over-excitable patients, every other

means to stimulate Nature to complete her task should be applied. Heat, quinine, etc., should be tried to increase the pains, means should be taken to lessen the suffering and mental excitability, including the harmless forms of narcosis. Among the last named he includes scopolamine-morphine injections. When all these means fail, forceps may be used. When the soft parts are narrowed either by scar formation or by atretic conditions or the like, the position is not so simple. With regard to rigidity of the soft parts, which is often associated with infantilism, he speaks of hypoplastic women. These women are weakly, tender, and predisposed to nervous ailments. Sterility is usually present when the hypoplasia is considerable. He considers that since these women are ill adapted to child-bearing, the delivery should be assisted with forceps, which acts not merely in terminating a difficult and painful labour, but also in preventing the occurrence of ptosis of the genital organs. Brute force must not be used, and when the parts are narrow, it is best to make a vagino-perineal incision rather than to risk an extensive perineal rupture. Again, in elderly primiparae, when no progress in the expulsion stage of labour is made during a period of two full hours, some means must be adopted to assist the delivery. While he has not had personal experience of dilating by means of a bag or other mechanical dilator in these cases, he condemns this on the ground that it is painful and unreliable. He prefers under these circumstances, as well as in other cases of rigid cervix, to incise the cervix, when Nature does not succeed in preparing the parts. Having disposed of these cases of rigidity, he turns his attention to the cases in which immediate delivery is required before the soft parts are dilated. For this purpose the choice has to be made between mechanical dilatation and incision. As far as the vulva and vagina are concerned, incision is the only reliable method. When the os or the cervical canal is too narrow, and urgency is present, incision should also be carried out. This is done by making two or three cuts about 1 in. in length; the incisions should be directed forwards and to the right, as well as forwards and to the left, so that Y-shaped flaps result. When there is no great urgency, and when the soft parts yield, even if the "waters" have already escaped, the cervix may be dilated by means of the rubber bag. About 400 to 500 c.cm. of water should be used to fill the bag. Should the cervix still be completely preserved, incision is not suitable. In this case, dilatation may be employed if the urgency is not marked; but if it is, and the mother's life is in danger, the fetus must be delivered by colpohysterotomy (vaginal Caesarean section), or by abdominal Caesarean section. He remarks that Bossi's dilator is just as obsolete a method as is *accouchement forcé*. In dealing with difficult cases, the general practitioner will be well advised to send the patients into a clinic. The conditions which admit of no delay in delivery include eclampsia, and fever during the parturition. Less urgency is needed in bleeding from placenta praevia, unfavourable positions of the fetus, especially when the amniotic fluid has escaped, general constitutional diseases, etc. In these cases the labour should be set in action as soon as possible, but there need be no immediate urgency that it should terminate at once. In placenta praevia the chief goal to be aimed at is to stop the bleeding and induce good uterine contractions. In conclusion, he describes in some detail the technique of dilating with the rubber bag.

GYNAECOLOGY.

213. Primary Cancer of Fallopian Tube.

Lecène (*Ann. de gynèc. et d'obstét.*, July, 1909) was consulted in August, 1908, by a woman, aged 48, for free uterine haemorrhages. They had appeared two years previously, and had become very frequent, concealing the true catamenial periods. A firm tumour occupied the hypogastrium, reaching upwards to the umbilicus and downwards into Douglas's pouch. There was a distinct lobe on the right side extending to the right iliac fossa. Lecène removed the uterus and appendages entire. The uterus contained some interstitial fibroids; the left tube formed a hydrosalpinx. The right tube was distended and tuberous; it was full of broken-down medullary material, pale pink in colour, and was the seat of atypical infiltrating epithelioma. There were metastatic deposits in the muscular tissue of the uterus and in the *left* ovary; the right was the seat of inflammatory changes. The vermiform appendix was removed. The patient was free from any sign of recurrence in June, ten months after the operation. Lecène could find no evidence that the cancer had arisen in a non-malignant papillomatous growth, but admits that it probably developed on the mucosa of the tube damaged by chronic inflammation originating in a miscarriage fifteen years before the operation.

214. Peritonitis Complicating Fibroids.

McGibbon (*Journ. of Obstet. and Gynaec. of the British Empire*, August, 1909), discussing peritonitis as a complication of fibroids, especially in association with torsion of the pedicle, finds that localized peritonitis is of comparatively frequent occurrence and accompanied by few symptoms, whereas acute peritonitis is rare and is generally found associated with changes of a septic character present in the tumour, or much more rarely with torsion of the pedicle. The most frequent cause is a degenerative change such as necrosis, gangrene, or suppuration going on in the tumour, and infection arising either from the uterine cavity or the intestinal tract. Twisting of the pedicle of a fibroid results in stasis, which causes a congestion of the peritoneum and produces an aseptic or plastic peritonitis. The writer reports a case of torsion occurring in a single woman, aged 31; the onset was accompanied by vomiting and abdominal pain and collapse. The entire abdomen was distended and tender, and a tumour reaching 2 in. above the umbilicus was felt. The pulse and temperature were febrile and did not fall to normal for ten days; four days later a total hysterectomy was performed. The tumour was found to be adherent to the parietal peritoneum, the ovaries were cystic, the tubes and appendix healthy, and a small quantity of free fluid was in the abdomen. The tumour had a short, strong pedicle completely twisted on the uterus, which was the seat of fibroid thickening and multiple growths. The peritonitis was not due to any change in the tumour. Torsion of the pedicle may produce peritonitis either primarily or secondarily; it may produce sudden congestion, or may lead to slow gangrenous changes and infection. In this case the twisting of the pedicle caused a sudden congestion which produced peritonitis, at first localized but afterwards spreading and becoming general. The writer has met with more than one case where there had been a history of localized pain and tenderness, and where one found at operation dense adhesions which must have been due to peritonitis. While it is impossible to formulate any hard-and-fast rule for operating, decision between immediate operation and delayed must hinge on one point, the cause of the peritonitis, and it is probably wiser to wait a few days until the peritonitic storm with its attendant shock has abated before undertaking surgical interference.

THERAPEUTICS.

215. Indications for Intestinal Galvanization.

The indications for this treatment are subjected to an extensive and impartial review by Professor Lejars (*Arch. d'élec. méd.*, August 10th, 1909). The author states that he uses a galvanic battery of 24 elements, capable of giving an intensity of 70 to 80 milliampères, an abdominal electrode with a surface of 150 to 300 square cm., and the Boudet probe for injecting the water which forms the rectal electrode. In the ordinary course a current of 50 milliampères should not be exceeded. The effect of very violent shocks upon the intestine is small, and they have a troublesome reflex action. The continuous current is the essential agent in the excitation of the non-striated muscle fibres, although the breaks and reversals may be useful so long as they are not of excessive frequency. The duration of the seance should not be longer than twenty to twenty-five minutes. With regard to the indications for this "electric lavement," the author states that it has been found of service in lead colic and that it hastens the expulsion of toxic products in certain poisonings. But it is in cases of intestinal obstruction that it has made its reputation. He is less confident than some others as to its efficacy if all the types of intestinal obstruction are classed together; he has only found it succeed in about one-third of his 50 cases. Its value is limited to certain kinds of occlusions, and in these only up to definite periods in their development. The method is very favourable in obstructions caused by atony or spasm of the intestine, and here he instances cases which were rapidly cured after one application. It is undoubted that electrization thus applied is an excellent means of testing on the contractility of the intestinal coat, and the seances may be repeated in such cases of pseudo-occlusion if the general symptoms are

not in the meantime aggravated. In obstruction due to appendicitis the method is absolutely contraindicated and dangerous, and this applies not only to cases in which the appendicitis is clearly localized, but also to those in which it is suspected. The same rule holds good in obstructions associated with peritonitis, though an exception may be permitted in the case of tuberculous peritonitis, where the method may be of some value. But this hydro-electric douche finds its best indications in stercoral obstruction, and observations which the author has made along this line have inspired him with confidence in electrization. One case—that of a woman who had had occlusion for five days, partial at first, but complete for the last two, and was suffering from abdominal distension and faecal vomiting—yielded readily to one application, gaseous emissions taking place within an hour, followed by a full and free evacuation. But he points out that in cases of grave and prolonged stercoral obstruction, when the abdomen remains distended and the other symptoms are maintained after the first "lavement," even though there has been some passage of gas or liquid, the practitioner incurs a responsibility in insisting upon a repetition of the electrical treatment. The stercoral arrest carries with it a continuous infection owing to the poisonous products passing through the intestinal coat, and delay in operation, owing to repeated electrical experiments, may mean that ultimately the intestine is emptied too late and the stercoraemia is irremediable. In acute intestinal obstruction the "lavement" is only in the nature of a test, and if the first result is negative it should not be repeated. With regard to occlusions caused by a tumour, electrization can only be a temporary measure, and, if possible, an enterostomy should be done at once.

216. Colloidal Treatment in Nephritis.

Bassoni and Albo (*Gazz. degli Osped.*, July 11th, 1909), in view of recent work in the biological chemistry of metals in the colloid state, have tried injections of colloidal silver in 4 cases of nephritis. The action of ferments in the various processes of metabolism has been widely recognized of late years, and it has been found that small quantities of metal—for example, manganese—in a colloid state materially influence this ferment action. And, since the metabolic processes are always interfered with in nephritis, as evidenced by the changes in the various nitrogenous products, an estimate of these as contained in the combinations of urea in the urine and in the blood forms a convenient method of detecting these changes. The relation between the nitrogen in the urine and that in the blood is an index of the change that is going on in metabolism in the organism. The higher the ratio between the ureic nitrogen (NU) and the total nitrogen (NT) in the blood, the more complete is the elaboration of the albumens, and vice versa. This ratio varies in different forms of nephritis from 80 per cent. to 56 per cent., the tendency being for the figure to be a low one. Nephritis may, of course, be due to many causes, so that no one remedy will suit all cases; but where a faulty metabolism seems to be the chief causative agent any treatment directed to the relief of that error is likely to be of benefit. In cases where the ratio between NU and NT remains high the colloid treatment is of little use, if of much use, and may even do harm. In one of the 4 cases acute pulmonary oedema set in soon after treatment, and in this case the ratio was high. When this ratio can be raised, as it was in one case (from 64 to 75 per cent.), good results follow. The treatment consisted in endovenous or intramuscular injections of 1 to 5 c.cm. of silver colloid given every other day. In all the cases an elevation in the index ratio figure was observed after treatment, and in the successful cases a marked improvement in the symptoms of chronic uraemia which had been present. This was especially notable in the cases where a low index prevailed at the time of observation, and with the raising of this index improvement occurred, both subjectively and objectively. One case developed spasm of the respiratory muscles—lowering of the pulse-rate and faintness for a brief period after the injection, but these symptoms soon passed off. In this case 5 c.cm. of the silver colloid had been given, but in small doses—1 to 2 c.cm.—no ill effects were observed.

217. Adrenalin in the Treatment of General Peritonitis.

Heineke (*Zentralbl. f. Chir.*, No. 31, 1909), in an abstract of a paper read at the thirty-eighth Congress of the German Surgical Society, throws much doubt on the conclusions of Heidenhain on the high value of intravenous injections of adrenalin in the treatment of the collapse due to acute general peritonitis. The assertion that adrenalin thus administered is capable of doing good service in such cases is in contradiction, it is held, with the results of physiological research, which show that in a subject under normal conditions this agent fails to establish beyond a very brief period any increase of the blood pressure. In his own surgical experience Heineke has met with a similar result, as in most of the cases of acute peritonitis in which he injected a solution of adrenalin he observed but a very transient increase of pressure. The collapse was usually fatal, and in the exceptional cases of recovery the good result was due, he believes, to the associated use of salt solution. By the results of a recent course of experiments on animals with simple solutions of adrenalin and mixed solutions of this substance and common salt, Heineke has been convinced that the benefit occasionally obtained from the injection treatment of acute and general peritonitis with intense collapse is entirely due to the action of the salt solution. While in accord with most surgeons as to the great efficacy of salt solution in cases of collapse, he points out that such treatment is not constant in giving good results, and that now and then it fails altogether. In suggesting an explanation of these contradictory results, the author states that salt solution acts most surely and effectually in those cases in which it serves as a substitute for any large loss of fluid derived from the blood by excessive vomiting and abundant effusion into the peritoneal cavity. The addition, however, of adrenalin to salt solution in cases of intense collapse is not to be regarded as quite futile. A temporary increase of the blood pressure may, it is pointed out, enable the patient to survive a very critical moment, and for this reason adrenalin injections, though useless in the deep and persisting collapse of peritonitis, are indicated in cases of severe operation and accidental injury or mishaps from general and lumbar anaesthesia, and probably in some forms of poisoning and acute infection.

PATHOLOGY.

218. Cholesteatoma.

F. Fulci (*Lo Sperim.*, Florence, 1909, lxiii. p. 299) summarizes the literature dealing with the tumours known as cholesteatomas (Müller, 1838), margaritomas or pearl-tumours (Virchow, 1855; Cruveilhier, 1829), and the various theories advanced to explain their genesis. They consist of fatty mother-of-pearl-like substance, with or without incorporated hairs, and are formed mainly of accumulated squamous cells that are epithelial or endothelial in origin. They are often found in the central nervous system, and here are derived from the proliferation and subsequent degeneration of endothelial cells. In the middle or external ear they are common, and here are epithelial. Less frequently they have been discovered in the bones of the skull, the vertebrae, the orbit, the fingers; they have been seen in many parts of the skin, and, possibly by the transformation of dermoid growths, in the ovary, testis, and mamma. Marchand described a cholesteatoma of the under surface of the diaphragm, and supposed it was derived from the metastases of the epithelial cells of the renal pelvis. Finally, cholesteatomas have been found in the renal pelvis and ureters, and are here attributed to degeneration in the renal epithelium that has been spurred to proliferate freely under the stimulus of inflammation. Many authors who are unwilling to admit that endothelial cells can give rise to these tumours, get over the difficulty of their genesis by assuming that they are due to the proliferation of embryonic epithelial "rests" or "inclusions." Anvray supposes that certain cholesteatomas of the brain are angiosarcomas that have undergone fatty degeneration. Fulci describes the naked eye and microscopic appearances presented by a kidney that came to his hands for examination, and showed marked hydronephrotic atrophy, and contained a large number of cysts, uratic calculi, and small rounded pearly concretions or cholesteatomas. Microscopically he found great proliferation of the squamous epithelium covering the calyces and pelvis of the kidney and the ureter; the transition of the most superficial parts of this epithelium into the tissue of a cholesteatoma could be observed, and he gives a plate representing the appearances of this metaplasia. He could find nothing to support the idea that the calculi were deposited on tiny cholesteatomatous particles, and that the stone formation was a secondary event, the primary being the deposition of a cholesteatoma. On the contrary, he attributes the cholesteatomas to the epithelial proliferation set up by the chronic inflammation occasioned by the calculi. Over 180 references to the literature are given.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

219. Sanitation and Tuberculosis.

George M. Kober (*Johns Hopkins Hosp. Bull.*, March, 1909) states that the most frequent source of infection is conveyance from man to man. This takes place by the inhalation or ingestion of minute particles of tuberculous sputum, either in the fresh state or dried and incorporated in the dust of the room or street. The more intimate the contact with the consumptive the greater is the risk of infection. Infection may also take place from ingestion of milk, cream, butter, etc., from tuberculous cows, especially if the disease is situated in the lacteal glands or diffused generally throughout the system. There is no evidence to show that tuberculosis is ever inherited, the greater liability of the children of consumptives to take the disease being accounted for by an inherited vulnerability of tissue and constant exposure to infection. The causes rendering an individual more susceptible to infection by the tubercle bacillus are many, for example, congenital delicacy and deficiency of resisting power, malnutrition and general ill-health arising from some previous illness, debility resulting from overwork or dissipation, from lack of fresh air, cleanliness, sunlight and exercise, or from living in insanitary surroundings. The three most potent predisposing causes of tuberculosis, in the author's opinion, are insufficient fresh air, a dust-inhaling occupation, and residence in a non-sewered town. As evidence of the first he cites the reduction in the incidence of consumption in prisons, barracks, etc., since the introduction of efficient ventilation, and the high rate prevailing amongst native races living under civilized conditions or amongst cattle in confinement compared with the rate amongst these same races in their natural state and amongst cattle on the Western ranges. The prevalence of respiratory affections generally, and of consumption in particular, amongst grinders, stone cutters, and others working in a continually dusty atmosphere, is well known, and increases with the "grittiness" of the particles of which the dust is composed. With regard to the influence of sewers on the prevalence of consumption, the author states that there was a marked reduction in the prevalence of consumption in England after the introduction of sewers forty years ago. In New York and Washington the death-rate from this disease is now little more than half what it was thirty years ago, the decline beginning long before the combat of the disease became a subject for popular education, and being in the author's opinion only attributable to the change from the cesspool to the sewer system in sanitation. The cesspools were constantly polluting the air and making it damp, and it is by the removal of these two factors in the constitution of the atmosphere—dampness and impurity—that the introduction of the sewer has reduced the death-rate from tuberculosis. The preventive measures which, in the author's opinion, ought to be adopted are: (1) Compulsory notification; (2) legislative prevention of promiscuous expectoration; (3) reduction of dust-inhalation by sprinkling and sweeping the streets only at night; (4) public supervision of the sanitary condition of hotels, churches, theatres, etc.; (5) prohibition of marriage amongst tuberculous people; (6) isolation of all tuberculous patients, and (7) Government inspection of all dairy and meat products. In addition, the State should see that all new houses are properly drained, and are built with proper regard to dryness, air space, light, and ventilation.

220. Intrathoracic Goitres.

Kreuzfuchs (*Wien. med. Woch.*, July 17th, 1909) draws attention to the importance of recognizing intrathoracic goitres, which until the advent of the *x* rays were regarded as pathological curiosities. Kienbock published 12 cases which he diagnosed by the *x* rays. In two of these the diagnosis was afterwards confirmed in every detail by operation. A cervical goitre may merely send a process downwards into the thorax; or the tumour may be situated equally in the neck and thorax; or the bronchocele may be mainly or entirely intrathoracic. In the last event the thyroid gland may be absent from its normal position; or it may be normal or slightly enlarged. For practical purposes these goitres may be classified as cervical with intrathoracic extensions, or essentially intrathoracic. The former variety is not uncommon, and should be easily diagnosed if the possibility of an intrathoracic extension is remembered. The latter is rare, and is still more rarely recognized. Intrathoracic goitres vary greatly in size, but may extend as far as the pulmonary hilus. They may be situated in the middle line or more or less behind one or other clavicle. In the sagittal plane they may be retrosternal—that is, between the sternum and trachea—or, to use Kienbock's expression, retrovasal, in which case they are bounded posteriorly by the vertebral column and oesophagus, towards the middle line by the trachea, externally by the parietal pleura, and anteriorly by the common carotid or innominate artery and the great veins. With the *x* rays an intrathoracic goitre gives rise to an enlargement of the upper part of the shadow due to the heart and great vessels, which may extend laterally beyond the junction of the inner and middle thirds of the clavicles, inferiorly to the middle of the manubrium sterni or even to the sternal end of the cartilage of the third rib. Superiorly it is usually continuous with the shadow due to the neck. The outlines are usually well defined, with a convexity outwards. The configuration of the infraclavicular portion of the shadow may be likened to that of a dish or goblet. The shadow is continuous with that of the great vessels. The shadow extends more to the left or right, in accordance with the position of the goitre. If it is chiefly on the right side, it may be thought to be due to an aneurysm of the innominate, especially as an intrathoracic goitre may exhibit transmitted pulsation. The shadow of a goitre usually moves considerably up and down on swallowing. An intrathoracic goitre may give rise to no symptoms. Symptoms, if present, are due to pressure or perverted function. In the former category stridor from compression and distortion of the trachea is the most common: dyspnœa and stridor without obvious cause should thus always raise the suspicion of an intrathoracic goitre. Confirmatory signs are dilated veins over the upper half of the thorax and dullness over the upper part of the sternum. Dysphagia is less frequent in non-malignant bronchoceles, as the œsophagus is more movable than the trachea and is simply pushed aside. Pressure on the vessels may produce inequality of the pulses on the right and left sides, cyanosis and puffiness of the face, and dilatation of veins, especially over the sternum. Of nerves the sympathetic and vagus—especially the recurrent laryngeal branch—are most frequently involved. Hoarseness was present in 3 of Kienbock's 12 cases, and recurrent paralysis was observed in 1 of 6 cases known to the writer. As regards the symptoms due to perverted thyroid function, it is possible that many cases with symptoms of Graves's disease, but without an obvious cervical goitre, may be explained by the presence of an intrathoracic bronchocele. This suggestion is of especial interest in view of a recent paper by Lerch of New Orleans. In 8 cases, in conjunction with more or less well-marked nervous symptoms there was dullness over the upper part of the sternum of the shape of a trapezoid with the base at the level of the sterno-clavicular joints, which varied from 2 to 14 cm. in width, and sides slightly convex outwards. Though this dullness corresponds in shape to the *x*-ray outline of an intrathoracic goitre Lerch attributed it to hyperæmia of a persistent thymus. That it was almost certainly due to intrathoracic goitres is shown by the presence in some of his cases of enlargement of the thyroid gland in the neck and by the character of the nervous symptoms—tachycardia, dilatation of the pupils, dyspnœa, difficulty of deglutition, cough, tremors, excitability, hyperidrosis, malnutrition, and gastric and intestinal disturbances. Some of these symptoms were due to pressure, but the remainder are those of Graves's disease. The majority of Lerch's patients were aged between 40 and 50—the decade according to Wahrmann, in which intrathoracic goitres most commonly occur.

221. Acroparaesthesia and Angioneurotic Oedema.

A. J. Whiting, in a reprint from the *Medical Record*, January 2nd, 1909, discusses the two angioneuroses of acroparaesthesia and angioneurotic oedema. *Acroparaesthesia* is important because it is frequent and incapacitating, its symptom-complex being sensations of actual pain or paraesthesiæ of tingling, creeping, burning, or distension referred to the extremities, especially the

hand, while the abnormal sensation of subjective numbness is more frequent than the other sensations more properly described as paraesthesiae. Middle-aged women are affected about ten times more frequently than men, and about three-quarters of the cases have occurred in washerwomen or charwomen, or others whose hands are exposed to varying temperatures of hot and cold. The condition appears to be comparable with occupation neuroses, a vasomotor spasm occurring with a coincident stimulation of the sensory nerve endings. The coming and going of the symptoms and the absence of muscular atrophy differentiate it from a peripheral neuritis. Treatment consists in changing the mode of life, and in counteracting intestinal autointoxication by attending to the digestion. General tonics with bromide, exercises, friction, electricity, etc., are advocated as secondary measures. *Angioneurotic oedema* is important because it may cause sudden death—a result which may be transmitted to the fourth or fifth generation. Characterized by localized oedematous swellings, occurring chiefly in early adult life, the attacks show a certain periodicity with an average interval of about three weeks, and generally begin between 3 and 4 a.m. Exciting causes are heat and cold, or slight injuries, and hence the seat of election is generally upon exposed surfaces; but periodical attacks of colic, pointing to gastro-intestinal involvement, are a frequent concomitant or antecedent. Oedema of the larynx and glottis is the cause of the sudden death, especially in those cases showing an hereditary history, and Mendel records a family of twelve members, spread over four generations, of whom nine were affected, dying from oedema of the glottis. The prognosis is good, as regards life, if the skin only is affected, but most unfavourable if the respiratory mucous membrane is implicated, especially in family cases. General tonic treatment is indicated, and, on a theory of excessive venous permeability, calcium chloride has been tried without result. Aspirin, to counteract intestinal autointoxication, thyroid extract, and ichthyol have been suggested, and arsenic has temporarily benefited. The main precautionary measure would be the permanent wearing of a tracheotomy tube, locked in an emergency a rapid tracheotomy is the only remedy.

SURGERY.

222. Syphilitic Diseases of Joints.

W. HARTTUNG (*Wien. med. Klin.*, July 4th, 1909) deals with syphilis as it affects joints. Knowledge of syphilitic joint disease is not widespread, because there is so little which is characteristic about the condition. The joint affected may show no change, or may be swollen, and be the seat of a serous effusion; there may or may not be great pain, tenderness, or limitation of movement. The most harmless form of the disease is that of the simple arthralgias, which usually come on very early, are seldom diagnosed, and are no doubt in a great number of instances due to the action of toxins. A characteristic exacerbation may, however, follow the beginning of specific treatment, showing that in these cases, at any rate, the action of spirochaetes in greater or less amount has occurred. Following the arthralgia, a more or less marked exudate may develop, the exudate being sometimes a simple serous one, sometimes strongly inflammatory in character. Painlessness cannot be considered as always characteristic of syphilitic effusions into joints, because at this stage an apparently simply serous exudate may be extraordinarily painful. One joint only may be affected, or one joint after another, or the affection may be polyarticular. There may be an irregular fever, with marked morning remissions, and with profuse sweating, so that the picture of acute rheumatism is very closely simulated. The time of onset of the inflammatory joint affections usually coincides with the outbreak of exanthemata, but in a small number of cases described in the literature the joint disease has been the earliest constitutional symptom. In one such case the primary lesion was not diagnosed with certainty, and examination for spirochaetes and Wassermann's reaction were negative, while the diagnosis was further complicated by the history of the presence, before the time of suspected infection, of a general swelling of the lymph glands and of severe angina in a patient who smoked and drank to excess; five weeks after infection a myositis of the flexor digitorum sublimis developed, followed two days later by a swelling, first of the wrist and then of the whole hand, the appearance being suggestive of a collection of pus under the palmar fascia. A salicylate treatment was tried for two days, but the patient did not react to it. Calomel treatment was then substituted, and recovery soon followed. Cases of simple arthritis or synovitis may end in the development of an obstinate hydrarthrosis. Both the synovial membrane and the cartilage may be the seat of papulous and gummatous infiltration; there may be overgrowth of the synovial membrane with proliferation of the villi and circumscribed areas of inflammation, going on to scarring of the surface of the cartilage. The final condition may be one of deformative arthritis, ending even in ankylosis. The epiphyses may be affected, and the process may spread from the epiphysis to the joint. Purulent effusions into joints do not occur as the direct result of syphilis, but obviously a secondary infection may occur. The polyarticular syphilitic joint affections are, as a rule, characteristic of the early stages of syphilis, but they may occur late in the disease, and then give rise to great difficulties in diagnosis. It is also found that gummatous processes may be present in the joints in the first year after infection. The joints specially liable to attack are the knee, wrist, elbow, or shoulder joints. French writers especially have called attention to the fact that in congenital syphilis or syphilis acquired in early childhood the joints may be affected early, and that affections of the spinal joints in children which are thought to be tuberculous may be syphilitic, and are in danger for practical purposes of going untreated. Examination of the blood serum is an important aid to diagnosis of syphilitic joint affections. The differential diagnosis from tuberculosis depends on the methods usually employed for the detection of tubercle, especially on the tuberculin test; the presence of the Wassermann reaction may clinch the diagnosis. The treatment of the joint affections depends on the cause. It is a curious fact that a great many of the cases, even those of a late period, do not react to iodine alone, but that if mercury be also administered recovery takes place. Ignorance of this fact may lead to errors of diagnosis. It is also found, but not to so great an extent, that joint cases occurring at an early period sometimes need the administration of iodine as well as of mercury. As to the method of administration, the author recommends injections of calomel as being most rapidly effective. Rest for the joint and massage of the muscles of the limb affected are recommended. Resections or opening of joints are not recommended unless under special circumstances—such, for instance, as purulent infection of the joint; but, owing to errors of diagnosis, such operative measures have been undertaken in a number of cases, apparently without any bad result in any case and with excellent results in some. Pressure on the joint, applications of dry heat, hot douches, and electric light baths are all helpful. The prognosis is good if a suitable treatment is begun sufficiently early before a joint has been permanently injured.

223. Cure of Suppurative Adenitis without Scar.

BIOT (*Lyon Méd.*, September 19th, 1909) has successfully treated a suppurating gland in the neck by means of interstitial injections which left no perceptible scar. At the first intervention 8 c.cm. of creamy yellow pus (which was afterwards proved to contain Koch's bacilli) were withdrawn and replaced through the same needle by a similar quantity of the following mixture: Creosote 5 grams, iodoform 10 grams, sulphuric ether 25 c.cm., sterilized oil of sweet almonds 75 c.cm. The skin was carefully cleansed before injection, and washed with a mixture of equal parts of alcohol and ether. The injections were given every five days, and in all ten were necessary before the gland returned to the size of a small dried pea. At the second puncture 10 c.cm. of fluid were withdrawn, consisting of about equal quantities of pus and oil. This was replaced by 6 c.cm. of the iodoform mixture, and from this time the amount withdrawn was steadily less, until at the last puncture 6 drops of fluid were aspirated with difficulty, and replaced by 3 drops of the mixture.

OBSTETRICS.

224. Pregnancy in a Woman of 56.

JACOBS (*Progrès Médical Belge*, October 15th, 1909) relates a case of pregnancy in a woman aged 56. She had had nine children and two miscarriages. Her last child was born when she was 49 years old. The menopause came on at 51 and was complete at 52. The change of life was not accompanied by any special phenomena; there were no "flushings," nor sweating nor digestive troubles. For four years menstruation had ceased completely. Becoming aware of some uncomfortable sensations in the belly, accompanied or followed by somewhat abundant leucor-

rhoea, and noting that the abdomen was increasing in size, she consulted a doctor, who thought she had an ovarian cyst, and sent her to the author. Fear prevented her following this advice till a few days before the date of the report, when the size of the abdomen became so great as to cause her alarm: at the same time she felt vague irregular pains resembling those she had experienced in all her pregnancies. On examination the abdomen was found regularly developed below the umbilicus. It was easy to feel the uterus, globular in shape, extending to within two to three fingerbreadths of the umbilicus, and mobile. The vulva and the orifice of the vagina were cyanotic in colour. The cervix, which was very large and deeply torn, was soft. Ballottement could easily be felt in the anterior *cul-de-sac*. Finally, the breasts were enlarged, and milk could be squeezed out of them. On auscultation, a faint fetal bruit could be heard. Jacobs diagnosed a normal pregnancy of five months. He says that he has several times found pregnancy in women over 50, but this is the first time that he has had the opportunity of examining a case of pregnancy occurring after the menopause had been definitely established for four years.

225. Caesarean Section in Placenta Praevia.

Victor E. Marshall (*Med. Record*, October 16th, 1909) records a case of central implantation of the placenta in a woman with moderately contracted pelvis, who has had two difficult deliveries of stillborn children, and in whom the Caesarean section was performed in the third pregnancy, in which central placenta praevia existed. The patient was sterilized by tying the tubes. The operation resulted in recovery for the mother and the delivery of a healthy child, which lived. The maternal mortality in central placenta praevia is from three to eight times worse than in the lateral implantation. The author suggests these indications for Caesarean section in placenta praevia: Central or lateral praevia with rigid os; living child at term; sterile birth-canal; justo-minor pelvis; history of previous operative delivery.

GYNAECOLOGY.

226. Large Ovarian Cyst.

Stephen H. Knight (*Amer. Journ. Obstet.*, September, 1909) operated on a middle-aged woman whose abdomen had been swelling for ten months. She had been treated for dropsy, but it is not reported that she had been tapped. The temperature a few days before operation was 102°, pulse 116, and respirations 28, and the urine was alkaline, slightly albuminous, and of low specific gravity. The tumour proved to be a multilocular adenoma: the main cyst contained clear ovarian fluid, whilst some daughter cysts were filled with a thin, peasoup-coloured material. When the cyst was emptied, a large solid mass in the upper pole of the tumour was drawn down from under the diaphragm. In closing the abdominal wound the parietes were so lax that the operator was obliged to make a tuck in it by sewing together a wide area of peritoneal surface on each side of the incision. A very large pad was applied to the abdomen. During the operation two quarts of saline infusion were given to the patient, who showed but little evidence of shock when she recovered from the anaesthetic. The temperature fell rapidly and the pulse became normal within three days, and there were no complications during convalescence. The whole tumour weighed 111 lb., the fluid contents amounting to 96 pints. The patient herself weighed 87 lb. when discharged from hospital.

227. Primary Cancer of Fallopian Tube.

Schauenstein (*Mitteilungen d. Vereines der Aerzte in Steiermark*, No. II, 1908) reports a case where a woman, aged 42, and sterile, had enjoyed perfect health until three months before she was admitted into the Frauenklinik at Graz, in Styria, when, after being perfectly regular all her life, irregular haemorrhages set in without any pain or watery or mucous discharge. A hypogastric tumour, dipping very deeply down in the pelvic cavity, was definable. Knauer, of Graz, operated, removing the uterus and both appendages. The right Fallopian tube formed a big retort-shaped tumour. The middle segment was greatly thickened and dilated, containing an exuberant adenopapillomatous growth essentially cancerous. Much of it had broken down and passed into the big cystic cavity, which represented the outer segment of the tube. The walls of this cyst, which inferiorly had burrowed deeply under the pelvic peritoneum, were quite free from any new growth. The right and also the left ovary were normal; the left tube formed a large hydrosalpinx, and bore no new growth: the uterus was also free. The pelvic and abdominal cavities were carefully searched during the operation, but no new growth was discovered. The patient disappeared after convalescence from the operation. Meriel (*Revue mensuelle de gynéc. d'obstét. et de péd.*, September, 1908) published last year a case where the tumour was bulky and soft, simulating a deciduoma, but the patient was a nullipara, aged 41, who had not menstruated since her twenty-fifth year. Several attacks of acute pelvic pain set in, and coagula were passed from the uterus, then a hypogastric tumour developed. It simulated a fibroid on the right side of the uterus. The uterus and appendages were removed ten months after the first attack of pain. The left appendages and the uterus were free from malignant disease. The right ovary formed a small, innocent cystic tumour, which had suppurated. The right Fallopian tube was dilated into a big cyst, from the inner wall of which grew an exuberant papilloma tumour. To the naked eye it looked like a deciduoma, but on microscopical examination it proved to be a papillary epithelioma. The patient was free from any signs of recurrence six months later, but was killed eight months afterwards in a carriage accident.

THERAPEUTICS.

228. The Treatment of Itching Skin Diseases.

Itching is a symptom of which the actual nature is not clearly understood. Török believes that slight stimulation of certain nerve endings is answered by itching, while more severe stimulation of the same nerves is felt as pain. The nerves implicated are neither tactile nor thermic nerves. He deduced from this theory that in itching the interepithelial free nerve endings are implicated. Basing his remarks on more clinical experience, Klingmüller states that, when objective causes give rise to itching, the changes are to be found in the epithelial layers of the skin (*Deut. med. Wchn.*, June 17th, 1909). The treatment of the conditions which produce itching and which have a known causation is relatively simple. Animal parasites, such as *pediculi, pulices, acarus, scabiei*, etc., or vegetable parasites, such as *trichophytes*, produce itching, but the itching is relieved as soon as the parasites have been destroyed. The problem becomes more difficult when the itching has no apparent external cause. Real pruritus is supposed to be due to substances circulating in the blood which irritate the nerve endings. In some cases it is reasonable to accept this explanation, for the nature of the primary condition practically suggests the presence of foreign substances in the blood. These include cachexia, anaemia, diabetes, jaundice, gout, uraemia, carcinose, leukaemia, and pseudoleukaemia *inter alia*. Still more striking evidence of the plausibility of the theory is obtained in those cases in which itching occurs after the taking of alcohol, tea, coffee, opium, morphine, etc. Another form of pruritus is the so-called nervous form, occurring in the various psychoses, function neuroses, paralyses, and spinal affections. Similar to this is the itching met with in Graves's disease, in pregnancy, and in ovarian troubles. Klingmüller regards these itchings as reflex irritation conditions. A third group includes *pruritus senilis, hiemalis, aestivalis*, and *vulvae*. At times the itching occurs without any visible cause, but the more careful the examination, the less frequent are the cases in which no cause, such as dermatitis, eczema, discharge, etc., can be found. The largest group of itching cases is in the group of dermatoses, and includes urticaria, scrofula, prurigo, and others. In treating itching, it is necessary to have regard to the scratching, which often produces a secondary eruption. There is no specific internal treatment for itching. Narcotics such as morphine, opium, the antipyretics, etc., as well as valerian, atropin, and quinine, all yield good results symptomatically. In every case purgatives should be given, and in not a few the result will be satisfactory. Careful dieting, hydrotherapeutics, and change of air also are of value. Attention should be paid to the clothing, and hot rooms should be avoided. Locally, a great number of remedies can be applied. First the author mentions baths. In the nervous form carbonic acid baths do more good than oxygen needle baths. Benefit is derived from sulphur baths in eczematous disturbances. For this purpose he prefers the addition of one tablespoonful of Vlemingkx's solution to each 50 litres (that is, nearly 7½ gallons). After the baths, it is wise to grease the skin with vasenol powder, ointments, pastes, oils, or glycerine and spirit. Cold wet compresses are often appreciated by the patient, notwithstanding the fact that they are difficult to apply. It is wise to add boric acid (5 per cent.), acetate of

aluminium, alsol (3 to 5 per cent.), or resorcin (0.1 per cent.) to the water. Alcoholic applications with either glycerine or castor oil, or with various other additions, such as menthol, carbolic acid, camphor, etc., and thymol, chloroform, ether and benzine and eau de Cologne often relieve, while in extensive areas of itching, corrosive sublimate, 0.2 gram, glycerine 20 grams, aqua coloniensis 100 grams, and rectified spirit to 400 grams has answered very well. If the itching is very severe, it is necessary to protect the skin from scratching. This is done by applying Unna's zinc glue, simple bandages or starch bandages. To exclude air from the affected regions, Klingmüller gives several prescriptions. These include flowers of zinc, Venetian talc, glycerine and water in equal parts, or zinc, starch, glycerine, each 25 grams, and equal parts of rectified spirit and water to 100 grams. To these can be added: tumenol-ammonium (3 to 10 per cent.), thigenol (3 to 10 per cent.), resorcin (½ to ½ per cent.), liquor carbonis detergens (3 to 10 per cent.), balsam of Peru (1 to 5 per cent.), etc. Ointments also are used with advantage in many cases. With regard to the individual medicaments, he advises sulphur for scabies, and in many other forms of itching. Beside the form mentioned he speaks well of thigenol in the place of ichthyol, and of precipitated sulphur in eczematous dermatoses. Resorcin is useful in dilute concentration for acute forms, and in stronger concentration for chronic infiltrating forms. Chrysarobin and lenigallol do good in eczema, as does pyrogallol. Salicylic acid acts well when it is required to soften the epidermis. Among the other medicaments mentioned, tar and the tar preparations such as tumenol, lianthral, anthrasol, and empyroform are spoken highly of for conditions producing itching. Lastly he gives both x rays and violet and ultra-violet rays a good word. These means act in acute and chronic dermatoses which produce itching, and form a distinct advance in the treatment of this symptom.

229. Adrenalin as an Emergency Treatment in Cyanide, Strychnine, and Other Forms of Non-Corrosive Poisoning.

JUDAH L. JONA (in a reprint from the *Intercolonial Medical Journal of Australasia*, July 20th, 1909) gives the results of investigations conducted with a view to determine the value of adrenalin administered by the mouth in the emergency treatment of poisoning by cyanide, strychnine, and other non-corrosive poisons. The investigations were based on the knowledge that intraperitoneal injection of adrenalin diminishes the rate of absorption of strychnine administered by the mouth, and they were prompted by the desire to discover a remedy more rapid of administration than Martin's antidote, which depends upon the formation of Prussian blue in the gastro-intestine, and necessitates the mixing of three ingredients which, even if ready to hand, must occupy some time in preparation. The results of a few of the more crucial experiments upon rabbits are given, clearly showing the value of adrenalin in KCN poisoning, and the following procedure is advised in the case of such poisoning in a human being: Immediate administration by the mouth of 5 drachms (diluted) of the 1 in 1,000 adrenalin solution, and, after washing out the stomach, a further dose of 1½ drachms (diluted). If Martin's antidote for KCN is at hand, it may be given immediately after the first dose of adrenalin and prior to the lavage. Further experiments upon rabbits and dogs in cases of strychnine poisoning, with ultimate recovery as the result of treatment by adrenalin, demonstrated its value as the first step in an emergency; and similar experiments were conducted with aconite, belladonna, and chloroform liniment in equal parts, and with aconite liniment alone, all of which clearly showed the value of adrenalin in delaying absorption.

230. Sabromine in the Treatment of Epilepsy.

BRATZ AND SCHLOCKOW (*Deut. med. Woch.*, July 8th, 1909) report that they have tried a large number of bromides in the treatment of epilepsy, including bromipin, epileptol, Toulouse-Richet's sodium chloride withdrawal, etc., without being able to determine any striking beneficial result. In reporting on sabromine, they state that although this drug does not act better than the old-fashioned bromides, it has some advantages over the latter. Sabromine is the potassium salt of di-brom-behenic acid, and thus should contain about 51 per cent. of bromine. The preparation, however, actually only contains 29 per cent. of bromine. It has been given in about 50 cases in doses of from 3 to 6 grams, either in powder form or as tablets. It does not produce symptoms of bromism, and, even when a bromine acne is present, the employment of sabromine has been associated with the gradual disappearance of the eruption. The effect of 4 grams of sabromine on the fits is equivalent to that of 6 grams of bromine of potassium. This indicates that the same pharmacological effect is obtained with somewhat less than half the quantity of bromine. Experiments carried out by the authors show that the chlorine excretion is absolutely and relatively smaller under sabromine than under potassium chloride, the dose of each medicament being equal as far as the size of the bromine dose is concerned. They have found that sabromine in tablet form is suitable for travelling, and recommend it for obstinate cases of bromism.

PATHOLOGY.

231. Blood Cultures in Infections of Otitic Origin.

LIBMAN AND CELLER (*Amer. Journ. of Med. Sci.*, September, 1909) were led to follow up the bacteriology of the blood systematically in acute and chronic ear disease from two cases in which the clinical diagnosis could not be definitely established, and in which the finding of streptococci in the blood led to an exploration of the mastoid process, when mastoid disease and a sinus thrombosis were found, the cases presenting clinically merely a moderate otitis media without any other obvious focus from which the streptococci could have entered the blood. In order to ascertain the relative frequency of the organisms most commonly causing the disease, 277 cases were studied, streptococci being present in 189, *Streptococcus mucosus* in 20, and the pneumococcus in 19. Following these in order of frequency were staphylococci, *Bacillus pyocyaneus*, and *Bacillus proteus*, mixed infections being common. From blood cultures in 50 cases of mastoid disease with recent or old otitis media positive results were obtained only in those complicated by meningitis or sinus thrombosis, the pneumococcus and *Streptococcus mucosus* being present in the blood in such cases. Nearly all cases of sinus thrombosis are accompanied by bacteriæmia at some time or other, and those cases in which the streptococci are found to persist after a properly performed mastoid operation prove to be cases of sinus thrombosis. The number of bacteria in the blood in cases of sinus thrombosis accompanied by bacteriæmia varied from less than 1 up to 245 per c.cm., but after operative interference and ligation of the jugular vein they disappeared within twenty-four to forty-eight hours. This prompt disappearance, however, did not take place in three cases, one in one case to a general infection arising by way of the inferior petrosal sinus, in another to the development of an acute ulcerative endocarditis, while in the third there was reason to suspect the presence of a further thrombosis, from which the patient recovered without operation. These studies show that the bacteria are discharged from a local focus, and do not remain in the blood after such local focus has been thoroughly dealt with, unless their multiplication occurs in the blood, or an acute endocarditis is established —conditions of rare occurrence. A positive blood culture may be of diagnostic value as to the presence of a sinus thrombosis after a mastoid operation, for, although the diagnosis is often quite clear clinically, a certain number of cases arise in which the finding of streptococci in the blood point to the advisability of sinus exploration. The persistence of streptococci in the blood after sinus exploration indicates ligation of the jugular vein, and when this has been done the bacteria rapidly disappear, although the clinical symptoms may persist for a time. In 75 cases of otitis media, or mastoid disease without sinus thrombosis, or meningitis, the blood was found to be sterile in all, and though negative results may be obtained with sinus thrombosis, such an occurrence is rare, and the absence of bacteria in a doubtful case would cause one to hesitate before exploring for a thrombus until all intercurrent diseases had been excluded, or the symptoms had become so severe as to justify exploration.

232. The Blood in Cancer.

POGGIOLINI (*Gazz. degli Osped.*, August 15th, 1909) considering the anæmic condition of most cases of cancer has tried to see if there are any specific conditions of the blood in such cases. As far as his observations go one characteristic alone is constant and that is not by any means pathognomonic. This characteristic is low globular value due to diminution in the hæmoglobin content. Leucocytosis exists in the majority of cases but may fail. No safe diagnosis can be drawn from the existence or the intensity of the leucocytosis, as to the site, ulceration, development or degree of diffusion of the growth. No certain differential blood characters exist between cancer and sarcoma; there are sometimes specific differences between cancerous anæmia and that due to hæmorrhage.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

233. Haemorrhagic Purpura and Hereditary Syphilis.

Sabrazès and Dupérié (*Archiv. des mal. du coeur, des vaisseaux et du sang*, May, 1909) quote the following case: A male child, born December 12th, 1908, a few days premature, was admitted to hospital ten days later. The child was slightly jaundiced, and there was considerable oedema of the legs, scrotum, and abdominal wall. From the uncicatrized navel a little blood exuded, and from the mouth and rectum more abundant bleeding occurred. On the thorax and abdomen were a few ecchymoses. The lower lip and navel were fissured, but no ulceration was present. Death occurred a few hours after admission to hospital. *Post mortem* the following conditions were found: Some yellowish chyliform ascitic fluid; in the lungs at the upper parts were numerous areas of congestion; the liver weighed 200 grams and was of a violet colour, with greenish areas on the surface—the organ was congested, the hepatic veins being filled with blood; the suprarenal bodies showed haemorrhagic infiltration of the cortical portions; the spleen was much congested, soft and pulpy; the pancreas was normal; the thymus on section showed numerous small cavities; ecchymoses were seen on the peritoneal coat of the intestines and the terminal part of the small intestine; the appendix, caecum, and colon were filled with coagulated blood; the stomach contained a blood-stained mass mixed with mucus. Microscopical examination of the liver showed the intertrabecular and interlobular spaces filled with leucocytes, endothelial cells and connective tissue cells; the portal vessels contained large numbers of leucocytes. In some of the biliary canals some lymphocytes were seen, but there was no sign of any inflammatory condition; the liver cells were markedly changed from their normal appearance, being of irregular shape, containing several nuclei of oval or rounded shape, and the cytoplasm of the cell being rich in glycogen. Some of the liver cells are small, cubical, elongated, or rounded, and between these can be seen small biliary concretions. Yellow pigment is abundant in the liver and endothelial cells. In some parts, where the inflammatory tissue is marked, one finds large spaces containing pyknotic polynuclear cells, disorganized lymphocytes, and endothelial and connective tissue cells in a condition of cytolysis—in these areas haemorrhages are found. In parts of the organ were seen small areas of cirrhosis, and spirochaetes were found in abundance both in the liver cells and in the interstitial tissue. In the kidneys the glomeruli were surrounded by a number of nuclei, especially at the pole opposite to the place where the new envelope of Bowman's covering also occurred within Bowman's capsule. Haemorrhagic exudates were found in the capsules together with areas of connective tissue proliferation around the capsules. Some of the intertubular vessels were seen to be surrounded by rings of fibrous connective tissue and lymphocytes. The epithelial cells of the urinary tubules were for the most part well preserved. In some of the tubules yellow pigment was found. A relatively small number of spirochaetes was found in the kidneys. The suprarenals showed numerous adenomata, some of which were definitely cystic. A great increase in the amount of pigment was found, especially in the reticulum, together with engorged blood vessels. The medullary portions of these glands were infiltrated as the cortical with polynuclear leucocytes, with pyknotic or fragmented nuclei, and with numerous lymphocytes. Spirochaetes were here not very abundant. The mucosa of the small intestine was found to be covered with altered blood débris, with young connective tissue cells, and polynuclear and lymphocytic cells, the glandular tissue being eroded. In the submucosa there were to be seen endoarteritis and periarteritis. The glandular tissue of the intestine was broken up by inflammatory tissue which had produced many alterations in the blood vessels and lymphatics (deformities, atresia, endoarteritis and perivasculitis). Similar changes were seen in the vessels of the muscular coat. The serous coat was oedematous and thickened, and its vessels dilated. Spirochaetes were found in most parts of the intestinal coats, with the exception of the serous and muscular coats. They were found also in the glandular layers of the appendix and stomach. The head of the pancreas was found surrounded laterally by small lymphatic glands all showing marked macrophagic changes, and the pancreas itself showed cirrhotic changes together with spirochaetes. The spleen was infiltrated with blood, rich in macrophages, the central artery of the Malpighian body was sclerotic and spirochaetes were found. The thymus exhibited perilobular and interstitial sclerosis; Hassall's corpuscles were very numerous and their transformation into irregular-sized cavities could be traced. Spirochaetes were found in this organ. The lungs showed areas of haemorrhage with formation of young connective tissue infiltrating the parenchyma and destroying alveoli, obliterating vessels, etc. Spirochaetes were found in the lungs, but were few in number in the heart muscle, which showed an interstitial myocarditis. The thyroid showed no marked changes and no spirochaetes were to be found in it. The testicle contained a few haemorrhages and spirochaetes, the latter being found also in the connective tissue between the outer and middle coats of the pulmonary artery and aorta. The authors believe that in the case quoted by them the ascites and oedema were probably caused as much by the compression and obliteration of the vessels as by changes in the heart, lungs, and kidneys, and they believe that many cases of haemorrhagic purpura in infants are really the result of hereditary syphilis.

234. Serous Meningitis.

Rossi (*Gazz. degli Osped.*, September 16th, 1909) compares the more chronic types of serous meningitis to those cases of pleural effusion which occur in the course of nephritis, and are probably due to the irritation of the serous membrane by the toxins in the circulation. He does not think that serous meningitis in its acute or chronic form is sufficiently recognized, and holds that many cases of so-called meningism are really examples of serous meningitis. He therefore records three cases illustrative of the disease in question. Two of them occurred in the course of an attack of typhoid fever. The first of these contracted typhoid on January 25th, had a relapse on March 20th, and developed delirium, diplopia, intense headache, and vomiting. On March 22nd copious cerebrospinal fluid, followed by acute anaemia. Rachicentesis was performed with the withdrawal of 50 c.cm. of slightly turbid liquid, at a high pressure, containing polynucleated and mononucleated cells but no organisms. After the puncture the patient materially improved mentally. On March 24th the patient was dull but conscious, pupils slightly dilated, and answering sluggishly to light, paralysis of the external rectus, slight rigidity of the neck, Kernig's sign present, patellar reflexes exaggerated. Lumbar puncture was again practised with good result, and the patient finally left the hospital well on April 9th. The second case was somewhat similar and also recovered. The third case presented cervical glands, much wasting, vomiting, neck rigidity, Kernig's sign, ptosis, headache, constipation. The duration was from early in November to the end of December. There was mental stupor, slight exophthalmos, papilla of optic, and lumbar puncture gave issue to liquid at a high pressure. The illness began suddenly with fever, and there was early loss of sight. The patient died from cardiac failure, unfortunately no autopsy was allowed, but the author's diagnosis was serous rather than tuberculous meningitis. No organisms were found in the rachidian fluid.

235. Systemic Blastomycosis.

Fontaine, Haase, and Mitchell (*Arch. of Internal Med.*, August 15th, 1909) report a case of systemic blastomycosis in an Austrian woman, aged 27, who about three and a half months previously had begun to cough and lose weight. On examination the physical signs were those of an ordinary lobar pneumonia, which, however, instead of resolving, progressively increased and finally involved the whole left lung. The sputum, which at first consisted of mucus, gradually became muco-purulent and blood-stained, and, though negative to tubercle bacilli, was found on the forty-second day of the disease to contain blastomycetes. During the second week of the disease the Widal test was positive. About 500 lesions existed in all (118 of which were on the face and head), and these varied in size from a pin-head to half a dollar, the largest one on the forehead being oblong, dark red, and raised ½ in. above the skin, with an irregular papillomatous surface and margins moderately infiltrated. There was

no involvement of the lymphatic glands. The blastomycetes are vegetable micro-organisms belonging to the yeasts, and they consist of oval or round bodies from 8 to 12 micromillimetres in size, having a doubly contoured capsule and a finely granular and often vacuolated protoplasm. Between the protoplasm and the capsule a clear zone of varying thickness is seen, and the protoplasm is often nearer the capsule at one pole than at the other. Reproduction in living tissues occurs by budding, but in cultures by mycelial formations. From other reported cases males appear to be more often affected than females, and the lungs are generally primarily attacked. Clinically in the lungs the disease is hardly to be distinguished from tuberculosis except by a microscopical examination of the sputum, and the gross and microscopical appearances of the lesions are very similar to those of tuberculosis. The fact that the blood serum gave a positive Widal reaction is of interest, seeing that it has been found that repeated inoculations of rabbits or goats with brewer's yeast produced agglutinins for the typhoid bacillus and other organisms of the dysentery class. Cutaneous or subcutaneous lesions are always present, and these are secondary metastases from the visceral lesions. Enormous numbers of blastomycetes were present in this case, and the organism can always be demonstrated in the sputum, or in the pus from cutaneous lesions, by treating a smear with a 1 per cent. solution of potassium hydrate.

SURGERY.

236. Resection of the Colon.

GIBBON (*Ann. of Surg.*, September, 1909) gives full details of 10 cases in which, in the course of the last six years, he practised resection and anastomosis of the colon. Of the 10 patients thus treated 8 suffered from carcinoma and 2 from tuberculosis. Of the cancerous patients 6 died soon after the operation and 2 made satisfactory recoveries. Of the two subjects of tuberculosis one died and the other recovered. The author discusses several practical points in regard to this operation, about which there is great variety of opinion and practice. The incision made in operating for disease of the colon should, he holds, be made as nearly as possible over the growth, and if the surgeon has been unable to locate the growth and operates for the relief of obstruction and finds that he cannot gain access to the involved bowel, a second incision through which the bowel can be easily drawn should be made. Regarding the question as to the propriety of performing resection and anastomosis in the presence of acute obstruction, there can be little doubt, in the author's opinion, that the operation, however easy it may seem, should in such circumstances never be done. The obstructed bowel should either be drained by performing colostomy or, if it can be readily drawn through the wound, by Paul's method, which consists in loosening the bowel from its attachment, bringing the growth out from the wound, dividing the bowel above and below the growth, and inserting into the proximal and distal ends two glass tubes connected with a rubber tube. By this method the growth may be removed at once and free drainage of the bowel established. In dealing with the relative methods of end-to-end and lateral anastomosis, the author points out that there is a greater risk of leakage in the former procedure on account of the difficulty in getting an accurate approximation of the two segments of the bowel at the mesenteric attachment. A great advantage of lateral anastomosis is that if it be properly done there is but little danger of dragging on the line of sutures. Moreover, in this method construction of the intestinal canal at the seat of the union is not likely to occur. In making the anastomosis some method of suture is held to be far preferable to any mechanical device, such as a button or a bobbin. Most surgeons, the author states, have become convinced that the large intestine is no place for Murphy's button. Post-operative drainage of the abdominal cavity should, as a rule, be practised after anastomotic operations on the large intestine, whether or not the peritoneum has already become infected. The author's experience of resection of the colon agrees with that of other surgeons in regard to the operative prognosis on such intervention. While the immediate operative mortality is very small the late operative mortality is very high. Death results most frequently from necrosis of the bowel and consequent leakage. The necrosis is usually due not to a faulty method of suturing but to structural impairment of the wall of the bowel on the proximal side of the growth, caused by obstruction. The best operative results have been obtained in cases in which resection of the diseased colon had been preceded by colostomy or some other method of intestinal drainage. The author takes a sanguine view of the future of this operation, and believes that if the operative mortality can be reduced the remote results will compare favourably with that following operations for carcinoma in other regions.

237. Operative Treatment of Appendicitis.

J. ROTTER (*Berl. klin. Woch.*, No. 28, 1909) analyses the statistics of the Berliner medizinische Gesellschaft as to the results of the operative treatment of appendicitis. Albu and Rotter (Ibid., Nos. 26 and 27, 1909) have dealt further with the epidemiological, etiological, and symptomatological aspects of the disease, as illuminated by the statistical records. The report deals with 2,705 cases of acute epityphlitis treated in 1907. These cases include nearly all those cases treated in hospitals and other similar institutions (actually 2,365 out of 2,579), and a few treated in the homes of the patients. It is estimated that during the year 2,210 were treated at home, so that in Berlin proper there were in the year 1907, 4,792 cases, and of these 2,705 are included in the statistics; 1,344 were treated by operation, while 1,020 were treated expectantly in the hospitals. In the hospital cases—that is, 2,365 cases —9 per cent. died. The mortality varied according to the day of operation. In the cases of those operated on during the first day of illness it was 0.9 per cent., during the second day it was 7 per cent. Taking the cases operated on within the first forty-eight hours together, the mortality was 5.6 per cent. The death-rate of those operated on on the third day was 10 per cent., and of those operated on later than 72 per cent. Although only 1.6 per cent. of the patients not operated on died, Rotter shows conclusively that all the severe cases were operated on, and that since it is against the rules of practice to allow a patient to die without making a last desperate attempt, the few patients who actually died without operation were practically dying when admitted into hospital, and no operation could have improved their chances of recovery. Apart from the acute cases, a small number of cases of chronic epityphlitis was treated by operation. Taking the operations *à froid* together, irrespective of whether they were affecting acute cases during the interval or chronic cases, it appears that the mortality worked out at 0.9 per cent., while in those cases in which an abscess was or had been present, it was 5 per cent. In order to understand the importance of early operation, a comparison is drawn between the results obtained in 1907 and those obtained in previous years. With regard to the late operations, Rotter points out that the improved mortality percentage for 1907 as against the earlier years is only apparent, and is due to the larger proportion of operation cases and other causes. Turning to the early operations, he finds that Sahli's figures for 1895 represent the state of affairs at that time. These, however, include the mild cases, which come under consideration in the recent report under the head of cases treated at home. These cases yielded a low mortality, and for this reason Rotter regards a comparison between the two statistics as impossible. Taking the actual mortality for the year 1907, and comparing this with Sahli's figures for 1895, it appears that the mortality has been reduced from approximately 10 per cent. to 5½ per cent. The recent figures show that when these cases are treated early, less than 2 per cent. die. The advantage of early operation thus becomes evident. Rotter discusses the risk of subjecting patients to operation during the interval, and comes to the conclusion that this risk is not justifiable. Every case should be treated by operation as soon as the diagnosis is made, and only when exceptional circumstances have acted, is it wise to operate between the attacks. That early operation is not yet regarded as the normal method of treatment is shown by the fact that this treatment was only carried out in 30 per cent. of the Berlin cases in 1907.

OBSTETRICS.

238 Triplets in a Fibroid Uterus.

AU DEBERT (*Comptes rendus de la Soc. d'Obstét. de Gynéc. et de Péd. de Paris et de la Soc. d'Obstét. de Toulouse*, June, 1909) reports a case of premature labour under observation in the Toulouse Maternity Hospital. It set in during the seventh month; the patient was a primipara, aged 24, who had noticed slight haemorrhages and watery discharge during the pregnancy. The uterus rose over 11 in. above the pubes in the median line and seemed bilobed. A deep groove separated the right lobe from the left, and reached downwards to the umbilicus or lower. The right lobe felt more like a tumour sessile on the

uterus than a cornu. The uterus was hard and retracted, the liquor amnii had escaped, and fetal heart sounds were audible over 2½ in. above the pubes and a little to the right of the median line. The os was over 1 in. in diameter, and a small fetal head was presenting. Dilatation was rapid and pains strong: a female fetus, over 2¾ lb. in weight, was delivered, dying after a few inspirations. The height of the fundus fell to 9½ in. Gemellar pregnancy being suspected, the midwife introduced her hand into the uterus and delivered a second fetus, which lay transverse; it was a dead male, not 1½ lb. in weight. The height of the fundus was then found to be 6½ in. in the median line, and nearly 7½ in. more to the right. A male fetus, which breathed for a few seconds, and weighed a little over 1 lb., was extracted. The expulsion of the placenta began spontaneously, but was incomplete. Fournier, who was consulted, detected on palpation a distinct protuberance at the site of the right cornu. On passing his hand into the uterus he found that the placenta which had been mostly expelled had occupied the main cavity of the uterus, whilst two others, strongly adherent, still lay in the right cornu. The ova were enveloped in three distinct membranes. A muscular ring lay between the cornual and the main cavity. After the complete delivery of the placenta a swelling of the size of a walnut could be defined, capping the right cornu. The patient suffered for a week from symptoms of infection, necessitating the use of the curette. In a discussion on this case, when it was read at a meeting of a society, Ferré expressed some doubts as to the existence of a fibroid. The patient was only 24 years old. Myoma is very rare at that age, and when it occurs the new growth occupies the lower segment of the uterus. Audebert, in reply, admitted that this was the rule, but numerous exceptions had been recorded.

GYNAECOLOGY.

239. Uncontrollable Haemorrhage from Non-Puerperal Uterus.

Mallett (*Amer. Journ. Obstet.*, September, 1909), by the relation of an instructive case, recently started an active discussion at a meeting of the New York Obstetrical Society. He could not explain to his satisfaction the precise significance of the troubles of his own patient, who was 47 years old, but had only been married two years. Menstruation was established at 15, and was regular, every four weeks, and profuse, and usually clots were expelled. Shortly after her marriage an overhagia set in, and then the curette was used and the uterus fixed to the abdominal walls. A year later very severe menorrhagia set in, the curette was again employed, and the scrapings showed a high degree of hyperplasia of the endometrium without any evidence of malignancy. Ultimately Mallett removed the uterus through the vagina, leaving the ovaries and the Fallopian tubes, which showed no signs of disease. The uterus was found to be of normal size and thickness, the muscular tissue was sound, but there was an increased amount of connective tissue in the submucous layer. The endometrium was the seat of hyperplastic inflammation. The patient recovered, and rapidly gained weight. Mallett discussed the pathology and morbid anatomy of the subject. No doubt the fact that his patient was approaching the menopause and had married very late in sexual life played a great share in aggravating the disease, as the menorrhagia was relatively mild until that date. He was loth to remove the uterus, and strongly condemned the prevalent practice of beginning the treatment by hysterectomy. In the discussion Brooks H. Wells stated that for the menorrhagia of young girls a drachm dose of fluid extract of hydrastis four times daily as a rule gave relief, and when it failed iodide of potassium sometimes gave surprising results. He admitted that in cases of older women, where no cancer, fibroid, or other gross lesion could be found, he had felt compelled to remove the uterus "on more occasions than he liked to mention," but he always gave the iodide a fair chance. He related an important case where a woman 35 years of age had borne three healthy children whilst a fourth had cerebellar ataxia. Scraping and the usual drugs were of no avail. It transpired, however, that the husband had probably contracted syphilis. Wells gave large doses of iodide of potassium, and the patient was absolutely cured by that salt. Stone advocated inhalations of amyl nitrite. Brettauer noted how the explanation of the action of that compound was open to fallacy. Twenty years ago small operations, such as scraping the endometrium, were often performed under cocaine anaesthesia. The dose was strong in those days, and as toxic symptoms very frequently developed, amyl nitrite had to be used as an antidote. In these operations under cocaine parenchymatous haemorrhages often occurred. Brettauer remembered that the bleeding stopped instantaneously after the administration of amyl nitrite. It never occurred to him to attribute the cessation of the bleeding to the amyl nitrite rather than to the syncope caused by cocaine poisoning. Mallett, in reply, noted other sources of fallacy relating to drugs which checked, or were believed to check, haemorrhage in those cases where the uterus showed no evidence of new growth.

THERAPEUTICS.

240. Treatment of Syphilis.

Eduard Welander (*Beihefte zur med. Klin.*, Heft 6, Jahrgang v) describes his treatment of syphilis and the principles upon which it is based. In an article published in 1894 Welander declared his view that the disease was caused by a micro-organism, and that relapse after disappearance of the symptoms under treatment or otherwise was owing to the continued presence of the organism, probably in the form of highly-resistant spores; that such spores could finally develop after remaining for years in the body; that the action of toxins was seen in symptoms such as the indefinite headaches not infrequently present before and during the secondary stage of syphilis, and in the late parasyphilitic diseases, such as tabes. He claims that later researches and the discovery of the *Spirochaeta pallida* as the probable cause of the disease support the views which he then expressed. The author's plan of treatment is to administer mercury for a period of two to three years intermittently, but in such a manner that the patient during the whole period is continuously under the action of mercury. The method is described as being essentially a preventive and not an intermittent one. In order to carry out the treatment successfully, without injury to the patient which would lessen his power of combating the disease, and without intermissions long enough to deplete the system of mercury, it is necessary to investigate the rate of absorption of mercury and the rate of elimination from the body according as different preparations and different modes of administration are employed; the result of such investigations is given in the article. As a general rule it may be said that the preparations which are quickly absorbed are quickly eliminated. The rate of absorption of mercury given per os is uncertain: generally calomel is very quickly absorbed. Soluble salts of mercury injected subcutaneously are quickly absorbed, and eliminated rather slowly. The action of injections of insoluble salts varies. Salicylate of mercury is quickly absorbed and eliminated; calomel and thymol mercury are slowly but powerfully absorbed and slowly eliminated; ol. cinereum (Lang) is slowly and ol. mercurioli (Blomqvist) very slowly absorbed and slowly eliminated. The amount of absorption of mercury, applied percutaneously, varies with the extent of surface of skin treated; if the mercury is applied over a large area, absorption is quick, elimination rather slow. A practical application of these facts is seen in the author's method of treating patients with severe symptoms by injections of salicylate of mercury, in order to quickly bring the symptoms under control, combined with injections of ol. mercurioli, in order to prevent relapses. Treatment with mercury in forms which are slowly eliminated is to be avoided in the presence of nephritis, affections of the large intestine, affections of the mouth, or a depressed condition—caused, for example, by malaria, tuberculosis, alcoholism, etc.—that is, in conditions in which it may become urgently necessary to break off the mercurial treatment. Care is also required not to at once suddenly introduce into the blood too large quantities of mercury where there are syphilitic changes in dangerous regions such as the eye or the brain, because of the severe local reaction which may result. Welander does not find that Wassermann's reaction is an infallible guide in treatment. A positive reaction in a patient who has not been recently treated by mercury is an almost certain sign of syphilis and indicates the necessity for treatment. On the other hand, the result may be negative where syphilis undoubtedly exists, as in the first stage of the disease; it may be positive at the end of an apparently successful mercurial treatment—

in some cases, possibly, only as a result of the slow elimination of the chemical substances upon which the reaction appears to depend; it may be negative even through a relapse. As a safe guide to treatment Wassermann's reaction must often be considered in combination with the results of examinations as to the absorption and elimination of mercury in the particular case, examinations which are laborious to carry out. In carrying out the mercury treatment the author gives a first course of from four to six weeks, followed by an intermission which lasts for about four weeks if salicylate of mercury has been the preparation administered, five to six weeks after percutaneous treatment, and about one to two weeks longer after ol. mercurioli. The patients are kept, as a rule, under the strong action of mercury for the first year, and under less strong action the second year and the first half of the third. The treatment lasts longer if general relapses have occurred. After two years free from symptoms the probability of a cure is very great. If, later, suspicious symptoms should occur, a renewal of treatment would be justified, and should certainly be undertaken if Wassermann's reaction were positive. Welander recommends that the primary sclerosis should, where it is practicable to do so thoroughly, be cut out, not in the hope of preventing general symptoms, but in order to remove a syphilitic area, in which spores may possibly be present for a long period, and may later give rise to local symptoms, and in order to free the patient in a few days from the presence of a troublesome ulcer. The importance of local cleanliness and local mercurial treatment is emphasized. Salicylate of mercury locally applied is recommended for mucous papules. In tertiary symptoms treatment by iodine is to be actively carried on in combination with that by mercury for from two to three weeks, until a sufficient amount of mercury has been absorbed; the amount of iodine may then be diminished and discontinued after a week, while the mercurial treatment is persisted in. In congenital syphilis mercurial treatment of the mother during pregnancy may be a successful prophylactic treatment. Excellent results are obtained, where it is practicable, by keeping the child for the first two years under mercurial treatment.

241. The Treatment of Gonorrhœa.

K. F. HOFFMANN, a German practitioner living in Paris, gives (*Muench. med. Woch.*, May 11th, 1909) an account of the French method of treating gonorrhœa and compares it with the method usually adopted in Germany, to the advantage of the former. In Germany, injection of small quantities of antiseptic fluids is the vogue. The method of local treatment most favoured in France is by Janet's irrigation, which includes bathing the urethra from the orifice to the bladder. While all French urologists regard small injections as useless if not dangerous, Fournier practises what is called the "traitement méthodique" while Janet pleads for large injections. The former depends principally for success on digital local manipulations. In the acute stage Fournier prescribes ½ grains of sodium bicarbonate and an infusion of linseed meal. The penis is washed in boric acid solution, and a warm bath of ½ hour duration is given every second day. After a fortnight, when the pain is lessened and the discharge has become whiter, the infusion is replaced by a mixture of cubebs and copaiva. Toward the end of the treatment a small injection of an astringent, such as protorcin, may be given. Hoffmann believes that this method has no longer many adherents. With regard to Janet's method the vital question is whether the large injections involve a risk of posterior urethritis. There can be no doubt that gonococci will be washed backwards by the fluid, but inasmuch as the fluid is strongly antiseptic, and the patients are required to micturate immediately after the irrigation, it is held that no living cocci can remain in the posterior portion of the urethra. Should any remain behind, however, the medium in which they would find themselves is opposed to any bacterial growth, and by bactericidal action the few stragglers would meet with a speedy death. A further advantage of large injections is that they reach the posterior part of the urethra. Janet prefers potassium permanganate for all stages, while Necker advises oxycyanate of mercury or albargin during the acute stage, but never corrosive sublimate. The endeavour to employ an abortive treatment, which has found adherents in Germany, has not met with much support in France. Diday preferred to give a single injection of silver nitrate and then to await events. Hoffmann approves of this practice, since it is known that silver nitrate forms a scab, in which some of the cocci are certainly not killed. This scab protects the mucous membrane from a subsequent injection. Motz combined the silver nitrate with potassium permanganate, in order to obtain a deeper action. It is said that by means of Motz's plan of treatment acute gonorrhœas usually heal up in from two to three weeks. Hoffmann regards it as the best method available. In dealing with chronic gonorrhœa, he also approves of Motz's method of distinguishing the implication of the various glands. By slight pressure or massage movements, it is often possible to remove a little purulent secretion from Cowper's glands, from Littré's and Morgagni's lacunæ and from the prostate.

PATHOLOGY.

242. Plague.

BELLELI (*Arch. gén. de méd.*, March, 1909) points out that recent investigations show that in cases of plague in which buboes alone are present one can find large numbers of plague bacilli in the blood of the patient if large quantities of this fluid be centrifugalized. Sometimes the bacilli can be found in the blood before the appearance of the buboes, and even before the fever commences. In 45 per cent. of the cases of plague in the Bombay Hospital bacilli were found in the blood of patients presenting simply buboes. In certain cases where inoculation with plague bacilli has occurred through a definite part of the skin, the lymphatic glands draining the affected area of skin have been shown to be unaffected, whilst far distant glands have been involved. It therefore seems that bubonic plague is in a large number of cases a primary blood infection, and that the bubo is the manifestation of a secondary infection of the lymphatic system. Whether these suggestions be true or not, it is an undeniable fact that plague bacilli circulating in the blood have a special tendency to attack the lymphatic system. Thus, in the septicæmic cases of plague observed by Calmette and Salimbeni at Oporto, although there were no apparent buboes, yet the deep lymphatic glands presented the same changes as those that are to be found in cases with buboes. These observations have been confirmed in India, Australia, and America. The same thing occurs in cases of pneumonic plague; and in those cases of septicæmic and pneumonic plague in which life is prolonged for six or seven days buboes form either simultaneously or consecutively in the neck, axillæ, or groins, showing the constant predilection of the plague infection for the lymphatic system. To resume, then, often, if not always, there is a primary infection of the blood, but in cases of medium virulence, or where the defensive power of the body is small, the bacilli settle in the lymphatic glands and the bacteriolytic secretions destroy the bacilli as the bubo forms. In severe cases the defensive power of the lymphatic glands does not suffice, and general infection ensuing is productive the patient dies. Even when the infection is localized to the lymphatic glands, however, there is still danger, as the bacilli and their toxins have a necrosing action on the neighbouring tissues, and the walls of the veins surrounded by the glands become broken down, large quantities of poison are introduced into the blood stream, and a secondary septicæmia results. Recent observations by Valassopoulo tend to show that in cases of pneumonic plague the infection is always the result of a primary infection of the blood or of the lymphatic system through an erosion of the skin or mucous membrane, and that infection by inhalation is very improbable. The reason pneumonic plague gives rise by contagion to pneumonic plague, and not to the bubonic form, as would be expected, is perhaps, as the author suggests, due to the possibility that the pneumonic form of plague is not due solely to the *Bacillus pestis*, but that the way for this bacillus is first prepared by the pneumococcus, or by other microbes which are so frequently present. Plague infection can also certainly occur through the digestive tract, but this mode of infection is probably only of minor importance. With regard to the question of the conveyance of plague infection, the author states that the rat is certainly the most frequent conveyer of plague in a country: that fleas, especially the *Pulex cheopis*, are the necessary intermediaries between rat and rat and between the rat and man; but that the multiple associations between man and man are the most powerful factors which give rise to large human epidemics; and, lastly, that by enforcing the destruction of rats, by the immediate isolation of infected human beings, and by raising the resisting power of the body, the comparative benignity and the checking of the spread of plague has at the present day been attained.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

243. Gout and Rheumatism.

In dealing with the various forms of chronic arthritis, W. His points out that confusion has arisen not only from the unfortunate nomenclature, but also from the merging of one form into another (*Deut. med. Woch.*, April 15th, 1909). He finds that up to 1800 all these diseases were classified jointly under the name of "arthritis." Landré-Beauvais first described chronic arthritis under the name of *goutte asthenique primitive*. Garrod was the first to clearly distinguish gout from the other forms of arthritis, and His is of opinion that Garrod's contribution to the knowledge of gout is none the less valuable that the modern doctrine of purin metabolism has rendered some modifications of views necessary. While there is no doubt whatsoever that uric acid is the most apparent and most easily determinable product of gout, and the cause of the inflammatory and degenerative processes in the cartilage and connective tissue, it must not be regarded as the only *materia peccans*. It has long been recognized that such conditions as dyspepsia, dermatoses, myalgia, neuralgia, arterio-sclerosis, and granular kidney are frequently associated with gout. It is possible that in these cases the purin metabolism is disturbed and that by-products which are toxic come into action. It is also possible that the disturbance of the purin metabolism is merely a symptom of a general disturbance. Gout doubtless depends in many cases on the dietary, the mode of living, and on the consumption of alcohol; but not every person who indulges gets gout, nor is gout limited to those who take unwisely but too well. There is something else which determines whether a person is to get gout—this is the disposition or diathesis. Disposition or diathesis are terms which have become nearly obsolete. Virchow, in disputing the existence of constitutional diseases and anomalies, stated that every disease was a disease of some organ or other. But while the correctness of this cannot be disputed, in those cases in which no lesion of the cells of any given organ can be discovered, it is necessary to form some conception of the type of bodily disturbance. In wishing to retain the term "diathesis," His accepts the definition of Teissier: Diathesis is a latent morbid disposition, which disposes the body to diseases which are identical as far as their nature is concerned, no matter in what form or in what situation they appear. Basing his opinion chiefly on clinical experience, he considers that gout stands in a certain relationship to chronic arthritis, and that both diseases are based on a common general diathesis. Chronic arthritis has been subdivided into the following groups by Hoffa and Wollenberg: (1) Secondary chronic joint rheumatism—that is, the chronic inflammation and deformities left behind after acute rheumatism; (2) progressive chronic polyarthritis, usually symmetrical, commencing in the fingers or toes, and either being characterized by exudations and overgrowth of the capsule or by dry deformity of the joint and shrinking of the capsule; (3) mono arthritis and oligarthritis deformans, due either to old age or to trauma; (4) ankylosing fixation of the spinal column; and (5) Heberden's nodes. Pathologically, those forms which are manifested by degeneration of the cartilage, and in which the capsule is only attacked late, must be distinguished from those which begin with inflammation of the synovial membrane, and in which the cartilage is attacked later. Etiologically, His finds that the following factors are recognizable: (1) Trauma, old haemorrhages and inflammation, tuberculosis, and osteomyelitis; these causes lead to mono-arthritis. (2) Acute rheumatism, which leads to the so-called secondary chronic arthritis. (3) Infectious diseases; these include scarlatina, erysipelas, sepsis, etc., but more frequently gonorrhœa, syphilis, and tuberculosis. (4) Bacterial invasion. A not inconsiderable number of cases of chronic arthritis run a course which suggests that the disease is of the nature of a bacterial disease. All attempts have hitherto proved unsuccessful to demonstrate the bacteriology of these attacks. There are, further, a number of forms which arise without a distinct cause. Cold, exposure to wet and the like, are sometimes given as the causes, but in many cases the patients live under the most propitious hygienic conditions. His proceeds to give details of cases which illustrate among other things the behaviour of the purin metabolism when the patient is given varying amounts of purins in the diet. He appends curves which demonstrate the importance of the observations fully. With regard to the question of treatment, he states that the chronic arthrites, especially in their severest forms, are wasting diseases, which predispose to cachexia and phthisis. These patients should not be placed on low diets, while bed-ridden patients with loss of appetite may with advantage be treated with milk-vegetable diet. These cases will be found to belong to the class in which a family disposition or diathesis can be detected.

244. Difference between the Two Axillary Temperatures in Tuberculosis.

Casali (*Gazz. degli Osped.*, August 19th, 1909) gives the result of an examination of the temperature in the two axillae in a number of tuberculous patients. Before determining the differential temperature in the sick it is well to remember that some observers have noticed that in the healthy the temperature was only found to be the same in the two axillae in 21.66 per cent. of the cases examined. In determining the temperature the author made use of large clinical thermometers (19 cm. long), and kept them in position for a quarter of an hour, the usual precautions being taken. The number of cases examined (all tuberculous) was 86. Thirty-three of these presented unilateral lesions, in the remainder the lesions were bilateral. Of the 33 unilateral cases, 28 gave a higher temperature on the diseased side, 3 gave a higher temperature on the diseased side occasionally; 1 alternated, being higher sometimes on one side, and sometimes on the other, and 1 gave a higher temperature almost constantly on the sound side. The 3 which gave the temperature only occasionally higher on the diseased side were generally apyretic, with only slight apical lesions and very few moist sounds. The difference between the two sides never surpassed $\frac{4}{10}$° C., and this difference usually showed itself at the height of the pyretic phase. The more recent and the more active the diseased processes the more marked the difference. In bilateral cases the axillary temperature, generally speaking, is higher on the side which has been last affected. The author promises a further report dealing more particularly with the course of those cases where the axillary temperature is higher on the sound side.

245. The Paradoxical Papillary Reaction.

On raising the eyelid one sometimes finds that the pupil dilates instead of contracting; this "paradoxical reaction" is a rarely found pathological condition, and may be found in cases of tabes, general paralysis, cerebral syphilis, sclerosis *en plaque*, meningitis, etc. Lufon (*Gaz. hebdom. des sci. méd.*, August 8th, 1909) points out that several hypotheses have been advanced to explain this phenomenon. First, it has been supposed that there occurs an inhibitory action of the pupillary fibres of the third nerves. Secondly, some think the condition the result of the irritation of the fifth nerve by the heat of the lamp used for examination, whilst Bechterew thinks it is due to rapid fatigue of the oculo-motor nerve. Some, indeed, think that all cases published in which this condition has been observed are due to a wrong interpretation by the observer. According to the author, however, there can be no doubt that the paradoxical reaction does occur, but he states that it is not a pathological manifestation, but a normal pupillary reaction. For its detection three conditions must be maintained. First, the normal reaction of the pupil to light must be completely abolished either by a lesion of the reflex centre or of the sensory-motor path, or by a lesion of the ciliary ganglion. Reaction to light and the sensory-motor reflexes must be preserved. Take, for example, a case of paralysis of the third nerve. When the eye is uncovered the normal light reflex does not occur and the pupil appears to be immobile; a slight dilatation, however, really occurs, which is only to be detected by the use of a strong lens, and this reaction can best be observed when the patient is in a dark room and a bright ray of light is abruptly thrown on to the pupil. The explanation of this is as follows: Paralysis of the third nerve abolishes only light accommodation—convergence reactions of the pupil—but it does not interfere with the sensory-motor reflexes. The abrupt and intense stimulation of the retina by the bright light starts the sensory

reflex, which is similar in nature to a painful reflex. This sensory reflex is not perceptible in healthy subjects, because the light stimulus causes at the same time a motor pupillary contraction, which is extremely powerful and which annihilates the sensory reflex. The sensory reflex, which is the rule in the third nerve paralysis, is rare when the Argyll Robertson sign is present, owing to the fact that in the latter condition the lesion of the ciliary ganglion, which causes the abolition of the light reflex, causes almost always at the same time an abolition of the sensory reflexes. When, besides the three conditions already mentioned, there exists a hyper-excitability of the cerebral cortex, the sensory reflex may become very intense and easily to be recognized during the ordinary clinical investigation without the aid of a lens.

SURGERY.

246. Primary Sarcoma of the Stomach.

SOFARO (*Arch. gén. de chir.*, No. 8, 1909) presents a review of the pathological and clinical features of sarcoma of the stomach, based on two original cases observed by Durante, and on 121 other cases collected from all available sources. Although this form of gastric malignant disease cannot be regarded as very rare, it occurs much less frequently than epithelioma of the stomach. At the surgical clinique at Rome, while of 847 epitheliomata of all organs 72 were seated in the stomach, this organ was the seat of disease in 3 only of 252 cases of sarcoma. The influence of heredity in the etiology of the disease the author holds to be doubtful. Both sexes are almost equally affected, and most of the subjects are from 40 to 50 years of age. Three records have been given of young subjects, each of whom was 3 years old, and two of patients who had reached the age of 78 years. Sarcoma of the stomach occurs in most instances in a nodular and circumscribed form, and usually involves some portion of the greater curvature. It presents also, but less frequently, the infiltrating and diffuse form. In sarcoma, as in epithelioma, the pyloric segment is much more frequently involved than the cardiac segment of the stomach. The growth seldom ulcerates, and very rarely, if ever, leads to perforation. The following, in order of frequency, are the usual symptoms of this disease: Epigastric pain, abdominal swelling, rapid emaciation, anaemia, vomiting, haematemesis, melaena, and tardy cachexia. The diagnosis is difficult, and in some cases impossible. It is one of probability, and founded on such indications as a rapidly developed tumour of rounded form in a subject not younger than 30 years; marked emaciation, metastatic growths, deformity of the stomach, and connexion of the growth with the omentum. Surgical intervention, which has in most cases been applied too late, is indicated when there are no signs of visceral or glandular metastases. If possible the tumour should be removed by a free gastrectomy. If it be found futile to attempt a radical operation, gastro-enterostomy should be performed, although, as there is no pyloric stenosis, little can be expected from this procedure beyond a slight amelioration of the troubles due to deformity of the stomach. The prognosis of gastrectomy for sarcoma in regard both to operative mortality and the length of the survival in those who do not succumb at once is shown by the author to be very unfavourable.

247. Venous Ligature for Thrombosis of Portal System after Appendicitis.

WILMS (*Zentralbl. für Chir.*, No. 30, 1909) publishes a case in which a septic condition marked by high fever and repeated rigors, persisting after incision of a large appendicular abscess, was successfully treated by ligature of the veins of the caecum and appendix. This operative treatment, which in some respects corresponds to Trendelenburg's method of treating puerperal pyaemia by ligature of the spermatic vein. The abdominal cavity was opened and the mesentery exposed by an oblique incision carried from a point a little above the antero-superior spine of the ilium inwards and downwards to the middle of the rectus, the fibres of which were split and not cut across. The finger was then passed behind the ascending colon, which, together with its mesentery and that of the lower portion of the small intestine, was detached from the posterior wall of the abdomen. After division of the anterior peritoneal layer of the mesentery, its vessels were freely exposed, two small arteries being clearly visible. After these had been isolated, all the veins were brought together and ligatured in two bundles. The caecal region was packed with the object of affording drainage in case of circulatory disturbance and gangrene of the intestine resulting from this operation. There was no recurrence of rigor after this intervention, and the temperature at once fell to 38° C. The patient, who speedily recovered, presented no signs of any disturbance of the blood supply to the intestinal walls. In discussing the indications for this treatment, the author points out that when suppurative thrombosis of the portal venous system is set up there is a danger of metastatic suppuration of the liver which, when of septic origin, is inevitably fatal. It is necessary for success to apply this treatment early and before the liver has become infected.

248. Local Anaesthetics.

RECLUS (*Journ. des prat.*, September 18th, 1909) advocates very strongly the employment of local anaesthesia in more cases than is at present done, in view of the risks attending general anaesthesia and lumbar puncture. Recognizing the fact that the injection of cocaine has often been followed by toxic symptoms, he points out the necessity of using a weak solution of the drug. Even when the same actual amount is injected into the tissues, it will be safer when it is more diluted, because the poisonous effects depend upon the amount which reaches the nervous system at one and the same time. Weak solutions may avert many accidents; and the discovery, in later days, of new substances, gives an additional reason for the employment of local anaesthesia. The various eucaines, tropacocaine and alypine were introduced with the reputation of being equally efficacious and less toxic; but Reclus has found them all risky, and less active than cocaine. In stovaine, however, he considers that he has found the most satisfactory agent for local anaesthesia, and he urges upon his fellow practitioners the advisability of preferring it to general anaesthesia more frequently than they do. As its injection is not so absolutely free from pain as that of cocaine, Reclus adds a small quantity of the latter to his syringe, 25 per cent. cocaine to 75 per cent. of stovaine, and finds the result to be all that he desires. Novocain is a third substance with which very satisfactory results can be obtained; and between the three, Reclus considers that even amputations can be performed with as much ease and comfort as when chloroform is inhaled, without the unpleasant results, such as vomiting and stomach pains, which frequently follow general anaesthesia. He particularizes its value for military surgeons, and for those who are in practice in remote country districts, where skilled assistance is not to be had.

249. Post-traumatic Alopecia in Cases of Cranial Fracture.

VANDENBOSSCHE AND FERRON (*Arch. prov. de chir.*, No. 7, 1909) publish 5 cases of fracture of the vault of the cranium, in which circumscribed alopecia was subsequently developed at a portion of the scalp diametrically opposite to the seat of injury. In these cases the partial baldness occurred after periods varying from two to six months from the date of the injury, and in the course of a few months was followed by the renewed growth of normal hair. The extent and features of these post-traumatic patches are well shown in this paper by pictures and diagrams. Several instances, the authors state, have been recorded of loss of hair in close vicinity of a serious head injury, this sequence being probably due to secondary neuritis set up at the seat of the traumatism. The development of alopecia after injury on the opposite side of the head, though observed by the authors in 5 cases, seems to have been ignored by all surgeons and dermatologists with the exception of Jacquet, who has recorded a case in which a double gunshot wound of the frontal region and the right ear was followed after an interval of about eight months by shedding of hair over the occiput and in the left parietal region. The authors have been led by their clinical experience of this sequence of head injuries to regard it as a special and typical form of alopecia characterized by tardy development after the injury, by its temporary duration, and by its localization at a circumscribed region of the scalp diametrically opposite to the seat of the injury to the skull. The authors give an obscure explanation of this form of post-traumatic alopecia, regarding it as the result of altered relations of the brain and the cranial wall due to *contre coup*. The baldness, though in itself temporary and benign, is, it is held, an indication of grave structural disturbance, and a very unfavourable sign in regard to the remote results of the injury.

OBSTETRICS.

250. Treatment of Abortion.

K. Franz (*Deut. med. Woch.*, July 1st, 1909) defines abortion as the interruption of pregnancy during the first seven months. Haemorrhage is always a prominent symptom of abortion during the first four months, but later this is not the case. For this reason he deals separately with the treatment during the first months of pregnancy. This must depend on the stage of the abortion when the practitioner is called in. When he is summoned on account of haemorrhage, he must make an examination to determine whether the cervix is closed or not. If the haemorrhage is not dangerously profuse and the cervix is not dilated, opium and rest in bed should be prescribed and the further development of the case closely watched. It is possible in such cases that the haemorrhage may cease and the pregnancy continue. There are no means of arresting the haemorrhage. If the bleeding continues and the patient shows signs of anaemia, steps should be taken to hasten the abortion. Not more than one week should be allowed to pass if the patient is losing blood all the time. The external genitals should be disinfected with soap and 70 per cent. alcohol and the vagina with alcohol or perchloride of mercury. A speculum is then introduced and a laminaria tent inserted. To prevent the tent from slipping into the vagina before the cervix is dilated a gauze packing is applied. After twelve or twenty-four hours the tent is removed, and the cervix will be sufficiently dilated to permit of the passage of a finger. At times the tent causes uterine contraction which suffice to expel the ovum, but if no pains are induced the ovum can be removed intact with the finger. If the haemorrhage is severe and the cervix is closed, the laminaria tent is not to be employed. Tamponade of the vagina may be used, but this has to be very tight and is distinctly painful. He prefers dilating the cervix with Hegar's metal dilators and clearing out the uterus in one sitting. If the temperature is raised under these conditions, the vagina must not be plugged; the only treatment which is permissible is the immediate emptying of the uterus. When haemorrhage occurs with a closed cervix during the sixteenth to the twenty-ninth week, the diagnosis usually rests between a hydatid mole or placenta praevia. For this condition he dilates with a Barnes-Fehling bag. This bag is rolled up and introduced under anæsthesia of the eye and dressing forceps. The bag should be passed right through the cervix until it disappears. It is then filled with from 150 to 200 c.cm. of sterile water. Then the forceps is withdrawn. In the case of severe haemorrhage or infection the uterus should be emptied at once, by means of Dührssen's anterior hysterotomy. Dealing next with the cases in which the abortion is proceeding, the author says that, should haemorrhage be present and the cervix is dilated, the ovum may be in the cervix or lose in the uterine cavity or else still adherent. Anæsthesia is not absolutely necessary, but is always useful. The author prefers light ether anæsthesia. The ovum can then be removed with the finger. Since it is not always easy to deliver the parts of the ovum after they have been detached from the uterine wall, and the longer the finger is in the uterus the greater is the danger of infection, he advises the ultimate removal of the loose shreds, etc., with the curette. The blade of the instrument should be at least 15 mm. broad. The portions are caught up in the ring, and by means of a twisting movement will be readily removed. Dressing forceps should never be used for this purpose. The use of the curette should be limited to certain definite conditions. It should not be employed to loosen an ovum from the uterine wall. The finger is the only reliable instrument for this purpose. For the removal of the loosened particles, or for the scraping of the inner surface of the uterus, the curette, if properly managed, can do no harm. After the fifth month, if the cervix is dilated and the fetus is still retained, two fingers should be introduced into the uterus and the fetus withdrawn. When there is much resistance, the fetal parts tear very easily, and, while the body of the fetus is easy to deliver, the head may be difficult to get hold of. Abortion forceps are useful for this purpose. With regard to retained placentas in the later months, he mentions that it is necessary at times, but not often, to remove the placenta manually; but when this has to be done the obstetrician should be prepared for atonic haemorrhage. He recommends irrigating the uterus after this procedure with 2 or 3 litres of 70 per cent. alcohol and packing the uterus with gauze. In conclusion, he deals briefly with incomplete abortion, and states that the obstetrician must determine whether any portion of the ovum is still in the uterus from its size—a matter which is often very difficult to decide in the early months. Placental polypi, hydatid mole, missed abortion, and habitual abortion are each also touched upon.

THERAPEUTICS.

251. Treatment of Sciatica.

A. Bum (*Wien. med. Klin.*, July 25th, 1909) was first successful in the infiltration treatment of sciatica when he began to introduce a large quantity of fluid (100–120 c.cm.) by means of strong pressure. He considers the action to be purely mechanical, and now injects only sterile isotonic salt solution. He points out that if 100 c.cm. of water be introduced into the nerve sheath in the dead body, the sheath is widened into a spindle shaped form, and the nerve is stretched. Adhesions between the nerve sheath and the surrounding tissue would in this way be stretched or in some cases torn. Pers and Renton have shown that adhesions the result of a perineuritis are not infrequently the cause of a subacute, and especially of a chronic, sciatica. In addition to asepsis, the factors necessary for success are a right technique in piercing the nerve sheath and the introduction of a sufficient mass of fluid under maximum pressure. Bum's method is to make the needle enter at the point at which the long head of the biceps emerges from the lower border of the gluteus maximus, the patient's bent knee being meanwhile supported. The cannula, 10 cm. in length, is pushed in at right angles for about half its length, the proximal end is then lowered, while the needle is pushed in from 3–3½ cm. further; the object of this change of direction is to ensure that the needle travels along the sheath in the direction of its length rather than simply pierces the sheath. The site of entry of the needle precludes the possibility of injury to the great vessels and the great masses of muscular tissue. The operation is a painful one, and is increasingly painful during the injection of fluid; immediately after the injection the patient complains that the limb feels lifeless, but the sensation usually passes off in from twenty to thirty minutes. There are no unpleasant by-effects, except occasionally the occurrence of slight rigors with rise of temperature six to eight hours after the injection; these symptoms are probably to be explained as due to resorption fever. The cases in which the infiltration method is indicated are all idiopathic cases of subacute and chronic sciatica. The author does not use it in acute cases, and it has no influence on acute exacerbations in chronic cases. The best results are obtained in cases in which the pain is altogether, or almost altogether, absent when the patient is at rest, but increases in severity during movement—cases, that is, which are suggestive of the presence of adhesions. In 274 cases treated by Bum, 169 (61.7 per cent.) were permanently healed, 54 (19.7 per cent.) were improved, 13 (4.7 per cent.) relapsed, 38 (13.9 per cent.) were not benefited. The duration of the symptoms in the different cases varied from four weeks to seventeen years, and a connexion between the length of illness and the result of the treatment could not be established. The author recommends this treatment, which is harmless and free from danger, and the results of which are very good compared with those obtained by other methods.

252. Immunization of Cattle against Tuberculosis.

Vallée (*Ann. de l'Inst. Pasteur*, August, 1909) publishes some of the results of his researches on this subject, upon which he has been working since 1903. He insists on the paramount importance of selecting for the purpose of vaccination a virus of very low virulence. In the work now recorded he used an equine strain of tubercle bacilli, which, when originally isolated by Nocard, was highly virulent, but has gradually deteriorated in pathogenicity, and is now almost non-virulent for the guinea-pig, the subcutaneous inoculation of 1 mg. producing no more than localized and retrogressive disease. Used as a vaccine by the intravenous method of inoculation, this virus produces results which the author states are comparable to those obtained by Behring's "bovovaccine." The resistance conferred by this method of treatment is relative and not absolute; it is directly proportionate to the quantity of bacilli inoculated as a vaccine. In no case does it enable animals to resist natural infection for more than a few months. It is equally insufficient to assure the complete elimination of bovine bacilli inoculated into the jugular vein as a test of immunity, nor does it prevent bovines from contracting experimental infection by the alimentary tract. The resistance conferred by the sub-

cutaneous inoculation of this same equine strain, in doses twice as large as those employed intravenously, is much inferior to that obtained by the intravenous method. As the result of his feeding experiments, the author finds that a very marked resistance to infection by the digestive tract can be conferred on bovines by the previous injection either of small doses of virulent bovine bacilli or of large doses of attenuated bacilli. The latter method of prophylaxis ought to be preferred, in order to avoid a dangerous contamination of the stables which would arise from the excretion of bacilli possessed of high virulence. The resistance conferred by vaccination per os is better marked when the animal is young. As contrasted with the intravenous method of vaccination by means of the same strain of bacilli, it secures the complete elimination in a maximum period of seven months, of virulent bovine bacilli administered in a test meal. The immunity is, however, purely local, since the animals treated do not manifest a higher resistance against intravenously inoculated bovine bacilli than do those vaccinated by the intravenous method. The vaccination of young calves per os does not render them completely immune to tuberculous infection, but it protects them for about a year when kept in close and continuous contact with cattle suffering from open tuberculosis. After two whole years of contamination, under conditions of extreme severity, the vaccinated animals only present insignificant or latent signs of tuberculosis, whereas the controls exhibit advanced disease. The writer considers that vaccination of calves per os should be studied from a practical point of view, and ought to be adopted in cattle sheds, in conjunction with the discovery and elimination of the beasts suffering from open tuberculosis. Bovine vaccination with the aid of dead bacilli, in whatever form administered, has, in the author's hands, yielded results which were either negative or much inferior to those obtained with living bacilli.

253. Antipyretic Action of Maretin.

VALENTI (*Gazz. degli Osped.*, April 28th, 1909) has carried out a series of observations with the object of determining how soon after administration the antipyretic action of maretin takes place, how long the effect lasts, and what secondary phenomena accompany defervescence. The experiments were made on forty different patients suffering from various diseases. An attempt was made to find out the minimum dose necessary to produce antipyresis. In children between 10 and 12 years it was found that a single dose of 0.25 gram a day, or in two doses, with an interval of one or two hours, was sufficient. Smaller doses than this were of no avail. These reduced the temperature by a degree and a half for a brief period. In adults the dose must not be less than 50 centigrams in divided doses with one or two hours' interval. The drug was most prompt and successful in tuberculous fevers. It always lowers, to a greater or less degree, the arterial pressure and induces changes in the character of the pulse. It causes "critical" sweating, and in protracted treatment gradually loses its effect, so that, on the whole, maretin represents no real progress in the discovery of antipyretic drugs.

254. Internal Administration of Protargol in Children.

RAMACCI (*La Pediatria*, August, 1909) speaks very favourably of the administration of protargol in infantile diarrhœa. He begins with an initial dose of 60 to 70 cgr. per diem, reaching to a maximum of 1.30 grams. Owing to the unpleasant taste, in the larger doses, it is well to give the drug in syrup and water. In choleraic diarrhœa protargol is not of so much use; in these cases saline injections and tr. iodi m xxv per diem are more useful. In acute intestinal catarrh protargol is useful, but the best results were obtained in the more chronic types of enteritis or the later stages of an acute attack. Here the results were striking and the author gives brief accounts of 17 cases so treated. It is important to limit the albuminoid food and continue an almost exclusively hydrocarbon diet. When all is said, the dietetic treatment of infantile diarrhœa remains of far greater importance than the drug treatment.

255. Specific Treatment in Chronic Glanders.

K. ZIELER (*Wien. med. Klin.*, May 2nd, 1909) describes a case of chronic glanders, in which apparent recovery followed in a short time the adoption of specific treatment by injections of dead cultures of glanders bacilli, although other treatments had been tried in vain for years. The patient was a man 40 years of age, who had been infected six years before. The first ulcers had appeared on the palate, and after a year had perforated through into the nasal cavity, first on the left side and then on the right. When the patient came under Zieler's observation, the external nose had been destroyed; the nasal mucous membrane and muscles were still present, but the mucous membrane was thickened and showed granulations, especially on the right side, while the edge of the nasal opening seemed scarred over, except on the lower part, where there were exuberant granulations on a scarred surface. The upper lip was infiltrated and thickened, and the surface ulcerated, the ulcer spreading over the mucous membrane of the lip. In the posterior part of the hard palate in the middle line there was the opening of a perforation surrounded by ulcerated mucous membrane. Almost the whole of the left half of the uvula was destroyed, and the right side was perforated and ulcerated. In the submaxillary region, on the right side, was an irregular scar about 10 cm. long; on the left side the glands were enlarged and hard, but not sensitive. The diagnosis of glanders was fully confirmed by animal experiment, by mallein injections, and by the demonstration of antimallein in the patient's serum; a sero-diagnostic examination for syphilis gave a negative result, and there was no ground for believing the condition to be tuberculous. The case was particularly unfavourable because of the implication of the mucous membranes. The Roentgen rays were used at first, and with some apparent benefit; but, since the whole diseased area was not accessible to the rays, and also in an earlier case which ran a severe course the rays had not been effective, this treatment was discontinued in favour of specific treatment as soon as pure cultures had been obtained. A vaccine was prepared of which each cubic centimetre contained a normal loopful of a forty-eight hour glycerine agar culture in physiological sodium chloride solution. The method of using the injections was to give one on each of two consecutive days, followed by an interval of from six to eight days. In the course of sixteen to twenty-four hours after each of the earlier injections there was a definite rise of temperature; the site of injection became red, swollen, and tender, while sometimes there was a slight local reaction at the diseased area, but not nearly so marked a reaction as after subcutaneous mallein injections. In rather more than a fortnight after the beginning of the treatment the ulcerated skin and mucous membrane was completely scarred over. No further developments of the disease took place, and the patient was discharged two months later. While in such a case it is only possible to speak provisionally of a clinical recovery and the possibility of relapse cannot be denied, yet the case appeared worthy of publication because of the rapid apparent recovery after years of unsuccessful treatment on ordinary lines. The author warmly recommends a trial of the specific treatment in other similar cases.

PATHOLOGY.

256. Pathogenesis of Biliary Calculi.

MARCHETTI (*Rif. Med.*, May 31st, 1909), discussing the various theories as the pathogenesis of gall stones, divides them into three main groups. First, the anatomical theories, which explain the formation of gall stones by reference to changes in the structure of the gall bladder. Secondly, humoral theories, which lay stress on the changes occurring in the chemical constitution of the bile. Thirdly, germ theories, which explain the facts by the results of infection causing angiocholitis. The commonest germ concerned being the *coli* bacillus, and in favour of this there is the fact that typhoid is not infrequently the starting point of cholelithiasis. Certain gall bladders and bile fluids may also have a congenital or acquired predisposition towards ready precipitation of the bile salts. Each theory is carefully discussed and a general conclusion stated somewhat as follows: When the biliary tract is invaded by actively virulent organisms an acute septic inflammation is set up causing acute angiocholitis and suppurative cholecystitis; but if the organisms are weak or attenuated, a more chronic process is induced, a chronic catarrh, which in its turn brings about changes in the parietes of the gall bladder and on the chemical constitution of the bile—changes sufficient in certain cases to cause the formation of calculi. In certain experiments on dogs the author found that true biliary calculi were formed around the silk threads used in the operation; this observation, compared with a record of 8 similar cases recorded by others, makes the author advise the use of absorbable sutures in operations about the gall bladder, so as to avoid the possibility of this rare sequel.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

257. Absence of Tenderness of the Tendons in Locomotor Ataxy.

Abadie, in 1905, first directed attention to the frequency of analgesia of the tendons in locomotor ataxy, which he found to be most constant in the tendo Achillis. This tendon was insensitive to pain when pinched between the finger and thumb in 80 per cent. of a large number of cases examined in every stage of the disease. But little has been done to investigate the truth of Abadie's claims, and the few reports as to the value of the sign are somewhat conflicting. Since Abadie's paper the sign has been looked for in every case of locomotor ataxy observed in Professor Schlesinger's clinic in Vienna. Rowly (*Wien. klin. Woch.*, May 13th, 1909) now gives the results. Of 30 cases, there was analgesia of both Achilles tendons in 17 and hypalgesia or unilateral analgesia in 5 others, so that Abadie's sign was present in more than two thirds of the cases. Thus it was almost as frequent as the most constant symptom of tabes—namely, absence of knee-jerks, which was noted in 24 or 25 of the 30 cases. As regards other tendons, those specially investigated were the biceps and adductors. Analgesia of the biceps is not so frequent as in the case of the Achilles tendon. Though there was complete or partial analgesia in 24 cases, it was feebly marked in 6 cases, and was unilateral in another 6. The same applied to the adductor tendons in an even greater degree. The clinical value of Abadie's sign largely depends on the fact that it is often well marked at an early stage of locomotor ataxy, when the patellar reflex is still obtainable. In advanced stages it is seldom missed. There is no agreement as to the reaction of the various tendons of the body to pressure. Thus the biceps and adductor tendons may be sensitive and the Achilles tendon insensitive in the same subject, or the analgesia may be unilateral. In one case there was analgesia of the biceps, adductors, and tendo Achillis of one side, and the corresponding tendons of the other side were normally sensitive. Control tests were made on 100 non-tabetic patients of both sexes. Analgesia of the biceps tendon proved to be not infrequent, being found in 25 per cent. of non-tabetic subjects. But complete analgesia of the tendo Achillis was found in only 3 cases and some hypalgesia in 9. Of the 3 cases of complete analgesia one was that of a man, who was remarkably insensitive to pain; another that of a hysterical woman with various functional disturbances of sensibility; and the third was a case of progressive pernicious anaemia with signs of disease of the posterior columns of the spinal cord. Analgesia of the tendo Achillis is thus an important sign in locomotor ataxy.

258. The Early Diagnosis of Tuberculosis.

Krantz (*Progrès méd.*, April 3rd, 1909) points out the use of the thermometer in the early diagnosis of tuberculosis. In the sanatorium of Hendaye he has made a careful study of the variations of temperature in the case of several children, some tuberculous, others not, and has found the following to be the important conditions which point to the presence of early tuberculosis: (1) A subfebrile condition, with normal morning temperature, evening slightly over 100° during sleep; (2) fever with morning remissions; (3) sudden and marked rise of temperature, either at unusual hours, or instead of the moderate rises, with constant slight increase of temperature in the absence of cold or gastric disturbance; (4) persistence of pyrexia or continued rise of temperature in a child previously resting quietly without fever, with a morning temperature of over 100°; (5) a temperature of 99° and over on waking; (6) irregularities in the variations after walking, being sometimes slight, sometimes considerable, with the same amount of exertion. This does not correspond with Darenberg's law that a chart showing a difference of seven or eight points between the temperature taken before and after a walk is conclusive of tuberculosis. Krantz has found that rises in temperature after exercise are very variable with negative as well as positive ocular reaction; but that pyrexia continues much longer after rest in tuberculous children. Even those with no taint may often have a temperature of 100°, and the really valuable test is the average temperature of ten or more days.

259. Determination of the Functional Condition of the Pancreas.

Fedeli and Romanelli (*Rif. Med.*, September 20th, 1909) describe the following method for estimating the functional capacity of the pancreas. To 1 c.cm. of the saliva they add 5 c.cm. of gastric juice, or an equal quantity of 2.5 per cent. HCl, shake the mixture, and leave it at rest for half an hour, then add 4 c.cm. of a 1 per cent. solution of carbonate of soda, so as to render the mixture slightly alkaline. They next add 20 c.cm. of a 10 per cent. starch paste, and place the whole in thermostat at 37° C. for two hours, repeatedly shaking. They then estimate the amount of sugar formed. The next stage consists in adding to the above mixture 10 c.cm. of an aqueous solution (1 in 4) of faeces, and leaving the whole in the stove for twelve hours and then estimating the sugar formed. The difference between the two estimations of sugar represents the degree of pancreatic functionality. To show that this was not due to other constituents of the faeces, the authors tested with bile and succus entericus, and found that they only gave negative results. A series of thirty control estimations by Müller's method showed that the results of the two methods were practically the same in each case.

SURGERY.

260. Subcutaneous Rupture of the Kidney.

G. v. Finaly (*Pester med.-chir. Presse*, April 11th, 1909) describes a case of subcutaneous rupture of the kidney successfully treated by extirpation in the Stephanie Children's Hospital. The patient was a child 3 years of age who had been run over, and was brought in unconscious. She was blanched, the temperature was 36.0° C., pulse scarcely perceptible, 170 to 180 per minute. In the right hypochondrium and lumbar region was a suffusion a handbreadth in size. In the right hypochondrium was a diffuse resistance moderately sensitive to pressure. After the use of stimulants consciousness returned and the pulse became stronger. After some hours the patient passed some urination almost pure blood. In the evening she was weaker and repeated caffeine injections were required. During the night there was painful bladder tenesmus and almost pure blood was several times passed. In the morning the urine was pure blood, the abdominal muscles were somewhat tense on the right side, especially in the kidney region, which was sensitive to pressure and a resistance the size of a fist could be felt in the lumbar region; near this resistance signs of an abdominal effusion were present. The diagnosis was of rupture of the kidney complicated by extraperitoneal and intraperitoneal haemorrhage, and this was confirmed at the operation. The kidney was found to be torn across, while on the perineal tissue was suffused blood and clots. The upper and smaller part of the kidney was anaemic and divided from the lower half, which was still partially in communication with the hilus vessels. Strong bleeding in the neighbourhood of the hilus started as the coagula were cleared away from between the two parts of the kidney, and the vessels were ligatured and the kidney removed. On raising the right lobe of the liver a tear was found on its under surface which extended into the peritoneum. The peritoneal opening was widened and the intraperitoneal effusion emptied, and the peritoneal wound stitched and drained; the liver wound was plugged. The patient was able to leave the hospital, recovered, after seventeen days. In discussing the symptoms and diagnosis v. Finaly points out that while haematuria is in 95 per cent. of the cases the symptom by which injury to the kidney is diagnosed, the presence and rate of appearance of the perirenal haematoma gives a measure of the grade of the injury. Repeated examinations should be made in any case of suspected injury to the kidney, and these should continue over a considerable time, lest late infection of a small haematoma should be overlooked. Treatment depends on the grade of the injury. In no case should the kidney be removed unless the injury has altogether destroyed its function.

261. Syphilis d'Emblee.

L. Wamelsch (*Munch. med. Woch.*, April 27th, 1909) discusses two important problems in connexion with syphilis, the existence of what the French call

syphilis d'emblée (also known as crytogenic syphilis), in which no primary sore in any situation occurs, and also the problem of the syphilitic infections which medical men at times are subjected to in the course of their practices. Formerly Waelsch was sceptical as to the possibility of a syphilis without a primary seat of infection. He gives the details of a number of cases which have made him change his opinion. The first was that of a young medical man who was found to be suffering from secondary syphilis. There was little glandular enlargement and no trace of any primary sore in any situation. The patient was sure that there had not been a primary sore. The second case was similar. The third case was again that of a medical man. There was a typical secondary syphilis. The patient had been married one and a quarter years, and had not indulged in any extramarital connexion. His practice included a certain number of syphilis cases. No signs of a sore on the fingers had been present. The next case, also that of a medical man, was even more striking. The syphilis was undoubted. Some two and a half months previously he had been operating for paraphimosis in a patient whom he knew to be syphilitic. During the operation he broke a glass bottle containing silk ligatures, and cut his finger. His hands were soiled with the patient's blood. He immediately washed the wound well with alcohol and applied silver nitrate stick. The wound was then covered before he continued the operation. As he was anxious about the wound, he watched the site carefully, but no sign of a sore or anything approaching one was detected. The first signs of the syphilis was the appearance of the secondary rash. Other observers have seen similar cases, and several believe that the syphilitic virus can pass through the mucous membrane without producing a local lesion. These cases appear to the author to be sufficiently clear to prove the occurrence of *syphilis d'emblée*. As the majority of his cases affected medical men, he finds the occasion opportune to turn his attention to the infection in the practice of medical men. He has met with six such cases, and believes that the real number of such accidental infections must be considerable. Usually the infection takes place on the finger, although authors have described infections of the arm and of the face. The primary sores in his cases developed like paronychiae at first, but all the usual methods of treatment remained useless. The sores gradually ulcerated, the edges became slightly raised, and the surfaces were covered with granulations, which kept on breaking down. The majority of cases were accompanied by lymphangitis and painful adenitis. Following on the acute inflammation of the glands, those of the axilla and elbow became indolently enlarged. This symptom, together with the non-healing of the ulcer, awakened the suspicion of syphilis. The course in his cases was favourable. In all his patients no signs of tertiary symptoms appeared, even after a number of years. Brandis stated that these accidental infections usually run a severe course, but that is not Waelsch's opinion. He states that at first the recognition of the nature of the lesion produced a serious depressing effect on the mind of the patient. After a time, however, each one of them bore their lot with manly resignation. In discussing the prophylaxis, he finds that, while there are no certain means for absolute protection against such an accidental infection, the chances may be materially lessened by certain precautions. First, the practitioner should make it a habit to look carefully after his hands. Cracks of the skin, excoriations chaps, and the like, must be avoided as far as possible, and the existence of a cut or crack must be noted. When dealing with a patient, if a wound is present, a finger-stall or glove must be worn. Gloves should always be worn when the practitioner is examining a person known to be syphilitic. The author condemns altogether the practice of examining women patients under the bedclothes. The practitioner should always inspect the part he is examining. Next he considers it to be the duty of every medical practitioner to warn the syphilitic patient of the danger which he forms for others. No person with syphilis in an infective stage should be allowed to go to the dentist without informing him of the infection. That he will agree to do this is, in the opinion of the author, undoubted, if it is made clear to him that failure to do so will entail risk to other patients attending the dentist. The author briefly discusses the question of the claims which a medical man has on an insurance company when he accidentally infects himself from a patient. In Germany it has been decided in the courts that the company is not liable. That this is unfair on the medical man is obvious. Once infected, the practitioner must take all precautions not to infect other patients in his practice. During the primary and secondary stages the precautions necessary are obvious, and during the later stages no risk is run. Lastly he states that, although the risk run by medical practitioners is great, care is able to minimize it, if not to obviate it altogether. The fact that he runs a daily risk should prevent the practitioner from relaxing his precautions against harm.

262. The Skin Test in Osseous Tuberculosis.
IMPALLOMENI (*Rif. Med.*, February 22nd—March 1st, 1909) gives his experience with von Firquet's tuberculin skin test in some 40 cases. The technique consisted in dropping 2 drops of tuberculin at intervals of 2 cm. on the previously sterilized skin and scarifying through the drops, and also on a part of the skin at an equal distance free from tuberculin, thus forming a sort of control. As opposed to the ophthalmo-reaction the skin test is absolutely innocuous. When positive the reaction consists in a papulo-erythematous eruption with a hyperaemic areola and little serous vesicles. The author found the reaction almost always present in his cases of bony tuberculosis, both children and adults, and most marked in cases on the way to cure, or even cured clinically for some months. The reaction was never obtained in cases clinically free from tubercle. A mere slight hyperaemia around the scarification is not characteristic, and cannot be considered as a specific reaction; such a slight reaction does not, however, exclude the possibility of early tubercle. It is only the definite well-marked reaction described above that can be considered of value in diagnosis. Children and adults respond equally well. No appreciable changes in the blood formula were noted after the application of the test.

OBSTETRICS.

263. Adrenalin in Hyperemesis Gravidarum.
STEPHAN REBAUDI, of Bossi's Clinic at Genoa (*Centralbl. für Gynäk.*, No. 44, 1909), after referring to the good results obtained from the use of adrenalin by local application to the nasal mucous membrane in the treatment of vomiting during pregnancy by Freund, Zanfrognini, Silvestri, Chidichimo, and others, narrates the case of a woman who, during her first pregnancy, suffered various unpleasant disturbances. The last menstruation took place on October 25th, 1907, and was not so free as the previous ones. After about a week, the pregnancy disturbances commenced, and gradually so increased in intensity that the patient had to be treated by the writer. The symptoms were a general feeling of indisposition, of extraordinary tiredness, of asthenia of the muscles, disinclination to follow her usual domestic occupations, melancholy, and an exaggerated feeling of worry. In addition to this, the patient suffered from frequent headaches, vasomotor disturbances, reduction of appetite, slow and difficult digestion, chronic constipation, ptyalismus. Then nausea often occurred and later vomiting. From November 27th onwards, all these symptoms became worse. The vomiting was more frequent, so that the patient had to have medical help. An improvement occurred after the use of the usual remedies indicated in these circumstances, but the attacks of vomiting recurred and very violently. Various remedies were tried, but without success, and the vomiting became extremely frequent, so much so that the patient could not even keep a drop of water down. Nutrient enemas and soothing drinks per rectum were all of no avail, and after consultation with a specialist, it was decided to interrupt the pregnancy. At this stage the author was called in to operate, but he obtained the permission of the family to try his treatment, of which he reports in the following terms:

> Of the former treatment I only adhered to the feeding by injections, and prescribed 20 c.cm. adrenalin solution 1 in 1,000, Parke, Davis, of which 20 drops were to be taken daily, 10 in the morning and 10 in the evening. The first three days I administered per rectum 150 grams water with 20 drops laudanum, the next days per os a few cubic centimetres of ice water. This treatment not only caused no trouble, but the therapeutic result was so excellent and rapid that the family were agreeably surprised. After two days the continuous vomiting disappeared, and gradually the single cases of vomiting grew less, so that on the third day the patient was able to take a little ice-cold food through the mouth and to keep it down. On the fourth day nourishment was increased in quantity and quality; on the sixth day from the commencement of the cure the choking sensation and the morning sickness had entirely disappeared. At the same time the general condition of the patient was considerably improved. On the eleventh day I reduced the daily adrenalin dose to 10 drops and let these be taken for nine days. No disturbances occurred and the general condition of the patient seemed perfectly satisfactory, the appetite excellent, digestion perfect, bowels regular, and stools considerable, progressive increase in weight, speedy recovery of the forces, so that the patient was not only able to leave her bed but to attend to her domestic work and to go out again. She remarked no disturbances in the genital apparatus, and the uterus regularly increased in volume. Towards February 25th the patient observed some nausea, with choking sensation, headache, slight vasomotor disturbances; all these symptoms disappeared again immediately after five administrations of 10 drops of the adrenalin solution per day.

In conclusion, it may be said that where every cure proved unavailable and as a last resort the interruption of the pregnancy seemed absolutely necessary, adrenalin in tiny doses brought health without causing the mother the slightest trouble, and without harming the fetus, which developed regularly.

264. Scopolamine Morphine in Labour.

J. Halliday Croom (*Journ. of Obstet. and Gyn. of the Brit. Emp.*, July, 1909) has made use of scopolamine-morphine narcosis in 62 cases. He began with an initial dose of $\frac{1}{100}$ grain of scopolamine and $\frac{1}{3}$ grain of morphine, but the results were somewhat uneven and unsatisfactory, and all the patients complained of excessive thirst—a complaint which was never made after a larger dose. With an initial dose of $\frac{1}{75}$ grain of scopolamine and $\frac{1}{3}$ grain of morphine there was a greater diminution of pain, and the patients slept in the intervals between the pains. All the children were vigorous at birth. With an initial dose of $\frac{1}{100}$ grain of scopolamine and $\frac{1}{3}$ grain of morphine the results were much more satisfactory. Pain was markedly diminished, and in some cases entirely abolished. The patients slept soundly between the pains, and in most cases for one or two hours after the completion of labour. Seventy per cent. of the children in these cases were born vigorous, 27 per cent. required slight reviving, and 3 per cent. required thorough resuscitation; no children were lost. In 25 of the 62 cases one or other or both drugs were repeated; the second dose of scopolamine varied from $\frac{1}{150}$ grain to $\frac{1}{100}$ grain. The repetition of the scopolamine to a slight extent, and the repetition of the morphine to a much greater extent, prolonged and deepened the effects upon mother and child, especially in the case of the morphine upon the child; latterly the scopolamine only was repeated. The drug acted as a soporific, as a narcotic, and also appeared to cause amnesia, so that in almost all cases the memory of the pain suffered was either very much blurred or altogether abolished. In two cases forceps were applied without causing pain. In almost all the cases the drug was administered during the second stage of labour, but in the one or two cases in which it was given in the first stage it seemed to hasten dilatation of the cervix. Chloroform was given in 10 cases, four times for the application of forceps, twice for stitching the perineum, once for the performance of version, and once in a breech case in a rickety flat pelvis. In one instance chloroform was given because of extreme pain towards the end of the second stage, and in another because the patient was very noisy in spite of the injection. No bad effect upon the mothers was observed either as regarded heart, pulse, or respiration. In 3 cases there was *post-partum* haemorrhage, though not to a dangerous extent, and it was considered possible that the drug might have a tendency towards producing it. The child was often born in sleepy and almost comatose condition, but the complication was never a serious one, and was easily dealt with by the ordinary methods of revival. Not one of the patients was totally insusceptible to the drug. The cases which appeared to be specially suitable were those of primiparae of nervous temperament. Croom considers the scopolamine-morphine to be contraindicated when the pains are irregular and feeble. Where the patients are physically weakened the effects of the drug need to be carefully watched throughout. On the whole, the author has no doubt that the scopolamine-morphine narcosis is an efficient means of controlling the pain of labour, and is practically safe when ordinary precautions are taken.

GYNAECOLOGY.

265 Haemophilia and Bleeding from the Female Organs.

Fränkel and Böhm (*Monats. f. Geb. u. Gyn.*, October, 1909) have prepared an important monograph with a table of 151 reported cases of haemophilia in women. They distinguish, under a special column, sporadic from distinctly hereditary haemophilia. They find that reliable statistical evidence is not in accordance with *a priori* theories concerning haemorrhages in women clearly subject to haemophilia. That formidable disease exists in women under the form observed in men. It is an error to suppose that in a family of bleeders the males have haemorrhages at any age from any part of the body, whilst as a rule the females escape, though a few suffer, and in the few females that suffer the bleeding is simply an exaggeration of normal flow of blood from the genital tract. Stating the theory in a purely gynaecological sense, haemophilia, it is still widely believed, is in the female a disease limited to the years passed between the beginning and the cessation of the catamenia. Fränkel and Böhm show that statistics do not support this theory. These bleeding women, reported as cases of menorrhagia, metrorrhagia, and puerperal haemorrhage, are often found to have already suffered from epistaxis and troublesome bleeding after dental operations before puberty, and in other instances remain through and after sexual life subject to bleeding from the gums and nose; melaena, haematemesis, and the characteristic traumatic haemorrhages so familiar in male cases have been repeatedly noted in these cases of genital bleeding. The traumatic general type and the local, that is, menstrual and puerperal, type find a link in the distinct though relatively rare cases of bleeding from ruptured hymen after coitus. But haemorrhage from the hymen has been repeatedly observed in women not subject to haemophilia, and thousands of women suffer from menorrhagia and puerperal floodings, though quite free from the constitutional disease in question. Fränkel and Böhm state plainly that when we bear in mind the extreme tendency to morbid bleedings in the female organs where blood is lost regularly, as in the catamenia, and of necessity without any pathological complication in childbirth, these local haemorrhages are nevertheless by no means the preponderating form in women with confirmed haemophilia. At the same time, when they do occur locally as menorrhagia and flooding, they are usually very severe. That is no doubt one reason why their proportion has been overrated, as cases of general bleedings from other parts in female subjects are scattered amongst thousands of private and hospital patients, and the surgeon or physicians who attend them do not always inquire closely about genital haemorrhages. On the other hand, puerperal haemorrhages and menorrhagia are for many reasons accurately chronicled on a large scale. Out of the authors' 151 collected cases, 30 proved fatal, or about 20 per cent. In 29, they are careful to remind us, the bleedings were on no occasion from the genital tract, and 6 cases in this subseries ended fatally, again about 20 per cent. The purely genital haemorrhage cases are 122 in number, with 24 deaths, once more about 20 per cent., not higher than in the 29 non-local series. Female bleeders ought never to marry, and plugging of the uterine and vaginal canals, whenever needed, is the right treatment, far more satisfactory than any drug.

THERAPEUTICS.

266. Antistreptococcic Serum.

Aronson ventilates two important questions with regard to the preparation of antistreptococcic serum (*Berl. klin. Woch.*, April 12th, 1909). The first is whether a serum which is gained by means of a strain of cocci the virulence of which has been raised by passage through animals is active against those strains which have been cultivated directly from human beings without being passed through animals. He owns that until recently he had not realized that cultures which are virulent to animals could be obtained directly from human beings. This has, however, been proved to be the case, and he has found that such cultures do not need a special medium. A broth medium, somewhat more alkaline than usual, suffices perfectly, and the only other precaution required to maintain the virulence is that subcultures should be made every fourteen days. In order to answer the question he found that the serum of a horse which had been highly immunized by means of a strain rendered virulent by animal passage was able to protect mice against a lethal infection with a virulent strain cultured directly from the human subject. In the same way the serum of a horse immunized by human virulent cocci protected against infection by artificially virulent strains. He therefore does not believe that it is correct to draw a hard-and-fast line between the cocci rendered virulent by passage through animals and strains which are originally virulent. On the other hand, he is of opinion that a serum gained by means of originally virulent cocci protects better than a serum gained by means of increased virulent cocci. He has recently been immunizing horses with a variety of strains which were originally virulent to mice, gained directly from human beings. The second question was raised by Zangemeister. It is whether a serum of a horse, no matter how it is prepared, is active or not for monkeys and for man. Zangemeister found that horse serum was quite inactive against infections in monkeys. On the other hand, he claimed to have obtained active serums in monkeys which failed against infections in mice, but which were active in monkey infections. Aronson criticizes

Zangemister's results by pointing out that his experiments were conducted on a very small number of animals. Some difficulty was experienced in immunizing a dog with a streptococcus derived from a human case of sepsis, which had proved to be virulent to monkeys. Still more difficulty was met with in the attempts to immunize monkeys (*Macacus rhesus*). These difficulties, however, were overcome. First, it was found that the monkey serum was capable of protecting mice against infection. Infection with streptococci in monkeys proved to be very similar in clinical course to the infection in the human subject (sepsis). A number of monkeys were then injected with streptococcal immune serum from the horse, monkey, pig, goat, dog, and calf. On the following day all these monkeys were injected with 15 c.cm. of a one-day-old bouillon culture of streptococci. Every one of the animals save the one pretreated with pig serum and one pretreated with a monkey's serum, which had proved inactive to mice, recovered. All the controls died within eighteen hours. These experiments, therefore, yielded the desired answer to the second question. Aronson is of opinion that the employment of monkeys in this branch of serum therapeutics is important and likely to further our knowledge in many directions.

267. Physical and Dietetic Treatment of Arterio-sclerosis.

ALOIS STRASSER (*Wien. klin. Woch.*, April 8th and 15th, 1909) deals with the physical and dietetic treatment of arterio-sclerosis, of which the physical treatment is still based to a great extent upon empiric rather than scientific knowledge. Hydrotherapy in arterio-sclerosis has its chief action on the regulation of the circulation: rightly used it may under certain conditions check the progress of the disease and break the vicious circle in which the arterio-sclerotic patient finds himself. After the primary rise of pressure which has been observed by many workers to follow thermic irritation either with hot or cold water, there is a general reaction in which the state of hypertonus is replaced by widening of the vessels and there is an increase of the blood flow to the capillaries; after further oscillations the condition of the circulation steadies itself, though it may not come back to its original condition, and it is this alteration of condition, which may perhaps be cumulative if the treatment is often repeated, which is to be looked upon as the therapeutic effect of the treatment. In arterio-sclerotic vessels the "reaction" power is not normal, and yet it is only very seldom that the changes in the vessels are so advanced and so widespread that no part of it is capable of reaction. In those cases, however, in which there is advanced sclerosis in the splanchnic region, causing an insufficiency of the regulating function, and also a complicating nephritis, so that a toxic cramp of the vessels still further lessens the power of reaction, the use of cold as a thermic irritant is contra-indicated. Insufficiency of the heart muscle contra-indicates the use of cold if it is combined with a bad reaction power of the vessels. In Strasser's opinion too much stress has been laid upon the danger in the majority of cases of the primary increase of pressure, because it appears that the almost unavoidable circumstances of daily life often cause a much more considerable rise of pressure than does the use of cold. For severe cases the safest method of applying cold is partial rubbing-in with cold water, but in cases of general arterio-sclerosis with anaemia of the skin, or where cold causes cramp, hot and cold water may be used alternately, or even better only hot water. A general rubbing down is well borne by many sclerotic patients. Cold baths are only to be used in the first stage without dangerous localization. Cold douches are to be used with caution, and do not, as a rule, give as good a reaction as rubbing; the Scottish douche of alternating hot and cold water is very often better. Hot baths should not be given to sclerotics at a higher temperature than 37° to 38° C., but hot air or light baths are free from danger and of advantage. Strasser considers that where sclerosis is limited especially to the smaller vessels, sweat procedures are much better borne than where there are great changes in the aorta. In giving hot air and light baths the author's practice is to limit the duration of the bath to from 10 to 15 minutes, not to give them at a temperature of over 50° C., to apply cold to the head and often also over the heart, not to give at most more than three sweat baths during the week in severe cases, to let the patient be cooled down by sponging, douching, or by a bath at a temperature of from 30° to 25° C., and to allow the patient to rest for at least an hour after the bath in severe cases. Schweninger's hot foot or arm baths are little known, but are valuable. The contraindications to the use of heat are not many; where interstitial nephritis exists very high temperatures are not permissible, and great caution is to be exercised where there are marked signs of sclerosis of the vessels of the brain, in advanced insufficiency of the myocardium, and severe changes in the bend of the aorta with cardiac insufficiency. Applications of heat over the heart are useful in attacks of angina pectoris. Much discussion has arisen as to the action of CO_2 baths. Strasser's experience is that while CO_2 baths never give rise to cerebral haemorrhage, they never clearly benefit the symptoms of cerebral sclerosis and their chief action is always on the cardiac insufficiency. Oxygen baths are not as effective as CO_2 baths. A general rule of diet is that, while meat is not to be prohibited, a large amount of vegetables should be taken, and also milk. Absolute milk diet is not good for a long time, but may be used as a cure for certain symptoms. It is important that the daily supply of food should be taken in small quantities frequently. Alcohol, tea, coffee, and tobacco are not to be absolutely forbidden; in angina pectoris, however, smoking is to be absolutely forbidden, and alcohol taken only to the most moderate extent. A reduction of diet is not to be carried to the point of causing a feeling of subjective weakness. Limiting of the amount of water taken undoubtedly spares both heart and vessels, but should not be carried below 1,500 c.cm. a day; even when there is oedema not more than three days consecutively below this limit are to be allowed. Cautiously employed, the mechano-therapeutic treatment is of great service in all forms of arterio-sclerosis, even in sclerosis of the coronary arteries. Where the vessel reaction is present, or where considerable rise of pressure of long duration is seen, or even insufficiency of the heart after relatively slight muscular work, the treatment must be limited to purely passive movements, or only such a strain put upon the heart as its reserve strength is equal to. Massage is useful, and it is an erroneous idea that massage of muscles or abdominal massage strongly and lastingly heightens the blood pressure. General and local galvanization and faradization have no significance for the vessel processes; in faradization in paralysis only weak currents are permissible. Strasser has had no personal experience of the effect of high-frequency currents, but concludes from the literature that the method is applicable to arterio-sclerosis.

PATHOLOGY.

268. Basophile Granules in Red Cells.

IN anaemias of man and in those of animals produced experimentally there are to be seen red cells containing granules which stain by the aniline basic dyes (methylene blue, etc.). These granules are irregularly rounded in form, are variable in size, and are often situated at the thick peripheral part of the red corpuscle (Jolly, *Archives des maladies du coeur, des vaisseaux, et du sang*, May, 1908). From nuclei of red cells, such as are to be found in the blood of severe forms of anaemia, these granulations are easily distinguished by the fact that they are multiple, they have no special affinity for nuclear stains, and they do not show a vacuolated appearance, as the nuclei found in red cells may do. These basophile granulations of the red cells have been found in the majority of the anaemias, but in varying frequency; for example, in chlorosis they are rarely found, whilst in lead poisoning they are almost constantly found. Sabrazès showed that by the injection of a solution of lead acetate into the peritoneal cavity of a guinea-pig basophile granulations could be made to appear in the red blood cells. As to the significance of these basophile granulations, Askanazy and Sabrazès considered the granules to be the result of the fragmentation of the nuclei of nucleated red cells; the staining properties of the granules, however, are different from those of the red cell nuclei, and these facts do not support these authors' conclusions. Further, if these granules were the result of nuclei fragmenting, one ought to find them rare when the nucleus is large, and very numerous when it is small and atrophied; such, however, is not the case. Another argument against the nuclear origin of these granules is the fact that they are not found in all cases of blood regeneration, and they are very rarely found in the bone marrow. Grawitz, Bloch, Pappenheim, etc., consider these granules to be due to some alteration of the red cell; Askanazy thinks that cells containing these granules are young red cells. From his own observations and from the evidence obtained from the work of other investigators the author is inclined to think that polychromatophilia, granular red cells (which are to be seen in unfixed blood films), and basophile granulations in the red cells are only different degrees of the same alteration of the corpuscle, alterations which are probably due to a hydration of the stroma or corpuscular membrane.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

269. Differential Diagnosis of the Acute Exanthemata.

O. Heubner speaks of the diagnostic signs and symptoms of the various acute exanthemata, and indicates the means of distinguishing one from the other (*Deut. med. Woch.*, May 27th, 1909). In view of the epidemiological importance of detecting such diseases as measles during the pre-exanthematous period, he points out that the recent work of von Pirquet has suggested that the onset of the disease proper is not the manifestation of the toxic action of the antigen, that is, the causal micro-organism of the disease, but is caused by a product, an antibody produced by the antigen in the tissues. The time taken to form these antibodies is the incubation period. Signs and symptoms, however, may appear during this period, and in the case of morbilli, we have a valuable diagnostic sign in Koplik's spots, which may be seen on the first day of fever, and always on the second. Koplik's spots begin as round or irregular bright red spots, of the size of the head of a pin up to the size of a lentil seed. They are to be seen on the mucous membrane of the cheek or, rarely, on the lips. The number of spots varies between ten and twenty, and each spot has a duration of from two to three days. The diagnosis formed by these spots is especially valuable in that when the spots first appear the disease is just reaching a stage when it forms a danger for other children. Huebner is of opinion that Koplik's spots are absolutely diagnostic of measles, and that they do not occur in rötheln, in spite of some assertions to the contrary. In regard to the suggestion that a bacteriological diagnosis might be made, he considers it doubtful whether even the streptococci found in scarlatina are causal microbes. During the prodromal stage scarlatina may be mistaken for diphtheria. The conditions may be very similar in this stage, but the more experienced observer will be able to distinguish scarlatina from the redness surrounding the exudation on the faucial mucous membrane, the swelling of the lymphatic glands which is greater in scarlatina than in diphtheria, the rapid pulse, and the sweetish, acetone-like odour of scarlet fever, as compared with the glue-like smell of diphtheria. Scarlatina may set in without a rash and simulate acute tonsillitis. The condition of the tongue and mucous membrane will assist in forming a correct diagnosis. The diagnosis of variola during the prodromal stage may also be difficult. The fever, associated with headache, disturbance of the intestines, etc., may give rise to a suspicion of a central pneumonia, while if the first roseolar spots are just beginning to appear on the abdomen, the diagnosis of typhoid fever may be made. Heubner considers that the backache of small-pox is a very valuable sign at this period. It must, however, be remembered that this sign is absent in young children. The prodromal rashes of small-pox may be extremely like the rashes of morbilli and scarlatina. In discussing the diagnosis during the exanthematous stages, he does not find it necessary to deal with the rules which every student has learnt as to the date of appearance, the distribution, and rudimentary course of the various rashes. He points out that the measles rash may begin with a markedly infiltrated mass of nodules in the face, and especially on the forehead, which may lead even experienced clinicians to diagnose small-pox. Next he turns to the consideration of the morbilliform and scarlatiniform rashes. The former are more common. Toxic skin affections in infants suffering from intestinal disturbances often lead to an incorrect diagnosis of measles. Koplik's spots are never present and the prodromal signs are also absent. Certain drugs, such as quinine, antipyrin, balsams, morphine, and other alkaloids, may also produce morbilliform rashes. Measles and rötheln or German measles may be very similar, especially when the former takes a very mild form. The diagnosis sometimes is only rendered clear when fresh cases of severer measles break out. If the cases are seen early the presence of Koplik's spots will be found valuable. Rötheln may simulate scarlatina, but the diagnosis rarely presents much difficulty after a few days. With regard to Dukes's "fourth disease," the author states that his own experience has led him to believe that a mild exanthematous disease which is very similar to scarlatina does exist. He appears inclined to believe that this disease is a separate entity and is not identical with German measles. The symptom complex known as infectious erythema or febricula, described by Sticker, receives attention in the next place. With regard to this disease, as well as of the newly-described serum disease, he is not able to give sharp lines for the differential diagnosis. Great difficulty may be experienced in distinguishing scarlatina from erythema scarlatiniforme desquamativum recidivans. The only means of coming to a correct diagnosis may be found in the tendency of recurrence in the latter. Recently much has been written and spoken of the complement deflection in scarlatina. At present the methods are not capable of giving a certain diagnosis of scarlatina by this phenomenon; but it is to be hoped that improvements in technique will provide a reliable biological diagnosis of this disease. Acute pustular exanthemata often give rise to great diagnostic difficulties: Huebner regrets that no signs or symptoms have recently been observed which would render a mistake less likely.

270. Glandular Fever.

Burns (*Archives of Internal Medicine*, August 15th, 1909) reports 9 cases of glandular fever, the first 6 of which occurred in children from 2½ to 5 years of age in the children's ward of a hospital, while the last 3 occurred in the adult members of the family of one of the children after the latter had left hospital, the first case arising twenty-four hours after the child had reached home. As none of the family had seen the child for more than two months previously, it would appear that the incubation period may be as short as twenty-four hours, though it is generally placed at from seven to nine days. All showed a leucocytosis from 18,800 to 26,400 during the disease, but after convalescence the leucocytes varied from 5,000 to 8,000. The throats and tonsils were injected, but without exudate, and the cultures made showed *Staphylococcus aureus*. In all but one of the cases the enlargement of the cervical glands was simultaneous and bilateral, the swelling and tenderness increasing at the same rate on both sides up to a maximum on the third day. All the glands involved were hard and discrete, and without any tendency to suppuration, the upper glands of the chains anterior and posterior to the sternomastoid muscle being chiefly affected. The axillary and inguinal glands were slightly enlarged and hard in two of the cases. A general feeling of malaise, with a slight rise of temperature, usually ushered in the complaint on the day preceding the glandular swelling and tenderness, and stiffness of the neck, thirst, anorexia, and constipation followed among the most usual symptoms. The urine remained normal throughout, and there was no sign of any abdominal pain or tenderness. The temperature varied from normal to 101.8° F. at the onset, and when there was a rise it fell by lysis, and in the case of tuberculous patients with abnormal temperature the superadded infection made little if any change.

SURGERY.

271. Arterial Anaesthesia.

W. A. von Oppel (*Muench. med. Woch.*, August 31st, 1909) believes that the local anaesthesia of the future will be through the arterial channels. He recognizes, however, that as only one year has passed since Bier has introduced his venous local anaesthesia it is too early to criticize the venous and arterial methods side by side. He has considered it advantageous to study the conditions governing the absorption of local anaesthetics when applied intra-arterially, and now reports the results of some of his experiments. The first important point to settle appeared to him to be the comparative toxicity of drugs when applied through the veins and through the arteries. Using cocaine, he chose the abdominal aorta in the rabbit as the most suitable artery to begin with. The rabbits were given doses of morphine previously, and 1 c.cm. of varying strength solutions of cocaine was injected into the abdominal aorta. Experimentally he had found that 1 c.cm. of a 2 per cent. solution of cocaine introduced into the inferior vena cava, femoral vein, or

jugular vein produces immediate convulsions, dyspnoea and other symptoms, and rapid death. Rabbits of under 2 kilograms body weight show acute toxic symptoms when 1 c.cm. of a 1 per cent. solution is injected, but death does not usually ensue. When the solution is introduced into the abdominal aorta 1 c.cm. of a 5 or 6 per cent. solution produces convulsions after several minutes, but does not kill; 1 c.cm. of a 12 to 15 per cent. solution kills rabbits of from 1,200 to 2,000 grams weight. It thus was shown that while from the point of view of intoxication poisonous substances usually act at least eight times as strongly if introduced into the aorta than if introduced into the venous system, cocaine is from eight to ten times as toxic when injected intravenously as when injected into the aorta. He explains this by believing that the cocaine is neutralized or used up in the arterio-capillary system, and therefore that its toxicity is inversely proportional to the size of the arterio-capillary surface, over which it has to pass. He further established the fact that when injected into the femoral artery, 1 c.cm. of a 5 per cent. solution is the minimal lethal dose. This find confirmed his view that the danger of poisoning was inversely proportional to the size of the arterial surface over which the cocaine has to pass. He however expected to find an exception to this rule in the carotid artery, since in this case the cocaine would be carried directly to the brain. Experiment showed, however, that 1 c.cm. of a 3 per cent. solution was the minimum lethal dose. He admits that it is impossible to measure the surface of the arterio-capillary system in any part of the body, but it appears that the dose for the carotid injection would correspond in proportion to that of the aortal injection. Sobolyinski and Karaffa-Korbut found that the lethal dose of cocaine introduced into the vertebral arteries is smaller than the carotid dose. This was to be expected from theoretical considerations, since the cocaine acts directly on the medulla oblongata. Next the author found that when the inferior vena cava was compressed the toxicity of cocaine introduced through the abdominal aorta was lessened. His experiments further showed clearly that the injection into the aorta of a 5 to 8 per cent. solution of cocaine produced an abolition of all reflexes of the lower limbs. Muscles, nerves, and other tissues could be cut or damaged without any contraction or movement ensuing. Finally, he reports that when 3 c.cm. of a 1 per cent. solution is injected into the femoral artery of a dog, an elastic bandage constricting the leg above the site of injection, complete anaesthesia of the leg was obtained. Goyanes has shown that anaesthesia can be obtained in dogs with ¼ per cent. solutions of novocain. This suggests that arterial anaesthesia can be obtained without danger. Goyanes has twice applied arterial anaesthesia in human subjects, but the author considered it necessary first to study the comparative toxicity of this method of application, as compared with the venous method, before he felt justified in applying it to man.

272. Surgical Importance of the Thymus.

PAUCHET (*Arch. provinciales de chir.*, No. 7, 1909) states that the affections of thymic origin needing surgical treatment are due either to hypertrophy or to persistency of the gland, both of which conditions are far from being rare. The thymus, it may be held, is abnormal when it weighs more than 20 grams, or when it persists after the age of 20 years. The presence of a persistent thymus and the extent of any hypertrophy may, the author asserts, be readily made out by percussion and radiography. The abnormal conditions of the gland with respect to its volume and duration may be associated with hyperplasia of the lymphatic system, affecting chiefly the glands and constituting what is known as the status lymphaticus. The direct compression of the trachea and the bronchi by an enlarged thymus causes the serious condition called thymic asthma, which occurs during the first two years of life, and is characterized by repeated attacks of paroxysmal dyspnoea. This affection, which from a surgical aspect it is very important to distinguish from stridulous laryngitis and spasm of the glottis, frequently causes sudden death during an attack. The subject of an enlarged thymus, though quite free from respiratory troubles, is constantly liable to the fate of sudden death. This result, the "thymustod" of German pathologists, occurs in most instances in children below the age of 2 years, but has also been met with in young adults under the influence of emotion or excitement, and frequently during the administration of chloroform. In ending the list of evils due to enlargement of the thymus the author points out that it is a frequent complication of exophthalmic goitre, and then, as has been proved by both pathological and clinical experience, it adds very much to the gravity and mortality of this disease. In the concluding remarks on treatment it is stated that if the symptoms of enlarged thymus are not acute and the practitioner can wait, he should subject his patient to radiography, giving two or three sittings weekly over a period of from two to three months. The hypertrophied thymus, like the hypertrophied spleen, atrophies, the author asserts, under the action of the *x* rays. If this treatment fails, or the symptoms become threatening, the surgeon should intervene and practise intracapsular enucleation of the enlarged gland. A portion of the gland structure should be left, and the stump be fixed to the lower part of the neck.

273. Influence of the Parathyroids on Ossification in Fracture.

CANAL (*Gazz. degli Osped.*, August 5th, 1909) has carried out certain experiments on rats with reference to the above question. Having removed the parathyroids either totally or partially, he fractured the fibula, and noted the process of repair in each case. From the experiments it seemed clear that total removal decidedly retarded the process of ossification, the change from cartilage to bone took place much more slowly, whereas in partial removal no marked difference was observed. Inasmuch as tetanic spasm followed both the total and partial removal, the delay in ossification in the former case could not be attributed to the convulsions. It therefore seemed probable (in the light of control experiments) that the delay was really due to the parathyroidectomy. Rats were chosen as the animals of experiment as they survive the operation more successfully than other animals. And the fibula was chosen because the sound tibia acted as a splint during the convulsions which usually follow extirpation of the parathyroids. From these experiments, and from what is known with regard to rickets, the chain of evidence connecting the parathyroids with the metabolism of calcium in the organism acquires fresh strength and opens out possibilities of clinical application.

OBSTETRICS.

274. Placenta Praevia and Caesarean ection.

NOVAK (*Monats. f. Geb. u. Gynäk.*, October, 1909) asked, as a theme for discussion, this question: Is Caesarean section as now practised in cases of placenta praevia a real advance on former treatment? He brought forward carefully prepared statistical tables, and concluded that obstetricians are not justified in replying to the question with a positive "Yes." Caesarean section is of course not always practicable outside hospital and town practice. The results of purely obstetrical manœuvres are, on the other hand, very favourable as far as the mother is concerned; in these days, when the practitioner can avail himself of antiseptic technique, Caesarean section can hardly give better results than version and delivery. In a few cases, as physiological stricture, section is indicated in the interests of the mother. The mortality amongst the children is, even under the most favourable circumstances, very high; but the child's life is often greatly endangered by flooding before the mother receives medical attention. It often happens, Novak further observes, that there are contraindications to Caesarean section, such as fever, plugging with material of doubtful antisepticity, and extreme acute anaemia. The classical method, where a vertical incision is made down the front of the uterus, is the best when section is undertaken for placenta praevia, at least as far as theoretical considerations can guide us in the absence of wide experience. Novak carefully reviews the opinions of other authorities.

275. Care of the Nursing Breasts.

GEORGE E. ABBOTT (*Med. Rec.*, October 16th, 1909) shows how the breast is prevented from attaining the normal development and thus secreting the normal amount of milk by the pressure of the ribs against the branches of the mammary artery as it passes out between the ribs, the weight of the breasts causing this compression by dragging on the vessels. If the breasts be supported the circulation is normal and much more milk will be secreted. By lying upon the nursing side while nursing the infant the greatest amount of blood passes to the breast during lactation. The breasts should both be nursed at each feeding, instead of alternately. Thus the breasts never hang flabby, and will be firmer and of better shape after nursing is over. In using massage of the breasts it should begin around the nipple and end at the circumference. The nipple should

be massaged with lanolin cream before each nursing, so as to make it soft and pliable for the infant. Much pain is saved in this way. In girls whose physical development is slow and who are nervous and high strung, the nature of the menstrual period should be explained, and an attempt made to awaken the mother instinct toward the doll.

276. Ovum of Six Months Expelled Entire and Alive.

VITRAC (*Gaz. hebd. des sci. méd. de Bordeaux*, September 19th, 1909) exhibited to the Bordeaux Medico-Chirurgical Society a six months fetus, expelled with placenta and membranes intact, from a patient on whom ovariotomy had been performed in the fourth month of pregnancy. The patient had previously had three children, and this conception took place in December. On January 20th, some pain was complained of in the lower part of the abdomen and right flank, and a cyst of the right ovary was diagnosed, with a fairly long pedicle, as it could be pushed either right up against the liver or down behind the pubes. The operation was performed on April 15th, when the pedicle was found to have spread out, so that the tumour rested on the broad ligament, which was more vascular than on the left side. The external third of the Fallopian tube was removed at the same time, a little difficulty being experienced on account of its vascularity. No untoward results followed, and the patient left the nursing home in the beginning of May. On May 21st she took a long and fatiguing walk, and on the 25th the appearance of a sanguineous discharge made her immediately return home, where Dr. Vitrac examined her. Rest in bed, and hypodermic injections of morphine when pain began on June 1st, did not arrest the premature confinement, and on June 12th the birth of the entire ovum took place, the fetal heart being seen to beat for nearly ten minutes after expulsion. The presentation was breech, and the placenta had been inserted at the level of the presenting part. There was not much *post-partum* haemorrhage, but on June 17th pain in the left pulmonary region appeared, ushering in an attack of pleuropneumonia, which passed off in eight days. At previous confinements it was ascertained that the membranes had been ruptured by the midwife in attendance; they were, therefore, probably more dense than usual, which would account for their resistance and their expulsion entire.

THERAPEUTICS.

277. Digitalis Substitutes.

J. GROBER (*Wien. med. Klinik*, August 1st, 1909) considers the different substitutes for digitalis. Digalen is a 30 per cent. solution of a soluble form of digitoxin prepared by Cloetta; its advantages, as compared with digitalis, are the uniformity of its composition and comparative uniformity of its action and its smaller poisonousness. The author is sceptical both as to the absence of cumulative action and its more speedy action. It can be administered by mouth or by the intravenous method. Intramuscular injections have fallen into disuse because they easily lead to the formation of abscesses. In acute cases the initial dose is 1 c.cm. three times a day for two days, after which 0.5 c.cm. three times a day may be given for a few more days. The author only gives the full dose of 1 c.cm. three times a day for as long as eight days in cases in which digitalis cures have previously been given. In chronic cases, and where there is myocardial degeneration, the dose is 10 drops three times a day, or even smaller quantities may be given at the beginning and end of a course of treatment. The intravenous use of digalen is only recommended for acute cases. In these Grober, on the first day, gives an injection of 1 c.cm., or in some cases of 2 c.cm. Digitalone is much used in England and America, and has been warmly recommended by well known men, but Grober's personal trials of it have not been satisfactory. Knoll's preparation, "digipuratum," is an extract of digitalis leaves, and not a single chemical substance. The author's experience of this drug has been favourable, but it has not yet been tested for a long enough time to speak with certainty as to its value. It has the same cumulative action as digitalis, but it is to be preferred to digitalis on account of the constancy of the preparation and the guarantee of its physiological action. Strophanthin has been isolated from strophanthus seeds, and Frankel has widely used and highly praises Bohringer's strophanthin, which can be obtained in sterilized tubes for intravenous injection. The action of strophanthin on the heart is like that of digitalis, but it has no action on the vessels: according to Grober it has, like digitalis, a cumulative action. The intravenous method of administration is most used. Its effect in suitable cases may be marvellous. A patient with severe heart disease, when circulation is greatly depressed, with a cyanosed face and a pulse scarcely palpable and irregular, within a few seconds or half a minute after the injection may begin to show improvement of the pulse, and the cyanosis may have disappeared within a few minutes. Strophanthin is indicated in cases of sudden failure of circulation, whether the heart be healthy or diseased, so long as no other cardiac tonic, as for instance digitalis, has been given. In cases in which there is no myocardial degeneration, 1 mg., that is, the whole contents of one of the sterilized tubes, may be given at once. If any preparation of digitalis has been already given, this dose will be too large. Strophanthin is useless in many diseases in which the heart is in a pathological condition, as, for instance, in nervous diseases, and in nephritis; it should never be given where there is a tendency to embolism. Grober has twice used adrenalin in cases of collapse with good results. Barium chloride is worthy of consideration when digitalis and strophanthus cannot be used, but it cannot be relied upon to give a full digitalis effect in severe cases. None of these substitutes can always take the place of the infusion or of the powdered leaves; where patients have already had large doses of the preparations of digitalis or its substitutes, and small further doses only can be given, the author finds the action can be best controlled if the powdered leaves are used. He has also gained the impression that in some cases better results are attained with digitalis than with the isolated constituents, and for this reason he welcomes the introduction of digipuratum.

278. Sciatica Treated by Salicylic Ionization.

SOME rather sensational cases of cure of sciatica by salicylic ionization are reported by Wullyamoz (*Arch. d'elec. méd.*, October 10th, 1909). The patient takes a hot bath of half an hour's duration before the séance in order to rid the pores of any grease they may contain, the grease offering a strong resistance to the passage of the ions. The electrodes are large plates of lead, trapezoidal in shape, covered with absorbent material after the manner suggested by Leduc. The cathode is charged with a solution of salicylate of soda to 3 per cent., as hot as possible—about 50° C.—the speed and number of the ions being proportional to the temperature. The patient lies upon the cathode, and the anode is applied to the abdomen, thigh, and leg. The duration of the séances is from sixty to ninety minutes, and at the beginning of treatment they take place every two or three days. The intensity of the current generally reaches 200 milliampères. If the patient feels a burn a layer of caoutchouc is placed between the skin and the electrode at that point. The number of séances varies between one and fifteen. Eighteen observations are reported, with remarkable results in every case save one. The exception was an alcoholic, in whom the treatment was checked owing to his intemperate habits. Some cures were obtained after the patients had taken long but ineffectual courses of thermal baths. One patient, aged 73, had suffered more or less from sciatic pain of the left thigh for six years, and after seven seances he could climb hills like a young man and had no return of the pain. A plumber who had suffered from sciatica for two months, and had had to keep his room for fifteen days, was able to return to his employment after four séances. Another man, who had suffered from sciatic pain since eleven o'clock in the morning, and was carried to the doctor's in the late afternoon, had ninety minutes' séance, after which he felt so well that on the same evening he assisted at a ball!

279. The Treatment of Nephritis.

CALABRESE (*Gazz. degli Osped.*, October 10th, 1909), in an address given at the medical congress held in Milan, discusses with some detail recent advances in the treatment of nephritis. Speaking generally, the treatment of nephritis is mainly dietetic; no direct specific treatment is yet known. Owing to recent knowledge in the field of physio-pathology of the kidney, milk diet *per se* has lost a good deal of its importance in the treatment of chronic nephritis, although there still remain certain nephritics who find by experience that they do well on an exclusive milk diet. In acute nephritis, or in exacerbations of a chronic nephritis, all agree that a milk diet for some weeks is obligatory, followed later by a mixed diet with hydrocarbons, fats, and vegetables. In chronic nephritis the quantity and quality of food must be determined for

each case, bearing in mind the balance of nitrogen in regard to ingestion and elimination, or by observing the quantity of fluid swallowed and the specific gravity of the urine after the elimination of albumen. On some such bases the diet will contain more or less chloride, greater or less amount of albuminoids, more or less abundant, etc., according to the individual case. And in every case the diet will be subordinate to the special idiosyncrasies of the patient, to the condition of his digestive system, his liver, his heart, and blood pressure. Substances or agents likely to quicken metabolism, favour oxidation, and elaboration of the albuminoid molecule, are sometimes useful—for example, inhalations of oxygen, iodides, alkalines, and the various attempts at colloidal therapy. In acute suppression the old remedies—bleeding, purging, diuretics, etc.—still hold their own. The results from opotherapy and serotherapy are as yet too uncertain to enable one to draw any definite conclusions. Surgical intervention for the relief of symptoms, and after all medical means have been tried, may sometimes give relief—for example, to relieve tension in acute nephritis, or for haemorrhage, intense neuralgia in chronic cases. In chronic interstitial nephritis operation is of no benefit.

280. Neutral Oxalate of Potassium in Phlegmonous Inflammation.

CAVAZZANI (*Gazz. degli Osped.*, November 1st, 1908), as the result of some nine years' experience, speaks confidently of the value of subcutaneous injections of oxalate of potassium in the treatment of phlegmonous inflammations—for example, white leg, phlebitis, adenitis, etc. If suppuration or necrosis exists no good result can be expected; but in the earlier stages, before either of these conditions has supervened, the author has seen much good arise from the injections. Oxalate of potash, as compared with the many serums that have been used, is simple, of stable composition, and easily procured. The author is evidently not much impressed with the value of the many different kinds of serum treatment—diphtheria antitoxin excepted. He has treated 9 cases of white leg by oxalate injections with an average cure of two or three weeks, which is decidedly below the usual duration of such cases. One or two injections are made at the circumference of the swollen part, avoiding the vessels; 4 c.cm. of a 2 per cent. solution are used, and some ten to fifteen punctures are made deeply in the subcutaneous tissue. This is repeated every four to six days, and rarely more than three such sittings are required. The limb is not absolutely fixed, but slight movements are allowed in bed. The author has also seen benefit accrue from painting the limb with a mixture of tr. iodi and tr. camphor. Brief details of 9 cases are given, and the average treatment was only 19.6 days.

281. Treatment of Trigeminal Neuralgia.

A. FUCHS (*Wien. med. Klin.*, July 18th, 1909) discusses the treatment of severe cases of trigeminal neuralgia of unknown origin. The chronic nature of the disease and its liability to remissions makes it necessary to adhere strictly to the rule of beginning with mild and harmless measures. The different cutaneous applications are too well known to need discussion. Electro-therapy possesses a certain reputation. The author finds that the galvanic current in some cases gives very good results, but in others no result at all. The treatment employed is the anode treatment: the current used is of gradually increasing strength, and the sitting may sometimes last for as long as forty minutes if shorter times fail. If there is no result after a few sittings the treatment should be discontinued. The kataphoretic galvanic treatment is worthy of a trial, solutions of morphine, cocaine, quinine, or aconitine being employed. The faradic current, suitably used, may also have an anodyne action. The author has not found static or other forms of electricity effectual, nor does he recommend other physical procedures, such as Roentgen ray and radium treatment, massage, etc. Compression of the carotid, which is sometimes recommended, should be used only with the greatest care, and on one side only. In treatment by drugs, Fuchs gives morphine if he is obliged to give it, usually only at night, in order to procure for the patient a few hours' sleep. He ascribes to aconitine a specific action in trigeminal neuralgia, if it is given in active and accurately-dosed preparations, and if at the same time the bowels are made to act freely. So employed, aconitine proved useful in 16 of the most severe cases. It is not always easy to procure an active preparation. Fuchs usually gives Mousset's aconitine pills, containing 0.2 mg. in a pill, and gives up to eight or even ten pills in a day. Larger doses may be given when the patient is under observation, since the first signs of intoxication are very evident. A cumulative action is not to be feared so long as the bowels act freely. In the clinic in which Fuchs works the method employed with regard to aperients is to give on the first day ten doses of 0.1 mg. of calomel at intervals of one hour, and to follow this up by administering mineral waters, such as Hunyadi water. Large quantities of the Hunyadi water, up to 2 litres a day or more, are well borne by the patients. The author is convinced of the practical value of this method. The milder surgical methods of treatment of obstinate facial neuralgia seldom give permanent relief. Of nine patients in whom Fuchs has performed the so-called radical operation of extirpation of the Gasserian ganglion, one died as the result of operation, three died of other diseases without return of the neuralgia within one and a half years of the operation, one was permanently cured, four suffered from return of neuralgia. Such results are not encouraging for the performance of the operation. Fortunately, the aconite treatment is an excellent palliative.

PATHOLOGY.

282. The Blood Condition in Trichinosis.

FELIX GAISBÖCK (*Wien. klin. Woch.*, March 25th, 1909) describes two cases of trichinosis treated by Dr. Fessler which exemplify the diagnostic points of the disease, and especially the importance of an examination of the blood. Both patients were infected on the same occasion by eating the uncooked flesh of a trichinous hog. Intestinal symptoms appeared on the eighth day, and swellings of the face and different muscle symptoms eight days later. The disease was of a different type in the two cases. The first case was suggestive of typhoid in that there was apathy, dry tongue, extreme sense of weariness, a positive diazo reaction, slight meteorism, and continuous fever for eight days, with a daily maximum temperature of 40° C. (104° F.); on the other hand, there was no swelling of the spleen nor roseola, and the history of swelling of the face and difficulty in swallowing, together with the still present diffuse pains in the chest, were not typical of typhoid. The second patient presented himself for medical treatment because of the pains in the muscles, which he looked upon as rheumatic. In this case the fever was remittent in type—37.4° C. to 39.7° C. (99.3° F. to 103.5° F.)—intestinal symptoms were not prominent, there was no swelling of the spleen, and there was a very marked diazo reaction, such as is otherwise not seen, except in typhoid, severe tuberculosis, and measles. Examination of the blood showed in both cases a very decided increase of the eosinophile polynuclear cells—in the first patient up to 20.79 per cent., in the second 48.66 per cent. In both cases the number of eosinophiles quickly diminished from the first height, only to again increase and finally gradually diminish as convalescence set it. The first rapid fall was coincident with an increase in the severity of the symptoms, and is to be explained either as the result of the severe damage to all the organs, including the blood-forming organs, or of the onset of a new illness, probably through a mixed infection. Other observers have noted a similar fall in the number of eosinophiles during a bacterial infection, and it may obviously in trichinosis lead to errors of diagnosis if the blood be only examined once at the height of the disease. The lymphocytes showed an absolute increase at first up to 10.5 per cent. and 12.36 per cent. in the two cases respectively; in both cases a further rise followed and continued during the whole period of observation, in one case being still present after a year. In the early part of the illness the whole number of leucocytes showed a moderate increase, being 11,300 and 12,600 respectively. This increase of leucocytes would negative a diagnosis of typhoid fever, in which condition there is a diminution of the total number of white cells, together with a relative increase in lymphocytes. The similarity in the condition of the blood in the two cases described in the article supported the view that both sprang from the same cause. The author believes that trichinosis may be diagnosed simply from the examination of the blood. Among other noticeable clinical points was the falling off of the diazo reaction at the height of the illness; in one case, with the onset of venous thrombosis, as the diazo reaction had dropped almost to *nil*, there was an intense diminution of the urobilin reaction and aldehyde reaction of the urine. In one of the cases, but not in the other, the typical condition of the reflexes—presence of Kernig's sign with absence of patellar and Achilles reflex—was well marked.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

283. Diagnosis of Mitral Insufficiency.

CAMILLE LIAN (*Arch. des mal. du cœur, des vaisseaux, et du sang*, July, 1909) finds that his cardiographic tracings taken from patients affected with mitral regurgitation differ considerably from the characteristic tracing described by Tridon, the latter stating that a cardiograph obtained in mitral regurgitation shows a rounded summit. Of 11 cases examined by the author, in only one was the rounded summit well marked; in 2 it was partly present, and in another the summit varied in character; in 7 cases the cardiogram was quite similar to the cardiogram of a patient who is free from disease. From these observations the author concludes that the rounded pulsation of Tridon is by no means always to be found in cases of mitral insufficiency, and he further concludes that the presence of Tridon's sign in a cardiogram is of very little value in the diagnosis of mitral insufficiency. Before disturbance of compensation has set in, the pulse in mitral regurgitation is quite regular, and of normal or small amplitude; when compensation fails the pulse becomes small, irregular, and unequal in its beats. With regard to the retardation of the carotid or radial pulses in mitral regurgitation, the author found that there appeared no marked retardation, at least not more than is usually to be found in normal persons, and therefore this method of investigation does not help in the diagnosis. Another method by which the author investigated his cases was by means of a sound introduced into the œsophagus, by which the movements of the left auricle can be registered. He finds that tracings obtained by this method in healthy people show large oscillations due to the respiratory movements, each inspiration producing a depression, and each expiration a rise. Œsophageal cardiograms obtained by this method show two rises separated by two deep depressions, and are very similar in character to tracings of the venous pulse from the jugular vein, the only difference being that in the latter the presystole is represented by a rise, whilst in the former the tracing shows a depression at the same moment of time. When the œsophageal sound is situated above or below the situation of the left auricle, certain variations from the tracing are found, and these are shown by the tracings illustrated in the author's paper. In 7 cases of mitral regurgitation the author obtained tracings of the working of the left auricle, but in none of these did he find any marked differences from tracings obtained from normal persons. Owing to the difficulties met with in the passage of the sound and in the interpretations of the tracings obtained when the end of the sound occupies different positions in relation to the left auricle, the author considers that this method of examination does not help greatly in furnishing data for diagnosis. In tracings obtained by this method a lessening of the meso-systolic depression and an accentuation of the presystolic pulsation would be a point in favour of mitral regurgitation but nothing more. Radioscopic examination of the heart may assist in the diagnosis of mitral regurgitation, but only when this shows that the size of the heart is considerably increased beyond its normal limits, and especially if one can show that the left ventricle is moderately hypertrophied and the right chambers more or less dilated. By registering electric currents set up by contraction of the heart muscle Einthoven has recently added a fresh method of investigation in cardiac affections. In cases of mitral insufficiency the electro-cardiogram shows an exaggerated elevation at the onset of ventricular contraction. More recently still Einthoven has photographed the sounds of the heart by means of an apparatus consisting of a stethoscope applied to the precordial region and attached to a microphone, the two poles of which are connected, one with a pile, the other with the vibrating plate of a telephone, which in its turn is traversed by a series of interrupted currents. These currents are registered in a similar way to the electro-cardiograms.

284. Infection of the Urine in Infancy by Bacillus Coli.

MORSE (*Amer. Journ. of Med. Sci.*, September, 1909) considers infection of the urine and urinary tract in infancy by *Bacillus coli* as of more frequent occurrence than is often recognized. The mode of infection is probably transparietal in most cases in boys, and in a fair proportion in girls, but in both sexes it is occasionally haematogenous, while in girls the infection is usually through the urethra. The term "bacteriuria" indicates a disease characterized by the presence in the freshly passed urine of great numbers of bacteria, with an absence of any marked signs of inflammatory processes in the mucous membrane of the urinary tract. Beyond malaise and a slight elevation of temperature there are, as a rule, no severe general symptoms, and there is nothing in the symptomatology to call attention to the urinary tract, though in older children frequent and painful micturition may be present. The urine is acid and uniformly cloudy or turbid from the presence of the bacteria and pus cells. The temperature is very irregular, but in some cases suggests an atypical malaria. Since any definite symptoms pointing directly to the urinary tract are rare, it is important that the urine should be examined in all conditions in infancy with indefinite symptoms, especially if febrile. Notes of 10 cases are given. The prognosis is good, but the duration may be long with exacerbations and relapses. Although theoretically the alkalis might be expected to do harm rather than good, because the colon bacillus grows more luxuriantly in alkaline than in acid media, it is found clinically that many cases recover rapidly when the alkalis are given, and in the author's experience more cases do well on this treatment than on urotropine. For some hitherto unexplained reason the *Bacillus coli* is often but little affected by this latter drug, and consequently much less is to be expected from its use in infections of the urinary tract by this organism than when other organisms are the cause of the lesion. An anticolon bacillus serum has been found useful in acute, but failed in chronic, cases; and while recently the subcutaneous injection of dead cultures of the colon bacillus has been tried, but little can be expected from any but autogenous vaccines. In summarizing treatment, alkalis should be first tried, and, if no improvement follows, then urotropine should be used, failing which resort should be had to autogenous vaccines. Circumcision should be avoided in these cases, as the resulting local reaction is liable to favour infection still further.

285. The Haemorrhagic Diathesis in Insane Persons.

GATTI (*Gazz. degli Osped.*, May 16th, 1909) discusses the subject of haemorrhages in mental cases. Some of these are really examples of morbus maculosus (Werlhof) occurring in the subjects of mental disease and independently of any environmental cause. They are probably due to acute or chronic toxic infection associated with a tendency to weak vascular walls. Bad conditions of health and bad surroundings act as predisposing causes, hence one sees these haemorrhages more frequently in old, ill-nourished subjects suffering from vesicular lesions. The gums may be affected so as to suggest scurvy. The most efficacious —sometimes surprisingly so—treatment is by means of hypodermic or endovenous injections of gelatine (10 to 20 c.cm.). If there is much arterio-sclerosis or atheroma it is not advisable to use gelatine; oxygen is better in these cases. In suitable cases the gelatine treatment acts very well, and may be considered free from danger. In bad cases of purpura haemorrhagica a combination of corrosive sublimate and gelatine often answers better than the simple gelatine.

SURGERY.

286. Marmorek's Serum in Surgical Tuberculosis.

E. W. SIKEMEIER (*Wien. med. Klin.*, July 11th, 1909) describes his results in the treatment of surgical tuberculosis with Marmorek's serum. He reports on 17 cases—2 of tuberculous disease of the elbow-joint, 1 of coxitis, 1 of tuberculous disease of the wrist, 2 of the ankle, 1 of the ankle and elbow, 1 of the shoulder, 2 of spondylitis, 6 of fistulae or lymphoma of the neck, 1 of genital tuberculosis. Fistulae had formed in all but 4 of the cases. The number of cases is small, because care was taken to include only trustworthy cases—that is, cases in which the patients had been under institution treatment for at least

six months before the tuberculin cure was begun, and which had failed to improve, or had gone back during the six months. No treatment was combined with the tuberculin treatment; the conditions of life during it were the same as before, and no case was considered decisive unless striking improvement occurred within a reasonably short time. In 3 cases the method employed was that of subcutaneous injection, 5 c.cm. of the serum being injected three times a week; in the remainder of the cases from 5 to 10 c.cm. was injected daily into the rectum. No permanent harmful effect of the form of a temporary relapse was not infrequently observed at the beginning of the treatment; when the subcutaneous method was employed the discharge from fistulae increased, and became more markedly purulent; lymph glands became swollen and painful, and sometimes broke down, affected joints increased in size, and new fistulae even formed. The final results of the treatment were as follows: Five patients made no improvement, 6 were discharged as recovered, 6 were strikingly improved, but not absolutely recovered. Of the 6 who received no benefit, 2 were clearly hopeless from the beginning; one was a case of especially severe lumbar spondylitis, the other of advanced phthisis and tuberculosis of the elbow. Among the 6 successful cases was that of a patient who had suffered for twenty years from multiple fistulae in the neck, and who recovered after six months of serum treatment. The patients, after recovery from the clinical point of view, still reacted to v. Pirquet's tuberculin test, a fact which shows the necessity for continuing the treatment after apparent recovery. The necessity for long-continued treatment is also shown by 3 cases in which relapse occurred as soon as the injections were discontinued, full recovery having not been first attained. In one of these, a case of fifteen years' duration, nineteen out of twenty fistulae in the neck healed after nine months' serum treatment, and only one gland remained palpable; discontinuance of the treatment led, however, to a change for the worse, and four of the fistulae again broke down. The subcutaneous injections proved to act more rapidly and more certainly than the rectal method, and, according to the author, a negative result is not to be accepted as such if the rectal method only has been employed. The results arrived at in this series of cases must be considered to be very favourable, when it is remembered that the cases chosen for the attempt were ones which had resisted all treatment for years, and that under the serum method improvement began to be apparent, as a rule, in two months from the beginning of treatment.

287. Jejunal and Gastrojejunal Ulcer following Gastrojejunostomy.

IN the first of the original memoirs in the August number of the *Annals of Surgery*, Paterson, of the London Temperance Hospital, deals with the subject of jejunal ulcer following gastrojejunostomy, giving notes of 2 cases under his care, and an abstract of 61 other cases. The results of the author's full study of this clinical material and of gastric analyses in one of his cases are given in the following summary: (1) Symptoms of jejunal ulcer following gastrojejunostomy is probably under 2 per cent. (2) At the present time this complication apparently occurs with reduced frequency. (3) Clinically there are two groups of cases: (*a*) Those in which perforation into the general peritoneal cavity ensues; and (*b*) those in which general peritonitis is prevented by the formation of adhesions. (4) Pathologically the cases may be thus classified: (*a*) Ulcers of the jejunum; (*b*) gastrojejunal ulcers, or ulcers at the site of the anastomosis. (5) Jejunal ulcers in some cases are of infective origin. In these instances ulceration commences within a very short interval after gastrojejunostomy, and usually there is more than one ulcer. (6) In a large proportion of cases the ulcer is single, and is probably the result of the action of hydrogen chloride, which injures the cells of the mucous membrane so that they are digested by the intestinal juice. Other agents may also take a part in injuring the mucous membrane. (7) Gastrojejunal ulcers are a direct consequence of the wound made in effecting the anastomosis, and their persistence is probably the result of hyperacidity of the gastric juice. (8) Closure of a gastrojejunostomy fistula is the consequence of cicatrization of a gastrojejunal ulcer. It is more likely to occur when the pylorus is patent, not on account of this pyloric patency, but because in such cases there is usually marked hyperacidity. (9) Any procedure or disease which diminishes the amount of bile and pancreatic juice in the jejunum favours the occurrence of jejunal and gastrojejunal ulcer. For this reason operations of the "Y" type and entero-anastomosis are inadvisable in cases in which free hydrogen chloride is free in the stomach, as after these procedures the anastomosis and a portion of the jejunum are deprived of the protective influence of the alkaline bile and pancreatic juice. (10) The reason ulceration has followed the anterior operation more frequently than the posterior operation with a loop is probably that in former times the anterior operation was more frequently performed. (11) As no instance of the posterior method without a loop has yet been recorded, we must for the present assume that its occurrence after this type of operation is less likely. It is possible, however, that this immunity is partly the result of improvements in technique and in the after-treatment of gastric operations in general. (12) In cases of perforation into the general peritoneal cavity immediate laparotomy offers the only chance of saving the patient's life. (13) As there is some evidence that jejunal and gastrojejunal ulcers may heal, an operation should not be performed in any chronic case until after a thorough trial of medical treatment. (14) Even when surgical intervention is indicated, an attempt should be made to diminish hyperacidity if this be present. (15) The preventive treatment of this serious result of gastrojejunostomy should consist in (*a*) correct and appropriate surgical technique; and in (*b*) prolonged after-treatment. (16) Every case of recrudescent pain or a constant character after gastrojejunostomy, especially when associated with hyperacidity or hypersecretion, should be regarded as a case of potential ulcer and treated accordingly.

288. Large Mediastinal Abscess Caused by Dental Caries.

ALGLAVE AND MAHÉ (*Prog. méd.*, August 7th, 1909) relate the following case: A woman aged 35 was admitted to hospital with pain over the angle of the left lower jaw, and with inflammatory swelling and oedema of the part. The swelling also involved the groove between the gum and side of the tongue, and was in direct connexion with the last molar tooth of this side. An incision over the angle of the jaw gave vent to a large quantity of fetid pus, and the cavity left occupied the whole of the lateral suprahyoid region. Rapid improvement set in, but was interrupted by the appearance of severe lancinating pains in the sternal, left mammary, and left supraclavicular regions, and the pains radiated into the left arm. The patient's temperature rose, and a diffuse swelling appeared in the substernal and supraclavicular notches and over the manubrium. This swelling rapidly increased in size, and became red, fluctuating, and painful. A large incision was made at the right border of the manubrium, and a large quantity of fetid pus evacuated. It was then found that there were two cavities; a superficial subcutaneous and presternal one, and a deep one which corresponded to the situation of the thymus. A large drainage tube was inserted, and the patient's condition rapidly improved, although for a month pus continued to be discharged in large amounts. The carious molar was then removed; following this the amount of purulent discharge from the chest gradually diminished, and the patient was soon able to leave the hospital, and fifteen days after the removal of the tooth the chest wound had healed.

OBSTETRICS.

289. Treatment of Puerperal Infections.

PINARD (*Ann. de gyn. et d'obstét.*, October, 1909) strongly favours the antistreptococcic serum treatment, and publishes some highly instructive tables showing the results of prophylactic and curative treatment of puerperal infection at the Clinique Baudelocque from 1896 to 1908 inclusive. The routine treatment in normal cases is as follows: No vaginal injections are given in pregnancy unless there is a suspicion of pathological danger in that canal. At the onset of labour a bath is given, and then follows subsequent cleansing of the external genitals and ano-perineal region with an iodol soap and a 1 in 4,000 solution of the biniodide of mercury. Pinard has used the latter exclusively since 1883. Then a vaginal injection of the same solution is given, and sterilized wool applied to the vulva. Vaginal digital explorations are made, but as seldom as possible. A vaginal injection is given after the delivery of the fetus and also after the expulsion of the placenta. Then the external parts are washed and wool reapplied to the genitals. This dressing is continued, and the parts washed night and day. The patient's linen is washed in the laundry and then disinfected in Herscher's stove. The routine curative treatment is intrauterine

injection, which must not be begun too late nor repeated too frequently: the curette, in all cases of retention of membranes, but not as a routine measure under other circumstances; and, lastly, serum injections. Late curetting is an actual danger, and Pinard no longer trusts implicitly in continuous irrigation. He has found that Marmorek's streptococcus is less active than that cultivated since 1905 in the Pasteur Institute, and therefore uses the latter exclusively. Originally Pinard injected from the beginning 10 c.cm., but for several years he has given 40 c.cm. every morning and evening for three days. During the past year he has continued the injections at the same amount until the symptoms of infection have disappeared. Many women have taken from 300 to 600 c.cm. of the serum, and all to great advantage. Pinard, on the strength of this experience, concludes that we now have at our disposal in antistreptococcic serum a rational method of treatment for puerperal infection, as this agent increases more than any other the coefficient of resistance of the organism when the streptococcus is the pathogenic agent.

GYNAECOLOGY.

290. Expulsion of Decidua at each Monthly Period.

FRANKL AND SCROGGS (*Amer. Journ. Obstet.*, September, 1909) relate an instance where, in their opinion, a patient conceived regularly after each period, shedding the decidua of pregnancy at the next period. The patient was 27 years of age, and had borne a child when 24, labour being normal on that occasion. Since her recovery from the puerperium severe pains, as in labour, occurred regularly at the periods, not relieved until a true decidual cast of the uterus had been expelled. Her physician kept her under observation for three periods, and found on each occasion a complete cast. She was then placed under the care of Frankl and Scroggs, who watched her during two periods, and at both she suffered severe labour pains and a membranous cast was expelled. The characteristics of the expelled membrane were so marked that there could be no doubt but that it was a true decidua of pregnancy. The authors describe it minutely, and add a photograph of one of the casts. The patient admitted that she cohabited with her husband just after each monthly period, therefore she must have been impregnated immediately. An inflammatory condition of the uterine mucosa caused thrombosis of the blood sinuses, clearly visible in the membranes, and consequent separation of the decidua from the uterine wall at the next period. For the casts were not such as are expelled in cases of membranous dysmenorrhœa, but true decidua. Unfortunately, the after-history of the patient is not known, as she did not remain under observation.

291. Epithelioma of the Vulva and Pruritus.

BALLOCH (*Amer. Journ. of Obstet.*, October, 1909) read notes on two cases of malignant disease of the vulva before a meeting of the Washington Obstetrical and Gynaecological Society. The first patient was a widow, aged 65, who had been subject for twelve years to pruritus dating from the menopause. Two growths developed on the right labium majus, which increased rapidly, and were the seat of sharp lancinating pains. Three months after they had been detected by the patient herself Balloch examined the seat of disease. The labia minora were so shrunken as to be identified with difficulty; the larger labia showed patches of red, angry looking, thickened epidermis, alternating with areas of greyish white atrophic tissue. This condition was seen to extend to the clitoris, the fourchette, the mucous membrane of the vagina, and the integuments outside the vulva. At the anterior part of the right labium majus was a typical cancerous ulcer, and at its posterior part an elevated, hard, red, circular nodule, sensitive to touch. The internal organs seemed normal, and the inguinal glands were apparently not involved. The affected parts, including the clitoris, were freely dissected away. Five months later the right inguinal glands were removed, and six months after the second operation a fungating mass developed in the right groin; it apparently had its origin deep down in the pelvis. The patient died eleven months after the first operation. In the second case the patient was 76 years old, and had also been subject to pruritus for many years, lately complicated by irritability of the bladder. An ulcer with indurated borders occupied the middle of both labia on the left side, reaching to the tissues of the meatus; no enlarged glands could be detected. Balloch removed the labia on the left side, the clitoris, a third of an inch of the urethra, the upper third of the right labia, and the inguinal glands on both sides. Recurrence commenced, Balloch was careful to note, in the urethra, and the patient died from cancer of the bladder five months after the free dissection of the parts. The author points out, not only several facts and principles well known in association with the surgery of the vulva, but also the gravity of pruritus vulvae. His first patient had refused to be examined shortly after the first appearance of that symptom, and let it go on for over eleven years. The extension of the disease to the meatus and urethra calls for a careful examination of that canal and the use of the cystoscope. There was much discussion after the reading of Dr. Balloch's paper. Stone related a case where repeated operations had kept the patient living, although the clitoris was already destroyed when the knife was used for the first time. Bovee thought that radical operations were of small value after the disease had existed for a few months, so that, under such circumstances, he only practised palliative methods. Abbe considered that the infection in vulvar epithelioma seemed to progress externally, and the lymphatic glands were not speedily involved. Such was the case in similar malignant disease of the face, where multiple ulcers, possibly representing infection by scratching, were frequent. There were two labial ulcers in Balloch's first case. As epithelioma of the face, and skin elsewhere, was cured in 90 per cent. of all cases by radiotherapy, it should be tried for vulval cancer, where operative results were much less satisfactory. Bovee discredited the statistics of radiotherapists, as it was mainly the most hopeful and the most hopeless results that were written up. He had operated on twelve cases of epithelioma of the vulva, and none were cured. Balloch, in reply, doubted the effect of radiotherapy, and still thought that the knife would give better results.

THERAPEUTICS.

292. Galvanic and High-Frequency Currents in Deafness and Auricular Vertigo.

ZIMMERN AND GENDREAU (*Arch. d'élec. méd.*, October 10th, 1909) give the results of their treatment of deafness, singing in the ears, and auricular vertigo by means of the galvanic and high-frequency currents. In applying the galvanic current they use the negative electrode in the auditory passage, and the positive electrode upon the dorsal or lumbar region. The ear electrode, with the help of a pledget of absorbent cotton, is extended as far as possible to the tympanum. The mean intensity of the current employed is from 15 to 20 milliampères: each application lasts from twelve to fifteen minutes, and takes place three times per week. In the case of the effluve or spark, each application lasts four or five minutes. In this fashion 22 patients have been treated, 16 of whom were suffering from otitis sclerotica, characterized by deafness and singing in the ears. In 5 of these 16 patients auricular vertigo was also present. These 5 were treated by the galvanic current, and in each case after between six and ten séances the dizziness disappeared. One lady, for instance, had double otitis sclerotica, which had been going on for two years, and in June, 1908, the attacks of dizziness became so severe that she had to cease all employment. The first séance of galvanic current was given on November 13th, 1908, and after the second séance, on December 19th, the dizziness had disappeared. On January 1st, 1909, she was reattacked by dizziness, but, following two séances of galvanic current on the 4th and 6th of that month, she remained entirely free from the trouble up to the time of preparing the report (July 25th, 1909). With regard to singing in the ears, the results have been less remarkable. The condition disappeared in 5 patients out of the original 22, became scarcely perceptible in 9 others, but showed no improvement at all in the remaining 8. Of the 5 patients who were cured, 4 had been treated by the currents of high frequency in the form of condensed spark in the auditory passage, and the fifth by galvanic current followed by high frequency. As to the deafness, marked improvement was obtained in 10 of the cases; in 4 others it was less sensible, being about 15 or 20 per cent.: and in the remaining 8, in spite of a number of séances varying between thirty and fifty, no modification was obtainable. One patient, aged 55 years, who had suffered from deafness of the left ear since infancy, following upon otorrhœa, and had experienced a diminution of auditory sharpness in the right for five years, heard a watch tick (before treatment) 1 cm. to the right, 0 cm. to the left, and a tuning-

fork 80 cm. to the right, 0 cm. to the left.; after the fifty-sixth séance the watch was heard 45 cm. to the right, 0 cm. to the left, and the tuning-fork 2½ metres to the right, 20 cm. to the left. The authors think that the galvanic current acts in two ways: (1) Upon the circulation, producing an intense peripheral vaso-dilatation, which has the effect of decongestionizing the labyrinth, and (2) on the sclerotic tissue of the middle ear. They advise the treatment of a case of auricular vertigo by galvanic current before having recourse to any other method. In dealing with deadness and singing in the ears, it is useful to follow up the applications of galvanic current with high frequency. The electrical treatment should be instituted when the patient is first aware of singing in the ears, before there is pronounced loss of auditory sharpness. If the condition dates back for some years, and is connected with old lesions of the middle ear, it is difficult to obtain complete disappearance of the trouble.

293. Bismuth Paste.

ALEXANDER SÁG (*Pester Med.-Chi. Presse*, No. 12, 1909) has tried the bismuth paste introduced into surgery by Beck of Chicago, and has had excellent results in two cases of mastoid disease which had been twice treated by operation. The paste employed was Beck's paste No. 2, of which the formula is: Bismuth subnitr. 15.0, vaselinae albae 30.0, paraffini mollis, cerae albae āā 2.5. In making the injection the chief point is that the paste should be injected under pressure, but in one of the author's cases, in which the dura mater was laid bare, strong pressure was not admissible, and the paste was simply introduced with the help of a spatula. The first case described was that of a patient whose mastoid antrum had been opened up because of mastoiditis and the formation of a mastoid fistula; in this case an opening into the antrum, about 3.5 cm. in depth and 3 mm. in breadth, persisted after the operation for several months. Treatment with Beck's paste was then begun; 1 c.cm. was injected and the fistula was closed with cotton-wool and zinc plaster. Two days after the injection dry bismuth was present in the opening of the wound, the opening itself was narrower, and the depth of the fistula was only 1.5 cm. After another two days the fistula was only 0.5 cm. deep, and the external opening was covered by a small crust, under which was healthy granulating tissue. During the next four days two further applications of the paste were made, and at the end of the time the patient was dismissed fully recovered. The second case was a more complicated one, and the results of the treatment are even more surprising. In this case a periosteal abscess developed at the parietal bone about six weeks after the mastoid operation. The abscess was opened. In spite of treatment for several weeks the condition did not improve, and at the end of this time there was a defect of the skin about the size of a two-heller piece at the anterior upper part of the parietal bone, the bone was exposed to the same extent, and there was a defect in the bone about 1 cm. in area at the bottom of which the pulsating dura could be seen. Treatment was continued for several months without result, and the patient was unwilling to have any further operation. Under these circumstances a trial of Beck's method was undertaken as a last resource; 3 c.cm. of the paste was pressed into the wound with a spatula, and the wound was covered with cotton-wool steeped in the paste, and a bandage applied. Two days later it was found that the wound had diminished in breadth from 1 cm. to 2 mm., and the amount of pus, which for months had been as much as a teaspoonful every twenty-four hours, was hardly enough to cover a small cotton-wool plug. On the third day 1 gram of the paste was injected, and the bandage reapplied. On the fourth day the wound was already covered with normal granulations. The patient was discharged healed at the end of a fortnight after this treatment was begun. As a result of his experience the author is able to maintain that the bismuth treatment in those cases where only some cubic centimetres of the paste are used is harmless to the patient. The treatment is simple and can be easily employed. The results may not always be equal to those described by Beck, but the method in any case is certainly worth a trial.

294. Morphine in Infantile Therapeutics.

LAUBRY (*Trib. méd.*, September 18th, 1909) reviews the opinions which have been expressed by various writers on the subject of giving morphine to children. Trousseau and his school absolutely excluded opium and its alkaloids from their pharmacopoeia where children were concerned, and for a long time no one dared to controvert this decision. Then Ausset and Borde obtained favourable results from its employment in gastro-enteritis, but they did not administer it systematically, and did not advocate the injection of morphine, as Lesage and his followers did later. Both internal and hypodermic methods of administration were followed. In the former, a 3 oz. mixture, to be given in divided doses, contained, for an infant 1 month old, 30 to 45 minims of syrup of morphine, for 3 months 1¼ drachms, rising gradually until for a child 1 year old it might contain 3 drachms. Hypodermically they employed a 1 per cent. solution of morphine hydrochlorate, giving a dose of not more than $\frac{1}{20}$ grain under 2 months, increasing to $\frac{1}{15}$ grain by 1 year, and to $\frac{1}{10}$ grain over 3 years. They never found any ill effects; tolerance seemed to be easily established, and the only inconvenience was some amount of vomiting. In eruptive fevers and in cerebro-spinal meningitis it has quieted the patient and dispelled delirium; and in spasmodic bronchial affections, such as croup, diphtheria, and severe whooping-cough, it has shortened the duration and diminished the severer symptoms. The absence of albaminuria must be ascertained and a strictly milk diet enjoined: and then the injection should be given for three days, discontinued for three days, and so on, no further medicament being required. Other practitioners have doubted the advisability of morphine for universal employment, and have even protested against it, either from a fear of its being administered too generally or without sufficient supervision; but in the hands of a careful doctor there is no doubt that it can be extremely useful and even valuable.

PATHOLOGY.

295. The Kidneys and Suprarenal Capsules.

BADUEL (*Rif. Med.*, February 8th, 1909) has experimented on some twenty rabbits with a view to determine the physiological and pathological relations between the kidney and the suprarenal capsule. Chronic nephritis is known to be associated with functional hyperactivity on the part of the suprarenal capsule, and experimentally the author found that this hyperactivity might be antecedent, simultaneous, or consecutive to the renal lesion. A nephritis could be produced experimentally by injury of the suprarenal capsule; nephritis so produced resembled that induced by cantharides or phosphorus (acute toxic nephritis). By causing an experimental nephritis it was possible so to modify the functions of the suprarenal capsule as to induce the symptomatology of impaired suprarenal activity. In all the experiments the cellular changes (hyperplasia and hypertrophy) occurred on the cortical substance of the suprarenal capsules. Possibly, in some cases, these hyperplastic changes might have been due to a kind of reaction against the auto-intoxication produced by the nephritis. The importance of the vasomotor nerves in all the changes observed was clearly seen; the condition of the vessels in respect to innervation had an obvious relation to the state of the gland. The functional state of the suprarenal was tested by Comesatti's reaction (a specific colour test for adrenalin with 1 per cent. corrosive sublimate).

296. The Blood Serum in Acute Experimental Nephritis.

DE SANDRO (*Rif. Med.*, October 4th, 1909) provoked an acute nephritis in dogs by subcutaneous injections of uranium nitrate, and draws the following conclusions from his experiments. The colour of the serum was deeper than in normal conditions, and in about half the cases was somewhat opaque, an opacity which was in all probability due to microscopic granules of fat. The total alkalinity of the blood serum was lowered, and also the specific gravity, this latter being due to the diminution of the albumen. The cryoscopic index was raised. The percentage of water was increased, and the dry residue correspondingly diminished at the expense of the organic constituents, the inorganic constituents tending to remain normal or even increase. The total protein content was markedly diminished, the diminution being most marked in the case of the serum albumen rather than the globulin. The ureic and amido-acid nitrogen was increased, the glucose was not materially affected in amount. The amount of chlorides and sulphates did not vary much from the average. The toxicity of the serum was decidedly increased. The author gives a fairly full list of bibliographical references.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

297. Chronic Diarrhoea.

AD. SCHMIDT (*Mediz. Klinik*, March 28th, 1909) deals with the pathogenesis and treatment of forms of chronic diarrhoea with watery stools. It may be stated that, in spite of the prevalent opinion that increased peristalsis is the essential cause of diarrhoea, the increased peristalsis cannot in itself be the sole cause. There is the possibility that increased peristalsis may injure the power of absorption, and thus cause diarrhoea. Systematic examination of the faeces has, however, shown that a considerable diminution of absorption is, as a rule, only present in affections of the small intestine, and is made obvious by the appearance in the stools of remains of easily digestible food, while in diarrhoeic stools such food materials are surprisingly seldom present. There are, of course, small intestine diarrhoeas, but in these the recognizable food material is shown by analysis to be usually not the result, but the accompaniment or even the cause of the diarrhoea. It may be suggested that the food which has not been absorbed is decomposed by bacterial action, and so escapes observation, while yet setting up intestinal irritation. That such irritation is, at any rate, not invariable, is shown, amongst other instances, by cases of absence of bile, or of tuberculosis of the mesenteric lymph glands in which there is an increase of the fat contents of the stool, but in which there may be no diarrhoea even after weeks of persistence of the condition, while diminished absorption may possibly—it need not necessarily—give rise to decomposition and secondary diarrhoea. The tendency to offensiveness, with fluidity of the stools, is the most constant and typical mark of diarrhoea. This striking tendency to offensiveness is due especially to the readiness with which the fluid ground substance of the diarrhoeic stools decomposes. The fluid is not water, but is an albuminous fluid, extraordinarily liable to decomposition; under certain circumstances it draws into the decomposition process the unabsorbed remains of food. Whether the fluid is an intestinal secretion or is a transudate or exudate, it is the cause of the increased peristalsis. Such a conception of the causation of diarrhoea obviously increases the importance, in treatment, of intestinal disinfectants, rather than of opiates or astringents. The author has studied the question of disinfection of the intestinal tract both experimentally and clinically, and of all the substances he has examined he has found hydrogen peroxide to be the most effective and least harmful. Petri's experiments in Schmidt's laboratory have demonstrated that hydrogen peroxide leads to a decrease in the acidity of the stomach contents, apparently caused by an increased secretion of alkaline fluid by the epithelial cells. Similarly, in the intestine, Schmidt holds that hydrogen peroxide causes an increase of the natural secretion and not irritation, the doses used being indeed much too small to cause irritation. The difficulty in the administration of hydrogen peroxide is that of giving it in such a form that it does not lose its O_2 before it passes out of the stomach and reaches the intestine. The best way of avoiding this Schmidt finds to be to give it in combination with pure agar-agar, which takes up from 10 to 12 per cent. of H_2O_2, and only gradually gives up its oxygen. Clinically he has found that H_2O_2 thus given is effectual in those forms of diarrhoea which take origin high up in the intestinal tract, but is ineffectual in diarrhoeas due to intestinal tuberculosis and affections of the large intestine. Further investigation of the subject is required.

298. Spontaneous Arrest of Congenital Hydrocephalus.

COZZOLINO (*La Pediat.*, April, 1909), seeing the rarity of cure in congenital chronic hydrocephalus, has recorded the following case where a child born with hydrocephalus was practically cured, and has remained well for more than a year. The child was 7½ months old when first seen; it was the first child, and born at term, but with some difficulty owing to the size of the head. The circumference of the head at 7½ months was 51 cm., occipito-bregmatic diameter 19 cm., biparietal diameter 13 cm. The anterior fontanelle measured 9 × 8 cm., and bulged: the posterior fontanelle was open. No fundus changes. At intervals of a week four lumbar punctures were made, and 65 c.cm., 55 c.cm., 100 c.cm., and 65 c.cm. of fluid withdrawn respectively. In addition to the lumbar punctures, which caused no bad symptoms and notably reduced the bulging of the fontanelle, antisyphilitic treatment was pursued (mercurial inunction and iodide internally) for several months. The mercurial inunction was practised for twenty days and then withheld for twenty days, starting again for another twenty days, and so on for five periods. In November, 1907, the head measured 57½ cm. in circumference; in March, 1908, the circumference was 57 cm., and has remained stationary. The intelligence is now well developed, the sutures united, the anterior fontanelle still open, but much smaller. The child can hold up its head, and its general nutrition is good. Apparently arrest of the process has occurred (the child is now 2½ years), whether *post* or *propter* the treatment is uncertain. There was no evidence of syphilis either in the parents or the child in this case, but the author believes an antisyphilitic treatment is nevertheless useful as an antiseptic, for even if syphilis is present the hydrocephalus may be a parasyphilitic lesion, and hence cannot be directly affected by antisyphilitic treatment. Lumbar puncture has often been tried, but the final results have not been satisfactory *quâ* cure.

299. Acidosis in a Child.

HALE (*Arch. of Pediatrics*, April, 1909) records a case of acidosis in a girl of 19 months, ending fatally. From the experience of this, and seven other cases which recovered, he regards the finding of diacetic acid in the urine as an important guide to treatment, and at once gives two to four teaspoonfuls of milk of magnesia, repeating in a few hours; bicarbonate or carbonate of soda by mouth or rectum, plenty of water, and no food for from twenty-four to forty-eight hours. For prophylaxis he recommends a diet low in fats, milk of magnesia as a laxative when needed, and calomel at regular intervals for two or three weeks, followed by from one to three nightly doses of sodium phosphate (grains xx), and sodium salicylate (grains iij), in a child of 7 years. The first sign of malaise or poor appetite is an indication for testing the urine, care being taken not to mistake a drug reaction for that of diacetic acid. The child had been fed almost entirely on milk and cereal, and for the last month she had been frequently miserable, though never really ill. She retched first thing every morning, but never actually vomited. The illness began with poor appetite, fever, thirst, and diarrhoea, and later retention of urine, though taking large quantities of water. The urine was clear, acid in reaction, specific gravity 1026, and contained no albumen, no sugar, and no indican, but large amounts of diacetic acid. Salol (grain ½) and pulv. opii (grain $\frac{1}{10}$) were given every four hours with as much water as she liked, half a teaspoonful of sodium bicarbonate being added to each glass. The child gradually became unconscious, and died in a convulsion on the fourth day after first coming under observation.

SURGERY.

300. Surgical Treatment of Inguinal Lymphoma.

ALADAR FISCHER (*Pester Med.-Chir. Presse*, March 14th, 1909) describes the surgical treatment of tuberculous inguinal glands. His general principle as regards operation is that the glands should be extirpated in all cases except when they are small and movable. In practice an expectant treatment is justifiable when the glands are movable, firm, and uncomplicated by any periadenitis, but the expectant treatment should not be too long continued unless improvement manifests itself, because of the danger to the organism of a focus of tuberculous infection. The author has had cases under his care in which surgical treatment was refused, and in which a local condition which had been for a long time quiescent developed into a general tuberculous polyadenia, going on to miliary tuberculosis or phthisis. Fischer looks upon softening of the glands, or periadenitis with fistulae, and ulceration, as absolute indications for extirpation if the general condition of the patient admits of it. In these cases, especially if the conditions of life are unhygienic, the success of the operation depends upon the completeness

with which all the affected glands are removed. As regards technique, the author has for seven years employed the Lauenstein incision. This incision is in two parts—one over and parallel to Poupart's ligament, the other corresponding to the line of the vessels, almost at right angles to the first. The glands and lymphatics are, if possible, removed in one piece in order to avoid infection of the wound with the danger of fistula supervening. If there should be contact with part of a caseating gland, the caseating tissue should be thoroughly removed with a sharp spoon, the field of the operation washed with hydrogen peroxide, and the instruments, etc., changed, in separating the glandes Fischer works with a sharp scalpel, as being less likely to lead to tearing of caseous glands and infection of the wound. In a very few cases (only two out of all the author's series) it may be necessary to extirpate also the iliac glands. For this operation Fischer prefers Kocher's operation rather than the larger one carried out by Lennander. Fischer investigates the conditions under which ligature of the femoral vein or ligature of both vein and artery cause gangrene, and finds that ligature of the vein under Poupart's ligament only causes gangrene when the blood pressure in the limb is too low, whether the low blood pressure is due to a coincident ligature of the artery or to other causes—such as degeneration of the cardiac muscle, great loss of blood, etc. It is clear that gangrene is least likely to occur when the operation is undertaken for growths which have already lessened the lumen of the vein, and led to an opening up of the collateral circulation. The treatment of injury to the femoral vein or artery occurring during the removal of tuberculous glands depends on these facts. If the vein be injured the ideal treatment is stitching the wound in the vein, but this can only be done if infection of the wound by broken down glands has not occurred. Where the glands are broken down and infection is likely to have occurred, ligature of the vein is the safer proceeding, unless the blood pressure is for any reason abnormally bad. If both vein and artery are injured, repair of the vessel is to be preferred to ligature because of the great danger of gangrene.

301. Volkmann's Contracture.

GINSBURG (*Amer. Journ. of Med. Sciences*, October, 1909) discusses the etiology, pathology, diagnosis, and treatment of Volkmann's contracture, a deformity of the fingers and wrist joint, rapid in onset, and associated almost invariably with fractures in the region of the elbow-joint in children under 15 years of age. Interference with the circulation in the muscles, and injury to nerve structures closely related to the muscles involved, are the fundamental factors in its production, the tight application of splints to the extent of producing a pressure sore usually being the direct cause. The flexor group of muscles are involved, the extensors owing their escape probably to the fact that the ulna is interposed between the splint and the soft structures. This, however, does not explain the occurrence of the condition in those cases which follow a long application of an Esmarch bandage, or direct injury to the vessels at some distance from the site of the muscle change. The median nerve is practically subjected to the same injuring forces as the pronator radii teres muscle which embraces it, and if the pressure over this muscle and its associated group is sufficient to produce marked ischaemia, degenerative changes may to some extent be set up in the nerve without any marked myositic changes being present. Usually rapid in onset, the characteristic deformity is that of a pronated forearm slightly flexed at the elbow with decided flexion of the hand on the wrist-joint, and extension of the metacarpo-phalangeal joints, while the phalangeal joints and the terminal joint of the thumb are flexed so that the fingers are often buried in the palm. With the hand extended at the wrist extension of the fingers is impossible, but if the wrist is sharply flexed extension of the fingers can generally be obtained. Severe pain, followed by numbness, discoloration of the hand, and blebformation, with a tendency for the fingers to contract, occurring after the application of splints for a fracture of one or both bones of the forearm or the lower end of the humerus in a child under 15 years of age, should at once suggest the possibility of a Volkmann's contracture, and removal of the splints will reveal the characteristic deformity with or without the presence of a pressure sore. The prognosis is unfavourable, but depends upon the duration and degree of the damage, though partial recovery may take place in cases apparently hopeless in the beginning. Careful application of dressings and frequent inspection are the best prophylactic measures, while means should be taken to restore the hand to the normal immediately the condition is recognized, followed by active and passive motion, massage, and electricity, with permanent removal of the splints. Tendoplasty, and resection of both bones of the forearm, are the two operative procedures offering the best chances of recovery of a useful hand, but the method to be employed must depend upon the individual case. The nerves should always be examined as to the extent of their involvement, and they must be freed if necessary. A typical case with photographs of the deformity is recorded.

OBSTETRICS.

302. Pregnancy in a Girl of Twelve.

V. GEETS (*Progrès Médical Belge*, October 15th, 1909) relates a case of pregnancy in a very young girl observed by P. Lamborelle, of Malines. The case was that of a girl who was delivered of a splendid baby at the age of 13 years and 3 months. She was small, wearing short petticoats, and slightly developed for her age, which at the time she came under observation was 12½ years. She was believed to be wholly given up to the ordinary pleasures of her age. In her family history, however, there were proofs of special tendency to precocious procreation. Her mother had had a child at the age of 15; one of her sisters conceived at 16. The girl herself began to menstruate at the age of 11 years and 4 months, and the periods were regular every twenty-eight or twenty-nine days during one year and eight months. It was at this time that she conceived by her cousin who was aged 23. Gestation proceeded normally, the child not seeming to be depressed or in any way morally affected by the event. There were no nervous disturbances; the enlargement of the womb went on in the natural way up to term. When labour began the obliteration of the os took place very slowly, but dilatation was regular and normal, the pains not being excessive. It was a case of seat presentation; delivery was quite normal except as regards the head and the right arm, which was bent behind the occiput. The disengagement of the arm and the extraction of the head were effected by manipulation with some difficulty, but in less than four minutes. The cord was of normal size; the placenta seemed enormous. There was no laceration of the perineum. At no time during the labour, which lasted about twenty hours, did the patient cry out or show signs of impatience, except during the manipulation for the extraction of the head. The child breathed irregularly for twenty minutes and then died, notwithstanding all attempts at resuscitation. After delivery everything went on normally. There was an abundant flow of milk. The author calls attention to the following as being the salient features of the case: Gestation without morbid phenomena; labour without great pain; the facility with which delivery was accomplished, taking into account that it was a primipara and a seat presentation; the great elasticity of the perineal tissues and the absence of laceration, which made the absence of laceration all the more remarkable.

303. Adrenalin in Caesarean Section.

BOGDANOVICS (*Orvosi Hetilap.*, No. 45, 1908) operated on a primipara, aged 31, anxious to have a child. The pelvis was rachitic and flat, the conjugate 8.8 cm. The soft parts were rigid and unsuited for extraction after symphysiotomy. Caesarean section by transverse fundal incision was performed. The child was delivered alive. After the uterine wound had been closed, a disc of 1 c.cm. of a 1 in 10,000 Tonogen-Richter solution was divided into four portions, and injected into different parts of the muscular wall of the uterus, as atony was extreme. Immediately after this injection the uterus became as hard as stone. The puerperium was normal. Bogdanovics found by this experience that Neu was correct in his recommendation of adrenalin preparations for uterine inertia, particularly in Caesarean section.

GYNAECOLOGY.

304. Acute Suppression of Urine after Criminal Abortion.

VINEBERG (*Amer. Journ. Obstet.*, September, 1909) relates a case where a woman, about 32 years old, passed a catheter into her uterus in the seventh week of her third pregnancy. A couple of days later a doctor was called in, and found her cyanosed, with a temperature of 105°. He used the curette; the temperature and also the pulse kept

high, and two days later jaundice was observed. The temperature then fell to normal, and the jaundice vanished in about forty-eight hours. The suppression of urine set in. Vineberg saw the patient on the sixth day after this complication had appeared. Vomiting was almost incessant, the pulse was tense but slow, and the temperature low: the general condition was fairly good. Packs, hot-air baths, and other remedies were tried. The patient passed about 2 oz. of urine in the twenty-four hours; it was highly albuminous and contained some casts. Uraemic symptoms set in on the second night after the special treatment was undertaken. Radiography was tried, and apparently two large stones occupied the kidney, but Vineberg was doubtful. He practised nephrotomy on the eighth day of the anuria, suspecting that very acute nephritis explained the suppression. The left kidney was of enormous size, and bluish-red in colour: it was simply congested; there was no dilatation and no stone, the renal capsule was very loosely adherent and the connective tissue around the organ highly oedematous. After incising the kidney the operator turned her over and exposed the right kidney, which was in a similar condition, but not so advanced. The patient, however, died suddenly at this stage of the operation. It is interesting to bear in mind that Israel reported in his work on the kidney one similar case of acute suppression after abortion at the third month. The same surgical treatment was adopted, and the patient died. It was found that she had bled to death, owing to the laceration of a vein after the delivering of the kidney through the operation wound. Vineberg did not know of any other case.

THERAPEUTICS.

305. The Mode of Infection and Duration of the Infectious Period in Scarlet Fever.

CHARLES V. CHAPIN (Fiske Fund Prize Dissertation, No. lii) discusses the mode of infection and duration of the infectious period in scarlet fever, and he regards the disease as analogous to diphtheria rather than small-pox, the eruption being more likely the result of a toxaemia than actual invasion of the skin by the parasite. The incubation period is usually only a few days, or even only a few hours, though it may be prolonged for weeks, while the infectivity is at its height in the early days, particularly during the acute throat, fever, and rash symptoms, rapidly diminishing with their disappearance. There does not appear to be any experimental or clinical evidence in support of the generally accepted ideas as to the infectiousness of desquamation, but most of the cases of long-standing infection have some discharge from the nose or ear directly maintaining infectivity. All but a small percentage are free from infection at the end of four weeks, though in some instances infectivity may persist for many weeks or even months. There is no direct evidence of the infectiousness of the exfoliated skin, while there is strong evidence that it is not always dangerous, as when 120 desquamating cases were discharged from hospital at Leicester (owing to an outbreak of small-pox) without any secondary cases developing in the homes. Persistent sore throat, nasal or aural discharge, are most frequent sources of infectivity, and in cases where the nasal discharge ceases for some days or weeks and then recurs, such recrudescence is frequently followed by the development of fresh cases. There is also evidence that perfectly healthy persons who have never had scarlet fever may carry the poison and transmit it to others, but how long such infection may last is not known. Contact infection is the chief mode of transference of the disease, as when the secretions of the mouth or nose are transferred from one to another in kissing, by toys, cups, spoons, and by countless other means, and there is much good evidence that the disease does not spread in the absence of contact. Infection by fomites and by the air is not easy, and when contact infection is rigidly guarded against, scarlet fever may be treated in the same ward with other patients without cross-infection, as in the Pasteur Hospital in Paris; and except by droplet infection, as in coughing or sneezing, which has a very limited range, the disease is probably almost never air-borne. Infection through the milk supply, though a real danger, occurs only in comparatively few cases, and in these it is generally believed that the milk receives its infection exclusively from human sources.

308. Electrical Treatment of Facial Neuralgia.

A CASE of facial neuralgia cured by means of continuous current of high intensity is reported by Méret (*Arch. d'Élec. méd.*, June 10th, 1909). The patient, a woman aged 44 years, began to suffer pain in the head in August, 1907. The pain was localized principally at the forehead and temples. On November 15th the first acute crisis of neuralgia made its appearance, the pain extending over the left side of the face. The patient generally had three paroxysmal attacks per day, and the pain, which was violent during the crises, persisted in a lesser degree during the intervals between them. Nocturnal crises had hitherto been absent, but they appeared in January, 1908, accompanied by insomnia. Galvanization was commenced on March 23rd. The facial electrode of Bergonié, connected with the positive pole, was applied to the left side of the face, and a large negative plate to the back of the neck. The current was raised slowly to 30 milliamperes, and this intensity was well borne during the twenty minutes' séance. The current for future seances was 40 milliampères. By March 28th, after four applications, the pain was restricted to a smaller area, but it still persisted in the temporo-parietal region and the orbit. By April 6th, however, four seances per week being given, the neuralgia had disappeared from the left side of the face, and immediately commenced on the right side, where it presented the same characteristics, and was accompanied by paroxysmal attacks and almost intolerable pain. The patient complained that her head felt as though it were bruised, and the slightest exposure to cold provoked an exacerbation. During the crises there was marked hyperaesthesia, especially of the scalp, and she could not support the pressure either of pins or combs in the hair. The electrode was immediately applied to the right side of the face, and on April 14th, after four fresh seances, although the patient had two crises, she suffered very little in the intervals. By May 4th there was notable amelioration, the crises being much less violent, and on May 12th the pain only persisted in the temporo-parietal region. A few days later, further progress having been made, the séances were reduced to two per week, and those of 20 instead of 40 milliampères. From May 24th onwards there was no pain, and the treatment was discontinued on June 1st. The author has every reason to believe that there has been no recurrence for twelve months. He points out that in spite of the violence and long duration of the attacks on the left side of the face, they ceased completely after eight or ten séances of positive galvanization of high intensity; and although when the pain disappeared from the left side of the face it immediately appeared in the right, the cure was complete after a further six weeks of treatment.

307. Chronic Constipation.

GOMPERTZ (*Amer. Journ. of Med. Sciences*, October, 1909), following up Mendel's theory of the usefulness of agar-agar in the treatment of chronic constipation, systematically gave it to fifty patients suffering in this way. Since agar-agar is for the most part excreted unchanged in the faeces on account of its powers readily to absorb and retain water, resist the action of intestinal bacteria and enzymes, it prevents the formation of scybalous masses and imparts a soft consistency to the rectal contents. The patients treated in this way were from all walks of life and varied in age from 15 to 83, and the majority had never had a movement of the bowels without medicine. Beginning with 15-gram doses with milk or cream, the agar was taken morning and evening, and in all but two of the cases regular movements commenced after the agar had been taken for from one to three days. The duration of the treatment varied from one to three months, the dose of the agar being gradually reduced as the action of the bowels began to approach normal regularity. Notes of two cases are given, illustrating the marked improvement under this treatment, and in all cases there was a distinct increase in the volume of the faeces, the evacuations becoming well formed and of dough-like consistency, instead of small, hard, dry scybalous masses. In a few patients 15-gram doses produced a diarrhoeal stool, but normal actions returned upon reducing the dose. In place of the long series of experimental trials to select for each individual case the dietary most likely to avoid the hardness and dryness of the faeces in the intestine, chemical and laboratory experiments have shown that by the use of agar-agar (a simple carbohydrate taken from seaweed) it is possible to transform the hard and dry faeces into a softer consistency, so that the intestinal contents are enabled to develop their own agency necessary to produce a healthy normal evacuation.

308. Regulin.

H. F. HOFFMANN (*Therap. Monats.*, August, 1909) has made use of regulin in the treatment of constipation with excellent results. The treatment by regulin was instituted by A. Schmidt, who called attention to the fact that in

some cases of chronic constipation with hard, dry stools, intestinal digestion was too fully carried out, that the stools, even on a diet rich in cellulose, did not contain the normal amount of undigested food, and that the number of bacteria in the stool was small, with the result that the formation of gases and fluid fatty acids was deficient and therefore peristalsis was not stimulated. Schmidt, therefore, sought for some substance to combat the too complete intestinal digestion, and found it in regulin, which contains agar-agar together with a very small quantity of extract of cascara. Hoffmann first made a trial of regulin in his own case. He had suffered for ten years from constipation, had consulted several specialists, and had tried medicinal, mechanical, and dietetic treatments, alone or in combination; none of the methods, although they might be useful at first, continued to give him relief. He now began to take regulin and found that he was more benefited, both locally and generally, than by any other cure. He began with a dose of two teaspoonfuls, but was able to reduce the dose to one teaspoonful, and after three months to dispense with it altogether. After some time the symptoms returned and were again successfully treated, the initial dose on this occasion being only one teaspoonful. Instances are given of the administration of the preparation in other cases, one of them being a case of appendicitis in which regulin was given as soon as the pressing symptoms had yielded. Regulin was also found useful in gynaecological cases, as, for example, one of menorrhagia with constipation, in which with the relief of the constipation menstruation became normal again. Another suitable type of case is that of the dysmenorrhoea found typically in the young badly-nourished girl with anteflexed uterus. The author does not know of any drug which gives such favourable results as regulin upon both the physical and mental condition in suitable cases.

PATHOLOGY.

309. Isolysins in the Serum of Persons Suffering from Malignant Disease.

H. L. Richartz (*Deut. med. Woch.*, August 5th, 1909) states that the sero-diagnostic methods which have been applied to malignant tumours may be divided into two classes, namely, those aiming at the detection of precipitins and those aiming at the detection of haemolysins. Attempts were made years ago by Engel and by Mertens to obtain precipitins in the serum of rabbits which would be specific to carcinomatous proteids, but the results were unsatisfactory, inasmuch as the precipitation was irregular, and even occurred at times with the serum of normal persons. The idea that the serum of persons suffering from cancer could act destructively on the red blood corpuscles of animals other than human beings, and even of the same individual, dates back some years. Maragliano and Ascoli made some observations in this respect. Bard, Kullmann, Mickeli, and Donati demonstrated that this power existed. Kelling attempted to show that the normal haemolyzing power of human blood serum toward the cells of certain species was increased in cancer patients. Difference of opinion has been widely expressed as to the practical value of this means of diagnosing maliguant disease. As opposed to this heterolysis, Crile-Cleveland attempted to apply isolysis in the diagnosis of cancer. The author, considering that the definite value of such a procedure could only be determined by extensive observations undertaken by several investigators, subjected the serum of 112 healthy persons and 74 cancer patients, as well as smaller series of persons suffering from other diseases. The technique which he used is described in detail in his article. The serum of the healthy persons did not give a trace of haemolysis with their own blood corpuscles in a single case. The same negative result was obtained in a series of cases including various diseases other than cancer or tuberculosis. Out of 11 cases of acute infectious diseases, the haemolysis was positive three times—in typhoid fever, sepsis, and pneumonia. The malignant disease series included 70 cases of carcinoma and 3 of sarcoma. The test was positive in 46 per cent. Regarding the cases closely, the author found that in the clinically severest cases the haemolysis was negative, while it was usually positive in the less severe cases. In 5 cases the reaction was well marked before an operation. One week later it was unaltered, but three or four weeks later it had disappeared. In other cases, in which a complete radical removal of the tumours was impossible, the reaction remained positive. The author also applied the test in tuberculosis, and found that 52 per cent. of the cases yielded a positive haemolytic serum. After discussing the question of the nature of the substances which give rise to the haemolytic action, he comes to the conclusion that the reaction is neither specific for the disease nor do all cases of malignant disease give a positive result. But since it is important to use this reaction practically for clinical purposes; and since it is not present in cases other than tuberculosis, and occasionally the acute infectious diseases, the application may still be of value for differential diagnostic purposes. Acute infective diseases need not be considered. The author is of opinion that at present we have reliable means of diagnosing tuberculosis, and therefore for cases of suspected carcinoma, which do not yield results to examinations pointing to tuberculosis, this test might serve a useful purpose. This, he believes, is specially important in cancer of the abdominal organs. If Crile-Cleveland's statement can be supported that the test is almost always positive in early cases, it would gain considerably as a practical method of diagnosis.

310. Suprarenal Theory of Osteomalacia.

Silvestre and Tosatu (*Rif. Med.*, August 23rd, 1909) performed unilateral capsulectomy on the suprarenals of three pregnant guinea-pigs and nine pregnant rabbits, chiefly with the object of testing the relation of the suprarenals to osteomalacia. The results of their experiments are mainly as follows: No skeletal disturbances were noticed in any of the animals, still less any symptoms of osteomalacia, so that the authors feel warranted in denying any influence of the suprarenal capsules in the production of osteomalacia. They believe that the most important, if not the exclusive, cause of osteomalacia is hyperfunctional activity of the ovaries, succeeded later on by a perverted activity of the same. Suprarenal opotherapy may be useful in acute cases of osteomalacia or in cases rendered acute by pregnancy. There do not appear to be any direct relations between the suprarenal glands and the genital glands: on the contrary, there is probably a certain antagonism between them. The operation of capsulectomy was almost invariably followed by abortion in the pregnant animal, and the authors believe this is due to an insufficiency of the chromafin tissue, and possibly the same explanation will serve for the abortion which follows thyroidectomy.

311. Pancreatic Function and Antitrypsin Contents of the Blood Serum.

H. Schlecht and Wiens (*Zentralbl. für Innere Med.*, No. 12, 1909) have made investigations with a view to discovering whether, and in what way, the increase of antitryptic strength of the blood serum, which has been often observed in patients suffering from carcinoma, depends upon changes in the amount of trypsin secreted by the pancreas. Schlecht found that in cases of carcinoma ventriculi there were great variations in the trypsin present in the faeces. Ambard in two cases of carcinoma found an increase of pancreatin, together with apepsia, and considered that the increase of antitrypsin in the blood serum was reactive in character, and related to the hypersecretion of the pancreas. This view is supported by the reports of Achalme and of Brieger and Trebing as an increase of antitryptic strength of the blood serum after injections of trypsin. Schlecht's investigations do not confirm Ambard's view. Schlecht found that in carcinoma ventriculi the trypsin contents of the faeces were almost always below normal, and were often very much below normal, and that the diminution did not depend either upon involvement of the pancreas in the cancerous process nor upon compression of the ductus pancreaticus. The increase of antitrypsin in the blood serum is not confined to cases of carcinoma, but is present in all cases of cachexia of a certain grade; in diseases other than carcinoma, however, there is not the diminution in the pancreatic secretion found in carcinoma. Thus, in a case of cachexia due to tuberculosis, and in one due to chronic organic nervous disease, there was no diminution in the trypsin of the faeces, although there was an increase of antitrypsin in the blood serum. The authors also found that there could be lowering of the antitrypsin of the blood serum, together with either diminished trypsin digestion or normal trypsin digestion, and normal antitrypsin contents of the blood with lowering of the trypsin digestion. They conclude that no direct relation appears to exist between the two reactions, although it is not impossible that defects in pancreatic secretion may have a certain influence on the antitrypsin strength of the blood serum.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

312. Breathing Crises.

J. PAL (*Wien. med. Woch.*, No. 11, 1909) has in an earlier work described two forms of paroxysmal high-tension dyspnoea, one identical in form with cardial asthma, the other a cerebral form of dyspnoea. The present article deals with another form of breathing crisis—that of sudden cessation of breathing—which is related to the cerebral dyspnoea in that it also is dependent upon a vascular crisis. The author has met with three instances of the sort of case he describes, Loeb has recorded one, and Hoover three. In a typical attack there is cessation of breathing, with loss of consciousness, quickly increasing cyanosis, increase of the right heart, twitchings of the muscles, and the patients appear to be dying. In one of Pal's cases the attacks lasted for eight minutes, and in one of Hoover's twenty minutes. The attack may come on suddenly without previous warning, but sometimes the breathing has become slower before the attack: the return to normal breathing may come suddenly or may be preceded by a few isolated deep respirations: consciousness returns as soon as ordered breathing returns, and the patient has no remembrance of the attack, but believes that he has been asleep. Artificial respiration is to be begun at once in order to save the life of the patient, but it appears to have no effect on the duration of the attack. In one at least of Pal's cases and in all of Hoover's the patient suffered from tabes, and the first account of the condition which Pal published was in connexion with the vascular crises of tabetics. The attacks have usually occurred after the administration of morphine for the relief of pain: but although it cannot be denied that morphine may be favourable to their occurrence, yet the attacks are not to be explained as the result of morphine. Not only has Pal seen an attack after an injection of morphine with atropine, but the attack may occur several hours after a morphine injection, and in cases where no morphine has been given for days. In the case described in the present article, where the attacks occurred in connexion with abdominal visceral crises, no definite relation could be detected between the onset of the attacks and the administration of morphine, but the attacks occurred nearly always after a dose of natr. nitrosum, which caused a sudden lowering of the abnormally high blood pressure. Although the crises are related in their nature to Cheyne-Stokes breathing they differ from it in the length of the breathing pause and in the fact that there is a definite attack rather than a condition of periodic or intermittent breathing: moreover, while for months such isolated reactions may occur, they may then altogether cease, in spite of the existence of apparently the same conditions, including the administration of morphine. Pal looks upon the condition as a transitory phenomenon on the side of the central nervous system connected with the irregularities in the larger circulation.

313. Intermittent Tuberculous Meningitis.

ALLARIA (*La Pediatrie*, May, 1909) publishes an interesting case of tuberculous meningitis characterized by a period of practically complete recovery between the initial attack and the final fatal ending. The patient was a child aged 5 years who developed symptoms of meningitis in February, 1904 (headache, convulsions, constipation, vomiting, rigidity, coma, etc.). These symptoms lasted for three weeks and then slowly abated, leaving the lower limbs in a state of contracture and incontinence of both sphincters. These sequelae passed off in March, and the child so far recovered as to attend school for the whole of April and until the second week in May, when, without any apparent cause, the meningeal symptoms reappeared and caused death about a month later. At the autopsy there was the usual appearance of basal meningitis, and many recent grey granulations on the pia of the base and along the Sylvian fissure, less numerous on the vault: no trace of encephalitis; caseous peribronchial glands, miliary tubercle in lungs, spleen, and liver. The author gives brief details of 5 other cases similar to his own, but they are extremely rare. The interval of comparative health between the initial and final attack seems to vary from a month to a year or even more. Possibly some explanation may be found by comparison with cases of localized or partial meningitis (*meningitis en plaques*). The author further considers the possibility of cure in tuberculous meningitis, and of the 19 cases collected by him believes that 10 at least may be accepted as genuine examples. In view of the possibility of prolonged intermittency it is wise not to speak too confidently of cure in those very rare instances where tuberculous meningitis does not prove fatal.

314. Disappearance of the Radial Pulse from Reflex Action.

IN attempting to arouse a patient from profound surgical narcosis by pressing on the eyeballs, Aschner (*Sem. méd.*, March 3rd, 1909) found, to his surprise, that the radial pulse diminished under his finger, and finally disappeared, although the procedure was successful in restoring colour and respiration. The fact that this was accompanied by retching seems to point to the supposition that the retardation and stoppage of the pulse was due to irritation of the pneumogastric nerve. This irritation might be caused either by an increase in the pressure of the cerebro-spinal fluid, or by a nervous reflex. The cranium is so largely an open cavity that the first hypothesis is not probable; and Aschner has found by experiments on animals that section of the trigeminal nerve prevents this effect on the pulse, while other nerves may be divided without effect. He therefore considers it to be a reflex action, having the fifth nerve as the centripetal and the vagus as the centrifugal end. In the rabbit the reflex acts principally on respiration: in the dog and in man on the radial pulse, lasting until the pressure is removed from the eyeball. This reflex persists longer than the corneal and pupillary reflexes, and is much more marked in anæsthetic narcosis than in the waking state.

SURGERY.

315. Operative Treatment of Cleft Palate.

IN comparing the treatment of cleft palate by obturators with the treatment by operation, C. Helbing points out that the reason why the former has gained many friends in the past is to be sought in the fact that the functional results used to be very doubtful after operation, and, secondly, that the operation was said to be dangerous, especially to infants (*Berl. klin. Woch.*, September 27th, 1909). He starts by regarding an obturator as a makeshift and not a true form of treatment. With regard to the danger of the operations, Trelat scarcely had one child under 2 years of age who recovered from the operation, and quite a number of children in their fourth year died. Billroth recorded his experience by stating that after many attempts he had to discard early operation for this condition on account of the bad results. Von Langenbeck found that the seventh year of life was the lowest age for safe operation. J. Wolff, however, showed that the danger attending the operation in infants could be removed if the operator was able to master the technical difficulties. In spite of this opinion and the confirmation of it by several surgeons, it is still generally held that the operation in infants is so difficult that it is wiser to wait until the second year has passed. Speaking on the basis of an experience of 55 cleft palate operations, Helbing advocates early operation strongly. He has operated on infants from 4 months upwards. He has not lost a single child. Of 5 infants under 6 months of age, 4 were completely cured by the first operation. Of 7 children in the second half-year of life, 5 were completely cured in one operation. He operated on 12 children of ages varying between 1 and 5 years. Of these, 7 were completely cured with one operation: 4 had a fistula after the first operation, but this was easily closed at a second operation, and the operation failed in one case. Of 18 children between 4 and 6 years, 12 were cured by one operation, 3 by two operations, and in only 1 case did the treatment end in failure: while in 11 cases of persons over 7 years of age, 8 were cured by the first operation, 1 was cured by a second operation, and 2 still have fistulæ to be closed. It is thus shown that there is no essential difference in the results of cases operated on in infancy or later. He obtained 40 complete cures, corresponding to 75.5 per cent.

of cures. He found that the best functional results as far as the ultimate speech was concerned was obtained in the cases operated on in infancy. He is convinced that the technique in very young children is not more difficult than that in older children, provided that the surgeon is equipped with small instruments. He regards it specially important to close the cleft early, since the infants with wide clefts cannot suck properly, and are exposed to many risks which do not attack normal children. He describes the technical details of the operation in infants briefly.

316. Significance of Faecal Vomiting.

ROCH AND DE SENARCLENS (*Sem. méd.*, May 19th, 1909) discuss the indications for and against surgical interference in the case of faecal or stercoraceous vomiting, associated sometimes with nervous or hysterical symptoms. One case under their care, with marked indications of neurotic origin, and without any of the alarming symptoms of obstruction, such as pain, or distension of the abdomen, but with faecal vomiting, died before any anxiety as to her condition had been experienced. At the autopsy, a knuckle of jejunum about 12 in. long was found strangulated by a loop of peritoneum, although an exploratory laparotomy, undertaken a year before, had shown no abdominal abnormality. The history of this case led them to investigate the literature of intestinal strangulation, with a view to formulating some guiding rules to determine the occasions on which the surgeon should interfere. The conclusions to which they arrive are that cases of faecal vomiting, with symptoms of hysteria, must be strongly suspected of deception, especially if the supposed vomited matter contains formed faeces. When, however, all malingering can be excluded by careful watching, the fact of the presence of neurotic symptoms should not contraindicate operation. In the first place, a neurotic patient is not exempt from intestinal obstruction, strangulation, or intussusception; and, in the second place, functional occlusion of the bowel by spasm or paralysis may cause death, even without mechanical obstruction. Treatment by medicaments may cause fatal loss of time, and spasm is often permanently relieved after the abdomen has been opened. Faecal vomiting, if simulation can be excluded, should be the signal for interference, whether such is caused by regurgitation or by antiperistaltic action. Incidentally the authors point out that the term "faecal" should be used for unformed matter such as is found in the small intestine, limiting the expression "stercoraceous" to the appearance of formed faeces.

317. Abdominal Pseudo-neoplasms.

CASSANELLO (*Gazz. degli Osped.*, August 8th, 1909) records some of those very puzzling cases of abdominal tumours simulating new growths. As is well known, these swellings, even to naked-eye inspection, may so closely resemble cancerous growths as to deceive the most experienced surgeons, and the so-called spontaneous cures of abdominal cancer probably find their chief examples in this class. The author records cases in connexion with operations for hernia, in association with appendicitis, in relation to the stomach or large intestine. Closely as they may resemble true malignant growths, the author thinks they differ in this, that they "fail in clinical individuality." Being inflammatory in origin they behave like other inflammations, and diffuse widely over the surrounding parts, whereas a malignant growth infiltrates the organ locally, and only diffuses itself slowly and towards the end when already there may be metastases elsewhere. Moreover, these pseudo-neoplasms never reproduce exactly the symptomatology, the objective signs, or the course of true neoplasms.

OBSTETRICS.

318. Puerperal Haematoma Vulvae.

NEUMANN (*Zentralbl. f. Gynäk.*, No. 43, 1909) relates two cases under his observation where the effusion of blood occurred during labour in patients subject to varicose veins in the lower extremities. There was a charge of rough treatment in the first case, whilst a complication due to clumsy dressing occurred in the second. The first patient was aged 30. All her labours had been normal; the fifth lasted twelve hours, and after the delivery of the child the midwife extracted the placenta. The patient felt certain that her privates were torn during this manœuvre. One hour later she felt severe pain, and noticed that the right labium externum was swollen. Neumann was consulted, and found her in such agony that he administered morphine at once. The patient, he noted, was robust, the abdomen soft and flaccid, the uterus firmly contracted. A haematoma as big as an orange occupied the right side of the vulva; it was dark red in colour, and its upper part extended into the vagina. There was no visible laceration of the soft parts. Large varicose veins were found on both legs. The patient was kept in bed and acetate of alum lotion applied. On the fourth day the haematoma burst and big clots came away. Two months later the parts had healed, and the right labium had contracted so that it was smaller than the left. The second patient was aged 26, and had borne one child six years previously. The second labour was short, lasting, indeed, but four hours. One hour later the patient complained of a burning pain and swelling in the vulva. She was pale but well-nourished, and, as in the first case, there were no indications of grave puerperal mischief. There were large varicose veins in the legs, which had caused the patient much inconvenience. The left labium was swollen, forming a swelling the size of a Tangerine orange but somewhat elongated, running up into the vaginal canal. It caused great pain. This case was treated like the first. On the second day gauze was applied to facilitate the flow of the lochia. The blood in the haematoma was evidently beginning to coagulate, and the pain had ceased. Three days later the gauze was applied clumsily by the husband, and the patient felt that she was injured. On the next day the temperature had risen, and Neumann found that big clots were escaping from the vagina whilst the swelling had subsided in the direction of the vulva. The vaginal portion became hard, and its surface grew livid; in a few days' time an ulcerated area, whence issued pus, was detected on its upper surface. It was washed with a weak solution of lysol, and iodoform gauze was applied to it. The haematoma soon healed under this treatment.

GYNAECOLOGY.

319. Very Early Tubal Gestation Complicated by Bilateral Ovarian Cystic Disease.

ROSENSTEIN (*Zentralbl. f. Gynäk.*, No. 35, 1909) exhibited at a meeting of a medical society the right ovary and Fallopian tube and portion of the left ovary which he had recently removed from a woman aged 23, married for four years. She aborted in her first pregnancy, then bore a child. Afterwards the periods became irregular, and at last, when they had continued for nineteen days, the patient consulted Rosenstein. They had been fourteen days overdue five months previously, regular for the next three, and, lastly, irregular at the period preceding the attack of menorrhagia. A tumour as big as an orange was definable on each side of the uterus, the left being the more movable. They had not been detected when the patient was examined on the occasion, five months earlier, when the catamenia were overdue. On that account the diagnosis was tubal gestation and ovarian cyst on the opposite side. The patient submitted to operation. The tumours proved to be a pair of ovarian cysts, apparently of the exogenous type. The Fallopian tubes were very long and tortuous, the right rather thickened. The right appendages and the left ovarian cyst were removed, the hilum of the left ovary and the left tube were left behind. The cyst walls held a considerable number of lutein cysts. The mucosa of the right Fallopian tube was of a deep red colour. A haematoma of the size of a pea was discovered in its canal. Its surface appeared villous, and when examined under the microscope, well developed villi could be seen in abundance. In fact, it was clearly a very early aborted ovum, not expelled, and the haemorrhage was not a true period, but of the kind so often observed in later cases of tubal abortion.

320. Pseudo hermaphroditismus Masculinus Completus.

HEYN (*Zentralbl. f. Gynäk.*, No. 36, 1909) reports a case where the subject was a reputed widow whose husband had been dead for six years. "She" had lived with him as his wife for nineteen years. As is so often the case with subjects of this kind, the truth was revealed by painful inguinal hernia, which drove "her" to seek medical relief. The hernia was double, and each sac seemed to contain a testis and epididymis, but no bowel. At the operation this diagnosis proved correct, except that a half uterus and Fallopian tube was found, as well as a testis, in each sac. The external organs were wholly of

the female type; there was no hypospadias of the clitoris. There was a blind vagina, and the thorax, thyroid cartilage, and voice, as well as the facial aspect, were feminine. The patient had orgasm, and there were emissions during coitus, yet her passion had always been for males. The testes were made up of typical testicular tissue, but it was atrophic and altered by inflammatory changes. No sperm cells could be detected.

THERAPEUTICS.

321. Adrenalin in Diphtheria Intoxication.

ECKERT (*Therap. Monats.*, August, 1909) has made use of subcutaneous injections of adrenalin in the treatment of the fall in blood pressure seen in diphtheria intoxication. Heidenhains and Fritz Meyer, on the ground of experimental investigations, recommended the intravenous administration of adrenalin, but Eckert found this method unsatisfactory because of the difficulty of making repeated injections, and still more because the results obtained were only of the shortest duration. For subcutaneous injection a 1 per cent. solution of suprarenin hydrochloricum was used. The initial dose was 1 c.cm. (= 0.001 supraren.), but this was found to be too small, and was increased to 2 to 3 c.cm. given three or four times daily. The other customary remedies were used in conjunction with adrenalin. An example is given of the action of adrenalin in the case of a child 12 years of age with very severe symptoms of diphtheritic poisoning. It appears from the example that the exhibition of adrenalin was successful even when the blood pressure before the injection was so low as to be incapable of being estimated. The maximum effect upon the blood pressure was reached in from one to two hours after an injection, and an effect could still be traced after seven hours. Adrenalin could not be proved to have any effect upon the pulse-rate. The injections were painful, but the pain was relieved by painting the site of injection, and in no case were there infiltrations nor the formation of abscesses nor gangrene. No injury to the kidneys was observed, nor any reactive fall of blood pressure after the effect of the adrenalin had passed off. Sugar appeared in the urine in many cases while adrenalin was given, but disappeared altogether within fourteen hours after the last dose. In a severe case of a child with toxic scarlet fever, in which adrenalin was given by the intravenous method, the temporary glycosuria did not appear, a fact which tends to support the view, based on experimental research, that the glycosuria is not due to the adrenalin as such, but to the decomposition products of adrenalin deposited in the subcutaneous tissues. The author finds that in adrenalin we have an effective means of combating the fall of blood pressure in diphtheria, and that it can be given for a long time without fear of injury even in the most severe cases.

322. Nerve Points of Cornelius; their Treatment by Massage.

KOLBE (*Prog. méd.*, April 10th, 1909) gives a summary of the views of Cornelius with reference to painful spots in nervous diseases, and the successful treatment of the same by means of massage. Cornelius recognizes deep-seated as well as peripheral points of pain, and he has succeeded in reaching both by manipulation with beneficial results. He has shown that such symptoms are not only subjective, and more or less imaginary, but that an objective recognition of them can be both perceived and successfully treated. By careful palpation of a patient so affected various sensitive points can be made out, not apparently in connexion with one another, but all really associated by means of radiation from the original seat of the pain. These nerve points are found not only superficially, but also in the deep parts of the body and in the viscera; and they react by pain not only to hard pressure, but even to ordinary physiological stimuli such as muscular contractions, atmospheric changes, damp, and various emotions. A great number of painful spots may be found in one patient, and their intensity varies from slight sensitiveness to great tenderness. The treatment consists in overcoming this tenderness by skilful manipulation around and over the sensitive point, the movements being regulated according to each individual case, and great care taken not to inflict too much pain at first, and so scare the patient from future treatment. In fact, the whole procedure ought to be pleasurable, or at least not actually painful, and the possession of the special touch for such manipulations is a most valuable asset. The treatment cannot properly be carried out except by qualified medical persons.

323. Antiferment Treatment of Suppurative Processes in Infants.

THE "physiological wound" treatment, as it has been termed, is based on the detection in the normal serum of an antiferment which acts by inhibiting the proteolytic leucocytic ferment. This antiferment is found in the pathological exudations, and is regarded as being a means adopted by Nature for dealing with suppurative processes. M. Klotz (*Berl. klin. Woch.*, October 18th, 1909) has used this method of treating a number of infants suffering from acute suppurative processes. He used Merck's *leucofermantin*, as recommended by Müller and others. While some of the infants did well under this treatment, in two cases he met with most disastrous results. The infants were strong and in good general health, and he had anticipated that both would have been cured within seven to ten days. Under the action of leucofermantin an infection spread beyond control, and, after running a severe course, ended fatally in both cases. He points out that ferment and antiferment containing fluids do not exercise any bactericidal action, and that in infantile organisms the tendency toward infection is well known. The skin of infants frequently proves itself to be less resistant than that of adults when the subject is attacked by certain infective organisms. Out of his 20 cases he not only lost these two children, but he absolutely failed to obtain satisfactory results in two further cases of middle-ear suppuration. He was therefore compelled to give up antiferment treatment for infants. A case of pneumonic empyema and one of a tuberculous fistula were not improved by leucofermantin, and he also applied the treatment for seven days in two cases of mild conjunctivitis without being able to determine any beneficial effect. While he is quite prepared to believe that the treatment may yield good results in adults, he considers it to be his duty to warn other practitioners against applying the medication to infants.

324. The Tuberculin Reaction.

TEDESCHI AND LORENZI (*La Pediat.*, June, 1909) have been working for some time with the tuberculin tests as estimated by the auricular reaction. The activity of various tuberculins varies considerably not only as to their age, the methods by which the material is collected, but also in relation to the special conditions of the cultures whence the material proceeded. Two tuberculins (human and bovine) should be used, one for each ear, and exact dosage employed. The differential test of the two tuberculins is of some value (and can be gauged by the use of minimum doses). Notable differences of behaviour may be observed in individuals in reference to identical tuberculins, differences perhaps connected with the etiology of the infection. The usual dose of two-millionths of a gram of recent tuberculin is sufficient in children to produce the characteristic swelling and vesicle at the site of injection. The quantitative rather than the qualitative nature of the reaction is clearly shown in the authors' researches. Individuals may be classified as (1) those insensible to relatively high doses; (2) those who react locally only to strong doses (one-millionth to two-millionths of a gram) of fresh tuberculin, and who in general may be considered clinically sound; (3) those who react to one kind of tuberculin only, either human or bovine; (4) those who give reactions of differing intensity in the two cases, or give an early reaction in one ear and a late in the other, or those in whom it is impossible to establish any differential characters between the two reactions. It is better to run the tests over a period of about three weeks, giving one injection a week.

325. Thyresol in Gonorrhœa.

E. LEVIN (*Deut. med. Woch.*, August 5th, 1909) has tested the value of thyresol in the treatment of gonorrhœa, and reports on the results which he obtained in 50 cases. Thyresol is stated to be a sandalwood oil preparation which does not yield any free santalol in the organism. The manufacturers (Messrs. Bayer and Co., Elberfeld) state that the absence of free hydroxyl groups prevents it from irritating the stomach, like the majority of santal oil preparations. The cases which were given thyresol were acute first attacks of gonorrhœa, acute second attacks or exacerbations and chronic cases, as well as non-gonorrhœic urethritis. About one half of his first attacks of acute gonorrhœa were rapidly cured under the influence of this preparation. In the other half, the onset of a posterior urethritis, and once of epididymitis, complicated matters, but even in these cases the subjective complaints were comparatively small. The author is not in a position definitely to state how far thyresol contributed to these

excellent results, as he always combined the internal treatment with local treatment. But he is inclined to believe that this combination yields better results than local treatment alone does. The preparation was unable to produce any striking results in the acute exacerbations or second attacks. It did not affect the course of chronic gonorrhoea, but it undoubtedly lessened the severe pains which were felt at the end of micturition. In some cases, notably when the posterior portion of the urethra was affected, the preparation did no good, nor did it act in simple urethritis. But he points out that a few failures should not lead to the conclusion that a preparation is not useful. He sums up the advantages of thyresol as follows: (1) It is given in tablet form, so that no objectionable taste is noticed, and the medicament can easily be taken about; (2) the preparation does not cause the strong specific smell of sandalwood oil, which so often adheres to the breath and clothes of persons taking sandalwood oil, and which is at once recognized as the smell attaching to the treatment of gonorrhoea; (3) the tablets containing carbonate of magnesia as well as thyresol ensures a good action of the bowels; (4) thyresol does not disagree with the most susceptible patient, and thus has an advantage over the other balsam preparations used in the treatment of gonorrhoea. In conclusion, he advises this new remedy in combination with local treatment, and believes that it exercises a beneficial effect on the course of the disease at the same time as it lessens the subjective symptoms.

PATHOLOGY.

326. Tests for Tuberculosis.

JOH. V. SZABOKY (*Zeit. für Tuberkulose*, May, 1909) passes in review the different methods of testing for the presence of tuberculosis other than by physical examination. The bacteriological tests include examination of the sputum, inoculation of animals, and the cultivation of the tubercle bacillus from the sputum. The examination of the sputum is a very important aid in diagnosis: although in 15 per cent. of 193 of the author's test cases in which the presence of tuberculosis could be positively demonstrated the examination of the sputum gave negative results, yet a positive result in any doubtful case is of great value. The disadvantage of testing by animal experiment is that the method can only be carried out in a laboratory, and that so long a time must elapse, by most of the methods used, before a result is obtained. In 95.1 per cent. of cases of tuberculosis in which the author used the method the result was positive, and in 6 doubtful cases it gave results which were verified by the clinical course of the cases. Cultivation of the bacillus from the sputum is troublesome and uncertain, except in practical hands. Of the three methods animal experiment gives the most accurate result, but for practical purposes examination of the sputum for the presence of the bacillus is simple and often sufficient. New methods of diagnosis have been discovered with the spread of specific treatment; these are the use of tuberculin, the agglutinization method, the estimation of the opsonic index, the precipitation method, and the complement fixation test. The use of Koch's old tuberculin subcutaneously for diagnostic purposes is valuable: in the author's trial cases the method failed in only 1 out of 19 cases (that is, in 5 per cent.) in which tuberculosis was present, and in 13 per cent. of the suspicious cases. In the one certain case in which this method failed Calmette's ophthalmo reaction, Pirquet's cutaneous reaction, and the agglutination method were all negative, as was the examination of the sputum, and only the low opsonic index and, finally, animal inoculation were positive: in this case only 5 mg. of tuberculin was used, and it is possible that if the dose had been increased to 10 mg. a reaction would have been obtained. After testing the four methods—the subcutaneous, Calmette's, Pirquet's, and Pirquet-Moro's—the author finds the subcutaneous method the most valuable and Pirquet's and Calmette's only subsidiary and able only to prove a probability; the two latter procedures have, however, the advantage of being free from danger to patients with fever. The author finds that there is considerable difficulty in obtaining trustworthy results from either the agglutinization or the precipitation test. The estimation of the opsonic index as a method of diagnosis is useful: at the same time the personal subjectivity enters into the result, and it is therefore only of value as used by experienced workers. Szaboky also made a trial of the complement-fixation test, and describes his methods and results at some length; his conclusion is that the test is not a safe means of diagnosis either in the early or later stages of the disease. Some trial was made of Calmette's test, in which advantage is taken of the haemolytic action on red blood corpuscles of cobra poison in the presence of horse serum or lecithin: the results obtained were exceedingly accurate, but a more extended trial is needed. A table is given showing the percentage of cases in which, as tested by the author, the different diagnostic methods gave correct results: the percentages are as follows: Tuberculin reaction 94.73 per cent., animal inoculation 93.1 per cent., Calmette's method with cobra poison 92.3 per cent., precipitation examination 89.1 per cent., complement fixation 87.6 per cent., sputum examination 85.5 per cent., opsonic index 81.8 per cent., Calmette's ophthalmo reaction 79.07 per cent., agglutinization 77.4 per cent., Pirquet-Moro's percutaneous reaction 58.5 per cent., Pirquet's cutaneous reaction 57.4 per cent. In the diagnosis of active lung tuberculosis the author finds that at present the most important and valuable tests are the bacteriological ones—the examination of the sputum and animal inoculation. The article concludes with a warning against neglect of physical methods of examination.

327. Opsonic Indices of Typhoid Carriers.

RECOGNIZING the danger of typhoid carriers to the community, W. Gachtgens (*Dent. med. Woch.*, August 5th, 1909) discusses the question of the prophylactic detection of persons who, having had enteric fever, still remain infective and form a source of infection to those with whom they come in contact. Forster has shown that 20 per cent. of the cases occurring in Strassburg within eighteen months were infected by typhoid carriers. Examination of the stools for typhoid bacilli is frequently negative at the first trial, and even if the patients can be induced to take the trouble to submit more than one sample, the opportunities for substituting the faeces of some person who has not had typhoid fever are such as to render the value of negative results very doubtful. Gachtgens points out that the typhoid carrier realizes the disadvantage of being detected as such. Forster and Kayser found that the majority of typhoid carriers who were excreting bacilli had typhoid agglutinins in their serum. But it was shown that neither the agglutinin test nor the complement deflection test were capable of always disclosing the presence of specific antibodies. The author, therefore, considered it important to investigate the subject, and for this purpose he examined the serum of persons who had previously suffered from enteric fever for agglutinin and opsonin. The first series included those persons who had previously had enteric fever, but who did not pass any typhoid bacilli in their stools. Before determining the opsonic content of these serums, he satisfied himself that the serum of normal persons yielded an opsonic index of between 0.8 and 1.2. The serum of persons who had previously had typhoid fever of the first series showed for the most part indices of the normal range. In 2 out of 12 the index was raised (1.4 and 2.1). In both these cases the enteric attack had taken place three months previously, while in one other, in which the index was 1.0, the attack had also taken place three months before. In all the others the attack had taken place earlier. The next series consisted of those persons who were known to be typhoid carriers. The number was 16. The attack of fever had taken place from six months to twenty-nine years previously. In two cases, however, the persons had not had typhoid fever. Widal's test showed an agglutination power in dilutions of from 1 in 50 (three times) to 1 in 10,000 (once). The opsonic indices varied between 1.4 and 3.9, while in a recount it was 1.1 in one case. In this case the attack had taken place twenty-nine years before, and the passing of bacilli was irregular. He concludes that the opsonic index is raised considerably in chronic typhoid carriers. Comparing these results with the results of the agglutinin tests, he found that in 25 per cent. the agglutinating power was so slight that no deductions could be made from the figures obtained. He believes that his data demonstrate that while the agglutinin and opsonin values frequently correspond in these cases, the presence of the one does not justify the conclusion that the other is also present, and therefore that it is not advisable to identify the two immune substances. He next experimented with guinea-pigs in order to determine whether the phagocytic power of the leucocytes could be influenced by treatment with the filtrate of typhoid cultures. The results which he obtained are given in tabular form, and from these results he concludes that treatment with the typhoid filtrate leads to a considerable raising of the opsonic index of the serum toward typhoid bacilli.

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